



ILE Buyer's Guide

A Complete Line of Industrial Lubrication Equipment



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Table of Contents

Electric Pumps	
G3™	6-10
G3™ Accessories	11
Modu-Flo®	12
LubeMaster®	13-16
Miniature Meter-Flo®	17
Meter-Flo®	18
Injecto-Flo® E0-1 and E0-3	19
Injecto-Flo® II.	20-21
Thrif-T-Luber®	22
Maxi-Flo™	23
Electro-Hydraulic Barrel Pumps	24
Pneumatic Pumps	
Modu-Flo®	25-26
E-Series™	27-28
MSA-10™ and MSA-100™	29
Injecto-Flo® A0-1.	30
LubriSystem®	31
Manual Pumps	
Manual Grease Gun	32
PH Pump™	33
LubriSystem®	34
Thrif-T-Luber®	35
Mechanical Pumps	
LubeMaster® Ratchet Drive	36-37
MLS Series™	38
Hydraulic Pumps	
Modu-Flo®	39
Single Series™ Single Point Lubricators	40-44
Single Line Resistive Metering Devices	
Thrif-T-Luber®	45
Single Line Parallel Metering Devices	
Piston Distributors	46-48
LubriSystem® Injectors	49-50
GL-32™ and GL-43™ Injectors	51
GL-1™ Injectors	52
GL-11™ Injectors	53
Series Progressive Metering Devices	
Trabon® USP Mono Block	54
Trabon® MD Divider Valve	55
Trabon® MJ Divider Valve	56
Trabon® MSP Divider Valve	57-59
Manzel® MHH Divider Valve	60-61
Trabon® MX Divider Valve	62-63
Trabon® MXP Divider Valve	64-65
Trabon® MGO Divider Valve	66-67
Air Oil	
A/O Series™ Valves	68
High Speed Spindl-Gard® Systems	69-70

Table of Contents

Trabon® Spra-Control™ Valve	71
General Accessories	
Reset Indicators	72
Automatic Relief Indicator	73
Rupture Indicators	74
Rupture to Atmosphere Indicators	75
Magnetic Visual Indicator	76
Cycle Switch	76
Proximity Switch	77
Pressure Switch	78
Broken Line Indicator	79
Filters	80
Fittings	81
Pressure Gauges and Check Valves	82
Controllers	
GLC 4400™ Controller	83
Solid State Timer	84
WMP III Maxi-Monitor®	85
Multi-Purpose Controller	86
On-Road Mobile Lubrication	
Grease Jockey® Pump Kits	87
Grease Jockey® Pneumatic Universal Truck Kits	88-89
Grease Jockey® Right and Left Front Pump Kits for Trucks	90
Grease Jockey® Rear Axle Modules Truck and Tractor Kits	90
Universal Trailer Lubrication Kits	91
Easy Greaser® for Trucks and Trailers	92
Manual Hand Pump	93
Off-Road Mobile Lubrication	
Dyna-Star® 10:1 Hydraulically Powered Pumps	94-95
Dyna-Star® 5:1 and Fireball 300 50:1	95
Compressor Lubrication	
Manzel® Model 25 Lubricator	96-98
Manzel® Model 76 Lubricator	99
Manzel® Model 88 Lubricator	100
Manzel® MBL Box Lubricator	101-104
Manzel® DSL Box Lubricators and Pumps	105-106
Model HP-15 High Pressure	107
Model HP-50 High Pressure Lubricators	108
Manzel® MVB Pumps	109-110
Compressor Lubrication Accessories	
Lube Sentinel II Monitor™	111
Manzel® Lube-Line Alert	112
Pneumatic/Electric Lube Sentry Valve	113
Balancing Valve	114
Index	115-122

Graco Pumps-at-a-Glance

Selecting the Right Pump is Easy!

Choose your pump based on the system metering device, power source and fluid type.



= Series Progressive



= Single Line Parallel



= Single Line Resistive

Graco Pump	Metering Device			Power Source						Fluid Type
	SP	SLP	SLR	AC	DC	Pneumatic	Hydraulic	Manual	Mechanical	
Dyna-Star®	•	•					•			Grease
E-Series™	•					•				Oil or grease
Electric-Hydraulic Barrel Pump	•			•						Oil or grease
G3™	•	•		•	•					Oil or grease
Injecto-Flo®	•	•		•		•				Oil
Injecto-Flo® II		•		•						Oil or fluid grease
LubeMaster®	•			•	•				•	Oil or grease
LubriSystem®		•		•	•	•		•		Oil or grease
Manual Grease Gun	•	•	•					•		Oil or grease
Maxi-Flo®			•	•						Oil
Meter-Flo®	•			•						Oil
Miniature Meter-Flo®	•			•						Oil
Modu-Flo®	•			•	•	•	•			Oil or grease
MSA™	•					•				Oil or grease
PH Pump	•	•	•					•		Oil or grease
Thrif-T Luber®			•	•				•		Oil

Electric Pumps

G3™ Pumps

Versatile Design Helps Solve Today's Lubrication Challenges

Temperature changes, changing grease types and challenging installation requirements are no problem for the G3 electric lubrication pump. With its flexible design, including adjustable pump elements and an ability to work with both injector-based and series progressive systems, G3 is a rugged, cost-effective pump designed to serve multiple markets and applications. The pump features three control choices, which means added flexibility for easy lube system set-up, operation and troubleshooting. The pump extends machinery life, reduces operating costs and increases productivity for usage in a wide variety of markets, including in-plant manufacturing, mobile and wind turbines.

Features and Benefits

- Advanced flow dynamics—helps to prevent grease separation
- Load minimizing drive—for longer life
- Adjustable stroke pump—ensures a custom fit
- Five reservoir sizes to select from—provides a custom fit
- The most advanced user controls in its class—allows you to customize for your unique needs

Typical Applications

- On-Road
- Off-Road
- In-Plant Machine and Conveyor Lubrication
- Wind Energy

Lubrication Used

- Oil
- NLGI #000 to NLGI #2

Technical Specifications

Max Pressure	5,100 psi (352 bar)
Power	12 VDC, 24 VDC, 90-240 VAC
Operating Temperature	-13° F to 158° F (-25° C to 70° C)
Reservoir Size . . . . .	.2, 4, 8, 12 or 16 liter
Maximum Run Time	30 minutes
Control Options	Standard, Pro or Max
Output per Element /Min.	0.12 in ³ , 0.18 in ³ , 0.25 in ³ (2 cm ³ , 3 cm ³ , 4 cm ³)
Certifications/Ratings	CE, ETL*, IP69K
	*Conforms to UL 73, certified to CSA 22.2 No 68-09
Instruction Manual	3A0414

G3 with Data Management System (DMS)

- Simple data transfer to your PC via USB flash drive for further analysis using Excel® or Notepad®
- Provides performance history for lube system events, such as cycle detection, error logs and allows a quick check of lubrication performance to meet your system requirements
- Preferred lube cycle program can be stored and transferred to other G3 pumps in your fleet for quick and accurate repeatability
- Provides you the comfort and security in knowing your pump is being properly maintained and your lube system is protecting your valuable asset



Standard Model



Pro Model



Max Model



Electric Pumps

G3™ Pumps



G3 Standard

Comes standard with no controller for use with separate or existing machine control for a low cost solution. Some models capable of sending a low level signal to your external controller or PLC.

		Reservoir Size	Part Number	Voltage	Wiper Arm	Follower Plate	External Low Level	Power Connection
Application	Grease	2 liter	96G000	12 VDC	✓			CPC
			96G003	12 VDC	✓		✓	CPC
			96G001	24 VDC	✓			CPC
			96G005	24 VDC	✓		✓	CPC
			96G006	24 VDC		✓	✓	CPC
			96G002	90-240 VAC	✓			DIN
			96G007	90-240 VAC	✓		✓	DIN
			96G008	90-240 VAC		✓	✓	DIN
		4 liter	96G038	12 VDC	✓			CPC
			96G044	12 VDC	✓		✓	CPC
			96G040	24 VDC	✓			CPC
			96G048	24 VDC	✓		✓	CPC
			96G053	24 VDC		✓	✓	CPC
			96G042	90-240 VAC	✓			DIN
	96G055		90-240 VAC	✓		✓	DIN	
	96G062		90-240 VAC		✓	✓	DIN	
	8 liter	96G039	12 VDC	✓			CPC	
		96G045	12 VDC	✓		✓	CPC	
		96G049	24 VDC	✓		✓	CPC	
		96G041	24 VDC	✓			CPC	
		96G043	90-240 VAC	✓			DIN	
		96G056	90-240 VAC	✓		✓	DIN	
	12 liter	96G057	90-240 VAC	✓		✓	DIN	
	12 liter	966171	24 VDC	✓			CPC	
	16 liter	966172	24 VDC	✓			CPC	
	16 liter	96G058	90-240 VAC	✓		✓	DIN	
	Oil	2 liter	96G050	24 VDC	✓		✓	CPC
			96G059	90-240 VAC	✓		✓	DIN
4 liter		96G051	24 VDC	✓		✓	CPC	
		96G060	90-240 VAC	✓		✓	DIN	
8 liter		96G052	24 VDC	✓		✓	CPC	
		96G061	90-240 VAC	✓		✓	DIN	

Electric Pumps

G3™ Pumps



G3 Pro

Built-in controller with selectable pump on/pump off timer comes with local manual run and password protection with pre-lube function to initiate lube cycle on start-up. Optional low level sensing, warning and shut-down alarm available as well as remote manual run.

		Reservoir Size	Part Number	Voltage	Manual Run	Wiper Arm	Follower Plate	External Low Level*	Low Level	Power Connection
Application	Grease	2 liter	96G027	12 VDC		✓				CPC
			96G033	12 VDC	A	✓		A	✓	CPC-5 Pin
			96G028	24 VDC		✓				CPC
			96G011	24 VDC	✓	✓		✓	✓	CPC
			96G012	24 VDC	✓		✓	✓	✓	CPC
			96G034	24 VDC	✓	✓		A	✓	CPC-5 Pin
			96G029	90-240 VAC		✓				DIN
			96G013	90-240 VAC		✓			✓	DIN
			96G014	90-240 VAC				✓	✓	DIN
		4 liter	96G135	12 VDC		✓				CPC
			96G147	12 VDC	A	✓		A	✓	CPC-5 Pin
			96G137	24 VDC		✓				CPC
			96G068	24 VDC	✓	✓		✓	✓	CPC
			96G073	24 VDC	✓		✓	✓	✓	CPC
			96G149	24 VDC	A	✓		A	✓	CPC-5 Pin
			96G139	90-240 VAC		✓				DIN
			96G075	90-240 VAC		✓			✓	DIN
			96G082	90-240 VAC				✓	✓	DIN
		8 liter	96G136	12 VDC		✓				CPC
			96G148	12 VDC	A	✓		A	✓	CPC-5 Pin
			96G138	24 VDC		✓				CPC
			96G069	24 VDC	✓	✓		✓	✓	CPC
			96G150	24 VDC	A	✓		A	✓	CPC-5 Pin
			96G140	90-240 VAC		✓				DIN
			96G076	90-240 VAC		✓			✓	DIN
		12 liter	96G163	24 VDC	A	✓		A	✓	CPC-5 Pin
			96G077	90-240 VAC		✓			✓	DIN
		16 liter	96G167	24 VDC	A	✓		A	✓	CPC-5 Pin
			96G078	90-240 VAC		✓			✓	DIN

A = On these Pro Control models the remote manual run input, remote low level warning output and power are combined in the CPC-5 Pin connector and cord.

* = External Low Level is indicated on the Manual Run Control device.

Electric Pumps

G3™ Pumps

G3 Pro (continued)

	Reservoir Size	Part Number	Voltage	Manual Run	Wiper Arm	Follower Plate	External Low Level*	Low Level	Power Connection
Oil	2 liter	96G070	24 VDC	✓	✓		✓	✓	CPC
		96G079	90-240 VAC		✓			✓	DIN
	4 liter	96G071	24 VDC	✓	✓		✓	✓	CPC
		96G080	90-240 VAC		✓			✓	DIN
	8 liter	96G072	24 VDC	✓	✓		✓	✓	CPC
		96G081	90-240 VAC		✓			✓	DIN

A = On Pro control models the remote manual run input, remote low level warning output and power are combined in the CPC-5 Pin connector and cord.

* = External low level is indicated on the manual run control device.



G3 Max

Built-in controller with selectable pump on/pump off timer has low level warning and shut-down alarm or set up faults to an external alarm. Comes with manual run and password protection with pre-lube function to initiate lube cycle on start-up. Mix and match up to three cycle and pressure switches for custom installations and feedback. Machine count input is ideally suited for inconsistently used equipment. Optional Data Management System™ (DMS) uses a common USB port to quickly configure, store and transfer error log history to Excel® or Notepad® for longer equipment life and performance.

	Reservoir Size	Part Number	Voltage	# of Cycle/ Press. Input	Machine Count	Vent Valve Output*	Alarm Output	Manual Run	Wiper Arm	Follower Plate	Low Level	Power Connection	
Application Grease	2 liter	96G030	12 VDC	1					✓		✓	CPC	
		96G021	12 VDC	1-3	✓	✓	✓	✓	✓		✓, B	DIN	
		96G035	12 VDC	1			✓	A	A	✓	A	CPC-5 Pin	
		96G031	24 VDC	1						✓		✓	CPC
		96G017	24 VDC	1			✓		✓	✓		✓, B	CPC
		96G018	24 VDC	1			✓		✓		✓	✓, B	CPC
		96G036	24 VDC	1			✓	A	A	✓		A	CPC-5 Pin
		96G023	24 VDC	1-3	✓	✓	✓	✓	✓	✓		✓, B	DIN
		96G024	24 VDC	1-3	✓	✓	✓	✓	✓		✓	✓, B	DIN
		96G032	90-240 VAC	1						✓		✓	DIN
		96G019	90-240 VAC	1			✓			✓		✓	DIN
		96G020	90-240 VAC	1			✓				✓	✓	DIN
		96G025	90-240 VAC	1-3	✓	✓	✓	✓	✓	✓		✓, B	DIN
	96G026	90-240 VAC	1-3	✓	✓	✓	✓	✓		✓	✓, B	DIN	
	96G037	90-240 VAC	1				✓		✓		✓, B	DIN	
	4 liter	96G141	12 VDC	1						✓		✓	CPC
		96G159	12 VDC	1	✓			A	A	✓		A	CPC-5 Pin
		96G151	12 VDC	1			✓	A	A	✓		A	CPC-5 Pin
		96G096	12 VDC	1-3	✓	✓	✓	✓	✓	✓		✓, B	DIN
		96G143	24 VDC	1						✓		✓	CPC
		96G088	24 VDC	1			✓		✓	✓		✓, B	CPC
		96G090	24 VDC	1			✓		✓		✓	✓, B	CPC
		96G160	24 VDC	1	✓			A	A	✓		A	CPC-5 Pin
		96G155	24 VDC	1			✓	A	A	✓		A	CPC-5 Pin
		96G103	24 VDC	1-3	✓	✓	✓	✓	✓	✓		✓, B	DIN
		96G113	24 VDC	1-3	✓	✓	✓	✓	✓		✓	✓, B	DIN
96G145		90-240 VAC	1						✓		✓	DIN	
96G092		90-240 VAC	1			✓			✓		✓	DIN	
96G094	90-240 VAC	1			✓				✓	✓	DIN		
96G118	90-240 VAC	1-3	✓	✓	✓	✓	✓	✓		✓, B	DIN		

*Requires purchase of a vent valve kit

A = On Max control models the remote manual run button input, remote alarm output, remote low level output and power are combined in the CPC-5 pin connector and cord.

B = On Max control models, external low level is indicated by the manual run control device and/or the alarm output

Electric Pumps

G3™ Pumps

G3 Max (continued)

		Reservoir Size	Part Number	Voltage	# of Cycle/ Press. Input	Machine Count	Vent Valve Output*	Alarm Output	Manual Run	Wiper Arm	Follower Plate	Low Level	Power Connection	
Application	Grease	8 liter	96G142	12 VDC	1					✓		✓	CPC	
			96G152	12 VDC	1		✓	A	A	✓		A	CPC-5 Pin	
			96G097	12 VDC	1-3	✓	✓	✓	✓	✓		✓, B	DIN	
			96G144	24 VDC	1						✓		✓	CPC
			96G089	24 VDC	1		✓			✓	✓		✓, B	CPC
			96G156	24 VDC	1		✓		A	A	✓		A	CPC-5 Pin
			96G104	24 VDC	1-3	✓	✓	✓	✓	✓	✓		✓, B	DIN
			96G093	90-240 VAC	1		✓				✓		✓	DIN
			96G146	90-240 VAC	1						✓		✓	DIN
		96G119	90-240 VAC	1-3	✓	✓	✓	✓	✓	✓		✓, B	DIN	
		12 liter	96G164	24 VDC	1		✓	✓	A	A	✓		A	CPC-5 Pin
			96G105	24 VDC	1-3	✓	✓	✓	✓	✓	✓		✓, B	DIN
	96G120		90-240 VAC	1-3	✓	✓	✓	✓	✓	✓		✓, B	DIN	
	16 liter		96G168	24 VDC	1		✓	✓	A	A	✓		A	CPC-5 Pin
			96G106	24 VDC	1-3	✓	✓	✓	✓	✓	✓		✓, B	DIN
			96G166	90-240 VAC	1			✓			✓		✓	DIN
			96G121	90-240 VAC	1-3	✓	✓	✓	✓	✓	✓		✓, B	DIN
	Oil		2 liter	96G107	24 VDC	1-3	✓	✓	✓	✓	✓		✓, B	DIN
				96G122	90-240 VAC	1-3	✓	✓	✓	✓	✓		✓, B	DIN
		4 liter	96G108	24 VDC	1-3	✓	✓	✓	✓	✓		✓, B	DIN	
			96G123	90-240 VAC	1-3	✓	✓	✓	✓	✓		✓, B	DIN	
		8 liter	96G109	24 VDC	1-3	✓	✓	✓	✓	✓		✓, B	DIN	
			96G124	90-240 VAC	1-3	✓	✓	✓	✓	✓		✓, B	DIN	

G3 Max with Data Management System

		Reservoir Size	Part Number	Voltage	# of Cycle/ Press. Input	Machine Count	Vent Valve Output*	Alarm Output	Manual Run	Wiper Arm	Follower Plate	Low Level	Power Connection	
Application	Grease	2 liter	96G098	12 VDC	1-2	✓	✓	✓	✓	✓		✓, B	DIN	
			96G110	24 VDC	1-2	✓	✓	✓	✓	✓		✓, B	DIN	
			96G115	24 VDC	1-2	✓	✓	✓	✓	✓	✓		✓, B	DIN
			96G125	90-240 VAC	1-2	✓	✓	✓	✓	✓	✓		✓, B	DIN
			96G132	90-240 VAC	1-2	✓	✓	✓	✓	✓	✓	✓	✓, B	DIN
		4 liter	96G161	12 VDC	1	✓			A	A	✓		A	CPC-5 Pin
			96G153	12 VDC	1		✓		A	A	✓		A	CPC-5 Pin
			96G099	12 VDC	1-2	✓	✓	✓	✓	✓	✓		✓, B	DIN
			96G162	24 VDC	1	✓			A	A	✓		A	CPC-5 Pin
			96G157	24 VDC	1		✓		A	A	✓		A	CPC-5 Pin
	8 liter	96G111	24 VDC	1-2	✓	✓	✓	✓	✓	✓		✓, B	DIN	
		96G116	24 VDC	1-2	✓	✓	✓	✓	✓	✓	✓	✓, B	DIN	
		96G126	90-240 VAC	1-2	✓	✓	✓	✓	✓	✓		✓, B	DIN	
		96G133	90-240 VAC	1-2	✓	✓	✓	✓	✓	✓	✓	✓, B	DIN	
		96G154	12 VDC	1		✓		✓	A	A	✓		A	CPC-5 Pin
	12 liter	96G100	12 VDC	1-2	✓	✓	✓	✓	✓	✓		✓, B	DIN	
		96G158	24 VDC	1		✓		✓	A	A	✓	✓, B	CPC-5 Pin	
		96G112	24 VDC	1-2	✓	✓	✓	✓	✓	✓		✓, B	DIN	
		96G127	90-240 VAC	1-2	✓	✓	✓	✓	✓	✓		✓, B	DIN	
	16 liter	96G165	24 VDC	1		✓	✓	A	A	✓		A	CPC-5 Pin	
	96G169	24 VDC	1		✓	✓	A	A	✓		A	CPC-5 Pin		

*Requires purchase of a vent valve kit

A = On Max control DMS models the remote manual run button input, remote alarm output, remote low level output and power are combined in the CPC-5 Pin connector and cord.

B = On these Max control models, external low level is indicated by the manual run control device and/or the alarm output

Electric Pumps

G3™ Pump Accessories

G3 Accessories

571041	G3 Pump Element—the same adjustability as the pump included with G3
571063	Two Pump Union Kit—combines the output of the left and right pumps for larger lubrication needs
571026	Three Pump Union Kit—joins the output of the left, right and center pumps for maximum output
571061	Vent Valve Kit—12 VDC, vent valve, adjustable pressure relief, 500-3500 psi (35-241 bar), pressure gauge, zerk fitting
571029	Vent Valve Kit—24 VDC, vent valve, adjustable pressure relief, 500-3500 psi (35-241 bar), pressure gauge, zerk fitting, (also for G3 Max Control AC Pumps)
571028	Adjustable Return-to-Reservoir Pressure Relief Kit – 500-3500 psi (35-241 bar)
571036	Protective Front Cover Kit—snaps over the front control panel on Pro and Max G3 models
571030	Remote Manual Run/Monitoring Light—12 VDC
571032	Remote Manual Run/Monitoring Light Kit—12 VDC, includes 16 foot M12 cable
571031	Remote Manual Run/Monitoring Light—24 VDC, 90-240 VAC
571033	Remote Manual Monitoring Light Run Kit—24 VDC, 90-240 VAC, includes 16 foot M12 cable
571058	Pressure Relief-to-Atmosphere Kit—requires one of the following six pressure relief valves
563156	Pressure Relief Valve—750 psi, 52 bar
563157	Pressure Relief Valve—1000 psi, 69 bar
563158	Pressure Relief Valve—1500 psi, 103 bar
563159	Pressure Relief Valve—2000 psi, 138 bar
563160	Pressure Relief Valve—2500 psi, 172 bar
563161	Pressure Relief Valve—3000 psi, 207 bar
124300	Accessory Cable—16 foot male M12 connector on one end and flying leads on the other end
124333	Accessory Cable—16 foot male M12 connector on one end and female M12 connector on the other end
124640	Alarm Output Accessory Cable—DIN connector to flying leads, 6.5 feet
124301	M12 Female Connector for 6-8 mm cable
124594	M12 4-pin Male Connector for 6-8 mm cable
124595	M12 4-pin Male Connector for 8-11 mm cable
563485	Electronic Proximity Switch—12 VDC, 24 VDC or 90-249 VAC. Use to read movement and provide feedback of piston in series progressive divider valve. Includes five foot cable installed into switch with flying leads. Requires purchase of 124594
563501	Electronic Proximity Switch with LED—24VDC or 90-240 VAC. Use to read movement and provide feedback and provide feedback in piston of divider valve. Requires purchase of a cable with M12 female connection
24K415	Cycle Indicating Proximity Switch—Designed to work with Graco's USP™, MSP™, and MHT™ series progressive divider valves. Requires purchase of a cable with M12 female connection
557829	Electronic Pressure Switch—Use to read pressure in an injector-based system. After injectors dispense, G3 will trigger pump shut down and vent. Includes five foot cable installed into switch with flying leads. Requires purchase of 124595
24K414	Pressure Switch—Provides the pressure sensing required for GL32™ and GL43™ Injector Systems. Requires purchase of a cable with M12 female connection
557874	High capacity fill zerk with quick disconnect
121474	Female coupler
247886	Manual Fill Pump—Fits 5 gallon or 35 pound pail
571162	Manual Hand Pump—Use with grease cartridges, installs into alternative pump element port. Not recommended for pumps with follower plates or three pump union kits
571064	Cold Temperature Fill Relief Kit—Prevents over pressurizing when filling in cold temperatures



Electric Pumps

Modu-Flo®

Highly Configurable Pump Solution For Nearly Any Application

The Modu-Flo system is ideal for applications where minimizing downtime is critical. Customizing is easy—just mix and match pumps, reservoirs and manifolds in any configuration to meet most applications. Replace the pump or reservoir, without disconnecting lubrication lines. Electric pumps available for use with AC or DC supply voltage make Modu-Flo the right solution for any automated electric lubrication system.

- Modular system design allows configurations to work in all applications
- Easy to standardize on components and reduce inventory
- Adjustable pump output for fast, convenient customizing

Typical Applications

- Presses and other in plant machines

Lubrication Used

- Oil and Grease up to NLGI #2

Technical Specifications

Output per Stroke	0.024 cu.in. (0.4 cc)
Motor	24 VDC, 115 VAC
Max Output per Min.	24 VDC - 0.29 in ³ (4.7 cc)
.	115 VAC - 0.58 in ³ (9.5 cc)
Max Operating Pressure	2,500 psi (172 bar)
Max Run Time	4 Minutes
Operating Temp	20° F to 140° F (-7° C to 60° C)
Operating Environment	24 VDC - Inside/Outside, 115 VAC - Inside Only



Modu-Flo pump shown with grease reservoir

Ordering Information

Modu-Flo Pumps	
563356	24 VDC Motor, 20 ft Connector Cable
563346	115 VAC Motor, 20 ft Connector Cable
563355	Pump-to-Reservoir Manifold, NPT, Liquid Filled Gauge, Fill Check, Outlet Check, Blowout
563324	Pump-to-Reservoir Manifold, NPT, w/out Hardware or Fittings
563331	Pump-to-Reservoir Manifold, SAE, Dry Gauge, Fill Check, Outlet Check, Blowout
563323	Pump-to-Reservoir Manifold, NPT, Dry Gauge, Fill Check, Outlet Check, Blowout
563330	Pump-to-Reservoir Manifold, NPT, Dry Gauge, Fill Check, Outlet Check, Tubed Blowout
Modu-Flo Spare Parts	
563137	20 ft Connector Cable for 24 VDC
256778	Modu-Flo Pump Repair Kit
557287	24 VDC Gearmotor
557285	115 VAC Gearmotor

See pneumatic Modu-Flo section for a complete list of configurable parts.

Electric Pumps

LubeMaster®

Built For Severe-duty Environments

The LubeMaster is a rugged pump package designed for demanding applications. The adjustable output and anti-friction drive bearings make it both reliable and efficient. Rugged cast iron main body and heavy-duty internal components deliver consistent performance in harsh applications. With several reservoir choices and accessories to choose from, the LubeMaster pump can be easily customized to meet virtually all application needs.

Typical Applications

- Cement plants, paper processing, steel mills and other harsh environments

Typical Fluids Used

- Oil
- Grease up to NLGI #2

Technical Specifications

Cycle Rate	1-175 Strokes per minute
Output Volume per Minute	0.01-8.62 in ³ (0.16-143.41 cm ³)
Max Output Pressure	5,000 psi (340 bar)
Material	Plastic or Metal, Cylindrical
Reservoir Size	Oil - 12 pint, 20 pint, Grease - 12 lb, 20 lb
Motor	115/230 VAC, 230/460 VAC



LM5111

Ordering Information

LubeMaster Pumps	
LM2323	20 pt Plastic Oil Reservoir (562893), Floor-Mounting 10:1 Reduction (563388), Outlet (1/2 HP, 115/230 VAC, Single Phase, 60 Hz, 1,725 rpm) (557271), Individual Outputs (20 pt Oil, SPDT, 15 amps) (563317)
LM2533	20 pt Plastic Oil Reservoir (562893), Floor-Mounting 10:1 Reduction (563388), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,725 rpm) (557270), Individual Outputs (20 pt Oil, SPDT, 15 amps) (563317)
LM4533	20 pt Metal Oil Reservoir (562895), Floor-Mounting 60:1 Reduction (563389), Outlet (1/2 HP, 115/230 VAC, Single Phase, 60 Hz, 1,140 rpm) (557272), Individual Outputs (20 pt Oil, SPDT, 15 amps) (563317)
LM4523	20 pt Metal Oil Reservoir (562895), Floor-Mounting 60:1 Reduction (563389), Outlet (1/2 HP, 115/230 VAC, Single Phase, 60 Hz, 1,725 rpm) (557271), Individual Outputs (20 pt Oil, SPDT, 15 amps) (563317)
LM5111	12 lb Plastic Grease Reservoir (562896)
LM5311	12 lb Plastic Grease Reservoir (562896), Floor-Mounting 10:1 Reduction (563388)
LM5331	12 lb Plastic Grease Reservoir (562896), Floor-Mounting 10:1 Reduction (563388), Outlet (1/2 HP, 115/230 VAC, Single Phase, 60 Hz, 1,140 rpm) (557272)
LM6344	20 lb Plastic Grease Reservoir (562897), Floor-Mounting 10:1 Reduction (563388), Outlet (1/2 HP, 115/230 VAC, Single Phase, 60 Hz, 1,140 rpm) (557272), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM6334	20 lb Plastic Grease Reservoir (562897), Floor-Mounting 10:1 Reduction (563388), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,725 rpm) (557270), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM5544	12 lb Plastic Grease Reservoir (562896), Floor-Mounting 60:1 Reduction (563389), Outlet (1/2 HP, 115/230 VAC, Single Phase, 60 Hz, 1,140 rpm) (557272), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM6544	20 lb Plastic Grease Reservoir (562897), Floor-Mounting 60:1 Reduction (563389), Outlet (1/2 HP, 115/230 VAC, Single Phase, 60 Hz, 1,140 rpm) (557272), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM6524	20 lb Plastic Grease Reservoir (562897), Floor-Mounting 60:1 Reduction (563389), Outlet (1/2 HP, 115/230 VAC, Single Phase, 60 Hz, 1,725 rpm) (557271), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)

Electric Pumps

LubeMaster®

Electric Pumps

LM6534	20 lb Plastic Grease Reservoir (562897), Floor-Mounting 60:1 Reduction (563389), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,140 rpm) (557270), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM5514	12 lb Plastic Grease Reservoir (562896), Floor-Mounting 60:1 Reduction (563389), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM5521	12 lb Plastic Grease Reservoir (562896), Wall-Mounting 10:1 Reduction (563386), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,725 rpm) (557270)
LM5644	12 lb Plastic Grease Reservoir (562896), Wall-Mounting 60:1 Reduction (563387), Outlet (1/2 HP, 115/230 VAC, Single Phase, 60 Hz, 1,140 rpm) (567272), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM6311	20 lb Plastic Grease Reservoir (562897), Floor-Mounting 10:1 Reduction (563388)
LM6314	20 lb Plastic Grease Reservoir (562897), Floor-Mounting 10:1 Reduction (563388), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM6514	20 lb Plastic Grease Reservoir (562897), Floor-Mounting 10:1 Reduction (563388), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM7514	12 lb Metal Grease Reservoir (562898), Floor-Mounting 60:1 Reduction (563389), Individual Outputs (12 lb or 20 lb Grease, SPDT) (563322)
LM7344	12 lb Metal Grease Reservoir (563898), Floor-Mounting 10:1 Reduction (563388), Outlet (1/2 HP, 115/230 VAC, Single Phase, 60 Hz, 1,140 rpm) (557272), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM7534	12 lb Metal Grease Reservoir (563898), Floor-Mounting 60:1 Reduction (563389), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,140 rpm) (557273), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM7654	12 lb Metal Grease Reservoir (563898), Wall-Mounting 60:1 Reduction (563387), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,140 rpm) (557273), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM7614	12 lb Metal Grease Reservoir (563898), Wall-Mounting 60:1 Reduction (563387), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM8354	20 lb Metal Grease Reservoir (562899), Floor-Mounting 10:1 Reduction (563388), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,140 rpm) (557273), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM8334	20 lb Metal Grease Reservoir (562899), Floor-Mounting 10:1 Reduction (563388), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,725 rpm) (567270), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM8314	20 lb Metal Grease Reservoir (562899), Floor-Mounting 10:1 Reduction (563388), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM8554	20 lb Metal Grease Reservoir (562899), Floor-Mounting 60:1 Reduction (563389), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,140 rpm) (557273), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM8531	20 lb Metal Grease Reservoir (562899), Floor-Mounting 60:1 Reduction (563389), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,725 rpm) (557270)
LM8534	20 lb Metal Grease Reservoir (562899), Floor-Mounting 60:1 Reduction (563389), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,725 rpm) (557270), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM8454	20 lb Metal Grease Reservoir (562899), Wall-Mounting 10:1 Reduction (563386), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,140 rpm) (557273), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM9511	Power Prime Reservoir Assembly (562908), Floor-Mounting 60:1 Reduction (563389)
LM9521	Power Prime Reservoir Assembly (562908), Floor-Mounting 60:1 Reduction (563389), Outlet (1/2 HP, 115/230 VAC, Single Phase, 60 Hz, 1,725 rpm) (557271)
LubeMaster Reservoirs	
562892	12 pt Plastic Oil Reservoir
562893	20 pt Plastic Oil Reservoir
562894	12 pt Metal Oil Reservoir
562895	20 pt Metal Oil Reservoir
562896	12 lb Plastic Grease Reservoir

Electric Pumps

LubeMaster®

562897	20 lb Plastic Grease Reservoir
562898	12 lb Metal Grease Reservoir
562899	20 lb Metal Grease Reservoir
562908	Overhead Supply Reservoir
LubeMaster Drive Option	
563383	Clutch Drive w/Arm
563388	10:1 Reduction, Floor-Mounting
563386	10:1 Reduction, Wall-Mounting
563389	60:1 Reduction, Floor-Mounting
563387	60:1 Reduction, Wall-Mounting
LubeMaster Motors	
557271	115/230 VAC, 1/2 HP, Single Phase, 60 Hz, 1,725 rpm
557270	230/460 VAC, 1/2 HP, 3-Phase, 60 Hz, 1,725 rpm
557272	115/230 VAC, 1/2 HP, Single Phase, 60 Hz, 1,140 rpm
557273	230/460 VAC, 1/2 HP, 3-Phase, 60 Hz, 1,140 rpm
LubeMaster Low Level Switches	
563316	12 pt Oil Low Level, SPDT, 15 amps
563317	20 pt Oil Low Level, SPDT, 15 amps
563322	12 and 20 lb Grease Low Level
563015	12 pt Oil Low Level, SPDT, 10 watts
563016	20 pt Oil Low Level, SPDT, 10 watts
564377	12 and 20 lb Grease Low Level, Exp Proof
LubeMaster Pressure Indicators	
563179	Standard Blowout, 1,450 psi, Oil
563184	Standard Blowout, 2,350 psi, Grease
563384	High-Pressure Blowout Switch, 1,450 psi, Oil
563385	High-Pressure Blowout Switch, 2,350 psi, Grease
LubeMaster Pressure Gauge	
557713	Liquid Filled Pressure Gauge, 0-3,000 psi
LubeMaster Spare Parts	
563380	Bare Pump
563962	Package of 6 Blowout Discs, Yellow, 1,450 psi, Oil
563965	Package of 6 Blowout Discs, Aluminum, 2,350 psi, Grease
563921	Seal Repair Kit
563915	Drive Repair Kit
563916	Output Manifold Kit - Standard
563938	Output Manifold Kit - High Output

Electric Pumps

LubeMaster®

LubeMaster Ordering Menu Code

NOTE: Utilize number code not lettered code from literature for ordering purposes.

	LM	-	X	-	X	-	X	-	X
Pump									
LM LubeMaster pump - 563380									
Reservoir Option									
1	OPA, 12 pt plastic oil reservoir - 562892	6	GPB, 20 lb plastic grease reservoir - 562897						
2	OPB, 20 pt plastic oil reservoir - 562893	7	GMA, 12 lb metal grease reservoir - 562898						
3	OMA, 12 pt metal oil reservoir - 562894	8	GMB, 20 lb metal grease reservoir - 562899						
4	OMB, 20 pt metal oil reservoir - 562895	9	OHS, power prime reservoir assembly - 562908						
5	GPA, 12 lb plastic grease reservoir - 562896								
Drive Option									
1	none	4	DOC, 10:1 reduction, wall-mounting - 563386						
2	DOA, clutch drive w/arm - 563383	5	DOD, 60:1 reduction, floor-mounting - 563389						
3	DOB, 10:1 reduction, floor-mounting - 563388	6	DOE, 60:1 reduction, wall-mounting - 563387						
Motor Option									
1	none								
2	MOA, 1/2 HP, 115/230 VAC, single phase, 60 Hz, 1,725 rpm - 557271								
3	MOB, 1/2 HP, 230/460 VAC, 3-phase, 60 Hz, 1,725 rpm - 557270								
4	MOC, 1/2 HP, 115/230 VAC, single phase, 60 Hz, 1,140 rpm - 557272								
5	MOD, 1/2 HP, 230/460 VAC, 3-phase, 60 Hz, 1,140 rpm - 557273								
Low Level Option									
1	LOO, none	4	LOC, 12 and 20 lb grease, SPDT - 563322						
2	LOA, 12 pt oil, SPDT, 15 amps - 563316	5	LOD, 12 pt oil, SPST, 10 watts - 563015						
3	LOB, 20 pt oil, SPDT, 15 amps - 563317	6	LOE, 20 pt oil, SPST, 10 watts - 563016						

Note: Drive Options 3, 4, 5 and 6 contains all required mounting hardware (mounting plate, coupler, coupler guard, nuts, bolts and washers).

Pricing: In order to obtain Menu pricing for LubeMaster components, a pump must be ordered with each drive option on the same purchase order. All drives ordered w/out a pump on the same purchase order will be treated as a spare part and priced accordingly.

Electric Pumps

Miniature Meter-Flo®

Versatile All In One Pump Package

Designed for use with virtually any type of Series Progressive or Single Line Resistive oil lubrication system. The Miniature MeterFlo's rugged steel reservoir and motor assembly withstands the toughest applications. Capable of high volumetric output operating continuously at pressures up to 1,000 psi (69 bar).

- Compact with several options to create a complete system using feedback and control

Typical Applications

- Ideal for smaller series progressive systems requiring continuous lubrication

Lubrication Used

- Oil - 160-15,000 SUS

Technical Specifications

Output Volume per minute 1, 5, 8, 14 in³ (16, 82, 131, 229 cm³)
 Output Pressure 0-2,000 psi (0-138 bar)
 Material Metal, Rectangular
 Reservoir Size 1.5, 3, 5 gal (12, 24, 40 pint)
 Motor 115 VAC



MM2211

Ordering Information

Miniature Meter-Flo (MMF) Electric (Motor Driven) Pumps w/Reservoirs	
MM1111	1.5 gal Reservoir, 1 in ³ /min., 1,500 psi
MM1112	1.5 gal Res., 1 in ³ /min., 1,500 psi, Low Level Switch (Reed-Type, SPST)
MM1121	1.5 gal Reservoir, 1 in ³ /min., 1,500 psi, High-Pressure Switch
MM1122	1.5 gal Reservoir, 1 in ³ /min., 1,500 psi, High-Pressure Switch, Low Level Switch (Reed-Type, SPST)
MM1211	1.5 gal Res., 5 in ³ /min., 2,000 psi
MM1212	1.5 gal Res., 5 in ³ /min., 2,000 psi, Low Level Switch (Reed-Type, SPST)
MM1222	1.5 gal Res., 5 in ³ /min., 2,000 psi, High-Pressure Switch (Reed-Type, SPST)
MM1311	1.5 gal Reservoir, 8 in ³ /min., 2,000 psi
MM1312	1.5 gal Res., 8 in ³ /min., 2,000 psi, Low Level Switch (Reed-Type, SPST)
MM1322	1.5 gal Reservoir, 8 in ³ /min., 2,000 psi, High-Pressure Switch, Low Level Switch (Reed-Type, SPST)
MM1411	1.5 gal Reservoir, 14 in ³ /min., 1,500 psi
MM1412	1.5 gal Res., 14 in ³ /min., 1,500 psi, Low Level Switch (Reed-Type, SPST)
MM1422	1.5 gal Reservoir, 14 in ³ /min., 1,500 psi, High-Pressure Switch, Low Level Switch (Reed-Type, SPST)
MM2112	3 gal Reservoir, 1 in ³ /min., 1,500 psi, Low Level Switch (Reed-Type, SPST)
MM2122	3 gal Reservoir, 1 in ³ /min., 1,500 psi, High-Pressure Switch, Low Level Switch (Reed-Type, SPST)
MM2211	3 gal Reservoir, 5 in ³ /min., 2,000 psi
MM2212	3 gal Reservoir, 5 in ³ /min., 2,000 psi, Low Level Switch (Reed-Type, SPST)
MM2221	3 gal Reservoir, 5 in ³ /min., 2,000 psi, High-Pressure Switch
MM2222	3 gal Reservoir, 5 in ³ /min., 2,000 psi, High-Pressure Switch, Low Level Switch (Reed-Type, SPST)
MM2312	3 gal Reservoir, 8 in ³ /min., 2,000 psi, Low Level Switch (Reed-Type, SPST)
MM2322	3 gal Reservoir, 8 in ³ /min., 2,000 psi, High-Pressure Switch, Low Level Switch (Reed-Type, SPST)
MM2411	3 gal Reservoir, 14 in ³ /min., 1,500 psi

MM2412	3 gal Reservoir, 14 in ³ /min., 1,500 psi, Low Level Switch (Reed-Type, SPST)
MM2422	3 gal Reservoir, 14 in ³ /min., 1,500 psi, High-Pressure Switch, Low Level Switch (Reed-Type, SPST)
MM3112	5 gal Reservoir, 1 in ³ /min., 1,500 psi, Low Level Switch (Reed-Type, SPST)
MM3122	5 gal Reservoir, 1 in ³ /min., 1,500 psi, High-Pressure Switch, Low Level Switch (Reed-Type, SPST)
MM3211	5 gal Reservoir, 5 in ³ /min., 2,000 psi (Reed-Type, SPST)
MM3212	5 gal Reservoir, 5 in ³ /min., 2,000 psi, Low Level Switch (Reed-Type, SPST)
MM3312	5 gal, 8 in ³ /min., 2,000 psi, Low Level Switch
MM3322	5 gal Reservoir, 8 in ³ /min., 2,000 psi, High-Pressure Switch, Low Level Switch (Reed-Type, SPST)
MM3411	5 gal Reservoir, 14 in ³ /min., 1,500 psi
MM3412	5 gal Reservoir, 14 in ³ /min., 1,500 psi, Low Level Switch (Reed-Type, SPST)
MM3422	5 gal Reservoir, 14 in ³ /min., 1,500 psi, High-Pressure Switch, Low Level Switch (Reed-Type, SPST)

Miniature Meter-Flow (MMF) Spare Parts	
564412	MMF Assembly - Pump, Gearmotor, Reducer Assembly, 1 in ³ /min. Flowrate
564413	MMF Assembly - Pump, Gearmotor, Reducer Assembly, 5 in ³ /min. Flowrate
564414	MMF Assembly - Pump, Gearmotor, Reducer Assembly, 8 in ³ /min. Flowrate
564415	MMF Assembly - Pump, Gearmotor, Reducer Assembly, 14 in ³ /min. Flowrate
557286	Motor, 115 VAC
557293	Gear Box, 1 in ³ /min. (12.5:1)
557822	Gear Pump Only, 1 to 8 in ³ /min.
557821	Gear Pump Only, 14 in ³ /min.
557810	Suction Strainer
563558	Relief Valve
557825	Replacement Level Switch

Electric Pumps

Meter-Flo®

Continuous Duty Durability

With its solid pump housing, these rugged gear pumps are designed for dependable operation in high demand applications. The gear pump is available with a direct-coupled 1/2 horsepower motor capable of 1,725 rpm's with output volumes of 245 cubic inches per minute. Eleven different pump models to choose from.

Typical Applications

- Ideal for applications requiring continuous oil delivery up to 1,000 lubrication points

Lubrication Used

- Oil - 300-3,000 SUS

Technical Specifications

Output Volume per minute. 14-245 in³ (230-4015 cm³)
 Max Output Pressure 300-1,500 psi (300-3,000 bar)
 Operating Temp 50° F to 150° F (10° C to 65.5° C)



563557

Ordering Information

Meter-Flo Pumps	
557814	9 in ³ /min. (147 cm ³ /min.) @ 1,140 rpm, 14 in ³ /min. (229 cm ³ /min.) @ 1,725 rpm, npt Ports, ccw
557819	9 in ³ /min. (147 cm ³ /min.) @ 1,140 rpm, 14 in ³ /min. (229 cm ³ /min.) @ 1,725 rpm, npt Ports, cw
557813	18 in ³ /min. (295 cm ³ /min.) @ 1,140 rpm, 30 in ³ /min. (492 cm ³ /min.) @ 1,725 rpm, npt Ports, ccw
557815	56 in ³ /min. (918 cm ³ /min.) @ 1,140 rpm, 84 in ³ /min. (1,377 cm ³ /min.) @ 1,725 rpm, npt Ports, ccw
558949	56 in ³ /min. (918 cm ³ /min.) @ 1,140 rpm, 84 in ³ /min. (1,377 cm ³ /min.) @ 1,725 rpm, npt Ports, cw
557816	76 in ³ /min. (1,245 cm ³ /min.) @ 1,140 rpm, 117 in ³ /min. (1,917 cm ³ /min.) @ 1,725 rpm, npt Ports, ccw
558950	76 in ³ /min. (1,245 cm ³ /min.) @ 1,140 rpm, 117 in ³ /min. (1,917 cm ³ /min.) @ 1,725 rpm, npt Ports, cw
557817	111 in ³ /min. (1,819 cm ³ /min.) @ 1,140 rpm, 168 in ³ /min. (2,753 cm ³ /min.) @ 1,725 rpm, npt Ports, ccw
558951	111 in ³ /min. (1,819 cm ³ /min.) @ 1,140 rpm, 168 in ³ /min. (2,753 cm ³ /min.) @ 1,725 rpm, npt Ports, cw
557818	26 in ³ /min. (426 cm ³ /min.) @ 1,140 rpm, 40 in ³ /min. (655 cm ³ /min.) @ 1,725 rpm, npt Ports, ccw
557820	161 in ³ /min. (2,638 cm ³ /min.) @ 1,140 rpm, 245 in ³ /min. (4,015 cm ³ /min.) @ 1,725 rpm, npt Ports, ccw
558955	161 in ³ /min. (2,638 cm ³ /min.) @ 1,140 rpm, 245 in ³ /min. (4,015 cm ³ /min.) @ 1,725 rpm, npt Ports, cw
558953	9 in ³ /min. (147 cm ³ /min.) @ 1,140 rpm, 14 in ³ /min. (229 cm ³ /min.) @ 1,725 rpm, sae Ports
558954	26 in ³ /min. (426 cm ³ /min.) @ 1,140 rpm, 40 in ³ /min. (655 cm ³ /min.) @ 1,725 rpm, sae Ports
Motor Option	
558895	1/2 HP, 115/230 VAC, 1,725 rpm, Single Phase

Repair Kits	
557997	MeterFlo Seal Kit - 540-800-XX1 Models
557998	MeterFlo Relief Valve Repair Kit - 540-800-XX1 Models
Meter-Flo Paddle Base and Pump Packages	
563557	Paddle Base w/Pump 557814
564411	Paddle Base w/Pump 557813

Electric Pumps

Injecto-Flo® EO-1 and EO-3

Reliable Machine Tool Lubrication

EO-1 and EO-3

A cost effective, low pressure oil solution designed for use with any high volume, intermittent lubrication system. Can be used with Injecto-Flo II series piston distributor products. EO-1 is ideal for small to medium size single line parallel systems requiring intermittent metered lubrication with an electrically driven pump. EO-3 has integrated control and bright LED's to verify system operation. Built-in vent valve gets you up and working with piston distributors fast—no kits to purchase and assemble.

Typical Applications

- In-plant medium size machine tool lubrication applications

Typical Fluids Handled

- Oil - ISO 50-1500 (SUS 250-5000)

Technical Specifications

Power 115 VAC, 230 VAC
 Motor Speed 1,680 rpm @ 60 Hz, 1,340 rpm @ 50 Hz

EO-1

Pump Flow Rate 12 in³/min. (200 cm³/min.)
 Pressure 145-650 psi (10-45 bar)
 Reservoir Plastic, Rectangular
 Reservoir Size 6.3, 7.6, 12.6, 15.8 or 25.3 pint

EO-3

Pump Flow Rate 8.5 in³/min. (140 cm³/min.)
 Pressure 350 psi (24 bar)
 Operating Temp 14° F to 120° F (-10° C to 49° C)
 Reservoir Plastic, Rectangular
 Reservoir Size 7.6 or 12.6 pint
 Manual 313839A

Ordering Information

Injecto-Flo EO-1 Pumps	
562837	Pump w/3 liter Plastic Reservoir, 115 VAC
24B427	Pump w/3 liter Plastic Reservoir, 230 VAC
562849	Pump w/3 liter Plastic Reservoir, 230 VAC
562838	Pump w/3.6 liter Plastic Reservoir, 230 VAC
562839	Pump w/6 liter Plastic Reservoir, 115 VAC
562840	Pump w/6 liter Plastic Reservoir, 230 VAC
562841	Pump w/6 liter Plastic Reservoir, 230 VAC
562842	Pump w/6 liter Plastic Reservoir, 230 VAC, Return Port
562843	Pump w/6 liter Metal Reservoir, 115 VAC
562844	Pump w/12 liter Metal Reservoir, 115 VAC
Injecto-Flo EO-3 Pumps	
562851	Pump w/3 liter Plastic Reservoir, 115 VAC, Remote Control
562850	Pump w/3 liter Plastic Reservoir, 115 VAC, Timer Control, Pressure Switch
562852	3.6 liter Plastic Reservoir, 115 VAC
562847	6 liter Reservoir, 115 VAC



562850



562839

Injecto-Flo EO-1 Spare Parts	
556015	Adjustable Relief Valve
556013	Gear Pump only
556016	Low Level Switch Assembly for 6 and 12 liter Reservoirs
556014	Suction Strainer
556011	115 VAC Motor
556012	230 VAC Motor
Low Level Switches	
556018	Low Level Switch
556019	Low Level Switch

Electric Pumps

Injecto-Flo® II

Durable Long Lasting Machine Tool Pump

Great versatility in a small package has many control options. A dependable high-quality gear pump for years of trouble-free operation combined with Injecto-Flo II piston distributor metering devices completes your oil or fluid grease lubrication system. Internal controller with LED alarms is easy to program for any application. Built-in vent valve gets you up and working with piston distributors fast—no kits to purchase and assemble.

Typical Applications

- Ideal solution for automatic lubrication on small and mid-sized machines

Typical Fluids Handled

- Oil - 50 to 100 cst
- Fluid Grease NLGI #000

Technical Specifications

Max Output Volume Per Minute

Oil	30.50 in ³ (500 cm ³)
Grease	12.20 in ³ (200 cm ³)

Max Pressure

Oil	360 psi (25 bar)
Grease	580 psi (40 bar)

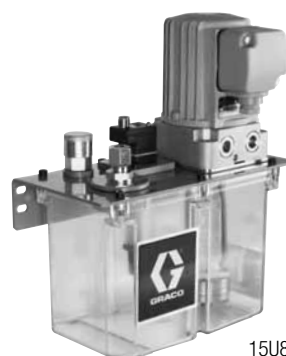
Power 230 VAC

Reservoir Plastic, Rectangular

Reservoir Size 3, 6 liter



122895



15U858

Ordering Information

Injecto-Flo II Oil Pumps - 3 liter Reservoirs (no control), 230 VAC	
122545	0.2 lpm, Screw Cap
122546	0.2 lpm, Straight Connector (10 mm Pipe)
122547	0.5 lpm, Screw Cap
122548	0.5 lpm, Straight Connector (10 mm Pipe)
122549	0.2 lpm, Single w/DIN, Screw Cap
122550	0.2 lpm, Single w/DIN, Straight Connector (10 mm Pipe)
122551	0.5 lpm, Single w/DIN, Screw Cap
122552	0.5 lpm, Single w/DIN, Straight Connector (10 mm Pipe)
122553	0.2 lpm, Single w/M12 Top, Screw Cap
15U859	0.2 lpm, Single w/M12 Top, Straight Connector (10 mm Pipe)
122554	0.5 lpm, Single w/M12 Top, Screw Cap
122555	0.5 lpm, Single w/M12 Top, Straight Connector (10 mm Pipe)
122556	0.2 lpm, Dual w/DIN, Screw Cap
122557	0.2 lpm, Dual w/DIN, Straight Connector (10 mm Pipe)
122558	0.5 lpm, Dual w/DIN, Screw Cap
122559	0.5 lpm, Dual w/DIN, Straight Connector (10 mm Pipe)
122560	0.2 lpm, Dual w/M12 Top, Screw Cap
122561	0.2 lpm, Dual w/M12 Top, Straight Connector (10 mm Pipe)
122562	0.5 lpm, Dual w/M12 Top, Screw Cap
15U858	0.5 lpm, Dual w/M12 Top Straight Connector (10 mm Pipe)

Injecto-Flo II Oil Pumps - 6 liter Reservoirs (no control), 230 VAC	
122563	0.2 lpm, Screw Cap
122564	0.2 lpm, Straight Connector (10 mm Pipe)
122565	0.5 lpm, Screw Cap
122566	0.5 lpm, Straight Connector (10 mm Pipe)
122567	0.2 lpm, Single w/DIN, Screw Cap
122568	0.2 lpm, Single w/DIN, Straight Connector (10 mm Pipe)
564138	0.5 lpm, Single w/DIN, Screw Cap
122569	0.5 lpm, Single w/DIN, Straight Connector (10 mm Pipe)
122570	0.2 lpm, Single w/M12 Top, Screw Cap
122571	0.2 lpm, Single w/M12 Top, Straight Connector (10 mm Pipe)
122572	0.5 lpm, Single w/M12 Top, Screw Cap
122573	0.5 lpm, Single w/M12 Top, Straight Connector (10 mm Pipe)
122574	0.2 lpm, Dual w/DIN, Screw Cap
122575	0.2 lpm, Dual w/DIN, Straight Connector (10 mm Pipe)
122576	0.5 lpm, Dual w/DIN, Screw Cap
122577	0.5 lpm, Dual w/DIN, Straight Connector (10 mm Pipe)
122578	0.2 lpm, Dual w/M12 Top, Screw Cap
122579	0.2 lpm, Dual w/M12 Top, Straight Connector (10 mm Pipe)
122580	0.5 lpm, Dual w/M12 Top, Screw Cap
15U860	0.5 lpm, Dual w/M12 Top Straight Connector (10 mm Pipe)

Electric Pumps

Injecto-Flo® II

Ordering Information

Injecto-Flo II Fluid Grease Pumps - 3 liter Reservoirs (no control), 230 VAC	
122581	0.2 lpm, Screw Cap
563301	0.2 lpm, Straight Connector (10 mm Pipe)
122582	0.2 lpm, Single w/DIN, Screw Cap
122583	0.2 lpm, Single w/DIN, Straight Connector (10 mm Pipe)
122584	0.2 lpm, Single w/M12 Top, Screw Cap
122585	0.2 lpm, Single w/M12 Top, Straight Connector (10 mm Pipe)
122586	0.2 lpm, Dual w/DIN, Screw Cap
122587	0.2 lpm, Dual w/DIN, Straight Connector (10 mm Pipe)
122588	0.2 lpm, Dual w/M12 Top, Screw Cap
557547	0.2 lpm, Dual w/M12 Top, Straight Connector (10 mm Pipe)
Injecto-Flo II Fluid Grease Pumps - 6 liter Reservoirs (no control), 230 VAC	
122589	0.2 lpm, Screw Cap
122590	0.2 lpm, Straight Connector (10 mm Pipe)
122591	0.2 lpm, Single w/DIN, Screw Cap
122592	0.2 lpm, Single w/DIN, Straight Connector (10 mm Pipe)
122593	0.2 lpm, Single w/M12 Top, Screw Cap
122594	0.2 lpm, Single w/M12 Top, Straight Connector (10 mm Pipe)
122595	0.2 lpm, Dual w/DIN, Screw Cap
122596	0.2 lpm, Dual w/DIN, Straight Connector (10 mm Pipe)
122597	0.2 lpm, Dual w/M12 Top, Screw Cap
122598	0.2 lpm, Dual w/M12 Top, Straight Connector (10 mm Pipe)
Injecto-Flo II Oil Pumps w/Integrated Control	
122895	3 liter, 0.2 lpm, 230 VAC w/Time or Pulse, Manual Lube, Level Switch, Pressure Gauge, Pressure Switch, Green Light, Red Light, Screw Cap
122897	6 liter, 0.2 lpm, 230 VAC w/Time or Pulse, Manual Lube, Level Switch, Pressure Gauge, Pressure Switch, Green Light, Red Light, Screw Cap
122898	6 liter, 0.5 lpm, 230 VAC w/Time or Pulse, Manual Lube, Level Switch, Pressure Gauge, Pressure Switch, Green Light, Red Light, Screw Cap
Injecto-Flo II Fluid Grease Pumps w/Integrated Control	
122896	3 liter, 0.2 lpm, 230 VAC w/Time or Pulse, Manual Lube, Level Switch, Pressure Gauge, Pressure Switch, Green Light, Red Light, Screw Cap
122899	6 liter, 0.2 lpm, 230 VAC w/Time or Pulse, Manual Lube, Level Switch, Pressure Gauge, Pressure Switch, Green Light, Red Light, Screw Cap

Electric Pumps

Thrif-T Luber®

Low Pressure Orifice Lubrication

Big on features with a small price, the perfect fit for entry-level, Single Line Resistive orifice lubrication systems. A complete electric package includes pump, reservoir and integrated control (remote version optional) for fast and easy installation. Use with Thrif-T Luber orifice dispensers for a complete system.

Typical Applications

- Small machine tools

Lubrication Used

- Oil - 100-10,000 SUS

Technical Specifications

Max Output per Minute	0.42 in ³ (6.9 cm ³)
Max Output Pressure	150 psi (10 bar)
Operating Temp	0° F to 140° F (-18° C to 60° C)
Motor	115 VAC
Reservoir	4 pint (1.9 Liters)

Ordering Information

Thrif-T Luber Pumps w/Reservoir	
564068	TLEP-10 - Thrif-T Luber Electric Pump, 115 VAC Timer
564067	TLEP-11 - Thrif-T Luber Electric Pump, 115 VAC Remote
Thrif-T Luber Replacement Parts	
558031	Timer Replacement Board
563162	Replacement Relief Valve
564065	Replacement Pump
564439	Replacement Reservoir & Motor Housing
557641	Replacement Gearmotor, 115 VAC
557826	Replacement Low Level Switch
558296	0-300 psi gauge



Electric Pumps

Maxi-Flo™

Machine Tool Lubrication with System Monitoring

Compact design with everything you need to get your single line resistive oil lubrication system installed and running quickly. A standard package comes complete with reservoir, pump, gear motor, and choice of internal or remote control. Simple slide switches allow for easy setup of pump run cycle time. Bright LED indicators for low level and power allow for easy troubleshooting and verification.

- Integrated control with manual run button for easy setup
- Compact design fits anywhere
- 500 psi (34 bar) rating for using with various orifice metering devices



563379

Typical Applications

- Small machine tools

Lubrication Used

- Oil - 60-30,000 SUS

Technical Specifications

Max Output per Stroke	0.01 in ³ (0.165 cm ³)
Pump Output Volume per Minute	12 rpm@60hz, 0.120 in ³ (1.97 cm ³) 10 rpm@50hz, 0.100 in ³ (1.64 cm ³)
Max Output Pressure	500 psi (34 bar)
Operating Temp	0° F to 140° F (-18° C to 60° C)
Material	Plastic, Rectangular
Reservoir Size	4 pints (1.9 liters)
Motor	115 VAC, 50/60 hz
Operating Air Required	40-150 psi (2.276-10.3)115 VAC

Ordering Information

Maxi-Flo Packages	
563379	115 VAC, 4 pt Plastic Rectangular Oil Reservoir, Solid State Timer Control
563376	115 VAC, 4 pt Plastic Rectangular Oil Reservoir, Remote Control
Accessories	
564376	High Pressure Switch
558899	Gauge, 0-1,000 psi
Replacement Parts	
558031	Timer Replacement Board, 115 VAC
557641	Replacement 115 VAC Gearmotor
563374	Replacement Pump
557826	Replacement Low Level Switch
563930	Replacement Reservoir/Timer Housing Kit
563375	Replacement Relief Indicator

Barrel and Drum Pumps

Electro-Hydraulic Barrel Pumps

Features and Benefits

Heavy-duty drum pump requires no air supply, just plug it in and you're ready to go. Installs on a 400 pound grease or 55 gallon drum, eliminating the need to transfer lubricants. Sealed hydraulic power circuit ensures long trouble-free operation.

Typical Applications

- Steel mills, pulp and paper, cement plants and other heavy-duty applications

Typical Fluids Handled

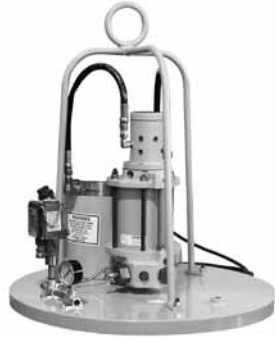
- Oil and grease up to NLGI #2

Technical Specifications

Output per Minute	
H-430.....	6 in ³ (98 cm ³)
H-420.....	11 in ³ (108 cm ³)
H-410.....	22 in ³ (360 cm ³)
H-411.....	38 in ³ (623 cm ³)
1/2 HP Motor	115/230 VAC, 1 phase or 230/460 VAC, 3 phase
Pressure	3,500 psi (241 bar)
Reservoir.....	400 pound for grease or 55 gallon for oil

Ordering Information

Electro-Hydraulic Barrel Pumps w/out Motor	
564259	H-420
564260	H-430
564261	H-411
562863	H-410
564262	H-430 w/out Pressure Switch
Power Units	
564391	H-420
564392	H-430
564390	H-411
563406	H-410
Motors	
557271	1/2 HP, 115/230 Vac, 1 phase, 60 Hz
557270	1/2 HP, 230/460 Vac, 3 phase, 60 Hz
Spare Parts and Kits	
563402	H-400 Pump Only
563922	Pump Repair kit
563404	Pressure Switch
557352	Pressure Gauge
557376	Outlet Strainer



Pneumatic Pumps

Modu-Flo®

Features and Benefits

Mix and match pumps, reservoir and manifolds in any configuration to meet any application. Replace the pump or reservoir without disconnecting lubrication lines.

- Easy to standardize on components and reduce inventory
- Adjustable pump output for fast, convenient customizing

Typical Applications

- In plant machinery, presses and mixers

Lubrication Used

- Oil and Grease up to NLGI #2

Technical Specifications

Output per Stroke

AL-5	0.01-0.03 in ³ (0.16-0.49 cm ³)
AL-25	0.03-0.120 in ³ (0.49-1.96 cm ³)
AL-50	0.06-0.24 in ³ (0.94-3.93 cm ³)
Max Strokes per Minute	30
Max Output Pressure	3,500 psi (241 bar)
Ratio	30:1

Ordering Information

Modu-Flo Pumps w/out Reservoirs	
563304	AL-5, Pneumatic 30:1, 0.010-0.030 in ³ /stroke, 0.164-0.492 cm ³
563306	AL-25, Pneumatic 30:1, 0.030-0.120 in ³ /stroke, 0.492-1.966 cm ³
563308	AL-50, Pneumatic 30:1, 0.060-0.240 in ³ /stroke, 0.938-3.933 cm ³
Modu-Flo Pump Assembly Repair Kits	
563902	AL-5, Single or Double Acting Repair Kit
563903	AL-25, Single or Double Acting Repair Kit
563904	AL-50, Single or Double Acting Repair Kit
563337	Modu-Flo Pump Mounting Kit - Mounting Screws, O-Rings
Modu-Flo Manifold Assemblies and Accessories	
563329	Pump/Reservoir Manifold only (npt)
563324	Pump/Reservoir Manifold (npt) w/Outlet Check Valve, System Fill Check Valve, Blowout Assembly, 0-3,000 psi Pressure Gauge
563331	Pump/Reservoir Manifold (npt) w/Outlet Check Valve, System Fill Check Valve, Tubed Blowout Assembly, 0-3,000 psi Pressure Gauge
563355	Pump/Reservoir Manifold (sae) w/Outlet Check Valve, System Fill Check Valve, Blowout Assembly, Pressure Gauge
563323	Remote Pump Manifold (npt) w/Outlet Check Valve, System Fill Check Valve, Blowout Assembly
563330	Remote Pump Manifold (npt) w/Outlet Check Valve, System Fill Check Valve, Tubed Blowout Assembly
Modu-Flo Oil Reservoirs	
562891	5 pt Plastic Cylindrical Reservoir
562904	6 pt Plastic Cylindrical Reservoir
562889	12 pt Plastic Cylindrical Reservoir
562890	20 pt Plastic Cylindrical Reservoir
563319	12 pt Tank
563320	24 pt Tank
563321	40 pt Tank



Pump package shown with oil reservoir



Pump package shown with grease reservoir

Pneumatic Pumps

Modu-Flo®

Ordering Information

Modu-Flo Grease Reservoirs	
562910	3 lb Plastic Cylindrical Reservoir
562911	3 lb Plastic Cylindrical Reservoir w/Low Level Switch Actuator (order separately)
562888	5 lb Plastic Cylindrical Reservoir
562905	6 lb Plastic Cylindrical Reservoir
562884	12 lb Plastic Cylindrical Reservoir
562885	20 lb Plastic Cylindrical Reservoir
564267	40 lb Plastic Cylindrical Reservoir
564268	40 lb Plastic Cylindrical Reservoir w/Low Level Switch
564264	5 lb Metal Cylindrical Reservoir
562906	6 lb Metal Cylindrical Reservoir
562886	12 lb Metal Cylindrical Reservoir
562887	20 lb Metal Cylindrical Reservoir
Modu-Flo Low Level Switch Assemblies	
563316	15 amp Low Level Switch for 5 and 12 pt Cylindrical Oil Reservoirs, SPDT
563318	15 amp Low Level Switch for 6 pt Cylindrical Oil Reservoirs & all Tank Reservoirs, SPDT
563317	15 amp Low Level Switch for 20 pt Cylindrical Oil Reservoirs, SPDT
563014	10 watt Low Level Switch for 5 and 12 pt Cylindrical Oil Reservoirs & all Tank Reservoirs, SPST
563015	10 watt Low Level Switch for 6 pt Cylindrical Oil Reservoirs, SPST
563016	10 watt Low Level Switch for 20 pt Cylindrical Oil Reservoirs, SPST
564322	10 watt Low Level Switch for 12, 24 and 40 pt Tanks, Dual SPST
563322	Low Level Switch for 5, 6, 12 and 20 pt Cylindrical Grease Reservoirs
557825	Replacement Low Level Switch for 563014, 563015, 563016
557781	Replacement Low Level Switch for 563322
Modu-Flo Pressure Switch Assemblies	
557829	Pressure Switch for all Reservoirs
563325	High Pressure Blowout Switch for 5 pt or 5 lb Reservoirs
563326	High Pressure Blowout Switch for 12 and 20 pt or 12 and 20 lb Reservoirs
563327	High Pressure Blowout Switch for all Rectangular Reservoirs
Modu-Flo Solenoid Valves	
563315	3-Way Pneumatic Solenoid Valve, 115 VAC
563332	3-Way Pneumatic Solenoid Valve, 24 VDC
Modu-Flo Timer/Controller	
563339	Solid State AC Timer for all Tanks
563340	Solid State AC Timer for 5 pt and 5 lb Cylindrical Reservoirs
563341	Solid State AC Timer for 6, 12 and 20 pt, 6, 12 and 20 lb Cylindrical Reservoirs

Pneumatic Pumps

E-Series™

Designed for Reliability

The E-Series pump is a great, minimum cost, entry level alternative to standard pneumatic pump products. This all-in-one pump package comes complete with no assembly required and is easy to install. All pump packages include high-pressure rupture disc assembly and lube outlet check valve. The E-Series offers many reservoir options for either grease or oil. Great for any application where price is a concern and installation time is at a premium.

- Easy field installation of accessories without disturbing existing plumbing
- Smart pump design with few moving parts ensures long-lasting dependability

Typical Applications

- Presses and other In plant machines

Lubrication Used

- Oil up to 30,000 SUS
- Grease up to NLGI #2

Technical Specifications

Output per Stroke	0.03 in ³ (0.49 cm ³)
Max Output Pressure	2,000 psi (138 bar)
Ratio	20:1
Reservoir Material.	Plastic, Cylindrical or Rectangular
Reservoir Size.	3 and 6 lb, 4 pt
Air Pressure	40-150 psi
Cycle Rate	10 CPM grease, 30 CPM oil

Ordering Information

E-Series Assemblies w/Fixed Output Pump	
563365	E-Series Pump w/3 lb Plastic Cylindrical Grease Reservoir, Low Level Switch, Pressure Gauge
563363	E-Series Pump w/6 lb Plastic Cylindrical Grease Reservoir
563364	E-Series Pump w/6 lb Plastic Cylindrical Grease Reservoir, Low Level Switch
563361	E-Series Pump w/4 pt Plastic Rectangular Oil Reservoir
563362	E-Series Pump w/4 pt Plastic Rectangular Oil Reservoir, Low Level Switch
E-Series Components	
563358	Pump only - w/1750 psi (121 bar) rupture disc
563367	Adjustable Output Pump .01- 0.03 in ³ (0.16-0.49 cm ³) (*not fitted with Rupture Disc Assembly)
E-Series Oil Reservoirs	
563359	4 pt (1.89 liter) Plastic Rectangular Reservoir
562891	5 pt (2.36 liter) Plastic Cylindrical Reservoir
562904	6 pt (2.84 liter) Plastic Cylindrical Reservoir
562889	12 pt (5.67 liter) Plastic Cylindrical Reservoir
562890	20 pt (9.45 liter) Plastic Cylindrical Reservoir
564375	40 pt Cylindrical - Plastic
563319	12 pt Rectangular - Metal
563320	24 pt Rectangular - Metal
563321	40 pt Rectangular - Metal
E-Series Grease Reservoirs	
562910	3 lb (1.36 kg) Plastic Cylindrical Reservoir
562888	5 lb (2.26 kg) Plastic Cylindrical Reservoir
564264	5 lb (2.26 kg) Metal Cylindrical Reservoir



563365

Pneumatic Pumps

E-Series™

Ordering Information

E-Series Assemblies w/Fixed Output Pump	
563365	E-Series Pump w/3 lb Plastic Cylindrical Grease Reservoir, Low Level Switch, Pressure Gauge
563363	E-Series Pump w/6 lb Plastic Cylindrical Grease Reservoir
563364	E-Series Pump w/6 lb Plastic Cylindrical Grease Reservoir, Low Level Switch
563361	E-Series Pump w/4 pt Plastic Rectangular Oil Reservoir
563362	E-Series Pump w/4 pt Plastic Rectangular Oil Reservoir, Low Level Switch
E-Series Components	
563358	Pump only
563367	Adjustable Output Pump (*not fitted with Rupture Disc Assembly)
E-Series Oil Reservoirs	
563359	4 pt (1.89 liter) Plastic Rectangular Reservoir
562891	5 pt (2.36 liter) Plastic Cylindrical Reservoir
562904	6 pt (2.84 liter) Plastic Cylindrical Reservoir
562889	12 pt (5.67 liter) Plastic Cylindrical Reservoir
562890	20 pt (9.45 liter) Plastic Cylindrical Reservoir
E-Series Grease Reservoirs	
562910	3 lb (1.36 kg) Plastic Cylindrical Reservoir
562888	5 lb (2.26 kg) Plastic Cylindrical Reservoir
564264	5 lb (2.26 kg) Metal Cylindrical Reservoir
562905	6 lb (2.71 kg) Plastic Cylindrical Reservoir
562906	6 lb (2.71 kg) Metal Cylindrical Reservoir
562884	12 lb (5.42 kg) Plastic Cylindrical Reservoir
562886	12 lb (5.42 kg) Metal Cylindrical Reservoir
562885	20 lb (9.04 kg) Plastic Cylindrical Reservoir
562887	20 lb (9.04 kg) Metal Cylindrical Reservoir
E-Series Low Level Options - Not available for 3 lb Cylindrical Reservoirs	
563378	10 watt Low Level Switch for 4 pt Rectangular Oil Reservoirs
563015	10 watt Low Level Switch for 5 & 12 pt Cylindrical Oil Reservoirs
563016	10 watt Low Level Switch for 20 pt Cylindrical Oil Reservoirs
563316	15 amp Low Level Switch for 5 & 6 pt Cylindrical Oil Reservoirs
563317	15 amp Low Level Switch for 20 pt Cylindrical Oil Reservoirs
563322	15 amp Low Level Switch for all Grease Reservoirs
557826	10 watt Replacement Switch
557781	15 amp Replacement Switch
E-Series Accessories - For Field Installation	
563315	3-Way Modular Pneumatic Valve - 115 VAC
563332	3-Way Modular Pneumatic Valve - 24 VDC
563909	Pump Repair Kit (fixed output)
563945	Pump Repair Kit (adjustable E-Series Pump)

Pneumatic Pumps

MSA-10™ and MSA-100™

Durable In-Line Pumps

MSA Series products are used together with main lubrication supply lines where the pump is fed directly with no additional reservoir required. No reservoir makes the MSA Series ideal for locations that are difficult to reach or undesirable to enter. Use the MSA-10 for standard applications and the MSA-100 when high operating pressures and larger outputs are required.

- Ideal for applications where space is a premium
- Handles high pressure lubricant feed of direct line intake
- Used with or without a reservoir for the ultimate flexibility



MSA-10, 562854

Typical Applications

- In-plant manufacturing presses, machinery and processing equipment

Lubrication Used

- Oil and Grease up to NLGI #2

Technical Specifications

MSA-10

Material	Steel
Output per Stroke	.04-.120in ³ (.66-1.97cm ³)
Max Pump Stroke per Minute	Single-Acting - 15 Double-Acting - 60
Max Output Pressure	3,000 psi (207 bar)
Air Pressure	40-150 psi
Max Lube Inlet	500 psi (34 bar)
Ratio	25:1

MSA-100

Material	Aluminum
Seals	Buna-N and Fluoroelastomer
Output per Stroke	.400-.800in ³ (6.57-13.11cm ³)
Max Pump Stroke per Minute	Single-Acting - 15 Double-Acting - 30
Max Output Pressure	3,000 psi (207 bar)
Air Pressure	60-140 psi
Max Lube Inlet	500 psi (34 bar)
Ratio	25:1

*Supplied with Rupture-to-Atmosphere Indicator rated to 1,450 psi (100) (standard)



MSA-100, 562855

Ordering Information

MSA Pumps	
562854	MSA-10 Air Operated Pump
562855	MSA-100 Air Operated Pump
MSA Kits	
563912	MSA-10 Spare Parts Kit
563913	MSA-100 Repair Parts Kit
MSA Restrictor Valve	
563072	Air Inlet Restrictor Valve for MSA-10 and MSA-100

Pneumatic Pumps

Injecto-Flo® AO-1

Compact Air-Operated Oil Pump

The AO-1 pneumatic pumps are compact in size to fit into any application, but deliver higher pump output rates with its short pump off time between cycles. Great for applications using piston distributors for oil lubrication. Several reservoir sizes and materials to choose from. Has built-in vent valve to get you up and running fast.

Typical Applications

- Small to medium machine tools

Lubrication Used

- Oil (250-5,000 SUS)

Technical Specifications

Output per Stroke (single shot only)	0.80 in ³ (13 cm ³)
Max Output Pressure	450 psi (31 bar)
Ratio	4.5:1
Reservoir Material	Plastic or Metal, Rectangular
Reservoir Size . . . . .	.4 or 10 pt
Minimum On-Time . . . . .	.5 seconds
Minimum Off-Time . . . . .	.15 seconds

Ordering Information

Injecto-Flo AO-1 Pumps	
562845	Pump, 4 pt Plastic Rectangular Reservoir
562846	Pump, 10 pt Metal Rectangular Reservoir
Low Level Switches	
556018	Low Level Switch
556019	Low Level Switch



562845

Pneumatic Pumps

LubriSystem®

Air Operated Pump for Single Line Parallel Systems

Easy to design, modify and adjust for oil or grease applications large or small. Great for operation of piston distributors. Rugged construction maximizes your productivity—upgrading to the internal timer control completely automates the system. All packages include internal pressure relief, so no need to install extra parts with additional costs. Combine with LubriSystem injectors for easy, low cost system design solutions.

- Ability to serve large systems—up to 100 lube points or more
- Efficient design promotes increase productivity and less downtime
- Several reservoir choices for both oil and grease applications

Typical Applications

- In plant equipment and machinery

Lubrication Used

- Oil and Grease up to NLGI #1

Technical Specifications

Output per Stroke	1.5 in ³ (24.6 cm ³)
Max Output Pressure	360-1,350 psi (25-93 bar)
Air Inlet Pressure . . . . .	.40-150 psi (3-10 bar)
Ratio	9:1
Reservoir Material	Plastic, Cylindrical
Reservoir Size	6, 12 or 20 lb, 6, 12 or 20 pt



563575

Ordering Information

LubriSystem Pump w/out Reservoir	
563579	Standard Pump
LubriSystem Standard Oil Pumps	
563574	LubriSystem Pump w/6 pt (2.84 liter) Plastic Cylindrical Reservoir
563575	LubriSystem Pump w/12 pt (5.68 liter) Plastic Cylindrical Reservoir
563576	LubriSystem Pump w/20 pt (9.46 liter) Plastic Cylindrical Reservoir
563577	LubriSystem Pump w/6 pt (2.84 liter) Plastic Cylindrical Reservoir, 10 watt Low Level Switch
563578	LubriSystem Pump w/12 pt (5.68 liter) Plastic Cylindrical Reservoir, 10 watt Low Level Switch
LubriSystem Standard Air Operated Pumps Reservoir Assemblies	
563571	LubriSystem Pump w/6 lb (2.72 kg) Plastic Cylindrical Reservoir
563572	LubriSystem Pump w/6 lb (2.72 kg) Plastic Cylindrical Reservoir, Low Level Switch
563573	LubriSystem Pump w/12 lb (5.44 kg) Plastic Cylindrical Reservoir, Low Level Switch
LubriSystem Plastic Oil Reservoirs	
564265	6 pt (2.84 liter) Reservoir
562892	12 pt (5.68 liter) Reservoir
562893	20 pt (9.46 liter) Reservoir
LubriSystem Plastic Grease Reservoirs	
562907	6 lb (2.72 kg) Reservoir
562896	12 lb (5.44 kg) Reservoir
562897	20 lb (9.06 kg) Reservoir

LubriSystem Low Level Switches - Oil Reservoirs only	
563014	10 watt Low Level Switch for 6 pt (2.84 liter) Reservoirs
563015	10 watt Low Level Switch for 12 pt (5.68 liter) Reservoirs
563016	10 watt Low Level Switch for 20 pt (9.46 liter) Reservoirs
563318	15 amp Low Level Switch for 6 pt (2.84 liter) Reservoirs
563316	15 amp Low Level Switch for 12 pt (5.68 liter) Reservoirs
563317	15 amp Low Level Switch for 20 pt (9.46 liter) Reservoirs
LubriSystem Low Level Switches - Grease Reservoirs only	
563322	15 amp Low Level Switch for all Grease Reservoirs
LubriSystem Solenoid Valves	
563315	115 VAC Solenoid Valve
557925	24 VDC Solenoid Valve
LubriSystem Solid State Timer	
562872	Solid State Timer
LubriSystem Repair Kits	
563762	Standard Pump Repair/Rebuild Kit - includes Pump Diaphragm
563772	High Pressure Pump Repair Kit
LubriSystem Replacement Parts	
564426	Pump Replacement Assembly - 115 VAC, Oil, w/out Timer or Reservoir
557822	Replacement Gear Pump
557284	Replacement Motor - 12 VDC, 115/230 VAC
557288	Replacement Motor - 24 VDC

Manual Pumps

Grease Gun

Features and Benefits

A simple, compact, cost-effective way to deliver oil or grease. Ideal for purging existing centralized systems when changing lubrication or performing maintenance.

- Ideal for troubleshooting and system testing
- Handy carrying case for easy portability



562857

Lubrication Used

- Oil and Grease

Technical Specifications

Output per Stroke . . . . .	.09 cu.in. (1.5cc)
Pressure Rating	5,000 psi (345 bar)
Reservoir Capacity	1 pint (500cc), 1 lb (0.453 kg) or use 14-14.5 oz grease cartridge
Pump body and Reservoir Material	Steel
Storage Case Material.	HDPE Plastic

Ordering Information

Manual Grease Gun	
562857	Pump package with carrying case
550959	Wall mount bracket
200389	6 inch rigid extension

Manual Pumps

PH Pump™

Versatile and Tough

Built with aluminum and steel components to meet the high standards of performance and quality you expect from Graco products. Available with a choice of standard clear plastic or metal Modu-Flo reservoirs for either oil or grease. Modular pump/reservoir design plus built-in features enable the PH Manual Pump to be customized for a wide range of applications.

- Built-in volume indicator provides easy verification that lubricant is being delivered to the system and that divider valves are completing lube cycles
- Wide applicability is provided by an optional two- or four-outlet valve that mounts under the pump outlet. This valve allows the pump to serve up to four different systems or to supply one or two separate manual reversing systems
- Single-acting positive displacement pump design minimizes the number of moving and wearing parts for extended pump life and reduced maintenance
- Built-in automatic relief valve protects system components from over-pressure
- Built-in outlet check valve prevents back pressure from damaging pump and minimizes chance for contaminants to get into the pump or the lube supply



564384

Typical Applications

- In plant equipment and machinery

Lubrication Used

- Oil and Grease

Technical Specifications

Pump Output	0.150 cu.in. (2.46 cm ³) per full stroke
Maximum Operating Pressure	3,000 psi (207 bar)
High Pressure Protection Relief Valve	Set @ 2,500 psi (172 bar)
Force to Operate Handle	29 lbs (13.14 kg) per 1,000 psi @ rated pressure
Reservoir Capacities	5 pints (2.37 liters) or 5 lbs (2.27 kg), 6 pints (2.84 liters) or 6 lbs (2.72 kg), 12 pints (5.68 liters) or 12 lbs (5.44 kg), 20 pints (9.46 liters) or 20 lbs (9.06 kg)

Ordering Information

PH Pump	
563393	Pump (w/out reservoir)
564378	Pump w/5 pint Plastic Cylindrical Oil Reservoir
564379	Pump w/5 lb. Plastic Cylindrical Grease Reservoir
564381	Pump w/5 lb. Metal Cylindrical Grease Reservoir
564389	Pump w/6 lb. Plastic Cylindrical Grease Reservoir
564383	Pump w/12 lb. Plastic Cylindrical Grease Reservoir
564386	Pump w/20 lb. Plastic Cylindrical Grease Reservoir
564385	Pump w/20 pint Plastic Cylindrical Oil Reservoir
564384	Pump w/12 lb. Metal Cylindrical Grease Reservoir
564387	Pump w/6 pint Plastic Cylindrical Oil Reservoir
564365	Two-Outlet Valve
557864	3,000 psi Pressure Gauge
563160	Automatic 2,500 psi Relief Valve
568906	Coupler for Grease Fill Stud

Manual Pumps

LubriSystem®

Manual Pumps

Features and Benefits

The LubriSystem hand pump package offers versatility for use in any application, large or small. Great for operation with Injectors or Piston Distributors, with oil or grease. Sturdy construction of aluminum and steel to provide years of service. Compact design can be used in areas where space is limited. Rugged bracket allows the pump package to be mounted in place in any applications.

- Bracket-mount design for easy installation
- Rugged design for years of operation
- Built-in pressure venting for use with injectors

Typical Applications

- General machinery lubrication where power is limited or not available

Lubrication Used

- Oil
- Grease up to NLGI #1

Technical Specifications

Output per Stroke	0.125 in ³ (2 cm ³)
Output Pressure	3,000 psi (207 bar)
Force to Operate Handle . . . . .	.20 lb (9 kg) per 1,000 psi (69 bar)
Reservoir	Plastic, Cylindrical
Reservoir Size	6, 12 or 20 pt/lb



564422

Ordering Information

LubriSystem Hand-Operated Pumps	
564419	Hand Pump w/12 pt (5.86 liter) Plastic Oil Reservoir, 3,000 psi Gauge
564420	Hand Pump w/20 pt (9.46 liter) Plastic Oil Reservoir, 3,000 psi Gauge
564421	Hand Pump w/6 lb (2.72 kg) Plastic Grease Reservoir, 3,000 psi Gauge
564422	Hand Pump w/12 lb (5.44 kg) Plastic Grease Reservoir, 3,000 psi Gauge
564423	Hand Pump w/20 lb (9.06 kg) Plastic Grease Reservoir, 3,000 psi Gauge
LubriSystem Hand-Operated Pump Components	
563580	Hand Pump Body w/out Reservoir
LubriSystem Hand-Operated Pump Pressure Gauge	
557864	3,000 psi Gauge
LubriSystem Hand-Operated Pump Reservoirs	
562904	6 pt (2.84 liter) Plastic Oil Reservoir
562889	12 pt (5.68 liter) Plastic Oil Reservoir
562890	20 pt (9.46 liter) Plastic Oil Reservoir
562905	6 lb (2.72 kg) Plastic Grease Reservoir
562884	12 lb (5.44 kg) Plastic Grease Reservoir
562885	20 lb (9.06 kg) Plastic Grease Reservoir

Manual Pumps

Thrif-T Luber®

Features and Benefits

A simple and effective positive displacement pump that delivers up to 0.50 cubic inches per stroke. Compact design easily mounts on any piece of equipment. A spring return drives the piston for controlled lubrication delivery.

- Modular system design allows configurations to work in all applications
- Easy to standardize on components and reduce inventory
- Adjustable pump output for fast, convenient customizing

Typical Applications

- Small machine tools

Lubrication Used

- Oil (100-10,000 SUS)

Technical Specifications

Output per Stroke 0.50 in³ (8.2 cm³)
Output Pressure 75 psi (5 bar)
Operating Temp 0° F to 140° F (-17.8° C to 60° C)
Reservoir Size 4 pt

Ordering Information

Thrif-T Lube Pump	
564012	TLMP-00 - Thrif-T Luber Manual Pump, Standard



564012

Mechanical Pumps

LubeMaster® Ratchet Drive Pump

Features and Benefits

Lubricates only while the machine is running! The Lubemaster Clutch Drive is a rugged, reliable pump powered mechanically by the machine using the lubrication. This pump is ideal for applications where lubrication cycles vary and are unpredictable.

- Rugged design for harsh-duty applications
- Mechanical link to machine—lubricates only while machine is running
- No separate power supply required

Typical Applications

- Presses, Banbury mixers, rubber mills, upsetters, heading machines, crane trolleys

Lubrication Used

- Oil and Grease up to NLGI #2

Technical Specifications

Min./Max. Pump Output Chart				Output Per Hour	
Degrees of Throw	Effective Ratio	Impulses Per Minute	Pump Strokes Per Hour	Minimum	Maximum
12°	30:1	5 Min..	10	.100 in ³ (1.639 cm ³)	.500 in ³ (8.195 cm ³)
60°	6:1	150 Max.	1500	15.00 in ³ (245.85 cm ³)	75.00 in ³ (1229.25 cm ³)



LM5214

Ordering Information

LubeMaster	
LM6214	20 lb Plastic Grease Reservoir (562897), Clutch Drive w/Arm (563383), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM8211	20 lb Metal Grease Reservoir (562899), Clutch Drive w/Arm (563383)
LM4211	20 pt Metal Oil Reservoir (562895), Clutch Drive w/Arm (563383)
LM7211	12 lb Metal Grease Reservoir (562898), Clutch Drive w/Arm (563383)
LM5211	12 lb Plastic Grease Reservoir (562896), Clutch Drive w/Arm (563383)
LM5214	12 lb Plastic Grease Reservoir (562896), Clutch Drive w/Arm (563383), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)

Mechanical Pumps

LubeMaster® Ratchet Drive Pump

LubeMaster Ordering Menu Code

NOTE: Utilize number code not lettered code from literature for ordering purposes.

		LM	-	X	-	X	-	X	-	X
Pump										
LM LubeMaster pump - 563380										
Reservoir Option										
1	OPA, 12 pt plastic oil reservoir - 562892	6	GPB, 20 lb plastic grease reservoir - 562897							
2	OPB, 20 pt plastic oil reservoir - 562893	7	GMA, 12 lb metal grease reservoir - 562898							
3	OMA, 12 pt metal oil reservoir - 562894	8	GMB, 20 lb metal grease reservoir - 562899							
4	OMB, 20 pt metal oil reservoir - 562895	9	OHS, power prime reservoir assembly - 562908							
5	GPA, 12 lb plastic grease reservoir - 562896									
Drive Option										
1	none	4	DOC, 10:1 reduction, wall-mounting - 563386							
2	DOA, clutch drive w/arm - 563383	5	DOD, 60:1 reduction, floor-mounting - 563389							
3	DOB, 10:1 reduction, floor-mounting - 563388	6	DOE, 60:1 reduction, wall-mounting - 563387							
Motor Option										
1	none									
2	MOA, 1/2 HP, 115/230 VAC, single phase, 60 Hz, 1,725 rpm - 557271									
3	MOB, 1/2 HP, 230/460 VAC, 3-phase, 60 Hz, 1,725 rpm - 557270									
4	MOC, 1/2 HP, 115/230 VAC, single phase, 60 Hz, 1,140 rpm - 557272									
5	MOD, 1/2 HP, 230/460 VAC, 3-phase, 60 Hz, 1,140 rpm - 557273									
Low Level Option										
1	LOO, none	4	LOC, 12 and 20 lb grease, SPDT - 563322							
2	LOA, 12 pt oil, SPDT, 15 amps - 563316	5	LOD, 12 pt oil, SPST, 10 watts - 563015							
3	LOB, 20 pt oil, SPDT, 15 amps - 563317	6	LOE, 20 pt oil, SPST, 10 watts - 563016							

Note: Drive Options 3, 4, 5 and 6 contains all required mounting hardware (mounting plate, coupler, coupler guard, nuts, bolts and washers).

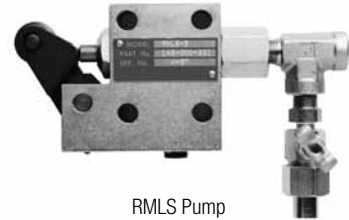
Pricing: In order to obtain Menu pricing for LubeMaster components, a pump must be ordered with each drive option on the same purchase order. All drives ordered w/out a pump on the same purchase order will be treated as a spare part and priced accordingly.

Mechanical Pumps

MLS Series™

Simple Installation and Operation

MLS Mechanical Lube Pumps are designed for automatic lubrication of machinery where machine motion can be used as the power source for the pump. Two pump types are available where the mechanical action is transmitted directly to the pump piston, combining compactness and simplicity. RMLS Pumps are equipped with a cam roller for cam or stop actuation. The EMLS-5 Pump is furnished with a drive arm with adjustable clevis position for powering the pump via a connecting rod from an eccentric pin in the end of a rotating shaft or other back-and-forth movement.



RMLS Pump

Typical Applications

- Where mechanical machine drive can be utilized

Technical Specifications

Min. Piston Stroke Lube Discharge

RMLS-5 0.005 cu.in @ 3/16 in

RMLS-50 0.050 cu.in @ 5/16 in

Max Piston Stroke Lube Discharge

RMLS-5 0.012 cu.in. @ 3/8 in

RMLS-50 0.050 cu.in. @ 17/32 in

EMLS-5

Arm Travel 2-3/4 in, 2-1/16 in, 1-5/16 in

Piston Travel 3/8 in, 9/32 in, 1-5/16 in

Lube Discharge. 0.012 cu.in., 0.008 cu.in., 0.005 cu.in.



EMLS Pump

Ordering Information

MLS Series Pumps	
562860	RMLS-5
562861	EMLS-5
562858	EMLS-50
563900	RMLS/EMLS-5 Repair Kit
563901	RMLS-50 Repair Kit

Hydraulic Pumps

Modu-Flo®

Features and Benefits

The Modu-Flo system is ideal for applications where minimizing downtime is critical. Customizing is easy—just mix and match pumps, reservoir and manifolds in any configuration to meet any application. Replace the pump or reservoir without disconnecting lubrication lines. Choose from a wide variety of hydraulic pumps that operate with grease or oil.

- Modular system design allows configurations to work in all applications
- Easy to standardize on components and reduce inventory
- Adjustable pump output for fast, convenient customization



Typical Applications

- General machinery lubrication where power is limited or not available

Lubrication Used

- Oil
- Grease up to NLGI #2

Technical Specifications

Output per Stroke01- 0.125 in³ (0.16-2.0 cm³)
 Output Pressure3,000 psi (207 bar)

Ordering Information

Part Number	Model Description	Max Pump Output/Stroke in ³ (cm ³)	Maximum Cycles/Minute	Ratio	Max. Hydraulic Pressure, psi (bar)	Lubrication Type
563305	HLJ-5 pump, double acting (no reservoir)	0.01-0.03 (0.16-0.49)	60	5.5:1	200-2000 (14-138)	Oil or grease up to NLGI #2
563345	HLJ-5X pump, double acting (no reservoir)	0.03-.09 (0.49-1.5)	50	2.2:1	200-3000 (14-207)	
563307	HLJ-25 pump, double acting (no reservoir)	0.03-0.12 (.49-2.0)	50	5.5:1	200-2000 (14-138)	

See pneumatic Modu-Flo section for a complete list of configurable parts.

Single Point Lubricators

Single Series™

Easy to use with minimal up-front investment

Graco's Electrochemical (gas) and Electromechanical (motor-driven) Single Series lubricators automatically deliver small, predetermined amounts of lubricant at frequent intervals for an uninterrupted supply of fresh lubricant directly to your bearing or lubrication point. Prevents over and under lubrication problems associated with manual lubrication (grease gun) methods.

- Extend equipment life
- Reduce operating costs
- Increase productivity
- Less waste

Typical Applications

EC-120™

A durable and reliable general purpose lubricator that installs easily, in almost any position. Suitable for use in potentially explosive atmospheres in Europe. ATEX Approvals: CE Ex I M2 c X, CE Ex II 2G c IIC 80°C X, CE Ex II 2D c 80°C X.

EP-120™

Transparent plastic gives you at-a-glance indication of the lubricant level. Ideal for hygienically clean and food safe locations. Also great for high corrosion locations. Suitable for use in potentially explosive atmospheres in Europe.

TC-130™

An electrochemical lubricator that features electronic temperature compensation. The discharge period is easy to program on the reusable control unit, and can be turned on/off at any time to stop the lube output. Suitable for use in potentially explosive atmospheres.

Typical Fluids Handled

- Multi-use lithium EP-2™ grease
- Construction and off-highway grease
- Ball bearing and pillow-block grease
- Mill grease
- Food grade H1™ grease
- Synthetic industrial grease

Technical Specifications

EC-120™

Housing Design.....	Metal
Drive Type	Electrochemical (gas)
Discharge Time.....	1, 3, 6, or 12 months
Lubricant Volume	120 cc
Operating Temp	0 to 40 ° C / 32 to 104 ° F
Max Pressure .....	.4 bar / 58 psi

EP-120™

Housing Design.....	Transparent Plastic
Drive Type	Electrochemical (gas)
Discharge Time.....	1, 3, 6, or 12 months
Lubricant Volume	120 cc
Operating Temp	0 to 40 ° C / 32 to 104 ° F
Max Pressure .....	.4 bar / 58 psi

TC-130™

Housing Design.....	Transparent Plastic
Drive Type	Electrochemical (gas)
Discharge Time.....	1-12 months
Lubricant Volume	130 cc
Operating Temp	-20 to 60 ° C / -4 to 140 ° F
Max Pressure .....	.6 bar / 87 psi



Single Point Lubricators

Single Series™

Ordering Information

EC-120 Lubricators	
24D855	EC-120, 1 Mo, Lithium EP-2
24D856	EC-120, 1 Mo, Construction
24D857	EC-120, 1 Mo, Bearing
24D858	EC-120, 1 Mo, Milling
24D859	EC-120, 1 Mo, Food
24D860	EC-120, 1 Mo, Synthetic
24D861	EC-120, 1 Mo, Ultra
24D862	EC-120, 1 Mo, Lithium EP-1
24D863	EC-120, 3 Mo, Lithium EP-2
24D864	EC-120, 3 Mo, Construction
24D865	EC-120, 3 Mo, Bearing
24D866	EC-120, 3 Mo, Milling
24D867	EC-120, 3 Mo, Food
24D868	EC-120, 3 Mo, Synthetic
24D869	EC-120, 3 Mo, Ultra
24D870	EC-120, 3 Mo, Lithium EP-1
24D871	EC-120, 6 Mo, Lithium EP-2
24D872	EC-120, 6 Mo, Construction
24D873	EC-120, 6 Mo, Bearing
24D874	EC-120, 6 Mo, Milling
24D875	EC-120, 6 Mo, Food
24D876	EC-120, 6 Mo, Synthetic
24D877	EC-120, 6 Mo, Ultra
24D878	EC-120, 6 Mo, Lithium EP-1
24D879	EC-120, 12 Mo, Lithium EP-2
24D880	EC-120, 12 Mo, Construction
24D881	EC-120, 12 Mo, Bearing
24D882	EC-120, 12 Mo, Milling
24D883	EC-120, 12 Mo, Food
24D884	EC-120, 12 Mo, Synthetic
24D885	EC-120, 12 Mo, Ultra
24D886	EC-120, 12 Mo, Lithium EP-1
EP-120 Lubricators	
24J949	EP-120, 1 Mo, Lithium EP-2
24J950	EP-120, 1 Mo, Construction
24J951	EP-120, 1 Mo, Bearing
24J952	EP-120, 1 Mo, Milling
24J953	EP-120, 1 Mo, Food
24J954	EP-120, 1 Mo, Synthetic
24J955	EP-120, 1 Mo, Ultra
24J956	EP-120, 1 Mo, Lithium EP-1
24J957	EP-120, 3 Mo, Lithium EP-2
24J958	EP-120, 3 Mo, Construction
24J959	EP-120, 3 Mo, Bearing
24J960	EP-120, 3 Mo, Milling

24J961	EP-120, 3 Mo, Food
24J962	EP-120, 3 Mo, Synthetic
24J963	EP-120, 3 Mo, Ultra
24J964	EP-120, 3 Mo, Lithium EP-1
24J965	EP-120, 6 Mo, Lithium EP-2
24J966	EP-120, 6 Mo, Construction
24J967	EP-120, 6 Mo, Bearing
24J968	EP-120, 6 Mo, Milling
24J969	EP-120, 6 Mo, Food
24J970	EP-120, 6 Mo, Synthetic
24J971	EP-120, 6 Mo, Ultra
24J972	EP-120, 6 Mo, Lithium EP-1
24J973	EP-120, 12 Mo, Lithium EP-2
24J974	EP-120, 12 Mo, Construction
24J975	EP-120, 12 Mo, Bearing
24J976	EP-120, 12 Mo, Milling
24J977	EP-120, 12 Mo, Food
24J978	EP-120, 12 Mo, Synthetic
24J979	EP-120, 12 Mo, Ultra
24J980	EP-120, 12 Mo, Lithium EP-1
TC-130 Lubricators	
24J981	TC-130, 1 to 12 Mo, Multi EP-2
24J982	TC-130, 1 to 12 Mo, Construction
24J983	TC-130, 1 to 12 Mo, Bearing
24J984	TC-130, 1 to 12 Mo, Milling
24J985	TC-130, 1 to 12 Mo, Food
24J986	TC-130, 1 to 12 Mo, Synthetic
24J987	TC-130, 1 to 12 Mo, Ultra
24J988	TC-130, 1 to 12 Mo, Multi EP-1

Single Point Lubricators

Single Series™

Easy to Use with Minimal Up-front Investment

Graco's Electrochemical (gas) and Electromechanical (motor-driven) Single Series lubricators automatically delivers small, predetermined amounts of lubricant at frequent intervals for an uninterrupted supply of fresh lubricant directly to your bearing or lubrication point. Prevents over and under lubrication problems associated with manual lubrication (grease gun) methods.

Features and Benefits

- Extend equipment life
- Reduce operating costs
- Increase productivity
- Less waste

Typical Applications

EM-Drive™

Battery-powered, motor-drive delivers precise lubrication, regardless of temperature and vibration. Easy-to-read LED feedback indicators ensure trouble-free operation. Suitable for Class I, Div 2 groups A,B,C,D, Class II, Div 2 groups F,G, and Class III hazardous locations. UL Listed.

EM-XP™

Delivers precise lubrication, regardless of temperature and vibration. External power turns on and off with the cycle of the machine it's lubricating—ideally suited for inconsistently used equipment.

EM-XC™

Delivers precise lubrication, regardless of temperature and vibration. Precisely match lubrication output with your machine's operating conditions—works with your PLC to lubricate only when you need it.

Typical Fluids Handled

- Multi-use lithium EP-2™ grease
- Construction and off-highway grease
- Ball bearing and pillow-block grease
- Mill grease
- Synthetic industrial grease
- Food grade H1™ grease

Technical Specifications

EM-Drive™

Housing Design Plastic w/transparent reservoir
Drive Type Electromechanical (motor-driven)
Discharge Time 1, 3, 6, or 12 months
Lubricant Volume 60, 120, or 250 cc
Operating Temp -10 to 50 ° C / 14 to 122 ° F
Max Pressure 5 bar / 75 psi

EM-XP™

Housing Design Plastic w/transparent reservoir
Drive Type Electromechanical (motor-driven)
Discharge Time 1, 3, 6 or 12 months
Lubricant Volume 60, 120, or 250 cc
Operating Temp -10 to 50 ° C / 14 to 122 ° F
Max Pressure 5 bar / 75 psi

EM-XC™

Housing Design Plastic w/transparent reservoir
Drive Type Electromechanical (motor-driven)
Discharge amount 0.26 to 2.11 cc per activation
Lubricant Volume 60, 120, or 250 cc
Operating Temp -10 to 50 ° C / 14 to 122 ° F
Max Pressure 5 bar / 75 psi



Single Point Lubricators

Single Series™

Ordering Information

EM-Drive Lubricators	
24E028	EM-DRIVE, 60 cc, Lithium EP-2
24E029	EM-DRIVE, 60 cc, Construction
24E030	EM-DRIVE, 60 cc, Bearing
24E031	EM-DRIVE, 60 cc, Milling
24E032	EM-DRIVE, 60 cc, Food
24E033	EM-DRIVE, 60 cc, Synthetic
24E034	EM-DRIVE, 60 cc, Ultra
24E035	EM-DRIVE, 60 cc, Lithium EP-1
24E036	EM-DRIVE, 120 cc, Lithium EP-2
24E037	EM-DRIVE, 120 cc, Construction
24E038	EM-DRIVE, 120 cc, Bearing
24E039	EM-DRIVE, 120 cc, Milling
24E040	EM-DRIVE, 120 cc, Food
24E041	EM-DRIVE, 120 cc, Synthetic
24E042	EM-DRIVE, 120 cc, Ultra
24E043	EM-DRIVE, 120 cc, Lithium EP-1
EM-XP Lubricators	
24E054	EM-XP 60 cc, Lithium EP-2
24E055	EM-XP 60 cc, Construction
24E056	EM-XP 60 cc, Bearing
24E057	EM-XP 60 cc, Milling
24E058	EM-XP 60 cc, Food
24E059	EM-XP 60 cc, Synthetic
24E060	EM-XP 60 cc, Ultra
24E061	EM-XP 60 cc, Lithium EP-1
24E062	EM-XP 120 cc, Lithium EP-2
24E063	EM-XP 120 cc, Construction
24E064	EM-XP 120 cc, Bearing
24E065	EM-XP 120 cc, Milling
24E066	EM-XP 120 cc, Food
24E067	EM-XP 120 cc, Synthetic
24E068	EM-XP 120 cc, Ultra
24E069	EM-XP 120 cc, Lithium EP-1

24E070	EM-XP 250 cc, Lithium EP-2
24E071	EM-XP 250 cc, Construction
24E072	EM-XP 250 cc, Bearing
24E073	EM-XP 250 cc, Milling
24E074	EM-XP 250 cc, Food
24E075	EM-XP, 250 cc, Synthetic
24E076	EM-XP, 250 cc, Ultra
24E077	EM-XP 250 cc, Lithium EP-1
EM-XC Lubricators	
24E080	EM-XC 60 cc, Lithium EP-2
24E081	EM-XC 60 cc, Construction
24E082	EM-XC 60 cc, Bearing
24E083	EM-XC 60 cc, Milling
24E084	EM-XC 60 cc, Food
24E085	EM-XC 60 cc, Synthetic
24E086	EM-XC 60 cc, Ultra
24E087	EM-XC 60 cc, Lithium EP-1
24E088	EM-XC 120 cc, Lithium EP-2
24E089	EM-XC 120 cc, Construction
24E090	EM-XC 120 cc, Bearing
24E091	EM-XC 120 cc, Milling
24E092	EM-XC 120 cc, Food
24E093	EM-XC 120 cc, Synthetic
24E094	EM-XC 120 cc, Ultra
24E095	EM-XC 120 cc, Lithium EP-1
24E096	EM-XC 250 cc, Lithium EP-2
24E097	EM-XC 250 cc, Construction
24E098	EM-XC 250 cc, Bearing
24E099	EM-XC 250 cc, Milling
24E100	EM-XC 250 cc, Food
24E101	EM-XC 250 cc, Synthetic
24E102	EM-XC 250 cc, Ultra
	EM-XC 250 cc, Lithium EP-1

Single Point Lubricators

Single Series™

Mounting Hardware Ordering Information

Model	EM series	EC-120	EP-120	
124086	X	X	X	Clip, Support, EM
124087	X	X	X	Bracket, Wall, Lubricator
124088		X	X	Fitting, Insert, 1/4 m x 1/4 f
124094	X	X	X	Bracket, Mounting, Small
124095	X	X	X	Bracket, Mounting, Medium
124096	X			Bracket, Mounting, Large
124097	X	X	X	Bracket, Mounting, Flat
124098	X	X	X	Bracket, Mounting, L
124099	X	X	X	Bracket, Mounting, Bulkhead
124100	X	X	X	Clamp, Beam, 1"
124101	X	X	X	Bracket, Dual Unit
124105	X			Adapter, 1/4 fnpt x 1/4 mnpt
124106	X			Adapter, 1/4fnpt x 1/8 mnpt
Brushes				
124089	X	X	X	Brush, Pighair, 1/4 fnpt x 3/4
124090	X	X	X	Brush, Oil, 1 x 1.5
124091	X	X	X	Brush, Oil, 1 x 2.4
124092	X	X	X	Brush, Oil, 1 x 4
124093	X	X	X	Brush, Link Chain, Lubricator
124114	X	X	X	Brush, Nylon, 1/8 mnpt x 5/8
124115	X	X	X	Brush, Nylon, 1/8 mnpt x 2
Electric Motor (Device Being Lubricated) Drain Plug Replacements				
124107	X	X	X	Valve, Relief, 1/8 m 5 lb
124108	X	X	X	Valve, Relief, 1/8 m 1 lb
Vibration Isolation				
124116	X			Kit, Accessory, Heavy Spring
Water Protection				
124110	X			Cap, Wet, EM-Drive
124111	X			Cap, Protection, 60-120 cc
124112	X			Cap, Protection, 250 cc
Replacement Parts				
124279	X			Harness, Cable, Power, EM-XP/XC
123951	X			Motor, EM-XC
123950	X			Motor, EM-XP
123949	X			Motor, EM-Drive
Accessories				
124113	X	X	X	Applicator, Felt Chain, 2 x .5
124102	X	X	X	Oil Throttle Check Valve (1/4"m x 1/4" f)
124109	X	X	X	Kit, Accessory, Purge
124119	X			Paddle, Lube, Open Gear
124304		X	X	Explosive Atmospheres Grounding Clamp



124086



124087



124088



124095



124098



124099



124100



124101



124106



124089



124111



124090



124093



124114



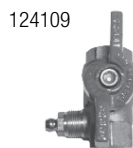
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124113



124109



124119

Single Line Resistive Thrif-T Luber®

Simple Solutions to Tight Spaces and Budgets

- Fast payback—easily pays for itself!
- Easy system design and modification
- Full range of metering amounts for lubricating almost any machine
- Available in three types and ten flow ranges to meet lube requirements
- Quality sintered bronze filters won't shred or clog like felt filters



564020

Typical Applications

- Simple time and flow metering system; ideal for small to medium-sized lathes or grinders.

Typical Fluids Handled

- Oil

Technical Specifications

Cracking Pressure.....	2 psi (0.1 bar)
Maximum Pressure.....	150 psi (10 bar)
Filter Rating.....	40 micron
Orifice Type A.....	Direct to bearing
Orifice Type B.....	Manifold
Orifice Type C.....	Direct to bearing or Tee



564034

Quality sintered bronze filters won't shred or clog like felt filters

Ordering Information

Thrif-T Luber - Type A Orifice	
564019	TLOA-0
564020	TLOA-1
564021	TLOA-2
564022	TLOA-3
564023	TLOA-4
564024	TLOA-5
564025	TLOA-2/0
564026	TLOA-3/0
564027	TLOA-4/0
564028	TLOA-5/0
Thrif-T Luber - Type B Orifice	
564038	TLOB-0
564039	TLOB-1
564040	TLOB-2
564041	TLOB-3
564042	TLOB-4
564043	TLOB-5
564044	TLOB-2/0
564045	TLOB-3/0
564046	TLOB-4/0
564047	TLOB-5/0
Thrif-T Luber - Type C Orifice	
564029	TLOC-0
564030	TLOC-1
564031	TLOC-2

Thrif-T Luber - Type C Orifice	
564032	TLOC-3
564033	TLOC-4
564034	TLOC-5
564035	TLOC-2/0
564036	TLOC-3/0
Thrif-T Luber Hardware	
561217	TLMB-04 - 4-Port Manifold Bar
561218	TLMB-06 - 6-Port Manifold Bar
561219	TLMB-08 - 8-Port Manifold Bar
561220	TLMB-10 - 10-Port Manifold Bar
561215	TLTF-00 - Tee
561216	TLAB-00 - Anchor Block
558220	TLBF-00 - Bearing Fitting
558189	TLCN-00 - Compression Nut
558156	TLTC-01 - Tube Clip, 1-Tube
558157	TLTC-02 - Tube Clip, 2-Tubes
558158	TLTC-03 - Tube Clip, 3-Tubes
558159	TLTC-04 - Tube Clip, 4-Tubes
Thrif-T Luber Accessories	
564053	TLLF-00 - In-Line Filter
558296	TLPG-00 - Pressure Gauge
561143	TLTP-25 - 5/32 in. Tubing, 25 ft
563162	Relief Valve - 150 psi
556677	Reservoir Plug

Single Line Parallel Piston Distributors

Features and Benefits

- Piston distributor style single line meters known world-wide for fast, simple installation
- Seven different groups with two different mounting types, thread to manifold or cast manifold to serve a broad range of lube point requirements
- Metering nipples can be changed to fine-tune your dispense volumes

Typical Applications

- Compact metering system with a wide range of outputs; ideal for medium-sized cutting machine tools

Typical Fluids Handled

- Oil - 32 to 2,000 cst
- Fluid grease up to NLGI #00

Technical Specifications

	3400 Series	3410 Series	3500 Series	3510 Series	3900 Series	3910 Series
Oil/Fluid Grease	Oil	Fluid grease	Oil	Fluid grease	Oil	Fluid grease
Reset Pressure	150 psi (10 bar)	150 psi (10 bar)	150 psi (10 bar)	150 psi (10 bar)	150 psi (10 bar)	150 psi (10 bar)
Max. Operating Pressure	650 psi (45 bar)	650 psi (45 bar)	650 psi (45 bar)	650 psi (45 bar)	650 psi (45 bar)	650 psi (45 bar)
Output Range	.0006 – .009 in ³ (0.01 – 0.16 cm ³)	.0006 – .006 in ³ (0.01 – 0.16 cm ³)	.006 – .036 in ³ (0.1 – 0.6 cm ³)	.006 – .018 in ³ (0.1 – 0.6 cm ³)	0.012 – 0.09 in ³ (0.2 – 1.5 cm ³)	.006 – .018 in ³ (0.1 – 0.6 cm ³)
Metering Nipple Options	5	4	4	3	5	3
Thread to Manifold	N/A	Available	Available	Available	Available	Available
Cast Manifold Outlets	2, 3, or 5	2, 3, or 5	2, 3, or 5	2, 3, or 5	2 or 3	2 or 3

Ordering Information

3400 Series Single Point Piston Distributors - Oil	
558306	0.01 cc Output, M8 x 1
558307	0.03 cc Output, M8 x 1
558308	0.06 cc Output, M8 x 1
558309	0.10 cc Output, M8 x 1
558310	0.16 cc Output, M8 x 1
122804	0.01 cc Output, M10 x 1
122805	0.03 cc Output, M10 x 1
122806	0.06 cc Output, M10 x 1
122807	0.10 cc Output, M10 x 1
122808	0.16 cc Output, M10 x 1
3500 Series Single Point Piston Distributors - Oil	
121658	0.10 cc Output, M10 x 1
121659	0.20 cc Output, M10 x 1
121660	0.40 cc Output, M10 x 1
121661	0.60 cc Output, M10 x 1
122813	0.10 cc Output, M12 x 1
122814	0.20 cc Output, M12 x 1
122815	0.40 cc Output, M12 x 1
122816	0.60 cc Output, M12 x 1

3900 Series Single Point Piston Distributors - Oil	
122820	0.20 cc Output, M12 x 1
122821	0.40 cc Output, M12 x 1
122822	0.60 cc Output, M12 x 1
122823	1.00 cc Output, M12 x 1
122824	1.50 cc Output, M12 x 1
121665	0.20 cc Output, M14 x 1.5
121666	0.40 cc Output, M14 x 1.5
121667	0.60 cc Output, M14 x 1.5
121668	1.00 cc Output, M14 x 1.5
121669	1.50 cc Output, M14 x 1.5
3410 Series Single Point Piston Distributors - Fluid Grease	
121654	0.01 cc Output, M8 x 1
121655	0.03 cc Output, M8 x 1
121656	0.06 cc Output, M8 x 1
121657	0.10 cc Output, M8 x 1
122809	0.01 cc Output, M10 x 1
122810	0.03 cc Output, M10 x 1
122811	0.06 cc Output, M10 x 1
122812	0.10 cc Output, M10 x 1



Single Line Parallel

Single Line Parallel Piston Distributors

Ordering Information

3510 Series Single Point Piston Distributors - Fluid Grease	
121662	0.10 cc Output, M10 x 1
121663	0.20 cc Output, M10 x 1
121664	0.30 cc Output, M10 x 1
122817	0.10 cc Output, M12 x 1
122818	0.20 cc Output, M12 x 1
122819	0.30 cc Output, M12 x 1
3910 Series Single Point Piston Distributors - Fluid Grease	
122825	0.10 cc Output, M12 x 1
122826	0.20 cc Output, M12 x 1
122827	0.30 cc Output, M12 x 1
121670	0.10 cc Output, M14 x 1.5
121671	0.20 cc Output, M14 x 1.5
121672	0.30 cc Output, M14 x 1.5
3400/3410 Series Bar Manifolds	
15X624	Tee M8/M8-1 Port
15X667	M10/M8-2 Port
15X668	M10/M8-3 Port
15X669	M10/M8-4 Port
15X670	M10/M8-5 Port
15X671	M10/M8-6 Port
15X672	M10/M8-7 Port
15X673	M10/M8-8 Port
15X674	M10/M8-10 Port
15X683	M14/M8-2 Port
15X684	M14/M8-3 Port
15X685	M14/M8-4 Port
15X686	M14/M8-5 Port
15X687	M14/M8-6 Port
15X688	M14/M8-7 Port
15X689	M14/M8-8 Port
15X690	M14/M8-10 Port
3500/3510 Series Bar Manifolds	
15X625	Tee M10/M10-1 Port
15X675	M10/M10-2 Port
15X676	M10/M10-3 Port
15X677	M10/M10-4 Port
15X678	M10/M10-5 Port
15X679	M10/M10-6 Port
15X680	M10/M10-7 Port
15X681	M10/M10-8 Port
15X682	M10/M10-10 Port
15X691	M14/M10-2 Port
15X692	M14/M10-3 Port

15X693	M14/M10-4 Port
15X694	M14/M10-5 Port
15X695	M14/M10-6 Port
15X696	M14/M10-7 Port
15X697	M14/M10-8 Port
15X698	M14/M10-10 Port
3900/3910 Series Bar Manifolds	
15X626	Tee M14/M14-1 Port
15X699	M14/M14-2 Port
15X700	M14/M14-3 Port
15X701	M14/M14-4 Port
15X702	M14/M14-5 Port
15X703	M14/M14-6 Port
15X704	M14/M14-7 Port
15X705	M14/M14-8 Port
15X706	M14/M14-10 Port
3400/3410 Cast Manifolds	
122841	2 Outlets, Oil PD, Complete w/Red Plastic Cover
122861	3 Outlets, Oil PD, Complete w/Red Plastic Cover
122862	5 Outlets, Oil PD, Complete w/Red Plastic Cover
122863	2 Outlets, Fluid Grease PD, Complete w/White Plastic Cover
122864	3 Outlets, Fluid Grease PD, Complete w/White Plastic Cover
122865	5 Outlets, Fluid Grease PD, Complete w/White Plastic Cover
3500/3510 Cast Manifolds	
122866	2 Outlets, Oil PD, Complete w/Red Plastic Cover
122868	3 Outlets, Oil PD, Complete w/Red Plastic Cover
122869	5 Outlets, Oil PD, Complete w/Red Plastic Cover
122885	2 Outlets, Fluid Grease PD, Complete w/White Plastic Cover
122886	3 Outlets, Fluid Grease PD, Complete w/White Plastic Cover
122887	5 Outlets, Fluid Grease PD, Complete w/White Plastic Cover
3900/3910 Cast Manifolds	
122888	2 Outlets, Oil PD, Complete w/Red Plastic Cover
122889	3 Outlets, Oil PD, Complete w/Red Plastic Cover
122890	2 Outlets, Fluid Grease PD, Complete w/White Plastic Cover
122891	3 Outlets, Fluid Grease PD, Complete w/White Plastic Cover
3400 Dispensing Meters	
122989	0.01 cc
558311	0.03 cc
558312	0.06 cc
558313	0.10 cc
558314	0.16 cc
3500 Dispensing Meters	
558315	0.10 cc
558316	0.20 cc

Single Line Parallel

Piston Distributors

Ordering Information

558317	0.40 cc
558318	0.60 cc
3900 Dispensing Meters	
558319	0.20 cc
558320	0.40 cc
558321	0.60 cc
558322	1.00 cc
558323	1.50 cc
3410 Dispensing Meters	
122990	0.01 cc
558324	0.03 cc
558325	0.06 cc
558326	0.10 cc
3510 Dispensing Meters	
558327	0.10 cc
558328	0.20 cc
558329	0.30 cc
3910 Dispensing Meters	
558330	0.10 cc
558331	0.20 cc
558332	0.30 cc
Direct-to-Bearing Piston Distributors	
122789	Direct Type F (M14/D4/0.03 cc)
122790	Direct Type F (M14/D4/0.06 cc)
122791	Direct Type F (M14/D4/0.10 cc)
122792	Direct Type F (M14/D6/0.03 cc)
122793	Direct Type F (M14/D6/0.06 cc)
122794	Direct Type F (M14/D6/0.10 cc)
122795	Direct Type GB (D10.35/0.03 cc)
122796	Direct Type GB (D10.35/0.06 cc)
122797	Direct Type GB (D10.35/0.10 cc)
122798	Direct Type GC (D13.5/0.10 cc)
122799	Direct Type GC (D13.5/0.20 cc)
122800	Direct Type GC (D13.5/0.30 cc)
122801	Direct Type GC (D13.5/0.40 cc)

Single Line Parallel LubriSystem® Injectors

Features and Benefits

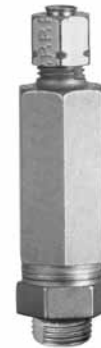
- Two piece compression fitting included for fast, easy installation
- Bundled system tubing available for easy installation
- Threaded outlet allows for manifold or direct-to-bearing mounting
- Adjustable output volume

Typical Applications

- Designed for frequent, medium-pressure metering; ideal for medium-sized forming or injection-molding machines. Includes system pressure monitoring

Typical Fluids Handled

- Oil to NLGI #0



Technical Specifications

Operating Pressure (max).....	2,500 psi (173 bar)
Output Range	0.002 – 0.26 in ³ (0.033 – 0.426 cm ³)
Min. Pressure to Fire Injectors .....	.450 psi (31 bar)
Reset Pressure .....	.160 psi (11 bar)
Min. On-Time .....	.30 sec
Min. Off-Time	3 min.

Ordering Information

Injectors				
Size #	Output cu.in. (cm ³)	Adjustment Spacers	Aluminum Alloy Injectors (Oil)	Aluminum Alloy Injectors (Grease)
			Part No.	Part No.
0	.002 (0.033)	–	563628	563627
1	.005 (0.082)	1	563630	563629
2	.009 (0.148)	2	563632	563631
3	.012 (0.197)	3	563634	563633
4	.020 (0.328)	4	563636	563635
8	.026 (0.426)	4	563638	563637
Spare O-ring			556587	556586
LubriSystem Manifolds and Accessories				
563769	Injector cycle Indicator			
15M038	Injector port plugs for aluminum manifold			
555808	End of line manifold plugs			
557901	Manifold Injector Outlet Plug			
557898	Aluminum output adjustment spacer			

Single Line Parallel

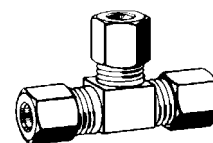
LubriSystem® Accessories

Ordering Information

Heavy Wall Lube Lines (tubing)	
561132	Main Line (pump to manifold): 5/16 in OD x .059 wall (7.9 x 1.5), black, 60 ft (18.3 m) Burst Pressure Min. - 1,500 psi (103 bar) at 75° F (24° C)
561131	Point Distribution Line (injector to lube point): 3/16 in OD x .044 wall (4.8 x 1.1), black, 60 ft (18.3 m) Burst Pressure Min. - 2,000 psi (138 bar) at 75° F (24° C)
Self-Aligning Ferrules And Nuts	
556660	Brass Nut, w/captive ferrule, 3/16 tube
556666	Brass Nut, w/captive ferrule, 5/16 tube
556651	Stainless Steel Nut, 1/8 tube
556654	Stainless Steel Ferrule, 1/8 tube
557963	Brass Inserts for 5/16 tubing (pack of 20)
Tees And Unions	
556636	Male Branch Tee, 5/16 tube, 1/8 NPTF Brass
556637	Union Tee, 5/16 tube, Brass
556647	Union, 3/16 tube, Brass
556648	Union, 5/16 tube, Brass
Brass Connectors	
556642	Female Connector, 3/16 tube x 1/8 NPTF
556643	Female Connector, 5/16 tube x 1/8 NPTF
556644	Male Connector, 3/16 tube x 1/8 NPTF
556645	Male Connector, 5/16 tube x 1/8 NPTF
556646	Male Connector, 5/16 tube x 1/4 NPTF
Tubing Straps	
563770	100 pieces, 11.5 in (292 mm)
Steel Pipe and Adapter Elbows	
15K740	1/4-28 (male) x 1/8 NPTF (female), 90° Adapter Elbow
15K783	90° Street Elbow, 1/8 NPTF
557395	45° Street Elbow, 1/8 NPTF
Brass Male Tube Elbows	
556638	3/16 tube x 1/8 NPTF
556639	5/16 tube x 1/8 NPTF
556640	5/16 tube x 1/4 NPTF
Harness Clamps and Brackets	
557943	5/16 (7.94) diameter
557946	3/8 (9.53) diameter
557944	7/16 (11.11) diameter
557947	1/2 (12.7) diameter
557945	5/8 (15.22) diameter
Miscellaneous	
561113	Air Line Restrictor, 1/2 x 1/8, M to F Pipe
561114	Air Line Restrictor, 3/8 x 1/8, M to F Pipe
563155	Fill Studs, Pneumatic Oil Pumps
557374	Pneumatic & Hand Grease Pumps
557880	Electric Oil & Fluid Grease Pumps
Fill Couplers, mate w/above fill studs	
558906	Pneumatic Oil Pump
558906	Pneumatic & Hand Grease Pumps
557877	Electric Oil & Fluid Grease Pumps



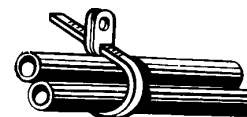
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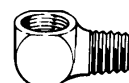
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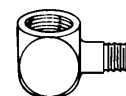
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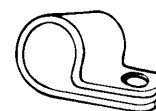
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561132

Single Line Parallel

GL-32™ and GL-43™ Injector

Features and Benefits

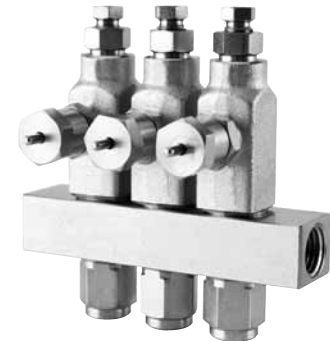
- Accurate, reliable and adjustable lubrication for each lube point. Systems are easy to design, fast to set up and allow you to add or subtract lube points without having to redesign your lubrication system
- Versatile high performance—works with oil and grease grades to NLGI #2
- All injectors come standard with fluoroelastomer seals for use with synthetic lubricants and high temperature applications—up to 350° F (176° C)

Typical Applications

- In plant machinery, mobile equipment and anywhere adjustable lubrication output is desired

Typical Fluids Handled

- Oil (10 weight minimum) and grease up to NLGI #2



24A923

Single Line Parallel

Technical Specifications

Grease

Maximum Operating Pressure	3,500 psi (241 bar)
Minimum Operating Pressure	1,200 psi (83 bar)
Typical Operating Pressure	1,500 psi (103 bar)
Reset Pressure	.200 psi (13.7 bar)
Output Volume Per Cycle (adjustable)	.0001–0.008 in ³ (0.02–0.13 cm ³)
Maximum Temperature Rating	350° F (176° C)
Cycle Indication	Visual Pin
Instruction Manual	313798

Oil

Maximum Operating Pressure	1,000 psi (69 bar)
Minimum Operating Pressure	750 psi (52 bar)
Typical Operating Pressure	850 psi (59 bar)
Reset Pressure	.150 psi (10 bar)
Output Volume Per Cycle (adjustable)	.0001–0.008 in ³ (0.02–0.13 cm ³)
Maximum Temperature Rating	350° F (176° C)
Cycle Indication	Visual Pin
Instruction Manual	313798

Ordering Information (See graco.com for part numbers with metric threads)

GL-32 Carbon Steel Grease	
24A920	Replacement Injector
24A921	1-Injector Manifold
24A922	2-Injector Manifold
24A923	3-Injector Manifold
24A924	4-Injector Manifold
24A919	Stand-Alone Injector
24B360	Repair Kit
24B677	Injector Outlet Replacement Kit (nut, ferrule and adapter)
GL-32 Stainless Steel Grease	
24E390	Replacement Injector
24E391	1-Injector Manifold
24E392	2-Injector Manifold
24E393	3-Injector Manifold

24E394	4-Injector Manifold
24E389	Stand-Alone Injector
24F944	Repair Kit
24F943	Injector Outlet Replacement Kit (nut, ferrule and adapter)
GL-43 Carbon Steel Oil	
24E245	Replacement Injector
24E241	1-Injector Manifold
24E242	2-Injector Manifold
24E243	3-Injector Manifold
24E244	4-Injector Manifold
24E240	Stand-Alone Injector
24F201	Repair Kit
24B667	Injector Outlet Replacement Kit (nut, ferrule and adapter)

Single Line Parallel

GL-1™ Injectors

Features and Benefits

- Easy to change output volume in the field—no need to remove plumbing
- Innovative seal retention for long life
- Adjustable output to custom fit the system for each lube point
- Output from one or more injectors can be cross ported to another injector to increase output to a large bearing
- Visual indicator pin for quick and easy system diagnostics
- Zerk fitting for system diagnostic, trouble shooting and supply priming



114905

Typical Applications

Rugged, medium-pressure metering system for pumping grease; ideal for heavier-duty applications such as mobile mining vehicles, milling, cement batch plants or material processing equipment.

Typical Fluids Handled

- Grease up to NLGI #2

Technical Specifications

Reset Pressure	600 psi (41 bar)
Maximum Pressure	3,500 psi (241 bar)
Suggested Operating Pressure	2,500 psi (172 bar)
Minimum Operating Pressure	1,850 psi (128 bar)
Output Range	0.008 – 0.08 in3 (0.13 – 1.31 cc)
Number of Adjustment Turns	8
Cycle Indicator	Visual

Ordering Information

GL Injectors and Manifold	
114901	GL-1 Injector, One Point
114902	GL-1 Injector, Two Point
114903	GL-1 Injector, Three Point
114904	GL-1 Injector, Four Point
114905	GL-1 Injector, Five Point
114909	Replacement GL-1 Injector
GL Injector Manifolds (no injector included)	
114911	GL-1 Injector Manifold, One Point
114912	GL-1 Injector Manifold, Two Point
114913	GL-1 Injector Manifold, Three Point
114914	GL-1 Injector Manifold, Four Point
114915	GL-1 Injector Manifold, Five Point
GL Injector Accessories	
115119	GL-1 Injector Cover Kit, Plastisol
115120	GL-1 Injector Crossport Kit

Single Line Parallel

GL-11™ Injectors

Features and Benefits

- Adjustable output volumes to custom fit the system for each lube point
- Convenient top-mounted cycle pin indicator provides quick, at-a-glance confirmation that the injector is functioning properly
- Hex head adjustment for easy turning from most any orientation

Typical Applications

Rugged, medium-pressure metering system for pumping grease; ideal for heavier-duty applications such as mobile mining vehicles, milling, cement batch plants or material processing equipment.

Typical Fluids Handled

- Grease up to NLGI #2

Technical Specifications

Reset Pressure	600 psi (41 bar)
Maximum Pressure	3,500 psi (241 bar)
Suggested Operating Pressure	2,500 psi (172 bar)
Minimum Operating Pressure.....	1,000 psi (69 bar)
Output Range	0.05 – 0.5 in3 (0.82 – 8.2 cm3)
Number of Adjustment Turns	14
Cycle Indicator.....	Visual

Ordering Information

GL Injectors and Accessories	
24A918	GL-11 Injector
24B359	GL-11 Injector Repair Kit
114916	GL-11 Zerk and Cap Kit



24A918

Single Line Parallel

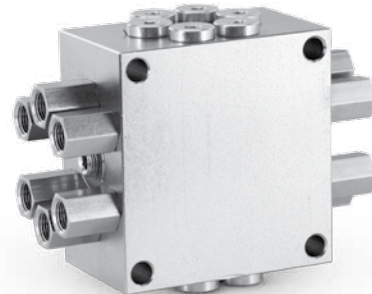
Series Progressive

Trabon® USP Mono Block

Series Progressive

Features and Benefits

- Series progressive metering in a one piece block—no assembly required!
- Space efficient design with 6, 8, 10, 12, 14, or 16 outlets. Outlets can be combined to meet larger bearing needs
- Requires no special fittings, all fittings come with the valve block
- Built-in outlet check valves ensure accurate lube delivery every time
- Works with standard MSP magnetic and electronic proximity switch cycle indicators to provide positive assurance of a successful lube event
- Fluoroelastomer seals come standard, great for high temperature applications or synthetic lubricants



24E409

Typical Applications

Mobile, industrial, food & beverage, wind, and many more

Typical Fluids Handled

Oil or grease grades up to NLGI #2

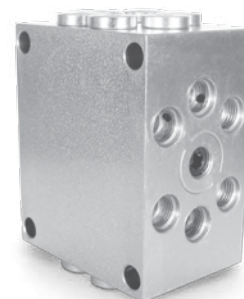
Technical Specifications

Maximum Pressure, psi (bar).....	5,076 (350)
Output Single Outlet, in ³ (cm ³).....	0.012 in ³ (.20 cm ³)
Cycle Indication.....	Electronic proximity switch, magnetic visual indicator
Max Operating Temperature.....	350° F (176° C)

	Output per Outlet, in ³ (cm ³)	Cycle Indication
USP-6	0.012 (0.20)	Electronic proximity switch, magnetic visual indicator
USP-8	0.012 (0.20)	
USP-10	0.012 (0.20)	
USP-12	0.012 (0.20)	
USP-14	0.012 (0.20)	
USP-16	0.012 (0.20)	

Ordering Information

USP Valves w/Adapters	
24E406	USP 6 Outlet Mono Block
24E407	USP 8 Outlet Mono Block
24E408	USP 10 Outlet Mono Block
24E409	USP 12 Outlet Mono Block
24E410	USP 14 Outlet Mono Block
24E411	USP 16 Outlet Mono Block
USP Bare Blocks w/o Adapters	
24J331	USP 6 Outlet Mono Block
24J332	USP 8 Outlet Mono Block
24J333	USP 10 Outlet Mono Block
24J334	USP 12 Outlet Mono Block
24J335	USP 14 Outlet Mono Block
24J336	USP 16 Outlet Mono Block
USP Accessories	
24E857	Outlet Adapter and Seal
125011	Seal



24J334



24E857

Series Progressive

Trabon® MD Divider Valve

Features and Benefits

The Trabon MD Series is the most compact series progressive solution making it a perfect fit for tight spaced applications

- Available with 2, 3, 4, or 6 outlets
- Easy to install on new or existing equipment
- Use our cycle indicator pin models to provide positive assurance of a successful lube event
- Fluoroelastomer seals for high temperature applications or synthetic lubricants

Typical Applications

- Industrial or mobile applications where space is at a premium

Typical Fluids Handled

Oil or grease up to NLGI #2

Technical Specifications

Material.....	Steel
Pressure (max).....	3,000 psi (207 bar)
Net Weight (approx).....	1 lb 8 oz (0.68 kg)
Volume (Lubricant to cycle divider valve one complete cycle)	
MD-2.....	0.040 in ³ (0.66 cm ³) each
MD-3.....	0.040 in ³ (0.66 cm ³) outlet 1 and 0.020 in ³ (0.33 cm ³) outlet 2 and 3
MD-4.....	0.020 in ³ (0.33 cm ³) each
MD-6.....	0.010 in ³ (0.16 cm ³) each
Max Operating Temperature.....	350° F (176° C)

	Output per Outlet, in ³ (cm ³)	Cycle Indication
MD-2	0.04 (0.66)	Cycle indicator switch
MD-3	Outlet 1 - 0.04 (0.66) Outlet 2 & 3 - 0.02 (0.33)	
MD-4	0.02 (0.33)	
MD-6	0.01 (0.16)	Not available

Ordering Information

MD Divider Valves	
562656	MD-2
562657	MD-3
562658	MD-4
562659	MD-6
562653	MD-2, Cycle Pin
562654	MD-3, Cycle Pin
562655	MD-4, Cycle Pin
563270	MD-2, Cycle Switch, Bracket Assembly
563271	MD-3, Cycle Switch, Bracket Assembly
564356	MD-4, Cycle Switch ,Bracket Assembly
MD Spare Parts	
563555	Cycle Indicator End Plug Assembly
566540	Standard MD O-Ring



562658

Series Progressive

Trabon® MJ Divider Valve

Features and Benefits

The Trabon MJ series features a compact and easily customizable design that can be tailor fit to meet a variety of specific lube requirements. Capable of handling grease grades up to NLGI #1.

- Space efficient—from 6 to 16 points from one block assembly
- Built-in outlet check valves ensure accurate lube delivery, every time
- Alternate outlet on face of valves can be fitted with optional performance indicators, taking the guesswork out of troubleshooting
- Can be easily accessorized with magnetic and electronic proximity switch cycle indicators to provide positive assurance of a successful lube event



Typical Applications

- Machine tools, textile, glass & can machinery, & mobile equipment

Typical Fluids Handled

- Oil or Grease up to NLGI #1

Technical Specifications

Material.....	Plated Steel
Maximum Pressure.....	2,000 psi (137.89 bar)
Max Operating Temperature.....	200°F (93°C)
Max Cycle Rate w/Cycle Pin.....	60 cycles/min..

	Output Twin Outlet, in ³ (cm ³)	Output Single Outlet, in ³ (cm ³)	Cycle Indication
MJ5	0.005 (0.08)	0.010 (0.16)	Not available
MJ10	0.010 (0.16)	0.020 (0.33)	Cycle indicator switch
MJ15	0.015 (0.26)	0.030 (0.49)	

Ordering Information

MJ Tie Rods and Nut (Two required per assembly)	
557515	3-Section Tie Rod
557516	4-Section Tie Rod
557517	5-Section Tie Rod
557518	6-Section Tie Rod
557519	7-Section Tie Rod
557520	8-Section Tie Rod
560649	9-Section Tie Rod
556371	Tie Rod Nut
MJ Miscellaneous Accessories	
562915	Singling Kit
562914	Crossport Bar
557359	Crossport Kit - Upper Seal
557503	Crossport Kit - Lower Seal
561101	Mounting Bar
MJ Spare Parts	
557514	Replacement Gasket
563948	Cycle Indicator Repair Kit
563272	MJ Cycle Switch (SPDT) Bracket Assembly

563273	MJ Cycle Switch (SPDT) Bracket Assembly - Moisture Resistant
MJ Working Sections (Must be ordered in multiples of five)	
562500	MJ-5S
562501	MJ-10S
562502	MJ-15S
562503	MJ-5T
562504	MJ-10T
562505	MJ-15T
MJ w/Cycle Pin - Right (Must be ordered in multiples of five)	
562508	MJ-10S
562509	MJ-15S
562510	MJ-10T
562511	MJ-15T
MJ Inlet and End (Must be ordered in multiples of five)	
560643	MJ Inlet
560645	MJ End

Series Progressive

Trabon® MSP Divider Valve

Features and Benefits

The Trabon MSP Series sets the industry standard for quality, reliability, and ease of use features. It was the original modular-style series progressive divider valve—and is still the best!

- Quick change valve sections can be removed from the base assembly without disturbing any lube lines—minimizing labor cost and maximizing your machine uptime
- Accessories such as magnetic and electronic proximity switch cycle indicators provide positive assurance of a successful lube event
- Alternate outlet on face of valves can be fitted with optional performance indicators, taking the guesswork out of troubleshooting
- Built-in outlet check valves ensure accurate lube delivery, every time

Typical Applications

- Mobile, industrial, food & beverage, wind, and many more

Typical Fluids Handled

- Oil or Grease up to NLGI #2

Technical Specifications

Material.....	Plated Steel
Maximum Pressure.....	3,500 psi (241 bar)
Max Operating Temperature.....	350°F (176°C)
Max Cycle Rate with Cycle Pin.....	60 cycles/min..
Max Cycle Rate without Cycle Pin.....	200 cycles/min..

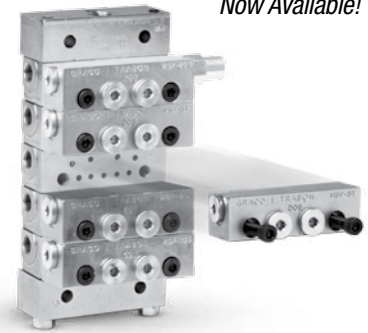
	Output Twin Outlet, in ³ (cm ³)	Output Single Outlet, in ³ (cm ³)	Cycle Indication
MSP5	0.005 (0.08)	0.010 (0.16)	Electronic proximity switch, magnetic visual indicator
MSP10	0.010 (0.16)	0.020 (0.33)	
MSP15	0.015 (0.26)	0.030 (0.49)	
MSP20	0.020 (0.33)	0.040 (0.66)	Electronic proximity switch, magnetic visual indicator, cycle indicator switch
MSP25	0.025 (0.41)	0.050 (0.82)	
MSP30	0.030 (0.49)	0.060 (0.98)	
MSP35	0.035 (0.57)	0.070 (1.15)	
MSP40	0.040 (0.66)	0.080 (1.31)	

Ordering Information

MSP Working Sections (Must be ordered in multiples of five)	
562711	MSP-5S
562712	MSP-10S
562713	MSP-15S
562714	MSP-20S
562715	MSP-25S
562716	MSP-30S
562717	MSP-35S
562718	MSP-40S
562720	MSP-5T
562721	MSP-10T
562722	MSP-15T
562723	MSP-20T
562724	MSP-25T
562725	MSP-30T

562726	MSP-35T
562727	MSP-40T
562660	MSP By-Pass Section
MSP w/Cycle Pin - Right (Must be ordered in multiples of five)	
562729	MSP-20S
562730	MSP-25S
562731	MSP-30S
562732	MSP-35S
562733	MSP-40S
562739	MSP-20T
562740	MSP-25T
562741	MSP-30T
562742	MSP-35T
562743	MSP-40T

*Pre-Assembled and
Tested Base Plates
Now Available!*



Series Progressive

Trabon® MSP Divider Valve

Ordering Information

MSP w/Cycle Pin - Left (Must be ordered in multiples of five)	
562734	MSP-20S
562735	MSP-25S
562736	MSP-30S
562737	MSP-35S
562738	MSP-40S
562744	MSP-20T
562745	MSP-25T
562746	MSP-30T
562747	MDS-35T
562748	MSP-40T
MSP Inlets, Intermediate Base and End Sections (Must be ordered in multiples of five)	
560919	Inlet, 1/4-18 NPSF Ports (NPT)
560936	Inlet, 1/4-19 BSPP (ISO 1179) Ports (BSP)
560943	Inlet, 7/16-20 UNF-2B Ports (SAE)
560976	Inlet, ISO 6149-1-M12 x 1.5 Ports (MET)
563421	Inlet, NPSF, Bleed Ports
563422	Inlet, SAE, Bleed Ports
563425	Intermediate Base, 1/8-27 NPSF Ports (NPT)
563451	Intermediate Base, 7/16-20 UNF-2B Ports (SAE)
563447	Intermediate Base, 1/8-28 BSPP (ISO 1179) Ports (BSP)
563479	Intermediate Base, No Outlets
563424	Standard End
563279	End, Alternate Inlet Port Plug
563280	"Bottom-Feed" End Section w/ Hydraulic Fitting
563480	MSP Modular Filter Block
MSP Base Plate Assemblies	
24G485	MSP - 3 Section, NPSF
24G486	MSP - 4 Section, NPSF
24G487	MSP - 5 Section, NPSF
24G488	MSP - 6 Section, NPSF
24G489	MSP - 7 Section, NPSF
24G490	MSP - 8 Section, NPSF
MSP Shunt Inlets	
563448	NPT, 115 VAC, Hirschmann Connection - Left (NC)
563452	NPT, 115 VAC, BH 3-Pin Connection - Right (NO)
563453	NPT, 115 VAC, BH 3-Pin Connection - Left (NC)
563454	NPT, 24 VDC, BH 3-Pin Connection - Right (NO)
563455	NPT, 24 VDC, BH 3-Pin Connection - Left (NC)
560953	SAE, 115 VAC, BH 3-Pin Connection - Right (NO)
563463	SAE, 115 VAC, BH 3-Pin Connection - Left (NC)
563482	SAE, 24 VDC, BH 3-Pin Connection - Right (NO)
563483	SAE, 24 VDC, BH 3-Pin Connection - Left (NC)
563493	BSPP, 24 VDC, BH 3-Pin Connection - Right (NO)
563494	BSPP, 24 VDC, BH 3-Pin Connection - Left (NC)
557213	Replacement Solenoid - 563452, 563453
557215	Replacement Solenoid - 563454, 563455
557214	Replacement Coil - 563452, 563453

563456	NPT Pneumatic Shunt Inlet
MSP Zero-Leak Shut-Off Inlets	
563457	115 VAC, 12 in. 2-Wire Lead Connection, 1/4-18 NPT Port Thread
563460	115 VAC, BH 3-Pin Connection, 1/4-18 NPT Port Thread
563468	115 VAC, BH 3-Pin Connection, 9/16-18 SAE Port Thread
563464	24 VDC, BH 3-Pin Connection, 1/4-18 NPT Port Thread
563467	24 VDC, BH 3-Pin Connection, 9/16-18 SAE Port Thread
563074	Inlet restrictor
558021	6 ft (3 Pin) Mini-Straight Cable
558799	BSPP (ISO1170) plug
558022	12 ft (3 Pin) Mini-Straight Cable
567251	SAE plug with o-ring
563481	MSP Zero-Leak (w/o Manual Override) Solenoid Valve Section, w/o Coil
557349	NPT plug
557226	Replacement Coil - 563460, 563468
557225	Replacement Coil - 563464, 563467
MSP Repair and Zero-Leak Kits	
563933	Valve Repair Kit - Cartridge w/out Coil, Screws, Seat, Nut Wrench
563461	MSP Zero Leak/Shunt Inlet Mount Kit
MSP Tie Rods and Nut	
557731	3-Section Tie Rod
557732	4-Section Tie Rod
557733	5-Section Tie Rod
557734	6-Section Tie Rod
557735	7-Section Tie Rod
557736	8-Section Tie Rod
557738	9-Section Tie Rod
557739	10-Section Tie Rod
5577340	11-Section Tie Rod
556371	Tie Rod Nut
Accessories	
563469	Crossport Bar, Right
563470	Crossport Bar, Left
563471	Crossport Bar, Right and Left
563472	Stacking Bar
563444	Counter
563465	Weld Bar Kit
563251	No Weep Cycle Indicator
556540	MSP standard o-ring (BUNA-N), black
557722	MSV high pressure o-ring (90 DURO Fluoroelastomer), green
556371	MSP tie rod nut (3 required per assembly)
557776	MSP indicator port plug
563929	MSP Cycle pin indicator repair kit, o-ring
563928	MSP Cycle pin indicator repair kit, gasket

Series Progressive

MSP Modular Zero-Leak Valve

Features and Benefits

- Enables customized, exact control for each individual zone, prevent over lubrication, reduce plumbing and installation costs
- The base plate/valve block design allows the removal and replacement of the shut-off valve module without disturbing line connections and introducing air or contamination into the system. Zones may be individually controlled and monitored to verify that the system's performance fulfills the system design requirements

Typical Applications

- Automotive transfer lines, conveyor lines, flexible machining centers and complete plant lubrication systems

Typical Fluids Handled

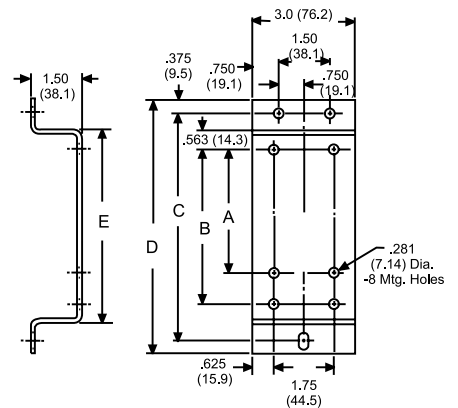
- Oil

Technical Specifications

Position	Normally Closed
Material	Plated Steel
Pressure (max)	3,000 psi (207 bar)
Operating Temperature.....	-20°F to +130°F (-29°C to +54°C)
Lubricant.....	Oil, ISO VGA 32-200
Electrical Rating:	
(AC) ...	104-125 VAC at 55-65 Hz, 13w at 115 VAC, 0.130A Holding Current, Continuous Duty Coil, Class H Insulation
(DC)	20-28 VDC, 13w at 24 VDC, Continuous Duty Coil, 0.500A Holding Current, Class H Insulation
Filtration	Use in conjunction with Modular 25 Micron Modular Filter Section (563480)
Torque.....	Valve Block Mounting Screw (556514)



Side Mount Hole Configuration

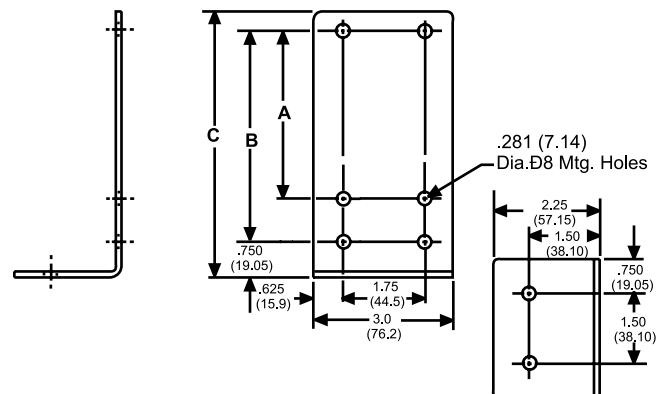


Ordering Information

MSP Modular Zero-Leak Components	
563479	MSP Zero-Leak Solenoid Valve Base Plate
563481	MSP Zero-Leak (w/o Manual Override) Solenoid Valve Section, w/o Coil
558893	3 Pin Mini Connector Adaptor w/Indicator Light - 120 VAC
557226	Solenoid Coil - 120 VAC (3 Pin Mini)
557225	Solenoid Coil - 24 VDC (3 Pin Mini)
558886	Solenoid Coil - 24 VDC (4 Pin Micro)
558021	Brad Harrison Mating Cable , 6 ft (3 Pin) Mini-Straight
558022	Brad Harrison Mating Cable , 12 ft (3 Pin) Mini-Straight
563279	"Bottom-Feed" End Section w/ Port Plug
563280	"Bottom-Feed" End Section w/ Hydraulic Fitting
556429	"Bottom-Feed" Hydraulic Fitting
557349	"Bottom-Feed" Port Plug
MSP Modular Filter Section	
563479	MSP Modular Filter Base Plate, 25 microns nominal
563480	MSP Modular Filter Block
Mounting Accessories	
560920	Mounting Bar 4" (101.6) x 1-3/4" (44.5) (B) 1" (25.4) with 1/4"-20 thread
563435	Top Mounting Bracket (A) 3-37/64" (90.9) (B) 4-1/2" (114.3) (C) 5-21/32" (143.7)
563436	TOP Mounting Bracket (A) 5-27/64" (137.7) (B) 6-11/32" (161.1) (C) 7-1/2" (190.5)

563437	TOP Mounting Bracket (A) 7-17/64" (184.5) (B) 8-3/16" (208.0) (C) 9-11.32" (237.3)
563438	Side Mounting Bracket (A) 3-37/64" (90.9) (B) 4-1/4" (114.3) (C) 6-5/8" (168.3) (D) 3-7/8" (187.3) (E) 5-5/8" (142.9)
563439	Side Mounting Bracket (A) 5-27/64" (137.7) (B) 6-11/32" (161.1) (C) 8-15.32" (215.5) (D) 9-7/32" (234.2) (E) 7-15/32" (198.7)
563440	Side Mounting Bracket (A) 7-17/64" (184.5) (B) 8-3/16" (208.0) (C) 10-5/8" (262.0) (D) 11-1/16" (281.0) (E) 9-5/16" (236.5)

Top Mount Hole Configuration



Series Progressive

Manzel® MHH Divider Valves

Features and Benefits

Same capable design as the Trabon MSP Series, with even tighter and more exacting tolerances. The Manzel MHH Series delivers highly accurate lube delivery for demanding high pressure grease and oil applications.

- Quick change valve sections can be removed from the base assembly without disturbing any lube lines—minimizing labor cost and maximizing your machine uptime
- Can be easily accessorized with magnetic and electronic proximity switch cycle indicators to provide positive assurance of a successful lube event
- Alternate outlet on face of valves can be fitted with optional performance indicators, taking the guesswork out of troubleshooting
- Built-in outlet check valves ensure accurate lube delivery every time

Typical Applications

- Compressors, industrial equipment and where high pressure lubrication is required

Typical Fluids Handled

- Oil or Grease up to NLGI #2

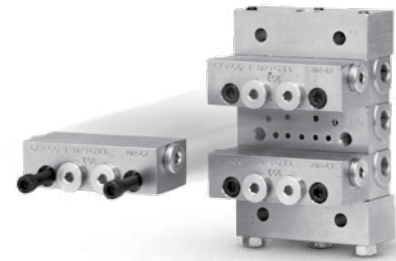
Technical Specifications

Material.....	Plated Steel
Maximum Pressure.....	7,500 psi (517 bar)
Max Operating Temperature.....	350° F (176° C)
Max Cycle Rate.....	200 cycles/min.

	Output Twin Outlet, in ³ (cm ³)	Output Single Outlet, in ³ (cm ³)
MHH6	0.006 (0.098)	0.012 (0.197)
MHH9	0.009 (0.149)	0.018 (0.295)
MHH12	0.012 (0.197)	0.024 (0.393)
MHH18	0.018 (0.295)	0.036 (0.590)
MHH24	0.024 (0.393)	0.048 (0.787)
MHH30	0.030 (0.492)	0.060 (0.983)

Ordering Information

MHH Working Sections (Must be ordered in multiples of five)	
562679	MHH-6S
562680	MHH-9S
562681	MHH-12S
562682	MHH-18S
562683	MHH-24S
562684	MHH-30S
562685	MHH-6T
562686	MHH-9T
562687	MHH-12T
562688	MHH-18T
562689	MHH-24T
562690	MHH-30T



Pre-Assembled and Tested Base Plates Now Available!

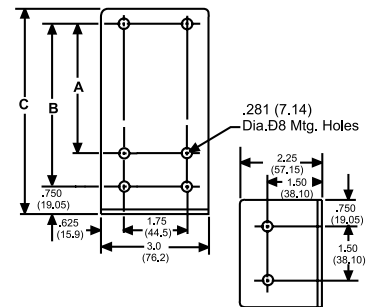
Series Progressive

Manzel® MHH Divider Valves

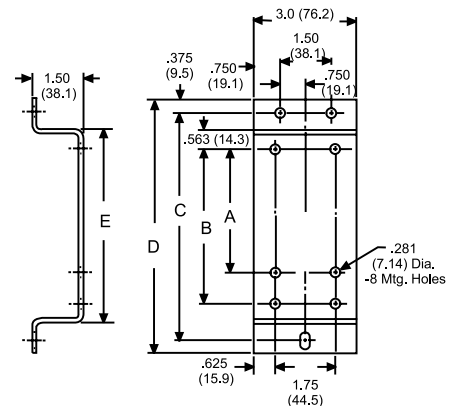
Ordering Information

MHH Base Plate Assemblies - Inlet, Intermediates, Ends and Tie Rods	
24F596	MHH - 3 Section, NPSF
24F597	MHH - 4 Section, NPSF
24F598	MHH - 5 Section, NPSF
24F599	MHH - 6 Section, NPSF
24F600	MHH - 7 Section, NPSF
24F601	MHH - 8 Section, NPSF
MHH Inlets, Intermediates and Ends (must be ordered in multiples of five)	
560919	Inlet, 1/4-18 NPSF (NPT)
560936	Inlet, 1/4-19 BSPP
560943	Inlet, 7/16-20 UNF-28 (SAE)
560976	Inlet, 150 6149-1-M12X15
563421	Inlet, NPSF, Bleed Ports
563422	Inlet, SAE, Bleed Ports
563424	End, NPSF
563425	Intermediate, 1/8-27 NPSF
MHH Tie Rods and Nut (must be ordered in multiples of five)	
557731	3-Section Tie Rod
557732	4-Section Tie Rod
557733	5-Section Tie Rod
557734	6-Section Tie Rod
557735	7-Section Tie Rod
557736	8-Section Tie Rod
556371	Tie Rod Nut
Accessories	
563469	Crossport Bar, Right
563470	Crossport Bar, Left
563471	Crossport Bar, Right and Left
563472	Stacking Bar
563444	Counter
563465	Weld Bar Kit
563251	No Weep Cycle Indicator
556540	Standard o-ring (BUNA-N), black
557722	High pressure o-ring (90 DURO Fluoroelastomer), green
556371	Tie rod nut (3 required per assembly)
557776	Indicator port plug
563929	Cycle pin indicator repair kit, o-ring
558799	BSPP (ISO1170) plug
567251	SAE plug with o-ring
557349	NPT plug
563928	Cycle pin indicator repair kit, gasket
Mounting	
560920	Mounting Bar 4" (101.6) x 1-3/4" (44.5) (B) 1" (25.4) with 1/4"-20 thread
563435	Top Mount Bracket (A) 3-37/64" (90.9) (B) 4-1/2" (114.3) (C) 5-21/32" (143.7)
563436	Top Mount Bracket (A) 5-27/64" (137.7) (B) 6-11/32" (161.1) (C) 7-1/2" (190.5)
563437	Top Mount Bracket (A) 7-17/64" (184.5) (B) 8-3/16" (208.0) (C) 9-11.32" (237.3)
563438	Side Mount Bracket (A) 3-37/64" (90.9) (B) 4-1/4" (114.3) (C) 6-5/8" (168.3) (D) 3-7/8 (187.3) (E) 5-5/8 (142.9)
563439	Side Mnt. Bracket (A) 5-27/64" (137.7) (B) 6-11/32" (161.1) (C) 8-15.32" (215.5) (D) 9-7/32 (234.2) (E) 7-15/32 (198.7)
563440	Side Mount Bracket (A) 7-17/64" (184.5) (B) 8-3/16" (208.0) (C) 10-5/8" (262.0) (D) 11-1/16 (281.0) (E) 9-5/16 (236.5)

Top Mount Hole Configuration



Side Mount Hole Configuration



Series Progressive

Trabon® MX Divider Valve

Features and Benefits

Greater output volumes for heavy service requirements make the Trabon MX Series ideal for steel and paper mill systems with its economical and compact design.

- Durable design withstands harsh environments and operating conditions
- Built-in outlet check valves ensure accurate lube delivery every time
- Can be easily accessorized with magnetic and electronic proximity switch cycle indicators to provide positive assurance of a successful lube event
- Alternate outlet on face of valves can be fitted with optional performance indicators, taking the guesswork out of troubleshooting



Typical Applications

Pulp and paper, steel mills, heavy and high volume industrial applications

Typical Fluids Handled

- Oil or Grease up to NLGI #2

Technical Specifications

Material.....	Plated Steel
Maximum Pressure.....	3,000 psi (207 bar)
Max Operating Temperature.....	200° F (93° C)
Max Cycle Rate with Cycle Pin.....	60 cycles/min.
Max Cycle Rate without Cycle Pin.....	200 cycles/min.

	Output Twin Outlet, in ³ (cm ³)	Output Single Outlet, in ³ (cm ³)	Cycle Indication
MX-25	0.025 (0.41)	0.050 (0.82)	Electronic proximity switch
MX-50	0.050 (0.82)	0.100 (1.64)	Electronic proximity switch, cycle indicator switch
MX-75	0.075 (1.23)	0.150 (2.46)	
MX-100	0.100 (1.64)	0.200 (3.28)	
MX-125	0.125 (2.05)	0.250 (4.10)	
MX-150	0.150 (2.46)	0.300 (4.92)	

Ordering Information

MX Working Sections	
562514	MX-25S
562515	MX-25T
562516	MX-50S
562517	MX-50T
562538	MX-75S
562539	MX-75T
562540	MX-100S
562541	MX-100T
562542	MX-125S
562543	MX-125T
562545	MX-150S
562546	MX-150T

Series Progressive

Trabon® MX Divider Valve

Ordering Information

MX w/Cycle Pin (Must be ordered in multiples of two)	
562523	MX-50T, w/Cycle Pin Indicator, Right
562518	MX-50S, w/Cycle Pin Indicator, Right
562524	MX-75T, w/Cycle Pin Indicator, Right
562519	MX-75S, w/Cycle Pin Indicator, Right
562525	MX-100T,, w/Cycle Pin Indicator, Right
562520	MX-100S, w/Cycle Pin Indicator, Right
562526	MX-125T, w/Cycle Pin Indicator, Right
562521	MX-125S, w/Cycle Pin Indicator, Right
562527	MX-150T, w/Cycle Pin Indicator, Right
562522	MX-150S, w/Cycle Pin Indicator, Right
562533	MX-50T, w/Cycle Pin Indicator, Left
562528	MX-50S, w/Cycle Pin Indicator, Left
562534	MX-75T, w/Cycle Pin Indicator, Left
562529	MX-75S, w/Cycle Pin Indicator, Left
562569	MX-100T, w/Cycle Pin Indicator, Left
562530	MX-100S, w/Cycle Pin Indicator, Left
562535	MX-125T, w/Cycle Pin Indicator, Left
562531	MX-125S, w/Cycle Pin Indicator, Left
562536	MX-150T, w/Cycle Pin Indicator, Left
562532	MX-150S, w/Cycle Pin Indicator, Left
MX Tie Rods and Nut	
557488	3-Section Tie Rod
557489	4-Section Tie Rod
557490	5-Section Tie Rod
557491	6-Section Tie Rod
557492	7-Section Tie Rod
557493	8-Section Tie Rod
560576	9-Section Tie Rod
560577	10-Section Tie Rod
557494	Tie Rod Nut
MX Intermediate Base and End Sections	
560620	MX Inlet
563287	MX End
Accessories	
562916	Singling Bar
562917	MX Cross Port Bar, RH or LH
561102	MX Mounting Bar
557509	MX Intermediate Gasket (1 required per section)
557494	MX Tie Rod Nut (8 required per assembly)
557323	MX Enclosure Plug Seal, Gasket
557391	1/4" NPT Outlet Plug for Singled and Cross Ported MX Sections
563917	MX Cycle Indicator Pin Repair Kit, Current Style

Series Progressive

Trabon® MXP Divider Valves

Features and Benefits

The Trabon MXP Series' greater output volume makes it easy to customize your assembly to meet larger machine requirements.

- Quick change valve sections can be removed from the base assembly without disturbing any lube lines—minimizing labor cost and maximizing your machine uptime
- Can be easily accessorized with magnetic and electronic proximity switch cycle indicators to provide positive assurance of a successful lube event
- Alternate outlet on face of valves can be fitted with optional performance indicators, taking the guesswork out of troubleshooting
- Built-in outlet check valves ensure accurate lube delivery every time

Typical Applications

Pulp and paper, steel mills, heavy and high volume industrial applications

Typical Fluids Handled

- Oil or Grease up to NLGI #2

Technical Specifications

Material.....	Plated Steel
Maximum Pressure.....	3,000 psi (207 bar)
Max Operating Temperature.....	350° F (176° C)
Max Cycle Rate with Cycle Pin.....	60 cycles/min.
Max Cycle Rate without Cycle Pin.....	200 cycles/min.

	Output Twin Outlet, in ³ (cm ³)	Output Single Outlet, in ³ (cm ³)	Cycle Indication
MXP-25	0.025 (0.41)	0.050 (0.82)	Electronic proximity switch
MXP-50	0.050 (0.82)	0.100 (1.64)	Electronic proximity switch, cycle indicator switch
MXP-75	0.075 (1.23)	0.150 (2.46)	
MXP-100	0.100 (1.64)	0.200 (3.28)	
MXP-125	0.125 (2.05)	0.250 (4.10)	
MXP-150	0.150 (2.46)	0.300 (4.92)	

Ordering Information

MXP Working Sections (Must be ordered in multiples of two)	
562813	MXP-25T
562819	MXP-25S
562814	MXP-50T
562820	MXP-50S
562815	MXP-75T
562821	MXP-75S
562816	MXP-100T
562822	MXP-100S
562817	MXP-125T
562823	MXP-125S
562818	MXP-150T
562824	MXP-150S
562835	MXP bypass



Series Progressive

Trabon® MXP Divider Valves

Ordering Information

MXP w/Cycle Pin - Right (Must be ordered in multiples of two)	
562830	MXP-50S
562831	MXP-75S
562832	MXP-100S
562833	MXP-125S
562834	MXP-150S
562825	MXP-50T
562826	MXP-75T
562827	MXP-100T
562828	MXP-125T
562829	MXP-150T
MXP Inlet, Intermediate Base and End Sections (Must be ordered in multiples of five)	
15R994	Inlet, 3/4-16 SAE O-Ring Ports
15R993	Inlet, 3/8-18 NPSF
561029	Inlet, 3/8-19 BSPP (ISO 1179)
563519	Intermediate Base, 1/4-18 NPSF
563521	Intermediate Base, 9/16-18 SAE O-Ring
563522	Intermediate Base, 1/4-19 BSPP (ISO 1179)
563527	Intermediate Base w/out Outlet Check, 1/4-18 NPSF
563518	End Section
MXP Tie Rods and Nut (Three required per assembly)	
557766	3-Section Tie Rod
557767	4-Section Tie Rod
557768	5-Section Tie Rod
557769	6-Section Tie Rod
557770	7-Section Tie Rod
557771	8-Section Tie Rod
557772	9-Section Tie Rod
563520	10-Section Tie Rod
555406	Tie Rod Nut
MXP Accessories	
563524	Cross Port, Left
563525	Cross Port, Right
563526	Cross Port, Left and Right
557773	MXP Standard Valve Section Seal, O-ring (90 DURO Fluoroelastomer)
555406	MXP Tie Rod Nut (3 required per assembly)
563917	MXP Cycle Pin Indicator Repair Kit, New Style
557774	MXP Enclosure Plug
556572	Enclosure Plug O-ring
557776	MXP Indicator Port Plug
561102	Mounting Bar

Series Progressive

Trabon® MGO Divider Valves

Features and Benefits

The Trabon MGO Series offers the largest output available in a series progressive system. Ideal for heavy-duty and large bearing applications with wide temperature variations and high volume requirements. Can be easily accessorized with magnetic and electronic proximity switch cycle indicators to provide positive assurance of a successful lube event.

- Alternate outlet on face of valves can be fitted with optional performance indicators, taking the guesswork out of troubleshooting
- Robust design is virtually indestructible and built to perform in extreme environments



Typical Applications

Pulp and paper, steel mills, heavy and high volume industrial applications

Typical Fluids Handled

- Oil or Grease up to NLGI #2

Technical Specifications

Material.....	Plated Steel
Maximum Pressure	6,000 psi (413 bar)
MMax Operating Temperature.....	350° F (176° C)
Max Cycle Rate with Cycle Pin.....	60 cycles/min.
Max Cycle Rate without Cycle Pin.....	200 cycles/min.

	Output Twin Outlet, in ³ (cm ³)	Output Single Outlet, in ³ (cm ³)	Cycle Indication
MGO-150	0.150 (2.46)	0.300 (4.92)	Electronic proximity switch, cycle indicator switch
MGO-300	0.300 (4.92)	0.600 (9.83)	
MGO-450	0.450 (7.37)	0.900 (14.7)	
MGO-600	0.600 (9.83)	1.200 (19.7)	

Ordering Information

MGO Working Sections	
562570	MGO-150S
562571	MGO-300S
562572	MGO-450S
562573	MGO-600S
562574	MGO-150T
562575	MGO-300T
562576	MGO-450T
562577	MGO-600T

Series Progressive

Series Progressive

Trabon® MGO Divider Valves

Ordering Information

MGO w/Cycle Pin - Right	
562578	MGO-150S
562579	MGO-300S
562580	MGO-450S
562581	MGO-600S
562582	MGO-150T
562583	MGO-300T
562584	MGO-450T
562585	MGO-600T
MGO Inlet and End	
563277	MGO Inlet
563278	MGO End
MGO Spare Parts	
556424	Singled Ported Sections Port Plug
563926	1-Section O-Ring Kit
MGO Tie Rods and Nut (Two (2) short tie rods and two (2) long tie rods required per assembly)	
560591	3-Section Tie Rod - Short
560592	4-Section Tie Rod - Short
560593	5-Section Tie Rod - Short
560594	6-Section Tie Rod - Short
560595	7-Section Tie Rod - Short
560596	8-Section Tie Rod - Short
560597	9-Section Tie Rod - Short
560598	10-Section Tie Rod - Short
560599	11-Section Tie Rod - Short
560600	3-Section Tie Rod - Long
560601	4-Section Tie Rod - Long
560602	5-Section Tie Rod - Long
560603	6-Section Tie Rod - Long
15U857	7-Section Tie Rod - Long
560604	8-Section Tie Rod - Long
560605	9-Section Tie Rod - Long
560606	10-Section Tie Rod - Long
560607	11-Section Tie Rod - Long
557494	Tie Rod Nut (2 required per tie rod)

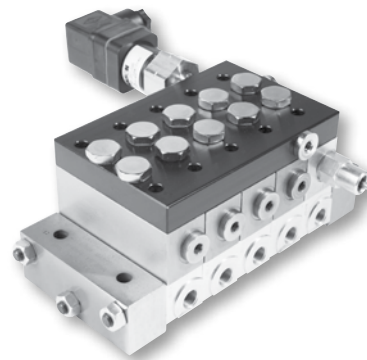
Air Oil

Air Oil Series Valves

Features and Benefits

A Graco exclusive design! The Air Oil solution that detects air line or oil line faults in your system. Series progressive monitoring ensures your critical bearings are lubricated properly.

- Convenient manifold design mounts directly to the face of standard Graco series progressive divider valve assembly
- Check valve design prevents oil from being forced into the air system if lube lines get crushed or bearings get blocked
- Air combines with the oil after the fluid outlet check, preventing air from backing up into your source oil system
- Complete kits include manifold, air sensor, and check valves for easy installation



24B240

Shown installed on MSP divider valve assembly

Typical Applications

- Steel mills, pulp and paper processing, high temperature and dirty environments

Typical Fluids Handled

- Oil

Technical Specifications

Material.....	Aluminum
Minimum Air Pressure.....	45 psi (3.1 bar)
Maximum Air Pressure.....	250 psi (17 bar)
Output.....	3, 4, 5 or 6 Section Divider Valve Assemblies

Ordering Information

AO Series Divider Valves	
24B237	Air/Oil Manifold Assembly, 3-Section
24B239	Air/Oil Manifold Assembly, 4-Section
24B240	Air/Oil Manifold Assembly, 5-Section
24B241	Air/Oil Manifold Assembly, 6-Section
24J814	Air/Oil Manifold Assembly, 3-Section without Air Sensor
24J815	Air/Oil Manifold Assembly, 4-Section without Air Sensor
24J816	Air/Oil Manifold Assembly, 5-Section without Air Sensor
24J817	Air/Oil Manifold Assembly, 6-Section without Air Sensor

Air Oil

High Speed Spindl-Gard® Systems

Features and Benefits

The High-Speed Spindl-Gard® System is a highly efficient, cost-effective method for lubricating spindle bearings, using air/oil technology. Components include an electric motor driven pump, with 3 liter (0.8 gallon) plastic reservoir, air/oil dispensing module, and an optional programmable timer/controller (AC models only).

- Advanced air/oil concept provides highly effective lubrication, reduces oil consumption, lowers operating temperature and protects spindle bearings from coolant ingress and minimizes thermal distortion resulting in improved production accuracy
- Thin oil film dramatically reduces viscous shear and hydrodynamic drag on the bearing, resulting in reduced friction and lower energy consumption
- Airflow adjustment for each bearing point provides better control
- Oil output selectable for each bearing point helps to customize the system
- Eliminates the clean up and environmental problems that result from mist systems



Typical Applications

- Spindle Bearings

Typical Fluids Handled

- Oils up to ISO 460 (2500 SUS)

Technical Specifications

Pump Output	8.5 in ³ /min. (140 cc/min.)
Motor Power	1/8 HP
Motor Voltage & Current Consumption	115 ± 10% VAC, 50/60 Hz, 1 phase, 3.8 A in-rush, 1.8 A running,
.....	230 ± 10% VAC, 50/60 Hz, 1 phase, 1.9A in-rush, 0.94A running, 24VDC, 60 w
Pressure Relief Setting	350 psi (34 bar)
Output Block Regulator	30-60 psi (2.07-4.14 bar)
Output Block Regulator	30-60 psi (2.07-4.14 bar)
Seals	Buna-N O-Rings
Plastic Reservoir.....	0.8 gal (3 liters)
Low-Level	N.C. (held open), 115/230 VAC, 10 watt
Controls Options Remote (External Control or Customer PLC).....	115/230 VAC, 1 ph, 50/60 Hz, 24 VDC
*AC Timer.....	115/230 VAC, 1 ph, 50/60 Hz
Work (On) Time.....	5-20 sec
Pause (Off) Time.....	2.5-30 min.
Fault Output.....	(Dry Contacts), 5 amp max up to 230 VAC
Air Cleanliness.....	5 micron, 40° F (4° C) Dewpoint
Operating Temperature.....	40° F to 120° F (4° C to 49° C)
Lube Output	0.0015, 0.0030 & 0.005 cu in/cycle (0.025, 0.049 & 0.082 cc/cycle)
Pressure Switch Set Points	
Air (N.C.).....	25 psi (1.7 bar), nonadjustable
Oil (N.O.).....	320 psi (22 bar), nonadjustable
Nozzles.....	Tube ID/Orifice Ratio (See Figure 2)
Delivery Tube Length.....	24 in to 50 ft (0.6 m to 15.24 m)
Lubricant Filtration: It is recommended that the lubricant in any lubrication system be filtered to the minimum level recommended by the Society of Automotive Engineers (SAE) which corresponds to the ISO Standard 4460 ratings/ specifications of ISO 18/14	

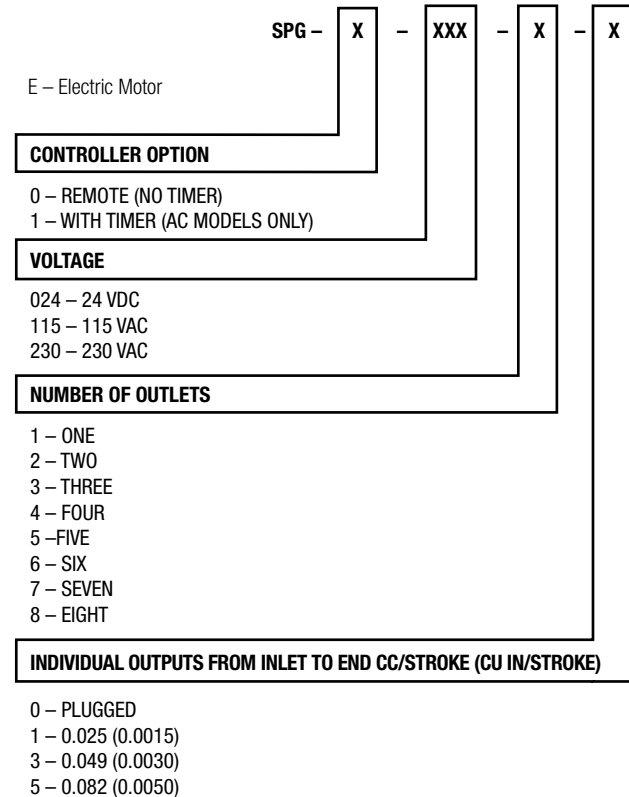
Air Oil

High Speed Spindl-Gard® Systems

Ordering Information

High Speed Spindl-Gard Systems	
24B219	SPG-E-1-115-2-1-1
258301	SPG-E-1-115-6-33-3-3-3
258347	SPG-E-1-115-6-3-3-3-1-1-3
564445	SPG-E-0-024-3-3-3-3
High Speed Spindl-Gard (HSSG) Blocks	
563130	0.0015 in ³ Displacement
563131	0.0030 in ³ Displacement
563132	0.0050 in ³ Displacement
High Speed Spindl-Gard (HSSG) Components	
563489	10 micron Oil Filter Element
561031	Inlet Block
561032	Outlet Block
Spindl-Gard Nozzles	
563127	Nozzle Tube Adapter
560478	10 in. Nozzle Tube - 2 Outlet, 180°
560477	10 in. Nozzle Tube - 1 Outlet, 90°
562994	End Outlet Nozzle
563128	Spray Nozzle Assembly for Headwalls over 1 in. thick
Spindl-Gard Accessories	
563048	Injection Point Check Valve, 1/8 in. NPTF
563049	Discharge Point Check Valve, 1/8 in. NPTF
564337	Relief Valve, 2 psi
563091	In-Line Lube Filter, 2 micron, 1/4 in. NPSF (FM) to 1/4 in. NPTF (M)
557134	Replacement Filter Element - In-Line Lube Filter
564348	Air Flow Switch w/Lights
563129	SG Air/Oil Mixing Tee
High Speed Spindl-Gard (HSSG) Tie Rod Kits - Nuts and Washers included	
564443	Tie Rod Kit - 1 Air/Oil Lube Point
563940	Tie Rod Kit - 2 Air/Oil Lube Point
564444	Tie Rod Kit - 3 Air/Oil Lube Point
15U854	Tie Rod Kit - 4 Air/Oil Lube Point
15U855	Tie Rod Kit - 5 Air/Oil Lube Point
563941	Tie Rod Kit - 6 Air/Oil Lube Point
563942	Tie Rod Kit - 7 Air/Oil Lube Point
15U856	Tie Rod Kit - 8 Air/Oil Lube Point

Spindl-Gard Ordering Menu Code



General Accessories

Trabon® Spra-Control™ Valve

Features and Benefits

- Conserves air—air required only during spray interval
- Versatile—can be used with any centralized lube system or mechanical oiler and will handle grease or oil
- External mix nozzle purges itself and prevents clogging
- Saves lubricant by spraying smaller amounts at frequent intervals, provides better film, with no waste

Typical Fluids Handled

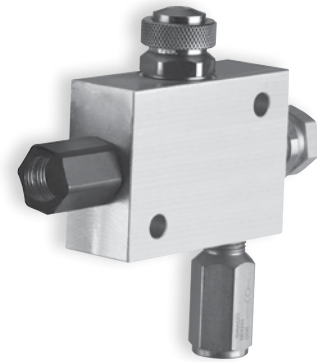
- Oil - minimum of 100 SUS at 100° F
- Grease - NLGI #1 at any temperature, NLGI #2 at 32° F or above

Technical Specifications

Minimum Air Pressure	20 psi (1.4 bar)
Maximum Air Pressure	150 psi 10.3 bar)
Spray Patterns	4 in or 8 in (10.2 cm or 20.3 cm)

Ordering Information

Gear Spray Valves	
563275	Air-Lube Control Valve and Nozzle Assembly - 4 in. Spray Diameter, Normal
563276	Air-Lube Control Valve and Nozzle Assembly - 8 in. Spray Diameter, Wide



Ball mills run at peak performance with Graco's Air-Lube Spra-Control Valve

General Accessories

Reset Indicator

Features and Benefits

- Provides quick troubleshooting tool with visual indication
- No tools for reset or parts to replace after indication
- Easy information on blocked lines, high system pressure or blocked bearings

Technical Specifications

Reset w/Memory psi (bar)	250 (17)	500 (35)	750 (52)	1000 (69)	1500 (103)	2000 (138)	2500 (172)
MJ	✓	✓	✓	✓	✓	✓	
MSP	✓	✓	✓	✓	✓	✓	✓
MXP	✓	✓	✓	✓	✓	✓	✓
MX	✓	✓	✓	✓	✓	✓	✓
MGO					✓		



Simple point troubleshooting
with visual indication

Ordering Information

Divider Valve Reset Indicator w/Memory for MJ, MSP, MHH and MXP	
563231	250 psi
563232	500 psi
563233	750 psi
563234	1,000 psi
563235	1,500 psi
563236	2,000 psi
563237	2,500 psi
563237	2,500 psi
Divider Valve Reset Indicator w/Memory and O-Ring Seal for MX	
563239	250 psi
563240	500 psi
563241	750 psi
563242	1,000 psi
563243	1,500 psi
563244	2,000 psi
563238	3,500 psi
Divider Valve Reset Indicators w/Memory and O-Ring Seal for MSP, MHH and MXP	
563252	250 psi
563253	500 psi
563254	750 psi
563255	1,000 psi
563256	1,500 psi
563257	2,000 psi
563258	2,500 psi
563261	3,000 psi
563262	5,000 psi
563263	3,500 psi
Divider Valve Reset Indicators w/Memory and O-Ring Seal for MGO	
564200	1,500 psi

General Accessories

Automatic Relief Indicator

Features and Benefits

These performance indicators pinpoint lube line blockages but allow the lube system to continue to supply lubrication to points that are not blocked.

- Allows machine to continue to run while non-critical bearings are lubricated
- No time or effort required for reset after blockage is cleared
- Easy information on blocked lines, high system pressure or blocked bearings

Typical Applications

- Works with MSP, MX, MXP, MJ and MHH divider valves

Technical Specifications

563159

Auto Relief psi (bar)	750 (52)	1000 (69)	1250 (86)	1500 (103)	2000 (138)	2500 (172)	3000 (207)
MJ	✓	✓		✓	✓		
MSP	✓	✓	✓	✓	✓	✓	✓
MXP	✓	✓	✓	✓	✓	✓	✓
MX		✓		✓	✓	✓	✓



Keep your machine running while lubrication gets to critical points

Ordering Information

Divider Valve Automatic Relief Indicators	
563156	Works with MX, 750 psi
563157	Works with MX, 1,000 psi
563158	Works with MX, 1,500 psi
563159	Works with MX, 2,000 psi
563160	Works with MX, 2,500 psi
563161	Works with MX, 3,000 psi
563163	Works with MSP, MXP, MHH, and MJ, 750 psi
563164	Works with MSP, MXP, MHH, and MJ, 1,000 psi
563165	Works with MSP, MXP, MHH, and MJ, 1,250 psi
563166	Works with MSP, MXP, MHH, and MJ, 1,500 psi
563167	Works with MSP, MXP, MHH, and MJ, 2,000 psi
563168	Works with MSP, MXP, MHH, and MJ, 2,500 psi
563169	Works with MSP, MXP, MHH, and MJ, 3,000 psi
563170	MSP, MXP, and MHH, 750 psi w/O-Ring Seal
563171	MSP, MXP, and MHH, 1,000 psi w/O-Ring Seal
563172	MSP, MXP, and MHH, 1,250 psi w/O-Ring Seal
563173	MSP, MXP, and MHH, 1,500 psi w/O-Ring Seal
563174	MSP, MXP, and MHH, 2,000 psi w/O-Ring Seal
563175	MSP, MXP, and MHH, 2,500 psi w/O-Ring Seal
563176	MSP, MXP, and MHH, 3,000 psi w/O-Ring Seal

General Accessories

Rupture Indicator

Features and Benefits

Used on MH divider valve applications where lube system pressures exceed 2,500 psi.

- High pressure from blockage causes a disc to rupture
- Lubricant forces an indicator pin to protrude, indicating the blockage
- High pressure backs up through the system and trips a switch to shut the system off
- When fault is corrected, disc must be replaced and pin reset

Typical Applications

- Works with MHH divider valves

Ordering Information



563227

*Know quickly when
critical bearings aren't
getting lubricated*

Divider Valve Rupture Indicators w/Memory	
563220	3,700 psi
563227	7,300 psi
563228	2,800 psi
564355	4,600 psi
563223	5,500 psi
563225	6,400 psi
563229	2,800 psi w/O-Ring Seal
563221	3,700 psi w/O-Ring Seal
563222	4,600 psi w/O-Ring Seal
563224	5,500 psi w/O-Ring Seal
563226	6,400 psi w/O-Ring Seal
Replacement Rupture Discs	
557422	2,800 psi
557423	3,700 psi
557424	4,600 psi
557425	5,500 psi
557427	6,400 psi
557428	7,300 psi
557429	8,200 psi

General Accessories

Rupture to Atmosphere Indicator

Features and Benefits

- Used in conjunction with system pressure switch—can warn of a fault while allowing lube system to continue to deliver to critical bearings
- Requires replacement of the rupture disc to restart the lube system
- Easy information on blocked lines, high system pressure or blocked bearings



563182

Blockages are easy to detect with the simple Rupture to Atmosphere indicator

Rupture to Atmosphere psi (bar)	1,450 (100)	1,750 (121)	2,050 (141)	2,350 (162)	2,950 (203)	3,250 (224)
MJ		✓		✓	✓	✓
MSP		✓		✓	✓	✓
MX	✓	✓	✓	✓	✓	

Ordering Information

Rupture-to-Atmosphere Indicators for MJ, MSP, MHH and MXP	
564059	1,750 psi, 1/8-27 in npt(f)
563191	2,350 psi, 1/8-27 in npt(f)
563192	2,950 psi, 1/8-27 in npt(f)
563193	3,250 psi, 1/8-27 in npt(f)
563194	5,000 psi, 1/8-27 in npt(f)
563218	6,400 psi, 1/8-27 in npt(f)
563219	7,300 psi, 1/8-27 in npt(f)
563217	5,500 psi, 1/8-27 in npt(f)
Rupture-to-Atmosphere Indicators for MX	
563179	1,450 psi, 1/4-18 in npt(f)
563182	1,750 psi, 1/4-18 in npt(f)
563183	2,050 psi, 1/4-18 in npt(f)
563184	2,350 psi, 1/4-18 in npt(f)
563185	2,950 psi, 1/4-18 in npt(f)
563186	1,450 psi, 1/4-18 in npt(f), w/Spud Assembly
563187	1,750 psi, 1/4-18 in npt(f), w/Spud Assembly
563188	2,350 psi, 1/4-18 in npt(f), w/Spud Assembly
Replacement Rupture Packs of 6 (11/16" diameter discs)	
563962	1,450 psi - Yellow
563963	1,750 psi - Red
563964	2,050 psi - Orange
563965	2,350 psi - Aluminum
563966	2,940 psi - Blue
Replacement Rupture Packs of 25 (3/8" diameter discs)	
563952	900 psi - Black
563954	1,450 psi - Yellow
563955	1,750 psi - Red
563956	2,050 psi - Orange
563957	2,350 psi - Aluminum
563958	2,650 psi - Pink
563959	2,950 psi - Blue
563960	3,250 psi - Purple
563961	5,000 psi - Brown

General Accessories

Magnetic Visual Indicator

Features and Benefits

Six steel balls in a clear sleeve follow a magnet which moves with the cycling piston, providing a clear visual indication of lube cycles.

Ordering Information

Divider Valve Cycle Indicators and Switches	
563251	MS/MHH Visual Cycle Indicator Assembly
563260	MX/MXP Visual Cycle Indicator Assembly
563250	MHP No Weep Visual Cycle Indicator - NPT



563251

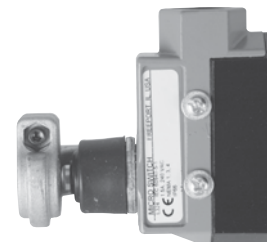
Cycle Switch

- Monitors piston movement to ensure completed lubrication cycle—must have cycle indicator pin
- Provides positive feedback based on actual metering piston movement
- Mounts to MJ, MSP, MXP, or MX divider with cycle pin option with simple install
- Able to be set for normally open or normally closed operation

Technical Specifications

Voltage	Amp Rating
125/250/480VAC	15A
125 VDC	1/2A
250 VDC	1/4A
24 VDC	6A*

*non-inductive



563270

Integrates to controllers, starters or PLCs

Ordering Information

Cycle Switches	
563270	MD-2, Cycle Switch, Bracket Assembly
563271	MD-3, Cycle Switch, Bracket Assembly
564356	MD-4, Cycle Switch ,Bracket Assembly
563269	MGO Cycle Switch (SPDT) Bracket Assembly
557781	Replacement Cycle Switch for 563269, 563270, 564356, 563272
564357	MHP Cycle Switch (DPDT) Bracket Assembly
563272	MJ/MS/MHH/MXP Cycle Switch (SPDT) Bracket Assembly
563273	MJ/MS/MHH/MXP Cycle Switch (SPDT) Bracket Assembly - Moisture Resistant
557546	Replacement Bracket - 563272, 563273, 564357

General Accessories

Proximity Switches

Features and Benefits

- Available in 115 VAC or 12-32 VDC
- Available for all series progressive families to provide cycle rates up to 200 CPM
- Pressure ratings up to 10,000 psi (690 bar)
- Variety of electrical connections and voltages with or without LED indication
- Select models available with UL and CSA approvals



557747

Magnetically-operated sensing devices for sending system data to the controller or PLC

Ordering Information

Divider Valve Proximity Switches	
24K415	CD PNP, 10-36 VDC, 7/16" Thread, M12 Connection, USP/MSP/MHH
558938	FSM., 115 VAC, 5-Pin BH - MXP/MX
563495	FSM., 20-28 VDC, 4-Pin CH - MGO
563970	FSM., 115 VAC, 3-Pin CH - MGO
564400	FSmech, 20-32 VDC, 5-Pin BH, LED - MXP/MX
564401	FSmech, 115 AC or 10-32 VDC, Explosion proof - MXP/MX
557752	FSM., 20-28 VDC, 4-Pin CH - MXP/MX
563969	FSM., 115 VAC, 3-Pin BH - MXP/MX
563476	FSM., 115 VAC, 3-Pin PH - MXP/MX
557747	FSM., 12-23 VDC, 4-Pin CH - MSP/MHH
557741	FSM., 115 VAC, 3-Pin BH - MSP/MHH
557746	FSM., 115 VAC, 5-Pin BH - MSP/MHH
563486	FSmech, 12-32 VDC, 3-Pin BH, LED - MXP/MX
563478	FSmech, 12-32 VDC, 3-Pin BH, LED - MSP/MHH
563501	FSmech, 12-32 VDC, 4-Pin micro, LED - MSP/MHH
563477	FSmech, 12-32 VDC, 5-Pin BH, LED - MSP/MHH
563484	FSmech, AC/DC, 5-Pin BH - MSP/MH
557745	FSM, Explosion Proof, 115 VAC, MSP/MHH
563485	FSmech, Explosion Proof, 115 VAC or 10-32 VDC, MSP/MHH
563427	Reed Type, 115 VAC or 10-32 VDC, 1/2" NPT, MSP/MHH
564402	O-Ring Seal Style Cycle-Indicator Proximity Switch for MGO
564399	O-Ring Seal Style Proximity Switch
564403	O-Ring Seal Style Cycle-Indicator Proximity Switch for MX and MXP
558933	Magnetic Proximity Cycle Switch
558018	Replacement Switch housing for 563427
Proximity Switch Connector Cables	
124333	M12 Cable, Male and Female, 16 foot
558021	3-Pin Cable, Straight Connector - 6 ft
558022	3-Pin Cable, Straight Connector - 12 ft
558025	4-Pin Cable, Straight Connector, Polarity - PNP - 12 ft
558026	4-Pin Cable, 90° Connector, Polarity - PNP - 12 ft
558023	5-Pin Cable, Straight Connector - 6 ft
558024	5-Pin Cable, Straight Connector - 12 ft



24K415

General Accessories

Pressure Switches

Features and Benefits

- Easy to visually adjust line pressure and reset pressure to ensure your lube system has vented properly
- LED lights visually display pressure switch functions
- Modern 4-pin M12 micro-connector easily connects to the G3 and other controllers
- Turns off your pump or controller and activates venting once the lube system reaches the desired pressure level
- 1/4 NPT thread allows quick connection to injector systems



24K414

IP67 rated – Durable design allows it to operate in harsh environments

Ordering Information

Pressure Switches	
24K414	Set pressure range 290-580 psi, reset pressure range 175-5685 psi, M12 connector (female), 9.6-32 VDC, 1/4" npt thread (male)

Features and Benefits

- Moisture resistant and factory set to ensure accuracy for long life and reliability
- Sends an alarm signal to alert either a high, or low pressure condition
- Available for hydraulic pressures from 10 to 4700 psi



557829

Ordering Information

Pressure Switches	
557830	1,500 psi, 10-150 psi Adjustable Range (Factory Set @ 50 psi), Moisture Resistant
557828	4,700 psi, 400-4,700 psi Adjustable Range (Factory Set @ 750 psi), Moisture Resistant
557829	4,700 psi, 400-4,700 psi Adjustable Range (Factory Set @ 1,150 psi), Moisture Resistant

Features and Benefits

- High-low, adjustable pressure switches

Ordering Information

Pressure Switches	
115124	Single post pressure switch
558947	Dual post control pressure switch



115124

General Accessories

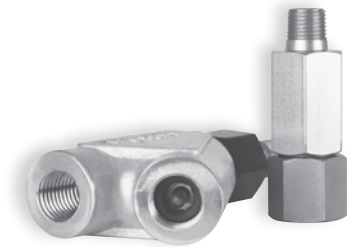
Broken Line Indicators

Features and Benefits

- Monitors lube line integrity to ensure lubricant is delivered to critical bearings
- Provides a visual or electronic indication
- Works with terminating oil or grease systems as well as recirculating systems

Technical Specifications

	BLI500	BLI1000	BLI1500
Simulator Pressure	60 psi (4.1 bar)	100 psi (6.9 bar)	150 psi (10.3 bar)
Maximum Pump Pressure	1,000 psi (69.0 bar)	1,500 psi (103.4 bar)	2,500 psi (172.4 bar)



563078

The only device that provides visual indication that bearing lines are intact

Ordering Information

Broken Line Indicators	
563068	500 psi Indicator
563069	1,000 psi Indicator
563070	1,500 psi Indicator
563075	60 psi Simulator
563076	100 psi Simulator
563077	150 psi Simulator
563078	Broken Line Indicator Kit - 563068, 563075
563079	Broken Line Indicator Kit - 563069, 563076
563080	Broken Line Indicator Kit - 563070, 563077

General Accessories

Filters

Ordering Information

Inlet and In-Line Oil Filters - Non-Replaceable Elements	
563091	MSP Standard Inlet 10 micron Oil Filter, NPT
563094	MSP Standard Zero Leak Shunt Valve Inlet 90 micron Oil Filter, NPT
563074	MSP Standard Zero Leak Inlet 90 micron Oil Filter/Restrictor, NPT
563073	MSP Zero Leak Shunt Valve Inlet 90 micron Oil Filter, SAE
563480	MSP Modular Zero Leak Valve 25 micron Oil Filter
Single and Dual Cartridge Filter and Replacement Filter Spare Parts	
557803	10 micron Replacement Filter Element - 564004, 183-000-141
557806	10 micron Replacement Filter Element - 183-000-071, 183-000-201
557804	25 micron Replacement Filter Element - 562883, 183-000-051, 183-000-151
557807	25 micron Replacement Filter Element - 183-000-081, 183-000-121, 183-000-211
557811	1-2 micron Extra-Long Replacement Filter Cartridge
Spin-On Oil Filters	
563092	10 micron Spin-On Filter Assembly, NPT, Internal 25 psi By-Pass
563095	10 micron Spin-On Filter Assembly, NPT, External 150 psi Relief
564343	10 micron Remote Mount Spin-On Filter Assembly, NPT, Fill Stud
563096	25 micron Spin-On Filter Assembly, NPT, External 150 psi Relief
563100	25 micron Spin-On Filter Assembly, ISO 6149, External 150 psi Relief
563093	10 micron Replacement Filter Element - 563092, 563095, 564343
563097	25 micron Replacement Filter Element - 563096, 563100
In-Line Oil Filters - High-Pressure	
563511	10 micron In-Line Oil Filter, NPT
563512	25 micron In-Line Oil Filter, NPT
563513	10 micron In-Line Oil Filter, SAE
563514	25 micron In-Line Oil Filter, SAE
563516	10 micron In-Line Oil Filter, BSPP (ISO 1179)
563515	25 micron In-Line Oil Filter, BSPP (ISO 1179)
563509	10 micron Replacement Filter Element - 563511
563510	25 micron Replacement Filter Element - 563512
In-Line Oil/Grease Filters - High-Pressure	
563508	44 micron, 325 Mesh In-Line Block Strainer (NPT)
563507	149 micron, 100 Mesh In-Line Block Strainer (NPT)
564406	149 micron, 100 Mesh In-Line Block Strainer, BSPP (ISO 1179)
557701	44 micron Replacement Filter Element - 563508
557700	149 micron Replacement Filter Element - 563507
In-Line Oil Filters - Low-Pressure, Thrif-T Luber Orifice System	
564053	Thrif-T Luber (TLLF-00) 25 micron In-Line Oil Filter, NPT
557132	Replacement Filter Element - 564053

Oil/Grease Strainers	
563103	44 micron, 325 Mesh Fill-Point Strainer
563102	149 micron, 100 Mesh Fill-Point Strainer
563145	350 micron, 40 Mesh Fill-Point Strainer
557154	44 micron Replacement Filter Element - 563103
557153	149 micron Replacement Filter Element - 563102
557779	350 micron Replacement Filter Element - 563145
Single Cartridge Type Filters w/Electrical and Visual Indicator	
564003	10 micron Filter, BSPP Thread
564004	20 micron Filter, BSPP Thread
564005	10 micron Filter, ISO 6149 Thread
564006	20 micron Filter, ISO 6149 Thread
562880	10 micron Filter, SAE ISO 11026 Thread
564007	20 micron Filter, SAE ISO 11926 Thread F865
Single Cartridge Type Filters w/Visual Indicator	
562881	10 micron Filter, BSPP Thread
564008	20 micron Filter, BSPP Thread
564009	10 micron Filter, ISO 6149 Thread
564010	20 micron Filter, ISO 6149 Thread
562882	10 micron Filter, SAE ISO 11026 Thread
562883	20 micron Filter, SAE ISO 11926 Thread F865

General Accessories

Fittings

Ordering Information

Pipe Fittings	
560532	45° Street Elbow - 1/4 in. Female x 1/4 in. Male, Steel
560530	90° Street Elbow - 1/4 in. Female x 1/8 in. Male, Steel
15M045	90° Street Elbow - 1/4 in. Female x 1/4 in. Male, Steel
560533	90° Street Elbow - 1/8 in. Female x 1/4 in. Male, Steel
560534	Fitting - Street Elbow, 3/8 Male x 3/8 Female
560528	Hex Coupling - 1/8 in. Female, Steel
556402	Reducing Brushing - 1/4 in. Male x 1/8 in. Female, Steel
563178	Extension Nipple - 1/8 in. Female x 1/8 in. Male, 2-1/4 in. Length, Steel
556632	Male Connector - 1/4 in. T x 1/8 in. Male, Brass
556633	Male Connector - 1/4 in. T x 1/4 in. Male, Brass
556634	Male Elbow - 1/4 in. T x 1/8 in. Male, Brass
555726	Male Elbow - 1/4 in. T x 1/4 in. Male, Brass
555727	Tube Sleeve - 3/16 in. T, Brass
556635	Tube Sleeve - 1/4 in. T, Brass
Straight and Angle Swivels	
563212	90° Angle Swivel - 1/8 in.
563214	90° Angle Swivel - 1/4 in.
564350	90° Angle Swivel - 1/2 in.
563213	180° Straight Swivel - 1/8 in.
563215	180° Straight Swivel - 1/4 in.
563154	180° Straight Swivel - 1/2 in.
564352	180° Straight Swivel - 1 in.
563146	90° Compact Swivel - 1/4 in.
563147	180° Compact Swivel - 1/4 in.
563150	180° Compact Swivel - 1/8 in.
563148	90° Swivel Adapter - 1/8 in. NPT x 1/8 in. NPT Female
Tube Fittings	
556448	Zerk Adapter Quick Fitting
556636	Male Tee - 5/16 in. Tube, 1/8 in. NPTF
556637	Union Tee - 5/16 in. Tube
556638	Male Elbow - 3/16 in. Tube 1/8 in. NPTF
556639	Male Elbow - 5/16 in. Tube, 1/8 in. NPTF
556640	Male Elbow - 5/16 in. Tube, 1/4 in. NPT
556642	Female Connector - 3/16 in. Tube, 1/8 in. NPT
556643	Female Connector - 5/16 in. Tube, 1/8 in. NPT
556644	Male Connector - 3/16 in. Tube, 1/8 in. NPTF
556645	Male Connector - 5/16 in. Tube, 1/8 in. NPTF
556646	Male Connector - 5/16 in. Tube, 1/4 in. NPT
556647	Union - 3/16 in. Tube
556648	Union - 5/16 in. Tube
556649	Nut - 3/16 in. Tube
556650	Nut - 5/16 in. Tube
556652	Sleeve - 3/16 in. Tube

556653	Sleeve - 5/16 in. Tube
556656	5/16 in. Tube Brass Insert - Minimum Order of 20 (Price Each)
556660	3/16 in. Tube Nut and Sleeve
562995	Male Connector - 3/16 in. Tube, 1/4-28 SAE Male
556661	Straight Connector - Push-to-Connect 3/16 in. Tube, 1/8 in. PM
556662	Elbow - 90 ft, Push-to-Connect 3/16 in. Tube, 1/8 in. PM
556666	5/16 in. Tube Nut and Sleeve
556670	90° Elbow - 3/16 in. Tube, 1/8 in. NPT Female
15K740	90° Elbow - 1/4-28 in (M) x 1/8 in
15K783	90° Elbow - 1/8 in. NPTF Male/Female
557395	45° Street Elbow - 1/8 in. NPTF Male/Female
560534	Street Elbow Fitting - 3/8 in. Male, 3/8 in. Female
563759	Air-Operated Tractor Hardware Package - 30 Point
557954	Adapter - 45° Elbow, 1/4-28 in. SAE Male x 1/8 in. NPTF Female
557968	Zerk Fitting - 1/8 in. NPT @ 65° Angle
563776	Zerk Adapter - 90°
563777	Zerk Adapter - Straight
Miscellaneous Adapters and Fittings	
556403	Reducing Bushing - 3/8 in. NPT x 1/8 in. NPT Female
556407	Fitting Tee - 1/4 in. Male x (2) 1/4 in. Female
556420	Fitting Tee - 1/4 in. Male x (2) 1/4 in. Female
15M037	Press-to-Fit - 1/8 in. NPSF
563148	90° Swivel Adapter - 1/8 in. NPT x 1/8 in. NPT Female
557392	Extension - 1/8 in. NPT x 1/8 in. NPTF, 3/4 in. Long
557393	Extension - 1/8 in. NPT x 1/8 in. NPTF, 1-1/4 in. Long
557950	Bulkhead FTG - 1/8 in. NPT
15K740	Elbow Adapter - 1/4-28 in. SAE Male x 1/8 in. NPTF Female
15K784	Elbow Adapter - 1/4-28 in. SAE Male x 1/8 in. NPTF Female, Short
557955	Straight Adapter - 1/4-28 in. SAE Male x 1/8 in. NPTF Female
Hose Fittings	
555749	Connector - 1/8 in. NPT, #4 JIC
556762	Connector - 1/4 in. NPT, #4 JIC
556763	90° Elbow - 1/8 in. NPT, #4 JIC
556764	90° Elbow - 1/4 in. NPT, #4 JIC
556773	Hose End - Field Installed, Swivel End, #4 JIC

General Accessories

Pressure Gauges and Check Valves

Ordering Information

Pressure Gauges - Bottom and Back Mounted	
557866	0-3,000 psi - Standard
558948	0-150 psi, 1/4 in. NPT Brass Bottom Mount Connection - Standard
557559	0-3,000 psi, 1/4 in. NPT Brass Bottom Mount Connection - Standard
557352	0-5,000 psi, 1/4 in. NPT Brass Bottom Mount Connection - Standard
557278	0-1,500 psi, 1/4 in. NPT Brass Back Mount Connection - Standard
557864	0-3,000 psi, 1/4 in. NPT Brass Back Mount Connection - Standard
558297	0-10,000 psi, 1/4 in. NPT Brass Back Mount Connection - Standard
557713	0-3,000 psi, 1/4 in. NPT Brass Bottom Mount Connection - Liquid Filled
558298	0-10,000 psi, 1/4 in. NPT Steel Back Mount Connection - Liquid Filled
Outlet Check Valves	
563196	Single Check Valve - 1/8-27 in. NPTF x 1/8-27 in. NPSF Carbon Steel, Steel Ball, 5,000 psi max
563052	Single Check Valve - 7/16-20 in. x 7/16-20 in. SAE Stainless Steel, Fluoroelastomer Ball, 7,500 psi max
563054	Single Check Valve - 7/16-20 in. x 7/16-20 in. SAE Stainless Steel, Steel Ball, 3,500 psi max
Maxi-Flo Relief Valve - Field Installed Only	
563375	600 psi
Single Ball Check Valves	
563195	10 psi, 1/8 NPTF (M) x 1/8 NPSF (F), Steel Body/Ball
563199	15 psi, 1/8 NPSF (F) x 1/8 NPTF (M), Steel Body/Ball
563196	35 psi, 1/8 NPTF (M) x 1/8 NPSF (F), Steel Body/Ball
563200	35 psi, 1/8 NPSF (F) x 1/8 NPTF (M), Steel Body/Ball
563201	60 psi, 1/8 NPSF (F) x 1/8 NPTF (M), Steel Body/Ball
563197	125 psi, 1/8 NPTF (M) x 1/8 NPSF (F), Steel Body/Ball
563198	250 psi, 1/8 NPTF (M) x 1/8 NPSF (F), Steel Body/Ball
563202	250 psi, 1/8 NPSF (F) x 1/8 NPTF (M), Steel Body/Ball
563051	360 psi, 1/8 NPTF (M) x 1/8 NPSF (F), Steel Body/Ball
563206	8-15 psi, 1/4 NPTF (M) x 1/4 NPSF (F), Steel Body/Ball
563210	10 psi, 1/4 NPSF (F) x 1/4 NPTF (M), Steel Body/Ball
563207	35 psi, 1/4 NPTF (M) x 1/4 NPSF (F), Steel Body/Ball
563211	35 psi, 1/4 NPSF (F) x 1/4 NPTF (M), Steel Body/Ball
563208	100 psi, 1/4 NPTF (M) x 1/4 NPSF (F), Steel Body/Ball
563209	125 psi, 1/4 NPSF (F) x 1/4 NPTF (M), Steel Body/Ball
563054	20-50 psi, 7/16-20 SAE (M) x 7/16-20 SAE (F), SS Body/Steel Ball
563055	20-50 psi, 9/16-18 SAE (M) x 9/16-18 SAE (F), SS Body/Steel Ball
563052	20-50 psi, 7/16-20 SAE (M) x 7/16-20 SAE (F), SS Body/FKM Ball
563047	35-50 psi, 1/4 NPSF (F) x 1/4 NPSF (F), SS Body/NBR Ball
563046	35-60 psi, 1/4 NPSF (F) x 1/4 NPSF (F), SS Body/FKM Ball
563048	35 psi, 1/8 NPSF (F) x 1/8 NPTF (M), Steel Body/FKM Ball
563049	35 psi, 1/8 NPTF (M) x 1/8 NPSF (F), Steel Body/FKM Ball
Double Ball Check Valves	
563203	35-55 psi, Twin Tandem, 1/8 NPTF (M) x 1/8 NPTF (M), SS Body/Ball

563205	35-55 psi, Twin Tandem, 1/4 NPTF (M) x 1/4 NPTF (M), SS Body/Ball
563058	25-45 psi, 1/4 IP (F) x 1/4 IP (M), Brass Body/Ball
563059	25-45 psi, 1/4 in O.D. Pipe Inlet (F), 1/4 in NPT (M) Outlet, Brass Body/Ball
563061	35-60 psi, 1/4 NPSF (F) x 1/4 NPSF (F), SS Body/FKM Ball
563060	35-60 psi, 1/4 NPSF (F) x 1/4 NPSF (F), SS Body/NBR Ball

Controllers

GLC 4400™ Controller

Features and Benefits

- Customize your lubrication time, pressure, cycle counts and machine counts for maximum precision and productivity
- Simple icon- and menu-based user interface is easy to setup and operate, saving valuable technician time
- Special operation modes save setup and inspection time
- Rugged and weatherproof, meeting stringent IP69K protection requirements
- Works with single line resistive, single line parallel, series progressive and dual line systems



24B591

Available Inputs

- Pressure/cycle switch
- Machine count switch
- Reservoir level switch
- Remote manual run switch

Available Outputs

- Pump control signal
- Low level alarm signal
- Pressure/cycle alarm
- System okay signal

Typical Applications

- Heavy construction, mining, other mobile off-road equipment
- General machining message

Technical Specifications

Height.....	4.7 in (120 mm)
Width.....	4.8 in (122 mm)
Depth.....	3.6 in (91 mm)
Protection Grade.....	IP 69K
Operating Temperature.....	-40° F to 145° F (-40° C to 63° C)
Net Weight.....	2 lbs (0.9 kg)
Standards.....	CE Marked
Manual.....	313855

Ordering Information

GLC 4400	
24B591	9-30 VDC
24B596	100-240 VAC

Controllers

Solid-State Timer

Features and Benefits

The Solid-State Timer from Graco operates on standard 115/230 VAC 50/60 Hz input power, and provides a total on and off cycle with “on” periods to meet your specific lubrication system’s requirements. Total cycle times can be set from 1/2 minute to 32 hours. “On” time during the total cycle time can be set from 12 seconds to 13 minutes. The “on” time occurs at the beginning of each period.

- Solid-state technology combined with multiple-level protection ensures dependable performance
- Exceptional flexibility of settings allows this timer to be used with many types of simple or sophisticated lubrication systems
- Manual run button can be used to check system integrity as well as to simplify system filling and air purging
- Face-mounted LED displays timer status at a glance
- Tamper-resistant design puts cycle setting controls inside the covered case
- Easy mounting and installation
- Built-in memory keeps the timer “alive” for 1-1/2 hours during power failures and machine shutdown



562872

Technical Specifications

Electrical	115/230 VAC; 50/60 hz; 3 ampere (max.)
Temperature Range:	
Operating	0° to 131° F (-18° to 55° C)
Storage	-67° to 185° F (-55° to 85° C)
Enclosure	High Impact Plastic
Component Technology	Solid-State CMOS
Cycle Interval, Adjustable:	
Range 1	0.5 - 30 minutes
Range 2	0.5 - 32 hours
“On” Time	0.2 - 13 minutes
Vibration	5g’s 50 Hz
Standard:	LED Indicator, Manual Run Button

Ordering Information

Solid State Timer	
562872	115/230 VAC
558031	Solid State (SS) Timer Board Only w/out Enclosure
DC Timer	
557925	DC Timer
557926	DC Timer
557927	DC Timer

Controllers

WMP III Maxi-Monitor®

Features and Benefits

The WMP III Maxi-Monitor is a micro processor based controller, dedicated to the operation and monitoring of a centralized lubrication system. WMP III is designed to schedule lube intervals and monitor the operation of Trabon pumps and divider valves in intermittent operating systems.

- Lube programs can be changed to meet changing conditions or work schedules
- High flexibility means you can handle a variety of applications with the same basic WMP Controller
- By working with one basic unit, operating and maintenance personnel quickly become familiar with the WMP and use it more effectively
- Programming is done thru the keypad mounted on the face of the enclosure



556023

Technical Specifications

Power Supply 115 + 15 % VAC, 50/60 Hz; 230 + 15% VAC, 50/90 Hz;
 24 + 15% VDC; 12 + 10% VDC. Voltage must be specified when ordering
 Inputs Same voltage of WMP III in use
 Current Consumptions..... 0.1 amp for AC (less external loads); 0.4 amp for DC (less external loads);
 0.5 amp 3AG fuse supplied; 115, 230 VAC & 12, 24 VDC
 External Pump Load 115, 230 VAC or 12, 24 VDC; 2 amp max(4 amp typical inrush),
 AC; 2 amp AGC fuse supplied; Determined by input power supply
 Fault Relay 2 isolated, non-fused, double-pole, doublethrow form, C contacts, 5 amp resistive
 Count Rate 15 CTS/SEC max @ 50% duty cycle; min.
 Transient Withstanding Capacity.....2000 Volts for 1 millisecond (typical); Joule Max
 Temperature Range (LCD limited)
 Ambient.....10° F to 113° F (-21° C to 45° C)
 Storage -8° F to 140° F (-25° C to 60° C)
 Time Base Crystal Controller Time Base
 Weight.....9.3 lbs (4.2 kg)
 Programming Selections
 Program Range 2-9999 sec; 1-9999 min.; 1-9999 hrs; 2-9999 stroke counts
 Monitor Range..... 1-9999 sec; 1-9999 min.; 1-9998 hrs; 1-9998 stroke counts
 System Cycle Range..... 1-9999 counts

Ordering Information

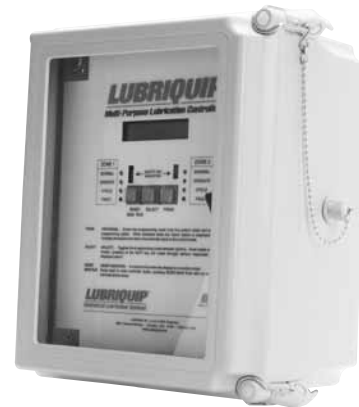
WMP III Maxi-Monitor	
556023	115 VAC
556024	230 VAC
556025	24 VDC
563914	Shock Mount Kit

Controllers

Lubrication Systems Multi-Purpose Controller™

Features and Benefits

- Controls centralized intermittent lubrication systems with Series-Progressive, Injector, Piston Distributor, Dual-Line, or Air-Oil lubrication systems
- Reduces controller costs in half when used to monitor and control two or more independent lube systems
- Half or full cycle programming capability for dual-line systems applications
- Lube cycle intervals in seconds, minute, hours, days, or counts up to maximums of 100 days or 100,000 counts
- Spray nozzle air purging (after-blow) capability for gear spray systems
- Programmable with either the internal 3-button keypad, or externally with the magnetic DataWand or serial port
- Programming is password protected (user set)
- Programming retained in non-volatile EEPROM during power failures or shutdown
- Programmable for monitoring of lube cycle completion, overcounts, and low lubricant level
- Additional parameters of high system pressure, low air pressure, or clogged filter can be monitored with two sets of external fault input terminals available, one in each zone
- System status continuously indicated by 8 LED lights



556026

Technical Specifications

Input Power	115 VAC; 230 VAC; 24 VDC
Temperature Range.....	-4° F to 158° F (-20° C to 70° C)
Pump Power Outputs (Programmable)	Two - one per zone; 2.0 amperes max (fused) (continuous or cyclic); Cyclic On-time: 1 sec to 10 min.; Cyclic Off-time: 1 sec to 10 min.
Auxiliary Power Outputs (Non-Programmable).....	Two - one per zone; 2.0 amperes max (fused) - continuous
Cycle Switch Inputs	Two - one per zone; 1/2 cycle (1-999,999 counts); dry contact, or solid state sourcing/sinking types
Stroke Cycle Switch Inputs.....	Two - one per zone; 1/2 cycle (1-999,999 counts); dry contact, or solid state sourcing/sinking types
Other Inputs	Low-Level, two - one per zone; External Fault, two - one per zone; high pressure/low pressure/clogged filter
Watchdog Time Interval Range.....	1 sec to 1 hr; stroke cycle switch input monitor
Lube Off-Time Interval Range.....	1 sec to 100 days; 2 independent settings in seconds, minutes, hours, or days
Lube-off Stroke Interval Range.....	1 to 999,999 machine cycles/counts
Lube-on Cycle Count Range.....	1 to 99 divider valve assembly cycles
Monitor Time Period Range	1 sec to 30 hrs; 2 independent settings in seconds, minutes or hours
Post Lube Cycle Air Purge.....	1 sec to 10 min.
Prelube.....	User Selectable (on or off)
Password Protection.....	User Selected - 4 digits
Enclosure	NEMA 4X Polyester Fiberglass w/clear Lexan cover (IP-66)
Display	Back-lit, two line, 16 character, annotated LCD
Indicator Lights ...	8 LED's - 4 per zone; NORMAL (green), OPERATE (yellow), CYCLE (yellow) and FAULT (red)
Program Entry.....	Three-key keypad - Reset/Clear, Select, Program; or via RS-232 serial port
Manual Run.....	Keypad push-button or DataWand
RS-232 Port	Read status, write setpoints using auxiliary/remote terminal

Ordering Information

Multi-Purpose Controller

556026	115 VAC
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On-Road Mobile Lubrication Systems

Grease Jockey®

Features and Benefits

- Keeps your chassis operating, even in harsh on-road conditions
- Lubricant goes where it's supposed to, automatically, with little or no waste
- Field-proven—some of the largest fleets have been using Grease Jockey for decades!
- A full range of options to choose from

Typical Applications

Truck and tractor lubrication, class 4, 5, 6, 7 and 8 vehicles

Typical Fluids Handled

NLGI #0, #00 or #000 Grease

Technical Specifications

Construction.....	Cast aluminum body and bracket
Lubricant.....	NLGI #0, #00 or #000 grease
Output per Cycle.....	1.5 cu. in (24.6 cm ³)
Reservoir Capacity (rubber bag).....	10 lbs. (4.5 kg)
Reservoir Capacity (rigid clear plastic).....	6 lbs. (2.7 kg), 12 lbs. (5.4 kg)
Inlet supply (dry) (air pump).....	150 psi (1034 kPa) max; 60 psi (414 kPa) min..
Air-to-lube Ratio (max.).....	9:1
Solenoid Voltage (air).....	12 or 24 VDC
Electrical.....	.9 to 32 VDC (12 or 24 VDC Nominal)
Enclosure (air pump).....	High-impact sealed plastic
Component Technology.....	Solid-state
Lube Cycle Frequency.....	7 Adjustable settings: 1/2 to 6 hours
Main Supply to Modules.....	5/16 in O.D. heavywall nylon
Module to Point.....	3/16 in O.D. heavywall nylon
Operating Pressure (nylon lines).....	1,350 psi (9,310 kPa)



Grease Jockey Pump Kits

	Part #	Fill Port	Solenoid	Timer	Wiring Harness	Mounting Plate	Mainline & Hardware	Extra Fittings Kit
Pneumatic								
Pump Only, No Reservoir	563625	Straight						
Pump with 6# Rigid Reservoir	563589	Straight						
Pump with 10# Flexible Reservoir	563570	Straight						
Pump with 12# Rigid Reservoir	563590	Straight						
Pump with 6# Rigid Reservoir	563593	Elbow						
Pump with 10# Flexible Reservoir	563594	Elbow						
Pump with 10# Flexible Reservoir	563886	Elbow	12 VDC					
Pump with 6# Rigid Reservoir	563888	Elbow	12 VDC					
Pump with 10# Flexible Reservoir	563847	Straight	12 VDC	External	Yes	Yes	Yes	Yes
Pump with 6# Rigid Reservoir	563854	Straight	12 VDC	External	Yes	Yes	Yes	Yes
Pump with 12# Rigid Reservoir	563874	Straight	12 VDC	External	Yes	Yes	Yes	Yes
Pump with 10# Flexible Reservoir	563882	Straight	12 VDC	External	Yes	Yes	Yes	Yes

On-Road Mobile Lubrication Systems

Grease Jockey®

Grease Jockey Pneumatic
Universal Truck Kits

On-Road Mobile Lubrication Systems

	Reservoir	# of Grease Points	Part Number	Upper King Pin	Lower King Pin	Slack Adjuster	S-Cam	Tie Rod	Spring Pin	Spring Hanger-Upper	Spring Hanger-Lower	Clutch Cross Shaft	Clutch Cross Shaft	Clutch Throw Out Bearing	"A" Frame Pivot	Lift Cylinder Top Pivot	Lift Cylinder Bottom Pivot	Slack Adjuster	S-Cam	Slack Adjuster	S-Cam	Rear Spring	Lift Cylinder Top Pivot
				Right Front													Right Rear						
				Injector Size																			
Single Axle Tractor Kit w/ 6#	Rigid	27	563897	3	3	1	0	2				0	0	0				1	0			3	
Single Axle Tractor Kit w/ 6#	Rigid	28	563891	3	3	1	0	2				0	0	0				1	0			3	
Spotter Truck Kit w/ 6#	Rigid	35	563823	3	3	1	0	2	3	3	3				8	8	3	1	1				3
Tandem Axle Tractor Kit w/ 6#	Rigid	33	563846	3	3	1	0	2	3	3	3	0	0					1	0	1	0		
Tandem Axle Tractor Kit w/ 6#	Rigid	34	563809	3	3	1	0	2	3	3	3							1	0				
Tandem Axle Tractor Kit w/ 6#	Rigid	34	563814	3	3	1	0	2	3	3	3	0	0					1	0	1	0		
Single Axle Tractor Kit w/ 10#	Flex	30	563801	3	3	1	0	2	3	3	3	0	0					1	0				
Single Axle Tractor Kit w/ 10#	Flex	34	563836	3	3	1	0	2	3	3	3							1	0				
Spotter Truck Kit w/10#	Flex	35	563826	3	3	1	0	2	3	3	3				8	8	3	1	1				3
Tandem Axle Tractor Kit w/ 10#	Flex	24	563839	3	3			2				0	0					1	0	1	0		
Tandem Axle Tractor Kit w/ 10#	Flex	29	563827	3	3	1	0	2					0	0				1	0	1	0		
Tandem Axle Tractor Kit w/ 10#	Flex	34	563802	3	3	1	0	2	3	3	3	0	0					1	0	1	0		
Tandem Axle Tractor Kit w/ 10#	Flex	34	563812	3	3	1	0	2	3	3	3							1	0				
Tandem Axle Tractor Kit w/ 10#	Flex	38	563813	3	3	1	0	2	3	3	3							1	0	1	0		

Injector Size Key						
Injector Size	0	1	2	3	4	8
Output Volume (cu in)	0.002	0.005	0.009	0.012	0.020	0.026

On-Road Mobile Lubrication Systems

Grease Jockey®

Upper King Pin	Lower King Pin	Drag Link-Front	Drag Link-Back	Slack Adjuster	S-Cam	Tie Rod	Spring Pin	Spring Hanger-Upper	Spring Hanger-Lower	Clutch Pedal	Clutch Cross Shaft	Clutch Throw Out Bearing	Lift Cylinder Top Pivot	Lift Cylinder Bottom Pivot	Slack Adjuster	S-Cam	Slack Adjuster	S-Cam	Rear Spring	Lift Cylinder Top Pivot	5th Wheel Pivot-Right	5th Wheel Pivot-Left	Boom Pivot-Right	Boom Pivot-Left	5th Wheel Cylinder (Up.R.)	5th Wheel Cylinder (Low. R.)	5th Wheel Cylinder (Up. L.)	5th Wheel Cylinder (Low. L.)	5th Wheel Interlock	5th Wheel Plate	5th Wheel Plate	5th Wheel Plate	5th Wheel Plate					
Left Front														Left Rear						5th Wheel																		
Injector Size																																						
3	3	2	2	1	0	2				0					1	0			3															2	8	8	8	8
3	3	2	2	1	0	2				0					1	0			3		1	1												8	8	8	8	
3	3	2	2	1	0	2	3	3	3			8	3		1	1				3	1	1												8	8	8	8	
3	3	2	2	1	0	2	3	3	3			0			1	0	1	0			1	1												8	8			
3	3	2	2	1	0	2	3	3	3						1	0					4	4	4	4	4	4	4	4	4	4				8	8	8	8	
3	3	2	2	1	0	2	3	3	3						1	0	1	0			1	1												8	8	8	8	
3	3	2	2	1	0	2	3	3	3						1	0					1	1												8	8	8	8	
3	3	2	2	1	0	2	3	3	3				8	3						3	1	1												8	8	8	8	
3	3	2	2			2									1	0	1	0			1	1												8	8	8	8	
3	3	2	2	1	1	2						0			1	0	1	0			1	1												8	8	8	8	
3	3	2	2	1	0	2	3	3	3						1	0	1	0			1	1												8	8	8	8	
3	3	2	2	1	0	2	3	3	3						1	0					4	4	4	4	4	4	4	4	4	4				8	8	8	8	
3	3	2	2	1	0	2	3	3	3						1	0	1	0			4	4	4	4	4	4	4	4	4	4				8	8	8	8	

On-Road Mobile Lubrication Systems

On-Road Mobile Lubrication Systems

Grease Jockey®

Grease Jockey Right & Left Front Kits for Trucks

	# of Grease Points	Part Number	Upper King Pin	Lower King Pin	Drag Link	Drag Link	Slack Adjuster	S-Cam	Tie Rod	Spring Pin	Spring Hanger-Upper	Spring Hanger-Lower	Steer Assist	Steer Assist	Clutch Pedal	Clutch Cross Shaft-Right	Clutch Cross Shaft-Left	Clutch Throw Out Bearing
			Right Front															
			Injector Size															
Right Front Kit	5	563727	3	3					2							0	0	
Right Front Kit	5	563860	3	3			1	0	2									
Right Front Kit	7	563859	3	3			1	0	2							0	0	
Right Front Kit	8	563652	3	3			1	0	2	3	3	3						
Right Front Kit	8	563715	3	3			1	0	2							0	0	0
Right Front Kit	8	563858	3	3			1	0	2	3	3	3						
Right Front Kit	10	563645	3	3			1	0	2	3	3	3				0	0	
			Left Front															
Left Front Kit	5	563728	3	3	2	2			2									
Left Front Kit	7	563706	3	3	2	2	1	0	2									
Left Front Kit	8	563716	3	3	2	2	1	0	2						0			
Left Front Kit	10	563644	3	3	2	2	1	0	2	3	3	3						

Grease Jockey Rear Axle Modules Truck and Tractor Kits

	# of Grease Points	Part Number	Slack Adjuster	S-Cam	Slack Adjuster	S-Cam	Rear Spring	Slack Adjuster	S-Cam	Slack Adjuster	S-Cam	Rear Spring	5th Wheel Pivot-Right	5th Wheel Pivot-Left	5th Wheel Pivot Inner-Right	5th Wheel Pivot Inner-Left	Boom Pivot-Right	Boom Pivot-Left	5th Wheel Cylinder Upper-Right	5th Wheel Cylinder Upper-Left	5th Wheel Interlock	5th Wheel Plate	Front Right	Front Left	Rear Right and Left
			Right Rear				Left Rear				5th Wheel														
			Injector Size																						
Single Axle Kit	4	563647	1	0				1	0																
Single Axle Kit	6	563738	1	0				1	0								4	4							
Tandem Axle Kit	8	563646	1	0	1	0		1	0	1	0														
Tandem Axle Kit	10	563743	1	0	1	0		1	0	1	0						4	4							
Fifth Wheel Kit	6	563653											4				4		4	4		8	8		
Fifth Wheel Kit	6	563659												4				4	4	4				8	8
Fifth Wheel Kit	8	258248											4	4				4	4			8	8	8	8
Fifth Wheel Kit	10	563737											4	4				4	4	4	4	8	8	8	8
Fifth Wheel Kit	12	563744											4	4	4	4		4	4	4	4	8	8	8	8
Fifth Wheel & Single Axle Kit	11	563748	1	0			3	1	0			3									1	8	8	8	8
Fifth Wheel & Single Axle Kit	12	563717	1	0			3	1	0			3	1	1								8	8	8	8

On-Road Mobile Lubrication Systems

Trailer Lubrication Systems

Features and Benefits

- Smooth landing gear operation
- Innovative design works with your parking or service brakes—no electrical power needed
- Adjustable pump output volume puts you in control
- Slack adjuster and S-Cam lubrication help stop brakes from sticking —improves brake operation and extends component life

Typical Applications

- Pre-designed kits for all popular trailer types
- Tractors with 1, 2, 3, 4, 5, and 6 axles

Typical Fluids Handled

Grease up to NLGI #2

Technical Specifications

Construction.....	Cast aluminum body and steel mounting bracket
Lubricant.....	NLGI #2 or lower
Output per Cycle.....	0.010-0.030 cu. in. (0.16-.49 cm ³)
Reservoir Capacity (rigid clear plastic).....	4 lbs. (1.8 kg)
Inlet supply (dry) (air pump).....	40-150 psi (3-10 bar)
Air-to-lube Ratio (max.).....	20:1
Main Supply to Modules.....	1/4" I.D. hose
Module to Point.....	3/16 in O.D. heavywall nylon
Operating Pressure (nylon lines).....	1,350 psi (9,310 kPa)



Universal Trailer Kits Ordering Information

Pneumatic (Trailer Pump Included)

	Part #	Grease points covered in kit				Total # of Grease Points
		Slack Adjuster	S-Cam	Clevis Pin	Landing Gear	
One Axle w/ Inner and Outer S-Cams	563829	2	4	-	-	6
Two Axle w/ Enclosed S-Cams	563850	4	4	-	-	8
Two Axle w/ Inner and Outer S-Cams	563842	4	8	-	-	12
Two Axle w/ Enclosed S-Cams and Clevis Pins	563878	4	4	4	-	12
Two Axle w/ Inner and Outer S-Cams and Clevis Pins	563851	4	8	4	-	16
Two Axle w/ Inner and Outer S-Cams and Landing Gear	563840	4	8	-	5	17
Three Axle w/ Enclosed S-Cams	563880	6	6	-	-	12
Three Axle w/ Enclosed S-Cams and Clevis Pins	563884	6	6	6	-	18
Three Axle w/ Inner and Outer S-Cams and Clevis Pins	563849	6	12	6	-	24
Four Axle w/ Enclosed S-Cams and Clevis Pins	563881	8	8	8	-	24
Five Axle w/ Enclosed S-Cams	563866	10	10	-	-	20
Five Axle w/ Inner and Outer S-Cams and Clevis Pins	563848	10	20	10	-	40
Six Axle w/ Enclosed S-Cams	563865	12	12	-	-	24
Six Axle w/ Inner and Outer S-Cams and Clevis Pins	563852	12	24	12	-	48

On-Road Mobile Lubrication Systems

Easy Greaser®

Features and Benefits

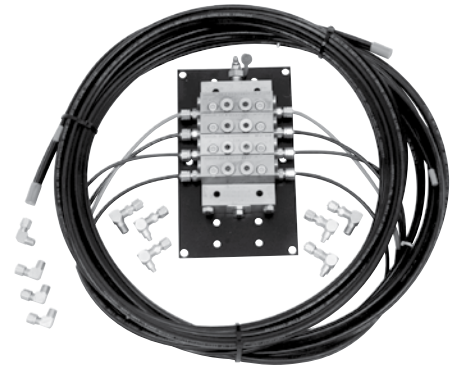
- 11 different kits let you customize your EZ Greaser system
- Once installed, use your manual grease gun to lubricate multiple lube points from one fitting

Typical Applications

- Truck, tractor and trailer chassis lubrication

Typical Fluids Handled

- Grease up to NLGI #2



563853

Technical Specifications

Recommended Fluids..... Grease up to NLGI #2

Maximum Operating Pressure.....3,500 psi (241 bar)

On-Road Mobile Lubrication Systems

Truck kit Ordering Information

	# of Grease Points	Part Number	Upper King Pin	Lower King Pin	Drag Link	Slack Adjuster	S-Cam	Tie Rod	Spring Pin	Spring Hanger-Upper	Spring Hanger-Lower	Steer Assist	Steer Assist	Upper King Pin	Lower King Pin	Drag Link	Slack Adjuster	S-Cam	Tie Rod	Spring Pin	Spring Hanger-Upper	Spring Hanger-Lower	Slack Adjuster	S-Cam	Slack Adjuster	S-Cam		
			Left Front												Right Front						Left & Right Rear							
			Number of Grease Points																									
Front Brakes	4	563895				1	1										1	1										
Front Left and Right	8	563853	1	1	1			1						1	1	1												
Front Left and Right	14	563855	1	1	1			1	1	1	1			1	1	1				1	1	1	1					
Front Left and Right	16	563864	1	1	1			1	1	1	1	1	1	1	1	1				1	1	1	1					
Tandem Axle w/Spring Trunnions - Dump Truck	10	563893								1											1				2	2	2	2
Tandem Axle w/Spring Pivots - Dump Truck	10	563896								1											1				2	2	2	2

Trailer Kit Ordering Information

	# of Grease Points	Part Number	Slack Adjuster	S-Cam	S-Cam	Slack Adjuster	S-Cam	S-Cam	Slack Adjuster	S-Cam	S-Cam	Slack Adjuster	S-Cam	S-Cam	Slack Adjuster	S-Cam	S-Cam	Bearing	Bearing	Gear Nut	Gear Nut	Crank		
			Left Front						Right Front					Left & Right Rear										
			Number of Grease Points																					
EZ Greaser Landing Gear Kit	5	563824																1	1	1	1	1		
Single Axle Trailer Kit - EZ Greaser MSP Manual w/ Std Fittings	6	563810	1	1	1	1	1	1																
EZ Greaser Tandem Axle with Enclosed S-Cams	8	563863	1	1		1	1		1	1		1	1	1	1									
EZ Greaser Trailer Tandem Axle Kit w/ Non-enclosed S-Cams	12	563877	1	1	1	1	1	1	1	1	1	1	1	1	1	1								

On-Road Mobile Lubrication Systems

Manual Hand Pump

Features and Benefits

- Heavy-duty materials and construction ensures reliability and long life
- Fill reservoirs in half the number of strokes of light-duty hand pumps
- Two stroke settings for high-pressure/low-volume and high-volume/low-pressure pumping
- Compact 35 lb or 5 gal (16 kg or 20 L) pail pump for greater mobility
- Pumps NLGI #2 grease and lower viscosities
- Follower plate keeps grease at the foot of the pump
- Dual-action pump delivers grease on both up and down strokes
- Delivers 2.3 oz (65 g) of grease per stroke when using the high-pressure/lowervolume setting
- Delivers 3.0 oz (85 g) of grease per stroke when using the high-volume/lowerpressure setting
- 5 ft (1.5 m) hose length with female quick-coupling



Typical Applications

- Filling grease reservoir on automatic lubrication systems including Grease Jockey®, G3™, and more!

Ordering Information

247886	Filler Pump Assembly—Includes Pump, Cover, Follower Plate, Hose and Coupling
557941	Grease, 35 lb (16 kg) Pail of NLGI #00

Off-Road Mobile Lubrication Systems

Dyna-Star® 10:1 High Ratio Hydraulically-Powered Lubrication Pump

Features and Benefits

- Achieve full pressure performance by safely tapping low pressure hydraulics
- Pre-packaged modules ready-to-work with both injector and divider valve systems
- Multiple pump and accessory options for use with refinery drum and custom tank installations
- Self-lubricating vertical design for long life and reliable operation in high vibration environments
- Ultra-quiet hydraulic motor—no need for add-on mufflers
- High efficiency motor design uses less hydraulic oil

Typical Applications

- Heavy-duty construction and mining equipment
- Any application requiring durable, high-performing grease delivery

Typical Fluids Handled

- NLGI #2 grade grease

Technical Specifications

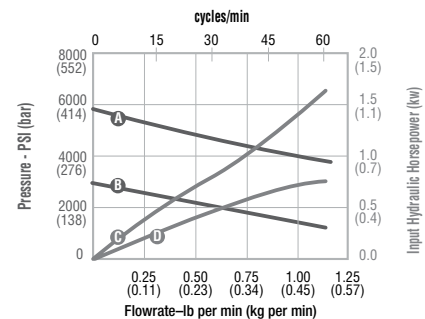
Part Number	247540	247443	247450
Drum Size	60 lb (27 kg)	120 lb (55 kg)	400 lb (180 kg)
Overall Pump Length	33.9 in (861 mm)	41.5 in (1054 mm)	48.5 in (1232 mm)
Pump Lower Length	19.75 in (501 mm)	26.75 in (679 mm)	33.75 in (857 mm)
Maximum Hydraulic Input Pressure	600 psi (41 bar)	600 psi (41 bar)	600 psi (41 bar)
Maximum Hydraulic Fluid Input Volume	3 gpm (11.4 lpm)	3 gpm (11.4 lpm)	3 gpm (11.4 lpm)
Maximum Flow Output Rate	1.1 lb/min. (0.5 kg/min.)	1.1 lb/min. (0.5 kg/min.)	1.1 lb/min. (0.5 kg/min.)
Maximum CPM	60	60	60
Maximum Fluid Output Pressure	7500 psi (517 bar)	7500 psi (517 bar)	7500 psi (517 bar)
Hydraulic Supply Inlet	3/4"–16 JIC (37° Flare)	3/4"–16 JIC (37° Flare)	3/4"–16 JIC (37° Flare)
Hydraulic Return Outlet	3/4" npt	3/4" npt	3/4" npt
Fluid Outlet	1/2" npt	1/2" npt	1/2" npt
Maximum Incoming Hydraulic Fluid Temp.	200°F (93°C)	200°F (93°C)	200°F (93°C)
312350	Manual for 247540, 247443, 247450		

Ordering Information

247540	Dyna-Star 10:1, 60 lb (27 kg) Pump
247443	Dyna-Star 10:1, 120 lb (55 kg) Pump
247450	Dyna-Star 10:1, 400 lb (180 kg) Pump



Pump Performance



- A 600 psi hydraulic inlet pressure
- B 300 psi hydraulic inlet pressure
- C Hp (600 psi hydraulic input)
- D Hp (300 psi hydraulic input)

Test Fluid: NLGI #1 grade grease

Off-Road Mobile Lubrication Systems

Dyna-Star® 10:1, 5:1 and Fire-Ball® 300 50:1

Ordering Information

Dyna-Star 10:1 Modules And Kits	
247574	Dyna-Star 10:1 60 lb (27 kg) Pump Module - Injector - Overall height 35.15 in (842mm). Includes pump (247540), reservoir assembly (247575), hydraulic control assembly (247538) and vent valve assembly (243170) fully assembled
247706	Dyna-Star 10:1 60 lb (27 kg) Pump Kit - Divider Valve (DV) - Overall height 35.15 in (842mm). Includes pump (247540), reservoir assembly (247575) and hydraulic control assembly (247538) not assembled
247444	Dyna-Star 10:1 90 lb (41 kg) Pump Module - Injector - Overall height 42.75 in (1086 mm). Includes pump (247443), reservoir assembly (241486), hydraulic control assembly (247538) and vent valve assembly (243170) fully assembled
247707	Dyna-Star 10:1 90 lb (41 kg) Pump Kit - DV - Overall height 42.75 in (1086 mm). Includes pump (247443), reservoir assembly (241486) and hydraulic control assembly (247538) not assembled
247902	Pressure relief kit for 247706 and 247707
312349	Manual for 247574, 247706, 247444, 247707

Dyna-Star 10:1 Refinery Drum And Custom Tank Applications								
Description	Refinery Drums		Custom Tank Applications					
Weight lbs (kg)	120 (55)	400 (180)	60 (27)	60 (27)	120 (55)	120 (55)	400 (180)	400 (180)
Divider Valve (DV) or Injector Based	DV	DV	Injector	DV	Injector	DV	Injector	DV
Pump	247443	247450	247540	247540	247443	247443	247450	247450
Hydraulic Control (1)	247705	247705	247538	247538	247538	247538	247538	247538
Vent Valve			243170		243170		243170	
Cover	247703	247704						
Pump Gasket	15M442	15M442	15M442	15M442	15M442	15M442	15M442	15M442
Custom Tank Kit (2)			247970		247456		247457	

(1) Hydraulic control assembly (247705) includes longer hoses to enable remote mounting.

(2) Kits include pump (24750, 247443 or 247450), hydraulic control assembly (247538), vent valve (243170) and pump gasket (15M442).

Dyna-Star 10:1 Module Accessories	
243170	Vent valve
247538	Hydraulic control module
247700	Follower plate for 60 lb (27 kg) and 90 lb (41 kg) modules
244023	Level indicator for 60 lb (27 kg) and 90 lb (41 kg) modules*
24B591	GLC 4400, 12/24 VDC controller
115124	Pressure switch
247575	Reservoir - 60 lb
241486	Reservoir - 90 lb

Fireball 300 And Dyna-Star 5:1 Modules & Accessories	
241573	Fireball 300, 50:1 90 lb (41 kg) Pump Module. Includes pump (239887), reservoir assembly (241486) and vent valve assembly (241572)
241485	Follower plate (fits 241573)
243159	Dyna-Star 5:1 90 lb (41 kg) Pump Module. Includes pump (224751), reservoir assembly (241486), hydraulic control assembly (243501) and vent valve assembly (243170)
243191	Follower plate (fits 243159)

GL Injectors	
114901	One GL-1 injector and manifold
114902	Two GL-1 injectors and manifold
114903	Three GL-1 injectors and manifold
114904	Four GL-1 injectors and manifold
114905	Five GL-1 injectors and manifold
114909	Replacement GL-1 injector
24A918	GL-11 injector



247574



241573



24B591



114905



24A918

Compressor Lubrication

Manzel® Model 25 Lubricator

Features and Benefits

- General-Purpose Lubrication: automatic, precision metering for all types of machinery
- Type Pumping Unit: Clear-View. sight feed chamber functions at atmospheric pressure. Shows amount of lubricant being pumped
- Unitized Construction: Contains complete feed regulating mechanism with inlet strainer
- Number of Feeds: 1 to 20 per lubricator, standard
- Available drives: Direct rotary (1:1), ratchet, 37.5:1 and 75:1 internal gear reductions
- Reservoirs: Single compartment, sheet metal construction
- Feed regulator: External screw-type precisely adjustable while idle or in operation
- Removable Pumping Unit: Self contained. All units interchangeable - remove two pump screws and lift out
- Hand Crank: Standard. Convenient for rapid priming of lines before start-up or for momentarily increasing supply of lubricant. Does not affect adjustment or individual pumping units. Direct replacement for Kipp Model 50 Box Lubricators



562949

Typical Applications

- Provide lubrication to cylinder walls, bearings and other moving parts of equipment such as sugar mills, steam engines, presses and general machinery

Typical Fluids Handled

- Mineral oil base or synthetics

Technical Specifications

Piston Size inches (mm)	Max Pressure psi (bar)	Drops Per Stroke		Cubic Inches Per Stroke		Cubic cm Per Stroke		Strokes Per Minute	
		Min.	Max	Min.	Max	Min.	Max	Min.	Max
3/16 (4.8)	1,000 (69)	1/6	6	.0003	.0122	.008	.399	3	490
5/16 (7.9)	1,000 (69)	1/4	12	.0005	.0245	.005	.199	3	490

Ordering Information

Model 25 Pumps	
562949	3/16 in diameter pump
562950	5/16 in diameter pump
564317	Ratchet Arm Assembly
562988	Replacement Handle

Feeds	Sight Glass	Gasket
1	556687	556721
2	556688	556722
3	556689	555741
4	556690	556723
5	556691	555742
6	556692	556724
7	556693	555743
8	556694	556725

Compressor Lubrication

Manzel® Model 25 Box Lubricator Configurator

Ordering Information

MA - X - X - X - X

Reservoir

Code Former Codes and Descriptions

- A R1 - 6.25 pt, 4 pump stations max
- B R2 - 9.25 pt, 8 pump stations max
- C R3 - 13 pt, 12 pump stations max
- D R4 - 16 pt, 16 pump stations max
- E R5 - 19.75 pt, 20 pump stations max

NOTE : Unused pump stations covered with blanking plate(s)

Pump Size

Code Former Codes and Descriptions

- A P-1 - 3/16 in. Diameter Plunger, 1,000 psi max Operating Pressure
- B P-2 - 5/16 in. Diameter Plunger, 1,000 psi max Operating Pressure

Pump Quantity

Code	Qty	Code	Qty	Code	Qty	Code	Qty
A	0	G	6	N	12	V	18
B	1	H	7	P	13	W	19
C	2	J	8	R	14	X	20
D	3	K	9	S	15		
E	4	L	10	T	16		
F	5	M	11	U	17		

Drive Options

Code Former Codes and Descriptions

- A D1R - Direct Rotary Right Hand Mount
- B D2R - Standard Ratchet (w/out drive arm) - Right Hand Mount
- C D3R - 37.5:1 Ratio - Right Hand Mount
- D D4R - 75:1 Ratio - Right Hand Mount
- E D1L - Direct Rotary Left Hand Mount
- F D2L - Standard Ratchet (w/out drive arm) - Left Hand Mount
- G D3L - 37.5:1 Ratio - Left Hand Mount
- H D4L - 75:1 Ratio - Left Hand Mount

Compressor Lubrication

Manzel® Model 25 Box Lubricators

Ordering Information

MAA - Up to 4 pumps	
MAAACB	R1-P1-2-D2R-LO
MAAADB	R1-P1-3-D2R-LO
MAAAEB	R1-P1-4-D2R-LO
MAAAEC	R1-P1-4-D3R-LO
MAABBB	R1-P2-1-D2R-LO
MAABBC	R1-P2-1-D3R-LO
MAABBF	R1-P2-1-D2L-LO
MAABBG	R1-P2-1-D3L-LO
MAABDB	R1-P2-3-D2R-LO
MAABDC	R1-P2-3-D3R-LO
MAABEB	R1-P2-4-D2R-LO
MAABEF	R1-P2-4-D2L-LO
MAB - Up to 8 pumps	
MABAAB	R2-P1-0-D2R-LO
MABACH	R2-P1-2-D4L-LO
MABAFC	R2-P1-5-D3R-LO
MABAFG	R2-P1-5-D3L-LO
MABAHC	R2-P1-7-D3R-LO
MABAHG	R2-P1-7-D3L-LO
MABAJA	R2-P1-8-D1R-LO
MABBAC	R2-P2-0-D3R-LO
MABBCC	R2-P2-2-D3L-LO
MABBEC	R2-P2-4-D3R-LO
MABBEE	R2-P2-4-D1L-LO
MABBFF	R2-P2-5-D2L-LO
MABBFG	R2-P2-5-D3L-LO
MABBGA	R2-P2-6-D1R-LO
MABBGB	R2-P2-6-D2R-LO
MABBGC	R2-P2-6-D3R-LO
MABBGF	R2-P2-6-D2L-LO
MABBHC	R2-P2-7-D3R-LO
MABBHG	R2-P2-7-D3L-LO

MAC - Up to 12 pumps	
MACAAA	R3-P1-0-D1R-LO
MACAEH	R3-P1-4-D4L-LO
MACAGH	R3-P1-6-D4L-LO
MACAHF	R3-P1-7-D2L-LO
MACAKE	R3-P1-9-D1L-LO
MACALC	R3-P1-10-D3R-LO
MACANB	R3-P1-12-D2R-LO
MACBJB	R3-P2-8-D2R-LO
MACBKA	R3-P2-9-D1R-LO
MACBLC	R3-P2-10-D3R-LO
MACBLG	R3-P2-10-D3L-LO
MAD - Up to 16 pumps	
MADBCC	R4-P2-2-D3R-LO
MADBLH	R4-P2-10-D4L-LO
MADBSG	R4-P2-15-D3L-LO
MAE - Up to 20 pumps	
MAEAAB	R5-P1-0-D2R-LO
MAEBGE	R5-P2-6-D1L-LO

Compressor Lubrication

Manzel® Model 76 Pump

Features and Benefits

- Heavy-duty 2 piece steel body construction for high performance and durability
- Hardened steel cam roller, adds to pump and cam life
- Easy serviceability—pumps can be added or removed quickly
- Pump output is easily adjustable
- One piece, injection molded, sight glass for mineral and synthetic oils

Typical Applications

- Rugged single-piston pump capable of accurately delivering precise volumes of oil to machinery lubrication points

Typical Fluids Handled

- Mineral or Synthetic oil

Technical Specifications

Piston Size inches (mm)	Max Pressure psi (bar)	Drops Per Stroke		Cubic Inches Per Stroke		Cubic cm Per Stroke		Strokes Per Minute	
		Min.	Max	Min.	Max	Min.	Max	Min.	Max
3/16 (4.8)	7500 (517)	1	6	0.002	0.013	0.033	0.213	3	50
1/4 (6.4)	6000 (414)	2	12	0.004	0.024	0.066	0.393	3	50
3/8 (9.5)	2500 (172)	4	27	0.008	0.055	0.131	0.901	3	50

Ordering Information

562953	3/16 (4.8 mm) Model 76 Vacuum Pump with Sight Glass & Suction Tube
562955	1/4 (6.4 mm) Model 76 Vacuum Pump with Sight Glass & Suction Tube
562957	3/8 (9.5 mm) Model 76 Vacuum Pump with Sight Glass & Suction Tube
562959	3/16 (4.8 mm) Model 76 Vacuum Pump with 7/8 in Short Suction Tube & 1/8 inch NPTF Vertical Outlet Adapter
562960	1/4 (6.4 mm) Model 76 Vacuum Pump with 7/8 in Short Suction Tube & 1/8 inch NPTF Vertical Outlet Adapter
562961	3/16 (4.8 mm) Model 76 Pressurized Supply Pump (without Sight Glass)
562963	1/4 (6.4 mm) Model 76 Pressurized Supply Pump (without Sight Glass)
562965	3/8 (9.5 mm) Model 76 Pressurized Supply Pump (without Sight Glass)



Compressor Lubrication

Manzel® Model 88 Pump

Features and Benefits

- Hardened steel cam roller, adds to pump and cam life
- Easy serviceability – pumps can be added or removed quickly
- Pump output is easily adjustable
- One piece, injection molded, sight glass for mineral and synthetic oils

Typical Applications

- Rugged single-piston pump capable of accurately delivering precise volumes of oil to machinery lubrication

Typical Fluids Handled

- Mineral or Synthetic oil

Technical Specifications

Piston Size inches (mm)	Max Pressure psi (bar)	Drops Per Stroke		Cubic Inches Per Stoke		Cubic cm Per Stroke		Strokes Per Minute	
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
3/16 (4.8)	7,500 (517)	1	6	0.002	0.013	0.033	0.213	3	50
1/4 (6.4)	6,000 (414)	2	12	0.004	0.024	0.066	0.393	3	50
3/8 (9.5)	2,500 (172)	4	27	0.008	0.055	0.131	0.901	3	50



Ordering Information

562954	3/16 (4.8 mm) Model 88 Vacuum Pump with Sight Glass & Suction Tube
562956	1/4 (6.4 mm) Model 88 Vacuum Pump with Sight Glass & Suction Tube
562958	3/8 (9.5 mm) Model 88 Vacuum Pump with Sight Glass & Suction Tube
562962	3/16 (4.8 mm) Model 88 Pressurized Supply Pump (without Sight Glass)
562964	1/4 (6.4 mm) Model 88 Pressurized Supply Pump (without Sight Glass)
562966	3/8 (9.5 mm) Model 88 Pressurized Supply Pump (without Sight Glass)
564011	3/16 (4.8 mm) Model 88 Gravity Supply Pump (with Sight Glass)
562967	1/4 (6.4 mm) Model 88 Gravity Supply Pump (with Sight Glass)
562968	3/8 (9.5 mm) Model 88 Gravity Supply Pump (with Sight Glass)

Compressor Lubrication

Manzel® MBL Box Lubricators

Features and Benefits

- Provide a proven, cost-effective way to assemble customized oil systems that meet specific requirements by using standard modular components
- Increase opportunities to standardize lube system components and reduce lube maintenance and service costs
- Are dependable and backed by the industry's most comprehensive international distributor network—with application expertise, parts stocks and factory-trained service nearby, wherever you are located



Typical Applications

- Provide lubrication to cylinder walls, bearings and other moving parts of equipment such as refineries, injection and storage, general manufacturing, air systems, and food processing equipment

Typical Fluids Handled

- Mineral oil base or synthetics

Ordering Information

(See ordering information menu code at the end of MBL section for description of pump configuration)

T1 - Up to 2 Pumps	
MBAAAA	MBL-T1-76B-0-G01R-P0-M0-F0-L0-S0-H0
MBAABA	MBL-T1-76B-1-G01R-P0-M0-F0-L0-S0-H0
MBABBF	MBL-T1-76C-1-G02L-P0-M0-F0-L0-S0-H0
MBABCE	MBL-T1-76C-2-G01L-P0-M0-F0-L0-S0-H0
MBAECR	MBL-T1-88C-2-G11R-P0-M0-F0-L0-S0-H0
MBJDCN	MBL-T1-88B-2-G09R-P1-M0-F0-L0-S0-H0
T2 - Up to 3 Pumps	
MBKAAL	MBL-T2-76B-0-G07R-P2-M0-F0-L0-S0-H0
MBKCCL	MBL-T2-76E-2-G07R-P2-M0-F0-L0-S0-H0
MBKDBN	MBL-T2-88B-1-G09R-P2-M0-F0-L0-S0-H0
MBKDCM	MBL-T2-P2-88B-2-G08R-P0-M0-F0-L0-S0-H0
MBKECN	MBL-T2-88C-2-G09R-P2-M0-F0-L0-S0-H0
MBKFDK	MBL-T2-88E-3-G06R-P2-M0-F0-L0-S0-H0
MBBAAC	MBL-T2-76B-0-G03R-P0-M0-F0-L0-S0-H0
MBBAAH	MBL-T2-76B-0-G04L-P0-M0-F0-L0-S0-H0
MBBAAN	MBL-T2-76B-0-G09R-P0-M0-F0-L0-S0-H0
MBBADA	MBL-T2-76B-3-G01R-P0-M0-F0-L0-S0-H0
MBBBBB	MBL-T2-76C-1-G02R-P0-M0-F0-L0-S0-H0
MBBBCM	MBL-T2-76C-2-G08R-P0-M0-F0-L0-S0-H0
MBBBDG	MBL-T2-76C-3-G03L-P0-M0-F0-L0-S0-H0
MBBDAM	MBL-T2-88B-0-G08R-P0-M0-F0-L0-S0-H0
MBBDDM	MBL-T2-88B-3-G08R-P0-M0-F0-L0-S0-H0
MBBEAA	MBL-T2-88C-0-G01R-P0-M0-F0-L0-S0-H0
MBBEBA	MBL-T2-88C-1-G02R-P0-M0-F0-L0-S0-H0
MBBECA	MBL-T2-88C-2-G01R-P0-M0-F0-L0-S0-H0
MBBECE	MBL-T2-88C-2-G01L-P0-M0-F0-L0-S0-H0
MBBECM	MBL-T2-88C-2-G08R-P0-M0-F0-L0-S0-H0

MBBECN	MBL-T2-88C-2-G09R-P0-M0-F0-L0-S0-H0
MBBFCA	MBL-T2-88E-2-G01R-P0-M0-F0-L0-S0-H0
T3 - Up to 5 Pumps	
MBLEAA	MBL-T3-88C-0-G01R-P3-M0-F0-L0-S0-H0
MBLEEA	MBL-T3-88C-4-G01R-P3-M0-F0-L0-S0-H0
MBLEEN	MBL-T3-88C-4-G09R-P3-M0-F0-L0-S0-H0
MBLEFN	MBL-T3-88C-5-G09R-P3-M0-F0-L0-S0-H0
MBLFCN	MBL-T3-88E-2-G09R-P3-M0-F0-L0-S0-H0
MBLSCM	MBL-T3-88B-2-G09R-P3-M0-F4-L0-S0-H0
MBCAAA	MBL-T3-76B-0-G01R-P0-M0-F0-L0-S0-H0
MBCAAC	MBL-T3-76B-0-G03R-P0-M0-F0-L0-S0-H0
MBCAAE	MBL-T3-76B-0-G01L-P0-M0-F0-L0-S0-H0
MBCAAL	MBL-T3-76B-0-G07R-P0-M0-F0-L0-S0-H0
MBCAEJ	MBL-T3-76B-4-G05R-P0-M0-F0-L0-S0-H0
MBCBDB	MBL-T3-76C-3-G02R-P0-M0-F0-L0-S0-H0
MBCBFE	MBL-T3-76C-5-G01L-P0-M0-F0-L0-S0-H0
MBCDAE	MBL-T3-88B-0-G01L-P0-M0-F0-L0-S0-H0
MBCDEB	MBL-Y3-88B-4-G02R-P0-M0-F0-L0-S0-H0
MBCDEE	MBL-T3-88B-4-G01L-P0-M0-F0-L0-S0-H0
MBCDFE	MBL-T3-88B-5-G01L-P0-M0-F0-L0-S0-H0
MBCEBL	MBL-T3-88C-1-G07R-P0-M0-F0-L0-S0-H0
MBCECM	MBL-T3-88C-2-G08R-P0-M0-F0-L0-S0-H0
MBCECN	MBL-T3-88C-2-G09R-P0-M0-F0-L0-S0-H0
MBCEEA	MBL-T3-88C-4-G01R-P0-M0-F0-L0-S0-H0
MBCEEB	MBL-T3-88C-4-G02R-P0-M0-F0-L0-S0-H0
MBCEFB	MBL-T3-88C-5-G02R-P0-M0-F0-L0-S0-H0
MBCEFE	MBL-T3-88C-5-G01L-P0-M0-F0-L0-S0-H0
MBCEFL	MBL-T3-88C-5-G07R-P0-M0-F0-L0-S0-H0

Compressor Lubrication

Manzel® MBL Box Lubricators

Ordering Information

(See ordering information menu code at the end of MBL section for description of pump configuration)

MBCHDE	MBL-T3-76C-3-G01L-P0-M0-F0-L0-S0-H0
MBCSCM	MBL-T3-88B-3-G01L-P0-M0-F0-L0-S0-H0
T4 - Up to 8 Pumps	
MBMDJM	MBL-T4-P4-88B-8-G08R-P0-M0-F0-L0-S0-H0
MBMEGM	MBL-T4-P4-88C-6-G08R-P0-M0-F0-L0-S0-H0
MBMEGN	MBL-T4-P4-88C-6-G09R-P0-M0-F0-L0-S0-H0
MBMEJL	MBL-T4-88C-8-G07R-P4-M0-F0-L0-S0-H0
MBMGEM	MBL-T4-76B-4-G08R-P4-M0-F3-L0-S0-H0
MBDAAA	MBL-T4-76B-0-G01R-P0-M0-F0-L0-S0-H0
MBDAAE	MBL-T4-76B-0-G01L-P0-M0-F0-L0-S0-H0
MBDAAL	MBL-T4-76B-0-G07R-P0-M0-F0-L0-S0-H0
MBDAAN	MBL-T4-76B-0-G09R-P0-M0-F0-L0-S0-H0
MBDADN	MBL-T4-76B-3-G09R-P0-M0-F0-L0-S0-H0
MBDAEE	MBL-T4-76B-4-G01L-P0-M0-F0-L0-S0-H0
MBDAEN	MBL-T4-76B-4-G09R-P0-M0-F0-L0-S0-H0
MBDAFA	MBL-T4-76B-5-G01R-P0-M0-F0-L0-S0-H0
MBDBAA	MBL-T4-76C-0-G01R-P0-M0-F0-L0-S0-H0
MBDBAM	MBL-T4-76C-0-G08R-P0-M0-F0-L0-S0-H0
MBDBDA	MBL-T4-76C-3-G01R-P0-M0-F0-L0-S0-H0
MBDBDF	MBL-T4-76C-3-G02L-P0-M0-F0-L0-S0-H0
MBDBDM	MBL-T4-76C-3-G08R-P0-M0-F0-L0-S0-H0
MBDBFR	MBL-T4-76C-5-G11R-P0-M0-F0-L0-S0-H0
MBDDAH	MBL-T4-88B-0-G04L-P0-M0-F0-L0-S0-H0
MBDDEM	MBL-T4-88B-4-G08R-P0-M0-F0-L0-S0-H0
MBDDEN	MBL-T4-88B-4-G09R-P0-M0-F0-L0-S0-H0
MBDDGL	MBL-T4-88B-6-G07R-P0-M0-F0-L0-S0-H0
MBDDJA	MBL-T4-88B-8-G01R-P0-M0-F0-L0-S0-H0
MBDEAA	MBL-T4-88C-0-G01R-P0-M0-F0-L0-S0-H0
MBDEDD	MBL-T4-88C-3-G04R-P0-M0-F0-L0-S0-H0
MBDEGA	MBL-T4-88C-6-G01R-P0-M0-F0-L0-S0-H0
MBDEGK	MBL-T4-88C-6-G06R-P0-M0-F0-L0-S0-H0
MBDEGR	MBL-T4-88C-6-G11R-P0-M0-F0-L0-S0-H0
MBDEGZ	MBL-T4-88C-6-G12L-P0-M0-F0-L0-S0-H0
MBDEJA	MBL-T4-88C-8-G01R-P0-M0-F0-L0-S0-H0
MBDEJB	MBL-T4-88C-8-G02R-P0-M0-F0-L0-S0-H0
MBDEJE	MBL-T4-88C-8-G01L-P0-M0-F0-L0-S0-H0
MBDFFC	MBL-T4-88E-5-G03R-P0-M0-F0-L0-S0-H0
MBDFGA	MBL-T4-88E-6-G01R-P0-M0-F0-L0-S0-H0
MBDHGE	MBL-T4-76C-6-G01R-P0-M0-F3-L0-S0-H0
MBDNHN	MBL-T4-76B-7-G09R-P0-M0-F4-L0-S0-H0
T5 - Up to 12 Pumps	
MBNDBM	MBL-T5-88B-1-G08R-P5-M0-F0-L0-S0-H0
MBNDJM	MBL-T5-P5-88B-8-G08R-P0-M0-F0-L0-S0-H0
MBNDKM	MBL-T5-88B-9-G08R-P5-M0-F0-L0-S0-H0
MBNDLN	MBL-T5-88B-10-G09R-P5-M0-F0-L0-S0-H0

MBNDMN	MBL-T5-88B-10-G09R-P5-M0-F0-L0-S0-H0
MBNEJK	MBL-T5-88C-8-G06R-P5-M0-F0-L0-S0-H0
24A574	MBL-T5-88C-08-G99-L-P99-F
564290	MBL-T5-G01R THRU SHAFT
564296	MBL-T5-88C-8-G02R 2 COMP
MBEAAA	MBL-T5-76B-0-G01R-P0-M0-F0-L0-S0-H0
MBEAAE	MBL-T5-76B-0-G01L-P0-M0-F0-L0-S0-H0
MBEAJA	MBL-T5-76B-8-G01R-P0-M0-F0-L0-S0-H0
MBEAJM	MBL-T5-76B-8-G08R-P0-M0-F0-L0-S0-H0
MBEAKM	MBL-T5-76B-9-G08R-P0-M0-F0-L0-S0-H0
MBEBKA	MBL-T5-76C-9-G01R-P0-M0-F0-L0-S0-H0
MBEDAH	MBL-T5-88B-0-G04L-P0-M0-F0-L0-S0-H0
MBEDFJ	MBL-T5-88B-5-G05R-P0-M0-F0-L0-S0-H0
MBEDHN	MBL-T5-88B-7-G09R-P0-M0-F0-L0-S0-H0
MBEDJE	MBL-T5-88B-8-G01L-P0-M0-F0-L0-S0-H0
MBEDMC	MBL-T5-88B-11-G03R-P0-M0-F0-L0-S0-H0
MBEDME	MBL-T5-88B-11-G01L-P0-M0-F0-L0-S0-H0
MBEDNG	MBL-T5-88B-12-G03L-P0-M0-F0-L0-S0-H0
MBEEAE	MBL-T5-88C-0-G01L-P0-M0-F0-L0-S0-H0
MBEEKG	MBL-T5-88C-9-G03L-P0-M0-F0-L0-S0-H0
MBEEKL	MBL-T5-88C-9-G07R-P0-M0-F0-L0-S0-H0
MBEEKZ	MBL-T5-88C-9-G12R-P0-M0-F0-L0-S0-H0
MBEELA	MBL-T5-88C-10-G01R-P0-M0-F0-L0-S0-H0
MBEELL	MBL-T5-88C-10-G07R-P0-M0-F0-L0-S0-H0
MBEENA	MBL-T5-88C-12-G01R-P0-M0-F0-L0-S0-H0
MBEENE	MBL-T5-88C-12-G01L-P0-M0-F0-L0-S0-H0
MBEENM	MBL-T5-88C-12-G08R-P0-M0-F0-L0-S0-H0
MBEKEN	MBL-T5-88B-4-G09R-P0-M0-F3-L0-S0-H0
MBELCA	MBL-T5-88C-12-G08R-P0-M0-F3-L0-S0-H0
T6 - Up to 16 Pumps	
MBPENW	MBL-T6-88C-12-G16R-P6-M0-F0-L0-S0-H0
MBFAAE	MBL-T6-76B-0-G01L-P0-M0-F0-L0-S0-H0
MBFBAA	MBL-T6-76C-0-G01R-P0-M0-F0-L0-S0-H0
MBFBJA	MBL-T6-76C-8-G01R-P0-M0-F0-L0-S0-H0
MBFCAA	MBL-T6-76E-0-G01R-P0-M0-F0-L0-S0-H0
MBFCPA	MBL-T6-76E-13-G01R-P0-M0-F0-L0-S0-H0
MBFDAH	MBL-T6-88B-0-G04L-P0-M0-F0-L0-S0-H0
MBFDRA	MBL-T6-88B-14-G01R-P0-M0-F0-L0-S0-H0
MBFEAE	MBL-T6-88C-0-G01L-P0-M0-F0-L0-S0-H0
MBFENB	MBL-T6-88C-12-G02R-P0-M0-F0-L0-S0-H0
MBFENE	MBL-T6-88C-12-G01L-P0-M0-F0-L0-S0-H0
MBFERC	MBL-T6-88C-14-G03R-P0-M0-F0-L0-S0-H0
MBFETE	MBL-T6-88C-16-G01L-P0-M0-F0-L0-S0-H0
MBFFCA	MBL-T6-88E-2-G01R-P0-M0-F0-L0-S0-H0

Compressor Lubrication

Manzel® MBL Box Lubricators

Ordering Information

(See ordering information menu code at the end of MBL section for description of pump configuration)

T7 - Up to 20 Pumps	
MBSEXA	MBL-T8-88C-20-G01R-P8-M0-F0-L0-S0-H0
MBSEZA	MBL-T8-88C-22-G01R-P8-M0-F0-L0-S0-H0
MBRAUY	MBL-T7-76B-17-G18R-P7-M0-F0-L0-S0-H0
MBGAAA	MBL-T7-76B-0-G01R-P0-M0-F0-L0-S0-H0
MBGAAC	MBL-T7-76B-0-G03R-P0-M0-F0-L0-S0-H0
MBGBAA	MBL-T7-76C-0-G01R-P0-M0-F0-L0-S0-H0
MBGDAA	MBL-T7-88B-0-G01R-P0-M0-F0-L0-S0-H0
MBGDAE	MBL-T7-88B-0-G01L-P0-M0-F0-L0-S0-H0
MBGDAH	MBL-T7-88B-0-G04L-P0-M0-F0-L0-S0-H0
MBGETE	MBL-T7-88C-16-G01L-P0-M0-F0-L0-S0-H0
T8 - Up to 24 Pumps	
MBHAAE	MBL-T8-76B-0-G01L-P0-M0-F0-L0-S0-H0
MBHBAA	MBL-T8-76C-0-G01R-P0-M0-F0-L0-S0-H0
MBHBUA	MBL-T8-76C-17-G01R-P0-M0-F0-L0-S0-H0
MBHCAZ	MBL-T8-76E-0-G12L-P0-M0-F0-L0-S0-H0
MBHCZA	MBL-T8-76E-22-G01R-P0-M0-F0-L0-S0-H0
MBHDAA	MBL-T8-88B-0-G01R-P0-M0-F0-L0-S0-H0
MBHDAE	MBL-T8-88B-0-G01L-P0-M0-F0-L0-S0-H0
MBHEZE	MBL-T8-88C-22-G01L-P0-M0-F0-L0-S0-H0
Other	
562930	MBL-76-8PT-RH-200-5FD-FULLER
562933	MBL-88-DIEHL-SAW
562938	MBL-88-DIR-2-COMP-4-6FD
564293	MBL-88-12PT-SPECIAL
564294	MBL-88-16PT-SPECIAL

Compressor Lubrication

Manzel® MBL Box Lubricator Configurator

Ordering Menu Code

MB - X - X - X - X

Reservoir

Code	Former Codes and Descriptions	Code	Former Codes and Descriptions
A	T1 - 4 pt, 2 pump stations max	J	T1 & P1 - 4 pt, 2 pump stations max, motor mount base
B	T2 - 6 pt, 3 pump stations max	K	T2 & P2 - 6 pt, 3 pump stations max, motor mount base
C	T3 - 8 pt, 5 pump stations max	L	T3 & P3 - 8 pt, 5 pump stations max, motor mount base
D	T4 - 12 pt, 8 pump stations max	M	T4 & P4 - 12 pt, 8 pump stations max, motor mount base
E	T5 - 16 pt, 12 pump stations max	N	T5 & P5 - 16 pt, 12 pump stations max, motor mount base
F	T6 - 24 pt, 16 pump stations max	P	T6 & P6 - 24 pt, 16 pump stations max, motor mount base*
G	T7 - 32 pt, 20 pump stations max	R	T7 & P7 - 32 pt, 20 pump stations max, motor mount base*
H	T8 - 40 pt, 24 pump stations max	S	T8 & P8 - 40 pt, 24 pump stations max, motor mount base*

*Cannot use double reduction or right angle drives

Pump Size

Code	Former Code and Description	Code	Former Code and Description
A	76B - Model 76 - 3/16 Dia. Piston	K	88B & F3 - Model 88 - 3/16 Dia. Piston, RENS Level Controller
B	76C - Model 76 - 1/4 Dia. Piston	L	88C & F3 - Model 88 - 1/4 Dia. Piston, RENS Level Controller
C	76E - Model 76 - 3/8 Dia. Piston	M	88E & F3 - Model 88 - 3/8 Dia. Piston, RENS Level Controller
D	88B - Model 88 - 3/16 Dia. Piston	N	76B & F4 - Model 76 - 3/16 Dia. Piston, GARZA Level Controller (Class 1 Group D) - 558221
E	88C - Model 88 - 1/4 Dia. Piston	P	76C & F4 - Model 76 - 1/4 Dia. Piston, GARZA Level Controller (Class 1 Group D)
F	88E - Model 88 - 3/8 Dia. Piston	R	76E & F4 - Model 76 - 3/8 Dia. Piston, GARZA Level Controller (Class 1 Group D)
G	76B & F3 - Model 76 - 3/16 Dia. Piston, RENS Level Controller - 556808	S	88B & F4 - Model 88 - 3/16 Dia. Piston, GARZA Level Controller (Class 1 Group D)
H	76C & F3 - Model 76 - 1/4 Dia. Piston, RENS Level Controller	T	88C & F4 - Model 88 - 1/4 Dia. Piston, GARZA Level Controller (Class 1 Group D)
J	76E & F3 - Model 76 - 3/8 Dia. Piston, RENS Level Controller	U	88E & F4 - Model 88 - 3/8 Dia. Piston, GARZA Level Controller (Class 1 Group D)

Pump Quantity

Code	Oty	Code	Oty	Code	Oty	Code	Oty	Code	Oty	Code	Oty
A	0	E	4	J	8	N	12	T	16	X	20
B	1	F	5	K	9	P	13	U	17	Y	21
C	2	G	6	L	10	R	14	V	18	Z	22
D	3	H	7	M	11	S	15	W	19		

\$ - Multiply the number of pumps by the pump price and add level control price adder. All unused pump stations are covered with a removable blanking plate

Drive Options

Code	Former Code and Description	Code	Former Code and Description	Code	Former Code and Description
A	G01R - Direct End Rotary	J	G05R - Double Reduction End Rotary 25:1	T	G13R - RT Angle Rotary 375:1
B	G02R - End Ratchet (w/out drive arm) - 800 rpm max input	K	G06R - Double Reduction End Rotary 50:1	U	G14R - 100:1 Ratio Gear Reducer
C	G03R - End Rotary Ratchet 37.5:1 - 800 rpm max input	L	G07R - Double Reduction End Rotary 100:1	V	G15R - 150:1 Ratio Gear Reducer
D	G04R - End Rotary Ratchet 75:1 - 800 rpm max input	M	G08R - Double Reduction End Rotary 200:1	W	G16R - 200:1 Ratio Gear Reducer
E	G01L - Direct End Rotary	N	G09R - Double Reduction End Rotary 400:1	X	G17R - 300:1 Ratio Gear Reducer
F	G02L - End Ratchet (w/out drive arm) - 800 rpm max input	P	G10R - RT Angle Rotary 25:1	Y	G18R - 400:1 Ratio Gear Reducer
G	G03L - End Rotary Ratchet 37.5:1 - 800 rpm max input	R	G11R - RT Angle Rotary 50:1	Z	G12L - Left Angel Rotary 188:1
H	G04L - End Rotary Ratchet 75:1 - 800 rpm max input	S	G12R - RT Angle Rotary 188:1		

Compressor Lubrication

Manzel® DSL Lubricators and Pumps

Features and Benefits

- Rugged construction for high performance and durability
- Complete assembly - includes level sight gauge, fill cup and drain plug
- Precise camshaft alignment insures proper lubrication by all pumps
- Can be used in outdoor and ammonia (sour gas) environment
- Easy serviceability-pumps can be added or replaced quickly
- Pump output is easily adjustable



Typical Applications

- Compressors and industrial equipment

Typical Fluids Handled

- Mineral or synthetic oil

Technical Specifications

Ordering Code	Piston Size (inches)	Max. Pressure psi	Drops Per Stroke		Cubic Inches Per Stroke		Cubic cm Per Stroke		Strokes Per Minute	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
D1	9/32	3,000	2.0	6.25	.0048	0.15	.079	.245	3	25
D2	9/32	3,000	2.0	6.25	.0048	0.15	.079	.245	3	25



Ordering Information

562627	(D1) 9/32 Vacuum Inlet Pump	24A473	12 station, 16 pt, 37.5:1 - Left Drive
564244	(D2) 9/32 Pressurized Inlet Pump	24A474	12 station, 16 pt, 37.5:1 - Right Drive
562629	Vacuum Inlet Pump w/Suction Tube length reduced by 1 in	24A475	12 station, 16 pt, 75:1 - Left Drive
24A453	3 station, 4 pt, 283:1 - Right Drive	24A476	12 station, 16 pt, 75:1 - Right Drive
24A454	9 station, 12 pt, 283:1 - Right Drive	24A477	3 station, 4 pt, 40:1 - Left Front Drive
24A455	3 station, 4 pt, 1:1 - Left Drive	24A478	3 station, 4 pt, 40:1 - Right Front Drive
24A456	3 station, 4 pt, 1:1 - Right Drive	24A479	3 station, 4 pt, 60:1 - Left Front Drive
24A457	6 station, 4 pt, 1:1 - Left Drive	24A480	3 station, 4 pt, 60:1 - Right Front Drive
24A458	6 station, 8 pt, 1:1 - Right Drive	24A481	3 station, 4 pt, 40:1 - Left Rear Drive
24A459	9 station, 12 pt, 1:1 - Left Drive	24A482	3 station, 4 pt, 40:1 - Right Rear Drive
24A460	9 station, 12 pt, 1:1 - Right Drive	24A483	3 station, 4 pt, 60:1 - Left Rear Drive
24A461	3 station, 4 pt, 37.5:1 - Left Drive	24A484	3 station, 4 pt, 60:1 - Right Rear Drive
24A462	3 station, 4 pt, 37.5:1 - Right Drive	24A485	6 station, 8 pt, 40:1 - Left Front Drive
24A463	3 station, 4 pt, 75:1 - Left Drive	24A486	6 station, 8 pt, 40:1 - Right Front Drive
24A464	3 station, 4 pt, 57:1 - Right Drive	24A487	6 station, 8 pt, 60:1 - Left Front Drive
24A465	6 station, 8 pt, 37.5:1 - Left Drive	24A488	6 station, 8 pt, 60:1 - Right Front Drive
24A466	6 station, 8 pt, 37.5:1 - Right Drive	24A489	6 station, 8 pt, 40:1 - Left Rear Drive
24A467	6 station, 8 pt, 75:1 - Left Drive	24A490	6 station, 8 pt, 40:1 - Right Rear Drive
24A468	6 station, 8 pt, 75:1 - Right Drive	24A491	6 station, 8 pt, 60:1 - Left Rear Drive
24A469	9 station, 12 pt, 37.5:1 - Left Drive	24A492	6 station, 8 pt, 60:1 - Right Rear Drive
24A470	9 station, 12 pt, 37.5:1 - Right Drive	24A493	9 station, 12 pt, 40:1 - Left Front Drive
24A471	9 station, 12 pt, 75:1 - Left Drive	24A494	9 station, 12 pt, 40:1 - Right Front Drive
24A472	9 station, 12 pt, 75:1 - Right Drive	24A495	9 station, 12 pt, 60:1 - Left Front Drive

Compressor Lubrication

Compressor Lubrication

Manzel® DSL Lubricators and Pumps

Ordering Information

24A496	9 station, 12 pt, 60:1 - Right Front Drive
24A497	9 station, 12 pt, 40:1 - Left Rear Drive
24A498	9 station, 12 pt, 40:1 - Right Rear Drive
24A499	9 station, 12 pt, 60:1 - Left Rear Drive
24A501	9 station, 12 pt, 60:1 - Right Rear Drive
24A502	15 station, 20 pt, 60:1 - Left Front Drive
24A503	15 station, 20 pt, 60:1 - Right Front Drive
24A504	15 station, 20 pt, 60:1 - Left Rear Drive
24A505	15 station, 20 pt, 60:1 - Right Rear Drive
24A506	3 station, 4 pt, 1:1 - Right Bottom Drive
24A507	3 station, 4 pt, 2.5:1 - Right Bottom Drive
24A508	6 station, 8 pt, 1:1 - Right Bottom Drive
24A509	6 station, 8 pt, 2.5:1 - Right Bottom Drive
562547	DSL 4 pt Bot Rot 2.5 3FD
562548	DSL 8 pt Bot Rot 2.5 4FD
562549	DSL 4 pt LH Rear Rot 60 1FD
562550	DSL 4 pt LH Rear Rot 60 2FD
562551	DSL 4 pt LH Rear Rot 60 3FD
562552	DSL 8 pt LH Rear Rot 60 0FD
562553	DSL 12 pt LH Rear Rot 60 7FD
562554	DSL 4 pt LH Rot 37.5 3FD
562555	DSL 4 pt LH Rot 37.5 6FD
562561	DSL 8 pt LH Rot 75 5FD
562562	DSL 16 pt LH Rot DL CAM 10FD
562563	DSL 20 pt LH Rear Rot 60 10FD
562564	DSL 4 pt Bot Rot 2.5 3FD
562565	DSL 8 pt Bot 060371 2.5 4FD
562566	DSL 8 pt RH Rear Rot 40 6FD
562567	DSL 8 pt RH Front Rot 40 5FD
564210	DSL 4 pt LH Rot 75 3FD
564211	DSL 4 pt Bot Rot 2.5 2FD
564212	DSL-R6-D1-04-BS2-L
564213	DSL 4 pt RH Rear Rot 60
564214	DSL 8 pt 4FD RH Rot 37.5:1
564219	DSL 12 pt RH RR Recip 60
564222	DSL 8 pt LH Rear Rot 60
564223	DSL-R9-D1-5-ER4-L-P9
564225	DSL 12 pt LH Rear Rot 7FD
564226	DSL SST, 60:1 LH SPEC
564227	DSL-R6-D1-06-ER3-R-P06-M1
564229	DSL-R3-D1-2-SF0-ER4-L-P3
256929	DSL, 9/32
256907	DSL, 9/32
256908	DSL, 9/32, w/out Suction

Compressor Lubrication

Model HP-15™ High Pressure Lubricators

Features and Benefits

The high pressure lubricator comprises one to six integral sight and pump assemblies in a cast iron reservoir. The unit is designed for direct connection to an electric motor/speed reducer power source. A Manzel® terminal check valve is recommended in the lubrication system. When required to maintain proper oil viscosity, the reservoir can be fitted with an electric heater.

Typical Applications

- Multi-stage gas compression

Typical Fluids Handled

- Mineral or synthetic oil

Technical Specifications

Number of Feeds	Max. Pressure	Reservoir Capacity (Quarts) (1)	Plunger Diameter (inches)	Drops Per Stroke		Cubic Inches Per Stroke		Cubic cm Per Stroke		Strokes Per Minute	
				Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1-6	18,000	7	1/4	1	4	0.002	0.008	0.033	0.113	3	36



562951

Ordering Information

562918	HP-15 6 Feed Gear Box Without Pumps
562919	HP-15 6 Feed Gear Box With Pumps
564272	HP-15 6 Feed Gear Box With Pumps And Heater
562951	HP-15 Pump
556700	HP-15 Sight Glass
563113	HP-15 Plunger And Cylinder Assembly
564334	In-line Check Valve

Compressor Lubrication

Manzel® HP-50™ High Pressure Lubricators

Features and Benefits

- Operating pressures to 50,000 psi for lubricating compressor and circulator cylinder walls, heavily loaded bearings and other moving parts
- Single plunger force feed design is highly efficient for injecting lubricants and/or compatible fluids into high pressure systems
- Vacuum sight feeds on self-contained pumping units show output of lubricant to individual lubrication points
- All working parts are totally enclosed and self-lubricated
- Individual pumping units easily removed for service
- Feed rate infinitely variable from minimum to maximum with simple hand adjustment



Typical Applications

- Compressors and industrial equipment

Typical Fluids Handled

- Mineral or synthetic oil

Technical Specifications

Number of Feeds	Max. Pressure	Reservoir Capacity (Quarts) (1)	Plunger Diameter (inches)	Drops Per Stroke		Cubic Inches Per Stroke		Cubic cm Per Stroke		Strokes Per Minute	
				Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1-4	50,000	9	1/4	1	4	0.002	0.008	0.033	0.113	3	36

Ordering Information

HP-50 Pump	
562952	HP-50 Pump Assembly
HP-50 Lubricator Boxes	
564276	HP-50 Lubricator without Pumps or Options
562925	HP-50 Lubricator with 4 Pumps
562926	HP-50 Lubricator with 2 Pumps
562927	HP-50 Lubricator with 4 Pumps, Provision for Flange Mounted Auto Fill, and Nitrogen Purge Port
562928	HP-50 Lubricator with 4 Pumps, Low Level and Shaft Rotation Alarm
562929	HP-50 Lubricator with 4 Pumps, Provisions for Flange Mounted Auto Fill and Low Level in Fill Plate
564277	HP-50 Lubricator with 4 Pumps and Steam Heater
564278	HP-50 Lubricator with 3 Pumps and Steam Heater
564279	HP-50 Lubricator with 4 Pumps, Provision for Flange Mounted Auto Fill, Nitrogen Purge and Shaft Rotation/Low Level Alarm on Left

564280	HP-50 Lubricator with 4 Pumps, Provision for Flange Mounted Auto Fill, Nitrogen Purge and Shaft Rotation/Low Level Alarm on Right
564282	HP-50 Lubricator with 4 Pumps, Shaft Rotation and Low Level Alarm
564283	HP-50 Lubricator with 4 Lubricator Boxes with 15 Pumps, Provision for Center Mounted Motor and Base
258262	HP-50 Lubricator with 4 Pumps and Low Level
258263	HP-50 Lubricator with 4 Pumps, Provisions for Flange Mounted Auto Fill and Low Level in Fill Plate, and Prox Switch Shaft Rotation Indicator on Right
HP-50 Accessories	
563111	HP-50 plunger and cylinder
564336	HP-50 check valve
558881	Electric heater, 120/240 VAC
563020	Shaft rotation alarm
563024	Low level

Compressor Lubrication

Manzel® MVB Pump

Features and Benefits

The MVB lubrication system is a single line, series progressive system which divides pump output into predetermined proportional amounts and distributes these amounts to points of lubrication.

- One main supply from single pump
- Central monitoring of normal operation
- Automatic proportioning of lubricant through positive displacement valves
- Quick indication of problem areas

Typical Applications

- Compressors and reciprocating engines

Typical Fluids Handled

- Oil

Technical Specifications

Single Camshaft rpm (pump strokes per min..)	1/4 piston				3/8 piston			
	Min. Output Adj.		Max. Output Adj.		Min. Output Adj.		Max. Output Adj.	
	0.12456*(constant)		0.59832		0.29909*(constant)		1.4902	
20	2.49	(1.18)	11.97	(5.66)	5.98	(2.83)	29.92	(14.15)
30	3.74	(1.77)	17.95	(8.49)	8.97	(4.24)	44.88	(21.23)
40	4.98	(2.36)	23.93	(11.32)	11.96	(5.66)	59.84	(28.30)
50	6.23	(2.95)	29.92	(14.15)	14.95	(7.07)	74.80	(35.38)
60	7.47	(3.53)	35.90	(16.98)	17.95	(8.49)	89.76	(42.46)
70	8.72	(4.12)	41.88	(19.81)	20.94	(9.90)	104.72	(49.53)

Ordering Information

563565	MVB 0.250 in (6.35 mm) Piston Pump
563566	MVB 0.375 in (9.53 mm) Piston Pump
563920	Seal kit for MVB pump
563919	3/8" piston and sleeve replacement
563918	1/4" piston and sleeve replacement
557824	25 micron filter
557827	10 micron filter



563565



MVB Box lubricator

Compressor Lubrication Accessories

Lube Sentinel II Monitor™

Features and Benefits

- Same unit is configurable to monitor one or two zones
- Monitors net lube flow to the machine and recognizes both low-lube and high-lube faults
- Displays “per 24 hour lube rates” in pints, gallons, milliliters, liters, ounces and counts
- Displays instantaneous (last cycle) rate, average (last 10 cycles) rate and cumulative lube total - updated with every cycle
- Fault times and rates are automatically recalculated if displayed unit of measure is altered
- Fault times and rates can be automatically proportioned as machine speeds change using a tach pulse sensor (nonprovided)
- Fault enunciation can be delayed to avoid nuisance alarms shutdowns
- Faults can be reset and zones can be bypassed remotely
- Suitable for use in fast cycling applications
- Includes highly reliable electronic circuitry, packaged to resist the influence of electrical noise



562870



563932

Technical Specifications

Input Power Requirements	
115 VAC	100 mA
230 VAC	50 mA
Fuses FU-1 & FU-2.....	1/4 x 1 in - 0.5 amp, 250 VAC, medium lag (buss # AGC, or equivalent; 5 x 20 mm - 0.5 amp, 250 VAC, medium lag (buss # GMA, or equivalent; Uses Medium Lag Fuses Only. Do Not Use Fast Acting Fuses
Proximity Switch Pulse Inputs	24 VDC/12 mA each
Tach Sensor or Pulse Input	24 VDC/12 mA
Zone Bypass and Alarm Inputs	24 VDC/12 mA each
Relay Outputs (Zone Fault & Power Failure)	
Rated Load	0.5 A @ 125 VAC, 1 A @ 30 VDC
Max Carry Current	2A
Max Operating Voltage	250 VAC, 220 VDC
Max Switching Capacity	62.5 VA, 60W
Min. Permissible Load	10 µA, 10 mVDC
Current Consumption	70 mA @ 115 VAC, 150 mA @ 24 VDC, 40 mA @ 230 VAC
RS232 Communications Port Adapter	(Inter connection wire supplied by others); Waldom - Molex Housing # 22-01-2067; Waldom - Molex Pins # 08-50-0114
Max Pulse Rate	300 per min. (150 divider cpm) @ 50% duty cycle
Max Cycle Time	10.9 min.
Ambient/Storage Temperature Range (LCD Limited).....	-4° F to 158° F (-20° C to 70° C)
Net Weight (approx).....	JIC - 8.4 lbs; Explosion-Proof - 18.3 lbs

Ordering Information

Lube Sentinel II Monitor and Accessories	
562870	JIC Enclosure
562871	Hazardous Area Enclosure (Class 1, Groups B-D, Div 1) (Class 2, Groups E-G, Div 1)
563936	Pre-Existing JIC Enclosure
563937	Pre-Existing Enclosure (Class 1, Groups C-D)
558045	SLS Logic Module
558046	SLS Power Module w/I/O
563927	Safety Set Module Kit
563932	Data Wand Only

Compressor Lubrication Accessories

Manzel® Lube-Line Alert™

Features and Benefits

- Indicates Flow or No-Flow at any point in the system ahead of the Lube-Line Alert inlet.
Not affected by discharge pressure
- Operates under continuous or intermittent low-flow rates
- Universal use - operates in any air free force feed lubrication system - any make lubricator
- Sensitive to a wide range of flow - from .006 cubic inches to 190 cubic inches per minute
- Many type lubricants and viscosities - mineral or synthetic
- Time delay adjustment - to compensate for viscosity and/or flow rate.
Quick and easy to adjust
- Pressures - for operation up to 10,000 psi
- Explosion-proof - UL and CSA Listed for Class I Groups C & D and Class II Groups E, F & G. Division 1 & 2 when installed as per NEC 501
- For connection to any electrical warning system - lights, sound devices, machinery shut-off relays, telephones, etc.
- A low-level and shaft rotation



563030

Technical Specifications

UL & CSA Electrical Ratings.....	Single pole, Throw magnetically operated switch, 115 VAC, 60Hz, 10 watt, 28 VDC, 0.5 amp Resistive, 28 VDC, 0.5 amp Inductive
Max Switch Rating	350 VAC/VDC, 50 watt, 2 amp
Max Operating Pressure.....	10,000 psi
Min. Pressure Drop Access Alert.....	150 psi
Flow Rate.....	0.006 cu.in. to 190 cu.in. per minute @ 100 SUS 0.006 cu.in. to 75 cu.in. per minute @ 2000 SUS
Fluid Viscosity.....	100 to 9000 SUS
Weight.....	0.6 lbs

Ordering Information

Lube-Line Alert	
563030	N.C. Configuration w/Check Valves for 1/4 in O.D. Tube, Standard Spring (installed), w/ Light Spring (loose)*
563033	N.O. Configuration w/Check Valves for 1/4 in O.D. Tube, Standard Spring (installed), w/ Light Spring (loose)*
563032	N.O. Configuration w/Check Valves & Fittings for 1/8 in NPTF Connections, Standard Spring (installed)
Inlet Check Valves	
563042	w/ 1/4 in O.D. Tube Inlet (supplied w/1 & 2)
563041	w/ 7/16-20 Straight Female Thread Outlet (supplied w/3)
Outlet Check Valves	
563044	w/ 1/4 in O.D. Tube Inlet (supplied w/1 & 2)
563043	w/ 7/16-20 Straight Female Thread Outlet (supplied w/3)
Fittings	
556624	(w/Check Valves 4 & 5), 7/16-20 Straight Male Thread x 1/8 in NPTF (2 supplied w/3)
Springs	
556944	Standard Springs (installed at factory in 1 & 3)
556939	Light Spring for Low Flow Applicator (supplied loose w/1, installed in 2)*
Repair Parts	
556812	Switch Assembly
563031	Plunger & Bushing Assembly

*When using the Light Spring 556939 (458-005-220), fluid viscosity should not exceed 350 SUS

Compressor Lubrication Accessories

Pneumatic/Electric Lube Sentry Valve

Features and Benefits

The Lube Sentry Valve provides automatic warning and shutdown of compressors, pumps and engines when oil is not flowing properly to primary dividers in series type lube systems.

- Absence of check valves to avoid trapping contamination from included solids in the lubricant
- Bolted-together components simplifying maintenance. The microswitch assembly on the pneumatic valve can be removed without disturbing existing lines or shutting down the equipment being lubricated

Technical Specifications

Material.....	Steel
Max Pressure	6,000 psi (414 bar)
Flow Rate (per day)	4-400 pints (1.89-189.2 liters)
Pressure Drop .....	.250 psi (17 bar)
Seals	Fluoroelastomer
Lubricant.....	Oil (450-2000 SUS)
Net Weight.....	0.5 lb (2.265 kg)
Operating Temperature.....	-20° F to 180° F (-29° C to 82° C)
Air Pressure (Max Pneumatic Valve)	125 psi (9 bar)
Electrical Rating	5 amps @ 125/250 VAC
A,B or C @ 28 VDC, A- Inductive - 3 amp, B- Resistive - 5 amp, C- Max Inrush - 15 amp	



Ordering Information

563506	Pneumatic Lube Sentry, Complete
563503	Pneumatic Valve
563502	Actuator
563505	Electric Lube Sentry, Complete
563504	Switch Assembly

Compressor Lubrication Accessories

Balancing Valve

Features and Benefits

The Graco® Balancing Valve assists divider valves to accurately proportion lubricant at high differential pressures. It is recommended for use when a pressure difference greater than 1,000 PSI exists between two or more of the points in a Graco divider valve system.

- Balancing valve is not affected by downstream pressure, assures accurate flow to all lubrication points
- Balancing valve is field adjustable. Reduces on-site inventory costs as one model meets all your system needs
- Balancing valve is in-line mounted, so it lowers installation costs
- Balancing valve uses a wear-resistant tungsten-carbide ball to reduce maintenance costs



Technical Specifications

Material.....	Steel
Max Operating Pressure.....	6,500 psi
Adjustable.....	From 1,000 to 6,500 psi (Factory set at 2,000 psi)
Operating Temperature.....	-10° F to 250° F (-23° C to 121° C)
Lubricant.....	Oil
Seals.....	Fluoroelastomer
Net Weight.....	1.19 lb (0.54 kg)

Ordering Information

563230	Balancing Valve
563911	Valve Seal Kit

Index

Part No.	Page No.	Part No.	Page No.	Part No.	Page No.	Part No.	Page No.
15K740.....	50, 81	24A463.....	101	24D859.....	41	24E081.....	43
15K783.....	50, 81	24A464.....	101	24D860.....	41	24E082.....	43
15K784.....	81	24A465.....	101	24D861.....	41	24E083.....	43
15M037.....	81	24A466.....	101	24D862.....	41	24E084.....	43
15M038.....	49	24A467.....	101	24D863.....	41	24E085.....	43
15M045.....	81	24A468.....	101	24D864.....	41	24E086.....	43
15M442.....	91	24A469.....	101	24D865.....	41	24E087.....	43
15R993.....	65	24A470.....	101	24D866.....	41	24E088.....	43
15R994.....	65	24A471.....	101	24D867.....	41	24E089.....	43
15U854.....	70	24A472.....	101	24D868.....	41	24E090.....	43
15U855.....	70	24A473.....	101	24D869.....	41	24E091.....	43
15U856.....	70	24A474.....	101	24D870.....	41	24E092.....	43
15U857.....	67	24A475.....	101	24D871.....	41	24E093.....	43
15U858.....	20	24A476.....	101	24D872.....	41	24E094.....	43
15U859.....	20	24A477.....	101	24D873.....	41	24E095.....	43
15U860.....	20	24A478.....	101	24D874.....	41	24E096.....	43
15X624.....	47	24A479.....	101	24D875.....	41	24E097.....	43
15X625.....	47	24A480.....	101	24D876.....	41	24E098.....	43
15X626.....	47	24A481.....	101	24D877.....	41	24E099.....	43
15X667.....	47	24A482.....	101	24D878.....	41	24E100.....	43
15X668.....	47	24A483.....	101	24D879.....	41	24E101.....	43
15X669.....	47	24A484.....	101	24D880.....	41	24E102.....	43
15X670.....	47	24A485.....	101	24D881.....	41	24E103.....	43
15X671.....	47	24A486.....	101	24D882.....	41	24E240.....	51
15X672.....	47	24A487.....	101	24D883.....	41	24E241.....	51
15X673.....	47	24A488.....	101	24D884.....	41	24E242.....	51
15X674.....	47	24A489.....	101	24D885.....	41	24E243.....	51
15X675.....	47	24A490.....	101	24D886.....	41	24E244.....	51
15X676.....	47	24A491.....	101	24E028.....	43	24E245.....	51
15X677.....	47	24A492.....	101	24E029.....	43	24E389.....	51
15X678.....	47	24A493.....	101	24E030.....	43	24E390.....	51
15X679.....	47	24A494.....	101	24E031.....	43	24E391.....	51
15X680.....	47	24A495.....	101	24E032.....	43	24E392.....	51
15X681.....	47	24A496.....	102	24E033.....	43	24E393.....	51
15X682.....	47	24A497.....	102	24E034.....	43	24E394.....	51
15X683.....	47	24A498.....	102	24E035.....	43	24E406.....	54
15X684.....	47	24A499.....	102	24E036.....	43	24E407.....	54
15X685.....	47	24A501.....	102	24E037.....	43	24E408.....	54
15X686.....	47	24A502.....	102	24E038.....	43	24E409.....	54
15X687.....	47	24A503.....	102	24E039.....	43	24E410.....	54
15X688.....	47	24A504.....	102	24E040.....	43	24E411.....	54
15X689.....	47	24A505.....	102	24E041.....	43	24E857.....	54
15X690.....	47	24A506.....	102	24E042.....	43	24F201.....	51
15X691.....	47	24A507.....	102	24E043.....	43	24F596.....	61
15X692.....	47	24A509.....	102	24E054.....	43	24F597.....	61
15X693.....	47	24A574.....	100	24E055.....	43	24F598.....	61
15X694.....	47	24A918.....	53, 91	24E056.....	43	24F599.....	61
15X695.....	47	24A919.....	51	24E057.....	43	24F600.....	61
15X696.....	47	24A920.....	51	24E058.....	43	24F601.....	61
15X697.....	47	24A921.....	51	24E059.....	43	24F943.....	51
15X698.....	47	24A922.....	51	24E060.....	43	24F944.....	51
15X699.....	47	24A923.....	51	24E061.....	43	24G485.....	58
15X700.....	47	24A924.....	51	24E062.....	43	24G486.....	58
15X701.....	47	24B219.....	70	24E063.....	43	24G487.....	58
15X702.....	47	24B237.....	68	24E064.....	43	24G488.....	58
15X703.....	47	24B239.....	68	24E065.....	43	24G489.....	58
15X704.....	47	24B240.....	68	24E066.....	43	24G490.....	58
15X705.....	47	24B241.....	68	24E067.....	43	24J331.....	54
15X706.....	47	24B359.....	53	24E068.....	43	24J332.....	54
24A453.....	101	24B360.....	51	24E069.....	43	24J333.....	54
24A454.....	101	24B427.....	19	24E070.....	43	24J334.....	54
24A455.....	101	24B591.....	91, 107	24E071.....	43	24J335.....	54
24A456.....	101	24B596.....	107	24E072.....	43	24J336.....	54
24A457.....	101	24B667.....	51	24E073.....	43	24J949.....	41
24A458.....	101	24B677.....	51	24E074.....	43	24J950.....	41
24A459.....	101	24D855.....	41	24E075.....	43	24J951.....	41
24A460.....	101	24D856.....	41	24E076.....	43	24J952.....	41
24A461.....	101	24D857.....	41	24E077.....	43	24J953.....	41
24A462.....	101	24D858.....	41	24E080.....	43	24J954.....	41

Index

Part No.	Page No.	Part No.	Page No.	Part No.	Page No.	Part No.	Page No.
24J955	41	96G039	7	96G132	10	121670	47
24J956	41	96G040	7	96G133	10	121671	47
24J957	41	96G041	7	96G135	8	121672	47
24J958	41	96G042	7	96G136	8	122545	20
24J959	41	96G043	7	96G137	8	122546	20
24J960	41	96G044	7	96G138	8	122547	20
24J961	41	96G045	7	96G139	8	122548	20
24J962	41	96G048	7	96G140	8	122549	20
24J963	41	96G049	7	96G141	9	122550	20
24J964	41	96G050	7	96G142	10	122551	20
24J965	41	96G051	7	96G143	9	122552	20
24J966	41	96G052	7	96G145	9	122553	20
24J967	41	96G053	7	96G144	10	122554	20
24J968	41	96G055	7	96G146	10	122555	20
24J969	41	96G056	7	96G147	8	122556	20
24J970	41	96G057	7	96G148	8	122557	20
24J971	41	96G058	7	96G149	8	122558	20
24J972	41	96G059	7	96G150	8	122559	20
24J973	41	96G060	7	96G151	9	122560	20
24J974	41	96G061	7	96G152	10	122561	20
24J975	41	96G062	7	96G153	10	122562	20
24J976	41	96G068	8	96G154	10	122563	20
24J977	41	96G069	8	96G155	9	122564	20
24J978	41	96G070	9	96G156	10	122565	20
24J979	41	96G071	9	96G157	10	122566	20
24J980	41	96G072	9	96G158	10	122567	20
24J981	41	96G073	8	96G159	9	122568	20
24J982	41	96G075	8	96G160	9	122569	20
24J983	41	96G076	8	96G161	10	122570	20
24J984	41	96G077	8	96G162	10	122571	20
24J985	41	96G078	8	96G163	8	122572	20
24J986	41	96G079	9	96G164	10	122573	20
24J987	41	96G080	9	96G165	10	122574	20
24J988	41	96G081	9	96G166	10	122575	20
24K414	11, 78	96G082	8	96G167	8	122576	20
24K415	11, 77	96G088	9	96G168	10	122577	20
96G000	7	96G089	10	96G169	10	122578	20
96G001	7	96G090	9	114901	52, 91	122579	20
96G002	7	96G092	9	114902	52, 91	122580	20
96G003	7	96G093	10	114903	52, 91	122581	21
96G005	7	96G094	9	114904	52, 91	122582	21
96G006	7	96G096	9	114905	52, 91	122583	21
96G007	7	96G097	10	114909	52, 91	122584	21
96G008	7	96G098	10	114911	52	122585	21
96G011	8	96G099	10	114912	52	122586	21
96G012	8	96G100	10	114913	52	122587	21
96G013	8	96G103	9	114914	52	122588	21
96G014	8	96G104	10	114915	52	122589	21
96G017	9	96G105	10	114916	53	122590	21
96G018	9	96G106	10	115119	52	122591	21
96G019	9	96G107	10	115120	52	122592	21
96G020	9	96G108	10	115124	78, 91	122593	21
96G021	9	96G109	10	121474	11	122594	21
96G023	9	96G110	10	121654	46	122595	21
96G024	9	96G111	10	121655	46	122596	21
96G025	9	96G112	10	121656	46	122597	21
96G026	9	96G113	9	121657	46	122598	21
96G027	8	96G115	10	121658	46	122789	48
96G028	8	96G116	10	121659	46	122790	48
96G029	8	96G118	9	121660	46	122791	48
96G030	9	96G119	10	121661	46	122792	48
96G031	9	96G120	10	121662	47	122793	48
96G032	9	96G121	10	121663	47	122794	48
96G033	8	96G122	10	121664	47	122795	48
96G034	8	96G123	10	121665	46	122796	48
96G035	9	96G124	10	121666	46	122797	48
96G036	9	96G125	10	121667	46	122798	48
96G037	9	96G126	10	121668	46	122799	48
96G038	7	96G127	10	121669	46	122800	48

Index

Part No.	Page No.	Part No.	Page No.	Part No.	Page No.	Part No.	Page No.
122801	48	124106	44	556011	19	557270	13, 14, 15, 16, 24
122804	46	124107	44	556012	19	557271	13, 14, 15, 16, 24
122805	46	124108	44	556013	19	557272	13, 14, 15, 16
122806	46	124109	44	556014	19	557273	14, 15, 16
122807	46	124110	44	556015	19	557278	82
122808	46	124111	44	556016	19	557284	31
122809	46	124112	44	556018	30	557285	12
122810	46	124113	44	556019	30	557286	17
122811	46	124114	44	556023	109	557287	12
122812	46	124115	44	556024	109	557288	31
122813	46	124116	44	556025	109	557293	17
122814	46	124119	44	556026	110	557349	58
122815	46	124279	44	556371	56, 58, 61	557352	24, 82
122816	46	124300	11	556402	81	557359	56
122817	47	124301	11	556403	81	557374	50
122818	47	124304	44	556407	81	557376	24
122819	47	124333	11, 77	556420	81	557392	81
122820	46	124594	11	556424	67	557393	81
122821	46	124595	11	556448	81	557395	50, 81
122822	46	124640	11	556540	55, 58	557422	74
122823	46	125011	54	556586	49	557423	74
122824	46	200389	32	556587	49	557488	63
122825	47	224751	91	556624	112	557489	63
122826	47	239887	91	556632	81	557490	63
122827	47	241485	91	556633	81	557491	63
122841	47	241486	91	556634	81	557492	63
122861	47	241572	91	556635	81	557493	63
122862	47	241573	91	556636	50, 81	557494	63, 67
122863	47	243159	91	556637	50, 81	557503	56
122864	47	243170	91	556638	50, 81	557514	56
122865	47	243191	91	556639	50, 81	557515	56
122866	47	243501	91	556640	50, 81	557516	56
122868	47	244023	91	556642	50, 81	557517	56
122869	47	247443	90, 91	556643	50, 81	557518	56
122885	47	247444	91	556644	50, 81	557519	56
122886	47	247450	90, 91	556645	50, 81	557520	56
122887	47	247456	91	556646	50, 81	557546	76
122888	47	247457	91	556647	50, 81	557547	21
122889	47	247538	91	556648	50, 81	557559	82
122890	47	247540	90, 91	556649	81	557641	22, 23
122891	47	247574	91	556650	81	557700	80
122895	20, 21	247575	91	556651	50	557701	80
122896	21	247700	91	556652	81	557713	15, 82
122897	21	247703	91	556653	81	557722	58
122898	21	247704	91	556654	50	557731	58, 61
122899	21	247705	91	556656	81	557732	58, 61
122989	47	247706	91	556660	50, 81	557733	58, 61
122990	48	247707	91	556661	81	557734	58, 61
123949	44	247886	11, 89	556662	81	557735	58, 61
123950	44	247902	91	556666	50, 81	557736	58, 61
123951	44	247970	91	556670	81	557741	77
124086	44	256778	12	556677	45	557745	77
124087	44	256907	102	556700	103	557746	77
124088	44	256908	102	556762	81	557747	77
124089	44	256929	102	556763	81	557752	77
124090	44	258248	86	556764	81	557766	65
124091	44	258262	104	556773	81	557767	65
124092	44	258263	104	556812	112	557768	65
124093	44	258301	70	556939	112	557769	65
124094	44	258347	70	556944	112	557770	65
124095	44	312349	91	557132	80	557771	65
124096	44	313855	107	557134	70	557772	65
124097	44	550959	32	557153	80	557776	58
124098	44	553322	14	557154	80	557779	80
124099	44	555406	65	557213	58	557781	26, 28, 76
124100	44	555726	81	557214	58	557803	80
124101	44	555727	81	557215	58	557804	80
124102	44	555749	81	557225	58	557806	80
124105	44	555808	49	557226	58	557807	80

Index

Part No.	Page No.	Part No.	Page No.	Part No.	Page No.	Part No.	Page No.
557810.....	17	558317.....	48	561114.....	50	562571.....	66
557811.....	80	558318.....	48	561131.....	50	562572.....	66
557813.....	18	558319.....	48	561132.....	50	562573.....	66
557814.....	18	558320.....	48	561143.....	45	562574.....	66
557815.....	18	558321.....	48	561215.....	45	562575.....	66
557816.....	18	558322.....	48	561216.....	45	562576.....	66
557817.....	18	558323.....	48	561217.....	45	562577.....	66
557818.....	18	558324.....	48	561218.....	45	562578.....	67
557819.....	18	558325.....	48	561219.....	45	562579.....	67
557820.....	18	558326.....	48	561220.....	45	562580.....	67
557821.....	17	558327.....	48	562500.....	56	562581.....	67
557822.....	17, 31	558328.....	48	562501.....	56	562582.....	67
557824.....	105	558329.....	48	562502.....	56	562583.....	67
557825.....	17, 26	558330.....	48	562503.....	56	562584.....	67
557826.....	22, 23, 28	558331.....	48	562504.....	56	562585.....	67
557827.....	105	558332.....	48	562505.....	56	562627.....	101
557828.....	78	558799.....	58	562508.....	56	562629.....	101
557829.....	11, 26, 78	558881.....	104	562509.....	56	562653.....	55
557830.....	78	558895.....	18	562510.....	56	562654.....	55
557864.....	33, 34, 82	558899.....	23	562511.....	56	562655.....	55
557866.....	82	558906.....	50	562514.....	62	562656.....	55
557874.....	11	558938.....	77	562515.....	62	562657.....	55
557877.....	50	558947.....	78	562516.....	62	562658.....	55
557880.....	50	558948.....	82	562517.....	62	562659.....	55
557898.....	49	558949.....	18	562518.....	63	562660.....	57
557901.....	49	558950.....	18	562519.....	63	562679.....	60
557925.....	31, 108	558951.....	18	562520.....	63	562680.....	60
557943.....	50	558953.....	18	562521.....	63	562681.....	60
557944.....	50	558954.....	18	562522.....	63	562682.....	60
557945.....	50	558955.....	18	562523.....	63	562683.....	60
557946.....	50	560477.....	70	562524.....	63	562684.....	60
557947.....	50	560478.....	70	562525.....	63	562685.....	60
557950.....	81	560528.....	81	562526.....	63	562686.....	60
557954.....	81	560530.....	81	562527.....	63	562687.....	60
557955.....	81	560532.....	81	562528.....	63	562688.....	60
557963.....	50	560533.....	81	562529.....	63	562689.....	60
557968.....	81	560534.....	81	562530.....	63	562690.....	60
557997.....	18	560576.....	63	562531.....	63	562711.....	57
557998.....	18	560577.....	63	562532.....	63	562712.....	57
558018.....	77	560591.....	67	562533.....	63	562713.....	57
558021.....	58, 77	560592.....	67	562534.....	63	562714.....	57
558022.....	58, 77	560593.....	67	562535.....	63	562715.....	57
558023.....	77	560594.....	67	562536.....	63	562716.....	57
558024.....	77	560595.....	67	562538.....	62	562717.....	57
558025.....	77	560596.....	67	562539.....	62	562718.....	57
558026.....	77	560597.....	67	562540.....	62	562720.....	57
558031.....	22, 23, 108	560598.....	67	562541.....	62	562721.....	57
558045.....	111	560599.....	67	562542.....	62	562722.....	57
558046.....	111	560600.....	67	562543.....	62	562723.....	57
558156.....	45	560601.....	67	562545.....	62	562724.....	57
558157.....	45	560602.....	67	562546.....	62	562725.....	57
558158.....	45	560603.....	67	562547.....	102	562726.....	57
558159.....	45	560604.....	67	562548.....	102	562727.....	57
558189.....	45	560605.....	67	562549.....	102	562729.....	57
558220.....	45	560606.....	67	562550.....	102	562730.....	57
558296.....	22, 45	560607.....	67	562551.....	102	562731.....	57
558297.....	82	560643.....	56	562552.....	102	562732.....	57
558298.....	82	560645.....	56	562553.....	102	562733.....	57
558306.....	46	560649.....	56	562554.....	102	562734.....	58
558307.....	46	560919.....	58, 61	562555.....	102	562735.....	58
558308.....	46	560936.....	58, 61	562561.....	102	562736.....	58
558309.....	46	560943.....	58, 61	562562.....	102	562737.....	58
558310.....	46	560953.....	58	562563.....	102	562738.....	58
558311.....	47	560976.....	58, 61	562564.....	102	562739.....	57
558312.....	47	561029.....	65	562565.....	102	562740.....	57
558313.....	47	561031.....	70	562566.....	102	562741.....	57
558314.....	47	561032.....	70	562567.....	102	562742.....	57
558315.....	47	561101.....	56	562569.....	63	562743.....	57
558316.....	47	561113.....	50	562570.....	66	562744.....	58

Index

Part No.	Page No.	Part No.	Page No.	Part No.	Page No.	Part No.	Page No.
562745.....	58	562897.....	14, 15, 16, 31, 36	563061.....	82	563192.....	75
562746.....	58	562898.....	14, 15, 16, 36	563068.....	79	563193.....	75
562747.....	58	562899.....	14, 15, 16, 36	563069.....	79	563194.....	75
562748.....	58	562904.....	25, 27, 28, 34	563070.....	79	563195.....	82
562813.....	64	562905.....	26, 28, 34	563072.....	29	563196.....	82
562814.....	64	562906.....	26, 28	563073.....	80	563197.....	82
562815.....	64	562907.....	31	563074.....	58, 80	563198.....	82
562816.....	64	562908.....	14, 15, 16	563075.....	79	563199.....	82
562817.....	64	562910.....	26, 27, 28	563076.....	79	563200.....	82
562818.....	64	562911.....	26	563077.....	79	563201.....	82
562819.....	64	562914.....	56	563078.....	79	563202.....	82
562820.....	64	562915.....	56	563079.....	79	563203.....	82
562821.....	64	562918.....	103	563080.....	79	563205.....	82
562822.....	64	562919.....	103	563091.....	70, 80	563206.....	82
562823.....	64	562925.....	104	563092.....	80	563207.....	82
562824.....	64	562926.....	104	563093.....	80	563208.....	82
562825.....	65	562927.....	104	563094.....	80	563209.....	82
562826.....	65	562928.....	104	563095.....	80	563210.....	82
562827.....	65	562929.....	104	563096.....	80	563211.....	82
562828.....	65	562930.....	100	563097.....	80	563212.....	81
562829.....	65	562933.....	100	563100.....	80	563213.....	81
562830.....	65	562938.....	100	563102.....	80	563214.....	81
562831.....	65	562949.....	92	563103.....	80	563215.....	81
562832.....	65	562950.....	92	563111.....	104	563221.....	74
562833.....	65	562951.....	103	563113.....	103	563222.....	74
562834.....	65	562952.....	104	563127.....	70	563223.....	74
562835.....	64	562953.....	95	563128.....	70	563224.....	74
562837.....	19	562954.....	96	563129.....	70	563225.....	74
562838.....	19	562955.....	95	563130.....	70	563226.....	74
562839.....	19	562956.....	96	563131.....	70	563228.....	74
562840.....	19	562957.....	95	563132.....	70	563229.....	74
562841.....	19	562958.....	96	563137.....	12	563230.....	114
562842.....	19	562959.....	95	563145.....	80	563231.....	72
562843.....	19	562960.....	95	563146.....	81	563232.....	72
562844.....	19	562961.....	95	563147.....	81	563233.....	72
562845.....	30	562962.....	96	563148.....	81	563234.....	72
562846.....	30	562963.....	95	563150.....	81	563235.....	72
562847.....	19	562964.....	96	563154.....	81	563236.....	72
562849.....	19	562965.....	95	563155.....	50	563237.....	72
562850.....	19	562966.....	96	563156.....	11, 73	563239.....	72
562851.....	19	562967.....	96	563157.....	11, 73	563240.....	72
562852.....	19	562968.....	96	563158.....	11, 73	563241.....	72
562854.....	29	562988.....	92	563159.....	11, 73	563242.....	72
562855.....	29	562994.....	70	563160.....	11, 33, 73	563243.....	72
562857.....	32	562995.....	81	563161.....	11, 73	563244.....	72
562858.....	38	563014.....	26, 31	563162.....	22, 45, 73	563245.....	72
562860.....	38	563015.....	15, 16, 26, 28, 31	563164.....	73	563250.....	76
562861.....	38	563016.....	15, 16, 26, 28, 31	563165.....	73	563251.....	58, 76
562863.....	24	563020.....	104	563166.....	73	563252.....	72
562870.....	111	563024.....	104	563167.....	73	563253.....	72
562871.....	111	563030.....	112	563168.....	73	563254.....	72
562872.....	31, 108	563031.....	112	563169.....	73	563255.....	72
562880.....	80	563032.....	112	563170.....	73	563256.....	72
562881.....	80	563033.....	112	563171.....	73	563257.....	72
562882.....	80	563041.....	112	563172.....	73	563258.....	72
562883.....	80	563042.....	112	563173.....	73	563260.....	76
562884.....	26, 28, 34	563043.....	112	563174.....	73	563269.....	76
562885.....	26, 28, 34	563044.....	112	563175.....	73	563270.....	55, 76
562886.....	26, 28	563046.....	82	563176.....	73	563271.....	55, 76
562887.....	26, 28	563047.....	82	563178.....	81	563272.....	56, 76
562888.....	26, 27, 28	563048.....	70, 82	563179.....	15, 75	563273.....	56, 76
562889.....	25, 27, 28, 34	563049.....	70, 82	563182.....	75	563275.....	71
562890.....	25, 27, 28, 34	563051.....	82	563183.....	75	563276.....	71
562891.....	25, 27, 28	563052.....	82	563184.....	15, 75	563277.....	67
562892.....	13, 14, 16, 31	563054.....	82	563185.....	75	563278.....	67
562893.....	13, 14, 16, 31	563055.....	82	563186.....	75	563279.....	58
562894.....	14, 16	563058.....	82	563187.....	75	563280.....	58
562895.....	13, 15, 16	563059.....	82	563188.....	75	563301.....	21
562896.....	13, 14, 15, 16, 31	563060.....	82	563191.....	75	563304.....	25

Index

Part No.	Page No.	Part No.	Page No.	Part No.	Page No.	Part No.	Page No.
563305.....	39	563457.....	58	563625.....	83	563865.....	87
563306.....	25	563460.....	58	563627.....	49	563866.....	87
563307.....	39	563461.....	58	563628.....	49	563874.....	83
563308.....	25	563463.....	58	563629.....	49	563877.....	88
563315.....	26, 28, 31	563464.....	58	563630.....	49	563878.....	87
563316.....	15, 16, 26, 28, 31	563465.....	58	563631.....	49	563880.....	87
563317.....	13, 15, 16, 26, 28, 31	563467.....	58	563632.....	49	563881.....	87
563318.....	26, 31	563468.....	58	563633.....	49	563882.....	83
563319.....	25, 27	563469.....	58	563634.....	49	563884.....	87
563320.....	25, 27	563470.....	58	563635.....	49	563886.....	83
563321.....	25, 27	563471.....	58	563636.....	49	563888.....	83
563322.....	13, 14, 15, 16, 26, 28, 31, 36	563472.....	58	563637.....	49	563891.....	84
563323.....	12, 25	563476.....	77	563638.....	49	563893.....	88
563324.....	12, 25	563477.....	77	563644.....	86	563895.....	88
563325.....	26	563478.....	77	563645.....	86	563896.....	88
563326.....	26	563479.....	58	563646.....	86	563897.....	84
563327.....	26	563480.....	58, 80	563647.....	86	563898.....	14
563329.....	25	563481.....	58	563652.....	86	563900.....	38
563330.....	12, 25	563482.....	58	563653.....	86	563901.....	38
563331.....	12, 25	563483.....	58	563659.....	86	563902.....	25
563332.....	26, 28	563484.....	77	563706.....	86	563903.....	25
563337.....	25	563485.....	11, 77	563715.....	86	563904.....	25
563339.....	26	563486.....	77	563716.....	86	563909.....	28
563340.....	26	563489.....	70	563717.....	86	563911.....	114
563341.....	26	563493.....	58	563727.....	86	563912.....	29
563345.....	39	563494.....	58	563728.....	86	563913.....	29
563346.....	12	563495.....	77	563737.....	86	563914.....	109
563355.....	12, 25	563501.....	11, 77	563738.....	86	563915.....	15
563356.....	12	563502.....	113	563743.....	86	563916.....	15
563358.....	27, 28	563503.....	113	563744.....	86	563918.....	105
563359.....	27, 28	563504.....	113	563748.....	86	563919.....	105
563361.....	27, 28	563505.....	113	563759.....	81	563920.....	105
563362.....	27, 28	563506.....	113	563762.....	31	563921.....	15
563363.....	27, 28	563507.....	80	563769.....	49	563922.....	24
563364.....	27, 28	563508.....	80	563770.....	50	563926.....	67
563365.....	27, 28	563509.....	80	563772.....	31	563927.....	111
563367.....	27, 28	563510.....	80	563776.....	81	563928.....	58
563374.....	23	563511.....	80	563777.....	81	563929.....	58
563375.....	23, 82	563512.....	80	563801.....	84	563930.....	23
563376.....	23	563513.....	80	563802.....	84	563932.....	111
563378.....	28	563514.....	80	563809.....	84	563933.....	58
563379.....	23	563515.....	80	563810.....	88	563936.....	111
563380.....	15	563516.....	80	563812.....	84	563937.....	111
563383.....	13, 15, 16, 36	563518.....	65	563813.....	84	563938.....	15
563384.....	15	563519.....	65	563814.....	84	563940.....	70
563385.....	15	563520.....	65	563823.....	84	563941.....	70
563386.....	14, 15, 16	563521.....	65	563824.....	88	563942.....	70
563387.....	14, 15, 16	563522.....	65	563826.....	84	563945.....	28
563388.....	13, 14, 15, 16	563527.....	65	563827.....	84	563948.....	56
563389.....	13, 14, 15, 16	563555.....	55	563829.....	87	563952.....	75
563393.....	33	563557.....	18	563836.....	84	563954.....	75
563402.....	24	563558.....	17	563839.....	84	563955.....	75
563404.....	24	563565.....	105	563840.....	87	563956.....	75
563406.....	24	563566.....	105	563842.....	87	563957.....	75
563421.....	58, 61	563570.....	83	563846.....	84	563959.....	75
563422.....	58, 61	563571.....	31	563847.....	83	563960.....	75
563424.....	58, 61	563572.....	31	563848.....	87	563961.....	75
563425.....	58, 61	563573.....	31	563849.....	87	563962.....	15, 75
563427.....	77	563574.....	31	563850.....	87	563963.....	75
563444.....	58	563575.....	31	563851.....	87	563964.....	75
563447.....	58	563576.....	31	563852.....	87	563965.....	15, 75
563448.....	58	563577.....	31	563853.....	88	563966.....	75
563451.....	58	563578.....	31	563854.....	83	563969.....	77
563452.....	58	563579.....	31	563855.....	88	563970.....	77
563453.....	58	563580.....	34	563858.....	86	564003.....	80
563454.....	58	563589.....	83	563859.....	86	564004.....	80
563455.....	58	563590.....	83	563860.....	86	564005.....	80
563456.....	58	563593.....	83	563863.....	88	564006.....	80
		563594.....	83	563864.....	88	564007.....	80

Index

Part No.	Page No.	Part No.	Page No.	Part No.	Page No.	Part No.	Page No.
564008.....	80	564290.....	100	966172.....	7	MABBHC.....	94
564009.....	80	564293.....	100	LM2323.....	13	MABBHG.....	94
564010.....	80	564294.....	100	LM2533.....	13	MACAEH.....	94
564011.....	96	564296.....	100	LM4211.....	13	MACAGH.....	94
564012.....	35	564317.....	92	LM4523.....	13	MACAHF.....	94
564019.....	45	564322.....	26	LM4533.....	13	MACAKE.....	94
564020.....	45	564334.....	103	LM5111.....	13	MACALC.....	94
564021.....	45	564336.....	104	LM5211.....	13	MACANB.....	94
564022.....	45	564337.....	70	LM5214.....	13	MACBJB.....	94
564023.....	45	564343.....	80	LM5311.....	13	MACBKA.....	94
564024.....	45	564348.....	70	LM5331.....	13	MACBLC.....	94
564025.....	45	564350.....	81	LM5514.....	14	MACBLG.....	94
564026.....	45	564352.....	81	LM5521.....	14	MADBCC.....	94
564027.....	45	564355.....	74	LM5544.....	13	MADBLH.....	94
564028.....	45	564356.....	55, 76	LM5644.....	14	MADBSG.....	94
564029.....	45	564357.....	76	LM6214.....	36	MAEAAAB.....	94
564030.....	45	564365.....	33	LM6311.....	14	MAEBGE.....	94
564031.....	45	564375.....	27	LM6314.....	14	MBAAAA.....	99
564032.....	45	564376.....	23	LM6334.....	13	MBAAABA.....	99
564033.....	45	564377.....	15	LM6344.....	13	MBABBF.....	99
564034.....	45	564378.....	33	LM6514.....	14	MBABCE.....	99
564035.....	45	564379.....	33	LM6524.....	14	MBAECCR.....	99
564036.....	45	564381.....	33	LM6534.....	14	MBBAAC.....	99
564038.....	45	564383.....	33	LM6544.....	13	MBBAAH.....	99
564039.....	45	564384.....	33	LM7211.....	36	MBBAAN.....	99
564040.....	45	564385.....	33	LM7344.....	14	MBBADA.....	99
564041.....	45	564386.....	33	LM7514.....	14	MBBBBB.....	99
564042.....	45	564387.....	33	LM7534.....	14	MBBBCM.....	99
564043.....	45	564389.....	33	LM7614.....	14	MBBBDG.....	99
564044.....	45	564390.....	24	LM7654.....	14	MBBDAM.....	99
564045.....	45	564391.....	24	LM8211.....	36	MBBDDM.....	99
564046.....	45	564392.....	24	LM8314.....	14	MBBEAA.....	99
564047.....	45	564400.....	77	LM8334.....	14	MBBEBB.....	99
564053.....	45, 80	564401.....	77	LM8354.....	14	MBBECA.....	99
564059.....	75	564406.....	80	LM8454.....	14	MBBECE.....	99
564065.....	22	564411.....	18	LM8531.....	14	MBBECM.....	99
564067.....	22	564412.....	17	LM8534.....	14	MBBECN.....	99
564068.....	22	564413.....	17	LM8554.....	14	MBBFCA.....	99
564138.....	20	564414.....	17	LM9511.....	14	MBCAAA.....	99
564200.....	72	564415.....	17	LM9521.....	14	MBCAAC.....	99
564210.....	102	564419.....	34	MAAACB.....	94	MBCAAE.....	99
564211.....	102	564420.....	34	MAAADB.....	94	MBCAAL.....	99
564212.....	102	564421.....	34	MAAAEB.....	94	MBCAEJ.....	99
564213.....	102	564422.....	34	MAAAEC.....	94	MBCBDB.....	99
564214.....	102	564423.....	34	MAABBB.....	94	MBCBFE.....	99
564219.....	102	564426.....	31	MAABBC.....	94	MBCDAE.....	99
564222.....	102	564439.....	22	MAABBF.....	94	MBCDEB.....	99
564223.....	102	564443.....	70	MAABBG.....	94	MBCDEE.....	99
564225.....	102	564444.....	70	MAABDB.....	94	MBCDFE.....	99
564226.....	102	564445.....	70	MAABDC.....	94	MBCEBL.....	99
564227.....	102	567251.....	58	MAABEB.....	94	MBCECM.....	99
564229.....	102	567270.....	14	MAABEF.....	94	MBCECN.....	99
564244.....	101	567272.....	14	MABAAB.....	94	MBCEEA.....	99
564259.....	24	568906.....	33	MABACH.....	94	MBCEEB.....	99
564260.....	24	571026.....	11	MABAFC.....	94	MBCEFB.....	99
564261.....	24	571028.....	11	MABAFG.....	94	MBCEFE.....	99
564262.....	24	571029.....	11	MABAHC.....	94	MBCEFL.....	99
564264.....	26, 27, 28	571030.....	11	MABAHG.....	94	MBCHDE.....	99
564265.....	31	571031.....	11	MABAJA.....	94	MBCSCM.....	99
564267.....	26	571032.....	11	MABBAC.....	94	MBDAAA.....	99
564268.....	26	571033.....	11	MABBGG.....	94	MBDAAE.....	99
564272.....	103	571036.....	11	MABBEC.....	94	MBDAAL.....	99
564276.....	104	571041.....	11	MABBEE.....	94	MBDAAN.....	99
564277.....	104	571058.....	11	MABBFF.....	94	MBDADN.....	99
564278.....	104	571061.....	11	MABBFG.....	94	MBDAEE.....	99
564279.....	104	571063.....	11	MABBGA.....	94	MBDAEN.....	99
564280.....	104	571064.....	11	MABBGB.....	94	MBDAFA.....	99
564282.....	104	571162.....	11	MABBGC.....	94	MBDBAA.....	99
564283.....	104	966171.....	7	MABBGF.....	94	MBDBAM.....	99

Index

Part No.	Page No.	Part No.	Page No.	Part No.	Page No.	Part No.	Page No.
MBDBDA.....	99	MBHCAZ.....	100				
MBDBDF.....	99	MBHCZA.....	100				
MBDBDM.....	99	MBHDAA.....	100				
MBDBFR.....	99	MBHDAE.....	100				
MBDDAH.....	99	MBHEZE.....	100				
MBDDDEM.....	99	MBJDCN.....	99				
MBDDEN.....	99	MBKAAL.....	99				
MBDDGL.....	99	MBKCCL.....	99				
MBDDJA.....	99	MBKDBN.....	99				
MBDEAA.....	99	MBKDCM.....	99				
MBDEDD.....	99	MBKECN.....	99				
MBDEGA.....	99	MBKFDK.....	99				
MBDEGK.....	99	MBLEAA.....	99				
MBDEGR.....	99	MBLEEA.....	99				
MBDEGZ.....	99	MBLEEN.....	99				
MBDEJA.....	99	MBLEFN.....	99				
MBDEJB.....	99	MBLFCN.....	99				
MBDEJE.....	99	MBLSCM.....	99				
MBDFFC.....	99	MBMDJM.....	99				
MBDFGA.....	99	MBMEGM.....	99				
MBDHGE.....	99	MBMEGN.....	99				
MBDNHN.....	99	MBMEJL.....	99				
MBEAAA.....	100	MBMGEM.....	99				
MBEAAE.....	100	MBNDBM.....	100				
MBEAJA.....	100	MBNDJM.....	100				
MBEAJM.....	100	MBNDKM.....	100				
MBEAKM.....	100	MBNDLN.....	100				
MBEBKA.....	100	MBNDMN.....	100				
MBEDAH.....	100	MBNEJK.....	100				
MBEDFJ.....	100	MBPENW.....	100				
MBEDHN.....	100	MBRAUJ.....	100				
MBEDJE.....	100	MBSEXA.....	100				
MBEDMC.....	100	MBSEZA.....	100				
MBEDME.....	100	MM1111.....	17				
MBEDNG.....	100	MM1112.....	17				
MBEEAE.....	100	MM1121.....	17				
MBEEKG.....	100	MM1122.....	17				
MBEEKL.....	100	MM1212.....	17				
MBEEKZ.....	100	MM1222.....	17				
MBEELA.....	100	MM1311.....	17				
MBEELL.....	100	MM1312.....	17				
MBEENA.....	100	MM1322.....	17				
MBEENE.....	100	MM1411.....	17				
MBEENM.....	100	MM1412.....	17				
MBEKEN.....	100	MM1422.....	17				
MBELCA.....	100	MM2112.....	17				
MBFAAE.....	100	MM2122.....	17				
MBFBAA.....	100	MM2211.....	17				
MBFBJA.....	100	MM2212.....	17				
MBFCAA.....	100	MM2221.....	17				
MBFCPA.....	100	MM2222.....	17				
MBFDAH.....	100	MM2312.....	17				
MBFDRA.....	100	MM2322.....	17				
MBFEAE.....	100	MM2411.....	17				
MBFENB.....	100	MM2412.....	17				
MBFENE.....	100	MM3112.....	17				
MBFERC.....	100	MM3122.....	17				
MBFETE.....	100	MM3211.....	17				
MBFFCA.....	100	MM3212.....	17				
MBGAAA.....	100	MM3322.....	17				
MBGAAC.....	100	MM3411.....	17				
MBGBAA.....	100	MM3412.....	17				
MBGDAA.....	100	MM3422.....	17				
MBGDAE.....	100						
MBGDAH.....	100						
MBGETE.....	100						
MBHAAE.....	100						
MBHBAA.....	100						
MBHBUA.....	100						

AMERICAS

MINNESOTA

Worldwide Headquarters
Graco Inc.
88 -11th Avenue N.E.
Minneapolis, MN 55413

MAILING ADDRESS

P.O. Box 1441
Minneapolis, MN 55440-1441
Tel: 612-623-6000 Fax: 612-623-6777

EUROPE

BELGIUM

European Headquarters
Graco N.V.
Industrieterrein-Oude Bunders
Slakweidestraat 31
3630 Maasmechelen, Belgium
Tel: 32 89 770 700 Fax: 32 89 770 777

ASIA PACIFIC

AUSTRALIA

Graco Australia Pty Ltd.
Suite 17, 2 Enterprise Drive
Bundoora, Victoria 3083
Australia
Tel: 61 3 9468 8500 Fax: 61 3 9468 8599

CHINA

Graco Hong Kong Ltd.
Shanghai Representative Office
Building 7
1029 Zhongshan Road South,
Huangpu District
Shanghai, 200011
The People's Republic of China
Tel: 86 21 649 50088 Fax: 86 21 649 50077

INDIA

Graco Hong Kong Ltd. India Liaison Office
Room 443, Augusta PointRegus Business Centre
53Golf Course Road Gurgaon, HaryanaIndia
122001 Tel: 91 124 435 4208 Fax: 91 124 435 4001

JAPAN

Graco K.K.
1-27-12 Hayabuchi
Tsuzuki-ku
Yokohama City, Japan 2240025
Tel: 81 45 593 7300 Fax: 81 45 593 7301

KOREA

Graco Korea Inc.
Shinhan Bank Building
4th Floor #1599
Gwanyang-Dong, Dongan-Ku,
Anyang-si, Korea 431-060
Tel: 82 31 476 9400 Fax: 82 31 476 9801



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