

# Modu-Flo®

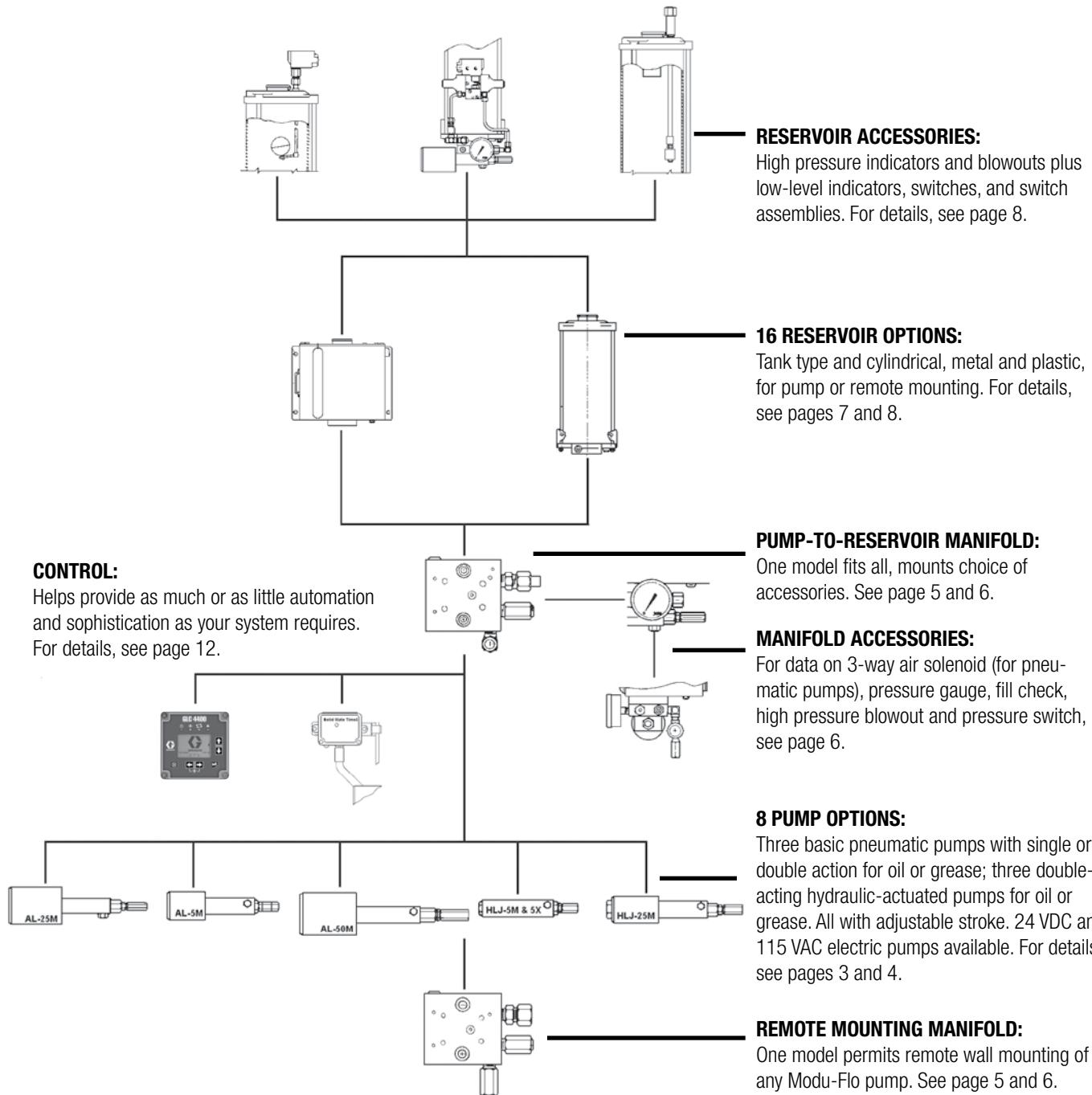


## Trabon® Modu-Flo® Pumps, Reservoirs, Lube Packages, and Accessories

- Modu-Flo modular pumping packages provides a proven, cost-effective way to assemble customized oil or grease lubrication systems that meet specific requirements by using standard modular components.
- Modu-Flo increases opportunities to standardize lube system components and reduces lube maintenance and service costs.
- Modu-Flo saves you system design dollars and lead time.
- Modu-Flo components are dependable and backed by the industry's most comprehensive international distributor network – with application expertise, stocked parts and factory-trained service nearby, whenever you are located.

## Modu-Flo = True Modularity

Wide choice of standard modular components helps you meet application requirements more exactly without the added cost of a custom system.



## PUMPS



Pneumatic AL Pump



Hydraulic HLJ Pump

### There are six Modu-Flo pneumatic and hydraulic actuated pump models for series progressive oil or grease systems.

Three pneumatic models carry the AL prefix. They are actuated by air pressure from 40 to 150 psi (2.76 to 10.3 bar), and have a lube-to-air pressure ratio of 30:1. They can be set up to be single-or double-acting, depending on the system requirements.

Three hydraulic-actuated models carry an HLJ prefix. They are double-acting, operate on hydraulic pressure from 200 to 2,000 psi (13.8 to 137.9 bar), and have a lube-to-hydraulic pressure ratio of 5.5:1. The HLJ-5X has a lube to hydraulic ratio of 2.2:1.

All six models fit either the Modu-Flo pump-to-reservoir mounting manifold or the remote wall mounting manifold.

### FEATURES / BENEFITS

- Adjustable displacement at the turn of a screw provides an infinite choice of outputs within output range of each pump model.
- All Modu-Flo pumps can be used with either oil or grease
- All Modu-Flo pumps can be used with any of the 16 Modu-Flo reservoirs.

### SPECIFICATIONS

MODEL	ACTUATION	ACTION	OUTPUT DISPLACEMENT ADJUSTMENT RANGE CU. IN. (CM <sup>3</sup> )	MAX. CYCLES PER MINUTE*	APPROX. WEIGHT, lb. (kg)	INPUT OPERATING VOLUME PER FULL STROKE/ CYCLE CU. IN. (CM <sup>3</sup> )
ALS-5	Pneumatic	Single	.010 to .030 (.164 to .492)	30	3.75 (1.7)	1.06 (17.4)
ALJ-5	Pneumatic	Double	.010 to .030 (.164 to .492)	60	3.75 (1.7)	2.09 (34.3)
ALS-25	Pneumatic	Single	.030 to .120 (.492 to 1.966)	30	4.75 (2.15)	4.20 (68.8)
ALJ-25	Pneumatic	Double	.030 to .120 (.492 to 1.966)	60	4.75 (2.15)	8.28 (135.7)
ALS-50	Pneumatic	Single	.060 to .240 (.983 to 3.933)	30	6.5 (2.9)	8.40 (137.6)
ALJ-50	Pneumatic	Double	.060 to .240 (.983 to 3.933)	60	6.5 (2.9)	16.56 (271.4)

**NOTE:** AL (air) pumps for single- or double-acting operation have the same part number. (See page 4.)

HLJ-5	Hydraulic	Double	.010 to .030 (.164 to .492)	100	3.375 (1.53)	0.35 (5.7)
HLJ-5X	Hydraulic	Double	.030 to .092 (.492 to 1.51)	50	3.375 (1.53)	0.28 (4.7)
HLJ-25	Hydraulic	Double	.030 to .120 (.492 to 1.966)	50	5.5 (2.49)	1.38 (22.6)

**NOTE:** Min/Max. air pressure for AL pumps is 40 to 150 psi (2.76 to 10.3 bars).

Min/Max. hydraulic pressure for HLJ 5 AND 25 pumps is 200 to 2,000 psi (13.8 to 137.9 bars), and 3000 psi (max) (207 bar) for the HLJ-5X.

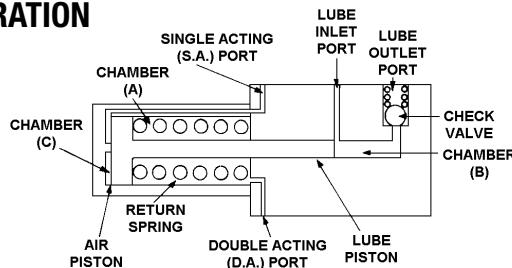
AL Pumps have a lube to air pressure ratio of 30:1.

HLJ-5 and 25 Pumps have a lube to hydraulic pressure ratio of 5.5:1. HLJ-5X is 2.2:1.

\*Do not exceed 10 cpm with grease (3 seconds on, 3 seconds off).

**Note:** Refer to bulletin L12011 for electric motor operated Modu-Flo pumps.

### OPERATION



#### Typical Pump Operation

**When used in single-acting mode**, air under pressure is supplied through the inlet port (SA) to chamber (C). This moves the air and lube pistons to the right. This closes the lube inlet port and forces the lubricant already in chamber (B) past the check valve and into the system. Air in chamber (A) must vent out port (DA). A plastic pipe plug with a vent hole is installed in port (DA). After a preset time interval the solenoid valve shuts off the air supply and vents chamber (C) through port (SA). The spring returns the air and lube pistons, opening chamber (B) to the lube reservoir. This completes a single pump cycle and chamber (B) is primed, ready for the next cycle.

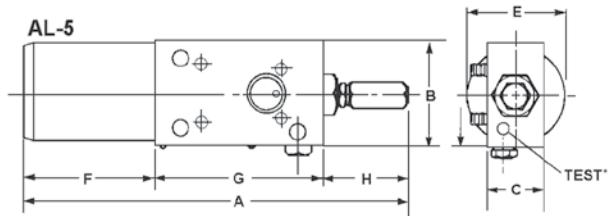
**When used in double-acting mode**, an additional air or hydraulic supply line is connected to port (DA). When the pistons have been moved to the right, air or hydraulic supply to port (SA) is shut-off and vented. Then, air or hydraulic fluid under pressure is supplied to port (DA), which returns the pistons to their original position. This more powerful return action allows an increased cycle rate of the pump.

### ADJUSTING DISPLACEMENT

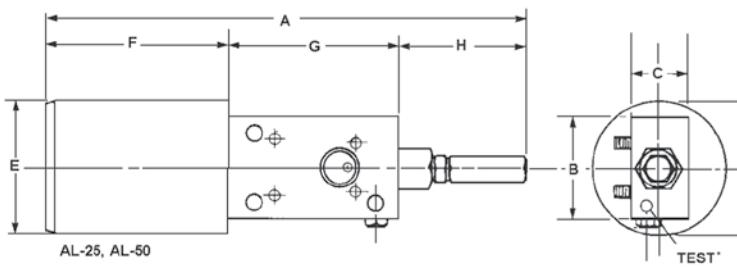
After the pump is removed from service, remove the calibrated cap that protects the adjustment screw. Loosen the hex nut and two washers. Then use a screwdriver to turn the adjustment screw outward to increase displacement or inward to reduce displacement. Align the calibrated cap parallel to the screw to gauge the amount of change (Cap is graduated at minimum, 1/4, 1/2, 3/4 and maximum output). When the proper setting has been made reposition the washers and tighten the hex nut, replace the cap, and return the pump to service.

**Important:** System should **NOT** be operating while adjustments are made; however, it is not necessary to remove the pump or disconnect any lines.



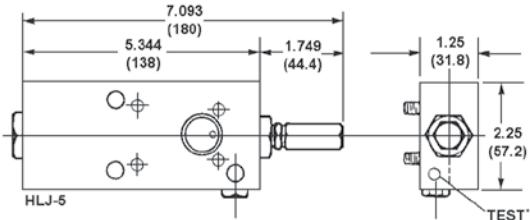
**PUMP DIMENSIONS / Inches (mm)****PNEUMATIC PUMPS (AL)**

AL-5 Pumps, single- and double-acting

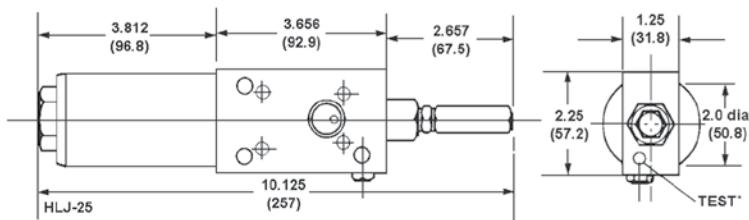


AL-25 and AL-50 Pumps, single- and double-acting

PUMP MODEL	DIMENSIONS / Inches (mm)						
	A	B	C	E	F	G	H
AL-5	8.281 (210.3)	2.250 (57.2)	1.250 (31.8)	2.125 (54)	2.875 (73)	3.656 (92.9)	1.750 (44.5)
AL-25	10.375 (263.5)	2.250 (57.2)	1.250 (31.8)	2.875 (73)	3.980 (101.1)	3.656 (92.9)	2.750 (69.9)
AL-50	12.812 (325.4)	2.250 (57.2)	1.250 (31.8)	3.188 (81)	4.250 (108)	4.808 (122.1)	3.750 (95.3)

**HYDRAULIC PUMPS (HLJ)**

HLJ-5 &amp; HLJ-5X double-acting pump



HLJ-25 double-acting pump

**ORDERING INFORMATION**

**NOTE:** Single- and double-acting pneumatic pumps (AL) have the same part number.

COMPONENT ORDERING - Repair Kits		
Description	Part No.	Old Part No.
For AL-5, single - or double-acting	563902	560-001-021
For AL-25, single - or double-acting	563903	560-001-031
For AL-50, single - or double-acting	563904	560-001-041
For HLJ-5	563905	560-001-051
For HLJ-25	563906	560-001-061
For HLJ-5X	563925	560-001-940

\*Test/Bleed port is used for bleeding air out of pump. Back out setscrew one or two turns while pump is in the dispense stroke. Close setscrew when pump is on return stroke to prevent air from being sucked in. Repeat process until air-free lubricant comes from vent hole.

\*\*Slows operation of pneumatic pumps and reduces system pressure spikes.

**COMPONENT ORDERING - New Pumps**

Description	Part No.	Old Part No.
AL-5, pneumatic 30:1, .010-.030 in <sup>3</sup> /stroke, .164-.492 cc	563304	521-000-001
AL-25, pneumatic 30:1, .030-.120 in <sup>3</sup> /stroke, .492-1.966 cc	563306	521-000-021
AL-50, pneumatic 30:1, .060-.240 in <sup>3</sup> /stroke, .938-3.933 cc	563308	521-000-041
HLJ-5, hydraulic 5.5:1, .010-.030 in <sup>3</sup> /stroke, .164-.492 cc	563305	521-000-011
HLJ-25, hydraulic 5.5:1, .030-.120 in <sup>3</sup> /stroke, .492-1.966 cc	563307	521-000-031
HLJ-5X, hydraulic 2.2:1, .030-.092 in <sup>3</sup> /stroke, .492-1.51 cc	563345	521-005-900
Air restrictor valve**	563072	463-410-080

## MANIFOLDS



Pump-to-reservoir  
manifold (563324)  
(Shown assembled)



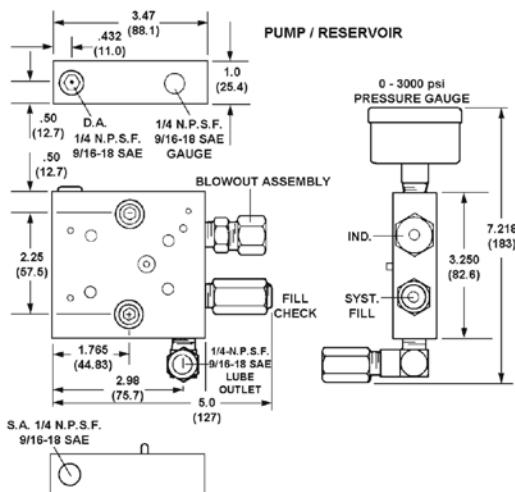
Pump-to-wall or remote  
manifold (563323)  
(Shown assembled)

### There are just two types of modular design manifolds for direct-to-reservoir or remote mounting of Modu-Flo Pumps.

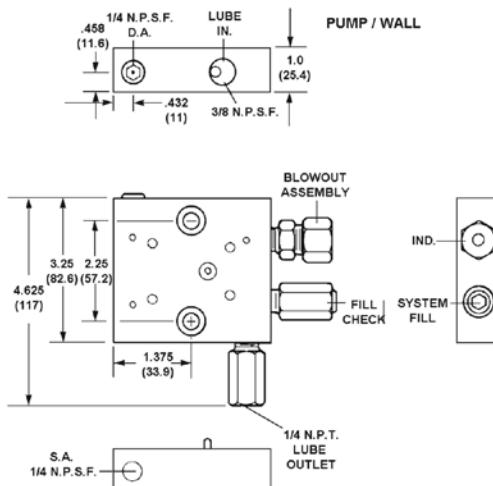
All manifolds mount any pneumatic, electric, or hydraulic Modu-Flo pump. This allows the pump to be removed without disturbing existing

lines or emptying the reservoir. Also, each Modu-Flo manifold may be used as is, or can be fitted with a choice of matched accessories. (See illustrations and listings that follow.)

### DIMENSIONS / Inches (mm)



Pump-to-reservoir manifold



Manifold for remote mounting of pump (563323)

### ORDERING INFORMATION

You can order the manifold and accessories you want separately or with one part number, as shown below.

BASEPLATE MANIFOLD KITS							
Graco Part Number	Lubriquip Part Number	Thread	Mount	Outlet Check Valve	System Fill Check Valve	1450 psi Blowout Assembly	0-3000 psi Gauge
563329	521-001-540	NPSF (NPT)	Reservoir	No	No	None	None
563324	521-001-180	NPSF (NPT)	Reservoir	Yes	Yes	Standard	Dry
563331	521-001-790	NPSF (NPT)	Reservoir	Yes	Yes	Tubed**	Dry
563355	521-010-820	SAE	Reservoir	Yes	Yes	Standard	Liquid-filled
563333	521-002-140	NPSF (NPT)	Reservoir	Yes	Yes	Tubed**	Liquid-filled
563336	521-003-920	NPSF (NPT)	Reservoir	Yes	Yes	Tubed**	None
563323	521-001-170	NPSF (NPT)	Wall/Remote*	Yes	Yes	Standard	None
563330	521-001-780	NPSF (NPT)	Wall/Remote*	Yes	Yes	Tubed**	None

\*Manifolds are intended for gravity feed (oil) or spring loaded follower feed (grease) only; not for use with header systems.

\*\*Includes 1/8" NPT female spud.

**MANIFOLD ORDERING INFORMATION (Cont.)**

You can order the manifold and accessories you want separately or with one part number, as shown below.

<b>ACCESSORIES FOR BASEPLATE MANIFOLDS</b>				
Description	NPT Graco Part Number	NPT Lubriquip Part Number	SAE Graco Part Number	SAE Lubriquip Part Number
Outlet Check Valve	563207	509-360-030	563053	463-001-587
System Fill Check Valve	563211	509-365-030	563056	463-001-600
Standard Blowout Assembly (1450 psi / 99.9 bar)	563179	509-206-100	563180	509-206-110
Tubed Blowout Assembly (1450 psi / 99.9 bar)	563186	509-220-101	n/a	n/a
Standard (Dry) Pressure Gauge (3000 psi / 206.9 bar)	557864	543-362-000	n/a	n/a
Liquid-Filled Pressure Gauge (3000 psi / 206.9 bar)	557866	543-711-380	557280	493-020-242

## RESERVOIRS

### 16 Modu-Flo Reservoirs are available for use with any Modu-Flo Pump or as a separate unit.

They are available in the following configurations and capacities:

- Cylindrical types in plastic and metal are available with grease capacities of 3, 5, 6, 12, and 20 lbs. (1.36, 2.27, 2.72, 5.44, 9.06, and 18.16 kg).
- Cylindrical types in plastic are available with oil capacities of 5, 6, 12, and 20 pints (2.37, 2.84, 5.68, and 9.46 liters).
- Rectangular types in metal are available with oil capacities of 12, 24, and 40 pints (5.58, 11.36, and 18.92 liters).
- Metal reservoirs are equipped with visual level indicators. Electronic indicators sold separately.
- Maximum temperature rating = 120° F

### CYLINDRICAL PLASTIC OIL RESERVOIRS

SIZE	A	B	C	D	E
5-pint	15.00 (381)	.625 (15.9)	5.812 (148)	3.797 (96.4)	3.50 (88.9)
6-pint	10.50 (267)	.750 (19.1)	7.50 (191)	5.625 (143)	4.25 (108)
12-pint	15.00 (381)	.750 (19.1)	7.50 (191)	5.625 (143)	4.25 (108)
20-pint	22.00 (559)	.750 (19.1)	7.50 (191)	5.625 (143)	4.25 (108)

### RECTANGULAR METAL OIL RESERVOIRS

SIZE	A	B	C	D	E	F	G
12-pint	10.70 (272)	10.75 (273)	9.875 (251)	5.30 (135)	1.64 (41.7)	7.25 (184)	4.812 (122)
24-pint	10.59 (269)	12.00 (305)	11.125 (283)	5.93 (151)	1.92 (48.8)	13.22 (336)	10.781 (274)
40-pint	10.59 (269)	17.25 (438)	16.375 (416)	6.42 (163)	1.92 (48.8)	13.22 (336)	10.781 (274)

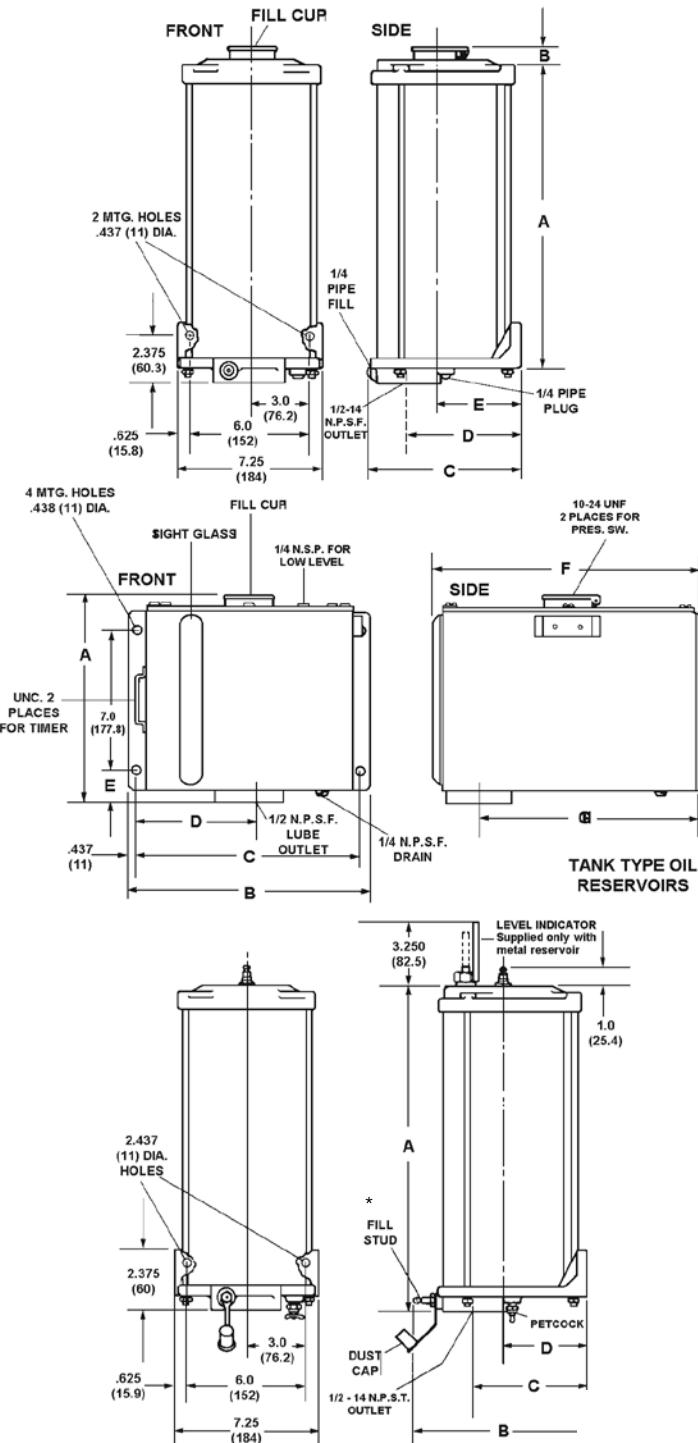
### CYLINDRICAL METAL & PLASTIC GREASE RESERVOIRS

SIZE*	A	B	C	D
3-lb.	6.87 (175)	8.81 (224)	5.62 (143)	4.25 (108)
5-lb.	15 (381)	7.25 (184)	3.62 (92.1)	2.50 (63.5)
6-lb.	10.5 (267)	8.81 (224)	5.62 (143)	4.25 (108)
12-lb.	15 (381)	8.81 (224)	5.62 (143)	4.25 (108)
20-lb.	22 (559)	8.81 (224)	5.62 (143)	4.25 (108)

\* Nominal grease reservoir size is based on a direct conversion of oil reservoir capacity and does not reflect volume loss due to the follower and spring. Actual volumes contained are: 5 and 6 lb – (2.6 lb), 12 lb – (5.8 lb), and 20 lb – (11.8 lb).



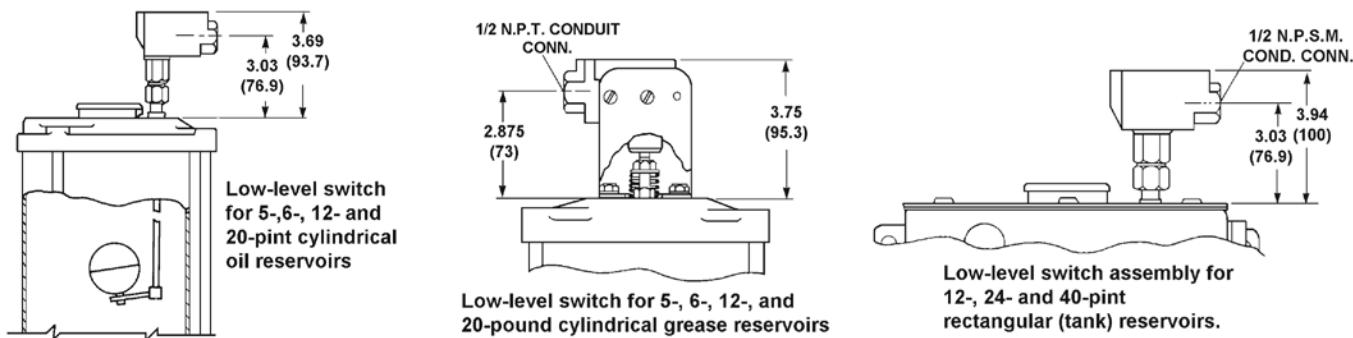
### Modu-Flo RESERVOIR DIMENSIONS / Inches (mm)



## RESERVOIR ACCESSORIES

### LOW LEVEL SWITCHES

All reservoirs are available with a lubricant low level switch accessory for fault diagnosis or fault warning. These devices are single-pole, double-throw limit switches rated at 15 amps | 125, 250, or 480 VAC | 60/50 Hz | 1/2 amp at 125 VDC and 1/4 amp at 250 VDC. An optional "low-watt" single-pole, single-throw, 10-watt low level switch is available for oil reservoirs. (See page 10 for dimensions of low-watt switches).



### PRESSURE INDICATORS

There are pressure switches for all Modu-Flo reservoirs, plus a selection of high pressure blowouts. For part numbers, see ordering information below. For details, see page 11 of this brochure.

<b>ORDERING INFORMATION</b>		
<b>*For Oil</b>	<b>Part No.</b>	<b>Old Part No.</b>
5 pint, plastic, cylindrical	562891	185-100-080
6 pint, plastic, cylindrical	562904	185-100-750
12 pint, plastic, cylindrical	562889	185-100-060
20 pint, plastic, cylindrical	562890	180-100-070
12 pint, metal, rectangular	563319	521-001-060
24 pint, metal, rectangular	563320	521-001-070
40 pint, metal, rectangular	563321	521-001-080
<b>**For Grease</b>	<b>Part No.</b>	<b>Old Part No.</b>
3 lb, plastic, cylindrical	562910	185-101-080
3 lb, plastic, cylindrical with low level switch actuator (see note 3 page 12)	562911	185-101-140
5 lb, plastic, cylindrical	562888	185-100-040
6 lb, plastic, cylindrical	562905	185-100-760
12 lb, plastic, cylindrical	562884	185-100-000
20 lb, plastic, cylindrical	562885	185-100-010
5 lb, metal, cylindrical	564264	185-100-050
6 lb, metal, cylindrical	562906	185-100-770
12 lb, metal, cylindrical	562886	185-100-020
20 lb, metal, cylindrical	562887	185-100-030
Fill coupler for grease reservoir	558906	506-322-000

<b>Low-Level Switch Assemblies</b>	<b>Part No.</b>	<b>Old Part No.</b>
Oil, 5 and 12 pint, cylindrical, SPDT, 15 amp	563316	521-001-030
Oil, 20 pint, cylindrical, SPDT, 15 amp	563317	521-001-040
Oil, 6 pint, cylindrical and all tank reservoirs, SPDT, 15 amp	563318	521-001-050
Oil, 5 and 20 pint, cylindrical, SPST, 10 watts	563015	456-010-172
Oil, 20 pint, cylindrical, SPST, 10 watts	563016	456-010-173
Oil, 6 pint, cylindrical and all tank reservoirs, SPST, 10 watts	563014	456-010-171
Grease, 5, 6, 12 and 20 lb, cylindrical	563322	521-001-110
High/low level switch for metal grease reservoirs – 6, 12 and 20 lb	564318	456-010-168
<b>Pressure Switch Assemblies</b>	<b>Part No.</b>	<b>Old Part No.</b>
Pressure Switch for all reservoirs	557829	542-210-120
High Pressure Blowout for 5 pint or 5 lb reservoirs	563325	521-001-190
High Pressure Blowout for 12 and 20 pint or 12 and 20 lb reservoirs	563326	521-001-200
High Pressure Blowout for all rectangular reservoirs	563327	521-001-210

\*Oil units with screw on fill/breather (not shown)

\*\*Nominal grease reservoir size is based on a direct conversion of oil reservoir capacity and does not reflect volume loss due to the follower and spring. Actual volumes contained are: 5 and 6 lb – (2.6 lb), 12 lb – (5.8 lb), and 20 lb – (11.8 lb).



## LUBE PACKAGES

**Available in a broad selection of pump-manifold-reservoir combinations with a choice of modular, matched accessories.**

Modu-Flo Lube Packages can be configured with any of three pneumatic, three hydraulic pumps, or two electric pumps and utilize modular manifolds to supply oil or grease from any of 16 reservoirs for either lubricant. There is also a range of accessories that brings the package up to the exact degree of automation or system diagnostic capability that your application requires.

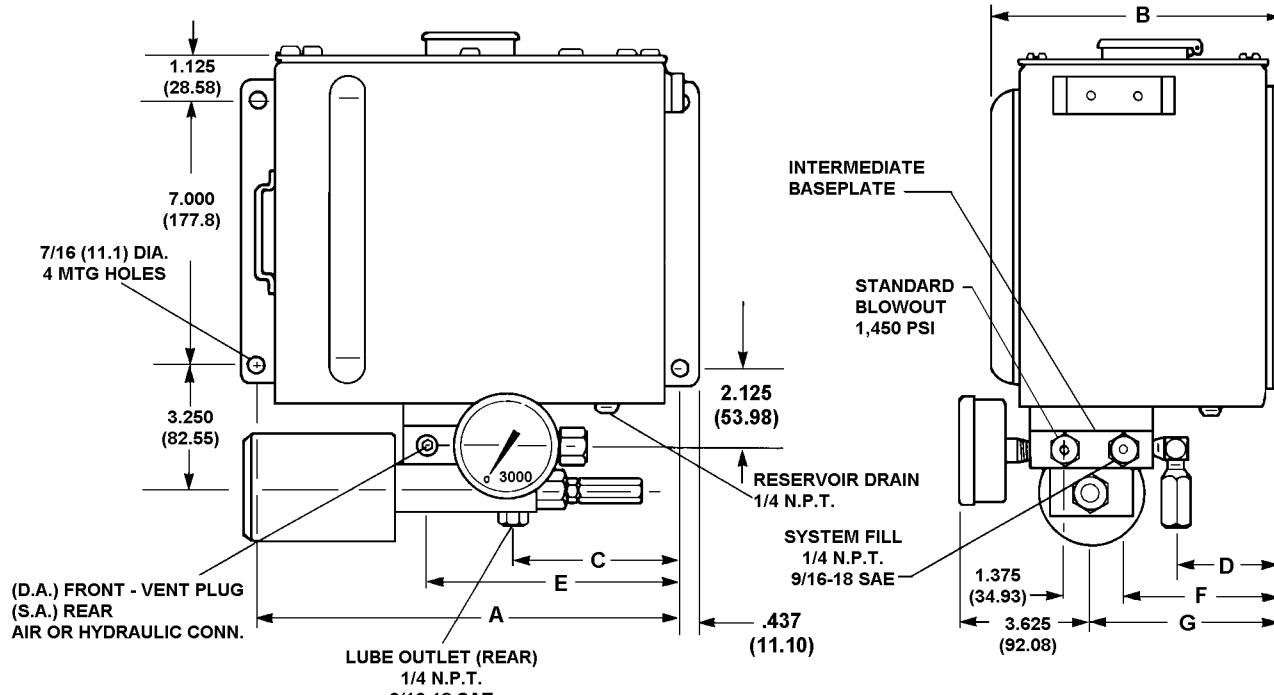
For ordering guidance, see the data on this and the following pages in this brochure; then use the ordering menu on page 13 to select the components needed to build the package.

**Accessory options for Modu-Flo Lube Package include:**

- Low-level options
- Pressure switch options
- Solid-State A-C timer
- Solenoid option
- Wiring option

Also, Modu-Flo Lube Packages can be interfaced with a choice of Graco controllers with varying ranges of functions or interfaced with other systems. They may also be monitored and directed by host controllers and diagnostic systems. For more information about this type of installation and appropriate Modu-Flo units, consult the factory.

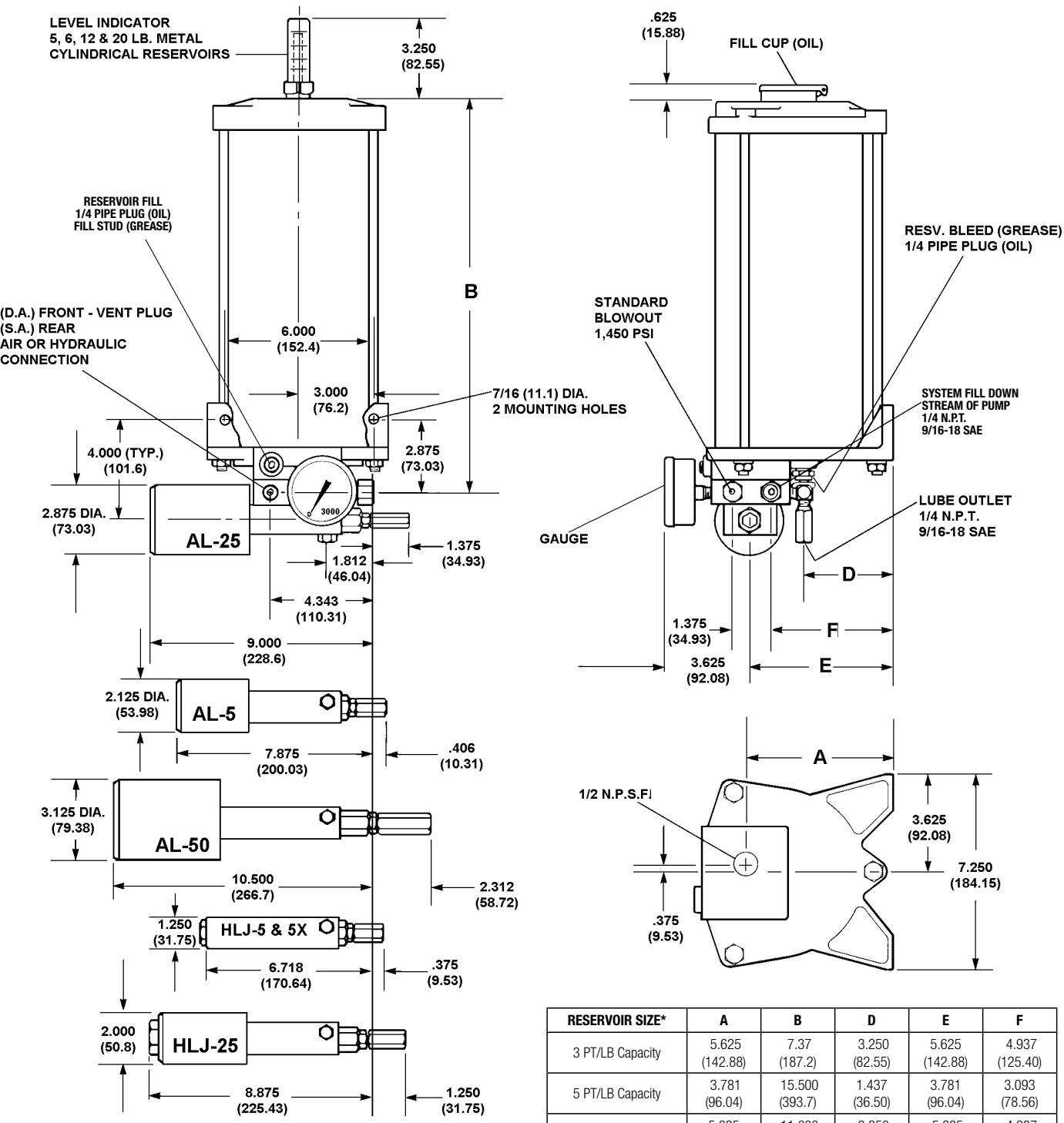
## TYPICAL MODU-FLO LUBE PACKAGE FOR OIL



For larger capacity reservoirs,  
contact factory.

SIZE	A	B	C	D	E	F	G
12-pint	9.875 (250.83)	7.250 (184.15)	3.718 (94.44)	2.375 (60.33)	6.312 (160.32)	4.062 (103.17)	4.750 (120.65)
24-pint	11.125 (282.58)	13.218 (335.737)	4.343 (110.33)	8.375 (212.73)	7.750 (196.85)	10.062 (255.57)	10.750 (273.05)
40-pint	16.375 (415.93)	13.218 (335.737)	6.968 (177.01)	8.375 (212.73)	9.500 (241.3)	10.062 (255.57)	10.750 (273.05)

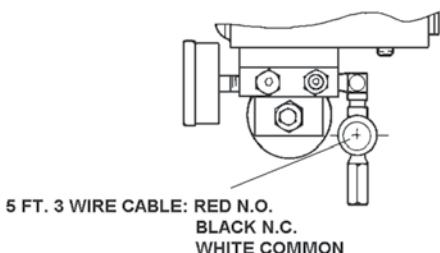
## TYPICAL LUBE PACKAGE CHOICES AVAILABLE FOR OIL OR GREASE SYSTEMS UTILIZING PNEUMATIC OR HYDRAULIC POWER.



\* Nominal grease reservoir size is based on a direct conversion of oil reservoir capacity and does not reflect volume loss due to the follower and spring. Actual volumes contained are: 5 and 6 lb – (2.6 lb), 12 lb – (5.8 lb), and 20 lb – (11.8 lb).

## LUBE PACKAGE ACCESSORIES

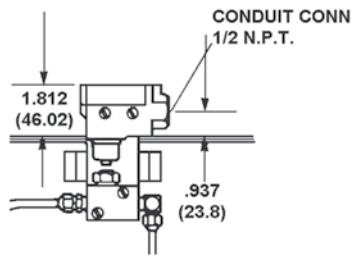
### PRESSURE PROTECTION



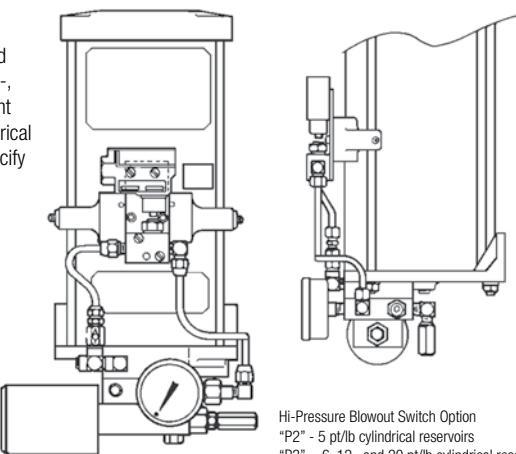
Oil pressure switch is factory set at 1,150 (79.3 bar). However, it is field adjustable from 400 to 4,700 psi (27.6 to 324 bar). For all Modu-Flo reservoirs, it is rated 5 amps @ 115/230 VAC... 3 amps @ 30 VDC inductive load and 5 amps @ 30 VDC resistive load. It is option P1 on the menu.

High pressure blowout switch options P2, P3, and P4 are single-pole, double-throw type and rated 15 amps @ 125, 250 and 480 VAC, 1/2 amp @ 125 VDC, and 1/4 amp @ 250 VDC. Option P5 is the standard blowout with 1,450 psi rating. For grease systems, replace blowout disk with one having a higher rating.

For all rectangular reservoirs specify option P4.



For 6-, 12- and 20-pound or 6-, 12- and 20-pint capacity cylindrical reservoirs, specify option P3.



### SPARE OR REPLACEMENT BLOWOUT DISCS FOR PRESSURE PROTECTION

psi (bar)	Color Code	Graco Part Number	Graco 6-Pack Part Number	Lubriquip Part Number	Lubriquip 6-Pack Part Number
900 (62.0)	Black	557431	n/a	509-290-000	560-900-250
1175 (81.0)	Green	557432	n/a	509-291-000	n/a
1450 (99.9)	Yellow	557433	563962	509-292-000	560-900-270
1750 (120.7)	Red	557434	563963	509-293-000	560-900-280
2050 (141.4)	Orange	557435	563964	509-294-000	560-900-290
2350 (162.0)	Aluminum	557436	563965	509-295-000	560-900-300
2650 (182.6)	Pink	557437	n/a	509-296-000	560-900-310
2950 (203.0)	Blue	557438	563966	509-297-000	560-900-320
3250 (220.1)	Purple	557439	n/a	509-298-000	560-900-330

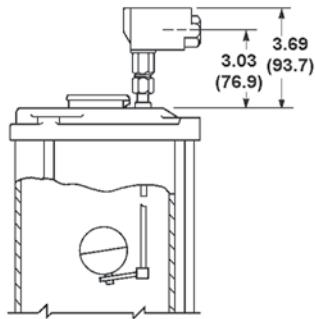
\*Discs up to 2,350 psi have a tolerance of  $\pm$  500 psi. Discs greater than 2,350 psi have a tolerance of  $\pm$  20%.

## LUBE PACKAGE ACCESSORIES (Cont.)

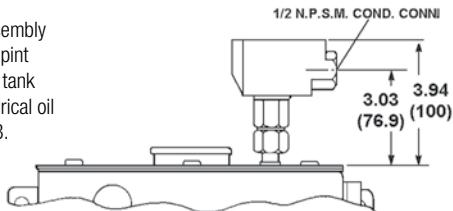
### LOW-LEVEL PROTECTION

Modular low-level switch assemblies are all single-pole, double-throw type rated 15 amps @ 125, 250 and 480 VAC | 60/50 Hz | 1/2 amp @ 125 and 1/4 amp @ 250 VDC. An optional "low-watt" single-pole, single-throw, 10-watt low-level switch is available for oil reservoirs.

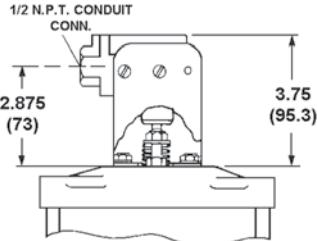
Low-level switch assembly for use with 5- and 12-pint capacity cylindrical oil reservoirs is option L1 on the ordering menu on the back cover of this brochure. A low-level switch assembly for the 20-pint capacity cylindrical reservoir is option L2.



Low-level switch assembly for 12-, 24- and 40-pint capacity rectangular tank and the 6-pint cylindrical oil reservoir is option L3.



Low-level switch option for all grease reservoirs (except 3lb and 40lb) is option L4

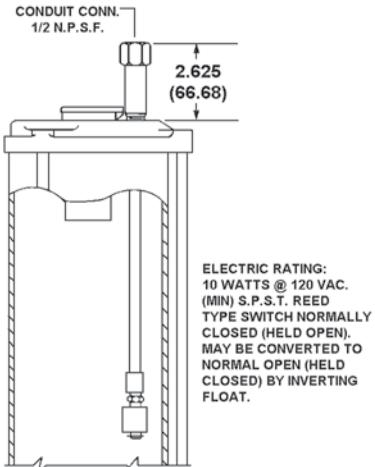


"Low-watt" low-level switch assembly for 5- and 12-pint capacity plastic cylindrical reservoirs is option L5.

"Low-watt" low-level switch assembly for 20-pint capacity plastic cylindrical oil reservoir is option L6.

"Low-watt" low-level switch assembly for 12-, 24- and 40-pint capacity rectangular tanks and 6-pint cylindrical oil reservoir is option L7.

"Low-watt" dual level switch assembly. (Low and low shutdown) for 12, 24 and 40 pint capacity rectangular tanks is option L8.



### GLC 4400 CONTROLLER

**9-30 VDC or 100 VAC to 240 VAC, 50/60 Hz, 24 watts**

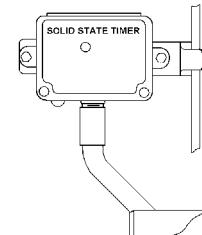


GLC 4400 gives you programmed lubrication cycles for optimal machine performance.

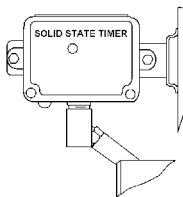
Customize your lubrication time, cycle counts, and machine counts for maximum precision and productivity. Inputs include: Cycle Switch, Machine Count Switch, Reservoir Level Indication Switch, and Remote Manual Run Switch. Outputs include: Pump Control Signal, Low Level Alarm Signal, Cycle Alarm Signal, and System OK Signal.

### SOLID STATE AC TIMER

CYLINDRICAL  
RESERVOIR MOUNTING



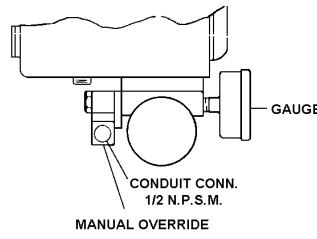
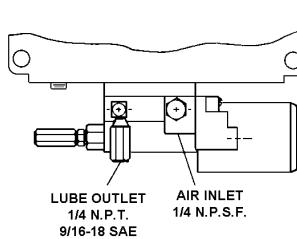
RECTANGULAR  
RESERVOIR MOUNTING



The Solid State Timer utilizes 110/220 VAC 60/50 Hz input, and permits total cycle times to be set at any period from 30 seconds to 32 hours. "On" time during total cycle time can be set from 12 seconds to 13 minutes, and takes place at the beginning of each period. For data sheet on timer, see Lit. No 14521.

### SOLENOID VALVE OPTION

**110/120 VAC, 0.11A in-rush, 0.07A holding; 24 VDC, 8.5 W**



Valve is 115 VAC, 3-way, pneumatic, normally closed with a manual override button to simplify system testing, line filling, and line bleeding (option S1). A 24 VDC version is also available (option S2).

### SOPHISTICATED CONTROL

Look to Graco for the ideal controller to meet your system requirements and your budget limitations. For details, contact your Graco/Trabon distributor or visit [www.graco.com](http://www.graco.com).

### OPERATION/SERVICE

For operation and service instructions on Modu-Flo components, refer to Trabon bulletin L42000.

## LEGACY ORDERING MENU (for reference only)

MPP - XXX

XXX

XX

XX

XX

XX

XX

XX

XX

XX

### RESERVOIR OPTION - SEE FOOTNOTE 1

- OP1 - 5 PINT OIL CYLINDRICAL PLASTIC - 562891 - (185-100-080)
- OP2 - 12 PINT OIL CYLINDRICAL PLASTIC - 562889 - (185-100-060)
- OP3 - 20 PINT OIL CYLINDRICAL PLASTIC - 562890 - (185-100-070)
- OP4 - 6 PINT OIL CYLINDRICAL PLASTIC - 562904 - (185-100-750)
- T1 - 12 PINT OIL TANK - 563319 - (521-001-060)
- T2 - 24 PINT OIL TANK - 563320 - (521-001-070)
- T3 - 40 PINT OIL TANK - 563321 - (521-001-080)
- GP1 - 5 LB GREASE CYLINDRICAL PLASTIC - 562888 - (185-100-040)
- GP2 - 12 LB GREASE CYLINDRICAL PLASTIC - 562884 - (185-100-000)
- GP3 - 20 LB GREASE CYLINDRICAL PLASTIC - 562885 - (185-100-010)
- GP4 - 6 LB GREASE CYLINDRICAL PLASTIC - 562905 - (185-100-760)
- GP5 - 3 LB GREASE CYLINDRICAL PLASTIC - 562910 - (185-101-080) - SEE FOOTNOTE 3
- GM1 - 5 LB GREASE CYLINDRICAL METAL - 564264 - (185-100-050)
- GM2 - 12 LB GREASE CYLINDRICAL METAL - 562886 - (185-100-020)
- GM3 - 20 LB GREASE CYLINDRICAL METAL - 562887 - (185-100-030)
- GM4 - 6 LB GREASE CYLINDRICAL METAL - 562906 - (185-100-770)

### BASEPLATE THREAD OPTION - SEE FOOTNOTE 5

- NPT - INTERMEDIATE BASEPLATE - 563324 - (521-001-180)
  - SAE - INTERMEDIATE BASEPLATE - 563355 - (521-010-820)
  - BSPP - CONTACT FACTORY FOR PART NUMBER - SEE FOOTNOTE 4
- THE ABOVE KITS INCLUDE "G2" GAUGE AND "P3" STANDARD BLOWOUT. SEE PAGE 5 FOR MORE OPTIONS.

### \*PUMP OPTION

- A0 - NONE
- A1 - ALS - 5 AIR, S.A., 30:1 (.010 - .030 IN<sup>3</sup>/STROKE) - 563304 - (521-000-001)
- A2 - ALJ - 5 AIR, D.A. - 563304 - (521-000-001)
- A3 - ALS - 25 AIR, S.A., 30:1 (.030 - .120 IN<sup>3</sup>/STROKE) - 563306 - (521-000-021)
- A4 - ALJ - 25 AIR, D.A. - 563306 - (521-000-021)
- A5 - ALS - 50 AIR, S.A., 30:1 (.060 - .240 IN<sup>3</sup>/STROKE) - 563308 - (521-000-041)
- A6 - ALJ - 50 AIR, D.A. - 563308 - (521-000-041)
- H1 - HLJ - 5 HYDR, D.A., 5.5:1 (.010 - .030 IN<sup>3</sup>/STROKE) - 563305 - (521-000-011)
- H2 - HLJ - 25 HYDR, D.A., 5.5:1 (.030 - .120 IN<sup>3</sup>/STROKE) - 563307 - (521-000-031)
- H3 - HLJ - 5X HYDR, D.A., 2.2:1 (.030 - .092 IN<sup>3</sup>/STROKE) - 563345 - (521-005-900)
- E3 - 24 VDC, W/20 FT CABLE - 563356 - (521-010-915) - SEE FOOTNOTE 2
- E4 - 24 VDC, W/TIMER AND 20 FT CABLE - DISCONTINUED - (521-010-916) - SEE FOOTNOTE 2
- E5 - 115 VAC, W/20 FT CABLE - 563346 - (521-007-060) - SEE FOOTNOTE 2

### \*PRESSURE GAUGE OPTION

- G1 - NO GAUGE
- G2 - 3000 PSI STANDARD GAUGE - 557864 - (543-362-000) - included with baseplate 563324
- G3 - 3000 PSI LIQUID FILL GAUGE - 557866 - (543-711-380) - included with baseplate 563333

### \*LOW LEVEL OPTION

- L1 - 5 AND 12 PINT CYLINDRICAL OIL RESERVOIR, SPDT, 15 AMP - 563316 - (521-001-030)
- L2 - 20 PINT CYLINDRICAL OIL RESERVOIR, SPDT, 15 AMP - 563317 - (521-001-040)
- L3 - 12, 24 AND 40 PINT TANK AND 6 PINT CYLINDRICAL OIL RESERVOIR, SPDT, 15 AMP - 563318 - (521-001-050)
- L4 - ALL GREASE RESERVOIRS EXCEPT 3 LB AND 40 LB - 563322 - (521-001-110) - SEE FOOTNOTE 3
- L5 - 5 AND 12 PINT CYLINDRICAL OIL RESERVOIR, SPST, 10 WATTS - 563015 - (456-010-172)
- L6 - 20 PINT CYLINDRICAL OIL RESERVOIR, SPST, 10 WATTS - 563016 - (456-010-173)
- L7 - 12, 24 AND 40 PINT TANK AND 6 PINT CYLINDRICAL OIL RESERVOIR, SPST, 10 WATTS - 563014 - (456-010-171)
- L8 - 12, 24 AND 40 PINT TANK, DUAL SPST, 10 WATT SWITCH (ONE LOW, ONE SHUTDOWN) - 564322 - (456-020-951)

### \*PRESSURE INDICATOR OPTION - SEE FOOTNOTE 5

- P1 - PRESSURE SWITCH ALL SIZES - 557829 - (541-210-120)
- P2 - HIGH PRESSURE BLOWOUT SWITCH, 5 PT/LB CYLINDRICAL - 563325 - (521-001-190)
- P3 - HIGH PRESSURE BLOWOUT SWITCH, 6, 12 AND 20 PT/LB CYLINDRICAL - 563326 - (521-001-200)
- P4 - HIGH PRESSURE BLOWOUT SWITCH, ALL TANKS - 563327 - (521-001-210)
- P5 - STANDARD BLOWOUT, 1450 PSI - 563179 - (509-206-100) - included with baseplate

### \*SOLENOID VALVE OPTION S.A. PNEUMATIC PUMPS ONLY (NOT AVAILABLE WITH SAE BASEPLATE)

- S1 - 115 VAC, 3-WAY PNEUMATIC SOLENOID VALVE - 563315 - (521-001-020)
- S2 - 24 VDC, 3-WAY PNEUMATIC SOLENOID VALVE - 563332 - (521-002-100)

### \*TIMER/CONTROLLER

- C10 - SOLID-STATE AC TIMER, ALL TANKS - 563339 - (521-004-500)
- C11 - SOLID-STATE AC TIMER, 5 PT/LB CYLINDRICAL - 563340 - (521-004-510)
- C12 - SOLID-STATE AC TIMER, 6, 12 AND 20 PT/LB CYLINDRICAL - 563341 - (521-004-520)

### \*WIRING OPTION

- W1 - SOLENOID VALVE WIRED TO TIMER

\*OMIT WHEN NOT REQUIRED

(1) Nominal grease reservoir size is based on a direct conversion of oil reservoir capacity and does not reflect volume loss due to the follower and spring. Actual volumes contained are: 5 and 6 lb (2.6 lb), 12 lb (5.8 lb), and 20 lb (11.8 lb). Reference Bulletin L12011 for electric Modu-Flo pump specifications.

(3) 3-lb reservoir with low level switch actuator available as p/n 562911 (185-101-140). Order switch and bracket assembly 563272 (510-599-000) separately.

(4) Baseplate code "BSP" was simply an abbreviation for Baseplate, when NPSF was the only thread option offered. British thread is indicated by "BSP" with both Ps included. If the customer confirms that BSPP thread is required, contact Graco for the BSPP baseplate option.

(5) Blowout assemblies P2 through P5 include standard Yellow blowout disc for use with oil systems. When used with grease, order Red, Orange, or other blowout disc from table on page 11.

**Contact us today!**

To receive product information or talk with a Graco representative,  
call 800-533-9655 or visit us online at [www.graco.com](http://www.graco.com).