



An Ingersoll Rand Business

Milton Roy Americas

2025 Price List

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Milton Roy Product Selection and Pricing

General

The price section of the Milton Roy Company Price & Data Book is company confidential, and is for internal use only by Milton Roy personnel and representatives or distributors who are under contract.

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SELECTING & PRICING A MILTON ROY PUMP

The Milton Roy product line is structured in what is known as features and options. Each model starts with and end item (such as: RA1) and then various options can be selected for each pump feature (for example, an electric actuator, code E1, can be selected for the "Capacity Adjustment" feature).

To select a pump:

1. Select the appropriate product the plunger diameter, and gear ratio code to achieve the flow and pressure required from the capacity/pressure tables for English units or metric units as required. All capacities are based on 1725 RPM at 60 Hz, or 1425 RPM at 50 Hz.
2. If an electric or pneumatic actuator will be required, or a double diaphragm or rupture detection system will be selected, derate the pump capacity according to the appropriate chart.
3. Reference the pricing page for the series selected, and complete the end item and option select code for the application.
4. As each option is selected, add any price that may apply to the total.
5. Multiply the total by any discount that may apply.

Example:

Code	Description	Price
G	MacRoy G	
6	Liquid End Size	\$ 3,332
3	Stroking Speed	\$ -
8	Motor Option 1 HP 1 Phase	\$ 472
2	PVDF Liquid End	\$ 5,628
P	NPT Connections	\$ -
M4	Standard Micrometer	\$ -
	316 SS Micrometer Knob	\$ -
M1	316 SS Micrometer Knob	\$ -
SN	Rupture detection with base, gauge, and NEMA 4 switch	\$ -
Full model code		RA11-1724A1SESEM1SN
Total base price and options		\$ 9,432
Applicable discount		20%
Net Price		\$ 7,545.60

**NOTE:
Prices for
example
only**

Note: Motors selected from motor price pages receive motor discount. Pump Discount does not apply.

MINIMUM ORDER:

Orders submitted through the following:

- OCAorders@miltonroy.com - PO not meeting minimum order value will not be entered and returned to sender.
- LMIOrders@miltonroy.com - PO not meeting minimum order value will not be entered and returned to sender.
- [ERP2Web](#) online portal – Transaction WILL NOT be posted for orders not meeting minimum value.

There will not be an administration fee applied to the order for the difference of value from the minimum

Submission Type	MIN NET Value \$
OCAorders@miltonroy.com	\$250.00 USD
LMIOrders@miltonroy.com	\$250.00 USD
ERP2WEB	\$250.00 USD

EMERGENCIES / EXPEDITE:

Expedite orders are not valid through the ERP2Web online portal. Milton Roy & Williams expedite PO must be submitted to OCAorders@miltonroy.com and LMI expedite orders must be submitted to LMIOrders@miltonroy.com. Before submitting PO, prior approval is required for expedite and must accompany the PO submittal.

Once “Expedite” is confirmed by application engineer or customer service, approvals are valid for “48 HOURS”.

Send expedite availability & approval request for pump & part to:

- MRQuotes@miltonroy.com – Milton Roy Product, Williams / LINC / Solaroy
- LMIPlanning@miltonroy.com – LMI product

NOTE: Expedite on PO or submission subject line does not imply NDA shipping instruction.

For NDA, it must appear on the PO / order entry form or on a separate Shipping Instruction / Appendix Attachment.

****Shipping instruction in body of email is not acceptable.**

Submission Type	ITEM	Prior Approval	FEE
OCAorders@miltonroy.com	Pump & Parts	YES	\$150 OR 10% of Order Net Value (Greater Value Applies)
LMIOrders@miltonroy.com			
ERP2Web	CAN NOT BE ENTERED THROUGH ONLINE PORTAL		



Proteus™ Enhanced Control Version

The Intelligent Chemical Metering Pump

General**Description**

PROTEUS™ is a technology based metering pump platform using the most effective and efficient drive systems for optimized fit into a process whether manually controlled or connected to one of many types of process control systems or signals. Each PROTEUS™ pump comes with an extensive set of configurable inputs and outputs. It is also capable of firmware upgrades enabling it to be ready to use new technologies as they become available.

Year of Introduction - 2016

General Performance Specifications

Flow rate up to 18.0 GPH (68.1 l/h)
Pressure up to 175 psi (12.0 bar)
Steady state accuracy +/- 1%
Turndown 1000:1 (200:1 PTFE Seat, 500:1 FPM Seat)
Power Required - 42 W rated (ETL) - Actual 26 W

Weights and Shipping Dimensions

Domestic Box Dimensions	-	Inches	16.5" x 18" x 13.5"
		Metric mm	420x457x343
Weights (Approximate)	Unboxed (Plastic Head)	Lbs	14
		kg	6.35
	Unboxed (SS Head)	Lbs	24.5
		kg	11.1
	Domestic Box	Lbs	22
		kg	10

Temperature & Environmental Ratings

	Ambient	Process Fluid	Storage
Fahrenheit	14°F to +104°F	14°F to +104°F	-40°F to +158°F
Celsius	-10°C to +40°C	-10°C to +40°C	-40°C to +70°C
Operating humidity range:		0-95% RH (Non-condensing)	
Ingress protection:		IP65 / NEMA 4X	
Operation environment:		Indoor / Outdoor	

Drive Specifications

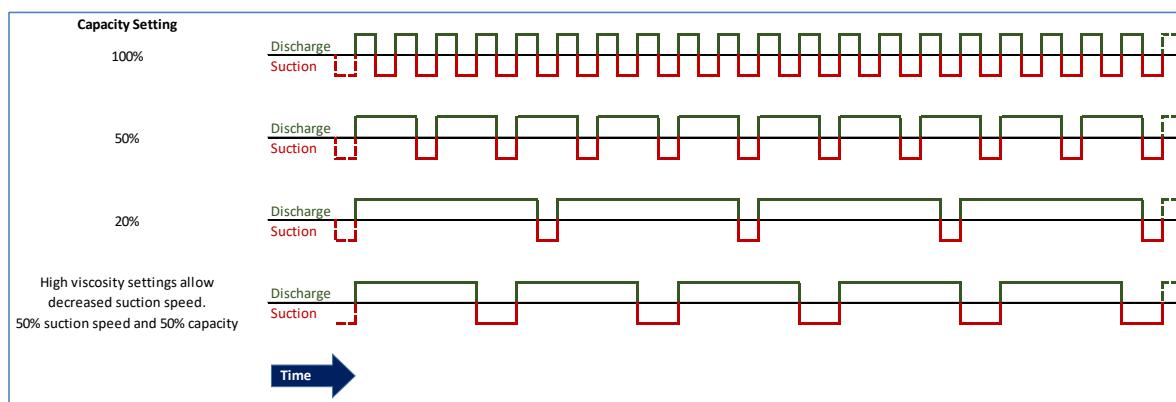
Description

The drive is powered by an electronically controlled variable speed stepper motor which provides accurate dosing output of the fixed stroke length drive.

Capacity Adjustment

Variable speed stepper motor with controlled stroke profile. The profile features constant speed suction, and the discharge stroke is used to control pump capacity. This takes full advantage of the characteristics of a positive displacement pump, in that once the fluid is within the pump head, discharging it is highly controllable and predictable.

The profile also has a configurable feature allowing the suction stroke to be extended to better handle viscous fluids, or fluids with high specific gravity. The chart below indicates how the flexible stroke profile functions.



Overpressure Protection

An external safety relief valve is required for safe installation. The pump includes motor stall detection in the event of motor stall, but is not sufficient as the only means of overpressure protection.

Lubrication System

Pump is factory lubricated for life.

Pump Housing Material

Polyphenylene ether and Polystyrene blend - 20% glass reinforced

Liquid End Specifications**Description**

Mechanically actuated diaphragm with suction and discharge ball check valves.

Materials

Refer to Price Tables for most materials

Spring Materials:

In High Viscosity Liquid ends - Spring material is 316ss

Injection Valve Spring Material - Hastelloy C 276

Performance Specifications

Turndown Ratio:	1000:1 (200:1 PTFE Seat, 500:1 FKM Seat)		
Steady State Accuracy:	± 1.0%		
Repetitive Accuracy:	± 3.0%		
Linearity:	± 3.0%		
Duty Rating:	Continuous		

Suction Lift and Pressure

Drive	Max. Suction Lift		Max. Suction Inlet Pressure	
	[ft]	[m]	[psi]	[bar]
ERB_2	13.1	4	30	2
ERB_3	13.1	4	30	2
ERB_4	6.5	2	30	2

Drive	Max. Suction Lift		Max. Suction Inlet Pressure	
	[ft]	[m]	[psi]	[bar]
ERC_2	13.1	2	30	2
ERC_3	6.5	2	30	2
ERC_4	6.5	2	30	2

Testing**Standard Production Test**

Every pump is tested to assure the pump meets capacity and pressure expectations and functions as expected.

Certifications

NSF 61 (Summer 2016)

CE Compliant

ETL listed by Intertek to UL 61010-1 issued 2012/5/11 edition 3, and CSA C22.2#61010-1 issued 2012/5/11 edition 3

Dimension Drawings and Documentation**Literature**

Customer Data Sheet	54815
Brochure	54814

Customer Dimensional Drawing - 59017

Manuals

Installation, Operation and Maintenance	54038
Enhanced Supplement	54189

Model Code Structure

	ER	B	1	2	1	-	A	4	4	A	C	A	7	T	1
	Frame B														
	Control Code														
	1 - Manual Control														
	2 - Enhanced Control														
	3 - Profinet Communications														
	4 - Modbus Communications														
	Output Code^{1,2}														
	Max. Capacity		Max. Pressure												
	2 - 5.6 GPH (21.2 l/h)		175 psi (12.0 bar) ³												
	3 - 14.0 GPH		75 psi (5.0 bar)												
	4 - 18.0 GPH (68.1 l/h)		50 psi (3.5 bar)												
	Voltage Code														
Drive	1 - 110 - 120V 1 Phase US Plug														
	2 - 220 - 240V 1 Phase US Plug														
	3 - 220 - 240V 1 Phase DIN Plug														
	5 - 220 - 240V 1 Phase UK Plug														
	6 - 220 - 240V 1 Phase Australia / New Zealand Plug														
	7 - 220 - 240V 1 Phase Swiss														
	8 - 110 - 120V 1 Phase No Plug														
	Liquid End Type														
	A - Standard Liquid End														
	V - High Viscosity Liquid End														
	S - Slurry Liquid End														
	Head Material														
	1 - 316L Stainless Steel														
	4 - Polypropylene														
	7 - PVDF														
	Head Size Code														
	4 - Size 4 Diaphragm														
	6 - Size 6 Diaphragm														
	Seat Material														
	A - TFE/P														
	T - PTFE														
	V - FKM														
	1 - 316L Stainless Steel														
	Ball Material														
	C - Ceramic														
	1 - 316L Stainless Steel														
	4 - 440C														
	"O" Ring Material														
Liquid End	N - None														
	A - TFE/P														
	V - FKM														
	Fitting Material														
	1 - 316L Stainless Steel														
	2 - PVC														
	4 - Polypropylene														
	7 - PVDF														
	Fitting Connection														
	P - NPT														
	B - BSP														
	S - Socket														
	F - DN15 Female														
	D - DN15 Male														
	T - Imperial Tube														
	M - Metric Tube														
	Tubing Kit														
	N - None														
	1 - Kit 1														
	2 - Kit 2														
	3 - Kit 3														
	4 - Kit 4														

General Note: 1: Not all combinations are valid product configurations. Please see your local distributor or price list for available options.

Notes: 1: Maximum flow rate at maximum pressure. Maximum flow rate may be higher at lower pressures.

2: 175 psi (12 bar) max. with 1/4" x 1/2" reinforced PVC hose ; 150 psi (10 bar) max. with 3/8" PE tube or 8mm PE tube.

3: Note: High viscosity option 150 psi (10.3 bar)

Model Code Structure

Model Code Structure														
ER C 1 2 1 A 4 4 A C A 7 T 1														

	Control Version		
	Manual	Enhanced	Communications
Electronic Control Features			
User Interface			
4 Color Backlit graphical display	✓	✓	✓
Flow rate or volume display (GPH, L/hr)	✓	✓	✓
Capacity setting display	✓	✓	✓
Start/Stop button	✓	✓	✓
Mode>Select button	✓	✓	✓
Full capacity (100%) button	✓	✓	✓
Prime button	✓	✓	✓
Active operation mode indication on display	✓	✓	✓
Active alarm indication on display	✓	✓	✓
Calibration status indication on display	✓	✓	✓
Operation Modes			
Manual (Internal)	✓	✓	✓
Analog [0/4-20 mA] (External)		✓	✓
Pulse [volume/pulse] (External)		✓	✓
Batch (External)		✓	✓
Cycle Timer (Internal)		✓	✓
Timed event (Internal)		✓	✓
Control Input			
Programmable digital contacts	1	4	4
Single level float switch	✓	✓	✓
Dual low level float switch		✓	✓
Pulse control		✓	✓
Remote start/stop	✓	✓	✓
Remote internal/external mode selection		✓	✓
Programmable analog inputs	0	2	2
Pacing		✓	✓
Tank level		✓	✓
Control Protocol			
Modbus RTU *			✓
ProfiBus DP *			✓

* Order pump configured for your control protocol

	Control Version		
	Manual	Enhanced	Enhanced
Electronic Control Features			
Control Output			
Programmable digital contacts	0	2	2
Pump running		✓	✓
Pump standby/stopped [not pumping, but ready]		✓	✓
Alarm status		✓	✓
User alarm status		✓	✓
Internal/External mode indication		✓	✓
Pump stopped		✓	✓
Stroke pulse		✓	✓
Timed event running		✓	✓
Programmable analog output	0	1	1
Flow rate [4-20 mA correlates to 0 - max capacity]		✓	✓
Mirror analog input 1		✓	✓
Power supply for remote device [24V] (eg. Flow sensor)	0	1	1
Operation functions			
Capacity control by motor speed variation	✓	✓	✓
Variable stroke profile (variable discharge speed/constant suction speed)	✓	✓	✓
Slow suction mode for viscous or degassing media	✓	✓	✓
Calibration function (single point)	✓	✓	✓
Prime feature (max capacity) button, timer	✓	✓	✓
Totalizer (Strokes, Volume, Hours Motor Operation, # Power Cycles)	✓	✓	✓
Keypad lock (software driven with password)	✓	✓	✓
Clock feature (Date and 12 hour time)	✓	✓	✓
Diaphragm replacement mode (sets stroke to extended position)	✓	✓	✓
Display firmware revision	✓	✓	✓
Load factory defaults	✓	✓	✓
Battery to maintain date and time settings when mains power removed	✓	✓	✓
EEPROM nonvolatile memory (configurations saved/powers up in last used mode)	✓	✓	✓
Internal/External input control mode configuration	✓	✓	✓
Alarm output mask configuration (configure what events trigger alarm output relay)	✓	✓	✓
Analog input response curve customization		✓	✓
Input pulse width setting		✓	✓
Start/Stop via remote signal	✓	✓	✓
ModBus RTU / ProfiBus DP protocol			✓

OUTPUT CODE 2

5.6 GPH (21.2 LPH); 175 psi (12 bar)

151 SPM Max.

Size Code 4

Note: High Viscosity option and PE tube limited to 150 psi (10.3 bar)

ERBx2		Drive End						
Control	Description	Cordset Included			Part Number			Price
ERB12	Manual Control	-			-			See Note \$ 3,126
ERB22	Enhanced Control	4 Pin Cordset			54711			\$ 3,624
ERB32	Enhanced Control with ProfiBus	4 Pin, 5 Pin Cordset			54711, 55199			\$ 4,359
ERB42	Enhanced Control with ModBus	4 Pin, 5 Pin Cordset			54711, 55199			\$ 4,359
Power Code		Voltage			Plug			
1	110/240V	110 - 120 VAC 1 Phase US Plug			\$ -			
2	220/240V	220 - 240 VAC 1 Phase US Plug			\$ -			
3	220/240V	220 - 240 VAC 1 Phase DIN Plug			\$ -			
5	220/240V	220 - 240 VAC 1 Phase UK Plug			\$ -			
6	220/240V	220 - 240 VAC 1 Phase Australia / New Zealand Plug			\$ -			
Liquid End		Head	Seat	Ball	Check Valve Body	Max Turndown Ratio		RPM Kit Standard DN15 Conn.
Standard Plastic								
A44AC	PP	TFE/P	Ceramic	PVDF	1000:1	RPM54771	RPM54772	\$ 375
A44A1	PP	TFE/P	316L	PVDF	1000:1	RPM54778	RPM54779	\$ 359
A44AT	PP	TFE/P	PTFE	PVDF	1000:1	RPM56409	RPM56410	\$ 359
A74TC	PVDF	PTFE	Ceramic	PVDF	200:1	RPM54773	RPM54774	\$ 607
A74AT	PVDF	TFE/P	PTFE	PVDF	1000:1	RPM56409	RPM56410	\$ 591
Standard Metallic								
A1411	316L	316L	316L	316L	1000:1	see below		\$ 1,064
Slurry								
S1414	316L	316L	440C	316L	1000:1	RPM54776		\$ 1,152
High Viscosity								
V44T1	PP	PTFE	316L	PP	1000:1	RPM54777		\$ 369
Standard Plastic		Diaphragm	O-Rings	Fittings	Connections	Tubing Kit	RPM Kit	
A7T1	PTFE/PVDF	TFE/P	PVDF	Imperial Tube	1	-	\$ 329	
A7PN	PTFE/PVDF	TFE/P	PVDF	1/2" NPT	-	-	\$ -	
A7M2	PTFE/PVDF	TFE/P	PVDF	Metric Tube	2	-	\$ 133	
A2FN	PTFE/PVDF	TFE/P	PVDF/PVC	DN15 Female	-	see above	\$ 69	
A7DN PVDF heads only	PTFE/PVDF	TFE/P	PVDF	DN15 Male	-	see above	\$ 597	
Standard Metallic								
A1PN	PTFE/316L	TFE/P	316L	1/2" FNPT	-	RPM56407	\$ -	
V1PN	PTFE/316L	FKM	316L	1/2" FNPT	-	RPM54775	\$ -	
Slurry								
V1PN	PTFE/316L	FKM	316L	1/2" FNPT	-	-	\$ -	
High Viscosity								
N4T3	PTFE/PVDF	-	PP	Imperial Tube	3	-	\$ 175	
ERB12	1	A44AC	A7T1					

RPM Kit	Price	RPM Kit	Price	Contents
RPM54771	\$ 467	RPM54777	\$ 441	
RPM54772	\$ 449	RPM54778	\$ 465	• Primary Diaphragm
RPM54773	\$ 465	RPM54779	\$ 448	• Secondary Diaphragm housing seal
RPM54774	\$ 448	RPM56407	\$ 1,164	• Required O-rings
RPM54775	\$ 835	RPM56409	\$ 485	• Replacable Check valves or components
RPM54776	\$ 965	RPM56410	\$ 478	

Note: Add 6 pin cordset (49035) for digital input and analog output and 5 pin (48414) for digital output.

For Tubing Kit contents, refer to Tubing Kits Table.

For accessory kits and pricing, see Accessories section

OUTPUT CODE 3

162 SPM Max.

Size Code 4

14.0 GPH (53.0 LPH); 75 psi (5 bar)

ERBx3		Drive End									
Control	Description	Cordset Included			Part Number			Price			
ERB13	Manual Control	-			-			See Note \$ 3,318			
ERB23	Enhanced Control	4 Pin Cordset			54711			\$ 3,816			
ERB33	Enhanced Control with ProfiBus	4 Pin, 5 Pin Cordset			54711, 55199			\$ 4,551			
ERB43	Enhanced Control with ModBus	4 Pin, 5 Pin Cordset			54711, 55199			\$ 4,551			
	Power Code	Voltage	Plug								
	1	110/240V	110 - 120 VAC 1 Phase US Plug								
	2	220/240V	220 - 240 VAC 1 Phase US Plug								
	3	220/240V	220 - 240 VAC 1 Phase DIN Plug								
	5	220/240V	220 - 240 VAC 1 Phase UK Plug								
	6	220/240V	220 - 240 VAC 1 Phase Australia / New Zealand Plug								
	Liquid End	Head	Seat	Ball	Check Valve Body	Max Turndown Ratio	RPM Kit Standard	RPM Kit DN15 Conn.			
Standard Plastic											
A44AC	PP	TFE/P	Ceramic	PVDF	1000:1	RPM54771	RPM54772	\$ 375			
A44A1	PP	TFE/P	316L	PVDF	1000:1	RPM54778	RPM54779	\$ 359			
A44AT	PP	TFE/P	PTFE	PVDF	1000:1	RPM56409	RPM56410	\$ 359			
A74TC	PVDF	PTFE	Ceramic	PVDF	200:1	RPM54773	RPM54774	\$ 607			
A74AT	PVDF	TFE/P	PTFE	PVDF	1000:1	RPM56409	RPM56410	\$ 591			
Standard Metallic											
A1411	316L	316L	316L	316L	1000:1	see below		\$ 1,064			
Slurry											
S1414	316L	316L	440C	316L	1000:1	RPM54776		\$ 1,152			
High Viscosity											
V44T1	PP	PTFE	316L	PP	1000:1	RPM54777		\$ 369			
	Standard Plastic	Diaphragm	O-Rings	Fittings	Connections	Tubing Kit	RPM Kit				
	A7T1	PTFE/PVDF	TFE/P	PVDF	Imperial Tube	1	-	\$ 329			
	A7PN	PTFE/PVDF	TFE/P	PVDF	1/2" NPT	-	-	\$ -			
	A7M2	PTFE/PVDF	TFE/P	PVDF	Metric Tube	2	-	\$ 133			
	A2FN	PTFE/PVDF	TFE/P	PVDF/PVC	DN15 Female	-	see above	\$ 61			
	A7DN PVDF heads only	PTFE/PVDF	TFE/P	PVDF	DN15 Male	-	see above	\$ 597			
Standard Metallic											
A1PN	PTFE/316L	TFE/P	316L	1/2" FNPT	-	RPM56407	\$ -				
V1PN	PTFE/316L	FKM	316L	1/2" FNPT	-	RPM54775	\$ -				
Slurry											
V1PN	PTFE/316L	FKM	316L	1/2" FNPT	-	-	\$ -				
High Viscosity											
N4T3	PTFE/PVDF	-	PP	Imperial Tube	3	-	\$ 175				
ERB13	1	A44AC	A7T1								

RPM Kit	Price	RPM Kit	Price	Contents
RPM54771	\$ 467	RPM54777	\$ 441	
RPM54772	\$ 449	RPM54778	\$ 465	• Primary Diaphragm
RPM54773	\$ 465	RPM54779	\$ 448	• Secondary Diaphragm housing seal
RPM54774	\$ 448	RPM56407	\$ 1,164	• Required O-rings
RPM54775	\$ 835	RPM56409	\$ 485	• Replacable Check valves or components
RPM54776	\$ 965	RPM56410	\$ 478	

Note: Add 6 pin cordset (49035) for digital input and analog output and 5 pin (48414) for digital output.

For Tubing Kit contents, refer to Tubing Kits Table.

For accessory kits and pricing, see Accessories section

OUTPUT CODE 4

144 SPM Max. Size Code 6

18.0 GPH (68.1 LPH); 50 psi (3.5 bar)

ERBx4		Drive End							
Control	Description	Cordset Included			Part Number			Price	
ERB14	Manual Control	-			-			See Note	\$ 3,375
ERB24	Enhanced Control	4 Pin Cordset			54711				\$ 3,873
ERB34	Enhanced Control with ProfiBus	4 Pin, 5 Pin Cordset			54711, 55199				\$ 4,608
ERB44	Enhanced Control with ModBus	4 Pin, 5 Pin Cordset			54711, 55199				\$ 4,608
Power Code	Voltage	Plug							
	1	110/240V			110 - 120 VAC 1 Phase US Plug			\$	-
	2	220/240V			220 - 240 VAC 1 Phase US Plug			\$	-
	3	220/240V			220 - 240 VAC 1 Phase DIN Plug			\$	-
	5	220/240V			220 - 240 VAC 1 Phase UK Plug			\$	-
	6	220/240V			220 - 240 VAC 1 Phase Australia / New Zealand Plug			\$	-
	Liquid End	Head	Seat	Ball	Check Valve Body	Diaphragm	Max Turndown Ratio	RPM Kit	
Standard PP									
A46VC	PP	FKM	Ceramic	PP	PTFE	500:1	RPM54780	\$	526
A46V1	PP	FKM	316L	PP	PTFE	500:1	RPM54784	\$	510
A46AC	PP	TFE/P	Ceramic	PP	PTFE	500:1	RPM56405	\$	526
A46A1	PP	TFE/P	316L	PP	PTFE	500:1	RPM56406	\$	510
Standard PVDF									
A76VC	PVDF	FKM	Ceramic	PVDF	PTFE	500:1	RPM54780	\$	982
A76AT	PVDF	TFE/P	PTFE	PVDF	PTFE	500:1	RPM56411	\$	966
A76AC	PVDF	TFE/P	Ceramic	PVDF	PTFE	500:1	RPM56405	\$	982
Standard Metallic									
A1611	316L	316L	316L	316L	PTFE	1000:1	see below	\$	2,797
Slurry									
S1614	316L	316L	440C	316L	PTFE	1000:1	RPM54783	\$	2,885
High Viscosity									
V46T1	PP	PTFE	316L	PP	PTFE	1000:1	RPM54782	\$	510
Standard PP	O-Rings	Fittings	Connections	Tubing Kit		RPM Kit			
	N4PN	-	PP	1/2" NPT		-	-	\$	-
	N4TN	-	PP	Imperial Tube		-	-	\$	-
	N2FN	-	PP/PVC	DN15 Female		-	-	\$	61
	Standard PVDF								
	N2FN	-	PVDF/PVC	DN15 Female		-	-	\$	61
	N7PN	-	PVDF	1/2" NPT		-	-	\$	-
Standard Metallic	N7TN	-	PVDF	Imperial Tube		-	-	\$	-
	Standard Metallic								
	A1PN	TFE/P	316L	1/2" FNPT		-	RPM56408	\$	-
	V1PN	FKM	316L	1/2" FNPT		-	RPM54781	\$	-
	Slurry								
	V1PN	FKM	316L	1/2" FNPT		-	-	\$	-
	High Viscosity								
N4P4		-	PP	1/2" NPT		4	-	\$	428
N4T4		-	PP	Imperial Tube		4	-	\$	428
ERB14	1	A46VC	N4PN						

RPM Kit	Price	RPM Kit	Price	Contents
RPM54780	\$ 228	RPM56406	\$ 307	
RPM54781	\$ 865	RPM56408	\$ 922	• Primary Diaphragm
RPM54782	\$ 268	RPM56411	\$ 342	• Secondary Diaphragm housing seal
RPM54783	\$ 930			• Required O-rings
RPM54784	\$ 224			• Replaceable Check valves or components
RPM56405	\$ 313			

Note: Add 6 pin cordset (49035) for digital input and analog output and 5 pin (48414) for digital output.

For Tubing Kit contents, refer to Tubing Kits Table. For accessory kits and pricing, see Accessories section

OUTPUT CODE 2

16 GPH (60.6 LPH); 150 psi (10.3 bar)

198 SPM Max.

Size Code 4

ERCx2		Drive End						
Control	Description	Cordset Included			Part Number			Price
ERC12	Manual Control	-			-			See Note \$ 4,698
ERC22	Enhanced Control	4 Pin Cordset			54711			\$ 5,942
ERC32	Enhanced Control with ProfiBus	4 Pin, 5 Pin Cordset			54711, 55199			\$ 6,773
ERC42	Enhanced Control with ModBus	4 Pin, 5 Pin Cordset			54711, 55199			\$ 6,773
Power Code	Voltage	Plug						
	1	110/240V		110 - 120 VAC 1 Phase US Plug			\$ -	
	2	220/240V		220 - 240 VAC 1 Phase US Plug			\$ -	
	3	220/240V		220 - 240 VAC 1 Phase DIN Plug			\$ -	
	5	220/240V		220 - 240 VAC 1 Phase UK Plug			\$ -	
	6	220/240V		220 - 240 VAC 1 Phase Australia / New Zealand Plug			\$ -	
	Liquid End	Head	Seat	Balls	Check Valve Body	Max Turndown Ratio	RPM Kit Standard	RPM Kit DN15 Conn.
Standard Plastic								
A44A1	PP	TFE/P	316L	PVDF	1000:1	RPM54778	RPM54779	\$ 359
A44AC	PP	TFE/P	Ceramic	PVDF	1000:1	RPM54771	RPM54772	\$ 375
A44AT	PP	TFE/P	PTFE	PVDF	1000:1	RPM56409	RPM56410	\$ 359
A74AT	PVDF	TFE/P	PTFE	PVDF	1000:1	RPM56409	RPM56410	\$ 591
A74TC	PVDF	PTFE	Ceramic	PVDF	200:1	RPM54773	RPM54774	\$ 607
Standard Metallic								
A1411	316L	316L	316L	316L	1000:1	see below		\$ 1,064
Slurry								
S1414	316L	316L	440C	316L	1000:1	RPM54776		\$ 1,152
High Viscosity								
V44T1	PP	PTFE	316L	PP	1000:1	RPM54777		\$ 369
	Standard Plastic		Diaphragm	O-Rings	Fittings	Connections	Tubing Kit	RPM Kit
	A2FN	PTFE/PVDF	TFE/P	PVDF/PVC	DN15 Female	-	see above	\$ 52
	A7M2	PTFE/PVDF	TFE/P	PVDF	Metric Tube	2	-	\$ 100
	A7PN	PTFE/PVDF	TFE/P	PVDF	1/2" NPT	-	-	\$ -
	A7T1	PTFE/PVDF	TFE/P	PVDF	Imperial Tube	1	-	\$ 329
	A7DN PVDF heads only	PTFE/PVDF	TFE/P	PVDF	DN15 Male	-	see above	\$ 597
Standard Metallic								
A1PN	PTFE/316L		TFE/P	316L	1/2" FNPT	-	RPM56407	\$ -
V1PN	PTFE/316L		FKM	316L	1/2" FNPT	-	RPM54775	\$ -
Slurry								
V1PN	PTFE/316L		FKM	316L	1/2" FNPT	-	-	\$ -
High Viscosity								
N4T3	PTFE/PVDF		-	PP	Imperial Tube	3	-	\$ 175
ERC12	1	A44AC	A7T1					

RPM Kit	Price	RPM Kit	Price	Contents
RPM54771	\$ 467	RPM54777	\$ 441	
RPM54772	\$ 449	RPM54778	\$ 465	
RPM54773	\$ 465	RPM54779	\$ 448	
RPM54774	\$ 448	RPM56407	\$ 1,164	• Primary Diaphragm • Secondary Diaphragm housing seal • Required O-rings • Replaceable Check valves or components
RPM54775	\$ 835	RPM56409	\$ 485	
RPM54776	\$ 965	RPM56410	\$ 478	

Note: Add 6 pin cordset (49035) for digital input and analog output and 5 pin (48414) for digital output.

For Tubing Kit contents, refer to Tubing kits Table. For Accessory Kits and pricing, see Accessories Section.

OUTPUT CODE 3

200 SPM Max.

Size Code 6

28 GPH (106 LPH); 100 psi (6.9 bar) - 32 GPH (121 LPH); 50 psi (3.5 bar)

ERCx3		Drive End						Price				
Control	Description	Cordset Included			Part Number			See Note	Price			
ERC13	Manual Control	-			-			See Note	\$ 5,045			
ERC23	Enhanced Control	4 Pin Cordset			54711				\$ 6,289			
ERC33	Enhanced Control with ProfiBus	4 Pin, 5 Pin Cordset			54711, 55199				\$ 7,120			
ERC43	Enhanced Control with ModBus	4 Pin, 5 Pin Cordset			54711, 55199				\$ 7,120			
	Power Code	Voltage	Plug									
	1	110/240V	110 - 120 VAC 1 Phase US Plug									
	2	220/240V	220 - 240 VAC 1 Phase US Plug									
	3	220/240V	220 - 240 VAC 1 Phase DIN Plug									
	5	220/240V	220 - 240 VAC 1 Phase UK Plug									
	6	220/240V	220 - 240 VAC 1 Phase Australia / New Zealand Plug									
Liquid End		Head	Seat	Balls	Check Valve Body	Max Turndown Ratio	RPM Kit					
Standard PP												
A46A1	PP	TFE/P	316L	PP	500:1	RPM56406	\$ 510					
A46AC	PP	TFE/P	Ceramic	PP	500:1	RPM56405	\$ 526					
A46V1	PP	FKM	316L	PP	500:1	RPM54784	\$ 510					
A46VC	PP	FKM	Ceramic	PP	500:1	RPM54780	\$ 526					
Standard PVDF												
A76AC	PVDF	TFE/P	Ceramic	PVDF	500:1	RPM56405	\$ 982					
A76AT	PVDF	TFE/P	PTFE	PVDF	500:1	RPM56411	\$ 966					
A76VC	PVDF	FKM	Ceramic	PVDF	500:1	RPM54780	\$ 982					
Standard Metallic												
A1611	316L	316L	316L	316L	1000:1	see below	\$ 2,797					
Slurry												
S1614	316L	316L	440C	316L	1000:1	RPM54783	\$ 2,885					
High Viscosity												
V46T1	PP	PTFE	316L	PP	1000:1	RPM54782	\$ 510					
	Standard PP		Diaphragm	O-Rings	Fittings	Connections	Tubing Kit	RPM Kit				
	N4PN	PTFE	-	PP	1/2" MNPT	-	-	-				
	N2FN	PTFE	-	PP/PVC	DN15 Female	-	-	\$ 69				
	Standard PVDF		PTFE	-	PP/PVC	DN15 Female	-	\$ 69				
	N2FN	PTFE	-	PP/PVC	DN15 Female	-	-	\$ 69				
	N7PN	PTFE	-	PVDF	1/2" MNPT	-	-	\$ -				
Standard Metallic												
A1PN	PTFE/316L		TFE/P	316L	1/2" FNPT	-	RPM56408	\$ -				
V1PN	PTFE/316L		FKM	316L	1/2" FNPT	-	RPM54781	\$ -				
Slurry												
V1PN	PTFE/316L		FKM	316L	1/2" FNPT	-	-	\$ -				
High Viscosity												
N4P4	PTFE/PVDF		-	PP	1/2" MNPT	4	-	\$ 428				
ERC13	1	A46VC	N4PN									

RPM Kit	Price	RPM Kit	Price	Contents
RPM54780	\$ 228	RPM56406	\$ 307	
RPM54781	\$ 865	RPM56408	\$ 922	
RPM54782	\$ 268	RPM56411	\$ 342	
RPM54783	\$ 930			<ul style="list-style-type: none"> • Primary Diaphragm • Secondary Diaphragm housing seal • Required O-rings • Replaceable Check valves or components
RPM54784	\$ 224			
RPM56405	\$ 313			

Note: Add 6 pin cordset (49035) for digital input and analog output and 5 pin (48414) for digital output.
For Tubing Kit contents, refer to Tubing kits Table.
For Accessory Kits and pricing, see Accessories Section.

OUTPUT CODE 4

53 GPH (200.6 LPH); 60 psi (4.1 bar)

184 SPM Max.

Size Code 6

ERCx4		Drive End						Price				
Control	Description	Cordset Included			Part Number			See Note	Price			
ERC14	Manual Control	-			-			See Note	\$ 5,597			
ERC24	Enhanced Control	4 Pin Cordset			54711				\$ 6,841			
ERC34	Enhanced Control with ProfiBus	4 Pin, 5 Pin Cordset			54711, 55199				\$ 7,672			
ERC44	Enhanced Control with ModBus	4 Pin, 5 Pin Cordset			54711, 55199				\$ 7,672			
	Power Code	Voltage	Plug									
	1	110/240V	110 - 120 VAC 1 Phase US Plug									
	2	220/240V	220 - 240 VAC 1 Phase US Plug									
	3	220/240V	220 - 240 VAC 1 Phase DIN Plug									
	5	220/240V	220 - 240 VAC 1 Phase UK Plug									
	6	220/240V	220 - 240 VAC 1 Phase Australia / New Zealand Plug									
Liquid End		Head	Seat	Balls	Check Valve Body	Max Turndown Ratio	RPM Kit					
Standard PP												
A46A1	PP	FKM	Ceramic	PVDF	500:1	RPM56406	\$ 510					
A46AC	PP	FKM	316L	PVDF	500:1	RPM56405	\$ 526					
A46V1	PP	TFE/P	316L	PVDF	500:1	RPM54784	\$ 510					
A46VC	PP	TFE/P	Ceramic	PVDF	500:1	RPM54780	\$ 526					
Standard PVDF												
A76AC	PVDF	FKM	Ceramic	PVDF	500:1	RPM56405	\$ 982					
A76AT	PVDF	TFE/P	PTFE	PVDF	500:1	RPM56411	\$ 966					
A76VC	PVDF	TFE/P	Ceramic	PVDF	500:1	RPM54780	\$ 982					
Standard Metallic												
A1611	316L	316L	316L	316L	1000:1	see below	\$ 2,797					
Slurry												
S1614	316L	316L	440C	316L	1000:1	RPM54783	\$ 2,885					
High Viscosity												
V46T1	PP	PTFE	316L	PP	1000:1	RPM54782	\$ 510					
	Standard PP		Diaphragm	O-Rings	Fittings	Connections	Tubing Kit	RPM Kit				
	N7NN	PTFE	-	PVDF	3/4" MNPT	-	-	\$ 139				
	N2GN	PTFE	-	PVDF/PVC	DN20 Female	-	-	\$ 199				
	Standard PVDF		PTFE	-	PVDF	3/4" MNPT	-	\$ 139				
	N7NN	PTFE	-	PVDF/PVC	DN20 Female	-	-	\$ 199				
	Standard Metallic		TFE/P	316L	3/4" FNPT	-	RPM56408	\$ 139				
A1NN	PTFE	TFE/P	316L	3/4" FNPT	-	RPM54781	\$ 139					
V1NN	PTFE	FKM	316L	3/4" FNPT	-	RPM54781	\$ 139					
Slurry												
V1NN	PTFE	FKM	316L	3/4" FNPT	-	-	\$ 139					
High Viscosity												
N4N5	PTFE	-	PP	3/4" MNPT	5	-	\$ 637					
ERC14	1	A46VC	N7NN									

RPM Kit	Price	RPM Kit	Price	Contents
RPM54780	\$ 228	RPM56406	\$ 307	
RPM54781	\$ 865	RPM56408	\$ 922	
RPM54782	\$ 268	RPM56411	\$ 342	
RPM54783	\$ 930			<ul style="list-style-type: none"> • Primary Diaphragm • Secondary Diaphragm housing seal • Required O-rings • Replaceable Check valves or components
RPM54784	\$ 224			
RPM56405	\$ 313			

Note: Add 6 pin cordset (49035) for digital input and analog output and 5 pin (48414) for digital output.
 For Tubing Kit contents, refer to Tubing kits Table.
 For Accessory Kits and pricing, see Accessories Section.

Tubing Kit			
1	<ul style="list-style-type: none"> • Injection Valve • Foot Valve • 1 Weight (Suction Tubing) • 16' PE Tube 3/8" • 20' Reinforced PVC Hose 1/4" x 1/2" 	3	<ul style="list-style-type: none"> • Injection Valve • 2m Reinforced PVC hose 15x23mm (Suction) • 3m PE Tube 1/2" (Discharge) • 1 Suction hose fitting (1/2" FNPT X 15x23 hose) & 2 hose clamps
2	<ul style="list-style-type: none"> • Injection Valve • Foot Valve • 1 Weight (Suction Tubing) • Metric Ferrules 6x12mm • 6m Reinforced PVC Hose 6x12mm 	4	<ul style="list-style-type: none"> • 2m Reinforced PVC hose 15x23mm (Suction) • 1 suction hose fitting (1/2" FNPT X 15x23 hose) & 2 hose clamps
			5
			<ul style="list-style-type: none"> • 6.5ft Reinforced PVC hose 0.75" x 1.031" (Suction) • 1 Suction hose fitting (3/4" MNPT x 0.75" x 1.031" hose) & 2 hose clamps

ACCESSORY KITS

OUTPUT CODE 2 & 3

Part No.	Description	Price
Imperial Connections		
PP Head, 316 SS Balls		
58982	Injection Valve, PTFE	\$ 90.00
58987	Foot Valve, Mixed	\$ 83.00
59008	Connection Kit, 0.375 and 0.25x0.5	\$ 376.00
Tubing Kit, includes:		
10342-10	3/8" TUBE X 10 FT	\$ 21.00
54342-20	1/4" x 1/2" HOSE x 20 FT	\$ 118.00
PP Head, Ceramic Balls		
58983	Injection Valve, Mixed	\$ 90.00
58985	Foot Valve, Aflas	\$ 83.00
59008	Connection Kit, 0.375 and 0.25x0.5	\$ 376.00
Tubing Kit, includes:		
10342-10	3/8" TUBE X 10 FT	\$ 21.00
54342-20	1/4" x 1/2" HOSE x 20 FT	\$ 118.00
PVDF Head, Ceramic Balls		
58983	Injection Valve, Mixed	\$ 90.00
58986	Foot Valve, PTFE	\$ 83.00
59008	Connection Kit, 0.375 and 0.25x0.5	\$ 376.00
Tubing Kit, includes:		
10342-10	3/8" TUBE X 10 FT	\$ 21.00
54342-20	1/4" x 1/2" HOSE x 20 FT	\$ 118.00

Part No.	Description	Price
Metric Connections		
PP Head, 316 SS Balls		
58982	Injection Valve, PTFE	\$ 90.00
58987	Foot Valve, Mixed	\$ 83.00
59009	Connection Kit, 6x12	\$ 93.00
Tubing Kit, includes:		
36181-6M	8mm TUBE X 6m	\$ 38.00
70121-6M	6x12mm HOSE X 6m	\$ 49.00
PP Head, Ceramic Balls		
58983	Injection Valve, Mixed	\$ 90.00
58985	Foot Valve, Aflas	\$ 83.00
59009	Connection Kit, 6x12	\$ 93.00
Tubing Kit, includes:		
36181-6M	8mm TUBE X 6m	\$ 38.00
70121-6M	6x12mm HOSE X 6m	\$ 49.00
PVDF Head, Ceramic Balls		
58983	Injection Valve, Mixed	\$ 90.00
58986	Foot Valve, PTFE	\$ 83.00
59009	Connection Kit, 6x12	\$ 93.00
Tubing Kit, includes:		
36181-6M	8mm TUBE X 6m	\$ 38.00
70121-6M	6x12mm HOSE X 6m	\$ 49.00
High Viscosity		
58984	Injection Valve, HV	\$ 90.00
59010	Connection Kit, Hose Clamp	\$ 44.00
59013	Tubing Kit, HV	\$ 62.00

OUTPUT CODE 4

Part No.	Description	Price
Imperial Connections		
PP Head		
26758	Injection Valve, 0.5" Tube, PP, PTFE, Cer	\$ 129.00
25154	Foot Valve, 0.5" Tube, PP, PTFE, Cer	\$ 134.00
77384	Connection Kit, 0.5" Tubing	\$ 24.00
PVDF Head		
33481	Injec. Valve, 0.5" Tube, PVDF, PTFE, Cer	\$ 146.00
33480	Foot Valve, 0.5" Tube, PVDF, PTFE, Cer	\$ 147.00
77384	Connection Kit, 0.5" Tubing	\$ 24.00

Part No.	Description	Price
Metric Connections		
PP Head		
26710	Injection Valve, NPT, PP, PTFE, Cer	\$ 176.00
26015	Foot Valve, NPT, PP, PTFE, Cer	\$ 134.00
PVDF Head		
38270	Injection Valve, NPT, PVDF, PTFE, Cer	\$ 204.00
38271	Foot Valve, NPT, PVDF, PTFE, Cer	\$ 127.00

ACCESSORIES

Tubing Connection Kits (One kit needed per tube end)		
Kit No.	Description	Price
54714	TUBING CONNECTION KIT, 3/8" TUBE	\$ 16.00
54715	TUBING CONNECTION KIT, 1/4"x1/2" HOSE	\$ 13.00
54716	TUBING CONNECTION KIT, 8mm TUBE	\$ 36.00
54717	TUBING CONNECTION KIT, 6x12mm HOSE	\$ 22.00
54718	TUBING CONNECTION KIT, 1/2" TUBE	\$ 15.00
48378	COUPLING NUT	\$ 16.00
10411	COUPLING NUT, 1/2" TUBE	\$ 17.00

Tubing		
Part No.	Description	Price
10342-10	3/8" TUBE X 10 FT	\$ 21.00
10142-10	1/2" TUBE X 10 FT	\$ 24.00
54342-20	1/4"x1/2" HOSE X 20 FT	\$ 118.00
36181-6M	8mm TUBE X 6m	\$ 38.00
70121-6M	6x12mm HOSE X 6m	\$ 49.00

Bulk Kit of 20 Ferrules Each Kit		
Kit No.	Description	Price
54800	BULK FERRULE KIT, 3/8" TUBE	\$ 38.00
54801	BULK FERRULE KIT, 1/4"x1/2" HOSE	\$ 206.00
54802	BULK FERRULE KIT, 8mm TUBE	\$ 88.00
54803	BULK FERRULE KIT, 6x12mm HOSE	\$ 366.00
54804	BULK FERRULE KIT, 1/2" TUBE	\$ 49.00

Input/Output Cordsets			
Part No.	Description	Application Notes	Price
48414	CORDSET, 5 PIN, 2 M / 6.6 FT	(J2) Digital output	\$ 106.00
49035	CORDSET, 6 PIN, 2 M / 6.6 FT	(J1 & J4) Digital input & Analog output	\$ 129.00
54711	CORDSET, 4 PIN, 2 M / 6.6 FT	(J3) Analog input	\$ 94.00
55199	CORDSET, 5 PIN, 2 M / 6.6 FT	(C) ProfiBus/ModBus Communicaton	\$ 171.00

Extension Cable Assemblies - 5 Pin		
Part No.	Description	Price
50503-6	Extension Cable, 6 M / 19.7 Ft	\$ 198.00
50503-15	Extension Cable, 15 M / 49.2 Ft	\$ 337.00

Extension Cable Assemblies - 6 Pin		
Part No.	Description	Price
50684-6	Extension Cable, 6 M / 19.7 Ft	\$ 274.00
50684-30	Extension Cable, 30 M / 98.4 Ft	\$ 624.00

Note: PROTEUS™ Parts and Accessories carry a different discount structure than other Milton Roy product.

Part Number	Description	List Price	Part Number	Description	List Price
10138	BALL	\$ 20.00	54804	BULK FERRULE KIT, 1/2" TUBE	\$ 49.00
10228	SEAT	\$ 21.00	58994	ASM, CHECK VALVE CARTRIDGE, TEFLO	\$ 34.00
10338	BALL	\$ 13.00	70033	LIQUID END HEAD Size 4 316L ss	\$ 1,013.00
10411	COUPLING NUT	\$ 17.00	70034	LIQUID END HEAD Size 6 316L ss	\$ 1,857.00
10659	BALL	\$ 13.00	70117	LIQUID END HEAD Size 4 PVDF	\$ 634.00
25042	BALL	\$ 14.00	70143	FERULE, MALE	\$ 11.00
25128	SEAT	\$ 24.00	70185	FERULE, MALE	\$ 11.00
25558	SPRING	\$ 15.00	70186	FERULE, FEMALE	\$ 11.00
25906	LIQUID END HEAD Size 6 PP	\$ 455.00	70187	FERULE, MALE	\$ 10.00
32234	LIQUID END HEAD Size 6 PVDF	\$ 2,034.00	70188	FERULE, FEMALE	\$ 11.00
35031	LIQUID END HEAD Size 4 PP Hi Vis	\$ 308.00	70192	FERULE, MALE	\$ 11.00
35326	SEAT	\$ 42.00	70193	FERULE, FEMALE	\$ 10.00
35330	SECONDARY DIAPHRAGM	\$ 25.00	77118	ASSEMBLY, DIAPHRAGM	\$ 372.00
36054	SEAT	\$ 13.00	77119	ASSEMBLY, DIAPHRAGM	\$ 418.00
36103	O-RING	\$ 12.00	0210599016N	FITTING	\$ 269.00
36116	CARTRIDGE	\$ 11.00	0210696016N	FITTING	\$ 211.00
36953	ASSEMBLY, DIAPHRAGM	\$ 252.00	0920046016N	BALL STOP	\$ 82.00
37012	LIQUID END HEAD Size 4 PP	\$ 171.00	0920064016N	BALL STOP	\$ 79.00
37340	SEAT	\$ 14.00	4070014112N	BALL	\$ 9.00
37341	SPRING	\$ 14.00	4370000144N	BALL	\$ 13.00
48145	SEAT	\$ 14.00	4370000224N	BALL	\$ 34.00
48349	O-RING	\$ 13.00	43700002094N	BALL	\$ 43.00
48378	COUPLING NUT	\$ 16.00	43700002144N	BALL	\$ 63.00
48485	LIQUID END HEAD Size 6 PP Hi Vis	\$ 805.00	43700002224N	BALL	\$ 32.00
48851	CORD, POWER USA 120V, A+	\$ 82.00	4380051072N	O-RING	\$ 11.00
48852	CORD, POWER USA 230V, A+	\$ 73.00	4380051162N	O-RING	\$ 9.00
48853	CORD, POWER DIN, A+	\$ 88.00	52702-1680	BEZEL,DISPLAY	\$ 79.00
48855	CORD, POWER BRITISH, A+	\$ 73.00	52702-1810	CLEAR COVER,DISPLAY	\$ 83.00
48856	CORD, POWER AUST, A+	\$ 73.00	RPM54771	RPM Size 4 PP/Ceramic Tube Conn	\$ 467.00
48857	CORD, POWER SWISS, A+	\$ 65.00	RPM54772	RPM Size 4 PP/Ceramic DN15 Conn	\$ 449.00
48859	CORD, POWER NO PLUG, A+	\$ 65.00	RPM54773	RPM Size 4 PVDF/Ceramic Tube Conn	\$ 465.00
53441	FERULE, MALE	\$ 56.00	RPM54774	RPM Size 4 PVDF/Ceramic DN15 Conn	\$ 448.00
53442	FERULE, FEMALE	\$ 33.00	RPM54775	RPM Size 4 316 ss Standard	\$ 835.00
54195	DISPLAY MEMBRANE	\$ 141.00	RPM54776	RPM Size 4 316 ss Slurry	\$ 965.00
54714	CONN KIT, 3/8" TUBE	\$ 16.00	RPM54777	RPM Size 4 PP/316 Ball Hi Vis	\$ 441.00
54715	CONN KIT, 1/4"x1/2" HOSE	\$ 13.00	RPM54778	RPM Size 4 PP/316 Ball Tube Conn	\$ 465.00
54716	CONN KIT, 8mm TUBE	\$ 36.00	RPM54779	RPM Size 4 PP/316 Ball DN15	\$ 448.00
54717	CONN KIT, 6x12mm HOSE	\$ 22.00	RPM54780	RPM Size 6 Ceramic Ball FKM Seat	\$ 228.00
54718	CONN KIT, 1/2" TUBE	\$ 15.00	RPM54781	RPM Size 6 316 ss Standard	\$ 865.00
54800	BULK FERRULE KIT, 3/8" TUBE	\$ 38.00	RPM54782	RPM Size 6 PP Hi Viscosity	\$ 268.00
54801	BULK FERRULE KIT, 1/4"x1/2" HOS	\$ 206.00	RPM54783	RPM Size 6 316L ss Ball & Seat Slurry	\$ 930.00
54802	BULK FERRULE KIT, 8mm TUBE	\$ 88.00	RPM54784	RPM Size 6 316Lss Ball FKM Seat	\$ 224.00

MacRoy Product Selection & Pricing



MacRoy D



MacRoy G

MacRoy Liquid Ends & Drives

The liquid ends and drives for MacRoy pumps can be purchased separately using the codes and pricing from the following price pages.

Instructions for ordering are as follows:

NOTE: Drives cannot be mixed and matched with all liquid end sizes. Check with factory before attempting to put a different size liquid end on a drive.

Drives Only

Action	Example Code	Example Price
Select Model Code	D	-
Select Liquid End Size (MacRoy D only, MacRoy G leave blank but use price)	7	\$ 2,076
Select Stroking Speed	6	-
Select Motor Code	9	\$ 302
Select Capacity Control	EE	\$ 2,020
Select Base Code	N	-
Select Stroke Counting Code	N	-
	Total \$	\$ 4,398.00

Order As Follows

Qty	Description	Price
1	MacRoy D Drive only model D769EENN	\$ 4,398.00

Liquid Ends Only (Includes Liquid End Mounting Adapter)

Action	Example Code	Example Price
Select Model Code	D	-
Select Liquid End Size (Do Not Use Price for This Option)	7	
Select Liquid End Material	8	\$ 1,611
Select Connection Option	P	-
Select Double Diaphragm Option	N	-
	Total \$	\$ 1,611

Order As Follows

Qty	Description	Price
1	MacRoy D Liquid End only model D78PN	\$ 1,611

Standard pump discount applies to both drives and liquid ends.

MacRoy D Capacity/Pressure and RPM Kits

English Units	Liquid End Codes	SPM @		GPH @ Max PSI		Max PSI	Liquid End Codes	SPM @		LPH @ Max Bar		Max Bar
	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz			
2	43	36	0.18	0.15	175	175	43	36	0.7	0.6	12	
	86	72	0.35	0.29			86	72	1.3	1.1		
	120	102	0.48	0.40			120	102	1.8	1.5		
	173	144	0.7	0.58			173	144	2.6	2.2		
4	43	36	3.0	2.5	150	150	43	36	11.4	9.5	10	
	86	72	6.6	5.5			86	72	25	21		
	120	102	10	6.9			120	102	38	26		
	173	144	14.4	12			173	144	55	45		
7	43	36	13	10	100	100	43	36	49	38	7	
	86	72	25	21			86	72	95	79		
	120	102	34	28			120	102	129	106		
	173	144	50	42			173	144	189	159		
8	43	36	31	26	75	75	43	36	117	98	5	
	86	72	57	47			86	72	216	178		
	120	102	87	72			120	102	329	273		
	173	144	127	106			173	144	481	401		

Notes:

- 1) All capacities are based on maximum pressures. For operation at reduced pressures, add 1% flow for every 25 psi (1.7 bar) decrease in pressure.

- 2) Motor requirements:

LE Codes	Single Phase	Three Phase
2, 4, 7	0.25 HP / 0.18 kW	0.25 HP / 0.18 kW
8	0.33 HP / 0.25 kW	0.25 HP / 0.18 kW

RPM Kits	MacRoy D RPM kits			
	LE Code	Liquid End Material	Kit Number	Price
2	2	Polypropylene, PVC, Acrylic, PVDF	RPM099	\$ 985
		316 ss	RPM101	\$ 918
		Polypro, PVC, Acrylic, PVDF Double Dia.	RPM161	\$1,317
		316 ss Double Diaphragm	RPM162	\$1,249
		Polymer Liquid End		
		H ₂ SO ₄ NPT Conn.		
		Slurry Liquid End		
4	4	Polypropylene, PVC, Acrylic, PVDF	RPM102	\$ 378
		316 ss	RPM104	\$ 499
		Polypro, PVC, Acrylic, PVDF Double Dia.	RPM163	\$ 521
		316 ss Double Diaphragm	RPM164	\$ 653
		Polymer Liquid End	RPM196	\$1,325
		H ₂ SO ₄ NPT Conn.	RPM173	\$ 862
		H ₂ SO ₄ Tubing Conn.	RPM174	\$ 867
		Slurry Liquid End	RPM212	\$1,199
7	7	Polypropylene, PVC, or Acrylic	RPM135	\$ 384
		PVDF	RPM136	\$ 424
		316 ss	RPM137	\$1,313
		Polymer Liquid End	RPM211	\$ 879
		H ₂ SO ₄ NPT Conn.	RPM175	\$ 761
		Slurry Liquid End	RPM401	\$1,142
8	8	Polypropylene, PVC, or Acrylic	RPM105	\$ 384
		PVDF	RPM106	\$ 379
		316 ss	RPM107	\$1,313
		Polymer Liquid End	RPM210	\$ 667
		H ₂ SO ₄ NPT Conn.	RPM183	\$ 785
		Slurry Liquid End		

Kits Include:

* Diaphragm

* Oil Seal

* O Rings

* Suction &
Discharge
Cartridge
OR

Balls & seats

(Depending on style
of check valve)

MACROY D PRICING and PRODUCT CODE SELECTION**MODEL CODE**

<input checked="" type="checkbox"/> D	<input type="checkbox"/>	Option Select Number								
Liquid End Size Code		Stroking Speed	Motor	Liquid End Material	Connections	Capacity Control	Double Diaphragm	Base	Stroke Counting	

LIQUID END SIZE

Code	Description	List Price
2	Capacity up to 0.7 GPH	\$ 2,076
4	Capacity up to 14.4 GPH	\$ 2,076
7	Capacity up to 50 GPH	\$ 2,076
8	Capacity up to 127 GPH	\$ 2,428

STROKING SPEED

Code	Description	List Price
1	43 SPM @ 60 Hz / 36 SPM @ 50 Hz	\$ -
2	86 SPM @ 60 Hz / 72 SPM @ 50 Hz	\$ -
6	120 SPM @ 60 Hz / 102 SPM @ 50Hz	\$ -
3	173 SPM @ 60 Hz / 144 SPM @ 50 Hz	\$ -

MOTOR OPTIONS

Code	Description (see Motor Requirements on previous page - Note #2)	List Price
X	Flange Mount, NEMA 56C	\$ -
M	Flange Mount, IEC Frame 71, F130, B5 Flange	\$ -
8	1/4 hp, 1725 rpm, 1 Phase, 60 Hertz, 115/230 Volt, TEFC, NEMA 56C	\$ 302
9	1/4 hp (.25 kW), 1425 rpm, 1 Phase, 50 Hertz, 115/230 Volt, TE, NEMA 56C	\$ 302
T	1/4 hp (.25 kW), 1725 rpm, 1 Phase, 60 Hertz, 115/230 Volt, TE, NEMA 56C	\$ 302
J	1/4 hp, 1725 rpm, 3 Phase, 60 Hertz, 230/460 Volt, TEFC, NEMA 56C	\$ 302
L	1/4 hp (.25 kW), 1450 rpm, 3 Phase, 50 Hertz, 220/380 Volt, TEFC, NEMA 56C	\$ 302
P	1/2 hp 1725 rpm TE motor w/DC Drive, 4-20 ma input, NEMA 4/12 115 VAC	\$ 2,415

LIQUID END MATERIAL

Code	Material	Price by Liquid End Code			
		2	4	7	8
2	PVDF	\$ 1,615	\$ 1,615	\$ 3,546	\$ 3,671
4	UV Stable Black Polypropylene	\$ 1,051	\$ 1,052	\$ 2,301	\$ 2,544
7	316SS	\$ 2,275	\$ 2,275	\$ 3,790	\$ 4,248
8	PVC	\$ 984	\$ 984	\$ 1,611	\$ 1,868
A	Acrylic	\$ 1,600	\$ 1,601	\$ 3,032	\$ 3,337
P	Polymer Applications (PVC w/316SS balls & seats, Hast C Spring)	\$ 1,987	\$ 1,987	\$ 2,062	\$ 2,154
L	Slurry Apps-PVC w/ 316SS slurry checks-may reduce max GPH (LE 4 head is 316ss)	N/A	\$ 2,718	\$ 4,031	\$ 4,361
N	H2SO4 Applications (PVC w/Alloy 20 balls & seats)	\$ 2,001	\$ 2,001	\$ 2,673	\$ 2,912

CONNECTIONS

All Plastic Liquid Ends				316SS			
Liquid End Code and Conn. Size				Liquid End Code and Conn. Size			
Code	Description	LE # 2	LE # 4	LE # 2	LE # 4	LE # 7	LE # 8
P	NPT (Standard)	1/4" NPTM	1/4" NPTM	1/2" NPTF	1/2" NPTF	1/4" NPTM	1/2" NPTM
T	Tubing	1/4"	1/2"	1/2"	1/2"	N/A	N/A
B	NPT de-gassing - PVC only	N/A	N/A	\$ 786	\$ 786	N/A	N/A
C	Tubing de-gassing - PVC only	N/A	N/A	\$ 786	\$ 786	N/A	N/A

CAPACITY CONTROL

	Code	Description	Price
	M4	Manual Micrometer Knob (Standard)	\$ -
NOTE: Base required	AW	ACC NEMA 4 (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 5,242
NOTE: Base required	AE	ACC Ex-Proof (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 6,116
	HW	ACC HART IP68; Fieldbus 7.0v or 4/20mA signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 6,122
	HE	ACC HART Ex-Poof Fieldbus 7.0v or 4-20mA; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 6,996

DOUBLE DIAPHRAGM

Code	Description	Price by Liquid End Code			
		2	4	7	8
N	None (Standard)	\$ -	\$ -	\$ -	\$ -
D	Double Diaphragm	\$ 1,076	\$ 561	\$ 729	\$ 2,513
3	Double Diaphragm w/Pressure gauge	\$ 2,020	\$ 1,459	\$ 1,627	\$ 3,634
4	Double Diaphragm w/NEMA 4 Rupture Detection	\$ 2,693	\$ 2,154	\$ 2,154	\$ 4,309
7	Double Diaphragm w/NEMA 7 Rupture Detection	\$ 3,030	\$ 2,693	\$ 2,804	\$ 4,982

BASE

Code	Description	List Price
N	No Base (Standard)	\$ -
1	Simplex optional Base	\$ 145
M	IMC Kit - Base for mounting VSD: includes wiring VSD to motor and mounting - VSD and motor not included in the price unless motor option "P" above is selected - VSD's must be selected from this price book. Other VSD's require special order handling.	\$ 1,096

#

STROKE COUNTING

Code	Description	List Price
N	No Stroke Counting (Standard)	\$ -
1	Stroke Counting - (20 to 250 volt AC/DC)	\$ 1,795

**MACROY G Flow Rate / Maximum Pressure Table
& RPM Kits**

English Units	Liquid End Codes	SPM @		GPH @ Max Pressure		Max PSI	Metric Units	Liquid End Codes	SPM @		LPH @ Max Pressure		Max Bar
		60 Hz	50 Hz	60 Hz	50 Hz				60 Hz	50 Hz	60 Hz	50 Hz	
5	5	43	36	26	22	150	Metric Units	5	43	36	98	82	10
		86	72	53	44				86	72	200	167	
		120	102	75	63				120	102	284	237	
		173	144	106	88				173	144	400	334	
		—	180	—	110				—	180	—	416	
6	6	43	36	36	30	100	Metric Units	6	43	36	136	114	7
		86	72	73	61				86	72	276	230	
		120	102	104	87				120	102	394	328	
		173	144	147	123				173	144	556	464	
		—	180	—	154				—	180	—	583	
7	7	43	36	75	63	50	Metric Units	7	43	36	284	237	3.5
		86	72	149	124				86	72	564	470	
		120	102	208	173				120	102	787	656	
		173	144	300	250				173	144	1136	946	
		—	180	—	312				—	180	—	1181	

Notes: 1) All capacities are based on maximum pressures. For operation at reduced pressures, add 1% flow for every 25 psi (1.7 bar) decrease in pressure.

2) Motor requirements:

LE Codes	Single Phase	Three Phase
5, 6	1 HP / 0.75 kW	1 HP / 0.75 kW
7	1.5 HP/1.1 kW	1 HP / 0.75 kW

RPM Kits		MacRoy G RPM kits									
		All kits include new style replaceable diaphragm									
Liquid End	Liquid End Material	Kit Number					Price				
5	Polypropylene, PVC, or Acrylic PVDF 316 ss H ₂ SO ₄ NPT Conn. Polymer Liquid End	RPM045	\$	512			RPM046	\$	496		
		RPM047	\$	1,512			RPM175	\$	761		
		RPM126	\$	1,023			RPM226	\$	2,238		
		RPM400	\$	1,645							
		RPM048	\$	640			RPM049	\$	1,046		
	H ₂ SO ₄ NPT Conn. Polymer Liquid End Slurry Liquid End	RPM050	\$	600			RPM194	\$	3,373		
6	Polypropylene, PVC, or Acrylic PVDF 316 ss H ₂ SO ₄ NPT Conn. Polymer Liquid End	RPM176	\$	1,519			RPM219	\$	1,042		
		RPM051	\$	672							
		RPM052	\$	1,092							
		RPM053	\$	959							
		RPM203	\$	2,877							
	Slurry Liquid End Caustic Flouride	RPM221	\$	2,174			RPM220	\$	1,151		
7	Polypropylene, PVC, or Acrylic PVDF 316 ss H ₂ SO ₄ NPT Conn. Polymer Liquid End	RPM487	\$	512							
		RPM488	\$	354							
		RPM054	\$	1,092							
		RPM055	\$	959							
		RPM204	\$	2,877							
	Slurry Liquid End Caustic Flouride	RPM222	\$	2,174			RPM221	\$	1,151		

Note:
RPM 226 converts an older design used prior to 5/2008 to a new cost effective design. RPM400 applies to pumps built after 5/2008 or that have been converted.

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Kits Include:

- * Diaphragm
- * Oil Seal
- * O Rings
- * Suction & Discharge Cartridge **OR** Balls & seats (Depending on style of Check Valve)

MACROY G PRICING AND PRODUCT CODE SELECTION

MODEL CODE

<input checked="" type="checkbox"/> G	<input type="checkbox"/>	Liquid End Size Code	<input type="checkbox"/>	Stroking Speed	<input type="checkbox"/>	Motor	<input type="checkbox"/>	Liquid End Material	<input type="checkbox"/>	Connections	<input type="checkbox"/>	Capacity Control	<input type="checkbox"/>	Double Diaphragm	<input type="checkbox"/>	Base	<input type="checkbox"/>	Stroke Counting
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LIQUID END SIZE

Code	Description	List Price
5	Capacity up to 106 GPH	\$ 3,332
6	Capacity up to 147 GPH	\$ 3,332
7	Capacity up to 300 GPH	\$ 3,499

STROKING SPEED

Code	Description	
1	43 SPM @ 60 Hz / 36 SPM @ 50 Hz	\$ -
2	86 SPM @ 60 Hz / 72 SPM @ 50 Hz	\$ -
6	120 SPM @ 60 Hz / 102 SPM @ 50Hz	\$ -
3	173 SPM @ 60 Hz / 144 SPM @ 50 Hz	\$ -
8	180 SPM @ 50 Hz only	\$ -

MOTOR OPTIONS

Code	Description (see Motor Requirements on previous page - Note #2)	List Price
MOTOR MOUNTS (Less Motor - Select Motor from Accessory Section)	X Flange Mount, NEMA 56C	\$ -
	Y Flange Mount, NEMA 143C	\$ 108
	M Flange Mount, IEC Frame 71, F130, B5 Flange	\$ 349
	N Flange Mount, IEC Frame 80, F165, B5 Flange	\$ 349
FLANGE MOUNT with MOTORS	8 1 hp 1725 rpm, 1 Phase, 60 Hertz, 115/230 Volt, TEFC, NEMA 56C	\$ 472
	9 1 hp (.75 kW), 1425 rpm, 1 Phase, 50 Hertz, 115/230 Volt, TE, NEMA 56C	\$ 472
	T 1.5 hp (1.1 kW), 1725 rpm, 1 Phase, 60 Hertz, 115/230 Volt, TE, NEMA 56C	\$ 472
	J 1 hp, 1725 rpm, 3 Phase, 60 Hertz, 230/460 Volt, TEFC, NEMA 56C	\$ 472
	L 1 hp (.75 kW), 1450 rpm, 3 Phase, 50 Hertz, 220/380 Volt, TEFC, NEMA 56C	\$ 472
	P DC Variable Speed Drive	1 hp 1725 rpm TE motor w/DC Drive, 4-20 ma input, NEMA 4/12 115 VAC \$ 2,415

LIQUID END MATERIAL

Material	Liquid End Code 5			Liquid End Code 6			Liquid End Code 7		
	Code	Price	Code	Price	Code	Price	Code	Price	Code
PVDF	2	\$ 3,250	2	\$ 5,628	2	\$ 8,261			
UV Stable Black Polypropylene	4	\$ 2,301	4	\$ 2,571	4	NA			
316SS	7	\$ 3,883	7	\$ 4,248	7	\$ 5,253			
PVC	8	\$ 1,688	8	\$ 2,057	8	\$ 3,837			
Caustic Applications (PVC with EPDM "O" Rings)	C	\$ 1,688	C	\$ 2,057	C	\$ 3,837			
Fluoride Applications (PVC with PTFE Ball Checks)	F	\$ 1,688	F	\$ 2,057	F	\$ 3,837			
Acrylic	A	\$ 3,093	A	\$ 3,848	A	\$ 4,879			
Polymer Applications (PVC w/316SS balls & seats, Hast C Spring)	P	\$ 2,268	P	\$ 3,276	P	\$ 5,339			
Slurry Apps (PVC w/316SS slurry checks - may reduce max GPH)	L	\$ 3,402	L	\$ 4,310	L	\$ 5,806			
H2SO4 Applications (PVC w/Alloy 20 balls & seats)	N	\$ 2,451	N	\$ 3,054	N	\$ 5,722			

CONNECTIONS

Code	Description	All Plastic Liquid Ends			316SS		
		Liquid End Code and Conn. Size			Liquid End Code and Conn. Size		
		LE # 5	LE # 6	LE # 7	LE # 5	LE # 6	LE # 7
P	Blair NPT (Standard)	1/2" NPTF	1" NPTF	1" NPTF	1/2" NPTF	1" NPTM	1" NPTM
T	Tubing	1/2"	1"	1"	1/2"	1"	1"
B	NPT de-gassing	\$786	\$ 1,779	N/A	N/A	N/A	N/A
C	Tubing de-gassing	\$786	\$ 1,779	N/A	N/A	N/A	N/A
Q	Solvent Weld	\$89	\$ 89	\$ 89	N/A	N/A	N/A

CAPACITY CONTROL

Code	Description	Price
M4	Manual Micrometer Knob (Standard)	\$ -
AW	ACC NEMA 4 (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 5,242
AE	ACC Ex-Proof (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 6,116
HW	ACC HART IP68; Fieldbus 7.0v or 4/20mA signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 6,122
HE	ACC HART Ex-Proof Fieldbus 7.0v or 4-20mA; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 6,996

DOUBLE DIAPHRAGM

Code	Description	Price by Liquid End Code		
		LE # 5	LE # 6	LE # 7
N	None (Standard)	\$ -	\$ -	\$ -
D	Double Diaphragm	\$ 729	\$ 2,513	\$ 2,576
3	Double Diaphragm w/Pressure gauge	\$ 1,627	\$ 3,634	\$ 2,881
4	Double Diaphragm w/NEMA 4 Rupture Detection	\$ 2,154	\$ 4,309	\$ 3,837
7	Double Diaphragm w/NEMA 7 Rupture Detection	\$ 2,804	\$ 4,982	\$ 4,594

BASE

Code	Description	List Price
N	No Base (Standard)	\$ -
1	Simplex optional Base	\$ 145
M	IMC Kit - Base for mounting VSD: includes wiring VSD to motor and mounting - VSD and motor not included in the price unless motor option "P" above is selected - VSD's must be selected from this price book. Other VSD's require special order handling.	\$ 1,096

STROKE COUNTING

Code	Description	List Price
N	No Stroke Counting (Standard)	\$ -
1	Stroke Counting - (20 to 250 volt AC/DC)	\$ 1,795

The mRoy Series Metering Pump



*Over 50 years field
experience with innovation
as current as tomorrow!*

SELECTING & PRICING AN MROY PUMP

The mRoy product line is structured in a features and options format. Each model starts with an end item (such as: MRA) and then various options can be selected for each pump feature. For example, motor code A1 could be selected for the motor option. Each option selected may have a corresponding price associated with it.

To select a pump:

- From the capacity/pressure selection table on the next page, select the appropriate series (MRA or MRB) along with the plunger diameter and gear ratio code that corresponds with the required capacity and pressure. Be sure to select based on the power available at the installation (50 vs. 60 Hz).

Selection Hint: Remember that you can double the capacity values in the selection table for duplex pumps. Duplex can be used either to control the chemical pump independently, or combined to yield greater total capacity.

- If an actuator will be required, or a double diaphragm / rupture detection system will be selected, derate the pump capacity according to the chart found on the page after the capacity/pressure selection table.
- On the pricing page for the series selected, choose the features and options you need to complete the product code for the application.

Selection Hint: The vast majority of pumps selected will not need selections from the extended portion of the code from the last page of the code selection. At the end of the second page there is a final code position that allows you to indicate if more options are required or if the code is complete up to that point. If selection is complete, select a "Y" and the code is then complete.

- As each option is selected, add any price that may apply to the total.
- Multiply the total by any discount that may apply. **NOTE:** In the extended options there are selections for testing that are not subject to discount.

Example code selection and pricing:

Note: Prices for example only.

Code	Description	Price subject to discount	Prices not subject to Discount
MRA	mRoy A end item	\$ -	\$ -
1	Simplex	\$ -	\$ -
1	316 SS liquid end (base price)	\$ 3,531.00	\$ -
D	7/16" Plunger Diameter	\$ -	\$ -
24	24:1 Gear Ratio	\$ -	\$ -
A2	1/4 hp TEFC 1 Ph Motor 56 C Face	\$ 275.00	\$ -
A	API Motor Mount	\$ 297.00	\$ -
P	Standard NPT 1/2" Suction Connection	\$ -	\$ -
P	Standard NPT 1/4" Discharge Connection	\$ -	\$ -
V	Standard Viton O Rings	\$ -	\$ -
A	Electric Actuator NEMA 4 115V	\$ 4,392.00	\$ -
N	No Diaphragm Rupture Detection	\$ -	\$ -
N	No Base	\$ -	\$ -
N	Indicator the code is not complete	\$ -	\$ -
V	High Viscosity Option	\$ 381.00	\$ -
N	No Temperature Options Selected	\$ -	\$ -
N	No Drive Options Selected	\$ -	\$ -
N	No Extended Motor Options Selected	\$ -	\$ -
N	No Lubrication Options Selected	\$ -	\$ -
N	No Non-standard Coating Options Selected	\$ -	\$ -
3	Hydrotest selected in Component Tests	\$ -	\$ 177.00
B	5 Point Curve Selected in Run Tests	\$ -	\$ 440.00
List Subtotal		\$ 8,876.00	\$ 617.00
Discount %		20%	-
Discounted Subtotal		\$ 7,100.80	\$ 617.00
			Grand Total \$ 7,718

Full model code: MRA11-D24A3APPVANNN-VNNNNNN3B

mRoy Series Capacity/Pressure Selection - Metallic Liquid Ends

- Capacities shown are for simplex. Double capacity for duplex
- Actuators, rupture detection, and high viscosity options require capacity derating per the table on the next page

mRoy Series	Plunger		Gear Ratio Code	Strokes/Minute		Capacity / Pressure @ 60 hz 1725 RPM						Capacity / Pressure @ 50 hz 1425 RPM					
				60 hz 1725 RPM	50 hz 1425 RPM	Ratings at 100 psi/7 bar		Capacity at Max pressure		Ratings at 100 psi/7 bar		Capacity at Max pressure					
	Diameter	Code		GPH	L/hr	Capacity	Max Pressure	GPH	L/hr	Capacity	Max Pressure	GPH	L/hr	Capacity	Max Pressure	Bar	
A	3/8" 9.5 mm	H	77	23	19	0.35	1.3	0.19	0.7	3000	206.9	0.29	1.1	0.16	0.6	3000	206.9
			48	37	30	0.69	2.6	0.39	1.5	3000	206.9	0.58	2.2	0.33	1.2	3000	206.9
			24	73	60	1.39	5.3	0.65	2.5	3000	206.9	1.16	4.4	0.54	2	3000	206.9
			15	117	96	2.25	8.5	1.04	3.9	3000	206.9	1.88	7.1	0.87	3.3	3000	206.9
			10	185	152	3.53	13.4	1.63	6.2	3000	206.9	2.94	11.1	1.36	5.1	3000	206.9
	3/8" 9.5 mm	C	77	23	19	0.36	1.4	0.20	0.8	2000	137.9	0.30	1.1	0.17	0.6	2000	137.9
			48	37	30	0.73	2.8	0.34	1.3	2000	137.9	0.61	2.3	0.28	1.1	2000	137.9
			24	73	60	1.44	5.5	0.68	2.6	2000	137.9	1.20	4.5	0.57	2.2	2000	137.9
			15	117	96	2.32	8.8	1.09	4.1	2000	137.9	1.93	7.3	0.91	3.4	2000	137.9
			10	185	152	3.64	13.8	1.72	6.5	2000	137.9	3.03	11.5	1.43	5.4	2000	137.9
			08	-	178	-	-	-	-	-	-	3.55	13.4	1.67	6.3	2000	137.9
	7/16" 11.1 mm	D	77	23	19	0.57	2.2	0.4	1.5	1800	124.1	0.48	1.8	0.33	1.2	1800	124.1
			48	37	30	0.8	3	0.6	2.3	1800	124.1	0.67	2.5	0.50	1.9	1800	124.1
			24	73	60	1.7	6.4	1.2	4.5	1800	124.1	1.42	5.4	1.00	3.80	1800	124.1
			15	117	96	2.8	10.6	2	7.6	1800	124.1	2.33	8.8	1.67	6.30	1800	124.1
			10	185	152	4.4	16.7	3.1	11.7	1800	124.1	3.67	13.9	2.58	9.80	1800	124.1
			08	-	178	-	-	-	-	-	-	4.30	16.3	3.02	11.40	1800	124.1
	5/8" 15.9 mm	E	48	37	30	1.8	6.8	1.4	5.3	925	63.8	1.50	5.7	1.2	4.4	925	63.8
			24	73	60	3.8	14.4	3.1	11.7	925	63.8	3.17	12	2.6	9.8	925	63.8
			15	117	96	6.2	23.5	5.1	19.3	925	63.8	5.17	19.6	4.3	16.1	925	63.8
			10	185	152	9.4	35.6	7.7	29.1	925	63.8	7.83	29.6	6.4	24.3	925	63.8
			08	-	178	-	-	-	-	-	-	9.17	34.7	7.5	28.5	925	63.8
	1 - 1/16" 27 mm	F	48	37	30	6.1	23.1	5.5	20.8	350	24.1	5.08	19.2	4.6	17.3	350	24.1
			24	73	60	12.3	46.6	11.2	42.4	350	24.1	10.25	38.8	9.3	35.3	350	24.1
			15	117	96	19.4	73.4	18.1	68.5	350	24.1	16.17	61.2	15.1	57.1	350	24.1
			10	185	152	30.0	113.6	29.0	109.8	200	13.8	25.00	94.6	24.2	91.5	200	13.8
			08	-	178	-	-	-	-	-	-	29.28	110.8	28.3	107.1	200	13.8

B	19/32" 15.1 mm	K	38	48	40	4.7	17.8	3.3	12.5	1500	103.4	3.92	14.8	2.8	10.4	1500	103.4
			25	72	60	7.0	26.5	5.6	21.2	1500	103.4	5.83	22.1	4.7	17.7	1500	103.4
			19	96	80	9.5	36	7.1	26.9	1500	103.4	7.92	30	5.9	22.4	1500	103.4
			12	144	120	13.3	50.3	11.4	43.1	1500	103.4	11.08	41.9	9.5	36.0	1500	103.4
			10	-	148					1500	103.4	13.67	51.7	11.72	44.3	1500	103.4
	7/8" 22.2 mm	L	38	48	40	10.0	37.9	4.7	17.8	1000	69	8.33	31.5	3.9	14.8	1000	69
			25	72	60	16.0	60.6	11.0	41.6	1000	69	13.33	50.5	9.2	34.7	1000	69
			19	96	80	21.0	79.5	16.0	60.6	1000	69	17.50	66.2	13.3	50.5	1000	69
			12	144	120	30.4	115.1	25.6	96.9	1000	69	25.33	95.9	21.3	80.7	1000	69
			10	-	148					1000	69	31.24	118.2	26.31	99.6	1000	69
	1 - 7/16" 36.5 mm	R	38	48	40	27.0	102.2	21.0	79.5	400 ‡	27.6 ‡	22.50	85.2	17.5	66.2	400 ‡	27.6 ‡
			25	72	60	42.0	159	36.0	136.3	400 ‡	27.6 ‡	35.00	132.5	30.0	113.6	400 ‡	27.6 ‡
			19	96	80	57.0	215.7	51.0	193	400 ‡	27.6 ‡	47.50	179.8	42.5	160.9	400 ‡	27.6 ‡
			12	144	120	85.0	321.7	79.0	299	400 ‡	27.6 ‡	70.83	268.1	65.8	249.2	400 ‡	27.6 ‡
			10	-	148	-	-	-	400 ‡	27.6 ‡	87.36	330.6	81.19	307.3	400 ‡	27.6 ‡	

NOTES:

- † Duplex MRB pumps with plunger code "R" with gear codes 10, 12, or 19 are limited to 250 psi (17 bar)
- ‡ Duplex MRB pumps with plunger code "R" with gear codes 25 and 38 are limited to 350 psi (20.7 bar)
- Duplex MRA pumps with 2 different size plunger can achieve max 350 psi (24.1 bar) only
- MRA pumps plunger code "H" available in Simplex configuration only

mRoy Series Capacity/Pressure Selection - Plastic Liquid Ends

- Includes PVC, PVDF liquid ends, and liquid ends for Fluoride applications
- Capacities shown are for simplex. Double capacity for duplex
- Actuators, rupture detection, and high viscosity options require capacity derating per the table on the next page
- Please note that plastic liquid ends are not available for plunger code "K" - mRoy B frame with 19/32" (15.1 mm) plunger.

mRoy Series	Plunger		Gear Ratio Code	Strokes/Minute		Capacity / Pressure @ 60 hz 1725 RPM				Capacity / Pressure @ 50 hz 1425 RPM							
				60 hz 1725 RPM	50 hz 1425 RPM	Ratings at 100 psi/7 bar		Capacity at Max pressure		Ratings at 100 psi/7 bar		Capacity at Max pressure					
	Diameter	Code		GPH	L/hr	Capacity	Max Pressure	GPH	L/hr	Capacity	Max Pressure	GPH	Max Pressure				
A	3/8" 9.5 mm	C	77	23	19	0.32	1.2	0.28	1.1	150	10.3	0.27	1	0.23	0.9	150	10.3
			48	37	30	0.68	2.6	0.62	2.3	150	10.3	0.57	2.2	0.52	2	150	10.3
			24	73	60	1.35	5.1	1.30	4.9	150	10.3	1.13	4.3	1.08	4.1	150	10.3
			15	117	96	2.20	8.3	2.10	7.9	150	10.3	1.83	6.9	1.75	6.6	150	10.3
	7/16" 11.1 mm	D	77	23	19	0.5	1.9	0.45	1.7	150	10.3	0.42	1.6	0.38	1.4	150	10.3
			48	37	30	0.7	2.6	0.65	2.5	150	10.3	0.58	2.2	0.54	2	150	10.3
			24	73	60	1.5	5.7	1.4	5.3	150	10.3	1.25	4.7	1.17	4.40	150	10.3
			15	117	96	2.5	9.5	2.4	9.1	150	10.3	2.08	7.9	2.00	7.60	150	10.3
	5/8" 15.9 mm	E	48	37	30	1.6	6.1	1.5	5.7	150	10.3	1.33	5	1.3	4.7	150	10.3
			24	73	60	3.5	13.2	3.4	12.9	150	10.3	2.92	11.1	2.8	10.7	150	10.3
			15	117	96	5.6	21.2	5.5	20.8	150	10.3	4.67	17.7	4.6	17.3	150	10.3
			48	37	30	5.7	21.6	5.6	21.2	150	10.3	4.75	18	4.7	17.7	150	10.3
	1-1/16" 27 mm	F	24	73	60	11.3	42.8	11.2	42.4	150	10.3	9.42	35.7	9.3	35.3	150	10.3
			15	117	96	18.1	68.5	18.0	68.1	150	10.3	15.08	57.1	15.0	56.8	150	10.3

B	7/8" 22.2 mm	L	38	48	40	10.0	37.9	9.7	36.7	150	10.3	8.33	31.5	8.1	30.6	150	10.3
			25	72	60	16.0	60.6	15.7	59.4	150	10.3	13.33	50.5	13.1	49.5	150	10.3
			19	96	80	21.0	79.5	20.7	78.3	150	10.3	17.50	66.2	17.3	65.3	150	10.3
			12	144	120	30.4	115.1	30.1	113.9	150	10.3	25.33	95.9	25.1	94.9	150	10.3
			10	-	148					150	10.3	31.24	118.2	30.93	117.1	150	10.3
	1-7/16" 36.5 mm	R	38	48	40	27.0	102.2	26.0	98.4	150	10.3	22.50	85.2	21.7	82.0	150	10.3
			25	72	60	42.0	159	41.0	155.2	150	10.3	35.00	132.5	34.2	129.3	150	10.3
			19	96	80	57.0	215.7	56.0	212	150	10.3	47.50	179.8	46.7	176.6	150	10.3
			12	144	120	85.0	321.7	84.0	317.9	150	10.3	70.83	268.1	70.0	265.0	150	10.3
			10	-	148	-	-	-	-	150	10.3	87.36	330.6	86.33	326.8	150	10.3

Horsepower / kW Requirements

The following are minimum values required. The use of variable speed drives may require higher power motors to operate at low RPM.

Frame	A		B								
Plunger Code	H	C, D, E, F	K				L		R		
			< 1000 psi/69 bar	> 1000 psi/69 bar	< 400 psi/26.7 bar	> 400 psi/26.7 bar	< 100 psi/7 bar	> 100 psi/7 bar			
1 Ph	Simplex	1/3 HP(0.25 kW)	1/4 HP(0.18 kW)	3/4 HP (0.55 kW)	1 HP (0.75 kW)	3/4 HP (0.55 kW)	1 HP (0.75 kW)	3/4 HP (0.55 kW)	1 HP (0.75 kW)	3/4 HP (0.55 kW)	1 HP (0.75 kW)
	Duplex	-	1/3 HP(0.25 kW)	1 HP (0.75 kW)	1 HP (0.75 kW)	1 HP (0.75 kW)	1 HP (0.75 kW)	1 HP (0.75 kW)	1 HP (0.75 kW)	1 HP (0.75 kW)	1 HP (0.75 kW)
3 Ph	Simplex	1/3 HP(0.25 kW)	1/4 HP(0.18 kW)	1/2 HP (0.37 kW)	3/4 HP (0.55 kW)	1/2 HP (0.37 kW)	3/4 HP (0.55 kW)	1/2 HP (0.37 kW)	3/4 HP (0.55 kW)	1/2 HP (0.37 kW)	3/4 HP (0.55 kW)
	Duplex	-	1/3 HP(0.25 kW)	3/4 HP (0.55 kW)	1 HP (0.75 kW)	3/4 HP (0.55 kW)	1 HP (0.75 kW)	3/4 HP (0.55 kW)	1 HP (0.75 kW)	3/4 HP (0.55 kW)	1 HP (0.75 kW)

Note: All motor manufacturers note that general duty totally enclosed motors are equivalent to IP54 or below, and thus not suitable for outdoor or washdown areas without protection. For outdoor and washdown applications, use washdown duty IP55 or above rated motors. This is especially true for vertically mounted applications, which includes the mRoy series.

Motor manufacturers also note that Explosion Proof Fan Cooled motors are not recommended for outdoor or washdown areas without protection. Non ventilated explosion proof are recommended for outdoor use.

mRoy Series Capacity/Pressure Adjustments and Viscosity Ratings

Capacity Adjustment Factors

mRoy pump capacity must be derated when any of the options listed below are selected:

Multiply rating from the tables on the previous pages by these factors to determine actual pump capacity rating.

When two or more of the options above are purchased on the same pump, derate the pump by each factors.

mRoy Frame	A				B		
Plunger Diameter	3/8"	7/16"	5/8"	1-1/16"	19/32"	7/8"	1-7/16"
Plunger Code	H / C	D	E	F	K	L	R
Electronic or Pneumatic Capacity Control	0.95	0.95	0.95	0.95	1.00	0.90	0.90
Diaphragm Rupture Detection System	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Double Diaphragm	-	-	0.95	0.95	-	-	-
High Viscosity Option	-	0.90	0.90	0.90	-	-	-

Viscosity Ratings in Centipoise - Standard units and pumps with High Viscosity Option

Plunger Size	Plunger Code	Gear Ratio Code	Strokes Per Minute		With High Viscosity Option - Max Fluid Viscosity at Typical Conditions (Centipoise)	Standard pump without high viscosity option - Viscosity at Typical Conditions (Centipoise)
			60 hz	50 hz		
3/8" 9.5 mm	H / C	77	23	19	N/A	2,400
		48	37	30	N/A	1,460
		24	73	60	N/A	460
		15	117	96	N/A	250
		10	185	152	N/A	100
		08	-	178	N/A	100
7/16" 11.1 mm	D	77	23	19	12,200	2,400
		48	37	30	7,500	1,460
		24	73	60	4,000	460
		15	117	96	2,000	250
		10	185	152	350	100
		08	-	178	350	100
5/8" 16 mm	E	48	37	30	5,000	550
		24	73	60	2,500	220
		15	117	96	1,250	120
		10	185	152	350	80
		08	-	178	350	80
1 - 1/16" 27 mm	F	48	37	30	1,000	130
		24	73	60	500	60
		15	117	96	300	30
		10	185	152	120	25
		08	-	178	120	25
19/32" 15.1 mm	K	38	48	40	-	130
		25	72	60	-	84
		19	96	80	-	59
		12	144	120	-	39
		10	-	148	-	39
7/8" 22.2 mm	L	38	48	40	-	325
		25	72	60	-	186
		19	96	80	-	143
		12	144	120	-	94
		10	-	148	-	94
1-7/16" 36.5 mm	R	38	48	40	-	107
		25	72	60	-	65
		19	96	80	-	46
		12	144	120	-	28
		10	-	148	-	28

Ratings are based on assumed conditions. To verify pump compatibility an NPIP (NPSH) calculation should be performed. Contact the factory for assistance.

NOTE: Hi Viscosity limits all head sizes in MRA to 350 PSI.

High Viscosity option is not available on the MRB series

mRoy® MRA Series Simplex - Full Feature/Option Price and Selection Table

mRoy® MRA Series Simplex								Price	
MRA1	Liquid End Material	Head/Valve	Diaphragm	Ball Checks	Contour Plate	Plunger H			
1	316L SS	316L	PTFE	316L	316L	\$ 3,966	\$ 3,531		
2	PVC	PVC	PTFE	Ceramic	PVC		\$ 3,531		
5	Alloy 20	Alloy 20	PTFE	Alloy 20	Alloy 20		\$ 4,098		
6	Hastelloy C22	Hastelloy C	PTFE	Hastelloy C	Hastelloy C		\$ 10,557		
7	PVDF	PVDF	PTFE	Ceramic	PVDF		\$ 4,419		
8	Fluoride Applications	PVC	PTFE	PTFE	PVC		\$ 3,555		
3	Titanium	Titanium	PTFE	Hastelloy C	Titanium		Consult Factory		
Plunger Diameter		Capacity @ 1725 RPM			Metallic Heads		Plastic Heads		
		Inches	Millimeters	Max GPH	Max l/hr	Max PSI	Max bar	Max PSI	Max bar
H	3/8"	9.5	3.53	13.4	3000	206.9	-	-	\$ -
C	3/8"	9.5	3.64	13.8	2000	137.9	150	10	\$ -
D	7/16"	11.1	4.4	16.7	1800	124.1	150	10	\$ -
E	5/8"	15.9	9.4	35.6	925	63.8	150	10	\$ -
F	1 - 1/16"	27	30	113.6	350	24.1	150	10	\$ -
Gear Ratio		SPM @ RPM							
						1725 RPM	1425 RPM		
77	77:1 Gear Ratio					23	19	\$ -	
48	48:1 Gear Ratio					37	30	\$ -	
24	24:1 Gear Ratio					73	60	\$ -	
15	15:1 Gear Ratio					117	96	\$ -	
10	9.5:1 Gear Ratio	Not available on plastic liquid end pumps				185	152	\$ -	
08	8:1 Gear Ratio - ONLY AVAILABLE ON PUMPS WITH MOTOR RPM 1425 OR LESS					N/A	178	\$ -	
Standard Motors and Mount Face Size for Non-standard Motors									
Motor Mounts Only with special motor ordered from Milton Roy as a separate line item									
S5	NEMA 56C							\$ -	
S1	NEMA 143TC/145TC							\$ -	
S7	IEC Frame 71, B5 Flange							\$ -	
S8	IEC Frame 80, B5 Flange							\$ 663	
Motor Mounts Only - Motor not supplied by Milton Roy									
5X	NEMA 56C							\$ 177	
1X	NEMA 143TC/145TC							\$ 177	
7X	IEC Frame 71, B5 Flange							\$ 177	
8X	IEC Frame 80, B5 Flange							\$ 841	
Standard NEMA Motors with Mounts and Couplings - for other motors pick mount only and enter motor as separate line									
A1	1/4 (.18)	TEFC	1	60	1725	56C	4112000010	\$ 287	
A2	1/4 (.18)	TEFC	3	60	1725	56C	4112000310	\$ 275	
A4	1/3 (.25)	TENV	3	60	1725	56C	RECOMMENDED 4112002320	\$ 353	
X1	1/3 (.25)	XPFc	1	60	1725	56C	4112002030	\$ 671	
X2	1/3 (.25)	XPNV	3	60	1725	56C	4112002340	\$ 885	
B1	1/2 (.37)	TEFC	3	60	1725	56C	4112004310	\$ 335	
B2	1/2 (.37)	TENV	3	60	1725	56C	4112004320	\$ 610	
X3	1/2 (.37)	XPFc	3	60	1725	56C	4112004330	\$ 1,011	
Motor Mount Type									
C	Close coupled motor mount - Only available for NEMA 56C and IEC71 Faced motors							\$ -	
A	API flange mount with flexible coupling							\$ 297	
MRA1	1	D	48	A2	C	Continue building code and adding option prices from the following pages			

mRoy® MRA Series Simplex - Code Selection - Continued

Pipe Connections - Same codes apply to Suction and Discharge - Prices are per connection.				Price			
Suct	Disc	Metallic Liquid Ends - Contact factory for materials not shown			Alloy 20	316 L	
P	P	NPT Metallic Liquid ends horizontal 1/2" Female Suction, 1/4" Female Discharge			\$ -	\$ -	
A	A	1/2" 150# RF Thd Flange			\$ 589	\$ 353	
B	B	1/2" 300# RF Thd Flange			\$ 1,101	\$ 429	
C	C	1/2" 600# RF Thd Flange			\$ 1,260	\$ 477	
D	D	1/2" 150# RF Socket Weld Flange			\$ 721	\$ 504	
E	E	1/2" 300# RF Socket Weld Flange			\$ 1,272	\$ 550	
F	F	1/2" 600# RF Socket Weld Flange			\$ 1,582	\$ 744	
Plastic Liquid Ends				PVDF	PVC		
P	P	NPT Plastic Liquid ends Vertical 1/2" NPT Male Suction and Discharge			\$ -	\$ -	
1	1	1/2" Plastic Thd Flange			\$ 782	\$ 81	
"O" Ring Material - Wetted							
Metallic Liquid Ends							
V	Viton	Standard Offering		\$ -			
E	EPDM			\$ 41			
T	Teflex			\$ 66			
K	Kalrez			\$ 746			
Plastic Liquid Ends							
T	Teflex	Standard Offering (NOT recommended for Sodium hypochlorite application)		\$ -			
V	Viton	(Recommended for Sodium hypochlorite application)		\$ 66			
E	EPDM			\$ 41			
Capacity Control							
N	Standard Aluminum Manual Micrometer						
S	Stainless Steel Manual Micrometer with SS Plug						
L	Stainless Steel Locking Manual Micrometer (API 675) with SS Plug						
W	Milton Roy Actuator Capacity Controller (ACC) IP68 / NEMA 4 ; 4-20mA Input/Output analog control ; 24VDC; 85V to 260V ; 1-phase ; 50/60 Hz	# 0280088010N-CW		\$ 3,107			
E	Actuator Capacity Controller (ACC) Ex-proof ; 4-20mA Input/Output analog control; 24VDC; 85V to 260V ; 1-phase ; 50/60Hz IP68 Ex d II BT4	# 0280087010N-CW		Derate pump capacity \$ 3,402			
J	Actuator Capacity Controller (ACC HART) IP68; Fieldbus HART Protocol 7.0 version or 4-20 mA I/O analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/"F						
H	Actuator Capacity Controller (ACC HART) Ex-proof; Fieldbus HART Protocol 7.0 version or 4-20 mA I/O analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/"F						
P	Pneumatic Actuator						
Diaphragm Rupture Detection Systems							
N	None (Standard)						
2	Direct Attach- Head Mounted Pressure type w/gauge only (<i>Plungers C, D & H- liquid end 316L</i>)	N/A on pumps with Hi Temp Option		\$ 1,743			
3	Standard Design- Bracket Mounted Pressure type w/ external tubing and gauge only (<i>Plungers C & D- All liquid ends except 316L. Plungers E & F</i>)						
4	Pressure type w/gauge & NEMA 4 Switch						
5	Pressure type w/gauge & Ex Prf Switch						
6	Double Dia with intermediate fluid no probe						
7	Double Dia w/intermediate fluid & probe						
Base Options							
N	No base						
Y	Base - Req'd for: Plunger H, PVC, PVDF, Hast C LE's, Suction flanges, pressure type rupture detection						
V	VSD Drive - Base and mounting, wiring for Std VSD - Motor and VSD priced separately						
Code Complete Identifier							
Y	Yes	For pumps that can be completely configured with the code up to this point do not require the extended portion of the model code, therefore chose Y - code complete. If you require extended options from next page enter N = Not complete.					
N	No						
P	P	V	N	N	Code complete for standard selections. For extended options continue to next page.		

As noted, if you have selected all options you need within the code to this point in the selection process, the code is now complete. The full code with this example combines the selections from the previous page and this age and would look like this:

MRA11-D48A2CPPNNNN

mRoy® MRA Series Simplex - Code Selection Continued - Extended Options

Liquid End Extended Options		Price
N	None - Standard	\$ -
V	High viscosity - Equivalent to former "P" series mRoy - NOTE: Max Rating 350 psi - Always uses large head - N/A plgr code "C" or plastic heads	\$ 381
S	Slurry - Hardened 440 C Balls and 440 Seats (316 L SS liquid ends only, Single-ball suction check valve)	\$ 630
D	Degas - PVC and PVDF only	PVDF \$ 2,689
G	G7 wetted parts - Metallic liquid ends only	\$ 3,019
U	UHMW Polyethylene Diaphragm and Check valve back up rings	Consult Factory
Temperature Related Extended Options		
N	Standard: Ambient 20° F to 120° F (-6° C to 49° C) - Liquid -20° F to 200° F (-29° C to 93° C)	\$ -
1	Low ambient: Ambient -40° F to 120° F (-40° C to 49° C); Liquid -45° F to 200° F (-43° C to 93° C): <u>Must select lube option 5</u>	Consult Factory
2	High includes PEEK Diaphragm: Ambient 20° F to 120° F (-6° C to 49° C) - Liquid 50° F to 300° F (10° C to 149° C)	\$ 844
Drive Extended Options		
N	Standard	\$ -
H	High Suction Pressure Option	Consult Factory
S	Sand Protection Option - Modified oil cap with filter - modified capacity control knob N/A for actuator	Consult Factory
M	Marine and off-shore option - Xylan coated head bolts and washers	Consult Factory
Motor Extended Options		
N	Standard	\$ -
Y		Consult Factory
V	These options are in the process of being designed and configured	Consult Factory
C		Consult Factory
Lubrication Options		
N	Standard - Gear oil	\$ -
3	Low temp non synthetic (15° F to 50° F) - Gear oil	\$ -
4	Food Grade Oil - Nevastane	\$ 50
5	High performance synthetic - Hydraulic oil	\$ 41
9	Pump shipped without oil	\$ -
Coating System Options- See Note below for ACC paint option		
N	Standard RAL 1018	\$ -
B	Food Grade Paint - RAL 9010	See Paint
C	250 μ Offshore Paint RAL 1018	and Prep page
D	350 μ Offshore Paint RAL 1018	page
Component Test Options		
N	None	\$ -
3	Hydro test - head and connections	\$ 329
4	Hydro test - head and connections with witnessed inspection	\$ 659
Run Test Options		
N	Standard production test - always included in tests below	\$ -
A	Customer witnessed standard test	\$ 659
B	API linearity test - 5 point curve	\$ 440
C	Customer witnessed API linearity test - 5 point curve	\$ 880
D	API repeatability test - 10 point curve - 5 ascending, 5 descending	\$ 585
E	Witnessed API repeatability test	\$ 1,171
F	API package - 10 point curve with hydro component test (select component test N)	\$ 824
G	Witnessed API test package	\$ 1,648
V	N	N
N	N	9
N	N	N
N	N	N

Complete sample code with extended options: **MRA11-D48A2CPPVNNNN-VNNN9NNN**

mRoy® A Simplex Routine Preventative Maintenance (RPM) Kits

Standard RPM kits for all MRA series

Plunger Dia	Plunger Code	Liquid End Material	Liquid End Type	O Ring Material	Kit Number	Price		
All MRA Plungers	H	316 L SS	Standard	Std (Viton)	RPM1102	\$ 916		
				EPDM	RPM1103	\$ 1,098		
				Teflex	RPM1104	\$ 977		
				Kalrez	RPM1102K	\$ 1,797		
	All (C, D, E, F)	316 L SS	Standard	Std (Viton)	RPM1001	\$ 768		
				EPDM	RPM1010	\$ 927		
				Teflex	RPM1011	\$ 841		
				Kalrez	RPM1001K	\$ 1,717		
			Slurry	Std (Viton)	RPM1007	\$ 4,060		
		Alloy 20	High Viscosity	Std (Viton)	RPM1008	\$ 816		
			Standard	Std (Viton)	RPM1003	\$ 1,519		
				EPDM	RPM1012	\$ 2,078		
				Teflex	RPM1013	\$ 1,998		
				Kalrez	RPM1003K	\$ 3,452		
			High Viscosity	Std (Viton)	RPM1009	\$ 1,519		
	C, D	PVC	Standard	Std (Viton)	RPM1004	\$ 5,115		
				Kalrez	RPM1004K	\$ 6,646		
	E, F	PVDF	Standard	EPDM	RPM1105	\$ 761		
				Viton	RPM1002	\$ 657		
				Std (Teflex)	RPM1036	\$ 740		
				EPDM	RPM1106	\$ 948		
				Viton	RPM1037	\$ 927		
	C, D	Fluoride Apps	PVC - PTFE balls	Std (Teflex)	RPM1038	\$ 927		
				EPDM	RPM1107	\$ 1,540		
				Viton	RPM1005	\$ 1,365		
				Std (Teflex)	RPM1039	\$ 1,519		
				EPDM	RPM1108	\$ 1,939		
	E, F			Viton	RPM1040	\$ 1,482		
				Std (Teflex)	RPM1041	\$ 1,918		
				EPDM	RPM1109	\$ 790		
				Viton	RPM1006	\$ 715		
				Std (Teflex)	RPM1042	\$ 769		
	C, D	Fluoride Apps	PVC - PTFE balls	EPDM	RPM1110	\$ 979		
				Viton	RPM1043	\$ 731		
				Std (Teflex)	RPM1044	\$ 769		

Double diaphragm/ Rupture detection RPM kits for all MRA series

Plunger Dia	Plunger Code	Liquid End Material	Liquid End Type	O Ring Material	Kit Number	Price		
All MRA Plungers	H	316 L SS	Standard	Std (Viton)	RPM1102-LD	\$ 1,009		
				EPDM	RPM1103-LD	\$ 1,209		
				Teflex	RPM1104-LD	\$ 1,076		
				Kalrez	RPM1102K-LD	\$ 1,976		
	All (C, D, E, F)	316 L SS	Standard	Std (Viton)	RPM1001-LD	\$ 845		
				EPDM	RPM1010-LD	\$ 1,022		
				Teflex	RPM1011-LD	\$ 927		
				Kalrez	RPM1001K-LD	\$ 1,861		
			Slurry	Std (Viton)	RPM1007-LD	\$ 4,467		
			High Viscosity	Std (Viton)	RPM1008-LD	\$ 899		
	C, D	Alloy 20	Standard	Std (Viton)	RPM1003-LD	\$ 1,671		
				EPDM	RPM1012-LD	\$ 2,286		
				Teflex	RPM1013-LD	\$ 2,200		
				Kalrez	RPM1003K-LD	\$ 3,596		
			High Viscosity	Std (Viton)	RPM1009-LD	\$ 1,671		
	E, F	PVC	Standard	Std (Viton)	RPM1004-LD	\$ 5,628		
				Kalrez	RPM1004K-LD	\$ 7,266		
	C, D	PVDF	Standard	EPDM	RPM1105-LD	\$ 836		
				Viton	RPM1002-LD	\$ 723		
				Std (Teflex)	RPM1036-LD	\$ 815		
				EPDM	RPM1106-LD	\$ 1,042		
				Viton	RPM1037-LD	\$ 1,022		
	E, F	Fluoride Apps	PVC - PTFE balls	Std (Teflex)	RPM1038-LD	\$ 1,022		
				EPDM	RPM1107-LD	\$ 1,703		
				Viton	RPM1005-LD	\$ 1,503		
				Std (Teflex)	RPM1039-LD	\$ 1,671		
				EPDM	RPM1108-LD	\$ 2,131		
	C, D	Fluoride Apps	PVC - PTFE balls	Viton	RPM1040-LD	\$ 1,630		
				Std (Teflex)	RPM1041-LD	\$ 2,110		
				EPDM	RPM1109-LD	\$ 876		
				Viton	RPM1006-LD	\$ 787		
				Std (Teflex)	RPM1042-LD	\$ 846		
	E, F			EPDM	RPM1110-LD	\$ 916		
				Viton	RPM1043-LD	\$ 805		
				Std (Teflex)	RPM1044-LD	\$ 846		

Notes:

2. The above kits includes two diaphragms. Contact the factory for other materials.
Company Confidential

April 1 2025 version 1

Prices subject to change without notice

mRoy® MRA Series Duplex - Full Feature/Option Price and Selection Table

mRoy® MRA Series Duplex								Price	
Liquid End Material		Head/Valve	Diaphragm	Ball Checks		Contour Plate			
1	316L SS	316L	PTFE	316L	316L			\$ 5,942	
2	PVC	PVC	PTFE	Ceramic	PVC			\$ 5,942	
5	Alloy 20	Alloy 20	PTFE	Alloy 20	Alloy 20			\$ 7,047	
6	Hastelloy C22	Hastelloy C	PTFE	Hastelloy C	Hastelloy C			\$ 17,628	
7	PVDF	PVDF	PTFE	Ceramic	PVDF			\$ 7,595	
8	Fluoride Applications	PVC	PTFE	PTFE	PVC			\$ 5,988	
Plunger Diameter		Capacity per head @ 1725 RPM			Metallic Heads		Plastic Heads		
		Inches	Millimeters	Max GPH	Max l/hr	Max PSI	Max bar		
C	3/8"	9.5	3.64	13.8	2000	137.9	150	10	
D	7/16"	11.1	4.4	16.7	1800	124.1	150	10	
E	5/8"	15.9	9.4	35.6	925	63.8	150	10	
F	1 - 1/16"	27	30	113.6	350	24.1	150	10	
Gear Ratio									
							SPM @ RPM		
							1725 RPM		
77	77:1 Gear Ratio						23	19	
48	48:1 Gear Ratio						37	30	
24	24:1 Gear Ratio						73	60	
15	15:1 Gear Ratio						117	96	
10	9.5:1 Gear Ratio	Not available on plastic liquid end pumps					185	152	
08	8:1 Gear Ratio - NOT AVAILABLE ON DUPLEX						N/A	N/A	
Standard Motors and Mount Face Size for Non-standard Motors									
Motor Mounts Only with special motor ordered from Milton Roy as a separate line item									
S5	NEMA 56C							\$ -	
S1	NEMA 143TC/145TC							\$ -	
S7	IEC Frame 71, B5 Flange							\$ -	
S8	IEC Frame 80, B5 Flange							\$ 663	
Motor Mounts Only - Motor not supplied by Milton Roy									
5X	NEMA 56C							\$ 177	
1X	NEMA 143TC/145TC							\$ 177	
7X	IEC Frame 71, B5 Flange							\$ 177	
8X	IEC Frame 80, B5 Flange							\$ 841	
Standard NEMA Motors with Mounts and Couplings - for other motors pick mount only and enter motor as separate line									
HP (kw)	Enclosure	Phase	Hz	RPM	Motor Mount	Included Motor Part #			
A4	1/3 (.25)	TENV	3	60	1725	56C	RECOMMENDED	4112002320	\$ 353
X1	1/3 (.25)	XPFC	1	60	1725	56C		4112002030	\$ 671
X2	1/3 (.25)	XPNV	3	60	1725	56C		4112002340	\$ 885
B1	1/2 (.37)	TEFC	3	60	1725	56C		4112004310	\$ 335
B2	1/2 (.37)	TENV	3	60	1725	56C		4112004320	\$ 610
X3	1/2 (.37)	XPFC	3	60	1725	56C		4112004330	\$ 1,011
Motor Mount Type									
C	Close coupled motor mount - Only available for NEMA 56C							\$ -	
A	API flange mount with flexible coupling							\$ 297	
MRA2	1	D	48	A3	C	Continue building code and adding option prices from the following pages			

mRoy® MRA Series Duplex - Code Selection - Continued

Pipe Connections - Same codes apply to Suction and Discharge - Prices are per connection.				Price		
Suct	Disc	Metallic Liquid Ends - Contact factory for materials not shown			Alloy 20	316 L
P	P	NPT	Metallic Liquid ends horizontal 1/2" Female Suction, 1/4" Female Discharge	\$ -	\$ -	
A	A	1/2"	150# RF Thd Flange	\$ 1,178	\$ 706	
B	B	1/2"	300# RF Thd Flange	\$ 2,202	\$ 858	
C	C	1/2"	600# RF Thd Flange	\$ 2,520	\$ 954	
D	D	1/2"	150# RF Socket Weld Flange	\$ 1,442	\$ 1,008	
E	E	1/2"	300# RF Socket Weld Flange	\$ 2,544	\$ 1,100	
F	F	1/2"	600# RF Socket Weld Flange	\$ 3,164	\$ 1,488	
Plastic Liquid Ends				PVDF	PVC	
P	P	NPT	Plastic Liquid ends Vesicle 1/2" NPT Male Suction and Discharge	\$ -	\$ -	
1	1	1/2"	Plastic Thd Flange	\$ 1,564	\$ 162	
"O" Ring Material - Wetted						
Metallic Liquid Ends						
V	Viton	Standard Offering		\$ -		
E	EPDM			\$ 82		
T	Teflex			\$ 132		
K	Kalrez			\$ 1,492		
Plastic Liquid Ends						
T	Teflex	Standard Offering	(NOT recommended for Sodium hypochlorite application)	\$ -		
V	Viton		(Recommended for Sodium hypochlorite application)	\$ 132		
E	EPDM			\$ 82		
Capacity Control						
N	Standard Aluminum Manual Micrometer			\$ -		
S	Stainless Steel Manual Micrometer with SS Plug			\$ 540		
L	Stainless Steel Locking Manual Micrometer (API 675) with SS Plug			\$ 802		
Diaphragm Rupture Detection Systems						
N	None (Standard)			\$ -		
2	Direct Attach- Head Mounted Pressure type w/gauge only (Plungers C & D- liquid end 316L)		N/A on pumps with Hi Temp Option	\$ 3,486		
3	Standard Design- Bracket Mounted Pressure type w/gauge only (Plungers C & D- All liquid ends except 316L. Plungers E & F)		N/A on pumps with Hi Temp Option	\$ 5,086		
4	Pressure type w/gauge & NEMA 4 Switch		N/A on pumps with Hi Temp Option	\$ 6,476		
5	Pressure type w/gauge & Ex Prf Switch		N/A on pumps with Hi Temp Option	\$ 7,696		
6	Double Dia with intermediate fluid no probe		N/A on plunger codes C & D or w/Hi Temp Opt.	\$ 1,844		
7	Double Dia w/intermediate fluid & probe		N/A on plunger codes C & D or w/Hi Temp Opt.	\$ 5,750		
Base Options						
N	No base			\$ -		
Y	Base - Req'd for: PVC, PVDF, Hast C LE's; Suction flanges; pressure type rupture detection			\$ 144		
V	VSD Drive - Base and mounting, wiring for Std VSD - Motor and VSD priced separately			\$ 1,061		
Code Complete Identifier						
Y	Yes	For pumps that can be completely configured with the code up to this point do not require the extended portion of the model code, therefore chose Y - code complete. If you require extended options from next page enter N = Not complete.				
N	No					
P	P	V	N	N	N	Code complete for standard selections. For extended options continue to next page.

As noted, if you have selected all options you need within the code to this point in the selection process, the code is now complete. The full code with this example combines the selections from the previous page and this age and would look like this:

MRA21-D48A3CPPVNNNN

mRoy® MRA Series Duplex - Code Selection Continued - Extended Options

Liquid End Extended Options		Price
N	None - Standard	\$ -
V	High viscosity - Equivalent to former "P" series mRoy - NOTE: Max Rating 350 psi - always uses large head	\$ 762
S	Slurry - Hardened 440 C Balls and 440 Seats (316 L SS liquid ends only, Single-ball suction check valve)	\$ 1,260
D	Degas - PVC and PVDF only	PVC \$ 3,050 PVDF \$ 5,378
G	G7 wetted parts - Metallic liquid ends only	\$ 6,038
U	UHMW Polyethylene Diaphragm and Check valve back up rings	Consult Factory
Temperature Related Extended Options		
N	Standard: Ambient 20° F to 120° F (-6° C to 49° C) - Liquid -20° F to 200° F (-29° C to 93° C)	\$ -
1	Low ambient: Ambient -40° F to 120° F (-40° C to 49° C) - Liquid -45° F to 200° F (-43° C to 93° C)	Consult Factory
2	High includes PEEK Diaphragm: Ambient 20° F to 120° F (-6° C to 49° C) - Liquid 50° F to 300° F (10° C to 149° C)	
Drive Extended Options		
N	Standard	\$ -
H	High Suction Pressure Option	
S	Sand Protection Option - Modified oil cap with filter - modified capacity control knob N/A for actuator	Consult Factory
M	Marine and off-shore option - Xylan coated head bolts and washers	
Motor Extended Options		
N	Standard	\$ -
Y		
V	These options are in the process of being designed and configured	Consult Factory
C		
Lubrication Options		
N	Standard - Gear oil	\$ -
3	Low temp non synthetic (15° F to 50° F) - Gear oil	\$ -
4	Food Grade Oil - Nevestane	\$ 100
5	High performance synthetic - Hydraulic oil	\$ 82
9	Pump shipped without oil	\$ -
Coating System Options- See Note below for ACC paint option		
N	Standard RAL 1018	\$ -
B	Food Grade Paint - RAL 9010	See Paint and Prep page
C	250 µ Offshore Paint RAL 1018	
D	350 µ Offshore Paint RAL 1018	
Component Test Options		
N	None	\$ -
3	Hydro test - head and connections	\$ 658
4	Hydro test - head and connections with witnessed inspection	\$ 1,318
Run Test Options		
N	Standard production test - always included in tests below	\$ -
A	Customer witnessed standard test	\$ 1,318
B	API linearity test - 5 point curve	\$ 880
C	Customer witnessed API linearity test - 5 point curve	\$ 1,760
D	API repeatability test - 10 point curve - 5 ascending, 5 descending	\$ 1,170
E	Witnessed API repeatability test	\$ 2,342
F	API package - 10 point curve with hydro component test (select component test N)	\$ 1,648
G	Witnessed API test package	\$ 3,296
V	N	N
N	N	9
N	N	N
N	N	N
Complete sample code with extended options:		MRA21-D48A3CPPVNNNN-VNNN9NNN

mRoy® A Duplex Routine Preventative Maintenance (RPM) Kits

Kits for duplex pumps are identical to simplex pump kits. Duplex pumps require 1 kit per head - 2 kits per pump total.

Standard RPM kits for all MRA series

Plunger Dia	Plunger Code	Liquid End Material	Liquid End Type	O Ring Material	Kit Number	Price	
All MRA Plungers	All (C, D, E, F)	316 L SS	Standard	Std (Viton)	RPM1001	\$ 768	
				EPDM	RPM1010	\$ 927	
				Teflex	RPM1011	\$ 841	
				Kalrez	RPM1001K	\$ 1,717	
			Slurry	Std (Viton)	RPM1007	\$ 4,060	
			High Viscosity	Std (Viton)	RPM1008	\$ 816	
		Alloy 20	Standard	Std (Viton)	RPM1003	\$ 1,519	
				EPDM	RPM1012	\$ 2,078	
				Teflex	RPM1013	\$ 1,998	
				Kalrez	RPM1003K	\$ 3,452	
	Hast C22	PVC	Standard	High Viscosity	Std (Viton)	RPM1009	\$ 1,519
				Std (Viton)	RPM1004	\$ 5,115	
				Kalrez	RPM1004K	\$ 6,646	
	C, D	PVDF	Standard	EPDM	RPM1105	\$ 761	
	E, F			Viton	RPM1002	\$ 657	
				Std (Teflex)	RPM1036	\$ 740	
				EPDM	RPM1106	\$ 948	
				Viton	RPM1037	\$ 927	
				Std (Teflex)	RPM1038	\$ 927	
	C, D	Fluoride Apps	PVC - PTFE balls	EPDM	RPM1107	\$ 1,540	
	E, F			Viton	RPM1005	\$ 1,365	
				Std (Teflex)	RPM1039	\$ 1,519	
				EPDM	RPM1108	\$ 1,939	
				Viton	RPM1040	\$ 1,482	
				Std (Teflex)	RPM1041	\$ 1,918	
	C, D	Fluoride Apps	PVC - PTFE balls	EPDM	RPM1109	\$ 790	
	E, F			Viton	RPM1006	\$ 715	
				Std (Teflex)	RPM1042	\$ 769	
				EPDM	RPM1110	\$ 979	
				Viton	RPM1043	\$ 731	
				Std (Teflex)	RPM1044	\$ 769	

Double diaphragm/ Rupture detection RPM kits for all MRA series

Plunger Dia	Plunger Code	Liquid End Material	Liquid End Type	O Ring Material	Kit Number	Price	
All MRA Plungers	All (C, D, E, F)	316 L SS	Standard	Std (Viton)	RPM1001-LD	\$ 845	
				EPDM	RPM1010-LD	\$ 1,022	
				Teflex	RPM1011-LD	\$ 927	
				Kalrez	RPM1001K-LD	\$ 1,861	
			Slurry	Std (Viton)	RPM1007-LD	\$ 4,467	
			High Viscosity	Std (Viton)	RPM1008-LD	\$ 899	
		Alloy 20	Standard	Std (Viton)	RPM1003-LD	\$ 1,671	
				EPDM	RPM1012-LD	\$ 2,286	
				Teflex	RPM1013-LD	\$ 2,200	
				Kalrez	RPM1003K-LD	\$ 3,596	
	Hast C22	PVC	Standard	High Viscosity	Std (Viton)	RPM1009-LD	\$ 1,671
				Std (Viton)	RPM1004-LD	\$ 5,628	
				Kalrez	RPM1004K-LD	\$ 7,266	
	C, D	PVDF	Standard	EPDM	RPM1105-LD	\$ 836	
	E, F			Viton	RPM1002-LD	\$ 723	
				Std (Teflex)	RPM1036-LD	\$ 815	
				EPDM	RPM1106-LD	\$ 1,042	
				Viton	RPM1037-LD	\$ 1,022	
				Std (Teflex)	RPM1038-LD	\$ 1,022	
	C, D	Fluoride Apps	PVC - PTFE balls	EPDM	RPM1107-LD	\$ 1,703	
	E, F			Viton	RPM1005-LD	\$ 1,503	
				Std (Teflex)	RPM1039-LD	\$ 1,671	
				EPDM	RPM1108-LD	\$ 2,131	
				Viton	RPM1040-LD	\$ 1,630	
				Std (Teflex)	RPM1041-LD	\$ 2,110	
	C, D	Fluoride Apps	PVC - PTFE balls	EPDM	RPM1109-LD	\$ 876	
	E, F			Viton	RPM1006-LD	\$ 787	
				Std (Teflex)	RPM1042-LD	\$ 846	
				EPDM	RPM1110-LD	\$ 916	
				Viton	RPM1043-LD	\$ 805	
				Std (Teflex)	RPM1044-LD	\$ 846	

Notes:

- The above kits includes two diaphragms. Contact the factory for other materials.

mRoy® MRB Series Simplex - Full Feature/Option Price and Selection Table

mRoy® MRB Series Simplex								Price		
Liquid End Material		Head/Valve	Diaphragm	Ball Checks		Contour Plate				
1	316L	316L	PTFE	316L		316L		\$ 5,642		
2	PVC - N/A for 19/32" plunger	PVC	PTFE	Ceramic		PVC		\$ 5,642		
5	Alloy 20	Alloy 20	PTFE	Alloy 20		Alloy 20		\$ 7,319		
7	PVDF - N/A for 19/32" plunger	PVDF	PTFE	Ceramic		PVDF		\$ 10,587		
8	Fluoride Applications	PVC	PTFE	PTFE		PVC		\$ 5,720		
3	Titanium	Titanium	PTFE	Hastelloy C		Titanium		Consult Factory		
Plunger Diameter		Capacity @ 1725 RPM			Metallic Heads		Plastic Heads			
		Inches	Millimeters	Max GPH	Max l/hr	Max PSI	Max bar	Max PSI	Max bar	
K	19/32"	15.1	13.3	50.3	1500	103.4	150	10	\$ 1,094	
L	7/8"	22.2	30.4	115.1	1000	69	150	10	\$ 663	
R	1-7/16"	36.5	85	321.7	400	27.6	150	10	\$ 758	
Gear Ratio										
							SPM @ RPM			
							1725 RPM	1425 RPM		
38	38:1 Gear Ratio						48	40	\$ 133	
25	25:1 Gear Ratio						72	60	\$ -	
19	19:1 Gear Ratio						96	80	\$ -	
12	12.5:1 Gear Ratio						144	120	\$ -	
10	9.5:1 Gear Ratio						N/A	148	\$ -	
Standard Motors and Mount Face Size for Non-standard Motors										
		Motor Mounts Only with special motor ordered from Milton Roy as a separate line item								
S5		NEMA 56C							\$ -	
S1		NEMA 143TC/145TC							\$ -	
S8		IEC Frame 80, B5 Flange							\$ -	
S9		IEC Frame 90, B5 Flange							\$ -	
		Motor Mounts Only - Motor not supplied by Milton Roy								
5X		NEMA 56C							\$ 177	
1X		NEMA 143TC/145TC							\$ 177	
8X		IEC Frame 80, B5 Flange							\$ 177	
9X		IEC Frame 90, B5 Flange							\$ 177	
Standard Motors with Mounts and Couplings - for other motors pick mount only and enter motor as separate line										
		HP (kw)	Enclosure	Ph	Hz	RPM	Mount	Included Motor Part #		
B1		1/2 (.37)	TEFC	3	60	1725	56C	4112004310		\$ 335
B2		1/2 (.37)	TENV	3	60	1725	56C	RECOMMENDED for Outdoor/Wet 4112004320		\$ 610
X3		1/2 (.37)	XPFC	3	60	1725	56C	4112004330		\$ 1,011
B3		3/4 (.55)	TEFC	1	60	1725	56C	4112006010		\$ 524
X4		3/4 (.55)	XPFC	1	60	1725	56C	4112006030		\$ 1,335
B4		3/4 (.55)	TEFC	3	60	1725	56C	4112006310		\$ 484
X5		3/4 (.55)	XPFC	3	60	1725	56C	4112006332		\$ 1,384
B5		1 (.75)	TEFC	1	60	1725	56C	4112008010		\$ 375
X6		1 (.75)	XPFC	1	60	1725	56C	4112008030		\$ 787
B6		1 (.75)	TEFC	3	60	1725	56C	4112008310		\$ 335
X7		1 (.75)	XPFC	3	60	1725	56C	4112008330		\$ 2,036
Motor Mount Type										
C		Close coupled motor mount - Only available for NEMA 56C							\$ -	
A		API flange mount with flexible coupling							\$ 297	
MRB1	1	R	12	B2	A	Continue building code and adding option prices from the following pages				

mRoy® MRB Series Simplex - Code Selection - Continued

Pipe Connections - Same codes apply to Suction and Discharge - Prices are per connection.						Price			
Suct	Disc	Metallic Liquid Ends				Alloy 20	316 L		
P	P	NPT	Female Horizontal, Suction 1/2" NPT, Discharge Plg code "K"-1/4" NPT, codes "L" & "R" 3/8" NPT			\$ -	\$ -		
A	A	1/2"	150# RF Thd Flange			\$ 589	\$ 353		
B	B	1/2"	300# RF Thd Flange			\$ 1,101	\$ 429		
C	C	1/2"	600# RF Thd Flange			\$ 1,260	\$ 477		
D	D	1/2"	150# RF Socket Weld Flange			\$ 721	\$ 504		
E	E	1/2"	300# RF Socket Weld Flange			\$ 1,272	\$ 550		
F	F	1/2"	600# RF Socket Weld Flange			\$ 1,582	\$ 744		
Plastic Liquid Ends - Not available plunger code "K"						PVDF	PVC		
P	P	NPT	Plastic Liquid ends Horizontal NPT Female Suction and Discharge			\$ -	\$ -		
1	1	1/2"	Plastic Thd Flange			\$ 782	\$ 81		
"O" Ring Material - Wetted									
Metallic Liquid Ends									
V	Viton	Standard Offering				\$ -			
E	EPDM					\$ 41			
T	Teflex					\$ 66			
Plastic Liquid Ends - Not available plunger code "K"									
V	Viton	Standard Offering*	(Recommended for Sodium hypochlorite application)			\$ -			
E	EPDM					\$ 41			
T	Teflex		(NOT recommended for Sodium hypochlorite application)			\$ 66			
Capacity Control									
N	Standard Aluminum Manual Micrometer					\$ -			
S	Stainless Steel Manual Micrometer with SS Plug					\$ 270			
L	Stainless Steel Locking Manual Micrometer (API 675) with SS Plug					\$ 401			
W	Actuator Capacity Controller (ACC) IP68 / NEMA 4 ; 4-20mA Input/Output analog control ; 24VDC ; 85V to 260V ; 1-phase ; 50/60 Hz	# 0280088010N-CW				\$ 3,107			
E	Actuator Capacity Controller (ACC) Ex-proof ; 4-20mA Input/Output analog control; 24VDC ; 85V to 260V ; 1-phase ; 50/60Hz IP68 Ex d II BT4	# 0280087010N-CW				Derate pump capacity	\$ 3,402		
J	Actuator Capacity Controller (ACC HART) IP68; Fieldbus HART Protocol 7.0 version or 4-20 mA I/O analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/-F						\$ 3,987		
H	Actuator Capacity Controller (ACC HART) Ex-proof; Fieldbus HART Protocol7.0 version or 4-20 mA I/O analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/-F						\$ 4,282		
P	Pneumatic Actuator						\$ 7,119		
Diaphragm Rupture Detection Systems									
N	None (Standard)					\$ -			
3	Pressure type w/gauge only	N/A on Hi Temp		Requires base to mount hardware		\$ 3,359			
4	Pressure type w/gauge & NEMA 4 Switch	N/A on Hi Temp		Requires base to mount hardware		\$ 4,082			
5	Pressure type w/gauge & Ex Prf Switch	N/A on Hi Temp		Requires base to mount hardware		\$ 4,644			
6	Double Dia w/intermediate fluid no probe	N/A with Hi Temp Option				\$ 2,041			
7	Double Dia w/intermediate fluid & probe	N/A with Hi Temp Option				\$ 3,997			
Base Options									
N	No base					\$ -			
Y	Base - Required for pumps with flanges or pressure type leak detection					\$ 318			
V	VSD Drive - Base and mounting, wiring for Std VSD - Motor and VSD priced separately					\$ 1,061			
Code Complete Identifier									
	Y	Yes	For pumps that can be completely configured with the code up to this point do not require the extended portion of the model code, therefore chose Y - code complete. If you require extended options from next page enter N = Not complete.						
	N	No							
P	P	V	N	N	N	Code complete for standard selections. For extended options continue to next page.			

* Effective Date December 1, 2022

As noted, if you have selected all options you need within the code to this point in the selection process, the code is now complete. The full code with this example combines the selections from the previous page and this age and would look like this:

MRB11-R12B2APPNNNN

mRoy® MRB Series Simplex - Code Selection Continued - Extended Options

Liquid End Extended Options			Price
N	None - Standard		\$ -
S	Slurry - Hardened 440 C Balls and 440 Seats (316 L SS liquid ends only, Single-ball suction check valve)		\$ 630
D	Degas - PVC only		Consult Factory
G	G7 wetted parts - Metallic liquid ends only		\$ 3,019
U	UHMW Polyethylene Diaphragm and Check valve back up rings		Consult Factory
Temperature Related Extended Options			
N	Standard: Ambient 20° F to 120° F (-6° C to 49° C) - Liquid -20° F to 200° F (-29° C to 93° C)		\$ -
1	Low ambient: Ambient -40°F to 120°F (-40°C to 49°C) - Liquid -45°F to 200°F (-43°C to 93°C)		Consult Factory
2	High includes PEEK Diaphragm: Ambient 20° F to 120° F (-6° C to 49° C) - Liquid 50° F to 300° F (10° C to 149° C)		\$ 944
Drive Extended Options			
N	Standard		\$ -
H	High Suction Pressure Option		
S	Sand Protection Option - Modified oil cap with filter - modified capacity control knob N/A for actuator		Consult Factory
M	Marine and off-shore option - Xylan coated head bolts and washers		
Motor Extended Options			
N	Standard		\$ -
Y			
V	These options are in the process of being designed and configured		Consult Factory
C			
Lubrication Options			
N	Standard - Gear oil		\$ -
3	Low temp non synthetic (15° F to 50° F) - Gear oil		\$ -
4	Food Grade Oil - Nevestane		\$ 150
5	High performance synthetic - Hydraulic oil		\$ 123
9	Pump shipped without oil		\$ -
Coating System Options- See Note below for ACC paint option			
N	Standard RAL 1018		\$ -
B	Food Grade Paint - RAL 9010		See Paint and Prep page
C	250 μ Offshore Paint RAL 1018		
D	350 μ Offshore Paint RAL 1018		
Component Test Options			
N	None		\$ -
3	Hydro test - head and connections		\$ 329
4	Hydro test - head and connections with witnessed inspection		\$ 659
Run Test Options			
N	Standard production test - always included in tests below		\$ -
A	Customer witnessed standard test		\$ 659
B	API linearity test - 5 point curve		\$ 440
C	Customer witnessed API linearity test - 5 point curve		\$ 880
D	API repeatability test - 10 point curve - 5 ascending, 5 descending		\$ 585
E	Witnessed API repeatability test		\$ 1,171
F	API package - 10 point curve with hydro component test (select component test N)		\$ 824
G	Witnessed API test package		\$ 1,648
N	N	N	N
9	N	N	N

Complete sample code with extended options: **MRB11-R12B2APPVNNNN-NNNN9NNN**

mRoy® B Simplex Routine Preventative Maintenance (RPM) Kits

Standard RPM kits for all MRB series

Plunger Dia	Plunger Code	Liquid End Material	Liquid End Type	O Ring Material	Kit Number	Price	
19/32" 15.1 mm	"K"	316 L SS	Standard	Std (Viton)	RPM1014	\$ 816	
				EPDM	RPM1016	\$ 1,087	
				Teflex	RPM1017	\$ 1,151	
		Alloy 20		Std (Viton)	RPM1015	\$ 2,078	
				EPDM	RPM1018	\$ 2,100	
				Teflex	RPM1019	\$ 2,094	
7/8 " and 1-7/16" 22.2 mm and 36.5 mm	"L" and "R"	316 L SS	Standard	Std (Viton)	RPM1020	\$ 1,087	
				EPDM	RPM1021	\$ 1,279	
				Teflex	RPM1022	\$ 1,311	
		Alloy 20	Standard	Slurry	Std (Viton)	RPM1035	\$ 1,488
				Std (Viton)	RPM1023	\$ 2,158	
				EPDM	RPM1024	\$ 2,558	
		PVC	Standard	Teflex	RPM1025	\$ 2,318	
				Std (Viton)	RPM1026	\$ 1,087	
				EPDM	RPM1027	\$ 1,138	
		PVDF	Standard	Teflex	RPM1028	\$ 1,158	
				Std (Viton)	RPM1029	\$ 3,377	
				EPDM	RPM1030	\$ 3,475	
		Fluoride Apps (PVC w/PTFE Balls)	Standard	Teflex	RPM1031	\$ 3,524	
				Std (Viton)	RPM1032	\$ 1,050	
				EPDM	RPM1033	\$ 1,121	
				Teflex	RPM1034	\$ 1,207	

Double diaphragm/ Rupture detection RPM kits for all MRB series

Plunger Dia	Plunger Code	Liquid End Material	Liquid End Type	O Ring Material	Kit Number	Price	
19/32" 15.1 mm	"K"	316 L SS	Standard	Std (Viton)	RPM1014-LD	\$ 899	
				EPDM	RPM1016-LD	\$ 1,197	
				Teflex	RPM1017-LD	\$ 1,266	
		Alloy 20		Std (Viton)	RPM1015-LD	\$ 2,286	
				EPDM	RPM1018-LD	\$ 2,311	
				Teflex	RPM1019-LD	\$ 2,305	
7/8 " and 1-7/16" 22.2 mm and 36.5 mm	"L" and "R"	316 L SS	Standard	Std (Viton)	RPM1020-LD	\$ 1,197	
				EPDM	RPM1021-LD	\$ 1,408	
				Teflex	RPM1022-LD	\$ 1,442	
		Alloy 20	Standard	Slurry	Std (Viton)	RPM1035-LD	\$ 1,639
				Std (Viton)	RPM1023-LD	\$ 2,375	
				EPDM	RPM1024-LD	\$ 2,551	
		PVC	Standard	Teflex	RPM1025-LD	\$ 2,815	
				Std (Viton)	RPM1026-LD	\$ 1,158	
				EPDM	RPM1027-LD	\$ 1,197	
		PVDF	Standard	Teflex	RPM1028-LD	\$ 1,253	
				Std (Viton)	RPM1029-LD	\$ 3,571	
				EPDM	RPM1030-LD	\$ 3,705	
		Fluoride Apps (PVC w/PTFE Balls)	Standard	Teflex	RPM1031-LD	\$ 3,743	
				Std (Viton)	RPM1032-LD	\$ 1,158	
				EPDM	RPM1033-LD	\$ 1,233	
				Teflex	RPM1034-LD	\$ 1,329	

Notes:

2. The above kits includes two diaphragms. Contact the factory for other materials.

mRoy® MRB Series Duplex - Full Feature/Option Price and Selection Table

mRoy® MRB Series Duplex								Price				
Liquid End Material		Head/Valve	Diaphragm	Ball Checks		Contour Plate						
1	316L	316L	PTFE	316L		316L		\$ 9,289				
2	PVC	PVC	PTFE	Ceramic		PVC		\$ 9,289				
5	Alloy 20	Alloy 20	PTFE	Alloy 20		Alloy 20		\$ 12,624				
7	PVDF	PVDF	PTFE	Ceramic		PVDF		\$ 21,411				
8	Fluoride Applications	PVC	PTFE	PTFE		PVC		\$ 8,394				
Plunger Diameter		Capacity per head @ 1725 RPM			Metallic Heads		Plastic Heads					
		Inches	Millimeters	Max GPH	Max l/hr	Max PSI	Max bar					
K	19/32"	15.1	13.3	50.3	1500	103.4	150	\$ 1,094				
L	7/8"	22.2	30.4	115.1	1000	69	150	\$ 663				
R	1-7/16"	36.5	85	321.7	400	27.6	150	\$ 758				
Gear Ratio												
SPM @ RPM												
						1725 RPM	1425 RPM					
38	38:1 Gear Ratio					48	40	\$ 133				
25	25:1 Gear Ratio					72	60	\$ -				
19	19:1 Gear Ratio					96	80	\$ -				
12	12.5:1 Gear Ratio					144	120	\$ -				
10	9.5:1 Gear Ratio					N/A	148	\$ -				
Motor Mounts and Mounts with Standard Motors												
Motor Mounts Only with special motor ordered from Milton Roy as a separate line item												
S5	NEMA 56C							\$ -				
S1	NEMA 143TC/145TC							\$ -				
S8	IEC Frame 80, B5 Flange							\$ -				
S9	IEC Frame 90, B5 Flange							\$ -				
Motor Mounts Only - Motor not supplied by Milton Roy												
5X	NEMA 56C							\$ 177				
1X	NEMA 143TC/145TC							\$ 177				
8X	IEC Frame 80, B5 Flange							\$ 177				
9X	IEC Frame 90, B5 Flange							\$ 177				
Standard Motors with Mounts and Couplings - for other motors pick mount only and enter motor as separate line												
B3	HP	Enclosure	Ph	Hz	RPM	Motor Mount	Included Motor Part #					
3/4 (.55)	TEFC	1	60	1725	56C	4112006010	\$ 524					
X4	3/4 (.55)	XPFC	1	60	1725	56C	4112006030	\$ 1,335				
B4	3/4 (.55)	TEFC	3	60	1725	56C	4112006310	\$ 484				
X5	3/4 (.55)	XPFC	3	60	1725	56C	4112006332	\$ 1,384				
B5	1 (.75)	TEFC	1	60	1725	56C	4112008010	\$ 375				
X6	1 (.75)	XPFC	1	60	1725	56C	4112008030	\$ 787				
B6	1 (.75)	TEFC	3	60	1725	56C	4112008310	\$ 335				
X7	1 (.75)	XPFC	3	60	1725	56C	4112008330	\$ 2,036				
Motor Mount Type												
C	Close coupled motor mount - Only available for NEMA 56C							\$ -				
A	API flange mount with flexible coupling							\$ 297				
MRB2	1	K	12	B3	Continue building code and adding option prices from the following pages							

mRoy® MRB Series Duplex - Code Selection - Continued

Pipe Connections - Same codes apply to Suction and Discharge - Prices are per connection.							Price	
Suct	Disc	Metallic Liquid Ends					Alloy 20	316 L
P	P	NPT	Female Horizontal, Suction 1/2" NPT, Discharge Plg code "K"-1/4" NPT, codes "L" & "R" 3/8" NPT	\$	-	\$	-	
A	A	1/2"	150# RF Thd Flange	\$	1,178	\$	706	
B	B	1/2"	300# RF Thd Flange	\$	2,202	\$	858	
C	C	1/2"	600# RF Thd Flange	\$	2,520	\$	954	
D	D	1/2"	150# RF Socket Weld Flange	\$	1,442	\$	1,008	
E	E	1/2"	300# RF Socket Weld Flange	\$	2,544	\$	1,100	
F	F	1/2"	600# RF Socket Weld Flange	\$	3,164	\$	1,488	
Plastic Liquid Ends - Not available plunger code "K"							PVDF	PVC
P	P	NPT	Plastic Liquid ends horizontal female NPT Suction and Discharge	\$	-	\$	-	
1	1	1/2"	Plastic Thd Flange	\$	1,564	\$	162	
"O" Ring Material - Wetted								
Metallic Liquid Ends								
V	Viton	Standard Offering					\$	-
E	EPDM						\$	82
T	Teflex						\$	132
Plastic Liquid Ends - Not available plunger code "K"								
V	Viton	Standard Offering*	(Recommended for Sodium hypochlorite application)				\$	-
E	EPDM						\$	82
T	Teflex		(NOT recommended for Sodium hypochlorite application)				\$	132
Capacity Control								
N	Standard Aluminum Manual Micrometer						\$	-
S	Stainless Steel Manual Micrometer with SS Plug						\$	540
L	Stainless Steel Locking Manual Micrometer (API 675) with SS Plug						\$	802
Diaphragm Rupture Detection Systems								
N	None (Standard)						\$	-
3	Pressure type w/gauge only	N/A on Hi Temp		Requires base to mount hardware			\$	6,718
4	Pressure type w/gauge & NEMA 4 Switch	N/A on Hi Temp		Requires base to mount hardware			\$	8,164
5	Pressure type w/gauge & Ex Prf Switch	N/A on Hi Temp		Requires base to mount hardware			\$	9,288
6	Double Dia w/intermediate fluid no probe	N/A with Hi Temp Option					\$	4,082
7	Double Dia w/intermediate fluid & probe	N/A with Hi Temp Option					\$	7,994
Base Options								
N	No base						\$	-
Y	Base - Required for pumps with flanges or pressure type leak detection						\$	318
V	VSD Drive - Base and mounting, wiring for Std VSD - Motor and VSD priced separately						\$	1,061
Code Complete Identifier								
Y	Yes	For pumps that can be completely configured with the code up to this point do not require the extended portion of the model code, therefore chose Y - code complete. If you require extended options from next page enter N = Not complete.						
N	No							
P	P	V	N	N	N	N	Code complete for standard selections. For extended options continue to next page.	

* Effective Date December 1, 2022

As noted, if you have selected all options you need within the code to this point in the selection process, the code is now complete. The full code with this example combines the selections from the previous page and this age and would look like this:

MRB21-K12B3PPVNNNN

mRoy® MRB Series Duplex - Code Selection Continued - Extended Options

Liquid End Extended Options			Price
N	None - Standard		\$ -
S	Slurry - Hardened 440 C Balls and 440 Seats (316 L SS liquid ends only, Single-ball suction check valve)		\$ 1,260
D	Degas - PVC only		Consult Factory
G	G7 wetted parts - Metallic liquid ends only		\$ 6,038
U	UHMW Polyethylene Diaphragm and Check valve back up rings		Consult Factory
Temperature Related Extended Options			
N	Standard: Ambient 20° F to 120° F (-6° C to 49° C) - Liquid -20° F to 200° F (-29° C to 93° C)		\$ -
1	Low ambient: Ambient -40° F to 120° F (-40° C to 49° C) - Liquid -45° F to 200° F (-43° C to 93° C)		Consult Factory
2	High includes PEEK Diaphragm: Ambient 20° F to 120° F (-6° C to 49° C) - Liquid 50° F to 300° F (10° C to 149° C)		Consult Factory
Drive Extended Options			
N	Standard		\$ -
H	High Suction Pressure Option		Consult Factory
S	Sand Protection Option - Modified oil cap with filter - modified capacity control knob N/A for actuator		Consult Factory
M	Marine and off-shore option - Xylan coated head bolts and washers		Consult Factory
Motor Extended Options			
N	Standard		\$ -
Y			Consult Factory
V	These options are in the process of being designed and configured		Consult Factory
C			Consult Factory
Lubrication Options			
N	Standard - gear oil		\$ -
3	Low temp non synthetic (15° F to 50° F) - Gear oil		\$ -
4	Food Grade Oil - Nevestane		\$ 200
5	High performance synthetic - Hydraulic oil		\$ 164
9	Pump shipped without oil		\$ -
Coating System Options- See Note below for ACC paint option			
N	Standard RAL 1018		\$ -
B	Food Grade Paint - RAL 9010		See Paint and Prep page
C	250 µ Offshore Paint RAL 1018		See Paint and Prep page
D	350 µ Offshore Paint RAL 1018		See Paint and Prep page
Component Test Options			
N	None		\$ -
3	Hydro test - head and connections		\$ 658
4	Hydro test - head and connections with witnessed inspection		\$ 1,318
Run Test Options			
N	Standard production test - always included in tests below		\$ -
A	Customer witnessed standard test		\$ 1,318
B	API linearity test - 5 point curve		\$ 880
C	Customer witnessed API linearity test - 5 point curve		\$ 1,760
D	API repeatability test - 10 point curve - 5 ascending, 5 descending		\$ 1,170
E	Witnessed API repeatability test		\$ 2,342
F	API package - 10 point curve with hydro component test (select component test N)		\$ 1,648
G	Witnessed API test package		\$ 3,296
N	N	N	N
N	N	N	N
9			
N	N	N	N
N	N	N	N

Complete sample code with extended options:

MRB11-R12B2APPVNNNN-NNNN9NNN

mRoy® B Duplex Routine Preventative Maintenance (RPM) Kits

Kits for duplex pumps are identical to simplex pump kits. Duplex pumps require 1 kit per head - 2 kits per pump total.

Standard RPM kits for all MRB series

Plunger Dia	Plunger Code	Liquid End Material	Liquid End Type	O Ring Material	Kit Number	Price	
19/32" 15.1 mm	'K"	316 L SS	Standard	Std (Viton)	RPM1014	\$ 816	
				EPDM	RPM1016	\$ 1,087	
				Teflex	RPM1017	\$ 1,151	
		Alloy 20		Std (Viton)	RPM1015	\$ 2,078	
				EPDM	RPM1018	\$ 2,100	
	7/8 " and 1-7/16" 22.2 mm and 36.5 mm	316 L SS	Standard	Teflex	RPM1019	\$ 2,094	
				Std (Viton)	RPM1020	\$ 1,087	
				EPDM	RPM1021	\$ 1,279	
		Alloy 20	Standard	Teflex	RPM1022	\$ 1,311	
				Slurry	Std (Viton)	\$ 1,488	
	"L" and "R"	PVC	Standard	Std (Viton)	RPM1023	\$ 2,158	
				EPDM	RPM1024	\$ 2,558	
				Teflex	RPM1025	\$ 2,318	
		PVDF	Standard	Std (Viton)	RPM1026	\$ 1,087	
				EPDM	RPM1027	\$ 1,138	
				Teflex	RPM1028	\$ 1,158	
		Fluoride Apps (PVC w/PTFE Balls)	Standard	Std (Viton)	RPM1029	\$ 3,377	
				EPDM	RPM1030	\$ 3,475	
				Teflex	RPM1031	\$ 3,524	
				Std (Viton)	RPM1032	\$ 1,050	
				EPDM	RPM1033	\$ 1,121	
				Teflex	RPM1034	\$ 1,207	

Double diaphragm/ Rupture detection RPM kits for all MRB series

Plunger Dia	Plunger Code	Liquid End Material	Liquid End Type	O Ring Material	Kit Number	Price	
19/32" 15.1 mm	'K"	316 L SS	Standard	Std (Viton)	RPM1014-LD	\$ 899	
				EPDM	RPM1016-LD	\$ 1,197	
				Teflex	RPM1017-LD	\$ 1,266	
		Alloy 20		Std (Viton)	RPM1015-LD	\$ 2,286	
				EPDM	RPM1018-LD	\$ 2,311	
	7/8 " and 1-7/16" 22.2 mm and 36.5 mm	316 L SS	Standard	Teflex	RPM1019-LD	\$ 2,305	
				Std (Viton)	RPM1020-LD	\$ 1,197	
				EPDM	RPM1021-LD	\$ 1,408	
		Alloy 20	Standard	Teflex	RPM1022-LD	\$ 1,442	
				Slurry	Std (Viton)	\$ 1,639	
	"L" and "R"	PVC	Standard	Std (Viton)	RPM1023-LD	\$ 2,375	
				EPDM	RPM1024-LD	\$ 2,551	
				Teflex	RPM1025-LD	\$ 2,815	
		PVDF	Standard	Std (Viton)	RPM1026-LD	\$ 1,158	
				EPDM	RPM1027-LD	\$ 1,197	
				Teflex	RPM1028-LD	\$ 1,253	
		Fluoride Apps (PVC w/PTFE Balls)	Standard	Std (Viton)	RPM1029-LD	\$ 3,571	
				EPDM	RPM1030-LD	\$ 3,705	
				Teflex	RPM1031-LD	\$ 3,743	
				Std (Viton)	RPM1032-LD	\$ 1,158	
				EPDM	RPM1033-LD	\$ 1,233	
				Teflex	RPM1034-LD	\$ 1,329	

Notes:

- The above kits includes two diaphragms. Contact the factory for other materials.

mRoy XT/XW Series Capacity/Pressure Selection

English Units

Actuators and rupture detection require capacity derating per the table below.

0 to 9.2 GPH - 3000 psi maximum

mRoy Series	Plunger	Gear Ratio Code	Strokes/Minute		Metallic Liquid Ends					
			60 hz	50 hz	GPH at 2000 psi		GPH at 2500 psi		GPH at 3000 psi	
	Diameter				60 hz	50 hz	60 hz	50 hz	60 hz	50hz
mRoy XT	11/32"	77	23	19	0.27	0.23	0.26	0.21	0.24	0.20
		48	37	30	0.44	0.37	0.41	0.34	0.38	0.32
		24	73	60	0.87	0.73	0.80	0.67	0.74	0.62
		15	117	96	1.37	1.14	1.27	1.06	1.19	0.99
		10	185	152	2.2	1.8	2.1	1.7	1.9	1.6
mRoy XW	1/2"	38	48	40	2.8	2.3	2.6	2.2	2.5	2.1
		25	72	60	4.3	3.6	4.0	3.3	3.8	3.1
		19	96	80	5.8	4.8	5.4	4.5	5.0	4.2
		12	144	120	9.2	7.7	8.6	7.2	8.0	6.7

Requires 1/2 HP minimum

Requires 1 HP minimum

Requires 1.5 HP minimum

Metric Units

Actuators and rupture detection require capacity derating per the table below.

0 to 34.8 liters/hour - 207 BAR maximum

mRoy Series	Plunger	Gear Ratio Code	Strokes/Minute		Metallic Liquid Ends					
			60 hz	50 hz	L/hr at 138 BAR		L/hr at 172 BAR		L/hr at 207 BAR	
	Diameter				60 hz	50 hz	60 hz	50 hz	60 hz	50hz
mRoy XT	11/32"	77	23	19	1.04	0.87	0.97	0.81	0.90	0.75
		48	37	30	1.67	1.39	1.55	1.29	1.44	1.20
		24	73	60	3.30	2.75	3.00	2.50	2.80	2.33
		15	117	96	5.2	4.3	4.8	4.0	4.5	3.8
		10	185	152	8.3	6.9	7.7	6.4	7.2	6.0
mRoy XW	1/2"	38	48	40	10.6	8.8	10.1	8.4	9.3	7.8
		25	72	60	16.2	13.5	15.1	12.6	14.2	11.9
		19	96	80	21.9	18.3	20.4	17.0	18.9	15.8
		12	144	120	34.8	29.0	32.5	27.1	30.3	25.2

Requires 0.37 kW (1/2 HP) motor

Requires 0.75 kW (1 HP) motor.

Requires 1.1 kW (1.5 HP) motor.

Capacity Adjustment Table

mRoy pump capacity must be derated when any of the following options are selected:

- * Electronic Capacity Control
- * Pneumatic Capacity Control
- * Diaphragm Rupture Detection System
- * Double Diaphragm

When two of the options above are purchased on the same pump, derate the pump by both factors.

Multiply the pumps capacity from the tables on the previous pages by the factor in the table below to determine actual pump capacity rating.

	Plunger Diameter	3/8", 7/16" (11 mm) & 5/8" (16 mm)				1 1/16" (27 mm)		19/32" (15mm)	7/8" (22mm)	1 7/16" (37mm)	1 1/32" (9mm)	1/2" (13mm)	
		Pump Model	A	H & T	J	P	A	P	S	M	B	XT	XW
Electronic or Pneumatic Capacity Control			0.95	0.95	0.95	0.95	0.90	0.90	1.0	0.90	0.90	1.0	1.0
Diaphragm Rupture Detection System			0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Double Diaphragm			0.95	-	-	0.95	0.95	0.95	-	-	-	-	-

mRoy® XT Series - Full Feature/Option Price and Selection Table

XT1	mRoy® XT Series						
	Liquid End Material						
1	316L SS (Standard)						
	Gear Set						
	Code	Description	SPM @ RPM				
	77	77:1 Gear Ratio	23	19	14.5	\$	-
	48	48:1 Gear Ratio	37	30	24	\$	-
	24	24:1 Gear Ratio	73	60	47	\$	-
	15	15:1 Gear Ratio	117	96	76	\$	-
	10	9.5:1 Gear Ratio Not available on plastic liquid end pumps	185	152	120	\$	-
	Motor Mounts Requires 1/2 HP						
	NOTE: Use only when motor is ordered from Milton Roy - see accessory section)						
	SR	Close Coupled Flange, NEMA 56C (48 Frame) (Standard)				\$	-
	SS	Close Coupled Flange, IEC Frame 71, B5 Flange				\$	-
	FR	API Flange Mount, NEMA 56C				\$	280
	F4	API Flange Mount, NEMA 143TC				\$	280
	FS	API Flange Mount, IEC Frame 71, B5 Flange				\$	280
	MD	API Flange Mount, IEC Frame 80, B5 Flange				\$	818
	F9	API Flange Mount, IEC Frame 90, B5 Flange				\$	927
	NOTE: Must be used when pump is not ordered with motor (to cover added cost of testing)						
	1X	Close Coupled Flange, NEMA 56C				\$	183
	2X	Close Coupled Flange, IEC Frame 71, B5 Flange				\$	183
	3X	API Flange Mount, NEMA 56C				\$	461
	4X	API Flange Mount, NEMA 143TC				\$	461
	5X	API Flange Mount, IEC Frame 71, B5 Flange				\$	461
	6X	API Flange Mount, IEC Frame 80, B5 Flange				\$	1,003
	7X	API Flange Mount, IEC Frame 90, B5 Flange				\$	1,105
	Connections						
	NN	Standard NPT 1/4" NPT Suction, 1/4" Discharge				Standard	
	AA	ANSI 150# RF 1/2" Socket Welded				\$	1,034
	BB	ANSI 300# RF 1/2" Socket Welded				\$	1,131
	EE	ANSI 1500# RF 1/2" Socket Welded				\$	1,611
	11	ANSI 150# RF 1/2" Threaded				\$	726
	33	ANSI 300# RF 1/2" Threaded				\$	881
	66	ANSI 600# RF 1/2" Threaded				\$	1,034
	Capacity Control						
	M1	Manual Micrometer Knob, 316 SS				\$	278
	AW	ACC NEMA 4 (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F				\$	3,107
	AE	ACC Ex-Proof (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F				\$	3,402
	HW	Actuator Capacity Controller (ACC HART) IP68; Fieldbus HART Protocol 7.0 version or 4-20 mA I/O analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F				\$	3,987
	HE	Actuator Capacity Controller (ACC HART) Ex-proof; Fieldbus HART Protocol 7.0 version or 4-20 mA I/O analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F				\$	4,282
	Diaphragm Rupture Detection Systems						
	NN	None				\$	-
	C5	Rupture Detection with Base & Gauge				\$	1,789
	SN	Rupt.Detect w/ Base,Gauge,& NEMA 4 Switch				\$	2,475
	S7	Rupt.Detect.w/ Base, Gauge, & Ex. Prf Switch				\$	3,103
	Check Valve						
	NN	Single Ball Checks (Standard)				\$	-
	22	Double Ball Checks				\$	895
XT	1	77	SR	NN	M1	NN	Code complete for standard selections

RPM Kits	RPM kits for pumps noted above		Note : RPM031 used on pumps made prior to 5/2001 - reference serial numbers prior to: domestic 231986, export 610014	
	Model	Liquid End Material	Kit Number	Price
	mRoy XT	316 SS single balls	RPM088	\$ 421
	mRoy XT/XW	316 SS single balls with Leak detection	RPM119	\$ 1,027

Note:

Kit includes: 1 each suction and discharge valves, diaphragm, and set of required "O" rings

mRoy® XW Series - Full Feature/Option Price and Selection Table

XW1	mRoy® XW Series						
	Liquid End Material						
1	316L SS (Standard)						
	Gear Set						
	Code Description						
38	38:1 Gear Ratio						
25	25:1 Gear Ratio						
19	19:1 Gear Ratio						
12	12:1 Gear Ratio						
	Motor Mounts Requires 1 HP for Gear codes 38, 25, 19. Gear code 12 requires 1.5 HP						
	NOTE: Use only when motor is ordered from Milton Roy - see accessory section)						
FR	API Flange Mount, NEMA 56C (Standard)						
F4	API Flange Mount, NEMA 143TC/145TC						
F8	API Flange Mount, IEC Frame 80, B5 Flange						
F9	API Flange Mount, IEC Frame 90, B5 Flange						
	NOTE: Must be used when pump is not ordered with motor (to cover added cost of testing)						
3X	API Flange Mount, NEMA 56C						
4X	API Plange Mount NEMA 143TC / 145 TC						
6X	API Flange Mount, IEC Frame 80, B5 Flange						
7X	API Flange Mount, IEC Frame 90, B5 Flange						
	Connections						
NN	Standard NPT 1/2" NPT Suction, 1/4" Discharge						
AA	ANSI 150# RF 1/2" Socket Welded						
BB	ANSI 300# RF 1/2" Socket Welded						
EE	ANSI 1500# RF 1/2" Socket Welded						
11	ANSI 150# RF 1/2" Threaded						
33	ANSI 300# RF 1/2" Threaded						
66	ANSI 600# RF 1/2" Threaded						
	Capacity Control						
M1	Manual Micrometer Knob, 316 SS						
AW	ACC NEMA 4 (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F						
AE	ACC Ex-Proof (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F						
HW	Actuator Capacity Controller (ACC HART) IP68; Fieldbus HART Protocol 7.0 version or 4-20 mA I/O analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F						
HE	Actuator Capacity Controller (ACC HART) Ex-proof; Fieldbus HART Protocol 7.0 version or 4-20 mA I/O analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F						
	Diaphragm Rupture Detection Systems						
NN	None						
C5	Rupture Detection with Base & Gauge						
SN	Rupt.Detect w/ Base,Gauge,& NEMA 4 Switch						
S7	Rupt.Detect.w/ Base, Gauge, & Ex. Prf Switch						
	Check Valve						
NN	Double Ball Checks (Standard)						
XW1	1	38	FR	NN	M1	NN	NN
Code complete for standard selections							

RPM Kits	mRoy RPM kits for pumps noted above			
	Model	Liquid End Material	Kit Number	Price
	mRoy XW	316 SS single balls	RPM032	\$ 688
	mRoy XT/XW	316 SS single balls with Leak detection	RPM119	\$ 1,027

Note:

Kit includes: 1 each suction and discharge valves, diaphragm, and set of required "O" rings

CENTRAC B

The Centrac series is primarily sold on projects to the environmental market. For information and pricing, contact the applications group.

**MILROYAL G HIGH PERFORMANCE DIAPHRAGM (HPD)
PRICING and PRODUCT SELECTION**

MilRoyal G Product Selection and Pricing

Description

Capacity & Pressure Tables, English & Metric
Product Code & Pricing

MilRoyal G has been discontinued

MILROYAL D
PRICING and PRODUCT SELECTION

Milroyal D Metering Pumps

Milroyal D with DSD Liquid Ends

Capacity & Pressure Table

Product Code and Pricing

Milroyal D with HPD Liquid Ends

Capacity & Pressure Table

Product Code and Pricing

Milroyal D Low Flow w/High Pressure Disc Diaphragm Liquid Ends

Capacity & Pressure Table

Product Code and Pricing

Milroyal D with Packed Plunger Liquid Ends

Capacity & Pressure Table

Product Code and Pricing

Milroyal D drives less Liquid Ends

**MILROYAL D
PRICING and PRODUCT SELECTION**

Capacity and Pressure Tables

MILROYAL D HIGH PERFORMANCE DIAPHRAGM

English Units	Plunger Diameter	Gear Code	SPM @		GPH @		Max PSI	Motor HP	
	60 Hz	50 Hz	60 Hz	50 Hz					
	1" (25mm)	60	29	24	5.2	4.3	220	1/2 HP	
		30	58	48	10.4	8.7			
		15	117	97	20.2	16.8			
	1.25" (32mm)	60	29	24	8.8	7.3	145		
		30	58	48	17.5	14.6			
		15	117	97	34.1	28.4			
	1.5" (38mm)	60	29	24	13.6	11.3	70		
		30	58	48	27.2	22.7			
		15	117	97	53.0	44.2			

Metric Units	Plunger Diameter	Gear Code	SPM @		L/H @		Max Bar	Motor kW	
	60 Hz	50 Hz	60 Hz	50 Hz					
	1" (25mm)	60	29	24	19.7	16.4	15	0.37 kW	
		30	58	48	39.4	32.8			
		15	117	97	76.5	63.8			
	1.25" (32mm)	60	29	24	33.3	27.8	10		
		30	58	48	66.2	55.2			
		15	117	97	129.0	107.5			
	1.5" (38mm)	60	29	24	51.5	42.9	5		
		30	58	48	103.0	85.8			
		15	117	97	200.0	166.7			

Plastic liquid ends are limited to 150 PSI @ 68 °F and are linearly derated to 65 PSI @ 140 °F.

Remember the RPM KITS	Milroyal D HPD RPM kits for pumps noted above			
	Metallic Pumps with double balls require 2 kits.			
	NOTE: Kits do not include diaphragms. See Diaphragm Column for part & Price			
	Plunger Dia.	Liquid End Material	Kit Number	Price
	1"	316 ss	RPM0011011	\$ 310
		Alloy 20	RPM0011015	\$ 1,174
		PVC	RPM0011052	\$ 944
	1.25" & 1.5"	316 ss	RPM0011021	\$ 310
		Alloy 20	RPM0011025	\$ 929
	1.25" & 1.5"	PVC	RPM0011052	\$ 944
Kits for Spring Loaded Ball Check (code SP)				
1", 1.25" & 1.5"		RPM468	\$ 688	Kits include: * Balls * Seats * Seals * Strainer
		RPM469	\$ 623	

Diaphragm Part #	Diaphragm Price
2980074099	\$ 310

MODEL CODE

End item Model Code			Option Select Number								
M	D	H	Plunger Diameter	Material Code	Gear Set	Motor Mount	Capacity Control	Connections	Base	Rupture Detection	Ball Quantity

PLUNGER DIAMETER & MATERIAL CODE

316SS	
Code	Price
1" Diameter	161 \$ 9,297
1.25" Diameter	201 \$ 9,297
1.5" Diameter	241 \$ 9,297

PVC	
Code	Price
162	\$ 9,297
202	\$ 9,297
242	\$ 9,297

Alloy 20	
Code	Price
165	\$ 11,244
205	\$ 11,244
245	\$ 11,244

Alloy C22	
Code	Price
166	\$ 23,687
206	\$ 23,687
246	\$ 23,687

GEAR SET

Code	Description	1725 RPM	1450 RPM	1140 RPM	List Price
60	60:1 Ratio	29 SPM	24 SPM	19 SPM	\$ -
30	30:1 Ratio	58 SPM	48 SPM	38 SPM	\$ -
15	15:1 Ratio	117 SPM	97 SPM	76 SPM	\$ -

MOTOR MOUNTS

MOTOR MOUNTS (Less Motor or Select Motor from Accessory Section)

Code	Description	List Price
CB	NEMA Frame 56C	\$ -
CC	NEMA Frame 143TC	\$ -
MC	IEC Frame 71, B5 Flange	\$ -
MD	IEC Frame 80, B5 Flange	\$ -
ME	IEC Frame 90, B5 Flange	\$ -
MM	Multiplex Units (except first pump of multiplex)	\$ -
JD	Mount for Centrac Industrial Drive Motor	\$ -

CAPACITY CONTROL

Code	Description	List Price
M4	Manual Micrometer Knob - Aluminum (STANDARD)	\$ -
AW	ACC NEMA 4 (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 4,076
AE	ACC Ex-Proof (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 5,002

CONNECTIONS

Code	Description	316SS List Price	PVC List Price	Alloy 20 List Price	Alloy C22 List Price
SE	NPT (STANDARD)	Standard	Standard	Standard	Standard
T1	ANSI 150# 1/2" Threaded	\$ 910	\$ 702	\$ 1,312	\$ 2,518
S1	ANSI 150# 1/2" Socket Welded	\$ 1,152	\$ 917	\$ 1,630	\$ 3,555

BASE

Code	Description	List Price
11	Simplex Base (STANDARD)	\$ -
22	Duplex Base, Housing Extension, Jackshaft and Coupling	\$ 2,168
33	Triplex Base, Housing Extension, Jackshaft and Coupling	\$ 4,076
44	Quadruplex Base, Housing Extension, Jackshaft and Coupling	\$ 5,990
NN	None (multiplex units except first pump)	\$ -

RUPTURE DETECTION

Code	Description	List Price
NN	None (STANDARD)	\$ -
C5	Rupture Detection with Gauge - metallic liquid ends only - 200 psig max	\$ 4,613
SN	Rupture Detection w/ Gauge and NEMA 4 Switch - metallic liquid ends only - 200 psig max	\$ 5,160
SE	Rupture Detection w/ Gauge and NEMA 7 Switch - metallic liquid ends only - 200 psig max	\$ 5,860
DD	Double Diaphragm	\$ 1,949
DP	Double Diaphragm with Conductivity Probe	\$ 3,544
	Relay supplied separately - See accessory pricing	\$ -

BALL QUANTITY

Code	Description	316SS List Price	PVC List Price	Alloy 20 List Price	Alloy C22 List Price
11	Single Ball Checks	\$ -	N/A	\$ -	\$ -
22	Double Ball Checks	\$ 917	\$ -	\$ 1,110	\$ 2,740
SP	Spring Loaded for High Viscosity or Specific Gravity	\$ 589	\$ 295	N/A	N/A

End of Section

**MILROYAL D Low Flow DISC DIAPHRAGM
PRICING and PRODUCT SELECTION**

MILROYAL D LOW FLOW DISC DIAPHRAGM

English Units	Plunger Diameter	Gear Code	SPM @		GPH @ 60 hz						
			60 Hz	50 Hz	500 psi	1000 psi	1500 psi	2000 psi	2500 psi	3000 psi	3500 psi
1/8" (3mm)	60	29	24		0.072	0.063	0.057	0.049	0.042	0.033	0.021
	30	58	48		0.146	0.132	0.105	0.086	0.072	0.054	0.029
	15	117	97		0.271	0.256	0.248	0.225	0.196	0.150	0.120
	10	175	146		0.466	0.421	0.384	0.346	0.286	0.233	0.186
3/16" (4.8mm)	60	29	24		0.196	0.188	0.188	0.188	0.181	0.165	0.150
	30	58	48		0.375	0.361	0.347	0.322	0.316	0.301	0.286
	15	117	97		0.715	0.677	0.639	0.632	0.610	0.595	0.557
	10	175	146		1.099	1.069	1.039	0.986	0.941	0.903	0.844

Metric Units	Plunger Diameter	Gear Code	SPM @		Liters/Hr @ 60 hz						
			60 Hz	50 Hz	35 Bar	70 Bar	105 Bar	140 Bar	175 Bar	210 Bar	241 Bar
1/8" (3mm)	60	29	24		0.273	0.238	0.216	0.185	0.159	0.125	0.079
	30	58	48		0.553	0.500	0.397	0.326	0.273	0.204	0.110
	15	117	97		1.026	0.969	0.939	0.852	0.742	0.568	0.454
	10	175	146		1.764	1.593	1.453	1.310	1.083	0.882	0.704
3/16" (4.8mm)	60	29	24		0.742	0.712	0.712	0.712	0.685	0.625	0.568
	30	58	48		1.419	1.366	1.313	1.219	1.196	1.139	1.083
	15	117	97		2.706	2.562	2.419	2.392	2.309	2.252	2.108
	10	175	146		4.160	4.046	3.933	3.732	3.562	3.418	3.195

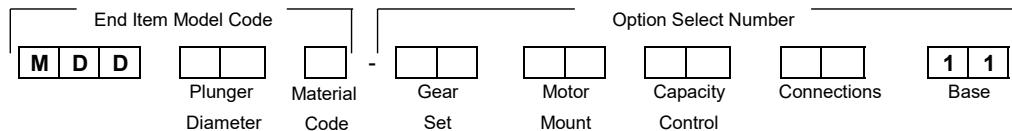
Motor Requirements

Horsepower: 1/4
kW: 0.18

Milroyal D Disc pumps have had several design check valves that are not interchangable.
The kits below are for pumps made after 1/1/2002. If you are not sure when pump was built,
before buying RPM kits for units in the field contact factory service.

Remember the RPM Kits	Milroyal D Low Flow Disc Diaphragm						
	Plunger Dia	Material					
		316 ss		Alloy 20		Alloy C	
		Kit	Price	Kit	Price	Kit	Price
	1/8"	RPM130	\$ 1,244	RPM190	\$ 3,178	RPM191	\$ 5,215
	3/16"	RPM130	\$ 1,244	RPM190	\$ 3,178	RPM191	\$ 5,215
Qty		Description					
Kits Include:		1	Thrust Washer Ring				
		1	Thrust Washer Disc				
		1	Viton Seal				
		1	Diaphragm				
		1	Diaphragm Return Spring				
		1	Check Valve 316SS Suction				
		1	Check Valve 316SS Discharge				

MODEL CODE



PLUNGER DIAMETER

Description	316SS		Alloy 20		Alloy C22	
	Code	Price	Code	Price	Code	Price
1/8" Diameter	021	\$ 8,941	025	\$ 15,457	026	\$ 23,159
3/16" Diameter	031	\$ 8,941	035	\$ 15,457	036	\$ 23,159

GEAR SET

Code	Description	1725 RPM	1450 RPM	1140 RPM	List Price
60	60:1 Ratio	29 SPM	24 SPM	19 SPM	\$ -
30	30:1 Ratio	58 SPM	48 SPM	38 SPM	\$ -
15	15:1 Ratio	117 SPM	97 SPM	76 SPM	\$ -
10	10:1 Ratio	175 SPM	146 SPM	116 SPM	\$ -

MOTOR MOUNTS

MOTOR MOUNTS (Less Motor or Select Motor from Accessory Section)

Code	Description	List Price
CB	NEMA Frame 56C	\$ -
CC	NEMA Frame 143TC	\$ -
MC	IEC Frame 71, B5 Flange	\$ -
MD	IEC Frame 80, B5 Flange	\$ -
ME	IEC Frame 90, B5 Flange	\$ -
MM	Multiplex Units (except first pump of multiplex)	\$ -
JD	Mount for Centrac Industrial Drive Motor	\$ -

CAPACITY CONTROL

Code	Description	List Price
M4	Manual Micrometer Knob - Aluminum (STANDARD)	\$ -
AW	ACC NEMA 4 (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 4,076
AE	ACC Ex-Proof (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 5,002

CONNECTIONS

Code	Description	316SS List Price	Alloy 20 List Price	Alloy C22 List Price
SE	NPT (STANDARD)	\$ -	\$ -	\$ -
T1	ANSI 150# 1/2" Threaded	\$ 910	\$ 1,312	\$ 2,518
S1	ANSI 150# 1/2" Socket Welded	\$ 1,152	\$ 1,630	\$ 3,555

BASE

Code	Description	List Price
11	Simplex Base (STANDARD)	\$ -

LEAK DETECTION

Leak Detection is not in the code. It is available up to 400 psi in these versions. Consult Factory

C5	Rupture Detection with Gauge -400 psig max	\$ 2,544
SN	Rupture Detection w/ Gauge and NEMA 4 Switch - 400 psig max	\$ 2,992
SE	Rupture Detection w/ Gauge and NEMA 7 Switch - 400 psig max	\$ 3,427

End of Section

**MILROYAL D Packed Plunger
PRICING and PRODUCT SELECTION**

Capacity and Pressure Tables

MILROYAL D PACKED PLUNGER

English Units

Plunger Diameter	Gear Code	SPM @		GPH @		Max PSI	Motor HP	
		60 Hz	50 Hz	60 Hz	50 Hz			
1/8" High Pressure (3 mm)	60	29	24	0.033	0.028	3000	1/4 HP	
	30	58	48	0.065	0.054			
	15	117	97	0.126	0.105			
1/4" (6 mm)	60	29	24	0.325	0.271	300		
	30	58	48	0.65	0.542			
	15	117	97	1.27	1.06			
	10	175	146	1.88	1.57			
1/4" High Pressure (6mm)	60	29	24	0.131	0.11	3000		
	30	58	48	0.26	0.217			
	15	117	97	0.5	0.417			
7/16" (11mm)	60	29	24	1.0	0.83	1000		
	30	58	48	2.0	1.67			
	15	117	97	4.1	3.4			
	10	175	146	6.1	5.1			
5/8" (16mm)	60	29	24	2.1	1.8	650		
	30	58	48	4.2	3.5			
	15	117	97	8.4	7.0			
	10	175	146	12.5	10.4			

Metric Units

Plunger Diameter	Gear Code	SPM @		ml/Hr @		Max Bar	Motor kW	
		60 Hz	50 Hz	60 Hz	50 Hz			
1/8" High Pressure (3 mm)	60	29	24	125	104	207	0.18 kW	
	30	58	48	245	204			
	15	117	97	480	400			
1/4" (6 mm)	60	29	24	1230	1025	21		
	30	58	48	2460	2050			
	15	117	97	4800	4000			
	10	175	146	7150	5958			
1/4" High Pressure (6mm)	60	29	24	495	413	207		
	30	58	48	985	821			
	15	117	97	1920	1600			
7/16" (11mm)	60	29	24	3785	3154	69		
	30	58	48	7570	6308			
	15	117	97	15520	12933			
	10	175	146	23090	19242			
5/8" (16mm)	60	29	24	7950	6625	45		
	30	58	48	15845	13204			
	15	117	97	31795	26496			
	10	175	146	47310	39425			

**MILROYAL D PACKED PLUNGER
PRICING AND PRODUCT CODE SELECTION**

59

MODEL CODE

End item Model Code			Option Select Number			
M	D	P	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plunger Diameter	<input type="checkbox"/>	Material Code	<input type="checkbox"/>	Gear Set	<input type="checkbox"/>	Motor Mount
Diameter					Capacity Control	<input type="checkbox"/>
					Packing Type	<input type="checkbox"/>
					Lube	<input type="checkbox"/>
						Connections

PLUNGER DIAMETER

Code Description	Code	Price
1/8" Diameter High Pressure	N/A	N/A
1/4" Diameter	N/A	N/A
1/4" Diameter High Pressure	N/A	N/A
7/16" Diameter	071	\$ 6,151
5/8" Diameter	101	\$ 6,151

Alloy 20

Code	Price
H25	\$ 6,223
045	\$ 5,423
H45	\$ 6,223
075	Consult Factory
105	Consult Factory

GEAR SET

Code Description	1725 RPM	1450 RPM	1140 RPM	List Price
60 60:1 Ratio	29 SPM	24 SPM	19 SPM	\$ -
30 30:1 Ratio	58 SPM	48 SPM	38 SPM	\$ -
15 15:1 Ratio	117 SPM	97 SPM	76 SPM	\$ -
10 10:1 Ratio	175 SPM	146 SPM	114 SPM	\$ -

MOTOR MOUNTS

MOTOR MOUNTS (Less Motor or Select Motor from Accessory Section)

Code Description	List Price
CB NEMA Frame 56C	\$ -
CC NEMA Frame 143TC	\$ -
MC IEC Frame 71, B5 Flange	\$ -
MD IEC Frame 80, B5 Flange	\$ -
ME IEC Frame 90, B5 Flange	\$ -
MM Multiplex Units (except first pump of multiplex)	\$ -

CAPACITY CONTROL

Code Description	List Price
M4 Manual Micrometer Knob - Aluminum (STANDARD)	\$ -
AW ACC NEMA 4 (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 4,076
AE ACC Ex-Proof (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 5,002

PACKING / PLUNGER MATERIAL

Code Description	List Price
BR Braided 5022 AFP / 7/16" plunger is ceramic, 5/8" plunger is 316SS	\$ -
CC Cup & Cone PTFE (1/8" & 1/4" plunger diameters) - All plungers are Alloy 20	\$ -

PACKING LUBE

Code Description	List Price
GF Grease Fitting (7/16" & 5/8" plunger diameters)	\$ -
TF Through Flush (7/16" & 5/8" plunger diameters)	\$ -
NN None (STANDARD on 1/8 & 1/4 plungers)	\$ -

CONNECTIONS

Code Description	316SS	Alloy 20
Code Description	List Price	List Price
SE NPT (STANDARD)	\$ -	\$ -
T1 ANSI 150# 1/2" Threaded	\$ 910	\$ 1,312
T3 ANSI 300# 1/2" Threaded	\$ 1,092	\$ 1,536
S1 ANSI 150# 1/2" Socket Welded	\$ 1,152	\$ 1,630

End of Section

Pricing Milroyal D Packed Plunger Drives or Liquid Ends Separately

When a customer requires just the complete liquid end, contact factory.

Milroyal D Drive Only: \$ 4,842.00

Please note that loose liquid ends and drives are not tested.

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

MILROYAL® D pump		Price
MD		
Frequency (spm)	Please refer to the performance tables to select the stroke according the needed flow rate	
23		
46		
93		
117		
140		
Motor power		
Standard pump motor power		
F	0.25 kW	\$ 991
G	0.37 kW	\$ 991
H	0.55 kW	\$ 991
S	Pump supplied without motor (*) - specify power of motor to be used	\$ 219
Plunger Ø		
3	3 mm	\$ 939
4	4 mm	\$ 1,058
6	6 mm	\$ 2,733
8	8 mm	\$ 2,766
10	10 mm	\$ 3,140
12	12 mm	\$ 3,140
14	14 mm	\$ 3,512
16	16 mm	\$ 4,918
Liquid End type - DSD® technology - Dynamic Stiffness Diaphragm		
VR	Plastic liquid end: PVDF. Available only on DSD 51 and 71 (Ø3 to 8 mm)	\$ 2,791
XR	Metallic liquid end: 316L S.S.	\$ 1,145
XV	Metallic liquid end for viscous products: 316L S.S.	\$ 1,676
Operating Pressure		
Indicate your operating pressure here. The internal safety valve will be set as a function of this pressure		
If operating pressure ≤ 20 bar => pressure setting = operating pressure + 8 bar.		
If operating pressure > 20 bar => pressure setting = operating pressure + 8 bar + 0.1 x operating pressure		
Multiplexing		
-	Simplex	\$ -
DX	Duplex	\$ 122
TX	Triplex	\$ 245
-	Multiplex	Consult us
MD	93	See the following pages for options.
F	6	
XR	70	
-	-	

(*) If customer's motor is to be used: The pump will be tested with a Milton Roy's workshop motor. In the event that tests have to be done with the customer's motor, any delay resulting from motor deliver or its dysfunction may not be attributed to Milton Roy.

Available paint systems (others - please consult us): please add this paint code at the end of the pump code

For ACC paint option, see Paint Section		Code Color	yellow RAL 1018	grey RAL 7035	grey RAL 7042	white RAL 9010	
System Code	System	Description	Detail Description	Code system/color PRICE			
N_	C1, Standard	C1, Polyurethane FELOR 100 µ for very low corrosityInterior	Application of 1 coat: Feloxane HES, thickness 100 µ, colour RAL 1018 yellow	NS Standard	NA	NA	NA
B_	CB, food grade	Food grade Epoxy 100 µ, No ACS certification, French Sanitary Conformity Certificate	Application of 1 coat: - sand blasting S.A. 2.5 - 1 coat of food grade processing epoxy, colour white RAL 9010	NA	NA	NA	\$ 485
A_	C2	C2, 140 µ, For low corrosity, Interior/Exterior	Available in yellow RAL 1018. Application of 2 coats: - sand blasting S.A. 2.5 ; 1 coat 60 µ: epoxy Hempadur SPEED-DRY ZP650 17650; - 1 top coat 80 µ: polyurethane Hempathane HS 55610	\$ 537	NA	NA	NA
C_	C3	C3, 240 µ, for medium corrosity, Interior/Exterior	Application of 2 coats: - sand blasting S.A. 2.5; 1 coat 180 µ: epoxy Hempadur SPEED-DRY ZP650 17650; - 1 top coat 60 µ: polyurethane Hempathane HS 55610	\$ 594	\$ 594	\$ 594	NA
E_	C4	C4, 70 µ, for high corrosity, Interior/Exterior	Available in yellow RAL 1018, grey RAL 7035 and 7042. Application of 2 coats: - sand blasting S.A. 2.5; 1 coat 200 µ: epoxy Hempadur SPEED-DRY ZP650 17650; - 1 top coat 80 µ: polyurethane Hempathane HS 55610	\$ 594	\$ 594	\$ 594	NA
D_	C5	C5-M 245 µ, for very high corrosity Marine/Offshore, Interior/Exterior	Available in yellow RAL 1018, grey RAL 7035 and 7042. Application of 3 coats: - sand blasting Sa 3; 1 primer coat 60 µ: zinc epoxy Hempadur Avantguard 750 1736G; - 1 coat 160 µ: epoxy Hempadur Mastic 4588W - 1 top coat 80 µ: polyurethane Hempathane HS 55610	\$ 654	\$ 654	\$ 654	NA

Milton Roy is committed to minimizing the impact of its paints on the environment and therefore strongly recommends the use of its standard paints

Drive end options

Capacity Control Options	Consult factory for application assistance for multiplex pumps with actuators	Price
AW	Actuator Capacity Controller (ACC) IP68; 4-20mA Input/Ouput analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz, -40°C/-F	\$ 4,255
AE	Actuator Capacity Controller (ACC) Ex-proof; 4-20mA Input/Ouput analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz IP68 Ex d II B T4, -40°C/-F	\$ 4,583
HW	Actuator Capacity Controller (ACC) IP68; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/-F	\$ 5,139
HE	Actuator Capacity Controller (ACC) Exproof; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/-F	\$ 5,467
B	Bernard ex-proof electric actuator, type OA - 3-phase 230 or 400 V - 50 Hz - IP67 EEx de IIB T5 WITHOUT integrated electronic - need for a additional control box to a 4-20 mA input. Not available on triplex pumps	Consult Us
BI	Bernard ex-proof electric actuator, type OA, 3-phase 230 or 400V - 50Hz - IP67 ATEX II 2G EEx de IIB T5 WITH remote electronic IP67 ATEX II 2G EEx d IIC T6 mounted on a painted steel base plate. Not available on triplex pumps.	Consult Us
P	Pneumatic actuator type "STI" OUTSIDE OF ATEX AREA	\$ 5,061
PM	Pneumatic actuator type "STI" OUTSIDE OF ATEX AREA + manual course length adjustment option	\$ 6,670
PA	Pneumatic actuator type "STI"	\$ 5,579
PAM	Pneumatic actuator type "STI" for ATEX AREA + manual course length adjustment option	\$ 7,190
P2	For STI actuators: same as P + air failure lock up system: last position / air failure lock up system: return to 0% or 100%	\$ 6,755
PMZ	For STI actuators: same as PM + air failure lock up system: last position / air failure lock up system: return to 0% or 100%	Consult for multiplex
PAZ	For STI actuators: same as PA + air failure lock up system: last position / air failure lock up system: return to 0% or 100%	\$ 7,275
PAMZ	For STI actuators: same as PAM + air failure lock up system: last position / air failure lock up system: return to 0% or 100%	\$ 8,885
Special motors - Detailed descriptions are available in the MOTORS section		
-	Standard: Standard motor with aluminum frame - 1,500 RPM	
-	F 0.25 kW	\$ 240
-	G 0.37 kW	\$ 346
-	H 0.55 kW	\$ 346
1	Ex-Proof: EEx D IIB T4 - 3 phase - 1,500 RPM - 4 poles - 50Hz	
	F 0.25 kW	\$ 1,434
	G 0.37 kW	\$ 1,497
	H 0.55 kW	\$ 1,558
4A	Frequency Variation - Ex Proof EEx D IIB T4 - 3 phase - 1,500 RPM - 4 poles - 50Hz for Frequency Variation with thermistor PTC (1 set of 3) coil protection	
	F 0.25 kW	\$ 1,696
	G 0.37 kW	\$ 1,758
	H 0.55 kW	\$ 1,819
4	VF 3 phase - Motor for frequency variation (forced ventilation) - 3 phase - 1,500 RPM - 4 poles - 50 Hz	
	G 0.37 kW	\$ 1,361
	H 0.55 kW	\$ 1,512
4S	Frequency Variation - Motor for frequency variation - self cooled - 50 Hz	
	G 0.37 kW	\$ 634
	H 0.55 kW	\$ 740
B	4	See next page for liquid end options.

Liquid end options

Liquid end version							Price							
Extra price on codes XR and XV (metallic liquid ends) ONLY														
J	Heating or cooling jacketed liquid end							\$ 625						
Diaphragm														
Single diaphragm														
-	Standard for Single diaphragm: diaphragm in PEEK, seal o-rings in viton							\$ -						
PKN	Option for Single diaphragm: diaphragm in PEEK, seal o-rings in nitril							\$ 35						
Double diaphragm														
-	Standard for Double diaphragm: intermediate diaphragm in POM, seal o-rings in viton							\$ -						
PON	Option for Double diaphragm: intermediate diaphragm in POM, seal o-rings in nitril							\$ 35						
PK	Option for Double diaphragm: intermediate diaphragm in PEEK, seal o-rings in viton - Suitable for use up to 100 °C. Available on S.S. liquid ends (codes XR and XV) only							\$ 1,549						
Double diaphragm and rupture detector														
C5	Double diaphragm and rupture detection by pressure gauge - POM intermediate diaphragm							\$ 807						
C6	Double diaphragm and rupture detection by ASHCROFT pressure switch - POM intermediate diaphragm							\$ 1,853						
C7	Double diaphragm and rupture detection by manometer with electric detection (power supply: 250 VAC/VDC max.) - POM intermediate diaphragm							\$ 2,586						
C8	Double diaphragm and rupture detection by ASHCROFT ex-proof pressure switch (ATEX certified as CE EX II 2G T6) - POM intermediate diaphragm							\$ 3,632						
CT	Double diaphragm with pressure transmitter and manifold Parker type HLS2V Transmitter should be mandatory defined according to the following criteria: process connections 1/2" NPT f and vertical mounting							\$ 1,853						
CO	Connection port 1/2" NPT-female for pressure transmitter 1/2" NPT-male (pressure transmitter is not included)							\$ 1,631						
Special Valves														
-	Standard Valves							\$ -						
VS1	Spring loaded ball - at suct. side: 0.2 bar / at disch. side: 1 bar - For XV liquid ends with plungers Ø 6 to 16 mm (DSD 71 and 91) ONLY							\$ 636						
Connections														
Gas or NPT connection								If standard connections						
Type			Suction	Vertical	1/4" VV2 f	1/2" VV1 m								
VV1	Gas			Vertical	Vertical	NA	\$ -							
VV2	NPT			Vertical	Vertical	\$ -	\$ 124							
Flange connection - Price for a single connection only (price x2 for suction and discharge)														
ANSI flanges - On liquid ends DSD 51 and DSD 71														
Ø flanges				150 lb RF / SF	300 lb RF / SF	600 lb RF / SF	1,500 lb RF / SF	1,500 lb RTJ	2,500 lb RTJ					
H3 or V3	ANSI 1/2" flanges welded on 1/4" NPT threaded tubing				\$ 510	\$ 627	\$ 676	\$ 894	\$ 974	\$ 1,460				
ANSI flanges - On liquid ends DSD 91														
Ø flanges				150 lb RF / SF	300 lb RF / SF	600 lb RF / SF	1,500 lb RF / SF	1,500 lb RTJ	2,500 lb RTJ					
H3	1/2" Metallic ANSI weld neck Welded flange 316L S.S. horizontal output				\$ 500	\$ 516	\$ 649	\$ 770	\$ 821	\$ 1,093				
V3	1/2" Metallic ANSI weld neck Welded flange 316L S.S. vertical output				\$ 233	\$ 249	\$ 382	\$ 503	\$ 554	\$ 826				
Connections according to EN1092-1 or EN1759-1 - Price for one connection (Price x2 for suction and discharge). Smooth flash line														
Ø flanges				EN1092-1 PN 40	EN1759-1 CLASS 150	EN1092-1 PN 100	EN1759-1 CLASS 600							
H3	EN1092-1 or EN1759-1 / DN15 Welded flange 316L S.S.				\$ 540	\$ 576	\$ 673	\$ 783						
V3	EN1092-1 or EN1759-1 / DN15 Welded flange 316L S.S.				\$ 273	\$ 309	\$ 406	\$ 516						
Flanged connections on PLASTIC liquid ends ≤ 10 bar														
VV3				PN 10 / 16	150 lb									
ISO/DIN DN15 - Bride PVC ANSI 1/2" - RF flanges PVC ISO/DIN DN15 - Bride PVDF ANSI 1/2" - RF flanges PVDF				\$ 488	\$ 488									
				\$ 575	\$ 575									
Special option														
Z	Other options - on demand							Consult us						
-	-	C5	-	VV3	Z									

Refer to sections in the end of the pricebook for:

- Documentation
- Testing
- Packing / Boxing
- Hydraulic Accessories

MILROYAL B
HIGH PERFORMANCE DIAPHRAGM LIQUID END
Capacity Pressure Tables

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ENGLISH UNITS

Typical performance based on 1725 RPM, 3 Phase*, 60 hz motor. Derate flow rates at all other RPM speeds.

Plunger Dia.	Gear Ratio Code	SPM @ 1725 RPM	Max Capacity @ 200 PSI	Maximum Flow and Discharge Pressure (over 200 PSI)												
				1/3 HP		1/2 HP		3/4 HP		1 HP		1-1/2 HP		2 HP		
		GPH	GPH	PSIG	GPH	PSIG	GPH	PSIG	GPH	PSIG	GPH	PSIG	GPH	PSIG	GPH	PSIG
7/16" (11mm)	8K	49	2.1	1.6	3440	1.5	3675	—	—	—	—	—	—	—	—	—
	8J	70	3	2.7	1625	2.3	3215	2.17	3675	—	—	—	—	—	—	—
	8H	95	4	3.7	1110	3.3	2440	2.9	3675	—	—	—	—	—	—	—
	8G	113	4.9	4.7	775	4.2	1905	3.5	3675	—	—	—	—	—	—	—
	8F	142	6.1	5.9	575	5.5	1475	4.8	2950	4.4	3675	—	—	—	—	—
9/16" (14mm)	8K	49	3.8	3.3	1730	3.0	2780	2.7	3675	—	—	—	—	—	—	—
	8J	70	5.4	5.1	975	4.7	1830	4.3	2750	3.9	3675	—	—	—	—	—
	8H	95	7.3	7.0	650	6.6	1350	6.2	2030	5.6	3055	5.3	3675	—	—	—
	8G	113	8.7	8.5	500	8.1	1125	7.7	1700	6.9	2730	6.3	3675	—	—	—
	8F	142	11	10.8	375	10.4	900	10.0	1350	9.1	2400	8.0	3600	7.9	3675	—
5/8" (16mm)	8K	49	5.3	4.7	1675	4.2	2795	4.0	3150	—	—	—	—	—	—	—
	8J	70	7.5	7.2	755	6.7	1515	6.0	2700	5.7	3150	—	—	—	—	—
	8H	95	10.2	9.9	510	9.4	1170	8.6	2100	8.0	2885	7.8	3150	—	—	—
	8G	113	12.2	12.1	340	11.5	910	10.7	1755	10.1	2390	9.3	3150	—	—	—
	8F	142	15.3	15.3	240	14.7	700	13.8	1445	13.2	1930	12.0	2895	11.7	3150	—
1" (25mm)	8K	49	14	13.6	545	13.2	875	12.8	1250	—	—	—	—	—	—	—
	8J	70	19	18.8	305	18.4	575	18.0	860	17.4	1250	—	—	—	—	—
	8H	95	26	26	205	26	420	25	635	24	955	24	1250	—	—	—
	8G	113	31	31	160	31	355	30	535	29	850	28	1250	—	—	—
	8F	142	39	39	120	39	285	38	425	37	755	36	1130	36	1250	—
1-1/4" (32mm)	8K	49	21	20.8	345	20	555	20	770	—	—	—	—	—	—	—
	8J	70	30	30	195	30	365	29	550	29	770	—	—	—	—	—
	8H	95	40	40	130	40	270	39	405	39	610	38	770	—	—	—
	8G	113	48	48	100	48	225	47	340	47	545	46	770	—	—	—
	8F	142	61	61	75	61	180	61	270	60	480	58	720	58	770	—
1-1/2" (38mm)	8K	49	34	34	220	34	350	33	500	—	—	—	—	—	—	—
	8J	70	48	48	120	48	230	47	345	47	500	—	—	—	—	—
	8H	95	65	65	80	65	170	65	255	64	385	63	500	—	—	—
	8G	113	77	77	60	77	140	77	215	76	340	75	500	—	—	—
	8F	142	97	97	45	97	110	97	170	96	300	95	455	95	500	—
2" (51mm)	8K	49	52	52	140	52	225	52	300	—	—	—	—	—	—	—
	8J	70	75	75	75	75	145	75	220	74	300	—	—	—	—	—
	8H	95	101	101	50	101	105	101	160	101	245	100	300	—	—	—
	8G	113	120	—	—	120	90	120	135	120	220	119	300	—	—	—
	8F	142	151	—	—	151	70	151	105	151	190	150	300	—	—	—
2-1/2" (64mm)	8K	49	83	83	85	83	140	83	165	—	—	—	—	—	—	—
	8J	70	119	119	50	119	90	119	140	119	165	—	—	—	—	—
	8H	95	161	—	—	161	65	161	100	161	155	161	165	—	—	—
	8G	113	191	—	—	191	55	191	85	191	135	191	165	—	—	—
	8F	142	240	—	—	—	240	65	240	120	240	165	—	—	—	—
3-1/2" (89mm)	8K	49	170	—	—	170	70	170	100	—	—	—	—	—	—	—
	8J	70	242	—	—	—	—	242	65	242	100	—	—	—	—	—
	8H	95	330	—	—	—	—	330	50	330	75	330	100	—	—	—
	8G	113	391	—	—	—	—	—	—	391	65	391	100	—	—	—
	8F	142	500	—	—	—	—	—	—	500	60	500	90	500	100	—
4" (102mm)	8K	49	216	—	—	216	50	216	75	—	—	—	—	—	—	—
	8J	70	308	—	—	—	—	308	50	308	75	—	—	—	—	—
	8H	95	419	—	—	—	—	—	419	60	419	75	—	—	—	—
	8G	113	498	—	—	—	—	—	498	50	498	75	—	—	—	—
	8F	142	626	—	—	—	—	—	626	45	626	70	626	75	—	—

NOTES * For single phase motors, select the next higher horsepower motor.

Capacities listed are for discharge pressures as shown (Pres. derating, metallic liquid end).

Plastic liquid ends are limited to 150 PSI @ 68 °F and are linearly derated to 65 PSI @ 140 °F.

When adding a rupture detection system, derate the capacity by 5%.

Capacity derating shown is a decrease of 0.8% for each 100 PSIG over 200 PSIG.

MILROYAL B
HIGH PERFORMANCE DIAPHRAGM LIQUID END
Capacity Pressure Tables

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METRIC UNITS

Typical performance based on 1725 RPM, 3 Phase*, 60 hz motor. Derate flow rates at all other RPM speeds.

Plunger Dia.	Gear Ratio Code	SPM @ 1725 RPM	Max Capacity @ 14 bar	Maximum Flow and Discharge Pressure (over 14 bar)												
				.25 kW		.37 kW		.55 kW		.75 kW		1.1 kW		1.5 kW		
		LPH	LPH	BAR	LPH	BAR	LPH	BAR	LPH	BAR	LPH	BAR	LPH	BAR	LPH	BAR
11mm (7/16")	8K	49	7	5.9	237	5.7	250	—	—	—	—	—	—	—	—	—
	8J	70	11	10.1	112	8.6	222	8.2	250	—	—	—	—	—	—	—
	8H	95	15	14.0	77	12.4	168	10.9	250	—	—	—	—	—	—	—
	8G	113	18	17.7	53	16.0	131	13.4	250	—	—	—	—	—	—	—
	8F	142	23	22.4	40	20.7	102	18.0	203	16.7	250	—	—	—	—	—
14mm (9/16")	8K	49	14	12.6	118	11.4	189	10.4	250	—	—	—	—	—	—	—
	8J	70	20	19.2	66	17.8	124	16.3	187	14.8	250	—	—	—	—	—
	8H	95	28	26.6	44	25.1	92	23.6	138	21.3	208	19.9	250	—	—	—
	8G	113	33	32.1	34	30.5	77	29.0	116	26.3	186	23.8	250	—	—	—
	8F	142	42	41.1	26	39.3	61	37.8	92	34.3	163	30.3	245	30.1	250	—
16mm (5/8")	8K	49	20	18	115	16	193	15	217	—	—	—	—	—	—	—
	8J	70	28	27	52	25	104	23	186	22	217	—	—	—	—	—
	8H	95	38	38	35	36	81	33	145	30	199	29	217	—	—	—
	8G	113	46	46	23	44	63	40	121	38	165	35	217	—	—	—
	8F	142	57	58	17	56	48	52	100	50	133	45	200	44	217	—
25mm (1")	8K	49	53	52	38	50	60	49	86	—	—	—	—	—	—	—
	8J	70	72	71	21	70	40	68	59	66	86	—	—	—	—	—
	8H	95	98	98	14	97	29	95	44	92	66	90	86	—	—	—
	8G	113	117	117	11	116	24	114	37	111	59	107	86	—	—	—
	8F	142	148	148	8	147	20	145	29	141	52	137	78	135	86	—
32mm (1-1/4")	8K	49	79	79	24	77	38	76	53	—	—	—	—	—	—	—
	8J	70	114	114	13	112	25	110	38	108	53	—	—	—	—	—
	8H	95	151	151	9	151	19	149	28	146	42	144	53	—	—	—
	8G	113	182	182	7	181	16	180	23	177	38	173	53	—	—	—
	8F	142	231	231	5	231	12	230	19	226	33	221	50	220	53	—
38mm (1-1/2")	8K	49	129	129	15	127	24	126	34	—	—	—	—	—	—	—
	8J	70	182	182	8	181	16	180	24	177	34	—	—	—	—	—
	8H	95	246	246	6	246	12	245	18	242	27	240	34	—	—	—
	8G	113	291	291	4	291	10	291	15	288	23	284	34	—	—	—
	8F	142	367	367	3	367	8	367	12	364	21	360	31	358	34	—
51mm (2")	8K	49	197	197	10	197	16	195	21	—	—	—	—	—	—	—
	8J	70	284	284	5	284	10	283	15	282	21	—	—	—	—	—
	8H	95	382	382	3	382	7	382	11	381	17	379	21	—	—	—
	8G	113	454	—	—	454	6	454	9	453	15	451	21	—	—	—
	8F	142	572	—	—	572	5	572	7	572	13	567	21	—	—	—
64mm (2-1/2")	8K	49	314	314	6	314	10	314	11	—	—	—	—	—	—	—
	8J	70	450	450	3	450	6	450	10	450	11	—	—	—	—	—
	8H	95	609	—	—	609	4	609	7	609	11	609	11	—	—	—
	8G	113	723	—	—	723	4	723	6	723	9	723	11	—	—	—
	8F	142	908	—	—	—	—	908	4	908	8	908	11	—	—	—
89mm (3-1/2")	8K	49	643	—	—	643	5	643	7	—	—	—	—	—	—	—
	8J	70	916	—	—	—	—	916	4	916	7	—	—	—	—	—
	8H	95	1249	—	—	—	—	1249	3	1249	5	1249	7	—	—	—
	8G	113	1480	—	—	—	—	—	—	1480	4	1480	7	—	—	—
	8F	142	1892	—	—	—	—	—	—	1893	4	1893	6	1893	7	—
102mm (4")	8K	49	820	—	—	818	3	818	5	—	—	—	—	—	—	—
	8J	70	1165	—	—	—	—	1166	3	1166	5	—	—	—	—	—
	8H	95	1585	—	—	—	—	—	—	1586	4	1586	5	—	—	—
	8G	113	1885	—	—	—	—	—	—	1885	3	1885	5	—	—	—
	8F	142	2370	—	—	—	—	—	—	2369	3	2369	5	2369	5	—

NOTES * For single phase motors, select the next higher horsepower motor.

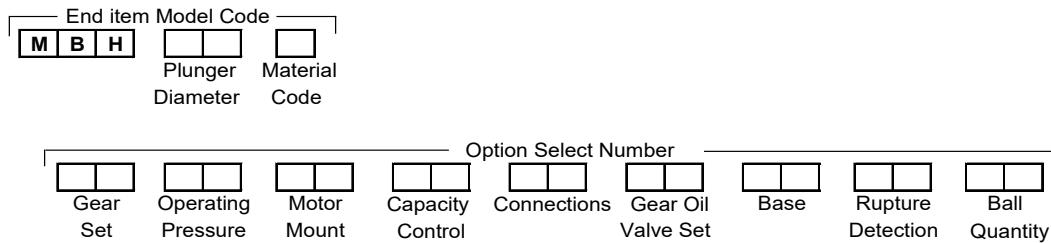
Capacities listed are for discharge pressures as shown (Pres. derating, metallic liquid end).

Plastic liquid ends are limited to 150 PSI @ 68 °F and are linearly derated to 65 PSI @ 140 °F.

When adding a rupture detection system, derate the capacity by 5%.

Capacity derating shown is a decrease of 0.8% for each 7 BARG over 14 BARG.

MODEL CODE



PLUNGER DIAMETER & MATERIAL CODE

316SS		PVC		Alloy 20		Alloy C22		
Plunger Diameter	Code	Price	Code	Price	Code	Price	Code	Price
7/16" Diameter	071	\$ 13,174	N/A	N/A	075	\$ 16,401	076	\$ 31,388
9/16" Diameter	091	\$ 13,174	N/A	N/A	095	\$ 16,401	096	\$ 31,388
5/8" Diameter	101	\$ 13,174	N/A	N/A	105	\$ 16,401	106	\$ 31,388
1" Diameter	161	\$ 11,029	162	\$ 11,029	165	\$ 13,139	166	\$ 25,240
1.25" Diameter	201	\$ 11,029	202	\$ 11,029	205	\$ 13,139	206	\$ 25,240
1.5" Diameter	241	\$ 14,438	242	\$ 14,438	245	\$ 16,706	246	\$ 32,093
2" Diameter	321	\$ 14,438	322	\$ 14,438	325	\$ 16,706	326	\$ 32,093
2.5" Diameter	401	\$ 14,438	402	\$ 14,438	405	\$ 16,706	406	\$ 32,093
3.5" Diameter	561	\$ 19,176	562	\$ 19,176	565	\$ 20,941	566	\$ 43,051
4" Diameter	641	\$ 19,176	642	\$ 19,176	645	\$ 20,941	646	\$ 43,051

GEAR SET

Code	Description	1725 RPM	1450 RPM	1140 RPM	List Price
Double Shaft w/cover - for simplex pump and outboard pump of multiplex units					
8K	36:1 Ratio	49 spm	40 spm	32 spm	\$ -
8J	25:1 Ratio	70 spm	57 spm	45 spm	\$ -
8H	18.5:1 Ratio	95 spm	79 spm	61 spm	\$ -
8G	15.5:1 Ratio	113 spm	93 spm	73 spm	\$ -
8F	12.3:1 Ratio	142 spm	117 spm	92 spm	\$ -
8M	9.25:1 Ratio	180 spm	157 spm	123 spm	\$ -
Double Shaft w/o cover - for use with multiplex units only					
8E	36:1 Ratio	49 spm	40 spm	32 spm	\$ -
8D	25:1 Ratio	70 spm	57 spm	45 spm	\$ -
8C	18.5:1 Ratio	95 spm	79 spm	61 spm	\$ -
8B	15.5:1 Ratio	113 spm	93 spm	73 spm	\$ -
8A	12.3:1 Ratio	142 spm	117 spm	92 spm	\$ -
8L	9.25:1 Ratio	180 spm	157 spm	123 spm	\$ -

OPERATING PRESSURE

Code	Description	Maximum Relief Valve Setting	
PB	30-220 psig	250 psig	\$ -
PC	221-450 psig	515 psig	\$ -
PD	451-750 psig	860 psig	\$ -
PE	751-1250 psig	1435 psig	\$ -
PF	1251-3675 psig	4025 psig	\$ -

MOTOR MOUNTS

MOTOR MOUNTS (Less Motor or Select Motor from Accessory Section)		List Price
CB	NEMA Frame 56C	\$ -
CC	NEMA Frame 143TC, 145TC	\$ -
CD	NEMA Frame 182TC, 184TC	\$ -
CE	NEMA Frame 215TC, 213TC	\$ 1,028
MD	IEC Frame 80, B5 Flange	\$ -
ME	IEC Frame 90, B5 Flange	\$ -
MF	IEC Frame 100, B5 Flange	\$ 1,028
F7	Nema182/184TC Tach Ring Encode	\$ 1,361
F8	Nema143/145TC Tach Ring Encode	\$ 1,361
F9	Nema 56C Tach Ring Encoder	\$ 1,361
AA	None (use with multiplex units, except first pump)	\$ -

Continued on Next Page

CAPACITY CONTROL

Code	Description	List Price
M4	Manual Micrometer Knob - 303ss (STANDARD)	\$ -
AW	ACC NEMA 4 (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 4,639
AE	ACC Ex-Proof (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 5,632
PN	Pneumatic (3-15 psi)	\$ 8,546

CONNECTIONS

Code	Description	316SS List Price Standard	Alloy 20 List Price Standard	Alloy C22 List Price Standard
SE	NPT (STANDARD)			
7/16", 9/16", 5/8", 1" & 1.25" Plungers				
T1	ANSI 150# Raised Face Threaded	1/2"	\$ 501	\$ 1,361
T3	ANSI 300# Raised Face Threaded	1/2"	\$ 555	\$ 2,666
T6	ANSI 600# Raised Face Threaded	1/2"	\$ 832	\$ 2,942
S1	ANSI 150# Raised Face Socket Weld	1/2"	\$ 501	\$ 1,694
S3	ANSI 300# Raised Face Socket Weld	1/2"	\$ 555	\$ 3,334
S6	ANSI 600# Raised Face Socket Weld	1/2"	\$ 832	\$ 3,611
S9	ANSI 1500# Raised Face Socket Weld	1/2"	\$ 1,113	N/A
1.5", 2" & 2.5" Plungers				
T1	ANSI 150# Raised Face Threaded	1"	\$ 832	\$ 1,805
T3	ANSI 300# Raised Face Threaded	1"	\$ 1,165	\$ 3,611
S1	ANSI 150# Raised Face Socket Weld	1"	\$ 832	\$ 2,252
S3	ANSI 300# Raised Face Socket Weld	1"	\$ 1,113	\$ 4,695
3.5" & 4" Plungers				
T1	ANSI 150# Raised Face Threaded	1.5 "	\$ 1,222	\$ 2,401
S1	ANSI 150# Raised Face Socket Weld	1.5 "	\$ 1,222	\$ 2,999
T3	ANSI 300# Raised Face Threaded	1.5 "	\$ 1,222	\$ 2,401
S3	ANSI 300# Raised Face Socket Weld	1.5 "	\$ 1,222	\$ 2,999
PVC Flanges	1 & 1.25" Plungers			List Price
	T1 ANSI 150# Flat Face Threaded	1/2"		\$ 721
	S1 ANSI 150# Flat Face Socket Weld	1/2"		\$ 917
1.5", 2" & 2.5" Plungers				
T1	ANSI 150# Flat Face Threaded	1"		\$ 753
S1	ANSI 150# Flat Face Socket Weld	1"		\$ 945
3.5" & 4" Plungers				
T1	ANSI 150# Flat Face Threaded	1 1/2 "		\$ 945
S1	ANSI 150# Flat Face Socket Weld	1 1/2"		\$ 1,198

GEAR OIL VALVE SETTING / SUCTION PRESSURE RANGE

Code	Description	Standard
ST	Standard (Painted Cover)	
H2	Mid Range Painted Cover	\$ -
H3	High Range (Painted Cover)	\$ 624
CT	Standard (Stainless Cover)	\$ 124
C2	Mid Range (Stainless Cover)	\$ 124
C3	High Range (Stainless Cover)	\$ 748
SF	Food Grade Oils(Painted Cover)	\$ 157

BASE

Code	Description	List Price
11	Simplex Base (STANDARD)	\$ -
22	Duplex Base	\$ -
33	Triplex Base	\$ -
44	Quadruplex Base	\$ 1,389
NN	None (multiplex units except first pump)	\$ -

RUPTURE DETECTION & DIAPHRAGM OPTIONS

		Plunger Diameter			
Code	Description	7/16, 9/16 & 5/8	1" & 1.25"	1.5", 2", 2.5"	3.5", 4"
NN	None (STANDARD)	Std	Std	Std	Std
C5	Rupture Detection with Gauge - metallic liquid ends only	\$ 3,334	\$ 3,334	\$ 3,888	\$ 4,029
SN	Rupt Detect w/ Gauge & NEMA 4 Switch - metal liq. ends only	\$ 3,944	\$ 3,944	\$ 5,000	\$ 5,277
SE	Rupt. Detect. w/ Gauge & NEMA 7 Switch - metal liq. ends only	\$ 5,416	\$ 5,416	\$ 6,388	\$ 6,945
DD	Double Diaphragm	NA	\$ 889	\$ 1,529	\$ 1,666
DP	Double Dia. with Conductivity Probe (see accessories for relay price)	NA	\$ 1,945	\$ 2,278	\$ 2,779
HT	High Temp Diaphragm no rupt detect (190 to 250 degree F max.)	NA	\$ 1,153	\$ 1,694	\$ 2,779

Continued on Next Page

BALL QUANTITY & CHECK OPTIONS		Plunger Diameter	316SS	PVC	Alloy 20	Alloy C22
Code	Description		List Price	List Price	List Price	List Price
11	Single Ball Checks	7/16, 9/16, 5/8	N/A	N/A	N/A	
		1" to 4"	Standard		Standard	Standard
		7/16, 9/16, 5/8	Standard		Standard	Standard
22	Double Ball Checks	1" to 2.5"	\$ 1,323	Standard	\$ 1,591	\$ 2,902
		3.5" & 4"	\$ 3,595		\$ 3,853	\$ 4,366
		7/16, 9/16, 5/8	N/A			
C1	Single Hardened Balls & Seats	1" to 2.5"	\$ 513			
		3.5" & 4"	\$ 872			
C2		7/16, 9/16, 5/8	N/A		N/A	
	Double Hardened Balls & Seats	1" to 2.5"	\$ 1,927			
		3.5" & 4"	\$ 4,110			
DR		7/16, 9/16, 5/8	\$ 1,927			
	Drag Reducer	1" to 4"	N/A			
SP		1", 1.25"	\$ 642		\$ 321	5/8" Ball
		1.5", 2", 2.5"			\$ 642	1" Ball
		3.5", 4"	Use "11"			1.5" Ball
						NOTE: Single ball spring loaded. Dimensions same as double ball check.

End of Section

Remember the RPM Kits

Milroyal B HPD RPM kits for pumps noted above.

NOTE: Diaphragm not included in kit. See prices below.

Metallic Pumps with double balls require 2 kits. All 7/16", 9/16" and 5/8" are double ball

Plunger Dia.	Liquid End Material	Kit Number	Price	Kit Contents
7/16", 9/16", 5/8", 1"	316 ss	RPM0011011	\$ 310	2 - 3/8" Balls, 2 Seats, 10 Gaskets, 1 Strainer
	Alloy 20	RPM0011015	\$ 1,174	4 - 5/8" Balls, 4 Seats, 15 Gaskets, 1 Strainer
	PVC	RPM0011052	\$ 944	2 - 5/8" Balls, 2 Seats, 10 Gaskets, 1 Strainer
1.25" & 1.5"	316 ss	RPM0011021	\$ 310	4 - 5/8" Balls, 4 Seats, 15 Gaskets, 1 Strainer
	Alloy 20	RPM0011025	\$ 929	4 - 1" Balls, 4 Seats, 15 Gaskets, 1 Strainer
	PVC	RPM0011052	\$ 944	2 - 1" Balls, 2 Seats, 10 Gaskets, 1 Strainer
1.25"	PVC	RPM0011062	\$ 828	4 - 1" Balls, 4 Seats, 15 Gaskets, 1 Strainer
	1.5"	316 ss	RPM0011031	2 - 1.5" Ball & Stem Assy, 2 Seats, 10 Gaskets, 1 Strainer, 2 Springs, 2 Ball Guides
		Alloy 20	RPM0011035	2 - 1.5" Balls, 4 Seats, 15 Gaskets, 1 Strainer
2" & 2.5"	PVC	RPM0011062	\$ 828	2 - 1.5" Balls, 4 Seats, 15 Gaskets, 1 Strainer
	3.5" & 4"	316 ss	RPM109	2 - 1.5" Balls, 4 Seats, 15 Gaskets, 1 Strainer
		Alloy 20	RPM110	2 - 1.5" Balls, 4 Seats, 15 Gaskets, 1 Strainer
		PVC	RPM0011072	2 - 1.5" Balls, 4 Seats, 15 Gaskets, 1 Strainer

Kits for Spring Loaded Ball Check (code SP)

Plunger Dia.	Liquid End Material	Kit Number	Price	Kit Contents
1" & 1.25"	316 ss	RPM468	\$ 688	2 - 5/8" Balls, 2 Seats, 6 Gaskets, 1 Strainer, 2 springs
	PVC	RPM469	\$ 623	2 - 1" Balls, 2 Seats, 6 Gaskets, 1 Strainer, 2 springs
1.5", 2", & 2.5"	316 ss	RPM470	\$ 688	2 - 1.5" Balls, 2 Seats, 6 Gaskets, 1 Strainer, 2 springs
	PVC	RPM471	\$ 636	2 - 1.5" Balls, 2 Seats, 6 Gaskets, 1 Strainer, 2 springs
3.5" & 4"	PVC	RPM472	\$ 1,224	2 - 1.5" Balls, 2 Seats, 6 Gaskets, 1 Strainer, 2 springs

Diaphragms

Plunger Diameter	Diaphragm Part #	List Price
7/16", 9/16", 5/8"	20325	\$ 318
1", 1.25"	2980074099	\$ 310
1.5", 2", 2.5"	2980072099	\$ 419
3.5", 4"	2980068099	\$ 643

Note regarding Discontinued Pumps and Models not Readily Available

Discontinued Pumps

Tubular Diaphragm

The tubular diaphragm pump was discontinued in the early 1990's. The HPD provides many of the same advantages but is also far more efficient and much easier to start and maintain.

Many tubular diaphragm pumps still exist in the field, but parts are harder to get and are more expensive due to very low usage and the age and conditions of forms for castings or molds for diaphragms.

Milton Roy Strongly encourages replacing tubular diaphragm pumps with HPD's at every opportunity. Special HPD pricing may be available to encourage change-over. Proof that the existing tubular pump has been taken out of service may be required, such as returning the head with the pump nameplate to Milton Roy. Contact your regional sales manager or application engineer with any specific opportunities.

Pumps not Readily Available

Disc Diaphragm

The Disc Diaphragm pump was mostly replaced by the HPD 1985. The HPD provides many of the same advantages but is also more efficient due to the elimination of the process side contour plate.

The Disc Diaphragm pump is still available, and can be priced from the pages at the end of this section. Its availability is estimated for small quantities, but the lead time can increase dramatically if available parts are used by a prior order.

In most cases, customers that require the Disc Diaphragm pump are directly replacing an installed unit and they are unwilling to change piping configuration. Each Disc Diaphragm application should be reviewed for possible replacement by an HPD. Revised check valve configurations for the HPD (vertical vs. horizontal orientation) may be available to make the retrofit possible. Check with your regional manager or application engineer.

MILROYAL B
PACKED PLUNGER LIQUID END
Capacity and Pressure Tables

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ENGLISH UNITS

Typical performance based on 1725 RPM, 3 Phase*, 60 hz motor. Derate flow rates at all other RPM speeds.

Plunger Dia.	Gear Ratio Code	SPM @ 1725 RPM	Max Capacity @ 2000 PSI	Maximum Flow and Discharge Pressure (over 200 PSI)										
				1/3 HP		1/2 HP		3/4 HP		1 HP		1-1/2 HP		
				GPH	GPH	PSIG	GPH	PSIG	GPH	PSIG	GPH	PSIG	GPH	PSIG
5/16" (8 mm)	8K	49	1.1	1.0	4470	0.75	7500	0.57	10000	—	—	—	—	—
	8J	70	1.6	1.5	3130	1.2	5870	1.0	7500	0.8	10000	—	—	—
	8H	95	2.2	2.2	2115	2.0	4470	1.5	7500	1.15	10000	—	—	—
	8G	113	2.7	2.7	1535	2.5	3635	2.3	6545	2.2	7500	1.9	10000	—
	8F	142	3.4	3.4	1155	3.3	3085	3.0	5210	2.8	6945	2.3	7500	1.5 10000
7/16" (11mm)	8K	49	2.2	2.2	2280	2.0	4280	1.9	6450	—	—	—	—	—
	8J	70	3.2	3.2	1595	3.1	2995	2.9	4790	2.7	6450	—	—	—
	8H	95	4.4	4.4	1030	4.4	2280	4.1	3860	3.9	5150	3.7	6450	—
	8G	113	5.3	5.3	740	5.3	1855	5.1	3245	4.9	4330	4.5	6450	—
	8F	142	6.6	6.6	525	6.6	1575	6.4	2655	6.2	3545	5.8	5315	5.6 6450
5/8" (16 mm)	8K	49	5	5.0	1120	5.0	2095	4.8	3175	—	—	—	—	—
	8J	70	7.1	7.1	755	7.1	1465	7.0	2350	6.8	3175	—	—	—
	8H	95	9.6	9.6	480	9.6	1080	9.6	1840	9.4	2450	9.2	3175	—
	8G	113	11.5	11.5	325	11.5	880	11.5	1545	11.5	2060	11.1	3090	11.0 3175
	8F	142	14.4	14.4	225	14.4	745	14.4	1300	14.4	1735	14.1	2605	13.8 3175
7/8" (22 mm)	8K	49	10.1	10.1	570	10.1	995	10.1	1555	—	—	—	—	—
	8J	70	14.4	14.4	345	14.4	720	14.4	1160	14.4	1555	—	—	—
	8H	95	19	19	205	19	530	19	910	19	1210	19	1555	—
	8G	113	23	23	120	23	415	23	765	23	1020	23	1555	—
	8F	142	29	29	80	29	340	29	660	29	885	29	1325	29 1555
1-1/8" (28 mm)	8K	49	17	17.0	335	17	580	17	915	—	—	—	—	—
	8J	70	24	24	190	24	420	24	655	24	915	—	—	—
	8H	95	33	33	100	33	285	33	530	33	710	33	915	—
	8G	113	39	39	50	39	220	39	445	39	595	39	915	—
	8F	142	50	—	—	50	175	50	380	50	505	50	755	50 915
1-1/2" (38 mm)	8K	49	30	30	160	30	315	30	505	—	—	—	—	—
	8J	70	44	44	90	44	220	44	340	44	505	—	—	—
	8H	95	59	—	—	59	150	59	280	59	375	59	505	—
	8G	113	70	—	—	70	110	70	235	70	315	70	505	—
	8F	142	88	—	—	88	80	88	200	88	265	88	400	88 505
1-3/4" (44 mm)	8K	49	41	41	110	41	220	41	360	—	—	—	—	—
	8J	70	59	59	50	59	155	59	250	59	360	—	—	—
	8H	95	80	—	—	80	90	80	200	80	265	80	360	—
	8G	113	95	—	—	95	70	95	160	95	215	95	360	—
	8F	142	120	—	—	120	45	120	125	120	170	120	255	120 360
2-1/2" (64 mm)	8K	49	85	—	—	85	100	85	165	—	—	—	—	—
	8J	70	121	—	—	121	60	121	105	121	165	—	—	—
	8H	95	164	—	—	—	—	164	80	164	105	164	165	—
	8G	113	195	—	—	—	—	195	55	195	75	195	135	195 165
	8F	142	245	—	—	—	—	245	50	245	65	245	105	245 165

NOTES

* For single phase motors, select the next higher horsepower motor.

Capacities listed are for discharge pressures as shown (Pres. derating). For applications over 10,000 psi, consult factory

Capacity derating shown is a decrease of 6.0% for each 1000 PSIG over 2000 PSIG.

MILROYAL B
PACKED PLUNGER LIQUID END
Capacity and Pressure Tables

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METRIC UNITS

Typical performance based on 1725 RPM, 3 Phase*, 60 hz motor. Derate flow rates at all other RPM speeds.

Plunger Dia.	Gear Ratio Code	SPM @ 1725 RPM	Max Capacity @ 137 bar	Maximum Flow and Discharge Pressure (over 14 bar)												
				.25 kW		.37 kW		.55 kW		.75 kW		1.1 kW		1.5 kW		
				LPH	LPH	BAR	LPH	BAR								
8 mm (5/16")	8K	49	4.2	3.8	308	2.8	517	2.2	690	—	—	—	—	—	—	
	8J	70	6.1	5.8	216	4.5	405	3.8	517	3.0	690	—	—	—	—	
	8H	95	8.3	8.3	146	7.6	308	5.7	517	4.4	690	—	—	—	—	
	8G	113	10.2	10.2	106	9.6	251	8.6	451	8.3	517	7.4	690	—	—	
	8F	142	12.9	12.9	80	12.4	213	11.4	359	10.6	479	8.7	517	8.6	690	
11mm (7/16")	8K	49	8.3	8.2	157	7.7	295	7.0	445	—	—	—	—	—	—	
	8J	70	12.1	12.1	110	11.7	207	10.9	330	10.2	445	—	—	—	—	
	8H	95	16.7	16.7	71	16.5	157	15.6	266	14.8	355	14.1	445	—	—	
	8G	113	20.1	20.1	51	20.1	128	19.2	224	18.4	299	16.9	445	—	—	
	8F	142	25.0	25.0	36	25.0	109	24.4	183	23.6	244	22.1	366	21.1	445	
16 mm (5/8")	8K	49	18.9	18.9	77	18.9	144	18.1	219	—	—	—	—	—	—	
	8J	70	26.9	26.9	52	26.9	101	26.5	162	25.8	219	—	—	—	—	
	8H	95	36.3	36.3	33	36.3	74	36.3	127	35.8	169	34.8	219	—	—	
	8G	113	43.5	43.5	22	43.5	61	43.5	107	43.4	142	41.9	213	41.7	219	
	8F	142	54.5	54.5	16	54.5	51	54.5	90	54.5	120	53.3	180	52.3	219	
22 mm (7/8")	8K	49	38	38	39	38	69	38	107	—	—	—	—	—	—	
	8J	70	54	54	24	54	50	54	80	54	107	—	—	—	—	
	8H	95	74	74	14	74	37	74	63	74	83	74	107	—	—	
	8G	113	87	87	8	87	29	87	53	87	70	87	107	—	—	
	8F	142	109	109	6	109	23	109	45	109	61	109	91	109	107	
28 mm (1-1/8")	8K	49	64	64	23	64	40	64	63	—	—	—	—	—	—	
	8J	70	90	90	13	90	29	90	45	90	63	—	—	—	—	
	8H	95	124	124	7	124	20	124	37	124	49	124	63	—	—	
	8G	113	147	147	3	147	15	147	31	147	41	147	63	—	—	
	8F	142	189	—	—	189	12	189	26	189	35	189	52	189	63	
38 mm (1-1/2")	8K	49	113	113	11	113	22	113	35	—	—	—	—	—	—	
	8J	70	166	166	6	166	15	166	23	166	35	—	—	—	—	
	8H	95	223	—	—	223	10	223	19	223	26	223	35	—	—	
	8G	113	265	—	—	265	8	265	16	265	22	265	35	—	—	
	8F	142	333	—	—	333	6	333	14	333	18	333	28	333	35	
44 mm (1-3/4")	8K	49	155	155	8	155	15	155	25	—	—	—	—	—	—	
	8J	70	223	223	3	223	11	223	17	223	25	—	—	—	—	
	8H	95	302	—	—	302	6	302	14	302	18	302	25	—	—	
	8G	113	359	—	—	359	5	359	11	359	15	359	25	—	—	
	8F	142	454	—	—	454	3	454	9	454	12	454	18	454	25	
64 mm (2-1/2")	8K	49	323	—	—	323	7	323	11	—	—	—	—	—	—	
	8J	70	458	—	—	458	4	458	7	458	11	—	—	—	—	
	8H	95	620	—	—	—	—	620	6	620	7	620	11	—	—	
	8G	113	738	—	—	—	—	738	4	738	5	738	9	738	11	
	8F	142	927	—	—	—	—	927	3	927	4	927	7	927	11	

NOTES

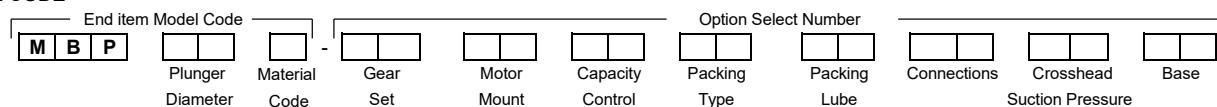
* For single phase motors, select the next higher horsepower motor.

Capacities listed are for discharge pressures as shown (Pres. derating). For applications over 690 BAR, consult factory Capacity derating shown is a decrease of 6.0% for each 69 BARG over 138 BARG.

**MILROYAL B PACKED PLUNGER
PRICING AND PRODUCT CODE SELECTION**

72

MODEL CODE



PLUNGER DIAMETER	316SS		Alloy 20	
	Code	Price	Code	Price
5/16" Diameter	0-5000 psi	051 \$ 13,430	055 \$ 20,355	
	Over 5000 psi	AF1 \$ 13,430	N/A	N/A
7/16" Diameter	0-5000 psi	071 \$ 13,430	075 \$ 20,355	
	Over 5000 psi	AH1 \$ 13,430	N/A	N/A
5/8" Diameter		101 \$ 13,430	105 \$ 20,355	
7/8" Diameter		141 \$ 13,430	145 \$ 24,443	
1-1/8" Diameter		181 \$ 13,686	185 \$ 22,904	
1-1/2" Diameter		241 \$ 13,949	245 \$ 24,360	
1-3/4" Diameter		281 \$ 13,949	285 \$ 24,360	
2-1/2" Diameter		401 \$ 16,504	405 \$ 28,342	

GEAR SET

Code	Description	1725 RPM	1450 RPM	1140 RPM	List Price
Double Shaft w/cover - for simplex pump and outboard pump of multiplex units					
8K	36:1 Ratio	49 spm	40 spm	32 spm	\$ -
8J	25:1 Ratio	70 spm	57 spm	45 spm	\$ -
8H	18.5:1 Ratio	95 spm	79 spm	61 spm	\$ -
8G	15.5:1 Ratio	113 spm	93 spm	73 spm	\$ -
8F	12.3:1 Ratio	142 spm	117 spm	92 spm	\$ -
Double Shaft w/o cover - for use with multiplex units only					
8E	36:1 Ratio	49 spm	40 spm	32 spm	\$ -
8D	25:1 Ratio	70 spm	57 spm	45 spm	\$ -
8C	18.5:1 Ratio	95 spm	79 spm	61 spm	\$ -
8B	15.5:1 Ratio	113 spm	93 spm	73 spm	\$ -
8A	12.3:1 Ratio	142 spm	117 spm	92 spm	\$ -

MOTOR MOUNTS

MOTOR MOUNTS (Less Motor or Select Motor from Accessory Section)

Code	Description	List Price
CB	NEMA Frame 56C	\$ -
CC	NEMA Frame 143TC, 145TC	\$ -
CD	NEMA Frame 182TC, 184TC	\$ -
CE	NEMA Frame 215TC, 213TC	\$ 1,028
	IEC Frame 71, B5 Flange	No Longer Available
MD	IEC Frame 80, B5 Flange	\$ -
ME	IEC Frame 90, B5 Flange	\$ -
MF	IEC Frame 100, B5 Flange	\$ 1,028
AA	None (use with multiplex units, except first pump)	\$ -

CAPACITY CONTROL

Code	Description	List Price
M4	Manual Micrometer Knob - 303ss (STANDARD)	Standard
AW	ACC NEMA 4 (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 4,639
AE	ACC Ex-Proof (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 5,632
PN	Pneumatic (3-15 psi)	\$ 8,546

PACKING / PLUNGER MATERIAL

Code	Description	Type	Plunger range	PSI Range*	Plunger Materials	Oiler Suggested?	
TM	Teflon Braid 5022 AFP	Compression - User adjust required	5/16" to 7/8"	0 to 1500	316ss or A 20 (Same as Liquid end)		\$ -
BC	Teflon Braid 5022 AFP		1-1/8" to 2.5"		Ceramic		
NM	Nitrile Fabric		1-1/8" to 2.5"		316 ss		
TR	Teflon	Spring load self adjust	5/16" to 7/8"	0 to 10,000*	Ceramic	Yes	\$3,082

*Note: Actual pump pressure capability limited per capacity/pressure tables on previous page.

Continued on Next Page

PACKING LUBE

Code	Description	List Price
GF	Grease Fitting	\$ -
IF	Internal Flush	\$ -
TF	Through Flush (5/16" through 1-3/4" plungers)	\$ 513
TF	Through Flush (2-1/2" plunger)	\$ 1,030
LR	Oiler (use with spring loaded packing)	\$ 1,377
NN	None	\$ -

CONNECTIONS

Code	Description	List Price	316SS	Alloy 20		
			Standard	Standard		
SE NPT Male (STANDARD)						
Metallic Flanges (5/16", 7/16" & 5/8" Plungers)						
T1	ANSI 150# Raised Face Threaded	\$ 501	\$ 1,361			
T3	ANSI 300# Raised Face Threaded	\$ 555	\$ 2,696			
T6	ANSI 600# Raised Face Threaded	\$ 832	\$ 3,056			
S1	ANSI 150# Raised Face Socket Weld	\$ 501	\$ 1,694			
S3	ANSI 300# Raised Face Socket Weld	\$ 555	\$ 3,443			
S6	ANSI 600# Raised Face Socket Weld	\$ 832	\$ 3,667			
S9	ANSI 1500# Raised Face Socket Weld	\$ 1,113	N/A			
Metallic Flanges (7/8" & 1-1/8" Plungers)						
T1	ANSI 150# Raised Face Threaded	\$ 832	\$ 1,805			
T3	ANSI 300# Raised Face Threaded	\$ 1,165	\$ 3,667			
T6	ANSI 600# Raised Face Threaded	\$ 1,569	\$ 4,029			
S1	ANSI 150# Raised Face Socket Weld	\$ 832	\$ 2,266			
S3	ANSI 300# Raised Face Socket Weld	\$ 1,165	\$ 4,724			
S6	ANSI 600# Raised Face Socket Weld	\$ 1,569	\$ 5,055			
Metallic Flanges (1-1/2" & 1-3/4" Plungers)						
T1	ANSI 150# Raised Face Threaded	\$ 1,222	\$ 2,013			
T3	ANSI 300# Raised Face Threaded	\$ 1,389	\$ 5,000			
S1	ANSI 150# Raised Face Socket Weld	\$ 1,222	\$ 2,530			
S3	ANSI 300# Raised Face Socket Weld	\$ 1,389	\$ 6,333			
Metallic Flanges (2-1/2" Plungers)						
T1	ANSI 150# Raised Face Threaded	\$ 1,521	\$ 4,861			
S1	ANSI 150# Raised Face Socket Weld	\$ 1,521	\$ 6,180			

CROSSHEAD MATERIAL / SUCTION PRESSURE RANGE

Code	Description	List Price
11	316SS Crosshead / Standard (Painted Cover)	Standard
HS	316SS Crosshead / Mid Range Painted Cover	\$ -
HH	316SS Crosshead / High Range (Painted Cover)	\$ 624
C1	316SS Crosshead / Standard (Stainless Cover)	\$ 124
CS	316SS Crosshead / Mid Range (Stainless Cover)	\$ 124
CH	316SS Crosshead / High Range (Stainless Cover)	\$ 748

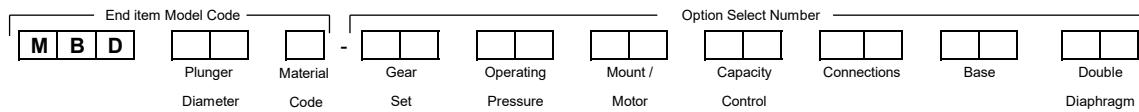
BASE

Code	Description	List Price
11	Simplex Base (STANDARD)	\$ -
22	Duplex Base	\$ -
33	Triplex Base	\$ -
44	Quadruplex Base	\$ 1,389
NN	None (multiplex units except first pump)	\$ -

End of Section

NOTE: Customers buying duplicate pumps should be encouraged to buy HPD. Check with market, sales manager, or regional manager for special "trade-in" pricing.

MODEL CODE



PLUNGER DIAMETER	316SS		PVC		Alloy 20	
	Code	Price	Code	Price	Code	Price
7/16" Diameter	071	\$23,097	072	\$29,640	075	\$34,469
5/8" Diameter	101	\$23,097	102	\$29,640	105	\$34,469
7/8" Diameter	141	\$23,097	142	\$29,640	145	\$34,469
1-1/8" Diameter	181	\$23,940	182	\$30,483	185	\$36,609
1-1/2" Diameter	241	\$23,940	242	\$30,483	245	\$36,609
1-3/4" Diameter	281	\$23,940	282	\$30,483	285	\$36,609
2-1/2" Diameter	401	\$26,456	402	\$32,999	405	\$40,885

GEAR SET

Code	Description	1725 RPM	1450 RPM	1140 RPM	List Price
Double Shaft w/cover - for simplex pump and outboard pump of multiplex units					
8K	36:1 Ratio	49 spm	40 spm	32 spm	\$ -
8J	25:1 Ratio	70 spm	57 spm	45 spm	\$ -
8H	18.5:1 Ratio	95 spm	79 spm	61 spm	\$ -
8G	15.5:1 Ratio	113 spm	93 spm	73 spm	\$ -
8F	12.3:1 Ratio	142 spm	117 spm	92 spm	\$ -
Double Shaft w/o cover - for use with multiplex units only					
8E	36:1 Ratio	49 spm	40 spm	32 spm	\$ -
8D	25:1 Ratio	70 spm	57 spm	45 spm	\$ -
8C	18.5:1 Ratio	95 spm	79 spm	61 spm	\$ -
8B	15.5:1 Ratio	113 spm	93 spm	73 spm	\$ -
8A	12.3:1 Ratio	142 spm	117 spm	92 spm	\$ -

OPERATING PRESSURE

Code	Description	Maximum Relief Valve Setting	List Price
7/16", 5/8", 7/8" Plungers			
PB	0-600 psig	690 psig	\$ -
PC	601-1250 psig	1430 psig	\$ -
PD	1251-3500 psig	4025 psig	\$ -
1-1/8" Plunger			
PB	0-500 psig	575 psig	\$ -
PC	501-1000 psig	1150 psig	\$ -
1-1/2", 1-3/4" Plungers			
PB	0-150 psig	175 psig	\$ -
PC	151-500 psig	575 psig	\$ -
2-1/2" Plunger			
PB	0-165 psig	190 psig	\$ -

MOTOR MOUNTS

MOTOR MOUNTS (Less Motor or Select Motor from Accessory Section)

Code	Description	List Price
CB	NEMA Frame 56C	\$ -
	IEC Frame 71, B5 Flange	No Longer Available
MD	IEC Frame 80, B5 Flange	\$ -
ME	IEC Frame 90, B5 Flange	\$ -
AA	Multiplex Units (except first pump of multiplex)	\$ -

**MILROYAL B DISC DIAPHRAGM
PRICING AND PRODUCT CODE SELECTION**

75

CAPACITY CONTROL

Code	Description		List Price
M4	Manual Micrometer Knob - Aluminum (STANDARD)	\$ -	
AW	ACC NEMA 4 (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 4,639	
AE	ACC Ex-Proof (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 5,632	
PN	Pneumatic (3-15 psi)	\$ 8,546	

CONNECTIONS

Code	Description	316SS List Price	PVC List Price	Alloy 20 List Price
SE	NPT (STANDARD)	\$ -	\$ -	\$ -
Metallic Flanges (7/16" & 5/8" Plungers)				
T3	ANSI 300#RF Threaded	\$ 555	N/A	Consult Factory
T6	ANSI 600#RF Threaded	\$ 832	N/A	Consult Factory
S3	ANSI 300#RF Socket Welded	\$ 555	N/A	Consult Factory
S6	ANSI 600#RF Socket Welded	\$ 832	N/A	Consult Factory
Metallic Flanges (7/8" & 1-1/8" Plungers)				
T3	ANSI 300#RF Threaded	\$ 555	N/A	Consult Factory
T6	ANSI 600#RF Threaded	\$ 832	N/A	Consult Factory
S3	ANSI 300#RF Socket Welded	\$ 555	N/A	Consult Factory
S6	ANSI 600#RF Socket Welded	\$ 832	N/A	Consult Factory
Metallic Flanges (1-1/2" & 1-3/4" Plungers)				
T3	ANSI 300#RF Threaded	\$ 2,110	N/A	Consult Factory
S3	ANSI 300#RF Socket Welded	\$ 2,751	N/A	Consult Factory
Metallic Flanges (2-1/2" Plungers)				
T1	ANSI 150#RF Threaded	Consult Factory	N/A	Consult Factory
T3	ANSI 300#RF Threaded	Consult Factory	N/A	Consult Factory
S1	ANSI 150#RF Socket Welded	Consult Factory	N/A	Consult Factory
S3	ANSI 300#RF Socket Welded	Consult Factory	N/A	Consult Factory
PVC Flanges (7/16" & 5/8" Plungers)				
T1	ANSI 150#FF Threaded	N/A	Consult Factory	N/A
S1	ANSI 150#FF Socket Welded	N/A	Consult Factory	N/A
PVC Flanges (7/8" & 1-1/8" Plungers)				
T1	ANSI 150#FF Threaded	N/A	Consult Factory	N/A
S1	ANSI 150#FF Socket Welded	N/A	Consult Factory	N/A
PVC Flanges (1-1/2" & 1-3/4" Plungers)				
T1	ANSI 150#FF Threaded	N/A	Consult Factory	N/A
S1	ANSI 150#FF Socket Welded	N/A	Consult Factory	N/A
PVC Flanges (2-1/2" Plungers)				
T1	ANSI 150#FF Threaded	N/A	Consult Factory	N/A
S1	ANSI 150#FF Socket Welded	N/A	Consult Factory	N/A

BASE

Code	Description		List Price
11	Simplex Base (STANDARD)	\$ -	
22	Duplex Base	\$ -	
33	Triplex Base	\$ -	
44	Quadruplex Base	\$ 1,389	
NN	None (multiplex units except first pump)	\$ -	

DOUBLE DIAPHRAGM

Code	Description		List Price
NN	None (STANDARD)	\$ -	
DD	Double Diaphragm		Consult Factory
DP	Double Diaphragm with Conductivity Probe (switch is extra)		

Pricing Milroyal B Drives or Liquid Ends Separately

When a customer requires just the complete liquid end, contact factory.

Milroyal B Drive only: \$ 7,214.00

Please note that loose liquid ends and drives are not tested.

ENGLISH UNITS

Typical performance based on 1725 RPM, 3 Phase, 60 hz motor. Derate flow rates at all other RPM speeds.

Plunger Dia.	Gear Ratio Code	SPM @ 1725 RPM	Max Capacity @ 200 PSI	Max Flow and Pressure (over 200 PSI)								
				1 HP		1 1/2HP		2 HP		3 HP		
				GPH	GPH	PSIG	GPH	PSIG	GPH	PSIG	GPH	PSIG
3/4" (19 mm)	8K	43	13	10.0	1600	9.5	1600	—	—	—	—	—
	8J	71	21.5	18.5	1600	17.0	1600	16.0	1600	—	—	—
	8H	85	25.7	23.0	1400	21.5	1600	20.5	1600	20.0	1600	—
	8G	113	34.0	32.0	1000	30.0	1550	28.0	1600	26.0	1600	—
	8F	140	42.0	40.0	825	38.0	1250	37.0	1600	33.5	1600	33.0
7/8" (22 mm)	8K	43	17.5	14.8	2000	13.5	2900	13.4	3025	—	—	—
	8J	71	29.0	26.0	1200	24.5	1800	23.0	2400	22.5	3025	—
	8H	85	35.0	31.5	1000	31.0	1500	29.0	2000	27.0	3025	—
	8G	113	46.0	44.5	750	43.0	1150	41.5	1500	37.0	2300	36.0
	8F	140	57.0	56.0	600	55.0	900	53.5	1250	48.5	1850	45.0
1" (25 mm)	8K	43	23	22.0	745	20.5	1545	19.26	2235	17.8	3025	—
	8J	71	38	37.2	465	35.6	1000	33.90	1550	30.6	2635	29.4
	8H	85	46	45.6	315	43.9	770	42.2	1240	38.8	2150	35.6
	8G	113	61	60.8	240	59.1	580	57.4	935	54.1	1620	47.8
	8F	140	76	76	165	74.1	510	72.0	855	68.0	1520	60.2
1-1/4" (32 mm)	8K	43	37	36.2	480	34.8	950	33.4	1420	31.5	2060	—
	8J	71	60	59.5	295	57.9	640	56.2	1000	52.9	1680	51.7
	8H	85	72	72.0	200	70.3	490	68.6	790	65.3	1370	62.0
	8G	113	97	97.0	150	95.7	370	94.0	590	90.6	1030	83.8
	8F	140	120	120.0	110	118.8	325	116.7	545	112.6	970	104.3
1-1/2" (38 mm)	8K	43	53	52.4	335	51.0	660	49.7	990	48.1	1350	—
	8J	71	88	88.0	205	86.3	445	84.5	695	81.2	1170	79.9
	8H	85	105	105.0	140	103.8	345	102.1	550	98.7	950	95.3
	8G	113	140	140.0	105	139.3	260	137.6	415	134.2	720	127.7
	8F	140	173	173.0	75	172.6	230	170.5	380	166.4	675	158.1
2" (51 mm)	8K	43	97	97.0	190	95.7	370	94.2	560	92.8	745	—
	8J	71	151	151.0	115	150.4	250	148.7	390	145.4	660	144.4
	8H	85	181	181	80	181	190	179	310	176	540	173
	8G	113	240	240	60	240	145	239	235	236	400	230
	8F	140	299	299	40	299	130	299	215	295	380	286
2-1/2" (64 mm)	8K	43	145	145.0	120	145	240	143	350	142	500	—
	8J	71	240	240	70	240	160	239	250	236	420	235
	8H	85	288	288	50	288	120	288	200	285	340	282
	8G	113	383	383	40	383	90	383	150	381	260	377
	8F	140	475	—	—	475	75	475	122	475	211	469
3" (76 mm)	8K	43	212	215	120	214	170	212	250	210	350	—
	8J	71	352	354	90	353	150	352	200	350	310	350
	8H	85	423	425	85	424	130	423	175	422	260	420
	8G	113	562	565	60	565	90	564	130	562	190	560
	8F	140	678	—	—	700	75	700	105	700	155	698
3-1/2" (89 mm)	8K	43	297	297	60	297	120	297	185	296	235	—
	8J	71	490	—	—	490	80	490	125	489	220	489
	8H	85	587	—	—	587	60	587	100	587	175	586
	8G	113	780	—	—	—	—	780	75	780	130	780
	8F	140	968	—	—	—	—	968	65	968	100	968
5" (127 mm)			573									
			947									
			1132									
			1500									
			1545									
5-3/4" (146 mm)			770									
			1270									
			1520									
			2025									
			2080									

**This application range is
now handled by the
Primeroyal N frame.**

NOTES * Capacities listed are for discharge pressures as shown (Pres. derated).

* Capacity derating shown is a decrease of 0.8 % for each 100 PSIG over 200 PSIG.

* Plastic liquid ends limited to 150 PSIG @ 68 °F & are linearly derated to 65 PSIG @ 140 °F.

* When adding a rupture detection system, derate the capacity by 5%.

METRIC UNITS

Typical performance based on 1725 RPM, 3 Phase*, 60 hz motor. Derate flow rates at all other RPM speeds.

Plunger Dia.	Gear Ratio Code	SPM @ 1725 RPM	Max Capacity @ 14 BAR	Max Flow and Pressure (over 14 BAR)								
				0.75 kW		1.1 kW		1.5 kW		2.2 kW		
				LPH	LPH	BAR	LPH	BAR	LPH	BAR	LPH	BAR
19 mm (3/4")	8K	43	49	38	110	36	110	—	—	—	—	—
	8J	71	81	70	110	64	110	61	110	—	—	—
	8H	85	97	87	97	81	110	78	110	76	110	—
	8G	113	129	121	69	114	107	106	110	98	110	—
	8F	140	159	151	57	144	86	140	110	127	110	125
22 mm (7/8")	8K	43	66	56	138	51	200	51	209	—	—	—
	8J	71	110	98	83	93	124	87	166	85	209	—
	8H	85	132	119	69	117	103	110	138	102	209	—
	8G	113	174	168	52	163	79	157	103	140	159	136
	8F	140	216	212	41	208	62	202	86	184	128	170
25 mm (1")	8K	43	87	83	51	78	107	73	154	68	209	—
	8J	71	144	141	32	135	69	129	107	116	182	112
	8H	85	174	173	22	166	53	160	86	147	148	135
	8G	113	231	230	17	224	40	218	64	205	112	182
	8F	140	288	288	11	281	35	273	59	258	105	229
32 mm (1-1/4")	8K	43	140	137	33	132	66	127	98	120	142	—
	8J	71	227	225	20	219	44	213	69	201	116	196
	8H	85	273	273	14	266	34	260	54	247	94	235
	8G	113	367	367	10	362	26	356	41	343	71	318
	8F	140	454	454	8	450	22	442	38	427	67	396
38 mm (1-1/2")	8K	43	201	186	77	193	46	188	68	182	93	—
	8J	71	333	319	52	327	31	320	48	308	81	303
	8H	85	397	397	10	393	24	387	38	374	66	361
	8G	113	530	530	7	528	18	521	29	508	50	484
	8F	140	655	655	5	653	16	646	26	630	47	599
51 mm (2")	8K	43	367	367	13	362	26	357	39	351	51	—
	8J	71	572	572	8	569	17	563	27	551	46	547
	8H	85	685	685	6	685	13	679	21	667	37	656
	8G	113	908	908	4	908	10	906	16	894	28	870
	8F	140	1132	1132	3	1132	9	1132	15	1116	26	1084
64 mm (2-1/2")	8K	43	549	549	8	547	17	542	24	536	34	—
	8J	71	908	908	5	908	11	905	17	893	29	889
	8H	85	1090	1090	3	1090	8	1090	14	1078	23	1067
	8G	113	1450	1450	3	1450	6	1450	10	1443	18	1429
	8F	140	1798	—	—	1798	5	1798	8	1798	15	1777
76 mm (3")	8K	43	802	813.8	8	810	12	802	17	795	24	—
	8J	71	1332	1340	6	1336	10	1332	14	1325	21	1325
	8H	85	1601	1609	6	1605	9	1601	12	1597	18	1590
	8G	113	2127	2139	4	2139	6	2135	9	2127	13	2120
	8F	140	2566	0	0	2650	5	2650	7	2650	11	2642
89 mm (3-1/2")	8K	43	1124	1124	4	1124	8	1124	13	1121	16	—
	8J	71	1855	—	—	1855	6	1855	9	1852	15	1850
	8H	85	2222	—	—	2222	4	2222	7	2222	12	2219
	8G	113	2952	—	—	—	—	2952	5	2952	9	2952
	8F	140	3664	—	—	—	—	3664	4	3664	7	3664
127 mm (5")			2169									
			3584									
			4285									
			5678									
			5848									
146 mm (5-3/4")			2914									
			4807									
			5753									
			7665									
			7873									

**This application range is
now handled by the
Primeroyal N frame.**

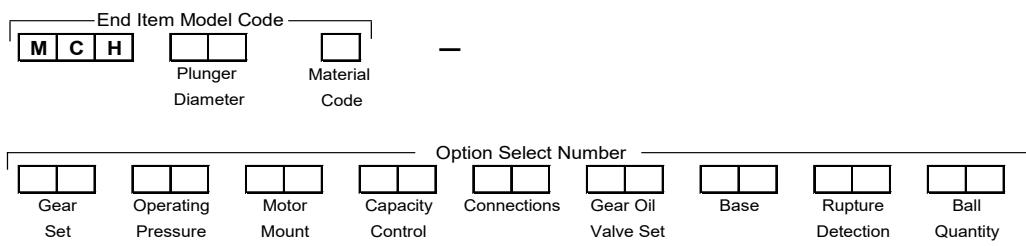
NOTES Capacities listed are for discharge pressures as shown (Pres. derated).

Capacity derating shown is a decrease of 0.8 % for each 7 BAR over 14 BAR.

Plastic liquid ends are limited to 10 Bar @ 20 °C and are linearly derated to 4 Bar @ 60 °C.

When adding a rupture detection system, derate the capacity by 5%.

MODEL CODE



PLUNGER DIAMETER & MATERIAL CODE

316SS		PVC		Alloy 20		Alloy C22	
Code	Price	Code	Price	Code	Price	Code	Price
3/4" Diameter (0-1600 psig)	\$ 24,909	121	\$ 24,909	N/A	N/A	125	\$ 27,066
7/8" Diameter (1601-3025 psig)	\$ 29,520	BD1	\$ 29,520	N/A	N/A	BD5	\$ 32,725
1" Diameter (0-1600 psig)	\$ 24,909	161	\$ 24,909	N/A	N/A	165	\$ 27,066
1" Diameter (1601-3025 psig)	\$ 29,520	BG1	\$ 29,520	N/A	N/A	BG5	\$ 32,725
1-1/4" Diameter (0-1000 psig)	\$ 28,207	201	\$ 28,207	N/A	N/A	205	\$ 31,852
1-1/4" Diameter (1001-2060 psig)	\$ 32,989	CA1	\$ 32,989	N/A	N/A	CA5	\$ 36,521
1-1/2" Diameter (0-1000 psig)	\$ 28,207	241	\$ 28,207	N/A	N/A	245	\$ 31,852
1-1/2" Diameter (1001-1350 psig)	\$ 32,989	CE1	\$ 32,989	N/A	N/A	CE5	\$ 36,521
2" Diameter	\$ 28,207	321	\$ 28,207	N/A	N/A	325	\$ 31,852
2-1/2" Diameter	\$ 30,978	401	\$ 30,978	402	\$ 30,978	405	\$ 33,603
3" Diameter	\$ 30,978	481	\$ 30,978	482	\$ 30,978	485	\$ 33,603
3-1/2" Diameter	\$ 30,978	561	\$ 30,978	562	\$ 30,978	565	\$ 33,603
5" Diameter		Use Primeroyal N for applications in this range. For direct field replacements, contact factory for availability					
5-3/4" Diameter							

GEAR SET

Code	Description	1725 RPM	1450 RPM	1140 RPM	List Price
Double Shaft w/cover - for simplex pump and outboard pump of multiplex units					
8K	40:1 Ratio	43 spm	35 spm	28 spm	\$ -
8J	24.5:1 Ratio	71 spm	57 spm	45 spm	\$ -
8H	20.5:1 Ratio	85 spm	71 spm	57 spm	\$ -
8G	15.5:1 Ratio	113 spm	93 spm	73 spm	\$ -
8F	12.5:1 Ratio	140 spm	114 spm	92 spm	\$ -
8M *	9.6:1 Ratio	180 spm	157 spm	123 spm	\$ -
Double Shaft w/o cover - for use with multiplex units only					
8E	40:1 Ratio	43 spm	35 spm	28 spm	\$ -
8D	24.5:1 Ratio	71 spm	57 spm	45 spm	\$ -
8C	20.5:1 Ratio	85 spm	71 spm	57 spm	\$ -
8B	15.5:1 Ratio	113 spm	93 spm	73 spm	\$ -
8A	12.5:1 Ratio	140 spm	114 spm	92 spm	\$ -
8L *	9.6:6:1 Ratio	180 spm	157 spm	123 spm	\$ -

* Before selecting gear codes 8M or 8L, contact application engineering for suitability

OPERATING PRESSURE

Code	Description	Maximum Relief Valve Setting
.75", 1", 1-1/4" Plungers		
PB	30-400 psig	460 psig
PC	401-750 psig	860 psig
PD	751-1550 psig	1780 psig
PE	1551-3025 psig	3500 psig
1-1/2", 2" Plungers		
PB	30-220 psig	250 psig
PC	221-450 psig	515 psig
PD	451-750 psig	860 psig
PE	751-1060 psig	1220 psig
PF	1061-1350 psig	1555 psig
2-1/2", 3", 3-1/2", 5", 5-3/4" Plungers		
PB	30-220 psig	250 psig
PC	221-340 psig	390 psig
PD	341-500 psig	575 psig

Continued on Next Page

MOTOR MOUNTS

MOTOR MOUNTS (Less Motor or Select Motor from Accessory Section)

Code	Description	List Price
CB	NEMA Frame 56C	\$ -
CC	NEMA Frame 143TC, 145TC	\$ -
CD	NEMA Frame 182TC, 184TC	\$ -
CE	NEMA Frame 213TC, 215TC	\$ -
ME	IEC Frame 90, B5 Flange	\$ -
MF	IEC Frame 100/112, B5 Flange	\$ -
MG	IEC Frame 132, B5 Flange	\$ -
AA	None (use with multiplex units, except first pump)	\$ -

CAPACITY CONTROL

Code	Description	List Price
M1	Manual Micrometer Knob - 316SS (STANDARD)	Standard
AW	ACC NEMA 4 (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 4,639
AE	ACC Ex-Proof (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 5,632
PN	Pneumatic (3-15 psi)	\$ 12,240

CONNECTIONS

Code	Description	316SS		Alloy 20	Alloy C22
		SE	NPT	List Price	List Price
Flanges (.75", 1" Plunger)					
T1	ANSI 150# Raised Face Threaded	1/2"	\$ 501	\$ 1,361	\$ 2,530
T3	ANSI 300# Raised Face Threaded	1/2"	\$ 555	\$ 2,666	N/A
T6	ANSI 600# Raised Face Threaded	1/2"	\$ 832	\$ 2,942	N/A
S1	ANSI 150# Raised Face Socket Weld	1/2"	\$ 501	\$ 1,666	\$ 3,611
S3	ANSI 300# Raised Face Socket Weld	1/2"	\$ 555	\$ 3,334	N/A
S6	ANSI 600# Raised Face Socket Weld	1/2"	\$ 832	\$ 3,611	N/A
S9	ANSI 1500# Raised Face Socket Weld	1/2"	\$ 1,113	N/A	N/A
Flanges (1-1/4", 1-1/2", 2" Plungers)					
T1	ANSI 150# Raised Face Threaded	1"	\$ 832	\$ 1,805	N/A
T3	ANSI 300# Raised Face Threaded	1"	\$ 1,113	\$ 3,611	N/A
T6	ANSI 600# Raised Face Threaded	1"	\$ 1,222	\$ 3,972	N/A
S1	ANSI 150# Raised Face Socket Weld	1"	\$ 832	\$ 2,290	N/A
S3	ANSI 300# Raised Face Socket Weld	1"	\$ 1,113	\$ 4,695	N/A
S6	ANSI 600# Raised Face Socket Weld	1"	\$ 1,222	\$ 4,956	N/A
Flanges (2-1/2", 3", 3-1/2" Plungers)					
T1	ANSI 150# Raised Face Threaded	1 1/2"	\$ 1,222	\$ 2,401	N/A
T3	ANSI 300# Raised Face Threaded	1 1/2"	\$ 1,529	\$ 7,723	N/A
S1	ANSI 150# Raised Face Socket Weld	1 1/2"	\$ 1,222	\$ 2,999	N/A
S3	ANSI 300# Raised Face Socket Weld	1 1/2"	\$ 1,529	\$ 9,651	N/A

PVC	PVC	
	SE	NPT
Flanges (2-1/2", 3", 3-1/2" Plungers)		
T1	ANSI 150# Flat Face Threaded	1 1/2" \$ 945
S1	ANSI 150# Flat Face Socket Weld	1 1/2" \$ 1,222

Continued on Next Page

GEAR OIL VALVE SETTING / SUCTION PRESSURE RANGES

Code	Description			
ST	Standard (Painted Cover)			Standard
H2	Mid Range (Painted Cover)			\$ -
H3	High Range (Painted Cover)			\$ 673
H7	Maximum Range (Painted Cover)			\$ 3,710
CT	Standard (Stainless Cover)			\$ 155
C2	Mid Range (Stainless Cover)			\$ 155
C3	High Range (Stainless Cover)			\$ 827
C7	Maximum Range (Stainless Cover)			\$ 3,865
SF	Food Grade Oils (Painted Cover)			\$ 760

BASE

Code	Description		List Price
11	Simplex Base (STANDARD)		\$ -
22	Duplex Base		\$ -
33	Triplex Base		\$ -
NN	None (multiplex units except first pump)		\$ -

RUPTURE DETECTION and DIAPHRAGM OPTIONS

Code Description		Plunger Diameter		
NN None (STANDARD)		.75", .875", 1"	1.25", 1.5", 2"	2.5", 3", 3.5"
Pressure Type Rupture Detection - Metallic Heads Only		Standard	Standard	Standard
C5 with Gauge Only	200 psi	\$ 4,724	\$ 6,889	\$ 9,403
SN with Gauge & NEMA 4 Switch	Max	\$ 5,362	\$ 7,499	\$ 10,249
SE with Gauge & NEMA 7 Switch		\$ 6,085	\$ 8,222	\$ 11,097
Double diaphragm with spacer ring & Intermediate fluid				
DD Double Diaphragm Only		\$ 3,020	\$ 3,293	\$ 3,562
Double Dia w/ Conductivity Probe				
DP Relay supplied separately		\$ 5,501	\$ 5,728	\$ 5,998
See accessories for relay price				
High Temperature Diaphragm Option				
HT High Temp Diaphragm no rtp detect. (190 to 250 degrees max.)		\$ 2,020	\$ 3,231	\$ 6,059

BALL QUANTITY

Code	Description	Plunger	316SS	PVC	Alloy 20	Alloy C22
		Diameter	List Price	List Price	List Price	List Price
11	Single Ball Checks	3/4" to 3.5"	Standard	N/A	Standard	Standard
22	Double Ball Checks	3/4" to 2"	\$ 1,323	Standard	\$ 1,591	\$ 2,902
		2.5", 3", 3.5"	\$ 3,595		\$ 3,853	\$ 4,366
C1	Single Hardened Balls & Seats	3/4" to 2"	\$ 513	N/A	N/A	N/A
		2.5", 3", 3.5"	\$ 872			
C2	Double Hardened Balls & Seats	3/4" to 2"	\$ 1,927	N/A	N/A	N/A
		2.5", 3", 3.5"	\$ 4,110			
SP	Spring loaded suction and discharge for high viscosity and high specific gravity applications.	7/8", 1"	\$ 642	N/A	N/A	5/8" Ball
		1.25", 1.5", 2"				1" Ball
		2.5", 3", 3.5"	Use "11"			1.5" Ball

End of Section

Remember the RPM Kits

Milroyal C HPD RPM kits for pumps noted above

NOTE: Diaphragms not included in kit - see below.

Metallic liquid ends with double balls require 2 kits.

Plunger Dia.	Liquid End Material	Kit Number	Price
.75", .875", 1" & 1.25"	316 ss	RPM0011021	\$ 310
	Alloy 20	RPM0011025	\$ 929
1.5" & 2"	316 ss	RPM0011031	\$ 408
	Alloy 20	RPM0011035	\$ 1,076
2.5", 3", & 3.5"	316 ss	RPM109	\$ 3,740
	Alloy 20	RPM110	\$ 5,992
	PVC	RPM0011072	\$ 2,148
5" & 5.75"	316 ss	RPM197	\$ 8,637
	PVC	RPM013	\$ 3,911

Kit Contents
2 - 5/8" Balls, 2 Seats, 10 Gaskets, 1 Strainer
2 - 1" Balls, 2 Seats, 10 Gaskets, 1 Strainer
2 - 1.5" Ball & Stem Assy, 2 Seats, 10 Gaskets, 1 Strainer, 2 Springs, 2 Ball Guides
4 - 1.5" Balls, 4 Seats, 15 Gaskets, 1 Strainer
2 - 2.75" PTFE Balls, 2 Seats, 6 Gaskets, 1 Strainer

Kits for Spring Loaded Ball Check (code SP)

Plunger Dia.	Liquid End Material	Kit Number	Price
7/8", 1"	316 ss	RPM468	\$ 688
1.25", 1.5", 2"	316 ss	RPM470	\$ 688
2.5", 3", 3.5 "	PVC	RPM472	\$ 1,224

Kit Contents
2 - 5/8" Balls, 2 Seats, 6 Gaskets, 1 Strainer, 2 springs
2 - 1" Balls, 2 Seats, 6 Gaskets, 1 Strainer, 2 springs
2 - 1.5" Balls, 2 Seats, 6 Gaskets, 1 Strainer, 2 springs



Diaphragms

Plunger Dia.	Diaphragm Part Number	List Price
.75", .875", & 1"	2980074099	\$ 310
1.25", 1.5" & 2"	2980072099	\$ 419
2.5", 3", & 3.5"	2980068099	\$ 643
5" & 5.75"	2980078099	\$ 1,606

2	Poppet Guide
2	Poppet
2	Valve Stem
2	Seat Rings
2	Seat Insert
2	Seat
2	Gaskets 2250081075
2	Gaskets 2250081175
2	Clamping Collar
2	Shoulder Stops
2	O-ring - PTFE
1	Strainer

Note regarding Discontinued Pumps and Models not Readily Available

Discontinued Pumps

Tubular Diaphragm

The tubular diaphragm pump was discontinued in the early 1990's. The HPD provides many of the same advantages and is also far more efficient and much easier to start and maintain.

Many tubular diaphragm pumps still exist in the field, but parts are harder to get and are more expensive due to very low usage and the age and conditions of forms for castings or molds for diaphragms.

Milton Roy Strongly encourages replacing tubular diaphragm pumps with HPD's at every opportunity. Special HPD pricing may be available to encourage change-over. Proof that the existing tubular pump has been taken out of service may be required, such as returning the head with the pump nameplate to Milton Roy. Contact your regional sales manager or application engineer with any specific opportunities.

Pumps not Readily Available

Disc Diaphragm

The Disc Diaphragm pump was mostly replaced by the HPD 1985. The HPD provides many of the same advantages and is also more efficient due to the elimination of the process side contour plate.

The Disc Diaphragm pump is still available, and can be priced from the pages at the end of this section. Its availability is estimated for small quantities, but the lead time can increase dramatically if available parts are used by a prior order.

In most cases, customers that require the Disc Diaphragm pump are directly replacing an installed unit and they are unwilling to change piping configuration. Each Disc Diaphragm application should be reviewed for possible replacement by an HPD. Revised check valve configurations for the HPD (vertical vs. horizontal orientation) may be available to make the retrofit possible. Check with your regional manager or application engineer.

ENGLISH UNITS

Typical performance based on 1725 RPM, 3 Phase*, 60 hz motor. Derate flow rates at all other RPM speeds.

Plunger Dia.	Gear Ratio Code	SPM @ 1725 RPM	Max Capacity @ 2000 PSI	Max Flow and Pressure								
				1 HP		1 1/2HP		2 HP		3 HP		
				GPH	GPH	PSIG	GPH	PSIG	GPH	PSIG	GPH	PSIG
7/16" (11 mm)	8K	43	4	3.5	5500	3.2	7500	2.88	10000	—	—	
	8J	71	6.7	6.3	3630	5.4	7400	5.41	7500	4.8	10000	
	8H	85	7.9	7.7	2875	6.9	5680	6.4	7500	5.7	10000	
	8G	113	10.5	10.4	2150	9.7	4275	9.0	6100	8.5	7500	
	8F	140	13.2	13.2	1545	12.3	4000	11.4	5920	10.7	7500	
5/8" (16mm)	8K	43	8.6	8.4	2700	7.6	5190	6.9	7500	—	—	
	8J	71	14.5	14.5	1920	13.7	3545	12.8	5370	11.8	7390	
	8H	85	17.2	17.2	1210	16.7	2780	15.8	4300	14.0	7300	
	8G	113	22.8	22.8	910	22.7	2090	21.8	3230	20.0	5495	
	8F	140	28.7	28.7	725	28.7	1840	27.8	2940	25.5	5190	
7/8" (22 mm)	8K	43	17.7	17.7	1320	17.4	2550	16.6	3800	16.4	4050	
	8J	71	29.1	29.1	850	29.1	1750	28.4	2660	27.1	3990	
	8H	85	35	35.0	570	35.0	1350	34.9	2110	33.0	3625	
	8G	113	46.5	46.5	430	46.5	1015	46.5	1585	45.3	2725	
	8F	140	57.4	57.4	330	57.4	890	57.4	1400	56.3	2540	
1 1/8" (28 mm)	8K	43	29.9	29.9	775	29.9	1510	29.6	2260	29.5	2415	
	8J	71	49.7	49.7	490	49.7	1030	49.7	1575	49.0	2380	
	8H	85	59.1	59	325	59	795	59	1250	59	2150	
	8G	113	78.5	79	240	79	595	79	940	79	1620	
	8F	140	97.8	98	180	98	515	98	845	98	1500	
1-1/2" (38 mm)	8K	43	53	53.0	420	53	845	53	1270	53	1360	
	8J	71	88	88	260	88	570	88	885	88	1340	
	8H	85	105	105	160	105	430	105	690	105	1210	
	8G	113	140	140	120	140	325	140	520	140	910	
	8F	140	173	173	85	173	275	173	465	173	840	
2" (51 mm)	8K	43	94	94	220	94	450	94	725	94	745	
	8J	71	156	156	130	156	300	156	475	156	660	
	8H	85	186	186	80	186	225	186	370	186	660	
	8G	113	248	248	60	248	170	248	280	248	495	
	8F	140	308	308	35	308	140	308	245	308	455	
2 1/2" (64 mm)	8K	43	146	146	130	146	280	146	435	146	470	
	8J	71	244	244	75	244	185	244	350	244	460	
	8H	85	292	292	40	292	135	292	225	292	415	
	8G	113	389	—	—	389	100	389	170	389	310	
3-1/2" (89 mm)	8K	43	285	—	—	285	130	285	210	285	230	
	8J	71	475	—	—	475	85	475	165	475	225	
	8H	85	565	—	—	565.0	55	565	105	565	200	
	8G	113	755	—	—	755.0	40	755	80	755	150	
4 7/16" (113 mm)	8K	43	465	—	—	465	80	465	120	465	140	
	8J	71	770	—	—	770	45	770	80	770	135	
	8H	85	923	—	—	—	—	923	55	923	115	
	8G	113	1225	—	—	—	—	—	1225	85	1225	

NOTES * For single phase motors, select the next higher horsepower motor.

Capacities listed are for discharge pressures as shown (Pres. derating).

For applications over 10,000 psi, consult factory.

Capacity derating shown is a decrease of 3.5% for each 1000 PSIG over 2000 PSIG.

Capacities list above are estimates. Actual performance will vary based on packing and system conditions.

METRIC UNITS

Typical performance based on 1725 RPM, 3 Phase*, 60 hz motor. Derate flow rates at all other RPM speeds.

Plunger Dia.	Gear Ratio Code	SPM @ 1725 RPM	Max Capacity @ 137 BAR	Max Flow and Pressure				Maximum Flow and Discharge Pressure			
				0.75 kW		1.1 kW		1.5 kW		2.2 kW	
		LPH	LPH	BAR	LPH	BAR	LPH	BAR	LPH	BAR	
11 mm (7/16")	8K	43	15.1	13.3	379	12.2	517	10.9	690	—	—
	8J	71	25.4	23.9	250	20.6	510	20.5	517	18.3	690
	8H	85	29.9	29.0	198	26.1	392	24.1	517	21.5	690
	8G	113	39.7	39.5	148	36.6	295	34.0	421	32.1	517
	8F	140	50.0	50.0	107	46.5	276	43.1	408	40.3	517
16mm (5/8")	8K	43	32.6	31.8	186	28.9	358	26.3	517	—	—
	8J	71	54.9	54.9	132	51.9	244	48.4	370	44.5	510
	8H	85	65.1	65.1	83	63.3	192	59.9	297	53.0	503
	8G	113	86.3	86.3	63	86.0	144	82.6	223	75.7	379
	8F	140	108.6	108.6	50	108.6	127	105.1	203	96.5	358
22 mm (7/8")	8K	43	67.0	67.0	91	65.7	176	62.8	262	62.2	279
	8J	71	110	110	59	110	121	108	183	102	275
	8H	85	132	132	39	132	93	132	146	125	250
	8G	113	176	176	30	176	70	176	109	172	188
	8F	140	217	217	23	217	61	217	97	213	175
28 mm (1 1/8")	8K	43	113	113	53	113	104	112	156	112	167
	8J	71	188	188	34	188	71	188	109	186	164
	8H	85	224	224	22	224	55	224	86	223	148
	8G	113	297	297	17	297	41	297	65	297	112
	8F	140	370	370	12	370	36	370	58	370	103
38 mm (1-1/2")	8K	43	201	201	29	201	58	201	88	201	94
	8J	71	333	333	18	333	39	333	61	333	92
	8H	85	397	397	11	397	30	397	48	397	83
	8G	113	530	530	8	530	22	530	36	530	63
	8F	140	655	655	6	655	19	655	32	655	58
51 mm (2")	8K	43	356	356	15	356	31	356	50	356	51
	8J	71	590	590	9	590	21	590	33	590	46
	8H	85	704	704	6	704	16	704	26	704	46
	8G	113	939	939	4	939	12	939	19	939	34
	8F	140	1166	1166	2	1166	10	1166	17	1166	31
64 mm (2 1/2")	8K	43	553	553	9	553	19	553	30	553	32
	8J	71	924	924	5	924	13	924	24	924	32
	8H	85	1105	1105	3	1105	9	1105	16	1105	29
	8G	113	1472	—	—	1472	7	1472	12	1472	21
89 mm (3-1/2")	8K	43	1079	—	—	1079	9	1079	14	1079	16
	8J	71	1798	—	—	1798	6	1798	11	1798	16
	8H	85	2139	—	—	2139	4	2139	7	2139	14
	8G	113	2858	—	—	2858	3	2858	6	2858	10
113 mm (4 7/16")	8K	43	1760	—	—	1760	6	1760	8	1760	10
	8J	71	2914	—	—	2914	3	2914	6	2914	9
	8H	85	3494	—	—	—	—	3494	4	3494	8
	8G	113	4637	—	—	—	—	—	4637	6	4637

NOTES * For single phase motors, select the next higher kW motor.

Capacities listed are for discharge pressures as shown (Pres. derating).

Capacity derating shown is a decrease of 3.5% for each 69 BAR over 137 BAR.

Capacities list above are estimates. Actual performance will vary based on packing and system conditions.

For applications over 690 BAR, consult factory.

**MILROYAL C PACKED PLUNGER
PRICING AND PRODUCT CODE SELECTION**

85

MODEL CODE

End item Model Code			Option Select Number									
M	C	P	Plunger	Material	Gear	Mount / Motor	Capacity Control	Packing Type	Packing Lube	Connections	Crosshead	Base Suction Pressure
Diameter	Code	Set										

PLUNGER DIAMETER

	316SS		Alloy 20	
	Code	Price	Code	Price
7/16" Diameter (0-5000 psig)	071	\$ 26,820	075	\$ 34,047
7/16" Diameter (over 5000 psig)	AH1	\$ 26,820	AH5	N/A
5/8" Diameter (0-5000 psig)	101	\$ 26,820	105	\$ 34,047
5/8" Diameter (over 5000 psig)	BA1	\$ 26,820	BA5	N/A
7/8" Diameter	141	\$ 27,173	145	\$ 34,470
1-1/8" Diameter	181	\$ 27,173	185	\$ 34,470
1-1/2" Diameter	241	\$ 30,187	245	N/A
2" Diameter	321	\$ 31,631	325	N/A
2-1/2" Diameter	401	\$ 32,290	405	N/A
3-1/2" Diameter	561	\$ 39,583	565	N/A
4-7/16" Diameter	711	\$ 47,058	715	N/A

GEAR SET

Code	Description	1725 RPM	1450 RPM	1140 RPM	List Price
Double Shaft w/cover - for simplex pump and outboard pump of multiplex units					
8K	40:1 Ratio	43 spm	35 spm	28 spm	\$ -
8J	24.5:1 Ratio	71 spm	57 spm	45 spm	\$ -
8H	20.5:1 Ratio	85 spm	71 spm	57 spm	\$ -
8G	15.5:1 Ratio	113 spm	93 spm	73 spm	\$ -
8F	12.5:1 Ratio	140 spm	114 spm	92 spm	\$ -
Double Shaft w/o cover - for use with multiplex units only					
8E	40:1 Ratio	43 spm	35 spm	28 spm	\$ -
8D	24.5:1 Ratio	71 spm	57 spm	45 spm	\$ -
8C	20.5:1 Ratio	85 spm	71 spm	57 spm	\$ -
8B	15.5:1 Ratio	113 spm	93 spm	73 spm	\$ -
8A	12.5:1 Ratio	140 spm	114 spm	92 spm	\$ -

MOTOR MOUNTS

MOTOR MOUNTS (Less Motor or Select Motor from Accessory Section)

Code	Description	List Price
CB	NEMA Frame 56C	\$ -
CC	NEMA Frame 143TC, 145TC	\$ -
CD	NEMA Frame 182TC, 184TC	\$ -
CE	NEMA Frame 213TC, 215TC	\$ -
ME	IEC Frame 90, B5 Flange	\$ -
MF	IEC Frame 100/112, B5 Flange	\$ -
MG	IEC Frame 132, B5 Flange	\$ -
AA	None (use with multiplex units, except first pump)	\$ -

CAPACITY CONTROL

Code	Description	List Price
M1	Manual Micrometer Knob - 316SS (STANDARD)	Standard
AW	ACC NEMA 4 (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 4,639
AE	ACC Ex-Proof (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/F	\$ 5,632
PN	Pneumatic (3-15 psi)	\$ 12,240

PACKING / PLUNGER MATERIAL

Code	Description	Type	Plunger range	PSI Range*	Plunger Materials	Oiler Suggested?
TM	Teflon Braid 5022 AFP	Compression User adjust required	7/16" to 1-1/8"	0 to 1500	316ss or A 20 (Same as Liquid end)	No
BC	Teflon Braid 5022 AFP		1.5" to 4 7/16"		Ceramic	
NM	Nitrile Fabric		V-Ring		316 ss	
TR	Teflon	Spring load self adjust	7/16" to 1-1/8"	0 to 10,000*	Ceramic	Yes
						\$ 3,235

*Note: Actual pump pressure capability limited per capacity/pressure tables on previous page.

Continued on Next Page

PACKING LUBE

Code	Description	List Price
GF	Grease Fitting	\$ -
IF	Internal Flush	\$ 513
TF	Through Flush	\$ 1,030
LR	Oiler (use with spring loaded packing)	\$ 1,377
NN	None	\$ -

CONNECTIONS

Code	Description	Flange Size	316SS	Alloy 20		
			List Price	List Price		
SE NPT Male (STANDARD)						
Metallic Flanges (7/16" & 5/8" Plungers) Not Available on AH or BA liquid end codes						
T1	ANSI 150# Raised Face Threaded		\$ 501	\$ 1,557		
T3	ANSI 300# Raised Face Threaded	3/4"	\$ 555	\$ 3,056		
T6	ANSI 600# Raised Face Threaded		\$ 832	\$ 3,251		
S1	ANSI 150# Raised Face Socket Weld		\$ 501	\$ 1,945		
S3	ANSI 300# Raised Face Socket Weld	3/4"	\$ 555	\$ 3,831		
S6	ANSI 600# Raised Face Socket Weld		\$ 832	\$ 4,067		
S9	ANSI 1500# Raised Face Socket Weld		\$ 1,113	N/A		
Metallic Flanges (7/8" & 1-1/8" Plungers)						
T1	ANSI 150# Raised Face Threaded		\$ 832	\$ 2,013		
T3	ANSI 300# Raised Face Threaded	1.25"	\$ 1,165	\$ 5,000		
T6	ANSI 600# Raised Face Threaded		\$ 1,666	\$ 5,208		
S1	ANSI 150# Raised Face Socket Weld		\$ 832	\$ 2,530		
S3	ANSI 300# Raised Face Socket Weld	1.25"	\$ 1,165	\$ 6,333		
S6	ANSI 600# Raised Face Socket Weld		\$ 1,666	\$ 6,501		
Metallic Flanges (1-1/2" & 2" Plungers)						
T1	ANSI 150# Raised Face Threaded	1.5"	\$ 1,113	N/A		
T3	ANSI 300# Raised Face Threaded		\$ 1,945	N/A		
T6	ANSI 600# Raised Face Threaded	1.5"	\$ 2,363	N/A		
T9	ANSI 900# Raised Face Threaded		\$ 2,363	N/A		
S1	ANSI 150# Raised Face Socket Weld	1.5"	\$ 1,113	N/A		
S3	ANSI 300# Raised Face Socket Weld		\$ 1,945	N/A		
Metallic Flanges (2-1/2" Plungers)						
T1	ANSI 150# Raised Face Threaded	2.5"	\$ 1,945	N/A		
S1	ANSI 150# Raised Face Socket Weld	2.5"	\$ 2,498	N/A		
Metallic Flanges (3-1/2" & 4-7/16" Plungers)						
T1	ANSI 150# Raised Face Threaded	3"	\$ 4,166	N/A		
S1	ANSI 150# Raised Face Socket Weld	3"	\$ 4,166	N/A		

CROSSHEAD MATERIAL / SUCTION PRESSURE RANGE

Code	Description	See Data Book Section ES 6 (Gold Pages) for description of suction pressure ranges	Standard
11	316SS Crosshead / Standard (Painted Cover)		\$ -
HS	316SS Crosshead / Mid Range (Painted Cover)		\$ -
HH	316SS Crosshead / High Range (Painted Cover)		\$ 673
HM	316SS Crosshead / Maximum Range (Painted Cover)		\$ 3,710
C1	316SS Crosshead / Standard (Stainless Cover)		\$ 155
CS	Mid Range (Stainless Cover)		\$ 155
CH	High Range (Stainless Cover)		\$ 827
CM	Maximum Range (Stainless Cover)		\$ 3,865

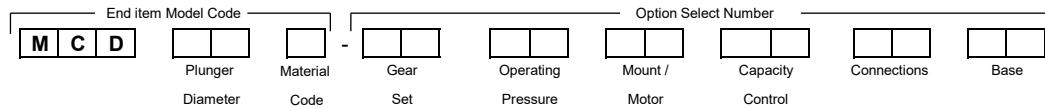
BASE

Code	Description	List Price
11	Simplex Base (STANDARD)	\$ -
22	Duplex Base	\$ -
33	Triplex Base	\$ -
NN	None (multiplex units except first pump)	\$ -

END of Section

NOTE: Customers buying duplicate pumps should be encouraged to buy HPD. Check with market, sales manager, or regional manager for special price to replace existing disc diaphragm pumps.

MODEL CODE



PLUNGER DIAMETER	316SS			Alloy 20		
	Code	Price	Code	Price	Code	Price
5/8" Diameter	101	\$ 46,748	105	\$ 64,510		
7/8" Diameter	141	\$ 46,748	145	\$ 64,510		
1-1/8" Diameter	181	\$ 53,290	185	\$ 72,036		
1-1/2" Diameter	241	\$ 53,290	245	\$ 72,036		
2" Diameter	321	\$ 57,878	325	\$ 86,015		
2-1/2" Diameter	401	\$ 58,768	405	\$ 87,088		
3-1/2" Diameter	561	\$ 71,234	565	\$ 101,068		

GEAR SET

Code	Description	1725 RPM	1450 RPM	1140 RPM	List Price
Double Shaft w/cover - for simplex pump and outboard pump of multiplex units					
8K	40:1 Ratio	43 spm	35 spm	28 spm	\$ -
8J	24.5:1 Ratio	71 spm	57 spm	45 spm	\$ -
8H	20.5:1 Ratio	85 spm	71 spm	57 spm	\$ -
8G	15.5:1 Ratio	113 spm	93 spm	73 spm	\$ -
8F	12.5:1 Ratio	140 spm	114 spm	92 spm	\$ -
Double Shaft w/o cover - for use with multiplex units only					
8E	40:1 Ratio	43 spm	35 spm	28 spm	\$ -
8D	24.5:1 Ratio	71 spm	57 spm	45 spm	\$ -
8C	20.5:1 Ratio	85 spm	71 spm	57 spm	\$ -
8B	15.5:1 Ratio	113 spm	93 spm	73 spm	\$ -
8A	12.5:1 Ratio	140 spm	114 spm	92 spm	\$ -

OPERATING PRESSURE

Code	Description	Maximum Relief Valve Setting	List Price
5/8", 7/8", 1-1/8" Plungers			
PB	30-1000 psig	1150 psig	\$ -
PC	1001-2500 psig	2875 psig	\$ -
PD	2501-3500 psig	4025 psig	\$ -
1-1/2" Plunger			
PB	30-600 psig	690 psig	\$ -
PC	601-1350 psig	1550 psig	\$ -
2" Plunger			
PB	30-745 psig	850 psig	\$ -
2-1/2" Plunger			
PB	30-135 psig	155 psig	\$ -
PC	136-195 psig	220 psig	\$ -
PD	196-250 psig	285 psig	\$ -
PE	251-300 psig	345 psig	\$ -

MOTOR MOUNTS

MOTOR MOUNTS (Less Motor or Select Motor from Section 4100)

Code	Description	List Price
CB	NEMA Frame 56C	\$ -
MC	IEC Frame 71, B5 Flange	\$ -
MD	IEC Frame 80, B5 Flange	\$ -
ME	IEC Frame 90, B5 Flange	\$ -
AA	Multiplex Units (except first pump of multiplex)	\$ -

CAPACITY CONTROL

Code	Description	316SS	Alloy 20	List Price
M1	Manual Micrometer Knob - 316SS (STANDARD)	\$ -	\$ -	\$ -
AW	ACC NEMA 4 (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/°F	\$ 4,639	\$ 4,639	\$ 4,639
AE	ACC Ex-Proof (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/°F	\$ 5,632	\$ 5,632	\$ 5,632
PN	Pneumatic (3-15 psi)	\$ 12,240	\$ 12,240	\$ 12,240

CONNECTIONS

Code	Description	316SS List Price	Alloy 20 List Price
SE	NPT (STANDARD)	\$ -	\$ -
Metallic Flanges (5/8" & 7/8" Plungers)			
T6	ANSI 600#RF Threaded	\$ 2,363	\$ 5,277
S6	ANSI 600#RF Socket Welded	\$ 2,918	\$ 6,667
Metallic Flanges (1-1/8" & 1-1/2" Plungers)			
T6	ANSI 600#RF Threaded	\$ 2,640	\$ 8,333
S6	ANSI 600#RF Socket Welded	\$ 3,332	\$ 10,277
Metallic Flanges (2" & 2-1/2" Plungers)			
T3	ANSI 300#RF Threaded	\$ 7,499	\$ 9,286
T6	ANSI 600#RF Threaded	\$ 7,640	\$ 9,722
S3	ANSI 300#RF Socket Welded	\$ 9,167	\$ 21,110
S6	ANSI 600#RF Socket Welded	\$ 9,443	\$ 21,942
Metallic Flanges (3-1/2" Plunger)			
T1	ANSI 150#RF Threaded	\$ 3,195	\$ 6,667
S1	ANSI 150#RF Socket Welded	\$ 4,029	\$ 8,888

BASE

Code	Description	316SS List Price
11	Simplex Base (STANDARD)	\$ -
22	Duplex Base	\$ -
33	Triplex Base	\$ -
NN	None (multiplex units except first pump)	\$ -

Pricing Milroyal C Drives or Liquid Ends Separately

Please note that loose liquid ends and drives are not tested.

Milroyal C Drives: \$ 21,175.00

When a customer requires just the complete liquid end, contact factory.

Please note that loose liquid ends or drives are not tested.

PRIMERoyal® SERIES METERING PUMPS

Introduced in the 1990's, the Primeroyal[®] Series has proven itself as a high quality process metering pump. The Primeroyal Series adds significant depth to the product offering, and enables you to address applications that were beyond your reach - UNTIL NOW!

Primeroyals are manufactured in three global locations:

- Milton Roy Ivyland - Primeroyal Frames H, K, L, and N
- Milton Roy Europe (Pont St. Pierre, France) - All Frames
- Milton Roy's China Facility - All Frames

The design and product structure is consistent from all three sites.

PRIMERoyal® SERIES METERING PUMPS

Introduced in the 1990's, the Primeroyal[®] Series has proven itself as a high quality process metering pump. The Primeroyal Series adds significant depth to the product offering, and enables you to address applications that were beyond your reach - UNTIL NOW!

US customers who need frames R or X will receive pumps either from France or China depending upon their wishes. The prices in this book are based on frames R and X coming from France.

PRIMEROWY® and PRIMEROWAL® - Product Code and Selection

Introduction

The PrimeRoyal Series serves applications in a wide variety of critical processes. Every customer and application in these processes requires specific pump features that results in a long list of options. The product code has been structured to accomodate as many options as practical while making it as simple as possible for distributors and customers to select what they need. The features are separated into groups that identify the hardware required to manufacture the pump, as well as instructions for assembly, testing, and preparing the pump per the customer's requirements.

The first half of the code identifies the hardware required to make the pump:

Drive	Liquid End	Material	Plunger	Gear	Multiplex	Area / ATEX	ATEX Probe	Special	Check Valves	Wetted O-Ring Material	Rupture Detection	Suction Orientation	Suction Connection	Suction Type/Rate	Disch Orientation	Disch Connection	Disch Type/Rate	LE Temp Options	Jackets	LE Surface Finish	LE Advanced Options	Capacity Control	Housing Material	Environment	Oil	Motor Power	Coupling	Motor Mount	Motor Orientation
PN	H1	1	-	125	B	1	S	N	Z	NS	3	N	V	2	M	V	2	M	N	N	N	M1	N	N	T	1	G	V	
Primary Code Basic Attributes & Performance				Area Class	Option	Liquid End Options												Drive Options											
Nameplate Model #																													

The second half of the code provides instructions and BOM additions for manufacturing. Eventually this code will be behind the scenes:

Hz/Motor Type/Poles	Motor Descrip	Paint System	Paint Color	Motor Paint	Cap Control Paint	Base	Oil Cooler	Pump # within multiplex	Manifold	RV Setting BAR	Doc/Nameplate Units	Language	Production Test	Hydro Test	Running Test	MASP Test	Vib/Noise/Temp Test	Material Cert	PMI Test	Weld Test
6N6	MM	N	S	S	S	N	N	1	N	300	DN1	EN	T2	H0	R0	MAN	VTN	N	PMN	N
BOM Additions										Routing/Work Order Instructions										

Once completed, the on-line Configure/Price/Quote tool will automatically complete most fields. For manual selection, the standard options are shown in bold print to make basic pump selection easier.

Selection Tips:

- Be sure to watch the required motor RPM in the selection tables. Ratings include motors operating at 960 and 1440 RPM @ 50 hz, and 1150 and 1725 RPM @ 60 hz.
- Primeroyal HPD heads are made in 5 varieties of design with various combinations of cast vs. barstock components and other options that enable increased pressure capabilities. The first part of the primeroyal code will identify the head design from H1 to H5.
- H1 heads are available in 316L ss, PVC, PVDF, and Alloy 20.
The standard offering for H2, H3, H4, and H5 heads is 316L ss only.

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PHH										
Material and Plunger Code										
Plunger Diameter	316 L						PVC		PVDF	
	H1 Low Pressure		H3 High Pressure		H6 High Pressure		Code	Price	Code	Price
	Code	Price	Code	Price	Code	Price	Code	Price	Code	Price
12 mm					61-12	\$ 8,700				
14 mm					61-14	\$ 8,700				
16 mm					61-16	\$ 8,700				
20 mm	11-20	\$ 8,104	31-20	\$ 13,716			12-20	\$ 7,948	17-20	\$ 10,750
22 mm	11-22	\$ 8,104					12-22	\$ 7,948	17-22	\$ 10,750
25 mm	11-25	\$ 8,104					12-25	\$ 7,948	17-25	\$ 10,750
28 mm	11-28	\$ 8,665					12-28	\$ 7,948	17-28	\$ 10,750
32 mm	11-32	\$ 8,665					12-32	\$ 7,948	17-32	\$ 10,750
36 mm	11-36	\$ 8,665					12-36	\$ 7,948	17-36	\$ 10,750
40 mm	11-40	\$ 8,665					12-40	\$ 7,948	17-40	\$ 10,750
45 mm	11-45	\$ 11,455					12-45	\$ 10,131	17-45	\$ 15,761
50 mm	11-50	\$ 11,455					12-50	\$ 10,131	17-50	\$ 15,761
55 mm	11-55	\$ 11,455					12-55	\$ 10,131	17-55	\$ 15,761
60 mm	11-60	\$ 11,658					12-60	\$ 10,131	17-60	\$ 15,761
63 mm	11-63	\$ 11,658					12-63	\$ 10,131	17-63	\$ 15,761
70 mm	11-70	\$ 11,658					12-70	\$ 10,131	17-70	\$ 15,761
Alloy 20										
12 mm					65-12	Consult us				
14 mm					65-14	Consult us				
16 mm					65-16	Consult us				
20 mm	15-20	\$ 9,320	35-20	Consult us						
22 mm	15-22	\$ 9,320								
25 mm	15-25	\$ 9,320								
28 mm	15-28	\$ 9,965								
32 mm	15-32	\$ 9,965								
40 mm	15-40	\$ 9,965								
45 mm	15-45	\$ 13,173								
50 mm	15-50	\$ 13,173								
55 mm	15-55	\$ 13,173								
60 mm	15-60	\$ 13,407								
63 mm	15-63	\$ 13,407								
70 mm	15-70	\$ 13,407								

Gear Ratio			Stroke frequency (spm)				Price	
			50 Hz		60 Hz		960 rpm	1440 rpm
			960 rpm	1440 rpm	1152 rpm	1728 rpm		
C	25:1 Gear Ratio		38	57	46	68	\$ -	\$ -
E	14.5:1 Gear Ratio		NA	99	NA	119	\$ -	\$ -
F	12.5:1 Gear Ratio		NA	115	NA	138	\$ -	\$ -
G	10:1 Gear Ratio		NA	144	NA	173	\$ -	\$ -
H	8:1 Gear Ratio	180 spm : only metallic head	120	180	144	N/A	\$ -	\$ -

Liquid End Option Selection

Check Valve										Price					
										Plunger diameter					
										H6 Ø 12, 14, 16 mm	H3 Ø 20 mm P > 96 bar	H1 Ø 20 mm P ≤ 96 bar	H1 Ø 22 mm	H1 Ø 25, 28, 32, 36, 40 mm	H1 Ø 45, 50, 55, 60, 63, 70 mm
316 L Liquid Ends															
NS	Single Ball		—	—	—	—			Standard		Standard				
ND	Double Ball		Standard		Standard	Standard	\$	333	\$ 450						
LS	Single Hard 440C Ball and Seat						\$	553	\$ 682						
LD	Double Hard 440C Ball and Seat	\$ 312	Standard	\$ 312	\$ 312	\$ 312	\$	833	\$ 1,010						
KS	Slurry - 440C Single Ball & Seat w/larger clearance			—	—	—	\$	627	\$ 748						
KD	Slurry - 440C Double Ball & Seat w/more play			\$ 1,093	\$ 1,093	\$ 1,093	\$	1,021	\$ 1,178						
VS	Viscous Liquids spring loaded single ball			—	—	—	\$	295	\$ 393						
Alloy 20															
NS	Single Ball		—	—	—	—			Standard		Standard				
ND	Double Ball		Standard		Standard	Standard	\$	450	\$ 608						
LS	Single Hard 440C Ball and Seat						\$	747	\$ 921						
LD	Double Hard 440C Ball and Seat	\$ 421	Standard	\$ 421	\$ 421	\$ 421	\$	1,125	\$ 1,364						
KS	Slurry - 440C Single Ball & Seat w/larger clearance			—	—	—	\$	846	\$ 1,010						
KD	Slurry - 440C Double Ball & Seat w/more play			\$ 1,476	\$ 1,476	\$ 1,476	\$	1,378	\$ 1,590						
VS	Viscous Liquids spring loaded single ball			—	—	—	\$	398	\$ 531						
PVC/PVDF Liquid Ends															
NS	Single Ball						Standard								

PRIMERoyal® H - PTFE HPD type diaphragm liquid ends

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Diaphragm Rupture Detection Systems		Price			
	Description	Plunger Diameter sizes	12, 14, 16 mm	20,22,25,28,32, 36,40 mm	45,50,55,60,63,70 mm
N	None (STANDARD)	Standard	Standard	Standard	
1	C6 Pressure Switch NEMA 4	\$ 3,820	\$ 3,820	\$ 4,878	
2	C8 Explosion proof switch	\$ 5,599	\$ 5,599	\$ 6,657	
3	C5 Gauge	\$ 2,774	\$ 2,774	\$ 3,832	
4	C9 Gauge and NEMA 4 Switch	\$ 4,343	\$ 4,343	\$ 5,401	
5	C8 Gauge & Explosion proof switch	\$ 6,122	\$ 6,122	\$ 7,180	
9	CT Manifold and connection for Pressure transmitter (transmitter is not included, but it	\$ 3,820	\$ 3,820	\$ 4,878	

Suction Connection Type and Rating		Price		
VM	Male	Standard on metallic	Standard on metallic	Standard
VM	Male	Standard on Plastic	Standard on Plastic	Standard
ANSI Flanges 316L ss		1/2" All plungers	1" All plungers	
HA	ANSI - Class 150	\$ 772	\$ 772	1,006
HB	ANSI - Class 300	\$ 816	\$ 816	1,006
HC	ANSI - Class 600	\$ 957	\$ 957	1,226
HD	ANSI - Class 1,500 - RF/SF	\$ 1,092	\$ 1,092	1,582
VA	ANSI - Class 150	\$ 505	\$ 505	705
VB	ANSI - Class 300	\$ 549	\$ 549	705
VC	ANSI - Class 600	\$ 690	\$ 690	925
VD	ANSI - Class 1,500 - RF/SF	\$ 825	\$ 825	1,281
ANSI Flanges Alloy 20		1/2" All plungers	1" All plungers	
HA	ANSI - Class 150	\$ 807	\$ 807	1,071
HB	ANSI - Class 300	\$ 858	\$ 858	1,071
HC	ANSI - Class 600	\$ 1,020	\$ 1,020	1,324
HD	ANSI - Class 1,500 - RF/SF	\$ 1,175	\$ 1,175	1,733
VA	ANSI - Class 150	\$ 540	\$ 540	770
VB	ANSI - Class 300	\$ 591	\$ 591	770
VC	ANSI - Class 600	\$ 753	\$ 753	1,023
VD	ANSI - Class 1,500 - RF/SF	\$ 908	\$ 908	1,432
ANSI Flanges PVC		1/2"	1"	
V1	Vertical Threaded 150# Flat Face	—	—	—
H1	Horizontal Threaded 150# Flat Face	—	—	—
VA	Vertical 150# Flat Face Socket Weld	\$ 75	\$ 75	41
HA	Horizontal 150# Flat Face Socket Weld	—	—	51

Discharge Connection Type and Rating		Price		
VM	Male	Standard on metallic	Standard on metallic	Standard
VM	Male	Standard on Plastic	Standard on Plastic	Standard
ANSI Flanges 316L ss		1/2" All plungers	1" All plungers	
HA	ANSI - Class 150	\$ 772	\$ 772	1,006
HB	ANSI - Class 300	\$ 816	\$ 816	1,006
HC	ANSI - Class 600	\$ 957	\$ 957	1,226
HD	ANSI - Class 1,500 - RF/SF	\$ 1,092	\$ 1,092	1,582
VA	ANSI - Class 150	\$ 505	\$ 505	705
VB	ANSI - Class 300	\$ 549	\$ 549	705
VC	ANSI - Class 600	\$ 690	\$ 690	925
VD	ANSI - Class 1,500 - RF/SF	\$ 825	\$ 825	1,281
ANSI Flanges Alloy 20		1/2" All plungers	1" All plungers	
HA	ANSI - Class 150	\$ 807	\$ 807	1,071
HB	ANSI - Class 300	\$ 858	\$ 858	1,071
HC	ANSI - Class 600	\$ 1,020	\$ 1,020	1,324
HD	ANSI - Class 1,500 - RF/SF	\$ 1,175	\$ 1,175	1,733
VA	ANSI - Class 150	\$ 540	\$ 540	770
VB	ANSI - Class 300	\$ 591	\$ 591	770
VC	ANSI - Class 600	\$ 753	\$ 753	1,023
VD	ANSI - Class 1,500 - RF/SF	\$ 908	\$ 908	1,432
ANSI Flanges PVC		1/2"	1"	
V1	Vertical Threaded 150# Flat Face	—	—	—
H1	Horizontal Threaded 150# Flat Face	—	—	—
VA	Vertical 150# Flat Face Socket Weld	\$ 75	\$ 75	41
HA	Horizontal 150# Flat Face Socket Weld	—	—	51

Continue to next page

Capacity Control Options		Price
		Standard
M1	Adjustable stroke with locked stroke (API 675) - Standard Option	\$ 4,418
AW	Actuator Capacity Controller (ACC) IP68; 4-20mA Input/Output analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz, -40°C/+70°C	\$ 5,364
AE	Actuator Capacity Controller (ACC) Ex-proof; 4-20mA Input/Output analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz IP68 Ex d II B T4, -40° to +70°C	\$ 5,302
HW	Actuator Capacity Controller (ACC) IP68; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz	\$ 6,248
HE	Actuator Capacity Controller (ACC) Exproof; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase	

Housing Material Options		Price
		Standard
N	Standard - FGL cast iron, down to -20°C/-4°F	
2	FGS ductile cast iron, down to -40°C/-40°F	Consult us

Oil Options		Price
		Standard
N	Standa	
3	Low temp (down to -40°C/-40°F) - Ambient temperature	\$ 261
4	Food grade	\$ 261
5	High Temp (+110°C / +230°F)	\$ 261
9	Without oil	\$ -

Motor Mount - Note code "A" below for multiplex		Price
B	NEMA 56C	\$ -
C	NEMA 143 / 145TC	\$ -
E	NEMA 182 / 184TC	\$ -
Q	IEC FF165	\$ -
A	No mount - use for all but first pump in a multiplex	\$ -

Motor Frequency / Type / Number of Poles		Price
5N4	50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	-
6N4	60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	-
5N6	50 Hz - NEMA - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	-
6N6	60 Hz - NEMA - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	-
5M4	50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	-
6M4	60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	-
5M6	50 Hz - IEC - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	-
6M6	60 Hz - IEC - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	-

Motor Description		Price
MM	Milton Roy Supplied Motor (Separate Line Item)	-
10	Pump supplied Less Motor - charge to cover added costs to test pump	\$ 298
AA	Multiplexed Pump	-

Base/Multiplex		Price
1	Simplex (Welded Base)	\$ 412
2	Duplex (Welded Base)	Consult Factory
3	Triplex (Welded Base)	Consult Factory
A	Multiplex Pump	-

Relief Valve Set Pressure - Value in BARg	
Enter pressure value - example - 20	

Drive	Liquid End	Material	Plunger	Gear	Multiplex	Area / ATEX	ATEX Probe	Special
PL	H1	1	-	115	F	1	S	N
Primary Code Basic Attributes & Performance								
Nameplate Model #				Area Class	Option			

Instructions to select RPM Kits

- Refer to the primary code number on the nameplate
- Identify the code of the liquid end material
- Identify the plunger diameter
- Determine the stroking speed

Option 1 : Identify the Gear ratio code in Chart 2,

OR

Option 2 : Refer to the Chart 3 for SPM calculation (Motor speed/ Gear ratio)

- Determine the Head size, depending on the plunger size (Refer to Chart 1)
- Determine the Check valve size (Chart 1)
- Determine the RPM Kit by selecting the Head size, Check valve size, Liquid end material, Check valve type and Leak detection from Chart 4

Chart 1					
PL HDP Plunger Liquid End & Check Valve Size Chart					
Material	Plunger	SPM* (Refer to Chart 2)	Head Size	Check Valve Size	
Metallic	020		106	9.52	
	022			15.9	
Plastic	020		106	15.9	
	022			15.9	
All	025		166	15.9	
	028			15.9	
All	032		166	15.9	
	036			15.9	
All	040		166	25	
	045			25	
All	050				
	055				
All	060				
	063				
All	070				

RPM-106-15.9-316SS-ND-LD

Liquid End Size
Check Valve Size
Material
Check Valve Type
Leak Detection
*If Blank No Leak Det**

Chart 2 - Gear Ratio Calculation Example									Stroke frequency (spm)			
Gear Ratio									50 Hz	1440 rpm	1152 rpm	1728 rpm
									960 rpm	57	46	68
C	25:1 Gear Ratio								NA	99	NA	119
E	14.5:1 Gear Ratio								NA	115	NA	138
F	12.5:1 Gear Ratio								NA	144	NA	173
G	10:1 Gear Ratio								120	180	144	N/A
H	8:1 Gear Ratio							180 spm : only metallic head				

Chart 3 - PrimeRoyal L HPD Example											
Drive	Material	Plunger	Gear Code	Multiplex	SPM* (Refer to Chart 2)	Check Valve Type	Leak Det.	Head Size	Check Valve Size	RPM Kit	Description
PHH	1	45	F	1	Motor Speed/Gear Ratio	NS	With LD	166	25	RPM-166-25-316SS-NS	RPM KIT 166 HPD LD 25 316SS
HPD	316SS	45 mm	12:1	Simplex	1728/12 = 138 SPM	Single Ball	1/2/3/4/5				

Chart 4										
PrimeRoyal L HPD Routine Maintenance Kit										
Head Size	Check Valve Size	Material	Check Valve Type	# of Diaphragms	New RPM Kit	Description			Old Equivalent RPM Kit	Price
106	9.52	1- (316SS)	ND	Single	RPM-106-9.52-316SS-ND	RPM HPD 106 9.52 316 ND			RPM0020012	\$432
106	9.52	1- (316SS)	ND	Double	RPM-106-9.52-316SS-ND-LD	RPM HPD LD 106 9.52 316 ND LD			RPM0020029	\$634
106	15.9	1- (316SS)	NS	Single	RPM-106-15.9-316SS-NS	RPM HPD 106 15.9 316 NS			RPM0020011	\$434
106	15.9	1- (316SS)	NS	Double	RPM-106-15.9-316SS-NS-LD	RPM HPD LD 106 15.9 316 NS LD			RPM0020028	\$635
106	15.9	1- (316SS)	ND	Single	RPM-106-15.9-316SS-ND	RPM HPD 106 15.9 316 ND			RPM0020167	\$493
106	15.9	1- (316SS)	ND	Double	RPM-106-15.9-316SS-ND-LD	RPM HPD LD 106 15.9 316 ND LD			RPM0020168	\$692
166	25	1- (316SS)	NS	Single	RPM-166-25-316SS-NS	RPM HPD 166 25 316 NS			RPM0020015	\$477
166	25	1- (316SS)	NS	Double	RPM-166-25-316SS-NS-LD	RPM HPD LD 166 25 316 NS LD			RPM0020032	\$879
166	25	1- (316SS)	ND	Single	RPM-166-25-316SS-ND	RPM HPD 166 25 316 ND			RPM0020171	\$591
166	25	1- (316SS)	ND	Double	RPM-166-25-316SS-ND-LD	RPM HPD LD 166 25 316 ND LD			RPM0020172	\$970

Continue to next page for more Head Sizes

Notes: * Strokes Per Minute

(1) Single Diaphragm (Code N) = Without pressure gauge / without pressure switch/ without pressure transmitter

(2) Double Diaphragm (Other Codes) = With pressure gauge / with pressure switch/ without pressure transmitter

Check your Invoice or Order Acknowledgement to decode the model string

Chart 4							
PrimeRoyal L HPD Routine Maintenance Kit							
Head Size	Check Valve Size	Material	Check Valve Type	New RPM Kit	Description	Old Equivalent RPM Kit	Price
106	15.9	2-(PVC)	NS	RPM-106-15.9-PVC-NS	RPM HPD 106 15.9 PVC NS	RPM0020091	\$413
106	15.9	2-(PVC)	NS	RPM-106-15.9-PVC-NS-LD	RPM HPD LD 106 15.9 PVC NS LD	RPM0020101	\$616
166	25	2-(PVC)	NS	RPM-166-25-PVC-NS	RPM HPD 166 25 PVC NS	RPM0020095	\$440
166	25	2-(PVC)	NS	RPM-166-25-PVC-NS-LD	RPM HPD LD 166 25 PVC NS LD	RPM0020105	\$779

Notes: * Strokes Per Minute

(1) Single Diaphragm (Code N) = Without pressure gauge / without pressure switch/ without pressure transmitter

(2) Double Diaphragm (Other Codes) = With pressure gauge / with pressure switch/ without pressure transmitter

Check your Invoice or Order Acknowledgement to decode the model string

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PHM			Price	
Model Code	Plunger Diameter		316 L	
			Code	Price
11-08	8 mm		11-08	\$ 11,085
11-10	10 mm		11-10	\$ 12,557
11-12	12 mm		11-12	\$ 12,557
11-14	14 mm		11-14	\$ 15,548
11-16	16 mm		11-16	\$ 15,548
11-18	18 mm		11-18	\$ 19,620
11-20	20 mm		11-20	\$ 19,620
11-22	22 mm		11-22	\$ 31,061
11-25	25 mm		11-25	\$ 31,061

Gear Ratio		Stroke frequency (spm)				Price	
		relative to motor rotation speed (rpm)					
		50 Hz	60 Hz				
960 rpm	1440 rpm	1152 rpm	1728 rpm				
C	25:1 Gear Ratio	38	57	46	68	\$ -	
E	14.5:1 Gear Ratio	NA	99	NA	119	\$ -	
F	12.5:1 Gear Ratio	NA	115	NA	138	\$ -	
G	10:1 Gear Ratio	NA	144	NA	173	\$ -	
H	8:1 Gear Ratio 180 spm : only metallic head	120	180	144	N/A	\$ -	

Liquid End Option Selection

Check Valve		Description	Price
LD		Double Hard Ball and Seat - STANDARD	Standard

Diaphragm Rupture Detection Systems		Description	Price
N	None (STANDARD)		Standard
1	C6 Pressure Switch NEMA 4	350 bar (5076 psi) max	\$ 3,665
2	C8 Explosion proof switch	350 bar (5076 psi) max	\$ 5,444
3	C5 Gauge	350 bar (5076 psi) max	\$ 2,619
4	C9 Gauge and NEMA 4 Switch	350 bar (5076 psi) max	\$ 4,188
5	C8 Gauge & Explosion proof switch	350 bar (5076 psi) max	\$ 5,967
9	CT Manifold and connection for Pressure transmitter (transmitter is not included, but it must be defined according to following parameters : connection 1/2 NPT and vertical mounting)	350 bar (5076 psi) max	\$ 3,665

Suction Connection		Price
Threaded		
VM	Male	Standard
VF	Female	NA
ANSI Flanges 316L ss		1/2" Plungers Ø8, 10, 12, 14, 16, 20 mm
HA	ANSI - Class 150	\$ 772
HB	ANSI - Class 300	\$ 816
HC	ANSI - Class 600	\$ 957
HD	ANSI - Class 1,500 - RF/SF	\$ 1,092
VA	ANSI - Class 150	\$ 505
VB	ANSI - Class 300	\$ 549
VC	ANSI - Class 600	\$ 690
VD	ANSI - Class 1,500 - RF/SF	\$ 825

Continue to next page

PRIMERoyal® H - Metallic diaphragm liquid ends

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Liquid End Option Selection - Continued

Discharge Connection		Price
Threaded		
VM	Male	Standard
VF	Female	NA
ANSI Flanges 316L ss		Plungers Ø8, 10, 12, 14, 16,
HA	ANSI - Class 150	\$ 500
HB	ANSI - Class 300	\$ 544
HC	ANSI - Class 600	\$ 685
HD	ANSI - Class 1,500 - RF/SF	\$ 820
VA	ANSI - Class 150	\$ 233
VB	ANSI - Class 300	\$ 277
VC	ANSI - Class 600	\$ 418
VD	ANSI - Class 1,500 - RF/SF	\$ 553

Continue to next page

Drive Option Selection

Capacity Control Options		Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option	Standard
AW	Actuator Capacity Controller (ACC) IP68; 4-20mA Input/Output analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz, -40°C/-F	\$ 4,418
AE	Actuator Capacity Controller (ACC) Ex-proof; 4-20mA Input/Output analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz IP68 Ex d II B T4, -40°C/-F	\$ 5,364
HW	Actuator Capacity Controller (ACC) IP68; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz	\$ 5,302
HE	Actuator Capacity Controller (ACC) Exproof; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz	\$ 6,248
Housing Material Options		Price
N	Standard - FGL cast iron, down to -20°C/-4°F	Standard
2	FGS ductile cast iron, down to -40°C/-F	Consult us
Oil Options		Price
N	Standard (+50°C/112°F to -10°C/14°F)	Standard
3	Low temp (down to -40°C/-F)	\$ 261
4	Food grade	\$ -
5	High Temp	\$ 261
9	Without oil	
Motor Mount - Note code "A" below for multiplex		Price
B	NEMA 56C	\$ -
C	NEMA 143 / 145TC	\$ -
E	NEMA 182 / 184TC	\$ -
Q	IEC FF165	\$ -
A	No mount - use for all but first pump in a multiplex	\$ -

Continue to next page

BOM Additions Code Selection

Motor Frequency / Type / Number of Poles		Price
5N4	50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	-
6N4	60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	-
5N6	50 Hz - NEMA - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	-
6N6	60 Hz - NEMA - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	-
5M4	50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	-
6M4	60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	-
5M6	50 Hz - IEC - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	-
6M6	60 Hz - IEC - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	-
Motor Description		Price
MM	Milton Roy Supplied Motor (Separate Line Item)	-
10	Pump supplied Less Motor - charge to cover added costs to test pump	\$ 298
AA	Multiplexed Pump	-
Base/Multiplex		Price
1	Simplex (Welded Base)	\$ 412
2	Duplex (Welded Base)	Consult Factory
3	Triplex (Welded Base)	Consult Factory
A	Multiplex Pump	-
Relief Valve Set Pressure - Value in BAR		
Enter pressure value - example - 20		

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PKG										
Material and Plunger Code										
Plunger Diameter	316 L				Alloy 20		PVC		PVDF	
	G1 Low Pressure ≤ 20 bar / 290 psi		G2 Hi Pressure ≥ 20 bar / 290 psi		G1 Low Pressure ≤ 20 bar / 290 psi		G1 Low Pressure ≤ 20 bar / 290 psi		G1 Low Pressure ≤ 20 bar / 290 psi	
	Code	Price	Code	Price	Code	Price	Code	Price	Code	Price
40 mm	11-40	\$12,482	21-40	\$13,542	15-40	\$16,999	12-40	\$10,234	17-40	\$15,864
50 mm	11-50	\$12,768	21-50	\$13,827	15-50	\$17,285	12-50	\$10,480	17-50	\$16,110
63 mm	11-63	\$13,097			15-63	\$17,614	12-63	\$10,647	17-63	\$16,277
70 mm	11-70	\$13,965			15-70	\$18,783	12-70	\$11,015	17-70	\$22,040
80 mm	11-80	\$14,768			15-80	\$19,586	12-80	\$11,524	17-80	\$22,549
90 mm	11-90	\$15,573			15-90	\$20,391	12-90	\$12,034	17-90	\$23,059
100 mm	11-100	\$16,309			15-100	\$21,127	12-100	\$11,431	17-100	\$22,456

Gear Ratio										Stroke frequency (spm) relative to motor rotation speed (rpm)				Price			
										50 Hz		60 Hz					
										960 rpm	1440 rpm	1152 rpm	1728 rpm				
C	24.5:1 Gear Ratio									39	59	47	71	\$0			
E	14.33:1 Gear Ratio										100		120		\$0		
G	10:1 Gear Ratio											144		173		\$0	
H	8:1 Gear Ratio											120	180	144	N/A	\$0	
180 spm : only Ø40, 50 and 63 mm																	

Liquid End Option Selection

Check Valve																								
Description										316 L			Alloy 20											
										Plunger Diameter														
Metallic Liquid Ends																								
NS	Single Ball - Standard									Ø40 mm	Ø50, 63 mm	Ø70, 80, 90, 100 mm	Ø40 mm	Ø50, 63 mm	Ø70, 80, 90, 100 mm									
ND	Double Ball									\$333	\$450	\$616	\$450	\$608	\$832									
LS	Single Hard 440C Ball and Seat									\$553	\$682	\$842	\$747	\$921	\$1,137									
LD	Double Hard 440C Ball and Seat									\$833	\$1,010	\$1,270	\$1,125	\$1,364	\$1,715									
KS	Slurry - 440C Single Ball & Seat w/larger clearance									\$627	\$748	\$1,019	\$847	\$1,010	\$1,376									
KD	Slurry - 440C Double Ball & Seat w/more play									\$1,021	\$1,178	\$1,526	\$1,379	\$1,591	\$2,061									
VS	Viscous Liquids spring loaded single ball									\$295	\$393	\$502	\$399	\$531	\$678									
PVC/PVDF Liquid Ends																								
NS	Single Ball														Standard									

Diaphragm Rupture Detection Systems										Price											
Description										Plunger Ø40, 50, 63 mm			Plunger Ø70, 80, 90, 100 mm								
N None (STANDARD)																					
1	C6 Pressure Switch NEMA 4												Standard		Standard						
2	C8 Explosion proof switch												\$2,954		\$2,323						
3	C5 Gauge												\$4,733		\$5,012						
4	C9 Gauge and NEMA 4 Switch												\$1,908		\$2,187						
5	C8 Gauge & Explosion proof switch												\$3,477		\$3,756						
9	CT Manifold and connection for Pressure transmitter (transmitter is not included, but it must be defined according to following parameters : connection 1/2 NPT and vertical mounting)												\$5,256		\$5,535						
													\$2,954		\$2,323						

PRIMEROY® K - PTFE/NBR diaphragm GSD® type liquid ends

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Liquid End Option Selection - Continued

Suction Connection			Price		
			Plunger Diameters		
			Ø40 mm	Ø50 and 63 mm	Ø70, 80, 90 et 100 mm
Threaded					
VM	Male	Standard on Metallic	\$0	\$0	\$0
VF	Female	Standard on Plastic	\$0	\$0	\$0
ANSI Flanges 316L ss			1/2"	1"	2"
HA	ANSI - Class 150 - RF /SF		\$772	\$972	\$1,495
HB	ANSI - Class 300 - RF /SF		\$816	\$972	\$1,540
HC	ANSI - Class 600 - RF /SF		\$957	\$1,192	\$1,651
HD	ANSI - Class 1,500 - RF/SF		\$1,092	\$1,548	\$2,516
VA	ANSI - Class 150 - RF /SF		\$505	\$705	\$999
VB	ANSI - Class 300 - RF /SF		\$549	\$705	\$1,044
VC	ANSI - Class 600 - RF /SF		\$690	\$925	\$1,155
VD	ANSI - Class 1,500 - RF/SF		\$825	\$1,281	\$2,020
ANSI Flanges Alloy 20			1/2"	1"	2"
HA	ANSI - Class 150 - RF /SF		\$807	\$1,071	\$1,604
HB	ANSI - Class 300 - RF /SF		\$858	\$1,071	\$1,656
HC	ANSI - Class 600 - RF /SF		\$1,020	\$1,324	\$1,783
HD	ANSI - Class 1,500 - RF/SF		\$1,175	\$1,733	\$2,778
VA	ANSI - Class 150 - RF /SF		\$540	\$770	\$1,108
VB	ANSI - Class 300 - RF /SF		\$591	\$770	\$1,160
VC	ANSI - Class 600 - RF /SF		\$753	\$1,023	\$1,287
VD	ANSI - Class 1,500 - RF/SF		\$908	\$1,432	\$2,282
ANSI Flanges PVC liquid ends (consult us for PVDF liquid ends)			1/2"	1"	2"
VA	Vertical 150# Flat Face Socket Weld		\$75	\$41	—
HA	Horizontal 150# Flat Face Socket Weld		—	\$51	—
V1	Veritical Threaded 150# Flat Face		—	—	—
H1	Horizontal Threaded 150# Flat Face		—	—	—

Discharge Connection			Price		
			Plunger Diameters		
			Ø40 mm	Ø50 and 63 mm	Ø70, 80, 90 et 100 mm
Threaded					
VM	Male	Standard on Metallic	\$0	\$0	\$0
VF	Female	Standard on Plastic	\$0	\$0	\$0
ANSI Flanges 316L ss			1/2"	1"	2"
HA	ANSI - Class 150 - RF /SF		\$772	\$972	\$1,495
HB	ANSI - Class 300 - RF /SF		\$816	\$972	\$1,540
HC	ANSI - Class 600 - RF /SF		\$957	\$1,192	\$1,651
HD	ANSI - Class 1,500 - RF/SF		\$1,092	\$1,548	\$2,516
VA	ANSI - Class 150 - RF /SF		\$505	\$705	\$999
VB	ANSI - Class 300 - RF /SF		\$549	\$705	\$1,044
VC	ANSI - Class 600 - RF /SF		\$690	\$925	\$1,155
VD	ANSI - Class 1,500 - RF/SF		\$825	\$1,281	\$2,020
ANSI Flanges Alloy 20			1/2"	1"	2"
HA	ANSI - Class 150 - RF /SF		\$807	\$1,071	\$1,604
HB	ANSI - Class 300 - RF /SF		\$858	\$1,071	\$1,656
HC	ANSI - Class 600 - RF /SF		\$1,020	\$1,324	\$1,783
HD	ANSI - Class 1,500 - RF/SF		\$1,175	\$1,733	\$2,778
VA	ANSI - Class 150 - RF /SF		\$540	\$770	\$1,108
VB	ANSI - Class 300 - RF /SF		\$591	\$770	\$1,160
VC	ANSI - Class 600 - RF /SF		\$753	\$1,023	\$1,287
VD	ANSI - Class 1,500 - RF/SF		\$908	\$1,432	\$2,282
ANSI Flanges PVC liquid ends (consult us for PVDF liquid ends)			1/2"	1"	2"
VA	Vertical 150# Flat Face Socket Weld		\$75	\$41	—
HA	Horizontal 150# Flat Face Socket Weld		—	\$51	—
V1	Veritical Threaded 150# Flat Face		—	—	—
H1	Horizontal Threaded 150# Flat Face		—	—	—

Continue to next page

Capacity Control Options		Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option	Standard
AW	Actuator Capacity Controller (ACC) IP68; 4-20mA Input/Output analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz, -40°C/°F	\$4,418
AE	Actuator Capacity Controller (ACC) Ex-proof; 4-20mA Input/Output analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz IP68 Ex d II B T4, -40°C/°F	\$5,364
HW	Actuator Capacity Controller (ACC) IP68; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/°F	\$5,302
HE	Actuator Capacity Controller (ACC) Exproof; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/°F	\$6,248

Housing Material Options		Price
N	d - FLG	\$0
2	ductile	Consult us

Oil Options		Price
N	Standard (+95°C/203°F to 0°C/32°F)	Standard
3	Low	\$261
4	Food grade	\$261
9	Without	\$0

Motor Mount - Note code "A" below for multiplex		Price
B	NEMA 56C	\$0
C	NEMA 143 / 145 TC	\$0
E	NEMA 182 / 184TC	\$0
G	NEMA 213 / 215TC	\$0
Q	IEC FF165	\$0
R	IEC FF215	\$0

BOM Additions Code Selection

Motor Frequency / Type / Number of Poles		Price
5N4	50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	-
6N4	60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	-
5N6	50 Hz - NEMA - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	-
6N6	60 Hz - NEMA - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	-
5M4	50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	-
6M4	60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	-
5M6	50 Hz - IEC - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	-
6M6	60 Hz - IEC - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	-

Motor Description		Price
MM	Milton Roy Supplied Motor (Separate Line Item)	-
10	Pump supplied Less Motor - charge to cover added costs to test pump	\$ 298
AA	Multiplexed Pump	-

Base/Multiplex		Price
1	Simplex (Welded Base)	\$ 412
2	Duplex (Welded Base)	Consult Factory
3	Triplex (Welded Base)	Consult Factory
A	Multiplex Pump	-

Relief Valve Set Pressure - Value in BARg	
Enter pressure value - example - 20	

Drive	Liquid End	Material	Plunger	Gear	Multiplex	Area / ATEX	ATEX Probe	Special
PK	G1	1	-	100	H	1	S	N
								Z
Primary Code Basic Attributes & Performance			Area Class		Option			
Nameplate Model #								

Instructions to select RPM Kits

1. Refer to the primary code number on the nameplate
2. Identify the code of the liquid end material
3. Identify the plunger diameter
4. Determine the stroking speed
 - Option 1 : Identify the Gear ratio code in Chart 2 **OR**
 - Option 2 : Refer to the Chart 3 for SPM calculation (Motor speed/ Gear ratio)
5. Determine the Head size, depending on the plunger size (Refer to Chart 1)
6. Determine the Check valve size (Chart 1)
7. Determine the RPM Kit by selecting the Head size, Check valve size, Liquid end material, Check valve type and Leak detection from Chart 4

RPM-145-15.9-316SS-ND-LD

Liquid End Size
 Check Valve Size
 Material
 Check Valve Type
 *If Blank No Leak Det**

Chart 1

PK GSD Plunger Liquid End & Check Valve Size Chart				
Material	Plunger	SPM* (Refer to Chart 2)	Head Size	Check Valve Size
Metallic	040	<180	145	15.9
		>180	145	25
Plastic	040		145	25
	050		145	25
	063		145	25
	070		225	40
	080		225	40
	090		225	40
	100		225	40
All				

Chart 2 - Gear Ratio Calculation Example

Gear Ratio	Stroke frequency (spm) relative to motor rotation speed (rpm)			
	50 Hz		60 Hz	
	960 rpm	1440 rpm	1152 rpm	1728 rpm
C 24.5:1 Gear Ratio	33	59	47	71
E 14.33:1 Gear Ratio	100		120	
G 10:1 Gear Ratio	144		173	
H 8:1 Gear Ratio	120	180	144	N/A

180 rpm, only 040, 50 and 63 mm

Chart 3 - PrimeRoyal K GSD Example

Drive	Material	Plunger	Gear Code	Multiplex	SPM* (Refer to Chart 2)	Check Valve Type	Leak Det.	Head Size	Check Valve Size	RPM Kit	Description
PKG1	1	63	H	1	Motor Speed/ Gear Ratio	NS	Without LD	145	15.9	RPM-145-25-316SS-NS	RPM KIT 145 GSD 15.9MM 316SS
GSD	316SS	63 mm	8:1	Simplex	1152/8 = 144 SPM	Single Ball	N				

Chart 4

PrimeRoyal K GSD Routine Maintenance Kit									
Head Size	Check Valve Size	Material	Check Valve Type	# of Diaphragms	New RPM Kit	Description	Old Equivalent RPM Kit	Price	
145	15.9	1-(316SS)	NS	Single	RPM-145-15.9-316SS-NS	RPM GSD 145 15.9 316 NS	RPM0020018	\$577	
145	15.9	1-(316SS)	NS	Double	RPM-145-15.9-316SS-NS-LD	RPM GSD LD 145 15.9 316 NS LD	RPM0020035	\$724	
145	15.9	1-(316SS)	ND	Single	RPM-145-15.9-316SS-ND	RPM GSD 145 15.9 316 ND	RPM0020177	\$634	
145	15.9	1-(316SS)	ND	Double	RPM-145-15.9-316SS-ND-LD	RPM GSD LD 145 15.9 316 ND LD	RPM0020178	\$784	
145	25	1-(316SS)	NS	Single	RPM-145-25-316SS-NS	RPM GSD 145 25 PVC NS	RPM0020019	\$640	
145	25	1-(316SS)	NS	Double	RPM-145-25-316SS-NS-LD	RPM GSD LD 145 25 PVC NS LD	RPM0020036	\$788	
145	25	1-(316SS)	ND	Single	RPM-145-25-316SS-ND	RPM GSD 145 25 316 ND	RPM0020179	\$755	
145	25	1-(316SS)	ND	Double	RPM-145-25-316SS-ND-LD	RPM GSD LD 145 25 316 ND LD	RPM0020180	\$903	
225	40	1-(316SS)	NS	Single	RPM-225-40-316SS-NS	RPM GSD 145 25 316 NS	RPM0020021	\$718	
225	40	1-(316SS)	NS	Double	RPM-225-40-316SS-NS-LD	RPM GSD LD 145 25 316 NS LD	RPM0020038	\$1,046	
225	40	1-(316SS)	ND	Single	RPM-225-40-316SS-ND	RPM GSD 225 40 PVC ND	RPM0020181	\$923	
225	40	1-(316SS)	ND	Double	RPM-225-40-316SS-ND-LD	RPM GSD LD 225 40 PVC ND LD	RPM0020182	\$1,246	
145	25	2-(PVC)	NS	Single	RPM-145-25-PVC-NS	RPM GSD 145 25 316 NS	RPM0020111	\$600	
145	25	2-(PVC)	NS	Double	RPM-145-25-PVC-NS-LD	RPM GSD LD 145 25 316 NS LD	RPM0020115	\$748	
225	40	2-(PVC)	NS	Single	RPM-225-40-PVC-NS	RPM GSD 225 40 316 NS	RPM0020113	\$1,215	
225	40	2-(PVC)	NS	Double	RPM-225-40-PVC-NS-LD	RPM GSD LD 225 40 316 NS LD	RPM0020117	\$1,487	

Notes: * Strokes Per Minute

(1) Single Diaphragm (Code N) = Without pressure gauge / without pressure switch/ without pressure transmitter

(2) Double Diaphragm (Other Codes) = With pressure gauge / with pressure switch/ without pressure transmitter

Check your Invoice or Order Acknowledgement to decode the model string

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PKH									
Material and Plunger Code									
Metallic Liquid Ends Plunger Diameter	316 L					Alloy 20			
	H1 Low Pressure Code	H3 High Pressure Code	H6 High Pressure Code			H1 Low Pressure Code	H6 High Pressure Code		
	Price	Price	Price			Price	Price		
12 mm	NA	NA	61-12	\$12,033		NA	65-12	\$16,851	
14 mm	NA	NA	61-14	\$12,033		NA	65-14	\$16,851	
16 mm	NA	NA	61-16	\$12,033		NA	65-16	\$16,851	
20 mm	11-20	\$11,670	31-20	\$17,025	NA	15-20	\$16,488		NA
25 mm	11-25	\$11,670	NA		NA	15-25	\$16,488		NA
32 mm	11-32	\$11,670	NA		NA	15-32	\$16,488		NA
Plastic Liquid Ends						PVC		PVDF	
						Code	Price	Code	Price
32 mm						12-32	\$10,401	17-32	\$13,203

Gear Ratio		Stroke frequency (spm) relative to motor rotation speed (rpm)							
		50 Hz		60 Hz		1728 rpm		Price	
		960 rpm	1440 rpm	1152 rpm	1728 rpm				
C	24.5:1 Gear Ratio	39	59	47	71				\$0
E	14.33:1 Gear Ratio	NA	100	NA	120				\$0
G	10:1 Gear Ratio	NA	144	NA	173				\$0
H	8:1 Gear Ratio	120	180	144	N/A				\$0
		180 spm : only metallic head							

Check Valve		316 L Liquid Ends					Price		
		Plunger Ø 12, 14, and 16 mm	Plunger Ø 20mm and 25 mm	Plunger Ø 32 mm	Plunger Ø 12 mm thru 25 mm	Plunger Ø 32 mm	Price		
		Ball Ø9.52 mm	Ball Ø9.52 mm	Ball Ø15.9 mm	Ball Ø9.52 mm	Ball Ø15.9 mm			
NS	Single Ball	—	—	Standard	—	—	Standard		
ND	Double Ball	Standard	Standard	\$333	Standard	\$450			
LS	Single Hard 440C Ball and Seat	—	—	\$553	—	\$747			
LD	Double Hard 440C Ball and Seat	\$312	\$312	\$833	\$422	\$1,125			
KS	Slurry - 440C Single Ball & Seat w/larger clearance	—	—	\$627	—	\$847			
KD	Slurry - 440C Double Ball & Seat w/more play		\$1,093	\$1,021	\$1,476	\$1,379			
VS	Viscous Liquids spring loaded single ball	—	—	\$295	—	\$399			
NS Single Ball		PVC					PVDF		
		Standard					Standard		

Diaphragm Rupture Detection Systems							Price
Description							All plungers
N	None (STANDARD)						Standard
1	C6 Pressure Switch NEMA 4						\$3,820
2	C8 Explosion proof switch						\$5,599
3	C5 Gauge						\$2,774
4	C9 Gauge and NEMA 4 Switch						\$4,343
5	C8 Gauge & Explosion proof switch						\$6,122
9	CT Manifold and connection for Pressure transmitter (transmitter is not included, but it must be defined according to following parameters : connection 1/2 NPT and vertical mounting)						\$3,820

Suction Connection Type and Rating				Price
Threaded				1/2" All Plungers
VM	Male	Standard on metallic	Standard on metallic	1/2" All Plungers
VF	Female	Standard on Plastic	Standard on Plastic	1/2" All Plungers
ANSI Flanges 316 SS and Alloy 20				316 SS
HA	ANSI - Class 150	\$772	\$807	
HB	ANSI - Class 300	\$816	\$858	
HC	ANSI - Class 600	\$957	\$1,020	
HD	ANSI - Class 1,500 - RF/SF	\$1,092	\$1,175	
VA	ANSI - Class 150	\$505	\$540	
VB	ANSI - Class 300	\$549	\$591	
VC	ANSI - Class 600	\$690	\$753	
VD	ANSI - Class 1,500 - RF/SF	\$825	\$908	
ANSI Flanges PVC and PVDF liquid ends				PVC
HA	Veritical 150# Flat Face Socket Weld	—	—	1/2" All Plungers
VA	Horizontal 150# Flat Face Socket Weld	\$75	\$75	1/2" All Plungers
H1	Veritical Threaded 150# Flat Face	—	—	1/2" All Plungers
V1	Horizontal Threaded 150# Flat Face	—	—	1/2" All Plungers
ANSI Flanges PVC and PVDF liquid ends				PVDF

Discharge Connection Type and Rating				Price	
Threaded				1/2" All Plungers	1/2" All Plungers
VM	Male	Standard on metallic	Standard on metallic	1/2" All Plungers	1/2" All Plungers
VF	Female	Standard on Plastic	Standard on Plastic	1/2" All Plungers	1/2" All Plungers
ANSI Flanges 316 SS and Alloy 20				316 SS	Alloy 20
HA	ANSI - Class 150	\$772	\$807		
HB	ANSI - Class 300	\$816	\$858		
HC	ANSI - Class 600	\$957	\$1,020		
HD	ANSI - Class 1,500 - RF/SF	\$1,092	\$1,175		
VA	ANSI - Class 150	\$505	\$540		
VB	ANSI - Class 300	\$549	\$591		
VC	ANSI - Class 600	\$690	\$753		
VD	ANSI - Class 1,500 - RF/SF	\$825	\$908		
ANSI Flanges PVC and PVDF liquid ends				PVC	PVDF
HA	Veritical 150# Flat Face Socket Weld	—	—	1/2" All Plungers	1/2" All Plungers
VA	Horizontal 150# Flat Face Socket Weld	\$75	\$75	1/2" All Plungers	1/2" All Plungers
H1	Veritical Threaded 150# Flat Face	—	—	1/2" All Plungers	1/2" All Plungers
V1	Horizontal Threaded 150# Flat Face	—	—	1/2" All Plungers	1/2" All Plungers

Capacity Control Options				Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option			Standard
AW	Actuator Capacity Controller (ACC) IP68; 4-20mA Input/Ouput analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz, -40°C/-F			\$4,418
AE	Actuator Capacity Controller (ACC) Ex-proof; 4-20mA Input/Ouput analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz IP68 Ex d II B T4, -40°C/-F			\$5,364
HW	Actuator Capacity Controller (ACC) IP68; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz			\$5,302
HE	Actuator Capacity Controller (ACC) Exproof; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz			\$6,248

Housing Material Options				Price
N	Standard - FLG cast iron, down to -40°C/-F			Standard
2	FGS ductile cast iron, down to -40°C/-F			Consult us

Oil Options				Price
N	Standard (+50°C/112°F to -10°C/14°F)			Standard
3	Low temp (down to -40°C/-F) - Ambient temperature			\$261
4	Food grade			\$261
5	High			\$261
9	Without oil			\$0

Motor Mount - Note code "A" below for multiplex				Price
B	NEMA 56C			\$ -
C	NEMA 143 / 145TC			\$ -
E	NEMA 182 / 184TC			\$ -
G	NEMA 213 / 215TC			\$ -
Q	IEC FF165			\$ -
R	IEC FF215			\$ -
A	No mount - use for all but first pump in a multiplex			\$ -

Motor Frequency / Type / Number of Poles		Price
5N4	50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N4	60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5N6	50 Hz - NEMA - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N6	60 Hz - NEMA - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5M4	50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M4	60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5M6	50 Hz - IEC - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M6	60 Hz - IEC - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -

Motor Description		Price
MM	Milton Roy Supplied Motor (Separate Line Item)	\$ -
10	Pump supplied Less Motor - charge to cover added costs to test pump	\$ 298
AA	Multiplexed Pump	\$ -

Base/Multiplex		Price
S	Shipping (Unpainted Steel Channel)	\$ 134
1	Simplex (Welded Base)	\$ 412
2	Duplex (Welded Base)	Consult Factory
3	Triplex (Welded Base)	Consult Factory
A	Multiplex Pump	\$ -

Relief Valve Set Pressure - Value in BAR	
Enter pressure value - example - 300	

Drive	Liquid End	Material	Plunger	Gear	Multiplex	Area / ATEX	ATEX Probe	Special
PK	H1	1	-	20	E	1	S	N
Primary Code Basic Attributes & Performance				Area Class		Option		
Nameplate Model #								

Chart 1				
PK HPD Plunger Liquid End & Check Valve Size Chart				
Material	Plunger	SPM* (Refer to Chart 2)	Head Size	Check Valve Size
1- (316SS)	020	All	106	9.52
1-(316SS)	025			9.52
All	032			15.9

Instructions to select RPM Kits

1. Refer to the primary code number on the nameplate
2. Identify the code of the liquid end material
3. Identify the plunger diameter
4. Determine the stroking speed
 - Option 1 : Identify the Gear ratio code in Chart 2 **OR**
 - Option 2 : Refer to the Chart 3 for SPM calculation (Motor speed/ Gear ratio)
5. Determine the Head size, depending on the plunger size (Refer to Chart 1)
6. Determine the Check valve size (Chart 1)
7. Determine the RPM Kit by selecting the Head size, Check valve size, Liquid end material, Check valve type and Leak detection from Chart 4

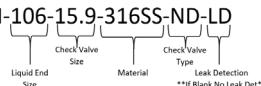
RPM-106-15.9-316SS-ND-LD


Chart 2 - Gear Ratio Calculation Example										Gear Ratio					
										Stroke frequency (spm) relative to motor rotation speed					
										50 Hz	60 Hz	960 rpm	1440 rpm	1152 rpm	1728 rpm
C	24.5:1 Gear Ratio									39	53	47	71		
E	14.33:1 Gear Ratio									NA	100	NA	120		
G	10:1 Gear Ratio									NA	144	NA	173		
H	8:1 Gear Ratio									120	180	144	N/A		

Chart 3 - PrimeRoyal K HPD Example											
Drive	Material	Plunger	Gear Code	Multiplex	SPM* (Refer to Chart 2)	Check Valve Type	Leak Det.	Head Size	Check Valve Size	RPM Kit	Description
PKH1	1	25	E	1	Motor Speed/ Gear Ratio	ND	Without LD	106	9.52	RPM-106-9.52-316SS-ND	RPM KIT 106 HPD 9.52MM 316SS
HPD	316SS	25mm	14:3:1	Simplex	1728/14.33 = 120 SPM	Double Ball	N				

Chart 4										
PrimeRoyal K HPD Routine Maintenance Kit										
Head Size	Check Valve Size	Material	Check Valve Type	# of Diaphragms	New RPM Kit	Description			Old Equivalent RPM Kit	Price
106	9.52	1- (316SS)	ND	Single	RPM-106-9.52-316SS-ND	RPM HPD 106 9.52 316 ND	RPM0020012	\$432		
106	9.52	1- (316SS)	ND	Double	RPM-106-9.52-316SS-ND-LD	RPM HPD LD 106 9.52 316 ND LD	RPM0020029	\$634		
106	15.9	1- (316SS)	NS	Single	RPM-106-15.9-316SS-NS	RPM HPD 106 15.9 316 NS	RPM0020011	\$434		
106	15.9	1- (316SS)	NS	Double	RPM-106-15.9-316SS-NS-LD	RPM HPD LD 106 15.9 316 NS LD	RPM0020028	\$635		
106	15.9	1- (316SS)	ND	Single	RPM-106-15.9-316SS-ND	RPM HPD 106 15.9 316 ND	RPM0020167	\$493		
106	15.9	1- (316SS)	ND	Double	RPM-106-15.9-316SS-ND-LD	RPM HPD LD 106 15.9 316 ND LD	RPM0020168	\$692		
106	15.9	2-(PVC)	NS	Single	RPM-106-15.9-PVC-NS	RPM HPD 106 15.9 PVC NS	RPM0020091	\$413		
106	15.9	2-(PVC)	NS	Double	RPM-106-15.9-PVC-NS-LD	RPM HPD LD 106 15.9 PVC NS LD	RPM0020101	\$616		

Notes: * Strokes Per Minute

(1) Single Diaphragm (Code N) = Without pressure gauge / without pressure switch/ without pressure transmitter

(2) Double Diaphragm (Other Codes) = With pressure gauge / with pressure switch/ without pressure transmitter

Check your Invoice or Order Acknowledgement to decode the model string

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PKM			Price	
Model Code	Plunger Diameter		316 L	
			Code	Price
11-08	8 mm		11-08	\$14,985
11-10	10 mm		11-10	\$16,037
11-12	12 mm		11-12	\$16,037
11-14	14 mm		11-14	\$18,710
11-16	16 mm		11-16	\$18,710
11-18	18 mm		11-18	\$23,063
11-20	20 mm		11-20	\$23,063
11-22	22 mm		11-22	\$31,061
11-25	25 mm		11-25	\$31,061

Gear Ratio		Stroke frequency (spm) relative to motor rotation speed (rpm)				Price	
		50 Hz		60 Hz			
		960 rpm	1440 rpm	1152 rpm	1728 rpm		
C	24.5:1 Gear Ratio	39	59	47	71	\$0	
E	14.33:1 Gear Ratio		100		120	\$0	
G	10:1 Gear Ratio			144		\$0	
H	8:1 Gear Ratio	120	180	144	N/A	\$0	

Check Valve		Description	Price
LD		Double Hard Ball and Seat - STANDARD	Standard

Diaphragm Rupture Detection Systems		Price
Description		
N	None (STANDARD)	Standard
1	C6 Pressure Switch NEMA 4	\$3,665
2	C8 Explosion proof switch	\$5,444
3	C5 Gauge	\$2,619
4	C9 Gauge and NEMA 4 Switch	\$4,188
5	C8 Gauge & Explosion proof switch	\$5,967
9	CT Manifold and connection for Pressure transmitter (transmitter is not included, but it must be defined according to following parameters : connection 1/2 NPT and vertical mounting)	\$3,665

Suction Connection		Price	
Threaded			
VM	Male	Standard	
ANSI Flanges 316L ss			
HA	ANSI - Class 150	\$772	
HB	ANSI - Class 300	\$816	
HC	ANSI - Class 600	\$957	
HD	ANSI - Class 1,500 - RF/SF	\$1,092	
VA	ANSI - Class 150	\$505	
VB	ANSI - Class 300	\$549	
VC	ANSI - Class 600	\$690	
VD	ANSI - Class 1,500 - RF/SF	\$825	
		1/2" Plungers Ø8, 10, 12, 14, 16, 18, 20 mm 1" Plungers Ø22, 25 mm	

Discharge Connection		Price	
Threaded			
VM	Male	Standard	Standard
ANSI Flanges 316L ss		1/2"	1"
HA	ANSI - Class 150	\$772	\$1,006
HB	ANSI - Class 300	\$816	\$1,006
HC	ANSI - Class 600	\$957	\$1,226
HD	ANSI - Class 1,500 - RF/SF	\$1,092	\$1,582
VA	ANSI - Class 150	\$505	\$705
VB	ANSI - Class 300	\$549	\$705
VC	ANSI - Class 600	\$690	\$925
VD	ANSI - Class 1,500 - RF/SF	\$825	\$1,281

Drive Option Selection

Capacity Control Options		Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option	Standard
AW	Actuator Capacity Controller (ACC) IP68; 4-20mA Input/Output analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz, -40°C/+70°C	\$4,418
AE	Actuator Capacity Controller (ACC) Ex-proof; 4-20mA Input/Output analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz IP68 Ex d II B T4, -40°C/+70°C	\$5,364
HW	Actuator Capacity Controller (ACC) IP68; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz	\$5,302
HE	Actuator Capacity Controller (ACC) Exproof; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase	\$6,248

Housing Material Options		Price
N	Standard - FLG cast iron, down	Standard
2	FGS ductile cast iron, down to -	Consult us

Oil Options		Price
N	Standard (+50°C/112°F to -10°C/14°F)	Standard
3	Low temp (down to -40°C/F)	\$261
4	Food grade	\$261
5	High Temp	Consult us
9	Without oil	\$0

Motor Mount - Note code "A" below for multiplex		Price
B	NEMA 56C	\$0
C	NEMA 143 / 145TC	\$0
E	NEMA 182 / 184TC	\$0
G	NEMA 213 / 215TC	\$0
Q	IEC FF165	\$0
R	IEC FF215	\$0
A	No mount - use for all but first pump in a multiplex	\$0

Motor Frequency / Type / Number of Poles		Price
5N4	50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N4	60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5N6	50 Hz - NEMA - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N6	60 Hz - NEMA - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5M4	50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M4	60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5M6	50 Hz - IEC - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M6	60 Hz - IEC - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -

Motor Description		Price
MM	Milton Roy Supplied Motor (Separate Line Item)	-
10	Pump supplied Less Motor - charge to cover added costs to test pump	\$ 298
AA	Multiplexed Pump	-

Base/Multiplex		Price
S	Shipping (Unpainted Steel Channel)	\$ 134
1	Simplex (Welded Base)	\$ 412
2	Duplex (Welded Base)	Consult Factory
3	Triplex (Welded Base)	Consult Factory
A	Multiplex Pump	-

Relief Valve Set Pressure - Value in BAR	
Enter pressure value - example - 300	

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PKP

Material and Plunger Code

Model Code	Plunger Diameter	Head P2 (type N)		Head P3 (type UT)		Head P4 (type NX)	
		Code	Price	Code	Price	Code	Price
43-08	8 mm					43-08	\$13,231
21-10	9.5 mm	21-Oct	\$10,722				
43-10	10 mm					43-10	\$13,390
43-12	12 mm					43-12	\$13,597
21-16	15.9 mm	21-16	\$11,091				
21-19	19.1 mm	21-19	\$11,091				
21-25	25.4 mm	21-25	\$11,463				
31-32	31.8 mm			31-32	\$11,463		
31-38	38.1 mm			31-38	\$12,386		
31-45	44.5 mm			31-45	\$12,571		
31-51	50.8 mm			31-51	\$12,940		
31-57	57.2 mm			31-57	\$13,497		
31-63	63.5 mm			31-63	\$13,681		
31-70	69.9 mm			31-70	\$15,530		
31-80	79.4 mm			31-80	\$15,900		
31-89	88.9 mm			31-89	\$16,084		

Gear Ratio

		Stroke frequency (spm) relative to motor rotation speed (rpm)				Price	
		50 Hz		60 Hz			
		960 rpm	1440 rpm	1152 rpm	1728 rpm		
C	24.5:1 Gear Ratio	39	59	47	71	\$0	
E	14.33:1 Gear Ratio		100		120	\$0	
G	10:1 Gear Ratio		144		173	\$0	
H	8:1 Gear Ratio	120		144	N/A	\$0	

Liquid End Option Selection

Check Valve

		P2 and P3 Heads					P4 Head
		Plunger Ø09 mm	Plungers Ø16, 19 mm	Plungers Ø25, 32 mm	Plungers Ø38, 45, 51, 57, 63 mm	Plungers Ø70, 80, 89 mm	
		Ball 6.35 mm	Ball 9.52 mm	Ball 15.9 mm	Ball 25 mm	Ball 40 mm	Plungers Ø8, 10, 12 mm
NS	Single Ball - Standard	—	—	Standard	Standard	Standard	—
ND	Double Ball	—	—	\$333	\$450	\$616	—
LS	Single Hard 440C Ball and Seat	—	—	\$553	\$682	\$842	—
LD	Double Hard 440C Ball and Seat	—	Standard	\$833	\$1,010	\$1,270	Standard
KS	Slurry - 440C Single Ball & Seat w/larger clearance	—	—	\$627	\$748	\$1,019	—
KD	Slurry - 440C Double Ball & Seat w/more play	—	\$988	\$1,021	\$1,178	\$1,526	—
VS	Viscous Liquids spring loaded single ball	\$280	—	\$295	\$393	\$502	—

Packing and Plunger Material

Description	Price
N Standard	All plungers
	Standard

Liquid End Option Selection - Continued

Suction Connection Type and Rating		P2 and P3 Heads			P4 Head	
Threaded		Plungers Ø10, 16, 19, 25, 32 mm	Plungers Ø38, 45, 51, 57, 63 mm	Plungers Ø70, 80, 89 mm	Plunger Ø8 mm	Plungers Ø10, 12 mm
VM	Male	Standard : 1/2"	Standard : 1"	Standard : 2"	Std : 3/8"	Std : 1/2"
VF	Female	—	—	—	—	—
ANSI Flanges 316L ss		1/2 "	1"	2"		1/2"
HA	ANSI - Class 150	\$772	\$1,006	\$1,495	—	\$772
HB	ANSI - Class 300	\$816	\$1,006	\$1,540	—	\$816
HC	ANSI - Class 600	\$957	\$1,226	\$1,651	—	\$957
HD	ANSI - Class 1,500 - RF/SF	\$1,092	\$1,582	\$2,516	—	\$1,092
VA	ANSI - Class 150	\$505	\$705	\$999	—	\$505
VB	ANSI - Class 300	\$549	\$705	\$1,044	—	\$549
VC	ANSI - Class 600	\$690	\$925	\$1,155	—	\$690
VD	ANSI - Class 1,500 - RF/SF	\$825	\$1,281	\$2,020	—	\$825

Discharge Connection Type and Rating		P2 and P3 Heads			P4 Head	
Threaded		Plungers Ø10, 16, 19, 25, 32 mm	Plungers Ø38, 45, 51, 57, 63 mm	Plungers Ø70, 80, 89 mm	Plunger Ø8 mm	Plungers Ø10, 12 mm
VM	Male	Standard : 1/2"	Standard : 1"	Standard : 2"	Std : 3/8"	Std : 1/2"
VF	Female	—	—	—	—	—
ANSI Flanges 316L ss		1/2 "	1"	2"		1/2"
HA	ANSI - Class 150	\$772	\$1,006	\$1,495	—	\$772
HB	ANSI - Class 300	\$816	\$1,006	\$1,540	—	\$816
HC	ANSI - Class 600	\$957	\$1,226	\$1,651	—	\$957
HD	ANSI - Class 1,500 - RF/SF	\$1,092	\$1,582	\$2,516	—	\$1,092
VA	ANSI - Class 150	\$505	\$705	\$999	—	\$505
VB	ANSI - Class 300	\$549	\$705	\$1,044	—	\$549
VC	ANSI - Class 600	\$690	\$925	\$1,155	—	\$690
VD	ANSI - Class 1,500 - RF/SF	\$825	\$1,281	\$2,020	—	\$825

Capacity Control Options		Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option	Standard
AW	Actuator Capacity Controller (ACC) IP68; 4-20mA Input/Ouput analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz, -40°C/-F	\$4,418
AE	Actuator Capacity Controller (ACC) Ex-proof; 4-20mA Input/Ouput analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz IP68 Ex d II B T4, -40°C/-F	\$5,364
HW	Actuator Capacity Controller (ACC) IP68; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/-F	\$5,302
HE	Actuator Capacity Controller (ACC) Exproof; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/-F	\$6,248

Housing Material Options		Price
N	Standard - FLG cast iron, down to -20°C/-4°F	\$0
2	FGS ductile cast iron, down to -40°C/-F	Consult us
3	DEP Shell (FGS parts under pressure)	Consult us

Oil Options		Price
N	Standard (+95°C/203°F to 0°C/32°F)	Standard
3	Low temp (down to -20°C/ 4°F)	\$261
4	Food grade	\$261
9	Without oil	\$0

Motor Mount - Note code "A" below for multiplex		Price
B	NEMA 56C	\$0
C	NEMA 143 / 145 TC	\$0
E	NEMA 182 / 184TC	\$0
G	NEMA 213 / 215TC	\$0
Q	IEC FF165	\$0
R	IEC FF215	\$0
A	No mount - use for all but first pump in a multiplex	\$0

PRIMERoyal® K - Packed plunger liquid ends

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BOM Additions Code Selection

Motor Frequency / Type / Number of Poles		Price
5N4	50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	-
6N4	60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	-
5N6	50 Hz - NEMA - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	-
6N6	60 Hz - NEMA - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	-
5M4	50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	-
6M4	60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	-
5M6	50 Hz - IEC - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	-
6M6	60 Hz - IEC - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	-

Motor Description		Price
MM	Milton Roy Supplied Motor (Separate Line Item)	-
10	Pump supplied Less Motor - charge to cover added costs to test pump	\$ 298
AA	Multiplexed Pump	-

Base/Multiplex		Price
S	Shipping (Unpainted Steel Channel)	\$ 134
1	Simplex (Welded Base)	\$ 412
2	Duplex (Welded Base)	Consult Factory
3	Triplex (Welded Base)	Consult Factory
A	Multiplex Pump	-

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PLG										
Material and Plu +										
Plunger Diameter	316 L				Alloy 20		PVC		PVDF	
	G1 Low Pressure ≤ 20 bar / 290 psi		G2 Hi Pressure > 20 bar / 290 psi		G1 Low Pressure ≤ 20 bar / 290 psi		G1 Low Pressure ≤ 20 bar / 290 psi		G1 Low Pressure ≤ 20 bar / 290 psi	
	Code	Price	Code	Price	Code	Price	Code	Price	Code	Price
40 mm	11-40	\$15,460	21-40	\$16,519	15-40	\$19,977				
50 mm	11-50	\$16,016	21-50	\$17,076	15-50	\$20,533	12-50	\$14,059	17-50	\$19,689
63 mm	11-63	\$17,143			15-63	\$21,961	12-63	\$15,437	17-63	\$26,462
70 mm	11-70	\$18,445			15-70	\$23,263	12-70	\$17,662	17-70	\$28,687
80 mm	11-80	\$18,646			15-80	\$23,464	12-80	\$17,861	17-80	\$28,886
90 mm	11-90	\$18,799			15-90	\$23,617	12-90	\$18,014	17-90	\$29,039
100 mm	11-100	\$18,976			15-100	\$23,794	12-100	\$18,190	17-100	\$29,215

Gear Ratio										Stroke frequency (spm) relative to motor rotation speed (rpm)				Price	
										50 Hz	60 Hz				
										960 rpm	1440 rpm	1152 rpm	1728 rpm		
E	15:1 Gear Ratio						64	96	77	115				\$0	
F	12:1 Gear Ratio						80	120	96	144				\$0	
G	9.67:1 Gear Ratio	n/a on Plastic heads Ø90 et 100						149		179				\$0	
H	8:1 Gear Ratio	n/a on PVC liquid end over 1200 RPM						180		N/A				\$0	

Continue to next page

Check Valve					Price				
					Plunger diameters				
316 L Liquid Ends					Ø40 mm	Ø50 mm	Ø63, 70, 80, 90 mm ratio E,F, Ø100 mm ratio E, F< 1200rpm	Ø90 mm ratio G, Ø100 mm ratio F > 1200 rpm and all codes G	
					Check 15.9 mm	Check 25 mm	Check 40 mm	Check 40 mm	
NS	Single Ball - Standard	Standard	Standard	Standard					—
ND	Double Ball	\$333	\$450	\$616					—
NP	Single Flat Valve	—	—	—				Standard	
LS	Single Hard 440C Ball and Seat	\$553	\$682	\$842					—
LD	Double Hard 440C Ball and Seat	\$833	\$1,010	\$1,270					—
KS	Slurry - 440C Single Ball & Seat w/larger clearance	\$627	\$748	\$1,019					—
KD	Slurry - 440C Double Ball & Seat w/more play	\$1,021	\$1,178	\$1,526					—
VS	Viscous Liquids spring loaded single ball	\$295	\$393	\$502					\$502
Alloy 20 Liquid ends					Plunger diameters				
					Ø40 mm	Ø50 mm	Ø63, 70, 80, 90 mm ratio E,F, Ø100 mm ratio E, F< 1200rpm	Ø90 mm ratio G, Ø100 mm ratio F > 1200 rpm and all codes G	
					Check 15.9 mm	Check 25 mm	Check 40 mm	Check 40 mm	
NS	Single Ball - Standard	Standard	Standard	Standard					—
ND	Double Ball	\$450	\$608	\$832					—
NP	Single Flat Valve	—	—	—				Standard	
LS	Single Hard 440C Ball and Seat	\$747	\$682	\$1,137					—
LD	Double Hard 440C Ball and Seat	\$1,125	\$1,010	\$1,715					—
KS	Slurry - 440C Single Ball & Seat w/larger clearance	\$847	\$748	\$1,376					—
KD	Slurry - 440C Double Ball & Seat w/more play	\$1,379	\$1,178	\$2,060					—
VS	Viscous Liquids spring loaded single ball	\$399	\$393	\$678					\$678
PVC/PVDF Liquid Ends									
NS	Single Ball								Standard
Diaphragm Rupture Detection Systems									
Description							Plungers Ø40, 50 mm	Plungers Ø63, 70, 80, 90, 100 mm	Price
N None (STANDARD)							Standard	Standard	
1	C6 Pressure Switch NEMA 4						\$2,954	\$3,233	
2	C8 Explosion proof switch						\$4,733	\$5,012	
3	C5 Gauge						\$1,908	\$2,187	
4	C9 Gauge and NEMA 4 Switch						\$3,477	\$3,756	
5	C8 Gauge & Explosion proof switch						\$5,256	\$5,535	
9	CT Manifold and connection for Pressure transmitter (transmitter is not included, but it must be defined according to following parameters : connection 1/2 NPT and vertical mounting)						\$2,954	\$3,233	
Z	Special (CZ)						Consult us	Consult us	

Continue to next page

Suction Connection Type and Rating		Price		
		Plunger diameters		
Threaded		Ø40 mm	Ø50 mm	Ø63, 70, 80, 90, 100 mm
VM	Male	Standard on Metallic	Standard on Metallic	Standard on Metallic
VF	Female	Standard on Plastic	Standard on Plastic	Standard on Plastic 1.5"
ANSI Flanges 316L ss		1/2"	1"	2"
HA	ANSI - Class 150	\$772	\$1,006	\$1,495
HB	ANSI - Class 300	\$816	\$1,006	\$1,540
HC	ANSI - Class 600	\$957	\$1,226	\$1,651
HD	ANSI - Class 1,500 - RF/SF	\$1,092	\$1,582	\$2,516
VA	ANSI - Class 150	\$505	\$705	\$999
VB	ANSI - Class 300	\$549	\$705	\$1,044
VC	ANSI - Class 600	\$690	\$925	\$1,155
VD	ANSI - Class 1,500 - RF/SF	\$825	\$1,281	\$2,020
ANSI Flanges Alloy 20		1/2"	1"	2"
HA	ANSI - Class 150	\$807	\$1,071	\$1,604
HB	ANSI - Class 300	\$858	\$1,071	\$1,656
HC	ANSI - Class 600	\$1,020	\$1,324	\$1,783
HD	ANSI - Class 1,500 - RF/SF	\$1,175	\$1,733	\$2,778
VA	ANSI - Class 150	\$540	\$770	\$1,108
VB	ANSI - Class 300	\$591	\$770	\$1,160
VC	ANSI - Class 600	\$753	\$1,023	\$1,287
VD	ANSI - Class 1,500 - RF/SF	\$908	\$1,432	\$2,282
ANSI Flanges PVC liquid ends (consult us for PVDF liquid ends)		DN15	DN25	DN40
VA	Vertical 150# Flat Face Socket Weld	\$75	\$41	—
HA	Horizontal 150# Flat Face Socket Weld	—	\$51	—
V1	Vertical Threaded 150# Flat Face	—	—	—
H1	Horizontal Threaded 150# Flat Face	—	—	—

Discharge Connection Type and Rating		Price		
		Plunger Diameters		
Threaded		Ø40 mm	Ø50 mm	Ø63, 70, 80, 90, 100 mm
VM	Male	Standard on Metallic	Standard on Metallic	Standard on Metallic
VF	Female	Standard on Plastic	Standard on Plastic	Standard on Plastic 1.5"
ANSI Flanges 316L ss		1/2"	1"	2"
HA	ANSI - Class 150	\$772	\$1,006	\$1,495
HB	ANSI - Class 300	\$816	\$1,006	\$1,540
HC	ANSI - Class 600	\$957	\$1,226	\$1,651
HD	ANSI - Class 1,500 - RF/SF	\$1,092	\$1,582	\$2,516
VA	ANSI - Class 150	\$505	\$705	\$999
VB	ANSI - Class 300	\$549	\$705	\$1,044
VC	ANSI - Class 600	\$690	\$925	\$1,155
VD	ANSI - Class 1,500 - RF/SF	\$825	\$1,281	\$2,020
ANSI Flanges Alloy 20		1/2"	1"	2"
HA	ANSI - Class 150	\$807	\$1,071	\$1,604
HB	ANSI - Class 300	\$858	\$1,071	\$1,656
HC	ANSI - Class 600	\$1,020	\$1,324	\$1,783
HD	ANSI - Class 1,500 - RF/SF	\$1,175	\$1,733	\$2,778
VA	ANSI - Class 150	\$540	\$770	\$1,108
VB	ANSI - Class 300	\$591	\$770	\$1,160
VC	ANSI - Class 600	\$753	\$1,023	\$1,287
VD	ANSI - Class 1,500 - RF/SF	\$908	\$1,432	\$2,282
ANSI Flanges PVC liquid ends (consult us for PVDF liquid ends)		DN15	DN25	DN40
VA	Vertical 150# Flat Face Socket Weld	\$75	\$41	—
HA	Horizontal 150# Flat Face Socket Weld	—	\$51	—
V1	Vertical Threaded 150# Flat Face	—	—	—
H1	Horizontal Threaded 150# Flat Face	—	—	—

Capacity Control Options		Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option	Standard
AW	Actuator Capacity Controller (ACC) IP68; 4-20mA Input/Output analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz, -40°C/°F	\$4,418
AE	Actuator Capacity Controller (ACC) Ex-proof; 4-20mA Input/Output analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz IP68 Ex d II B T4, -40°C/°F	\$5,364
HW	Actuator Capacity Controller (ACC) IP68; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz	\$5,302
HE	Actuator Capacity Controller (ACC) Exproof; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz	\$6,248

Housing Material Options		Price
N	Standard - FLG cast iron, down to -	Standard
2	FGS ductile cast iron, down to -40°C/°F	Consult us
3	DEP Shell (FGS parts under pressure)	Consult us

Oil Options		Price
N	Standart	Standard
2	Huile	
3	Low	\$523
4	Food grade	\$523
5	High	Consult us
9	Without oil	\$0

Motor Mount - Note code "A" below for multiplex		Price
B	NEMA 56C	\$0
C	NEMA 143 / 145TC	\$0
E	NEMA 182 / 184TC	\$0
G	NEMA 213 / 215TC	\$0
Q	IEC FF165	\$0
R	IEC FF215	\$0
S	IEC FF265	\$0
T	IEC FF300	\$0
A	No mount - use for all but first pump in a multiplex	\$0

Motor Frequency / Type / Number of Poles		Price
SN4	50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N4	60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5N6	50 Hz - NEMA - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N6	60 Hz - NEMA - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5M4	50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M4	60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5M6	50 Hz - IEC - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M6	60 Hz - IEC - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -

Motor Description		Price
MM	Milton Roy Supplied Motor (Separate Line Item)	\$ -
10	Pump supplied Less Motor - charge to cover added costs to test pump	\$ 298
AA	Multiplexed Pump	\$ -

Base/Multiplex		Price
1	Simplex (Welded Base)	\$ 979
2	Duplex (Welded Base)	Consult Factory
3	Triplex (Welded Base)	Consult Factory
A	Multiplex Pump	\$ -

Relief Valve Set Pressure - Value in BARg	
Enter pressure value - example - 20	

Drive	Liquid End	Material	Plunger	Gear	Multiplex	Area / ATEX	ATEX Probe	Special	
PL	G1	1	-	100	F	1	S	N	Z
Primary Code		Area Class		Option					
Nameplate Model #									

Instructions to select RPM Kits

- Refer to the primary code number on the nameplate
- Identify the code of the liquid end material
- Identify the plunger diameter
- Determine the stroking speed
 - Option 1 : Identify the Gear ratio code in Chart 2 **OR**
 - Option 2 : Refer to the Chart 3 for SPM calculation (Motor speed/ Gear ratio)
- Determine the Head size, depending on the plunger size (Refer to Chart 1)
- Determine the Check valve size (Chart 1)
- Determine the RPM Kit by selecting the Head size, Check valve size, Liquid end material, Check valve type and Leak detection from Chart 4

Chart 1

PL GSD Plunger Liquid End & Check Valve Size Chart				
Material	Plunger	SPM* (Refer to Chart 2)	Head Size	Check Valve Size
Metallic	040	<120	145	15.9
		>120	145	25
Plastic	040		145	25
	050		145	25
	063		225	40
	070		225	40
All	080		225	40
	090		225	40
	100		225	40

Chart 2 - Gear Ratio Calculation Example

RPM-145-15.9-316SS-ND-LD

*!! Blank No Leak Det**

Gear Ratio	Stroke frequency (spm)		relative to motor rotation speed (rpm)	
	50 Hz		60 Hz	
	960 rpm	1440 rpm	1152 rpm	1728 rpm
E 15:1 Gear Ratio			64	96
F 12:1 Gear Ratio			80	120
G 9.67:1 Gear Ratio	n/a on Plastic head Ø 90 at 100		149	179
H 8:1 Gear Ratio	n/a on PVC liquid end over 1200 RPM		180	N/A

Chart 3 - PrimeRoyal L GSD Example

Drive	Material	Plunger	Gear Code	Multiplex	SPM* (Refer to Chart 2)	Check Valve Type	Leak Det.	Head Size	Check Valve Size	RPM Kit	Description
PLG1	1	40	F	1	Motor Speed/ Gear Ratio	NS	With LD	145	25	RPM-145-25-316SS- NS	RPM KIT 145 GSD LD 25MM 316SS
GSD	316SS	40 mm	12:1	Simplex	1728/12 = 144 SPM	Single Ball	1/2/3/4/ 5				

Chart 4

PrimeRoyal L GSD Routine Maintenance Kit

Head Size	Check Valve Size	Material	Check Valve Type	# of Diaphragms	New RPM Kit	Description	Old Equivalent RPM Kit	Price
145	15.9	1- (316SS)	NS	Single	RPM-145-15.9-316SS-NS	RPM GSD 145 15.9 316 NS	RPM0020018	\$577
145	15.9	1- (316SS)	NS	Double	RPM-145-15.9-316SS-NS-LD	RPM GSD LD 145 15.9 316 NS LD	RPM0020035	\$724
145	15.9	1- (316SS)	ND	Single	RPM-145-15.9-316SS-ND	RPM GSD 145 15.9 316 ND	RPM0020177	\$634
145	15.9	1- (316SS)	ND	Double	RPM-145-15.9-316SS-ND-LD	RPM GSD LD 145 15.9 316 ND LD	RPM0020178	\$784
145	25	1- (316SS)	NS	Single	RPM-145-25-316SS-NS	RPM GSD 145 25 PVC NS	RPM0020019	\$640
145	25	1- (316SS)	NS	Double	RPM-145-25-316SS-ND-LD	RPM GSD LD 145 25 PVC NS LD	RPM0020036	\$788
145	25	1- (316SS)	ND	Single	RPM-145-25-316SS-ND	RPM GSD 145 25 316 ND	RPM0020179	\$755
145	25	1- (316SS)	ND	Double	RPM-145-25-316SS-ND-LD	RPM GSD LD 145 25 316 ND LD	RPM0020180	\$903
225	40	1- (316SS)	NS	Single	RPM-225-40-316SS-NS	RPM GSD 145 25 316 NS	RPM0020021	\$718
225	40	1- (316SS)	NS	Double	RPM-225-40-316SS-NS-LD	RPM GSD LD 145 25 316 NS LD	RPM0020038	\$1,046
225	40	1- (316SS)	ND	Single	RPM-225-40-316SS-ND	RPM GSD 225 40 PVC ND	RPM0020181	\$923
225	40	1- (316SS)	ND	Double	RPM-225-40-316SS-ND-LD	RPM GSD LD 225 40 PVC ND LD	RPM0020182	\$1,246
145	25	2- (PVC)	NS	Single	RPM-145-25-PVC-NS	RPM GSD 145 25 316 NS	RPM0020111	\$600
145	25	2- (PVC)	NS	Double	RPM-145-25-PVC-NS-LD	RPM GSD LD 145 25 316 NS LD	RPM0020115	\$748
225	40	2- (PVC)	NS	Single	RPM-225-40-PVC-NS	RPM GSD 225 40 316 NS	RPM0020113	\$1,215
225	40	2- (PVC)	NS	Double	RPM-225-40-PVC-NS-LD	RPM GSD LD 225 40 316 NS LD	RPM0020117	\$1,487

Notes: * Strokes Per Minute

(1) Single Diaphragm (Code N) = Without pressure gauge / without pressure switch/ without pressure transmitter

(2) Double Diaphragm (Other Codes) = With pressure gauge / with pressure switch/ without pressure transmitter

Check your Invoice or Order Acknowledgement to decode the model string

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PLH										
Material and Plunger Code										
Plunger Diameter	316 L				Alloy 20		PVC		PVDF	
	H1 Low Pressure ≤ 96 bar / 1392 psi	H3 High Pressure ≥ 96 bar / 1392 psi		H1 Low Pressure ≤ 96 bar / 1392 psi						
	Code	Price	Code	Price	Code	Price	Code	Price	Code	Price
20 mm	11-20	\$16,436	31-20	\$19,319	15-20	\$21,254				
25 mm	11-25	\$16,436	31-25	\$19,319	15-25	\$21,254				
32 mm	11-32	\$16,436	31-32	\$19,319	15-32	\$21,254				
40 mm	11-40	\$17,304			15-40	\$22,122				
63 mm	11-63	\$17,884			15-63	\$22,702				
115 mm	11-115	\$20,489			15-115	\$25,759	12-115	\$20,963	17-115	\$31,988

Gear Ratio										Stroke frequency (spm) relative to motor rotation speed (rpm)				Price	
										50 Hz	60 Hz	60 Hz	1728 rpm	Price	
E	15:1 Gear Ratio									64	96	77	115	\$0	
F	12:1 Gear Ratio									80	120	96	144	\$0	
G	9.67:1 Gear Ratio										149		NA	\$0	

Liquid End Option Selection

Metallic Head check valve selection reference data

Plunger Diameters	Gear ratio code	Motor RPM Range	Check size	H1 Heads (P ≤ 96 bar)		H3 Heads (P > 96 bar)	
				Standard Check valve	Standard Check valve	Standard Check valve	Standard Check valve
20 mm	All	All	9.52 mm	ND		LD	
25 mm	E	All	9.52 mm	ND		LD	
	F	0 to 1200 RPM	15.9 mm	NS		LS	
32 mm	G	1201 to 1800 RPM	9.52 mm	ND		LD	
	E and F	0 to 1200 RPM	15.9 mm	NS		LS	
40 mm	F	1201 to 1800 RPM	25 mm	NS			
	G	All	15.9 mm				
63 mm	E	All	25 mm	NS			
	F	0 to 1200 RPM	40 mm	NS			
115 mm	E	1201 to 1800 RPM	NP (flat check valve)				
	F and G	All					

Check Valve - 316L SS												
316 L SS liquid Ends			Plunger Diameter, Gear Code, and SPM									
20mm - all gear		25mm F > 1200 rpm, all G		40mm- F>1200 G - all rpm		115 mm						
25mm - E (all), F < 1200 rpm		32mm- E/F > 1200 rpm, G all		63 mm - all gear		E < 1200 rpm						
32mm - E & F < 1200 rpm		40mm- E all, F < 1200 rpm				E > 1200 rpm F & G - all						
9.52		15.9 mm ball		25 mm ball		40 mm ball						
NS Single Ball		Standard for H1 liquid end										
ND Double Ball		\$333		\$450		\$616						
NP Single Flat Valve - 316L seat/17.4 valve		—		—		—						
LS Single Hard Ball and Seat		Standard for H3 liquid end		\$682		\$842						
LD Double Hard Ball and Seat		Standard for H3 liquid end		\$833		\$1,010						
KS Slurry - 440C Single Ball & Seat w/more play		\$312 Adder for H1		\$1,270		\$1,270						
KD Slurry - 440C Double Ball & Seat w/more play		\$1,093		\$1,178		\$1,526						
VS Viscous Liquids spring loaded single ball		—		\$295		\$502						
Check Valve - Alloy 20												
			9.52									
			15.9 mm ball									
			25 mm ball									
			40 mm ball									
			40 mm ball									
NS Single Ball		Standard for H1 liquid end										
ND Double Ball		Standard for H1 liquid end										
NP Single Flat Valve - 316L seat/17.4 valve		—										
LS Single Hard Ball & Seat		Standard for H3 liquid end										
LD Double Hard 440C Ball and Seat		\$1,125										
KS Slurry - 440C Single Ball & Seat w/more play		\$846										
KD Slurry - 440C Double Ball & Seat w/more play		\$1,476										
VS Viscous Liquids Spring Loaded		\$398										
Check Valve - PVC / PVDF Liquid Ends												
NS Single Ball						Standard						

Diaphragm Rupture Detection Systems				Price		
Description			Plungers Ø20, 25, 32 mm	Plungers Ø40, 63 mm	Plunger Ø115 mm	
N	None (STANDARD)		Standard	Standard	Standard	
1	C6 Pressure Switch NEMA 4		\$3,820	\$4,878	\$5,214	
2	C8 Explosion proof switch		\$5,599	\$6,657	\$6,993	
3	C5 Gauge		\$2,774	\$3,832	\$4,168	
4	C9 Gauge and NEMA 4 Switch		\$4,343	\$5,401	\$5,737	
5	C8 Gauge & Explosion proof switch		\$6,122	\$7,180	\$7,516	
CT	Manifold and connection for Pressure transmitter					
9	(transmitter is not included, but it must be defined according to following parameters : connection 1/2 NPT and vertical		\$3,820	\$4,878	\$5,214	
Z	Special (CZ)		Consult us	Consult us	Consult us	

Liquid End Option Selection - Continued

Suction Connection Type and Rating			Price		
			Plunger Diameters		
			20 mm, 25 mm, 32 mm	40 mm, 63 mm	115 mm
VM	Male		Standard on Metallic	Standard on Metallic	Standard on Metallic
VF	Female				Standard on Plastic
ANSI Flanges 316L ss			1/2"	1"	1 1/2"
HA	ANSI - Class 150		\$772	\$1,006	\$1,219
HB	ANSI - Class 300		\$816	\$1,006	\$1,253
HC	ANSI - Class 600		\$957	\$1,226	\$1,341
HD	ANSI - Class 1,500 - RF/SF		\$1,092	\$1,582	\$2,005
VA	ANSI - Class 150		\$505	\$705	\$832
VB	ANSI - Class 300		\$549	\$705	\$866
VC	ANSI - Class 600		\$690	\$925	\$954
VD	ANSI - Class 1,500 - RF/SF		\$825	\$1,281	\$1,618
ANSI Flanges Alloy 20			1/2"	1"	1 1/2"
HA	ANSI - Class 150		\$807	\$1,071	\$1,303
HB	ANSI - Class 300		\$858	\$1,071	\$1,342
HC	ANSI - Class 600		\$1,020	\$1,324	\$1,443
HD	ANSI - Class 1,500 - RF/SF		\$1,175	\$1,733	\$2,207
VA	ANSI - Class 150		\$540	\$770	\$916
VB	ANSI - Class 300		\$591	\$770	\$955
VC	ANSI - Class 600		\$753	\$1,023	\$1,056
VD	ANSI - Class 1,500 - RF/SF		\$908	\$1,432	\$1,820
ANSI Flanges PVC liquid ends (consult us for PVDF liquid ends)			1/2"	1"	1 1/2"
V1	Vertical Threaded 150# Flat Face		—	—	—
H1	Horizontal Threaded 150# Flat Face		—	—	—
VA	Vertical 150# Flat Face Socket Weld		\$75	\$41	—
HA	Horizontal 150# Flat Face Socket Weld		—	\$51	—

Discharge Connection Type and Rating			Price		
			Plunger Diameters		
			Ø20, 25, 32 mm	Ø40, 63 mm	Ø115 mm
VM	Male		Standard on Metallic	Standard on Metallic	Standard on Metallic
VF	Female				Standard on Plastic
ANSI Flanges 316L ss			1/2"	1"	1 1/2"
HA	ANSI - Class 150		\$772	\$1,006	\$1,219
HB	ANSI - Class 300		\$816	\$1,006	\$1,253
HC	ANSI - Class 600		\$957	\$1,226	\$1,341
HD	ANSI - Class 1,500 - RF/SF		\$1,092	\$1,582	\$2,005
VA	ANSI - Class 150		\$505	\$705	\$832
VB	ANSI - Class 300		\$549	\$705	\$866
VC	ANSI - Class 600		\$690	\$925	\$954
VD	ANSI - Class 1,500 - RF/SF		\$825	\$1,281	\$1,618
ANSI Flanges Alloy 20			1/2"	1"	1 1/2"
HA	ANSI - Class 150		\$807	\$1,071	\$1,303
HB	ANSI - Class 300		\$858	\$1,071	\$1,342
HC	ANSI - Class 600		\$1,020	\$1,324	\$1,443
HD	ANSI - Class 1,500 - RF/SF		\$1,175	\$1,733	\$2,207
VA	ANSI - Class 150		\$540	\$770	\$916
VB	ANSI - Class 300		\$591	\$770	\$955
VC	ANSI - Class 600		\$753	\$1,023	\$1,056
VD	ANSI - Class 1,500 - RF/SF		\$908	\$1,432	\$1,820
ANSI Flanges PVC liquid ends (consult us for PVDF liquid ends)			1/2"	1"	1 1/2"
V1	Vertical Threaded 150# Flat Face		—	—	—
H1	Horizontal Threaded 150# Flat Face		—	—	—
VA	Vertical 150# Flat Face Socket Weld		\$75	\$41	—
HA	Horizontal 150# Flat Face Socket Weld		—	\$51	—

Drive Option Selection

Capacity Control Options		Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option	Standard
AW	Actuator Capacity Controller (ACC) IP68; 4-20mA Input/Output analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz, -40°C/°F	\$4,418
AE	Actuator Capacity Controller (ACC) Ex-proof; 4-20mA Input/Output analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz IP68 Ex d II B T4, -40°C/°F	\$5,364
HW	Actuator Capacity Controller (ACC) IP68; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/°F	\$5,302
HE	Actuator Capacity Controller (ACC) Exproof; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/°F	\$6,248

Housing Material Options		Price
N	Standard - FLG cast iron, down to -	Standard
2	FGS ductile cast iron, down to -40°C/°F	Consult us

Oil Options		Price
N	Standard (+50°C/112°F to -10°C/14°F)	Standard
3	Low temp (down to -40°C/°F) - Ambient temperature	\$523
4	Food grade	\$523
5	High Temp (+110°C / +230°F)	\$523
9	Without oil	\$0

Motor Mount - Note code "A" below for multiplex		Price
B	NEMA 56C	\$0
C	NEMA 143 / 145TC	\$0
E	NEMA 182 / 184TC	\$0
G	NEMA 213 / 215TC	\$0
Q	IEC FF165	\$0
R	IEC FF215	\$0
S	IEC FF265	\$0
T	IEC FF300	\$0
A	No mount - use for all but first pump in a multiplex	\$0

BOM Additions Code Selection

Motor Frequency / Type / Number of Poles		Price
5N4	50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N4	60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5N6	50 Hz - NEMA - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N6	60 Hz - NEMA - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5M4	50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M4	60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5M6	50 Hz - IEC - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M6	60 Hz - IEC - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -

Motor Description		Price
MM	Milton Roy Supplied Motor (Separate Line Item)	-
10	Pump supplied Less Motor - charge to cover	\$ 298
AA	Multiplexed Pump	-

Base/Multiplex		Price
S	Shipping (Unpainted Steel Channel)	\$ 155
1	Simplex (Welded Base)	\$ 979
2	Duplex (Welded Base)	Consult Factory
3	Triplex (Welded Base)	Consult Factory
A	Multiplex Pump	-

Relief Valve Set Pressure - Value in BAR	
Enter pressure value - example - 300	

Drive	Liquid End	Material	Plunger	Gear	Multiplex	Area / ATEX	ATEX Probe	Special			
PL	H1	1	-	115	F	1	S	N			
Primary Code Basic Attributes & Performance				Area Class	Option						
Nameplate Model #											

Instructions to select RPM Kits

- Refer to the primary code number on the nameplate
- Identify the code of the liquid end material
- Identify the plunger diameter
- Determine the stroking speed

Option 1 : Identify the Gear ratio code (in Chart 2,

OR

Option 2 : Refer to the Chart 3 for SPM calculation (Motor speed/ Gear ratio)

- Determine the Head size, depending on the plunger size (Refer to Chart 1)
- Determine the Check valve size (Chart 1)
- Determine the RPM Kit by selecting the Head size, Check valve size, Liquid end material, Check valve type and Leak detection from Chart 4

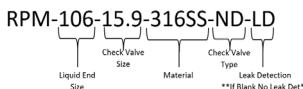


Chart 2 - Gear Ratio Calculation Example									
Gear Ratio						Stroke frequency (spm) relative to motor rotation speed (rpm)			
						50 Hz	60 Hz		
E	15:1 Gear Ratio					360 rpm	1440 rpm	1152 rpm	1728 rpm
F	12:1 Gear Ratio						64	96	77
G	9.67:1 Gear Ratio						80	120	96
								144	NA

Drive	Material	Plunger	Gear Code	Multiplex	SPM* (Refer to Chart 2)	Check Valve Type	Leak Det.	Head Size	Check Valve Size	RPM Kit	Description
PLH1	1	40	F	1	Motor Speed/Gear Ratio	NS	With LD	166	15.9	RPM-166-15.9-316SS-NS	RPM KIT 166 HPD LD 15.9 316SS
HPD	316SS	40 mm	12:1	Simplex	1152/12 = 96 SPM	Single Ball	1/2/3/4/5				

Chart 4									
PrimeRoyal L HPD Routine Maintenance Kit									
Head Size	Check Valve Size	Material	Check Valve Type	# of Diaphragms	New RPM Kit	Description	Old Equivalent RPM Kit	Price	
106	9.52	1- (316SS)	ND	Single	RPM-106-9.52-316SS-ND	RPM HD 106 9.52 316 ND	RPM0020012	\$432	
106	9.52	1- (316SS)	ND	Double	RPM-106-9.52-316SS-ND-LD	RPM HD 106 9.52 316 ND LD	RPM0020029	\$634	
106	15.9	1- (316SS)	NS	Single	RPM-106-15.9-316SS-NS	RPM HD 106 15.9 316 NS	RPM0020011	\$434	
106	15.9	1- (316SS)	NS	Double	RPM-106-15.9-316SS-NS-LD	RPM HD 106 15.9 316 NS LD	RPM0020028	\$635	
106	15.9	1- (316SS)	ND	Single	RPM-106-15.9-316SS-ND	RPM HD 106 15.9 316 ND	RPM0020167	\$493	
106	15.9	1- (316SS)	ND	Double	RPM-106-15.9-316SS-ND-LD	RPM HD 106 15.9 316 ND LD	RPM0020168	\$692	
166	15.9	1- (316SS)	NS	Single	RPM-166-15.9-316SS-NS	RPM HD 166 15.9 316 NS	RPM0020014	\$433	
166	15.9	1- (316SS)	NS	Double	RPM-166-15.9-316SS-NS-LD	RPM HD 166 15.9 316 NS LD	RPM0020031	\$816	
166	15.9	1- (316SS)	ND	Single	RPM-166-15.9-316SS-ND	RPM HD 166 15.9 316 ND	RPM0020169	\$493	
166	15.9	1- (316SS)	ND	Double	RPM-166-15.9-316SS-ND-LD	RPM HD 166 15.9 316 ND LD	RPM0020170	\$873	
166	25	1- (316SS)	NS	Single	RPM-166-25-316SS-NS	RPM HD 166 25 316 NS	RPM0020015	\$477	
166	25	1- (316SS)	NS	Double	RPM-166-25-316SS-NS-LD	RPM HD 166 25 316 NS LD	RPM0020032	\$879	
166	25	1- (316SS)	ND	Single	RPM-166-25-316SS-ND	RPM HD 166 25 316 ND	RPM0020171	\$591	
166	25	1- (316SS)	ND	Double	RPM-166-25-316SS-ND-LD	RPM HD 166 25 316 ND LD	RPM0020172	\$970	
266	40	1- (316SS)	NS	Single	RPM-266-40-316SS-NS	RPM HD 266 40 316 NS	RPM0020016	\$792	
266	40	1- (316SS)	NS	Double	RPM-266-40-316SS-NS-LD	RPM HD 266 40 316 NS LD	RPM0020033	\$1,168	
266	40	1- (316SS)	ND	Single	RPM-266-40-316SS-ND	RPM HD 266 40 316 ND	RPM0020173	\$973	
266	40	1- (316SS)	ND	Double	RPM-266-40-316SS-ND-LD	RPM HD 266 40 316 ND LD	RPM0020174	\$1,367	

Continue to next page for more Head Sizes

Notes: * Strokes Per Minute

(1) Single Diaphragm (Code N) = Without pressure gauge / without pressure switch/ without pressure transmitter

(2) Double Diaphragm (Other Codes) = With pressure gauge / with pressure switch/ without pressure transmitter

Check your Invoice or Order Acknowledgement to decode the model string

Chart 4

PrimeRoyal L HPD Routine Maintenance Kit							
Head Size	Check Valve Size	Material	Check Valve Type	New RPM Kit	Description	Old Equivalent RPM Kit	Price
106	15.9	2-(PVC)	NS	RPM-106-15.9-PVC-NS	RPM HPD 106 15.9 PVC NS	RPM0020091	\$413
106	15.9	2-(PVC)	NS	RPM-106-15.9-PVC-NS-LD	RPM HPD LD 106 15.9 PVC NS LD	RPM0020101	\$616
166	15.9	2-(PVC)	NS	RPM-166-15.9-PVC-NS	RPM HPD 166 15.9 PVC NS	RPM0020175	\$413
166	15.9	2-(PVC)	NS	RPM-166-15.9-PVC-NS-LD	RPM HPD LD 166 15.9 PVC NS LD	RPM0020176	\$750
166	25	2-(PVC)	NS	RPM-166-25-PVC-NS	RPM HPD 166 25 PVC NS	RPM0020095	\$440
166	25	2-(PVC)	NS	RPM-166-25-PVC-NS-LD	RPM HPD LD 166 25 PVC NS LD	RPM0020105	\$779
266	40	2-(PVC)	NS	RPM-266-40-PVC-NS	RPM HPD 266 40 PVC NS	RPM0020097	\$1,287
266	40	2-(PVC)	NS	RPM-266-40-PVC-NS-LD	RPM HPD LD 266 40 PVC NS LD	RPM0020107	\$1,602

Notes: * Strokes Per Minute

(1) Single Diaphragm (Code N) = Without pressure gauge / without pressure switch/ without pressure transmitter

(2) Double Diaphragm (Other Codes) = With pressure gauge / with pressure switch/ without pressure transmitter

Check your Invoice or Order Acknowledgement to decode the model string

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PLM		Price			
Plunger Diameter	Material and Plunger Code	316 L		17.4 PH	
		M1		M2 (HP, previous MX)	
		Code	Price	Code	Price
10 mm		11-10	\$19,694	23-10	\$51,473
11 mm				23-11	\$46,004
12 mm		11-12	\$21,162		
13 mm				23-13	\$46,004
14 mm		11-14	\$21,162		
16 mm		11-16	\$23,061		
18 mm		11-18	\$23,061		
20 mm		11-20	\$34,740		
22 mm		11-22	\$37,437		
25 mm		11-25	\$37,437		

Gear Ratio		Stroke frequency (spm) relative to motor rotation speed (rpm)				Price	
		50 Hz		60 Hz			
		960 rpm	1440 rpm	1152 rpm	1728 rpm		
E	15:1 Gear Ratio	64	96	77	115	\$0	
F	12:1 Gear Ratio	80	120	96	144	\$0	
G	9.67:1 Gear Ratio		149		179	\$0	
H	8:1 Gear Ratio		180		N/A	\$0	

Liquid End Option Selection

Check Valve		Price	
LD	Double Hard Ball and Seat - STANDARD	Standard	
Diaphragm Rupture Detection Systems			
Description		M1 Heads	M2 Heads
N	None	Standard	—
1	C6 Pressure Switch NEMA 4	350 bar (5076 psi) max	\$3,665
2	C8 Explosion proof switch	350 bar (5076 psi) max	\$5,444
3	C5 Gauge	350 bar (5076 psi) max	\$2,619
4	C9 Gauge and NEMA 4 Switch	350 bar (5076 psi) max	\$4,188
5	C8 Gauge & Explosion proof switch	350 bar (5076 psi) max	\$5,967
9	CT Manifold and connection for Pressure transmitter (transmitter is not included, 350 bar (5076 psi) max		\$3,665
Z	Special (CZ)	Consult us	Consult us

Suction Connection		Price		
Threaded		M1 Heads		M2 Heads
VM	Male	Standard		Standard
ANSI Flanges 316L ss				
HA	ANSI -	1/2" Ø10, 12, 14, 16, 18 mm	1" Ø20, 22, 25 mm	1/2" Ø10, 11, 13 mm
HB	ANSI -	\$772	\$1,006	—
HC	ANSI - Class 600	\$816	\$1,006	—
HD	ANSI - Class 1,500 - RF/SF	\$957	\$1,226	—
VA	ANSI -	\$1,092	\$1,582	—
VB	ANSI -	\$505	\$705	—
VC	ANSI - Class 600	\$549	\$705	—
VD	ANSI - Class 1,500 - RF/SF	\$690	\$925	—
		\$825	\$1,281	—

Discharge Connection		Price		
Threaded		M1 Heads		M2 Heads
VM	Male	Standard		Standard
ANSI Flanges 316L ss				
HA	ANSI -	1/2" Ø10, 12, 14, 16, 18 mm	1" Ø20, 22, 25 mm	1/2" Ø10, 11, 13 mm
HB	ANSI -	\$772	\$1,006	—
HC	ANSI - Class 600	\$816	\$1,006	—
HD	ANSI - Class 1,500 - RF/SF	\$957	\$1,226	—
VA	ANSI -	\$1,092	\$1,582	—
VB	ANSI -	\$505	\$705	—
VC	ANSI - Class 600	\$549	\$705	—
VD	ANSI - Class 1,500 - RF/SF	\$690	\$925	—
		\$825	\$1,281	—

Drive Option Selection

Capacity Control Options		Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option	Standard
AW	Actuator Capacity Controller (ACC) IP68; 4-20mA Input/Output analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz, -40°C/-40°C	\$4,418
AE	Actuator Capacity Controller (ACC) Ex-proof; 4-20mA Input/Output analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz IP68 Ex d II B T4, -40°C/-40°C	\$5,364
HW	Actuator Capacity Controller (ACC) IP68; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz	\$5,302
HE	Actuator Capacity Controller (ACC) Exproof; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz	\$6,248

Housing Material Options		Price
N	Standard - FLG cast iron, down	Standard
2	FGS ductile cast iron, down to -	Consult us

Oil Options		Price
N	Standart	Standard
3	Low	\$523
4	Food grade	\$523
5	High Temp	Consult us
9	Without oil	\$0

Motor Mount - Note code "A" below for multiplex		Price
B	NEMA 56C	\$0
C	NEMA 143 / 145TC	\$0
E	NEMA 182 / 184TC	\$0
G	NEMA 213 / 215TC	\$0
Q	IEC FF165	\$0
R	IEC FF215	\$0
S	IEC FF265	\$0
T	IEC FF300	\$0
A	No mount - use for all but first pump in a multiplex	\$0

BOM Additions Code Selection

Motor Frequency / Type / Number of Poles		Price
5N4	50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N4	60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5N6	50 Hz - NEMA - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N6	60 Hz - NEMA - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5M4	50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M4	60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5M6	50 Hz - IEC - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M6	60 Hz - IEC - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -

Motor Description		Price
MM	Milton Roy Supplied Motor (Separate Line Item)	-
10	Pump supplied Less Motor - charge to cover added costs to test pump	\$ 298
AA	Multiplexed Pump	-

Base/Multiplex		Price
S	Shipping (Unpainted Steel Channel)	\$ 155
1	Simplex (Welded Base)	\$ 979
2	Duplex (Welded Base)	Consult Factory
3	Triplex (Welded Base)	Consult Factory
A	Multiplex Pump	-

Relief Valve Set Pressure - Value in BAR	
Enter pressure value - example - 300	

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PLP								
Material and Plunger Code		Plunger Diameter	P2 Heads (N type)		P3 Heads (UT type)		P4 Heads (NX type)	
Model Code	Code		Price	Code	Price	Code	Price	
43-10		10 mm				43-10	\$16,718	
43-12		12 mm				43-12	\$17,187	
43-16		16 mm				43-16	\$18,273	
23-19	23-19	19.1 mm	\$14,786					
21-25	21-25	25.4 mm	\$15,064					
31-32		31.8 mm		31-32	\$15,743			
31-38		38.1 mm		31-38	\$16,658			
31-45		44.5 mm		31-45	\$16,875			
31-51		50.8 mm		31-51	\$17,461			
31-57		57.2 mm		31-57	\$17,664			
31-63		63.5 mm		31-63	\$17,664			
31-70		69.9 mm		31-70	\$19,186			
31-80		79.4 mm		31-80	\$19,994			
31-89		88.9 mm		31-89	\$19,994			
31-102		101.6 mm		31-102	\$20,379			

Gear Ratio		Stroke frequency (spm) relative to motor rotation speed (rpm)				Price
Gear Ratio		50 Hz		60 Hz		
		960 rpm	1440 rpm	1152 rpm	1728 rpm	
E	15:1 Gear Ratio	64	96	77	115	\$0
F	12:1 Gear Ratio	80	120	96	144	\$0
G	9.67:1 Gear Ratio		149		179	\$0

Check valve		P2 and P3 Heads				P4 Heads	
NS	Description	Plungers Ø25, 32 mm	Plungers Ø38, 45, 51, 57 mm	Plungers Ø63, 70, 80, 89, 102 mm	Plungers Ø10, 12 mm	Plungers Ø16mm	
NS	Single Ball - Standard	Standard	Standard	Standard	—	—	
ND	Double Ball	\$333	\$450	\$616	—	—	
LS	Single Hard 440C Ball and Seat	\$553	\$682	\$842	—	—	
LD	Double Hard 440C Ball and Seat	\$833	\$1,010	\$1,270	Std	Std	
KS	Slurry - 440C Single Ball & Seat w/larger clearance	\$627	\$748	\$1,019	—	—	
KD	Slurry - 440C Double Ball & Seat w/more play	\$1,021	\$1,178	\$1,526	—	—	
VS	Viscous Liquids spring loaded single ball	\$295	\$393	\$502	—	—	

Packing and Plunger Material		Price
Description		All plungers
N STANDARD		Standard

Suction Connection Type and Rating		P2 and P3 Heads			P4 Heads	
Threaded		Plungers Ø19, 25, 32 mm	Plungers Ø38, 45, 51, 57 mm	Plungers Ø63, 70, 80, 89, 102 mm	Plungers Ø10, 12 mm	Plunger Ø16 mm
VM	Male	1/2" Standard	1" Standard	2" Standard	3/8" Standard	1/2" Standard
VF	Female	—	—	—	—	—
ANSI Flanges 316L ss		1/2 "	1"	2"		1/2 "
HA	ANSI - Class 150	\$772	\$1,006	\$1,495	—	\$772
HB	ANSI - Class 300	\$816	\$1,006	\$1,540	—	\$816
HC	ANSI - Class 600	\$957	\$1,226	\$1,651	—	\$957
HD	ANSI - Class 1,500 - RF/SF	\$1,092	\$1,582	\$2,516	—	\$1,092
VA	ANSI - Class 150	\$505	\$705	\$999	—	\$505
VB	ANSI - Class 300	\$549	\$705	\$1,044	—	\$549
VC	ANSI - Class 600	\$690	\$925	\$1,155	—	\$690
VD	ANSI - Class 1,500 - RF/SF	\$825	\$1,281	\$2,020	—	\$825

Discharge Connection Type and Rating		P2 and P3 Heads			P4 Heads	
Threaded		Plungers Ø19, 25, 32 mm	Plungers Ø38, 45, 51, 57 mm	Plungers Ø63, 70, 80, 89, 102 mm	Plungers Ø10, 12 mm	Plunger Ø16 mm
VM	Male	1/2" Standard	1" Standard	2" Standard	3/8" Standard	1/2" Standard
VF	Female	—	—	—	—	—
ANSI Flanges 316L ss		1/2 "	1"	2"		1/2 "
HA	ANSI - Class 150	\$772	\$1,006	\$1,495	—	\$772
HB	ANSI - Class 300	\$816	\$1,006	\$1,540	—	\$816
HC	ANSI - Class 600	\$957	\$1,226	\$1,651	—	\$957
HD	ANSI - Class 1,500 - RF/SF	\$1,092	\$1,582	\$2,516	—	\$1,092
VA	ANSI - Class 150	\$505	\$705	\$999	—	\$505
VB	ANSI - Class 300	\$549	\$705	\$1,044	—	\$549
VC	ANSI - Class 600	\$690	\$925	\$1,155	—	\$690
VD	ANSI - Class 1,500 - RF/SF	\$825	\$1,281	\$2,020	—	\$825

Capacity Control Options		Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option	Standard
AW	Actuator Capacity Controller (ACC) IP68; 4-20mA Input/Output analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz, -40°C/+70°C	\$4,418
AE	Actuator Capacity Controller (ACC) Ex-proof; 4-20mA Input/Output analog signal; 24VDC ; 85V to 260V 1 phase 50/60Hz IP68 Ex d II B T4, -40°C/+70°C	\$5,364
HW	Actuator Capacity Controller (ACC) IP68; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz	\$5,302
HE	Actuator Capacity Controller (ACC) Exproof; Fieldbus HART protocol 7.0 or 4-20mA Input/Output analog signal; 24VDC; 85V to 260V 1 phase 50/60Hz	\$6,248

Housing Material Options		Price
N	d - FLG	Standard
2	ductile	\$0
3	Shell	Consult us

Oil Options		Price
N	Standar	Standard
3	Low	\$523
9	Without	\$0
4	Food	\$523

Motor Mount - Note code "A" below for multiplex		Price
B	NEMA 56C	\$0
C	NEMA 143 / 145TC	\$0
E	NEMA 182 / 184TC	\$0
G	NEMA 213 / 215TC	\$0
P	IEC FF130	\$0
Q	IEC FF165	\$0
R	IEC FF215	\$0
S	IEC FF265	\$0
T	IEC FF300	\$0
A	No mount - use for all but first pump in a multiplex	\$0

Motor Frequency / Type / Number of Poles		Price
5N4	50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N4	60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5N6	50 Hz - NEMA - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N6	60 Hz - NEMA - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5M4	50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M4	60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5M6	50 Hz - IEC - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M6	60 Hz - IEC - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -

Motor Description		Price
MM	Milton Roy Supplied Motor (Separate Line Item)	\$ -
10	Pump supplied Less Motor - charge to cover added costs to test pump	\$ 298
AA	Multiplex Pump	\$ -

Base/Multiplex		Price
S	Shipping (Unpainted Steel Channel)	\$ 155
1	Simplex (Welded Base)	\$ 979
2	Duplex (Welded Base)	Consult Factory
3	Triplex (Welded Base)	Consult Factory
A	Multiplex Pump	\$ -

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PNH							
Material and Plunger Code							
Metallic Liquid Ends							
Plunger Diameter	316 L						
	H1 Low Pressure	H2 Med. Pressure	H3 High Pressure	H4 (Old 8 series)	Alloy 20		
	Code	Price	Code	Price	Code	Price	
25 mm	11-25	\$15,695			31-25	\$21,322	
28 mm					41-28	\$34,633	
32 mm	11-32	\$19,104			41-32	\$33,931	
35 mm					41-35	\$34,633	
40 mm	11-40	\$19,104			41-40	\$33,931	
45 mm					41-45	\$34,633	
50 mm	11-50	\$19,104			41-50	\$33,931	
55 mm	11-55	\$19,104			41-55	\$33,931	
60 mm					41-60	\$34,633	
63 mm	11-63	\$19,963	21-63	\$23,666	41-63	\$33,931	
80 mm	11-80	\$19,963	21-80	\$23,666		15-80	\$25,233
85 mm	11-85	\$20,664				15-85	\$25,934
90 mm	11-90	\$19,963	21-90	\$23,666		15-90	\$25,233
100 mm	11-100	\$20,231	21-100	\$23,934		15-100	\$25,501
110 mm					41-110	\$34,704	
125 mm	11-125	\$32,476				15-125	\$37,176
145 mm	11-145	\$32,476				15-145	\$37,176
Plastic Liquid Ends							
Plunger Diameter	PVC	Polyethylene head (with PVC check valves, PTFE balls, PE seats)		PVDF			
	Code	Price	Code	Price	Code	Price	
100 mm		12-100	\$22,537			17-100	\$33,562
125 mm				14-125	\$29,477		
145 mm				14-145	\$29,477		
Gear Ratio		Stroke frequency (spm) relative to motor rotation speed (rpm)			Price		
		50 hz	60 hz				
		960 rpm	1440 rpm	1152 rpm	1728 rpm		
E	15:1 Gear Ratio		64	96	77	115	\$0
F	12:1 Gear Ratio		78	117	94	140	\$0
G	9.67:1 Gear Ratio			149		179	\$0
H	8.25:1 Gear ratio	N/A on H1 Ø25, 32, 55, 100, 110, 125 and 145		175		N/A	\$0

PRIMERoyal® N - PTFE HPD diaphragm liquid ends

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Liquid End Option Selection

Liquid End Options section 1 sample code - continue to next page

Continue to next page

Suction Connection		Price		
Threaded				
VM	Male	Standard on metallic plunger codes ≤ 100 mm		
VF	Female	Standard Plastic liquid end is only available with 100 mm plunger size		
ANSI Flanges 316L ss		1/2" Plungers Ø25 mm	1" Plungers Ø28, 32, 35, 40, 45, 50, 55 mm	1 1/2" Plungers Ø60, 63, 80, 85, 90, 100 mm
HA	ANSI - Class 150	\$772	\$1,006	\$1,219
HB	ANSI - Class 300	\$816	\$1,006	\$1,253
HC	ANSI - Class 600	\$957	\$1,226	\$1,341
HD	ANSI - Class 1,500 - RF/SF	\$1,092	\$1,582	\$2,005
VA	ANSI - Class 150	\$505	\$705	\$832
VB	ANSI - Class 300	\$549	\$705	\$866
VC	ANSI - Class 600	\$690	\$925	\$954
VD	ANSI - Class 1,500 - RF/SF	\$825	\$1,281	\$1,618
ANSI Flanges Alloy 20		1/2" Plungers Ø25 mm	1" Plungers Ø28, 32, 35, 40, 45, 50, 55 mm	1 1/2" Plungers Ø60, 63, 80, 85, 90, 100 mm
HA	ANSI - Class 150	\$807	\$1,071	\$1,303
HB	ANSI - Class 300	\$858	\$1,071	\$1,342
HC	ANSI - Class 600	\$1,020	\$1,324	\$1,443
HD	ANSI - Class 1,500 - RF/SF	\$1,175	\$1,733	\$2,207
VA	ANSI - Class 150	\$540	\$770	\$916
VB	ANSI - Class 300	\$591	\$770	\$955
VC	ANSI - Class 600	\$753	\$1,023	\$1,056
VD	ANSI - Class 1,500 - RF/SF	\$908	\$1,432	\$1,820
ANSI Flanges PVC liquid ends (consult us for PVDF liquid ends)		1/2"	1"	1 1/2"
VA	Vertical 150# Flat Face Socket Weld			Consult us
HA	Horizontal 150# Flat Face Socket Weld	—	—	—
V1	Vertical Threaded 150# Flat Face	—	—	—
H1	Horizontal Threaded 150# Flat Face	—	—	—

Liquid End Option Selection - Continued

Discharge Connection Type and Rating		Price		
Threaded				
VM	Male	Standard on metallic plunger codes ≤ 100 mm		
VF	Female	Standard Plastic liquid end is only available with 100 mm plunger size		
ANSI Flanges 316L ss		1/2" Plungers Ø25 mm	1" Plungers Ø28, 32, 35, 40, 45, 50, 55 mm	1 1/2" Plungers Ø60, 63, 80, 85, 90, 100 mm
HA	ANSI - Class 150	\$772	\$1,006	\$1,219
HB	ANSI - Class 300	\$816	\$1,006	\$1,253
HC	ANSI - Class 600	\$957	\$1,226	\$1,341
HD	ANSI - Class 1,500 - RF/SF	\$1,092	\$1,582	\$2,005
VA	ANSI - Class 150	\$505	\$705	\$832
VB	ANSI - Class 300	\$549	\$705	\$866
VC	ANSI - Class 600	\$690	\$925	\$954
VD	ANSI - Class 1,500 - RF/SF	\$825	\$1,281	\$1,618
ANSI Flanges Alloy 20		1/2" Plungers Ø25 mm	1" Plungers Ø28, 32, 35, 40, 45, 50, 55 mm	1 1/2" Plungers Ø60, 63, 80, 85, 90, 100 mm
HA	ANSI - Class 150	\$807	\$1,071	\$1,303
HB	ANSI - Class 300	\$858	\$1,071	\$1,342
HC	ANSI - Class 600	\$1,020	\$1,324	\$1,443
HD	ANSI - Class 1,500 - RF/SF	\$1,175	\$1,733	\$2,207
VA	ANSI - Class 150	\$540	\$770	\$916
VB	ANSI - Class 300	\$591	\$770	\$955
VC	ANSI - Class 600	\$753	\$1,023	\$1,056
VD	ANSI - Class 1,500 - RF/SF	\$908	\$1,432	\$1,820
ANSI Flanges PVC liquid ends (consult us for PVDF liquid ends)		1/2"	1"	1 1/2"
VA	Vertical 150# Flat Face Socket Weld			Consult us
HA	Horizontal 150# Flat Face Socket Weld		—	—
V1	Vertical Threaded 150# Flat Face	—	—	—
H1	Horizontal Threaded 150# Flat Face	—	—	—

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PRIMERoyal® N - PTFE HPD diaphragm liquid ends

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Drive Option Selection

Capacity Control Options

		Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option	Standard
B3	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 1 phase 120V - IP68	\$10,617
BC	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 1 phase 120V - Explosionproof CSA FM Class I Group C, D div 1&2 - Class II Group E, F, G div 1&2	\$12,924
B2	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IP68	\$9,736
BB	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IECEEx-Atex Ex d II B T4 ; CSA Class I Group C, D div 1&2 - Class II Group E, F, G div 1&2	\$12,043
B1	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase (1 phase possible) - IP68	\$9,736
BA	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - ATEX CE II 2G Ex d IIB T4 -Ambient T°: -20°C /+70°C - IP68	\$12,043

Housing Material Options

		Price
N	Standard - FLG cast iron, down to -	Standard
2	FGS ductile cast iron, down to -	Consult us

Oil Options

		Price
N	Standa	Standard
3	Low temp (down to -40°C/F) - Ambient temperature	\$1,046
4	Food grade	\$1,046
5	High Temp (+110°C / +230°F)	\$1,046
9	Without oil	\$0

Motor Mount - Note code "A" below for multiplex

		Price
B	NEMA 56C	\$0
E	NEMA 182 / 184TC	\$0
G	NEMA 213 / 215TC	\$0
H	NEMA 254 / 256TC	\$0
L	NEMA 286TC	\$0
R	IEC FF215	\$0
S	IEC FF265	\$0
T	IEC FF300	\$0
U	IEC FF350	\$0
A	No mount - use for all but first pump in a multiplex	\$0

Motor Frequency / Type / Number of Poles

		Price
5N4	50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N4	60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5N6	50 Hz - NEMA - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N6	60 Hz - NEMA - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5M4	50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M4	60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5M6	50 Hz - IEC - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M6	60 Hz - IEC - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -

Motor Description

		Price
MM	Milton Roy Supplied Motor (Separate Line Item)	-
10	Pump supplied Less Motor - charge to cover added costs to test pump	\$ 298
AA	Multiplexed Pump	-

Base/Multiplex

		Price
S	Shipping (Unpainted Steel Channel)	\$ 206
1	Simplex (Welded Base)	\$ 979
2	Duplex (Welded Base)	Consult Factory
3	Triplex (Welded Base)	Consult Factory
A	Multiplex Pump	-

Relief Valve Set Pressure - Value in BAR

Enter pressure value - example - 300

Drive	Liquid End	Material	Plunger	Gear	Multiplex	Area / ATEX	ATEX Probe	Special	
PN	H1	1	-	100	E	1	S	N	Z
Primary Code					Area Class		Option		
Basic Attributes & Performance					Nameplate Model #				

Instructions to select RPM Kits

- | | | | | |
|----|---|--|----------|-----|
| 1. | Refer to the primary code number on the nameplate | | 080 | All |
| 2. | Identify the code of the liquid end material | | 085 | |
| 3. | Identify the plunger diameter | | 090 | |
| 4. | Determine the stroking speed | | 100 | |
| | Option 1 : Identify the Gear ratio code in Chart 2 | | Metallic | 125 |
| | OR | | | 145 |
| | Option 2 : Refer to the Chart 3 for SPM calculation
(Motor speed/ Gear ratio) | | Plastic | 125 |
| | | | | 145 |
| 5. | Determine the Head size, depending on the plunger size (Refer to Chart 1) | | | |
| 6. | Determine the Check valve size (Chart 1) | | | |
| 7. | Determine the RPM Kit by selecting the Head size, Check valve size, Liquid end material, Check valve type and Leak detection from Chart 4 | | | |

PN HPD Plunger Liquid End & Check Valve Size Chart				
Material	Plunger	SPM* (Refer to Chart 2)	Head Size	Check Valve Size
All	025	All	106	15.9
	032		166	25
	040		166	25
	050		166	25
	055		166	25
	063		266	40
	080		266	40
	085		266	40
	090		266	40
	100		266	40
Metallic	125		366	73
	145		366	73
Plastic	125		366	70
	145		366	70

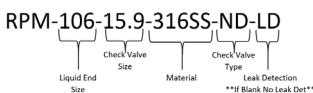


Chart 2 - Gear Ratio Calculation Example					
Gear Ratio	Stroke frequency (spm) relative to motor rotation speed (rpm)				
	50 hz	60 hz	960 rpm	1440 rpm	1152 rpm
E 15:1 Gear Ratio	64	96	77	115	115
F 12:1 Gear Ratio	78	117	94	140	140
G 9.67:1 Gear Ratio		149			179
H 8.25:1 Gear ratio	N/A	175			N/A
I 6.67:1 Gear Ratio	224	336	224	336	224
J 5.55:1 Gear Ratio	256	384	256	384	256
K 4.8:1 Gear Ratio	288	432	288	432	288
L 4.2:1 Gear Ratio	320	480	320	480	320
M 3.67:1 Gear Ratio	352	528	352	528	352
N 3.2:1 Gear Ratio	384	576	384	576	384
O 2.8:1 Gear Ratio	416	624	416	624	416
P 2.4:1 Gear Ratio	448	672	448	672	448
Q 2.1:1 Gear Ratio	480	720	480	720	480
R 1.8:1 Gear Ratio	512	768	512	768	512
S 1.6:1 Gear Ratio	544	816	544	816	544
T 1.4:1 Gear Ratio	576	864	576	864	576
U 1.2:1 Gear Ratio	608	912	608	912	608
V 1.1:1 Gear Ratio	640	960	640	960	640

Chart 3 - PrimeRoyal N HPD Example											
Drive	Material	Plunger	Gear Code	Multiplex	SPM* (Refer to Chart 2)	Check Valve Type	Leak Det.	Head Size	Check Valve Size	RPM Kit	Description
PNH1	1	100	E	1	Motor Speed/ Gear Ratio	NS	With LD	266	40	RPM-266-40-316SS- NS-LD	RPM KIT 266 HPD LD 40MM 316SS
HPD	316SS	100 mm	15:1	Simplex	1152/15 = 77 SPM	Single Ball	1/2/3/4/5				

Chart 4

PrimeRoyal N HPD Routine Maintenance Kit									
Head Size	Check Valve Size	Material	Check Valve Type	# of Diaphragms	New RPM Kit	Description	Old Equivalent RPM Kit	Price	
106	15.9	1- (316SS)	NS	Single	RPM-106-15.9-316SS-NS	RPM HPD 106 15.9 316 NS	RPM0020011	\$434	
106	15.9	1- (316SS)	NS	Double	RPM-106-15.9-316SS-NS-LD	RPM HPD LD 106 15.9 316 NS LD	RPM0020028	\$635	
106	15.9	1- (316SS)	ND	Single	RPM-106-15.9-316SS-ND	RPM HPD 106 15.9 316 ND	RPM0020167	\$493	
106	15.9	1- (316SS)	ND	Double	RPM-106-15.9-316SS-ND-LD	RPM HPD LD 106 15.9 316 ND LD	RPM0020168	\$692	
166	25	1- (316SS)	NS	Single	RPM-166-25-316SS-NS	RPM HPD 166 25 316 NS	RPM0020015	\$477	
166	25	1- (316SS)	NS	Double	RPM-166-25-316SS-NS-LD	RPM HPD LD 166 25 316 NS LD	RPM0020032	\$879	
166	25	1- (316SS)	ND	Single	RPM-166-25-316SS-ND	RPM HPD 166 25 316 ND	RPM0020171	\$591	
166	25	1- (316SS)	ND	Double	RPM-166-25-316SS-ND-LD	RPM HPD LD 166 25 316 ND LD	RPM0020172	\$970	
266	40	1- (316SS)	NS	Single	RPM-266-40-316SS-NS	RPM HPD 266 40 316 NS	RPM0020016	\$792	
266	40	1- (316SS)	NS	Double	RPM-266-40-316SS-NS-LD	RPM HPD LD 266 40 316 NS LD	RPM0020033	\$1,168	
266	40	1- (316SS)	ND	Single	RPM-266-40-316SS-ND	RPM HPD 266 40 316 ND	RPM0020173	\$973	
266	40	1- (316SS)	ND	Double	RPM-266-40-316SS-ND-LD	RPM HPD LD 266 40 316 ND LD	RPM0020174	\$1,367	
366	73	1- (316SS)	NP	Single	RPM-366-73-316SS-NP	RPM HPD 366 73 316 NP	RPM0020017	\$1,717	
366	73	1- (316SS)	NP	Double	RPM-366-73-316SS-NP-LD	RPM HPD LD 366 73 316 NP LD	RPM0020034	\$3,877	

Continue to next page for more Head Sizes

Notes: * Strokes Per Minute

(1) Single Diaphragm (Code N) = Without pressure gauge / without pressure switch/ without pressure transmitter

(2) Double Diaphragm (Other Codes) = With pressure gauge / with pressure switch/ without pressure transmitter

Check your Invoice or Order Acknowledgement to decode the model string

Chart 4

PrimeRoyal N HPD Routine Maintenance Kit								
Head Size	Check Valve Size	Material	Check Valve Type	# of Diaphragms	New RPM Kit	Description	Old Equivalent RPM Kit	Price
106	15.9	2-(PVC)	NS	Single	RPM-106-15.9-PVC-NS	RPM HPD 106 15.9 PVC NS	RPM0020091	\$413
106	15.9	2-(PVC)	NS	Double	RPM-106-15.9-PVC-NS-LD	RPM HPD 106 15.9 PVC NS LD	RPM0020101	\$616
166	25	2-(PVC)	NS	Single	RPM-166-25-PVC-NS	RPM HPD 166 25 PVC NS	RPM0020095	\$440
166	25	2-(PVC)	NS	Double	RPM-166-25-PVC-NS-LD	RPM HPD 166 25 PVC NS LD	RPM0020105	\$779
266	40	2-(PVC)	NS	Single	RPM-266-40-PVC-NS	RPM HPD 266 40 PVC NS	RPM0020097	\$1,287
266	40	2-(PVC)	NS	Double	RPM-266-40-PVC-NS-LD	RPM HPD 266 40 PVC NS LD	RPM0020107	\$1,602
366	70	2-(PVC)	NS	Single	RPM-366-70-PP-NS	RPM HPD 366 70 PP NS	RPM0020099	\$1,828
366	70	2-(PVC)	NS	Double	RPM-366-70-PP-NS-LD	RPM HPD 366 70 PP NS LD	RPM0020109	\$3,099

Notes: * Strokes Per Minute

(1) Single Diaphragm (Code N) = Without pressure gauge / without pressure switch/ without pressure transmitter

(2) Double Diaphragm (Other Codes) = With pressure gauge / with pressure switch/ without pressure transmitter

Check your Invoice or Order Acknowledgement to decode the model string

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PNM		316 L		17.4 PH	
		M1 (M)		M2 (MX)	
Plunger Diameter	Code	Price	Code	Price	
14 mm	—	—	23-14	\$66,972	
16 mm	11-16	\$32,226	23-16	\$62,827	
18 mm	11-18	\$38,705	—	—	
19 mm	—	—	23-19	\$62,827	
20 mm	11-20	\$39,531	—	—	
22 mm	11-22	\$39,531	23-22	\$62,827	
27 mm	—	—	23-27	\$62,827	

Gear Ratio		Stroke frequency (spm) relative to motor rotation speed (rpm)				Price
		50 hz		60 hz		
		960 rpm	1440 rpm	1152 rpm	1728 rpm	
E	15:1 Gear Ratio	64	96	77	115	\$0
F	12:1 Gear Ratio	78	117	94	140	\$0
G	9.67:1 Gear Ratio		149		179	\$0
H	8.25:1 Gear ratio		175		N/A	\$0

Liquid End Option Selection

Check Valve					
LD	Double Hard Ball and Seat - STANDARD			Standard	

Diaphragm Rupture Detection Systems		Description	M1 Heads	M2 Head
N	None		Standard	—
1	C6 Pressure Switch NEMA 4	350 bar (5076 psi) max	\$3,665	\$945
2	C8 Explosion proof switch	350 bar (5076 psi) max	\$5,444	\$2,825
3	C5 Gauge	350 bar (5076 psi) max	\$2,619	\$0
4	C9 Gauge and NEMA 4 Switch	350 bar (5076 psi) max	\$4,188	\$1,418
5	C8 Gauge & Explosion proof switch	350 bar (5076 psi) max	\$5,967	\$3,026
9	CT Manifold and connection for Pressure transmitter (transmitter 350 bar (5076 psi) max		\$3,665	\$1,046

Suction Connection		M1 Heads		M2 Heads	
Threaded		Standard		—	
VM	Male	—		NPT f Standard	
VF	Female	—		NPT f Standard	
ANSI Flanges 316L ss		1/2" Plungers Ø16 mm	1" Plungers Ø18, 20, 22 mm	3/4" All plungers	
HA	ANSI - Class 150	\$772	\$1,006	—	
HB	ANSI - Class 300	\$816	\$1,006	—	
HC	ANSI - Class 600	\$957	\$1,226	—	
HD	ANSI - Class 1,500 - RF	\$1,092	\$1,582	—	
VA	ANSI - Class 150	\$505	\$705	—	
VB	ANSI - Class 300	\$549	\$705	—	
VC	ANSI - Class 600	\$690	\$925	—	
VD	ANSI - Class 1,500 - RF	\$825	\$1,281	—	

Discharge Connection		M1 Heads		M2 Heads	
Threaded		Standard		—	
VM	Male	—		NPT f Standard	
VF	Female	—		NPT f Standard	
ANSI Flanges 316L ss		1/2" Plungers Ø16 mm	1" Plungers Ø18, 20, 22 mm	3/4" All plungers	
HA	ANSI - Class 150	\$772	\$1,006	—	
HB	ANSI - Class 300	\$816	\$1,006	—	
HC	ANSI - Class 600	\$957	\$1,226	—	
HD	ANSI - Class 1,500 - RF	\$1,092	\$1,582	—	
VA	ANSI - Class 150	\$505	\$705	—	
VB	ANSI - Class 300	\$549	\$705	—	
VC	ANSI - Class 600	\$690	\$925	—	
VD	ANSI - Class 1,500 - RF	\$825	\$1,281	—	

Capacity Control Options		Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option	Standard
FS	Fixed stroke (API 675)	\$0
B3	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 1 phase 120V - IP68	\$10,617
BC	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 1 phase 120V - Explosionproof CSA FM Class I Group C, D div 1&2 - Class II Group E, F, G div 1&2	\$12,924
B2	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IP68	\$9,736
BB	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IECEx-Atex Ex d II B T4 ; CSA Class I Group C, D div 1&2 - Class II Group E, F, G div 1&2	\$12,043
B1	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase (1 phase possible) - IP68	\$9,736
BA	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - ATEX CE II 2G Ex d II B T4 -Ambient T°: -20°C /+70°C - IP68	\$12,043

Housing Material Options		Price
N	Standard - FLG cast iron, down to -20°C/-4°F	Standard
2	FGS ductile cast iron, down to -40°C/-40°F	Consult us

Oil Options		Price
N	Standard (+50°C/112°F to -10°C/14°F)	Standard
3	Low temp (down to -40°C/-40°F)	\$1,046
4	Food grade	\$1,046
5	High Temp	Consult us
9	Without oil	\$0

Motor Mount - Note code "A" below for multiplex		Price
E	NEMA 182 / 184TC	\$0
G	NEMA 213 / 215TC	\$0
H	NEMA 254 / 256TC	\$0
R	IEC	\$0
S	IEC FF265	\$0
T	IEC	\$0
U	IEC FF350	\$0
A	No	\$0

BOM Additions Code Selection

Motor Frequency / Type / Number of Poles		Price
5N4	50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N4	60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5N6	50 Hz - NEMA - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N6	60 Hz - NEMA - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5M4	50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M4	60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5M6	50 Hz - IEC - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M6	60 Hz - IEC - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -

Motor Description		Price
MM	Milton Roy Supplied Motor (Separate Line Item)	\$ -
10	Pump supplied Less Motor - charge to cover added costs to test pump	\$ 298
AA	Multiplexed Pump	\$ -

Base/Multiplex		Price
S	Shipping (Unpainted Steel Channel)	\$ 206
1	Simplex (Welded Base)	\$ 979
2	Duplex (Welded Base)	Consult Factory
3	Triplex (Welded Base)	Consult Factory
A	Multiplex Pump	\$ -

Relief Valve Set Pressure - Value in BAR	
Enter pressure value - example - 300	

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PNP

Material and Plunger Code

Model Code	Plunger Diameter	P2 Head (N)		P3 Head (UT)		P4 Head (NX)	
		Code	Price	Code	Price	Code	Price
43-16	16 mm					43-16	\$29,687
43-20	20 mm					43-20	\$30,046
41-25	25 mm					41-25	\$31,782
21-32	32 mm	21-32	\$22,271				
21-40	40 mm	21-40	\$22,271				
31-45	44.5 mm			31-45	\$22,665		
31-51	50.8 mm			31-51	\$23,593		
31-57	57.2 mm			31-57	\$24,337		
31-63	63.5 mm			31-63	\$25,265		
31-70	69.9 mm			31-70	\$26,103		
31-80	79.4 mm			31-80	\$27,124		
31-89	88.9 mm			31-89	\$27,867		
31-102	101.6 mm			31-102	\$28,610		
31-127	127 mm			31-127	\$29,352		
31-152	152.4 mm			31-152	\$31,953		

Gear Ratio

Gear Ratio		Stroke frequency (spm) relative to motor rotation speed (rpm)				Price	
		50 Hz		60 Hz			
		960 rpm	1440 rpm	1152 rpm	1728 rpm		
E	15:1 Gear Ratio	64	96	77	115	\$0	
F	12:1 Gear Ratio	78	117	94	140	\$0	
G	9.67:1 Gear Ratio		149		179	\$0	

Check Valve

		P2 and P3 Heads				P4 Heads	
		plungers Ø32, 40, 45, 51 mm	plungers Ø57, 63, 70, 80, 89 mm	plungers Ø102 mm	plungers Ø127, 152 mm	plungers Ø16 mm	plungers Ø20, 25 mm
		Ball 25 mm	Ball 40 mm	Ball 50 mm	Ball 70 mm	Ball 9.52 mm	Ball 15.9 mm
NS	Single Ball		Standard	—	—	—	—
ND	Double Ball	\$450	\$616	—	—	—	—
NP	Single Flat Valve	—		Standard	Standard	—	—
LS	Single Hard 440C Ball and Seat	Standard	\$842	—	—	—	—
LD	Double Hard 440C Ball and Seat	\$1,010	\$1,270	—	—	Standard	Standard
LP	Single Hard Flat Valve :seat and valve 17.4PH	—	\$0	—	—		
KS	Slurry - 440C Single Ball & Seat w/larger clearance	\$748	\$1,019	—	—	—	—
KD	Slurry - 440C Double Ball & Seat w/more play	\$1,178	\$1,526	—	—	—	—
VS	Viscous Liquids spring loaded single ball	\$393	\$502	—	—	—	—
PVC Heads							
NS	Single Ball					Standard	

Packing and Plunger Material

Description		Price
N	STANDARD	All plungers

Continue to next page

Liquid End Option Selection - Continued

Suction Connection Type and Rating

Threaded		P2 and P3 Heads				P4 Heads		
		Plungers Ø32, 38, 45, 51 mm	Plunger Ø57 mm	Plungers Ø63, 70, 80, 89, 102 mm	plungers Ø127, 152 mm	Plunger Ø16 mm	Plunger Ø20 mm	Plunger Ø25 mm
VM	Male	1" Standard	1 1/2" Std	2" Standard	—	—	—	1" Standard
VF	Female	—	—	—	—	.375 Std	.75 Std	—
ANSI Flanges 316L ss		1 "	1.5"	2"	3"			
HA	ANSI - Class 150	\$1,006	\$1,219	\$1,495	Standard	—	—	—
HB	ANSI - Class 300	\$1,006	\$1,253	\$1,540	\$3,065	—	—	—
HC	ANSI - Class 600	\$1,226	\$1,341	\$1,651	\$3,739	—	—	—
HD	ANSI - Class 1,500 - RF/SF	\$1,582	\$2,005	\$2,516	Consult us	—	—	—
VA	ANSI - Class 150	\$705	\$832	\$999	Standard	—	—	—
VB	ANSI - Class 300	\$705	\$866	\$1,044	\$1,934	—	—	—
VC	ANSI - Class 600	\$925	\$954	\$1,155	\$2,608	—	—	—
VD	ANSI - Class 1,500 - RF/SF	\$1,281	\$1,618	\$2,020	Consult us	—	—	—

Discharge Connection Type and Rating

Threaded		P2 and P3 Heads				P4 Heads		
		Plungers Ø32, 38, 45, 51 mm	Plunger Ø57 mm	Plungers Ø63, 70, 80, 89, 102 mm	plungers Ø127, 152 mm	Plunger Ø16 mm	Plunger Ø20 mm	Plunger Ø25 mm
VM	Male	1" Standard	1 1/2" Std	2" Standard	—	—	—	1" Standard
VF	Female	—	—	—	—	.375 Std	.75 Std	—
ANSI Flanges 316L ss		1 "	1.5"	2"	3"			
HA	ANSI - Class 150	\$1,006	\$1,219	\$1,495	Standard	—	—	—
HB	ANSI - Class 300	\$1,006	\$1,253	\$1,540	\$3,065	—	—	—
HC	ANSI - Class 600	\$1,226	\$1,341	\$1,651	\$3,739	—	—	—
HD	ANSI - Class 1,500 - RF/SF	\$1,582	\$2,005	\$2,516	Consult us	—	—	—
VA	ANSI - Class 150	\$705	\$832	\$999	Standard	—	—	—
VB	ANSI - Class 300	\$705	\$866	\$1,044	\$1,934	—	—	—
VC	ANSI - Class 600	\$925	\$954	\$1,155	\$2,608	—	—	—
VD	ANSI - Class 1,500 - RF/SF	\$1,281	\$1,618	\$2,020	Consult us	—	—	—

Drive Option Selection

Capacity Control Options		Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option	Standard
FS	Fixed stroke (API 675)	\$0
B3	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 1 phase 120V - IP68	\$10,617
BC	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 1 phase 120V - Explosionproof CSA FM Class I Group C, D div 1&2 - Class II Group E, F	\$12,924
B2	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IP68	\$9,736
BB	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IECEx-ATEX Ex d II B T4 ; CSA Class I Group C, D div 1&2 - Class II Group E, F	\$12,043
B1	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase (1 phase possible) - IP68	\$9,736
BA	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - ATEX CE II 2G Ex d IIB T4 -Ambient T°: -20°C/+70°C - IP68	\$12,043

Housing Material Options		Price
N	Standard - FLG cast iron, down to -20°C/-4°F	Standard
2	FGS ductile cast iron, down to -40°C/-40°F	Consult us

Oil Options		Price
N	Standard (+50°C/112°F to -10°C/14°F)	Standard
3	Low temp (down to -40°C/-40°F)	\$1,046
4	Food grade	\$1,046
9	Without oil	\$0

Motor Mount - Note code "A" below for multiplex		Price
B	NEMA 56C	\$ -
C	NEMA 143TC	\$ -
D	NEMA 145TC	\$ -
E	NEMA 182 / 184TC	\$0
G	NEMA 213 / 215TC	\$0
H	NEMA 254 / 256TC	\$0
R	IEC FF215	\$0
S	IEC FF265	\$0
T	IEC FF300	\$0
A	No mount - use for all but first pump in a multiplex	\$0

Motor Frequency / Type / Number of Poles		Price
SN4	50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N4	60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
5N6	50 Hz - NEMA - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6N6	60 Hz - NEMA - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
SM4	50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M4	60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
SM6	50 Hz - IEC - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -
6M6	60 Hz - IEC - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM	\$ -

Motor Description		Price
MM	Milton Roy Supplied Motor (Separate Line Item)	\$ -
10	Pump supplied Less Motor - charge to cover added costs to test pump	\$ 298
AA	Multiplexed Pump	\$ -

Base/Multiplex		Price
S	Shipping (Unpainted Steel Channel)	\$ 206
1	Simplex (Welded Base)	\$ 979
2	Duplex (Welded Base)	Consult Factory
3	Triplex (Welded Base)	Consult Factory
A	Multiplex Pump	\$ -

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PQH		Material and Plunger Code							
		Plunger Diameter		H1 - Low Pressure		H4 - High Pressure		H5 - High Pressure Double diaphragm (HX)	
		Code	Price	Code	Price	Code	Price	Code	Price
	32 mm							51-32	\$41,082
	35 mm							51-35	\$41,082
	40 mm					41-40	\$35,212		
	45 mm					41-45	\$35,212		
	50 mm					41-50	\$35,212		
	55 mm					41-55	\$35,212		
	60 mm					41-60	\$35,212		
	63 mm					41-63	\$35,212		
	65 mm					41-65	\$35,212		
	70 mm					41-70	\$35,800		
	75 mm					41-75	\$36,386		
	80 mm					41-80	\$36,974		
	85 mm					41-85	\$37,560		
	90 mm					41-90	\$38,734		
	95 mm					41-95	\$39,908		
	100 mm					41-100	\$41,082		
	105 mm					41-105	\$42,256		
	110 mm					41-110	\$43,429		
	115 mm					41-115	\$44,603		
	120 mm					41-120	\$46,950		
	125 mm					41-125	\$48,124		
	130 mm					41-130	\$48,711		
	135 mm					41-135	\$49,298		
	140 mm					41-140	\$49,885		
	145 mm			11-145	\$51,645	41-145	\$52,819		
Gear Ratio		Stroke frequency (spm) relative to motor rotation speed (rpm)						Price	
								50 Hz	60 Hz
								1440 rpm	1728 rpm
B	29.5:1 Gear ratio							48	58
D	19.67:1 Gear ratio							73	88
E	15.33:1 Gear ratio							93	112
F	12.25:1 Gear ratio							117	140
G	9.8:1 Gear ratio							146	175
H	8.2:1 Gear ratio	Ø40 to Ø85 only. N/A with H5						175	N/A
Multiplex								Price	
		For duplex & triplex, configure each pump separately - add multiplex charge to 1st pump only - See other instructions related to multiplex in motor mount and base selection.							
1	Simplex							Standard	
2	Duplex - Liquid ends and drive options identical							\$1,427	
3	Triplex - Liquid ends and drive options identical							\$2,385	
2	Multiplex with more than 3 heads or Heterogen Multiplexage							Consult us	
PQH	41-55	B	1						

Options Selection - Pump Area Hazard Classification

ATEX explosionproof area		Price	
S	Safe area (Not in an ex-proof area)		\$ -
A	Ex-proof area - ATEX rating not required	1 Probe required on the drive	Consult us
B	ATEX 2G-T3		\$ -
C	ATEX 2G-T4	1 Probe required on the drive	Consult us
F	ATEX 3G-T3		\$ -
G	ATEX 3G-T4	1 Probe required on the drive	Consult us
Probe for Product Protection- Single drive probe required for T4 Ambient Rating (135 °C/275 °F)		Price per probe	
N	Without probe - Standard	Standard	
1	PT100 probe, 3-wire - Signal processing by customer	\$880	
2	4-20 mA probe - Signal processing by customer	\$1,225	
3	Foundation Fieldbus probe - Signal processing by customer	\$2,755	
Z	Other probe	Consult us	
Special Options			
N	For standard pump with no special option requirement, please leave this code blank.	\$ -	
Z	Special options	Consult us	
S	N	N	Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

The code on the nameplate will consist of the selections above. Example:

PQH41-55B1SNN

\$35,212

Model Code Example Price

Continue to next page

Liquid End Option Selection

Check Valve		H4 Heads (HPD, 8 series)										H1 Heads (HPD, 6 series)	H5 Heads (HX)
		Ø40, Ø45mm		Ø50mm		Ø55mm		Ø60mm		Ø63 to 110mm	Ø115 to 145mm	Ø145mm	All Plungers
		Plungers		Pressure		Maximum SPM		≤200 bars >200 bars		≤140 bars >140 bars			
316 L Liquid Ends		146		175		146		175		146		175	
Size 25 mm		Size 25 mm		Size 40 mm		Size 40 mm		Size 40 mm		Size 40 mm		Size 50 mm	
NS	Single ball	—	—	—	—	\$ - Standard	—	\$ - Standard	—	—	—	—	—
ND	Double Ball	—	—	—	—	\$ 616	—	\$ 616	—	—	—	—	—
NP	Single Flat Valve	—	\$ - Standard	—	\$ - Standard	—	\$ - Standard	—	\$ - Standard	\$ Standard	\$ Standard	\$ Standard	—
LS	Single Hard 440C Ball and Seat	\$ - Standard	—	\$ - Standard	—	\$ 842	—	\$ 842	—	—	—	—	\$ - Standard
LD	Double Hard 440C Ball and Seat	\$ 1,010	—	\$ 1,010	—	\$ 1,270	—	\$ 1,270	—	—	—	—	—
LP	Single Hard Flat Valve :seat and valve 17.4PH	—	—	—	—	—	—	—	—	—	—	—	—
KS	Slurry - 440C Single Ball & Seat w/larger clearance	—	—	—	—	\$ 1,019	—	\$ 1,019	—	—	—	—	—
KD	Slurry - 440C Double Ball & Seat w/more play	—	—	—	—	\$ 1,526	—	\$ 1,526	—	—	—	—	—
HS	H2SO4 Single Alloy 276 or 904L Ball/904L Seat	—	—	—	—	\$ 1,328	—	\$ 1,328	—	—	—	—	—
HD	H2SO4 Double Alloy 276 or 904L Ball/904L Seat	—	—	—	—	\$ 1,991	—	\$ 1,991	—	—	—	—	—
VS	Viscous Liquids spring loaded single ball	—	—	—	—	\$ 502	—	\$ 502	—	—	—	—	—
TS	Polyelectrolytes-single ball disch. spring load	—	—	—	—	—	—	—	—	—	—	—	—
SS	Anti-siphoning - single suct/disch 2nd ball spring load	—	—	—	—	\$ 709	—	\$ 709	—	—	—	—	—
Wetted o-ring													
1	PTFE	STANDARD on H4 (Plungers Ø40 to 145 mm) and on H1 (Plunger Ø145 mm)										\$ -	
2	Viton	STANDARD on H5 (Plungers Ø32 and 35 mm)										\$ -	
Diaphragm Rupture Detection Systems													
Code		Description										H1 Heads	H4 and H5 Heads
N	None											Standard	—
2	C8 Explosion proof switch											\$7,756	\$2,825
3	C5 Gauge											\$4,931	Standard
9	CT Manifold and connection for Pressure transmitter (transmitter is not included, but it must be defined according to following parameters : connection 1/2 NPT and vertical mounting)											\$5,977	\$1,046
0	Connection port 1/2" NPT-female for pressure transmitter 1/2" NPT-male (pressure transmitter is not included)											\$5,756	\$825
Z	Special (CZ)											Consult us	
NS	1	N											

Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

PRIMEROYAL® Q - PTFE diaphragm liquid ends

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Liquid End Option Selection - Continued

Suction Orientation											
		Head tpe	H5	H4							
		Plunger Diameters	32, 35 mm	40, 45 mm and 50 mm (NA at 175SPM)	50 mm (at 175SPM) and 55, 60 mm	63, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110 mm	115, 120, 125, 130, 135, 140, 145 mm				
V	Vertical (std)		Standard	Standard	Standard	Standard	Standard				
H	Horizontal		\$301	\$267	\$387	\$496	\$1,131				
Suction Connection - Type											
1	Gas					\$ -					
2	NPT					\$ -					
3	Welded Flanges	Price include with valid selection of Connection Type and Rating									
Suction Connection Type and Rating											
Threaded											
M	Male										
F	Female										
Head tpe		H5	H4			H1					
Plunger Diameters		32, 35 mm	40, 45 mm and 50 mm (NA at 175SPM)	50 mm (at 175SPM) and 55, 60 mm	63, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110 mm	115, 120, 125, 130, 135, 140, 145 mm					
ANSI Flanges 316L ss		1"	1"	1 1/2"	2"	3"					
A	ANSI - Class 150	\$433	\$433	\$560	\$727	\$1,575					
B	ANSI - Class 300	\$433	\$433	\$594	\$772	\$1,662					
C	ANSI - Class 600	\$653	\$653	\$682	\$883	\$2,336					
D	ANSI - Class 1,500 - RF/SF	\$1,009	\$1,009	\$1,346	\$1,748	Consult us					
E	ANSI - Class 1,500 - RTJ	\$1,100	\$1,100	\$1,421	Consult us	Consult us					
G	ANSI - Class 2,500 - RTJ	\$1,715	\$1,715	\$2,130	—	Consult us					
DIN Flanges 316 ss complying to EN1092-1 or EN1759-1		DN25	DN25	DN40	DN50	DN80					
J	EN1759-1 Class 150	\$433	\$433	\$526	\$784	\$1,611					
L	EN1759-1 Class 600	\$653	\$653	\$791	\$1,190	\$2,277					
O	EN1759-1 Class 1500	Consult us	Consult us	Consult us	Consult us	Consult us					
P	EN1092-1 PN100	\$644	\$644	\$784	\$1,178	Consult us					
R	EN1092-1 PN160	\$976	\$976	\$1,186	\$1,781	Consult us					
S	EN1092-1PN40	\$403	\$403	\$502	\$749	Consult us					

Options Code section 2 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

PRIMEROYAL® Q - PTFE diaphragm liquid ends

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Liquid End Option Selection - Continued

Discharge Orientation		Head tpe	H5	H4				H1
		Plunger Diameters	32, 35 mm	40, 45 mm and 50 mm (NA at 175SPM)	50 mm (at 175SPM) and 55, 60 mm	63, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110 mm	115, 120, 125, 130, 135, 140, 145 mm	145 mm
V	Vertical (std)		Standard	Standard	Standard	Standard	Standard	Standard
H	Horizontal		\$301	\$267	\$387	\$496	\$1,131	\$1,131
Discharge Connection								
1	Gas							\$ -
2	NPT							\$ -
3	Welded Flanges				Price include with valid selection of Connection Type and Rating			
Discharge Connection Type and Rating								
Threaded		M Male						
		F Female						
Head tpe		H5		H4			H1	
Plunger Diameters		32, 35 mm	40, 45 mm and 50 mm (NA at 175SPM)	50 mm (at 175SPM) and 55, 60 mm	63, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110 mm	115, 120, 125, 130, 135, 140, 145 mm	145 mm	
ANSI Flanges 316L ss		1"	1"	1 1/2"	2"	3"	3"	
B	ANSI - Class 300	\$433	\$433	\$594	\$772	\$1,662	\$1,662	
C	ANSI - Class 600	\$653	\$653	\$682	\$883	\$2,336	\$2,336	
D	ANSI - Class 1,500 - RF/SF	\$1,009	\$1,009	\$1,346	\$1,748	Consult us	Consult us	
E	ANSI - Class 1,500 - RTJ	\$1,100	\$1,100	\$1,421	Consult us	Consult us	Consult us	
G	ANSI - Class 2,500 - RTJ	\$1,715	\$1,715	\$2,130	—	Consult us	Consult us	
DIN Flanges 316 ss complying to EN1092-1 or EN1759-1		DN25	DN25	DN40	DN50	DN80	DN80	
J	EN1759-1 Class 150	\$433	\$433	\$526	\$784	\$1,611	\$1,611	
L	EN1759-1 Class 600	\$653	\$653	\$791	\$1,190	\$2,277	\$2,277	
O	EN1759-1 Class 1500	Consult us	Consult us	Consult us	Consult us	Consult us	Consult us	
P	EN1092-1 PN100	\$644	\$644	\$784	\$1,178	Consult us	Consult us	
R	EN1092-1 PN160	\$976	\$976	\$1,186	\$1,781	Consult us	Consult us	
S	EN1092-1 PN40	\$403	\$403	\$502	\$749	Consult us	Consult us	
Liquid Temperature Options								
								H1, H4 and H5 head
N	Standard Liquid Temperature Range 10° C (50° F) to 95° C (203° F)						Standard	
	High Temp Liquids - includes PTFE diaphragm/Viton seal - Liquid Temperature 95° C (203° F) to 110° C (230° F), T° return valve and oil. Note : Select the rigid relief valve and high temperature oil, if needed. High temperature liquid ends require generic Z code.						Consult us	
Liquid End Jackets								
		Head tpe	H5	H4				H1
		Plunger Diameters	32, 35 mm	40, 45, 50 mm	55, 60 mm	63, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110	115, 120, 125, 130, 135, 140, 145 mm	145 mm
N	None (Standard)	Standard	Standard	Standard	Standard	Standard	Standard	
1	Heating jacket	—	\$2,375	\$2,375	\$2,598	\$2,718	\$2,694	
Liquid End Surface Finish								
		Head tpe	H5	H4				H1
		Plunger Diameters	32, 35 mm	40, 45, 50 mm	55, 60 mm	63, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110	115, 120, 125, 130, 135, 140, 145 mm	145 mm
N	None (Standard)	Standard	Standard	Standard	Standard	Standard	Standard	
D	Descale/passivate (Valve DS)	\$566	\$566	\$566	\$797	\$1,360	\$1,360	
A	Food grade (Select the check valve and the connection, if needed)	\$1,612	\$1,612	\$1,612	\$1,612	\$1,612	—	
Advanced Options								
V	Z	M	N	N	N	N	\$ -	

Options Code section 3 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

PRIMEROYAL® Q - PTFE diaphragm liquid ends

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Drive Option Selection

Capacity Control Options				Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option			Standard
B1	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - IP68			\$12,771
BA	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - ATEX CE II 2G Ex d IIB T4 -Ambient T°: -20°C /+70°C - IP68			\$14,913
B2	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IP68			\$12,771
BB	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IECEx-Atex Ex d II B T4 ; CSA Class I Group C, D div 1&2 - Class II Group E, F, G div 1&2			\$14,913
P1	Pneumatic actuator, outside of ATEX area			\$19,198
PA	Ex-proof pneumatic actuator			\$20,648
Housing Material Options				Price
N	Standard - FGL cast iron, down to -20°C/-4°F			Standard
2	FGS ductile cast iron, down to -40°C/-4°F			\$5,742
3	DEP Shell (FGS parts under pressure)			Consult us
Environment Options				Price
N	Design standard			Standard
R	PSV rigid required (Hard environment)			Consult us
S	Sand -proof design (rigid PSV included)			Consult us
M	Offshore (rigid PSV included; paint not included)			Consult us
Oil Options				Price
N	Standard (+50°C/112°F to -10°C/14°F)			Standard
3	Low temp (down to -40°C/-4°F)			\$929
9	Without oil			\$0
4	Food grade			\$929
Motor Power				Price
Q	4 kW	5 HP		
T	5.5 kW	7.5 HP		
U	7.5 kW	10 HP		
V	11 kW	15 HP		
W	15 kW	20 HP		
X	18.5 kW	25 HP		
Y	22 kW	30 HP		
AA	30 kW	40 HP		
AB	37 kW	50 HP		
AC	45 kW	60 HP		
				The prices of the motor are available at the motor section
M1	N	N	N	V

Drive Options Code section 1 example.

Drive Option Selection - Continued

Coupling				Price

| Motor Mount - Note code "A" below for multiplex | | | | Price |

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BOM Additions Code Selection

Motor Frequency / Type / Number of Poles												Price
5N4 50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM												-
6N4 60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM												-
5M4 50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM												-
6M4 60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM												-
Motor Description												
MM Milton Roy Supplied Motor (Separate Line Item)												-
10 Pump supplied Less Motor - charge to cover added costs to test pump												\$298
11 Client supplied motor mounted and tested												\$396
OA IEC standard motor - aluminum frame - 3 phase												-
1A IEC Explosion-proof motor Exd II BT4 - cast iron frame - 3 phase												-
1B IEC Explosion-proof motor Exd II BT4 - cast iron frame - 3 phase with rain cover, coil protection by PTC												-
4S Fan cooled motor for variable speed drive												-
4V Motor for variable speed drive with constant speed fan												-
95 Special motor												-
Paint Thickness and System												
N Standard 100 µ												-
B For hygienic environment, 100 µ												\$1,531
A C2, 140 µ, low corrosivity												\$1,531
C C3, 240 µ, medium corrosivity												\$1,755
E C4, 70 µ, high corrosivity												\$1,827
D C5, 245 µ, OFFSHORE												\$1,895
X Special to Customer Spec												Consult us
Paint Color												
S Standard - Yellow RAL1018												-
2 Grey RAL 7035												Standard
3 Grey RAL 7042												Consult us
4 White RAL 9010												Consult us
Z Customized												Consult us
Motor Paint												
S Supplier standard paint (color+system) - STANDARD												-
P Same as pump color and system (may impact motor warranty)												Standard
Z Other according to customer spec												Consult us
Electric Actuator Paint												
S Supplier standard paint (color+system) - STANDARD												-
P Same as pump (color+system)												Standard
Z Other according to customer spec(Z)												Consult us
Baseplate												
N No baseplate required according to configuration rules - subject to factory correction.												-
C Base plate required according to pump configuration - subject to factory correction												\$834
Z ETO base plate (to be specified)												Consult us
Oil Cooler												
N None												Standard
Pump number within Multiplex												
1 Number that represents which pump body this pump is in a multiplex Simplex is always 1. Pump body with motor is always 1, next body = 2, etc.												-
Manifold (Suction & Discharge)												
N None (Standard)												-
Y With manifolds - to be defined for multiplex only												Consult us
Relief Valve Set Pressure - Value in BAR												
Enter pressure value - example - 20												Price
6N6	1A	N	S	S	S	N	N	1	N	20		

BOM addition section 1 sample code - continue to next page

(*) In case of Customer motor choice : the pump will be tested with a Milton Roy motor. If the customer would like to test with his customer motor then the negative impact of the late delivery of the customer motor or the motor dysfunctionning will be charged to Milton Roy.

PRIMERoyal® Q - PTFE diaphragm liquid ends

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BOM Additions Code Selection - Continued

BOM addition section 2 sample code - finalized code

(1) : NPIPr test are available only without manifolds or with liquid end without painting

(2) : MASP and NPIPr are available only on metallic liquid ends (not available on plastic liquid ends)

Completed BOM code example:

6N6 MM N S S S N N 1 N 20 D1 EN T2 HO N N N N N N

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PQM		Material and Plunger Code				M2 Heads (MX)				
Model Code	Plunger Diameter				Code	Price				
23-20	20 mm				23-20	\$69,838				
23-23	23 mm				23-23	\$70,425				
23-25	25 mm				23-25	\$71,012				
23-28	28 mm				23-28	\$71,599				
23-32	32 mm				23-32	\$72,186				
Gear Ratio				Stroke frequency (spm) relative to motor rotation speed (rpm)		Price				
				50 Hz	60 Hz					
				1440 rpm	1728 rpm					
B	29.5:1 Gear ratio				48	58	\$0			
D	19.67:1 Gear ratio				73	88	\$0			
E	15.33:1 Gear ratio				93	112	\$0			
F	12.25:1 Gear ratio				117	140	\$0			
G	9.8:1 Gear ratio				146	175	\$0			
H	8.2:1 Gear ratio				175	N/A	\$0			
Multiplex							Price			
For duplex & triplex, configure each pump separately - add multiplex charge to 1st pump only - See other instructions related to multiplex in motor mount and base selection.										
1	Simplex						Standard			
2	Duplex - Liquid ends and drive options identical						\$1,427			
3	Triplex - Liquid ends and drive options identical						\$2,385			
Z	Multiplex with more than 3 heads or Heterogen Multiplexage						Consult us			
PQM	23-23	E	1							

Options Selection - Pump Area Hazard Classification

ATEX explosionproof area			Price
S	Safe area (Not in an ex-proof area)		\$0
A	Ex-proof area - ATEX rating not required	1 Probe required on the drive	Consult us
B	ATEX 2G-T3		\$0
C	ATEX 2G-T4	1 Probe required on the drive	Consult us
F	ATEX 3G-T3		\$0
G	ATEX 3G-T4	1 Probe required on the drive	Consult us
Probe for Product Protection- Single drive probe required for T4 Ambient Rating (135 °C/275 °F)			
N	Without probe - Standard		Standard
1	PT100 probe, 3-wire - Signal processing by customer		\$880
2	4-20 mA probe - Signal processing by customer		\$1,225
3	Foundation Fieldbus probe - Signal processing by customer		\$2,755
Z	Other probe		Consult us
Special Options			
N	For standard pump with no special option requirement, please leave this code blank.		\$0
Z	Special options		Consult us
S	N	N	Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

The code on the nameplate will consist of the selections above. Example:

PQM23-23E1SNN

\$70,425

Model Code Example Price

Continue to next page

Liquid End Option Selection

Check Valve						Price
LS Single Hard Ball and Seat						Standard
Wetted o-ring						Price
2 Viton						Standard
3 Nitril						\$72
Diaphragm Rupture Detection Systems						Price
Description						Heads M2 (MX)
N None						—
1 C6 Pressure Switch NEMA 4						\$1,046
2 C8 Explosion proof switch 827 bar (11,994 psi) max						\$2,825
3 C5 Gauge						Standard
9 CT Manifold and connection for Pressure transmitter (transmitter is not included, but it must be defined according to following parameters : connection 1/2 NPT and vertical mounting)						\$1,046
Z Special (CZ)						Consult us
Suction Orientation						
V Vertical (std)						Standard
Suction Connection - Type						
2 NPT						Standard
Suction Connection Type and Rating						
Threaded				Plungers Ø20, 23, 25 mm		Plungers Ø28, 32 mm
F Female				3/4" Standard		1" Standard
ANSI Flanges 316L ss						
A ANSI - Class 150				\$433		\$433
B ANSI - Class 300				\$433		\$433
C ANSI - Class 600				\$653		\$653
D ANSI - Class 1,500 - RF				\$1,009		\$1,009
E ANSI - Class 1,500 - RTJ				\$1,100		\$1,100
G ANSI - Class 2,500 - RTJ				\$1,715		\$1,715
H API 6A type 6BX - 10,000 PSI				Consult us		Consult us
I API 6A type 6BX - 15000 PSI				Consult us		Consult us
DIN Flanges 316L ss, complying to EN1092-1 or EN1759-1						
J EN1759-1 Class 150				DN20 Plungers Ø22, 23, 25 mm		DN25 Plungers Ø28, 32 mm
L EN1759-1 Class 600				\$433		\$433
P EN1092-1 PN100				\$653		\$653
R EN1092-1 PN160				\$644		\$644
S EN1092-1 PN40				\$976		\$976
				\$403		\$403
LS	2	3	V	2	F	

Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

PRIMERoyal® Q - Metallic diaphragm liquid ends

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Liquid End Option Selection - Continued

Discharge Orientation			
V	Vertical (std)	Standard	
Discharge Connection		Plungers Ø20, 23, 25 mm	Plungers Ø28, 32 mm
7	Medium Pressure	3/4" Standard	1" Standard
Discharge Connection Type and Rating			
Threaded		Plungers Ø20, 23, 25 mm	Plungers Ø28, 32 mm
F	Female	3/4" Standard	1" Standard
Flanges inox 316L type ANSI		3/4"	1"
A	ANSI - Class 150	\$ 433	\$433
B	ANSI - Class 300	\$ 433	\$433
C	ANSI - Class 600	\$ 653	\$653
D	ANSI - Class 1,500 - RF/SF	\$ 1,009	\$1,009
E	ANSI - Class 1,500 - RTJ	\$ 1,100	\$1,100
G	ANSI - Class 2,500 - RTJ	\$ 1,715	\$1,715
H	API 6A type 6BX - 10,000 PSI - RTJ	Consult us	Consult us
I	API 6A type 6BX - 15000 PSI - RTJ	Consult us	Consult us
DIN Flanges 316L ss, complying to EN1092-1 or EN1759-1		DN20	DN25
J	EN1759-1 Class 150	Plungers Ø20, 23, 25 mm	Plungers Ø28, 32 mm
L	EN1759-1 Class 600	\$ 433	\$433
P	EN1092-1 PN100	\$ 653	\$653
R	EN1092-1 PN160	\$ 644	\$644
S	EN1092-1 PN40	\$ 976	\$976
		\$ 403	\$403
Liquid Temperature Options			
N	Standard Liquid Temperature Range - 40° C (-40° F) to 60° C (140° F)	Standard	
V	Hi Temp Liquids -17° C (1.4° F) to 120° C (248° F)	-	
Liquid End Jackets			
N	None (Standard)	Standard	
Liquid End Surface Finish			
N	None (Standard)	Standard	
Advanced Options			
N	None (Standard)	Standard	
V	7	F	N N N N

Options Code section 2 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

PRIMERoyal® Q - Metallic diaphragm liquid ends

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Drive Option Selection

Capacity Control Options					Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option				Standard
B1	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - IP68				\$11,543
BA	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - ATEX CE II 2G Ex e IIB T4 -Ambient T°: -20°C /+70°C - IP68				\$13,479
--	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IP68				\$11,543
B2	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IECEX-Atex Ex d II B T4 ; CSA Class I Group C, D div 1&2 - Class II Group E, F, G div 1&2				\$13,479
P1	Pneumatic actuator, outside of ATEX area				\$17,352
PA	Ex-proof pneumatic actuator				\$18,663
Housing Material Options					Price
N	Standard - FGL cast iron, down to -20°C/-4°F				Standard
2	FGS ductile cast iron, down to -40°C/F				\$5,742
3	DEP Shell (FGS parts under pressure)				Consult us
Environment Options					Price
N	Design standard				Standard
S	Sand -proof design (rigid PSV included)				Consult us
M	Offshore (rigid PSV included; paint not included)				Consult us
Oil Options					Price
N	Standard (+50°C/112°F to -10°C/14°F)				Standard
3	Low temp (down to -40°C/F)				\$929
9	Without oil				\$0
4	Food grade				\$929
Motor Power					Price
V	11 kW	15 HP			
W	15 kW	20 HP			
X	18.5 kW	25 HP			
Y	22 kW	30 HP			
AA	30 kW	40 HP			
AB	37 kW	50 HP			
AC	45 kW	60 HP			
M1 N N N W					Drive Options Code section 1 example.

Drive Option Selection - Continued

Coupling					Price
1	Standard				Standard
2	Metal Strips (Motor connection only - not available between pumps in multiplex)				Consult us
9	Special				Consult us
Motor Mount - Note code "A" below for multiplex					Price
G	NEMA 215TC				\$1,156
H	NEMA 254 / 256TC				\$1,156
K	NEMA 284TC				\$1,156
L	NEMA 286TC				\$1,156
M	NEMA 324TC				\$1,156
N	NEMA 326TC				\$1,156
S	IEC FF265				\$0
T	IEC FF300				\$0
U	IEC FF350				\$0
V	IEC FF400				\$0
A	No mount - use for all but first pump in a multiplex				\$0
Motor Orientation					Price
V	Vertical	- Standard on simplex with manual capacity control			\$0
H	Horizontal	- Standard on all multiplex, and simplex with Bernard, Rotork, or STI actuators			\$0
1	S	V			

Drive Options section 2 sample code - Product Code Selection Complete

PQM23-23E1SNN LS23V2FV7FNNNN M1NNNW1SV

As noted - the portion of the code above provides the information for the pump nameplate and identifies hardware required to manufacture the pump. THE CODE IS NOT YET COMPLETE.

The following section of the code identifies additions to the BOM and work order, and includes pricing for various tests and services. Once the online configuration tool is in use, this portion of the code will be internal only and will not be visible to customers or distributors.

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PRIMERoyal® Q - Metallic diaphragm liquid ends

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BOM Additions Code Selection

Motor Frequency / Type / Number of Poles								Price
5N4	50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM							
6N4	60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM							
5M4	50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM							
6M4	60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM							
Motor Description								Price
MM	Milton Roy Supplied Motor (Separate Line Item)							
10	Pump supplied Less Motor - charge to cover added costs to test pump							
11	Client supplied motor mounted and tested							
OA	IEC standard motor - aluminum frame - 3 phase							
1A	IEC Explosion-proof motor Eex D II BT4 - cast iron frame - 3 phase							
1B	IEC Explosion-proof motor Eex D II BT4 - cast iron frame - 3 phase with rain cover, coil protection by PTC							
4S	Fan cooled motor for variable speed drive							
4V	Motor for variable speed drive with constant speed fan							
9S	Special motor							
Paint Thickness and System								Price
N	Standard							
B	For hygienic environment, 100 µ							
A	C2, 140 µ, low corrosivity							
C	C3, 240 µ, medium corrosivity							
E	C4, 70 µ, high corrosivity							
D	C5, 245 µ, OFFSHORE							
X	Special to Customer Spec							
Paint Color								Price
S	Standard - Yellow RAL1018							
2	Grey RAL 7035							
3	Grey RAL 7042							
4	White RAL 9010							
Z	Customized							
								Consult us
Motor Paint								Price
S	Supplier standard paint (color+system)							
P	Same as pump color and system (may impact motor warranty)							
Z	Other according to customer spec							
Electric Actuator Paint								Price
S	Supplier standard paint (color+system) - STANDARD							
P	Same as pump (color+system)							
Z	Other according to customer spec(Z)							
Baseplate								Price
N	No baseplate required according to configuration rules - subject to factory correction.							
C	Base plate required according to pump configuration - subject to factory correction							
Z	ETO base plate (to be specified)							
Oil Cooler								Price
N	None							
Pump number within Multiplex								Price
1	Number that represents which pump body this pump is in a multiplex Simplex is always 1. Pump body with motor is always 1, next body = 2, etc.							
Manifold (Suction & Discharge)								Price
N	None (Standard)							
Y	With manifolds - to be defined for multiplex only							
Relief Valve Set Pressure - Value in BAR								Price
Enter pressure value - example - 300								
6N6	1A	N	S	S	S	N	N	1
						N	300	

BOM addition section 1 sample code - continue to next page

(*) In case of Customer motor choice : the pump will be tested with a Milton Roy motor. If the customer would like to test with his customer motor then the negative impact of the late delivery of the customer motor or the motor dysfunctionning will be charged to Milton Roy.

PRIMERoyal® Q - Metallic diaphragm liquid ends

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BOM Additions Code Selection - Continued

Document and Nameplate Units									Price
D1	Documents and Nameplates in US units (PSIg, Lbs, GPH...)								
D2	Documents and Nameplate in metric units (barg, l/h, kg...)								
D3	Documents and Nameplate in metric units II (MPa, l/h, kg...)								
DZ	Documents and Nameplate in other units								
Documentation and Nameplate Language									Price
EN	English - STANDARD								
FR	French								
CH	Chinese								
SP	Spanish								
PT	Portuguese								
RU	Russian								
IT	Italian								
DE	German								
OT	Other, to specify								
Production Test									Price
T1	Flow measurement at 100% and leak at max. pressure IVY = not available - SHA = Not available - PSP = A1 (standard)								
T2	Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = STANDARD test - SHA = std test - PSP = A1F								
T3	API Linearity test (5 point curve) + Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = TEST 5POINT NW - SHA = Not available - PSP = A1F+A2								
T4	10 Points test (S.S Accuracy, Linearity, Repeatability) IVY = TEST 10POINT NW - SHA = A - PSP = A3 WITHOUT hydro test								
Hydro Test									Price
H0	Standard - No hydro test								
H1	Conduct Hydro test								
Running Test									Price
N	No - STANDARD								
1	1 Running test -1 hour								
2	2 Running test -2 hours								
3	3 Running test -3 hours								
4	4 Running test -4 hours								
MASP Test (Minimum Allowable Suction Pressure) and NPIPr Test (Net Positive Inlet Pressure)									Price
N	No test MASP - No test NPIPr								
Y	Yes - Test MASP, following Milton Roy Standard ITOP055 (2)								
P	Yes - Test NPIPr, following Milton Roy Standard ITOP381 (1)								
T	Yes. Test MASP following MR ITOP055 and Test NPIPr, following MR ITOP381 (1)								
Vibration, Noise, and Temperature Rise Tests									Price
N	None - STANDARD								
1	1 Vibration test only								
2	2 Noise test only								
3	3 Temp rise test only								
4	4 Package: Vibration+Noise+Temp rise								
Material, Certificate of Origin									Price
N	None - STANDARD								
2	2 Material certificate - 2.1 (EN10204)								
3	3 Material certificate - 3.1 - Metallic heads								
	Material certificate - 2.2								
Z	Material certificate - 3.1 type + Nace MR0175								
	Material certificate - 3.1 + G7 origin								
	Material certificate - 3.2 type (Requalified 3.1) - Consult for multiple pump price								
PMI Testing									Price
N	None - STANDARD								
M	M PMI performed by Milton Roy								
P	P PMI performed by third party								
S	S PMI + SPECTRO (%C) performed by third party								
Weld Testing									Price
N	None (standard)								
Y	Y Yes. To be specified								

BOM addition section 2 sample code - finalized code

(1) : NPIPr test for pump PQ with M2 (MX) liquid end type, are available only without manifolds or with liquid end without painting

(2) : MASP and NPIPr are available only on metallic liquid ends (not available on plastic liquid ends)

Completed BOM code example:

6N6	MM	N	S	S	S	N	N	1	N	300	D1	EN	T2	H0	N	N	N	N	N	N	N
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PRIMERoyal® Q - Packed plunger liquid ends

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Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PQP		Material and Plunger Code				P4 Heads (NX)	
		Plunger Diameter		Code	Price		
	41-20		20 mm	41-20	\$34,040		
	41-25		25 mm	41-25	\$35,212		
	41-28		28 mm	41-28	\$36,386		
	41-32		32 mm	41-32	\$37,560		
Gear Ratio		Stroke frequency (spm) relative to motor rotation speed (rpm)				Price	
		50 Hz	60 Hz	1440 rpm	1728 rpm		
B	29.5:1 Gear ratio	48	58			\$0	
D	19.67:1 Gear ratio	73	88			\$0	
E	15.33:1 Gear ratio	93	112			\$0	
F	12.25:1 Gear ratio	117	140			\$0	
G	9.8:1 Gear ratio	146	N/A			\$0	
Multiplex						Price	
		For duplex & triplex, configure each pump separately - add multiplex charge to 1st pump only - See other instructions related to multiplex in motor mount and base selection.					
1	Simplex					Standard	
2	Duplex - Liquid ends and drive options identical					\$880	
3	Triplex - Liquid ends and drive options identical					\$1,225	
Z	Multiplex with more than 3 heads or Heterogen Multiplexage					Consult us	
PQP	41-20	D	1				

Options Selection - Pump Area Hazard Classification

ATEX explosionproof area			Price
S	Safe area (Not in an ex-proof area)		\$0
A	Ex-proof area - ATEX rating not required	2 probes required (on the drive and on the head)	Consult us
B	ATEX 2G-T3		\$0
C	ATEX 2G-T4	2 probes required (on the drive and on the head)	Consult us
F	ATEX 3G-T3		\$0
G	ATEX 3G-T4	2 probes required (on the drive and on the head)	Consult us
Probe for Product Protection- Single drive probe required for T4 Ambient Rating			Price
N	Without probe - Standard		Standard
1	PT100 probe, 3-wire - Signal processing by customer		\$880
2	4-20 mA probe - Signal processing by customer		\$1,225
3	Foundation Fieldbus probe - Signal processing by customer		\$2,755
Z	Special probe		Consult us
Special Options			
N	For standard pump with no special option requirement, please leave this code blank.		0 €
Z	Special options		Consult us
S	N	N	Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

The code on the nameplate will consist of the selections above. Example:

PQP41-20D1SNN

\$	34,040
Model Code Example Price	

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PRIMERoyal® Q - Packed plunger liquid ends

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Liquid End Option Selection

Check Valve		P4 Heads	
		Plunger Diameter	
		20, 25, 28	32
		Ball diameter	
		15.9	20
NS	Single ball	—	—
ND	Double Ball	—	—
NP	Single Flat Valve	—	—
LS	Single Hard Ball and Seat	—	—
LD	Double Hard Ball and Seat	Standard	
KS	Slurry - Single Ball & Seat w/larger clearance	—	—
KD	Slurry - Double Ball & Seat w/more play	—	—
HS	H2SO4 Single Ball and Seat	—	—
HD	H2SO4 Double Ball and Seat	—	—
VS	Viscous Liquids spring loaded single ball	—	—
TS	Polyelectrolytes-single ball disch. spring load	—	—
SS	Anti-siphoning - single suct/disch 2nd ball spring load	—	—
Wetted o-ring			
1	PTFE	Price	
2	Viton	P4 Heads	
3	Nitril	All Plungers	
Packing and Plunger Material		—	
N Standard		Standard	
Option - Consult us			
LD	2	N	

Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Liquid End Option Selection - Continued

Suction Orientation			P4 Heads		
			Plunger Diameter		
			20, 25, 28, 32 mm		
V	Vertical (std)		Standard		
Suction Connection - Type			P4 Heads		
			Plungers Ø20, 25, 28 mm		
			Plungers Ø32 mm		
2	NPT		—		
7	Medium pressure		Standard		
Suction Connection Type and Rating			P4 Heads		
Threaded			Plungers Ø20, 25, 28 mm		
			Plungers Ø32 mm		
M	Male		—		
F	Female		1" Standard		
ANSI Flanges 316L ss			3/4" Standard		
A	ANSI - Class 150		—		
B	ANSI - Class 300		Consult us		
C	ANSI - Class 600		Consult us		
D	ANSI - Class 1,500 - RF/SF		Consult us		
E	ANSI - Class 1,500 - RTJ		Consult us		
G	ANSI - Class 2,500 - RTJ		Consult us		
DIN Flanges 316L ss, complying to EN1092-1 or EN1759-1			DN80		
J	EN1759-1 Class 150		Consult us		
K	EN1759-1 Class 300		Consult us		
L	EN1759-1 Class 600		Consult us		
N	EN1759-1 Class 900		Consult us		
O	EN1759-1 Class 1500		Consult us		
P	EN1092-1 PN100		Consult us		
Q	EN1092-1 PN63		Consult us		
R	EN1092-1 PN160		Consult us		
S	EN1092-1 PN40		Consult us		
V	7	M			

Options Code section 2 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Liquid End Option Selection - Continued

Discharge Orientation							P4 Heads
V	Vertical (std)						Plunger Diameter
							20, 25, 28, 32 mm
V	Discharge Connection						Standard
2	NPT						P4 Heads
7	Medium pressure						Plungers Ø20, 25, 28 mm
							Plungers Ø32 mm
2	Discharge Connection Type and Rating						Standard
7	Threaded						P4 Heads
M	Male						Plungers Ø20, 25, 28 mm
F	Female						Plungers Ø32 mm
A	ANSI Flanges 316L ss						1" Standard
B	ANSI - Class 150						—
C	ANSI - Class 300						Consult us
D	ANSI - Class 600						Consult us
E	ANSI - Class 1,500 - RF						Consult us
F	ANSI - Class 1,500 - RTJ						Consult us
G	ANSI - Class 2,500 - RTJ						Consult us
J	DIN Flanges 316L ss, complying to EN1092-1 or EN1759-1						DN80
K	EN1759-1 Class 150						DN100
L	EN1759-1 Class 300						Consult us
M	EN1759-1 Class 600						Consult us
N	EN1759-1 Class 900						Consult us
O	EN1759-1 Class 1500						Consult us
P	EN1092-1 PN100						Consult us
Q	EN1092-1 PN63						Consult us
R	EN1092-1 PN160						Consult us
S	EN1092-1 PN40						Consult us
Liquid Temperature Options							Consult us
N	Standard Liquid Temperature Range : -10° C (14° F) to 95° C (203° F)						Standard
Packing Lubrication and Flush							Standard
N	Standard						Standard
Liquid End Surface Finish							Standard
N	None (Standard)						Standard
Advanced Options							Standard
N	None (Standard)						Standard
V	2	M	N	N	N	N	

Options Code section 3 example. Please, refer to the following pages for the rest of the codification selection
Continue to next page

PRIMERoyal® Q - Packed plunger liquid ends

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Drive Option Selection

Capacity Control Options					Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option				Standard
B1	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - IP68				\$11,543
BA	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - ATEX CE II 2G Ex d IIB T4 -Ambient T°: -20°C/+70°C - IP68				\$13,479
B2	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IP68				\$11,543
BB	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IECEx-Atex Ex d II B T4 ; CSA Class I Group C, D div 1&2 - Class II Group E, F, G div 1&2				\$13,479
P1	Pneumatic actuator, outside of ATEX area				\$17,352
PA	Ex-proof pneumatic actuator				\$18,663
Housing Material Options					Price
N	Standard - FGL cast iron, down to -20°C/-4°F				Standard
2	FGS ductile cast iron, down to -40°C/-F				\$5,742
3	DEP Shell (FGS parts under pressure)				Consult us
Environment Options					Price
N	Design standard				Standard
S	Sand -proof design (rigid PSV included)				Consult us
M	Offshore (rigid PSV included; paint not included)				Consult us
Oil Options					Price
N	Standard (+50°C/112°F to -10°C/14°F)				Standard
3	Low temp (down to -40°C/-F)				\$929
9	Without oil				\$0
4	Food grade				\$929
Motor Power					Price
Q	4 kW	5 HP			
T	5.5 kW	7.5 HP			
U	7.5 kW	10 HP			
V	11 kW	15 HP			
W	15 kW	20 HP			
X	18.5 kW	25 HP			
Y	22 kW	30 HP			
AA	30 kW	40 HP			
AB	37 kW	50 HP			
AC	45 kW	60 HP			

Drive Options Code section 1 example.

M1 N N N V

The prices of the motor are available at the motor section

Drive Option Selection - Continued

Coupling		Price
1	Standard	Standard
2	Metal Strips (Motor connection only - not available between pumps in multiplex)	Consult us
9	Special	Consult us
Motor Mount - Note code "A" below for multiplex		
G	NEMA 215TC	\$1,156
H	NEMA 254 / 256TC	\$1,156
K	NEMA 284TC	\$1,156
L	NEMA 286TC	\$1,156
M	NEMA 324TC	\$1,156
N	NEMA 326TC	\$1,156
S	IEC FF265	\$0
T	IEC FF300	\$0
U	IEC FF350	\$0
V	IEC FF400	\$0
A	No mount - use for all but first pump in a multiplex	\$0
Motor Orientation		
V	Vertical - Standard on simplex with manual capacity control	\$0
H	Horizontal - Standard on all multiplex, and simplex with Bernard, Rotork, or STI actuators	\$0
1	H	V

Drive Options section 2 sample code - Product Code Selection Complete

PQP41-20D1SNN LD2NV7MV2MNNNN M1NNNV1HV

As noted - the portion of the code above provides the information for the pump nameplate and identifies the hardware required to manufacture the pump. THE CODE IS NOT YET COMPLETE.

The following section of the code identifies additions to the BOM and work order instructions, and includes pricing for various tests and services. Once the online configuration tool is in use, this portion of the code will be internal only and will not be visible to customers or distributors.

[Continue to next page](#)

PRIMERoyal® Q - Packed plunger liquid ends

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BOM Additions Code Selection

Motor Frequency / Type / Number of Poles											Price
5N4 50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM											-
6N4 60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM											-
5M4 50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM											-
6M4 60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM											-
Motor Description											Price
MM Milton Roy Supplied Motor (Separate Line Item)											-
10 Pump supplied Less Motor - charge to cover added costs to test pump											\$ 298
11 Client supplied motor mounted and tested											\$ 396
OA IEC standard motor - aluminum frame - 3 phase											-
1A IEC Explosion-proof motor Ex d II BT4 - cast iron frame - 3 phase											-
1B IEC Explosion-proof motor Ex d II BT4 - cast iron frame - 3 phase with rain cover, coil protection by PTC											-
4S Fan cooled motor for variable speed drive											-
4V Motor for variable speed drive with constant speed fan											-
9S Special motor											-
Paint Thickness and System											Price
N Standard 100 µ											-
B For hygienic environment, 100 µ											\$ 1,531
A C2, 140 µ, low corrosivity											\$ 1,531
C C3, 240 µ, medium corrosivity											\$ 1,755
E C4, 70 µ, high corrosivity											\$ 1,827
D C5, 245 µ, OFFSHORE											\$ 1,895
X Special to Customer Spec											Consult us
Paint Color											B A C E D N
S Standard - Yellow RAL1018											NA ● ● ● ● ●
2 Grey RAL 7035											NA NA ● ● ● NA
3 Grey RAL 7042											NA NA ● ● ● NA
4 White RAL 9010											● NA NA NA NA NA
Z Customized											Consult us
Motor Paint											Price
S Supplier standard paint (color+system) - STANDARD											-
P Same as pump color and system (may impact motor warranty)											Standard
Z Other according to customer spec											Consult us
Electric Actuator Paint											Price
S Supplier standard paint (color+system)											-
P Same as pump (color+system)											Standard
Z Other according to customer spec(Z)											Consult us
Baseplate											Price
N No baseplate required according to configuration rules - subject to factory correction.											-
C Base plate required according to pump configuration - subject to factory correction											\$ 834
Z ETO base plate (to be specified)											Consult us
Oil Cooler											Price
N None											-
Pump number within Multiplex											Price
1 Number that represents which pump body this pump is in a multiplex Simplex is always 1. Pump body with motor is always 1, next body = 2, etc.											-
Manifold (Suction & Discharge)											Price
N None (Standard)											-
Y With manifolds - to be defined for multiplex only											Consult us
Relief Valve Set Pressure - Value in BAR											Price
Not applicable for Packed Plunger											N/A
6N6	1A	N	S	S	S	N	N	1	N	N	

BOM addition section 1 sample code - continue to next page

(*) In case of Customer motor choice : the pump will be tested with a Milton Roy motor. If the customer would like to test with his customer motor then the negative impact of the late delivery of the customer motor or the motor dysfunctionning will be charged to Milton Roy.

PRIMERoyal® Q - Packed plunger liquid ends

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BOM Additions Code Selection - Continued

Document and Nameplate Units											Price
D1	Documents and Nameplates in US units (PSIg, Lbs, GPH...)										
D2	Documents and Nameplate in metric units (barg, l/h, kg...)										
D3	Documents and Nameplate in metric units II (MPa, l/h, kg...)										
DZ	Documents and Nameplate in other units										
Documentation and Nameplate Language											Price
EN	English - STANDARD										
FR	French										
CH	Chinese										
SP	Spanish										
PT	Portuguese										
RU	Russian										
IT	Italian										
DE	German										
OT	Other, to specify										
Production Test											Price
T1	Flow measurement at 100% and leak at max. pressure IVY = not available - SHA = Not available - PSP = A1 (standard)										
T2	Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = STANDARD test - SHA = std test - PSP = A1F										
T3	API Linearity test (5 point curve) + Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = TEST 5POINT NW - SHA = Not available - PSP = A1F+A2										
T4	10 Points test (S.S Accuracy, Linearity, Repeatability) IVY = TEST 1POINT NW - SHA = A - PSP = A3 WITHOUT hydro test										
Hydro Test											Price
H0	Standard - No hydro test										
H1	Conduct Hydro test										
Running Test											Price
N	No - STANDARD										
1	Running test -1 hour										
2	Running test -2 hours										
3	Running test -3 hours										
4	Running test -4 hours										
MASP Test (Minimum Allowable Suction Pressure) and NPIPr Test (Net Positive Inlet Pressure required)											Price
N	No test MASP - No test NPIPr										
Y	Yes - Test MASP, following Milton Roy Standard ITOP055 (2)										
P	Yes - Test NPIPr, following Milton Roy Standard ITOP381 (1)										
T	Yes. Test MASP following MR ITOP055 and Test NPIPr, following MR ITOP381 (1)										
Vibration, Noise, and Temperature Rise Tests											Price
N	None - STANDARD										
1	Vibration test only										
2	Noise test only										
3	Temp rise test only										
4	Package: Vibration+Noise+Temp rise										
Material, Certificate of Origin											Price
N	None - STANDARD										
2	Material certificate - 2.1 (EN10204)										
3	Material certificate - 3.1 (EN10204) : Metallic head										
Z	Material certificate - 2.2 Material certificate - 3.1 type + Nace MR0175 Material certificate - 3.1 + G7 origin Material certificate - 3.2 type (Requalified 3.1) - Consult for multiple pump price										
	Consult Factory										
PMI Testing											Price
N	Without analysis - STANDARD										
M	PMI performed by Milton Roy										
P	PMI performed by third party										
S	PMI + SPECTRO (%C) performed by third party										
	Refer to page 'Tests'										
Weld Testing											Price
N	None (standard)										
Y	Yes. To be specified										
	Refer to page 'Tests'										
D1	EN	T2	H0	N	N	N	N	N	N	N	

BOM addition section 2 sample code - finalized code

(1) : NPIPr test for pump PQ packed plunger with P4 (NX) liquid end type, are available only without manifolds or with liquid end without painting

(2) : MASP and NPIPr are available only on metallic liquid ends (not available on plastic liquid ends)

Completed BOM code example:

6N6	MM	N	S	S	S	N	N	1	N	N	D1	EN	T2	H0	N	N	N	N	N	N	N
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Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PRH		Material and Plunger Code									
		316 L				316L					
		Plunger Diameter		H1 - Low Pressure		H4 - High Pressure					
		Code	Price	Code	Price	Code	Price				
	35 mm					51-35	\$59,202				
	40 mm					51-40	\$58,152				
	42 mm					51-42	\$58,152				
	45 mm					51-45	\$52,863				
	50 mm			41-50	\$53,922						
	55 mm			41-55	\$53,922						
	60 mm			41-60	\$54,973						
	63 mm			41-63	\$58,279						
	65 mm			41-65	\$59,330						
	70 mm			41-70	\$58,279						
	75 mm			41-75	\$60,474						
	80 mm			41-80	\$59,423						
	85 mm			41-85	\$60,474						
	90 mm			41-90	\$59,423						
	95 mm			41-95	\$60,474						
	100 mm			41-100	\$59,423						
	105 mm			41-105	\$60,474						
	110 mm			41-110	\$60,474						
	115 mm			41-115	\$69,636						
	120 mm			41-120	\$70,686						
	125 mm			41-125	\$69,636						
	130 mm			41-130	\$69,636						
	145 mm	11-145	\$81,920								
	160 mm	11-160	\$81,920								
Gear Ratio											
Stroke frequency (spm) relative to motor rotation speed (rpm)						Price					
						50 Hz	60 Hz				
						1440 rpm	1728 rpm				
B	29.5:1 Gear ratio					48	58	\$0			
D	19.67:1 Gear ratio					73	88	\$0			
E	15.33:1 Gear ratio					93	112	\$0			
F	12.25:1 Gear ratio					117	140	\$0			
G	9.8:1 Gear ratio					146	N/A	\$0			
H	8.2:1 Gear ratio	Ø50 à 80 only. N/A with H5				175	N/A	\$0			
Multiplex											
For duplex & triplex, configure each pump separately - add multiplex charge to 1st pump only - See other instructions related to multiplex in motor mount and base selection.											
						Fixed Stroke	Adjustable Stroke				
1	Simplex					0	Standard				
2	Duplex - Liquid ends and drive options identical					-\$553	\$1,427				
3	Triplex - Liquid ends and drive options identical					-\$690	\$2,385				
Z	Multiplex with more than 3 heads or Heterogen Multiplexage					Consult us	Consult us				
PRH	41-55	B	1								

Options Selection - Pump Area Hazard Classification

ATEX explosionproof area			Price
S	Standard		\$0
A	Ex-proof area - ATEX rating not required		\$0
B	ATEX 2G-T3		\$0
C	ATEX 2G-T4	1 Probe required on the drive	\$0
F	ATEX 3G-T3		\$0
G	ATEX 3G-T4	1 Probe required on the drive	\$0
Probe			
N	Without probe - Standard		Standard
1	PT100 probe, 3-wire - Signal processing by customer		\$ 880
2	4-20 mA probe - Signal processing by customer		\$ 1,225
3	Foundation Fieldbus probe - Signal processing by customer		\$ 2,755
Z	Other probe		Consult us
Special Options			
N	For standard pump with no special option requirement, please leave this code blank.		\$0
Z	Special options		Consult us
S	N	N	Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

The code on the nameplate will consist of the selections above. Example: PRH41-55B1SN

\$53,922

Model Code Example Price

Continue to next page

Liquid End Option Selection

Check Valve		H4 Heads (HPD, 8 series)			H1 Heads (HPD, 6 series, Low Pressure)	H5 Heads (HX)
		Plungers Ø50, 55 mm	Plungers Ø60 à 100 mm	Plungers Ø105 à 130 mm	Plungers Ø145, 160 mm	All Plungers
		Ball 40 mm	Ball 50 mm	Ball 70 mm	Ball 110 mm	Ball 25 mm
316 L Liquid Ends		\$0 Std < 140 bar	—	—	—	—
NS	Single ball	Available only if NS = std \$616	—	—	—	—
ND	Double Ball					
NP	Single Flat Valve	\$0 Std > 140 bar	\$0 Standard	\$0 Standard	\$0 Standard	—
LS	Single Hard 440C Ball and Seat	\$842	—	—	—	\$0 Standard
LD	Double Hard 440C Ball and Seat	\$1,270	—	—	—	—
KS	Slurry - 440C Single Ball & Seat w/larger clearance	\$1,019	—	—	—	—
KD	Slurry - 440C Double Ball & Seat w/more play	\$1,526	—	—	—	—
HS	H2SO4 Single Alloy 276 or 904L Ball/904L Seat	\$1,328	—	—	—	—
HD	H2SO4 Double Alloy 276 or 904L Ball/904L Seat	\$1,991	—	—	—	—
VS	Viscous Liquids spring loaded single ball	\$502	—	—	—	—
TS	Polyelectrolytes-single ball disch. spring load	\$496	—	—	—	—
SS	Anti-siphoning - single suct/disch 2nd ball spring load	\$709	—	—	—	—
Wetted o-ring						
1	PTFE STANDARD on H4 (Plungers Ø50 to 100 mm)				\$	-
2	Viton STANDARD on H5 (Plungers Ø40, 42 and 45 mm)				\$	-
Diaphragm Rupture Detection Systems						
Code		Description		H4 & H5 Heads	H4 Heads	H1 Heads
				Plunger Diameters		
				Ø35, 40, 42, 45, 50, 55 mm	Ø60, 63, 70, 75, 80, 85, 90, 95, 100 mm	Ø105, 110, 115, 120, 125, 130 mm
N		None		—	—	—
2		C8 Explosion proof switch		\$2,825	\$2,825	\$2,825
3		C5 Gauge		Standard	Standard	Standard
9		CT Manifold and connection for Pressure transmitter (transmitter is not included, but it must be defined according to following parameters : connection 1/2 NPT and vertical mounting)		\$1,046	\$1,046	\$1,046
Z		Special (CZ)		Consult us		
NS	1	N				

Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Suction Orientation			Plunger Diameters									
			35, 40, 42, 45 mm	50mm, 55 mm	60, 63, 65, 70, 75, 80, 85, 90, 95, 100 mm	105, 110, 115, 120, 125, 130 mm	145, 160 mm					
V	Vertical (std)	Standard	Standard	Standard	Standard	Standard	Standard					
H	Horizontal	\$301	\$387	\$496	\$1,131	—	—					
Suction Connection - Type												
1	Gas						\$0					
2	NPT						\$0					
3	Welded Flanges						\$0					
Suction Connection Type and Rating												
Threaded												
M	Male	Standard on metallic plunger codes ≤ 100 mm				—	—					
F	Female	—				—	—					
ANSI Flanges 316L ss		1"	1 1/2"	2"	3"	4"						
		Ø35 to 45 mm	Ø50, 55 mm	Ø60 to 100 mm	Ø105 to 130 mm	Ø145, 160 mm						
A	ANSI - Class 150	\$433	\$560	\$727	\$1,575	\$2,101						
B	ANSI - Class 300	\$433	\$594	\$772	—	Standard						
C	ANSI - Class 600	\$653	\$682	\$883	Standard	Consult us						
D	ANSI - Class 1,500 - RF/SF	\$1,009	\$1,346	\$1,748	Consult us	Consult us						
E	ANSI - Class 1,500 - RTJ	\$1,100	\$1,421	Consult us	Consult us	Consult us						
G	ANSI - Class 2,500 - RTJ	\$1,715	\$2,130	—	Consult us	Consult us						
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1		DN25	DN40	DN50	DN80							
		Ø35 to 45 mm	Ø50, 55 mm	Ø60 to 100 mm	Ø105 to 145							
J	EN1759-1 Class 150	\$433	\$526	\$784	1,456 €	1,899 €						
L	EN1759-1 Class 600	\$653	\$791	\$1,190	2,058 €	2,058 €						
O	EN1759-1 Class 1500	Consult us			Consult us	Consult us						
P	EN1092-1 PN100	\$644	\$784	\$1,178	Consult us	Consult us						
R	EN1092-1 PN160	\$976	\$1,186	\$1,781	Consult us	Consult us						
S	EN1092-1 PN40	\$403	\$502	\$749	Consult us	Consult us						
V	2	M										

Options Code section 2 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Liquid End Option Selection - Continued

Discharge Orientation			Plungers Diameters				
			35, 40, 42, 45 mm	50, 55 mm	60, 63, 65, 70, 75, 80, 85, 90, 95, 100 mm	105, 110, 115, 120, 125, 130 mm	145, 160 mm
V	Vertical (std)	Standard	Standard	Standard	Standard	Standard	Standard
H	Horizontal	\$301	\$387	\$496	\$1,131	—	—
Discharge Connection			Price include with valid selection of Connection Type and Rating				
1	Gas					\$0	
2	NPT					\$0	
3	Welded Flanges						
Discharge Connection Type and Rating							
Threaded							
M	Male	Standard on metallic plunger codes ≤ 100 mm				—	—
F	Female	—				—	—
ANSI Flanges 316L ss			1"	1 1/2"	2"	3"	4"
			Plungers 35, 40, 42, 45 mm	Plungers 50, 55 mm	Plungers 60, 63, 65, 70, 75, 80, 85, 90, 95, 100 mm	Plungers 105, 110, 115, 125, 130 mm	Plungers 145, 160 mm
A	ANSI - Class 150	\$433	\$560	\$727	\$1,575	\$2,101	
B	ANSI - Class 300	\$433	\$594	\$772	—	Standard	
C	ANSI - Class 600	\$653	\$682	\$883	Standard	Consult us	
D	ANSI - Class 1,500 - RF/SF	\$1,009	\$1,346	\$1,748	Consult us	Consult us	
E	ANSI - Class 1,500 - RTJ	\$1,100	\$1,421	Consult us	Consult us	Consult us	
G	ANSI - Class 2,500 - RTJ	\$1,715	\$2,130	—	Consult us	Consult us	
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1			DN25	DN40	DN50	DN80	4"
			Plungers 35, 40, 42, 45 mm	Plungers 50, 55 mm	Plungers 60, 63, 65, 70, 75, 80, 85, 90, 95, 100 mm	Plungers 105, 110, 115, 120, 125, 130 mm	Plungers 145, 160 mm
J	EN1759-1 Class 150	\$433	\$526	\$784	1,456 €	1,899 €	
L	EN1759-1 Class 600	\$653	\$791	\$1,190	2,058 €	2,058 €	
O	EN1759-1 Class 1500			Consult Factory	Consult us	Consult us	
P	EN1092-1 PN100	\$644	\$784	\$1,178	Consult us	Consult us	
R	EN1092-1 PN160	\$976	\$1,186	\$1,781	Consult us	Consult us	
S	EN1092-1PN40	\$403	\$502	\$749	Consult us	Consult us	
Liquid Temperature Options							
Plunger Diameters							
		35, 40, 42, 45 mm	50, 55 mm	63, 65, 70, 75, 80, 85, 90, 95, 100 mm	105, 110, 115, 120, 125, 130 mm	145, 160 mm	
N	Standard Liquid Temperature Range -10° C (50° F) to 95° C (203° F)	Standard	Standard	Standard	Standard	Standard	
V	Hi Temp Liquids - includes PTFE diaphragm/Viton seal - Liquid Temperature 96° C (203° F) to 110° C (230° F), T° fluide pompé comprise entre 96° C (203° F) et 110° C (230° F) Retour soupape et huile Nota : Select the rigide relief valve and high	Consult us	Consult us	Consult us	Consult us	\$1,548	
Liquid End Jackets							
Plunger Diameters			H4 Heads			H1 Heads	H5 Heads
			50, 55 mm	60, 63, 65, 70, 75, 80, 85, 90, 95, 100 mm	105, 110, 115, 120, 125, 130 mm	145, 160 mm	All
N	None (Standard)	Standard	Standard	Standard	Standard	Standard	
1	Heating Jacket	\$2,375	\$2,598	\$2,718	—	—	
Liquid End Surface Finish							
Plunger Diameters				H4 Heads		H1 Heads	H5 Heads
				50, 55 mm	60, 63, 65, 70, 75, 80, 85, 90, 95, 100mm	105, 110, 115, 120, 125, 130 mm	145, 160 mm
N	None (Standard)	Standard	Standard	Standard	Standard	Standard	
D	Descale/passivate(Valve DS)	\$566	\$797	\$1,360	\$1,360	\$566	
A	Food grade	\$1,612	\$1,612	\$1,612	—	\$1,612	
Advanced Options							
	N	None (Standard)					\$0
V	2	M	N	N	N		

Options Code section 3 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Drive Option Selection

Capacity Control Options				Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option			Standard
FS	Fixed stroke (API 675)			\$0
B2	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IP68			\$12,771
BB	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IECEx-ATEX Ex d II B T4 ; CSA Class I Group C, D div 1&2-Class II Group E,F,G div 182			\$14,913
B1	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase (1 phase possible) - IP68			\$12,771
BA	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - ATEX CE II 2G Ex d IIB T4 -Ambient T°: -20°C /+70°C - IP68			\$14,913
Housing Material Options				Price
N	Standard - FLG cast iron, down to -20°C/-4°F			Standard
2	FGS ductile cast iron, down to -40°C/-40°F			Consult us
3	DEP Shell (FGS parts under pressure)			Consult us
Environment Options				Price
N	Design standard			Standard
R	PSV rigid required (Hard environment) - REQUIRED FOR H3 LIQUID ENDS			Consult us
S	Sand -proof design (rigid PSV included)			Consult us
M	Offshore (rigid PSV included; paint not included)			Consult us
Oil Options				Price
N	Standard (+50°C/112°F to -10°C/14°F)			Standard
3	Low temp (down to -40°C/-40°F)			\$1,917
9	Without oil			\$0
4	Food grade			\$1,743
Motor Power				Price
V	11 kW	15 HP		
W	15 kW	20 HP		
X	18.5 kW	25 HP		
Y	22 kW	30 HP		
AA	30 kW	40 HP		
AB	37 kW	50 HP		
AC	45 kW	60 HP		
M1 N N N V				The prices of the motor are available at the motor section

Drive Option Selection - Continued

Coupling				Price
1 Standard				Standard
Motor Mount - Note code "A" below for multiplex				Price
H	NEMA 254 / 256TC			\$0
K	NEMA 284TC			\$0
L	NEMA 286TC			\$0
M	NEMA 324TC			\$0
N	NEMA 326TC			\$0
O	NEMA 364TC			\$0
T	IEC FF300			\$0
U	IEC FF350			\$0
V	IEC FF400			\$0
A	No mount - use for all but first pump in a multiplex			\$0
Motor Orientation				Price
V	Vertical	- Standard on simplex with manual capacity control and ECC or Stegman actuators		\$0
H	Horizontal	- Standard on all multiplex, and simplex with Bernard, Rotork, or STI actuators		\$0
1	H	V		

Drive Options section 2 sample code - Product Code Selection Complete

PRH41-55B1SNN NS1NV2MV2MNNNN M1NNNV1HV

As noted - the portion of the code above provides the information for the pump nameplate and identifies the hardware required to manufacture the pump. THE CODE IS NOT YET COMPLETE.

The following section of the code identifies additions to the BOM and work order instructions, and includes pricing for various tests and services. Once the online configuration tool is in use, this portion of the code will be internal only and will not be visible to customers or distributors.

Continue to next page

BOM Additions Code Selection

Motor Frequency / Type / Number of Poles								Price		
5N4 50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0		
6N4 60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0		
5N6 50 Hz - NEMA - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0		
6N6 60 Hz - NEMA - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0		
5M4 50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0		
6M4 60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0		
5M6 50 Hz - IEC - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0		
6M6 60 Hz - IEC - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0		
Motor Description								Price		
MM Milton Roy Supplied Motor (Separate Line Item)								\$0		
10 Pump supplied Less Motor - charge to cover added costs to test pump								\$298		
11 Client supplied motor mounted and tested								\$396		
OA IEC standard motor - aluminum frame - 3 phase								\$0		
1A IEC Explosion-proof motor Eex D II BT4 - cast iron frame - 3 phase								\$0		
1B IEC Explosion-proof motor Eex D II BT4 - cast iron frame - 3 phase with rain cover, coil protection by PTC								\$0		
4S Fan cooled motor for variable speed drive								\$0		
4V Motor for variable speed drive with constant speed fan								\$0		
1C NEMA Explosion proof / XPNV 1 x 115/(208)-230 V - 60Hz 1725 RPM								\$0		
1D NEMA Explosion proof / XPNV 3 x 208-230 / 460 V - 60Hz 1725 RPM								\$0		
1E NEMA Explosion proof / XPFC 1 x 115/(208)-230 V - 60Hz 1725 RPM								\$0		
1F NEMA Explosion proof : XPFC 3 x 208-230 / 460 V - 60Hz 1725 RPM								\$0		
1G NEMA Explosion proof / XPFC 3 x 208-230 / 460 V , 190/380V - 50/60Hz - 1425/1725 RPM								\$0		
9S Special motor								\$0		
Paint Thickness and System								Price		
N Standard 100 µ								\$0		
B For hygienic environment, 100 µ								\$1,646		
A C2, 140 µ, low corrosivity								\$1,646		
C C3, 240 µ, medium corrosivity								\$1,872		
E C4, 70 µ, high corrosivity								\$1,943		
D C5, 245 µ, OFFSHORE								\$2,011		
X Special to Customer Spec								Consult us		
Paint Color			Availability by Paint System		B	A	C	E	D	N
S Standard - Yellow RAL1018					NA	●	●	●	●	●
2 Grey RAL 7035 for C5-M only					NA	NA	●	●	●	NA
3 Grey RAL 7042 for C5-M only					NA	NA	●	●	●	NA
4 White RAL 9010					●	NA	NA	NA	NA	NA
Z Customized									Consult us	
Motor Paint								Price		
S Supplier standard paint (color+system) - STANDARD								\$0		
P Same as pump color and system (may impact motor warranty)								Standard		
Electric Actuator Paint								Price		
P Same as pump (color+system)								Standard		
Baseplate								Price		
N No baseplate required according to configuration rules - subject to factory correction.								\$0		
C Base plate required according to pump configuration - subject to factory correction								Consult us		
Oil Cooler - Required for PX Multiplex Only								Price		
N None (Standard)								Standard		
Pump number within Multiplex								Price		
1 Number that represents which pump body this pump is in a multiplex Simplex is always 1. Pump body with motor is always 1, next body = 2, etc.								\$0		
Manifold (Suction & Discharge)								Price		
N None (Standard)								\$0		
Y With manifolds - to be defined								Consult us		
Relief Valve Set Pressure - Value in BAR										
Enter pressure value - example - 300										
6N4	1A	N	S	S	S	N	N	1	N	300

BOM addition section 1 sample code - continue to next page

(*) In case of Customer motor choice : the pump will be tested with a Milton Roy motor. If the customer would like to test with his customer motor then the negative impact of the late delivery of the customer motor or the motor dysfunctionning will be charged to Milton Roy.

Continue to next page

BOM Additions Code Selection - Continued

Document and Nameplate Units										Price	
D1	Documents and Nameplates in US units (PSI, Lbs, GPH...)										\$0
D2	Documents and Nameplate in SI units (bar, l/h, kg...)										Standard
DZ	Documents and Nameplate in other units										Consult us
Documentation and Nameplate Language										Price	
EN	English - STANDARD										\$0
FR	French										\$0
CH	Chinese										Consult us
SP	Spanish										Consult us
PT	Portuguese										Consult us
RU	Russian										Consult us
IT	Italian										Consult us
DE	German										Consult us
OT	Other, to specify										Consult us
Production Test										Price	
T1	Flow measurement at 100% and leak at max. pressure IVY = not available - SHA = Not available - PSP = A1 (standard)										\$0
T2	Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = STANDARD test - SHA = std test - PSP = A1F										\$347
T3	API Linearity test (5 point curve) + Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = TEST SPOINT NW - SHA = Not available - PSP = A1F+A2										\$347
T4	10 Points test (S.S Accuracy, Linearity, Repeatability) IVY = TEST 10POINT NW - SHA = A - PSP = A3 WITHOUT hydro test										\$970
Hydro Test										Price	
H0	Standard - No hydro test										\$0
H1	Conduct Hydro test										\$435
Running Test										Price	
N	No - STANDARD										\$0
1	Running test -1 hour										\$693
2	Running test - 2 hours										\$781
3	Running test -3 hours										\$867
4	Running test -4 hours										\$954
MASP Test (Minimum Allowable Suction Pressure) and NPIPr Test (Net Positive Inlet Pressure)										Price	
N	No test MASP - No test NPIPr										\$0
Y	Yes - Test MASP, following Milton Roy Standard ITOP055 (2)										\$561
P	Yes - Test NPIPr, following Milton Roy Standard ITOP381 (1)										\$561
T	Yes. Test MASP following MR ITOP055 and Test NPIPr, following MR ITOP381 (1)										\$1,121
Vibration, Noise, and Temperature Rise Tests										Price	
N	None - STANDARD										\$0
Material, Certificate of Origin										Price	
N	None - STANDARD										\$0
2	Material certificate - 2.1 (EN10204)										\$119
3	Material certificate - 3.1 - Metallic heads										Consult us
Z	Material certificate - 2.2 Material certificate - 3.1 type + Nace MR0175 Material certificate - 3.1 + G7 origin Material certificate - 3.2 type (Requalified 3.1) - Consult for multiple pump price										Consult Factory
PMI Testing										Price	
N	None - STANDARD										\$0
M	PMI performed by Milton Roy										\$420
P	PMI by third party										Consult Factory
S	PMI + SPECTRO (%C)										Consult Factory
Weld Testing										Price	
N	None (standard)										\$0
Y	Yes. To be specified										Refer to page 'Tests'

BOM addition section 2 sample code - finalized code

Completed BOM code example:

GN6 MM N S S S N N 1 N 20 D1 EN T2 H0 N N N N N N

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

Model Code	Plunger Diameter	Material and Plunger Code				Price	
		17.4 PH		M2 Heads (HP, MX)			
		Code	Price				
23-22	22 mm	23-22	\$107,518				
23-25	25 mm	23-25	\$83,927				
23-29	29 mm	23-29	\$83,927				
23-32	32 mm	23-32	\$83,927				
23-35	35 mm	23-35	\$83,927				
23-37	37 mm	23-37	\$83,927				
Gear Ratio		Stroke frequency (spm) relative to motor rotation speed (rpm)			Price		
		50 Hz	60 Hz				
		1440 rpm	1728 rpm				
B	29.5:1 Gear ratio	48	58	\$0			
D	19.67:1 Gear ratio	73	88	\$0			
E	15.33:1 Gear ratio	93	112	\$0			
F	12.25:1 Gear ratio	117	140	\$0			
G	9.8:1 Gear ratio	146	175	\$0			
H	8.2:1 Gear ratio	175	N/A	\$0			
Multiplex							
For duplex & triplex, configure each pump separately - add multiplex charge to 1st pump only - See other instructions related to multiplex in motor mount and base selection.					Fixed Stroke	Adjustable Stroke	
1	Simplex				\$0	Standard	
2	Duplex - Liquid ends and drive options identical				-\$553	\$1,427	
3	Triplex - Liquid ends and drive options identical				-\$690	\$2,385	
Z	Multiplex with more than 3 heads or Heterogen Multiplexage				Consult us	Consult us	
PRM	23-25	E	1				

Options Selection - Pump Area Hazard Classification

ATEX explosionproof area			Price
S	Standard		\$ -
A	Ex-proof area - ATEX rating not required		\$ -
B	ATEX 2G-T3		\$ -
C	ATEX 2G-T4 1 Probe required on the drive		\$ -
F	ATEX 3G-T3		\$ -
G	ATEX 3G-T4 1 Probe required on the drive		\$ -
Probe			
N	Without probe - Standard		Standard
1	PT100 probe, 3-wire - Signal processing by customer		\$ 880
2	4-20 mA probe - Signal processing by customer		\$ 1,225
3	Foundation Fieldbus probe - Signal processing by customer		\$ 2,755
Z	Other probe		Consult us
Special Options			
N	For standard pump with no special option requirement, please leave this code blank.		\$ -
Z	Special options		Consult us
S	N	N	Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

The code on the nameplate will consist of the selections above. Example:

PRM23-25E1SNN

\$83,927
Model Code Example Price

Continue to next page

Liquid End Option Selection

Check Valve					Price
LP Single Hard Flat Valve :seat and valve 17.4PH					Standard
Wetted o-ring					Price
2 Viton					Standard
3 Nitril					\$72
Diaphragm Rupture Detection Systems					
Description					Heads M2
N None					—
2 C8 Explosion proof switch					\$2,825
3 CS Gauge					\$0
9 CT Manifold and connection for Pressure transmitter (transmitter is not included, but it must be defined according to following parameters : connection 1/2 NPT and vertical mounting)					\$1,046
Z Special (CZ)					Consult us
Suction Orientation					
V Vertical (std)					Standard
Suction Connection - Type					
2 NPT					Standard
Suction Connection Type and Rating					
Threaded					
F Female					Standard
ANSI Flanges 316L ss					
A ANSI - Class 150					3/4" Plungers Ø22, 25 mm
B ANSI - Class 300					1" Plungers Ø29, 32, 35, 37 mm
C ANSI - Class 600					\$433
D ANSI - Class 1,500 - RF					\$433
E ANSI - Class 1,500 - RTJ					\$653
G ANSI - Class 2,500 - RTJ					\$1,009
H API 6A type 6BX - 10,000 PSI - RTJ					\$1,100
I API 6A type 6BX - 15000 PSI - RTJ					\$1,715
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1					Consult us
J EN1759-1 Class 150					Consult us
L EN1759-1 Class 600					Consult us
P EN1092-1 PN100					Consult us
R EN1092-1 PN160					Consult us
S EN1092-1PN40					Consult us
DN25 Plungers Ø22, 25 mm					DN25 Plungers Ø18, 20, 22 mm
J EN1759-1 Class 150					\$446
L EN1759-1 Class 600					\$446
P EN1092-1 PN100					\$446
R EN1092-1 PN160					\$446
S EN1092-1PN40					\$446

Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Liquid End Option Selection - Continued

Discharge Orientation								
V	Vertical (std)					Standard		
	Discharge Connection							
	2	NPT			Plungers Ø22, 25, 29, 32 mm	Plungers Ø35, 37 mm		
	3	Welded Flanges			—	Standard		
	7	Medium Pressure			—	\$0		
Discharge Connection Type and Rating								
Threaded			Plungers Ø22, 25, 29, 32 mm		Plungers Ø35, 37 mm			
M	Male		—		—			
F	Female		Standard		Standard			
Flanges inox 316L type ANSI			Plungers Ø22, 25, 29, 32 mm		Flanges 1"			
A	ANSI - Class 150		—		\$433			
B	ANSI - Class 300		—		\$433			
C	ANSI - Class 600		—		\$653			
D	ANSI - Class 1,500 - RF/SF		—		\$1,009			
E	ANSI - Class 1,500 - RTJ		—		\$1,100			
G	ANSI - Class 2,500 - RTJ		—		\$1,715			
H	API 6A type 6BX - 10,000 PSI - RTJ		Consult us		Consult us			
I	API 6A type 6BX - 15000 PSI - RTJ		Consult us		Consult us			
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1			Plungers Ø22, 25, 29, 32 mm		Flanges DN25			
J	EN1759-1 Class 150		—		Plungers Ø35, 37 mm			
L	EN1759-1 Class 600		—		\$479			
P	EN1092-1 PN100		—		\$722			
R	EN1092-1 PN160		—		\$713			
S	EN1092-1PN40		—		\$1,080			
Liquid Temperature Options								
N	Standard Liquid Temperature Range - 10° C (50° F) to 95° C (203° F)					Standard		
Liquid End Jackets								
N	None (Standard)					Standard		
Liquid End Surface Finish								
N	None (Standard)					Standard		
Advanced Options								
N	None (Standard)					Standard		
V	7	F	N	N	N	N		

Options Code section 2 example. Please, refer to the following pages for the rest of the codification selection

Drive Option Selection

Capacity Control Options							Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option					Standard	
FS	Fixed stroke (API 675)					\$0	
B2	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IP68					\$12,771	
BB	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IECEEx-Atex Ex d II B T4 ; CSA Class I Group C, D div 1&2-Class II Group E,F,G div 1&2					\$14,913	
B1	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase (1 phase possible) - IP68					\$12,771	
BA	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - ATEX CE II 2G Ex e IIB T4 -Ambient T°: -20°C +70°C - IP68					\$14,913	
Housing Material Options							Price
N	Standard - FLG cast iron, down to -20°C/-4°F					Standard	
2	FGS ductile cast iron, down to -40°C/-40°F					Consult us	
3	DEP Shell (FGS parts under pressure)					Consult us	
Environment Options							Price
N	Design standard					Standard	
S	Sand -proof design (rigid PSV included)					Consult us	
M	Offshore (rigid PSV included; paint not included)					Consult us	
Oil Options							Price
N	Standard (+50°C/112°F to -10°C/14°F)					Standard	
3	Low temp (down to -40°C/-40°F)					\$1,917	
9	Without oil					\$0	
4	Food grade					\$1,743	
Motor Power							Price
V	11 kW	15 HP					
W	15 kW	20 HP					
X	18.5 kW	25 HP					
Y	22 kW	30 HP					
AA	30 kW	40 HP					
AB	37 kW	50 HP					
AC	45 kW	60 HP					
M1 N N N W							Drive Options Code section 1 example.

The prices of the motor are available at the motor section

Drive Option Selection - Continued

Coupling			Price
1 Standard			\$0
Motor Mount - Note code "A" below for multiplex			Price
H	NEMA 254 / 256TC		\$0
K	NEMA 284TC		\$0
L	NEMA 286TC		\$0
M	NEMA 324TC		\$0
N	NEMA 326TC		\$0
O	NEMA 364TC		\$0
T	IEC FF300		\$0
U	IEC FF350		\$0
V	IEC FF400		\$0
A	No mount - use for all but first pump in a multiplex		\$0
Motor Orientation			Price
V	Vertical	- Standard on simplex with manual capacity control and ECC or Stegman actuators	\$0
H	Horizontal	- Standard on all multiplex, and simplex with Bernard, Rotork, or STI actuators	\$0
1	F	V	

Drive Options section 2 sample code - Product Code Selection Complete

PRM23-25E1SNN LP2NV2FV7FNNNN M1NNNW1F

As noted - the portion of the code above provides the information for the pump nameplate and identifies the hardware required to manufacture the pump. THE CODE IS NOT YET COMPLETE.

The following section of the code identifies additions to the BOM and work order instructions, and includes pricing for various tests and services. Once the online configuration tool is in use, this portion of the code will be internal only and will not be visible to customers or distributors.

[Continue to next page](#)

BOM Additions Code Selection

Motor Frequency / Type / Number of Poles										Price						
5N4 50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0						
6N4 60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0						
5N6 50 Hz - NEMA - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0						
6N6 60 Hz - NEMA - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0						
5M4 50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0						
6M4 60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0						
5M6 50 Hz - IEC - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0						
6M6 60 Hz - IEC - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0						
Motor Description																
MM Milton Roy Supplied Motor (Separate Line Item)										\$0						
10 Pump supplied Less Motor - charge to cover added costs to test pump										\$298						
11 Client supplied motor mounted and tested										\$396						
OA IEC standard motor - aluminum frame - 3 phase										\$0						
1A IEC Explosion-proof motor Eex D II BT4 - cast iron frame - 3 phase										\$0						
1B IEC Explosion-proof motor Eex D II BT4 - cast iron frame - 3 phase with rain cover, coil protection by PTC										\$0						
4S Fan cooled motor for variable speed drive										\$0						
4V Motor for variable speed drive with constant speed fan										\$0						
1C NEMA Explosion proof / XPNV 1 x 115/(208)-230 V - 60Hz 1725 RPM										\$0						
1D NEMA Explosion proof / XPNV 3 x 208-230 / 460 V - 60Hz 1725 RPM										\$0						
1E NEMA Explosion proof / XPFC 1 x 115/(208)-230 V - 60Hz 1725 RPM										\$0						
1F NEMA Explosion proof : XPFC 3 x 208-230 / 460 V - 60Hz 1725 RPM										\$0						
1G NEMA Explosion proof / XPFC 3 x 208-230 / 460 V , 190/380V - 50/60Hz - 1425/1725 RPM										\$0						
9S Special motor										\$0						
Paint Thickness and System																
N Standard 100 µ										\$0						
B For hygienic environment, 100 µ										\$1,155						
A C2, 140 µ, low corrosivity										\$1,155						
C C3, 240 µ, medium corrosivity										\$1,313						
E C4, 70 µ, high corrosivity										\$1,363						
D C5, 245 µ, OFFSHORE										\$1,411						
X Special to Customer Spec										Consult us						
Paint Color		Availability by Paint System			B	A	C	E	D	N						
S Standard - Yellow RAL1018		NA ● ● ● ● ●			NA	●	●	●	●	●						
2 Grey RAL 7035 for C5-M only		NA NA ● ● ●			NA	NA	●	●	●	NA						
3 Grey RAL 7042 for C5-M only		NA NA ● ● ●			NA	NA	●	●	●	NA						
4 White RAL 9010		● NA NA NA NA NA			●	NA	NA	NA	NA	NA						
Z Customized																
Motor Paint																
S Supplier standard paint (color+system) - STANDARD																
P Same as pump color and system (may impact motor warranty)																
Electric Actuator Paint																
P Same as pump (color+system)																
Baseplate																
N No baseplate required according to configuration rules - subject to factory correction.																
C Base plate required according to pump configuration - subject to factory correction																
Oil Cooler - Required for PX Multiplex Only																
N None (Standard)																
Pump number within Multiplex																
1 Number that represents which pump body this pump is in a multiplex Simplex is always 1. Pump body with motor is always 1, next body = 2, etc.																
Manifold (Suction & Discharge)																
N None (Standard)																
Y With manifolds - to be defined																
Relief Valve Set Pressure - Value in BAR																
Enter pressure value - example - 300																
6N4	1A	N	S	S	S	N	N	1	N	300						

BOM addition section 1 sample code - continue to next page

(*) In case of Customer motor choice : the pump will be tested with a Milton Roy motor. If the customer would like to test with his customer motor then the negative impact of the late delivery of the customer motor or the motor dysfunctionning will be charged to Milton Roy.

Continue to next page

BOM Additions Code Selection - Continued

Document and Nameplate Units		Price
D1 Documents and Nameplates in US units (PSI, Lbs, GPH...)		\$0
D2 Documents and Nameplate in SI units (bar, l/h, kg...)		Standard
DZ Documents and Nameplate in other units		Consult us
Documentation and Nameplate Language		Price
EN English - STANDARD		\$0
FR French		\$0
CH Chinese		Consult us
SP Spanish		Consult us
PT Portuguese		Consult us
RU Russian		Consult us
IT Italian		Consult us
DE German		Consult us
OT Other, to specify		Consult us
Production Test		Price
T1 Flow measurement at 100% and leak at max. pressure IVY = not available - SHA = Not available - PSP = A1 (standard)		\$0
T2 Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = STANDARD test - SHA = std test - PSP = A1F		\$347
T3 API Linearity test (5 point curve) + Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = TEST 5POINT NW - SHA = Not available - PSP = A1F+A2		\$347
T4 10 Points test (S.S Accuracy, Linearity, Repeatability) IVY = TEST 10POINT NW - SHA = A - PSP = A3 WITHOUT hydro test		\$970
Hydro Test		Price
H0 Standard - No hydro test		\$0
H1 Conduct Hydro test		\$435
Running Test		Price
N No - STANDARD		\$0
1 Running test -1 hour		\$693
2 Running test -2 hours		\$781
3 Running test -3 hours		\$867
4 Running test -4 hours		\$954
MASP Test (Minimum Allowable Suction Pressure) and NPIPr Test (Net Positive Inlet Pressure)		Price
N No test MASP - No test NPIPr		\$0
Y Yes - Test MASP, following Milton Roy Standard ITOP055 (2)		\$561
P Yes - Test NPIPr, following Milton Roy Standard ITOP381 (1)		\$561
T Yes. Test MASP following MR ITOP055 and Test NPIPr, following MR ITOP381 (1)		\$1,121
Vibration, Noise, and Temperature Rise Tests		Price
N None - STANDARD		\$0
Material, Certificate of Origin		Price
N None - STANDARD		\$0
2 Material certificate - 2.1 (EN10204)		\$119
3 Material certificate - 3.1 - Metallic heads		Consult us
Material certificate - 2.2		
Z Material certificate - 3.1 type + Nace MR0175		Consult Factory
Material certificate - 3.1 + G7 origin		
Material certificate - 3.2 type (Regualified 3.1) - Consult for multiple pump price		
PMI Testing		Price
N None - STANDARD		\$0
M PMI performed by Milton Roy		\$420
P PMI by third party		Consult Factory
S PMI + SPECTRO (%C)		Consult Factory
Weld Testing		Price
N None (standard)		\$0
Y Yes. To be specified		Refer to page 'Tests'

BOM addition section 2 sample code - finalized code

Completed BOM code example:

6N6	MM	N	S	S	S	N	N	1	N	20	D1	EN	T2	H0	N	N	N	N	N
-----	----	---	---	---	---	---	---	---	---	----	----	----	----	----	---	---	---	---	---

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PRP

Material and Plunger Code							
Model Code	Plunger Diameter	P2 Heads (N)		P3 Heads (UT)		P4 Heads (NX)	
		Code	Price	Code	Price	Code	Price
43-25	25 mm					PRP43-25	\$47,836
43-28	28 mm					PRP43-28	\$48,435
43-32	32 mm					PRP43-32	\$49,044
41-40	40 mm					PRP41-40	\$51,316
21-45	44.5 mm	PRP21-45	\$ 41,203				
21-51	50.8 mm	PRP21-51	\$ 41,356				
21-57	57.2 mm	PRP21-57	\$ 41,356				
21-63	63.5 mm	PRP21-63	\$ 41,356				
31-70	69.9 mm			PRP31-70	\$43,401		
31-80	79.4 mm			PRP31-80	\$44,037		
31-89	88.9 mm			PRP31-89	\$45,113		
31-102	101.6 mm			PRP31-102	\$49,754		
31-127	127 mm			PRP31-127	\$54,695		
31-152	152.4 mm			PRP31-152	\$58,991		
31-178	177.8 mm			PRP31-178	\$63,030		
Gear Ratio							Stroke frequency (spm) relative to motor rotation speed (rpm)
							50 Hz 1440 rpm
							60 Hz 1728 rpm
B	29.5:1 Gear ratio			48	58		\$0
D	19.67:1 Gear ratio			73	88		\$0
E	15.33:1 Gear ratio			93	112		\$0
F	12.25:1 Gear ratio			117	140		\$0
G	9.8:1 Gear ratio			146	N/A		\$0
Multiplex							Price
For duplex & triplex, configure each pump separately - add multiplex charge to 1st pump only - See other instructions related to multiplex in motor mount and base selection.							Fixed Stroke
1	Simplex						\$0 Standard
2	Duplex - Liquid ends and drive options identical						-\$504 \$1,298
3	Triplex - Liquid ends and drive options identical						-\$628 \$2,170
Z	Multiplex with more than 3 heads or Heterogen Multiplexage						Consult us Consult us
PRP	31-80	B	1				

Options Selection - Pump Area Hazard Classification

ATEX explosionproof area			Price
S	Standard		\$0
A	Ex-proof area - ATEX rating not required		\$0
B	ATEX 2G-T3		\$0
C	ATEX 2G-T4 2 probes required (on the drive and on the head)		\$0
F	ATEX 3G-T3		\$0
G	ATEX 3G-T4 2 probes required (on the drive and on the head)		\$0
Probe			Price
N	Without probe - Standard		Standard
1	PT100 probe, 3-wire - Signal processing by customer		\$ 801
2	4-20 mA probe - Signal processing by customer		\$ 1,114
3	Foundation Fieldbus probe - Signal processing by customer		\$ 2,507
Z	Autre sonde		Consult us
Special Options			
N	For standard pump with no special option requirement, please leave this code blank.		\$0
Z	Special options		Consult us
S	N	N	Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

The code on the nameplate will consist of the selections above. Example:

PRP31-80B1SNN

\$44,037

Model Code Example Price

Continue to next page

Liquid End Option Selection

Check Valve		P2 Heads (N)		P3 Heads (UT)				P4 Heads (NX)						
		Plunger Diameters		Plunger Diameters				Plunger Dia						
		45	51, 57, 63	70, 80	89, 102	127	152, 178	28	28, 32	40				
		Ball Diameters		Ball Diameters				Ball Diameters						
25	40			40	50	70	110	15.9	20	25				
NS	Single ball	—	≤140 bar	Standard	—	—	—	—	—	—				
ND	Double Ball	—	\$561	\$561	—	—	—	—	—	—				
NP	Single Flat Valve	—	>140 bar	—	Standard				—	—				
LS	Single Hard 440C Ball and Seat	Standard	\$767	\$767	—	—	—	—	—	—				
LD	Double Hard 440C Ball and Seat	\$920	\$1,155	\$1,155	—	—	—	Standard	—	—				
KS	Slurry - 440C Single Ball & Seat w/larger clearance	\$680	\$927	\$927	—	—	—	—	—	—				
KD	Slurry - 440C Double Ball & Seat w/more play	\$1,073	\$1,388	\$1,388	—	—	—	—	—	—				
HS	H2SO4 Single Alloy 276 or 904L Ball/904L Seat	\$715	\$1,208	\$1,208	—	—	—	—	—	—				
HD	H2SO4 Double Alloy 276 or 904L Ball/904L Seat	\$1,073	\$1,812	\$1,812	—	—	—	—	—	—				
VS	Viscous Liquids spring loaded single ball	\$356	\$458	\$458	—	—	—	—	—	—				
TS	Polyelectrolytes-single ball disch. spring load	\$330	\$451	\$451	—	—	—	—	—	—				
SS	Anti-siphoning - single suct/disch 2nd ball spring load	\$435	\$594	\$594	—	—	—	—	—	—				
Wetted o-ring				Price										
				P2 Heads	P3 Heads	P4 Heads								
		All Plungers		All Plungers	All Plungers	All Plungers								
1	PTFE	Standard		Standard	Standard	—								
2	Viton	—		—	—	Standard								
3	Nitril	—		—	—	Option - Consult us								
Packing and Plunger Material														
N	Standard													
NS	1	N												

Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

Suction Orientation		P2 and P3 Heads					P4 Heads					
		Plunger Diameters										
		Ø45 mm	Ø51, 57, 63, 70, 80 mm	Ø89, 102 mm	Ø127, 152, 178 mm							
V	Vertical (std)	Standard	Standard	Standard	Standard	Standard	All Plungers					
	Horizontal	\$274	\$352	\$451	\$1,030	—						
Suction Connection - Type						P2 and P3 Heads		P4 Heads				
						All Plungers	Plungers Ø16, 20 mm	Plunger Ø25 mm				
1	Gas							Standard				
2	NPT											
3	Welded Flanges											
7	Medium pressure					Standard		Standard				
Suction Connection Type and Rating				P2 and P3 Heads					P4 Heads			
				Plunger Ø45 mm	Plungers Ø51, 57, 63, 70, 80 mm	Plungers Ø89, 102 mm	Piston Ø127 mm	Plungers Ø152, 178 mm	Plungers Ø25, 28, 32 mm	Plungers Ø40 mm		
M	Male	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Std			
F	Female	—	—	—	—	—	—	—	Standard			
ANSI Flanges 316L ss				1"	1 1/2"	2"	3"	4"				
A	ANSI - Class 150	\$433	\$560	\$727	\$1,575	\$2,101	\$2,101	\$2,101				
B	ANSI - Class 300	\$433	\$594	\$772	\$1,662	\$2,277	\$2,277	\$2,277	Standard			
C	ANSI - Class 600	\$653	\$682	\$883	\$2,336	Standard	Consult us	Consult us				
D	ANSI - Class 1,500 - RF/SF	\$1,009	\$1,346	\$1,748	Consult us	Consult us	Consult us	Consult us				
E	ANSI - Class 1,500 - RTJ	\$1,100	\$1,421	Consult us	Consult us	Consult us	Consult us	Consult us	Consult us			
G	ANSI - Class 2,500 - RTJ	\$1,715	\$2,130	—	Consult us	Consult us	Consult us	Consult us	Consult us			
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1				DN25	DN40	DN50	DN80					
J	EN1759-1 Class 150	\$433	\$526	\$784	\$1,611	\$2,101	\$2,101	\$2,101				
K	EN1759-1 Class 300	—	—	—	Consult us	Consult us	Consult us	Consult us				
L	EN1759-1 Class 600	\$653	\$791	\$1,190	\$2,277	\$1,883	\$1,883	\$1,883				
N	EN1759-1 Class 900	—	—	—	Consult us	Consult us	Consult us	Consult us				
O	EN1759-1 Class 1500	—	—	—	Consult us	Consult us	Consult us	Consult us				
P	EN1092-1 PN100	\$644	\$784	\$1,178	Consult us	Consult us	Consult us	Consult us				
Q	EN1092-1 PN63	—	—	—	Consult us	Consult us	Consult us	Consult us				
R	EN1092-1 PN160	\$976	\$1,186	\$1,781	Consult us	Consult us	Consult us	Consult us				
S	EN1092-1 PN40	\$403	\$502	\$749	Consult us	Consult us	Consult us	Consult us				
V	2	M										

Options Code section 2 example. Please, refer to the following pages for the rest of the codification selection

Liquid End Option Selection - Continued

Discharge Orientation		P2 and P3 Heads				P4 Heads	
		Plunger Diameters				All Plungers	
		Ø45 mm	Ø51, 57, 63, 70, 80 mm	Ø89, 102 mm	Ø127, 152, 178 mm	Standard	Standard
V	Vertical (std)	Standard	Standard	Standard	Standard	Standard	Standard
H	Horizontal	\$274	\$352	\$451	\$1,030	—	—
Discharge Connection		P2 and P3 Heads			P4 Heads		
		All Plungers		Plungers Ø16, 20 mm	Plunger Ø25 mm		Standard
		1 Gas	—	—	—	—	—
2	NPT	—	—	—	—	—	—
3	Welded Flanges	—	—	—	—	—	—
7	Medium Pressure	—	—	—	Standard	—	—
Discharge Connection Type and Rating		Heads P2 et P3				Heads P4	
		Plunger Ø45 mm	Plungers Ø51, 57, 63, 70, 80 mm	Plungers Ø89, 102 mm	Plunger Ø127 mm	Plungers Ø152, 178 mm	Plungers Ø25, 28, 32 mm
		M Male	Standard	Standard	Standard	Standard	Std
F	Female	—	—	—	—	—	Standard
ANSI Flanges 316L ss		1"	1 1/2"	2"	3"	4"	—
		A ANSI - Class 150	\$433	\$560	\$727	\$1,575	\$2,101
B	ANSI - Class 300	\$433	\$594	\$772	\$1,662	\$2,277	Standard
C	ANSI - Class 600	\$653	\$682	\$883	\$2,336	Standard	Consult us
D	ANSI - Class 1,500 - RF	\$1,009	\$1,346	\$1,748	Consult us	Consult us	Consult us
E	ANSI - Class 1,500 - RTJ	\$1,100	\$1,421	Consult us	Consult us	Consult us	Consult us
G	ANSI - Class 2,500 - RTJ	\$1,715	\$2,130	—	Consult us	Consult us	Consult us
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1		DN25	DN40	DN50	DN80	—	—
J	EN1759-1 Class 150	\$433	\$526	\$784	€ 1,611	€ 2,101	€ 2,101
L	EN1759-1 Class 600	\$653	\$791	\$1,190	€ 2,277	€ 1,883	€ 1,883
P	EN1092-1 PN100	\$644	\$784	\$1,178	Consult us	Consult us	Consult us
R	EN1092-1 PN160	\$976	\$1,186	\$1,781	Consult us	Consult us	Consult us
S	EN1092-1PN40	\$403	\$502	\$749	Consult us	Consult us	Consult us
Liquid Temperature Options		—					
		N Standard Liquid Temperature Range : -10°C (14°F) to 95°C (203°F)	—	—	—	—	—
		Packing Lubrication and Flush					
N	Standard	—	—	—	—	—	—
Liquid End Surface Finish		—					
		N None (Standard)	—	—	—	—	—
		Advanced Options					
N	None (Standard)	—	—	—	—	—	—
V	2	M	N	N	N	N	N

Options Code section 3 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Drive Option Selection

Capacity Control Options			Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option	—	Standard
FS	Fixed stroke (API 675)	—	\$0
B2	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IP68	—	\$11,620
BB	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IECEx-ATEX Ex d II B T4 ; CSA Class I Group C, D div 1&2-Class II Group E,F,G div 1&2	—	\$13,569
B1	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase (1 phase possible) - IP68	—	\$11,620
BA	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - ATEX CE II 2G Ex d IIB T4 -Ambient T°: -20°C /+70°C - IP68	—	\$13,569
Housing Material Options			Price
N	Standard - FLG cast iron, down to -20°C/-4°F	—	Standard
2	FGS ductile cast iron, down to -40°C/-40°F	—	Consult us
3	DEP Shell (FGS parts under pressure)	—	Consult us
Environment Options			Price
N	Design standard	—	Standard
S	Sand -proof design (rigid PSV included)	—	Consult us
M	Offshore (rigid PSV included; paint not included)	—	Consult us
Oil Options			Price
N	Standard (+50°C/112°F to -10°C/14°F)	—	Standard
3	Low temp (down to -40°C/-40°F)	—	\$1,745
9	Without oil	—	\$0
4	Food grade	—	\$1,585
Motor Power			Price
V	11 kW	15 HP	The prices of the motor are available at the motor section
W	15 kW	20 HP	
X	18.5 kW	25 HP	
Y	22 kW	30 HP	
AA	30 kW	40 HP	
AB	37 kW	50 HP	
AC	45 kW	60 HP	
M1	N	N	V

Drive Options Code section 1 example.

Drive Option Selection - Continued

Coupling		Price
1	Standard	Standard
2	Metal Strips (Motor connection only - not available between pumps in multiplex)	Consult us
9	Special	Consult us
Motor Mount - Note code "A" below for multiplex		
H	NEMA 254 / 256TC	\$0
K	NEMA 284TC	\$0
L	NEMA 286TC	\$0
M	NEMA 324TC	\$0
N	NEMA 326TC	\$0
O	NEMA 364TC	\$0
T	IEC FF300	\$0
U	IEC FF350	\$0
V	IEC FF400	\$0
A	No mount - use for all but first pump in a multiplex	\$0
Motor Orientation		
V	Vertical Standard on simplex with manual capacity control and ECC or Stegman actuators	\$0
H	Horizontal Standard on all multiplex, and simplex with Bernard, Rotork, or STI actuators	\$0
1	H	V

Drive Options section 2 sample code - Product Code Selection Complete

PRP31-80B1SNN NS1NV2MV2MNNNN M1NNNV1HV

As noted - the portion of the code above provides the information for the pump nameplate and identifies the hardware required to manufacture the pump. THE CODE IS NOT YET COMPLETE.

The following section of the code identifies additions to the BOM and work order instructions, and includes pricing for various tests and services. Once the online configuration tool is in use, this portion of the code will be internal only and will not be visible to customers or distributors.

[Continue to next page](#)

BOM Additions Code Selection

Motor Frequency / Type / Number of Poles								Price				
5N4 50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0				
6N4 60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0				
5N6 50 Hz - NEMA - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0				
6N6 60 Hz - NEMA - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0				
5M4 50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0				
6M4 60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0				
5M6 50 Hz - IEC - 6 poles - 960 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0				
6M6 60 Hz - IEC - 6 poles - 1140 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0				
Motor Description								Price				
MM Milton Roy Supplied Motor (Separate Line Item)								\$0				
10 Pump supplied Less Motor - charge to cover added costs to test pump								\$272				
11 Client supplied motor mounted and tested								\$360				
OA IEC standard motor - aluminum frame - 3 phase								\$0				
1A IEC Explosion-proof motor Eex D II BT4 - cast iron frame - 3 phase								\$0				
1B IEC Explosion-proof motor Eex D II BT4 - cast iron frame - 3 phase with rain cover, coil protection by PTC								\$0				
4S Fan cooled motor for variable speed drive								\$0				
4V Motor for variable speed drive with constant speed fan								\$0				
1C NEMA Explosion proof / XPNV 1 x 115/(208)-230 V - 60Hz 1725 RPM								\$0				
1D NEMA Explosion proof / XPNV 3 x 208-230 / 460 V - 60Hz 1725 RPM								\$0				
1E NEMA Explosion proof / XPFC 1 x 115/(208)-230 V - 60Hz 1725 RPM								\$0				
1F NEMA Explosion proof : XPFC 3 x 208-230 / 460 V - 60Hz 1725 RPM								\$0				
1G NEMA Explosion proof / XPFC 3 x 208-230 / 460 V, 190/380V - 50/60Hz - 1425/1725 RPM								\$0				
9S Special motor								\$0				
Paint Thickness and System								Price				
N Standard 100 µ								\$0				
B For hygienic environment, 100 µ								\$1,155				
A C2, 140 µ, low corrosivity								\$1,155				
C C3, 240 µ, medium corrosivity								\$1,313				
E C4, 70 µ, high corrosivity								\$1,363				
D C5, 245 µ, OFFSHORE								\$1,411				
X Special to Customer Spec								Consult us				
Paint Color		Availability by Paint System			B	A	C	E	D	N		
S Standard - Yellow RAL1018		for C5-M only			NA	●	●	●	●	●		
2 Grey RAL 7035		for C5-M only			NA	NA	●	●	●	NA		
3 Grey RAL 7042		for C5-M only			NA	NA	●	●	●	NA		
4 White RAL 9010					●	NA	NA	NA	NA	NA		
Z Customized												
Motor Paint								Price				
S Supplier standard paint (color+system) - STANDARD									\$0			
P Same as pump color and system (may impact motor warranty)									\$0			
Electric Actuator Paint								Price				
P Same as pump (color+system)									Standard			
Baseplate								Price				
N No baseplate required according to configuration rules - subject to factory correction.									\$0			
C Base plate required according to pump configuration - subject to factory correction									Consult us			
Oil Cooler - Required for PX Multiplex Only								Price				
N None (Standard)									Standard			
Pump number within Multiplex								Price				
1 Number that represents which pump body this pump is in a multiplex									\$0			
Simplex is always 1. Pump body with motor is always 1, next body = 2, etc.												
Manifold (Suction & Discharge)								Price				
N None (Standard)									\$0			
Y With manifolds - to be defined									Consult us			
Relief Valve Set Pressure - Value in BAR												
Enter pressure value - example - 300												
6N4	1A	N	S	S	S	N	N	1	N	300		

BOM addition section 1 sample code - continue to next page

(*) In case of Customer motor choice : the pump will be tested with a Milton Roy motor. If the customer would like to test with his customer motor then the negative impact of the late delivery of the customer motor or the motor dysfunctionning will be charged to Milton Roy.

Continue to next page

BOM Additions Code Selection - Continued

Documentation and Nameplate Units										Price	
D1	Documents and Nameplates in US units (PSI, Lbs, GPH...)										\$0
D2	Documents and Nameplate in SI units (bar, l/h, kg...)										Standard
DZ	Documents and Nameplate in other units										Consult us
Documentation and Nameplate Language										Price	
EN	English - STANDARD										\$0
FR	French										\$0
CH	Chinese										Consult us
SP	Spanish										Consult us
PT	Portuguese										Consult us
RU	Russian										Consult us
IT	Italian										Consult us
DE	German										Consult us
OT	Other, to specify										Consult us
Production Test										Price	
T1	Flow measurement at 100% and leak at max. pressure IVY = not available - SHA = Not available - PSP = A1 (standard)										\$0
T2	Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = STANDARD test - SHA = std test - PSP = A1F										\$316
T3	API Linearity test (5 point curve) + Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = TEST 5POINT NW - SHA = Not available - PSP = A1F+A2										\$316
T4	10 Points test (S.S Accuracy, Linearity, Repeatability) IVY = TEST 10POINT NW - SHA = A - PSP = A3 WITHOUT hydro test										\$882
Hydro Test										Price	
H0	Standard - No hydro test										\$0
H1	Conduct Hydro test										\$395
Running Test										Price	
N	No - STANDARD										\$0
1	Running test -1 hour										\$630
2	Running test -2 hours										\$711
3	Running test -3 hours										\$789
4	Running test -4 hours										\$867
MASP Test (Minimum Allowable Suction Pressure) and NPIPr Test (Net Positive Inlet Pressure rec										Price	
N	No test MASP - No test NPIPr										\$0
Y	Yes - Test MASP, following Milton Roy Standard ITOP055 (2)										\$561
P	Yes - Test NPIPr, following Milton Roy Standard ITOP381 (1)										\$561
T	Yes. Test MASP following MR ITOP055 and Test NPIPr, following MR ITOP381 (1)										\$1,121
Vibration, Noise, and Temperature Rise Tests										Price	
N	None - STANDARD										\$0
Material, Certificate of Origin										Price	
N	None - STANDARD										\$0
2	Material certificate - 2.1 (EN10204)										\$109
3	Material certificate - 3.1 - Metallic heads										Consult us
	Material certificate - 2.2										
Z	Material certificate - 3.1 type + Nace MR0175										Consult Factory
	Material certificate - 3.1 + G7 origin										
	Material certificate - 3.2 type (Requalified 3.1) - Consult for multiple pump price										
PMI Testing										Price	
N	None - STANDARD										\$0
M	PMI performed by Milton Roy										\$383
P	PMI by third party										Consult Factory
S	PMI + SPECTRO (%C)										Consult Factory
Weld Testing										Price	
N	None (standard)										\$0
Y	Yes. To be specified										Refer to page 'Tests'

BOM addition section 2 sample code - finalized code

Completed BOM code example:

6N6 MM N S S S N N 1 N 20 D1 EN T2 HO N N N N N N

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PXH				
Material and Plunger Code				
Model Code	HS Heads, Double diaphragm PTFE (pressure gauge in standard). 316L SS body, check valve in 17.4 PH, seat valve in 316 SS.			
	Plunger Diameters			
51-55	55 mm		\$115,597	
51-60	60 mm		\$119,721	
51-63	63 mm		\$118,487	
51-65	65 mm		\$122,611	
51-70	70 mm		\$121,377	
51-75	75 mm		\$124,266	
51-80	80 mm		\$130,046	
51-85	85 mm		\$134,556	
51-90	90 mm		\$133,322	
51-95	95 mm		\$137,830	
51-100	100 mm		\$136,596	
51-105	105 mm		\$138,234	
51-110	110 mm		\$139,821	
51-115	115 mm		\$153,044	
51-120	120 mm		\$153,044	
51-125	125 mm		\$151,809	
51-130	130 mm		\$165,033	
51-135	135 mm		\$165,033	
51-140	140 mm		\$165,033	
51-145	145 mm		\$165,033	
Stroke frequency (spm) relative to motor rotation speed (rpm)				
Gear Ratio		50 Hz	60 Hz	
		1440 rpm	1728 rpm	
D	19.67:1 Gear ratio	73	88	\$0
E	15.33:1 Gear ratio	93	112	\$0
F	12.25:1 Gear ratio	117	140	\$0
G	9.8:1 Gear ratio	146	N/A	\$0
Multiplex				
For duplex & triplex, configure each pump separately - add multiplex charge to 1st pump only - See other instructions related to multiplex in motor mount and base selection.				
1	Simplex		\$0	
2	Duplex Adjustable Stroke - Liquid ends and drive options identical		Consult us	
3	Triplex Adjustable Stroke - Liquid ends and drive options identical		Consult us	
PXH	51-63	D	1	

Options Selection - Pump Area Hazard Classification

ATEX explosionproof area			
S	Standard		
A	Ex-proof area - ATEX rating not required		
B	ATEX 2G-T3 1 Probe required on the drive		
C	ATEX 2G-T4		
F	ATEX 3G-T3 1 Probe required on the drive		
G	ATEX 3G-T4		
Probe			
N	Without probe - Standard		
1	PT100 probe, 3-wire - Signal processing by customer		
2	4-20 mA probe - Signal processing by customer		
3	Foundation Fieldbus probe - Signal processing by customer		
Z	Other probe		
Special Options			
N	For standard pump with no special option requirement, please leave this code blank.		
Z	Special options		
S	N	N	Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

The code on the nameplate will consist of the selections above. Example: PXH51-63D1SNN

\$118,487
Model Code Example Price

Liquid End Option Selection

Check Valve			Standard
NP Single flat valve : seat in 316L SS and check valve in 17.4 PH			Standard
Wetted o-ring			
1 PTFE STANDARD for plungers Ø80 à 110 mm			
2 Viton STANDARD for plungers Ø55 à 75 mm			
Diaphragm Rupture Detection Systems			Price
2 C8 Explosion proof switch			\$2,825
3 CS Gauge			Standard
9 CT Manifold and connection for Pressure transmitter (transmitter is not included, but it must be defined according to following parameters : connection 1/2 NPT and vertical mounting)			\$1,046
Z Special (CZ)			Consult us
NS	1	N	Options Code section 1 example.

Continue to next page

Liquid End Option Selection - Continued

Suction Orientation			Plunger Diameters		
			Ø55, 60, 63, 65, 70, 75 mm	Ø80, 85, 90, 95, 100, 105 mm	Ø110, 115, 120, 125, 130, 135, 140, 145 mm
V	Vertical (std)		Standard	Standard	Standard
H	Horizontal		\$496	\$1,131	—
Suction Connection - Type					
2 NPT Standard for plungers 55, 63, 70, 75 mm			\$0		
3 Welded Flanges Standard for plungers 80, 90, 100, 105, 110, 125, 145 mm			\$0		
Suction Connection Type and Rating			2"	3"	4"
Threaded			Plungers Ø55, 60, 63, 65, 70, 75 mm	Plungers Ø80, 85, 90, 95, 100, 105 mm	Plungers Ø110, 115, 120, 125, 130, 135, 140, 145 mm
M	Male		Standard	—	—
F	Female		—	—	—
ANSI Flanges 316L ss					
A ANSI - Class 150			\$727	Standard	Standard
B ANSI - Class 300			\$772	\$1,662	\$0
C ANSI - Class 600			\$883	\$2,336	\$0
D ANSI - Class 1,500 - RF			\$1,748	Consult us	Consult us
E ANSI - Class 1,500 - RTJ			Consult us	Consult us	Consult us
G ANSI - Class 2,500 - RTJ			—	Consult us	Consult us
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1			DN50	DN80	DN 100
			Plungers Ø63, 70, 80, 90, 100 mm	Plungers Ø105, 110, 115, 125, 145 mm	Plungers 110, 115, 120, 125, 130, 135, 140, 145 mm
J EN1759-1 Class 150			\$784	\$1,611	Consult us
L EN1759-1 Class 600			\$1,190	\$2,277	Consult us
O EN1759-1 Class 1500			—	Consult us	Consult us
P EN1092-1 PN100			\$1,178	Consult us	Consult us
R EN1092-1 PN160			\$1,781	Consult us	Consult us
S EN1092-1PN40			\$749	Consult us	Consult us
V	2	M			

Options Code section 2 example. Please, refer to the following pages for the rest of the codification selection

Liquid End Option Selection - Continued

		Discharge Orientation			Plunger Diameters	
V	Vertical (std)			55, 60, 63, 65, 70, 75 mm	80, 85, 90, 95, 100, 105 mm	110, 115, 120, 125, 130, 135, 140, 145 mm
H	Horizontal				\$496	\$1,131
Discharge Connection						
2	NPT	Standard for plungers 55, 60, 63, 65, 70, 75 mm				\$0
3	Welded Flanges	Standard for plungers 80, 85, 90, 95, 100, 105, 110, 120, 125, 130, 135, 145 mm				\$0
Discharge Connection Type and Rating				2"	3"	4"
Threaded				Plungers 55, 60, 63, 65, 70, 75 mm	Plungers 80, 85, 90, 95, 100, 105 mm	Plungers 110, 115, 120, 125, 130, 135, 140, 145 mm
M	Male			Standard	—	—
F	Female			—	—	—
ANSI Flanges 316L ss						
A	ANSI - Class 150			\$727	Standard	Standard
B	ANSI - Class 300			\$772	\$1,662	\$0
C	ANSI - Class 600			\$883	\$2,336	\$0
D	ANSI - Class 1,500 - RF/SF			\$1,748	Consult us	Consult us
E	ANSI - Class 1,500 - RTJ			Consult us	Consult us	Consult us
G	ANSI - Class 2,500 - RTJ			—	Consult us	Consult us
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1				DN50 Plungers 63, 70, 80, 90, 100	DN80 Plungers 115, 125, 145	DN 100 Plungers 110, 115, 120, 125, 130, 135, 140, 145 mm
J	EN1759-1 Class 150			\$784	\$1,611	Consult us
L	EN1759-1 Class 600			\$1,190	\$2,277	Consult us
O	EN1759-1 Class 1500			—	Consult us	Consult us
P	EN1092-1 PN100			\$1,178	Consult us	Consult us
R	EN1092-1 PN160			\$1,781	Consult us	Consult us
S	EN1092-1PN40			\$749	Consult us	Consult us
Liquid Temperature Options						
N	Standard Liquid Temperature Range -10° C (50° F) to 95° C (203° F)				Standard	
Liquid End Jackets						
For All Plunger Diameters						
N	None (Standard)				Standard	
1	Heating Jacket				Consult Us	
Liquid End Surface Finish						
For All Plunger Diameters						
N	None (Standard)				Standard	
D	Descale/passivate(Valve DS) (Select the check valve and the connection, if needed)				Consult Us	
Advanced Options						
N	None (Standard)				Standard	
V	2	M	N	N	N	N

Options Code section 3 example. Please, refer to the following pages for the rest of the codification selection

Drive Option Selection

Capacity Control Options			Price
M1 Adjustable stroke with locked stroke (API 675) - Standard Option			Standard
B1	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase (1 phase possible) - IP68		\$12,771
BA	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - ATEX CE II 2G Ex d IIB T4 -Ambient T°: -20°C /+70°C - IP68		\$14,913
B2	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IP68		\$12,771
BB	Bernard actuator /integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IECEx-Atex Ex d II B T4 ; CSA Class I Group C, D div 1&2 - Class II Group E, F, G div 1&2		\$14,913
Housing Material Options			Price
N	Standard - FLG cast iron, down to -20°C/-4°F		Standard
2	FGS ductile cast iron, down to -40°C/F		Consult us
3	DEP Shell (FGS parts under pressure)		Consult us
Environment Options			Price
N	Design standard		Standard
S	Sand -proof design (rigid PSV included)		Consult us
M	Offshore (rigid PSV included; paint not included)		Consult us
Oil Options			Price
N	Standard (+50°C/112°F to -10°C/14°F)		Standard
3	Low temp (down to -40°C/F)		\$2,963
9	Without oil		\$0
4	Food grade		\$2,614
Motor Power			Price
X	18.5 kW	25 HP	
Y	22 kW	30 HP	
AA	30 kW	40 HP	
AB	37 kW	50 HP	
AC	45 kW	60 HP	
AD	55 kW	75 HP	
AE	75 kW	100 HP	
AF	90 kW	125 HP	
AG	110 kW	150 HP	

M1 N N N V

Drive Options Code section 1 example.

The prices of the motor are available at the motor section

Coupling

1 Standard			Price
Motor Mount - Note code "A" below for multiplex			Price
H	NEMA 254 / 256TC		\$0
K	NEMA 284TC		\$0
L	NEMA 286TC		\$0
M	NEMA 324TC		\$0
N	NEMA 326TC		\$0
O	NEMA 364TC		\$0
T	IEC FF300		\$0
U	IEC FF350		\$0
V	IEC FF400		\$0
W	IEC FF500		\$0
X	IEC FF600		\$0
A	No mount - use for all but first pump in a multiplex		\$0
Motor Orientation			Price
V	Vertical - Standard on simplex with manual capacity control and ECC or Stegman actuators		\$0
H	Horizontal - Standard on all multiplex, and simplex with Bernard, Rotork, or STI actuators		\$0

1 H V

Drive Options section 2 sample code - Product Code Selection Complete

PXH51-63D1SNN NS1NV2MV2MNNNN M1NNN1HV

As noted - the portion of the code above provides the information for the pump nameplate and identifies the hardware required to manufacture the pump. THE CODE IS NOT YET COMPLETE.

The following section of the code identifies additions to the BOM and work order instructions, and includes pricing for various tests and services. Once the online configuration tool is in use, this portion of the code will be internal only and will not be visible to customers or distributors.

Continued to next page

BOM Additions Code Selection

Motor Frequency / Type / Number of Poles										Price			
5N4 50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0			
6N4 60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0			
5M4 50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0			
6M4 60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0			
Motor Description										Price			
MM Milton Roy Supplied Motor (Separate Line Item)										\$0			
10 Pump supplied Less Motor - charge to cover added costs to test pump										\$298			
11 Client supplied motor mounted and tested										\$396			
OA IEC standard motor - aluminum frame - 3 phase										\$0			
1A IEC Explosion-proof motor Eex D II BT4 - cast iron frame - 3 phase										\$0			
1B IEC Explosion-proof motor Eex D II BT4 - cast iron frame - 3 phase with rain cover, coil protection by PTC										\$0			
4S Fan cooled motor for variable speed drive										\$0			
4V Motor for variable speed drive with constant speed fan										\$0			
1C NEMA Explosion proof / XPNV 1 x 115/(208)-230 V - 60Hz 1725 RPM										\$0			
1D NEMA Explosion proof / XPNV 3 x 208-230 / 460 V - 60Hz 1725 RPM										\$0			
1E NEMA Explosion proof / XPFC 1 x 115/(208)-230 V - 60Hz 1725 RPM										\$0			
1F NEMA Explosion proof : XPFC 3 x 208-230 / 460 V - 60Hz 1725 RPM										\$0			
1G NEMA Explosion proof / XPFC 3 x 208-230 / 460 V, 190/380V - 50/60Hz - 1425/1725 RPM										\$0			
9S Special motor										\$0			
Paint Thickness and System										Price			
N Standard 100 µ										\$0			
B For hygienic environment, 100 µ										\$1,976			
A C2, 140 µ, low corrosivity										\$1,976			
C C3, 240 µ, medium corrosivity										\$2,245			
E C4, 70 µ, high corrosivity										\$2,331			
D CS, 245 µ, OFFSHORE										\$2,414			
X Special to Customer Spec										Consult us			
Paint Color		Availability by Paint System			B	A	C	E	D	N			
S	Standard - Yellow RAL1018				NA	●	●	●	●	●			
2	Grey RAL 7035	for C5-M only			NA	NA	●	●	●	NA			
3	Grey RAL 7042	for C5-M only			NA	NA	●	●	●	NA			
4	White RAL 9010				●	NA	NA	NA	NA	NA			
Z	Customized												
Motor Paint										Price			
S	Supplier standard paint (color+system) - STANDARD												
P	Same as pump color and system (may impact motor warranty)												
Z	Other according to customer spec												
Electric Actuator Paint										Price			
S	Supplier standard paint (color+system) - STANDARD												
P	Same as pump (color+system)												
Baseplate										Price			
C	Base plate required according to pump configuration - subject to factory correction												
Z	ETO base plate (to be specified)												
Oil Cooler - Required for PX Multiplex Only										Price			
S	Standard oil/air cooler												
A	ATEX oil/air cooler												
M	ATEX/MARINE oil/air cooler												
W	Standard oil/water cooler												
B	ATEX oil/water cooler												
C	ATEX/MARINE oil/water cooler												
Pump number within Multiplex										Price			
1	Number that represents which pump body this pump is in a multiplex Simplex is always 1. Pump body with motor is always 1, next body = 2, etc.												
Manifold (Suction & Discharge)										Price			
N	None (Standard)												
Y	With manifolds - to be defined												
Relief Valve Set Pressure - Value in BAR													
Enter pressure value - example - 300													

BOM addition section 1 sample code - continue to next page

(*) In case of Customer motor choice : the pump will be tested with a Milton Roy motor. If the customer would like to test with his customer motor then the negative impact of the late delivery of the customer motor or the motor dysfunctionning will be charged to Milton Roy.

Continue to next page

BOM Additions Code Selection - Continued

Document and Nameplate Units		Price
D1	Documents and Nameplates in US units (PSI, Lbs, GPH...)	\$0
D2	Documents and Nameplate in SI units (bar, l/h, kg...)	Standard
D3	Documents and Nameplate in SI units II (MPa, l/h, kg...)	Consult us
DZ	Documents and Nameplate in other units	Consult us
Documentation and Nameplate Language		Price
EN	English - STANDARD	\$0
FR	French	\$0
CH	Chinese	Consult us
SP	Spanish	Consult us
PT	Portuguese	Consult us
RU	Russian	Consult us
IT	Italian	Consult us
DE	German	Consult us
OT	Other, to specify	Consult us
Production Test		Price
T1	Flow measurement at 100% and leak at max. pressure IVY = not available - SHA = Not available - PSP = A1 (standard)	\$0
T2	Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = STANDARD test - SHA = std test - PSP = A1F	\$347
T3	API Linearity test (5 point curve) + Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = TEST 5POINT NW - SHA = Not available - PSP = A1F+A2	\$347
T4	10 Points test (S.S Accuracy, Linearity, Repeatability) IVY = TEST 10POINT NW - SHA = A - PSP = A3 WITHOUT hydro test	\$970
Hydro Test		Price
H0	Standard - No hydro test	\$0
H1	Conduct Hydro test	\$435
Running Test		Price
N	No - STANDARD	\$0
1	Running test -1 hour	\$693
2	Running test -2 hours	\$781
3	Running test -3 hours	\$867
4	Running test -4 hours	\$954
MASP Test (Minimum Allowable Suction Pressure) and NPIPr Test (Net Positive Inlet Pressure)		Price
N	No test MASP - No test NPIPr	\$0
Y	Yes - Test MASP, following Milton Roy Standard ITOP055 (2)	\$561
P	Yes - Test NPIPr, following Milton Roy Standard ITOP381 (1)	\$561
T	Yes. Test MASP following MR ITOP055 and Test NPIPr, following MR ITOP381 (1)	\$1,121
Vibration, Noise, and Temperature Rise Tests		Price
N	None - STANDARD	\$0
Material, Certificate of Origin		Price
N	None - STANDARD	\$0
2	Material certificate - 2.1 (EN10204)	\$119
3	Material certificate - 3.1 - Metallic heads	\$349
	Material certificate - 2.2	
Z	Material certificate - 3.1 type + Nace MR0175 Material certificate - 3.1 + G7 origin Material certificate - 3.2 type (Requalified 3.1) - Consult for multiple pump price	Consult Factory
PMI Testing		Price
N	None - STANDARD	\$0
M	PMI performed by Milton Roy	\$420
P	PMI by third party	Consult Factory
S	PMI + SPECTRO (%C)	Consult Factory
Weld Testing		Price
N	None (standard)	\$0
Y	Yes. To be specified	Refer to page 'Tests'

BOM addition section 2 sample code - finalized code

Completed BOM code example:

SN4 MM N S S S N N 1 N 20 D1 EN T2 H0 N N N N N N

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PXFTM		Material and Plunger Code				Price					
Model Code	Plunger Diameter					17.4 PH					
				M2 Haute Pression							
				Code	Price						
23-25				23-25	\$186,533						
23-30				23-30	\$179,821						
23-31				23-31	\$179,821						
23-33				23-33	\$179,821						
23-35				23-35	\$179,821						
23-38				23-38	\$179,821						
23-42				23-42	\$179,821						
23-47				23-47	\$179,821						
Stroke frequency (spm) relative to motor rotation speed (rpm)											
Gear Ratio				50 Hz	60 Hz	Price					
				1440 rpm	1728 rpm						
D	19.67:1 Gear ratio					73	88				
E	15.33:1 Gear ratio					93	112				
F	12.25:1 Gear ratio					117	140				
G	9.8:1 Gear ratio					146	175				
H	8.2:1 Gear ratio					175	N/A				
Multiplex											
For duplex & triplex, configure each pump separately - add multiplex charge to 1st pump only - See other instructions related to multiplex in motor mount and base selection.											
1	Simplex										
2	Duplex Adjustable Stroke - Liquid ends and drive options identical										
3	Triplex Adjustable Stroke - Liquid ends and drive options identical										
Z	Multiplex with more than 3 heads or Heterogen Multiplexage										
PXFTM	23-30	E	1								

Options Selection - Pump Area Hazard Classification

ATEX explosion proof area			Price	
S	Standard	1 Probe is mandatory on drive		\$0
A	Ex-proof area - ATEX rating not required	1 Probe is mandatory on drive		\$0
B	ATEX 2G-T3	1 Probe required on the drive		\$0
C	ATEX 2G-T4			\$0
F	ATEX 3G-T3	1 Probe required on the drive		\$0
G	ATEX 3G-T4			\$0
Probe for Product Protection				
1	PT100 probe, 3-wire - Signal processing by customer			\$ 880
2	4-20 mA probe - Signal processing by customer			\$ 1,225
3	Foundation Fieldbus probe - Signal processing by customer			\$ 2,755
Z	Other probe			Consult us
Special Options				
N	For standard pump with no special option requirement, please leave this code blank.			\$0
Z	Special options			Consult us
S	1	N	Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection	

The code on the nameplate will consist of the selections above. Example:

PXFTM23-30E1S1N

\$180,701

Model Code Example Price

Continue to next page

Liquid End Option Selection

Check Valve						Price					
LP	Single Hard Flat Valve : seat valve 17.4PH					Standard					
Wetted o-ring						Price					
2	Viton					Standard					
3	Nitril					\$72					
Diaphragm Rupture Detection System per Head (Multiply the adder by 2)											
Description						M2 Heads					
2	Pressure switch ATEX (C8). By pressure switch ASHCROFT ADF (certified ATEX CE EX II 2 G T6). Limited at 827 bar					\$2,825					
3	C5 Gauge					Standard					
9	CT Manifold and connection for Pressure transmitter (transmitter is not included, but it must be defined according to following parameters : connection 1/2 NPT and vertical mounting)					Consult us					
Z	Special (CZ)					Consult us					
Suction Orientation per Head (Multiply the adder by 2)											
V	Vertical (std)					Standard					
H	Horizontal					—					
Suction Connection - Type											
2	NPT					Standard					
3	Welded Flanges					\$0					
Suction Connection Type and Rating											
Threaded						Plungers All					
M	Male					—					
F	Female					Standard					
ANSI Flanges 316L ss						1.5"					
A	ANSI - Class 150					\$560					
B	ANSI - Class 300					\$594					
C	ANSI - Class 600					\$682					
D	ANSI - Class 1,500 - RF/SF					\$1,346					
E	ANSI - Class 1,500 - RTJ					\$1,421					
G	ANSI - Class 2,500 - RTJ					\$2,130					
H	ANSI - Class 10,000 PSI - RTJ					Consult us					
I	ANSI - Class 10,000 PSI - RTJ					Consult us					
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1						DN40					
J	EN1759-1 Class 150					\$526					
L	EN1759-1 Class 600					\$791					
P	EN1092-1 PN100					\$784					
R	EN1092-1 PN160					\$1,186					
S	EN1092-1 PN40					\$502					
LP	2	N	V	2	F						

Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Liquid End Option Selection - Continued

Discharge Orientation per Head (Multiply the adder by 2)			
V	Vertical (std)	Standard	
H	Horizontal	—	
Discharge Connection			
		Plungers Ø22 ,24, 25 mm	Plungers Ø30, 31, 33, 35, 38, 42, 47 mm
2	NPT	—	Standard
3	Welded Flanges	—	—
7	Medium Pressure	Standard	—
Discharge Connection Type and Rating			
Threaded		Plungers Ø22 ,24, 25 mm	Plungers Ø30, 31, 33, 35, 38, 42, 47 mm
M	Male	—	—
F	Female	Standard 3/4" MP	Standard 1.5" NPT
ANSI Flanges 316L ss			
A	ANSI - Class 150	1"	\$560
B	ANSI - Class 300		\$594
C	ANSI - Class 600		\$682
D	ANSI - Class 1,500 - RF/SF		\$1,346
E	ANSI - Class 1,500 - RTJ		\$1,421
G	ANSI - Class 2,500 - RTJ		\$2,130
H	ANSI - Class 10,000 PSI - RTJ	Consult us	Consult us
I	ANSI - Class 10,000 PSI - RTJ	Consult us	Consult us
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1			DN25
J	EN1759-1 Class 150		\$526
L	EN1759-1 Class 600		\$791
P	EN1092-1 PN100		\$784
R	EN1092-1 PN160		\$1,186
S	EN1092-1PN40		\$502
Liquid Temperature Options			
N	Standard Liquid Temperature Range - 10° C (50° F) to 95° C (203° F)		Standard
Liquid End Jackets			
N	None (Standard)		Standard
Liquid End Surface Finish			
N	None (Standard)		Standard
Advanced Options			
N	None (Standard)		Standard
V 7 F N N N N			

Options Code section 2 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Drive Option Selection

Capacity Control Options					Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option				Standard
B1	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase (1 phase possible) - IP68				\$12,771
BA	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - ATEX CE II 2G Eex d IIB T4 -Ambient T°: -20°C /+70°C - IP68				\$14,913
B2	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IP68				\$12,771
BB	Bernard actuator /integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IECEEx-Atex Ex d II B T4 ; CSA Class I Group C, D div 1&2 - Class II Group E, F, G div 1&2				\$14,913
Housing Material Options					Price
N	Standard - FLG cast iron, down to -20°C/-4°F				Standard
2	FGS ductile cast iron, down to -40°C/-4°F				Consult us
3	DEP Shell (FGS parts under pressure)				Consult us
Environment Options					Price
N	Design standard				Standard
R	PSV rigid required (Hard environment)				Consult us
S	Sand -proof design (rigid PSV included)				Consult us
M	Offshore (rigid PSV included; paint not included)				Consult us
Oil Options					Price
N	Standard (+50°C/112°F to -10°C/14°F)				Standard
3	Low temp (down to -40°C/-4°F)				\$2,963
9	Without oil				\$0
4	Food grade				\$2,614
Motor Power					Price
X	18.5 kW	25 HP			
Y	22 kW	30 HP			
AA	30 kW	40 HP			
AB	37 kW	50 HP			
AC	45 kW	60 HP			
AD	55 kW	75 HP			
AE	75 kW	100 HP			
AF	90 kW	125 HP			
AG	110 kW	150 HP			
M1 N N N W Drive Options Code section 1 example.					The prices of the motor are available at the motor section

Drive Option Selection - Continued

Coupling					Price
1	Standard				Standard
Motor Mount - Note code "A" below for multiplex					Price
H	NEMA 254 / 256TC				\$0
K	NEMA 284TC				\$0
L	NEMA 286TC				\$0
M	NEMA 324TC				\$0
N	NEMA 326TC				\$0
O	NEMA 364TC				\$0
T	IEC FF300				\$0
U	IEC FF350				\$0
V	IEC FF400				\$0
W	IEC FF500				\$0
X	IEC FF600				\$0
A	No mount - use for all but first pump in a multiplex				\$0
Motor Orientation					Price
V	Vertical	- Standard on simplex with manual capacity control and ECC or Stegman actuators			\$0
H	Horizontal	- Standard on all multiplex, and simplex with Bernard, Rotork, or STI actuators			\$0
1	F	V			

Drive Options section 2 sample code - Product Code Selection Complete

PXFTM23-30E1S1N LP2NV2FV7FNNNN M1NNNW1FV

As noted - the portion of the code above provides the information for the pump nameplate and identifies the hardware required to manufacture the pump. THE CODE IS NOT YET COMPLETE.

The following section of the code identifies additions to the BOM and work order instructions, and includes pricing for various tests and services. Once the online configuration tool is in use, this portion of the code will be internal only and will not be visible to customers or distributors.

Continued to next page

BOM Additions Code Selection

Motor Frequency / Type / Number of Poles										Price								
5N4 50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0								
6N4 60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0								
5M4 50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0								
6M4 60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0								
Motor Description										Price								
MM Milton Roy Supplied Motor (Separate Line Item)										\$0								
10 Pump supplied Less Motor - charge to cover added costs to test pump										\$298								
11 Client supplied motor mounted and tested										\$396								
OA IEC standard motor - aluminum frame - 3 phase										\$0								
1A IEC Explosion-proof motor Ex d II BT4 - cast iron frame - 3 phase										\$0								
1B IEC Explosion-proof motor Ex d II BT4 - cast iron frame - 3 phase with rain cover, coil protection by PTC										\$0								
4S Fan cooled motor for variable speed drive										\$0								
4V Motor for variable speed drive with constant speed fan										\$0								
1C NEMA Explosion proof / XPNV 1 x 115/(208)-230 V - 60Hz 1725 RPM										\$0								
1D NEMA Explosion proof / XPNV 3 x 208-230 / 460 V - 60Hz 1725 RPM										\$0								
1E NEMA Explosion proof / XPFC 1 x 115/(208)-230 V - 60Hz 1725 RPM										\$0								
1F NEMA Explosion proof : XPFC 3 x 208-230 / 460 V - 60Hz 1725 RPM										\$0								
1G NEMA Explosion proof / XPFC 3 x 208-230 / 460 V, 190/380V - 50/60Hz - 1425/1725 RPM										\$0								
9S Special motor										\$0								
Paint Thickness and System										Price								
N Standard 100 µ										\$0								
B For hygienic environment, 100 µ										\$1,976								
A C2, 140 µ, low corrosivity										\$1,976								
C C3, 240 µ, medium corrosivity										\$2,245								
E C4, 70 µ, high corrosivity										\$2,331								
D C5, 245 µ, OFFSHORE										\$2,414								
X Special to Customer Spec										Consult us								
Paint Color		Availability by Paint System		B	A	C	E	D	N	Price								
S Standard - Yellow RAL1018		NA ● ● ● ● ●		NA	●	●	●	●	●	●								
2 Grey RAL 7035 for C5-M only		NA NA ● ● ● ● NA		NA	NA	●	●	●	●	NA								
3 Grey RAL 7042 for C5-M only		NA NA ● ● ● ● NA		NA	NA	●	●	●	●	NA								
4 White RAL 9010		● NA NA NA NA NA		●	NA	NA	NA	NA	NA	NA								
Z Customized										Consult us								
Motor Paint										Price								
S Supplier standard paint (color+system) - STANDARD										\$0								
P Same as pump color and system (may impact motor warranty)										\$0								
Electric Actuator Paint										Price								
P Same as pump (color+system)										Standard								
Baseplate										Price								
N No baseplate required according to configuration rules - subject to factory correction.										\$0								
C Base plate required according to pump configuration - subject to factory correction										Consult us								
Oil Cooler - Required for PX Multiplex Only										Price								
N None (Standard)										Standard								
Pump number within Multiplex										Price								
1 Number that represents which pump body this pump is in a multiplex Simplex is always 1. Pump body with motor is always 1, next body = 2, etc.										\$0								
Manifold (Suction & Discharge)										Price								
N None (Standard)										\$0								
Y With manifolds - to be defined										Consult us								
Relief Valve Set Pressure - Value in BAR																		
Enter pressure value - example - 300																		
5N4	1A	N	S	S	S	N	N	1	N	300								

BOM addition section 1 sample code - continue to next page

(*) In case of Customer motor choice : the pump will be tested with a Milton Roy motor. If the customer would like to test with his customer motor then the negative impact of the late delivery of the customer motor or the motor dysfunctioning will be charged to Milton Roy.

Continue to next page

BOM Additions Code Selection - Continued

Document and Nameplate Units										Price
D1	Documents and Nameplates in US units (PSI, Lbs, GPH...)									
D2	Documents and Nameplate in SI units (bar, l/h, kg...)									
D3	Documents and Nameplate in SI units II (MPa, l/h, kg...)									
DZ	Documents and Nameplate in other units									
Documentation and Nameplate Language										Price
EN	English - STANDARD									
FR	French									
CH	Chinese									
SP	Spanish									
PT	Portuguese									
RU	Russian									
IT	Italian									
DE	German									
OT	Other, to specify									
Production Test										Price
T1	Flow measurement at 100% and leak at max. pressure IVY = not available - SHA = Not available - PSP = A1 (standard)									
T2	Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = STANDARD test - SHA = std test - PSP = A1F									
T3	API Linearity test (5 point curve) + Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = TEST SPOINT NW - SHA = Not available - PSP = A1F+A2									
T4	10 Points test (S.S Accuracy, Linearity, Repeatability) IVY = TEST 10POINT NW - SHA = A - PSP = A3 WITHOUT hydro test									
Hydro Test										Price
H0	Standard - No hydro test									
H1	Conduct Hydro test									
Running Test										Price
N	No - STANDARD									
1	Running test -1 hour									
2	Running test -2 hours									
3	Running test -3 hours									
4	Running test -4 hours									
MASP Test (Minimum Allowable Suction Pressure) and NPIPr Test (Net Positive Inlet Press										Price
N	No test MASP - No test NPIPr									
Y	Yes - Test MASP, following Milton Roy Standard ITOP055 (2)									
P	Yes - Test NPIPr, following Milton Roy Standard ITOP381 (1)									
T	Yes. Test MASP following MR ITOP055 and Test NPIPr, following MR ITOP381 (1)									
Vibration, Noise, and Temperature Rise Tests										Price
N	None - STANDARD									
Material, Certificate of Origin										Price
N	None - STANDARD									
2	Material certificate - 2.1 (EN10204)									
3	Material certificate - 3.1 - Metallic heads									
	Material certificate - 2.2									
Z	Material certificate - 3.1 type + Nace MR0175									
	Material certificate - 3.1 + G7 origin									
	Material certificate - 3.2 type (Requalified 3.1) - Consult for multiple pump price									
PMI Testing										Price
N	None - STANDARD									
M	PMI performed by Milton Roy									
P	PMI by third party									
S	PMI + SPECTRO (%C)									
Weld Testing										Price
N	None (standard)									
Y	Yes. To be specified									
	Refer to page 'Tests'									
D1	EN	T2	HO	N	N	N	N	N	N	

BOM addition section 2 sample code - finalized code

Completed BOM code example:

SN4 MM N S S S N N 1 N 20 D1 EN T2 HO N N N N N N

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PXP		Material and Plunger Code		Price	
Model Code	Plunger Diameter	17.4 PH		P4 Heads (NX)	
		Code	Price	Code	Price
PXP43-28	28 mm	43-28	\$103,657		
PXP43-32	32 mm	43-32	\$104,642		
PXP43-36	36 mm	43-36	\$105,631		
PXP41-40	40 mm	41-40	\$105,631		
Gear Ratio		Stroke frequency (spm) relative to motor rotation speed (rpm)		Price	
		50 Hz	60 Hz		
		1440 rpm	1728 rpm		
D	19.67:1 Gear ratio	73	88	\$0	
E	15.33:1 Gear ratio	93	112	\$0	
F	12.25:1 Gear ratio	117	140	\$0	
G	9.8:1 Gear ratio	146	N/A	\$0	
Multiplex		Price			
For duplex & triplex, configure each pump separately - add multiplex charge to 1st pump only - See other instructions related to multiplex in motor mount and base selection.					
1	Simplex			\$0	
2	Duplex Adjustable Stroke - Liquid ends and drive options identical			Consult us	
3	Triplex Adjustable Stroke - Liquid ends and drive options identical			Consult us	
Z	Multiplex with more than 3 heads or Heterogen Multiplexage			Consult us	
PXP	43-32	E	1		

Options Selection - Pump Area Hazard Classification

ATEX explosionproof area		Price	
S	Safe area (Not in an ex-proof area)		\$0
A	Ex-proof area - ATEX rating not required		\$0
B	ATEX 2G-T3 2 probes required (on the drive and on the head)		\$0
C	ATEX 2G-T4		\$0
F	ATEX 3G-T3 2 probes required (on the drive and on the head)		\$0
G	ATEX 3G-T4		\$0
Probe		Standard	
N	Without probe - Standard		
1	PT100 probe, 3-wire - Signal processing by customer		\$ 880
2	4-20 mA probe - Signal processing by customer		\$ 1,225
3	Foundation Fieldbus probe - Signal processing by customer		\$ 2,755
Z	Other probe		Consult us
Special Options			
N	For standard pump with no special option requirement, please leave this code blank.		\$0
Z	Special options		Consult us
S	N	N	Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

The code on the nameplate will consist of the selections above. Example:

PXP43-32E1SNN

\$104,642

Model Code Example Price

Continue to next page

Liquid End Option Selection - Continued

Liquid End Option Selection						Price			
LD	Double Hard Flat Valve : ball in 440C and seat in 17.4 PH			standard		Standard			
Wetted o-ring									
2	Viton			standard		Standard			
3	Nitril					\$72			
Packing and Plunger Material									
Description						P4 Heads			
N	Standard					Standard			
Suction Orientation									
V	Vertical (std)					Standard			
Suction Connection - Type									
7	Medium Pressure - Standard								
Suction Connection Type and Rating									
Threaded						1"			
M	Male					—			
F	Female					Standard			
ANSI Flanges 316L ss						1"			
A	ANSI - Class 150					\$433			
B	ANSI - Class 300					\$433			
C	ANSI - Class 600					\$653			
D	ANSI - Class 1,500 - RF/SF					\$1,009			
E	ANSI - Class 1,500 - RTJ					\$1,100			
G	ANSI - Class 2,500 - RTJ					\$1,715			
H	ANSI - Class 10,000 PSI - RTJ					Consult us			
I	ANSI - Class 10,000 PSI - RTJ					Consult us			
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1						DN40			
J	EN1759-1 Class 150					\$433			
K	EN1759-1 Class 300					—			
L	EN1759-1 Class 600					\$590			
N	EN1759-1 Class 900					—			
O	EN1759-1 Class 1500					—			
P	EN1092-1 PN100					\$644			
Q	EN1092-1 PN63					—			
R	EN1092-1 PN160					\$976			
S	EN1092-1PN40					\$403			
LD	2	N	V	2	F				

Options Code section 2 example. Please, refer to the following pages for the rest of the codification selection

Discharge Orientation									
V Vertical (std)						Standard			
H Horizontal						—			
Discharge Connection									
7 Medium Pressure						Standard			
Discharge Connection Type and Rating									
Threaded						All Plungers			
M	Male					—			
F	Female					Standard			
ANSI Flanges 316L ss						1"			
A	ANSI - Class 150					—			
B	ANSI - Class 300					—			
C	ANSI - Class 600					—			
D	ANSI - Class 1,500 - RF/SF					—			
E	ANSI - Class 1,500 - RTJ					—			
G	ANSI - Class 2,500 - RTJ					—			
H	ANSI - Class 10,000 PSI - RTJ					Consult us			
I	ANSI - Class 10,000 PSI - RTJ					Consult us			
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1						DN25			
J	EN1759-1 Class 150					—			
K	EN1759-1 Class 300					—			
L	EN1759-1 Class 600					—			
N	EN1759-1 Class 900					—			
O	EN1759-1 Class 1500					—			
P	EN1092-1 PN100					—			
Q	EN1092-1 PN63					—			
R	EN1092-1 PN160					—			
S	EN1092-1PN40					—			
Liquid Temperature Options									
N Standard Liquid Temperature Range : -10° C (14° F) to 95° C (203° F)						Standard			
Packing Lubrication and Flush									
N Standard						Standard			
Liquid End Surface Finish									
N None (Standard)						Standard			
Advanced Options									
N None (Standard)						Standard			
V	7	F	N	N	N				

Options Code section 3 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Drive Option Selection

Capacity Control Options			Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option		Standard
B1	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase (1 phase possible) - IP68		\$12,771
BA	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - ATEX CE II 2G Ex d IIB T4 -Ambient T°: -20°C /+70°C - IP68		\$14,913
B2	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IP68		\$12,771
BB	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IECEx-ATEX Ex d II B T4 ; CSA Class I Group C, D div 1&2 - Class II Group E, F, G div 1&2		\$14,913
Housing Material Options			Price
N	Standard - FLG cast iron, down to -20°C/-4°F		Standard
2	FGS ductile cast iron, down to -40°C/-F		Consult us
3	DEP Shell (FGS parts under pressure)		Consult us
Environment Options			Price
N	Design standard		Standard
R	PSV rigid required (Hard environment)		Consult us
S	Sand-proof design (rigid PSV included)		Consult us
M	Offshore (rigid PSV included; paint not included)		Consult us
Oil Options			Price
N	Standard (+50°C/112°F to -10°C/14°F)		Standard
3	Low temp (down to -40°C/-F)		\$2,963
9	Without oil		\$0
4	Food grade		\$2,614
Motor Power			Price
X	18.5 kW	25 HP	
Y	22 kW	30 HP	
AA	30 kW	40 HP	
AB	37 kW	50 HP	
AC	45 kW	60 HP	
AD	55 kW	75 HP	
AE	75 kW	100 HP	
AF	90 kW	125 HP	
AG	110 kW	150 HP	

M1 N N N Y Drive Options Code section 1 example.

Drive Option Selection

Coupling			Price

| Motor Mount - Note code "A" below for multiplex | | | Price |

</tbl

BOM Additions Code Selection

Motor Frequency / Type / Number of Poles							Price
SN4 50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM							\$0
6N4 60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM							\$0
5M4 50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM							\$0
6M4 60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM							\$0
Motor Description							Price
MM Milton Roy Supplied Motor (Separate Line Item)							\$0
10 Pump supplied Less Motor - charge to cover added costs to test pump							\$298
11 Client supplied motor mounted and tested							\$396
OA IEC standard motor - aluminum frame - 3 phase							\$0
1A IEC Explosion-proof motor Ex d II BT4 - cast iron frame - 3 phase							\$0
1B IEC Explosion-proof motor Ex d II BT4 - cast iron frame - 3 phase with rain cover, coil protection by PTC							\$0
4S Fan cooled motor for variable speed drive							\$0
4V Motor for variable speed drive with constant speed fan							\$0
1C NEMA Explosion proof / XPNV 1 x 115/(208)-230 V - 60Hz 1725 RPM							\$0
1D NEMA Explosion proof / XPNV 3 x 208-230 / 460 V - 60Hz 1725 RPM							\$0
1E NEMA Explosion proof / XPFC 1 x 115/(208)-230 V - 60Hz 1725 RPM							\$0
1F NEMA Explosion proof : XPFC 3 x 208-230 / 460 V - 60Hz 1725 RPM							\$0
1G NEMA Explosion proof / XPFC 3 x 208-230 / 460 V , 190/380V - 50/60Hz - 1425/1725 RPM							\$0
9S Special motor							\$0
Paint Thickness and System							Price
N Standard 100 µ							\$0
B For hygienic environment, 100 µ							\$1,976
A C2, 140 µ, low corrosivity							\$1,976
C C3, 240 µ, medium corrosivity							\$2,245
E C4, 70 µ, high corrosivity							\$2,331
D C5, 245 µ, OFFSHORE							\$2,414
X Special to Customer Spec							Consult us
Paint Color			Availability by Paint System				
S Standard - Yellow RAL1018			B A C E D N				
2 Grey RAL 7035 for CS-M only			NA	●	●	●	●
3 Grey RAL 7042 for CS-M only			NA	NA	●	●	● NA
4 White RAL 9010			●	NA	NA	NA	NA
Z Customized							Consult us
Motor Paint							Price
S Supplier standard paint (color+system) - STANDARD							\$0
P Same as pump color and system (may impact motor warranty)							\$0
Electric Actuator Paint							Price
P Same as pump (color+system)							Standard
Baseplate							Price
N No baseplate required according to configuration rules - subject to factory correction.							\$0
C Base plate required according to pump configuration - subject to factory correction							Consult us
Oil Cooler - Required for PX Multiplex Only							Price
N None (Standard)							Standard
Pump number within Multiplex							Price
1 Number that represents which pump body this pump is in a multiplex Simplex is always 1. Pump body with motor is always 1, next body = 2, etc.							\$0
Manifold (Suction & Discharge)							Price
N None (Standard)							\$0
Y With manifolds - to be defined							Consult us
Relief Valve Set Pressure - Value in BAR							
Enter pressure value - example - 300							
SN4	1A	N	S	S	S	N	300

BOM addition section 1 sample code - continue to next page

(*) In case of Customer motor choice : the pump will be tested with a Milton Roy motor. If the customer would like to test with his customer motor then the negative impact of the late delivery of the customer motor or the motor dysfunctioning will be charged to Milton Roy.

Continue to next page

BOM Additions Code Selection - Continued

Document and Nameplate Units		Price
D1	Documents and Nameplates in US units (PSI, Lbs, GPH...)	\$0
D2	Documents and Nameplate in SI units (bar, l/h, kg...)	Standard
D3	Documents and Nameplate in SI units II (MPa, l/h, kg...)	Consult us
DZ	Documents and Nameplate in other units	Consult us
Documentation and Nameplate Language		Price
EN	English - STANDARD	\$0
FR	French	\$0
CH	Chinese	Consult us
SP	Spanish	Consult us
PT	Portuguese	Consult us
RU	Russian	Consult us
IT	Italian	Consult us
DE	German	Consult us
OT	Other, to specify	Consult us
Production Test		Price
T1	Flow measurement at 100% and leak at max. pressure IVY = not available - SHA = Not available - PSP = A1 (standard)	\$0
T2	Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = STANDARD test - SHA = std test - PSP = A1F	\$347
T3	API Linearity test (5 point curve) + Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = TEST SPOINT NW - SHA = Not available - PSP = A1F+A2	\$347
T4	10 Points test (S.S Accuracy, Linearity, Repeatability) IVY = TEST 10POINT NW - SHA = A - PSP = A3 WITHOUT hydro test	\$970
Hydro Test		Price
H0	Standard - No hydro test	\$0
H1	Conduct Hydro test	\$435
Running Test		Price
N	No - STANDARD	\$0
1	Running test -1 hour	\$693
2	Running test -2 hours	\$781
3	Running test -3 hours	\$867
4	Running test -4 hours	\$954
MASP Test (Minimum Allowable Suction Pressure) and NPIPr Test (Net Positive Inlet Pressure)		Price
N	No test MASP - No test NPIPr	\$0
Y	Yes - Test MASP, following Milton Roy Standard ITOP055 (2)	\$561
P	Yes - Test NPIPr, following Milton Roy Standard ITOP381 (1)	\$561
T	Yes. Test MASP following MR ITOP055 and Test NPIPr, following MR ITOP381 (1)	\$1,121
Vibration, Noise, and Temperature Rise Tests		Price
N	None - STANDARD	\$0
Material, Certificate of Origin		Price
N	None - STANDARD	\$0
2	Material certificate - 2.1 (EN10204)	\$119
3	Material certificate - 3.1 - Metallic heads Material certificate - 2.2	\$349
Z	Material certificate - 3.1 type + Nace MR0175 Material certificate - 3.1 + G7 origin Material certificate - 3.2 type (Requalified 3.1) - Consult for multiple pump price	Consult Factory
PMI Testing		Price
N	None - STANDARD	\$0
M	PMI performed by Milton Roy	\$420
P	PMI by third party	Consult Factory
S	PMI + SPECTRO (%C)	Consult Factory
Weld Testing		Price
N	None (standard)	\$0
Y	Yes. To be specified	Refer to page 'Tests'

D1 EN T2 H0 N N N N N N

BOM addition section 2 sample code - finalized code

Completed BOM code example:

5N4 MM N S S S N N 1 N 20 D1 EN T2 H0 N N N N N N N

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PXFTH					
Material and Plunger Code					
Model Code	H5 Heads, Double diaphragm PTFE (pressure gauge in standard). 316L SS body, check valve in 17.4 PH, seat valve in 316 SS.				
	Plunger Diameters		Price		
51-55	55 mm		\$181,327		
51-60	60 mm		\$187,796		
51-63	63 mm		\$185,861		
51-65	65 mm		\$192,330		
51-70	70 mm		\$190,394		
51-75	75 mm		\$194,928		
51-80	80 mm		\$203,993		
51-85	85 mm		\$211,067		
51-90	90 mm		\$209,130		
51-95	95 mm		\$216,204		
51-100	100 mm		\$214,267		
51-105	105 mm		\$216,837		
51-110	110 mm		\$219,325		
51-115	115 mm		\$240,069		
51-120	120 mm		\$240,069		
51-125	125 mm		\$238,134		
51-130	130 mm		\$258,876		
51-135	135 mm		\$258,876		
51-140	140 mm		\$258,876		
51-145	145 mm		\$258,876		
Gear Ratio					
Stroke frequency (spm) relative to motor rotation speed (rpm)			Price		
	50 Hz	60 Hz			
	1440 rpm	1728 rpm			
D	19.67:1 Gear ratio		73		
E	15.33:1 Gear ratio		88		
F	12.25:1 Gear ratio		93		
G	9.8:1 Gear ratio		112		
			117		
			140		
			146		
Multiplex					
For duplex & triplex, configure each pump separately - add multiplex charge to 1st pump only - See other instructions related to multiplex in motor mount and base selection.					
1	Simplex		\$0		
2	Duplex Adjustable Stroke - Liquid ends and drive options identical		Consult us		
3	Triplex Adjustable Stroke - Liquid ends and drive options identical		Consult us		
PXFTH	51-63	D	1		

Options Selection - Pump Area Hazard Classification

ATEX explosionproof area			
S	Standard	1 Probe is mandatory on drive	\$0
A	Ex-proof area - ATEX rating not required	1 Probe is mandatory on drive	\$0
B	ATEX 2G-T3	1 Probe required on the drive	\$0
C	ATEX 2G-T4		\$0
F	ATEX 3G-T3	1 Probe required on the drive	\$0
G	ATEX 3G-T4		\$0
Probe for Product Protection			
1	PT100 probe, 3-wire - Signal processing by customer		\$ 880
2	4-20 mA probe - Signal processing by customer		\$ 1,225
3	Foundation Fieldbus probe - Signal processing by customer		\$ 2,755
Z	Other probe		Consult us
Special Options			
N	For standard pump with no special option requirement, please leave this code blank.		\$0
Z	Special options		Consult us
S	1	N	Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

The code on the nameplate will consist of the selections above. Example: PXFTH51-63D1S1N

\$186,741
Model Code Example Price

Continue to next page

Liquid End Option Selection

Check Valve			
NP	Single flat valve : seat in 316L SS and check valve in 17.4 PH		Standard
Wetted o-ring			
1	PTFE	STANDARD for plungers Ø80 à 110 mm	
2	Viton	STANDARD for plungers Ø55 à 75 mm	
Diaphragm Rupture Detection Systems per Head (Multiply the adder by 2)			
2	C8	Explosion proof switch	\$2,825
3	C5	Gauge	Standard
9	CT	Manifold and connection for Pressure transmitter (transmitter is not included, but it must be defined according to following parameters : connection 1/2 NPT and vertical mounting)	\$1,046
Z	Special (CZ)		Consult us
NS	1	N	Options Code section 1 example.

Liquid End Option Selection - Continued

Suction Orientation per Head (Multiply the adder by 2)			Plunger Diameters		
V	Vertical (std)	Horizontal	Ø55, 60, 63, 65, 70, 75 mm	Ø80, 85, 90, 95, 100, 105 mm	Ø110, 115, 120, 125, 130, 135, 140, 145 mm
V	Vertical (std)	Horizontal	Standard	Standard	Standard
H			\$496	\$1,131	—
Suction Connection - Type					
2	NPT	Standard for plungers 55, 63, 70, 75 mm			\$0
3	Welded Flanges	Standard for plungers 80, 90, 100, 105, 110, 125, 145 mm			\$0
Suction Connection Type and Rating					
Threaded			2" Plungers Ø55, 60, 63, 65, 70, 75 mm	3" Plungers Ø80, 85, 90, 95, 100, 105 mm	4" Plungers Ø110, 115, 120, 125, 130, 135, 140, 145 mm
M	Male	Female	Standard	—	—
F			—	—	—
ANSI Flanges 316L ss					
A	ANSI - Class 150		\$727	Standard	Standard
B	ANSI - Class 300		\$772	\$1,662	\$0
C	ANSI - Class 600		\$883	\$2,336	\$0
D	ANSI - Class 1,500 - RF		\$1,748	Consult us	Consult us
E	ANSI - Class 1,500 - RTJ		Consult us	Consult us	Consult us
G	ANSI - Class 2,500 - RTJ		—	Consult us	Consult us
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1					
J	EN1759-1 Class 150		\$784	\$1,611	Consult us
L	EN1759-1 Class 600		\$1,190	\$2,277	Consult us
O	EN1759-1 Class 1500		Consult us	Consult us	Consult us
P	EN1092-1 PN100		\$1,178	Consult us	Consult us
R	EN1092-1 PN160		\$1,781	Consult us	Consult us
S	EN1092-1PN40		\$749	Consult us	Consult us
V	2	M			

Options Code section 2 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Liquid End Option Selection - Continued

Discharge Orientation per Head (Multiply the adder by 2)										
		Plunger Diameters								
		55, 60, 63, 65, 70, 75 mm		80, 85, 90, 95, 100, 105 mm		110, 115, 120, 125, 130, 135, 140, 145 mm				
V	Vertical (std)	Standard	Standard	Standard						
	Horizontal	\$496	\$1,131	—						
Discharge Connection										
2	NPT	Standard for plungers 55, 60, 63, 65, 70, 75 mm				\$0				
	Welded Flanges	Standard for plungers 80, 85, 90, 95, 100, 105, 110, 120, 125, 130, 135, 145 mm				\$0				
Discharge Connection Type and Rating										
Threaded										
M	Male	Standard	—	—	—	—				
	Female	—	—	—	—	—				
ANSI Flanges 316L ss										
A	ANSI - Class 150	\$727	Standard	Standard	—	—				
	ANSI - Class 300	\$772	\$1,662	—	\$0	—				
C	ANSI - Class 600	\$883	\$2,336	—	\$0	—				
	ANSI - Class 1,500 - RF/SF	\$1,748	Consult us	Consult us	Consult us	Consult us				
E	ANSI - Class 1,500 - RTJ	Consult us	Consult us	Consult us	Consult us	Consult us				
	ANSI - Class 2,500 - RTJ	—	Consult us	Consult us	Consult us	Consult us				
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1										
J	EN1759-1 Class 150	DN50	DN80	DN 100	—	—				
	EN1759-1 Class 600	Plungers 63, 70, 80, 90, 100	Plungers 115, 125, 145	Plungers 110, 115, 120, 125, 130, 135, 140, 145 mm	—	—				
O	EN1759-1 Class 1500	\$784	\$1,611	Consult us	Consult us	Consult us				
	EN1092-1 PN100	\$1,190	\$2,277	Consult us	Consult us	Consult us				
P	EN1092-1 PN160	Consult us	Consult us	Consult us	Consult us	Consult us				
	EN1092-1 PN40	\$1,178	Consult us	Consult us	Consult us	Consult us				
R	EN1092-1 PN160	\$1,781	Consult us	Consult us	Consult us	Consult us				
	EN1092-1 PN40	\$749	Consult us	Consult us	Consult us	Consult us				
Liquid Temperature Options										
N	Standard Liquid Temperature Range -10° C (50° F) to 95° C (203° F)					Standard				
Liquid End Jackets										
For All Plunger Diameters										
N	None (Standard)	Standard	—	—	—	—				
	Heating Jacket	Consult Us	Consult Us	Consult Us	Consult Us	Consult Us				
Liquid End Surface Finish										
For All Plunger Diameters										
N	None	Standard	—	—	—	—				
	Descale/passivate(Valve DS)	Consult Us	Consult Us	Consult Us	Consult Us	Consult Us				
Advanced Options										
N	None (Standard)	—	—	—	—	Standard				
	—	—	—	—	—	—				
V	2	M	N	N	N					

Options Code section 3 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Drive Option Selection

Capacity Control Options		Price			
M1	Adjustable stroke with locked stroke (API 675) - Standard Option	Standard			
B1	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase (1 phase possible) - IP68	\$12,771			
BA	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - ATEX CE II 2G Ex d IIB T4 -Ambient T°: -20°C /+70°C - IP68	\$14,913			
B2	Bernard actuator with integrated electronics 4-20 mA/0-10V, 60Hz 3 phase 460V - IP68	\$12,771			
BB	Bernard actuator /integrated electronics 4-20 mA/0-10V, 60Hz 3 phase 460V - IECEx-Atex Ex d II B T4 ; CSA Class I Group C, D div 1&2 - Class II Group E, F, G div 1&2	\$14,913			
Housing Material Options		Price			
N	Standard - FLG cast iron, down to -20°C/-4°F	Standard			
2	FGS ductile cast iron, down to -40°C/-4°F	Consult us			
3	DEP Shell (FGS parts under pressure)	Consult us			
Environment Options		Price			
N	Design standard	Standard			
S	Sand -proof design (rigid PSV included)	Consult us			
M	Offshore (rigid PSV included; paint not included)	Consult us			
Oil Options		Price			
N	Standard (+50°C/112°F to -10°C/14°F)	Standard			
3	Low temp (down to -40°C/-4°F)	\$3,449			
9	Without oil	\$0			
4	Food grade	\$5,228			
Motor Power		Price			
X	18.5 kW	25 HP	AJ	180 kW	240 HP
Y	22 kW	30 HP	AK	200 kW	270 HP
AA	30 kW	40 HP	AL	220 kW	300 HP
AB	37 kW	50 HP	AM	250 kW	340 HP
AC	45 kW	60 HP	AN	280 kW	380 HP
AD	55 kW	75 HP	AO	300 kW	400 HP
AE	75 kW	100 HP	AP	315 kW	430 HP
AF	90 kW	125 HP	AQ	330 kW	450 HP
AG	110 kW	150 HP	AR	355 kW	480 HP
AH	132 kW	175 HP	AS	370 kW	500 HP
AI	160 kW	220 HP	AT	400 kW	550 HP

M1 N N N V

Drive Options Code section 1 example.

The prices of the motor are available at the motor section

Coupling		Price
1	Standard	Standard
Motor Mount - Note code "A" below for multiplex		Price
H	NEMA 254 / 256TC	\$0
K	NEMA 284TC	\$0
L	NEMA 286TC	\$0
M	NEMA 324TC	\$0
N	NEMA 326TC	\$0
O	NEMA 364TC	\$0
T	IEC FF300	\$0
U	IEC FF350	\$0
V	IEC FF400	\$0
W	IEC FF500	\$0
X	IEC FF600	\$0
A	No mount - use for all but first pump in a multiplex	\$0
Motor Orientation		Price
V	Vertical - Standard on simplex with manual capacity control and ECC or Stegman actuators	\$0
H	Horizontal - Standard on all multiplex, and simplex with Bernard, Rotork, or STI actuators	\$0

1 H V

Drive Options section 2 sample code - Product Code Selection Complete

PXFTH51-63D1S1N NS1NV2MV2MNNNN M1NNNV1HV

As noted - the portion of the code above provides the information for the pump nameplate and identifies the hardware required to manufacture the pump. THE CODE IS NOT YET COMPLETE.

The following section of the code identifies additions to the BOM and work order instructions, and includes pricing for various tests and services. Once the online configuration tool is in use, this portion of the code will be internal only and will not be visible to customers or distributors.

Continued to next page

BOM Additions Code Selection

Motor Frequency / Type / Number of Poles										Price
5N4 50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0
6N4 60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0
5M4 50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0
6M4 60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM										\$0
Motor Description										
MM Milton Roy Supplied Motor (Separate Line Item)										\$0
10 Pump supplied Less Motor - charge to cover added costs to test pump										\$298
11 Client supplied motor mounted and tested										\$396
OA IEC standard motor - aluminum frame - 3 phase										\$0
1A IEC Explosion-proof motor Eex D II BT4 - cast iron frame - 3 phase										\$0
1B IEC Explosion-proof motor Eex D II BT4 - cast iron frame - 3 phase with rain cover, coil protection by PTC										\$0
4S Fan cooled motor for variable speed drive										\$0
4V Motor for variable speed drive with constant speed fan										\$0
1C NEMA Explosion proof / XPNV 1 x 115/(208)-230 V - 60Hz 1725 RPM										\$0
1D NEMA Explosion proof / XPNV 3 x 208-230 / 460 V - 60Hz 1725 RPM										\$0
1E NEMA Explosion proof / XPFC 1 x 115/(208)-230 V - 60Hz 1725 RPM										\$0
1F NEMA Explosion proof : XPFC 3 x 208-230 / 460 V - 60Hz 1725 RPM										\$0
1G NEMA Explosion proof / XPFC 3 x 208-230 / 460 V , 190/380V - 50/60Hz - 1425/1725 RPM										\$0
9S Special motor										\$0
PXFT and Cooling System Integrated - Paint System										
										Price
										Cooling System (add this amount to Simplex, Duplex, or Triplex configuration)
N Standard 100 µ										-
A C2, 140 µ, low corrosivity										\$1,284
C C3, 240 µ, medium corrosivity										\$1,284
E C4, 70 µ, high corrosivity										\$1,636
D CS, 245 µ, OFFSHORE										\$1,636
X Special to Customer Spec										Consult us
Paint Color Availability by Paint System										
B A C E D N										
S Standard - Yellow RAL1018										NA ● ● ● ● ●
2 Grey RAL 7035 for C5-M only										NA NA ● ● ● NA
3 Grey RAL 7042 for C5-M only										NA NA ● ● ● NA
4 White RAL 9010										● NA NA NA NA NA
Z Customized										Consult us
Motor Paint										
S Supplier standard paint (color+system) - STANDARD										\$0
P Same as pump color and system (may impact motor warranty)										Standard
Z Other according to customer spec										Consult us
Electric Actuator Paint										
S Supplier standard paint (color+system) - STANDARD										\$0
P Same as pump (color+system)										Standard
Baseplate - Compulsory on Simplex and Multiplex										
C Base plate required according to pump configuration - subject to factory correction										Consult us
Z ETO base plate (to be specified)										Consult us
Oil Cooler - Always mandatory on Simplex and Multiplex										
C Standard oil/air cooler										Standard
Pump number within Multiplex										
1 Number that represents which pump body this pump is in a multiplex Simplex is always 1. Pump body with motor is always 1, next body = 2, etc.										\$0
Manifold (Suction & Discharge)										
N None (Standard)										\$0
Y With manifolds - to be defined										Consult us
Relief Valve Set Pressure - Value in BAR										
Enter pressure value - example - 300										
5N4	1A	0	S	S	S	N	C	1	N	300

BOM addition section 1 sample code - continue to next page

(*) In case of Customer motor choice : the pump will be tested with a Milton Roy motor. If the customer would like to test with his customer motor then the negative impact of the late delivery of the customer motor or the motor dysfunctionning will be charged to Milton Roy.

Continue to next page

BOM Additions Code Selection - Continued

Document and Nameplate Units										Price
D1	Documents and Nameplates in US units (PSI, Lbs, GPH...)									\$0
D2	Documents and Nameplate in SI units (bar, l/h, kg...)									Standard
D3	Documents and Nameplate in SI units II (MPa, l/h, kg...)									Consult us
DZ	Documents and Nameplate in other units									Consult us
Documentation and Nameplate Language										
EN	English - STANDARD									
FR	French									
CH	Chinese									
SP	Spanish									
PT	Portuguese									
RU	Russian									
IT	Italian									
DE	German									
OT	Other, to specify									
Production Test (per mechanical drive)										
T1	Flow measurement at 100% and leak at max. pressure IVY = not available - SHA = Not available - PSP = A1 (standard)									
T2	Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = STANDARD test - SHA = std test - PSP = A1F									
T3	API Linearity test (5 point curve) + Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = TEST 5POINT NW - SHA = Not available - PSP = A1F+A2									
T4	10 Points test (S.S Accuracy, Linearity, Repeatability) IVY = TEST 10POINT NW - SHA = A - PSP = A3 WITHOUT hydro test									
Hydro Test (per mechanical drive)										
H0	Standard - No hydro test									
H1	Conduct Hydro test									
Running Test (per mechanical drive)										
N	No - STANDARD									
1	Running test -1 hour									
2	Running test -2 hours									
3	Running test -3 hours									
4	Running test -4 hours									
MASP Test (Minimum Allowable Suction Pressure) and NPIPr Test (Net Positive Inlet Pressure)										
N	No test MASP - No test NPIPr									
Y	Yes - Test MASP, following Milton Roy Standard ITOP055 (2)									
P	Yes - Test NPIPr, following Milton Roy Standard ITOP381 (1)									
T	Yes. Test MASP following MR ITOP055 and Test NPIPr, following MR ITOP381 (1)									
Vibration, Noise, and Temperature Rise Tests										
N	None - STANDARD									
Material, Certificate of Origin (per mechanical drive)										
N	None - STANDARD									
2	Material certificate - 2.1 (EN10204)									
3	Material certificate - 3.1 - Metallic heads									
Z	Material certificate - 2.2 Material certificate - 3.1 type + Nace MR0175 Material certificate - 3.1 + G7 origin Material certificate - 3.2 type (Requalified 3.1) - Consult for multiple pump price									Consult Factory
PMI Testing (per mechanical drive)										
N	None - STANDARD									
M	PMI performed by Milton Roy									
P	PMI by third party									Consult Factory
S	PMI + SPECTRO (%C)									Consult Factory
Weld Testing										
N	None (standard)									
Y	Yes. To be specified									Refer to page 'Tests'
D1	EN	T2	H0	N	N	N	N	N	N	

BOM addition section 2 sample code - finalized code

Completed BOM code example:

5N4	MM	N	S	S	S	N	N	1	N	20	D1	EN	T2	H0	N	N	N	N	N
-----	----	---	---	---	---	---	---	---	---	----	----	----	----	----	---	---	---	---	---

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PXFTM		Material and Plunger Code		Price	
Model Code	Plunger Diameter			17.4 PH	
		M2 Haute Pression			
		Code	Price		
23-25	25 mm	23-25	\$335,759		
23-30	30 mm	23-30	\$323,676		
23-31	31 mm	23-31	\$323,676		
23-33	33 mm	23-33	\$323,676		
23-35	35 mm	23-35	\$323,676		
23-38	38 mm	23-38	\$323,676		
23-42	42 mm	23-42	\$323,676		
23-47	47 mm	23-47	\$323,676		
Gear Ratio		Stroke frequency (spm) relative to motor rotation speed (rpm)		Price	
		50 Hz	60 Hz		
		1440 rpm	1728 rpm		
D	19.67:1 Gear ratio	73	88	\$0	
E	15.33:1 Gear ratio	93	112	\$0	
F	12.25:1 Gear ratio	117	140	\$0	
G	9.8:1 Gear ratio	146	175	\$0	
H	8.2:1 Gear ratio	175	N/A	\$0	
Multiplex		Price			
For duplex & triplex, configure each pump separately - add multiplex charge to 1st pump only - See other instructions related to multiplex in motor mount and base selection.					
1	Simplex	\$0			
2	Duplex Adjustable Stroke - Liquid ends and drive options identical	Consult us			
3	Triplex Adjustable Stroke - Liquid ends and drive options identical	Consult us			
Z	Multiplex with more than 3 heads or Heterogen Multiplexage	Consult us			
PXFTM	23-30	E	1		

Options Selection - Pump Area Hazard Classification

ATEX explosion proof area			Price
S	Standard	1 Probe is mandatory on drive	\$0
A	Ex-proof area - ATEX rating not required	1 Probe is mandatory on drive	\$0
B	ATEX 2G-T3	1 Probe required on the drive	\$0
C	ATEX 2G-T4		\$0
F	ATEX 3G-T3	1 Probe required on the drive	\$0
G	ATEX 3G-T4		\$0
Probe for Product Protection			
1	PT100 probe, 3-wire - Signal processing by customer		\$880
2	4-20 mA probe - Signal processing by customer		\$1,225
3	Foundation Fieldbus probe - Signal processing by customer		\$2,755
Z	Other probe		Consult us
Special Options			
N	For standard pump with no special option requirement, please leave this code blank.		\$0
Z	Special options		Consult us
S	1	N	Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

The code on the nameplate will consist of the selections above. Example:

PXFTM23-30E1S1N

\$324,556

Model Code Example Price

Continue to next page

Liquid End Option Selection

Check Valve		Price				
LP Single Hard Flat Valve : seat/valve 17.4PH		Standard				
Wetted o-ring		Price				
2 Viton		Standard				
3 Nitril		\$72				
Diaphragm Rupture Detection Systems per Head (Multiply the adder by 2)		M2 Heads				
Description		M2 Heads				
2 Pressure switch ATEX (C8). By pressure switch ASHCROFT ADF (certified ATEX CE EX II 2 G T6). Limited at 827 bar		\$2,825				
3 C5 Gauge		Standard				
9 CT Manifold and connection for Pressure transmitter (transmitter is not included, but it must be defined according to following parameters : connection 1/2 NPT and vertical mounting)		Consult us				
Z Special (CZ)		Consult us				
Suction Orientation per Head (Multiply the adder by 2)						
V Vertical (std)		Standard				
H Horizontal		—				
Suction Connection - Type						
2 NPT		Standard				
3 Welded Flanges		\$0				
Suction Connection Type and Rating						
Threaded		Plungers All				
M Male		—				
F Female		Standard				
ANSI Flanges 316L ss		1.5"				
A ANSI - Class 150		\$560				
B ANSI - Class 300		\$594				
C ANSI - Class 600		\$682				
D ANSI - Class 1,500 - RF/SF		\$1,346				
E ANSI - Class 1,500 - RTJ		\$1,421				
G ANSI - Class 2,500 - RTJ		\$2,130				
H ANSI - Class 10,000 PSI - RTJ		Consult us				
I ANSI - Class 10,000 PSI - RTJ		Consult us				
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1		DN40				
J EN1759-1 Class 150		\$526				
L EN1759-1 Class 600		\$791				
P EN1092-1 PN100		\$784				
R EN1092-1 PN160		\$1,186				
S EN1092-1PN40		\$502				
LP	2	N	V	2	F	

Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

Liquid End Option Selection - Continued

Discharge Orientation per Head (Multiply the adder by 2)			
V	Vertical (std)		Standard
H	Horizontal		—
Discharge Connection			
		Plungers Ø22 ,24, 25 mm	Plungers Ø30, 31, 33, 35, 38, 42, 47 mm
2	NPT	—	Standard
3	Welded Flanges	—	—
7	Medium Pressure	Standard	—
Discharge Connection Type and Rating			
Threaded		Plungers Ø22 ,24, 25 mm	Plungers Ø30, 31, 33, 35, 38, 42, 47 mm
M	Male	—	—
F	Female	Standard 3/4" MP	Standard 1.5" NPT
ANSI Flanges 316L ss			
A	ANSI - Class 150		\$560
B	ANSI - Class 300		\$594
C	ANSI - Class 600		\$682
D	ANSI - Class 1,500 - RF/SF		\$1,346
E	ANSI - Class 1,500 - RTJ		\$1,421
G	ANSI - Class 2,500 - RTJ		\$2,130
H	ANSI - Class 10,000 PSI - RTJ	Consult us	Consult us
I	ANSI - Class 10,000 PSI - RTJ	Consult us	Consult us
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1			
J	EN1759-1 Class 150		\$526
L	EN1759-1 Class 600		\$791
P	EN1092-1 PN100		\$784
R	EN1092-1 PN160		\$1,186
S	EN1092-1 PN40		\$502
Liquid Temperature Options			
N	Standard Liquid Temperature Range - 10° C (50° F) to 95° C (203° F)		Standard
Liquid End Jackets			
For All Plunger Diameters			
N	None (Standard)		Standard
1	Heating Jacket		Consult us
Liquid End Surface Finish			
For All Plunger Diameters			
N	None (Standard)		Standard
D	Descale/passivate(Valve DS)		Consult us
Advanced Options			
N	None (Standard)		Standard

Options Code section 2 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Drive Option Selection

Capacity Control Options						Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option					Standard
B1	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase (1 phase possible) - IP68					\$12,771
BA	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - ATEX CE II 2G Ex d IIB T4 -Ambient T°: -20°C /+70°C - IP68					\$14,913
B2	Bernard actuator with integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IP68					\$12,771
BB	Bernard actuator /integrated electronics 4-20 mA/0-10V; 60Hz 3 phase 460V - IECEx-Atex Ex d II B T4 ; CSA Class I Group C, D div 1&2 - Class II Group E, F, G div 1&2					\$14,913
Housing Material Options						Price
N	Standard - FLG cast iron, down to -20°C/-4°F					Standard
2	FGS ductile cast iron, down to -40°C/-4°F					Consult us
3	DEP Shell (FGS parts under pressure)					Consult us
Environment Options						Price
N	Design standard					Standard
R	PSV rigid required (Hard environment)					Consult us
S	Sand -proof design (rigid PSV included)					Consult us
M	Offshore (rigid PSV included; paint not included)					Consult us
Oil Options						Price
N	Standard (+50°C/112°F to -10°C/14°F)					Standard
3	Low temp (down to -40°C/-4°F)					\$2,963
9	Without oil					\$0
4	Food grade					\$2,614
Motor Power						Price
X	18.5 kW	25 HP	AJ	180 kW	240 HP	
Y	22 kW	30 HP	AK	200 kW	270 HP	
AA	30 kW	40 HP	AL	220 kW	300 HP	
AB	37 kW	50 HP	AM	250 kW	340 HP	
AC	45 kW	60 HP	AN	280 kW	380 HP	
AD	55 kW	75 HP	AO	300 kW	400 HP	
AE	75 kW	100 HP	AP	315 kW	430 HP	
AF	90 kW	125 HP	AQ	330 kW	450 HP	
AG	110 kW	150 HP	AR	355 kW	480 HP	
AH	132 kW	175 HP	AS	370 kW	500 HP	
AI	160 kW	220 HP	AT	400 kW	550 HP	

M1 N N N W Drive Options Code section 1 example.

The prices of the motor are available at the motor section

Drive Option Selection - Continued

Coupling						Price
1	Standard					Standard
	Motor Mount - Note code "A" below for multiplex					
H	NEMA 254 / 256TC					\$0
K	NEMA 284TC					
L	NEMA 286TC					\$0
M	NEMA 324TC					
N	NEMA 326TC					\$0
O	NEMA 364TC					
T	IEC FF300					\$0
U	IEC FF350					
V	IEC FF400					\$0
W	IEC FF500					
X	IEC FF600					\$0
A	No mount - use for all but first pump in a multiplex					
Motor Orientation						Price
V	Vertical - Standard on simplex with manual capacity control and ECC or Stegman actuators					\$0
H	Horizontal - Standard on all multiplex, and simplex with Bernard, Rotork, or STI actuators					
1	F	V				

Drive Options section 2 sample code - Product Code Selection Complete

PXFTM23-30E1S1N LP2NV2FV7FNNNN M1NNNW1FV

As noted - the portion of the code above provides the information for the pump nameplate and identifies the hardware required to manufacture the pump. THE CODE IS NOT YET COMPLETE.

The following section of the code identifies additions to the BOM and work order instructions, and includes pricing for various tests and services. Once the online configuration tool is in use, this portion of the code will be internal only and will not be visible to customers or distributors.

Continued to next page

BOM Additions Code Selection

Motor Frequency / Type / Number of Poles		Price
5N4	50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$0
6N4	60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$0
5M4	50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM	\$0
6M4	60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM	\$0
Motor Description		Price
MM	Milton Roy Supplied Motor (Separate Line Item)	\$0
10	Pump supplied Less Motor - charge to cover added costs to test pump	\$298
11	Client supplied motor mounted and tested	\$396
OA	IEC standard motor - aluminum frame - 3 phase	\$0
1A	IEC Explosion-proof motor Ex e IIBT4 - cast iron frame - 3 phase	\$0
1B	IEC Explosion-proof motor Ex e IIBT4 - cast iron frame - 3 phase with rain cover, coil protection by PTC	\$0
4S	Fan cooled motor for variable speed drive	\$0
4V	Motor for variable speed drive with constant speed fan	\$0
1C	NEMA Explosion proof / XPNV 1 x 115/(208)-230 V - 60Hz 1725 RPM	\$0
1D	NEMA Explosion proof / XPNV 3 x 208-230 / 460 V - 60Hz 1725 RPM	\$0
1E	NEMA Explosion proof / XPFC 1 x 115/(208)-230 V - 60Hz 1725 RPM	\$0
1F	NEMA Explosion proof : XPFC 3 x 208-230 / 460 V - 60Hz 1725 RPM	\$0
1G	NEMA Explosion proof / XPFC 3 x 208-230 / 460 V , 190/380V - 50/60Hz - 1425/1725 RPM	\$0
9S	Special motor	\$0
PXFT and Cooling System Integrated - Paint System		Price
		Cooling System (add this amount to Simplex, Duplex, or Triplex configuration)
N	Standard 100 µ	-
A	C2, 140 µ, low corrosivity	1284
C	C3, 240 µ, medium corrosivity	1284
E	C4, 70 µ, high corrosivity	1636
D	C5, 245 µ, OFFSHORE	1636
X	Special to Customer Spec	Consult us
Paint Color		Availability by Paint System
S	Standard - Yellow RAL1018	NA ● ● ● ● ●
2	Grey RAL 7035 for C5-M only	NA NA ● ● ● NA
3	Grey RAL 7042 for C5-M only	NA NA ● ● ● NA
4	White RAL 9010	● NA NA NA NA NA
Z	Customized	Consult us
Motor Paint		Price
S	Supplier standard paint (color+system) - STANDARD	\$0
P	Same as pump color and system (may impact motor warranty)	Standard
Electric Actuator Paint		Price
S	Supplier standard paint (color+system) - STANDARD	\$0
P	Same as pump (color+system)	Standard
Z	Other according to customer spec(Z)	Consult us
Baseplate - Compulsory on Simplex and Multiplex		Price
C	Base plate required according to pump configuration - subject to factory correction	Consult us
Z	ETO base plate (to be specified)	Consult us
Oil Cooler - Always mandatory on Simplex and Multiplex		Price
C	Standard oil/air cooler	Standard
Pump number within Multiplex		Price
1	Number that represents which pump body this pump is in a multiplex Simplex is always 1. Pump body with motor is always 1, next body = 2, etc.	\$0
Manifold (Suction & Discharge)		Price
N	None (Standard)	\$0
Y	With manifolds - to be defined	Consult us
Relief Valve Set Pressure - Value in BAR		Price
Enter pressure value - example - 300		

BOM addition section 1 sample code - continue to next page

(*) In case of Customer motor choice : the pump will be tested with a Milton Roy motor. If the customer would like to test with his customer motor then the negative impact of the late delivery of the customer motor or the motor dysfunctionning will be charged to Milton Roy.

Continue to next page

BOM Additions Code Selection - Continued

Document and Nameplate Units		Price
D1	Documents and Nameplates in US units (PSI, Lbs, GPH...)	\$0
D2	Documents and Nameplate in SI units (bar, l/h, kg...)	Standard
D3	Documents and Nameplate in SI units II (MPa, l/h, kg...)	Consult us
DZ	Documents and Nameplate in other units	Consult us
Documentation and Nameplate Language		Price
EN	English - STANDARD	\$0
FR	French	\$0
CH	Chinese	Consult us
SP	Spanish	Consult us
PT	Portuguese	Consult us
RU	Russian	Consult us
IT	Italian	Consult us
DE	German	Consult us
OT	Other, to specify	Consult us
Production Test (per mechanical drive)		Price
T1	Flow measurement at 100% and leak at max. pressure IVY = not available - SHA = Not available - PSP = A1 (standard)	\$0
T2	Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = STANDARD test - SHA = std test - PSP = A1F	\$486
T3	API Linearity test (5 point curve) + Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = TEST 5POINT NW - SHA = Not available - PSP = A1F+A2	\$486
T4	10 Points test (S.S Accuracy, Linearity, Repeatability) IVY = TEST 10POINT NW - SHA = A - PSP = A3 WITHOUT hydro test	\$1,358
Hydro Test (per liquid end)		Price
H0	Standard - No hydro test	\$0
H1	Conduct Hydro test	\$435
Running Test (per mechanical drive)		Price
N	No - STANDARD	\$0
1	Running test -1 hour	\$970
2	Running test -2 hours	\$1,094
3	Running test -3 hours	\$1,214
4	Running test -4 hours	\$1,335
MASP Test (Minimum Allowable Suction Pressure) and NPIPr Test (Net Positive Inlet Pressu		Price
N	No test MASP - No test NPIPr	\$0
Y	Yes - Test MASP, following Milton Roy Standard ITOP055 (2)	\$675
P	Yes - Test NPIPr, following Milton Roy Standard ITOP381 (1)	\$675
T	Yes. Test MASP following MR ITOP055 and Test NPIPr, following MR ITOP381 (1)	\$1,351
Vibration, Noise, and Temperature Rise Tests		Price
N	None - STANDARD	\$0
Material, Certificate of Origin (per liquid end)		Price
N	None - STANDARD	\$0
2	Material certificate - 2.1 (EN10204)	\$119
3	Material certificate - 3.1 - Metallic heads	\$349
	Material certificate - 2.2	
Z	Material certificate - 3.1 type + Nace MR0175	Consult Factory
	Material certificate - 3.1 + G7 origin	
	Material certificate - 3.2 type (Requalified 3.1) - Consult for multiple pump price	
PMI Testing (per liquid end)		Price
N	None - STANDARD	\$0
M	PMI performed by Milton Roy	\$420
P	PMI by third party	Consult Factory
S	PMI + SPECTRO (%C)	Consult Factory
Weld Testing		Price
N	None (standard)	\$0
Y	Yes. To be specified	Refer to page 'Tests'

D1 EN T2 H0 N N N N N N

BOM addition section 2 sample code - finalized code

Completed BOM code example:

SN4 MM N S S S N N 1 N 20 D1 EN T2 H0 N N N N N N

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

PXFTP		Material and Plunger Code			Price	
Model Code	Plunger Diameter				17.4 PH	
					P4 Heads (NX)	
PXP43-28	28 mm			Code		Price
PXP43-32	32 mm			43-28		\$186,582
PXP43-36	36 mm			43-32		\$188,354
PXP41-40	40 mm			43-36		\$190,135
		Stroke frequency (spm) relative to motor rotation speed (rpm)			41-40	
					50 Hz	60 Hz
					1440 rpm	1728 rpm
D	19.67:1 Gear ratio				73	88
E	15.33:1 Gear ratio				93	112
F	12.25:1 Gear ratio				117	140
G	9.8:1 Gear ratio				146	N/A
		Multiplex			Price	
		For duplex & triplex, configure each pump separately - add multiplex charge to 1st pump only - See other instructions related to multiplex in motor mount and base selection.				
1	Simplex				\$0	
2	Duplex Adjustable Stroke - Liquid ends and drive options identical				Consult us	
3	Triplex Adjustable Stroke - Liquid ends and drive options identical				Consult us	
Z	Multiplex with more than 3 heads or Heterogen Multiplexage				Consult us	
PXFTP	43-32	E	1			

Options Selection - Pump Area Hazard Classification

ATEX explosionproof area			Price	
S	Safe area (Not in an ex-proof area)	1 Probe is mandatory on drive		\$0
A	Ex-proof area - ATEX rating not required	1 Probe is mandatory on drive		\$0
B	ATEX 2G-T3	2 probes required (on the drive and on the head)		\$0
C	ATEX 2G-T4			\$0
F	ATEX 3G-T3	2 probes required (on the drive and on the head)		\$0
G	ATEX 3G-T4			\$0
Probe for Product Protection				
1	PT100 probe, 3-wire - Signal processing by customer			\$880
2	4-20 mA probe - Signal processing by customer			\$1,225
3	Foundation Fieldbus probe - Signal processing by customer			\$2,755
Z	Other probe			Consult us
Special Options				
N	For standard pump with no special option requirement, please leave this code blank.			\$0
Z	Special options			Consult us
S	1	N	Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection	

The code on the nameplate will consist of the selections above. Example:

PXFTP43-32E1S1N

\$189,234

Model Code Example Price

Liquid End Option Selection - Continued

Liquid End Option Selection									
LD	Double Hard Flat Valve : ball in 440C and seat in 17.4 PH		standard	Standard					
Wetted o-ring									
2	Viton		standard	Standard					
3	Nitril			\$72					
Packing and Plunger Material									
N	Standard			P4 Heads					
Suction Orientation per Head (Multiply the adder by 2)									
V	Vertical (std)			Standard					
Suction Connection - Type									
7	Medium Pressure - Standard								
Suction Connection Type and Rating									
Threaded									
M	Male			—					
F	Female			Standard					
ANSI Flanges 316L ss									
A	ANSI - Class 150			\$433					
B	ANSI - Class 300			\$433					
C	ANSI - Class 600			\$653					
D	ANSI - Class 1,500 - RF/SF			\$1,009					
E	ANSI - Class 1,500 - RTJ			\$1,100					
G	ANSI - Class 2,500 - RTJ			\$1,715					
H	ANSI - Class 10,000 PSI - RTJ			Consult us					
I	ANSI - Class 10,000 PSI - RTJ			Consult us					
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1									
J	EN1759-1 Class 150			\$433					
L	EN1759-1 Class 600			\$653					
P	EN1092-1 PN100			\$644					
R	EN1092-1 PN160			\$976					
S	EN1092-1PN40			\$403					
LD	2	N	V	2	F				

Options Code section 2 example. Please, refer to the following pages for the rest of the codification selection

Discharge Orientation per Head (Multiply the adder by 2)									
V	Vertical (std)			Standard					
H	Horizontal			—					
Discharge Connection									
7	Medium Pressure			Standard					
Discharge Connection Type and Rating									
Threaded									
M	Male								
F	Female			Standard					
ANSI Flanges 316L ss									
A	ANSI - Class 150			\$433					
B	ANSI - Class 300			\$433					
C	ANSI - Class 600			\$653					
D	ANSI - Class 1,500 - RF/SF			\$1,009					
E	ANSI - Class 1,500 - RTJ			\$1,100					
G	ANSI - Class 2,500 - RTJ			\$1,715					
H	ANSI - Class 10,000 PSI - RTJ			Consult us					
I	ANSI - Class 10,000 PSI - RTJ			Consult us					
DIN Flanges 316 ss, complying to EN1092-1 or EN1759-1									
J	EN1759-1 Class 150			\$433					
L	EN1759-1 Class 600			\$653					
P	EN1092-1 PN100			\$644					
R	EN1092-1 PN160			\$976					
S	EN1092-1PN40			\$403					
Liquid Temperature Options									
N	Standard Liquid Temperature Range : -10° C (14° F) to 95° C (203° F)			Standard					
Packing Lubrication and Flush									
N	Standard			Standard					
Liquid End Surface Finish									
N	None (Standard)			Standard					
Advanced Options									
N	None (Standard)			Standard					
V	7	F	N	N	N				

Options Code section 3 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Drive Option Selection

Capacity Control Options					Price
M1	Adjustable stroke with locked stroke (API 675) - Standard Option				Standard
B1	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase (1 phase possible) - IP68				\$12,771
BA	Bernard actuator with integrated electronics 4-20 mA/0-10V - 400V - 50Hz 3 phase - ATEX CE II 2G Ex e IIB T4 -Ambient T°: -20°C /+70°C - IP68				\$14,913
B2	Bernard actuator with integrated electronics 4-20 mA/0-10V, 60Hz 3 phase 460V - IP68				\$12,771
BB	Bernard actuator with integrated electronics 4-20 mA/0-10V, 60Hz 3 phase 460V - IECEx-Atex Ex d II B T4 ; CSA Class I Group C, D div 1&2 - Class II Group E, F, G div 1&2				\$14,913
Housing Material Options					Price
N	Standard - FLG cast iron, down to -20°C/-4°F				Standard
2	FGS ductile cast iron, down to -40°C/-F				Consult us
3	DEP Shell (FGS parts under pressure)				Consult us
Environment Options					Price
N	Design standard				Standard
R	PSV rigid required (Hard environment)				Consult us
S	Sand-proof design (rigid PSV included)				Consult us
M	Offshore (rigid PSV included; paint not included)				Consult us
Oil Options					Price
N	Standard (+50°C/112°F to -10°C/14°F)				Standard
3	Low temp (down to -40°C/-F)				\$2,963
9	Without oil				\$0
4	Food grade				\$2,614
Motor Power					Price
X	18.5 kW	25 HP	AJ	180 kW	240 HP
Y	22 kW	30 HP	AK	200 kW	270 HP
AA	30 kW	40 HP	AL	220 kW	300 HP
AB	37 kW	50 HP	AM	250 kW	340 HP
AC	45 kW	60 HP	AN	280 kW	380 HP
AD	55 kW	75 HP	AO	300 kW	400 HP
AE	75 kW	100 HP	AP	315 kW	430 HP
AF	90 kW	125 HP	AQ	330 kW	450 HP
AG	110 kW	150 HP	AR	355 kW	480 HP
AH	132 kW	175 HP	AS	370 kW	500 HP
AI	160 kW	220 HP	AT	400 kW	550 HP

M1 N N N Y Drive Options Code section 1 example.

The prices of the motor are available at the motor section

Drive Option Selection - Continued

Coupling					Price

| Motor Mount - Note code "A" below for multiplex | | | | | Price |

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BOM Additions Code Selection

Motor Frequency / Type / Number of Poles								Price						
5N4 50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0						
6N4 60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0						
5M4 50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0						
6M4 60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM								\$0						
Motor Description								Price						
MM Milton Roy Supplied Motor (Separate Line Item)								\$0						
10 Pump supplied Less Motor - charge to cover added costs to test pump								\$298						
11 Client supplied motor mounted and tested								\$396						
OA IEC standard motor - aluminum frame - 3 phase								\$0						
1A IEC Explosion-proof motor Ex d II BT4 - cast iron frame - 3 phase								\$0						
1B IEC Explosion-proof motor Ex d II BT4 - cast iron frame - 3 phase with rain cover, coil protection by PTC								\$0						
4S Fan cooled motor for variable speed drive								\$0						
4V Motor for variable speed drive with constant speed fan								\$0						
1C NEMA Explosion proof / XPNV 1 x 115/(208)-230 V - 60Hz 1725 RPM								\$0						
1D NEMA Explosion proof / XPNV 3 x 208-230 / 460 V - 60Hz 1725 RPM								\$0						
1E NEMA Explosion proof / XPFC 1 x 115/(208)-230 V - 60Hz 1725 RPM								\$0						
1F NEMA Explosion proof : XPFC 3 x 208-230 / 460 V - 60Hz 1725 RPM								\$0						
1G NEMA Explosion proof / XPFC 3 x 208-230 / 460 V , 190/380V - 50/60Hz - 1425/1725 RPM								\$0						
9S Special motor								\$0						
PXFT and Cooling System Integrated - Paint System								Price						
				Cooling System (add this amount to Simplex, Duplex, or Triplex configuration)			Pump paint price (per mechanical drive unit)							
N Standard 100 μ				-			-							
A C2, 140 μ, low corrosivity				1284			\$3,557							
C C3, 240 μ, medium corrosivity				1284			\$4,041							
E C4, 70 μ, high corrosivity				1636			\$4,196							
D C5, 245 μ, OFFSHORE				1636			\$4,345							
X Special to Customer Spec				Consult us			Consult us							
Paint Color		Availability by Paint System						Price						
S	Standard - Yellow RAL1018	B	A	C	E	D	N							
2	Grey RAL 7035 for C5-M only	NA	•	•	•	•	•							
3	Grey RAL 7042 for C5-M only	NA	NA	•	•	•	NA							
4	White RAL 9010	•	NA	NA	NA	NA	NA							
Z	Customized							Consult us						
Motor Paint								Price						
S	Supplier standard paint (color+system) - STANDARD							\$0						
P	Same as pump color and system (may impact motor warranty)							\$0						
Z	Other according to customer spec							Consult us						
Electric Actuator Paint								Price						
S	Supplier standard paint (color+system) - STANDARD							\$0						
P	Same as pump (color+system)							Standard						
Baseplate - Compulsory on Simplex and Multiplex								Price						
C	Base plate required according to pump configuration - subject to factory correction							Consult us						
Z	ETO base plate (to be specified)							Consult us						
Oil Cooler - Always mandatory on Simplex and Multiplex								Price						
C	Standard oil/air cooler							Standard						
Pump number within Multiplex								Price						
1	Number that represents which pump body this pump is in a multiplex Multiplex is always 1. Pump body with motor is always 1, next body = 2, etc.							\$0						
Manifold (Suction & Discharge)								Price						
N	None (Standard)							\$0						
Y	With manifolds - to be defined							Consult us						
Relief Valve Set Pressure - Value in BAR														
Enter pressure value - example - 300														
5N4	1A	0	S	S	S	N	C	1						
						N		300						

BOM addition section 1 sample code - continue to next page

(*) In case of Customer motor choice : the pump will be tested with a Milton Roy motor. If the customer would like to test with his customer motor then the negative impact of the late delivery of the customer motor or the motor dysfunctioning will be charged to Milton Roy.

Continue to next page

BOM Additions Code Selection - Continued

Document and Nameplate Units		Price
D1	Documents and Nameplates in US units (PSI, Lbs, GPH...)	\$0
D2	Documents and Nameplate in SI units (bar, l/h, kg...)	Standard
D3	Documents and Nameplate in SI units II (MPa, l/h, kg...)	Consult us
DZ	Documents and Nameplate in other units	Consult us
Documentation and Nameplate Language		Price
EN	English - STANDARD	\$0
FR	French	\$0
CH	Chinese	Consult us
SP	Spanish	Consult us
PT	Portuguese	Consult us
RU	Russian	Consult us
IT	Italian	Consult us
DE	German	Consult us
OT	Other, to specify	Consult us
Production Test (per mechanical drive)		Price
T1	Flow measurement at 100% and leak at max. pressure IVY = not available - SHA = Not available - PSP = A1 (standard)	\$0
T2	Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = STANDARD test - SHA = std test - PSP = A1F	\$486
T3	API Linearity test (5 point curve) + Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = TEST 5POINT NW - SHA = Not available - PSP = A1F+A2	\$486
T4	10 Points test (S.S Accuracy, Linearity, Repeatability) IVY = TEST 10POINT NW - SHA = A - PSP = A3 WITHOUT hydro test	\$1,358
Hydro Test (per liquid end)		Price
H0	Standard - No hydro test	\$0
H1	Conduct Hydro test	\$435
Running Test (per mechanical drive)		Price
N	No - STANDARD	\$0
1	Running test -1 hour	\$970
2	Running test -2 hours	\$1,094
3	Running test -3 hours	\$1,214
4	Running test -4 hours	\$1,335
MASP Test (Minimum Allowable Suction Pressure) and NPIPr Test (Net Positive Inlet Pressure)		Price
N	No test MASP - No test NPIPr	\$0
Y	Yes - Test MASP, following Milton Roy Standard ITOP055 (2)	\$675
P	Yes - Test NPIPr, following Milton Roy Standard ITOP381 (1)	\$675
T	Yes. Test MASP following MR ITOP055 and Test NPIPr, following MR ITOP381 (1)	\$1,351
Vibration, Noise, and Temperature Rise Tests		Price
N	None - STANDARD	\$0
Material, Certificate of Origin (per liquid end)		Price
N	None - STANDARD	\$0
2	Material certificate - 2.1 (EN10204)	\$119
3	Material certificate - 3.1 - Metallic heads	\$349
	Material certificate - 2.2	
Z	Material certificate - 3.1 type + Nace MR0175	Consult Factory
	Material certificate - 3.1 + G7 origin	
	Material certificate - 3.2 type (Requalified 3.1) - Consult for multiple pump price	
PMI Testing (per liquid end)		Price
N	None - STANDARD	\$0
M	PMI performed by Milton Roy	\$420
P	PMI by third party	Consult Factory
S	PMI + SPECTRO (%C)	Consult Factory
Weld Testing		Price
N	None (standard)	\$0
Y	Yes. To be specified	Refer to page 'Tests'

D1 EN T2 H0 N N N N N N

BOM addition section 2 sample code - finalized code

Completed BOM code example:

SN4 MM N S S S N N 1 N 20 D1 EN T2 H0 N N N N N N

Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

MGR-E-H51		Manufactured in France			
Model Code	Plunger Code				Price
	H5 Heads, Double diaphragm PTFE (pressure gauge in standard). 316L SS body, check valve in 17.4 PH, seat valve in 316 SS.				
55	55 mm				\$ 251,916
60	60 mm				\$ 260,904
63	63 mm				\$ 258,210
65	65 mm				\$ 267,199
70	70 mm				\$ 264,512
75	75 mm				\$ 270,806
80	80 mm				\$ 283,402
85	85 mm				\$ 293,232
90	90 mm				\$ 290,541
95	95 mm				\$ 300,366
100	100 mm				\$ 297,677
105	105 mm				\$ 301,247
110	110 mm				\$ 304,704
115	115 mm				\$ 333,522
120	120 mm				\$ 333,522
125	125 mm				\$ 330,831
130	130 mm				\$ 359,650
135	135 mm				\$ 359,650
140	140 mm				\$ 359,650
145	145 mm				\$ 356,959
Gear Ratio		Stroke frequency (spm) relative to motor rotation speed (rpm)			Price
		50 Hz	60 Hz	1440 rpm	1728 rpm
D	19.67:1 Gear ratio	73	88	\$ -	
E	15.33:1 Gear ratio	93	112	\$ -	
F	12.25:1 Gear ratio	117	140	\$ -	
G	9.8:1 Gear ratio	146	N/A	\$ -	
Multiplex		Only available as integral triplex			
		3	Triplex	Consult us	Price
MGR-E-H51-	63	D	3		

Options Selection - Pump Area Hazard Classification

ATEX explosionproof area			Price
S	Safe area (Not in an ex-proof area)		\$ -
A	Ex-proof area - ATEX rating not required	1 Probe required on the drive	\$ -
B	ATEX 2G-T3	1 Probe required on the drive	\$ -
C	ATEX 2G-T4		\$ -
F	ATEX 3G-T3	1 Probe required on the drive	\$ -
G	ATEX 3G-T4		\$ -
Probe for Product Protection- Single drive probe required for T3 Ambient Rating			Standard
N	Without probe - Standard		
1	PT100 probe, 3-wire - Signal processing by customer		\$ 880
2	4-20 mA probe - Signal processing by customer		\$ 1,225
3	Foundation Fieldbus probe - Signal processing by customer		\$ 2,755
Z	Other probe		Consult us
Special Options			
N	For standard pump with no special option requirement, please leave this code blank.		\$ -
Z	Special options		Consult us
S	N	N	Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

The code on the nameplate will consist of the selections above. Example:

MGR-E-H51-63D3SNN

 \$258,210
 Model Code Example Price

Continue to next page

Liquid End Option Selection

Check Valve				
NP	Single flat valve : see technical book for materials of construction			Standard
Wetted o-ring				
1	PTFE	Plungers Ø55 to 105 mm	N/A	Plungers Ø110 to 145 mm
2	Viton		Standard	-
Diaphragm Rupture Detection Systems -		Prices include for all three heads - complete pump		Price
2	C8 Explosion proof switch			\$ 8,475
3	C5 Gauge			Standard
9	CT Manifold and connection for Pressure transmitter (transmitter is not included, but it must be defined according to following parameters : connection 1/2 NPT and vertical mounting)			\$ 3,138
Z	Special (CZ)			Consult us
NS	1	N	Options Code section 1 example.	

Liquid End Option Selection - Continued

Suction Orientation		Plunger Diameters		
		Ø55, 60, 63, 65, 70, 75 mm	Ø80, 85, 90, 95, 100, 105 mm	Ø110, 115, 120, 125, 130, 135, 140, 145 mm
V	Vertical (std)	Standard	Standard	Standard
Suction Connection - Type				
3	Welded Flanges	-	Standard	Standard
Suction Manifold Type and Rating - PUMPS WITH MANIFOLD		Prices include entire manifold		
Threaded		Pipe Diameter	4"	5"
			Plungers Ø mm 55, 60, 63, 65, 70, 75 mm	Plungers Ø80, 85, 90, 95, 100, 105 mm
ANSI Flanges 316L ss			4"	5"
A	ANSI - Class 150	\$ 9,791	\$ 10,769	\$ 11,747
B	ANSI - Class 300	\$ 10,748	\$ 11,824	\$ 12,901
C	ANSI - Class 600	\$ 12,170	\$ 13,392	\$ 14,604
D	ANSI - Class 1,500 - RF	\$ 23,515	\$ 25,866	\$ 28,219
E	ANSI - Class 1,500 - RTJ	\$ 23,515	\$ 25,866	\$ 28,219
G	ANSI - Class 2,500 - RTJ	Consult	Consult	Consult
DIN Flanges 316L ss, complying to EN1092-1 or EN1759-1		DN50	DN80	DN100
J	EN1759-1 Class 150	\$ 9,791	\$ 10,769	\$ 11,747
L	EN1759-1 Class 600	\$ 12,170	\$ 13,392	\$ 14,604
T	EN1092-1 PN16	\$ 9,791	\$ 10,769	\$ 11,747
S	EN1092-1 PN40	\$ 10,748	\$ 11,824	\$ 12,901
P	EN1092-1 PN100	\$ 12,170	\$ 13,392	\$ 14,604
R	EN1092-1 PN160	Consult	Consult	Consult us
U	EN1092-1 PN250	\$ 23,515	\$ 25,866	\$ 28,219
Suction Connection Type/Rating - PUMPS WITH and WITHOUT MANIFOLD		Prices include all three pump heads		
Threaded		Pump Connection	2"	3"
			Plungers Ø mm 55, 60, 63, 65, 70, 75 mm	Plungers Ø80, 85, 90, 95, 100, 105 mm
ANSI Flanges 316L ss			2"	3"
A	ANSI - Class 150	\$ 2,181	\$ 4,726	\$ 6,303
B	ANSI - Class 300	\$ 2,317	\$ 4,985	\$ 6,831
C	ANSI - Class 600	\$ 2,649	\$ 7,007	Consult us
D	ANSI - Class 1,500 - RF	\$ 5,244	Consult us	Consult us
E	ANSI - Class 1,500 - RTJ	Consult us	Consult us	Consult us
G	ANSI - Class 2,500 - RTJ	Consult	Consult us	Consult
DIN Flanges 316L ss		DN80	DN100	
J	EN1759-1 Class 150	\$ 2,353	\$ 4,833	\$ 6,303
L	EN1759-1 Class 600	\$ 3,571	\$ 6,831	\$ 6,831
T	EN1092-1 PN16	\$ 710	Consult us	Consult us
S	EN1092-1 PN40	\$ 2,247	Consult us	Consult us
P	EN1092-1 PN100	\$ 3,535	Consult us	Consult us
R	EN1092-1 PN160	\$ 5,344	Consult us	Consult us
U	EN1092-1 PN250	Consult	Consult	Consult
V	3	A		

Options Code section 2 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Liquid End Option Selection - Continued

Discharge Orientation							Plunger Diameters					
V	Vertical (std)			55, 60, 63, 65, 70, 75 mm		80, 85, 90, 95, 100, 105 mm		110, 115, 120, 125, 130, 135, 140, 145 mm				
	Discharge Connection			Standard		Standard		Standard				
3	Welded Flanges			-		Standard		Standard				
Discharge Manifold Type and Rating - PUMPS WITH MANIFOLD							Prices include entire manifold					
Threaded				Pipe Diameter	3"	4"	5"	6"				
ANSI Flanges 316L ss					3"	4"	5"	6"				
A	ANSI - Class 150			\$ 9,791	\$ 9,791	\$ 10,769	\$ 11,747					
B	ANSI - Class 300			\$ 10,748	\$ 10,748	\$ 11,824	\$ 12,901					
C	ANSI - Class 600			\$ 12,170	\$ 12,170	\$ 13,392	\$ 14,604					
D	ANSI - Class 1,500 - RF			\$ 23,515	\$ 23,515	\$ 25,866	\$ 28,219					
E	ANSI - Class 1,500 - RTJ			\$ 23,515	\$ 23,515	\$ 25,866	\$ 28,219					
G	ANSI - Class 2,500 - RTJ			Consult	Consult	Consult	Consult					
DIN Flanges 316L ss				DN80	DN100							
J	EN1759-1 Class 150			\$ 9,791	\$ 9,791	\$ 10,769	\$ 11,747					
L	EN1759-1 Class 600			\$ 12,170	\$ 12,170	\$ 13,392	\$ 14,604					
T	EN1092-1 PN16			\$ 9,791	\$ 9,791	\$ 10,769	\$ 11,747					
S	EN1092-1 PN40			\$ 10,748	\$ 10,748	\$ 11,824	\$ 12,901					
P	EN1092-1 PN100			\$ 12,170	\$ 12,170	\$ 13,392	\$ 14,604					
R	EN1092-1 PN160			Consult	Consult	Consult	Consult us					
U	EN1092-1 PN250			\$ 23,515	\$ 23,515	\$ 25,866	\$ 28,219					
Discharge Connection Type/Rating - PUMPS WITH and WITHOUT MANIFOLD							Prices include all three pump heads					
Threaded				Pump Connection	2"	3"	4"					
ANSI Flanges 316L ss					2"	3"	4"					
A	ANSI - Class 150			\$ 2,181	\$ 4,726	\$ 6,303						
B	ANSI - Class 300			\$ 2,317	\$ 4,985	\$ 6,831						
C	ANSI - Class 600			\$ 2,649	\$ 7,007	Consult us						
D	ANSI - Class 1,500 - RF			\$ 5,244	Consult us	Consult us						
E	ANSI - Class 1,500 - RTJ			Consult us	Consult us	Consult us						
G	ANSI - Class 2,500 - RTJ			Consult	Consult	Consult						
DIN Flanges 316L ss				DN80	DN100							
J	EN1759-1 Class 150			\$ 2,353	\$ 4,833	\$ 6,303						
L	EN1759-1 Class 600			\$ 3,571	\$ 6,831	\$ 6,831						
T	EN1092-1 PN16			\$ 710	Consult us	Consult us						
S	EN1092-1 PN40			\$ 2,247	Consult us	Consult us						
P	EN1092-1 PN100			\$ 3,535	Consult us	Consult us						
R	EN1092-1 PN160			\$ 5,344	Consult us	Consult us						
U	EN1092-1 PN250			Consult	Consult	Consult						
Liquid Temperature Options												
N	Standard Liquid Temperature Range -10° C (50° F) to 95° C (203° F)						Standard					
Liquid End Jackets												
N	None (Standard)						Standard					
Liquid End Surface Finish												
N	None (Standard)						Standard					
Advanced Options												
N	None (Standard)						Standard					
V	3	A	N	N	N	N						

Options Code section 3 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Drive Option Selection

Capacity Control Options					Price
FS	Fixed stroke				\$ -
Housing Material Options					Price
N	Standard - FGL cast iron, down to -20°C/-4°F				Standard
2	FGS ductile cast iron, down to -40°C/-4°F				Consult us
Environment Options					Price
N	Design standard				Standard
S	Sand -proof design (rigid PSV included)				Consult us
M	Offshore (rigid PSV included; paint not included)				Consult us
Oil Options					Price
N	Standard (+50°C/112°F to -10°C/14°F)				Standard
9	Without oil				\$ -
Motor Power					Price
X	18.5 kW	25 HP	The prices of the motor are available in the motor section		
Y	22 kW	30 HP			
AA	30 kW	40 HP			
AB	37 kW	50 HP			
AC	45 kW	60 HP			
AD	55 kW	75 HP			
AE	75 kW	100 HP			
AF	90 kW	125 HP			
FS	N	N	N	AA	Drive Options Code section 1 example.

Drive Option Selection - Continued

Coupling					Price
1	Standard				Standard
Motor Mount - Note code "A" below for multiplex					Price
H	NEMA 254 / 256TC				\$ -
K	NEMA 284TC				\$ -
L	NEMA 286TC				\$ -
M	NEMA 324TC				\$ -
N	NEMA 326TC				\$ -
O	NEMA 364TC				\$ -
T	IEC FF300				\$ -
U	IEC FF350				\$ -
V	IEC FF400				\$ -
W	IEC FF500				\$ -
X	IEC FF600				\$ -
A	No mount - use for all but first pump in a multiplex				\$ -
Motor Orientation					Price
V	Vertical - Standard on simplex				\$ -
1	H	V			

Drive Options section 2 sample code - Product Code Selection Complete

MGR-E-H51-63D3SNN NS1NV3AV3ANNNN FSNNNAA1HV

As noted - the portion of the code above provides the information for the pump nameplate and identifies the hardware required to manufacture the pump. THE CODE IS NOT YET COMPLETE.

The following section of the code identifies additions to the BOM and work order instructions, and includes pricing for various tests and services. Once the online configuration tool is in use, this portion of the code will be internal only and will not be visible to customers or distributors.

Continued to next page

BOM Additions Code Selection

Motor Frequency / Type / Number of Poles											Price
5N4	50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM										-
6N4	60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM										-
5M4	50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM										-
6M4	60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM										-
Motor Description											Price
MM	Milton Roy Supplied Motor (Separate Line Item)										-
10	Pump supplied Less Motor - charge to cover added costs to test pump										\$ 298
11	Client supplied motor mounted and tested										\$ 396
OA	IEC standard motor - aluminum frame - 3 phase										Consult us
1A	IEC Explosion-proof motor Eex D II BT4 - cast iron frame - 3 phase										Consult us
1B	IEC Explosion-proof motor Eex D II BT4 - cast iron frame - 3 phase with rain cover, coil protection by PTC										Consult us
4S	Fan cooled motor for variable speed drive										Consult us
4V	Motor for variable speed drive with constant speed fan										Consult us
9S	Special motor										Consult us
Paint Thickness and System				If Pump has a Base - Add this amount			If Pump has a Cooling System - Add this amount			Pump Paint Price	
N	Standard 100 µ									-	
A	C2, 140 µ, low corrosivity			\$	1,126	\$	1,210	\$	3,163		
C	C3, 240 µ, medium corrosivity			\$	1,126	\$	1,210	\$	3,546		
E	C4, 70 µ, high corrosivity			\$	1,126	\$	1,541	\$	3,949		
D	C5, 245 µ, OFFSHORE			\$	1,373	\$	1,541	\$	4,289		
X	Special to Customer Spec									0	
Paint Color				B	A	C	E	D	N		
S	Standard - Yellow RAL1018			NA	●	●	●	●	●	●	
2	Grey RAL 7035			NA	NA	●	●	●	●	NA	
3	Grey RAL 7042			NA	NA	●	●	●	●	NA	
4	White RAL 9010			●	NA	NA	NA	NA	NA	NA	
Z	Customized			Consult us							
Motor Paint											Price
S	Supplier standard paint (color+system) - STANDARD										
P	Same as pump color and system (may impact motor warranty)										
Z	Other according to customer spec										
Baseplate											Price
N	Without supporting (not requested by the customer). If supporting is required due to the pump configuration/weight, the standard Code "C" will be by default										
C	STANDARD - Base plate, acc. to MR standard (for pump installation)										
Z	ETO base plate (to be specified)										
Oil Cooler - REQUIRED FOR INSTALLATIONS ABOVE 30° C AMBIENT TEMP											Price
N	None - Ambient Temp below 30° C Only										
C	Standard cooler - Non Exproof C3 paint system										
E	If C4 or C5 pump paint selected, add \$ 1,541										
	Exproof Cooler with C3 paint system										
	If C4 or C5 pump paint selected, add \$ 1,541										
Pump number within Multiplex											Price
1	Number that represents which pump body this pump is in a multiplex Simplex is always 1. Pump body with motor is always 1, next body = 2, etc.										
Manifold (Suction & Discharge)											Price
N	None (Standard)										
A	Suction & Discharge, both on the Left side										
B	Suction & Discharge, both on the Right side										
C	Suction on the Left & Discharge on the Right										
D	Suction on the Right & Discharge on the Left										
Z	Special manifold configuration										
Relief Valve Set Pressure - Value in BAR											
	N/A										
6N6	1A	N	S	S	S	N	N	1	N	-	

BOM addition section 1 sample code - continue to next page

(*) In case of Customer motor choice : the pump will be tested with a Milton Roy motor. If the customer would like to test with his customer motor then the negative impact of the late delivery of the customer motor or the motor dysfunctionning will be charged to Milton Roy.

BOM Additions Code Selection - Continued

Document and Nameplate Units										Price
D1	Documents and Nameplates in US units (PSIg, Lbs, GPH...)									
D2	Documents and Nameplate in metric units (barg, l/h, kg...)									
D3	Documents and Nameplate in metric units II (MPa, l/h, kg...)									
DZ	Documents and Nameplate in other units									
Documentation and Nameplate Language										Price
EN	English - STANDARD									
FR	French									
CH	Chinese									
SP	Spanish									
PT	Portuguese									
RU	Russian									
IT	Italian									
DE	German									
OT	Other, to specify									
Production Test										Price
T1	Flow measurement at 100% and leak at max. pressure IVY = not available - SHA = Not available - PSP = A1 (standard)									
T2	Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = STANDARD test - SHA = std test - PSP = A1F									
Hydro Test										Price
H0	Standard - No hydro test									
H1	Conduct Hydro test									
Running Test										Price
N	No - STANDARD									
1	Running test -1 hour									
2	Running test -2 hours									
3	Running test -3 hours									
4	Running test -4 hours									
MASP Test (Minimum Allowable Suction Pressure) and NPIPr Test (Net Positive Inlet Pressure)										Price
N	No test MASP - No test NPIPr									
Y	Yes - Test MASP, following Milton Roy Standard ITOP055 (2)									
P	Yes - Test NPIPr, following Milton Roy Standard ITOP381 (1)									
T	Yes. Test MASP following MR ITOP055 and Test NPIPr, following MR ITOP381 (1)									
Vibration, Noise, and Temperature Rise Tests										Price
N	None - STANDARD									
1	Vibration test only									
2	Noise test only									
3	Temp rise test only									
4	Package: Vibration+Noise+Temp rise									
Material, Certificate of Origin										Price
N	None - STANDARD									
2	Material certificate - 2.1 (EN10204)									
3	Material certificate - 3.1 (EN10204) : Metallic head									
Z	Material certificate - 2.2 Material certificate - 3.1 type + Nace MR0175 Material certificate - 3.1 + G7 origin Material certificate - 3.2 type (Requalified 3.1)									
PMI Testing										Price
N	None - STANDARD									
M	PMI performed by Milton Roy									
P	PMI performed by third party									
S	PMI + SPECTRO (%C) performed by third party									
Weld Testing										Price
N	None (standard)									
Y	Yes. To be specified									
D1	EN	T2	H0	N	N	N	N	N	N	

BOM addition section 2 sample code - finalized code

Completed BOM code example:

6N6	MM	N	S	S	S	N	N	1	N	20	D1	EN	T2	H0	N	N	N	N	N	N
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Model Code Selection

Build the product code by selecting the model and options within each feature, then add the corresponding prices

MGR-C-H51		Manufactured in China		
Plunger Code				
Model Code	H5 Heads, Double diaphragm PTFE (pressure gauge in standard). 316L SS body, check valve in 17.4 PH, seat valve in 316 SS.			Price
55	55 mm			\$ 188,937
60	60 mm			\$ 195,678
63	63 mm			\$ 193,658
65	65 mm			\$ 200,399
70	70 mm			\$ 198,384
75	75 mm			\$ 203,105
80	80 mm			\$ 212,552
85	85 mm			\$ 219,924
90	90 mm			\$ 217,906
95	95 mm			\$ 225,275
100	100 mm			\$ 223,258
105	105 mm			\$ 225,935
110	110 mm			\$ 228,528
115	115 mm			\$ 250,142
120	120 mm			\$ 250,142
125	125 mm			\$ 248,123
130	130 mm			\$ 269,738
135	135 mm			\$ 269,738
140	140 mm			\$ 269,738
145	145 mm			\$ 267,719
Gear Ratio		Stroke frequency (spm) relative to motor rotation speed (rpm)		Price
		50 Hz	60 Hz	
		1440 rpm	1728 rpm	
D	19.67:1 Gear ratio	73	88	\$ -
E	15.33:1 Gear ratio	93	112	\$ -
F	12.25:1 Gear ratio	117	140	\$ -
G	9.8:1 Gear ratio	146	N/A	\$ -
Multiplex		Price		
Only available as integral triplex				
3	Triplex			
MGR-C-H51-	63	D	3	Consult us

Options Selection - Pump Area Hazard Classification

ATEX explosionproof area		Price
S	Safe area (Not in an ex-proof area)	\$ -
A	Ex-proof area - ATEX rating not required	1 Probe required on the drive
B	ATEX 2G-T3	1 Probe required on the drive
C	ATEX 2G-T4	
F	ATEX 3G-T3	1 Probe required on the drive
G	ATEX 3G-T4	
Probe for Product Protection- Single drive probe required for T3 Ambient Rating		Price
N	Without probe - Standard	Standard
1	PT100 probe, 3-wire - Signal processing by customer	\$ 880
2	4-20 mA probe - Signal processing by customer	\$ 1,225
3	Foundation Fieldbus probe - Signal processing by customer	\$ 2,755
Z	Other probe	Consult us
Special Options		Price
N	For standard pump with no special option requirement, please leave this code blank.	\$ -
Z	Special options	Consult us
S	N	N

Options Code section 1 example. Please, refer to the following pages for the rest of the codification selection

The code on the nameplate will consist of the selections above. Example:

MGR-C-H51-63D3SNN

\$193,658

Model Code Example Price

Continue to next page

Liquid End Option Selection

Check Valve				
NP	Single flat valve : see technical book for materials of construction	Standard		
Wetted o-ring				
1	PTFE	Plungers Ø55 to 105 mm	Plungers Ø110 to 145 mm	
2	Viton	N/A	Standard	-
Diaphragm Rupture Detection Systems -				
Prices include for all three heads - complete pump				
2	C8 Explosion proof switch			\$ 8,475
3	C5 Gauge			Standard
9	CT Manifold and connection for Pressure transmitter (transmitter is not included, but it must be defined according to following parameters : connection 1/2 NPT and vertical mounting)			\$ 3,138
Z	Special (CZ)			Consult us
NS	1	N	Options Code section 1 example.	

Liquid End Option Selection - Continued

Suction Orientation			Plunger Diameters		
V	Vertical (std)	Suction Connection - Type	Ø55, 60, 63, 65, 70, 75 mm	Ø80, 85, 90, 95, 100, 105 mm	Ø110, 115, 120, 125, 130, 135, 140, 145 mm
			Standard	Standard	Standard
3	Welded Flanges		-	Standard	Standard
		Suction Manifold Type and Rating - PUMPS WITH MANIFOLD		Prices include entire manifold	
		Threaded	Pipe Diameter	4"	5"
			Plungers Ø mm 55, 60, 63, 65, 70, 75 mm	Plungers Ø80, 85, 90, 95, 100, 105 mm	Plungers Ø110, 115, 120, 125, 130, 135, 140, 145 mm
		ANSI Flanges 316L ss		4"	5"
	A	ANSI - Class 150	\$ 7,343	\$ 8,077	\$ 8,810
	B	ANSI - Class 300	\$ 8,061	\$ 8,868	\$ 9,676
	C	ANSI - Class 600	\$ 9,128	\$ 10,044	\$ 10,953
	D	ANSI - Class 1,500 - RF	\$ 17,636	\$ 19,400	\$ 21,164
	E	ANSI - Class 1,500 - RTJ	\$ 17,636	\$ 19,400	\$ 21,164
	G	ANSI - Class 2,500 - RTJ	Consult	Consult	Consult
		DIN Flanges 316L ss, complying to EN1092-1 or EN1759-1	DN50	DN80	DN100
	J	EN1759-1 Class 150	\$ 7,343	\$ 8,077	\$ 8,810
	L	EN1759-1 Class 600	\$ 9,128	\$ 10,044	\$ 10,953
	T	EN1092-1 PN16	\$ 7,343	\$ 8,077	\$ 8,810
	S	EN1092-1 PN40	\$ 8,061	\$ 8,868	\$ 9,676
	P	EN1092-1 PN100	\$ 9,128	\$ 10,044	\$ 10,953
	R	EN1092-1 PN160	Consult	Consult	Consult us
	U	EN1092-1 PN250	\$ 17,636	\$ 19,400	\$ 21,164
		Suction Connection Type/Rating - PUMPS WITH and WITHOUT MANIFOLD		Prices include all three pump heads	
		Threaded	Pump Connection	2"	3"
			Plungers Ø mm 55, 60, 63, 65, 70, 75 mm	Plungers Ø80, 85, 90, 95, 100, 105 mm	Plungers Ø110, 115, 120, 125, 130, 135, 140, 145 mm
		ANSI Flanges 316L ss		2"	3"
	A	ANSI - Class 150	\$ 1,636	\$ 3,545	\$ 4,727
	B	ANSI - Class 300	\$ 1,738	\$ 3,739	\$ 5,123
	C	ANSI - Class 600	\$ 1,987	\$ 5,255	Consult us
	D	ANSI - Class 1,500 - RF	\$ 3,933	Consult us	Consult us
	E	ANSI - Class 1,500 - RTJ	Consult us	Consult us	Consult us
	G	ANSI - Class 2,500 - RTJ	Consult	Consult us	Consult
		DIN Flanges 316L ss	DN80	DN100	
	J	EN1759-1 Class 150	\$ 1,765	\$ 3,625	\$ 4,727
	L	EN1759-1 Class 600	\$ 2,678	\$ 5,123	\$ 5,123
	T	EN1092-1 PN16	\$ 533	Consult us	Consult us
	S	EN1092-1 PN40	\$ 1,685	Consult us	Consult us
	P	EN1092-1 PN100	\$ 2,651	Consult us	Consult us
	R	EN1092-1 PN160	\$ 4,008	Consult us	Consult us
	U	EN1092-1 PN250	Consult	Consult	Consult

Options Code section 2 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Discharge Orientation							Plunger Diamters				
V	Vertical (std)						55, 60, 63, 65, 70, 75 mm	80, 85, 90, 95, 100, 105 mm	110, 115, 120, 125, 130, 135, 140, 145 mm		
	Discharge Connection			Standard		Standard	Standard	Standard	Standard		
3		Welded Flanges						-	Standard		
Discharge Manifold Type and Rating - PUMPS WITH MANIFOLD							Prices include entire manifold				
Threaded				Pipe Diameter	3"	4"	5"	6"			
ANSI Flanges 316L ss					3"	4"	5"	6"			
A	ANSI - Class 150	\$	7,343	\$	7,343	\$	8,077	\$	8,810		
B	ANSI - Class 300	\$	8,061	\$	8,061	\$	8,868	\$	9,676		
C	ANSI - Class 600	\$	9,128	\$	9,128	\$	10,044	\$	10,953		
D	ANSI - Class 1,500 - RF	\$	17,636	\$	17,636	\$	19,400	\$	21,164		
E	ANSI - Class 1,500 - RTJ	\$	17,636	\$	17,636	\$	19,400	\$	21,164		
G	ANSI - Class 2,500 - RTJ	Consult		Consult		Consult		Consult			
DIN Flanges 316L ss				DN80	DN100						
J	EN1759-1 Class 150	\$	7,343	\$	7,343	\$	8,077	\$	8,810		
L	EN1759-1 Class 600	\$	9,128	\$	9,128	\$	10,044	\$	10,953		
T	EN1092-1 PN16	\$	7,343	\$	7,343	\$	8,077	\$	8,810		
S	EN1092-1 PN40	\$	8,061	\$	8,061	\$	8,868	\$	9,676		
P	EN1092-1 PN100	\$	9,128	\$	9,128	\$	10,044	\$	10,953		
R	EN1092-1 PN160	Consult		Consult		Consult		Consult us			
U	EN1092-1 PN250	\$	17,636	\$	17,636	\$	19,400	\$	21,164		
Discharge Connection Type/Rating - PUMPS WITH and WITHOUT MANIFOLD							Prices include all three pump heads				
Threaded				Pump Connection	2"	3"	4"				
ANSI Flanges 316L ss					2"	3"	4"				
A	ANSI - Class 150	\$	1,636	\$	3,545	\$	4,727				
B	ANSI - Class 300	\$	1,738	\$	3,739	\$	5,123				
C	ANSI - Class 600	\$	1,987	\$	5,255	Consult us					
D	ANSI - Class 1,500 - RF	\$	3,933	Consult us		Consult us					
E	ANSI - Class 1,500 - RTJ	Consult us		Consult us		Consult us					
G	ANSI - Class 2,500 - RTJ	Consult		Consult us		Consult us		Consult			
DIN Flanges 316L ss				DN80	DN100						
J	EN1759-1 Class 150	\$	1,765	\$	3,625	\$	4,727				
L	EN1759-1 Class 600	\$	2,678	\$	5,123	\$	5,123				
T	EN1092-1 PN16	\$	533	Consult us		Consult us					
S	EN1092-1 PN40	\$	1,685	Consult us		Consult us					
P	EN1092-1 PN100	\$	2,651	Consult us		Consult us					
R	EN1092-1 PN160	\$	4,008	Consult us		Consult us					
U	EN1092-1 PN250	Consult		Consult		Consult		Consult			
Liquid Temperature Options											
N	Standard Liquid Temperature Range -10° C (50° F) to 95° C (203° F)						Standard				
Liquid End Jackets											
N				None (Standard)			Standard				
Liquid End Surface Finish											
N				None (Standard)			Standard				
Advanced Options											
N				None (Standard)			Standard				
V	2	M	N	N	N						

Options Code section 3 example. Please, refer to the following pages for the rest of the codification selection

Continue to next page

Drive Option Selection

Capacity Control Options				Price
FS	Fixed stroke			\$ -
Housing Material Options				Price
N	Standard - FGL cast iron, down to -20°C/-4°F			Standard
2	FGS ductile cast iron, down to -40°C/-40°F			Consult us
Environment Options				Price
N	Design standard			Standard
S	Sand -proof design (rigid PSV included)			Consult us
M	Offshore (rigid PSV included; paint not included)			Consult us
Oil Options				Price
N	Standard (+50°C/112°F to -10°C/14°F)			Standard
9	Without oil			\$ -
Motor Power				Price
X	18.5 kW	25 HP		
Y	22 kW	30 HP		
AA	30 kW	40 HP		
AB	37 kW	50 HP		
AC	45 kW	60 HP		
AD	55 kW	75 HP		
AE	75 kW	100 HP		
AF	90 kW	125 HP		
				The prices of the motor are available in the motor section
FS	N	N	N	AA

Drive Options Code section 1 example.

Drive Option Selection - Continued

Coupling				Price
1	Standard			Standard
Motor Mount - Note code "A" below for multiplex				Price
H	NEMA 254 / 256TC			\$ -
K	NEMA 284TC			\$ -
L	NEMA 286TC			\$ -
M	NEMA 324TC			\$ -
N	NEMA 326TC			\$ -
O	NEMA 364TC			\$ -
T	IEC FF300			\$ -
U	IEC FF350			\$ -
V	IEC FF400			\$ -
W	IEC FF500			\$ -
X	IEC FF600			\$ -
A	No mount - use for all but first pump in a multiplex			\$ -
Motor Orientation				Price
V	Vertical	- Standard on simplex		\$ -
1	H	V		

Drive Options section 2 sample code - Product Code Selection Complete

MGR-C-H51-63D3SNN NS1NV3AV3ANNNN FSNNNAA1HV

As noted - the portion of the code above provides the information for the pump nameplate and identifies the hardware required to manufacture the pump. THE CODE IS NOT YET COMPLETE.

The following section of the code identifies additions to the BOM and work order instructions, and includes pricing for various tests and services. Once the online configuration tool is in use, this portion of the code will be internal only and will not be visible to customers or distributors.

Continued to next page

BOM Additions Code Selection

Motor Frequency / Type / Number of Poles								Price													
5N4	50 Hz - NEMA - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM																				
6N4	60 Hz - NEMA - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM																				
5M4	50 Hz - IEC - 4 poles - 1440 rpm - STANDARD based on Gear Ratio and Desired SPM																				
6M4	60 Hz - IEC - 4 poles - 1725 rpm - STANDARD based on Gear Ratio and Desired SPM																				
Motor Description																					
MM	Milton Roy Supplied Motor (Separate Line Item)																				
10	Pump supplied Less Motor - charge to cover added costs to test pump																				
11	Client supplied motor mounted and tested																				
OA	IEC standard motor - aluminum frame - 3 phase																				
1A	IEC Explosion-proof motor Eex D II BT4 - cast iron frame - 3 phase																				
1B	IEC Explosion-proof motor Eex D II BT4 - cast iron frame - 3 phase with rain cover, coil protection by PTC																				
4S	Fan cooled motor for variable speed drive																				
4V	Motor for variable speed drive with constant speed fan																				
9S	Special motor																				
Paint Thickness and System				If Pump has a Base - Add this amount			If Pump has a Cooling System - Add this amount														
N	Standard 100 μ																				
A	C2, 140 μ, low corrosivity			\$	1,126	\$	1,210	\$ 3,163													
C	C3, 240 μ, medium corrosivity			\$	1,126	\$	1,210	\$ 3,546													
E	C4, 70 μ, high corrosivity			\$	1,126	\$	1,541	\$ 3,949													
D	C5, 245 μ, OFFSHORE			\$	1,373	\$	1,541	\$ 4,289													
X	Special to Customer Spec							0													
Paint Color				B	A	C	E	D													
S	Standard - Yellow RAL1018			NA	●	●	●	●													
2	Grey RAL 7035			NA	NA	●	●	●													
3	Grey RAL 7042			NA	NA	●	●	●													
4	White RAL 9010			●	NA	NA	NA	NA													
Z	Customized			Consult us																	
Motor Paint																					
S	Supplier standard paint (color+system) - STANDARD																				
P	Same as pump color and system (may impact motor warranty)																				
Z	Other according to customer spec																				
Baseplate																					
N	Without supporting (not requested by the customer). If supporting is required due to the pump configuration/weight, the standard Code "C" will be by default																				
C	STANDARD - Base plate, acc. to MR standard (for pump installation)																				
Z	ETO base plate (to be specified)																				
Oil Cooler - REQUIRED FOR INSTALLATIONS ABOVE 30° C AMBIENT TEMP																					
N	None - Ambient Temp below 30° C Only																				
C	Standard cooler - Non Exproof C3 paint system																				
E	If C4 or C5 pump paint selected, add \$ 1,156 Exproof Cooler with C3 paint system If C4 or C5 pump selected, add \$ 1,156																				
Pump number within Multiplex																					
1	Number that represents which pump body this pump is in a multiplex Multiplex is always 1. Pump body with motor is always 1, next body = 2, etc.																				
Manifold (Suction & Discharge)																					
N	None (Standard)																				
A	Suction & Discharge, both on the Left side																				
B	Suction & Discharge, both on the Right side																				
C	Suction on the Left & Discharge on the Right																				
D	Suction on the Right & Discharge on the Left																				
Z	Special manifold configuration																				
Relief Valve Set Pressure - Value in BAR																					
N/A																					
6N6	1A	N	S	S	N	N	1	N													
							-														

BOM addition section 1 sample code - continue to next page

(**) In case of Customer motor choice : the pump will be tested with a Milton Roy motor. If the customer would like to test with his customer motor then the negative impact of the late delivery of the customer motor or the motor dysfunctionning will be charged to Milton Roy.

BOM Additions Code Selection - Continued

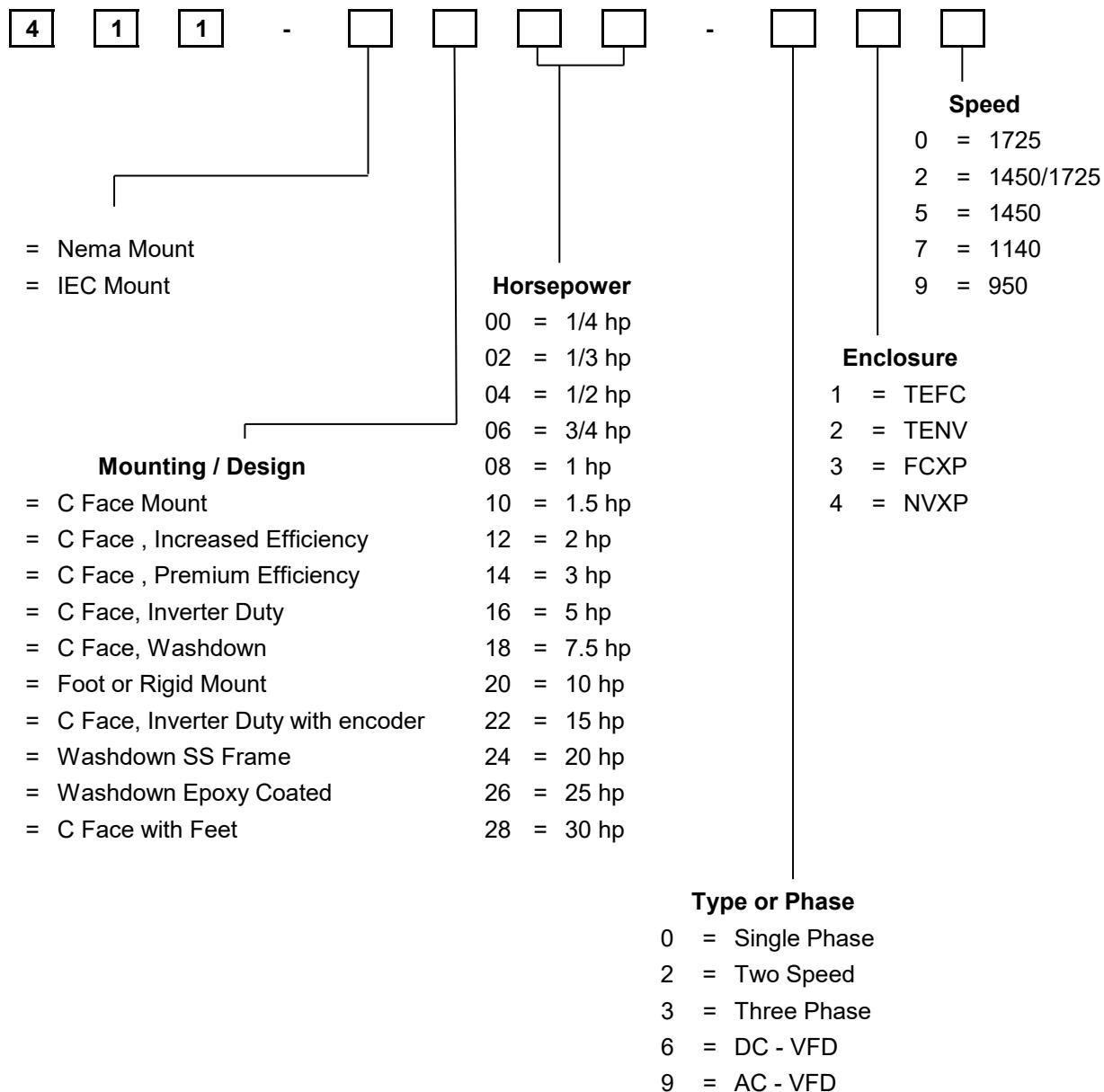
Document and Nameplate Units										Price
D1	Documents and Nameplates in US units (PSIg, Lbs, GPH...)									
D2	Documents and Nameplate in metric units (bara, l/h, kg...)									
D3	Documents and Nameplate in metric units II (MPa, l/h, kg...)									
DZ	Documents and Nameplate in other units									
Documentation and Nameplate Language										Price
EN	English - STANDARD									
FR	French									
CH	Chinese									
SP	Spanish									
PT	Portuguese									
RU	Russian									
IT	Italian									
DE	German									
OT	Other, to specify									
Production Test										Price
T1	Flow measurement at 100% and leak at max. pressure IVY = not available - SHA = Not available - PSP = A1 (standard)									
T2	Flow measurement at 100% and leak at max. pressure + steady state accuracy IVY = STANDARD test - SHA = std test - PSP = A1F									
Hydro Test										Price
HO	Standard - No hydro test									
H1	Conduct Hydro test									
Running Test										Price
N	No - STANDARD									
1	Running test -1 hour									
2	Running test -2 hours									
3	Running test -3 hours									
4	Running test -4 hours									
MASP Test (Minimum Allowable Suction Pressure) and NPIPr Test (Net Positive Inlet Pre										Price
N	No test MASP - No test NPIPr									
Y	Yes - Test MASP, following Milton Roy Standard ITOP055 (2)									
P	Yes - Test NPIPr, following Milton Roy Standard ITOP381 (1)									
T	Yes. Test MASP following MR ITOP055 and Test NPIPr following MR ITOP381 (1)									
Vibration, Noise, and Temperature Rise Tests										Price
N	None - STANDARD									
1	Vibration test only									
2	Noise test only									
3	Temp rise test only									
4	Package: Vibration+Noise+Temp rise									
Material, Certificate of Origin										Price
N	None - STANDARD									
2	Material certificate - 2.1 (EN10204)									
3	Material certificate - 3.1 (EN10204) : Metallic head									
Z	Material certificate - 2.2 Material certificate - 3.1 type + Nace MR0175 Material certificate - 3.1 + G7 origin Material certificate - 3.2 type (Requalified 3.1)									
	Consult Factory									
PMI Testing										Price
N	None - STANDARD									
M	PMI performed by Milton Roy									
P	PMI performed by third party									
S	PMI + SPECTRO (%C) performed by third party									
	Refer to page 'Tests'									
Weld Testing										Price
N	None (standard)									
Y	Yes. To be specified									
	Refer to page 'Tests'									
D1	EN	T2	HO	N	N	N	N	N	N	

BOM addition section 2 sample code - finalized code

Completed BOM code example:

6N6	MM	N	S	S	S	N	N	1	N	20	D1	EN	T2	HO	N	N	N	N	N	N	N
-----	----	---	---	---	---	---	---	---	---	----	----	----	----	----	---	---	---	---	---	---	---

MOTOR PRODUCT CODES



MOTOR REQUIREMENTS

MULTIPLEXING MILTON ROY PUMPS

mRoy A, P, J, & H

Simplex: Minimum Motor Power = 1/4 horsepower (0.19 kilowatts)

Duplex: Minimum Motor Power = 1/3 horsepower (0.25 kilowatts)

mRoy B

Simplex: Minimum Single Phase Motor Power = 3/4 horsepower (0.56 kilowatts)
Minimum Three Phase Motor Power = 1/2 horsepower (0.37 kilowatts)

Duplex: Minimum Single Phase Motor Power = 1 horsepower (0.75 kilowatts)
Minimum Three Phase Motor Power = 3/4 horsepower (0.56 kilowatts)

Milroyal

Assumptions: Identical pump drives, liquid ends, and stroking speed.
Equivalent pump loads and equally phased pistons or plungers.

Simplex: 1.00 X The recommended simplex pump rating.

Duplex: 1.25 X The recommended simplex pump rating.

Triplex: 1.75 X The recommended simplex pump rating.

Quadruplex: 2.00 X The recommended simplex pump rating.

Quintiplex: 2.25 X The recommended simplex pump rating.

Sextuplex: 2.75 X The recommended simplex pump rating.

Note: **When multiplexing more than 6 pumps, Consult Factory.
Consult Factory for multiplex base, multiplex coupling, and manifolding.**

VARIABLE SPEED PUMPS

For estimating purposes, the approximate motor size required for a 10 to 1 speed turndown can be calculated as follows:

Choose the larger of the two sizes calculated below:

1.5 times the standard motor size required for a constant speed application,
or increase the motor size by two standard sizes.

Example:

Calculate the approximate motor required for Variable Speed on a 1/2 hp application.

1.5 X 1/2 horsepower = 3/4 horsepower, Standard Motor Sizes are 1/2 hp, 3/4 hp, and 1 hp.

Therefore, choose to increase the motor by two standard sizes, use 1.0 horsepower.

***STOCK MOTORS PRICE LIST
CONSTANT SPEED, STANDARD EFFICIENT MOTORS**

Part Number	HP	RPM	Ph	Hz	Voltage	Enclosure	Duty	Frame	User List Price	
4112000010	1/4	1725	1	60	115/208-230	TEFC	General	56C	\$ 313	
4112000310		1725	3		208-230/460	TEFC	General		\$ 301	
4112002030	1/3	1725	1	60	115/208-230	XPFC	X-Proof	56C	\$ 799	
4112002340		1725	3		208-230/460	XPNV	X-Proof		\$ 966	
4112004010	1/2	1725	1	60	115/208-230	TEFC	General	56C	\$ 365	
4112004030		1725			115/208-230	XPFC	X-Proof		\$ 753	
4112004310		1725	3		208-230/460	TEFC	General		\$ 322	
4112004330		1725			208-230/460	XPFC	X-Proof		\$ 1,085	
4112004610		1750	DC	DC	90 / PM	TEFC	General		\$ 1,121	
4112008010	1	1725	1	60	115/208-230	TEFC	General	56C	\$ 409	
4112008030		1725			115/208-230	XPFC	X-Proof		\$ 861	
4112008310		1725	3		208-230/460	TEFC	General		\$ 365	
4112008330		1725			208-230/460	XPFC	X-Proof		\$ 2,263	
4112008610		1750	DC	DC	90 / PM	TEFC	General		\$ 1,162	

Important Application Note:

The motors above are either general or X-proof duty. All motor manufacturers note that general duty totally enclosed motors are equivalent to IP54 or below, and thus not suitable for outdoor or washdown areas without protection. For outdoor and washdown applications, use washdown duty IP55 or above) rated motors. This is especially true for vertically mounted applications (mRoy, MacRoy, Milroyal G, MaxRoy, mixers, etc.).

Motor manufacturers also note that Explosion Proof Fan Cooled motors are not recommended for outdoor or washdown areas without protection. Non ventilated explosion proof are recommended for outdoor use.

Motors should never be stored outside or in damp areas.

Notes:

1. * Stock Motors apply to normal quantities only.
Normal quantities are up to 5 of any given motor.
2. Motor manufacturer may vary. If a specific motor manufacturer is required, please consult factory for pricing and availability.
3. Explosion proof motors are U.L. listed for the following area classifications:
Division I, Class I Group D / Class II Groups F & G.
Consult factory for other area classifications.
- 4 Motor warranty is based on motor supplier standard warranty

Non-stock motors are obtained from various manufacturers including: Leeson, Baldor, Weg, Marathon. Brand selection is not available at prices below or within standard leadtimes.

GENERAL PURPOSE MOTORS

For use in indoor or protected applications. If used outside or in unprotected wet areas, a drip-cover kit is recommended. Do not store outside or in damp areas.

NEMA • Single Phase • Totally Enclosed • 60 HZ

HP	RPM	Voltage	Enclosure	Frame	Model	List Price
1/3	1725	115/208-230	TEFC	S56C	4112002010	\$ 367
3/4	1725	115/208-230	TEFC	56C	4112006010	\$ 573
1-1/2	1750	115-208-230	TEFC	56C	4112010010	\$ 712
2	1725	115/230	TEFC	56C	4112012010	\$ 1,424

NEMA • Single Phase • Totally Enclosed • 50 HZ

HP	RPM	Voltage	Enclosure	Frame	Model	List Price
1/3	1425	110/220	TEFC/IP54	56C	4112002015	\$ 593
1/2	1425	110/220	TEFC/IP54	56C	4112004015	\$ 882
3/4	1425	110/220	TEFC/IP54	56C	4112006015	\$ 1,023

NEMA • Three Phase • Totally Enclosed • 60 HZ

HP	RPM	Voltage	Enclosure	Frame	Model	List Price
1/4	1725	208-230/460	TENV	S56C	4112000320	\$ 514
1/3	1725	208-230/460	TEFC	S56C	4112002310	\$ 544
1/3	1725	208-230/460	TENV	S56C	4112002320	\$ 401
1/2	1725	208-230/460	TENV	S56C	4112004320	\$ 667
3/4	1725	208-230/460	TEFC	56C	4112006310	\$ 529
1-1/2	1740	208-230/460	TEFC	56C	4112010310	\$ 607
2	1725	208-230/460	TEFC	145TC	4112012310	\$ 829
3	1740	208-230/460	TEFC	182TC	4112014310	\$ 1,100
5	1725	208-230/460	TEFC	184TC	4112016310	\$ 1,273
7.5	1750	208-230/460	TEFC	213TC	4112018310	\$ 1,577

All three phase motors in this group 1 HP and above are inverter rated

NEMA • Three Phase • Totally Enclosed • 50 HZ

HP	RPM	Voltage	Enclosure	Frame	Model	List Price
1/4	1425	220/380/440	TEFC	S56C	4112000315	Obsolete
1/3	1425	230/400	TEFC	56C	4112002315	\$ 679
1/2	1425	230/400	TEFC	56C	4112004315	\$ 744
3/4	1425	230/400	TEFC	56C	4112006315	\$ 798
1	1425	230/400	TEFC	56C	4112008315	\$ 974
1-1/2	1440	230/400	TEFC	145TC	4112010315	\$ 1,012
2	1425	230/400	TEFC	145TC	4112012315	\$ 1,180
3	1425	220/380/440	TEFC	182TC	4112014315	Obsolete
5	1425	220/380/440	TEFC	182TC	4112016315	Obsolete

Non-stock motors are obtained from various manufacturers including: Leeson, Baldor, Weg, Marathon. Brand selection is not available at prices below or within standard leadtimes.

PREMIUM EFFICIENCY

4 Pole • NEMA • Three Phase • Totally Enclosed • 60 HZ

HP	RPM	Voltage	Enclosure	Frame	Model	List Price
1/3	1725	208-230/460	TEFC	S56C	4112202312	\$ 753
1/2	1725	208-230/460	TEFC	S56C	4112204312	\$ 821
3/4	1725	208-230/460	TEFC	56C	4112206312	\$ 866
1	1750	208-230/460	TEFC	143TC	4112208312	\$ 1,198
2	1725	208-230/460	TEFC	56C	4112212312	\$ 1,349
3	1760	208-230/460	TEFC	182TC	4112214310	\$ 1,418
5	1760	208-230/460	TEFC	184TC	4112216310	\$ 1,531
7-1/2	1765	208-230/460	TEFC	213TC	4112218312	\$ 1,808
10	1725	230/460	TEFC	215TC	4112220310	\$ 1,488
15	1725	230/460	TEFC	254TC	4112222310	\$ 2,166
20	1725	230/460	TEFC	256TC	4112224310	\$ 2,543

All three phase motors in this group 1 HP and above are inverter rated

6 Pole • NEMA • Three Phase • Totally Enclosed • 60 HZ

HP	RPM	Voltage	Enclosure	Frame	Model	List Price
1	1140	230/460	TEFC	145TC	4112208317	\$ 697
1 1/2	1140	230/460	TEFC	182TC	4112210317	\$ 961
2	1140	230/460	TEFC	184TC	4112212317	\$ 998
3	1140	230/460	TEFC	213TC	4112214317	\$ 1,319
5	1140	230/460	TEFC	215TC	4112216317	\$ 1,658
7-1/2	1140	230/460	TEFC	254TC	4112218317	\$ 2,166
10	1140	230/460	TEFC	256TC	4112220317	\$ 2,581
15	1140	230/460	TEFC	284TC	4112922317	\$ 3,617

Non-stock motors are obtained from various manufacturers including: Leeson, Baldor, Weg, Marathon. Brand selection is not available at prices below or within standard leadtimes.

WASHDOWN / CHEMICAL DUTY EPOXY COATED

Recommended for outdoor and unprotected wet area applications.

Key Features:						
• SS Shaft, Nameplate, & Fanguard				• Chemically Inert static free fan (TEFC)		
• Oversize Cast Conduit Box w/SS cover & hardware				• Moisture resistant Interior Components		
• Meet IP55 Enclosure Protection				• USDA approved finish		
• Three phase suitable for use on VFD's				• Special gaskets, slings, & seals		
• 10:1 ratio for constant or vari torque @ 1.0 S.F.				• Four endshied drains		

NEMA • Single Phase • Totally Enclosed • 60 HZ

HP	RPM	Voltage	Enclosure	Frame	Model	List Price
1/3	1725	115/208-230	TEFC	56C	4112802010	\$ 906
1/2	1725	115/208-230	TEFC	56C	4112804010	\$ 753
3/4	1725	115/208-230	TEFC	56C	4112806010	\$ 1,072
1	1725	115/208-230	TEFC	56C	4112808010	\$ 1,213

NEMA • Three Phase • Totally Enclosed • 60 HZ

HP	RPM	Voltage	Enclosure	Frame	Model	List Price
1/4	1725	208-230/460	TENV	56C	4112800320	\$ 872
1/3	1725	208-230/460	TENV	56C	4112802320	\$ 927
1/3	1725	208-230/460	TEFC	56C	4112802310	\$ 927
1/2	1725	208-230/460	TENV	56C	4112804320	\$ 955
3/4	1725	208-230-/460	TENV	56C	4112806320	\$ 1,102
1	1725	208-230/460	TENV	56C	4112808320	\$ 1,149
1	1725	208-230/460	TENV	143TC	4112808320A	\$ 1,149
2	1725	208-230/460	TEFC	56C	4112812310	\$ 1,369
2	1740	208-230/460	TEFC	145TC	4112812310A	\$ 1,514
3	1740	208-230/460	TEFC	182TC	4112814310	\$ 1,987
5	1750	208-230/460	TEFC	184TC	4112816310	\$ 2,242

All three phase motors in this group are inverter rated 10:1 turndown.

Non-stock motors are obtained from various manufacturers including: Leeson, Baldor, Weg, Marathon. Brand selection is not available at prices below or within standard leadtimes.

METRIC MOTORS**IEC Motors- CONSULT FACTORY**

Non-stock motors are obtained from various manufacturers including: Leeson, Baldor, Weg, Marathon. Brand selection is not available at prices below or within standard leadtimes.

EXPLOSION PROOF

NEMA • Single Phase • 60 HZ

Division I, Division II, Class I, Group C & D, Class II, Groups F & G

HP	RPM	Voltage	Enclosure	Frame	Model	List Price
3/4	1725	115/208-230	XPFC	56C	4112006030	\$ 1,458

NEMA • Three Phase • 50/60 HZ- **CONSULT FACTORY FOR DELIVERY**

Division I, Division II, Class I, Group C & D, Class II, Groups F & G

HP @ 60 (50) Hz	RPM	Voltage	Enclosure	Frame	Model	List Price
3/4 (1/2)	1725/1425	208-230/460, 190/380	XPFC	56C	4112006332	\$ 1,513
1 (3/4)	1725/1425		XPFC	56C	4112008332	\$ 1,584
1.5 (1.5)	1725/1425		XPFC	56C	4112010332	\$ 1,733
2 (1.5)	1725/1425		XPFC	145TC	4112012332	\$ 1,844
3 (2)	1725/1425	230/460, 190/380	XPFC	182TC	4112014332	\$ 2,486
5 (3)	1725/1425	230/460	XPFC	184TC	4112016330	\$ 2,228

All motors in this group ARE NOT SUITABLE FOR INVERTER DUTY

6 Pole • NEMA • Three Phase • 60 HZ

Division I, Division II, Class I, Group C & D, Class II, Groups F & G

HP @ 60 Hz	RPM	Voltage	Enclosure	Frame	Model	List Price
1	1140	230/460	XPFC	145TC	4112208337	\$ 1,910
1.5	1140		XPFC	182TC	4112210337	\$ 1,601
2	1140		XPFC	184TC	4112212337	\$ 1,695
3	1140		XPFC	213TC	4112214337	\$ 2,383
5	1140		XPFC	215TC	4112216337	\$ 2,449

INVERTER DUTY EXPLOSION PROOF

For use with pulse-width modulation VSD, 10:1 turndown

NEMA • Three Phase • Totally Enclosed • 60 HZ

Division I, Division II, Class I, Group C & D, Class II, Groups F & G

HP	RPM	Voltage	Enclosure	Frame	Model	List Price
1/2	1725	208-230/460	XPFC	56C	4112304330	\$ 1,872
3/4	1725	208-230/460	XPFC	56C	4112306330	\$ 1,910
1	1725	208-230/460	XPFC	145TC	4112308330	\$ 2,387
1.5	1725	208-230/460	XPFC	145TC	4112310330	\$ 2,475
2	1725	208-230/460	XPFC	145TC	4112312330	\$ 2,705

AC and DC Drives

All Drives on the following pages are priced less motor.

AC DRIVES Less Motor

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Order by Part number

SMVector NEMA 4X (IP65): Models and Ratings

120 / 240 Volt 1Phase input - Indoor Duty Only

Part Number	Model Number	Power		Current Output	Dimensions inches (mm)			List Price
		HP	kW		H	W	D	
43055	ESV371N01SXC	0.5	0.37	2.4	8.00 (203)	6.28 (160)	4.47 (114)	\$ 998
43056	ESV751N01SXC	1	0.75	4.2	8.00 (203)	6.28 (160)	4.47 (114)	\$ 1,132
43057	ESV112N01SXC	1.5	1.1	6	8.00 (203)	6.28 (160)	6.31 (160)	\$ 1,383

120 / 240 Volt 1Phase input - Indoor / Outdoor Duty

Part Number	Model Number	Power		Current Output	Dimensions inches (mm)			List Price
		HP	kW		H	W	D	
43058	ESV371N01SXE	0.5	0.37	2.4	8.00 (203)	6.28 (160)	4.47 (114)	\$ 1,143
43059	ESV751N01SXE	1	0.75	4.2	8.00 (203)	6.28 (160)	4.47 (114)	\$ 1,277
43060	ESV112N01SXE	1.5	1.1	6	8.00 (203)	6.28 (160)	6.31 (160)	\$ 1,528

Notes: Output voltage will be twice line voltage when connected to a 120V source.

Output voltage will not exceed line voltage when connected to a 240V source.

208 / 240 Volt 1 or 3 Phase input - Indoor Duty Only

Part Number	Model Number	Power		Current Output	Dimensions inches (mm)			List Price
		HP	kW		H	W	D	
43061	ESV371N02YXC	0.5	0.37	2.4	8.00 (203)	6.28 (160)	4.47 (114)	\$ 893
43062	ESV751N02YXC	1	0.75	4.2	8.00 (203)	6.28 (160)	4.47 (114)	\$ 955
43063	ESV112N02YXC	1.5	1.1	6	8.00 (203)	6.28 (160)	6.31 (160)	\$ 1,123
43064	ESV152N02YXC	2	1.5	7	8.00 (203)	6.28 (160)	6.31 (160)	\$ 1,215
43065	ESV222N02YXC	3	2.2	9.6	8.00 (203)	7.12 (181)	6.77 (172)	\$ 1,454

208 / 240 Volt 1 or 3 Phase input - Indoor / Outdoor Duty

Part Number	Model Number	Power		Current Output	Dimensions inches (mm)			List Price
		HP	kW		H	W	D	
43066	ESV371N02YXE	0.5	0.37	2.4	8.00 (203)	6.28 (160)	4.47 (114)	\$ 1,040
43067	ESV751N02YXE	1	0.75	4.2	8.00 (203)	6.28 (160)	4.47 (114)	\$ 1,102
43068	ESV112N02YXE	1.5	1.1	6	8.00 (203)	6.28 (160)	6.31 (160)	\$ 1,268
43069	ESV152N02YXE	2	1.5	7	8.00 (203)	6.28 (160)	6.31 (160)	\$ 1,362
43070	ESV222N02YXE	3	2.2	9.6	8.00 (203)	7.12 (181)	6.77 (172)	\$ 1,599

400 Volt 3 Phase input - Indoor Duty Only

Part Number	Model Number	Power		Current Output	Dimensions inches (mm)			List Price
		HP	kW		H	W	D	
43071	ESV371N04TXC	0.5	0.37	1.3	8.00 (203)	6.28 (160)	4.47 (114)	\$ 1,070
43072	ESV751N04TXC	1	0.75	2.4	8.00 (203)	6.28 (160)	4.47 (114)	\$ 1,153
43073	ESV112N04TXC	1.5	1.1	3.5	8.00 (203)	6.28 (160)	6.31 (160)	\$ 1,247
43074	ESV152N04TXC	2	1.5	4	8.00 (203)	6.28 (160)	6.31 (160)	\$ 1,362
43075	ESV222N04TXC	3	2.2	5.5	8.00 (203)	6.28 (160)	6.31 (160)	\$ 1,548
43076	ESV402N04TXC	5	4	9.4	10.00 (254)	8.96 (228)	8.00 (203)	\$ 1,921

400 Volt 3 Phase input - Indoor / Outdoor Duty

Part Number	Model Number	Power		Current Output	Dimensions inches (mm)			List Price
		HP	kW		H	W	D	
43077	ESV371N04TXE	0.5	0.37	1.3	8.00 (203)	6.28 (160)	4.47 (114)	\$ 1,215
43078	ESV751N04TXE	1	0.75	2.4	8.00 (203)	6.28 (160)	4.47 (114)	\$ 1,300
43079	ESV112N04TXE	1.5	1.1	3.5	8.00 (203)	6.28 (160)	6.31 (160)	\$ 1,392
43080	ESV152N04TXE	2	1.5	4	8.00 (203)	6.28 (160)	6.31 (160)	\$ 1,507
43081	ESV222N04TXE	3	2.2	5.5	8.00 (203)	6.28 (160)	6.31 (160)	\$ 1,693
43082	ESV402N04TXE	5	4	9.4	10.00 (254)	8.96 (228)	8.00 (203)	\$ 2,181

AC DRIVES Less Motor

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SMVector with Disconnect: Models and Ratings

120 / 240 Volt 1Phase input Indoor Duty Only

Part Number	Model Number	Power		Current Output	Dimensions inches (mm)			List Price
		HP	kW		H	W	D	
43039	ESV371N01SMC	0.5	0.37	2.4	10.99 (279)	6.28 (160)	4.47 (114)	\$ 1,330
43040	ESV751N01SMC	1	0.75	4.2	10.99 (279)	6.28 (160)	4.47 (114)	\$ 1,454
43041	ESV112N01SMC	1.5	1.1	6	10.99 (279)	6.28 (160)	6.31 (160)	\$ 1,746

Notes: Output voltage will be twice line voltage when connected to a 120V source.

Output voltage will not exceed line voltage when connected to a 240V source.

208 / 240 Volt 1 or 3 Phase input Indoor Duty Only

Part Number	Model Number	Power		Current Output	Dimensions inches (mm)			List Price
		HP	kW		H	W	D	
43042	ESV371N02YMC	0.5	0.37	2.4	10.99 (279)	6.28 (160)	4.47 (114)	\$ 1,215
43043	ESV751N02YMC	1	0.75	4.2	10.99 (279)	6.28 (160)	4.47 (114)	\$ 1,251
43044	ESV112N02YMC	1.5	1.1	6	10.99 (279)	6.28 (160)	6.31 (160)	\$ 1,486
43045	ESV152N02YMC	2	1.5	7	10.99 (279)	6.28 (160)	6.31 (160)	\$ 1,578
43046	ESV222N02YMC	3	2.2	9.6	10.99 (279)	7.12 (181)	6.77 (172)	\$ 1,850

400 Volt 3 Phase input Indoor Duty Only

Part Number	Model Number	Power		Current Output	Dimensions inches (mm)			List Price
		HP	kW		H	W	D	
43047	ESV371N04TMC	0.5	0.37	1.3	10.99 (279)	6.28 (160)	4.47 (114)	\$ 1,403
43048	ESV751N04TMC	1	0.75	2.4	10.99 (279)	6.28 (160)	4.47 (114)	\$ 1,486
43049	ESV112N04TMC	1.5	1.1	3.5	10.99 (279)	6.28 (160)	6.31 (160)	\$ 1,622
43050	ESV152N04TMC	2	1.5	4	10.99 (279)	6.28 (160)	6.31 (160)	\$ 1,725
43051	ESV222N04TMC	3	2.2	5.5	10.99 (279)	6.28 (160)	6.31 (160)	\$ 1,912
43052	ESV402N04TMC	5	4	9.4	13.00 (330)	8.96 (228)	8.04 (204)	\$ 2,379
43053	ESV552N04TMC	7.5	5.5	12.6	13.00 (330)	8.96 (228)	8.04 (204)	\$ 2,878
43054	ESV752N04TMD	10	7.5	16.1	13.00 (330)	8.04 (204)	8.00 (203)	\$ 3,366

Options - Remote Keypad and Communications

Part Number	Model Number	Item Description				List Price
43083	ESVZK1	SMVector Remote Keypad w/Drive interface module & Cable				\$ 333
43084	ESVZAR0	RS-485 / Modbus Communication Module				\$ 311
43085	ESVZAP0	Profibus-DP Communication Module				\$ 831
43086	ESVZAD0	DeviceNet Communication Module				\$ 396

All drives shown are Lenze AC Tech

DC DRIVES Less Motor

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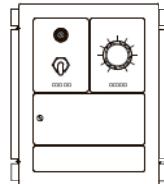
Order by Part Number. All DC drives are Minarik.

DC Motor Variable Speed Drives

NEMA 4X Enclosure - Manual local control only with On/Off and Speed Adjustment

Part Number	Model Number	Power		Max. Current Output	Horsepower Rating		Agency Approvals	List Price
		Input Voltage(VAC)	Output Voltage(VDC)		90VDC	180VDC		
41892	KBPC-240D	115/230	0-90/0-180	10	1/8 to 1	1/4 to 2	UL, CUL, CE, CSA	\$ 738

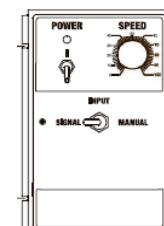
- 1% Speed regulation over 60:1 range
- Power Light
- AC Line fuse
- Screw terminals
- Diagnostic LED's (Internal)
- Temp range 10° to 40° C
- User adjustable calibration pots:
 - IR compensation
 - Min Speed
 - Max Speed
 - Current Limit
 - Accel & decel



NEMA 4X Enclosure Isolated Inputs 0-10VDC/4-20mA

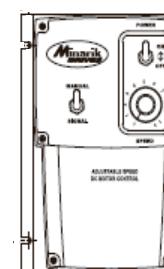
Part Number	Model Number	Power		Max. Current Output	Horsepower Rating		Agency Approvals	List Price
		Input Voltage(VAC)	Output Voltage(VDC)		90VDC	180VDC		
43088	PCM23401A	115/230	0-90/0-180	10	1/8 to 1	1/4 to 2	UL, CE, CSA	\$ 1,049

- Manual - 2% Speed regulation over 60:1
- Isolated input linearity
 - 1% through 30:1 speed range
 - 3% through 50:1 speed range
- Power Light
- Input Signal/Manual selector switch
- AC Line fuse
- Screw terminals
- User adjustable calibration pots:
 - IR compensation
 - Min Speed
 - Max Speed
 - Signal Max
 - Signal Min
- Manual or signal mode jumper select



Part Number	Model Number	Power		Max. Current Output	Horsepower Rating		Agency Approvals	List Price
		Input Voltage(VAC)	Output Voltage(VDC)		90VDC	180VDC		
43089	MC10-PCM	115/230	0-90/0-180	10	1/8 to 1	1/4 to 2	UL, CUL	\$ 2,345

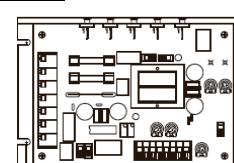
- 1% Speed regulation over 60:1
- Power Light
- Input Signal/Manual selector switch
- AC Line fuse
- Screw terminals
- Diagnostic LED's (Internal)
- Manual or signal mode jumper select
- User adjustable calibration pots:
 - IR compensation
 - Min Speed
 - Max Speed
 - Signal Max
 - Signal Min
 - Accel & decel
 - Torque Limit



Chassis Mount, Isolated Inputs 0-10VDC/4-20mA

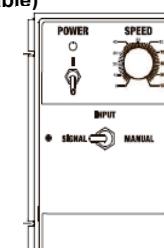
Part Number	Model Number	Power		Max. Current Output	Horsepower Rating		Agency Approvals	List Price
		Input Voltage(VAC)	Output Voltage(VDC)		90VDC	180VDC		
43090	MM301U	115/230	0-90/0-180	10	1/4 to 1	1/2 to 2	UL, CUL, CE, CSA	\$ 631

- 1% Speed regulation over 60:1
- 0.1% regulation over 80:1 with tach feedback
- AC Line fuse
- Cage clamp terminal block
- LED's
 - Power
 - Current Limit Status
- User adjustable calibration pots:
 - IR compensation
 - Min Speed
 - Max Speed
 - Current limit
 - Accel & decel
 - Tachometer



NEMA 4X Direct Replacement for Reliance DC3N-12D-4X-010 (Manual Potentiometer Input or 0-10VDC/4-20mA selectable)

Part Number	Model Number	Power		Max. Current Output	Horsepower Rating		Agency Approvals	List Price
		Input Voltage(VAC)	Output Voltage(VDC)		90VDC	180VDC		
43091	MM301A	115/230	0-90/0-180	10	1/4 to 1	1/2 to 2	UL, CUL, CE, CSA	\$ 917

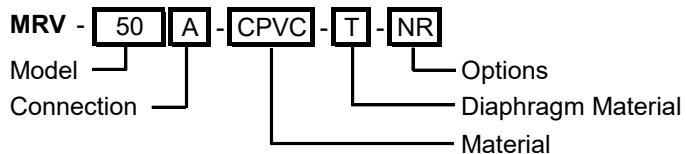


Accessories and Miscellaneous

MRV Back Pressure and 2-Port Pressure Relief Valves

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Part Number -
with example code

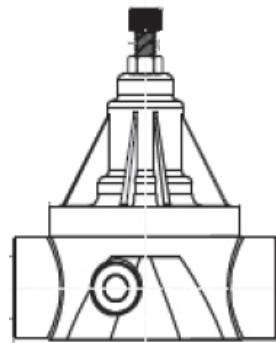


Prices and Code Selection

Model, Material and Size Code Selection and Pricing

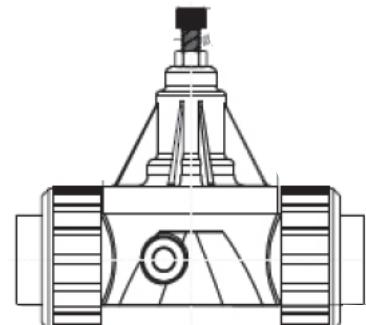
Threaded and Socket Weld Connections

Body Material/Code						
Size	Model	PVC	CPVC	PP	PVDF	SS
1/4"	25	\$196	\$247	\$202	\$361	\$409
1/2" Low Flow	50	\$221	\$314	\$276	\$504	\$563
1/2" High Flow	55	\$321	\$407	\$337	\$612	\$681
3/4"	75	\$352	\$430	\$361	\$763	\$713
1" Low Flow	100	\$432	\$639	\$466	\$841	\$938
1" High Flow	110	\$698	\$774	\$746	\$1,124	\$1,333
1 1/4"	125	\$751	\$841	\$778	\$1,185	\$1,406
1 1/2"	150	\$825	\$909	\$863	\$1,316	\$1,561
2"	200	\$2,301	\$1,548	\$1,126	\$2,290	\$2,393
3"	300	call factory				
4"	400	call factory				



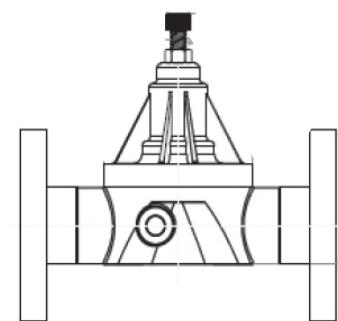
Union Threaded and Socket Weld Connections w Viton "o" ring seals

Body Material/Code						
Size	Model	PVC	CPVC	PP	PVDF	SS
1/4"	25	\$213	\$270	\$215	\$401	N/A
1/2" Low Flow	50	\$274	\$396	\$312	\$565	N/A
1/2" High Flow	55	\$356	\$420	\$361	\$666	N/A
3/4"	75	\$384	\$475	\$396	\$835	N/A
1" Low Flow	100	\$481	\$660	\$493	\$900	N/A
1" High Flow	110	\$774	\$862	\$829	\$1,250	N/A
1 1/4"	125	\$835	\$934	\$863	\$1,316	N/A
1 1/2"	150	\$917	\$1,010	\$960	\$1,463	N/A
2"	200	\$1,191	\$1,719	\$1,251	\$2,543	N/A
3"	300	N/A	N/A	N/A	N/A	N/A
4"	400	N/A	N/A	N/A	N/A	N/A



Flanged Connections

Body Material/Code						
Size	Model	PVC	CPVC	PP	PVDF	SS
1/4"	25	N/A	N/A	N/A	N/A	N/A
1/2" Low Flow	50	\$361	\$481	\$456	\$841	\$1,002
1/2" High Flow	55	\$420	\$527	\$643	\$985	\$1,187
3/4"	75	\$462	\$557	\$751	\$1,075	\$1,248
1" Low Flow	100	\$597	\$799	\$865	\$1,459	\$1,664
1" High Flow	110	\$835	\$938	\$896	\$1,904	\$2,115
1 1/4"	125	\$960	\$1,076	\$1,071	\$2,035	\$2,520
1 1/2"	150	\$1,073	\$1,183	\$1,126	\$2,163	\$2,872
2"	200	\$1,379	\$1,556	\$1,510	\$4,529	\$3,901
3"	300	call factory				
4"	400	call factory				



MRV Back Pressure and 2-Port Pressure Relief Valves

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Connection Codes:

Code	Description	Code	Description
A	NPT	F	Flanged DIN
S	BSPT	G	Union NPT
C	Socket ANSI	H	Union BSPT
D	Socket DIN	I	Union Socket ANSI
E	Flanged ANSI	J	Union Socket DIN

Plastic Only

Diaphragm Materials and Codes

Body Material	Code:	Diaphragm Material			
		PVC	PTFE/EPDM Composite	EPDM	Viton
PVC	P	N/A	Standard	Optional	Optional
CPVC	T	N/A	Standard	Optional	Optional
PP	E	N/A	Standard	Optional	Optional
PVDF	V	N/A	Standard	Optional	Optional
316L SS		N/A	Standard	Optional	Optional

All diaphragm materials are available at no extra cost.
Additional materials such as Kalrez available at additional cost. Consult Factory.

Option adders and Codes

Code	Description	\$	-
NN	None		
NL	NL - Gauge Port - NPT (left to right flow)	\$44	
NR	NR - Gauge Port - NPT (right to left flow)	\$44	

Price above does not include gauge. Requires 1/4" backmount either compatible with process fluid or with diaphragm seal.

Notes:

- Valves are both Pressure Relief and Back Pressure with 2 ports.
- Maximum Pressure for all materials: 150 PSI @ 68° F
See table below for maximum pressures at elevated temperatures.
- All units are:
* Shipped set @ 50 PSI
* Field adjustable from 7 to 150 PSI
- Bonnet is CPVC on all valves
- Hi flow versions are larger diameter. Refer to product data sheet for actual flow rate.
- "O" Ring seals on union valves are standard viton. EPDM and PTFE encapsulated are also available. Contact factory for price adder.

Maximum Pressure vs. Temperature

Temperature		Maximum PSIG by Material			
°C	°F	PVC	CPVC	PP	PVDF
20°	68°	150	150	150	150
30°	86°	110	150	150	150
40°	104°	70	150	100	150
50°	122°	30	140	65	150
60°	140°		130	36	150
70°	158°		105		135
80°	176°		75		120

**RELIEF and BACK
PRESSURE VALVES - GRIFFCO**

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Griffco Valves are offered as a service to our customers and distributors. Standard Griffco literature and documentation is available at www.griffcovalve.com.

NOTE: All Griffco PVC Valves are NSF 61 certified.

Griffco High Pressure Relief Valves - 350 to 2000 psi.

- 2 port 90° Configuration Only
- NPT Std • Socket connection available - CONTACT FACTORY
- 316 SS Models are available with CRN Approval for Ontario and Alberta - CONTACT FACTORY
- Standard Diphram is PTFE backed with EPDM.
 - Pure viton or viton backed PTFE is available. CONTACT FACTORY
- Valve top is 316 SS
- Max Temp: 300° F

Material	Model and Price							
	1/4"		1/2"		3/4"		1"	
	Model	Price	Model	Price	Model	Price	Model	Price
316 SS	PRHP025S	\$ 1,297	PRHP050S	\$ 1,297	PRHP075S	\$ 1,729	PRHP100S	\$ 1,729
Alloy 20	PRHP025A	\$ 2,414	PRHP050A	\$ 2,414	PRHP075A	\$ 3,501	PRHP100A	\$ 3,501
Hastelloy C	PRHP025C	\$ 4,089	PRHP050C	\$ 4,089	PRHP075C	\$ 5,923	PRHP100C	\$ 5,923

Griffco M Series Pressure Relief Valves

- 3 port std. ■ 2 port and 90° configuration available - CONTACT FACTORY
 - PVC and 316 SS Models available with CRN Approval for Ontario and Alberta - CONTACT FACTORY
 - NPT Std ■ Socket, Flange, and Union connections available - CONTACT FACTORY
 - Standard Diphram is PTFE backed with EPDM.
 - Hypalon, Nitrile, Viton, Viton backed PTFE available. CONTACT FACTORY
 - Valve top is Noryl. 316 SS available - CONTACT FACTORY
 - Max Temp:
 - Metal, PVDF, and PTFE - 300° F
 - PVC - 150° F
 - CPVC and PP - 195° F
 - Set range 10 to 240 psi. ■ 50 to 350 psi available on 3/4" & 1" valves. - Call Factory
- Std valves are not customer preset - Customer requested valve preset charge - \$100. CONTACT FACTORY

Material	Model and Price			
	1/4"		1/2"	
	Model	Price	Model	Price
PVC	PRM025P2	\$ 306	PRM050P2	\$ 310
CPVC	PRM025CP2	\$ 436	PRM050CP2	\$ 578
Polopro	PRM025PP2	\$ 318	PRM050PP2	\$ 327
PTFE	PRM025T2	\$ 599	PRM050T2	\$ 770
PVDF	PRM025K2	\$ 631	PRM050K2	\$ 869
316 SS	PRM025S2	\$ 787	PRM050S2	\$ 884
Alloy 20	PRM025A2	\$ 1,620	PRM050A2	\$ 1,767
Hastalloy C	PRM025C2	\$ 2,706	PRM050C2	\$ 3,174

**RELIEF and BACK
PRESSURE VALVES - GRIFFCO**

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Griffco G Series Pressure Relief Valves

- Std. 3 port on 3/4" and 1" - 2 port on 1.5" and up. • 2 port & 90° available - call factory
- PVC and 316 SS Models available with CRN Approval for Ontario and Alberta - contact factory
- NPT Std • Socket, Flange, and Union connections available - call factory
- Standard Diphram is PTFE backed with EPDM.
- Hypalon, Nitrile, Viton, or Viton backed PTFE is available. Call Factory
- Valve top is Noryl. 316 SS available - call factory
- Max Temp:
 - Metal, PVDF, and PTFE - 300° F
 - PVC - 150° F
 - CPVC and PP - 195° F
- Set range 10 to 240 psi. ■ 50 to 350 psi available on 3/4" & 1" valves. - Call Factory
Std valves are not customer preset - Customer requested valve preset charge - \$100. CONTACT FACTORY
- 3" and 4" models available. Call factory

Material	Model and Price							
	3/4"		1"		1 1/2"		2"	
	Model	Price	Model	Price	Model	Price	Model	Price
PVC	PRG075P2	\$ 597	PRG100P2	\$ 770	PRG155P2	\$ 1,579	PRG200P2	\$ 1,788
CPVC	PRG075CP2	\$ 772	PRG100CP2	\$ 1,010	PRG155CP2	\$ 2,385	PRG200CP2	\$ 2,632
Polypro	PRG075PP2	\$ 603	PRG100PP2	\$ 780	PRG155PP2	\$ 1,670	PRG200PP2	\$ 1,885
PTFE	PRG075T2	\$ 1,021	PRG100T2	\$ 1,326	PRG155T2	\$ 3,123	PRG200T2	\$ 3,254
PVDF	PRG075K2	\$ 1,156	PRG100K2	\$ 1,434	PRG155K2	\$ 3,714	PRG200K2	\$ 3,855
316 SS	PRG075S2	\$ 1,101	PRG100S2	\$ 1,432	PRG155S2	\$ 3,340	PRG200S2	\$ 3,492
Alloy 20	PRG075A2	\$ 2,280	PRG100A2	\$ 2,809	PRG155A2	\$ 9,456	PRG200A2	\$ 11,533
Hastalloy C	PRG075C2	\$ 4,466	PRG100C2	\$ 4,812	PRG155C2	\$ 14,651	PRG200C2	\$ 14,651

Griffco M Series Back Pressure Valves

- 2 port std ■ 90° configuration available - call factory
- NPT Std ■ Socket, Flange, and Union connections available - call factory
- PVC and 316 SS Models available with CRN Approval for Ontario and Alberta - contact factory
- Standard Diphram is PTFE backed with EPDM.
- Hypalon, Nitrile, Viton, or Viton backed PTFE is available. Call Factory
- Valve top is Noryl. 316 SS available - call factory
- Max Temp:
 - Metal, PVDF, and PTFE - 300° F
 - PVC - 150° F
 - CPVC and PP - 195° F
- Set range 10 to 240 psi. ■ 50 to 350 psi available on 3/4" & 1" valves. - Call Factory
Std valves are not customer preset - Customer requested valve preset charge - \$100. CONTACT FACTORY

Material	Model and Price			
	1/4"		1/2"	
	Model	Price	Model	Price
PVC	BPM025P2	\$ 270	BPM050P2	\$ 293
CPVC	BPM025CP2	\$ 390	BPM050CP2	\$ 533
Polypro	BPM025PP2	\$ 281	BPM050PP2	\$ 304
PTFE	BPM025T2	\$ 544	BPM050T2	\$ 738
PVDF	BPM025K2	\$ 582	BPM050K2	\$ 850
316 SS	BPM025S2	\$ 759	BPM050S2	\$ 841
Alloy 20	BPM025A2	\$ 1,560	BPM050A2	\$ 1,700
Hastalloy C	BPM025C2	\$ 2,687	BPM050C2	\$ 3,015

**RELIEF and BACK
PRESSURE VALVES - GRIFFCO**

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Griffco G Series Back Pressure Valves

- 2 port std. ■ 90° configuration available - call factory
- PVC and 316 SS Models available with CRN Approval for Ontario and Alberta - contact factory
- NPT Std ■ Socket, Flange, and Union connections available - call factory
- Standard Diaphragm is PTFE backed with EPDM.
 - Hypalon, Nitrile, Viton, or Viton backed PTFE is available. Call Factory
- Valve top is Noryl. 316 SS available - call factory
- Max Temp:
 - Metal, PVDF, and PTFE - 300° F
 - PVC - 150° F
 - CPVC and PP - 195° F
- Set range 10 to 240 psi. ■ 50 to 350 psi available on 3/4" & 1" valves. - Call Factory
- 3" and 4" models available. Call factory

Std valves are not customer preset - Customer requested valve preset charge - \$100. CONTACT FACTORY

Material	Model and Price							
	3/4"		1"		1 1/2"		2"	
	Model	Price	Model	Price	Model	Price	Model	Price
PVC	BPG075P2	\$ 555	BPG100P2	\$ 717	BPG155P2	\$ 1,579	BPG200P2	\$ 1,788
CPVC	BPG075CP2	\$ 709	BPG100CP2	\$ 985	BPG155CP2	\$ 2,385	BPG200CP2	\$ 2,632
Polypro	BPG075PP2	\$ 571	BPG100PP2	\$ 732	BPG155PP2	\$ 1,670	BPG200PP2	\$ 1,885
PTFE	BPG075T2	\$ 917	BPG100T2	\$ 1,198	BPG155T2	\$ 3,123	BPG200T2	\$ 3,254
PVDF	BPG075K2	\$ 1,132	BPG100K2	\$ 1,379	BPG155K2	\$ 3,714	BPG200K2	\$ 3,855
316 SS	BPG075S2	\$ 1,018	BPG100S2	\$ 1,318	BPG155S2	\$ 3,340	BPG200S2	\$ 3,492
Alloy 20	BPG075A2	\$ 2,191	BPG100A2	\$ 2,699	BPG155A2	\$ 9,456	BPG200A2	\$ 11,533
Hastalloy C	BPG075C2	\$ 4,466	BPG100C2	\$ 4,812	BPG155C2	\$ 14,651	BPG200C2	\$ 14,651

H Series Valves have been discontinued.

CALIBRATION COLUMNS

Model Number	Capacity	Construction	User List Price
TT0060	60 ml	PVC	\$154
TT0100	100 ml	PVC	\$152
TT0250	250 ml	PVC	\$179
TT0500	500 ml	PVC	\$202
TT1000	1000 ml	PVC	\$243
TT2000	2000 ml	PVC	\$405
TT4000	4000 ml	PVC	\$611
TT10000	10,000 ml	PVC	\$1,179

SLUDGE TRAP

Model Number ST - Cast Iron for Concentrated Sulfuric Acid	No Longer Available
Model 39246 - Alloy 20 Sludge Trap	No Longer Available

DISSOLVING BASKETS

Part Number	Material of Construction	User List Price		
		50 Gallon Tank	100 Gallon Tank	250 Gallon Tank
0247-0982-000	Polypropylene	Discontinued	Discontinued	Discontinued

REMOTE CONTROL UNITS for ELECTRONIC ACTUATORS

Description	Product Code	List Price
Panel Mount, NEMA 1, 115 Volt AC	ARPM100	Discontinued
Panel Mount, NEMA 1, 230 Volt AC	ARPM200	Discontinued
Wall Mount, NEMA 4X, 115 Volt AC	ARWM100	Discontinued
Wall Mount, NEMA 4X, 230 Volt AC	ARWM200	Discontinued

Description	Product Code	List Price
Air Control Panel 3-15 PSI	1510009013	\$1,997
Electro-Pneumatic Relay	Call for application assistance	
Pneumatic Capacity Ratio Control Assy	102-0390-000	No longer Available

FLOWMETER

Part Number	Connection Size	Flow in GPH			List
		Maximum Flow	Minimum Flow	Low Flow Cut-off	
41331	1/4 inch inlet	60	6	0.54	Discontinued
41332	3/8 inch inlet	80	18	1.5	Discontinued
41333	1/2 inch inlet	480	48	3.9	Discontinued

All units have pulse and 4-20 mA Output

Digital Display

41381	Digital Flow Display/Computer	Discontinued
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INJECTION QUILLS

Part No	Description	List Price
41320	1/4 in Poly 15 psi cracking pressure, 4 inches	\$ 253
41321	1/4 in Poly 15 psi cracking pressure, 8 inches	\$ 253
41322	1/2 in CPVC 15 PSI cracking pressure, 4 inches	\$ 424
41323	1/2 in CPVC 15 PSI cracking pressure, 8 inches	\$ 424
41324	1/2 in CPVC 20 PSI cracking pressure, 4 inches	\$ 253
41325	1/2 in CPVC 20 PSI cracking pressure, 8 inches	\$ 253
41326	1/2 in 316 SS, 15 PSI Cracking Pressure, 4 inches	\$ 474
41327	1/2 in 316 SS, 15 PSI cracking pressure, 8 inches	\$ 474
41328	1/2 in 316 SS, 20 PSI Cracking Pressure, 4 inches	\$ 474
41330	1/2 inch Poly Bleed Valve	\$ 232

DOUBLE DIAPHRAGM CONDUCTIVITY TYPE LEAK DETECTION RELAYS

PumpSaver Leak Detector Relay

- Notes:
1. Maximum running distance between sensor & relay is 125 feet.
 2. The system cannot be used if the process liquid is a petroleum product or any other liquid that is immiscible with the intermediate fluid.

Product Code	JS01692	
Sensitivity	4.7-100kΩ	
Input	110/120VAC, 50/60 Hz	
Output	DPST	
	360VA@240VAC Pilot Duty	
	8A@240VAC General Purpose	
Enclosure	NEMA 1	
	Contact factory for other	

List Price	\$	274
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C.F. Warwick Co. series 17 intrinsically safe conductivity actuated on/off control relay.

- Notes:
1. Relay is 115 V 50/60 hz.
 2. Maximum running distance between sensor & relay is 125 feet.
 3. The system cannot be used if the process liquid is a petroleum product or any other liquid that is immiscible with the intermediate fluid.

Description	Model	Part #	Price
Series 17 intrinsically safe relay (less enclosure)	17A1X0	JS00428	\$1,183

Discharge Pulsation Dampener Sizing Chart

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SIZE RECOMMENDATION BASED ON +/-5% MAXIMUM RESIDUAL PULSATION

Pump Model	Plunger O.D.	Required Volume with NITROGEN CHARGE (Cu. In)	Select this size	Required Volume with AIR CHARGE (Cu. In)	Select this size	Pump Model	Plunger O.D.	Required Volume with NITROGEN CHARGE (Cu. In)	Select this size	Required Volume with AIR CHARGE (Cu. In)	Select this size
D2	n/a	0.4	4	0.3	4	MBH40	2.5000	133.9	175	97.7	175
D4	n/a	5.8	10	4.2	4	MBH56	3.5000	262.4	370	191.4	370
D7	n/a	20.2	36	14.7	36	MBH64	4.0000	342.7	370	250.0	370
D8	n/a	51.4	85	37.5	36	MBP05	0.3125	2.1	4	1.5	4
G5	n/a	42.9	85	31.3	36	MBPAF	0.3125	2.1	4	1.5	4
G6	n/a	59.4	85	43.4	85	MBP07	0.4375	4.1	4	3.0	4
G7	n/a	121.3	175	88.5	85	MBPAH	0.4375	4.1	4	3.0	4
MRA 3/8	0.375	1.5	4	1.1	4	MBP10	0.6250	8.4	10	6.1	10
MRA 7/16	0.4375	2.0	4	1.5	4	MBP14	0.8750	16.4	36	12.0	10
MRA 5/8	0.625	4.2	4	3.1	4	MBP18	1.1250	27.1	36	19.8	36
MRA 1-1/16	1.0625	12.1	36	8.8	10	MBP24	1.5000	48.2	85	35.2	36
MRB 19/32	0.59375	7.6	10	5.5	10	MBP28	1.7500	65.6	85	47.9	85
MRB 7/8	0.875	16.4	36	12.0	10	MBP40	2.5000	133.9	175	97.7	175
MRB 1-7/16	1.4375	44.3	85	32.3	36	MCH12	0.7500	24.1	36	17.6	36
XT	0.3473	1.3	4	0.9	4	MCHBD	0.8750	32.8	36	23.9	36
XW	0.5	5.4	10	3.9	4	MCH16	1.0000	42.8	85	31.3	36
MDD02	0.125	0.2	4	0.2	4	MCHBG	1.0000	42.8	85	31.3	36
MDD03	0.1875	0.5	4	0.4	4	MCH20	1.2500	66.9	85	48.8	85
MDH16	1	14.3	36	10.4	10	MCHCA	1.2500	66.9	85	48.8	85
MDH20	1.25	22.3	36	16.3	36	MCH24	1.5000	96.4	175	70.3	85
MDH24	1.5	32.1	36	23.4	36	MCHCE	1.5000	96.4	175	70.3	85
MDPH2	0.125	0.2	4	0.2	4	MCH32	2.0000	171.3	175	125.0	175
MDP04/H4	0.25	0.9	4	0.7	4	MCH40	2.5000	267.7	370	195.3	370
MDP07	0.4375	2.7	4	2.0	4	MCH48	3.0000	385.5	370	281.3	370
MDP10	0.625	5.6	10	4.1	4	MCH56	3.5000	524.7	1155	382.8	370
MGH20	1.25	10.5	10	7.6	10	MCP07	0.4375	8.2	10	6.0	10
MGH28	1.75	20.6	36	15.0	36	MCPAH	0.4375	8.2	10	6.0	10
MGH40	2.5	41.9	85	30.6	36	MCP10	0.6250	16.7	36	12.2	36
MGH48	3	60.4	85	44.1	85	MCPBA	0.6250	16.7	36	12.2	36
MBH07	0.4375	4.1	4	3.0	4	MCP14	0.8750	32.8	36	23.9	36
MBH09	0.5625	6.8	10	4.9	10	MCP18	1.1250	54.2	85	39.6	36
MBH10	0.6250	8.4	10	6.1	10	MCP24	1.5000	96.4	175	70.3	85
MBH16	1.0000	21.4	36	15.6	36	MCP32	2.0000	171.3	175	125.0	175
MBH20	1.2500	33.5	36	24.4	36	MCP40	2.5000	267.7	370	195.3	370
MBH24	1.5000	48.2	85	35.2	36	MCP56	3.5000	524.7	1155	382.8	370
MBH32	2.0000	85.7	85	62.5	85	MCP71	4.4375	843.4	1155	615.4	1155

Notes:

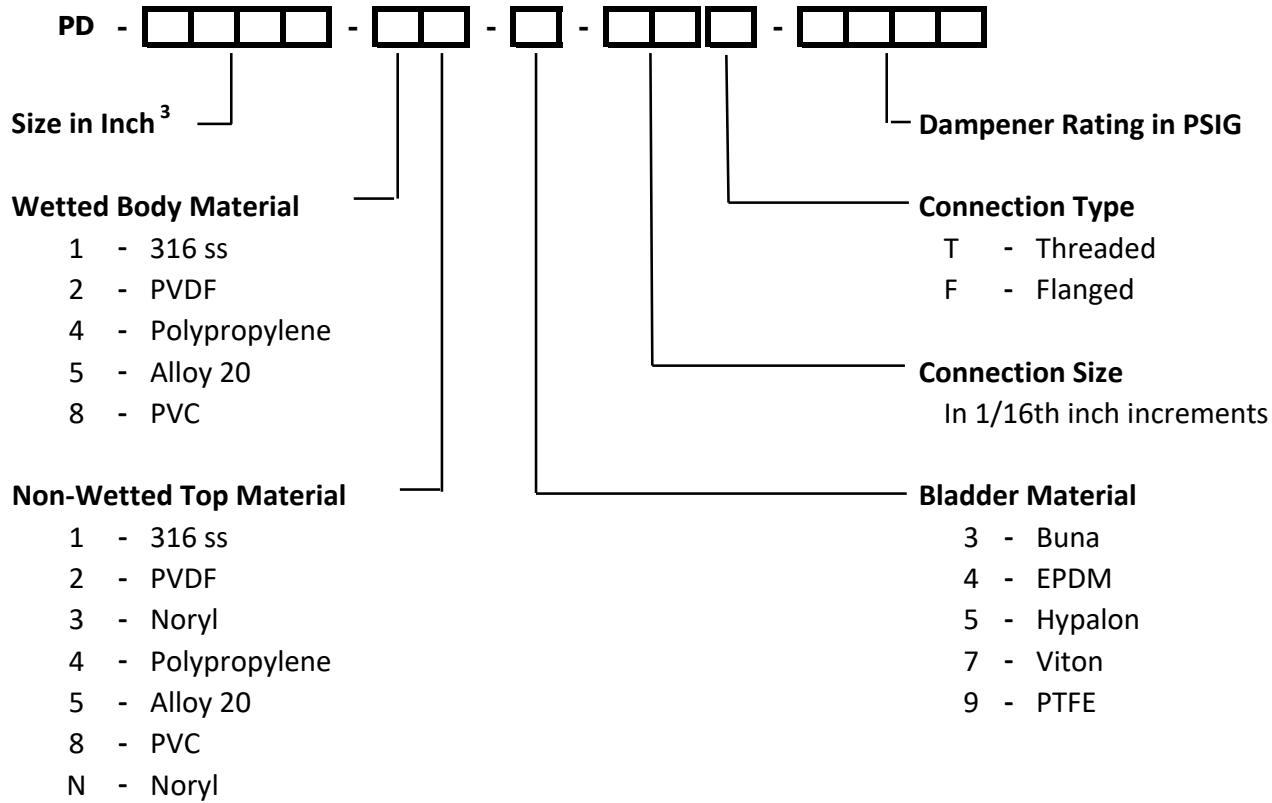
1. Pressure limitations apply. If the required pressure rating is not shown for the recommended size please consult factory.
2. For multiplex units manifolded to a single discharge line use this formula to calculate required volume:

$$\text{Multiplex dampener volume} = \text{Minimum Simplex Volume} \times \text{Multiplex Factor}$$

Type	Duplex	Triplex	Quadruplex	Quintuplex
Multiplex Factor	0.42	0.22	0.17	0.1

(Only applicable when all pumps in the multiplex unit are running at the same capacity; otherwise use the simplex volume recommendation to account for worst case scenario.)

Product Code



This code map is for deciphering the code of valid units. Not all configurations are available.

Choose dampeners from the priced page.

ACCESSORIES
Pulsation Dampeners

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See sizing chart on previous page.

316SS DAMPENERS

NPTF Inlet Connection Unless Otherwise Noted
Non-Wetted = Wetted Material Unless Otherwise Noted

CU IN	MAX PSI	BLADDER	INLET SIZE	Notes	Milton Roy Part Number	List Price
4	300	EPDM	3/8		PD-0004-11-4-06T-0300	\$ 1,219
4	300	VITON	3/8		PD-0004-11-7-06T-0300	\$ 1,350
4	600	PTFE	1/2		PD-0004-11-9-08T-0600	\$ 2,294
4	1000	EPDM	1/2		PD-0004-11-4-08T-1000	\$ 1,607
4	1000	VITON	1/2		PD-0004-11-7-08T-1000	\$ 1,742
8	4000	BUNA	1/2		PD-008H-11-3-08T-4000	\$ 3,825
8	4000	EPDM	1/2		PD-008H-11-4-08T-4000	\$ 3,857
8	4000	VITON	1/2		PD-008H-11-7-08T-4000	\$ 4,500
10	300	EPDM	3/8		PD-0010-11-4-06T-0300	\$ 1,360
10	1000	EPDM	3/8		PD-0010-11-4-06T-1000	\$ 1,638
10	1000	VITON	3/8		PD-0010-11-7-06T-1000	\$ 1,769
12	2000	PTFE	1/2		PD-0012-11-9-08T-2000	\$ 4,376
12	4000	BUNA	1/2		PD-0012-11-3-08T-4000-A	\$ 4,148
12	4000	EPDM	1/2		PD-0012-11-4-08T-4000-A	\$ 4,180
12	4000	VITON	1/2		PD-0012-11-7-08T-4000-A	\$ 4,823
36	300	EPDM	3/4		PD-0036-11-4-14T-0300	\$ 2,471
36	300	VITON	3/4		PD-0036-11-7-14T-0300	\$ 2,887
36	1000	EPDM	3/4		PD-0036-11-4-14T-1000	\$ 3,863
85	150	PTFE	3/4		PD-0085-11-9-14T-0150	\$ 3,724
85	300	EPDM	3/4		PD-0085-11-4-14T-0300	\$ 2,640
85	300	VITON	3/4		PD-0085-11-7-14T-0300	\$ 3,028
85	300	EPDM	1		PD-0085-11-4-16T-0300	\$ 2,779
85	1000	VITON	3/4		PD-0085-11-7-14T-1000	\$ 4,422
85	1000	EPDM	1		PD-0085-11-4-16T-1000	\$ 4,171
175	300	BUNA	2		PD-0175-11-3-32T-0300	\$ 5,883
175	300	VITON	2		PD-0175-11-7-32T-0300	\$ 6,442
175	300	EPDM	2		PD-0175-11-4-32T-0300	\$ 5,968
175	300	PTFE	2		PD-0175-11-9-32T-0300	\$ 9,801
175	1000	EPDM	2		PD-0175-11-4-32T-1000	\$ 8,367
175	1000	VITON	2		PD-0175-11-7-32T-1000	\$ 8,840
370	275	BUNA	2	3	PD-0370-11-3-32F-0275	\$ 8,530
370	275	EPDM	2	3	PD-0370-11-4-32F-0275	\$ 8,616
370	275	VITON	2	3	PD-0370-11-7-32F-0275	\$ 9,082
370	275	PTFE	2	3	PD-0370-11-9-32F-0150	\$ 11,568
370	1000	EPDM	2		PD-0370-11-4-32T-1000	\$ 10,008
370	1000	VITON	2		PD-0370-11-7-32T-1000	\$ 10,482
1155	275	EPDM	3	3	PD-1155-11-4-48F-0275	\$ 12,264
1155	275	VITON	3	3	PD-1155-11-7-48F-0275	\$ 13,728
2310	275	EPDM	4	3	PD-2310-11-4-48F-0275	Consult Factory
2310	275	VITON	4	3	PD-2310-11-7-48F-0275	Consult Factory

Bladder Kits (Bladder, o-rings, and hardware)

P/N	List Price
1120-28-BL	\$ 190
1120-31-BL	\$ 304
1120-10-BH	\$ 913
1120-28-BH	\$ 498
1120-31-BH	\$ 618
XPA8-29-NH	\$ 1,018
XPA8-28-NH	\$ 1,075
XPA8-31-NH	\$ 1,436
1020-28-BL	\$ 190
1020-28-BH	\$ 498
1020-31-BH	\$ 618
TG12SS-10-BH	\$ 1,122
XPA12-29-NH	\$ 1,018
XPA12-28-NH	\$ 1,075
XPA12-31-NH	\$ 1,430
3120-28-BL	\$ 609
3120-31-BL	\$ 936
3120-28-BH	\$ 989
3020-10-BL	\$ 1,769
3020-28-BL	\$ 609
3020-31-BL	\$ 936
3020-28-BL	\$ 609
3020-31-BH	\$ 1,388
3020-28-BH	\$ 989
2520-29-BL	\$ 742
2520-31-BL	\$ 1,407
2520-28-BL	\$ 818
2520-10-BL	\$ 3,509
2520-28-BH	\$ 1,636
2520-31-BH	\$ 2,216
2420-29-BL	\$ 742
2420-28-BL	\$ 818
2420-31-BL	\$ 1,407
2420-10-BL	\$ 3,509
2420-28-BH	\$ 1,636
2420-31-BH	\$ 2,235
4020-28-BL-24	\$ 1,312
4020-31-BL-24	\$ 3,233
5420-28-BL	\$ 1,312
5420-31-BL	\$ 3,233

POLYPROPYLENE DAMPENERS

NPTF Inlet Connection Unless Otherwise Noted

Non-Wetted = Wetted Material Unless Otherwise Noted

CU IN	MAX PSI	BLADDER	INLET SIZE	Notes	Milton Roy Part Number	List Price
175	150	EPDM	2	1	PD-0175-4N-4-32T-0150	\$ 1,364
175	150	VITON	2	1	PD-0175-4N-7-32T-0150	\$ 1,594
370	150	EPDM	2		PD-0370-44-4-32T-0150	\$ 1,459
370	150	VITON	2		PD-0370-44-7-32T-0150	\$ 1,679

Bladder Kits (Bladder, o-rings, and hardware)

P/N	List Price
901-28-PL	\$ 818
901-31-PL	\$ 1,407
101-28-PL	\$ 818
101-31-PL	\$ 1,407

ACCESSORIES
Pulsation Dampeners

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PVDF DAMPENERS

NPTF Inlet Connection Unless Otherwise Noted						
Non-Wetted = Wetted Material Unless Otherwise Noted						
CU IN	MAX PSI	BLADDER	INLET SIZE	Notes	Milton Roy Part Number	List Price
175	150	EPDM	2	1	PD-0175-23-4-32T-0150	\$ 3,473
175	150	VITON	2	1	PD-0175-23-7-32T-0150	\$ 3,935

PVC DAMPENERS

NPTF Inlet Connection Unless Otherwise Noted						
Non-Wetted = Wetted Material Unless Otherwise Noted						
CU IN	MAX PSI	BLADDER	INLET SIZE	Notes	Milton Roy Part Number	List Price
4	150	Hypalon	3/8		RC-04PVC-H38	\$ 380
4	150	EPDM	3/8		RC-04PVC-E38	\$ 346
4	150	VITON	3/8		RC-04PVC-V38	\$ 437
4	150	EPDM	1/2		RC-04PVC-E50	\$ 466
10	150	EPDM	3/8		RC-10PVC-E38	\$ 403
10	150	VITON	3/8		RC-10PVC-V38	\$ 500
10	150	EPDM	1/2		RC-10PVC-E50	\$ 403
10	150	VITON	1/2		RC-10PVC-V50	\$ 500
10	150	PVC	1/2		RC-10PVC-X50	\$ 388
36	150	EPDM	3/4		PD-0036-88-4-14T-0150	\$ 1,232
36	150	PTFE	3/4		PD-0036-88-9-14T-0150	\$ 2,294
85	150	EPDM	3/4		PD-0085-88-4-14T-0150	\$ 1,263
85	150	VITON	3/4		PD-0085-88-7-14T-0150	\$ 1,510
175	150	EPDM	2	1	PD-0175-8N-4-32T-0150	\$ 1,379
175	150	VITON	2	1	PD-0175-8N-7-32T-0150	\$ 1,622
370	150	EPDM	2		PD-0370-88-4-32T-0150	\$ 1,442
370	150	VITON	2		PD-0370-88-7-32T-0150	\$ 1,668

ALLOY 20 DAMPENERS

NPTF Inlet Connection Unless Otherwise Noted						
Non-Wetted = 316 ss						
CU IN	MAX PSI	BLADDER	INLET SIZE	Notes	Milton Roy Part Number	List Price
10	300	VITON	3/8	2	PD-0010-51-7-06T-0300	1589
10	1000	EPDM	3/8	2	PD-0010-51-4-06T-1000	2409
10	1000	VITON	3/8	2	PD-0010-51-7-06T-1000	2570
10	1000	VITON	1/2	2	PD-0010-51-7-08T-1000	2768
36	300	EPDM	3/4	2	PD-0036-51-4-14T-0300	3836
36	300	VITON	3/4	2	PD-0036-51-7-14T-0300	3916
36	275	PTFE	1	2, 3	PD-0036-51-9-16F-0275	8221
85	300	EPDM	3/4	2	PD-0085-51-4-14T-0300	3932
85	300	VITON	3/4	2	PD-0085-51-7-14T-0300	4011
175	300	EPDM	2	2	PD-0175-51-4-32T-0300	12033
175	300	VITON	2	2	PD-0175-51-7-32T-0300	12359
175	300	PTFE	2	2	PD-0175-51-9-32T-0300	17605

Notes

1. Noryl Non-Wetted Top
2. 316SS Non-Wetted Top
3. ANSI 150# R.F. Flange Connection

CHARGING KITS

Includes 5000 PSI hose, 1/4" NPTM supply connection, gauge, bleed valve

Kit	Gauge	List Price
701-00-300	300 PSI	\$ 852
701-00-G36	600 PSI	\$ 808
701-00	1000 PSI	\$ 789
701-00-3000	3000 PSI	\$ 799
800-701	5000 PSI	\$ 1,255

Bladder Kits (Bladder, o-rings, and hardware)	
P/N	List Price
1201-28-ML	\$ 818
1201-31-ML	\$ 1,407

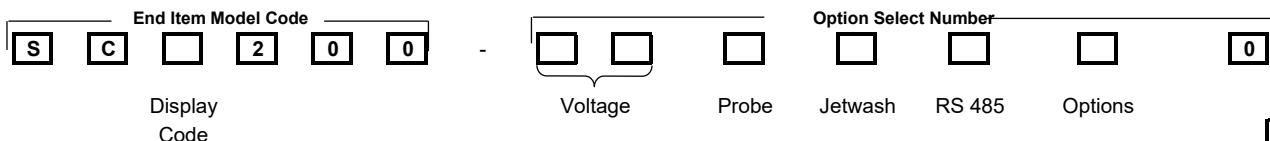
Bladder Kits (Bladder, o-rings, and hardware)	
P/N	List Price
04PVC-30-TL	\$ 171
04PVC-28-TL	\$ 143
04PVC-31-TL	\$ 257
04PVC-28-TL	\$ 143
10PVC-28-TL	\$ 143
10PVC-31-TL	\$ 257
10PVC-28-TL	\$ 143
10PVC-31-TL	\$ 257
10PVC-11-TL	\$ 114
1311-28-PL	\$ 609
1311-10-PL	\$ 1,769
311-28-PL	\$ 609
311-31-PL	\$ 951
911-28-PL	\$ 818
911-31-PL	\$ 1,407
111-28-PL	\$ 818
111-31-PL	\$ 1,407

Bladder Kits (Bladder, o-rings, and hardware)	
P/N	List Price
1075-31-BL	\$ 304
1075-28-BH	\$ 498
1075-31-BH	\$ 618
1075-31-BH	\$ 618
3175-28-BL	\$ 609
3175-31-BL	\$ 936
3175-10-BL	\$ 1,769
3075-28-BL	\$ 609
3075-31-BL	\$ 936
2175-28-BL	\$ 818
2175-31-BL	\$ 1,402
2175-10-BL	\$ 3,503

STREAMING CURRENT DETECTOR PRICING AND PRODUCT CODE SELECTION

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MODEL CODE



DISPLAY CODE

Model	Description	Code	Price
SC2200	No local display	# 2	\$ 17,976
SC4200	Local display with zero, gain, alarms	# 4	\$ 19,613
SC5200	Local Display with PID functions to control pump	# 5	\$ 22,880

Base Lead Time Days (5/week)
20
20
20

VOLTAGE

Description	Code	Price
115 VAC	# D4	\$ -
230 VAC	# E4	\$ -

1

PROBE

Description	Code	Price
Standard Flow (recommended for water applications)(0.5 to 1.0 GPM)	F	\$ -
High Flow (recommended for wastewater applications)(1.0 to 5.0 GPM)	W	\$ -

Please leave

JETWASH

Description	Code	Price
None	# 0	\$ -
With Jetwash	# J	\$ 971

5)

RS485

Description		Code	Price
None		# 0	\$ -
With RD485	SC5200 Only	# 8	\$ 1,868

Lead ti

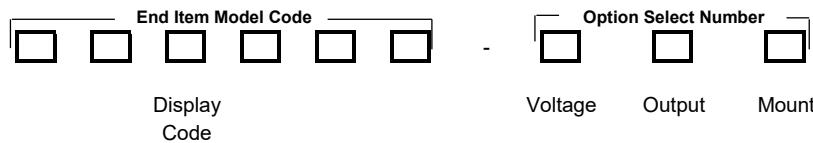
OPTIONS

Description	Code	Price
None	# 0	\$ -
Remote Set Point	# X	\$ 934

20

End of Section

SCD Remote Monitor and Controller Price List



MODEL

Model	Description	Code	Price
RM6200	Display with zero, gain, alarms	RM6200	\$ 3,852
RC7200	Display with PID functions to control pump	RC7200	\$ 6,798

Base Lead Time Days (5/week)
20
20

VOLTAGE

Description	Code	Price
115 VAC	D	\$ -
230 VAC	E	\$ -

OUTPUT

Description	Code	Price
4-20 mA Signal	4	\$ -
RS485 Applies to RC7200 only - Requires a separate line item on order Use item JS00789		\$ 1,866

MOUNT

Description	Code	Price
Panel	P	\$ -
Wall	W	\$ 608

REMOTE SET POINT

Applies to RC7200 only - Requires a separate line item. Call factory for model code. Adder to list price: \$ 535.00

SCD ACCESSORIES PRICE LIST

STRIP CHART RECORDERS

Description	Product Code	Price
1 pen 115 VAC	406-0352-001	Consult Factory
2 pen 115 VAC	406-0352-002	Consult Factory
3+ pen	Consult Factory	Consult Factory
220 VAC Recorders	Consult Factory	Consult Factory

Base Lead
Time Days
(5/week)

Consult Factory

CIRCULAR CHART RECORDERS

Description	Product Code	Price
	Consult Factory	Consult Factory

PID CONTROLLER - DUAL INPUT

Description	Product Code	Price
	Consult Factory	Consult Factory

SAMPLE PUMPS (Little Giant)

Description	Product Code	Price
115 VAC - Model 503003	407-0299-200	\$ 595
2 pen 115 VAC	407-0299-300	\$ 590

SAMPLE CLEANERS

Description	Product Code	Price
Milton Roy Cyclone Separator	247-0990-000	\$ 3,124

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**Consult
Factory**

SAMPLE FLOW SENSORS

Description	Product Code	Price
	Consult Factory	Consult Factory

REMOTE DIGITAL READOUT MODULE

Description	Product Code	Price
	Consult Factory	Consult Factory

EXPORT BOXING

Pricing and Selection

Standard Shipping - Crates

The following products shipped in US are packaged in wooden crates for safe handling and are required for each order

Product		NET Price
MacRoy		\$ 261.00
mRoy		\$ 261.00
MaxRoy B		\$ 261.00
Milroyal G		\$ 358.00
Milroyal D	Simplex	\$ 261.00
	Duplex	\$ 479.00
	Triplex	\$ 479.00
Primeroyal H Primeroyal K	Simplex	\$ 358.00
	Duplex	Consult us
	Triplex	Consult us
Milroyal B Milroyal C Primeroyal L Primeroyal N	Simplex	Consult us
	Duplex	Consult us
	Triplex	Consult us

Estimating Boxing for product other than standard

Standard Prefabricated Boxes

	Length	Width	Height	Surface Area			NET Price
	(in)	(in)	(in)	(in ²)	(ft ²)	(m ²)	(USD)
Small	37	24	26.5	2505	17.39	1.616	\$ 261.00
Medium	57	29	36	4749	32.98	3.064	\$ 479.00
Large	74	29.75	42.25	6585	45.73	4.248	\$ 598.00

Custom Boxes

Custom Export Boxes should be priced at \$15.00 USD per square foot of surface area.
 Example: a 5' X 3' X 3' export box will have six sides (4 that are 5' X 3" and 2 that are 3' X 3") totaling 78 sq. ft.

PACKAGING / BOXING

Dosing pumps

Pump Model		Net Weight	Gross Weight	Box Dimensions			Box/Packaging Type		
				L	W	H	Standard	SEI IV-B	SEI IV-C
Primeroy PKG	Simplex	120 kg 265 lbs	170 kg 375 lbs	700 x 650 x 1000 mm 28 x 26 x 40 inches			\$ 349	\$ 544	\$ 637
	Multiplex						Consult	Consult	Consult
Primeroyal K	Simplex	110 kg 243 lbs	168 kg 370 lbs	900 x 600 x 1050 mm 36 x 24 x 42 inches			\$ 349	\$ 544	\$ 637
	Multiplex						Consult	Consult	Consult
Primeroy PLG	Simplex	220 kg 485 lbs	310 kg 683 lbs	1100 x 680 x 1350 mm 44 x 27 x 54 inches			\$ 658	\$ 909	\$ 1,324
	Multiplex						Consult	Consult	Consult
Primeroyal L	Simplex	250 kg 551 lbs	370 kg 816 lbs	1180 x 680 x 1350 mm 46.5 x 26.8 x 53.1 inches			\$ 658	\$ 909	\$ 1,324
	Multiplex						Consult	Consult	Consult
Primeroyal N	Simplex	450 kg 992 lbs	633 kg 1400 lbs	1280 x 880 x 1450 mm 51 x 35 x 58 inches			\$ 958	\$ 1,364	\$ 1,870
	Multiplex						Consult	Consult	Consult
Primeroyal P Adjustable Stroke	Simplex	900 kg 1984 lbs	1100 kg 2425 lbs	1650 x 1500 x 1400 mm 65 x 60 x 56 inches			NA	\$ 2,071	\$ 3,483
	Duplex	1800 kg 3968 lbs	2055 kg 4530 lbs	2250 x 1500 x 1400 mm 89 x 60 x 56 inches			NA	\$ 2,554	\$ 3,965
	Triplex	2400 kg 5291 lbs	2700 kg 5952 lbs	2950 x 1500 x 1400 mm 117 x 60 x 56 inches			NA	\$ 3,151	\$ 4,568
	Simplex	1000 kg 2205 lbs	1180 kg 2601 lbs	1600 x 1000 x 1700 mm 63 x 40 x 67 inches			NA	\$ 1,775	\$ 3,187
Primeroyal P Fixed Stroke	Duplex	2050 kg 4519 lbs	2300 kg 5071 lbs	1500 x 1250 x 2300 mm 60 x 50 x 91 inches			NA	\$ 2,425	\$ 3,838
	Triplex	3300 kg 7275 lbs	3600 kg 7937 lbs	1500 x 1700 x 2300 mm 60 x 67 x 91 inches			NA	\$ 2,936	\$ 4,348
	Simplex	900 kg 1984 lbs	1100 kg 2425 lbs	1650 x 1500 x 1400 mm 65 x 60 x 56 inches			NA	\$ 2,071	\$ 3,483
Primeroyal R Adjustable Stroke	Simplex with M2 liquid end	900 kg 1984 lbs	1100 kg 2425 lbs	1700 x 900 x 1550 mm 67 x 36 x 62 inches			NA	\$ 2,071	\$ 3,483
	Duplex	1800 kg 3968 lbs	2055 kg 4530 lbs	1500 x 1250 x 2300 mm 60 x 50 x 91 inches			NA	\$ 2,554	\$ 3,965
	Triplex	2400 kg 5291 lbs	2700 kg 5952 lbs	1500 x 2300 x 2300 mm 60 x 91 x 91 inches			NA	\$ 3,151	\$ 4,568
	Simplex	1000 kg 2205 lbs	1180 kg 2601 lbs	1600 x 1000 x 1700 mm 63 x 40 x 67 inches			NA	\$ 1,775	\$ 3,187
Primeroyal R Fixed Stroke	Duplex	2050 kg 4519 lbs	2300 kg 5071 lbs	1500 x 1250 x 2300 mm 60 x 50 x 91 inches			NA	\$ 2,425	\$ 3,838
	Triplex	3300 kg 7275 lbs	3600 kg 7937 lbs	1500 x 1700 x 2300 mm 60 x 67 x 91 inches			NA	\$ 2,936	\$ 4,348
	Simplex (***)	1570 kg 3461 lbs	1870 kg 4123 lbs	1950 x 1320 x 2050 mm 77 x 52 x 81 inches			NA	\$ 2,750	\$ 4,121
Primeroyal X PTFE Diaphragm Liquid End (*)	Duplex	4165 kg 9182 lbs	4700 kg 10362 lbs	2850 x 1900 x 1900 mm 113 x 75 x 75 inches			NA	\$ 4,258	\$ 4,695
	Triplex	5860 kg 12919 lbs	6560 kg 14462 lbs	3750 x 2200 x 1900 mm 148 x 87 x 75 inches			NA	\$ 5,745	\$ 5,947
	Simplex (***)	1690 kg 3725 lbs	2080 kg 4586 lbs	2180 x 1320 x 2250 mm 86 x 52 x 89 inches			NA	\$ 2,981	\$ 4,468
Primeroyal X Metallic Diaphragm Liquid End (*)	Duplex	4405 kg 9711 lbs	5000 kg 11023 lbs	2850 x 2150 x 1900 mm 113 x 85 x 75 inches			NA	\$ 4,585	\$ 5,477
	Triplex	6220 kg 13713 lbs	7000 kg 15432 lbs	3750 x 2200 x 1900 mm 148 x 87 x 75 inches			NA	\$ 5,745	\$ 5,947
	Simplex (***)	1270 kg 2800 lbs	1600 kg 3527 lbs	1950 x 1320 x 2100 mm 77 x 52 x 83 inches			NA	\$ 2,750	\$ 4,121
Primeroyal X Packed Plunger Liquid End (*)	Duplex	3565 kg 7859 lbs	4130 kg 9105 lbs	2850 x 2150 x 1900 mm 113 x 85 x 75 inches			NA	\$ 4,585	\$ 5,477
	Triplex	4960 kg 10935 lbs	5670 kg 12500 lbs	3750 x 2200 x 1900 mm 148 x 87 x 75 inches			NA	\$ 5,745	\$ 5,947
	Simplex (****)	4400 kg 9700 lbs	4925 kg 10858 lbs	3330 x 1510 x 2290 mm 131.1 x 59.45 x 90.16 inches			NA	\$ 2,671	\$ 4,001
Primeroyal X Flat Twin PTFE Diaphragm Liquid End	Simplex (****)	5700 kg 12566 lbs	6737 kg 14852 lbs	3090 x 1510 x 2290 mm 121.65 x 59.45 x 90.16 inches			NA	\$ 3,738	\$ 4,799
	Duplex	10000 kg 22046 lbs	11228 kg 24753 lbs	3340 x 2640 x 2220 mm 131.5 x 103.9 x 87.4 inches			NA	\$ 5,234	\$ 5,761
	Triplex	13500 kg 29762 lbs	14949 kg 32957 lbs	3410 x 3370 x 2250 mm 134.25 x 132.7 x 88.58 inches			NA	\$ 6,281	\$ 6,914
	Simplex (***)	5000 kg 11023 lbs	5523 kg 12175 lbs	3410 x 3140 x 2290 mm 134.25 x 123.6 x 90.16 inches			NA	\$ 2,893	\$ 4,337
Primeroyal X Flat Twin Metallic Diaphragm Liquid End	Simplex (***)	6300 kg 13889 lbs	7332 kg 16164 lbs	4160 x 3380 x 2380 mm 163.78 x 133.1 x 93.7 inches			NA	\$ 4,050	\$ 5,204
	Duplex	10000 kg 22046 lbs	11222 kg 24740 lbs	3330 x 1510 x 2290 mm 131.1 x 59.45 x 90.16 inches			NA	\$ 5,672	\$ 6,245
	Triplex	15300 kg 33731 lbs	16743 kg 36911 lbs	3090 x 1510 x 2290 mm 121.65 x 59.45 x 90.16 inches			NA	\$ 6,804	\$ 7,492
Primeroyal X Flat Twin Packed Plunger Liquid End	Simplex (***)	3200 kg 7055 lbs	3703 kg 8164 lbs	3340 x 2640 x 2220 mm 131.5 x 103.9 x 87.4 inches			NA	\$ 2,671	\$ 4,001
	Simplex (****)	4500 kg 9921 lbs	5500 kg 12126 lbs	3410 x 3370 x 2250 mm 134.25 x 132.7 x 88.58 inches			NA	\$ 3,738	\$ 4,799
	Duplex	8800 kg 19401 lbs	9944 kg 21923 lbs	3410 x 3140 x 2290 mm 134.25 x 123.6 x 90.16 inches			NA	\$ 5,234	\$ 5,761
	Triplex	12300 kg 27117 lbs	13698 kg 30199 lbs	4160 x 3380 x 2380 mm 163.78 x 133.1 x 93.7 inches			NA	\$ 6,281	\$ 6,914
	Simplex (****)	6995 kg 15421 lbs	7880 kg 17372 lbs	2810 x 2020 x 2970 mm 111 x 80 x 117 inches			NA	\$ 3,734	\$ 3,866
Megaroyal	HX268	3995 kg 8807 lbs	8020 kg 17681 lbs	3510 x 2180 x 2970 mm 139 x 86 x 117 inches			NA	\$ 4,579	\$ 4,740
	HX308	8065 kg 17780 lbs	9250 kg 20393 lbs	3720 x 2400 x 2970 mm 147 x 95 x 117 inches			NA	\$ 5,058	\$ 5,233
	HX368								

(*) Weight without motor, Duplex & triplex weight includes weight, Additional crates may be required for oil.

(**) Packing assumes vertical motor

(***) Packing with vertical motor

((**)) Packing with horizontal motor

TESTING and DOCUMENTATION

Pricing and Selection

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NOTES:

1. Product lead time may be impacted by testing and documentation requirements. Consult factory to confirm delivery.
2. Consult factory for delivery time on documentation packages.
3. Discounts on testing and documentation may be available for significant orders. Please consult the factory.
4. Each test and/or certificate on this page must be ordered as a line item.

PUMP TESTS

Description	Part Number	NET PRICE (per pump)	Notes
Standard Production Tests	TEST STDPNOD NW	N/C*	Rated Flow, Rated Pressure, & Steady State Accuracy
Witnessed Standard Production Tests	TEST STDPNODWIT	\$ 494.00	
Hydrostatic Test & Certificate	TEST HYDRO NW	\$ 247.00	
Witnessed Hydrostatic Test & Certificate	TEST HYDRO WIT	\$ 494.00	
API Linearity Test (5 Point Curve)	TEST 5POINT NW	\$ 330.00	Includes Standard Production Tests
Witnessed API Linearity Test	TEST 5POINT WIT	\$ 660.00	Includes Standard Production Tests
API Repeatability Test (10 Point Curve)	TEST 10POINT NW	\$ 439.00	Includes Standard Production & API Linearity Tests
Witnessed API Repeatability Test	TEST 10POINT WIT	\$ 878.00	Includes Standard Production & API Linearity Tests
API Test Package	API TEST PKG	\$ 618.00	10 point curve, hydro, production test
Witnessed API Test Package	API TEST PKG WI	\$ 1,236.00	10 point curve, hydro, production test witnessed
Final inspection by customer and/or third party.	FINAL INSPECTION	\$ 847.00	Per day; On-site inspection of goods and/or documents prior to shipment release

*Note: Standard Test certificate shipped with all pumps except Proteus. If required for pump please order p/n **TEST STDPNOD NW**

MATERIAL CERTIFICATION / COMPONENT TESTING

Description	Part Number	NET Price	Notes
Certificate of Conformance (All Pumps/Parts)	CERT OF CONFORM	N/C	Standard Document, Milton Roy format
Certificate of Conformance (All Pumps/Parts), Post Shipment	CERT OF CONFORM	\$ 109.00	Post Shipment Document Preparation. Standard Document, produced by Milton Roy
Typical Mill Certificate (Wetted metallic parts)	TYPICAL MILL CERTIFICATE	\$ 274.00	Price Per Line Item; subvendor certs provided
Positive Material Identification (Wetted metallic parts)	POSITIVE MATERIAL ID	\$ 383.00	Per pump or pump head
Dye Penetrant Testing on welded connections	DYE PENETRANT TEST	\$ 570.00	Per liquid end; welds only

PUMP DOCUMENTATION

Description	Part Number	NET PRICE (per pump line item)	Notes
Standard Catalog Cut Sheet / Product Brochure		N/C	Available at www.MiltonRoy.com
Instruction Manual		N/C	Available at www.MiltonRoy.com ; IOM includes standard parts list and cross sectional drawings
Standard Product Outline Drawing	STD PRODUCT DWG	N/C	Data book product
Standard Certified Product Outline Drawing	STD CERTPRODDWG	\$ 274.00	Data book product, Motor Dimensions Typical, Signed,Dated,Referenced
Special Certified Product Outline Drawing	SP CERTPRODDWG	\$ 383.00	Specific Motor Dimensions; any non-standard products, options, nozzle loads, etc. Signed,Dated,Referenced
API Standard 675 Data Sheet	API DATA SHEET	\$ 274.00	Milton Roy pump data supplied on the standard API 675 template.
Pump Specific Bill of Material & Cross Sectional Dwg	CUST BILLOFMAT.	\$ 284.00	Included in optional Data Book

MOTOR DOCUMENTS

Description	Part Number	NET PRICE (per motor line item)	Notes
Standard Motor Outline Drawing (Data Book Motors)	STD MOTOR OUTLINE DWG	\$ 109.00	Standard Document, produced by vendor
Standard Motor Data Sheet (Data Book motors)	STANDARD MOTOR DATA SHEET	\$ 109.00	Standard Document, produced by vendor
Routine Motor Test Certificate		Consult Factory	Contact application engineering for quotation. Price and availability based on manufacturer.

ORDER DOCUMENTATION

Description	Part Number	NET PRICE (per order)	Notes
Certificate of Origin - Standard	CERT OF ORIGIN	\$ 164.00	Issued and signed by Milton Roy
Certificate of Origin - Certified by Chamber of Commerce	CERT OF ORIGIN - CHAMBER	\$ 327.00	Issued by Milton Roy, certified by Chamber of Commerce
Inspection and Test Plan	INSP AND TEST PLAN	\$ 274.00	Milton Roy standard format
Production Schedule	PRODUCTION SCHEDULE	\$ 274.00	Milton Roy standard format
Welding Procedures	WELD PROCEDURE	\$ 218.00	Milton Roy standard format

DATA BOOK

Description	Part Number	NET PRICE (per pump line item)	Notes
Electronic Data Book**	E-DATA BOOK	\$ 819.00	PDF format; delivered by email

**The standard Data Book includes the following documents:
 Standard Product Outline Drawing, Standard Performance Test Certificate and standard IOM.
 The book will also include any additional documents or test certificates purchased separately as line items.
 For other documents not shown, consult factory

Painting and Preparation

PAINT PRICING - All prices are NET

Standard Paint	Milton Roy Yellow Powder Coat RAL 1018
Customer Specified Color	Consult Factory (All models)

PAINT SYSTEMS with SANDBLASTING SURFACE PREPARATION

All prices are NET

Pump Model	Two-Coat System⁽¹⁾	Three-Coat System⁽¹⁾ Severe Service / Offshore - 250 Micron		Four-Coat System⁽¹⁾ Severe Service / Offshore - 350 Micron
		SP-6 Commercial Sandblast	Zinc Rich Primer	
	▪ SP-6 Commercial Sandblast ▪ Epoxy Primer ▪ Polyurethane Topcoat	▪ SP-10 (S.A. 2.5) Near-White Sandblast ▪ Zinc Rich Primer ▪ Epoxy Intermediate ▪ Polyurethane Topcoat		▪ SP-10 (S.A. 2.5) Near-White Sandblast ▪ Zinc Rich Primer ▪ Epoxy Intermediate ▪ Epoxy Intermediate ▪ Polyurethane Topcoat
mRoy A and XT	\$1,868.00	\$2,120.00		\$2,544.00
Milroyal D				
mRoy B and XW				
PrimeRoyal PH, PK, PL	\$2,182.00	\$2,629.00		\$3,157.00
Milroyal B				
Milroyal C				
PrimeRoyal PN	\$2,659.00	\$3,212.00		\$3,854.00
Centrac B				

Notes for Two and Three coat systems:

1. Standard final color is RAL 1018. Alternate color can be provided.
RAL # must be provided by the customer.

ACC Paint Option for mRoy, MILROYAL® and PrimeRoyal® Series

Paint Thickness and System for ACC		Price adder
E	C4, HIGH corrosivity	Standard
D	C5, OFFSHORE	Consult us
X	Special to Customer Spec	Consult us

Paint Color for ACC	Price adder
Standard, Yellow RAL1018 for the cover and Black for the body	-
Customized, or Other color than the Standard color	Consult us

SERVICE, TAGGING, and PAINTING

Pricing and Selection

Pump School and Field Service

FIELD SERVICE

DAILY WORKING RATE Based on 8 hours per day	\$ USD /DAY			
	USA & CANADA	AMERICAS	REST OF WORLD	PLATFORMS
On weekdays	\$2,328	\$2,910	\$3,493	\$5,122
Saturday	\$3,493	\$4,366	\$5,239	\$7,684
Sunday or public holidays or night-work	\$4,075	\$5,093	\$6,112	\$8,964

DAILY TRAVELLING RATE	\$ USD /DAY			
	USA & CANADA	AMERICAS	REST OF WORLD	PLATFORMS
On weekdays	\$1,310	\$1,641	\$1,965	\$2,881
Saturday	\$1,965	\$2,462	\$2,947	\$4,322
Sunday or public holidays or night-work	\$2,292	\$2,872	\$3,438	\$5,042

TRAINING	
In IVYLAND	\$2,910
Customer site	\$4,002

Milton Roy® is a brand of Ingersoll Rand®.

