

**Hose Saddle**

Lightweight LM6 aluminium alloy comprising of saddle, deck plate, hose guide and positioning clamp. Suitable for 38 mm nominal bore or 50 mm nominal bore (1½" or 2") hoses. Deck base plate for standard 318 mm deck opening or other sizes to special order. Weight 5.5 kg.



CODE	Items	Remarks	Unit
59 07 91	Hose saddle	For 38 mm bore or 50 mm bore hoses. Weight 5.5 kg	Pc.

Name of Mfr.: Victor Marine Ltd.

**Tank Washing Machines****D-3000 Stainless Steel**

Máquinas para Limpiar Tanques

タンククリーニングマシン 油箱清洁机

The smallest and most versatile tank washing machine and can be supplied as a fixed, permanently installed unit or as a portable machine.



Lubrication by the wash media alone removes the possibility of contamination by gearbox lubricants. A combination of nozzle sizes and cycle times allows tailor made to suit particular applications. Type Approval by BV.

CODE	59 21 05	59 21 03	59 21 04	59 21 07	59 21 10	59 21 06
Nozzle Diam	6 mm	7 mm	8 mm	9 mm	10 mm	12.5 mm
Jet Length (m)	11.6-14.5	12.8-14.9	12.9-15.2	13.9-15.8	14.2-16.5	15.5-16.9
Flow m³/hr	7.8-10.2	9.2-13.8	12.6-16.2	14.5-19.0	16.2-21.9	26.4-33.6
Inlet Connection	1.5" BSP, PN10/40 flange					
Operating temperature range	Up to 100°C					
Cycle times	Various times available					
Sizes	H: 241 mm x W: 150 mm (max)					
Weight	11 kg					

Name of Mfr.: Dasic Marine Ltd.

**Tank Washing Machines****D-4000 Stainless Steel**

Máquinas para Limpiar Tanques

タンククリーニングマシン 油箱清洁机

A pre-programmed double nozzle sealed gearbox machine to be used as part of a permanently installed Crude Oil Washing System on any size Crude Tanker.



Double Nozzle COW allows the user to start COW operations while Machine is submerged in Crude with no cumbersome time-consuming adjustments.

The drive mechanism of the D4000 enables operation to commence at very low pressure (3.5 kg/cm² - 50 psi) therefore making it ideally suited to Tank Washing with water when required as well as allowing more machines to be used at one time while COW operations are underway.

Maintenance is greatly reduced due to a minimum of working parts this works to improve reliability of the Machines. Sealed grease lubricated gearbox for long life.

CODE	59 21 08	59 21 12	59 21 09	Unit Per Set
Nozzle Diam	12.5 mm	14 mm	16 mm	
Jet Length (m)	16.5-19.2	18.9-25.5	18.9-25.5	
Flow m³/hr 6	26.0-32.6	32.0-40.4	41.5-52.0	
Inlet Connection	2.5" 7.5 tpi male, PN16/50 flange			
Operating temperature range	Up to 100°C			
Cycle times	Various times available			
Size	H: 265 mm x W: 165 mm (max)			
Weight	14 kg			

Name of Mfr.: Dasic Marine Ltd.

**Tank Cleaning Machines****Orbitor**

Máquinas para Limpiar Tanques

タンククリーニングマシン 油箱清洁机

A self lubricated, self cleaning orbital tank washing machine. Its unique design and simplicity of operation and maintenance is ideally suited for use in the rigorous marine environment.



It is a turbine driven with the cleaning medium passing through the machine before being delivered by the nozzles as high pressure impact jets. It is ideally suited for use with very hot water and can be used with low supply pressures. Ideally suited for product carriers up to 20k dwt, with its cleaning media lubricated gear box there is no risk of cargo contamination.

The Orbitor can be supplied as a fixed or portable machine and can easily be utilized as a multi-level unit in chemical carriers.

CODE	59 21 13	59 21 14	59 21 15	59 21 16	59 21 17	59 21 18
Nozzle Diam	5 mm	6 mm	7 mm	8 mm	10 mm	12.5 mm
Jet Length (m)	6.0-10.5	8.0-12.5	9.0-13.5	10.0-14.5	13.0-20.0	13.0-21.0
Flow m³/hr	9.9-13.5	6.6-9.0	8.4-12.4	10.5-14.2	17.4-24.2	26.4-35.5
Inlet Connection	1.5" BSP					
Operating temperature range	Up to 95°C					
Cycle times	Various times available					
Sizes	H: 265 mm x W: 120 mm (max)					
Weight	6 kg					

Name of Mfr.: Dasic Marine Ltd.

**Tank Cleaning Hose for Jetstream Tank Cleaning Machine**

Manguera de Limpieza para Tanque

タンククリーニングホース 油舱清洗管

Manufactured with a fully woven polyester reinforcement and completely encapsulated with a thermoplastic elastomer (polyurethane), the hose provides high pressure capabilities together with excellent resistance to attack by fuels, chemicals, abrasion, weathering and ozone/u.v..



Two low resistance stainless steel bonding wires are incorporated against the build up of static electricity. Standard hose length will be available up to 30mtr. Please specify length when ordering. Also available in 50mm diameter.

Unit Per Mtr.					
CODE	Dia	Working Pressure	Min. Burst Pressure	Temp. Range	Weight per Mtre
59 21 11	38 mm	20.5 bar (300 psi)	41 bar (600 psi)	- 48°C to 98°C	0.3 kg

Name of Mfr.: Basic Marine Ltd.

## Tank Cleaning Machines

### Butterworth K / SK / SSK Series Machine

Limpadora de Tanque Serie Butterworth K/KS/KSS

タンククリーニングマシン 油箱清洗機 油脂 K/KS/KSS 系列

They are used portably for water washing, or fixed-in-place crude oil washing of small and medium size tanks and for cleaning hard-to-reach surfaces in large tanks.



They can operate in any position by the Full-sphere with 360° coverage washing pattern.

### K Machines

Features rotating twin nozzles and a wash head revolving in planes 90° apart. Small, low-cost and weighing less than 28 kilograms (62 pounds), the K machine has a cleaning range of 10 meters (33 feet) and fluid capacity up to 32 cubic meters (377 cubic feet) per hour. Wash cycle times range from 50 to 23 minutes for inlet pressures of 3.5 to 12 kilograms per square centimeter (50 to 175 psi).

### SK and SSK Machines

The SK and SSK machines both weight 30 kilograms (66 pounds) and are identical except for the SSK's larger nozzle and great capacity. The SSK (only used for fixed-in place installations) has a maximum capacity of 75 cubic meters per hour and a cleaning range of 25 meters (82 feet).

The SK has a maximum capacity of 53 cubic meters per hour and a cleaning range of 21 meters (69 feet). The wash cycle times for both units run from 17 to 32 minutes with inlet pressure of 5.25 to 12 kilograms per square centimeter (75 to 175 psi).

### Specification

Model	K	SK	SSK
Cleaning Range	10 meters (33 feet)	21 meters (69 feet)	25 meters (82 feet)
Fluid Capacity	Up to 32 m³ (377 feet³)	Up to 53 m³	Up to 75 m³
Pressure Range	Maximum : 250 psi (17.3 bar) Nominal Range : 85-150 psi (5.9-10.3 bar)		
Jet-Length Radius	Maximum : 125' (38 meters) @ 250 psi (12 bar)		
Application	Portable	Fixed-in-place	
Inlet Pipe	50 mm to 65 mm (2" to 2.5")	75 mm (3")	
Inlet Connection Type	2.50" ASA - B - 26 (NST) - Male		
Thread Connection	American national 2" x 7-1/2 TPI male		
Minimum Tank Opening Requirement	9.00" (228.6 mm)		
Material	Bronze Alloy		
Weight	48 lbs (21.77 kg)	58 lbs (26.31 kg)	

CODE	Nozzle Size	Unit Per Pcs.
59 23 01	9.5 mm (0.375")	K
02	11 mm (0.437")	
03	14 mm (0.562")	
04	22 mm (0.866")	
59 23 05	9.5 mm (0.375")	SK
06	11 mm (0.437")	
07	14 mm (0.562")	
08	22 mm (0.866")	
59 23 09	9.5 mm (0.375")	SSK
10	11 mm (0.437")	
11	14 mm (0.562")	
12	22 mm (0.866")	

### Accessories for Tank Cleaning Machine Butterworth K / SK / SSK Series Branch Connector



Double Male Coupling      Coupling Spanner

CODE	Description	Unit
59 23 21	Tank cleaning hose 2" x 50 feet	Lgh
22	" 2" x 75 feet	"
23	" 2" x 100 feet	"
59 23 24	Quadrant deck plate (Hose Saddle)	Pc.
59 23 25	Branch connector 2-1/2" (3 male threads)	Pc.
26	" 2-1/2" (2 male & 1 female thread)	"
59 23 27	Double male coupling 2-1/2"	Pc.
28	Coupling spanner	Pc.

## Tank Cleaning Machines

### Butterworth LT & LT-FT

Máquinas de limpieza de depósitos タンククリーニングマシン 儲罐清洗机

An automated portable or fixed-in-place tank cleaning machine provides 360° impact indexed coverage for the cleaning of the inside of tanks of Chemical and Product Tankers. A highly versatile machine and is applicable in most all types of tanks for process, storage, and transportation. Tank capacities range from 500 – 150,000 gallons (2 – 570 m³) for one machine per tank and larger tanks where multiple machines are installed.



LT machine creates a pattern matrix similar to a ball of twine, and a complete pattern is established when 65 axial revolutions of the body have been completed. During the process of this pattern build out, 4 cycles are established with each cycle increasing the density of the pattern matrix.

### Specification

Pressure Range	0 – 300 PSI (21 Bar)
Jet Length Radius	0 – 58' (17.68 mtr)
Inlet Connection Type	1-1/2" NPT (F), 1-1/2" BSP (F)
Minimum Tank Operating Requirement	5.613" (142.56 mm)
Material	316 Stainless steel / CD4-MCU Duplex S/S
Weight	15 lbs (6.8 kg)

**NPT Inlet Type**

Unit Per Pcs.

CODE	Nozzles	Inlet	Max. Rotational PSIG	Model
<b>Female Threaded</b>				
59 23 71	2 x 6.0 mm		150	LT6Z33NOFT
72	2 x 8.0 mm		300	LT8Z21NOFT
73	2 x 10 mm	1-1/2"	300	LT10Z11NOFT
74	2 x 10 mm	NPT	150	LT10Z21NOFT
75	2 x 12 mm		300	LT12Z11NOFT
<b>Male Threaded</b>				
59 23 76	2 x 6.0 mm		150	LT6Z33NMOTF
77	2 x 8.0 mm	1-1/2"	300	LT8Z21NMOTF
78	2 x 10 mm	NPT	300	LT10Z11NMOTF
79	2 x 10 mm		150	LT10Z21NMOTF
80	2 x 12 mm		300	LT12Z11NMOTF

**BSP Inlet Type**

Unit Per Pcs.

CODE	Nozzles	Inlet	Max. Rotational PSIG	Model
<b>Female Threaded</b>				
59 23 81	2 x 6.0 mm		150	LT6Z33BOFT
82	2 x 8.0 mm	1-1/2"	300	LT8Z21BOFT
83	2 x 10 mm	BSP	300	LT10Z11BOFT
84	2 x 10 mm		150	LT10Z21BOFT
85	2 x 12 mm		300	LT12Z11BOFT
<b>Male Threaded</b>				
59 23 86	2 x 6.0 mm		150	LT6Z33BMOFT
87	2 x 8.0 mm	1-1/2"	300	LT8Z21BMOFT
88	2 x 10 mm	BSP	300	LT10Z11BMOFT
89	2 x 10 mm		150	LT10Z21BMOFT
90	2 x 12 mm		300	LT12Z11BMOFT

Name of Mfr.: Butterworth

**Subsea Robots for Hull Cleaning**

Robot submarino para limpieza de cascos

船体清掃用ロボット 用于清洁船体的水下机器人

Subsea hull cleaning robot is designed for requirement of higher effective plan with less consumption. The drive mechanism of the robot consists of a thruster and a crawler motor. It has multiple mixed motion modes for cruising through the water, climbing vertically, and walking upright/inverted. The bottom-mounted cavitation jet cleaning nozzles allow cleaning while moving on the surface without damaging the hull's paint. The robot is fitted with a high-definition camera and a dark ambient light compensation system. The whole operation is fully visible and the cleaning effect can be verified. The robot uses thrust adsorption, which can be adapted to different work surface operation requirements and can meet non-magnetic requirements.



ECOSEA ES-150



ECOSEA ES-2000

CODE	59 23 91	59 23 92
Model	ECOSEA ES-150	ECOSEA ES-2000
Maximum running speed	12 m/min	60 m/min
Maximum working depth	50 m	50 m
Cleaning speed	≤ 200 m <sup>2</sup> /h	≤ 2,000 m <sup>2</sup> /h
Continuous working time	24 h	24 h
Power supply	AC440 V±40%, ≥55 kW	DC500 V±50%, ≤20 kW
Dimensions (L×W×H) mm	1,100 × 1,100 × 900	3,000 × 1,850 × 900
Weight (kg)	150	580
Name of Mfr	Nesto	

**11. Vacuum Cleaners****Vacuum Cleaners, Industrial Pneumatic**

Aspiradoras, Neumática Industrial

空気式工業用真空掃除機

空气式工业用真空吸尘器

Compressed air driven type vacuum cleaner. Safe operation even in an explosive gas atmosphere.

A wide range of models are available, and the listed specifications are for your reference. When ordering, ask your supplier for more details about the capacity of the machine or ask for catalogues and any further information.



CODE	59 07 03	59 07 01	59 07 02
Model	A-250	AX-1	AX-2
Tank Capacity (litr)	18	50	60
Suction Air Pressure (kPa)	15.0	29.5	
Working Air Pressure (kgf/cm <sup>2</sup> )	5.0 - 6.0		
Air Hose	1/4" or 3/8"	1/2"	
Reduction	32-32	50-38	
Suction Hose I.D. (mm)	32	38	
Size (W × D × H mm)	315 × 315 × 500	465 × 560 × 890	
Weight (kg)	7.5	16	22
Working Air Quantity (L/min)	800	1,500	

Remark: A-250 model replaceable your own 18L (Φ300) pail-cans

Name of Mfr.: Sanritsu-Kiki



CODE	59 07 04	59 07 09
Model	VHC110	VHC200
Tank Capacity (litr)	37	100
Suction Air Pressure (kPa)	32.5	38.0
Working Air Pressure (kgf/cm <sup>2</sup> )	4.0 - 7.0	4.0 - 6.0
Air Hose	1/2"	
Reduction	50 - 40	70 - 50
Suction Hose I.D. (mm)	40	50
Size (W × D × H mm)	570 × 560 × 1010	910 × 600 × 1,590
Weight (kg)	37	70

Remarks: ATEX/ Explosion Proof version available upon request

Name of Mfr.: Nilfisk Pte Ltd

## Vacuum Cleaners, Industrial Electric

Aspiradbras, Eléctrica Industrial

電動工業用真空掃除機 工业电动真空吸尘器

Electric driven, powerful, heavy duty vacuum cleaners for the removal of dust, metal particles, powder, or liquid. A wide range of models are available, and the listed specifications are for your reference. When ordering, ask your supplier for more details about the machine or for catalogues from the dealer.

### How to order: CODE

Vacuum cleaner, industrial, electric, CAPACITY ltr, POWER SOURCE VOLTAGE



JE-250-3D (wet and dry)

JX-4530 (wet and dry)

CODE	59 07 20	59 07 23	Unit Per Set 59 07 24
Model	ATTIX 30	VHS120	S3 L100
Voltage	110/ 230V*	230V	110V/ 220V*
Tank Capacity (ltr)	30	37	100
Motor Output (kW)	1.5	2.0	3.0
IP Protection Class	X4		44
Suction Pressure (KPa)	25		21
Inlet (mm)	50	50	70
Reduction	50 - 36	50 - 40	70 - 50
Suction Hose I.D.(mm)	36	40	50
Size (W×D×H mm)	450×380×595	560×570×1,015	800×600×1,580
Weight (kg)	10	38	71

Remarks: ATEX/ Explosion Proof version available upon request

Remarks\*: 110V available upon request

Name of Mfr.: Nilfisk Pte Ltd

## Pneumatic Vacuum Cleaners “BLOVAC CLEANER”

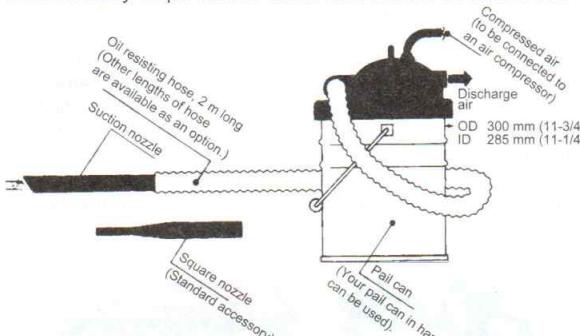
Aspiradoras Neumáticas

プローバッククリーナー 风动真空吸尘器

A compact and lightweight industrial vacuum cleaner which works on compressed air. Capable of cleaning off water, oil, and bottom sludge as well as dust and metal chippings. It will even vacuum explosive materials as long as the machine is properly grounded from electrical current. Made of a unique design permitting the use of an ordinary pail can with an outside diameter of 300 mm to collect the dust and waste. Furnished with a pail can, 2 meters of oil resistant hose, and an oil stopper which automatically stops suction when the receiver becomes full.



Square Nozzle Round Nozzle



CODE	Type	Hose	Suction nozzle	Air consumption at 5kgf/cm²	Vacuum (in water column) at 5kgf/cm²	Suction capacity at 5kgf/cm²
59 07 21	V-300 (for 3 HP)	ø25 mm × 2 m (oil-resisting)	ø25 mm w 30 cm 2 types available	350 Ltr/min	2,600 mm/H <sub>2</sub> O	1.1 m <sup>3</sup>
59 07 22	V-500 (for 5 HP)	ø32 mm × 2 m (oil-resisting)	ø32 mm w 30 cm 2 types available	500 Ltr/min	2,600 mm/H <sub>2</sub> O	1.8 m <sup>3</sup>

Name of Mfr.: Blovac Co. Ltd.

Optional hoses of other lengths are also available on request.



ATTIX 30

VHS120

S3 L100

## Air Polishers

Pulidoras de aire

エア式ボリッシャー 气动式打磨器

Best choice to shampoo the floor and deck board of hazardous area. This air polisher can be used without any electricity nor battery.

- \* With safety handle.
- \* Air filter, regulator and lubricator equipped.
- \* Exhaust muffler/cleaner equipped.
- \* Various type of pad & brush available to choose.

Pad and brush is optional.



FP-140AP

CODE		59 07 30	
Model		AFP-140AP	
Air Pressure (MPa)		0.5	0.4
Pad/Brush r.p.m.		260	200
Air Consumption (Nm <sup>3</sup> /min)		0.98	0.73
Air Inlet		Rc 1/2 (PT 1/2)	
Size	Width	390 mm	
	Height	1,175 mm	
	Pad/ Brush	15 inch/14 inch	

Name of Mfr.: San-ei Seiki Seisakusho Co., Ltd.

## 12. High Pressure Cleaners

### High Pressure Cleaners

Aspiradoras de Alta Presión 高压クリーナー

高压清洗机

High performance, excellent ergonomics, low noise levels and easy servicing make this an efficient pressure washer. For more efficient cleaning with reduced chemical consumption the unit can be fed with hot water up to 60 - 85 degrees. HPC 54/1 ideal for 3-4 hours and HPC 67/1 for 6-7 hours continuously operations.



Unit Per Set

CODE	59 07 36	59 07 35	59 07 37
Model	HPC 54/1	HPC 67/1	HD10/22 S
Working Pressure	200 bar	195 bar	3-22 MPa
Water Flow	1,000 ltr/hour	1,280 ltr/hour	450-900 L/H
Max. Water Inlet Temp.	60°C	85°C	60°C
Rotation Speed	1,750 rpm		-
IP Protection	X5		-
Water Inlet Connection	3/4" male		-
Voltage	3-440 / 60 Hz / 11.4 A	3-200V, 50/60 Hz	
Dimensions L × W × H (mm)	735 × 570 × 1,020	775 × 570 × 1,020	560 × 500 × 1,090
Weight kg	71	90	62
Name of Mfr.	Unitor™ by Wilhelmsen Ships Service	Karcher	

## Air-Operated Pressure Washers

Hydra-Clean

Limpiaadoras a presión

エア式高圧クリーナー 高压清洗机

High Pressure Washer which can be used safe in hazardous locations. Efficient cleaning with water, detergent or chemical solutions. Supports multiple guns. Designed to use with cold or hot water up to 200°F (93°C). Includes everything needed to use with open-head universal drums. Fits most pressure, flow and material requirements. Available with an accumulator and chemical injector.



Unit Per Set

CODE	59 07 38	59 07 39	59 07 34
Model	247551	247553	258664
Pump Package	23:1	30:1	40:1
Pump Construction	Stainless Steel		
Mount Type	Cart Mount		
Max. Working Pressure	2,275 psi (157 bar, 15.7 MPa)	3,065 psi (211 bar, 21.1 MPa)	4,000 psi (276 bar, 27.6 MPa)
	100 psi (7 bar, 0.7 MPa)		
Fluid Flow at 60 cpm	9.2 gpm (34.7 lpm)	6.8 gpm (25.9 lpm)	4.6 gpm (17.4 lpm)
Volume per Cycle	19.6 oz (580 cc)	14.5 oz (430 cc)	9.8 oz (290 cc)
Air Inlet Size	3/4" npt (f)		
Fluid Inlet Size	1"		
Fluid Outlet Size	3/8"		
Name of Mfr. : Graco			

### High Pressure Cleaners

Maquinas para Limpiar de Alta Presión

高压クリーナー 风动高压吸尘器

#### Air Powered Heavy Duty

Designed for heavy duty use in hazardous areas where combustible gases and liquids may be present, ensuring safety and effective cleaning. It is ideal for removing stubborn dirt, stains and other debris.

Non corrosive materials are used in pump, fittings and pipes.



Unit Per Set

CODE	59 08 51
Model	C-200AIR
Power Consumption	9.0 HP (6.6 KW)
Motor Speed	1,500 r.p.m.
Working Pressure	200 bar (2,900 psi)
Flow Capacity	15.0 ltr/min.
Max. Air Consumption	560 m <sup>3</sup> /hour (330 Cf/min)
Dimensions	L850 × W550 × H900 mm
Weight	70 kg
Name of Mfr. : DEN-SIN by Nilfisk	

## Electric Powered

Designed for general purpose cleaning tasks in multiple industries. These high pressure cleaners are used for daily cleaning of machinery, vehicles, and buildings, for the removal of stubborn dirt, stains and other debris from multiple surfaces. Available in AC220V or AC440V. All pump materials, fittings and pipes in contact with water are non-corrosive.



### C-110E/C-170E

Unit Per Set

CODE	59 08 52	59 08 53	59 08 54
Model	C-110E	C-170E	
Power Supply	AC 220V 1 ph 60Hz	AC 220V 3 ph 60Hz	AC 440V 3 ph 60Hz
Power Consumption	3.0 HP (2.2 kW)		6.0 HP (4.4 kW)
Motor Speed		1,750 r.p.m.	
Working Pressure	110 bar (1,600 psi)	170 bar (2,465 psi)	
Flow Capacity	11.7 ltr/min.	15.2 ltr/min.	
Dimensions	L720 × W480 × H900 mm		
Weight	45 kg	46 kg	

Name of Mfr. : DEN-SIN by Nilfisk

59

### C-200E

Unit Per Set

CODE	59 08 55	59 08 56
Power Supply	AC 220V 3 ph 60Hz	AC 440V 3 ph 60Hz
Model	C-200E	
Power Consumption	7.5 HP (5.5 KW)	
Motor Speed	1,750 r.p.m.	
Working Pressure	200 bar (2,900 psi)	
Flow Capacity	16.5 ltr/min.	
Dimensions	L720 × W480 × H900 mm	
Weight	56 kg	

Name of Mfr. : DEN-SIN by Nilfisk

### Combijet Model JE60-500

500 bar compact unit with a pressure regulator valve as standard.

Suitable for removal of hard dirt, grease oil, embedded crystallized salt, barnacles and marine growth, soil and clay, rust flakes and corroded paint. Available in 50 and 60 Hz.



Unit Per Set

CODE	59 08 64	59 08 65
Power Supply	AC 380-440V/ 3 ph 50Hz	AC 380-440V/ 3 ph 60Hz
Model	JE60-500	
Power Consumption	20 HP (15 KW)	
Motor Speed	1,450 rpm @50 Hz / 1,750 rpm @60 Hz	
Working Pressure	500 bar (7,250 psi)	
Flow Capacity	16 ltr/min.	19 ltr/min.
Dimensions	L1,070 × W550 × H900 mm	
Weight	245 kg	

Name of Mfr. : Combijet Manufacturing Ltd.

## Engine Powered

The petrol and diesel powered series of High-Pressure Cleaners offers total independence of external power supply giving the user a higher degree of mobility. For effective removal of stubborn dirt, stains and other debris. Non corrosive materials are used in pump, fittings and pipes. Self-priming and suction allow water to be drawn from a tank or river. Rugged, flat-proof wheel design and high mobility across any surface. Reliable engines, provided by Honda or Kohler depending on model, ensure long equipment life and high-impact cleaning.



### Diesel Engine

#### MC5DE

Unit Per Set

CODE	59 08 61
Model	MC5M-195/1000DE
Fuel Oil	Diesel
Power Consumption	10 HP (7.5 kW)
Pump Speed	1,650 r.p.m.
Working Pressure	195 bar (2,800 psi)
Flow Capacity	16.7 ltr/min.
Fuel Tank Capacity	5.5 ltr
Dimensions L × W × H	750 × 680 × 850 mm
Weight	110 kg

Name of Mfr. : DEN-SIN by Nilfisk

### Petrol Engine (Gasoline)

#### MC5PE



Unit Per Set

CODE	59 08 63	59 08 62
Model	MC5C-240/940PE	MC5M-280/110PE
Fuel Oil	Petrol (Gasoline)	
Power Consumption	9 HP (6.6 kW)	13 HP (9.5 kW)
Pump Speed	3,400 r.p.m.	
Working Pressure	240 bar (3,500 psi)	280 bar (4,000 psi)
Flow Capacity	15.7 ltr/min.	18.4 ltr/min.
Fuel Tank Capacity	5.3 ltr	6.0 ltr
Dimensions L×W×H (mm)	546 × 615 × 1,021	713 × 572 × 1,021
Weight	45 kg	61 kg

Name of Mfr. : DEN-SIN by Nilfisk

### Combijet JP Series 200-250 bar



CODE	59 08 78	59 08 79	Unit Per Set
Model	JP 9-200	JP 13-250	
Pressure	200 bar (2,900 psi)	250 bar (3,625 psi)	
Power (Petrol Motor)	9 HP (6.6 KW)	13 HP (9.7 KW)	
Flow Rate	13 ltr/min.	17 ltr/min.	
Electric Supply	Petrol Engine	Petrol Engine	
Motor Speed	3,400 rpm	1,700 rpm	
Dimensions LxWxH (mm)	1,030 x 500 x 670	1,000 x 660 x 920	
Weight	45 kg	61 kg	

Name of Mfr.: DEN-SIN by Nilfisk

## High Pressure Water Blasters

### Heavy Duty

Lanzas de agua a alta presión 高压洗净机 高压射水器

Powerful & cost efficient cleaning for MARINE users.

Applications: General cleaning, washing of salt spray, removal of loose paint & rust. Cleaning in holds & transfer pipes. Cleaning scaffolding material. Removal of lime scale deposits and marine growth. Removal of oil & grease from decks & machinery. Dust free wet abrasive sand blasting & pipe cleaning with accessories.



CODE	59 08 44	59 08 58	59 08 59	Unit Per Set
Model	CE20-200	MC 9P 350/1260	MC 9P 500/960	
Pressure	170 bar (2,500 psi)	350 bar (5,075 psi)	500 bar (7,250 psi)	
Power (Elec. Motor)	20 HP (15 kW)	24 HP (18 kW)		
Flow Rate	45 ltr/min.	21 ltr/min.	16 ltr/min.	
Electric Supply	AC 440V 3 ph 60 Hz			
Motor Speed	1,750 rpm	1,760 rpm		
Dimensions LxWxH (mm)	90 x 500 x 850	1,100 x 500 x 980		
Weight	170 kg	245 kg	255 kg	
Manufacturer	Den-Jet Marine	DEN-SIN by Nilfisk		

## Ultra High Pressure Water Blasters

Lanzas de Agua a Ultra Alta Presión

超高压ウォーターブラスター

超高压射水器

Water blasting of decks, tanks, ballast tanks to remove all surface particles & corrosion to a superior standard without the use of abrasives.

Applications: Removal of paint, rust from steel & concrete surfaces. Removal of lime scale deposits & marine growth. Deck cleaning & cargo hold cleaning. Dust free wet abrasive sand blasting & pipe cleaning with rotating nozzle accessories.

### Electric Powered

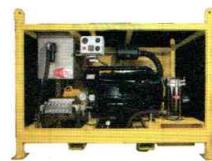


CODE	59 08 71	59 08 72	59 08 74	59 06 88	59 08 73	Unit Per Set
Model	MC 10P 500/1680	MC 10P 800/1170	MC 10P 1100/900	CE40-1380	UHP C-2500/25E	
Pressure	500 bar (7,250 psi)	800 bar (11,600 psi)	1,100 bar (16,500 psi)	1,380 bar (20,000 psi)	2,500 bar (36,000 psi)	
Power Consumption	(30 KW)	(30 KW)	(30 KW)	(33KW)	(113 KW)	
Flow Rate	28 ltr/min.	20 ltr/min.	15 ltr/min.	13.8 ltr/min.	25 ltr/min.	
Electric Supply				440/3ph 60Hz		
Motor Speed	1,765 rpm	1,175 rpm	1,175 rpm	1,200 rpm	540 rpm	
Current Consumption	54 amps	54 amps	54 amps	57 amps	125 amp	
Dimensions L x W x H (mm)				1,600 x 1,050 x 1,150	2,300 x 1,400 x 1,800	
Weight	470 kg	565 kg	565 kg	650 kg	1,700 kg	
Manufacturer	DEN-SIN by Nilfisk			Den-Jet Marine	DEN-SIN by Nilfisk	

### Diesel Powered



C-500/30D & C-800/20D



C2500/25D

CODE	59 08 75	59 08 76	59 08 80	59 08 77	Unit Per Set
Model	C-500/30D	C-800/20D	C-1100/16D	C-2500/25D	
Pressure	500 bar (7,500 psi)	800 bar (11,600 psi)	1,100 bar (15,950 psi)	2,500 bar (36,000 psi)	
Power (Diesel Engin)	50 HP (36.7 KW)	50 HP (36.7 KW)	50 HP (36.7 KW)	150 HP (113 KW)	
Flow Rate	30 ltr/min.	20 ltr/min.	18 ltr/min.	25 ltr/min.	
Fuel Tank Capacity	124 ltr	124 ltr	124 ltr	140 ltr	
Dimensions L x W x H (mm)				2,600 x 1,450 x 1,800	1,800
Weight				970 kg	1,950 kg

Name of Mfr.: DEN-SIN by Nilfisk

### Explosion Proof Type

Electric devices enclosed in a solid cabinet type is also available as explosion proof for tankers & chemical carriers.



CEX Series



EXP Series

CODE	59 07 13	59 07 14	59 07 29	59 07 98	Unit Per Set
Model	CEX-20-200	CEX20-280	CEX20-350	CEX20-500	
Pressure	170 bar (2,500 psi)	250 bar (3,600 psi)	350 bar (5,075 psi)	500 bar (7,250 psi)	
Power Rating	20 HP (15 kW)				
Flow Rate	45 ltr/min.	32ltr/min.	23ltr/min.	16ltr/min.	
Electrical Supply		440V 60Hz			
EP Grade	EExde IIC T4	EExde IIC T4	EExde IIC T4	EExde IIC T4	
Dimensions L × W × H (mm)		1,085 × 500 × 1,080			
Weight		235 kg			
Manufacturer		DEN-JET Marine			

CODE	59 08 50	59 07 99	59 08 82	59 08 00	Unit Per Set
Model	EXP20-14KEMC	CEX40-1380	EXP30-22KEMC	CEX40-1800	
Pressure	1,100bar (16,500 psi)	1,380 bar (20,000 psi)	1,500 bar (21,750 psi)	1,800 bar (26,100 psi)	
Power Rating	20 HP (15 kW)	45HP (33 kW)	30 HP (22 kW)	45 HP (33 kW)	
Flow Rate	8 ltr/min.	13.8ltr/min.	8 ltr/min.	10ltr/min	
Electrical Supply	3-440V/ 60Hz/27A	3-440/400V/ 60Hz/57A	3-440V/ 60Hz/32A	3-440/400V/ 60Hz/57A	
EP Grade	Ex d IIB T4	EExde IIC T4	Ex d IIB T4	EExde IIC T4	
Dimensions L × W × H (mm)	1,250 × 880 × 1,270	1,600 × 1,050 × 1,150	1,250 × 880 × 1,270	1,600 × 1,050 × 1,150	
Weight	630 kg	680 kg	670 kg	680 kg	
Manufacturer	BC Taechang	Den-Jet Marine	BC Taechang	Den-Jet Marine	

**Vertical type**

Designed to use for any narrow passage, suitable on Container Vessels.



Unit Per Set

CODE	59 08 42	59 08 90	59 09 00	Unit Per Set
Model	CE20-500	MJ20-14KEV	HJ30-22KEV	
Pressure	500 bar (7,250 psi)	1,100 bar (16,500 psi)	1,500 bar (21,750 psi)	
Power Rating	20 HP (15 kW)	20 HP (15 kW)	30 HP (22 kW)	
Flow Rate	16 ltr./mn.		8 ltr/min.	
Electrical Supply	3-440V/60Hz/28A	3-440V/60Hz/27A	3-440V/60Hz/32A	
IP Protection	55		54	
Dimensions L × W × H (mm)	950 × 500 × 850		950 × 550 × 1,440	
Weight	170 kg	486 kg	526 kg	
Manufacturer	Den-Jet Marine		BC Taechang Corp.	

**Hot Box**

Ideal tool for cargo hold cleaning to reduce use of chemicals. Connects to any type of water blaster up to 500 bar and heats up the water to create hot water, enhancing the efficiency of cleaning works.



CODE	59 08 43
Model	HOT BOX 220 VAC - 500
Pressure	MAX 500 bar (7,250psi)
Flow Rate	MAX 45 ltr/min
Heating source	Diesel burner
Heat Energy	90,000 kcal/h / 105 KW
Electrical Supply	220 V/230 V
Heat Transfer Temp. at 10 lpm: °C	98
Heat Transfer Temp. at 20 lpm: °C	75
Heat Transfer Temp. at 30 lpm: °C	50
Heat Transfer Temp. at 40 lpm: °C	37
Heat Transfer Temp. at 45 lpm: °C	33
Dimensions L × W × H (mm)	800 × 600 × 1,045
Weight	150 kg
Manufacturer	Den-Jet Marine

**13. Hold Cleaning Guns****Hold Cleaning Guns**

Lanzas de Presión para Limpieza Bodegas/Tanques  
ホールドクリーニングガン 气力清洁枪

For cleaning of bulk carrier holds by a high pressure water stream. A strong stream of water can be projected a distance of up to 25 mtrs for the removal of any loose rust, flaking paint, or cargo residue. Supplied complete with a tripod stand, the lightweight design is ideal for a one-man operation. Please specify type and size of water hose coupling to be connected, when ordering.



59 07 41

59 07 43

CODE	59 07 41	59 07 43	Unit Per Set
Model	Water Tobey	VP Water Gun & Tripod	
Effective Jet Reach	20 - 25 mtr	25 mtr	
Working Pressure	5 - 7 kgf/cm²	5 - 6 kgf/cm²	
Water Consumption	28 ton/hour	12 - 28 m³/hour	
Water Hose	50 mm or 65 mm	50 mm BSP male connection	
Hose Coupling	Nakajima type	BSP Plus Any other type	
Air Hose	15 mm	3/4" / 1" claw coupling or 1" BSP female	
Weight	Gun : 4.7 kg Stand : 18 kg	Gun with tipod 10.5 kg	
Name of Mfr.	Exeno Yamamizu	Victor Marine Ltd.	

## Hold Cleaners

### Trelawny Hydraflex

Mantenga Limpiadores ホールドクリーナー 保持清潔

Specifically designed for hold cleaning on bulk carriers and cargo vessels of all sizes. Operated by a combination of water and compressed air, the gun throws a solid, tightly compressed jet of water of up to 30 mtr (100 ft).

#### Features and Benefits

- Stainless steel construction
- Compact design
- Low maintenance



Unit Per Set

CODE	59 07 42
Type	Standard kit
Model	342.HY50
Effective Jet Reach	30 mtr
Recommended Water Pressure	6 kgf/cm <sup>2</sup>
Recommended Air Pressure	7 kgf/cm <sup>2</sup>
Water Consumption	300 gal/min.
Water Hose	2"
Hose Coupling	Instantaneous
Air Hose	3/4"
Weight	15 kg (Gun & Tripod)
Including	Gun, Tripod, Water hose coupling (2-1/2" x 2-1/2" and 1-1/2" x 2"), and Instantaneous water hose adapter

Name of Mfr. : Trelawny SPT Ltd.

#### Spare Parts for Hydraflex Hold Cleaning Gun

Unit Per P.c.

CODE	Description	Part No.	Weight Kg (lb)
59 07 46	Water hose coupling 2-1/2" x 2-1/2"	342.HY03	1.70 (4.3)
47	Water hose coupling 2-1/2" x 2"	342.HY04	1.95 (0.75)
48	Instantaneous water hose adapter	342.HY05	0.30 (0.66)
49	Ball valve	342.HY07	1.40 (3.10)

## Hold Cleaning Guns

### Maxi-Gun

Lanzas de Presión para Limpieza

ホールドクリーニングガン 固定式清潔栓

It consists of a uniquely designed series of air and water nozzles with 2 special swivel units in the vertical and horizontal planes. It is designed to give the highest and strongest solid water jet possible up to about 60 meters. It can be easily operated by one man using the normal service mains available on most Bulk



carriers and OBO type vessels.

It requires air pressures of 7 bar and can simply be connected to the normal water-on-deck line and the service air line.

For safety, the Maxi-Jet incorporates 3 easily mounted water ballast tanks. These form a weighted, self-supporting stand for the nozzle and swivel units. With the ballast tanks full one man can easily and safely operate the equipment from a standing position, controlling jet direction and cleaning pattern from the nozzle handle.

Unit Per Set	
CODE	59 07 45
Recommended Air Pressure	7 bar
Minimum Air Supply	5 m <sup>3</sup> /min.
Estimated Water Consumption	20 – 100 m <sup>3</sup> /hr.
Effective Washing Height	35 – 60 meters
Air Hose	Minimum 1"
Water Hose	Minimum 2-1/2"
Accessories	Twin water hose inlet, Water-filled ballast tank x 3
Total Weight	180 kg
Name of Mfr.	Stromme

## Hold Cleaner Guns

### VULCAN

Lanzas de Presión para Limpieza

ホールドクリーニングガン 固定式清潔栓

Designed for cleaning cargo holds, operated by combination of water and electric motor which makes working condition more steady. Due to high flow, water can reach at high position on the cargo holds easily.



Unit Per Set

CODE	59 07 79
Type	Standard kit With Cleaning Stand & Nozzle
Medium	Seawater (or Fresh Water)
Effective Jet Reach	25 mtr
Water Pressure	17-19 Bar
Water Consumption	400 ltr/min.
Hose Connection	Inlet 65A / Outlet 40A hydrant nipple
Weight	Pump unit: 345 kg/Stand: 50 kg
Size L x W x H (mm)	Pump Unit: 1,520 x 650 x 1,310 Stand: 900 x 500 x 1,200

Name of Mfr. : BC Taechang Ind. Corp.

## Hold Auto Cleaners

Limpiajador automático de la bodega de carga

自動カーゴホールドクリーナー 货舱自动清洁器

Designed for cleaning cargo holds, controlled by DC motors which make the water jets move up and down automatically without crews' operation. Standard kit with DC converter type and portable kit with rechargeable battery type are available.



Unit Per Set

CODE	59 06 54	59 06 60
Type	Standard Kit with DC Converter	Portable Kit with Rechargeable Battery
Effective Jet Reach	20 - 30 meters	
Recommended Water Pressure	4 - 6 kgf/cm <sup>2</sup>	
Water Hose	50 mm or 65 mm	
Hose Coupling	2" or 2-1/2"	
Voltage	DC 24V	
Accessories	Assembled portable stand, Auto Nozzles, Waterproof Control Box, DC Converter/Rechargeable Battery	
Weight	66 kg	68 kg
Name of Mfr.	Goldbay Marinetech Ltd.	

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Pneumatic &amp; Electrical Tools

## Cargo Hold Application Set

Juego de aplicación para bodegas de carga  
カーゴホールドアプリケーションセット  
货舱实用工具组合

For applying all kinds of protective coatings, as well as for the application of chemical solutions for cleaning of cargo holds. Suitable for all kinds of chemicals (acids, alkaline, solvent, polymer, chlorine base). The lightweight telescopic applicator lance, made by Carbon Fiber, Glass Fiber, allows for reaching up to 20m height, with a bare pole weight of less than 4 kg. An air-operated double diaphragm pump made by GFR + PP (Glass Fiber + Polypropylene) material is also included, as well as an 50 m delivery hose roll and a 5 m suction hose.



Unit Per Set

CODE	59 07 90	59 07 92	59 07 95	59 07 96	
Model	M36	M42	L42	L57	
Consist of:					
Double Diaphragm Pump	1/2 inch		1 inch		
Telescopic Lance	35 ft	42 ft	42 ft	57 ft	
Others	165 ft (50 m) Delivery hose, 16.5 ft (5 m) Suction hose, 2 pieces Spray nozzles, 1-unit Lance holder with belt, 3 pieces Respirator mask, 3 pairs Protective goggles, Instruction Videos, Manual, Specifications.				

Name of Mfr.: Chemo Marine Chemicals

### Application Set Repair kit

Consists of: Spray nozzles, Spraying head, Hose connectors set, Tap connector and Extension joint.

59 07 97	Repair kit for cargo hold application set, Chemo marine	Set
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## 14. Air Line Filters

### Air Line Filters

Filtros para Línea de Aire エアフィルター 高压清洗机



Designed for cleaning of compressed air and draining water drips.

The standard filtration is 5 µm and the maximum working pressure is 1.0 MPa. The maximum working temperature is 60°C. The filter case is made of a polycarbonate material and reinforced by a guard. A bracket and auto drain are also available on request.

Unit Per Pcs.

CODE	Connection	Bowl Capacity (cm <sup>3</sup> )	Weight kg
59 08 01 02	PT 1/4	8	0.09
	PT 3/8	25	0.17
59 08 03 04 05	PT 1/2	45	0.35
	PT 3/4		0.39
	PT 1		0.85

## Air Line Lubricators

Lubricadores para Línea de Aire

エアルブリケーター 空气管路润滑器



For use in adding lubricant into pressurized air. Maximum working pressure is 1.0 MPa and maximum working temperature is 60°C. The filter case is made of a polycarbonate material and reinforced by a guard. The recommended lubricant is turbine oil (ISO VG32). A bracket is also available on request.

Unit Per Pcs.

CODE	Connection Thread	Min. Flow for Drop (ltr/min)	Lubricant Storage Volume (cm <sup>3</sup> )	Weight kg
59 08 11 12 13 14 15	PT 1/4	15	25	0.10
	PT 3/8	40	55	0.18
	PT 1/2	50	135	0.37
	PT 3/4	50		0.41
	PT 1	190		0.92

## Air Line Pressure Regulators

Reguladores de Presión para Línea de Aire

エアレギュレーター 空气管路压力调节器



Non relief valve type regulator for use on airlines to maintain constant pressure. The maximum operating pressure is 1.0 MPa and the maximum operating temperature is 60°C. Available in standard type and a pressure gauge attached type.

Unit Per Pcs.

CODE	Connection Thread	Set Pressure Range	Type	Weight kg
59 08 21 22 23 24 25	PT 1/4	0.05 - 0.85 MPa	w/o Pressure Gauge	0.14
	PT 3/8			0.27
	PT 1/2			0.48
	PT 3/4			0.51
	PT 1			1.13
59 08 06 07 08 09 10	PT 1/4		with Pressure Gauge	0.14
	PT 3/8			0.27
	PT 1/2			0.48
	PT 3/4			0.51
	PT 1			1.13

## Air Line F.R.L. Combinations

Combinaciones F.R.L. para Línea de Aire

エアコンビネーション

空气管路过滤器、调节器及润滑器

Comprised of an air filter, regulator with pressure gauge, a lubricator, and intermediate connectors. For use in compressed air filtration, regulation and lubrication. The maximum operating pressure is 1.0 MPa and the maximum operating temperature is 60°C. The standard filtration is 5 µm.



Unit Per Pcs.

CODE	Connection Thread	Min. Flow of Drop (ltr/min)	Set Pressure Range	Weight kg
59 08 31	PT 1/4	15		0.38
32	PT 3/8	40		0.75
33	PT 1/2	50	0.05 - 0.85 MPa	1.42
34	PT 3/4	50		1.55
35	PT 1	190		3.34

## Mobile Air Filter Lubricators

Rustibus® Air Pro

Lubricadores Portátiles para Filtros de Aire Rustibus Aire Pro

可動式エアフィルターブリケーター

移动式润滑机空气过滤器

Designed for easy use and operation. The counter balance system makes the filter-lubricator unit remain ideally positioned as the operator moves around while working. A regulator is used to maintain the pressure at a level suitable for the equipment in use.



It can be used with any pneumatic hand tool, giving a safe, more flexible and efficient working position.

Unit Per Set

CODE	59 08 45
Model	Air-Pro
Air Pressure	6 – 8 bar
Dimensions L × H × W	300 × 400 × 300 mm
Weight	5.8 kg

Name of Mfr.: Rustibus®

## In-Line Lubricators

Lubricador en Línea インラインブリケーター

同軸润滑器

Heavy duty in-line lubricators to be installed 1.5 – 2 meters from the tool. Designed for use with tools that are in use too far away from the compressor to be lubricated but a permanently mounted unit. This units can be used on everything from an air scribe to a paving breaker.



Technical features:

- Meter valve for adjusting oil flow.
- Slight disk in housing for visual oil inspection.
- Heavy duty and robust.
- Repair kits available.

CODE	Model	Capacity Ltr	Hose Size cm	Weight kg	Max. Working Press. bar	Air Flow Cap. at 4.8 bar m³/min
59 08 46	TX-0L	0.04	1.27	0.681	34.47	0.849
47	TX-1L	0.11	1.9	0.704	17.93	1.982
48	TX-2L	0.33	1.9	1.090	17.24	1.982
49	TX-3L	0.47	2.54	1.977	20.68	4.247

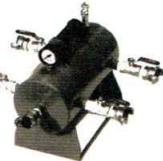
Name of Mfr. : TXP/Rustibus®

## 15. Air Distributors

### Four-Way Air Distributor

Distribuidor de Aire con Cuatro Vías

エアー四方分配器 气动管四通



Constructed of carbon steel pipe. Permits the simultaneous connection of 4 pneumatic tools at to a single air line while maintaining constant feed pressure. Equipped with carrying handle, support skids, and safety valve pressure gauge. Air inlet and outlets are fitted with bronze ball valves and variable universal couplers. Maximum pressure: 10 bar (140 psi), Unit weight: 17 kg.

59 08 91	Distributor, air, 4-way	Set
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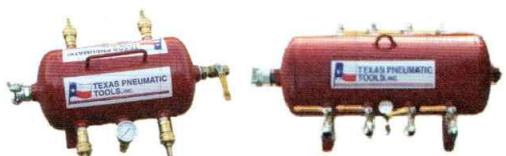
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### Tank Style Air Manifolds

Múltiples de Aire en Forma de Tanque

タンク式エアーマニホールド 简型空气管

Keep your work site uncluttered by having only one hose going to the work area. Both sizes can be used in tandem to provide as many outlets as needed. With ASME approved tanks and POP-OFF safety valves; pressure gauge and brass draining valve to vent droplets, both models meet OSHA guidelines.



TX-3AMF

TX-2AMF

CODE	59 08 92	59 08 93
Model	TX-3AMF	TX-2AMF
Capacity	9.46 ltr	56.77 ltr
No. of Outlet	4	8
Working Pressure	13.79 bar	
Test Pressure	20.68 bar	
Inlet Size	2.54 cm (1")	5.08 cm (2")
Tank Diameter	20.3 cm	30 cm
Size L × W × H cm	58.4 × 35.5 × 25.4	87.6 × 55.8 × 45.7
Weight	10.4 kg	28.6 kg

Name of Mfr. : TXP / Rustibus®

## 16. Electric Hand Tools

### Cordless Drill Drivers

Taladro sin Cable  
コードレス（充電式）ドリルドライバー 无绳钻孔机

Designed for continuous use and easy service. Compact and lightweight for increased maneuverability. Battery charger and plastic case are included as standard accessories.



#### How to order: CODE

Cordless drill driver, NOMINAL CAPACITY,  
MODEL

Unit Per Set

CODE	59 09 01	59 09 02	59 09 05	59 09 06
Power Source	110V	220V	110V	220V
Nominal Capacity	6.5 mm (1/4")		10 mm (3/8")	
Drilling Capacity mm	Steel	6.5	10	
	Wood	9	15	
Chuck Size		UNF 3/8		UNF 3/8
No Load Speed R.P.M.		500		1,100 / 320
Voltage		4.8		9.6
Weight kg		1.0		1.5

Unit Per Set

CODE	59 09 10	59 09 11	59 09 12
Battery Voltage		20 V	
Battery Current		4.0 Ah / 6.0 Ah / 8.0 Ah	
Diameter of Grinding Wheel	Φ100 mm	Φ115 mm	Φ125 mm
Maximum Aperture		Φ16 mm	
Spindle Thread		M10	
No-load Speed		8,500 r/min.	

Unit Per Set

CODE	59 09 13	59 09 14	59 09 15
Battery Voltage		20 V	
Battery Current		4.0 Ah / 6.0 Ah / 8.0 Ah	
Diameter of Grinding Wheel	Φ100 mm	Φ115 mm	Φ125 mm
Maximum Aperture		Φ16 mm	
Spindle Thread		M10	
No-load Speed		11,000 r/min.	

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### Cordless Impact Wrenches

Llaves de Impacto sin Cable  
コードレス（充電式）インパクトレンチ 无绳冲击式扳手

For fast tightening or loosening of bolts. Compact and well-balanced design for positive control. Battery charger and plastic case are prepared as standard accessories.



#### How to order: CODE

Cordless impact wrench, SQUARE DRIVE,  
MODEL

Unit Per Set

CODE	59 09 21	59 09 22	59 09 25	59 09 26
Power Source	110V	220V	110V	220V
Square Drive	3/8"		1/2"	
Bolt Size	M5 - M12		M6 - M14	
Torque kg. m	700		1,200	
No Load Speed R.P.M.	2,200		0 - 1,500	
Stroke	2,900		0 - 2,300	
Voltage	9.6		12	
Weight kg	1.5		2.3	

Unit Per Set

CODE	59 09 16	59 09 17
Battery Voltage		20 V
Battery Current		4.0 Ah / 6.0 Ah / 8.0 Ah
Saw Blade Diameter	Φ180 mm	Φ185 mm
Maximum Cutting Depth	60 mm at 90°	62.5 mm at 90°
Maximum Beveling Depth	46 mm at 45°	-
No-load Speed		4,800 r/min.

### Cordless Angle Grinders

Amoladoras angulares sin cables  
コードレス（充電式）アングルグラインダー 充电式角磨机

A rechargeable handheld power tool for grinding or cutting for various purposes with spinning of grinding or cutting wheel by the motor and gears when the tool is activated. This product uses



new technology from EV(electrical vehicle), the direct-drive exterior-rotor could reduce the consumption of tool gearing and current, breathable brushless motor to reduce the temperature rise of motor. These two tools and upgraded rechargeable lithium battery could make battery life last longer than normal batteries. Even after several years of storage, the battery is still charged normally.



### Cordless Circular Saws

Sierras circulares sin cable  
コードレス（充電式）電動丸鋸 充电式圆锯

Rechargeable powerful hand-held or table-mounted tool for cutting with a flat disc shape blade. It adopts the new technologies, the direct-drive exterior rotor which has excellent high rigidity, high response, high precision, higher torque and efficiency, the brushless motor which reduces the temperature rise of the motor and lowers the current, and the lithium battery used in EV (electrical vehicle) which is more durable, safer than the normal type, greatly improve the lifetime and stability.



### Cordless Reciprocating Saws

Sierras de sable sin cable  
コードレス（充電式）電動往復鋸 充电式往复锯

Versatile power tool for cutting a wide range of materials such as wood, metal, plastic and more. It adopts the new technologies, the direct-drive exterior rotor which has excellent high rigidity, high response, high precision, higher torque and efficiency, the brushless motor which reduces the temperature rise of the motor and lowers the current,

and the lithium battery used in EV (electrical vehicle) which is more durable, safer than the normal type, greatly improve the lifetime and stability.

Unit Per Set	
CODE	59 09 18
Battery Voltage	20 V
Battery Current	4.0 / 6.0 / 8.0 Ah
Reciprocating Stroke	28 mm
No-load Speed	0-3,000 r/min.

## Cordless Paint Mixers

Mezcladores de pintura sin cable

コードレス（充電式）ペイントミキサー



Electrical mixing tool for paint with rechargeable battery, useful tool for dealing with large amounts of paint. It adopts the new technologies, the direct-drive exterior rotor which has excellent high rigidity, high response, high precision, higher torque and efficiency, the brushless motor which reduces the temperature rise of the motor and lowers the current, and the lithium battery used in EV (electrical vehicle) which is more durable, safer than the normal type, greatly improve the lifetime and stability.

Unit Per Set	
CODE	59 09 19
Battery Voltage	20 V
Battery Current	4.0/6.0/8.0 Ah
Max. Clamping Capacity	Φ13 mm
Max. Screw Diameter	Φ10 mm
No-load Speed	L: 0 - 400 r/min., H: 0 - 2,000 r/min.
Standard Torque	80 N.m
Impact Frequency	L: 0 - 7,200/min., H: 0 - 36,000/min.

## Cordless Blowers

Sopladores sin cable

コードレス（充電式）ブロワー



Rechargeable mechanical apparatus used for making airflow or increase air pressure to move air or gas from one place to another. It adopts the new technologies, the direct-drive exterior rotor which has excellent high rigidity, high response, high precision, higher torque and efficiency, the brushless motor which reduces the temperature rise of the motor and lowers the current, and the lithium battery used in EV (electrical vehicle) which is more durable, safer than the normal type, greatly improve the lifetime and stability.

Unit Per Set	
CODE	59 09 20
Battery Voltage	20 V
Battery Current	4.0 / 6.0 / 8.0 Ah
Rated Speed	Low - 11,000 r/min. High - 16,000 r/min.
Air Volume	Low - 1.9 m³/min. High - 2.6 m³/min.

## Portable Electric Drills

Taladros Eléctricos Portátiles 電気ドリル 便携式钻孔机

Designed for precision and reliability for marine and industrial use. To be used for all conventional drilling of steel or wood. Furnished for a 110 volt power supply or 220 volt power supply. Further detailed data on the complete line of the drills, ask your local distributor.

The specifications listed here are for your reference. If you wish to order electric drills from a specific manufacturer, please refer to the comparison table listing major international manufacturers and product model numbers on page 59-64.



For 6.5 – 10.0 mm



For 16.0 – 32.0 mm

### Specifications

Drilling Capacity mm	Chuck Size mm	Spindle	Motor	No Load Speed R.P.M.	Weight kg
Steel	Wood				
6.5	13	0.5 - 6.5	3/8"-24UNF	305 W	2,700
10.0	21	0.8 - 10.0	1/2"-20UNF	390 W	1,700
13.0	30	1.2 - 13.0	J.T.#6	620 W	780
16.0	36	3.2 - 16.0	J.T.#3	670 W	700
20.0	-	-	M.T.#2	730 W	500
25.0	-	-	M.T.#3	1,300 W	370
32.0	-	-	M.T.#3	1,600 W	330

Note: J.T. denotes Jacobs Taper.

M.T. denotes Morse Taper.

### How to order: CODE

Drill, electric portable, DRILLING CAPACITY, POWER SOURCE VOLTAGE, MODEL

Unit Per Set			
AC 110V Single Phase		AC 220V Single Phase	
CODE	Drilling Capacity mm	CODE	Drilling Capacity mm
59 10 01	6.5	59 10 11	6.5
02	10.0	12	10.0
03	13.0	13	13.0
04	16.0	14	16.0
05	20.0	15	20.0
59 10 06	25.0	59 10 16	25.0
07	32.0	17	32.0

## Portable Magnetic Base Drill Machines

Taladro de base magnética portátil

ポータブル磁気固定式穴あけ機 便携式磁性底座钻孔机

A portable drilling machine with a magnet base, geared to drilling mild steel (or equivalent), using one-touch type "JETBROACH" or "HI-BROACH" cutter. The machine will be mounted on the workpiece to be drilled with the magnet securely fastening the machine onto the workpiece while drilling takes place. Pilot pins and broach cutters are sold separately.

### Model WOJ-3200 - Cord Type

Designed to use Jetbroach cutters or twist drill. Loosening the pillar clamp allows the complete frame to be lifted up to a maximum of 60 mm for specific drilling. The use of Jet-broach cutters require the frame to be at the lowest position, while twist bit drilling required the appropriate amount of elevation to be adjusted for safe operation. The pillar clamp is required to be tightened before drilling safely. Feed handles can be positioned on the right or left hand side for ease of drilling and mounting in confined spaces.

Note: Always engage the magnet before adjusting the body height.



			Unit Per Set		
CODE		59 10 08	59 10 09		
Power Source (Single Phase)		110-120V AC, 50/60 Hz	220-240V AC, 50/60 Hz		
Model			WOJ-3200		
Electric Drill	Rated power consumption (W)	950			
	Rated current (A)	8.6	4.3		
	No-load speed min <sup>-1</sup> (rpm)	870			
Magnet Power Consumption (W)		38	30		
One-touch type JETBROACH					
Hole Capacity (mm)	Hole Dia.	Plate Thick	Hole Dia	Plate Thick	
	25L	12 to 17	9 to 25	12 to 17	9 to 25
	35L	17.5 to 32	9 to 35	17.5 to 32	9 to 35
	50L	12 to 32	9 to 50	12 to 32	9 to 50
Twist drill		Max. 13 mm dia.			
Max Stroke (mm)		130			
Magnet Holding Power N (kgf)		9,000 (918)			
Magnet Dimensions (mm)		99 × 177			
Mass (Weight) (kg)		13			
Accessories included		*Carry Case *Oil Tank *Pilot Pin 08035 *Sub Handle *2 pieces of Hex. Socket Head Bolt 5 × 10 mm *3 pieces of Rod Handle	*Hex. Socket Screw Keys; 3 mm / 4 mm / 6 mm *8 × 10 mm Spanner *Guard *Safety strap		
Optional		Optional one-touch adapter allows the use of up to 13 mm twist drills to be used in the original arbor.			

Name of Mfr. : Nitto Kohki Co., Ltd.

### Replacement Cutters

Replacement is quick and easy with unique push fit self-centering cutter system by pilot pins and broach cutters. Pilot pins and broach cutters are sold separately.

#### One-Touch Cutter Replacement

Replacement is quick and easy with our unique push fit self-centering cutter system.



### Pilot pins:

Hi-Broach cutter: 06025 (C1) or 08025 (A1)

JETBROACH cutter: 06025 (C1), 08035 (A2),  
06050 (C2), 08050 (A3)

\*for Model WOJ3200

### Broach cutters:

HI-BROACH: 12 mm (TK00698) – 17 mm (TK00703)  
diameter

17.5 mm (TK01391) – 27 mm (TK1407)  
diameter

JETBROACH: 12 mm (TK01148/TK01154) –  
17 mm (TK01153 / TK01159) diameter  
17.5 mm (TK01249/TK01282) –  
32 mm (TK01273/TK01305) diameter

### Combination of Pilot Pins and Broach Cutters

Pilot pins	06025 (C1)	08025 (A1)	06025 (C1)	08035 (A2)	06050 (C2)	08050 (A3)
	P/N. TK01167	P/N. TK01486	P/N. TK01167	P/N. TK01487	P/N. TK01166	P/N. TK01488
Broach cutters	One-touch type HI-BROACH (High speed steel)			One-touch type JETBROACH (Tungsten carbide tip)		
Dia- meter	Depth 25 mm		Depth 25 mm	Depth 35 mm	Depth 50 mm	
12	TK00698		TK01148		TK01154	
13	TK00699		TK01149		TK01155	
14	TK00700		TK01150		TK01156	
15	TK00701		TK01151		TK01157	
16	TK00702		TK01152		TK01158	
17	TK00703		TK01153		TK01159	
17.5		TK01391		TK01249		TK01282
18		TK01392		TK01250		TK01283
18.5				TK01251		
19		TK01393		TK01252		TK01284
19.5		TK01394		TK01253		TK01285
20		TK01395		TK01254		TK01286
20.5				TK01255		TK01287
21		TK01396		TK01256		TK01288
21.5		TK01397		TK01257		TK01289
22		TK01398		TK01258		TK01290
22.5		TK01399		TK01259		TK01291
23		TK01400		TK01260		TK01292
23.5		TK01401		TK01261		TK01293
24		TK01402		TK01262		TK01294
24.5		TK01403		TK01263		TK01295
25		TK01404		TK01264		TK01296
25.5				TK01265		TK01297
26		TK01405		TK01266		TK01298
26.5				TK01267		TK01299
27		TK01407		TK01268		TK01300
28				TK01269		TK01301
29				TK01270		TK01302
30				TK01271		TK01303
31				TK01272		TK01304
32				TK01273		TK01305

## Electric Angle Grinders

Amoladoras Angulares Eléctricas

電動ディスクグラインダー 电动角向磨光机

Especially designed for continuous heavy duty work for all grinding applications. Furnished for a 110 volt power supply or 220 volt power supply. For further detailed information on the complete line of the grinder, ask a local distributor.

The specifications listed here are for your reference. If you wish to order Angle Grinders from a specific manufacturer, please refer to the comparison table listing major international manufacturers and product model numbers on page 59-65.



### Specifications

For Wheel Diam	Spindle Thread	Motor	No Load Speed R.P.M.	Weight kg
100 mm	M10 x 15 mm	510 W	11,000	1.4
125 mm	M16 x 17 mm	630 W	9,500	2.3
150 mm	M16 x 17 mm	1,050 W	8,000	3.8
180 mm	M16 x 21 mm	1,400 W	6,500	4.6

### How to order: CODE

Angle grinder, electric portable, WHEEL DIAM, POWER SOURCE VOLTAGE, MODEL

Unit Per Set

AC 110V Single Phase		AC 220V Single Phase	
CODE	For Wheel Diam	CODE	For Wheel Diam
59 10 21	100 mm	59 10 31	100 mm
22	125 mm	32	125 mm
23	150 mm	33	150 mm
24	180 mm	34	180 mm

## Rubber Pads and Holder Nuts for Electric Grinder

Repuestos Amoladoras Eléctricas, Plato Coma, Portatuerca

アンダルグライナー用ラバーパッド

胶垫及支架螺母



### Rubber Pad

Unit Per P.C.

CODE	For Wheel Diam	CODE	For Wheel Diam
59 10 41	100 mm	59 10 45	150 mm
43	125 mm	47	180 mm

### Holder Nut

Unit Per P.C.

CODE	For Wheel Diam	CODE	For Wheel Diam
59 10 42	100 mm	59 10 46	150 mm
44	125 mm	48	180 mm

## Electric Bench Grinders

Afiladora Eléctrica Sobremesa

卓上用電動グラインダー 电动台式磨床

For sharpening tools and other appliances.

According to safety measures, the grinding must be fitted with a wheel cover and must be firmly secured to a bench stand. Provided with permanently self lubricating ball bearings. Furnished for use with a 110 volt power supply or 220 volt power supply.



The specifications listed here are for your reference. If you wish to order Bench Grinders from a specific manufacturer, please refer to the comparison table listing major international manufacturers and product model numbers on page 59-65.

### Specifications

Wheel Size mm	Motor	No Load Speed R.P.M.	Weight kg
150 x 16 x 12.7	300 W	3,600	16
205 x 19 x 15.88	600 W	3,600	28

### How to order: CODE

Bench grinder, electric, WHEEL DIAM, POWER SOURCE VOLTAGE, MODEL

Unit Per Set

AC 110V Single Phase		AC 220V Single Phase	
CODE	For Wheel Diam	CODE	For Wheel Diam
59 10 51	150 mm	59 10 56	150 mm
52	205 mm	57	205 mm

## Electric Straight Grinders

Amoladora Eléctrica Recta

電動ストレートグラインダー 电动直线型磨床

Designed for grinding jobs in tight corners.



The specifications listed here are for your reference. If you wish to order Straight Grinders from a specific manufacturer, please refer to the comparison table listing major international manufacturers and product model numbers on page 59-65.

### Specifications

Wheel Size mm	Motor	No Load Speed R.P.M.	Weight kg
100 x 19 x 12.7	750 W	9,500	5.5
125 x 19 x 12.7	590 W	4,000	5.5

### How to order: CODE

Straight grinder, electric portable, WHEEL DIAM, POWER SOURCE VOLTAGE, MODEL

Unit Per Set

AC 110V Single Phase		AC 220V Single Phase	
CODE	For Wheel Diam	CODE	For Wheel Diam
59 10 61	100 mm	59 10 66	100 mm
62	125 mm	67	125 mm

## Electric Die Grinders

Amoladora Eléctrica Recta de 6 mm

電動ダイグラインダー 电动冲膜磨床

For precision grinding. A lightweight, high speed grinder to be used with a 6 mm diameter shaft stone. Furnished for

a 110 volt or 220 volt power source. For further detailed information on the complete line of die grinders, ask your local distributor.



The specifications listed here are for your reference. If you wish to order Die Grinders from a specific manufacturer, please refer to the comparison table listing major international manufacturers and product model numbers on page 59-65.

#### Specifications

For Collet Diam	Maximum Wheel O.D.	Motor	No Load Speed R.P.M.	Weight kg
6 mm	18 mm	145 W	30,000	0.9
6 mm	32 mm	240 W	23,000	1.9

#### How to order: CODE

Die grinder, electric portable, COLLET DIAM, MAXIMUM WHEEL DIAM, POWER SOURCE VOLTAGE, MODEL

Unit Per Set

AC 110V Single Phase			AC 220V Single Phase		
CODE	For Collet Diam	Maximum Wheel Diam	CODE	For Collet Diam	Maximum Wheel Diam
59 10 71	6 mm	18 mm	59 10 75	6 mm	18 mm
72	6 mm	32 mm	76	6 mm	32 mm

59

## Electric Sheet Sanders (Orbital Sanders)

Lijadora Eléctrica Orbital 電動オービタルサンダー 电动钢板磨砂机



Ideal for direct material finishing or sanding painting surfaces. Furnished for a 110 volt power supply or 220 volt power supply. For further detailed information on the complete line of sheet sanders, ask your local distributor.

The specifications listed here are for your reference. If you wish to order Sheet Sanders from a specific manufacturer, please refer to the comparison table listing major international manufacturers and product model numbers on page 59-65.

#### Specifications

Sanding Area mm	Motor	No Load Speed R.P.M.	Weight kg
114 x 280	300 W	10,000	2.6

#### How to order: CODE

Sheet sander, electric portable, SIZE of SANDING AREA, POWER SOURCE VOLTAGE, MODEL

Unit Per Set

AC 110V Single Phase		AC 220V Single Phase	
CODE	Sanding Area mm	CODE	Sanding Area mm
59 10 81	114 x 280	59 10 82	114 x 280

## Electric Nibblers

Cizalla Eléctrica 電動ニブラー 电动毛坯下料机

For free hand cutting or cutting by template of all types of heavy sheet metal plates, light alloys, and plastic panel without damaging the material. Can also be used on curved surfaces. Furnished for use with a 110 volt or 220 volt power

supply. For further detailed data on the complete line of the nibbler, ask your local distributor.



The specifications listed here are for your reference. If you wish to order Nibblers from a specific manufacturer, please refer to the comparison table listing major international manufacturers and product model numbers on page 59-66.

#### Specifications

Cutting Capacity		Motor	No Load Speed R.P.M.	Weight kg
Mild Steel	Radius			
1.6 mm	40 mm	400 W	2,000	1.7
2.3 mm	50 mm	335 W	950	3.5
3.2 mm	100 mm	670 W	900	5.8
4.5 mm	110 mm	1,140 W	850	7.5

#### How to order: CODE

Nibbler, electric portable, CUTTING CAPACITY, POWER SOURCE VOLTAGE, MODEL

Unit Per Set

AC 110V Single Phase		AC 220V Single Phase	
CODE	Cutting Capacity	CODE	Cutting Capacity
59 11 01	1.6 mm	59 11 05	1.6 mm
02	2.3 mm	06	2.3 mm
03	3.2 mm	07	3.2 mm
04	4.5 mm	08	4.5 mm

#### Accessories for Electric Nibbler

Punches and dies differ from manufacturer to manufacturer. When ordering, it is necessary to provide information about the manufacturer and model of the nibbler you are currently using.



Punch



Die

#### How to order: CODE

PUNCH or DIE, CUTTING CAPACITY mm, for MODEL

Unit Per P.C.

Punch		Die	
CODE	Cutting Capacity mm	CODE	Cutting Capacity mm
59 11 09	1.6	59 11 10	1.6
11	2.3, 3.2	12	2.3, 3.2
13	4.5	14	4.5

## Electric Shears

Cizalla Eléctrica 電動シャー 电动剪切机



For cutting iron, copper, stainless steel sheeting, etc. Able to cut either straight or curved lines without deformation. Furnished for use with a 110 volt or 220 volt power supply. For further detailed data on the complete line of shears, ask your local distributor.

The specifications listed here are for your reference. If you wish to order shears from a specific manufacturer, please refer to the comparison table listing major international manufacturers and product model numbers on page 59-66.

**Specifications**

Cutting Capacity		Motor	No Load Speed R.P.M.	Weight kg
Mild Steel	Radius			
1.6 mm	25 mm	440 W	4,200	1.8
2.0 mm	70 mm	240 W	2,200	4.7
2.9 mm	100 mm	335 W	1,200	6.0

**How to order: CODE**

Shear, electric portable, CUTTING CAPACITY, POWER SOURCE VOLTAGE, MODEL

Unit Per Set

AC 110V Single Phase		AC 220V Single Phase	
CODE	Cutting Capacity	CODE	Cutting Capacity
59 11 21	1.6 mm	59 11 24	1.6 mm
22	2.0 mm	25	2.0 mm
23	2.9 mm	26	2.9 mm

**Accessories for Electric Shear**

Moving blades and stationary blades differ from manufacturer to manufacturer. When ordering, it is necessary to provide information about the manufacturer and model name of the shear you are currently using.



Moving Blade



Stationary Blade

**How to order: CODE**

MOVING BLADE or STATIONARY BLADE, CUTTING CAPACITY mm, MODEL

Unit Per Pcs.

Moving Blade		Stationary Blade	
CODE	Cutting Capacity	CODE	Cutting Capacity
59 11 31	1.6	59 11 32	1.6
33	2.0, 2.9	34	2.0, 2.9

**Electric Planers**

Cepilladores Eléctricas 電動カンナ 电动刨床

For smoothing and planing wood surfaces. Furnished for use with a 110 volt or 220 volt power supply. For further detailed information on the complete line of the planers, ask your local distributor.



The specifications listed here are for your reference. If you wish to order Planers from a specific manufacturer, please refer to the comparison table listing major international manufacturers and product model numbers on page 59-66.

**Specifications**

Planing width	Motor	No Load Speed R.P.M.	Weight kg
82 mm	700 W	16,000	2.8

**How to order: CODE**

Planer, electric portable, PLANING WIDTH, POWER SOURCE VOLTAGE, MODEL

Unit Per Set

AC 110V Single Phase		AC 220V Single Phase	
CODE	Planing Width	CODE	Cutting Capacity
59 11 36	82 mm	59 11 37	82 mm

**Electric Circular Saws**

Sierras Circulares Eléctricas 電動丸のこ 电动圆锯

Blade guard operates automatically in all positions. Easily adjustable for depth cut and mitre. Furnished for a 110 volt or 220 volt power supply.

The specifications listed here are for your reference. If you wish to order Circular Saws from a specific manufacturer, please refer to the comparison table listing major international manufacturers and product model numbers on page 59-66.

**Specifications**

Blade Diam	Arbor	Max. Cutting 90°	Motor	No Load Speed R.P.M.	Weight kg
160 mm	19 mm	55 mm	670 W	4,700	3.1
185 mm	19 mm	65 mm	1,050 W	4,700	3.9

**How to order: CODE**

Circular saw, electric portable, BLADE DIAM, POWER SOURCE VOLTAGE, MODEL

Unit Per Set

AC 110V Single Phase		AC 220V Single Phase	
CODE	Blade Diam	CODE	Blade Diam
59 11 41	160 mm	59 11 42	160 mm
44	185 mm	45	185 mm

**Spare Blades for Circular Saw**

Hojas de Repuesto para Sierra Circulares

丸のこ用替え刃 圆锯的备用刀刃



When ordering, please specify the saw's use, size (O.D. and I.D.), and number of teeth. Also the manufacturer's name and the model number of the circular saw are necessary to assure a proper fit.

**How to order: CODE**

Spare blade for circular saw, BLADE DIAM (O.D. and I.D.)mm, NUMBER OF TEETH, for MODEL

Unit Per Pcs.

CODE	Blade Size mm		Tooth
	O.D.	I.D.	
59 11 43	160	19	50/inch
47	185	19	"

**Electric Tool Sets**

Juegos de Herramientas Eléctricas 電動工具セット 电动工具组

Comprising of 1 set each of drill, circular saw and planer in plastic portable case.



**Specifications**

Item	Capacity	Watt	No Load Speed	Weight
Drill	10 mm for iron 15 mm for wood	380 W	0 - 2,800 rpm	1.8 kg
Circular Saw	160 mm blade diam	670 W	4,000 rpm	3.0 kg
Planer	84 mm blade width	430 W	15,000 rpm	2.8 kg
<b>59 11 46</b> <b>48</b>	Tool set electric AC 100 V 3's/set " AC 220 V 3's/set			Set "

**Cable Cutters Battery-Operated**

Cortacables a batería

電池駆動式ケーブルカッター

电池供电的电缆剪

A powerful battery-operated cable cutter with a 50 mm opening width, which can be safely positioned on the cable even in confined spaces. This is achieved by an LED that illuminates the working area. In addition to Cu and Al cable, the cable cutter also cuts power cables up to a diameter of 50 mm. The crescent-shaped cutting geometry convinces with a clean cutting pattern with low conductor deformation. Thanks to the closed cutting head, the cut is also particularly safe. A real benefit are the balanced ergonomics and the low weight. With this lightweight tool you can work fatigue-free and in any position.



The tool is compatible with 18 V lithium-ion batteries from Makita, which fits seamlessly into your existing tool park. Adapters for other battery systems are available upon request.

Unit Per Set

CODE	<b>59 11 49</b>
Opening Width	50 mm
Battery Voltage	18 V
Construction Form	Straight
Head	Closed
Dimensions L × W × H	117 × 197 × 330 mm
Weight without battery	2.1 Kg

Name of Mfr.: Holger Clasen GmbH &amp; Co. KG

**Crimping Tools Battery-Operated**

Crimpadoras a bateria

電池駆動式压着工具

Thanks to its balanced and ergonomic design the light and powerful pressing tool with 60kN can be handled with one hand and ensures fatigue-free working. The narrow pressing head, which can be rotated by 180°, also allows pressing in hard-to-reach places. This is achieved by an LED that illuminates the working area. The battery press utilizes commercially available narrow C-shaped crimping die (CS-shape). The crimping dies are firmly locked in the press head by means of a press insert lock for more safety on the construction site. You can crimp with the battery press cross-sections DIN hexagon Cu/Al up to 300 mm<sup>2</sup>.



The tool is compatible with 18 V lithium-ion batteries from Makita, which fits seamlessly into your existing tool park. Adapters for other battery systems are available upon request.

Unit Per Pcs.

CODE	<b>59 11 50</b>
Crimping force	60 kN
Crimping width max.	DIN up to 14 mm
Crimping dies	C-shaped small (CS)
Crimping range DIN hexagon Cu	6 - 300 mm <sup>2</sup>
Crimping range DIN hexagon Al	10 - 300 mm <sup>2</sup>
Battery voltage	18 V
Stroke	15 mm
Weight without battery	3.4 kg
Dimensions L × W × H	340 × 82 × 277 mm
Construction form	Pistol
Head	Closed
Lock type	Snap fit

Name of Mfr.: Holger Clasen GmbH &amp; Co. KG

**Electric Rod Cutters**

Tronzadora Eléctrica 電動切断機 电动杆状刀具

For cutting steel rods, pipes and angle iron, etc.



Furnished for use with a 110 volt or 220 volt power supply.

For further detailed information on the complete line of rod cutters, ask your local distributor.

The specifications listed here are for your reference. If you wish to order rod cutters from a specific manufacturer, please refer to the comparison table listing major international manufacturers and product model numbers on page 59-66.

**Specifications**

Wheel Diam	Cutting Capacity mm		Motor	No Load Speed R.P.M.	Weight kg
	Round Bar	Flat			
305 mm	ø60	100 x 100	1,450 W	3,900	16
355 mm	ø60	130 x 130	1,450 W	3,800	16
405 mm	ø65	135 x 135	1,450 W	3,100	23.6

**How to order: CODE**

Rod cutter, electric, WHEEL DIAM, POWER SOURCE VOLTAGE, MODEL

Unit Per Set

AC 110V Single Phase		AC 220V Single Phase	
CODE	Wheel Diam	CODE	Wheel Diam
<b>59 11 51</b>	305 mm	<b>59 11 56</b>	305 mm
53	305 mm	58	355 mm
52	405 mm	57	405 mm

**Spare Wheels****for Electric Rod Cutter**

Ruedas de Repuesto para Tronzadoras

電動切断機用替刃

电动杆状刀具的备用轮

When ordering, please specify the outer diameter, inner diameter, thickness and maximum r.p.m.

Out Diam. (mm)	305	405
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Unit Per Pcs.

CODE	Wheel Diam mm	Thick mm	I.D. mm	Max. R.P.M.
<b>59 11 61</b>	305	2.5	25.4	4,800 mtr/min.
63	355	3.0	25.4	4,800 mtr/min.
62	405	3.0	25.4	4,800 mtr/min.



## Electric Jig Saws

Sierras de Calar Eléctricas 電動ジグソー 电动竖线锯

Used for sawing wood, plastic, mild steel plate, etc.

Able to cut either straight or curved lines without warping the surface.

Furnished for a 110 volt or 220 volt power supply.



For further detailed data on the complete line of jig saws, ask your local distributor.

The specifications listed here are for your reference. If you wish to order jig saws from a specific manufacturer, please refer to the comparison table listing major international manufacturers and product model numbers on page 59-66.

### Specifications

Cutting Capacity mm			No Load Speed R.P.M.	Watt	Weight kg
Wood	Steel	Radius			
60	6	25°	3,200	380 W	2.1

### How to order: CODE

Jig saw, electric portable, CUTTING CAPACITY, POWER SOURCE VOLTAGE, MODEL

Unit Per Set

AC 110V Single Phase		AC 220V Single Phase	
CODE	Cutting Capacity	CODE	Cutting Capacity
59 11 71	60 mm	59 11 72	60 mm

### Spare Blades for Electric Jig Saw

Hojas de Repuesto para Sierra de Calar Eléctrica

電動ジグソー用替刃 备用刀刃

When ordering, please specify the type number of the blade with the manufacture and model name of the jig saw you are currently using. Minimum order quantity is 5 blades per packet for any types.

No.1		No.4	
No.2		No.5	
No.3		No.6	

Unit Per Pkt

CODE	Type No.	Application					
		Wood	Plastic	Mild Steel	Alum	Hard Board	Hard Rubber
59 11 73	1	○					
74	2	○	○				○
75	3	○					
76	4		○				
77	5		○	○	○	○	
78	6		○	○	○	○	

## Electric Blowers

Sopladores Eléctricos 電動送風機

电动鼓风机



Lightweight with high air pressure and displacement. Capable of vacuuming dust. (Dust bag is available as a standard accessory.) Furnished for use with a 110 volt or 220 volt power supply. For further detailed information on the complete line of blowers, ask your local distributor.

### Specifications

Air Volume	Watt	No Load Speed R.P.M.	Overall Length mm	Weight kg
2.3 m³/min.	335	13,000	428	1.8

### How to order: CODE

Blower, electric, AIR VOLUME m³/min, POWER SOURCE VOLTAGE, MODEL

Unit Per Set

AC 110V Single Phase		AC 220V Single Phase	
CODE	Air Volume	CODE	Air Volume
59 11 81	2.3 m³/min.	59 11 82	2.3 m³/min.

## Electric Hot Air Blowers

Soplantes eléctricos de aire caliente

電動熱風機 电动热风机



A pistol type hot air blower, also known as heat guns. This can be used safely in a variety of applications, including paint and varnish removal, molding for PVC pipes, and hot air shrinkage for plastic package. Available for 110V or 220V power supply. Standard heating range is 50 – 55°C, but there are variety of heating ranges available from manufacturers, so please specify the further details when ordering.

### Specifications

Air Volume	Watt	Heating Range
100 - 500 ltr/min.	1,000 - 2,000W	50 – 600°C

### How to order: CODE

Hot Air Blower, electric, AIR VOLUME Ltr/min, WATT, POWER SOURCE VOLTAGE, HEATING RANGE, MODEL etc

Unit Per Set

CODE	Voltage	CODE	Voltage
59 11 83	100V	59 11 84	220V

## Electric Drill Presses

Taladro de Prensa Eléctrica

電動卓上ボーリング盤 电动钻床



Solidly built with the weight and rigidity to maintain the tolerance necessary for metal-working applications. Variable speed drive allows operation at any speed between the listed range.

**Specifications**

Drilling Capacity	Watt	Speed R.P.M.	Spindle Taper	Stroke mm	Stroke mm
13 mm	300	3,600, 2,400, 1,700, 960, 600	J.T. #6 (2-1/2)	360	80

**How to order: CODE**

Drill press, electric, DRILLING CAPACITY, POWER SOURCE VOLTAGE, MODEL

Unit Per Set

AC 110V Single Phase		AC 220V Triple Phase	
CODE	Drilling Capacity	CODE	Drilling Capacity
59 11 86	13 mm	59 11 87	13 mm

**Electric Jet Chisels**

Martillete de Aguja Eléctrica 電動ジェットタガネ 喷射凿子の备用針

For use on scaling jobs. Free rotating handle will be fixed at any position to make operation easier.



Unit Per Set

CODE	59 12 01	59 12 02	59 12 03
Model	EJC-32A		
Power Supply	AC100V 50/60 Hz	AC115V 50/60 Hz	AC230V 50/60 Hz
Power Consumption	300 W		
Rated Current	3.2 A	2.8 A	1.4 A
Stroke Speed	3,000 min <sup>-1</sup>		
Needle	2 mm × 32 or 3 mm × 15		
Power Cord Length	2.5 mtr	5 mtr	
Weight	4.5 kg		

Name of Mfr.: Nitto Kohki Co., Ltd.

**Spare Needles for Jet Chisel****How to order: CODE**

Spare needle for jet chisel, DIAM x LENGTH

Unit Per Box

CODE	Needle Diam x Lgth mm	Per Box	CODE	Needle Diam x Lgth mm	Per Box
59 04 67	2 x 180	100	59 04 68	3 x 180	100

**Comparison Table of Electric Tools**

Tabla de Comparación de Herramientas Eléctricas

電動工具主要モデル国際比較

电动工具比较表

Various manufacturers and brands are available from around the world. A few products from different manufacturers are listed here for your reference. Please ask for further information with brochures of various models from manufacturers when ordering.

The standard power source voltage differs according to the model and manufacturer. Please acknowledge that it will require several days for rewinding motor coils to convert the power source voltage when the required voltage is not available in standard.

**When ordering: Electric drills**

1. Select the drilling capacity required : 6.5 mm for steel
2. Select a manufacturer from one of the columns to the right: Black & Decker
3. List the representative code for that size : 59 10 01
4. List the model number of the tool for the manufacturer: 1046
5. Specify required power source voltage to be used: AC 110 volt

**Electric Drills**

CODE	Power Source	Drill Capacity	AEG (Germany)	BLACK & DECKER (U.S.A.)	TOSHIBA (Japan)	HiKOKI (Japan)	MAKITA (Japan)
59 10 01 59 10 11	110 V 220 V	6.5 mm for Steel	-	-	DR-6A 260 W, 3,200 rpm	D6SH 240 W, 4,500 rpm	DP2010 370 W 4,200 rpm
59 10 02 59 10 12	110 V 220 V	10.0 mm for Steel	-	TP555-XD 550 W, 0-2,900 rpm	DRD-10C 390 W, 1,700 rpm	D10VC3 600 W, 2,500 rpm	6412 450 W 3,400 rpm
59 10 03 59 10 13	110 V 220 V	13.0 mm for Steel	SBE 750 RZ 750 W 0-3,000 rpm	HD555K-B1 550 W, 0^-2,800 rpm	DR-13B 620W, 780 rpm	D13VL 860W, 1,100 rpm	6305 550 W, 1,450 rpm
59 10 04 59 10 14	110 V 220 V	16.0 mm for Steel	-	-	DR-16B 670 W, 700 rpm	-	DS5000 750 W] 600 rpm
59 10 05 59 10 15	110 V 220 V	20.0 mm for Steel	-	-	DR-20S1 730W, 500 rpm	-	-
59 10 06 59 10 16	110 V 220 V	25.0 mm for Steel	-	-	DR-25 1,300W, 370 rpm	-	-
59 10 07 59 10 17	110 V 220 V	32.0 mm for Steel	-	-	DR-32A 1,600W, 330 rpm	-	-

**Angle Grinders**

CODE	Power Source	Wheel Diam.	AEG (Germany)	BLACK & DECKER (U.S.A.)	TOSHIBA (Japan)	HiKOKI (Japan)	MAKITA (Japan)
59 10 21 59 10 31	110 V 220 V	100 mm	-	G650-B1 (115 mm) 650 W	DGS-100B 680 W, 11,000 rpm	PDA-100K 705 W, 12,000 rpm	9553HB 710 W, 11,000 rpm
59 10 22 59 10 32	110 V 220 V	125 mm	WS 10-125S 1,000 W 11,500 rpm		DGS-125B 680 W, 9,500 rpm	-	9565H 1,100 W, 12,000 rpm
59 10 23 59 10 33	110 V 220 V	150 mm	-	-	-	-	GA6021 1,050 W, 10,000 rpm
59 10 24 59 10 34	110 V 220 V	180 mm	WS 24-230 GEV (230 mm) 2,400 W, 6,600 rpm	-	DGTH-180B 2,000 W, 8,500 rpm	G18ST 2,000 W, 8500 rp,m	GA7020 2,200 W, 8,500 rpm

**Bench Grinders**

CODE	Power Source	Wheel Diam.	AEG (Germany)	BLACK & DECKER (U.S.A.)	TOSHIBA (Japan)	HiKOKI (Japan)	MAKITA (Japan)
59 10 51 59 10 56	110 V 220 V	150 mm	-	-	BGB-150 300 W, 3,600 rpm	-	GB602 250 W, 3,450 rpm (60 Hz)
59 10 52 59 10 57	110 V 220 V	205 mm	-	-	BGB-205 600 W, 3,600 rpm	-	GB801 550 W, 3,450 rpm (60 Hz)

**Straight Grinders**

CODE	Power Source	Wheel Diam.	AEG (Germany)	BLACK & DECKER (U.S.A.)	TOSHIBA (Japan)	HiKOKI (Japan)	MAKITA (Japan)
59 10 61 59 10 66	110 V 220 V	100 mm	-	-	-	-	-
59 10 62 59 10 67	110 V 220 V	125 mm	-	-	-	GP-13 570 W, 4,800 rpm	GS5000 750 W, 5,600 rpm

**Die Grinders**

CODE	Power Source	Shank Diam. × Maximum Wheel Diam.	AEG (Germany)	BLACK & DECKER (U.S.A.)	TOSHIBA (Japan)	HiKOKI (Japan)	MAKITA (Japan)
59 10 71 59 10 75	110 V 220 V	6 × 18 mm	-	-	-	-	GD0603 (6 x 19 mm) 240 W, 28,000 rpm
59 10 72 59 10 76	110 V 220 V	6 × 32 mm	-	-	-	LDU4 240 W, 23,000 rpm	GD0601 (6 x 38 mm) 400 W, 25,000 rpm

**Sheet Sanders (Orbital Sanders)**

CODE	Power Source	Paper Size	AEG (Germany)	BLACK & DECKER (U.S.A.)	TOSHIBA (Japan)	HiKOKI (Japan)	MAKITA (Japan)
59 10 81 59 10 82	110 V 220 V	114 × 280 mm	VS 230 (91 × 185 mm) 150 W, 20,000 rpm	KA300-B1 135 W	-	SV 12SD 300 W, 10,000 rpm	9046 600 W 6,000 OPM

OPM denotes Orbits Per Minute

**Nibblers**

CODE	Power Source	Cutting Capacity	AEG (Germany)	BLACK & DECKER (U.S.A.)	TOSHIBA (Japan)	HiKOKI (Japan)	MAKITA (Japan)
59 11 01	110 V	1.6 mm for Mild Steel	-	-	-	CN16SA 400 W, 2,300 rpm	JN1601 550 W, 2,200 spm
59 11 05	220 V						
59 11 02	110 V	2.3 mm for Mild Steel	-	-	-	-	-
59 11 06	220 V						
59 11 03	110 V	3.2 mm for Mild Steel	-	-	-	-	JN-3201 710 W, 1,300 spm
59 11 07	220 V						
59 11 04	110 V	4.5 mm for Mild Steel	-	-	-	-	-
59 11 08	220 V						

**Hand Shears**

CODE	Power Source	Cutting Capacity	AEG (Germany)	BLACK & DECKER (U.S.A.)	TOSHIBA (Japan)	HiKOKI (Japan)	MAKITA (Japan)
59 11 21	110 V	1.6 mm for Mild Steel	-	-	-	CE16SA 400 W, 4,700 rpm	JS-1601 380 W, 4,500 rpm
59 11 24	220 V						
59 11 22	110 V	2.0 mm for Mild Steel	-	-	-	-	-
59 11 25	220 V						
59 11 23	110 V	2.9 mm for Mild Steel	-	-	-	-	-
59 11 26	220 V						

**Planers**

CODE	Power Source	Planning Width	AEG (Germany)	BLACK & DECKER (U.S.A.)	TOSHIBA (Japan)	HiKOKI (Japan)	MAKITA (Japan)
59 11 36	110 V	82 mm	H500 500 W, 17,000 rpm	-	SP-82 400 W, 20,000 rpm	P20SF 620 W, 17,000 rpm	KP0800 620 W, 17,000 rpm
59 11 37	220 V						

**Circular Saws**

CODE	Power Source	Blade Diam.	AEG (Germany)	BLACK & DECKER (U.S.A.)	TOSHIBA (Japan)	HiKOKI (Japan)	MAKITA (Japan)
59 11 41	110 V	160 mm	K55 1,010 W, 5,200 rpm	-	-	-	HS6101 (165 mm) 1,100 W, 5,600 rpm
59 11 42	220 V						
59 11 44	110 V	185 mm	K66S (190 mm) 1,500 W, 5,200 rpm	CS1004-B1 1,400 W 5,300 rpm	-	-	HS7101, (190 mm) 1,400 W 5,500 rpm
59 11 45	220 V						

**Rod Cutters**

CODE	Power Source	Blade Diam.	AEG (Germany)	BLACK & DECKER (U.S.A.)	TOSHIBA (Japan)	HiKOKI (Japan)	MAKITA (Japan)
59 11 51	110 V	305 mm	-	-	-	CC14SF 2,000 W 3,800 rpm	-
59 11 56	220 V						
59 11 52	110 V	405 mm	-	-	-	-	2416S 1,430 W 2,300 rpm
59 11 57	220 V						

**Jig Saws**

CODE	Power Source	Sawing Capacity	AEG (Germany)	BLACK & DECKER (U.S.A.)	TOSHIBA (Japan)	HiKOKI (Japan)	MAKITA (Japan)
59 11 71	110 V	60 mm	ST500 500 W, 3,000 rpm	KS600E 450 W	-	CJ65V3 (65 mm) 400 W, 3,000 rpm	4327, (65 mm) 450 W 3,100 rpm
59 11 72	220 V						

**Blowers**

CODE	Power Source	Air Volume	AEG (Germany)	BLACK & DECKER (U.S.A.)	TOSHIBA (Japan)	HiKOKI (Japan)	MAKITA (Japan)
59 11 81	110 V	2.8 m³/min	Powertherm 560 1,500 W, 400/450 ltr/min	-	-	-	-
59 11 82	220 V						

## 17. Chain Hoists

### Electric Chain Hoists

Polipastos de Cadena Eléctricos

電動チェーンホイスト 电动链式升降机

#### ED Series

This electric chain hoist is particularly light and is suitable for engine room on ships and facility maintenance. It's double braking system provides protection with a western-style mechanical load brake and a regenerative brake. Features include a high-performance friction clutch integrated with the load brake designed to slip to prevent overwinding or overtravel and nickel-plated load chain with higher corrosion resistance and lower wear compared to conventional load chains. Operating voltage is 120V or 240V. Dual speed models are also available.



#### Specifications

Model	Rated Load (kg)	Standard Lift (mtr)	Lifting Speed (m/min.)	Motor Output (kW)	Chain Diam. (mm)	Mass Net Weight (kg)
ED10S	100	3	13	300	4	12
ED24S	240	3	13.5	600	4	16
ED48S	480	3	6.7	600	4	21.5

#### How to order: CODE

Chain hoist, electric, LIFTING CAPACITY, POWER SOURCE VOLTAGE

AC 120V Single Phase		AC 240V Single Phase		Unit Per Set				
CODE	Rated Load (kg)	CODE	Rated Load (kg)					
59 13 01	100	59 13 06	100					
59 13 02	240	59 13 07	160					
59 13 03	480	59 13 08	240					

### Pneumatic Chain Hoists

Polipastos de Cadena Neumáticos

エアホイスト 风动链式升降机

#### TCRH/TCHH Series

Air Hoists TCRH/TCHH Series reduce the lifting burden for operators and supports improved work efficiency. The speed can be adjusted according to how hard the valves are pressed, allowing intuitive operation.

The possibility of catching fire is low because the motor is powered by air, not electricity.

There is no need for adjusting the hoist to the local power voltage and frequency because no electricity is used. A wide variety of capacities are available, from 250 kg up to 25 t.

#### How to order: CODE

PNEUMATIC CHAIN HOIST, LIFTING CAPACITY



Unit Per Set				
CODE	Model	Capacity (Ton)	Standard Lift (mtr)	Lifting Speed (m/min)
59 13 52	TCRH04PS	0.49	3	10.0
54	TCRH09PS	0.98	3	5.8
55	TCRH20PD	2	3	2.9
56	TCHH30PS	3	3	5.4
58	TCHH60PD	5	3	2.7
59 13 59	TCHH1QPD	10	3	1.6
61	TCHH2PPD	25	3	1.4

### High Speed Pneumatic Chain Hoists

Elevador de cadena neumático de alta velocidad

高速エアホイスト 高速气动葫芦



#### TCS Series

Designed to be the fastest speed in this lift capacity class, and have following features.

- \* Compact and lightweight with aluminium housing.
- \* Maximum speed limit is independently adjustable on both lifting and lowering.
- \* Excellent inching on both lifting and lowering movement.
- \* Unique design of the valve prevents air leakage and malfunction caused by rust when not in operation.
- \* Over travelling limit system.
- \* Self Cooling Design.
- \* Operating air pressure is 0.6 MPa (6kgf/cm<sup>2</sup>).

Each capacity model has 3 different types of controllers.

P : Pendant type

PE : Pendant + Emergency Button type

C : Cord Type

#### How to order: CODE

High speed chain hoist, pneumatic, LIFTING CAPACITY tons and mtr

		Lift Capacity		Chain Speed mtr/min.	No of chain falls	Hose Size (mm)	Weight kg	Unit Per Set
CODE	Model	Kg	Mtr					
59 13 81	TCS-250P	250	3.0	34	1	12.7	19.0	
82	TCS-250PE	250	3.0	34	1	12.7	19.0	
83	TCS-250C	250	3.0	34	1	12.7	18.0	
59 13 84	TCS-500P	490	3.0	17	1	12.7	19.0	
85	TCS-500PE	490	3.0	17	1	12.7	19.0	
86	TCS-500C	490	3.0	17	1	12.7	18.0	
59 13 87	TCS-1000P	990	3.0	8.5	2	12.7	25.0	
88	TCS-1000PE	990	3.0	8.5	2	12.7	25.0	
89	TCS-1000C	990	3.0	8.5	2	12.7	24.0	

#### TMH Series - 3 & 6 ton capacity

Fastest Lifting Speed in this lifting capacity, operating pressure is 0.4 to 0.6MPa.

High efficient 3 step planet gear and original heat reducing structure provides high class durability. Pin mount type of upper hook is for easy maintenance and convention to trolley hoist. Smallest headroom clearance in this capacity class.



CODE	Model	Unit Per Set				
		Lift Capacity Kg	Chain Speed mtr/min.	No of chain falls	Hose Size (inch)	Weight (kg)
59 13 90	TMH-3000PE	3,000	3.0	5.4	1	3/4 102
91	TMH-3000C	3,000	3.0	5.4	1	3/4 101
92	TMH-6000P2E	6,000	3.0	2.7	2	3/4 133
93	TMH-6000C2	6,000	3.0	2.7	2	3/4 132

\*TMH-6000 P2E/C2 - 2 x Hoist Chain

## 18. Ventilations/Fans

### Electric Portable Ventilation Fans

Ventiladores Portátiles Eléctricos

電動ポータブルファン 电动便携式通风风扇

Highly efficient and portable. Used to ventilate hot air and harmful gases from a tank or work area, and supply fresh air and oxygen. The ideal bell-mouth type casing is highly efficient, creates little noise and is easy to install in an air duct. Related air ducts are sold separately.



#### Specifications

Casing Diam	142Ø	200Ø	280Ø	400Ø	500Ø
Electric Source	100 V 1P 200 V 1P	100 V 1P 200 V 1P	100 V 1P 200 V 1P	200 V 3P	200 V 3P
Air Volume	20 m³/min	20 m³/min	70 m³/min	110 m³/min	190 m³/min
Pressure	40 mm Aq	25 mm Aq	30 mm Aq	50 mm Aq	70 mm Aq
R.P.M.	2,000 7,000	3,000 3,600	3,000 3,600	3,000 3,600	3,000 3,600
Output	96 W	155 W	0.55 kw	1.5 kw	3.7 kw
Weight	2 kg	9 kg	18 kg	35 kg	64 kg
Standard Accessory	Speed Control Switch Cabtyre Cable 1 mtr	Motor Breaker Switch Cabtyre Cable 3 mtr	Unfurnished		

#### How to order: CODE

Ventilation fan, portable, electric, CASING DIAM mm, POWER SOURCE VOLTAGE

Unit Per Set

AC 100 volt ± 10%			AC 200 volt ± 10%		
CODE	Case Diam.	Phase	CODE	Case Diam.	Phase
59 14 01	142 mm	Single	59 14 06	200 mm	Single
02	200 "	"	07	280 "	"
03	280 "	"	08	400 "	Triple
			09	500 "	"

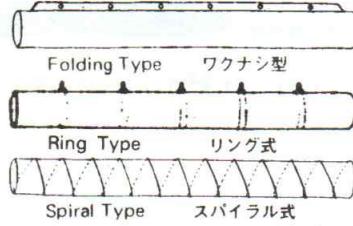
### Ventilation Tubes (Air Ducts)

Tubería de Ventilación (Conductos de Aire)

エーダクト 风管 (通风管道)

Flexible ventilation tubes made of PVC tarpaulin canvas.

A lightweight, highly flexible duct ideal for improving the efficiency of blowers especially in confined areas. When ordering, specify type of tube and length required.



#### How to order: CODE

Ventilation tube, TYPE, TUBE DIAM, LENGTH

Unit Per Lgh.

CODE	Tube Diam. mm	Length mtr	CODE	Tube Diam. mm	Length mtr
Folding Type					
59 14 61	200	10	59 14 66	700	10
62	300		67	800	
63	400		68	900	
64	500		69	1,000	
65	600				
Ring Type					
59 14 71	200	10	59 14 76	700	10
72	300		77	800	
73	400		78	900	
74	500		79	1,000	
75	600				
Spiral Type					
59 14 81	200	5	59 14 91	700	5
82			92		
59 14 83	300	10	59 14 93	800	10
84			94		
59 14 85	400	5	59 14 95	900	5
86			96		
59 14 87	500	10	59 14 97	1,000	10
88			98		
59 14 89	600	5			
90					

### Portable Ventilation Fans

#### Explosion Proof

Ventiladores Portátiles / Antideflagrantes

防爆電動ポータブルファン 防爆便携式通风风扇

Lightweight and robust, non-sparking type electric driven fan. Equipped with an explosion proof switch and 5 meters of cabtyre cable. An explosion proof flexible duct is also available.



#### How to order: CODE

Ventilation fan, explosion-proof, portable, electric, CASING DIAM mm, POWER SOURCE VOLTAGE

Unit Per Set

CODE	59 14 16	59 14 17	59 14 18	59 14 19
Casing Diam.	200 Ø		282 Ø	
Voltage	AC-100 V	AC-200 V	AC-100 V	AC-200 V
Phase	Single		Single	
R.P.M.	3,000 / 3,600		3,000 / 3,600	
Air Volume	20 M³/min		70 M³/min	
Pressure	25 mm/Aq		30 mm/Aq	
Weight	14.5 kg		25 kg	

## Ventilation Tubes for Explosion Proof Ventilation Fan

### How to order: CODE

Ventilation tube, explosion proof, SIZE

CODE	Size	Unit Per Set	Suitable Model
59 14 21	200ø x P150 x 5 mtr	200 mm Case Diam.	
22	300ø x P150 x 5 mtr	300 mm Case Diam.	

Made of Nylon Tarpaulin with earth grip. P denotes pitch of the spiral wire.

## Portable Air Movers

Soplador de Aire Portátil ポータブル送風機

移动式送风机

Lightweight, portable compressed air (or steam) operated flow amplifiers suitable for ventilating crawl areas and confined spaces. Made of single piece cast aluminium inlet housing. Ideal for use in hazardous atmospheres because of no moving parts - important for ventilating hazardous areas - zero maintenance.



Typical applications include: diluting or exhausting fumes from tanks, cargo holds, etc. Can be used with or without flexible duct.

Unit Per Set

CODE	59 14 11	59 14 12
Model	3-HP	6-HP
Inlet Pressure (kg/cm²)	4.2	4.2
Total Air Flow (m³/hr.)	2,595	6,762
Air Consumed (m³/hr.)	80	167
Outlet Dia (mm)	185	305
Length	838	1,123
Name of Mfr.	Coppus Engineering Corp.	

## Venturi Type Air Movers

Movedor de Aire tipo Venturi ベンチュリ式送風機 VENTURI 式送风机

Used wherever there is a need to disperse and remove fumes or move air into confined spaces.



- Fast, efficient and economic way to ventilate.
- No moving parts. Means minimal maintenance.
- Operates on compressed air or steam.

Technical Specifications based on Standard European Measurements.

Model	Using 5.5 bar		Using 4.1 bar		Using 2.7 bar	
	Air Con. M³/min	Total Air Flow M³/min	Air Con. M³/min	Total Air Flow M³/min	Air Con. M³/min	Total Air Flow M³/min
TA3AMS (Short)	1.75	33.5	1.42	28	1.02	23
TX3AM	1.75	41.5	1.27	35	0.99	29
TX6AM	3.51	95	2.78	82	2.07	68
TX8AM	5.46	140	4.3	117.5	3.23	89
TX10AM	7.75	207	5.92	175	4.4	139

Unit Per Pcs.

CODE	Model	Size cm		Weight kg
		Length	Dia. Base	
59 14 30	TX3AMS (Short)	42	18	3
32	TX3AM	76	18	4
33	TX6AM	111	28	10
34	TX8AM	115	36	16
35	TX10AM	120	43	19

Name of Mfr.: TXP/Rustibus®

## Jet Fan Air Movers

Ventilador de Aire tipo Jet Fan

ジェットファン式送風機 喷流式送风机



For use wherever there is compressed air available. Designed for ventilation of confined areas, tanks, any place with a need to disperse and remove fumes. This unit is reversible so can become an exhauster within minutes. No air motor required.

### Technical Features:

- Rated operating pressure 2.75 bar – 7.58 bar.
- Heat treated to T6 Aircraft Aluminium Spec.
- Six guide vanes to eliminate turbulence.
- Four blades, precision balanced propeller.

### Technical Specification

Air Pressure		Average R.P.M.	Air IN (Air con.) M³/min.	Air out M³/min.
Bar	Kgf/cm²			
2.76	2.81	2,080	1.70	168
4.14	4.22	2,695	3.23	215
5.52	5.62	3,225	5.27	258
6.89	7.03	3,670	8.27	295

#### TX-JF20

2.76	2.81	1,565	2.15	229
4.14	4.22	2,053	4.16	311
5.52	5.62	2,570	6.37	364
6.89	7.03	3,138	9.57	457

#### TX-JF24

Unit Per Set				
CODE	59 14 13	59 14 14	TX-JF20	TX-JF24
Model			50 cm	60 cm
Nominal Dia				
Max. Bar			7.58 bar	
Mounting Slot Dia			2.54 cm	
Inlet Size	1.9 cm npt	2.54 cm npt		
Bolt Circle Dia	57.2 cm (22.5")	69.85 cm – 77.85 cm (27.5" – 30.25")		
Outside Dia	62.23 cm (24.5")	79.4 cm (31.25")		

Name of Mfr.: TXP/Rustibus®

## Electric Portable Ventilation Fans

Ventilador Eléctrico Portátil

防爆型電動ポータブルファン 移动式防爆电动鼓风机

Designed for use in work environments where non-sparking equipment is an absolute requirement. Hazardous location electric motors meets NEC Class I, Division 1, Group D; Class II, Division 1, Groups E, F, G ratings.



All housings and main components are molded of special conductive polymers for safe dissipation of static charges.

Unit Per Set						
CODE	Model	Vaneaxial Airflow		Voltage	Motor HP	Case Diam mm
		cfm	m³/min			
59 14 23	VEP1	867	24	115V 60HZ	1/2	330
24	VEP3	867	24	230V 60HZ	1/2	330

Name of Mfr : Coppus Engineering Corp.

## Pneumatic Portable Ventilation Fans

Ventiladores Portátiles Neumáticos

エア駆動ポータブルファン 风动便携式通风风扇

Compressed air driven ventilators that can be used with or without a duct in hazardous areas such as cooling tanks or hatches. Provides ventilation of gas, paint fumes and other hazardous fumes.



Unit Per Set

CODE	Model	Case Diam	Capacity m³/hr
59 14 25	RF-12	368 mm	3,636
26	RF-16	416 mm	8,665

Name of Mfr.: Coppus Engineering Corp.

## Air Driven Gas Freeing Fans

Conducto de aire para ventiladores para desgasificar

エアー駆動式ガス抜きファン

排气风机用空气导管

A high performance air driven fan constructed from Stainless Steel. These non-sparking (ATEX approved) fans can achieve deep penetration and operate at low pressures. Highly efficient air motors minimize air consumption, supply or extract mode by simple reversal of air supply, and can be supplied for horizontal mounting. High air flow throughput and high static pressure. Integral 'Direct In-Line' drive no gearbox to maintain or fail.

Ancillary equipment is also available (rigid hoses, ducting, fittings, adaptors, transportation trolley) on request. Class Approved for use in hazardous areas.



VP650A



VP950AS

### VP650A

Made of 316 Stainless Steel, designed to be lightweight and therefore extremely portable. Suitable for use on all types of vessels, particularly oil, gas, product, chemical, handysize, SR and LPG vessels.

### VP950AS

Made of 316 Stainless Steel, suitable for all types of oil, gas, product, chemical, LR2, LR1, MR and LPG vessels.

CODE	59 15 35	59 14 29
Model	VP650A	VP950AS
Max. Air Flow Requirement m³/hr	6,750	9,000
Static Pressure Max. Pa	1,015	700
Max. Flow Requirement m³/hr	178	220
Operating Pressure Max. kg/cm²	7.0	7.0

(to be continued)

Materials	St. St. 316	St. St. 316
Casing	PAGAS	Aluminium Alloy LM6
Impeller	N/A	Beryllium Copper
Spark Track	St. St. 316	N/A
Air Stator	St. St. 316	St. St. 316
Fasteners	Bronze	Bronze
Couplings		
Motor Type	Air ATEX Approved	Air ATEX Approved
Installation	ID 318mm, PCD 389mm	ID 318mm, PCD 389mm
Standard Deck Flange	1" Claw	1" Claw
Standard Connections		
Envelope Dimensions:	H: 410 ø: 559	H: 368 ø: 580
Weight	17 kg	24 kg

Name of Mfr.: Victor Marine Ltd.

## Air Supply Hose - Black - for Gas Freeing Fan

Manguera de Suministro de Aire - Negra - para Ventilador Sin Gas  
ガス抜きファン用エアーコンサルタント



Styrene Butadiene Rubber (SBR) reinforced with multiple rayon braids. Available in 19 mm and 25 mm nominal bore. 20 bar working pressure, compliant to BS EN ISO 2398:2016. Available in lengths of up to 30 metres.

CODE	Nom. Dia x Length	CODE	Nom. Dia x Length
59 15 36	19 mm x 10 mtrs	59 15 41	25 mm x 10 mtrs
37	19 mm x 15 mtrs	42	25 mm x 15 mtrs
38	19 mm x 20 mtrs	43	25 mm x 20 mtrs
39	19 mm x 25 mtrs	44	25 mm x 25 mtrs
40	19 mm x 30 mtrs	45	25 mm x 30 mtrs

Name of Mfr.: Victor Marine Ltd.

## Water Driven Gas Freeing Fans

Ventilador Portátil para Desgasificar

水圧駆動式ガス抜きファン 水力驱动便携式除气风扇

### VP700W / VP1000W / VP1500W

High performance 316 stainless steel axial flow water driven fans. These non-sparking fans offered as either high or medium throughout, can achieve deep tank penetration. Suitable for all types of crude oil, chemical, product, handysize, SR LPG, Suezmax, UL/VLCC, LR2, LR1, MR and gas tankers for fast and complete gas freeing. ATEX approved.



### VP1400W

Suitable for use on all types of vessels (oil, product, chemical, suezmax, UL/VLCC, LPG). The VP1400 is specially designed for low pressure systems and large deck openings whilst still maintaining the high static and flow rate for fast and efficient gas freeing. ATEX approved.



**VP800W / VP1350W**

Non-sparking fans offered as either medium or high flow, can achieve deep penetration suitable for all types of Oil, Gas, Panamax, Aframax, Suezmax, UL/VLCC, and LPG tankers. ATEX approved.

**Key Features**

- \* Designed and class approved for use in hazardous areas.
- \* Supply or extract mode by simple reversal.
- \* Integral 'Direct In-Line' drive, no gearbox to maintain or fail.
- \* Alternative deck flanges and fan connections available.
- \* Ancillary equipment available (layflat hoses, ducting, fittings, adaptors, transport trolley).

Unit Per Set

CODE	59 15 21	59 15 22	59 15 24	59 15 23
Model	VP700W	VP1000W	VP1400W	VP1500W
Max. Air Flow m <sup>3</sup> /hr	7,000	10,540	14,000	14,800
Static Pressure Pa	970 Pa	1,790 Pa	1,500 Pa	3,120 Pa
Waterflow Capacity m <sup>3</sup> /hr Max	15	27	48	56
Operating Pressure Max. kg/cm <sup>2</sup>	12	12	7.0	12
Materials Casing Impeller	St/St. 316 Pagas	St/St. 316 LM6 Alloy	St/St. 316 Polymide (PAGAS)	St/St. 316 LM6 Alloy
Fastenings Connections Spark Track	St/St. 316 St/St. 316 N/A	St/St. 316 St/St. 316 Beryllium Copper N/A	St/St. 316 St/St. 316 N/A	Beryllium Copper N/A
Motor Type	N/A	3D Francis Turbine	3D Francis Turbine	N/A
Installation To Suite Deck Opening	ID 318mm, PCD 389 mm 1.5" BSP	ID 318mm, PCD 389 mm 2" BSP	ID 400mm, PCD 480 mm 2" BSP or Nakajima	ID 318mm, PCD 389 mm 2" BSP
Standard Water Connections				
Envelope Dimensions	H: 465 Ø: 365	H: 572 Ø: 580	H: 514 Ø: 503	H: 572 Ø: 580
Weight	19 kg	27 kg	25 kg	27 kg

Name of Mfr.: Victor Marine Ltd.

Unit Per Set

CODE	59 14 42	59 14 43
Model	VP800W	VP1350W
Max. Air Flow m <sup>3</sup> /hr	8,700	14,350
Air Velocity m/s	3.1 @ 25 mtr below deck	5.0 @ 25 mtr below deck
Static Pressure Max. Kpa	0.72	1.7
Operational m <sup>3</sup> /hr	8,000 @ 250Pa	13,000 @ 500Pa
Waterflow Capacity m <sup>3</sup> /hr	13 to 19	47 to 68
Operating Pressure Max. kg/cm <sup>2</sup>		10.5
Materials Casing Impeller		Aluminium Alloy LM6
Spark Track		Aluminium Alloy LM6
Air Stator		N/A
Fasteners		Aluminium Alloy LM6
Couplings		St. St. 316
Motor Type		Bronze
Installation Standard Deck Flange	ID 318 mm, PCD 389 mm 2.5" NPT (BW)	2D Francis Turbine
Standard Connections		
Envelope Dimensions	H: 690 Ø: 580	H: 689 Ø: 580
Weight		31 kg

Name of Mfr.: Victor Marine Ltd.

**Layflat Hoses for Gas Freeing Fan****Red Heavy Duty Supply and Blue Medium Duty Exhaust**

Perfil plano Mangueras para Gas Liberación Ventilador  
ガス抜き ファン用 平状ホース

用于气体冷却风扇的 Layflat 软管

Reinforced woven polyester encased in polyurethane internal and external liner. Available in 38 mm and 50 mm nominal bore and available in multiples of 5 metres, up to 30 metre lengths. Supplied fitted with an extensive range of various connections.



Unit Per Lgh.

CODE		Nom. Diam x Length
Red – Heavy Duty Supply	Blue – Medium Duty Exhaust	
59 15 51	59 15 61	38 mm x 10 metres
52	62	38 mm x 15 metres
53	63	38 mm x 20 metres
54	64	38 mm x 25 metres
55	65	38 mm x 30 metres
59 15 56	59 15 66	50 mm x 10 metres
57	67	50 mm x 15 metres
58	68	50 mm x 20 metres
59	69	50 mm x 25 metres
60	70	50 mm x 30 metres

Name of Mfr.: Victor Marine Ltd.

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**Water Driven Turbine Fans**

Ventiladores de Turbina por Agua  
ウォーターハーベシングファン  
水力驱动涡轮式风扇

Designed for high performance ventilation of gas from large enclosed areas or other tank openings. Works effectively providing penetration deep into the tank for complete ventilation. Made of a non-spark construction with a line impeller and integral water motor that are coated against corrosion.



Inlet/outlet water hoses are sold separately.

**How to order: CODE**

Turbine fan, water driven, OUTLET BORE DIAM mm, CAPACITY m<sup>3</sup>/min., MODEL

CODE	59 14 36	59 14 37	59 14 40	59 14 41
Model	KWF-300M	KWF-400M	C-12AW	C-15AW
Outlet Bore Dia. mm	300 mm	400 mm	318 mm	387 mm
Capacity m <sup>3</sup> /min.	70 - 220	100 - 290	83 - 142	123 - 210
Water Pressure kgf/cm <sup>2</sup>	1 - 7	1 - 7	MAX 10.5	MAX 10.5
Water Consumption m <sup>3</sup> /hr	20 - 43	24 - 58	19.8	27.3
Hose Dia.	65A	65A	1-1/2"	1-1/2"
Weight kg	24	28	18	24
Name of Mfr	Exeno - Yamamizu		Coppus Engineering	

## Compressed Air or Steam Driven Turbine Fans

Ventiladores de Turbina por Aire Comprimido o Vapor  
エア・スチーム両用タービンファン 压缩空气或蒸汽驱动涡轮式风扇

Powerful turbine fan for efficient drying and ventilating of large areas on tankers and other vessels. These fans are turbine driven by steam pressure or compressed air.

Inlet/exhaust steam hoses, coupling and air duct hoses are sold separately.



### How to order: CODE

Turbine fan, compressed air or steam driven, AIR OUTLET DIAM mm, CAPACITY m<sup>3</sup>/min., MODEL

CODE	59 14 46	59 14 47	Unit Per Set
Model	KTF-300	KTF-400	
Air Outlet Diam mm	300	400	
Capacity m <sup>3</sup> /min.	130	210	
Operating Stream Pressure kgf/cm <sup>2</sup>	8	8	
Steam Inlet Diam mm	19	19	
Hose Diam	50	50	
Weight kg	32	38	
Name of Mfr	Exeno - Yamamizu		

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Pneumatic &amp; Electrical Tools

## Portable Gas Freeing Fans

### Jetfan Series

Ventiladores Portátiles de Gas Libre  
ポータブルガス抜きファン 便携式除气风扇喷气风扇系列

### Jetfan 65

For small to mid tonnage vessels. Totally portable and capable of being used in virtually any location, making it ideally suited to vessels with severely restricted space.



To be used not only for general tank gas freeing but also the ventilation of confined spaces such as cofferdams and double bottoms for inspection and repair work. The air flow can be changed from penetration to extraction in a simple operation.

Available in three drive mediums, compressed air, steam or hydraulic.

CODE	59 14 51	59 14 52	59 14 59	Unit Per Set
Model	Jetfan 65			
Drive Medium	Compressed Air	Steam	Hydraulic	
Supply Connection	Claw type	1" BSP	As required	
Discharge Connection	2" Plain tube	2" BSP	As required	
Deck Opening	318 mm			
Size Height x Width	523 x 394 mm			
Weight	17 kg			
Name of Mfr.: Dasic Marine Ltd.				

### Jetfan 70

For 'mid' range vessels as a penetration fan. Ideally suited to the environment and can be easily manoeuvred and positioned by one man, a particular advantage on smaller tonnage where deck space is limited. Can choose from water or compressed air as the drive medium. A hand transport trolley is also available.



CODE	59 14 53	59 14 54	Unit Per Set
Model	Jetfan 70		
Drive Medium	Water	Compressed Air	
Supply Connection	2" 7-1/2 TPI Male (ASA B26)	3/4" Claw	
Discharge Connection	2-3/4" BSP Male	3/4" NB Tube	
Deck Opening	Standard 318 mm stud bolt deck opening		
Size Height x Width	520 x 436 mm		
Weight	25 kg		
Name of Mfr.: Dasic Marine Ltd.			

### Jetfan 125

Most efficient deep penetration or extraction gas freeing fan. Has been used successfully on vessels of up to 550,000 dwt tons, drastically reducing time spent on gas freeing operations.



To change from penetration to extraction is a one-man operation and can take barely 10 minutes to perform. There is a choice of water, compressed air or steam as the driven medium.

A handy transport trolley is also available.

CODE	59 14 56	59 14 57	59 14 58	Unit Per Set
Model	Jetfan 125			
Drive Medium	Water	Compressed Air	Steam	
Supply Connection	2" 7-1/2 TPI Male (ASA B26)	3/4" Claw	1" BSP Male	
Discharge Connection	2-3/4" BSP Male	3/4" NB Tube	2" BSP Male	
Deck Opening size	Standard 318 mm stud bolt deck opening			
Size Height x Width	736 x 500 mm			
Weight	44 kg			
Name of Mfr.: Dasic Marine Ltd.				

## Gas Freeing Fan Trolley

Carrito con ventilador para desgasificar

ガス抜きファン用トロリー

排气风机用手推车



Fan Trolley manufactured in a lightweight tubular construction, this trolley is available to ease the transportation of fans in restricted areas. Complete with durable wheels and a fan retaining strap for added protection. Also available in 316 stainless steel.

59 14 60	Trolley for gas freeing fan	Pc.
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Name of Mfr.: Dasic Marine Ltd.

## Air Ducting for Gas Freeing Fan

Conductos de aire para ventilador de gas

ガスフリーファン用エアダクト 气体释放风机的空气管道

Heavy duty, anti-static, flame resistant spiral wound PVC coated, flexible fabric ducting. Produced in standard 300/400 mm diameter nominal bore or special purpose diameters and lengths. These ducts are suitable for both supply and exhaust mode operation and fitted with deck flange to suit 318/400 mm deck opening. Specially designed for marine "hazardous areas". Outlet ducts are available in many sizes ex-stock. Also available as a detachable option.



Unit Per Lgh

CODE	Nom. Diam. x Length	CODE	Nom. Diam. x Length
59 15 15	300 mm x 10 metres	59 15 20	400 mm x 10 metres
16	300 mm x 15 metres	25	400 mm x 15 metres
17	300 mm x 20 metres	26	400 mm x 20 metres
18	300 mm x 25 metres	27	400 mm x 25 metres
19	300 mm x 30 metres	28	400 mm x 30 metres

Name of Mfr.: Victor Marine Ltd.

## Electric Blowers/Exhausters

Soplador/Extractor Eléctrico 電気給排気ファン 电动抽送机

Portable blower/exhauster with turbine blades to deliver a constant source of clean air in even the most difficult to ventilate conditions. These rugged industrial blowers have corrosion and chemical resistant ABS (Acrylonitrile Butadiene Styrene copolymer) housings, cast aluminium turbine fan blades and heavy duty cycle switched motors. Anti-static intrinsically safe models are recommended for use in hazardous atmospheres containing explosive and combustible gases and vapors.

Standard Models

59 15 01  
EFi7559 15 02  
EFi50

Intrinsically Safe Models

59 15 06  
EFi75xx59 15 07  
EFi150xx

### Standard Models

Unit Per Pcs.

CODE	59 15 01	59 15 02
Model	EFi75	EFi50
Fan Size	12"/30 cm x 17 blade impeller	16"/40 cm x 21 blade impeller
Free Airflow	2,500 CFM/ 4,250 m³/hr	3,200 CFM/ 5,440 m³/hr
Motor	3/4 HP	1/2 HP
	115 / 230 V 50 / 60 Hz 1P	
Amps	115V : Start : 37, Run : 7.2 230V : Start : 14, Run : 3	115V : Start : 21, Run : 6 230V : Start : 10, Run : 3
Switch Enclosure	IP65 rain tested	
Housing Material	Glass-reinforced ABS	
Weight	46 lbs / 21 kg	46 lbs / 21 kg
Dimensions H x W x D	16 x 15 x 16 inches 406 x 381 x 406 mm	19 x 18 x 12 inches 480 x 460 x 305 mm
Name of Mfr.	Euramco Safety	

### Intrinsically Safe Models

Unit Per Pcs.

CODE	59 15 06	59 15 07
Model	EFi75xx	EFi150xx
Fan Size	12"/30 cm x 17 blade impeller	16"/40 cm x 7 blade impeller
Free Airflow	2,500 CFM/ 4,250 m³/hr	4,459 CFM/ 7,580 m³/hr
Motor	3/4 HP	1.5 HP
	115 / 230 V 50 / 60 Hz 1P	
Amps	115V : Start : 37, Run : 7 230V : Start : 14, Run : 3	115V : Start : 57, Run : 15 230V : Start : 32, Run : 7.5
	Totally enclosed hazardous location motor rated UL Class I – Group D, UL Class II – Group E,F,G	
Housing Material	Glass-reinforced, carbon-filled, anti-static ABS	
Weight	44 lbs / 20 kg	61 lbs / 28 kg
Dimensions H x W x D	16 x 15 x 16 inches 406 x 381 x 406 mm	19 x 18 x 12 inches 480 x 460 x 305 mm
Name of Mfr.	Euramco Safety	

## Air Driven Blowers

Soplador de Aire エアー駆動送風機

气动式送风机

These air driven blowers are engineered specifically for hazardous work environments where intrinsically safe equipment is absolutely required. The anti-static, glass-reinforced ABS (Acrylonitrile Butadiene Styrene copolymer) housing is corrosion and chemical resistant. Complete with filter, motor lubricator, exhaust muffler, air control valve and static grounding cord. Motor exhausts outside of duct; compressed air not in air stream.



59 15 11 AFi75xx



59 15 12 AFi50xx

Unit Per Pcs.

CODE	59 15 11	59 15 12
Model	AFi75xx	AFi50xx
Fan Size	12"/30 cm x 17 blades	16"/40 cm x 21 blades
Free Airflow	2,042 CFM / 3,471 m³/hr	3,200 CFM / 5,440 m³/hr
Air Motor	GAST 4AM-NRV-50C	
Duct Adaptor	Integral 12"	Reversible 16"
Housing Material	Anti-static, glass-reinforced ABS	
Weight	33 lbs / 15 kg	43 lbs / 20 kg
Dimensions H x W x D	16 x 17 x 16 inches 410 x 430 x 410 mm	19 x 21 x 12 inches 480 x 530 x 305 mm
Name of Mfr.	Euramco Safety	

## Portable Electric Industrial Fan Heaters

Ventilador calefactor portátil eléctrico de uso industrial

ポータブル電動ファンヒーター 便携式电动暖风机加热器

Used for warming up the cold areas and rooms. They can be also used as drying wet surfaces and atmospheres. Fitted with fan blades that can blow hot air out a few meters away. Heater includes; Overheat protection, Adjustable thermostat control, Cool blows thermostat control (fan blades), Carrying handle and mounting foot and can be wall mounted by own's fabrication. CE certified.



Unit Per Pc.

CODE	59 15 31
Model	CFH-30
Voltage / Phase	230 V/Single
Frequency	50/60 Hz
Power	3,000 Watts
Temperature Range	0 – 40°C continuously
Heater I.D.	200 mm
Size	28 x 39 x 31 cm
Weight	8.8 kg

Name of Mfr.: Cobolt – KM Kinley

### Pump casing materials and elastomer selection options

Casing	Diaphragms	P.025	P1	P2	P4	P8
Stainless Steel	TF	O	O	O	O	O
	WFS	O	O	O	O	O
	VTS	X	O	O	O	O
	BNS	O	O	O	O	O
Hastelloy	TF	X	O	X	X	X
	WFS	X	X	X	X	X
	VTS	X	O	X	X	X
	BNS	X	X	X	X	X
Cast Iron	TF	X	X	X	O	O
	WFS	X	X	X	O	O
	VTS	X	X	X	O	O
	BNS	X	X	X	O	O

Ordering other material options by adding suffix letter to the end of the pump code.

### Casing

S	Stainless steel casing.
W	Cast iron casing. Unavailable for P.025, P1 & P2 series.
H	Hastelloy casing. Standard with PTFE elastomers.

### Diaphragms

WFS	Diaphragm : Wil-Flex (Light chemicals) Low cost alternative to Teflon in acidic and caustic applications. Has long flex life and handle abrasives well.
TF	Diaphragm : PTFE material for aggressive chemicals. Excellent in acidic & caustic applications with long flex life and handles abrasives well.
VTS	Diaphragm : Viton. Good flex life at extremely high temperature. Handle aggressive fluids such as acids & chlorinated hydrocarbons well.
BNS	Diaphragm : Buna-N for oil & petroleum based fluids.

### Example:

59 16 02 W/WFS P4 pump with cast iron casing & Wil-Flex diaphragms, balls, and valve seats.

### Plastic range with Proflo air valve system

Plastic pump lines provides the durability, chemical resistance, abrasion resistance, and temperature range required for a variety of process and waste applications.



The standard material combination is composed of polypropylene casing and Teflon diaphragm balls and valve seat. PTFE diaphragm are extremely suitable for aggressive chemicals. Excellent in acidic & caustic applications with long flex life and handles abrasives well.

## 19. Pumps/Ejectors

### Pneumatic Diaphragm Pumps

**Metal range with Plo-flo air valve system**  
(Formerly known as the M series, T series)

Bombas Neumáticas de Diafragma 氣動隔膜泵

An air operated diaphragm pump designed for simplicity in operation and maintenance.

Safe for use in explosive environments.

The Metal pump lines provides the durability, chemical resistance, abrasion resistance, and temperature range required for a variety of process and waste applications.



The standard material combination is composed of aluminium casing and neoprene diaphragm, balls and valve seat for general purpose non aggressive applications such as in oil and petroleum based fluids. Cast iron, 316 stainless steel and hastelloy casing materials are available as well.

Wilden pump features:

- Ease of operation
- Variable speed
- Variable pressure
- Dead head capability
- Plastic Center Block
- Lube-free operation
- Intrinsically safe
- Ability to pass solids
- Ability to run dry
- No dynamic seals
- No-stalling unbalanced spool

Unit Per Set

CODE	59 16 07	59 16 05	59 16 01	59 16 02	59 16 03	
Model	P.025	P1	P2	P4	P8	
Standard Casing	Aluminium					
Suction	Dry	10.8'	19'	19'	24'	
Lift	Wet	30.6'	31'	28'	39'	
Air Inlet NPT	1/8"	1/4"	1/4"	1/2"	3/4"	
Water	Inlet	1/4"	1/2"	1"	1-1/2"	
	BSP/NPT	Female				
Outlet	1/4"	1/2"	3/4"	1-1/4"	2"	
	BSP/NPT	Female				
Size	Height	5.8"	8.8"	11"	17.4"	
	Width	6.5"	8.2"	10.5"	15.4"	
	Depth	4.5"	7"	7.3"	11.2"	
	Weight Lbs	4	13	26	38	
	Name of Mfr.	Wilden				

Unit Per Set

CODE	59 16 10	59 16 11	59 16 12	59 16 13	59 16 14	
Model	P.025	P1	P2	P4	P8	
Standard Casing	Polypropylene					
Suction	Dry	9'	20'	18'	16'	
Lift	Wet	31'	31'	29'	26'	
Air Inlet NPT	1/8"	1/4"	3/4"	1/2"	3/4"	
Water	Inlet	1/4"	1/2"	1"	1-1/2"	
	BSP/NPT	Female				
Outlet	1/4"	1/2"	1"	1-1/2"	2"	
	BSP/NPT	Female				
Size	Height	6.4"	8.6"	14"	20.8"	
	Width	5.7"	8.2"	11.6"	15.5"	
	Depth	4.5"	8"	9.1"	11.2"	
	Weight Lbs	3	9	18	37	
	Name of Mfr.	Wilden				

Ordering other materials options by adding suffix letter to the end of the pump code.

### Casing

K	Kynar (PVDF)	For temperatures up to 107 deg.C
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### Diaphragms

WF	Diaphragm : Wil-Flex (Light chemicals) Low cost alternative to Teflon in acidic and caustic applications. Has long flex life and handle abrasives well.
VT	Diaphragm : Viton. Good flex life at extremely high temperature. Handle aggressive fluids such as acids & chlorinated hydrocarbons well.
BN	Diaphragm : Buna-N for oil & petroleum based fluids.

### Example:

XX XX XX K/VT

Note: VT (Viton) Unavailable for P.025.

### High Pressure Double Diaphragm Pump

The introduction of the H800 expands Wilden's application range to include head pressures up to 250 psig. Wilden's patent pending high pressure technology yields a 250 psig discharge pressure designed for solid laden slurries. Capable of generating 250 psig with only 85 psig air supply.



Standard material composes of stainless steel casing with PTFE backed diaphragm. Suitable for boosting air line pressure over long distances.

			Unit Per Set
CODE		59 16 16	59 16 17
Model		H800	
Pressure Ratio		3 : 1	
Standard Casing		Stainless steel   Ductile iron	
Suction Lift	Dry	12'	
	Wet	29.5'	
Air Inlet NPT		3/4"	
Water	Inlet	2" ANSI 300# Flanges	
	BSP/NPT	Female	
	Outlet	2" ANSI 300# Flanges	
	BSP/NPT	Female	
Size	Height	29.9"	
	Width	19.3"	
	Depth	21.5"	
Weight Lbs		283	
Name of Mfr.		Wilden	

\*Hastelloy Casing is also available upon request.

			Unit Per Set	
CODE		59 16 18	59 16 19	59 16 20
Model		H400 S		H200
Pressure Ratio		2 : 1	3 : 1	
Standard Casing		Stainless steel	Aluminium	Ductile iron
Suction	Dry	10.1'	10.2'	9.1'
Lift	Wet	30.6'	29.5'	29.5'
Air Inlet NPT		3/4"		1/2"
Water	Inlet	1-1/2"		1"
	BSP/NPT	ANSI 300# Flanges		BSP/NPT
	Outlet	1-1/2"		1"
	BSP/NPT	ANSI 300# Flanges		BSP/NPT
Size	Height	23.8"	20.8"	13.5"
	Width	13.6"	15.1"	17.7"
	Depth	12.2"	12.2"	12"
Weight Lbs		60	82	84
Name of Mfr.		Wilden		

### Plo-flow SHIFT air valve system

Wilden Pro-Flo Shift Air Distribution System (ADS) is energy-efficient type model and achieves up to 60% savings in air consumption. It delivers more yield per SCFM versus competitive AODD pumps, has fewer operating parts, meaning less downtime and simplified maintenance. Available in a single point exhaust option (for submersible applications), and has drop-in configuration capacity (compatible with M,T, and P models).



		Unit Per Set			
CODE		59 16 08	59 16 09	59 16 04	59 16 06
Model		PS4		PS15	PS20
Standard Casing		Aluminium		Cast iron	
Suction	Dry	23.3'		21.6'	14.4'
	Wet	28.4'		28.4'	28.4'
Air Inlet NPT		3/4"			
Water	Inlet	1-1/2"		3"	4"
	BSP/NPT	Female		ANSI Flange	
	Outlet	1-1/4"		3"	4"
	BSP/NPT	Female		ANSI Flange	
Size	Height	16.9"		32.1"	32.5"
	Width	14.5"		20.2"	37"
	Depth	12.9"		16.7"	13"
Weight Lbs		46	78	121	492
Name of Mfr.		Wilden			

### Pump casing materials and elastomer selection options

Casing	Diaphragms	PS4	PS8	PS15	PS20
		TF	O	O	X
Stainless Steel	WFS	O	O	O	X
	VTS	O	O	O	X
	BNS	O	O	O	X
Hastelloy	TF	O	X	X	X
	WFS	X	X	X	X
	VTS	X	X	X	X
Cast Iron	BNS	X	X	X	X
	TF	O	O	O	O
	WFS	O	O	O	O
BNS	O	O	O	O	O

Ordering other material options by adding suffix letter to the end of the pump code.

### Casing

S	Stainless steel casing. Unavailable for PS20 series.
W	Cast iron casing.
H	Hastelloy casing. Standard with PTFE elastomers.

### Diaphragms

WFS	Diaphragm : Wil-Flex (Light chemicals) Low cost alternative to Teflon in acidic and caustic applications. Has long flex life and handle abrasives well.
	PTFE material for aggressive chemicals. Excellent in acidic & caustic applications with long flex life and handles abrasives well.
VTS	Diaphragm : Viton. Good flex life at extremely high temperature. Handle aggressive fluids such as acids & chlorinated hydrocarbons well.
	Buna-N for oil & petroleum based fluids.

### Example:

59 16 04 S/TF PS15 pump with stainless steel casing & PTFE diaphragms, balls, and SS valve seats.

W/WFS PS4 pump with cast iron casing & Wil-Flex diaphragms, balls, and valve seats.

## Pneumatic Diaphragm Pumps

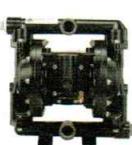
Bombas neumáticas de diafragma

空気ダイアフラムポンプ 气动隔膜泵

ARO advanced series with excellent reliability, high efficiency and easy serviceability features. EXP metallic pumps are available from 1/2" to 3" port sizes, including Aluminium, Stainless Steel, Cast Iron and Hastelloy pump body material to optimize fluid compatibility.

For the purpose of making ordering easier, provided the following ordering table composed of the most practical specifications for marine use. For any further detailed information please contact local sales or distributors.

### 1" Metallic EXP Pump (port size 25 mm)

Seat Material  
Same as HousingBall  
G Nitrile  
T PTFE      Diaphragm  
G Nitrile  
T PTFE

PD10 X - X X - X X X

Center Section	Connection	Wetted Material	Hardware
A Aluminum	A NPTF Thread	S Stainless Steel	S Stainless Steel
P Polypropylene	B BSP Thread	A Alminium	P Plated Steel
S Stainless Steel	F 1" ANSI/DIN Flange (Side)	C Cast Iron	
	Y 1" ANSI/DIN Flange (Center)	H Hastelloy-C	
		P Polypropylene	
		K PVDF	

Unit Per Set

CODE	59 17 01	59 17 02
Recommended Model	PD10X-XXX-XXX	PD10P-XXX-XXX
Description		
Central Section Material	Aluminium/ Stainless Steel	Polypropylene
Connection Thread	BSP / NPT	BSP / NPT /ANSI, DIN Flange
Wetted Material	Aluminium/ Stainless Steel	Polypropylene/PVDF
Hardware	Plated Steel/ Stainless Steel	Stainless Steel
Seat Material	Same as Housing	
Ball Material	Nitrile / PTFE	
Diaphragm Material	Nitrile / PTFE	

#### Performance Specification

Max. Flow GPM (Liters)	52 (197)
Max. Operating Pressure psi (bar)	120 (8.3)
Maximum Dry Suction Lift ft (meter)	19 (5.7)
Max. Solids Inches (mm)	1/8" (3.3)
Air Inlet	1/4" – 18 NPT
Recommended Filter / Regulator	P39124-600
Pump Weight (kg)	9.4 (AL), 27.8 (SS), 8.78 (PP), 11.72 (PV)
Air Line Kit	66073-2
Fluid Service Kit	637401-XX   637396-XX
Air Motor Service Kit	637397
Manufacturer	Ingersoll Rand ARO

Remark : If you require another material of pump, please refer to the ordering guide for material selection of components.

### 1.5" Metallic EXP Pump (port size 40 mm)

Seat Material  
Same as HousingBall  
G Nitrile  
T PTFE      Diaphragm  
G Nitrile  
T PTFE

PD15 X - X X - X X X

Center Section	Connection	Wetted Material	Hardware
A Aluminium	A NPTF Thread	S Stainless Steel	S Stainless Steel
P Polypropylene	B BSP Thread	A Alminium	P Plated Steel
S Stainless Steel	F 1" ANSI/DIN Flange (Side)	C Cast Iron	
	Y 1" ANSI/DIN Flange (Center)	H Hastelloy-C	
		P Polypropylene	
		K PVDF	

Unit Per Set

CODE	59 17 03	59 17 04
Recommended Model	PD15X-XXX-XXX	PD15P-XXX-XXX
Description		
Central Section Material	Aluminium/ Stainless Steel	Polypropylene/PVDF
Connection Thread	BSP / NPT	ANSI, DIN Flange
Wetted Material	Aluminium/ Stainless Steel	Polypropylene/PVDF
Hardware	Plated Steel/ Stainless Steel	Stainless Steel
Seat Material	Same as Housing	
Ball Material	Nitrile / PTFE	
Diaphragm Material	Nitrile / PTFE	

#### Performance Specification

Max. Flow GPM (Liters)	123 (465)
Max. Operating Pressure psi (bar)	120 (8.3)
Maximum Dry Suction Lift ft (meter)	14 (4.2)
Max. Solids Inches (mm)	1/4" (6.4)
Air Inlet	1/2" – 14 NPT
Recommended Filter / Regulator	P39144-600
Pump Weight Lbs (kg)	64.28 (29.2)
Air Line Kit	66084-1
Fluid Service Kit	637375-XX   637391-XX
Air Motor Service Kit	637389
Manufacturer	Ingersoll Rand ARO

Remark : If you require another material of pump, please refer to the ordering guide for material selection of components.

### 2" Metallic EXP Pump (port size 50 mm)

Seat Material  
Same as HousingBall  
G Nitrile  
T PTFE      Diaphragm  
G Nitrile  
T PTFE

PD20 X - X X - X X X - (B)

Center Section	Connection	Wetted Material	Hardware
A Aluminium	A NPTF Thread	S Stainless Steel	S Stainless Steel
P Polypropylene	B BSP Thread	A Alminium	P Plated Steel
S Stainless Steel	F 2" ANSI/DIN Flange (Side)	C Cast Iron	
		H Hastelloy-C	
		P Polypropylene	
		K PVDF	

S Stainless Steel  
P Plated Steel

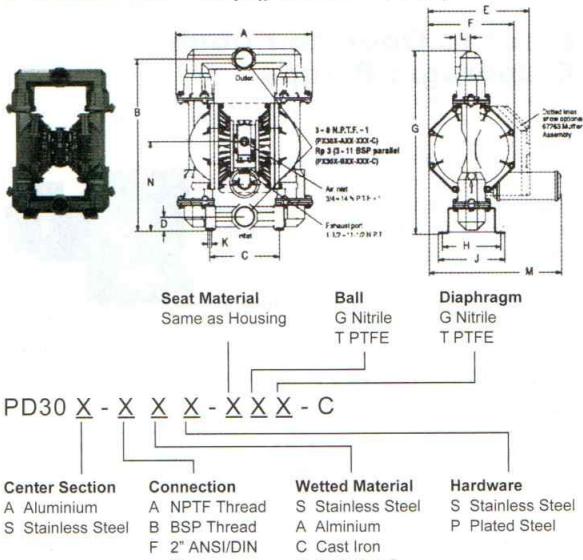
CODE	59 17 06	59 17 07
Recommended Model	PD20X-XXX-XXX-B	PD20P-XXX-XXX
Description	2" Stainless Steel Pump	
Central Section Material	Aluminium/ Stainless Steel	Polypropylene
Connection Thread	BSP / NPT	ANSI, DIN Flange
Wetted Material	Aluminium/ Stainless Steel	Polypropylene/PVDF
Hardware	Plated Steel/ Stainless Steel	Stainless Steel
Seat Material	Same as Housing	
Ball Material	Nitrile/PTFE	
Diaphragm Material	Nitrile/PTFE	

### Performance Specification

Max. Flow GPM (Liters)	172 (651)
Max. Operating Pressure psi (bar)	120 (8.3)
Maximum Dry Suction Lift ft (meter)	14 (4.2)
Max. Solids Inches (mm)	1/4" (6.4)
Air Inlet	3/4" - 14 NPTF
Recommended Filter / Regulator	P39354-610
Pump Weight Lbs (kg)	149.8 (68)
Air Line Kit	66312
Fluid Service Kit	637309-XX
Air Motor Service Kit	637421
Manufacturer	Ingersoll Rand ARO

Remark : If you require another material of pump, please refer to the ordering guide for material selection of components.

### 3" Metallic EXP Pump (port size 80 mm)



CODE	59 17 08
Recommended Model	PD30X-XXX-XXX-C
Description	3" Stainless Steel Pump
Central Section Material	Aluminium / Stainless Steel
Connection Thread	BSP / NPT /ANSI, DIN Flange
Wetted Material	Aluminium / Stainless Steel / Cast Iron / Hastelloy-C
Hardware	Plated Steel / Stainless Steel
Seat Material	Same as Housing
Ball Material	Nitrile / PTFE
Diaphragm Material	Nitrile / PTFE

### Performance Specification

Max. Flow GPM (Liters)	275 (1,041)
Max. Operating Pressure psi (bar)	120 (8.3)
Maximum Dry Suction Lift ft (meter)	14 (4.2)
Max. Solids Inches (mm)	3/8" (9.5)
Air Inlet	3/4" - 8 NPTF
Recommended Filter / Regulator	P39354-610
Pump Weight Lbs (kg)	228.8 (103.8)
Air Line Kit	66109
Fluid Service Kit	637303-XX
Air Motor Service Kit	637421
Manufacturer	Ingersoll Rand ARO

Remark : If you require another material of pump, please refer to the ordering guide for material selection of components.

### Air Operated Double Diaphragm Pumps

Bombas de Doble Diafragma Operada con Aire  
 エアーオー式ダブルダイヤフラムポンプ 气动式双隔膜泵浦

Versa-Matic® pumps deliver non-stalling, non-icing, lubrication free on / off reliability. Available with patented longer-life diaphragm designs and the exclusive Elima-Matic® air valve system. The products are designed with ease of maintenance in mind, for reduced downtime. They are available in a wide array of materials, construction choices, and porting options to handle virtually any requirement.



### E1 1" Bolted Metallic Pumps

CODE	59 17 15	59 17 16	59 17 17	Unit Per Set
Body Material	Aluminium	Stainless steel	Hastelloy C	
Flow Rate	0-35 gpm (0-132 lpm) adjustable			
Port Size	1.0" Female NPT (BSP)			
Discharge	1.0" Female NPT (BSP)			
Air Inlet	0.375" NPT			
Air Exhaust	0.50" NPT			
Suction Lift	15' dry / 25' wet (4.57 m / 7.62 m)			
Max. Particle Size (Diameter)	0.125" (3.17 mm)			
Weight lbs (kg)	31 (14.07)	42 (19.05)		

Remark : Do not exceed 125 psig (8.5 bars) air supply or liquid pressure.  
 Name of Mfr. : Versa-Matic Pump Company

### E4 1-1/4" Clamped Metallic Pumps

CODE	59 17 18	59 17 19	59 17 20	59 17 21	Unit Per Set
Body Material	Aluminium	Cast iron	Hastelloy C	Stainless steel	
Flow Rate	0-70 gpm (0-265 lpm) adjustable				
Port Size	1.50" FNPT (BSP)				
Discharge	1.25" FNPT (BSP)				
Air Inlet	0.50" NPT				
Air Exhaust	0.75" NPT				
Suction Lift	15' dry / 25' wet (4.57 m / 7.62 m)				
Max. Particle Size (Diameter)	0.1875" (4.76 mm)				
Weight lbs (kg)	41 (18.6)	57 (25.85)			

Remark : Do not exceed 125 psig (8.5 bars) air supply or liquid pressure.  
 Name of Mfr. : Versa-Matic Pump Company

**E2 2" Clamped Metallic Pumps**

CODE	59 17 22	59 17 23	59 17 24	59 17 25	Unit Per Set	
Body Material	Aluminium	Cast iron	Hastelloy C	Stainless steel		
Flow Rate	0-155 gpm (0-586 lpm) adjustable					
Port Size	Inlet Discharge	2" FNPT (BSP) 2" FNPT (BSP)				
Air Inlet	0.50" NPT					
Air Exhaust	0.75" NPT					
Suction Lift	20' dry/25' wet (6.10 m / 7.62 m)					
Max. Particle Size (Diameter)	0.25" (6.35 mm)					
Weight lbs (kg)	70 (31.75)	115 (52.16)				

Remark : Do not exceed 125 psig (8.5 bars) air supply or liquid pressure.  
 Name of Mfr. : Versa-Matic Pump Company

**E3 3" Clamped Metallic Pumps**

CODE	59 17 26	59 17 27	59 17 28	59 17 29	Unit Per Set	
Body Material	Aluminium	Cast iron	Hastelloy C	Stainless steel		
Flow Rate	0-230 gpm (0-984 lpm) adjustable					
Port Size	Inlet Discharge	3" FNPT (BSP) 3" FNPT (BSP)				
Air Inlet	0.5" NPT					
Air Exhaust	1.0" NPT					
Suction Lift	20' dry/25' wet (6.10 m / 7.62 m)					
Max. Particle Size (Diameter)	0.375" (9.52 mm)					
Weight lbs (kg)	115 (52.16)	210 (95.25)				

Remark : Do not exceed 125 psig (8.5 bars) air supply or liquid pressure.  
 Name of Mfr. : Versa-Matic Pump Company

**Plastic Diaphragm Pumps****Husky**

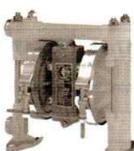
Bombas con diafragma de plástico

プラスティック製ダイフラムポンプ 塑料隔膜泵

Polypropylene casing pneumatic double diaphragm pumps with polypropylene center section for chemical compatibility.



Husky 205



Husky 307



Husky 515



Husky 1050



Husky 1590

**Electric Operated Double Diaphragm Pumps**

Bombas de doble diafragma de propulsión eléctrica  
 電動式ダブルダイアフラムポンプ 电动双隔膜泵

The electric operated double diaphragm pump uses a new technology that allows the pump to stall under pressure preventing failures from clogged lines or closed valves. The energy efficient electric drive reduces energy consumption up to 5x compared to traditional air operated diaphragm pumps. Seal-less diaphragm pump design eliminates leaking and failures due to run-dry pump conditions.

## &lt;Model Range&gt;

	Motor	Center Section	Fluid Section	Compressor / Cart	
AC	Aluminium	Aluminium		Option	
		Polypropylene			
		Stainless Steel			
	Stainless Steel	Aluminium			
		Polypropylene			
		Stainless Steel			
AC Atex	Aluminium	Aluminium		Option	
		Polypropylene			
		Stainless Steel			
	Stainless Steel	Aluminium			
		Polypropylene			
		Stainless Steel			
DC Brushless	Aluminium	Aluminium		Option	
		Polypropylene			
		Stainless Steel			
	Stainless Steel	Aluminium			
		Polypropylene			
		Stainless Steel			

CODE	59 17 70	Unit Per Set
Model	Husky 1050E	
Casing	Aluminium	
Center	Aluminium	
Connection Size	1" NPT(f) or BSPT	
Max. Flow Rate	48 gpm (148 lpm)	
Max. Pump Speed	280 cpm	
Max. Solids	1/8" (3.2 mm)	
AC Motor Power	2 HP	
BLDC Motor Power	2.2 HP	
Dimension	73.2 x 26.1 x 34.8 cm (AC Motor)	
Weight	33.6 kg – 49.7 kg (depending on configuration)	

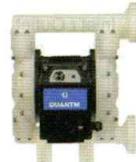
Name of Mfr.: Graco

## QUANTM Electric Pumps

Bombas eléctricas QUANTM QUANTM 電動ポンプ QUANTM 电动泵

QUANTM features a revolutionary electric motor design that will reduce operational costs and keeps your production lines

running. A perfect fit for nearly any fluid applications and a drop-in replacement for existing pumping technologies. Up to 80% less energy, requires no compressed air, enable you to make sustainable operations.



CODE	59 17 71	59 17 72	59 17 73	Unit Per Set
Model	QUANTM i30	QUANTM i80	QUANTM i120	(1") (1.5") (2")
Material of Construction	Hastelloy, Aluminium, Polypropylene, Conductive Polypropylene, Stainless Steel, PVDF	Aluminium, Polypropylene, Conductive Polypropylene, S.Steel, Cast Iron, PVDF		
Pressure	7 bar (100 psi, 0.7 MPa)	4.2 bar (60 psi, 0.42 MPa)		
Flow	115 lpm (30 gpm)	300 lpm (80 gpm)	450 lpm (120 gpm)	
Voltage		120 V, 240 V single and 3 phase		

Name of Mfr.: Graco

## Cross Reference of Diaphragm Pumps

Inlet / Outlet Port Size	Wilden	Yamada	Aro	Versa-Matic Pump	Warren Rupp	Graco
Air Inlet 1/8" Inlet/Outlet Port Size 1/4" x 1/4"	P.025 59 16 07 Aluminium Stainless Steel (BSPT/NPT)  59 16 10 Polypropylene PVDF Flow Rate: 18 LPM	NDP-5 Aluminium Stainless Steel Polypropylene, PVDF  (PT/NPT) Max Flow Rate: 11 LPM Air Inlet 1/4"  *Cannot be used for slurry liquid	PD01P  Polypropylene, PVDF (NPT) Flow Rate: 20 LPM	-	-	Husky 205 59 17 65 Polypropylene (BSPT/NPT) Flow Rate: 19 LPM
Air Inlet 1/4" Inlet/Outlet Port Size 1/2" x 1/2"	-	G15 Aluminium Stainless Steel Polypropylene, PVDF  (PT/NPT) Max Flow Rate: 56 LPM	-	-	-	Husky 307 Acetal  59 17 66 Polypropylene (BSPT/NPT) Flow Rate: 26 LPM
Air Inlet 1/4" Inlet/Outlet Port Size 1/2" x 1/2"	P1 59 16 05 Aluminium Stainless Steel  59 16 11 Polypropylene PVDF (BSPT/NPT) Flow Rate: 57 LPM	-	PD05X  Aluminium Stainless Steel  Polypropylene, PVDF (BSP/NPT) Max Flow Rate 54.5 LPM	-	-	Husky 515 59 17 67 Polypropylene (BSPT/NPT) Flow Rate: 57 LPM
Air Inlet 1/4" Inlet/Outlet Port Size 3/4" x 3/4"	-	NDP-20 Aluminium Stainless Steel Polypropylene,  (PT/NPT) Max Flow Rate: 110 LPM	-	-	-	Husky 716 Aluminium Stainless Steel (ANSI Flange) Flow Rate: 61 LPM
Air Inlet 1/4" Inlet/Outlet Port Size 1" x 3/4"	P2 59 16 01 Aluminium Stainless Steel  59 16 12 Polypropylene PVDF (BSPT/NPT) Flow Rate: 145 LPM	-	6661XX(1")  Aluminium Stainless Steel (BSP/NPT)  Polypropylene PVDF (1"ANSI Flange #150)	-	-	Husky 1050 Aluminium Stainless Steel  Polypropylene 59 17 68 (ANSI/DIN Flange) Flow Rate: 189 LPM

(to be continued)

Inlet / Outlet Port Size	Wilden	Yamada	Aro	Versa-Matic Pump	Warren Rupp	Graco
Air Inlet 1/4" Inlet/Outlet Port Size 1" x 1"	<b>P220</b> Aluminium Stainless Steel (BSPT/NPT) Polypropylene PVDF (ANSI Flange) Flow Rate: 190 LPM	<b>NDP-25</b> Aluminium Stainless Steel Cast Iron Polypropylene, PVDF (PT/NPT) Air Inlet 3/8" Max Flow Rate: 160 LPM	<b>59 17 01</b> <b>PD10X</b> Aluminium Stainless Steel Cast Iron Hastelloy C (BSP/NPT)  <b>59 17 02</b> Polypropylene PVDF (BSP/NPT/ ANSI,DIN Flange) Max. Flow Rate 197 LPM	<b>E1</b> (BSPT/NPT)  <b>59 17 15</b> Aluminium  <b>59 17 16</b> Stainless Steel  <b>59 17 17</b> Hastelloy C  Flow Rate 0-35 GPM (0-132 LPM)	<b>S1F AL</b> Aluminium (NPT) Flow Rate: 170 LPM	
Air Inlet 1/2" Inlet/Outlet Port Size 1-1/2" x 1-1/4"	<b>P4</b> <b>59 16 02</b> Aluminium Stainless Steel Cast Iron  <b>59 16 13</b> Polypropylene PVDF (BSPT/NPT)  <b>59 16 08</b> <b>PS4</b> Aluminium  Flow Rate: 370 LPM	<b>NDP-32</b> Aluminium  Air Inlet 1/4" (PT/NPT) Max Flow Rate: 190 LPM	6661XX(1.5")  Aluminium Stainless Steel (BSP/NPT)  Polypropylene PVDF (1-1/2"ANSI Flange #150)	<b>E4</b> (BSPT/NPT)  <b>59 17 18</b> Aluminium  <b>59 17 19</b> Cast Iron  <b>59 17 20</b> Hastelloy C  <b>59 17 21</b> Stainless Steel  Flow Rate 0-70 GPM (0-265 LPM)		<b>Husky 1590</b> Aluminium  Polypropylene <b>59 17 69</b> (ANSI Flange) Flow Rate: 379 LPM
Air Inlet 1/2" Inlet/Outlet Port Size 1-1/2" x 1-1/2"	<b>PS420</b> Aluminium Stainless Steel Cast Iron  Polypropylene PVDF (ANSI Flange) Flow Rate: 450LPM	<b>NDP-40</b> Aluminium Stainless Steel Cast Iron (PT/NPT) Polypropylene, PVDF (ANSI/JIS Flange) Max Flow Rate: 400 LPM	<b>59 17 03</b> <b>PD15X</b> Aluminium Stainless Steel Cast Iron Hastelloy C (BSP/NPT)  <b>59 17 04</b> Polypropylene PVDF (1-1/2"ANSI Flange #150)  Max. Flow Rate 465 LPM		<b>S15 AL</b> Aluminium (NPT) Flow Rate: 401 LPM	
Air Inlet 3/4" Inlet/Outlet Port Size 2" x 2"	<b>P8</b> <b>59 16 03</b> Aluminium Stainless Steel Cast Iron  <b>59 16 14</b> Polypropylene PVDF  <b>PS8</b> <b>59 16 09</b> Aluminium (BSPT/NPT)  Flow Rate: 650LPM	<b>NDP-50</b> Aluminium Stainless Steel Cast Iron(PT/NPT) Polypropylene, PVDF (ANSI/JIS Flange) Max Flow Rate: 630 LPM	<b>59 17 06</b> <b>PD20X</b> Aluminium Stainless Steel Cast Iron Hastelloy C (BSP/NPT)  <b>59 17 07</b> Polypropylene PVDF (2" ANSI Flange #150)  Max. Flow Rate 651 LPM	<b>E2</b> (BSPT/NPT)  <b>59 17 22</b> Aluminium  <b>59 17 23</b> Cast Iron  <b>59 17 24</b> Hastelloy C  <b>59 17 25</b> Stainless Steel  Flow Rate 0-155 GPM (0-586 LPM)	<b>S20 AL</b> Aluminium (NPT) Flow Rate: 568 LPM	<b>Husky 2150</b> Aluminium Stainless Steel Polypropylene (ANSI Flange) Flow Rate: 568 LPM

Inlet / Outlet Port Size	Wilden	Yamada	Aro	Versa-Matic Pump	Warren Rupp	Graco
Air Inlet 3/4" Inlet/Outlet Port Size 3" x 3"	<b>PS15</b> <b>59 16 04</b> Aluminium Stainless Steel Cast Iron (BSPT/NPT)  Flow Rate: 850 LPM	<b>NDP-80</b> Aluminium Stainless Steel Cast Iron(PT/NPT) Polypropylene, (ANSI/JIS Flange) Max Flow Rate: 840 LPM	<b>PD30X</b> <b>59 17 08</b> Aluminium Stainless Steel Cast Iron Hastelloy C (BSP/NPT)	<b>E3</b> (BSPT/NPT)  <b>59 17 26</b> Aluminium  <b>59 17 27</b> Cast Iron  <b>59 17 28</b> Hastelloy C  <b>59 17 29</b> Stainless Steel  Flow Rate 0-230 GPM (0-984 LPM)	  <b>S30 AL</b> Aluminium (NPT) Flow Rate: 901 LPM	<b>Husky 3300</b> Aluminium Stainless Steel Polypropylene (ANSI Flange) Flow Rate: 1,059 LPM
Air Inlet 3/4" Inlet/Outlet Port Size 4" x 4"	<b>PS20</b> <b>59 16 06</b> Cast Iron (ANSI Flange)  Flow Rate: 1,048 LPM	-	-	-	-	-

### High Pressure Diaphragm Valve

Inlet/Outlet Port Size	Wilden	Yamada	Aro	Versa-Matic Pump	Warren Rupp	Graco
Air Inlet 3/4" Inlet/Outlet Port Size 2" x 2"	<b>H800</b> (250 psig) (ANSI 300#Flanges) Pressure Ratio: 3:1 <b>59 16 16</b> Stainless Steel Hastelloy <b>59 16 17</b> Ductile Iron  Flow Rate: 350 LPM	-	<b>PH20F</b> (2:1) Stainless Steel (BSP/NPT/ ANSI,DIN Flange)	-	-	-
Air Inlet 3/4" Inlet/Outlet Port Size 1-1/2" x 1-1/2"	<b>H400S</b> (250 psig) (ANSI 300#Flanges) Pressure Ratio: 2:1 <b>59 16 18</b> Stainless Steel  <b>59 16 19</b> Aluminium  Flow Rate: 180 LPM	-	<b>PH15F</b> (2:1) Stainless Steel (BSP/NPT/ ANSI,DIN Flange)	-	-	-
Air Inlet 1/2" Inlet/Outlet Port Size 1" x 1"	<b>59 16 20</b> <b>H200</b> (250 psig) Pressure Ratio: 3:1  Ductile Iron Stainless Steel Flow Rate: 90 LPM	-	<b>PH10A</b> (3:1) Stainless Steel (BSP/NPT)	-	-	-

\*Actual Flow Rate may vary depending on conditions

## Electric Sump Pumps

Bombas Eléctricas Sumergibles

電気式排水ポンプ 电动排水泵

For permanent or portable application and ideal for loading anywhere there is an accumulation of water. Furnished for a 100 volt, 200 volt and 440 volt power supply.



### How to order: CODE

*Sump pump, electric, LIFTING CAPACITY mtr and m<sup>3</sup>/min., POWER SOURCE VOLTAGE, MODEL*

CODE	Lift Capacity			Discharge Diam mm	Weight kg	Unit Per Set
	Mtr	m <sup>3</sup> /min.				CODE
<b>AC 100 Volt-Single Phase</b>						
59 16 21	6.5	0.08		40	6.7	
22	* 9.3/10.0	0.08		50	6.7	
23	8.0	0.13		50	17	
<b>AC 200 Volt-Triple Phase</b>						
59 16 26	10.0	0.6		80	34	
27	* 15.0/16.5	0.25		50	30	
28	20.0	0.5		80	63	
29	26.0	0.5		80	54	
<b>AC 440 Volt-Triple Phase</b>						
59 16 24	26.0	0.5		80	54	
30	* 35.0/30.0	0.3/0.5		80	89	

\*Mtr: A/B = 50 Hz/60 Hz

59

Pneumatic &amp; Electrical Tools

## Pneumatic Sump Pumps

Bombas neumáticas sumergibles エア式排水ポンプ 气动式潜水泵

Suitable to empty ballast tanks, bilge wells, etc. in emergency cases. Often used for draining cargo holds during and after the washing procedure. Especially preferred where an electric spark may risk ignition or explosion. Required air pressure is 0.59 MPa (6 kgf/cm<sup>2</sup>).



### How to order: CODE

*Sump pump, pneumatic, TOTAL HEAD CAPACITY mtr, DISCHARGE CAPACITY m<sup>3</sup>/hr., MODEL*

CODE	Unit Per Set						
	Capacity	Total Head	Discharge	Max. Air Consumption	Water Hose Size	Air Hose Size	Weight kg
59 16 35	15 mtr	22 m <sup>3</sup> /H	2.0 m <sup>3</sup> /min	2.0 m <sup>3</sup> /min	63.5 mm	3/4	19
36	20	28	3.4	3.4	63.5	3/4	22
37	25	38	4.4	4.4	63.5	1	32

## Sludge Master SMA3-A

Air-powered trash pump handles mud, leaves, twigs, sand, sludge, trash-laden water and soft solids to 1.5" (3.8 cm). High capacity - low head. It weighs only 59 pounds (26 kg), and can fit through an opening as small as 14" (35 cm). Sturdy construction for rough handling and long life. Optional rock screen available.



Unit Per Set

CODE	59 16 38
Model	SMA3-A
Displacement Per Stroke	300 gal/1,140 ltr
Max. Solids Handling	1.5"/38 mm
Air Inlet	1/2" NPT (12.5 mm)
Discharge Pipe Thread	3" (75 mm) NPT female
Weight	59 lbs (26 kg)

Name of Mfr.: Warren Rupp, Inc.

## Two Ball Double Acting Pumps

### Air Operated

Bomba Neumática de Doble Acción

エアー駆動 2 ボール複動ポンプ 气动双球型复动泵



For transferring of material from original containers or bulk storage to the point of use, and the two-ball pumps are primarily designed for the high volume transfer of light and medium viscosity fluids. Stainless steel construction offers compatibility with a wide range of fluids.

Unit Per Set

CODE	59 16 41
Type	Air operated two ball double acting pump
Model	AF0810XXXXXX-XX-X
Ratio	10 : 1
Air Motor Diameter	8" (20.3 cm)
Stroke	6" (15.2 cm)
Air Inlet (Female)	3/4 – 14 N.P.T.F. – 1
Air Exhaust (Female)	1-1/4 – 11-1/2 N.P.T.F. – 1
Lower Pump Material	Inlet (Male) 2 – 11-1/2 N.P.T.F. – 1
Output (Female)	1-1/4 – 11-1/2 N.P.T.F. – 1
Air Inlet Pressure Range	30 – 120 p.s.i. (2.1 – 8.3 bar)
Fluid Pressure Range	300 – 1,200 p.s.i. (20.7 – 82.8 bar)
Max. Rec'd Cycles / Minute	70
Displacement in 3 per Cycle	59.8
Volume / Cycle	33.1 oz (979.6 ml)
Cycles per Gallon	3.9
Flow at 70 cycles / Minute	18.1 g.p.m. (86.6 l.p.m.)
Noise Level at 60 p.s.i. - 40 c.p.m.	89.8 db
Weight	102 lbs (46.3 kg)
Name of Mfr.	Ingersoll-Rand

## Portable Pumps

### Battery Powered

Bomba Portátiles con Batería

バッテリー式排水ポンプ 移动式泵浦电池供电

A battery-powered pump operates using any 12-volt car or truck battery. It comes equipped with cables and battery clips. Extremely portable, the pump weights only 33 pounds (15 kg) and can fit through openings as small as 10" (25 cm). Electrically safe and whisper quiet.



Suitable for all of onsite dewatering needs such as ditches, manholes, and caissons. The pump is available with an optional handy carrying case for convenient safe storage. Furnished with remote waterproof controller integrated into the pump cable for simple safe operation. The pump is submersible by the watertight o-ring seals.

### Performance

Capacity		Discharge Height	
Gallons/Minute	Liters/Minute	Feet	Meter
41.6	157.4	5	1.5
34.0	128.7	10	3.0
25.0	94.6	15	4.5
21.3	80.6	20	6.0
0.0	0.0	25	7.6

Unit Per Set		
CODE	59 16 43	59 16 44
Model	Porta Pump (SPA 1-1/2-E)	
Delivering up to	43 gpm (163 lpm)	
Connections	1-1/2" NPT	1-1/2" BSPT (Tapered thread)
Motor	1/3 hp	
Power Source	12 volt battery	
Weight	33 lbs (14.9 kgs)	

Name of Mfr. : Warren Rupp, Inc.

## Diesel Engine Water Pumps

Bomba de agua de motor diésel

ディーゼルエンジンウォーターポンプ 柴油机水泵

Strong and lightweight die-cast aluminium water pump with diesel engine operated. Highly effective mechanical seal made with special carbon ceramics provides extra durability. Entire unit is protected by sturdy rollover pipe frame.



Unit Per Set			
CODE	59 16 48	59 16 49	59 16 50
Model	SE-50XD	SE-80XD	SE-100XD
Connecting Dia	50 mm (2")	80 mm (3")	100 mm (4")
Connecting Thread	Outer Pipe Thread BSP		
Delivery Volume	560 L/min	900 L/min	1,100 L/min
Max. Suction Head	8 m (26 ft)		
Exhaust Volume	230 cc	265 cc	
Rated Output	3.1 kW (4.2 PS) / 3,600 rpm	3.7 kW (5.0 PS) / 3,600 rpm	

(to be continued)

Max. Output	3.5 kW (4.2 PS) / 3,600 rpm	4.4 kW (5.0 PS) / 3,600 rpm
Continuous Operating Time	Approx. 3.5 hrs	Approx. 3 hrs
Weight	47 kg	50 kg
Size (L x W x H mm)	573 x 413 x 500	573 x 413 x 500
Accessories	1 x Strainer, 2 x Hose Couplings, 3 x Hose Bands, 1 x Engine Tool Set	

Name of Mfr.: Koshin

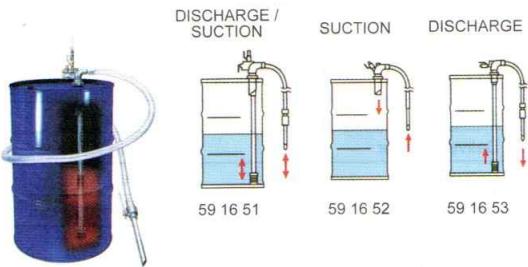
## Pneumatic Drum Pumps

Bombas para Bidones Neumáticas

エア式ドラムポンプ 风动式回转泵

Capable of pumping and discharging water, oil and bottom sludge. And also any explosive material can be sucked when the pump is properly grounded. No oil mist is produced and the pumping and discharge action is very speedy (about 2 minutes for 200 ltrs of water). Available in three types.

Furnished with 3 mtrs of oil-resistant hose and 300 mm of discharge nozzle.



Unit Per Set			
CODE	59 16 51	59 16 52	59 16 53
Type	QTO	Q	TO
Application	Suction & Discharge	Suction	Discharge
Pressure of Compressed Air	5 kgf/cm²	5 kgf/cm²	-
Vacuum Degree	4,600 mm/H₂O	4,600 mm/H₂O	-
Recovery Time for 100 ltr Clean Water	60 sec	60 sec	-
Discharge Pressure	0.55 kgf/cm²	-	0.55 kgf/cm²
Recovery Time for 100 ltr Clean Water	60 sec	-	60 sec
Hose	ø32 mm×3M	ø32 mm×3M	ø32 mm×3M

Name of Mfr. : Blovac Co. Ltd.

## Pneumatic Piston Pumps

Bombas de Pistón Neumáticas (Travase)

ピストンポンプ 风动式活塞泵

Ideal for delivering fuel to oil burners as well as to take out water or oil from drums or other containers.

Furnished air valve cock and air hose nipple, however, the related drum joint and pipe for the drum can be sold separately.



**Specifications**

Capacity ltr / min	Piston Dia	Overall Length	Weight kg
40 - 60	50 mm	608 mm	4.6

59 16 61	Pneumatic piston pump complete w/drum joint & pipe for drum can	Set
59 16 62	Piston pump only	Pc.
59 16 63	Drum joint and pipe for drum can	Set

**Pneumatic Portable Transfer Pumps**

Bombas neumáticas portátiles de transferencia  
エアー式ポータブル移送ポンプ 气动式便携传送泵

Suitable for rapid transfer of oil, acid, and solvent fluids (in the stainless steel version). Strongly built, it has the motor body in light alloy. Available in turbine or piston version.

**Turbine Type**

Unit Per Set

CODE	59 16 66	59 16 67
Model	500-0	500-00
Tubset Material	Steel	Stainless Steel
Max Head	10 - 15 mtr	
Max. Delivery Water	240 ltr/min.	
Max. Delivery Oil	135 ltr/min.	
Tubset Dia x Length	40 mm or 48 mm x 1,000 mm	
Feeding Pressure	7 bar	
Air Consumption	1,200 ltr/min.	
Weight	8 kg	7 kg

Name of Mfr.: I.CO. s.r.l.

**Piston Type**

Unit Per Set

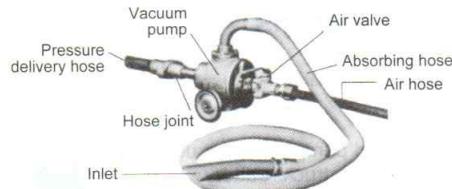
CODE	59 16 68	59 16 69
Model	17,000-0	17,000-00
Piston Material	Steel	Stainless Steel
Max Head	60 mtr	
Max. Delivery Water	35 ltr/min.	
Max. Delivery Oil	25 ltr/min.	
Tubset Dia x Length	54 mm x 1,000 mm	
Feeding Pressure	7 bar	
Air Consumption	75 ltr/min.	
Weight	8.5 kg	8 kg

Name of Mfr.: I.CO. s.r.l.

**Vacuum Pumps Suction & Pressure System**

Bombas de Sistema de Aspiración y Vacío  
吸引圧送式バキュームポンプ 真空泵吸嘴及压力系统

Using high pressure compressed air this vacuum/boiler pump creates strong suction and diffusion power for all types of materials. Best used for vacuuming or displacing dust, grit, sand, water, oil, paint, etc. A suction hose 50 mmØ x 4 mtr and a suction nozzle are furnished as standard accessories.

**Specifications**

Air Pressure	5 - 7 kgf/cm²				
Vacuum Pressure	4.5 Hg (Mercury) 6,100 m/mAq (Water)				
Capacity of Transferring	2,100 kg/hour (Steel grit)				
Dimensions	W300 x L750 x H450 mm				
Weight	21 kg				
Hose	<table border="1"> <tr> <td>Suction</td> <td>50 mm Ø x 4 mtr</td> </tr> <tr> <td>Dispersion</td> <td>50 mm Ø x 20 mtr</td> </tr> </table>	Suction	50 mm Ø x 4 mtr	Dispersion	50 mm Ø x 20 mtr
Suction	50 mm Ø x 4 mtr				
Dispersion	50 mm Ø x 20 mtr				
Usual accessories included in set	<table border="1"> <tr> <td>Suction hose</td> <td>50 mm Ø x 4 mtr - 1 pc</td> </tr> <tr> <td>Suction nozzle</td> <td>1pc</td> </tr> </table>	Suction hose	50 mm Ø x 4 mtr - 1 pc	Suction nozzle	1pc
Suction hose	50 mm Ø x 4 mtr - 1 pc				
Suction nozzle	1pc				

59 16 71	Vacuum Pump, suction and pressure system, 2,100 kg/hour	Set
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**Portable Ejectors**

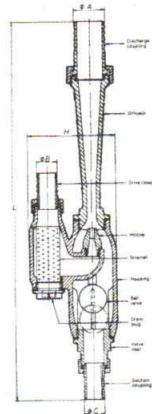
Eyectores Portátiles ポータブルイジェクター

便携式喷射器

Portable ejectors have been found to be indispensable on bulk carriers, lube-oil tankers and chemical carriers where it is essential to empty tanks completely.

It is also extremely useful on all other types of ships for mopping up the last few barrels of liquid from tanks, holds, cofferdams or other compartments when stripping is required.

These ejectors are powered either by water or by the liquid which is being pumped. Normally made of bronze with a stainless steel nozzle. One standard nozzle and an extra nozzle for lower driving pressure are attached as standard accessories.



Unit Per Set

CODE	Type	Hose Connections			Dimension	Wgt.
		A	B	C		
59 16 76	1 x 1 x 1-1/2	1"	1"	1-1/2"	47 cm	10 cm
59 16 77	1-1/4 x 1-1/4 x 2	1-1/4"	1-1/4"	2"	55 cm	12 cm
59 16 78	1-1/2 x 1-1/2 x 2-1/2	1-1/2"	1-1/2"	2-1/2"	70 cm	14 cm

Name of Mfr.: Teamtec A/S

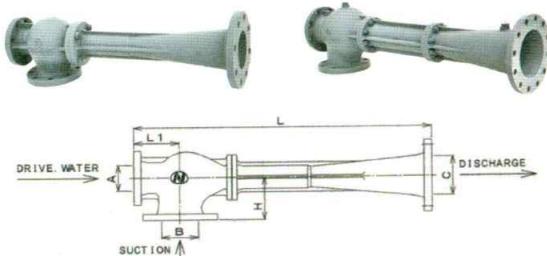
Equipped with standard nozzle :

Type	Suction Capacity	Required driving pressure against various discharge heads					Nozzle Size
		5 m	10 m	15 m	20 m	25 m	
1 x 1 x 1-1/2	3 tons	5.0 kp/cm²	6.5 kp/cm²	8.0 kp/cm²	9.5 kp/cm²	11.0 kp/cm²	6.4 mm
1-1/4 x 1-1/4 x 2	6 tons	5.0 "	6.5 "	8.0 "	9.5 "	11.0 "	8.5 mm
1-1/2 x 1-1/2 x 2-1/2	9 tons	5.0 "	6.5 "	8.0 "	9.5 "	11.0 "	11.1 mm

## Water Jet Ejectors

Ejector de chorro de agua  
ウォータージェットエダクター 喷水式電動ポンプ

Using pressurized-water as driving force, jetting it from nozzle at a high-speed, ejector sucks in bilge or ballast-water existing at lower level than body by the vacuum force generated inside and discharges them outside. It belongs to a type of water jet pump. Flange size is JIS 10K.



Unit Per Pcs.

CODE	MODEL	A×B×C (mm)	SQ (m³/h)	DQ (m³/h)	L	L1	H
59 16 79	FC-ER-065	50 × 65 × 80	20	25- 45	560	100	110
80	FC-ER-080	65 × 80 × 100	30	35- 65	660	115	130
87	FC-ER-100	80 × 100 × 125	40	40- 80	860	135	135
88	FC-ER-125	100 × 125 × 150	55	65-105	1000	155	165
89	FC-ER-150	125 × 150 × 200	100	110-200	1300	160	200
56 16 90	FC-ER-200S	150 × 200 × 250	120	140-250	1700	200	250
97	FC-ER-200	150 × 200 × 250	160	170-320	1960	225	275
98	FC-ER-250	200 × 250 × 300	240	260-480	2200	290	300

Name of Mfr.: Niikura Kogyo Co., Ltd.

## Air Operated Wash Pumps

Bomba Neumática de Limpieza

エアー式洗浄用ポンプ 气动式清洗泵

Designed for heavy duty cleaning with detergents, caustics, and dilute acid type cleaners. May be directly mounted in the two inch bung of a standard 55 gallon drum or, when using the mounting bracket, the pump can be mounted on the wall or in a 55 gallon open head drum. All metal parts in the pumping section are manufactured from 316 stainless steel.



### Component

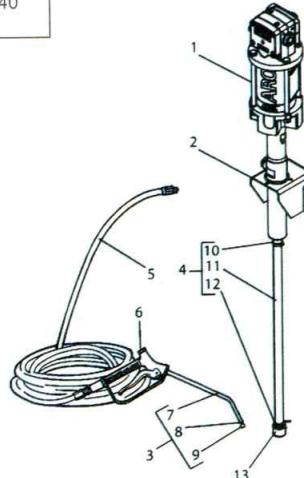
4-1/4" High pressure wall-mounted spray package

Item	Description	Part No.
1	Basic pump assembly	AF0409C8XXXXX
2	Pump bracket assembly (2" bung)	61113
3	Bent pipe assembly (includes 7, 8 & 9)	61133
4	Suction tube assembly (includes 10, 11, 12 & 13)	61139-1
5	Hose assembly (3/8 i.d. 2 fabric)	622427-40
6	Control handle assembly	641523
7	Bent pipe	76821
8	Nozzle cover	76330
9	Spray tip	TP6250-18
10	Hose clamp	76315
11	Tube	92249-26
12	Hose clamp	76315
13	Screen assembly	61138

CODE	59 08 81
Type	Air operated wash pump (Model : WP0409C8XXXXXX)
Ratio	10 : 1
Air Motor Diameter	4-1/4" (10.795 cm)
Stroke (Double Acting)	4" (10.16 cm)
Air Inlet	1/2 - 14 NPTF - 1 (f)
Air Exhaust	1-1/4 - 11-1/2 NPTF - 1 (f)
Material Outlet	3/8 - 18 NPTF - 1 (f)
Material Inlet	Barbed
Pump Construction	Series 316 stainless steel
Air Inlet Pressure Range	0 - 150 p.s.i. (0 - 10.3 bar)
Fluid Pressure Range	0 - 1,500 p.s.i. (0 - 103 bar)
Displacement in <sup>3</sup> per Cycle	11.0 (0.18 ltr)
Cycle per Gallon	21 (5.5 ltr)
Maximum Delivery / Min.	3.9 gallons (14.8 ltr)
Name of Mfr.	Ingersoll-Rand

#WP0409C8XXXXXX is assembled with the following components; (4-1/4" High pressure wall-mounted spray package).

#AF0409C8XXXXX : Pump	#641523 : Control handle
#61113 : Wall bracket	#61133 : Spray wand
#61139-1 : 55 gallon suction tube assembly	#TP6250-18 : Spray tip
#622427-40 : Material hose (40 feet)	



## Internal Gear Pumps

Bomba de Engranaje Interior インターナルギアポンプ 内转齿轮泵

Internal gear pumps will handle high viscosity, hot or abrasive fluids, or a combination of all these. Built to extend seal life, improve reliability and prevent leaks by utilizing an internal seal chamber vent and oversized shaft diameters that minimize shaft detection. Back pull-out design provides ease of maintenance. Viscosities to 1,000,000 ssu (220,000 cst).



When order please specify the required seal type selecting from the following applications, in addition to suitable pump capacity.

**Application of Seals :**

Tuffseal cartridge lip seals	: for viscous liquids
Hard face seals	: for abrasive or tacky fluids
High pressure cartridge seals	: for handling high system pressure
Double cartridge seals	: for containing potentially hazardous liquids
High temperature seals	: for handling liquids such as hot oil

**Cast Iron Construction****How to order: CODE**

Pump, Internal gear, cast iron, MODEL, with TYPE OF SEALS

CODE		59 17 31	59 17 32	59 17 33	59 17 34	59 17 35
Model		GG015	GG030	GG050	GG070	GG080
Max. Capacity	USGPM	15	30	50	70	80
	LPM	57	114	189	265	303
Max. Pressure		13.8 bar (200 PSI)				
Max. RPM		1,800		1,500		
Weight kg		22.7		49.9		

Name of Mfr. : Tuthill

CODE		59 17 36	59 17 37	59 17 38	59 17 39	
Model		GG090	GG120	GG130	GG200	
Max. Capacity	USGPM	90	120	130	200	
	LPM	341	454	492	757	
Max. Pressure		13.8 bar (200 PSI)				
Max. RPM		1,500	1,200	1,000		
Weight kg		49.9	78.1	116		

Name of Mfr. : Tuthill

CODE		59 17 40	59 17 41	59 17 42	59 17 43	
Model		GG210	GG250	GG500	GG550	
Max. Capacity	USGPM	210	250	500	550	
	LPM	795	946	1,968	2,081	
Max. Pressure		13.8 bar (200 PSI)				
Max. RPM		800	640	520	500	
Weight kg		116	125	318.2		

Name of Mfr. : Tuthill

**Stainless Steel Construction****How to order: CODE**

Pump, Internal gear, stainless steel, MODEL, with TYPE OF SEALS

CODE		59 17 45	59 17 46	59 17 47	59 17 48	
Model		GG015	GG030	GG050	GG070	
Max. Capacity	USGPM	10	20	33	46	
	LPM	38	75	125	174	
Max. Pressure		10.3 bar (150 PSI)				
Max. RPM		1,200		1,000		
Weight kg		22.7		49.9		

Name of Mfr. : Tuthill

CODE		59 17 49	59 17 50	59 17 51	59 17 52	
Model		GG080	GG090	GG120	GG130	
Max. Capacity	USGPM	53	60	80	86	
	LPM	200	227	303	325	
Max. Pressure		10.3 bar (150 PSI)				
Max. RPM		1,000		800	640	
Weight kg		49.9		78.1		

Name of Mfr. : Tuthill

CODE		59 17 53	59 17 54	59 17 55		
Model		GG200	GG210	GG250		
Max. Capacity	USGPM	133	140	160		
	LPM	503	530	632		
Max. Pressure		10.3 bar (150 PSI)				
Max. RPM		640		520		
Weight kg		116		125		

Name of Mfr. : Tuthill

**Axial Piston Pumps**

Bombas de pistones axiales

アキシャルピストンポンプ 轴向柱塞泵

The simple construction of the axial piston pump with fewer parts allows highly reliable operation with long service intervals and easy maintenance. The axial piston pumps are positive displacement pumps with axial pistons that move a fixed amount of water in each cycle. Flow is proportional to the number of input shaft revolutions (rpm). Unlike centrifugal pumps, they produce the same flow at a given speed no matter what the discharge pressure.



Oil lubricants are replaced with the pumped medium, water, so there is no contamination risk from the pump.

Efficient design and all-stainless steel construction ensure exceptionally long life. Service is easy, and can be carried out on-site due to the simple design and few parts. Service intervals of 8,000 hours can be expected.

All parts are made of high corrosion resistant materials e.g. Duplex (EN1.4462/UNS S31803/SAF 2205) and Super Duplex (EN1.4410/UNS S32750/SAF 2207) stainless steel and carbon reinforced PEEK (Poly Ether Ether Keton).

CODE		59 17 56	59 17 57	59 17 58
Model		APP0.6	APP0.8	APP1.0
Geometric Displacement	cm <sup>3</sup> /rev	4.07	5.08	6.30
Max. Outlet Pressure Continuous	barg		83	
	psig		1,200	
Min. Outlet Pressure	barg		20	
	psig		290	
Inlet Pressure Continuous	barg		0.5 - 5	
	psig		7.3 - 72.5	
Max. Inlet Pressure Peak	barg		10	
	psig		145	
Min. Speed Continuous	rpm		700	
Max. Speed Continuous	rpm		3,450	

(to be continued)

CODE		59 17 56	59 17 57	59 17 58
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**Typical Flow**

1,000 rpm at Max. Pressure	m³/h	0.22	0.29	0.36
1,500 rpm at Max. Pressure	m³/h	0.34	0.43	0.54
1,200 rpm at Max. Pressure	gpm	1.18	1.52	1.90
1,800 rpm at Max. Pressure	gpm	1.78	2.28	2.84
Weight (Dry)	kg	5.2		

**Typical Motor Size**

Max. Speed at Max. Pressure	kW	2.2	3.0	4.0
3,000 rpm at Max. Pressure	HP	3	5	5
Torque at Max. Outlet Pressure	Nm	5.8	7.2	8.9

Name of Mfr. : Danfoss Engineering

CODE		59 17 59	59 17 60	59 17 62	59 17 63
Model		APP 1.5	APP 1.8	APP 2.2	APP 2.5
Geometric Displacement	cm³/rev	9.31	10.04	12.52	15.35
Max. Outlet Pressure Continuous	barg	83			
	psig	1,200			
Min. Outlet Pressure	barg	20			
	psig	290			
Inlet Pressure Continuous	barg	0.5 – 5			
	psig	7.3 – 72.5			
Max. Inlet Pressure Peak	barg	10			
	psig	145			
Min. Speed Continuous	rpm	700			
Max. Speed Continuous	rpm	3,450		3,000	

**Typical Flow**

1,000 rpm at Max. Pressure	m³/h	0.53	0.57	0.73	0.90
1,500 rpm at Max. Pressure	m³/h	0.79	0.86	1.09	1.34
1,200 rpm at Max. Pressure	gpm	2.80	3.03	3.83	4.73
1,800 rpm at Max. Pressure	gpm	4.19	4.55	5.75	7.09
Weight (Dry)	kg	8.6			

**Typical Motor Size**

Max. Speed at Max. Pressure	kW	5.5		7.5
3,000 rpm at Max. Pressure	HP	7.5		10.0
Torque at Max. Outlet Pressure	Nm	13.0	13.9	17.4
		21.3		

Name of Mfr. : Danfoss Engineering

**End Suction Bare Shaft Pumps**

Bomba de Extremo de Eje Libre de Succión en el Extremo

ペアシャフトポンプ 端吸式裸軸泵



Volute casing centrifugal end suction pump with Back Pull-Out (BPO) feature, main dimensions and performance according to EN 733/DIN24255 standards.

Type	End Suction centrifugal, Black Pull-Out (BPO)
Design	EN733/DIN24255
Flange	DIN2332 PN 10RF
Direction of Rotation	Clockwise as viewed from the drive side

**Material :**

Casing	Cast iron, Ductile iron, Bronze and Stainless steel
Impeller	Cast iron, Ductile iron, Bronze and Stainless steel
Shaft	SS420, optional AISI304 & AISI316
Shaft Seal	Mechanical seal and Gland packing

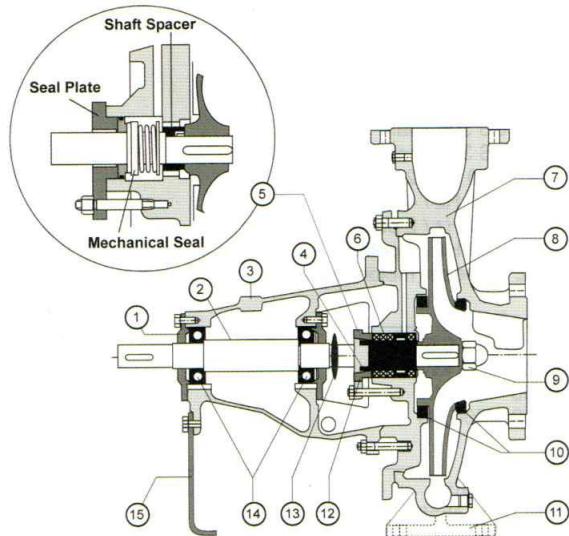
**Operating Range :**

Flow Rate (Q)	Up to 1,100 m³/h
Head (H)	up to 150 m
Speed	1,450 – 2,900 rpm (50 Hz) 1,750 – 3,600 rpm (60 Hz)
Operating Temp.	-10 °C to 105 °C standard, optional 140 °C
Operating Pressure	10 bar standard; optional 16 bar

**Range of Application:**

EUROFLO pumps can be used for the following services in the Commercial, Residential, Agricultural, Industrial, Process, Petroleum and Food & Beverage industries.

Water treatment & supply, Sea water transfer, Fire fighting & protection, Bilging & ballasting, Pressure boosting, Air conditioning, Cooling towers, Refrigeration, Plumbing, Circulating, Transfer, Irrigation, Drainage



## Parts;

No.	Name	No.	Name
1	Bearing cover (Shaft end)	8	Impeller
2	Shaft	9	Impeller nut
3	Bearing housing	10	Casing wear rings
4	Shaft protection sleeve (with Gland packing only)	11	Front foot support
5	Mechanical seal	12	Seal plate
6	Gland packing (option)	13	Slinger
7	Volute casing	14	Ball bearings (Deep groove)
		15	Rear foot support

**How to order: 59 - 17 - 61**

Pump, end suction bare shaft, with further information as ordering guide

## Ordering Guide:

EU 32 / 13 MBC DB  
EUM 100 / 26 MBC A2 – 0110

XXX XX / XX X XX XX - XXXX - X  
**Series** \_\_\_\_\_  
 EU = Bareshaft pumps  
 EUM = Monoblock pumps

**Discharge Size** \_\_\_\_\_  
**Impeller Nominal Size** \_\_\_\_\_

**Seal Type** \_\_\_\_\_  
 M = Carbon – Ceramic / NBR  
 \*P = Gland packing  
 M1 = Carbon – SiC/Viton (Optional)  
 M2 = Carbon – SiC/EPDM

**Impeller / Body Casing Material** \_\_\_\_\_  
 BC = Bronze impeller and Cast iron body  
 BD = Bronze impeller and Ductile iron body  
 BB = Bronze impeller and body  
 CC = Cast iron impeller and body  
 CD = Cast iron impeller and Ductile iron body  
 KK = SS316 impeller and body  
 KC = SS316 impeller and Cast iron body  
 SS = SS 304 impeller and body  
 SC = SS 304 impeller and Cast iron body

**Special Code** \_\_\_\_\_  
 \*DB = Double bearing – 6307 / 5307  
 \*HH = Bigger shaft and bearing frame  
 \*OL = Oil lubricator  
 S4 = SS 304 shaft  
 K6 = SS 316 shaft  
 \*\*A2 = 50 Hz / 2 poles  
 \*\*A4 = 50 Hz / 4 poles  
 \*\*B2 = 60 Hz / 2 poles  
 \*\*B4 = 60 Hz / 4 poles  
 \*\*ZZ = Special motor / voltage

**Motor Rating** \_\_\_\_\_  
 Eg. 0005 = 0.55 kW  
 0055 = 5.5 kW  
 0500 = 50 kW  
 5000 = 500 kW

**Motor Type** \_\_\_\_\_  
 Eg. Stub shaft  
 Extended shaft  
 Barepump (B)

## Note:

- \* Only for EU series of pump
- \*\* Applicable to EUM pumps only
- † All shaft are in 2Cr13

**Sea Water Desalination Machines**

Desalinizadoras de agua de mar 造水機 海水淡化机

Simple, direct feed to your current water maker. This machine works with your RO system to convert sea water to double purified water. It's reliable piping connection allows direct feed that activates an automatic operation and produces spot-free water when water is directly fed into the system. Ultra-pure water is 99% free of water solids. Perfect for rinsing hulls, windows, and extends the life of your boating equipment. It gently lifts debris and dries spot-free.



CODE	Unit Per Set
Production per hour	59 17 76
Production per day	11 Gal/41 ltr
Number of membranes	264 Gal/1,000 ltr
Voltage	1
Frequency	AC 110 – 240V
Full Load Amps	60 Hz
Dimensions (mm)	5.2 A
Weight	390 x 180 x 280
	83.5 lbs/37.9 kg

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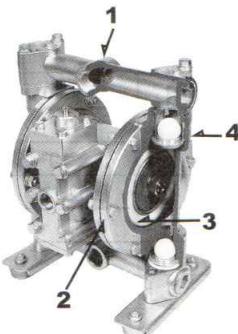
[www.impa.net](http://www.impa.net)

# Double Diaphragm Pumps Series

## Basic Model Variations

- Eight sizes of pumps
- Six types of wetted parts as a main body
- Seven types of materials for a diaphragm

Total of 150 or more basic models are provided as a result of combination of the size, wetted part type and diaphragm material type. In addition, the DP-F series for semiconductor manufacturing process and the non-metal pump series all composed of basic components made of resin are added to the conventional models to allow you to transfer various types of solutions and/or handle the various use conditions.



Material of a diaphragm ball valve sheet	Material of the main body (wetted part)						
	A: Aluminium alloy (ADC12)	F: Cast iron (FC250/S45C)	S: Stainless (SCS14/SUS316)	P: Polypropylene (PPG) * See Note.	T: Fluorocarbon resin (PTFE)	V: Polyvinylidene-fluoride (PVDF)	D: Polycetal (POM)
C: Chloroprene rubber (CR)	Glost Bilge wastewater	Argil agent Ferrite slurry Activated sludge Sewage water	Ammonia water Calcium hydroxide	Ferrous chloride Glost			Methanol Sodium sulfate Ammonium sulfate
N: Nitrile-butadiene rubber (NBR)	Lubricant Kerosene Wax Cutting oil		L.P.G. Ethyl chloride Sodium peroxide	Whisky Sodium silicate Methanol			Ethanol Methanol Ammonium nitrate
H: Thermoplastic elastomer polyester (TPEE)	Lubricant, heavy oil Break oil Naphtha, kerosene Mold lubricant						Ethanol Ammonium chloride Calcium chloride
E: Ethylene propylene (EPDM)	Acetone aqueous solution		Coal slurry CMP	Sulfuric acid (less than 20 %)			Acetaldehyde Butyl nitrile Chromium acid
S: Thermoplastic elastomer polyolefin (TPO)	Acetone bilge wastewater						Acetone Ammonia water Butyl acetate
V: Fluorine contained rubber (FKM)	Ethanol Xylene Jet fuel		Methylene chloride Lactic acid Trichloroethylene	Ethanol Tetrachlorethylene			Copper sulfate (II) Sodium sulfate Barium sulfate
T: Fluorocarbon resin (PTFE)	Latex Paint Ink		Sulfuric acid (98 %) Nitric acid (less than 25 %) MEK Acetone	Plating solution Developer Benzene Hydrogen peroxide	Fluorine, nitric acid, hydrochloric acid, sulfuric acid, chromium acid, aqua regalis, CMP	Sodium hypochlorite	Ammonium sulfate Barium sulfate Dimethyl ether

## yamada Classification of the model names

- To allow you to select our pump easily, model names of our diaphragm pumps are classified as shown below according to the combination of its "diameter," "material of the main body" and "material of the diaphragm."
- When you are to use a pump at 70 °C or higher, the material of the switching mechanism and other parts has to be changed. Contact us for details.

**NDP-**   **B**    

4 Valve type

B: Ball valve

F: Flat valve (NDP-5, NDP-15)

1 Pump size (Bore diameter)

- 5: 5 Series (Bore diameter: 1/4B)
- 10: 10 Series (Bore diameter: 3/8B)
- 15: 15 Series (Bore diameter: 1/2B)
- 20: 20 Series (Bore diameter: 3/4B)
- 25: 25 Series (Bore diameter: 1B)
- 40: 40 Series (Bore diameter: 1-1/2B)
- 50: 50 Series (Bore diameter: 2B)
- 80: 80 Series (Bore diameter: 3B)

2 Main body wetted part

- P: Polypropylene (PPG) (\* See Note 1.)
- A: Aluminium alloy (ADC-12/AC4C-T6)
- F: Cast iron (FC250/S45C)
- S: Stainless (SUS14/316)
- T: Fluorocarbon resin (PTFE)
- V: Polyvinylidene-fluoride (PVDF)
- D: Polycetal (POM)

3 Material of a diaphragm and other parts

- C: Chloroprene rubber (CR)
- N: Nitrile-butadiene rubber (NBR)
- H: Thermoplastic elastomer polyester (TPEE)
- E: Ethylene propylene rubber (EPDM)
- S: Thermoplastic elastomer polyolefin (TPO)
- V: Fluorine-contained rubber (FKM)
- T: Fluorocarbon resin (PTFE)

Temperature range table for various materials

Material of the main body	Solution temperature range
Aluminium	0 to 100°C
Cast Iron	
Stainless	
Polypropylene	0 to 60°C

Material of a diaphragm	Solution temperature range
NBR CR	0 to 70°C
TPEE EPDM	0 to 80°C
FKM TPO	0 to 100°C
PTFE	

Note 1: Glass-reinforced polypropylene

## Conversion Table

[Length]	m	km	in	ft	yd	mile
m	1	$1 \times 10^{-3}$	39.37	3.28	1.093	$6.214 \times 10^{-4}$
km	$1 \times 10^3$	1	$3.937 \times 10^4$	3,280	1,093	0.621
in	0.0254	$2.54 \times 10^{-5}$	1	1/12	1/36	$1.58 \times 10^{-5}$
ft	0.305	$3.048 \times 10^{-4}$	12	1	1/3	$1.894 \times 10^{-4}$
yd	0.914	$9.144 \times 10^{-4}$	36	3	1	$5.682 \times 10^{-4}$
mile	1,609	1.609	63,360	5,280	1,760	1

[Mass (Weight)]	g	kg	t	lb	oz
g	1	$1 \times 10^{-3}$	$1 \times 10^{-6}$	$2.204 \times 10^{-3}$	0.0352
kg	$1 \times 10^3$	1	$1 \times 10^{-3}$	2.204	35.27
t	$1 \times 10^6$	$1 \times 10^3$	1	2,204	35,270
lb	453.6	0.4536	$4.536 \times 10^{-4}$	1	16
oz	28.35	0.02835	$2.835 \times 10^{-5}$	1/16	1

[Volume]	cm <sup>3</sup> (cc or ml)	m <sup>3</sup>	l	in <sup>3</sup>	qt	pt	fl-oz	ft <sup>3</sup>	gal
cm <sup>3</sup> (cc or ml)	1	0.000001	0.001	0.061	0.00088	0.0018	0.035	-	0.00022
m <sup>3</sup>	1,000,000	1	1,000	61,024	880	1,760	35,195	35.314	220
l	1,000	0.001	1	61.024	0.880	1.760	35.195	0.035	0.220
in <sup>3</sup>	16.387	0.000016	0.016	1	0.014	0.029	0.577	0.00058	0.0036
qt	1,136.52	0.0011	1.137	69.355	1	2	40	0.033	0.25
pt	568	0.00057	0.568	34.677	0.5	1	20	0.017	0.125
fl-oz	28.413	0.000028	0.028	1.734	0.025	0.05	1	0.0008	0.00625
ft <sup>3</sup>	28,316	0.0283	28.316	1,728	29.922	59.844	958	1	7,481
gal	4,546	0.0045	4.546	277	4	8	160	0.134	1

[Pressure]	bar	kgf/cm <sup>2</sup>	lbf/cm <sup>2</sup>	mmHg (0°C)	Pa (SI)
bar	1	1.020	14.50	750.1	100,000
kgf/cm <sup>2</sup>	0.9807	1	14.22	753.6	98,066
lbf/cm <sup>2</sup>	0.0689	0.0703	1	51.72	6,895
mmHg (0)	0.00133	0.0013	0.0193	1	133.3
Pa (SI)	$1 \times 10^{-5}$	$1.02 \times 10^{-5}$	$1.45 \times 10^{-4}$	$10.2 \times 10^{-4}$	1

[Stress]	Pa (SI)	MPa	kgf/mm <sup>2</sup>	kgf/cm <sup>2</sup>
Pa (SI)	1	$1 \times 10^{-6}$	$1.01972 \times 10^{-7}$	$1.01972 \times 10^{-5}$
MPa	$1 \times 10^6$	1	$1.01972 \times 10^{-1}$	$1.01972 \times 10$
kgf/mm <sup>2</sup>	$9.80665 \times 10^6$	9.80665	1	$1 \times 10^2$
kgf/cm <sup>2</sup>	$9.80665 \times 10^4$	$9.80665 \times 10^{-2}$	$1 \times 10^{-2}$	1

[Force]	kW	kgf · m/sec	HP
kW	1	102.0	1.341
kgf · m/sec	0.009807	1	0.01315
HP	0.7457	76.04	1