ILE Buyer's Guide

A Complete Line of Industrial Lubrication Equipment

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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
G1™	●			●	●					Oil or grease
G3™	●	●		●	●					Oil or grease
Injecto-Flo®	●	●		●		●				Oil
Injecto-Flo® II		●		●						Oil or fluid grease
LubeMaster®	●			●	●				●	Oil or grease
LubePro™	●	●				●				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

G1™ Pumps

Simple Solution. Sophisticated Results.

Choose the user-friendly Graco G1 Pump where you need a reliable, simple alternative to manual lubrication. Work smarter and get better productivity from your equipment and maintenance staff with G1 Series lubrication pumps.

G1 Standard

Features and Benefits

- Choice of 2, 4, or 8 liter reservoirs for oil or grease. Size to match your system needs.
- Connect to DC (12 or 24v) and AC (90-240v) power sources with CPC or DIN-style connectors for easy, no hassle installations
- Available with stirring paddle and wiper arm to keep material from separating. Optional follower plate ensures grease stays level for extreme angle installations.
- G1 comes with one pump element installed that reliably delivers lubricant when you need it
- G1 Standard™ has no internal controller for a low cost solution. G1 Plus™ has built-in on/off timer with optional low level feature that shuts down the pump when empty. Manual run initiates lube cycles on-demand with the option for remote control.

G1 Plus

Typical Applications

- On-Road Lubrication
- Off-Road Lubrication
- Series Progressive Lubrication

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	-40º F to 158º F (-40º C to 70º C)
Reservoir Size	2, 4 or 8 liter
Maximum Run Time	30 minutes
Control Options	Standard or Plus
Output per Element /Min.	0.25 $in.^3$ (4 cm^3) / minute
IP Rating	IP69K
Instruction Manual	332316

Electric Pumps

G1™ Pumps and Accessories

G1 Standard

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

Application		Voltage	Reservoir Size			Wiper Arm	Follower Plate	External Low Level	Power Connection
			2 liter	4 liter	8 liter				
	Grease	12 VDC	94G006	94G007	94G008	•			CPC
			94G009	94G010	94G011	•		•	CPC
			94G079	–	–		•	•	CPC
		24 VDC	94G018	94G019	94G020	•			CPC
			94G021	94G022	94G023	•		•	CPC
			94G036	94G037	94G038	•			DIN
			94G039	94G040	94G041	•		•	DIN
		90-240 VAC	94G063	94G064	94G065	•			DIN
			94G066	94G067	94G068	•		•	DIN
			94G069	94G070	94G071		•	•	DIN
	Oil	24 VDC	94G042	94G043	94G044				DIN
			94G045	94G046	94G047			•	DIN
		90-240 VAC	94G072	94G073	94G074				DIN
			94G075	94G076	94G077			•	DIN

G1 Standard Power Cables (sold separately)

Part Number	Description	Length
127783	3 wire with CPC connector	15 ft (4.6 m)
16U790	DIN connector	15 ft (4.6 m)

Electric Pumps

G1™ Pumps and Accessories

G1 Plus

Built-in controller with selectable pump on/pump off timer comes with local manual run and password protection. Optional low level sensing and shut-down available, as well as remote manual run when adding the 5 wire CPC cable and remote push button accessories.

Application		Voltage	Reservoir Size			Wiper Arm	Follower Plate	Remote Manual Run/ Monitor Light*	Low Level	Power Connection
			2 liter	4 liter	8 liter					
Application	Grease	12 VDC	94G000	94G001	94G002	•				5 Wire CPC
			94G003	94G004	94G005	•		•	•	5 Wire CPC
		24 VDC	94G012	94G013	94G014	•				5 Wire CPC
			94G015	94G016	94G017	•		•	•	5 Wire CPC
			94G024	94G025	94G026	•				DIN
			94G027	94G028	94G029	•			•	DIN
		90-240 VAC	94G048	94G049	94G050	•				DIN
			94G051	94G052	94G053	•			•	DIN
			94G054	94G055	94G056		•		•	DIN
	Oil	24 VDC	94G030	94G031	94G032					DIN
			94G033	94G034	94G035				•	DIN
		90-240 VAC	94G057	94G058	94G059					DIN
			94G060	94G061	94G062				•	DIN

*Remote Manual Run and External Low Level indication require a 5 wire cable with CPC connector and a Remote Manual Run/Monitoring Light Device to provide external low level indication. Choose part number 571030 for 12 VDC pumps or 571031 for 24 VDC pumps.

G1 Plus Power Cables (sold separately)

Part Number	Description	Length
127783	3 wire with CPC connector	15 ft (4.6 m)
127780	5 wire with CPC connector	15 ft (4.6 m)
127781	5 wire with CPC connector	20 ft (6.1 m)
127782	5 wire with CPC connector	30 ft (9.1 m)
16U790	DIN connector	15 ft (4.6 m)

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.

Standard Model

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

Pro Model

Typical Applications

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

Max Model

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	-40º F to 158º F (-40º C to 70º 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

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.

Application		Voltage	Reservoir Size					Wiper Arm	Follower Plate	External Low Level	Power Connection
			2 liter	4 liter	8 liter	12 liter	16 liter				
Grease		12 VDC	96G000	96G038	96G039	–	–	•			CPC
			96G003	96G044	96G045	–	–	•		•	CPC
		24 VDC	96G001	96G040	96G041	96G171	96G172	•			CPC
			96G005	96G048	96G049	96G199	–	•		•	CPC
			96G006	96G053	96G192	–	–		•	•	CPC
			96G182	96G184	96G189	–	–	•		•	DIN
		90-240 VAC	96G002	96G042	96G043	–	–	•			DIN
			96G007	96G055	96G056	96G057	96G058	•		•	DIN
			96G008	96G062	96G187	–	–		•	•	DIN
			–	96G202	–	–	–	•		• DIN	DIN
Oil		24 VDC	96G050	96G051	96G052	–	–			•	CPC
		90-240 VAC	96G059	96G060	96G061	–	–			•	DIN

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.

Application		Voltage	Reservoir Size					M12 Connection for Remote*	Wiper Arm	Follower Plate	Low Level	Power Connection
			2 liter	4 liter	8 liter	12 liter	16 liter					
Grease		12 VDC	96G027	96G135	96G136	–	–		•			CPC
			96G033	96G147	96G148	–	–		•		•	5 Wire CPC**
		24 VDC	96G028	96G137	96G138	–	–		•			CPC
			96G011	96G068	96G069	–	–	•	•		•	CPC
			96G012	96G073	–	–	–	•		•	•	CPC
			96G034	96G149	96G150	96G163	96G167		•		•	5 Wire CPC**
			–	96G196	–	–	–		•			DIN
			–	–	96G194	–	–			•	•	5 Wire CPC**
		90-240 VAC	96G029	96G139	96G140	–	–		•			DIN
			96G013	96G075	96G076	96G077	96G078		•		•	DIN
			96G014	96G082	–	–	–			•	•	DIN
Oil		24 VDC	96G070	96G071	96G072	–	–	•			•	CPC
		90-240 VAC	96G079	96G080	96G081	–	–				•	DIN

*G3 Pro pumps with the M12 connection for Remote Manual Run/Monitoring Light use the kit with the connecting cable to provide external low level indication. Choose part number 571032 for 12 VDC pumps or 571033 for 24 VDC and AC pumps.

**G3 Pro pumps with the 5 Wire CPC power connection are compatible with a Remote Manual Run/Monitoring Light Device to provide external low level indication. Choose part number 571030 for 12 VDC pumps or 571031 for 24 VDC pumps.

Electric Pumps

G3™ Pumps

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.

Application		Voltage	Reservoir Size					Number of Cycle/ Pressure Input	Machine Count	Vent Valve Output	DIN Alarm Output*	M12 Connection for Remote**	Wiper Arm	Follower Plate	Low Level	Power Connection
			2 liter	4 liter	8 liter	12 liter	16 liter									
	Grease	12 VDC	96G030	96G141	96G142	–	–	1					•		•	CPC
			96G021	96G096	96G097	–	–	1-3	•	•	•	•	•		•	DIN
			96G035	96G151	96G152	–	–	1		•			•			5 Wire CPC†
			–	96G159	–	–	–	1	•				•			5 Wire CPC†
		24 VDC	96G031	96G143	96G144	–	–	1					•		•	CPC
			96G017	96G088	96G089	–	–	1		•		•	•		•	CPC
			96G018	96G090	–	–	–	1		•		•		•	•	CPC
			96G036	96G155	96G156	96G164	96G168	1		•			•			5 Wire CPC†
			96G023	96G103	96G104	96G105	96G106	1-3	•	•	•	•	•		•	DIN
			96G024	96G113	–	–	–	1-3	•	•	•	•		•	•	DIN
			96G178	–	–	–	–	1			•		•		•	DIN
			–	96G160	–	–	–	1	•				•			5 Wire CPC†
		90-240 VAC	96G032	96G145	96G146	–	–	1					•		•	DIN
			96G019	96G092	96G093	–	96G166	1		•			•		•	DIN
			96G020	96G094	–	–	–	1		•				•	•	DIN
			96G025	96G118	96G119	96G120	96G121	1-3	•	•	•	•	•		•	DIN
			96G026	96G128	96G197	–	–	1-3	•	•	•	•		•	•	DIN
			96G037	96G183	–	–	–	1			•		•		•	DIN
	Oil	24 VDC	96G107	96G108	96G109	–	–	1-3	•	•	•	•			•	DIN
		90-240 VAC	96G122	96G123	96G124	–	–	1-3	•	•	•	•			•	DIN

*The DIN Alarm Output is a dry contact relay which opens or closes when a fault is detected. This relay acts as a switch but supplies no power. It requires external power to energize the circuit when closed.

**G3 Max pumps with the M12 connection for Remote Manual Run/Monitoring Light use the kit with the connecting cable to provide external fault indication. Choose part number 571032 for 12 VDC pumps or 571033 for 24 VDC and AC pumps.

†G3 Max pumps with the 5 Wire CPC power connection are compatible with a Remote Manual Run/Monitoring Light Device to provide external fault indication. Choose part number 571030 for 12 VDC pumps or 571031 for 24 VDC pumps.

G3 Max with Data Management System

Application		Voltage	Reservoir Size					Number of Cycle/ Pressure Input	Machine Count	Vent Valve Output	DIN Alarm Output*	M12 Connection for Remote**	Wiper Arm	Follower Plate	Low Level	Power Connection
			2 liter	4 liter	8 liter	12 liter	16 liter									
Application	Grease	12 VDC	–	96G161	–	–	–	1	•				•			DIN
			–	96G153	–	–	–	1		•			•			5 Wire CPC†
			96G098	96G099	96G100	–	–	1-2	•	•	•	•	•		•	DIN
			–	–	96G154	–	–	1		•			•			5 Wire CPC†
		24 VDC	96G110	96G111	96G112	–	–	1-2	•	•	•	•	•		•	DIN
			96G115	96G116	–	–	–	1-2	•	•	•	•		•	•	DIN
			–	96G162	–	–	–	1	•				•			5 Wire CPC†
			–	96G157	96G158	96G165	96G169	1		•			•			5 Wire CPC†
		90-240 VAC	96G125	96G126	96G127	–	–	1-2	•	•	•	•	•		•	DIN
			96G132	96G133	–	–	–	1-2	•	•	•	•		•	•	DIN
	Oil	12 VDC	–	–	–	96G186	–	1	•				•		•	5 Wire CPC†
		24 VDC	–	96G188	96G195	–	–	1	•				•		•	5 Wire CPC†
			96G190	–	–	–	96G201	1-2	•	•	•	•	•		•	DIN
		90-240 VAC	96G174	96G175	96G176	–	–	1-2	•	•	•	•	•		•	DIN

*The DIN Alarm Output is a dry contact relay which opens or closes when a fault is detected. This relay acts as a switch but supplies no power. It requires external power to energize the circuit when closed.

**G3 Max pumps with the M12 connection for Remote Manual Run/Monitoring Light use the kit with the connecting cable to provide external fault indication. Choose part number 571032 for 12 VDC pumps or 571033 for 24 VDC and AC pumps.

†G3 Max pumps with the 5 Wire CPC power connection are compatible with a Remote Manual Run/Monitoring Light Device to provide external fault indication. Choose part number 571030 for 12 VDC pumps or 571031 for 24 VDC pumps.

Electric Pumps

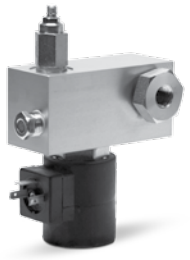
G-Series Pump Accessories

Accessories

571041	G3 pump element–the same adjustability as the pump included with G3
24V837	Food and Beverage Upgrade Kit–contains pump element, stainless zerk fitting, and stainless reservoir plugs
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
24P296	Two pump union kit for use with pump mounted vent valve
24P295	Three pump union kit for use with pump mounted vent valve
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–black
571255	Protective front cover kit–snaps over the front control panel on Pro and Max G3 models–clear
126005	Liquid-filled pressure gauge–0-5,000 psi (0-344.7 bar) - 1/4 inch (6.4 mm) NPT brass back mount connection
557352	Dry pressure gauge–0-5,000 psi (0-344.7 bar), 1/4 inch (6.4 mm) NPT brass bottom mount connection
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)
115122	Pressure relief valve to atmosphere, 1/8" NPT male, 4000 psi (276 bar)
571070	Pressure relief valve adapter, 1/4" BSPP
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
126331	Accessory cable–16 foot female M12 on one end and flying leads 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
125910	G3 Pump mounting bracket
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–24 VDC 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 MHH™ 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–requires purchase of a cable with M12 female connection.
24M644	High capacity fill zerk with quick disconnect and dust cover
556420	Male run tee–1/4 inch (6.4 mm) male x (2) 1/4 inch (6.4 mm) female
121474	Female coupler
247886	Manual 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
571159	G3 pump support bracket for mobile installations–secures 12 and 16 liter reservoirs.

Vent Valves Ordering Information

Accessories	
16T854	Vent valve output cover with o-ring, IP69K rated
24P731	DIN power/alarm cover with gasket and screw, IP69K rated
127123	DIN connector, field-wireable, female
Vent Valves for G3 Max Systems	
571169	G3 Max pump vent valve kit–normally closed, 12 VDC, NPT, adjustable pressure relief, 500-3500 psi (35-241 bar), mounts directly to G3 pump, cable included
571171	G3 Max pump vent valve kit–normally closed, 12 VDC, BSPP, adjustable pressure relief, 500-3500 psi (35-241 bar), mounts directly to G3 pump, cable included
571170	G3 Max pump vent valve kit–normally closed, 24 VDC (also for G3 Max AC pumps), NPT, adjustable pressure relief, 500-3500 psi (35-241 bar), mounts directly to G3 pump, cable included
571172	G3 Max pump vent valve kit–normally closed, 24 VDC (also for G3 Max AC Pumps), BSPP, adjustable pressure relief, 500-3500 psi (35-241 bar), mounts directly to G3 pump, cable included
Vent Valves and Accessories for G3 Standard Systems	
24M478	G3 Standard pump vent valve kit–normally open, 12 VDC, NPT, adjustable pressure relief, 500-3500 psi (35-241 bar), mounts directly to G3 pump, requires cable with Deutsch connector–see 24N402
24M481	G3 Standard pump vent valve kit–normally open, 12 VDC, BSPP, adjustable pressure relief, 500-3500 psi (35-241 bar), mounts directly to G3 pump, requires cable with Deutsch connector–see 24N402
24M479	G3 Standard pump vent valve kit–normally open, 24 VDC, NPT, adjustable pressure relief, 500-3500 psi (35-241 bar), mounts directly to G3 pump, requires cable with Deutsch connector–see 24N402
24M482	G3 Standard pump vent valve kit–normally open, 24 VDC, BSPP, adjustable pressure relief, 500-3500 psi (35-241 bar), mounts directly to G3 pump, requires cable with Deutsch connector–see 24N402
24M480	G3 Standard pump vent valve kit–normally open, 115 VAC, NPT, adjustable pressure relief, 500-3500 psi (35-241 bar), mounts directly to G3 pump, requires cable with DIN connector–see 16U790
24M483	G3 Standard pump vent valve kit–normally open, 115 VAC, BSPP, adjustable pressure relief, 500-3500 psi (35-241 bar), mounts directly to G3 pump, requires cable with DIN connector–see 16U790
24N182	G3 Standard pump vent valve kit–normally open, 230 VAC, NPT, adjustable pressure relief, 500-3500 psi (35-241 bar), mounts directly to right side of G3 pump, requires cable with DIN connector–see 16U790
24M484	G3 Standard pump vent valve kit–normally open, 230 VAC, BSPP, adjustable pressure relief, 500-3500 psi (35-241 bar), mounts directly to G3 pump, requires cable with DIN connector–see 16U790
24T178	G3 Standard pump vent valve kit–normally open, 230 VAC, NPT, adjustable pressure relief, 500-3500 psi (35-241 bar), mounts directly to left side of G3 pump, requires cable with DIN connector–see 16U790
24N402	Vent valve power cable–normally open, 12 or 24 VDC valve, Deutsch connector, 6 feet
16U790	Vent valve power cable–normally open, 115 or 230 VAC valve, DIN connector, 15 feet
24N351	Save installation time and money without the need for additional cabling. Patch cable connects vent valves with DIN connection directly to the DIN Pump Power connector.



24M480

24N351

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

Modu-Flo pump shown with grease reservoir

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 . . . . . 20º F to 140º F (-7º C to 60º C)
Operating Environment . . . . . 24 VDC - Inside/Outside, 115 VAC - Inside Only

Ordering Information

Modu-Flo Pumps	
563356	24 VDC motor, 20 ft connector cable
563346	115 VAC motor, 20 ft connector cable
563333	Pump-to-reservoir manifold, NPT, liquid filled gauge, fill check, outlet check, blowout
563329	Pump-to-reservoir manifold, NPT, w/out hardware or fittings
563355	Pump-to-reservoir manifold, SAE, dry gauge, fill check, outlet check, blowout
563357	Pump-to-reservoir manifold, BSPP, dry gauge, fill check, outlet check, blowout
563324	Pump-to-reservoir manifold, NPT, dry gauge, fill check, outlet check, blowout
563331	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 gear motor
557285	115 VAC gear motor

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.

LM5111

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

Ordering Information

LubeMaster Pumps	
LM1552	12 pt Plastic Oil Reservoir (562892), Floor-Mounting 60:1 Reduction (563389), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,140 rpm) (557273), Individual Outputs (12 pt Oil, SPDT, 15 amps) (563316)
LM1635	12 pt Plastic Oil Reservoir (562892), Wall-Mounting 60:1 Reduction (563387), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,725 rpm) (557270), 12 pt Oil Low Level, SPDT, 10 watts (563015)
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 60:1 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)
LM3131	12 pt Metal Oil Reservoir (562894), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,725 rpm) (557270)
LM4451	20 pt Metal Oil Reservoir (562895), Wall-Mounting 10:1 Reduction (563386), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,140 rpm) (557273)
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)
LM4533	20 pt Metal Oil Reservoir (562895), Floor-Mounting 60:1 Reduction (563389), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,725 rpm) (557270), Individual Outputs (20 pt Oil, SPDT, 15 amps) (563317)
LM5111	12 lb Plastic Grease Reservoir (562896)
LM5114	12 lb Plastic Grease Reservoir (562896), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
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, 230/460 VAC, 3-Phase, 60 Hz, 1,725 rpm) (557270)
LM5334	12 lb Plastic Grease Reservoir (562896), 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)
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, 115/230 VAC, 3-Phase, 60 Hz, 1,725 rpm) (557271)
LM5534	12 lb Plastic Grease Reservoir (562896), 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)
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)

Electric Pumps

LubeMaster®

Ordering Information

LubeMaster Pumps	
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)
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)
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)
LM6514	20 lb Plastic Grease Reservoir (562897), Floor-Mounting 10:1 Reduction (563388), 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)
LM6534	20 lb Plastic Grease Reservoir (562897), Floor-Mounting 60:1 Reduction (563389), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,725 rpm) (557270), 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)
LM7214	12 lb Metal Grease Reservoir (562898), Clutch Drive (563383), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM7344	12 lb Metal Grease Reservoir (562898), 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) (553322)
LM7514	12 lb Metal Grease Reservoir (562898), Floor-Mounting 60:1 Reduction (563389), Individual Outputs (12 lb or 20 lb Grease, SPDT) (563322)
LM7534	12 lb Metal Grease Reservoir (562898), Floor-Mounting 60:1 Reduction (563389), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,725 rpm) (557273), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM7614	12 lb Metal Grease Reservoir (562898), Wall-Mounting 60:1 Reduction (563387), Individual Outputs (12 lb and 20 lb Grease, SPDT) (563322)
LM7654	12 lb Metal Grease Reservoir (562898), 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)
LM8114	20 lb Metal Grease Reservoir (562899), 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)
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)
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)
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)
LM8514	20 lb Metal Grease Reservoir (562899), Floor-Mounting 60:1 Reduction (563389), 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)
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)
LM9331	Power Prime Reservoir Assembly (562908), Floor-Mounting 10:1 Reduction (563388), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,725 rpm) (557270)
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
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
563386	10:1 Reduction, Wall-Mounting
563387	60:1 Reduction, Wall-Mounting
563388	10:1 Reduction, Floor-Mounting
563389	60:1 Reduction, Floor-Mounting
LubeMaster Motors	
557270	230/460 VAC, 1/2 HP, 3-Phase, 60 Hz, 1,725 rpm
557271	115/230 VAC, 1/2 HP, Single 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	
563015	12 pt Oil Low Level, SPDT, 10 watts
563016	20 pt Oil Low Level, SPDT, 10 watts
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
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
563915	Drive Repair Kit
563916	Output Manifold Kit - Standard
563921	Seal Repair Kit
563938	Output Manifold Kit - High Output
563962	Package of 6 Blowout Discs, Yellow, 1,450 psi, Oil
563965	Package of 6 Blowout Discs, Aluminum, 2,350 psi, Grease

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
2 OPB, 20 pt plastic oil reservoir - 562893
3 OMA, 12 pt metal oil reservoir - 562894
4 OMB, 20 pt metal oil reservoir - 562895
5 GPA, 12 lb plastic grease reservoir - 562896
6 GPB, 20 lb plastic grease reservoir - 562897
7 GMA, 12 lb metal grease reservoir - 562898
8 GMB, 20 lb metal grease reservoir - 562899
9 OHS, power prime reservoir assembly - 562908

Drive Option

1 none
2 DOA, clutch drive w/arm - 563383
3 DOB, 10:1 reduction, floor-mounting - 563388
4 DOC, 10:1 reduction, wall-mounting - 563386
5 DOD, 60:1 reduction, floor-mounting - 563389
6 DOE, 60:1 reduciton, 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
2 LOA, 12 pt oil, SPDT, 15 amps - 563316
3 LOB, 20 pt oil, SPDT, 15 amps - 563317
4 LOC, 12 and 20 lb grease, SPDT - 563322
5 LOD, 12 pt oil, SPST, 10 watts - 563015
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.

Pressure Indicator Option (sold separately)

POA - Standard Blowout, 1,450 psi (100 bar), Oil, 563179
POB - Standard Blowout, 2,350 psi (162 bar) Grease, 563184
POC - High-Pressure Blowout Switch, 1,450 psi (100 bar), Oil, 563384
POD - High-Pressure Blowout Switch, 2,350 psi (162 bar), Grease, 563385

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 in^3 (16, 82, 131, 229 cm^3)
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

Miniature Meter-Flo Ordering Menu Code

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

MM – X – X – X – X

Reservoir Option

1 RA, 1.5 gallon reservoir
2 RB, 3 gallon reservoir
3 RC, 5 gallon reservoir

Pump / Flow Option (*)

1 PA, 1 cu.in. / minute (1,500 psi maximum operating pressure)
2 PB, 5 cu.in. / minute (2,000 psi maximum operating pressure)
3 PC, 8 cu.in. / minute (2,000 psi maximum operating pressure)
4 PD, 14 cu.in. / minute (1,500 psi maximum operating pressure)

Pressure Switch Option

1 SO, no pressure switch
2 SA, high pressure switch

Low Level Option

1 LO, no low level switch
2 LA, low level switch, reed-type, SPST - 563014

(*) All pump flow rates are based on 160 SUS (at 100 F) 10W oil, 70 F at 1,000 psi.
Example: Miniature Meterflo (MM) pump package consisting of a 3 gallon reservoir, 5 cu.in./minute pump output, high pressure switch and low level switch.
Ordering Code: MM2222

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.

563557

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 in^3 (230-4015 cm^3)
Max Output Pressure . . . . . 300-1,500 psi (300-3,000 bar)
Operating Temp . . . . . 50º F to 150º F (10º C to 65.5º C)

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
24N405	Paddle Base w/Pump 557815
24N406	Paddle Base w/Pump 557816
24N407	Paddle Base w/Pump 557817
24N408	Paddle Base w/Pump 557818
24N409	Paddle Base w/Pump 557820

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.

562850

Typical Applications

- In-plant medium size machine tool lubrication applications

Typical Fluids Handled

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

562839

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 in^3/min. (200 cm^3/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 in^3/min. (140 cm^3/min.)
Pressure. . . . . 350 psi (24 bar)
Operating Temp . . . . . 14º F to 120º F (-10º C to 49º 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

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.

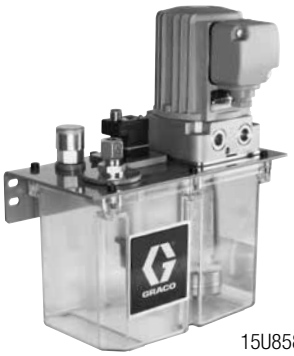
122895

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



15U858

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

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 . . . . . 0º F to 140º F (-18º C to 60º 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 and 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 . . . . . 0º F to 140º F (-18º C to 60º C)
Material . . . . . Plastic, Rectangular
Reservoir Size . . . . . 4 pints (1.9 liters)
Motor . . . . . 115 VAC, 50/60 hz

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

Pneumatic Pumps

LubePro™

Built to Last. Built to Perform.

For nearly 50 years, Graco Fire-Ball™ pumps have been a mainstay in the lubrication marketplace for durability and long life. LubePro™ series pumps leverage the same proven quality and leading technology, offering a robust solution where high output and fast lubrication cycles and flow rates are needed to optimally lubricate equipment while it's working.

17C750

17C753

24X694

24Y499

Features and Benefits

- High-strength, shatter-resistant reservoir
- Easy to install utilizing existing mounting holes
- Fast cycle rate and flow
- Integrated vent automatically relieves pressure on return stroke
- Pneumatic power – easily installed into existing air line

Typical Applications

- Packaging
- Thermoforming
- Labelers
- Glass Manufacturing
- Injection Molding
- Automation Machinery
- Tire Production
- Paper Production
- Presses

Lubrication Used

- 40 cSt oil minimum
- NLGI #000 to NLGI #2 grease

Technical Specifications

	A900	H1900	A1900	A2600
Fluid Handling Capabilities	40 cSt oil minimum	40 cSt oil minimum	40 cSt oil minimum	Up to #2 grease
Maximum Working Pressure	1,350 psi (93.1 bar)	3,500 psi (241 bar)		
Pressure Ratio	9:1	19:1	19:1	26:1
Pump Output Per Stroke	1.5 in^3 (24.58 cm^3)	3.0 in^3 (49.16 cm^3)	3.0 in^3 (49.16 cm^3)	2.2 in^3 (36.05 cm^3)
Reservoir Capacity	2.8 liters (170.9 in^3)	–	2 liters (122 in^3)	2 liters (122 in^3)
Maximum Air Inlet Pressure	150 psi (10.3 bar)	185 psi (12.8 bar)	185 psi (12.8 bar)	135 psi (9.3 bar)
Air Inlet Size	1/4 in.-18 NPSF	1/4 in. NPT		
Fluid Outlet Size	1/4 in.-18 NPT	3/4 in. NPT		
Operating Temperature	-4º F - 149º F (-20º C - 65º C)	14º F - 149º F (-10º C - 65º C)		

Ordering Information

			NPT		BSPP	
Pump Model	Fluid	Pressure Ratio	Pump Only	With Low Level Indicator	Pump Only	With Low Level Indicator
A900	Oil	9:1	24X717	24X694	–	–
H1900	Oil	19:1	24Y498	24Y499	25Y498	25Y499
A1900	Oil	19:1	17C753	17C752 (NO)	18C753	18C752 (NO)
				19C752 (NC)		20C752 (NC)
A2600	Grease	26:1	17C750	17C751 (NO)	18C750	18C751 (NO)
				19C751 (NC)		20C751 (NC)

LubePro™ Accessories	
128305	4-way air valve, 12 VDC
128254	4-way air valve, 24 VDC
128255	4-way air valve, 110 VAC
128257	4-way air valve, 220 VAC
560734	Air valve reservoir mounting bracket

24Y079	Installation kit – 12 VDC air valve, bracket, air lines, fittings
24Y080	Installation kit – 24 VDC air valve, bracket, air lines, fittings
24Y081	Installation kit – 110 VAC air valve, bracket, air lines, fittings
24Y082	Installation kit – 220 VAC air valve, bracket, air lines, fittings

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

Pump package shown with oil reservoir

Pump package shown with grease reservoir

Technical Specifications

Output per Stroke
AL5 . . . . . 0.01-0.03 in^3 (0.16-0.49 cm^3)
AL-25 . . . . . 0.03-0.12 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

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
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 and all Tank Reservoirs, SPDT
563317	15 amp Low Level Switch for 20 pt Cylindrical Oil Reservoirs, SPDT
563014	10 watt Low Level Switch for 6 pt Cylindrical Oil Reservoirs and all Tank Reservoirs, SPST
563015	10 wall Low Level Switch for 5 and 12 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

563365

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 (1.36 kg and 2.72 kg), 4 pt (1.89 liter)
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 (1.36 kg) Plastic Cylindrical Grease Reservoir, Low Level Switch, Pressure Gauge
563363	E-Series Pump w/6 lb (2.72 kg) Plastic Cylindrical Grease Reservoir with 2350 psi (162 bar) Rupture Disc
563364	E-Series Pump w/6 lb (2.72 kg) Plastic Cylindrical Grease Reservoir, Low Level Switch with 2350 psi (162 bar) Rupture Disc
563361	E-Series Pump w/4 pt (1.89 liter) Plastic Rectangular Oil Reservoir
563362	E-Series Pump w/4 pt (1.89 liter) Plastic Rectangular Oil Reservoir, Low Level Switch
E-Series Components	
563358	Pump only - with 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 (18.93 liter) Cylindrical - Plastic
563319	12 pt (5.67 liter) Rectangular - Metal
563320	24 pt (11.36 liter) Rectangular - Metal
563321	40 pt (18.93 liter) Rectangular - Metal

Ordering Information

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 (1.89 liter) Rectangular Oil Reservoirs
563015	10 watt Low Level Switch for 5 pt (2.36 liter) and 12 pt (5.67 liter) Cylindrical Oil Reservoirs
563016	10 watt Low Level Switch for 20 pt (9.46 liter) Cylindrical Oil Reservoirs
563316	15 amp Low Level Switch for 5 pt (2.37 liter) and 6 pt (2.84 liter) Cylindrical Oil Reservoirs
563317	15 amp Low Level Switch for 20 pt (9.45 liter) 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)

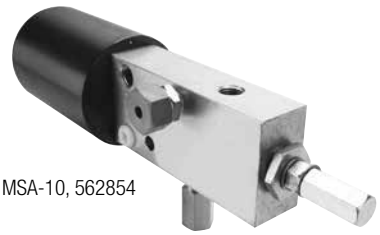
Pneumatic Pumps

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

MSA-100, 562855

Technical Specifications

MSA-10

Material	Steel
Output per Stroke	.04-.120 in³ (.66-1.97 cm³)
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-.800 in³ (6.57-13.11 cm³)
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)

Ordering Information

MSA Pumps	
562854	MSA-10 Air Operated Pump
562855	MSA-100 Air Operated Pump
MSA Kits	
563912	MSA-10 Repair 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.

562845

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 pt (1.89 liter) or 10 pt (4.73 liter)
Minimum On-Time . . . . . .5 seconds
Minimum Off-Time . . . . . .15 seconds

Ordering Information

Injecto-Flo AO-1 Pumps	
562845	Pump, 4 pt (1.89 liter) Plastic Rectangular Reservoir
562846	Pump, 10 pt (4.73 liter) Metal Rectangular Reservoir
Low Level Switches	
556018	Low Level Switch
556019	Low Level Switch

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

563575

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 lb (2.72 kg), 12 lb (5.44 kg) or 20 lb (9.06 kg), 6 pt (2.84 liter), 12 pt (5.68 liter) or 20 pt (9.46 liter)

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	
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
563332	24 VDC Solenoid Valve
LubriSystem Solid State Timer	
562872	Solid State Timer, 115 VAC
557925	DC Timer
LubriSystem Repair Kits	
563762	Standard Pump Repair/Rebuild Kit - includes Pump Diaphragm

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 . . . . . 0.09 cu.in. (1.5 cc)
Pressure Rating . . . . . 5,000 psi (345 bar)
Reservoir Capacity . . . . . 1 pint (500 cc), 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
558959	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-outlet valve that mounts under the pump outlet. This valve allows the pump to serve two different systems or to supply one separate manual reversing system.
- 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 cm3) 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 lb (13.14 kg) per 1,000 psi @ rated pressure
Reservoir Capacities . . . . . 5 pint (2.37 liter) or 5 lb (2.27 kg), 6 pint (2.84 liter) or 6 lb (2.72 kg), 12 pint (5.68 liter) or 12 lb (5.44 kg), 20 pint (9.46 liter) or 20 lb (9.06 kg)

Ordering Information

PH Pump	
563393	Pump (w/out reservoir)
564378	Pump w/5 pint (2.37 liter) Plastic Cylindrical Oil Reservoir
564379	Pump w/5 lb. (2.27 kg) Plastic Cylindrical Grease Reservoir
564381	Pump w/5 lb. (2.27 kg) Metal Cylindrical Grease Reservoir
564389	Pump w/6 lb. (2.72 kg) Plastic Cylindrical Grease Reservoir
564383	Pump w/12 lb. (5.44 kg) Plastic Cylindrical Grease Reservoir
564386	Pump w/20 lb. (9.06 kg) Plastic Cylindrical Grease Reservoir
564385	Pump w/20 pint (9.46 liter) Plastic Cylindrical Oil Reservoir
564384	Pump w/12 lb. (5.44 kg) Metal Cylindrical Grease Reservoir
564387	Pump w/6 pint (2.84 liters) Plastic Cylindrical Oil Reservoir
564365	Two-Outlet Valve
557864	3,000 psi (207 bar) Pressure Gauge
563160	Automatic 2,500 psi (172 bar) Relief Valve
558906	Coupler for Grease Fill Stud

Manual Pumps
LubriSystem®

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

564422

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 pint (2.84 liter) or 6 lb (2.72 kg), 12 pint (5.68 liter) or 12 lb (5.44 kg), 20 pint (9.46 liter) or 20 lb (9.06 kg)

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

564012

Typical Applications

- Small machine tools

Lubrication Used

- Oil (100-10,000 SUS)

Technical Specifications

Output per Stroke . . . . . .0.50 in^3 (8.2 cm^3)
Output Pressure . . . . . 75 psi (5 bar)
Operating Temp . . . . . 0º F to 140º F (-17.8º C to 60º C)
Reservoir Size. . . . . 4 pt (1.89 liter)

Ordering Information

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

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

LM5214

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)

Ordering Information

LubeMaster	
LM6214	20 lb (9.06 kg) Plastic Grease Reservoir (562897), Clutch Drive w/Arm (563383), Individual Outputs (12 lb / 5.44 kg and 20 lb / 9.06 kg Grease, SPDT) (563322)
LM8211	20 lb (9.06 kg) Metal Grease Reservoir (562899), Clutch Drive w/Arm (563383)
LM4211	20 pt (9.46 liter) Metal Oil Reservoir (562895), Clutch Drive w/Arm (563383)
LM7211	12 lb (5.44 kg) Metal Grease Reservoir (562898), Clutch Drive w/Arm (563383)
LM5211	12 lb (5.44 kg) Plastic Grease Reservoir (562896), Clutch Drive w/Arm (563383)
LM5214	12 lb (5.44 kg) Plastic Grease Reservoir (562896), Clutch Drive w/Arm (563383), Individual Outputs (12 lb / 5.44 kg and 20 lb / 9.06 kg 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
2 OPB, 20 pt plastic oil reservoir - 562893
3 OMA, 12 pt metal oil reservoir - 562894
4 OMB, 20 pt metal oil reservoir - 562895
5 GPA, 12 lb plastic grease reservoir - 562896
6 GPB, 20 lb plastic grease reservoir - 562897
7 GMA, 12 lb metal grease reservoir - 562898
8 GMB, 20 lb metal grease reservoir - 562899
9 OHS, power prime reservoir assembly - 562908

Drive Option

1 none
2 DOA, clutch drive w/arm - 563383
3 DOB, 10:1 reduction, floor-mounting - 563388
4 DOC, 10:1 reduction, wall-mounting - 563386
5 DOD, 60:1 reduction, floor-mounting - 563389
6 DOE, 60:1 reduciton, 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
2 LOA, 12 pt oil, SPDT, 15 amps - 563316
3 LOB, 20 pt oil, SPDT, 15 amps - 563317
4 LOC, 12 and 20 lb grease, SPDT - 563322
5 LOE, 12 pt oil, SPST, 10 watts - 563015
6 LOF, 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.

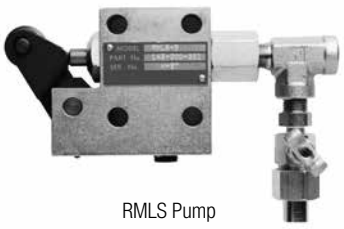
Pressure Indicator Option (sold separately)

POA - Standard Blowout, 1450 psi (100 bar), Oil, 563179
POB - Standard Blowout, 2350 psi (162 bar) Grease, 563184
POC - High-Pressure Blowout Switch, 1450 psi (100 bar), Oil, 563384
POD - High-Pressure Blowout Switch, 2350 psi (162 bar), Grease, 563385

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

EMLS 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.

Ordering Information

MLS Series Pumps	
562860	RMLS-5
562861	EMLS-5
562858	RMLS-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

563305

Typical Applications

- General machinery lubrication where power is limited or not available

Lubrication Used

- Oil
- Grease up to NLGI #2

Technical Specifications

Output per Stroke . . . . . .01- 0.125 in^3 (0.16-2.0 cm^3)
Output Pressure . . . . . .3,000 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 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 inches (3.96 mm) Tubing, 25 feet (762 cm)
563162	Relief Valve - 150 psi (10 bar)
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 – 0.10 cm^3)	.006 – .036 in^3 (0.1 – 0.6 cm^3)	.006 – .018 in^3 (0.1 – 0.3 cm^3)	0.012 – 0.09 in^3 (0.2 – 1.5 cm^3)	.006 – .018 in^3 (0.1 – 0.3 cm^3)
Metering Nipple Options	5	4	4	3	5	3
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
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

3400/3410 Series Bar Manifolds	
Inlet/Outlet, use with M8 Piston Distributors	
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

Single Line Parallel
Piston Distributors

Ordering Information

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
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

3500/3510 Series Bar Manifolds	
Inlet/Outlet, use with M10 Piston Distributors	
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 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
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

3900/3910 Series Bar Manifolds	
Inlet/Outlet, use with M14 Piston Distributors	
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

Single Line Parallel
Piston Distributors

Ordering Information

3400 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
3400 Metering Nipples	
122989	0.01 cc (#1)
558311	0.03 cc (#2)
558312	0.06 cc (#3)
558313	0.10 cc (#4)
558314	0.16 cc (#5)
3410 Cast Manifolds	
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
3410 Metering Nipples	
122990	0.01 cc (#1)
558324	0.03 cc (#2)
558325	0.06 cc (#3)
558326	0.10 cc (#4)
3500 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
3500 Metering Nipples	
558315	0.10 cc (#4)
558316	0.20 cc (#5)
558317	0.40 cc (#6)
558318	0.60 cc (#7)
3510 Cast Manifolds	
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
3510 Metering Nipples	
558327	0.10 cc (#4)
558328	0.20 cc (#5)
558329	0.30 cc (#6)

3900 Cast Manifolds	
122888	2 Outlets, Oil PD, Complete w/Red Plastic Cover
122889	3 Outlets, Oil PD, Complete w/Red Plastic Cover
3900 Metering Nipples	
558319	0.20 cc (#5)
558320	0.40 cc (#6)
558321	0.60 cc (#7)
558322	1.00 cc (#8)
558323	1.50 cc (#9)
3910 Cast Manifolds	
122890	2 Outlets, Fluid Grease PD, Complete w/White Plastic Cover
122891	3 Outlets, Fluid Grease PD, Complete w/White Plastic Cover
3910 Metering Nipples	
558330	0.10 cc (#4)
558331	0.20 cc (#5)
558332	0.30 cc (#6)
Direct-to-Bearing Piston Distributors - For Oil Only	
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)

Refer to Graco manual #313759 for more details on Piston Distributors.

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 – 0.024 in^3 (0.033 – 0.393 cm^3)
Minimum Pressure to Fire Injectors ..... 450 psi (31 bar)
Reset Pressure ..... 160 psi (11 bar)
Minimum On-Time ..... 30 seconds
Minimum Off-Time ..... 3 minutes

Ordering Information

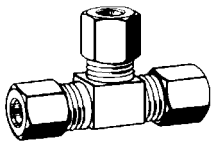
Injectors				
Size #	Output cu.in. (cm^3)	Adjustment Spacers	Aluminum Alloy Injectors (Oil)	Aluminum Alloy Injectors (Grease)
			Part No.	Part No.
0	.002 (0.033)	–	563628	563627
1	.005 (0.082)	1	563630	563629
2	.009 (0.148)	2	563632	563631
3	.012 (0.197)	3	563634	563633
4	.015 (0.246)	4	563636	563635
8	.024 (0.393)	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

Ordering Information

Heavy Wall Lube Lines (tubing)	
561132	Main Line (pump to manifold): 5/16 inches OD x .059 inches wall (7.9 mm x 1.5 mm), black, 60 feet (18.3 m) Burst Pressure Min. - 1,500 psi (103 bar) at 75º F (24º C)
561131	Point Distribution Line (injector to lube point): 3/16 in OD x .044 inches wall (4.8 mm x 1.1 mm), black, 60 feet (18.3 m) Burst Pressure Min. - 2,000 psi (138 bar) at 75º F (24º C)
Self-Aligning Ferrules And Nuts	
556660	Brass Nut, w/captive ferrule, 3/16 inch (4.8 mm) tube
556666	Brass Nut, w/captive ferrule, 5/16 inch (7.9 mm) tube
556651	Stainless Steel Nut, 1/8 inch (3.2 mm) tube
556654	Stainless Steel Ferrule, 1/8 inch (3.2 mm) tube
557963	Brass Inserts for 5/16 inch (7.9 mm) tubing (pack of 20)
Tees And Unions	
556636	Male Branch Tee, 5/16 inch (7.94 mm) tube, 1/8 inch (3.2 mm) NPTF Brass
556637	Union Tee, 5/16 (7.94 mm) tube, Brass
556647	Union, 3/16 (4.8 mm) tube, Brass
556648	Union, 5/16 (4.8 mm) tube, Brass
Brass Connectors	
556642	Female Connector, 3/16 inch (4.8 mm) tube x 1/8 inch (3.2 mm) NPTF
556643	Female Connector, 5/16 inch (7.94 mm) tube x 1/8 inch (3.2 mm) NPTF
556644	Male Connector, 3/16 inch (4.8 mm) tube x 1/8 inch (3.2 mm) NPTF
556645	Male Connector, 5/16 inch (7.94 mm) tube x 1/8 inch (3.2 mm) NPTF
556646	Male Connector, 5/16 inch (7.94 mm) tube x 1/4 inch (6.35 mm) NPTF
Tubing Straps	
563770	100 pieces, 11-1/2 inch (292 mm)
Steel Pipe and Adapter Elbows	
15K740	1/4 inch-28 inch / 6.35 mm-711 cm (male) x 1/8 inch (3.2 mm) NPTF (female), 90º Adapter Elbow
15K783	90º Street Elbow, 1/8 inch (3.2 mm) NPTF
557395	45º Street Elbow, 1/8 inch (3.2 mm) NPTF
Brass Male Tube Elbows	
556638	3/16 inch (4.8 mm) tube x 1/8 inch (3.2 mm) NPTF
556639	5/16 inch (7.94 mm) tube x 1/8 inch (3.2 mm) NPTF
556640	5/16 inch (7.94 mm) tube x 1/4 inch (6.35 mm) NPTF
Harness Clamps and Brackets	
557943	5/16 inch (7.94 mm) diameter
557946	3/8 inch (9.53 mm) diameter
557944	7/16 inch (11.11 mm) diameter
557947	1/2 inch (12.7 mm) diameter
557945	5/8 inch (15.22 mm) diameter
Miscellaneous	
561113	Air Line Restrictor, 1/2 inch x 1/8 inch (12.7 mm x 3.2 mm), M to F Pipe
561114	Air Line Restrictor, 3/8 inch x 1/8 inch (9.53 mm x 3.2 mm), M to F Pipe
557374	Trabon Style Fill Stud
557880	Grease Jockey Style Fill Stud
Fill Couplers, mate w/above fill studs	
558906	Coupler for use with 557374
557877	Coupler for use with 557880

561132



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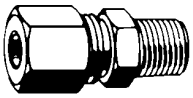

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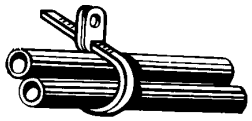

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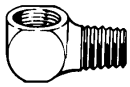

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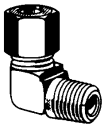

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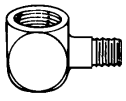


15K740

561132

Single Line Parallel

GL-32™ and GL-43™ Injectors

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 350º F (176º C)

24A923

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

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) . . . . . 0.001–0.008 in^3 (0.02–0.13 cm^3)
Maximum Temperature Rating . . . . . 350º F (176º 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) . . . . . 0.001–0.008 in^3 (0.02–0.13 cm^3)
Maximum Temperature Rating . . . . . 350º F (176º C)
Cycle Indication . . . . . Visual Pin
Instruction Manual 313798

Ordering Information

GL-32 Carbon Steel Grease	
24A919	Stand-Alone Injector, 1/4 NPT (must order in quantities of five)
24A920	Replacement Injector, 1/4 NPT (must order in quantities of five)
24A921	1-Injector Manifold, 1/4 NPT
24A922	2-Injector Manifold, 1/4 NPT
24A923	3-Injector Manifold, 1/4 NPT
24A924	4-Injector Manifold, 1/4 NPT
24B677	Injector Outlet Replacement Kit (nut, ferrule and adapter), NPT

24F507	Stand-Alone Injector, 6 mm outlet, BSPP (must order in quantities of five)
24F508	Replacement Injector, 6 mm outlet, BSPP (must order in quantities of five)
24F509	1-Injector Manifold, 6 mm outlet, 1/8 BSPP inlet
24F510	2-Injector Manifold, 6 mm outlet, 1/8 BSPP inlet
24F511	3-Injector Manifold, 6 mm outlet, 1/8 BSPP inlet
24F512	4-Injector Manifold, 6 mm outlet, 1/8 BSPP inlet
24F513	Injector Outlet Adapter Kit, 4 mm outlet
24F514	Injector Outlet Adapter Kit, 6 mm outlet
24B360	Repair Kit

Single Line Parallel

GL-32™ and GL-43™ Injectors

Ordering Information

GL-32 304 Stainless Steel Grease	
24E389	Stand-Alone Injector, 1/4 NPT (must order in quantities of five)
24E390	Replacement Injector, 1/4 NPT (must order in quantities of five)
24E391	1-Injector Manifold, 1/4 NPT
24E392	2-Injector Manifold, 1/4 NPT
24E393	3-Injector Manifold, 1/4 NPT
24E394	4-Injector Manifold, 1/4 NPT
24F943	Injector Outlet Replacement Kit (nut, ferrule and adapter), NPT
24F549	Stand-Alone Injector, 6 mm outlet, BSPP (must order in quantities of five)
24F550	Replacement Injector, 6 mm outlet, BSPP (must order in quantities of five)
24F551	1-Injector Manifold, 6 mm outlet, 1/8 BSPP inlet
24F552	2-Injector Manifold, 6 mm outlet, 1/8 BSPP inlet
24F553	3-Injector Manifold, 6 mm outlet, 1/8 BSPP inlet
24F554	4-Injector Manifold, 6 mm outlet, 1/8 BSPP inlet
24F555	Injector Outlet Adapter Kit, 4 mm outlet
24F556	Injector Outlet Adapter Kit, 6 mm outlet
24F944	Repair Kit
GL-43 Carbon Steel Oil	
24E240	Stand-Alone Injector, 1/4 NPT (must order in quantities of five)
24E245	Replacement Injector, 1/4 NPT (must order in quantities of five)
24E241	1-Injector Manifold, 1/4 NPT
24E242	2-Injector Manifold, 1/4 NPT
24E243	3-Injector Manifold, 1/4 NPT
24E244	4-Injector Manifold, 1/4 NPT
24B667	Injector Outlet Replacement Kit (nut, ferrule and adapter), NPT
24F542	Stand-Alone Injector, 6 mm outlet, BSPP (must order in quantities of five)
24F543	Replacement Injector, 6 mm outlet, BSPP (must order in quantities of five)
24F544	1-Injector Manifold, 6 mm outlet, 1/8 BSPP inlet
24F545	2-Injector Manifold, 6 mm outlet, 1/8 BSPP inlet
24F546	3-Injector Manifold, 6 mm outlet, 1/8 BSPP inlet
24F548	4-Injector Manifold, 6 mm outlet, 1/8 BSPP inlet
24F201	Repair Kit

Single Line Parallel

GL-33™ and GL-42™ Injectors

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 350º F (176º C)

24W404

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

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) . . . . . 0.001–0.003 in^3 (0.02–0.05 cm^3)
Maximum Temperature Rating . . . . . 350º F (176º C)
Cycle Indication . . . . . Visual Pin
Instruction Manual 334495

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) . . . . . 0.001–0.003 in^3 (0.02–0.05 cm^3)
Maximum Temperature Rating . . . . . 350º F (176º C)
Cycle Indication . . . . . Visual Pin
Instruction Manual 334495

Ordering Information

GL-33 Carbon Steel Grease	
24W401	1-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W402	2-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W403	3-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W404	4-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24X302	5-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W405	6-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W406	9-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W407	10-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W408	15-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W483	Replacement injector, 1/8 outlet (must order in quantities of five)
24W487	Stand-alone injector, 1/8 NPT(f) inlet, 1/8 outlet (must order in quantities of five)

24W501	1-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W502	2-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W503	3-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W504	4-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24X303	5-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W505	6-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W506	10-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W507	15-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W484	Replacement injector, 6 mm outlet (must order in quantities of five)
24W488	Stand-alone injector, 1/8 NPT(f) inlet, 6 mm outlet (must order in quantities of five)

Single Line Parallel

GL-33™ and GL-42™ Injectors and Accessories

Ordering Information

GL-33 Stainless Steel Grease	
24W601	1-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W602	2-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W603	3-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W604	4-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24X304	5-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W605	6-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W606	10-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W607	15-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W485	Replacement injector, 1/8 outlet (must order in quantities of five)
24W489	Stand-alone injector, 1/8 NPT(f) inlet, 1/8 outlet (must order in quantities of five)
24W701	1-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W702	2-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W703	3-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W704	4-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24X305	5-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W705	6-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W706	10-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W707	15-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W486	Replacement injector, 6 mm outlet (must order in quantities of five)
24W490	Stand-alone injector, 1/8 NPT(f) inlet, 6 mm outlet (must order in quantities of five)
GL-42 Carbon Steel Oil	
24W801	1-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W802	2-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W803	3-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W804	4-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24X306	5-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W805	6-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W806	9-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W807	10-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W808	15-injector manifold, 1/8 NPT(f) inlet, 1/8 outlet
24W491	Replacement injector, 1/8 outlet (must order in quantities of five)
24W493	Stand-alone injector, 1/8 NPT(f) inlet, 1/8 outlet (must order in quantities of five)
24W901	1-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W902	2-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W903	3-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W904	4-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24X307	5-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W905	6-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W906	10-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W907	15-injector manifold, 1/8 BSPP inlet, 6 mm outlet
24W492	Replacement injector, 6 mm outlet (must order in quantities of five)
24W494	Stand-alone injector, 1/8 NPT(f) inlet, 6 mm outlet (must order in quantities of five)

GL-32, GL-33, GL-42, and GL-43 Outlet Fittings	
17B168	JIC-4 male outlet, carbon steel
17B169	JIC-4 male outlet, stainless steel
17B780	1/8 NPT(f) outlet, carbon steel
17B781	1/8 NPT(f) outlet, stainless steel
17B879	1/8 OD tube, push to connect
17B880	1/4 OD tube, push to connect
24F513	4 mm OD outlet tube, carbon steel
24F555	4 mm OD outlet tube, stainless steel
24B677	1/8 OD outlet tube, carbon steel
24F943	1/8 OD outlet tube, stainless steel
24F514	6 mm OD outlet tube, carbon steel
24F556	6 mm OD outlet tube, stainless steel
17B782	Outlet closure plug, carbon steel
17B783	Outlet closure plug, stainless steel
Accessories	
24W495	Manual grease fitting adapter
17B785	Measuring chamber vinyl cap
24W913	GL33 overhaul kit, carbon steel
24W914	GL33 overhaul kit, stainless steel
24W915	GL42 overhaul kit
24B360	GL32 overhaul kit, carbon steel
24F944	GL32 overhaul kit, stainless steel
24F201	GL43 overhaul kit

Single Line Parallel

GL-1™ and GL-1™ High Corrosion Protection (HCP) Injectors

Features and Benefits

- Easy to change output volume in the field–no need to remove plumbing
- 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.
- GL-1 HCP provides C5-M (1,400 hours Salt-Spray Environment) corrosion protection as defined by EN ISO 12944 Part 2. Ideal for use in marine applications or other environments where atmospheric corrosion is a concern.

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 in^3 (0.13 – 1.31 cc)
Number of Adjustment Turns 8
Cycle Indicator ..... Visual

Ordering Information

	GL-1	GL-1 HCP
GL-1 Injectors and Manifold Assemblies		
GL-1 one point assembly	114901	24X401
GL-1 two point assembly	114902	24X402
GL-1 three point assembly	114903	24X403
GL-1 four point assembly	114904	24X404
GL-1 five point assembly	114905	24X405
GL-1 six point assembly	117206	24X406
GL-1 single replacement injector (no manifold)	114909	24X153
GL-1 Bare Injector Manifolds (no injectors included)		
One bank GL-1 manifold	114911	17D401
Two bank GL-1 manifold	114912	17D402
Three bank GL-1 manifold	114913	17D403
Four bank GL-1 manifold	114914	17D404
Five bank GL-1 manifold	114915	17D405
Six bank GL-1 manifold	118206	17D906
GL-1 Injector Accessories		
GL-1 injector cover kit, plastisol*	115119	N/A
GL-1 injector crossport kit	115120	128139
GL-1 zerk and cap kit*	114916	17C155
GL-1 adjustment screw and lock nut*	126030	N/A

*Must be ordered in quantities of ten.

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 in^3 (0.82 – 8.2 cm^3)
Number of Adjustment Turns	14
Cycle Indicator	Visual

24A918

Ordering Information

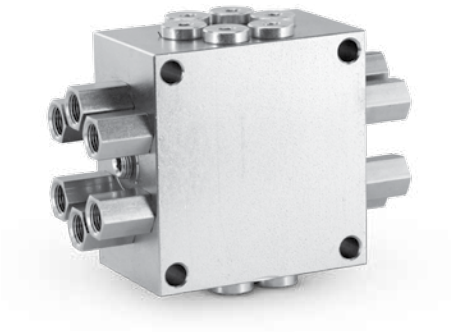
GL Injectors and Accessories	
24A918	GL-11 injector
24B359	GL-11 injector repair kit
114916	GL-11 zerk and cap kit

Series Progressive

Trabon® USP Mono Block Divider Valve

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
- Fittings have built-in outlet check valves to 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



24J334

Typical Applications

- Mobile, industrial, food and 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 ..... 350º F (176º C)

Ordering Information

USP Bare Valves - Must order required outlet fittings to complete installation	
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 Outlet Fittings	
24E232	1/8" NPSF female with check valve
16V778	1/4" nylon tubing push-to-connect with check valve
16V779	3/16" nylon tubing push-to-connect with check valve
16V780	6 mm nylon tubing push-to-connect with check valve
16V782	1/4" steel tubing compression with check valve
16V784	3/16" nylon tubing compression with check valve
16V785	6 mm steel tubing compression with check valve
24F467	Doubling plug
USP Accessories	
24N007	Weld bar for 6 and 8 outlet valves
24N008	Weld bar for 10 and 12 outlet valves
24N009	Weld bar for 14 and 16 outlet valves

Series Progressive

Trabon® MD Mono Block 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

562658

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.....350º F (176º C)

Ordering Information

	Number of Outlets	Output per Outlet, in^3 (cm^3)	Valve Only	Valve with Cycle Pin	Valve with Cycle Switch and Bracket Assembly
MD-2	2	0.04 (0.66)	562656	562653	563270
MD-3	3	Outlet 1 - 0.04 (0.66) Outlet 2 and 3 - 0.02 (0.33)	562657	562654	563271
MD-4	4	0.02 (0.33)	562658	562655	564356
MD-6	6	0.01 (0.16)	562659	N/A	

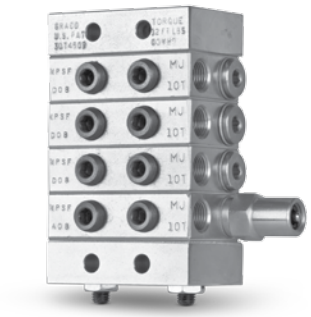
MD Spare Parts	
563555	Cycle indicator end plug assembly
122276	Viton o-ring

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
- 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 and can machinery, and 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.....200º F (93º C)
Max Cycle Rate with Cycle Pin.....60 cycles/minute

	Output Twin Outlet, in³ (cm³)	Output Single Outlet, in³ (cm³)	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 Valve Working Sections (Must be ordered in multiples of 5)

Outlet	Description	Output Per Outlet, in³ (cm³)	Model Number		
			Standard Section	With Cycle Pin – Right	With Cycle Pin – Left
Single	MJ-5S	0.010 (0.16)	562500	Cycle indication not available	
	MJ-10S	0.020 (0.33)	562501	562508	562512
	MJ-15S	0.030 (0.49)	562502	562509	N/A
Twin	MJ-5T	0.005 (0.08)	562503	Cycle indication not available	
	MJ-10T	0.010 (0.16)	562504	562510	562513
	MJ-15T	0.015 (0.26)	562505	562511	564205

Build Your Own MJ Base Plate Assemblies

Component	Description	Model Number
		NPSF
Inlet*	Standard inlet	560643
End section*	Standard end section	560645
Tie rods - (2 required)	3-section**	557515
	4-section**	557516
	5-section**	557517
	6-section**	557518
	7-section**	557519
	8-section**	557520
	9-section**	560649
Tie rod nuts (2 required)	Tie rod nuts	556371

*Must be ordered in multiples of five. **Two tie rods and tie rod nuts required for assembly.

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

Pre-assembled and tested base plates now available!

Typical Applications

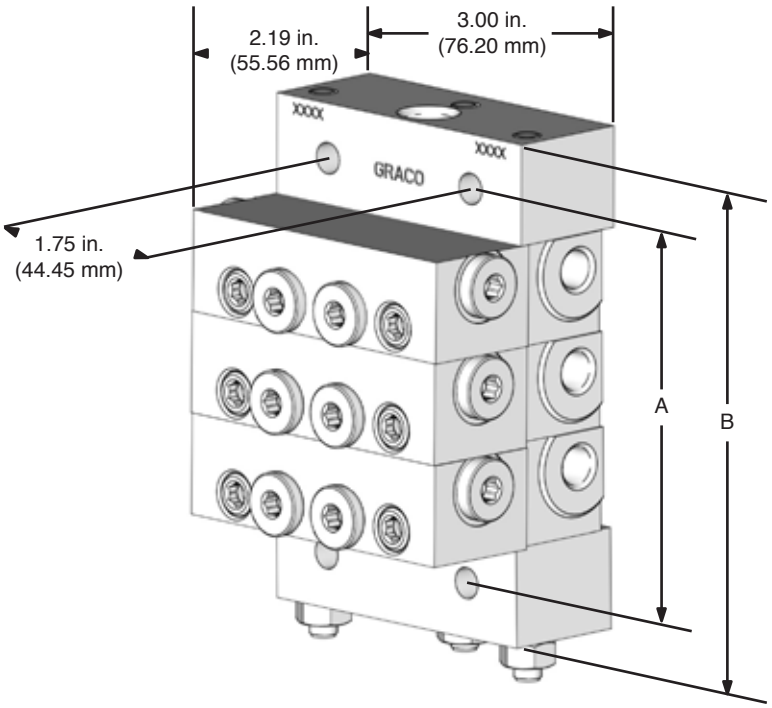
- Mobile, industrial, food and beverage, wind, and many more

Typical Fluids Handled

- Oil or Grease up to NLGI #2

Technical Specifications

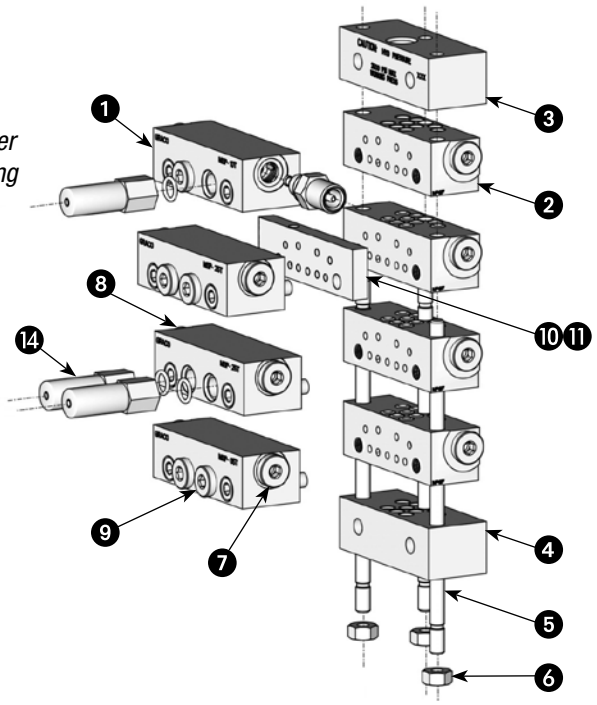
Material	Plated Steel
Maximum Pressure	3,500 psi (241 bar)
Max Operating Temperature	350º F (176 ºC)
Max Cycle Rate with Cycle Pin	60 cycles/minute
Max Cycle Rate without Cycle Pin	200 cycles/minute



Number of Valve Sections	Dimensions *(for reference only)*	
	A	B
3	3.6 in. (91.4 mm)	4.6 in. (116.8 mm)
4	4.5 in. (114.3 mm	5.0 in. (127.0 mm)
5	5.4 in. (137.2 mm)	6.4 in. (162.6 mm)
6	6.3 in. (160.0 mm)	7.4 in. (188.0 mm)
7	7.3 in. (185.4 mm)	8.3 in. (210.8 mm)
8	8.2 in. (208.3 mm)	9.2 in. (233.7 mm)

Series Progressive
Trabon® MSP Divider Valve

Easily configure the MSP Divider Valve system using the following item selection chart.



Note: Not shown in diagram – Bypass Block (562660), Cycle Indicators and Proximity Switches (refer to specific product pages), and Mounting Brackets (see page 66).

Ordering Information

MSP Valve Working Sections (Must be ordered in multiples of 5)

Item	Outlet	Description	Output Per Outlet, in^3 (cm^3)	Model Number		
				Standard Section	With Cycle Pin – Right	With Cycle Pin – Left
1	Single	MSP-5S	0.010 (0.16)	562711	N/A	
		MSP-10S	0.020 (0.33)	562712		
		MSP-15S	0.030 (0.49)	562713		
		MSP-20S	0.040 (0.66)	562714	562729	562734
		MSP-25S	0.050 (0.82)	562715	562730	562735
		MSP-30S	0.060 (0.98)	562716	562731	562736
		MSP-35S	0.070 (1.15)	562717	562732	562737
		MSP-40S	0.080 (1.31)	562718	562733	562738
	Twin	MSP-5T	0.005 (0.08)	562720	N/A	
		MSP-10T	0.010 (0.16)	562721		
		MSP-15T	0.015 (0.26)	562722		
		MSP-20T	0.020 (0.33)	562723	562739	562744
		MSP-25T	0.025 (0.41)	562724	562740	562745
		MSP-30T	0.030 (0.49)	562725	562741	562746
		MSP-35T	0.035 (0.57)	562726	562742	562747
		MSP-40T	0.040 (0.66)	562727	562743	562748

Pre-Configured MSP Base Plate Assemblies
Includes inlets, intermediate base plate sections, end section, tie rods, and nuts.

Item	Maximum Number of Outlets	Number of Valve Sections	Model Number		Dimensions *(for reference only)*	
			NPSF	BSPP	A	B
2/3/4/5/6	6	3	24G485	24N915	3.6 in. (91.4 mm)	4.6 in. (116.8 mm)
	8	4	24G486	24N916	4.5 in. (114.3 mm	5.0 in. (127.0 mm)
	10	5	24G487	24N917	5.4 in. (137.2 mm)	6.4 in. (162.6 mm)
	12	6	24G488	24N918	6.3 in. (160.0 mm)	7.4 in. (188.0 mm)
	14	7	24G489	24N919	7.3 in. (185.4 mm)	8.3 in. (210.8 mm)
	16	8	24G490	24N920	8.2 in. (208.3 mm)	9.2 in. (233.7 mm)

Ordering Information

Build Your Own MSP Base Plate Assemblies

Item	Component	Description	Model Number				Note
			NPSF	BSPP	SAE	MET	
2	Intermediate base plate	Single section	563425	563447	563451		Must be ordered in multiples of 5
3	Inlet options *Additional specialty inlets available*	Standard	560919	560936	560943	560976	
		With bleed ports	563421		563422		
4	End section options	Standard	563424				
		With alternate inlet port plug	563279				
5	Tie rods (3 required)	3-section	557731				3 tie rods and tie rod nuts required for assembly
		4-section	557732				
		5-section	557733				
		6-section	557734				
		7-section	557735				
		8-section	557736				
		9-section	557738				
		10-section	557739				
		11-section	557740				
6	Tie rod nuts (3 required)	Tie rod nuts	556371				

Pipe, Piston Enclosure, and Indicator Port Plugs

Item	Component	Model Number				Note
		NPSF	BSPP	SAE	MET	
7	Outlet Port Plug	557349 (NPT)	558799	567251 (with o-ring)		1 outlet port plug is required for each "S" valve section
8	Piston Enclosure Plug	557716				
9	Indicator Port Plug	557776				

Optional Components

Item	Component	Description	Model Number	Note
10	Crossport Bar	Right	563469	1 outlet port plug is required for each crossport bar
		Left	563470	
		Right and Left	563471	2 outlet port plugs are required for each double crossport bar
11	Singling Bar	Converts a "T" valve to an "S" valve	563472	
12	Bypass Block	MSP Bypass Section	562660	
13	Cycle Indicators and Proximity Switches	Magnetic Visual Cycle Indicator	563251	
		SPDT Cycle Switch, provides electrical signal to controller or PLC	563272	
		SPDT Cycle Switch, provides electrical signal to controller or PLC - Moisture Resistant	563273	
		6 Digit Mechanical Cycle Counter	563444	
		Proximity Switches	See Page 87	
14	Performance Indicators	Reset Indicator	See Page 82	
		Automatic Relief Indicator	See Page 83	
		Rupture to Atmosphere Indicator	See Page 85	
		Pressure Switches	See Page 88	
		Broken Line Indicator	See Page 89	
15	Mounting Brackets	Choose from universal, top, or side mounting	See Page 66	

Shunt Inlet (oil and fluid grease only)

A three-way valve, either electronic or pneumatic: allows lubricant to enter divider valve, bypasses it to another divider valve, or diverts it back to tank. Replace standard inlet or mount in-line with remote manifold kit.

Shunt Inlet Components

Component	Description	Connection Type		
		NPSF	BSPP	SAE
Shunt Inlet Sections	115 VAC, Hirschmann connection - left (NC)	563448	N/A	N/A
	115 VAC, BH 3-pin connection - right (NO)	563452	N/A	560953
	115 VAC, BH 3-pin connection - left (NC)	563453	N/A	563463
	24 VDC, BH 3-pin connection - right (NO)	563454	563493	563482
	24 VDC, BH 3-pin connection - left (NC)	563455	563494	563483
	Pneumatic Shunt Inlet, 1/8" NPSF air inlet	563456	N/A	N/A
Connection Cable	6 ft (3-pin) mini-straight connection cable	558021		
	12 ft (3-pin) mini-straight connection cable	558022		
Remote Mount Manifold Kit	Includes outlet manifold, o-ring and 2 mounting screws	563461	N/A	
Replacement Parts	115 VAC replacement solenoid	557213		
	24 VDC replacement solenoid	557215		
	115 VAC replacement coil	557214		

Zero-Leak Shut-Off Inlet (oil only)

A two-way valve that can be used with either continuous or intermittent pressurized harder systems. Replaces a standard inlet section or mounts in-line with a remote manifold kit.

Zero-Leak Shut-Off Inlet Components

Component	Description	Connection Type		
		NPSF	BSPP	SAE
Zero-Leak Shut-Off Inlet Valve Section	115 VAC, 12 in. 2-wire lead connection	563457	N/A	N/A
	115 VAC, BH 3-pin connection	563460	N/A	563468
	24 VDC, BH 3-pin connection	563464	N/A	563467
Connection Cable	6 ft (3-pin) mini-straight connection cable	558021		
	12 ft (3-pin) mini-straight connection cable	558022		
Inlet Restrictor and Filter	Inlet restrictor with 90 micron last chance filter	563074	N/A	
Remote Mount Manifold Kit	Includes outlet manifold, o-ring and 2 mounting screws	563461	N/A	
Replacement Parts	115 VAC replacement coil	557226		
	24 VDC replacement coil	557225		
	Zero leak valve repair kit	563933		

Ordering Information

Mounting Accessories							
Model Number	Description	Number of Valve Sections	Dimensions In. (mm)				
			A	B	C	D	E
560920	Mounting Bar (Fig. 1)		4 (101.6)	1-3/4 (44.5)	1 (25.4)	—	—
563465	Weld Bar Kit*		4 (101.6)	1-3/4 (44.5)	1 (25.4)	—	—
563435	Top Mounting Bracket (Fig. 2)	3 - 4	3-37/64 (90.9)	4-1/2 (114.3)	5-21/32 (143.7)	—	—
563436	Top Mounting Bracket (Fig. 2)	5 - 6	5-27/64 (137.7)	6-11/32 (161.1)	7-1/2 (190.5)	—	—
563437	Top Mounting Bracket (Fig. 2)	7 - 8	7-17/64 (184.5)	8-3/16 (208.0)	9-11/32 (237.3)	—	—
563438	Side Mounting Bracket (Fig. 3)	3 - 4	3-37/64 (90.9)	4-1/4 (114.3)	6-5/8 (168.3)	3-7/8 (187.3)	5-5/8 (142.9)
563439	Side Mounting Bracket (Fig. 3)	5 - 6	5-27/64 (137.7)	6-11/32 (161.1)	8-15/32 (215.5)	9-7/32 (234.2)	7-15/32 (198.7)
563440	Side Mounting Bracket (Fig. 3)	7 - 8	7-17/64 (184.5)	8-3/16 (208.0)	10-5/8 (262.0)	11-1/16 (281.0)	9-5/16 (236.5)

*Kit 563465 includes two mounting bars (560920), screws, washers, and lock washers.

Spare Parts	
Model Number	Description
563929	MSP cycle pin indicator repair kit, o-ring
563928	MSP cycle pin indicator repair kit, gasket
556540	MSP o-ring (BUNA-N), black
557722	MSP high pressure o-ring (90 DURO Fluoroelastomer), green
122276	MSP standard high pressure o-ring (90 DURO Fluoroelastomer), black
556568	Piston enclosure o-ring
557721	MSP (70 Duro) Viton o-ring
556513	Valve block mounting screws
556514	Valve block mounting screw for crossport/singling plate
556327	Outlet check ball
557737	Outlet check spring

Fig. 1
Mounting Bar

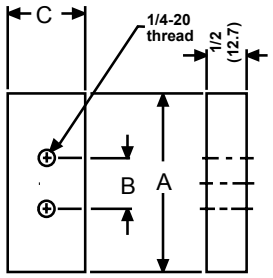


Fig. 2
Top Mount Bracket

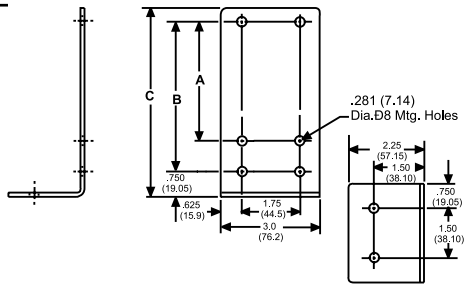
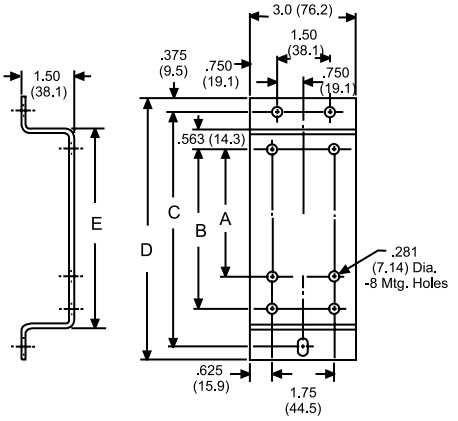


Fig. 3
Side Mount Bracket



Series Progressive

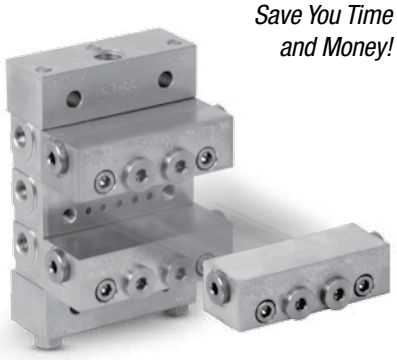
Trabon® MSP Stainless Steel Divider Valves

Features and Benefits

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! Now get the same reliable valve in stainless steel.

- Face of valves can be fitted with optional performance indicators, taking the guesswork out of troubleshooting
- Can be easily accessorized with electronic proximity switches to provide positive assurance of a successful lube event
- Outlet checks ensure accurate lube delivery, every time
- Quick change valve sections can be removed from the base assembly without disturbing any lube lines–minimizing labor cost and maximizing your machine uptime
- Manufactured in our factory for quality and reliability. Each assembly is honed and match fitted for precise lube delivery every time

Pre-Assembled and Tested Base Plates Save You Time and Money!



Typical Applications

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

Typical Fluids Handled

- Oil or Grease up to NLGI #2

Technical Specifications

Material..... Stainless Steel
Maximum Pressure ..... 3500 psi (241 bar)
Max Operating Temperature ..... 140º F (60 ºC)
Max Cycle Rate with Cycle Pin ..... 60 cycles/minute
Max Cycle Rate without Cycle Pin..... 200 cycles/minute

Ordering Information

MSP Stainless Steel Working Sections (Must be ordered in multiples of five)

Outlet	Description	Output Per Outlet, in^3 (cm^3)	Standard Section Model Number
Single	MSP-5S-SS	0.010 (0.16)	24B474
	MSP-10S-SS	0.020 (0.33)	562755
	MSP-15S-SS	0.030 (0.49)	24B475
	MSP-20S-SS	0.040 (0.66)	562756
	MSP-25S-SS	0.050 (0.82)	24B476
	MSP-30S-SS	0.060 (0.98)	24B477
	MSP-35S-SS	0.070 (1.15)	24B478
	MSP-40S-SS	0.080 (1.31)	562757
Twin	MSP-5T-SS	0.005 (0.08)	24B479
	MSP-10T-SS	0.010 (0.16)	562758
	MSP-15T-SS	0.015 (0.26)	24B480
	MSP-20T-SS	0.020 (0.33)	562759
	MSP-25T-SS	0.025 (0.41)	24B481
	MSP-30T-SS	0.030 (0.49)	24B482
	MSP-35T-SS	0.035 (0.57)	24B483
	MSP-40T-SS	0.040 (0.66)	562760

Ordering Information

Pre-Configured MSP Stainless Base Plate Assemblies
Includes inlets, intermediate base plate sections, end section, tie rods, and nuts.

Maximum Number of Outlets	Number of Valve Sections	Model Number	
		NPSF	BSPP
6	3	24N382	24N388
8	4	24N383	24N389
10	5	24N384	24N390
12	6	24N385	24N391
14	7	24N386	24N392
16	8	24N387	24N393

Build Your Own MSP Stainless Base Plate Assemblies

Component	Description	Model Number	
		NPTF	BSPP
Intermediate base plate - SS*	Single section	24B497	24N369
Inlet - SS*	Standard inlet	15Y070	16P368
End section - SS*	Standard end section	24B498	
Tie rods - SS (3 required)	3-section**	126247	
	4-section**	126248	
	5-section**	126249	
	6-section**	126250	
	7-section**	126251	
	8-section**	126252	
	9-section**	15Y069	
	10-section**	560956	
Tie rod nuts - SS (3 required)	Tie rod nuts	558633	

*Must be ordered in multiples of five. **Three tie rods and tie rod nuts required for assembly.

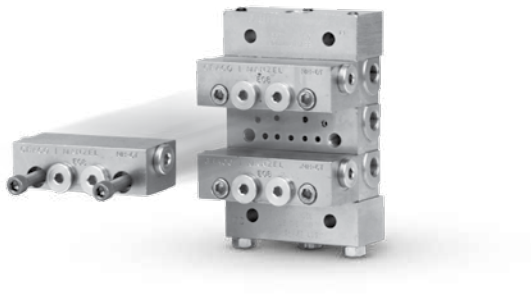
Additional Components	
24B495	1000 psi reset indicator w/memory, o-ring seal
24B496	1500 psi reset indicator w/memory, o-ring seal
24N373	2000 psi reset indicator w/memory, o-ring seal
560974	303 SS MSP indicator port plug
560973	303 SS piston bore plug
555457	SS base closure plug accessory
24N945	Valve, relief, 1/8 NPT, 750 psi SST
24N948	Valve, relief, 1/8 NPT, 1500 psi SST
24N949	Valve, relief, 1/8 NPT, 2000 psi SST
24N951	Valve, relief, 1/8 NPT, 2500 psi SST
24N952	Valve, relief, 1/8 NPT, 3000 psi SST
24R631	Crossport bar, both
24R632	Crossport bar, right
24R633	Crossport bar left

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



Pre-Assembled and Tested Base Plates Now Available!

Typical Applications

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

Typical Fluids Handled

- Oil or Grease up to NLGI #2

Technical Specifications

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

	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)
MHH15	0.015 (.246)	0.030 (.492)
MHH18	0.018 (0.295)	0.036 (0.590)
MHH21	0.021 (.0344)	0.042 (0.688)
MHH24	0.024 (0.393)	0.048 (0.787)
MHH30	0.030 (0.492)	0.060 (0.983)

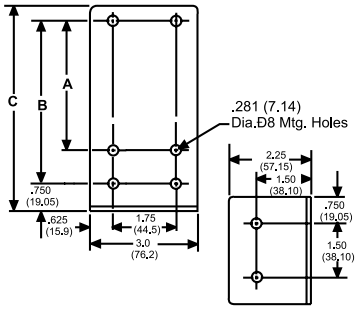
Ordering Information

MHH Working Sections (Must be ordered in multiples of five)			
562679	MHH-6S	562685	MHH-6T
562680	MHH-9S	562686	MHH-9T
562681	MHH-12S	562687	MHH-12T
24X029	MHH-15S	24X027	MHH-15T
562682	MHH-18S	562688	MHH-18T
24X030	MHH-21S	24X028	MHH-21T
562683	MHH-24S	562689	MHH-24T
562684	MHH-30S	562690	MHH-30T

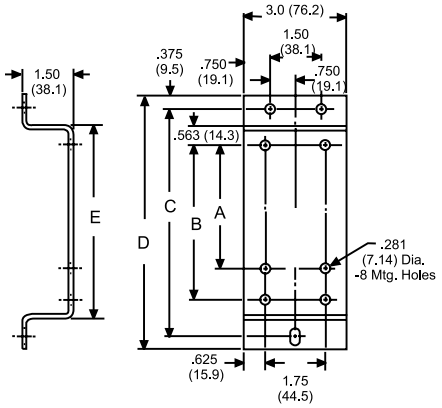
Ordering Information

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	
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	Singling bar
563444	Counter
563465	Weld bar kit
563251	No weep cycle indicator
556540	Standard o-ring (BUNA-N), black
122276	High pressure o-ring (90 DURO Fluoroelastomer), green
556371	Tie rod nut (3 required per assembly)
557776	Indicator port plug
558799	BSPP (ISO1170) plug
567251	SAE plug with o-ring
557349	NPT plug
563928	Cycle pin indicator repair kit, gasket
563929	Cycle pin indicator repair kit, o-ring
Mounting	
560920	Mounting bar, 4 inch (101.6 mm) x 1-3/4 inch (44.5 mm) (B) 1 inch (25.4 mm) with 1/4 inch (6.4 mm)-20 thread
563435	Top-mount bracket, (A) 3-37/64 inch (90.9 mm) (B) 4-1/2 inch (114.3 mm) (C) 5-21/32 inch (143.7 mm)
563436	Top-mount bracket, (A) 5-27/64 inch (137.7 mm) (B) 6-11/32 inch (161.1 mm) (C) 7-1/2 inch (190.5 mm)
563437	Top-mount bracket, (A) 7-17/64 inch (184.5 mm) (B) 8-3/16 inch (208.0 mm) (C) 9-11.32 inch (237.3 mm)
563438	Side-mount bracket, (A) 3-37/64 inch (90.9 mm) (B)4-1/4 inch (114.3 mm) (C) 6-5/8 inch (168.3 mm) (D) 3-7/8 inch (187.3 mm) (E) 5-5/8 inch (142.9 mm)
563439	Side-mount bracket, (A) 5-27/64 inch (137.7 mm) (B) 6-11/32 inch (161.1 mm) (C) 8-15.32 inch (215.5 mm) (D) 9-7/32 inch (234.2 mm) (E) 7-15/32 inch (198.7 mm)
563440	Side-mount bracket, (A) 7-17/64 inch (184.5 mm) (B) 8-3/16 inch (208.0 mm) (C) 10-5/8 inch (262.0 mm) (D) 11-1/16 inch (281.0 mm) (E) 9-5/16 inch (236.5 mm)

Top Mount Hole Configuration



Side Mount Hole Configuration

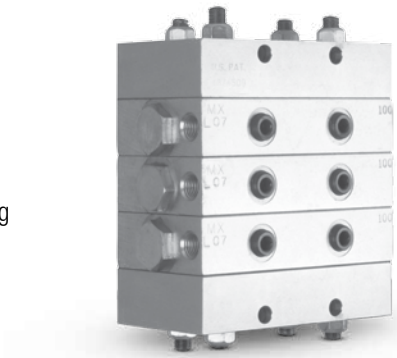


Series Progressive
Trabon® MX Divider Valve

Features and Benefits

Greater output volumes for heavy service requirements make the Trabon MX Series ideal for steel and paper mill systems with it's 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)
Maximum Operating Temperature.....200º F (93º C)
Maximum Cycle Rate with Cycle Pin.....60 cycles/minute
Maximum Cycle Rate without Cycle Pin.....200 cycles/minute

	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

Ordering Information

MX w/Cycle Pin (Must be ordered in multiples of two)	
562523	MX-50T, with cycle pin indicator, right
562518	MX-50S, with cycle pin indicator, right
562524	MX-75T, with cycle pin indicator, right
562519	MX-75S, with cycle pin indicator, right
562525	MX-100T, with cycle pin indicator, right
562520	MX-100S, with cycle pin indicator, right
562526	MX-125T, with cycle pin indicator, right
562521	MX-125S, with cycle pin indicator, right
562527	MX-150T, with cycle pin indicator, right
562522	MX-150S, with cycle pin indicator, right
562533	MX-50T, with cycle pin indicator, left
562528	MX-50S, with cycle pin indicator, left
562534	MX-75T, with cycle pin indicator, left
562529	MX-75S, with cycle pin indicator, left
562569	MX-100T, with cycle pin indicator, left
562530	MX-100S, with cycle pin indicator, left
562535	MX-125T, with cycle pin indicator, left
562531	MX-125S, with cycle pin indicator, left
562536	MX-150T, with cycle pin indicator, left
562532	MX-150S, with 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 Inlet and End Sections	
560620	MX inlet
563287	MX end
Accessories	
562916	Singling bar
562917	MX crossport 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 inch (6.4 mm) NPT outlet plug for singled and crossported 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)
Maximum Operating Temperature.....350º F (176º C)
Maximum Cycle Rate with Cycle Pin.....60 cycles/minute
Maximum Cycle Rate without Cycle Pin.....200 cycles/minute

	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)	

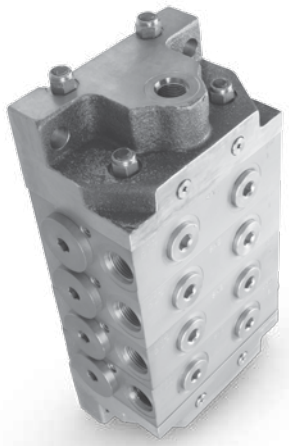
Ordering Information

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

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	Crossport, left
563525	Crossport, right
563526	Crossport, 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)
Maximum Operating Temperature.....350º F (176º C)
Maximum Cycle Rate with Cycle Pin.....60 cycles/minute
Maximum Cycle Rate without Cycle Pin.....200 cycles/minute

	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

Ordering Information

MGO with 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
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
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)

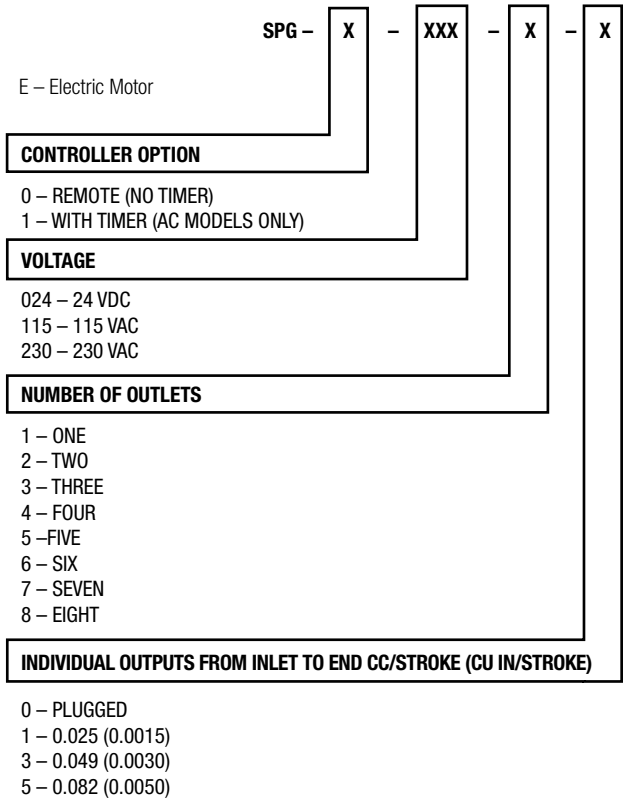
Technical Specifications

Pump Output ..... 8.5 in^3/minute (140 cc/minute)
Motor Power .....1/8 HP
Motor Voltage and 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 OptionsRemote (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 seconds
Pause (Off) Time .....2.5-30 minute
Fault Output.....(Dry Contacts), 5 amp max up to 230 VAC
Air Cleanliness..... 5 micron, 40º F (4º C) dew point
Operating Temperature ..... 40º F to 120º F (4º C to 49º C)
Lube Output ..... 0.0015, 0.0030 and 0.005 cu in/cycle (0.025, 0.049 and 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

Ordering Information

High Speed Spindl-Gard Systems	
24B219	SPG-E-1-115-2-1-1
24V204	SPG-E-1-115-2-5-5
24V531	SPG-E-1-230-5-5-5-5-5-5
258301	SPG-E-1-115-6-3-3-3-3-3-3
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, 180º
560477	10 in. nozzle tube - 1 outlet, 90º
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 with 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

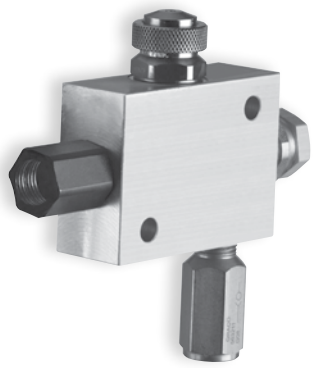


General Accessories

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



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

Typical Fluids Handled

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

Technical Specifications

Minimum Air Pressure	20 psi (1.4 bar)
Maximum Air Pressure	150 psi 10.3 bar)
Spray Patterns	4 inch or 8 inch (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

Features and Benefits

- Designed to custom fit lubrication systems and control when sections or zones of the system will receive lubricant
- Available in two- or three-way styles
- Three-way valves available with 12 VDC or 24 VDC
- Available with normally closed and normally open valves for added convenience
- DC models meet typical application requirements

24P976

24P977

Ordering Information

Zone Valves	
24P976	Two-way valve, 24 VDC, normally open, Deutsch cable, 3500 psi (241 bar)
24T296	Two-way valve, 24 VDC, normally closed, Deutsch cable, 3500 psi (241 bar)
24P977	Three-way valve, 24 VDC, normally closed, Deutsch cable, 3500 psi (241 bar)
24P978	Three-way valve, 12 VDC, normally closed, Deutsch cable, 3500 psi (241 bar)

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

563242

Simple point troubleshooting with visual indication

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					•		

Ordering Information

Divider Valve Reset Indicator w/Memory for MJ, MSP, MHH and MXP	
563231	250 psi (17 bar)
563232	500 psi (35 bar)
563233	750 psi (52 bar)
563234	1,000 psi (69 bar)
563235	1,500 psi (103 bar)
563236	2,000 psi (138 bar)
563237	2,500 psi (172 bar)
563238	3,500 psi (241 bar)
Divider Valve Reset Indicator w/Memory and O-Ring Seal for MX	
563239	250 psi (17 bar)
563240	500 psi (35 bar)
563241	750 psi (52 bar)
563242	1,000 psi (69 bar)
563243	1,500 psi (103 bar)
563244	2,000 psi (138 bar)
563245	2,500 psi (172 bar)
Divider Valve Reset Indicators w/Memory and O-Ring Seal for MSP, MHH and MXP	
563252	250 psi (17 bar)
563253	500 psi (35 bar)
563254	750 psi (52 bar)
563255	1,000 psi (69 bar)
563256	1,500 psi (103 bar)
563257	2,000 psi (138 bar)
563258	2,500 psi (172 bar)
563261	3,000 psi (207 bar)
563262	5,000 psi (345 bar)
563263	3,500 psi (241 bar)
Divider Valve Reset Indicators w/Memory and O-Ring Seal for MGO	
564200	1,500 psi (103 bar)

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

563159

Keep your machine running while lubrication gets to critical points

Typical Applications

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

Technical Specifications

Auto Relief psi (bar)	750 (52)	1,000 (69)	1,250 (86)	1,500 (103)	2,000 (138)	2,500 (172)	3,000 (207)
MJ	•	•		•	•		
MSP	•	•	•	•	•	•	•
MXP	•	•	•	•	•	•	•
MX		•		•	•	•	•

Ordering Information

Divider Valve Automatic Relief Indicators	
563156	Works with MX, 750 psi (52 bar)
563157	Works with MX, 1,000 psi (69 bar)
563158	Works with MX, 1,500 psi (103 bar)
563159	Works with MX, 2,000 psi (138 bar)
563160	Works with MX, 2,500 psi (172 bar)
563161	Works with MX, 3,000 psi (207 bar)
563163	Works with MSP, MXP, MHH, and MJ, 750 psi (52 bar)
563164	Works with MSP, MXP, MHH, and MJ, 1,000 psi (69 bar)
563165	Works with MSP, MXP, MHH, and MJ, 1,250 psi (86 bar)
563166	Works with MSP, MXP, MHH, and MJ, 1,500 psi (103 bar)
563167	Works with MSP, MXP, MHH, and MJ, 2,000 psi (138 bar)
563168	Works with MSP, MXP, MHH, and MJ, 2,500 psi (172 bar)
563169	Works with MSP, MXP, MHH, and MJ, 3,000 psi (207 bar)
563170	MSP, MXP, and MHH, 750 psi (52 bar) with o-ring seal
563171	MSP, MXP, and MHH, 1,000 psi (69 bar) with o-ring seal
563172	MSP, MXP, and MHH, 1,250 psi (86 bar) with o-ring seal
563173	MSP, MXP, and MHH, 1,500 psi (103 bar) with o-ring seal
563174	MSP, MXP, and MHH, 2,000 psi (138 bar) with o-ring seal
563175	MSP, MXP, and MHH, 2,500 psi (172 bar) with o-ring seal
563176	MSP, MXP, and MHH, 3,000 psi (207 bar) with o-ring seal
115122	Pressure relief valve to atmosphere, 1/8" NPT male, 4,000 psi (276 bar)

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

563227

Know quickly when critical bearings aren't getting lubricated

Typical Applications

- Works with MHH divider valves

Ordering Information

Divider Valve Rupture Indicators w/Memory	
563220	3,700 psi (255 bar)
563227	7,300 psi (503 bar)
563228	2,800 psi (193 bar)
564355	4,600 psi (317 bar)
563223	5,500 psi (379 bar)
563225	6,400 psi (441 bar)
563229	2,800 psi (193 bar) with o-ring seal
563221	3,700 psi (255 bar) with o-ring seal
563222	4,600 psi (317 bar) with o-ring seal
563224	5,500 psi (379 bar) with o-ring seal
563226	6,400 psi (441 bar) with o-ring seal
Replacement Rupture Discs	
557422	2,800 psi (193 bar)
557423	3,700 psi (255 bar)
557424	4,600 psi (317 bar)
557425	5,500 psi (379 bar)
557427	6,400 psi (441 bar)
557428	7,300 psi (503 bar)
557429	8,200 psi (565 bar)

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

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	•	•	•	•	•	

563182

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

Ordering Information

Rupture-to-Atmosphere Indicators for MJ, MSP, MHH and MXP	
564059	1,750 psi (121 bar), 1/8 inch-27 inch (.3175 cm-68.6 cm) npt(f)
563191	2,350 psi (162 bar), 1/8 inch-27 inch (.3175 cm-68.6 cm) npt(f)
563192	2,950 psi (203 bar), 1/8 inch-27 inch (.3175 cm-68.6 cm) npt(f)
563193	3,250 psi (224 bar), 1/8 inch-27 inch (.3175 cm-68.6 cm) npt(f)
563194	5,000 psi (345 bar), 1/8 inch-27 inch (.3175 cm-68.6 cm) npt(f)
563218	6,400 psi (441 bar), 1/8 inch-27 inch (.3175 cm-68.6 cm) npt(f)
563219	7,300 psi (503 bar), 1/8 inch-27 inch (.3175 cm-68.6 cm) npt(f)
563217	5,500 psi (379 bar), 1/8 inch-27 inch (.3175 cm-68.6 cm) npt(f)
Rupture-to-Atmosphere Indicators for MX	
563179	1,450 psi (100 bar), 1/4 inch-18 inch (.635 cm-45.7 cm) npt(f)
563182	1,750 psi (121 bar), 1/4 inch-18 inch (.635 cm-45.7 cm) npt(f)
563183	2,050 psi (141 bar), 1/4 inch-18 inch (.635 cm-45.7 cm) npt(f)
563184	2,350 psi (162 bar), 1/4 inch-18 inch (.635 cm-45.7 cm) npt(f)
563185	2,950 psi (203 bar), 1/4 inch-18 inch (.635 cm-45.7 cm) npt(f)
563186	1,450 psi (100 bar), 1/4 inch-18 inch (.635 cm-45.7 cm) npt(f), with spud assembly
563187	1,750 psi (121 bar), 1/4 inch-18 inch (.635 cm-45.7 cm) npt(f), with spud assembly
563188	2,350 psi (162 bar), 1/4 inch-18 inch (.635 cm-45.7 cm) npt(f), with spud assembly
Replacement Rupture Packs of 6 (11/16 inch / 17.5 mm diameter discs)	
563962	1,450 psi (100 bar) - yellow
563963	1,750 psi (121 bar) - red
563964	2,050 psi (141 bar) - orange
563965	2,350 psi (162 bar) - aluminum
563966	2,940 psi (203 bar) - blue
Replacement Rupture Packs of 25 (3/8 inch / 9.5 mm diameter discs)	
563952	900 psi (62 bar) - black
563954	1,450 psi (100 bar) - yellow
563955	1,750 psi (121 bar) - red
563956	2,050 psi (141 bar) - orange
563957	2,350 psi (162 bar) - aluminum
563958	2,650 psi (183 bar) - pink
563959	2,950 psi (203 bar) - blue
563960	3,250 psi (224 bar) - purple
563961	5,000 psi (345 bar) - 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.

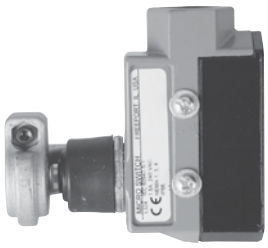
563251

Ordering Information

Divider Valve Cycle Indicators and Switches	
563251	MS/MHH visual cycle indicator assembly - o-ring seal
563260	MX/MXP visual cycle indicator assembly
563250	MS/MHH visual cycle indicator assembly - gasket seal

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



563272

Integrates to controllers, starters or PLCs

Technical Specifications

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

*non-inductive

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, 563271, 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

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	DC PNP, 10-36 VDC, 7/16 inch (11.1 mm) 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 BH - 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 inch (12.7 mm) 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 feet (4.88 m)
558021	3-pin cable, straight connector - 6 feet (1.83 m)
558022	3-pin cable, straight connector - 12 feet (3.66 m)
558025	4-pin cable, straight connector, polarity - PNP - 12 feet (3.66 m)
558026	4-pin cable, 90º connector, polarity - PNP - 12 feet (3.66 m)
558023	5-pin cable, straight connector - 6 feet (1.83 m)
558024	5-pin cable, straight connector - 12 feet (3.66 m)

24K415

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 (20-40 bar), reset pressure range 175-5,685 psi (12-392 bar), M12 connector (female), 9.6-32 VDC, 1/4 inch (7.6 cm) 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 4,700 psi

557829

Ordering Information

Pressure Switches	
557830	1,500 psi (103 bar), 10-150 psi (.7-10 bar) adjustable range (factory set @ 50 psi / 10 bar), moisture-resistant
557828	4,700 psi (324 bar), 400-4,700 psi (28-324 bar) adjustable range (factory set @ 750 psi / 52 bar), moisture-resistant
557829	4,700 psi (324 bar), 400-4,700 psi (28-324 bar) adjustable range (factory set @ 1,150 psi / 79 bar), moisture-resistant

Features and Benefits

- High-low, adjustable pressure switches

115124

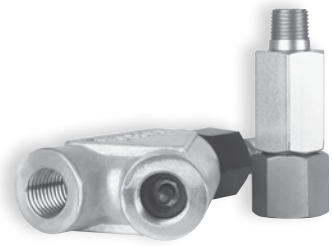
Ordering Information

Pressure Switches	
115124	Single post pressure switch
558947	Dual post control pressure switch
24N180	IP65 rated for harsh environments. Fluoroelastomer seals are suitable for use in high temperature environments and synthetic lubricants. Large orifice reduces grease solidification. Din connector. Adjustable from 580-5,800 psi (40-400 bar). 1/4 inch BSPP inlet.
24N181	IP65 rated for harsh environments. Fluoroelastomer seals are suitable for use in high temperature environments and synthetic lubricants. Large orifice reduces grease solidification. Din connector. Adjustable from 580-5,800 psi (40-400 bar). 1/4 inch NPT inlet.

24N181

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



563078

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

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)

Ordering Information

Broken Line Indicators	
563068	500 psi (34.5 bar) indicator
563069	1,000 psi (68.9 bar) indicator
563070	1,500 psi (103.4 bar) indicator
563075	60 psi (4.1 bar) simulator
563076	100 psi (6.9 bar) simulator
563077	150 psi (10.3 bar) simulator
563078	Broken line indicator kit - 563068, 563075
563079	Broken line indicator kit - 563069, 563076
563080	Broken line indicator kit - 563070, 563077

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 (1.7 bar) Bypass
563095	10 micron Spin-On Filter Assembly, NPT, External 150 psi (10.3 bar) Relief
564343	10 micron Remote Mount Spin-On Filter Assembly, NPT, Fill Stud
563096	25 micron Spin-On Filter Assembly, NPT, External 150 psi (10.3 bar) Relief
563100	25 micron Spin-On Filter Assembly, ISO 6149, External 150 psi (10.3 bar) 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, 563513, 563516
563510	25 micron Replacement Filter Element - 563512, 563514, 563515
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, 564406
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 Stainers	
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
Brushes/Applicators	
124089	Brush, pighair, 1/4 fnpt x 3/4
124090	Brush, Oil, 1 x 1.5
124091	Brush, Oil, 1 x 2.4
124092	Brush, Oil, 1 x 4
124114	Brush, Nylon, 1/8 mnpt x 5/8
124115	Brush, Nylon, 1/8 mnpt x 2
124113	Applicator, Felt Chain, 2 x .5
124119	Paddle, Lube, Open Gear

124089

124119

124113

Ordering Information

Pipe Fittings	
560532	45º Street Elbow - 1/4 inch (6.4 mm) Female x 1/4 inch (6.4 mm) Male, Steel
560530	90º Street Elbow - 1/4 inch (6.4 mm) Female x 1/8 inch (3.2 mm) Male, Steel
15M045	90º Street Elbow - 1/4 inch (6.4 mm) Female x 1/4 inch (6.4 mm) Male, Steel
560533	90º Street Elbow - 1/8 inch (3.2 mm) Female x 1/4 inch (6.4 mm) Male, Steel
560534	Fitting - Street Elbow, 3/8 inch (9.5 mm) Male x 3/8 inch (9.5 mm) Female
560528	Hex Coupling - 1/8 inch (3.2 mm) Female, Steel
556402	Reducing Brushing - 1/4 inch (6.4 mm) Male x 1/8 inch (6.4 mm) Female, Steel
563178	Extension Nipple - 1/8 inch (6.4 mm) Female x 1/8 inch (6.4 mm) Male, 2-1/4 inch (5.7 cm) Length, Steel
556632	Male Connector - 1/4 inch (6.4 mm) T x 1/8 inch (3.2 mm) Male, Brass
556633	Male Connector - 1/4 inch (6.4 mm) T x 1/4 inch (6.4 mm) Male, Brass
556634	Male Elbow - 1/4 inch (6.4 mm) T x 1/8 inch (3.2 mm) Male, Brass
555726	Male Elbow - 1/4 inch (6.4 mm) T x 1/4 inch (6.4 mm) Male, Brass
555727	Tube Sleeve - 3/16 inch (4.8 mm) T, Brass
556635	Tube Sleeve - 1/4 inch (6.4 mm) T, Brass
Straight and Angle Swivels	
563212	90º Angle Swivel - 1/8 inch (3.2 mm)
563214	90º Angle Swivel - 1/4 inch (6.4 mm)
564350	90º Angle Swivel - 1/2 inch (12.7 mm)
563213	180º Straight Swivel - 1/8 inch (3.2 mm)
563215	180º Straight Swivel - 1/4 inch (6.4 mm)
563154	180º Straight Swivel - 1/2 inch (12.7 mm)
564352	180º Straight Swivel - 1 inch (2.5 cm)
563146	90º Compact Swivel - 1/4 inch (6.4 mm)
563147	180º Compact Swivel - 1/4 inch (6.4 mm)
563150	180º Compact Swivel - 1/8 inch (3.2 mm)
563148	90º Swivel Adapter - 1/8 inch (3.2 mm) NPT x 1/8 inch (3.2 mm) NPT Female
Tube Fittings	
556448	Zerk Adapter Quick Fitting
556636	Male Tee - 5/16 inch (7.9 mm) Tube, 1/8 inch (3.2 mm) NPTF
556637	Union Tee - 5/16 inch (7.9 mm) Tube
556638	Male Elbow - 3/16 inch (4.8 mm) Tube 1/8 inch (3.2 mm) NPTF
556639	Male Elbow - 5/16 inch (7.9 mm) Tube, 1/8 inch (3.2 mm) NPTF
556640	Male Elbow - 5/16 inch (7.9 mm) Tube, 1/4 inch (6.4 mm) NPT
556642	Female Connector - 3/16 inch (4.8 mm) Tube, 1/8 inch (3.2 mm) NPT
556643	Female Connector - 5/16 inch (7.9 mm) Tube, 1/8 inch (3.2 mm) NPT
556644	Male Connector - 3/16 inch (4.8 mm) Tube, 1/8 inch (3.2 mm) NPTF
556645	Male Connector - 5/16 inch (7.9 mm) Tube, 1/8 inch (3.2 mm) NPTF
556646	Male Connector - 5/16 inch (7.9 mm) Tube, 1/4 inch (6.4 mm) NPT
556647	Union - 3/16 inch (4.8 mm) Tube
556648	Union - 5/16 inch (7.9 mm) Tube
556649	Nut - 3/16 inch (4.8 mm) Tube
556650	Nut - 5/16 inch (7.9 mm) Tube
556652	Sleeve - 3/16 inch (4.8 mm) Tube
556653	Sleeve - 5/16 inch (7.9 mm) Tube
556656	5/16 inch (7.9 mm) Tube Brass Insert - Minimum Order of 20 (Price Each)
556660	3/16 inch (4.8 mm) Tube Nut and Sleeve
562995	Male Connector - 3/16 inch (4.8 mm) Tube, 1/4-28 inch (6.4 mm-71.1 cm) SAE Male
556661	Straight Connector - Push-to-Connect 3/16 inch (4.8 mm) Tube, 1/8 inch (3.2 mm) PM
556662	Elbow - 90 feet (27.4 m), Push-to-Connect 3/16 inch (4.8 mm) Tube, 1/8 inch (3.2 mm) PM
556666	5/16 inch (7.9 mm) Tube Nut and Sleeve
556670	90º Elbow - 3/16 inch (4.8 mm) Tube, 1/8 inch (3.2 mm) NPT Female
15K783	90º Elbow - 1/8 inch (3.2 mm) NPTF Male/Female
557395	45º Street Elbow - 1/8 inch (3.2 mm) NPTF Male/Female
560534	Street Elbow Fitting - 3/8 inch (9.5 mm) Male, 3/8 inch (9.5 mm) Female
563759	Air-Operated Tractor Hardware Package - 30 Point
557954	Adapter - 45º Elbow, 1/4-28 inch (6.4 mm-71.1 cm) SAE Male x 1/8 inch (3.2 mm) NPTF Female
557968	Zerk Fitting - 1/8 inch (3.2 mm) NPT @ 65º Angle
563776	Zerk Adapter - 90º
563777	Zerk Adapter - Straight
Miscellaneous Adapters and Fittings	
556403	Reducing Bushing - 3/8 inch (9.5 mm) NPT x 1/8 inch (3.2 mm) NPT Female
556407	Fitting Tee - 1/8 inch (6.4 mm) Male x (2) 1/8 inch (6.4 mm) Female
556420	Fitting Tee - 1/4 inch (6.4 mm) Male x (2) 1/4 inch (6.4 mm) Female
15M037	Press-to-Fit - 1/8 inch (3.2 mm) NPSF
563148	90º Swivel Adapter - 1/8 inch (3.2 mm) NPT x 1/8 inch (3.2 mm) NPT Female
557392	Extension - 1/8 inch (3.2 mm) NPT x 1/8 inch (3.2 mm) NPTF, 3/4 inch (19 mm) Long
557393	Extension - 1/8 inch (3.2 mm) NPT x 1/8 inch (3.2 mm) NPTF, 1-1/4 inch (3.18 cm) Long
557950	Bulkhead FTG - 1/8 inch (3.2 mm) NPT
15K740	Elbow Adapter - 1/4-28 inch (6.4 mm-71.1 cm) SAE Male x 1/8 inch (3.2 mm) NPTF Female
15K784	Elbow Adapter - 1/4-28 inch (6.4 mm-71.1 cm) SAE Male x 1/8 inch (3.2 mm) NPTF Female, Short
557955	Straight Adapter - 1/4-28 inch (6.4 mm-71.1 cm) SAE Male x 1/8 inch (3.2 mm) NPTF Female
Hose Fittings	
555749	Connector - 1/8 inch (3.2 mm) NPT, #4 JIC
556762	Connector - 1/4 inch (6.4 mm) NPT, #4 JIC
556763	90º Elbow - 1/8 inch (3.2 mm) NPT, #4 JIC
556764	90º Elbow - 1/4 inch (6.4 mm) NPT, #4 JIC
556773	Hose End - Field Installed, Swivel End, #4 JIC

Ordering Information

Pressure Gauges - Bottom and Back Mounted	
126005	0-5,000 psi (0-344.7 bar), 1/4 inch (6.4 mm) NPT brass back mount connection, liquid-filled, operating range -40º F to 150º F (-40º C to 66º C)
557866	0-3,000 psi (0-206.8 bar), standard
558948	0-150 psi (0-10.3 bar), 1/4 inch (6.4 mm) NPT brass bottom mount connection, standard
557559	0-3,000 psi (0-206.8 bar), 1/4 inch (6.4 mm) NPT brass bottom mount connection, standard
557352	0-5,000 psi (0-344.7 bar), 1/4 inch (6.4 mm) NPT brass bottom mount connection, standard
557278	0-1,500 psi (0-103.4 bar), 1/4 inch (6.4 mm) NPT brass back mount connection, standard
557864	0-3,000 psi (0-206.8 bar), 1/4 inch (6.4 mm) 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 (0-206.8 bar), 1/4 inch (6.4 mm) NPT steel bottom mount connection, liquid-filled
558298	0-10,000 psi (0-689.5 bar), 1/4 inch (6.4 mm) NPT steel back mount connection, liquid-filled
Outlet Check Valves	
563196	Single check valve, 1/8-27 inch (3.2 mm-68.6 cm) NPTF x 1/8-27 inch (3.2 mm-68.6 cm) NPSF carbon steel, steel ball, 5,000 psi (344.7 bar) max
563052	Single check valve, 7/16-20 inch (11.1 mm-50.8 cm) x 7/16-20 inch (11.1 mm-50.8 cm) SAE stainless steel, fluoroelastomer ball, 7,500 psi (517.1 bar) max
563054	Single check valve, 7/16-20 inch (11.1 mm-50.8 cm) x 7/16-20 inch (11.1 mm-50.8 cm) SAE stainless steel, steel ball, 3,500 psi (241.3 bar) max
Maxi-Flo Relief Valve - Field-Installed Only	
563375	600 psi (41.4 bar)
Single Ball Check Valves	
563195	10 psi (.69 bar) nominal cracking pressure, 1/8 inch (3.2 mm) NPTF (M) x 1/8 inch (3.2 mm) NPSF (F), steel body/ball, 5,000 psi (344.7 bar) max
563199	15 psi (1.03 bar) nominal cracking pressure, 1/8 inch (3.2 mm) NPSF (F) x 1/8 inch (3.2 mm) NPTF (M), steel body/ball, 5,000 psi (344.7 bar) max
563196	35 psi (2.4 bar) nominal cracking pressure, 1/8 inch (3.2 mm) NPTF (M) x 1/8 inch (3.2 mm) NPSF (F), steel body/ball, 5,000 psi (344.7 bar) max
563200	35 psi (2.4 bar) nominal cracking pressure, 1/8 inch (3.2 mm) NPSF (F) x 1/8 inch (3.2 mm) NPTF (M), steel body/ball, 5,000 psi (344.7 bar) max
563201	60 psi (4.1 bar) nominal cracking pressure, 1/8 inch (3.2 mm) NPSF (F) x 1/8 inch (3.2 mm) NPTF (M), steel body/ball, 5,000 psi (344.7 bar) max
563197	125 psi (8.6 bar) nominal cracking pressure, 1/8 inch (3.2 mm) NPTF (M) x 1/8 inch (3.2 mm) NPSF (F), steel body/ball, 5,000 psi (344.7 bar) max
563198	250 psi (17.2 bar) nominal cracking pressure, 1/8 inch (3.2 mm) NPTF (M) x 1/8 inch (3.2 mm) NPSF (F), steel body/ball, 5,000 psi (344.7 bar) max
563202	250 psi (17.2 bar) nominal cracking pressure, 1/8 inch (3.2 mm) NPSF (F) x 1/8 inch (3.2 mm) NPTF (M), steel body/ball, 5,000 psi (344.7 bar) max
563051	360 psi (24.8 bar) nominal cracking pressure, 1/8 inch (3.2 mm) NPTF (M) x 1/8 inch (3.2 mm) NPSF (F), Steel Body/Ball, 5,000 psi (344.7 bar) max
563206	10 psi (.69 bar) nominal cracking pressure, 1/4 inch (6.4 mm) (M) x 1/4 inch (6.4 mm) (F), steel body/ball, 5,000 psi (344.7 bar) max
563210	10 psi (.69 bar) nominal cracking pressure, 1/4 inch (6.4 mm) NPSF (F) x 1/4 inch (6.4 mm) NPTF (M), steel body/ball, 5,000 psi (344.7 bar) max
563207	35 psi (2.4 bar) nominal cracking pressure, 1/4 inch (6.4 mm) NPTF (M) x 1/4 inch (6.4 mm) NPSF (F), steel body/ball, 5,000 psi (344.7 bar) max
563211	35 psi (2.4 bar) nominal cracking pressure, 1/4 inch (6.4 mm) NPSF (F) x 1/4 inch (6.4 mm) NPTF (M), steel body/ball, 5,000 psi (344.7 bar) max
563208	100 psi (6.9 bar) nominal cracking pressure, 1/4 inch (6.4 mm) NPTF (M) x 1/4 inch (6.4 mm) NPSF (F), steel body/ball, 5,000 psi (344.7 bar) max
563209	250 psi (17.2 bar) nominal cracking pressure, 1/4 inch (6.4 mm) NPSF (F) x 1/4 inch (6.4 mm) NPTF (M), steel body/ball, 5,000 psi (344.7 bar) max
563054	35 psi (2.4 bar) nominal cracking pressure, 7/16-20 inch (14.3 mm-50.8 cm) SAE (M) x 7/16-20 inch (14.3 mm-50.8 cm) SAE (F), SS body/steel ball, 3,500 psi (241.3 bar) max
563055	35 psi (2.4 bar) nominal cracking pressure, 9/16-18 inch (14.3 mm-45.7 cm) SAE (M) x 9/16-18 inch (14.3 mm-45.7 cm) SAE (F), SS body/steel ball, 3,500 psi (241.3 bar) max
563052	35 psi (2.4 bar) nominal cracking pressure, 7/16-20 inch (14.3 mm-50.8 cm) SAE (M) x 7/16-20 inch (14.3 mm-50.8 cm) SAE (F), SS body/FKM ball, 7,500 psi (517.1 bar) max
563047	42 psi (2.9 bar) nominal cracking pressure, 1/4 inch (6.4 mm) NPSF (F) x 1/4 inch (6.4 mm) NPSF (F), SS body/NBR ball, 7,500 psi (517.1 bar) max
563046	48 psi (3.3 bar) nominal cracking pressure, 1/4 inch (6.4 mm) NPSF (F) x 1/4 inch (6.4 mm) NPSF (F), SS body/FKM ball, 7,500 psi (517.1 bar) max
563048	35 psi (2.4 bar) nominal cracking pressure, 1/8 inch (3.2 mm) NPSF (F) x 1/8 inch (3.2 mm) NPTF (M), steel body/FKM ball, 100 psi (6.9 bar) max
563049	35 psi (2.4 bar) nominal cracking pressure, 1/8 inch (3.2 mm) NPTF (M) x 1/8 inch (3.2 mm) NPSF (F), steel body/FKM ball, 100 psi (6.9 bar) max
Double Ball Check Valves	
563203	45 psi (3.1 bar) nominal cracking pressure, twin tandem, 1/4 inch (6.4 mm) NPTF (M) x 1/8 inch (3.2 mm) NPTF (M), SS body/ball, 10,000 psi (690 bar) max
563205	45 psi (3.1 bar) nominal cracking pressure, twin tandem, 1/4 inch (6.4 mm) NPTF (M) x 1/4 inch (6.4 mm) NPTF (M), SS body/ball, 10,000 psi (690 bar) max
563058	35 psi (2.4 bar) nominal cracking pressure, 1/4 inch (6.4 mm) IP (F) x 1/4 inch (6.4 mm) IP (M), brass body/ball, 3,000 psi (206.9 bar) max
563059	35 psi (2.4 bar) nominal cracking pressure, 1/4 inch (6.4 mm) in O.D. pipe inlet (F), 1/4 inch (6.4 mm) NPT (M) outlet, brass body/ball, 3,000 psi (206.9 bar) max
563061	48 psi (3.3 bar) nominal cracking pressure, 1/4 inch (6.4 mm) NPSF (F) x 1/4 inch (6.4 mm) NPSF (F), SS body/FKM ball, 7,500 psi (517.1 bar) max
563060	48 psi (3.3 bar) nominal cracking pressure, 1/4 inch (6.4 mm) NPSF (F) x 1/4 inch (6.4 mm) NPSF (F), SS body/NBR ball, 7,500 psi (517.1 bar) max

General Accessories

Installation Accessories – Hose, Tubing, Fittings, and Mounting Hardware

Ordering Information

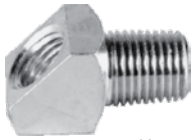
1/8" ID Hoses and Accessories	
128570	Hose, 1/8" ID, 3,000 PSI, 200 Feet, Braided with Polyurethane Cover
128571	Hose, 1/8" ID, 3,000 PSI, 400 Feet, Braided with Polyurethane Cover
128862	Hose, 1/8" ID, 3,000 PSI, 2,000 Feet, Braided with Polyurethane Cover
128579	Hose Guard, 3/8" ID, 160 Feet
128580	Hose Guard, 3/8" ID, 320 Feet
128561	Field-Installable Swivel Hose End Fitting, 1/8" ID Hose, #4 JIC, SAE 7/16-20 female
128562	Field-Installable Swivel Hose End Fitting, 1/8" ID Hose, 1/8 NPT Male
128006	Clamp, 3/8" OD Hose
1/4" ID Hoses and Accessories	
128572	Hose, 1/4" ID, 2,750 PSI, 100 Feet, Braided with Polyurethane Cover
128573	Hose, 1/4" ID, 2,750 PSI, 125 Feet, Braided with Polyurethane Cover
128581	Hose Guard, 1/2" ID 80 Feet
128582	Hose Guard, 1/2" ID 100 Feet
128563	Field-Installable Swivel Hose End Fitting, 1/4" ID Hose, #4 JIC, SAE 7/16-20 female
128564	Field-Installable Swivel Hose End Fitting, 1/4" ID Hose, 1/4 NPT Male
128565	Field-Installable Swivel Hose End Fitting, 1/4" ID Hose, 1/8 NPT Male
557944	Clamp, 7/16" OD Hose
1/8" OD Tubing and Accessories	
127554	Tubing, 1/8" OD, 625 PSI, 100 Feet
127551	1/8" Tube x 1/8" Straight Fitting
556664	1/8" Tube x 1/8" Elbow Fitting
1/4" OD Tubing and Accessories	
127555	Tubing, 1/4" OD, 625 PSI, 100 Feet
127552	1/4" Tube x 1/4" Straight Fitting
555726	1/4" Tube x 1/4" Elbow Fitting
127553	1/4" Tube x 1/8" Straight Fitting
556634	1/4" Tube x 1/8" Elbow Fitting
3/16" OD Tubing and Bulk Fittings	
16A169	Tubing, 3/16" OD, Single Tube, 1,350 PSI, 100 Feet
16A171	Tubing, 3/16" OD, Double Tube, 1,350 PSI, 100 Feet
16A172	Tubing, 3/16" OD, Triple Tube, 1,350 PSI, 100 Feet
127722	Male Elbow, 3/16" Tube x 1/8" NPT, Brass, Quantity 250
127723	Male Connector, 3/16" Tube x 1/8" NPT, Brass, Quantity 250
127724	Union, 3/16" Tube, Brass, Quantity 50
127725	Union, 5/16" Tube, Brass, Quantity 50
Elbows	
556763	#4 JIC SAE 7/16-20 male x 1/8" NPT male
556764	#4 JIC SAE 7/16-20 male x 1/4" NPT male
15K740	1/4-28 NPT male X 1/8" NPT female
15K783	1/8 NPT male X 1/8 NPT female
560530	1/8 NPT male X 1/4 NPT female
15M045	1/4 NPT male X 1/4 NPT female
560533	1/4 NPT male X 1/8 NPT female
560534	3/8 NPT male X 3/8 NPT female
158683	1/2 NPT male X 1/2 NPT female
45° Elbows	
557395	1/8 NPT male X 1/8 NPT female
560532	1/4 NPT male X 1/4 NPT female

128862

128571

128572

15K783



557395

General Accessories

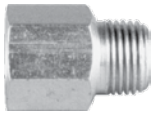
Installation Accessories – Hose, Tubing, Fittings, and Mounting Hardware

Ordering Information

Reducing Bushings	
556402	1/4 NPT male X 1/8 NPT female
556403	3/8 NPT male X 1/8 NPT female
556404	3/8 NPT male X 1/4 NPT female
100206	1/2 NPT male X 1/4 NPT female
Expanding Bushings	
556416	1/8 NPT male X 1/4 NPT female
156580	1/8 NPT male X 3/8 NPT female
150287	1/4 NPT male X 3/8 NPT female
159842	1/4 NPT male X 1/2 NPT female
156022	3/8 NPT male X 1/2 NPT female
Pipe Extensions M x F	
557392	1/8 NPT male X 1/8 NPT female, 3/4 long
557393	1/8 NPT male X 1/8 NPT female, 1-1/4 long
563178	1/8 NPT male X 1/8 NPT female, 2-1/4 long
Adapter	
555749	#4 JIC SAE 7/16-20 male x 1/8" NPT male
556762	#4 JIC, SAE 7/16-20 male x 1/4" NPT male
555453	1/4 NPT male X 1/4 NPT male
556408	1/4 NPT male X 1/8 NPT male
156296	3/8 NPT male X 1/8 NPT male
165198	3/8 NPT male X 1/4 NPT male
156849	3/8 NPT male X 3/8 NPT male
Anchor Mounts	
560540	180° Straight Anchor Fitting ,1/8" NPSF
560541	180° Straight Anchor Fitting, 1/4" NPSF
558910	180° Straight Anchor Fitting, 1/2" NPSF
560542	Cross Anchor Fitting, 1/4" NPSF
560543	Cross Anchor Fitting, 1/8" NPSF
561430	180° Straight Anchor Fitting, 2 lines, 1/4" NPSF
560535	90° Drop Elbow Brass, 1/8" NPSF
560537	Wing Tee, 1/4" NPTF
Grease Zerks	
557969	Grease Zerk Cover
100054	1/8", 10,000 PSI
100848	1/4", 10,000 PSI
Fill Studs	
24M644	QD Style w/Cap
110712	1/4" Button Head
100854	3/8" Button Head
Mounting Weld Studs	
127512	1/4-20 x .710" long
127513	1/4-20 x .96" long
127514	1/4-20 x 1.2" long
17D024	1/4-20 x 2" long
17D023	3/8-16 x 1.25" long

556402

556416



557392

555453

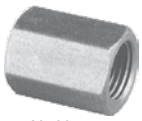
100848

24M644

Ordering Information

Clamps	
127012	3/8" clamp diameter x 9/32 mounting hole
557944	1/2" clamp diameter x 9/32 mounting hole
127515	1 1/2" clamp diameter x 9/32 mounting hole
Bulkheads	
128566	1/4 NPT
557950	1/8 NPT
Hose Vise Block	
127145	1/8", 1/4", 1/2" ID hose
Hex Coupling	
560528	1/8 NPT female X 1/8 NPT female
113093	1/4 NPT female X 1/4 NPT female
162024	3/8 NPT female X 3/8 NPT female
Run Tee	
556419	1/8 NPT male X 1/8 NPT female (2)
556420	1/4 NPT male X 1/4 NPT female (2)
128568	3/8 NPT male X 3/8 NPT female (2)
Branch Tee	
558795	1/8 NPT male X 1/8 NPT female (2)
556407	1/4 NPT male X 1/4 NPT female (2)
128567	3/8 NPT male X 3/8 NPT female (2)
Plugs	
557349	1/8" NPT socket head
111697	1/4" NPT square head
100040	3/8" NPT square head
Cable Tie	
17K063	Cable tie 14" x .30", qty 100

557950



560528

556419

100040

Controllers

GLC 2200™ Controller

Features and Benefits

- Easy to mount without having to open up the control box
- LEDs let you know what your system is doing at a glance
- Easy to read digital display makes it simple to program and monitor your equipment
- In-cab visual and audible alarms let the operator know your equipment needs attention. Or set up a remote alarm to alert service or maintenance staff
- Simple icon based push buttons make programming easy
- Color coded wiring harness with flying leads and easy to follow wiring diagrams makes installations efficient

24N468

Available Inputs

- Pressure/cycle switch
- Low level switch

Available Outputs

- Pump power control
- External alarms–both low level and pressure/cycle faults

Typical Applications

- Heavy construction, mining, other mobile on-road and off-road equipment

Technical Specifications

Height ..... 5.53 inch (140 mm)
Width ..... 2.75 inch (70 mm)
Depth ..... 1.38 inch (35 mm)
Protection Grade IP54
Operating Temperature ..... -40º F to 176º F (-40º C to 80º C)
Standards ..... CE Marked
Power Source DC ..... 9 - 30 VDC
Manual 3A2960A

Ordering Information

GLC 2200	
24N468	GLC 2200 controller
24P314	GLC 2200 wiring harness – 5 feet (150 cm) with flying leads
24W981	GLC 2200 wiring harness – 10 feet (300 cm) with flying leads
24P686	GLC 2200 connector (1) and pins (12)
24P687	GLC 2200 connectors (5) and pins (60)
16T671	Crimper

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
- In plant machinery, food and beverage, wind energy

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 ..... -40º F to 145º F (-40º C to 63º 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 .....0º to131º F (-18º to 55º C)
Storage ..... -67º to185º F (-55º to 85º 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 without enclosure
DC Timer	
557925	DC timer

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 and 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, double-throw 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 .....10º F to 113º F (-21º C to 45º C)
Storage ..... -8º F to 140º F (-25º C to 60º 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

WMPII Maxi-Monitor	
556023	115 VAC
556024	230 VAC
556025	24 VDC
563914	Shock mount kit

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!

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	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
Pump "ON" Time	Programmable: 1 sec. to 99 min.
Lube Cycle Frequency	Programmable: 1 min. to 99 hrs.
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)

	Part #	Fill Port	Solenoid	Timer/Wiring Harness Kit	Mounting Plate	Mainline and Hardware	Extra Fittings Kit
Grease Jockey Pump Kits							
Pump Only, No Reservoir	563625	Straight					
Pump with 6# Rigid Reservoir	563589	Straight					
Pump with 12# Rigid Reservoir	563590	Straight					
Pump with 6# Rigid Reservoir	563593	Elbow					
Pump with 6# Rigid Reservoir	563888	Elbow	12 VDC				
Pump with 6# Rigid Reservoir	563854	Straight	12 VDC	24W479	Yes	Yes	Yes
Pump with 12# Rigid Reservoir	563874	Straight	12 VDC	24W479	Yes	Yes	Yes

Ordering Information

Grease Jockey Pump Accessories	
24W482	Grease Jockey digital timer
24W479	Grease Jockey digital timer with Delphi 56 connector
24W480	Grease Jockey digital timer with Delphi 280 connector
25A118	Grease Jockey digital timer with flying leads
25A044	Service startup and spares kit
557932	12 VDC replacement solenoid
563641	12 VDC replacement solenoid kit with 1/4" NPT(m) fitting
24E017	24 VDC replacement solenoid

On-Road Mobile Lubrication Systems

Grease Jockey®

Grease Jockey Right and 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							2									
Right Front Kit	5	563860		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 and Single Axle Kit	11	563748	1	0			3	1	0			3									1	8	8	8	8
Fifth Wheel and Single Axle Kit	12	563717	1	0			3	1	0			3	1	1								8	8	8	8

Grease Jockey Pneumatic Universal Truck Kits

Kits include 6# pump kit (563854) and factory-configured injector manifold modules.

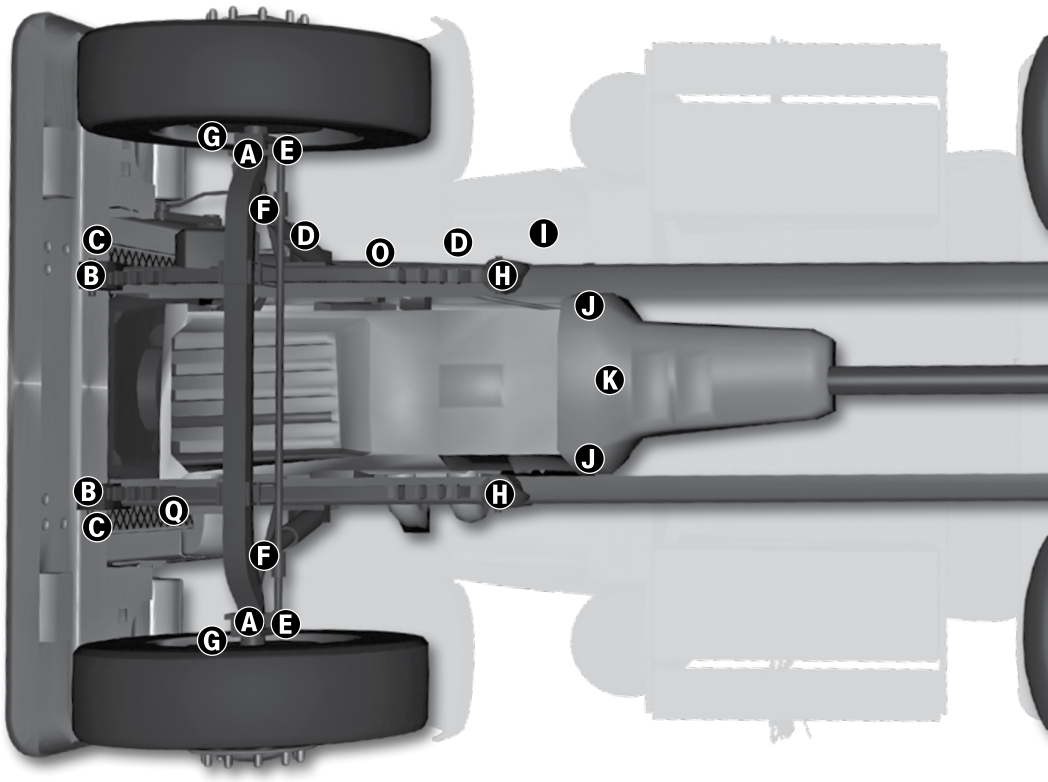
	# of Grease Points	Part Number	Right Front														Right Rear					
			Upper King Pin	Lower King Pin	Slack Adjuster	S-Cam	Tie Rod	Spring Pin	Spring Hanger-Upper	Spring Hanger-Lower	Clutch Cross Shaft	Clutch Cross Shaft	Clutch Throw Out Bearing	"A" Frame Pivot	Lift Cylinder Top Pivot	Lift Cylinder Bottom Pivot	Slack Adjuster	S-Cam	Slack Adjuster	S-Cam	Rear Spring	Lift Cylinder Top Pivot
			Injector Size																			
Single Axle Tractor Kit	27	563897	3	3	1	0	2				0	0	0				1	0			3	
Single Axle Tractor Kit	28	563891	3	3	1	0	2				0	0	0				1	0			3	
Spotter Truck Kit	35	563823	3	3	1	0	2	3	3	3				8	8	3	1	1				3
Tandem Axle Tractor Kit	33	563846	3	3	1	0	2	3	3	3	0	0					1	0	1	0		
Tandem Axle Tractor Kit	34	563809	3	3	1	0	2	3	3	3							1	0				
Tandem Axle Tractor Kit	34	563814	3	3	1	0	2	3	3	3	0	0					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	0.015	0.024

Truck and tractor lubrication systems lubricate these parts:

- **A** Upper/Lower King Pins
- **B** Hood Pins
- **C** Spring Pins
- **D** Drag Links
- **E** Tie Rod Ends
- **F** Slack Adjusters
- **G** S-Cams
- **H** Spring Hangers
- **I** Clutch Pedal
- **J** Clutch Cross Shafts
- **K** Clutch Throw Out Bearing
- **L** 5th Wheel Plate
- **M** 5th Wheel Pivots

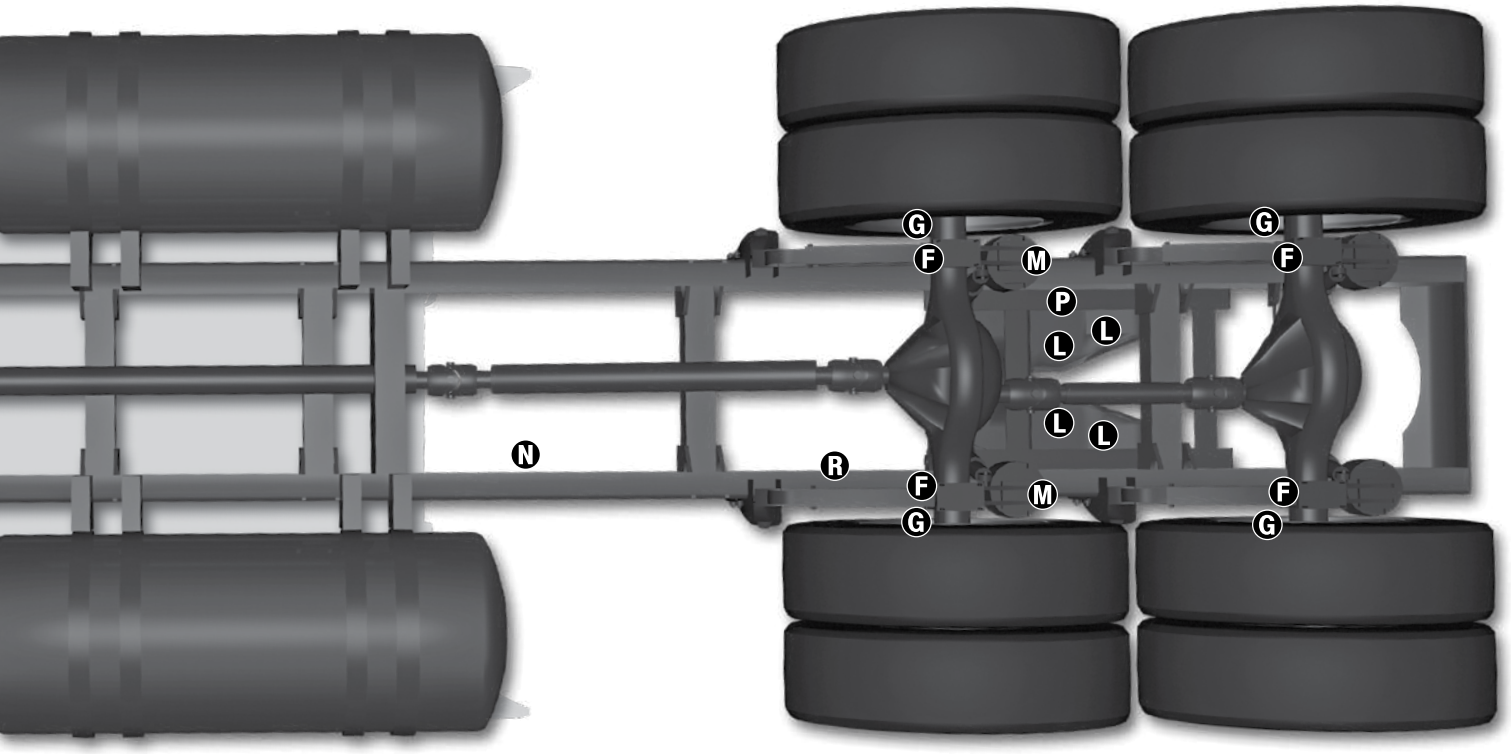
- **N** Pump
- **O** Left Front Module
- **P** 5th Wheel Module
- **Q** Right Front Module
- **R** Rear Module



On-Road Mobile Lubrication Systems

Grease Jockey®

Left Front															Left Rear						5th Wheel												
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
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		8	8	8	8
3	3	2	2	1	0	2	3	3	3						1	0	1	0			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. inch (0.16-.49 cm^3)
Reservoir Capacity (ridgid clear plastic) ..... 4 lb (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 inch I.D. hose
Module to Point ..... 3/16 inch O.D. heavywall nylon
Operating Pressure (nylon lines) ..... 1,350 psi (9,310 kPa)

563842

Universal Trailer Kits Ordering Information

Pneumatic (Trailer Pump Included)

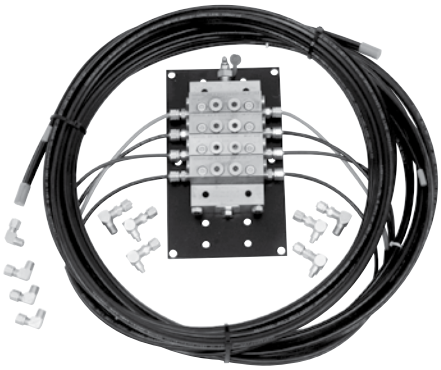
		Grease points covered in kit				
	Part #	Slack Adjuster	S-Cam	Clevis Pin	Landing Gear	Total # of Grease Points
One Axle w/ Inner and Outer S-Cams	563829	2	4	-	-	6
Two Axle w/ Enclosed S-Cams	563850	4	4	-	-	8
Two Axle w/ Inner and Outer S-Cams	563842	4	8	-	-	12
Two Axle w/ Enclosed S-Cams and Clevis Pins	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

EZ 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



563853

Typical Applications

- Truck, tractor, and trailer chassis lubrication

Typical Fluids Handled

- Grease up to NLGI #2

Technical Specifications

Recommended Fluids..... Grease up to NLGI #2
Maximum Operating Pressure..... 3,500 psi (241 bar)

Truck Kit Ordering Information

	Total Number of Grease Points	Part Number	Left Front											Right Front									Left and Right Rear			
			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
			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			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

	Total Number of Grease Points	Part Number	Slack Adjuster	S-Cam	Bearing	Gear Nut	Crank
			Number of Grease Points				
EZ Greaser Landing Gear Kit	5	563824			2	2	1
Single Axle Trailer Kit - EZ Greaser MSP Manual with Standard Fittings	6	563810	2	4			
EZ Greaser Tandem Axle with Enclosed S-Cams	8	563863	4	4			
EZ Greaser Trailer Tandem Axle Kit with Non-enclosed S-Cams	12	563877	4	8			

On-Road Mobile Lubrication Systems

Reservoir Refill Manual 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/low-volume setting
- Delivers 3.0 oz (85 g) of grease per stroke when using the high-volume/low-pressure setting
- 5 ft (1.5 m) hose length with female quick-coupling

247886

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 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

247540

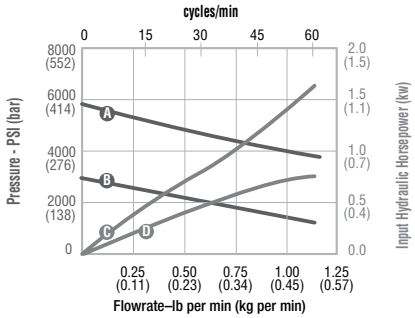
247443

247450

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 inch (861 mm)	41.5 inch (1054 mm)	48.5 inch (1232 mm)
Pump Lower Length	19.15 inch (501 mm)	26.75 inch (679 mm)	33.75 inch (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 inch–16 JIC (37º Flare)	3/4 inch–16 JIC (37º Flare)	3/4 inch–16 JIC (37º Flare)
Hydraulic Return Outlet	3/4 inch npt	3/4 inch npt	3/4 inch npt
Fluid Outlet	1/2 inch npt	1/2 inch npt	1/2 inch npt
Maximum Incoming Hydraulic Fluid Temp.	200º F (93º C)	200º F (93º C)	200º F (93º C)
312350	Manual for 247540, 247443, 247450		

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

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

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 (842 mm). 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 - overall height 35.15 in (842 mm). 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 - divider valve - 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 (27 kg)
241486	Reservoir - 90 lb (41 kg)

Fireball 300 And Dyna-Star 5:1 Modules and 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 and Accessories	
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
115119	GL-1 injector cover kit, plastisol
24A918	GL-11 injector

247574

241573

24B591

114905

24A918

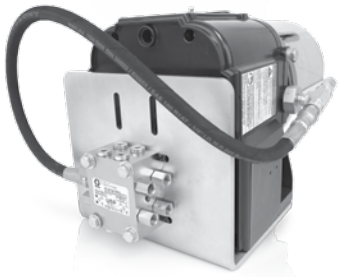
Electric Pumps

G1™ Pump and USP Divider Valve Automatic Lubrication Kits

Everything You Need in One Simple Kit.

Pre-engineered lubrication kits are built from the proven, user-friendly G1 Plus pump and USP divider valve. Each kit contains the bracket and hardware you need to quickly order and install an automatic lubrication system.

24V680



Features and Benefits

- Two-liter grease reservoir
- Connect to 24 VDC and 110-240 VAC power sources with CPC or DIN-style connectors for easy, no hassle installations
- G1 Plus™ has built-in on/off timer with optional low level feature that shuts down the pump when empty. Manual run initiates lube cycles on-demand with the option for remote control.

Lubrication Used

- NLGI #000 to NLGI #2

Ordering Information

G1 Plus and USP Automatic Lubrication Kits	
24V659	G1 Plus grease pump, 24 VDC, 2 liter, low level, power cord, bracket, USP 6, pressure relief
24V660	G1 Plus grease pump, 24 VDC, 2 liter, low level, power cord, bracket, USP 8, pressure relief
24V661	G1 Plus grease pump, 24 VDC, 2 liter, low level, power cord, bracket, USP 10, pressure relief
24V662	G1 Plus grease pump, 24 VDC, 2 liter, low level, power cord, bracket, USP 12, pressure relief
24V663	G1 Plus grease pump, 24 VDC, 2 liter, low level, power cord, bracket, USP 14, pressure relief
24V664	G1 Plus grease pump, 24 VDC, 2 liter, low level, power cord, bracket, USP 16, pressure relief
24V680	G1 Plus grease pump, 110-240 VAC, 2 liter, low level, power cord, bracket, USP 6, pressure relief
24V681	G1 Plus grease pump, 110-240 VAC, 2 liter, low level, power cord, bracket, USP 8, pressure relief
24V682	G1 Plus grease pump, 110-240 VAC, 2 liter, low level, power cord, bracket, USP 10, pressure relief
24V683	G1 Plus grease pump, 110-240 VAC, 2 liter, low level, power cord, bracket, USP 12, pressure relief
24V684	G1 Plus grease pump, 110-240 VAC, 2 liter, low level, power cord, bracket, USP 14, pressure relief
24V685	G1 Plus grease pump 110-240 VAC, 2 liter, low level, power cord, bracket, USP 16, pressure relief

Off-Road Mobile Lubrication Systems

G3™ Pump Kits

Out-of-the-Box Lubrication Kits with Everything You Need for Installation

Each kit includes a 24 VDC pump, which is tested tough to withstand abuse from the elements. IP69K rated to handle the elements without an enclosure.

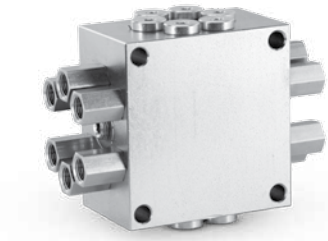
G3's Data Management System (DMS) makes it easy to transfer data to your PC via USB flash drive for further analysis using Excel® or Notepad®.

Each kit has the correct metering devices included. No need to figure out lubrication rates or calculate line lengths. Precision machined, honed and match-fit in our own factory for top performance.

Everything is included for faster installations with no special tools required. No more searching around for each adapter and connector—you get everything in one box ready for your installer.

- Continually monitored on-board lubrication regardless of length of operational schedules.
- Protects equipment from contamination, over- or under-lubrication, and mechanical failure caused by improper lubrication.
- Allows longer time between scheduled maintenance.
- Avoid breakdowns on the job site, schedule your equipment repairs and regular maintenance in the shop.

G3 Max Model



USP Metering Valve

Hoses

Fittings and Accessories

Ordering Information

G3 Pump Lubrication Kits		Manual
24R376	Wheel Loader, 8L G3 DMS, USP, 22 point	333502
24R377	Wheel Loader, 8L G3 DMS, USP, 31 point	333503
24R378	Telehandler/Loadall, 4L G3 DMS, USP, 21 point	333504
24R379	Backhoe, 4L G3 DMS, USP, 43 point	333505
24N815	Excavator, 8L G3 DMS, USP, 19 point	333501

What's Included:

- G3 Max Pump with Data Management System and remote manual run button
- USP Mono Block metering valves
- Hose and hose guarding
- Field-installable hose ends
- Fittings
- Accessories

Lubrication Systems

Dyna-Star® Electrically-Powered HP and HF 24 VDC

Features and Benefits

- High-quality helical hardened steel gears are lubricated for life and sealed to keep contaminants out for longer lasting performance
- Ability to adjust motor controls like power input, motor speed, current control and signal input to perfectly match the pump to your application and environmental changes
- Mechanical auto-fill shutoff and remote-mounted fill port ensures clean and efficient refills
- Vent valve mounts directly to pump with no special brackets or hoses for a compact design and less parts to break or wear out
- IP69K rated
- Built-in pressure relief for safety and compact, efficient installations
- Cavitation-free fill and vent path provides simple and direct venting and filling to the foot of the pump
- Built-in lift ring is rated to 500 lbs (226 kg)
- Strong 12 gauge steel reservoir available in 60 lb (27 kg) or 90 lb (41 kg) size
- AC to DC Converter Box for fixed and in-plant applications

77X102

Typical Applications

- Mining Operations
- Milling and Crushing
- Heavy-duty Construction
- Well Services
- Industrial (see next page for AC to DC Converter)

77X001

Technical Specifications

Maximum Lubricant Outlet Pressure	
HF models	3500 psi (24.1 MPa, 241 bar)
HP models	5000 psi (34.47 MPa, 344 bar)
Electrical Requirements	
All models	24 VDC
Input Voltage Range	
24 VDC	18 to 32 VDC
Flow Rate Range	
HF models	1.5 in^3 - 25 in^3/minute (24.6 cm^3 - 410 cm^3/minute)
HP models	1.5 in^3 - 18 in^3/minute (24.6 cm^3 - 295 cm^3/minute)
Inlet/Outlet Sizes	
Tank/reservoir fill port	1/2 in NPT
Overflow port	1/2 in NPT
Fluid outlet size	3/8 in NPT
Operating Temperature	
HF models	14° to 149° F (-10° to 65° C)
HP models	-40° to 149° F (-40° to 65° C)
Audible Sound Pressure	
71 dB(A)	
Product Manuals: Pumps 332514, Pump Systems 332540, Auto-Fill Shutoff 332518, Low Level 332515, Electric Vent Valve 332519, Drum Covers and Follower Plates 312738, Remote Fill Port 333393	

Lubrication Systems

Dyna-Star® Electrically-Powered HP and HF AC to DC Converter Box

Features and Benefits

- Convenience of AC power and maintain the advantages of DC speed and amp control
- In-plant and fixed plant applications without expensive pneumatic and hydraulic power requirements
- Convenient hardware kit to make installation easy
- Two DC 20 amp outputs to power both pump and control
- On/off switch and detachable power cord to meet health and safety requirements

77X524

Typical Applications

- Rock crushers
- Food processing
- Steel milling
- Fixed and in-plant applications

Technical Specifications

Input Voltage	110-240 VAC
Input Frequency	50/60 Hz
Output Voltage	24 VDC
Output Current	20 amps
IP Rating	IP24
Environmental Temperature Range	14° to 122° F (-10° to 50° C)
Power Cord Length	9 ft (2.7 m)
Manual	333391

Installation Hardware Included

Lubrication Systems

Dyna-Star® Electrically-Powered HP and HF 24 VDC

Ordering Information

Stand Alone Pumps	
77X000	24 VDC HP stand-alone pump for 35 or 60 pound reservoir
77X001	24 VDC HP stand-alone pump with tube-in-tube for 35 or 60 pound reservoir
77X002	24 VDC HP stand-alone pump with tube-in-tube for 90 or 120 pound reservoir
77X003	24 VDC HP stand-alone pump with tube-in-tube for 400 pound reservoir
77X014	24 VDC HF stand-alone pump for 35 or 60 pound reservoir
77X015	24 VDC HF stand-alone pump for 120 pound reservoir
77X016	24 VDC HF stand-alone pump for 400 pound reservoir
Custom Tank Injector Kits	
77X011	24 VDC HP pump and vent valve with tube-in-tube for 35 or 60 pound reservoir
77X012	24 VDC HP pump and vent valve with tube-in-tube for 90 or 120 pound reservoir
77X013	24 VDC HP pump and vent valve with tube-in-tube for 400 pound reservoir
Injector Pump Modules	
77X100	24 VDC HP injector module with pump, tube-in-tube, vent valve, cover, tank, and dip stick for 60 pound reservoir
77X101	24 VDC HP injector module with pump, tube-in-tube, vent valve, cover, tank and dip stick for 90 pound reservoir
77X102	24 VDC HP injector module with pump, tube-in-tube, vent valve, cover, tank and auto-fill shutoff for 60 pound reservoir
77X103	24 VDC HP injector module with pump, tube-in-tube, vent valve, cover, tank and auto-fill shutoff for 90 pound reservoir
77X104	24 VDC HP injector module with pump, tube-in-tube, vent valve, follower plate, low level kit, cover, and tank for 60 pound reservoir
77X105	24 VDC HP injector module with pump, tube-in-tube, vent valve, follower plate, low level kit, cover, and tank for 90 pound reservoir
Standard Drum Injector Kits	
77X111	24 VDC HP pump, vent valve, and cover with tube-in-tube for 120 pound reservoir
77X112	24 VDC HP pump, vent valve, and cover with tube-in-tube for 400 pound reservoir
Standard Drum Kits	
77X121	24 VDC HF pump and cover for 120 pound reservoir
77X122	24 VDC HF pump and cover for 400 pound reservoir
Accessories	
77X500	Follower plate for Graco 60 pound and 90 pound Graco tank for tube-in-tube
77X510	Follower plate for 35 pound bucket with and without tube-in-tube
247701	Follower plate for 120 pound drum without tube-in-tube
77X511	Follower plate for 120 pound drum with tube-in-tube
247702	Follower plate for 400 pound drum without tube-in-tube
77X512	Follower plate for 400 pound drum with for tube-in-tube
77X513	Cover, cylinder, tie-rods and base to convert 60 pound length to 35 pound bucket
77X514	Cover for 120 pound drum
77X515	Cover for 400 pound drum
77X521	Auto-fill shutoff (AFSO) – diaphragm, plate, valve, coupler, and pipes
77X522	Low level kit sight glass, electric low level switch, and cable (requires follower plate 77X500)
77X523	400 micron inline filter, maximum 5,000 psi (344 bar) inlet pressure
77X524	110-230 VAC to 24 VDC converter box
77X540	24 VDC electric vent valve with pressure relief
77X541	Filter replacement kit – use with 77X523
77X542	Remote-fill port manifold with vent
77X543	HF manifold with 4,000 psi pressure relief
77X544	HP manifold with 5,000 psi pressure relief
77X545	Power cable for series progressive systems, M23 connector, 15 ft (4.6 m)
77X546	Power cable for injector systems, M23 connector, 15 ft (4.6 m)
115124	Pressure switch – pressure adjustment visible in window
24N180	Pressure switch, 1/4" BSPP inlet, DIN 43650 connector (1 NO/1 NC), 7,250 psi (500 bar)
24N181	Pressure switch, 1/4" NPT(f) inlet, DIN 43650 connector (1 NO/1 NC), 7,250 psi (500 bar)

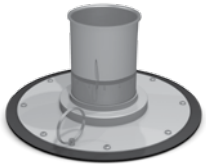
77X001

77X102

77X524

77X514

77X515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77X513

77X523

77X542

Compressor Lubrication

Manzel® Model 25 Lubricator

Features and Benefits

- General-Purpose Lubrication: automatic, precision metering for all types of machinery
- Type Pumping Unit: Clear-Vue. 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 Stoke		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 inch (4.8 mm) diameter pump
562950	5/16 inch (7.9 mm) diameter pump
564317	Ratchet arm assembly
562988	Replacement handle
563939	Low level, fits into a pump slot

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 inch (4.8 mm) Diameter Plunger, 1,000 psi (68.9 bar) max Operating Pressure
B	P-2 - 5/16 inch (7.9 mm) Diameter Plunger, 1,000 psi (68.9 bar) 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-L0
MAAADB	R1-P1-3-D2R-L0
MAAAEB	R1-P1-4-D2R-L0
MAAAEC	R1-P1-4-D3R-L0
MAABBB	R1-P2-1-D2R-L0
MAABBC	R1-P2-1-D3R-L0
MAABBF	R1-P2-1-D2L-L0
MAABBG	R1-P2-1-D3L-L0
MAABDB	R1-P2-3-D2R-L0
MAABDC	R1-P2-3-D3R-L0
MAABEB	R1-P2-4-D2R-L0
MAABEF	R1-P2-4-D2L-L0
MAB - Up to 8 pumps	
MABAAB	R2-P1-0-D2R-L0
MABACH	R2-P1-2-D4L-L0
MABAFC	R2-P1-5-D3R-L0
MABAFG	R2-P1-5-D3L-L0
MABAHC	R2-P1-7-D3R-L0
MABAHG	R2-P1-7-D3L-L0
MABAJA	R2-P1-8-D1R-L0
MABBAC	R2-P2-0-D3R-L0
MABBCG	R2-P2-2-D3L-L0
MABBEC	R2-P2-4-D3R-L0
MABBEE	R2-P2-4-D1L-L0
MABBFF	R2-P2-5-D2L-L0
MABBFG	R2-P2-5-D3L-L0
MABBGA	R2-P2-6-D1R-L0
MABBGB	R2-P2-6-D2R-L0
MABBGC	R2-P2-6-D3R-L0
MABBGF	R2-P2-6-D2L-L0
MABBHC	R2-P2-7-D3R-L0
MABBHG	R2-P2-7-D3L-L0

MAC - Up to 12 pumps	
MACAAA	R3-P1-0-D1R-L0
MACAEH	R3-P1-4-D4L-L0
MACAGH	R3-P1-6-D4L-L0
MACAHF	R3-P1-7-D2L-L0
MACAKE	R3-P1-9-D1L-L0
MACALC	R3-P1-10-D3R-L0
MACANB	R3-P1-12-D2R-L0
MACBJB	R3-P2-8-D2R-L0
MACBKA	R3-P2-9-D1R-L0
MACBLC	R3-P2-10-D3R-L0
MACBLG	R3-P2-10-D3L-L0
MAD - Up to 16 pumps	
MADBCC	R4-P2-2-D3R-L0
MADBLH	R4-P2-10-D4L-L0
MADBSG	R4-P2-15-D3L-L0
MAE - Up to 20 pumps	
MAEAAB	R5-P1-0-D2R-L0
MAEBGE	R5-P2-6-D1L-L0

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
- 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

Manzel® MBL Box Lubricators	
MBA0AA	4 pint reservoir (2 pump stations max), no pumps installed, 1:1 direct drive, RH
MBA0AM	4 pint reservoir (2 pump stations max), no pumps installed, 200:1 end rotary, RH
MBA0AN	4 pint reservoir (2 pump stations max), no pumps installed, 400:1 end rotary, RH
MBA1BA	4 pint reservoir (2 pump stations max), 3/16 inch GBL 7500 pump (qty 1), 1:1 direct drive, RH
MBA1CB	4 pint reservoir (2 pump stations max), 3/16 inch GBL 7500 pump (qty 2), end ratchet, RH
MBA1CF	4 pint reservoir (2 pump stations max), 3/16 inch GBL 7500 pump (qty 2), end ratchet, LH
MBA1CM	4 pint reservoir (2 pump stations max), 3/16 inch GBL 7500 pump (qty 2), 200:1 end rotary, RH
MBA2BF	4 pint reservoir (2 pump stations max), 1/4 inch GBL 7500 pump (qty 1), end ratchet, LH
MBA2BR	4 pint reservoir (2 pump stations max), 1/4 inch GBL 7500 pump (qty 1), 50:1 right angle, RH
MBA2CE	4 pint reservoir (2 pump stations max), 1/4 inch GBL 7500 pump (qty 2), 1:1 direct drive, LH
MBA2CR	4 pint reservoir (2 pump stations max), 1/4 inch GBL 7500 pump (qty 2), 50:1 right angle, RH
MBA3CD	4 pint reservoir (2 pump stations max), 3/8 inch GBL 7500 pump (qty 2), 75:1 ratchet, RH
MBB0AA	6 pint reservoir (3 pump stations max), no pumps installed, 1:1 direct drive, RH
MBB0AB	6 pint reservoir (3 pump stations max), no pumps installed, end ratchet, RH
MBB0AC	6 pint reservoir (3 pump stations max), no pumps installed, 37.5:1 ratchet, RH
MBB0AG	6 pint reservoir (3 pump stations max), no pumps installed, 37.5:1 ratchet, LH
MBB0AH	6 pint reservoir (3 pump stations max), no pumps installed, 75:1 ratchet, LH
MBB0AM	6 pint reservoir (3 pump stations max), no pumps installed, 200:1 end rotary, RH
MBB0AN	6 pint reservoir (3 pump stations max), no pumps installed, 400:1 end rotary, RH
MBB1CM	6 pint reservoir (3 pump stations max), 3/16 inch GBL 7500 pump (qty 2), 200:1 end rotary, RH
MBB1CZ	6 pint reservoir (3 pump stations max), 3/16 inch GBL 7500 pump (qty 2), 188:1 right angle, LH
MBB1DA	6 pint reservoir (3 pump stations max), 3/16 inch GBL 7500 pump (qty 3), 1:1 direct drive, RH
MBB1DM	6 pint reservoir (3 pump stations max), 3/16 inch GBL 7500 pump (qty 3), 200:1 end rotary, RH
MBB2BB	6 pint reservoir (3 pump stations max), 1/4 inch GBL 7500 pump (qty 1), end ratchet, RH
MBB2CA	6 pint reservoir (3 pump stations max), 1/4 inch GBL 7500 pump (qty 2), 1:1 direct drive, RH
MBB2CB	6 pint reservoir (3 pump stations max), 1/4 inch GBL 7500 pump (qty 2), end ratchet, RH
MBB2CD	6 pint reservoir (3 pump stations max), 1/4 inch GBL 7500 pump (qty 2), 75:1 ratchet, RH

Ordering Information

Manzel® MBL Box Lubricators	
MBB2CE	6 pint reservoir (3 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 2), 1:1 direct drive, LH
MBB2CM	6 pint reservoir (3 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 2), 200:1 end rotary, RH
MBB2CN	6 pint reservoir (3 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 2), 400:1 end rotary, RH
MBB2DC	6 pint reservoir (3 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 3), 37.5:1 ratchet, RH
MBB2DG	6 pint reservoir (3 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 3), 37.5:1 ratchet, LH
MBB2DM	6 pint reservoir (3 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 3), 200:1 end rotary, RH
MBB3CA	6 pint reservoir (3 pump stations max), 3/8 inch (9.5 mm) GBL 7500 pump (qty 2), 1:1 direct drive, RH
MBC0AA	8 pint reservoir (5 pump stations max), no pumps installed, 1:1 direct drive, RH
MBC0AC	8 pint reservoir (5 pump stations max), no pumps installed, 37.5:1 ratchet, RH
MBC0AE	8 pint reservoir (5 pump stations max), no pumps installed, 1:1 direct drive, LH
MBC0AG	8 pint reservoir (5 pump stations max), no pumps installed, 37.5:1 ratchet, LH
MBC0AL	8 pint reservoir (5 pump stations max), no pumps installed, 100:1 end rotary, RH
MBC0AS	8 pint reservoir (5 pump stations max), no pumps installed, 188:1 right angle, RH
MBC1EB	8 pint reservoir (5 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 4), end ratchet, RH
MBC1EE	8 pint reservoir (5 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 4), 1:1 direct drive, LH
MBC1EJ	8 pint reservoir (5 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 4), 25:1 end rotary, RH
MBC1FE	8 pint reservoir (5 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 5), 1:1 direct drive, LH
MBC2BL	8 pint reservoir (5 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 1), 100:1 end rotary, RH
MBC2CM	8 pint reservoir (5 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 2), 200:1 end rotary, RH
MBC2CN	8 pint reservoir (5 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 2), 400:1 end rotary, RH
MBC2DB	8 pint reservoir (5 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 3), end ratchet, RH
MBC2EA	8 pint reservoir (5 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 4), 1:1 direct drive, RH
MBC2EB	8 pint reservoir (5 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 4), end ratchet, RH
MBC2ED	8 pint reservoir (5 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 4), 75:1 ratchet, RH
MBC2EF	8 pint reservoir (5 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 4), end ratchet, LH
MBC2FB	8 pint reservoir (5 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 5), end ratchet, RH
MBC2FE	8 pint reservoir (5 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 5), 1:1 direct drive, LH
MBC2FG	8 pint reservoir (5 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 5), 37.5:1 ratchet, LH
MBC2FL	8 pint reservoir (5 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 5), 100:1 end rotary, RH
MBC3EB	8 pint reservoir (5 pump stations max), 3/8 inch (6.4 mm) GBL 7500 pump (qty 4), end ratchet, RH
MBC5DE	8 pint reservoir (5 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 3), Rens Level Controller "F3", 1:1 direct drive, LH
MBC7CM	8 pint reservoir (5 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 2), Garza Level Controller "F4" (Class 1 Group D), 200:1 end rotary, RH
MBD0AA	12 pint reservoir (8 pump stations max), no pumps installed, 1:1 direct drive, RH
MBD0AE	12 pint reservoir (8 pump stations max), no pumps installed, 1:1 direct drive, LH
MBD0AH	12 pint reservoir (8 pump stations max), no pumps installed, 75:1 ratchet, LH
MBD0AL	12 pint reservoir (8 pump stations max), no pumps installed, 100:1 end rotary, RH
MBD0AM	12 pint reservoir (8 pump stations max), no pumps installed, 200:1 end rotary, RH
MBD0AN	12 pint reservoir (8 pump stations max), no pumps installed, 400:1 end rotary, RH
MBD1DN	12 pint reservoir (8 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 3), 400:1 end rotary, RH
MBD1EE	12 pint reservoir (8 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 4), 1:1 direct drive, LH
MBD1EM	12 pint reservoir (8 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 4), 200:1 end rotary, RH
MBD1EN	12 pint reservoir (8 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 4), 400:1 end rotary, RH

Ordering Information

Manzel® MBL Box Lubricators	
MBD1FA	12 pint reservoir (8 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 5), 1:1 direct drive, RH
MBD1FN	12 pint reservoir (8 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 5), 400:1 end rotary, RH
MBD1GL	12 pint reservoir (8 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 6), 100:1 end rotary, RH
MBD1GN	12 pint reservoir (8 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 6), 400:1 end rotary, RH
MBD1GT	12 pint reservoir (8 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 6), 375:1 right angle, RH
MBD1JA	12 pint reservoir (8 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 8), 1:1 direct drive, RH
MBD2BR	12 pint reservoir (8 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 1), 50:1 right angle, RH
MBD2DA	12 pint reservoir (8 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 3), 1:1 direct drive, RH
MBD2DD	12 pint reservoir (8 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 3), 75:1 ratchet, RH
MBD2DF	12 pint reservoir (8 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 3), end ratchet, LH
MBD2DM	12 pint reservoir (8 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 3), 200:1 end rotary, RH
MBD2FF	12 pint reservoir (8 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 5), end ratchet, LH
MBD2FR	12 pint reservoir (8 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 5), 50:1 right angle, RH
MBD2GA	12 pint reservoir (8 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 6), 1:1 direct drive, RH
MBD2GK	12 pint reservoir (8 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 6), 50:1 end rotary, RH
MBD2GL	12 pint reservoir (8 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 6), 100:1 end rotary, RH
MBD2GR	12 pint reservoir (8 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 6), 50:1 right angle, RH
MBD2GZ	12 pint reservoir (8 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 6), 188:1 right angle, LH
MBD2JA	12 pint reservoir (8 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 8), 1:1 direct drive, RH
MBD2JB	12 pint reservoir (8 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 8), end ratchet, RH
MBD2JE	12 pint reservoir (8 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 8), 1:1 direct drive, LH
MBD3FC	12 pint reservoir (8 pump stations max), 3/8 inch (9.5 mm) GBL 7500 pump (qty 5), 37.5:1 ratchet, RH
MBD3GA	12 pint reservoir (8 pump stations max), 3/8 inch (9.5 mm) GBL 7500 pump (qty 6), 1:1 direct drive, RH
MBD5GE	12 pint reservoir (8 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 6), Rens Level Controller “F3”, 1:1 direct drive, LH
MBD7HN	12 pint reservoir (8 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 7), Garza Level Controller “F4” (Class 1 Group D), 400:1 end rotary, RH
MBE0AA	16 pint reservoir (12 pump stations max), no pumps installed, 1:1 direct drive, RH
MBE0AC	16 pint reservoir (12 pump stations max), no pumps installed, 37.5:1 ratchet, RH
MBE0AE	16 pint reservoir (12 pump stations max), no pumps installed, 1:1 direct drive, LH
MBE0AG	16 pint reservoir (12 pump stations max), no pumps installed, 37.5:1 ratchet, LH
MBE0AH	16 pint reservoir (12 pump stations max), no pumps installed, 75:1 ratchet, LH
MBE1FJ	16 pint reservoir (12 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 5), 25:1 end rotary, RH
MBE1HN	16 pint reservoir (12 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 7), 400:1 end rotary, RH
MBE1JA	16 pint reservoir (12 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 8), 1:1 direct drive, RH
MBE1JE	16 pint reservoir (12 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 8), 1:1 direct drive, LH
MBE1JM	16 pint reservoir (12 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 8), 200:1 end rotary, RH
MBE1KM	16 pint reservoir (12 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 9), 200:1 end rotary, RH
MBE1MC	16 pint reservoir (12 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 11), 37.5:1 ratchet, RH
MBE1ME	16 pint reservoir (12 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 11), 1:1 direct drive, LH
MBE1NG	16 pint reservoir (12 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 12), 37.5:1 ratchet, LH
MBE1NR	16 pint reservoir (12 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 12), 50:1 right angle, RH
MBE2ER	16 pint reservoir (12 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 4), 50:1 right angle, RH
MBE2JM	16 pint reservoir (12 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 8), 200:1 end rotary, RH

Ordering Information

Manzel® MBL Box Lubricators	
MBE2KA	16 pint reservoir (12 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 9), 1:1 direct drive, RH
MBE2KG	16 pint reservoir (12 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 9), 37.5:1 ratchet, LH
MBE2KL	16 pint reservoir (12 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 9), 100:1 end rotary, RH
MBE2KN	16 pint reservoir (12 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 9), 400:1 end rotary, RH
MBE2KZ	16 pint reservoir (12 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 9), 188:1 right angle, LH
MBE2LA	16 pint reservoir (12 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 10), 1:1 direct drive, RH
MBE2LL	16 pint reservoir (12 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 10), 100:1 end rotary, RH
MBE2NA	16 pint reservoir (12 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 12), 1:1 direct drive, RH
MBE2NE	16 pint reservoir (12 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 12), 1:1 direct drive, LH
MBE2NM	16 pint reservoir (12 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 12), 200:1 end rotary, RH
MBE2NT	16 pint reservoir (12 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 12), 375:1 right angle, RH
MBE4EN	16 pint reservoir (12 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 4), Rens Level Controller "F3",
MBE5CA	16 pint reservoir (12 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 2), Rens Level Controller "F3", 1:1 direct drive, RH
MBF0AA	24 pint reservoir (16 pump stations max), no pumps installed, 1:1 direct drive, RH
MBF0AE	24 pint reservoir (16 pump stations max), no pumps installed, 1:1 direct drive, LH
MBF0AG	24 pint reservoir (16 pump stations max), no pumps installed, 37.5:1 ratchet, RH
MBF0AH	24 pint reservoir (16 pump stations max), no pumps installed, 75:1 ratchet, LH
MBF1RA	24 pint reservoir (16 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 14), 1:1 direct drive, RH
MBF1SA	24 pint reservoir (16 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 15), 1:1 direct drive, RH
MBF2JA	24 pint reservoir (16 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 8), 1:1 direct drive, RH
MBF2MD	24 pint reservoir (16 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 11), 75:1 ratchet, RH
MBF2NB	24 pint reservoir (16 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 12), end ratchet, RH
MBF2NE	24 pint reservoir (16 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 12), 1:1 direct drive, LH
MBF2PA	24 pint reservoir (16 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 13), 1:1 direct drive, RH
MBF2PE	24 pint reservoir (16 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 13), 1:1 direct drive, LH
MBF2RC	24 pint reservoir (16 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 14), 37.5:1 ratchet, LH
MBF2TE	24 pint reservoir (16 pump stations max), 1/4 inch (6.4 mm) GBL 7500 pump (qty 16), 1:1 direct drive, LH
MBF3CA	24 pint reservoir (16 pump stations max), 3/8 inch (9.5 mm) inch GBL 7500 pump (qty 2), 1:1 direct drive, RH
MBF3NA	24 pint reservoir (16 pump stations max), 3/8 inch (9.5 mm) GBL 7500 pump (qty 12), 1:1 direct drive, RH
MBF3PA	24 pint reservoir (16 pump stations max), 3/8 inch (9.5 mm) GBL 7500 pump (qty 13), 1:1 direct drive, RH
MBG0AA	32 pint reservoir (20 pump stations max), with motor mount base, no pumps installed, 1:1 direct drive, RH
MBG0AC	32 pint reservoir (20 pump stations max), with motor mount base, no pumps installed, 37.5:1 ratchet, LH
MBG0AE	32 pint reservoir (20 pump stations max), with motor mount base, no pumps installed, 1:1 direct drive, LH
MBG0AG	32 pint reservoir (20 pump stations max), with motor mount base, no pumps installed, 37.5:1 ratchet, RH
MBG0AH	32 pint reservoir (20 pump stations max), with motor mount base, no pumps installed, 75:1 ratchet, LH
MBG1VA	32 pint reservoir (20 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 18), 1:1 direct drive, RH
MBG1WA	32 pint reservoir (20 pump stations max), 3/16 inch (4.8 mm) GBL 7500 pump (qty 19), 1:1 direct drive, RH
MBG2TE	32 pint reservoir (20 pump stations max), 1/4 (6.4 mm) inch GBL 7500 pump (qty 16), 1:1 direct drive, LH
MBH0AA	40 pint reservoir (24 pump stations max), with motor mount base, no pumps installed, 1:1 direct drive, RH
MBH0AE	40 pint reservoir (24 pump stations max), with motor mount base, no pumps installed, 1:1 direct drive, LH
MBH2UA	40 pint reservoir (24 pump stations max), 1/4 (6.4 mm) GBL 7500 pump (qty 17), 1:1 direct drive, RH
MBH2ZE	40 pint reservoir (24 pump stations max), 1/4 (6.4 mm) GBL 7500 pump (qty 22), 1:1 direct drive, LH

Ordering Information

Manzel® MBL Box Lubricators	
MBH3ZA	40 pint reservoir (24 pump stations max), 3/8 inch (9.5 mm) GBL 7500 pump (qty 22), 1:1 direct drive, RH
MBJ1BM	4 pint reservoir (2 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 1), 200:1 end rotary, RH
MBJ1CN	4 pint reservoir (2 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 2), 400:1 end rotary, RH
MBK0AL	6 pint reservoir (3 pump stations max), with motor mount base, no pumps installed, 100:1 end rotary, RH
MBK0AN	6 pint reservoir (3 pump stations max), with motor mount base, no pumps installed, 400:1 end rotary, RH
MBK1BN	6 pint reservoir (3 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 1), 400:1 end rotary, RH
MBK1CM	6 pint reservoir (3 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 2), 200:1 end rotary, RH
MBK1CN	6 pint reservoir (3 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 2), 400:1 end rotary, RH
MBK2CN	6 pint reservoir (3 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 2), 400:1 end rotary, RH
MBK2DA	6 pint reservoir (3 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 3), 1:1 direct drive, RH
MBK2DC	6 pint reservoir (3 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 3), 37.5:1 ratchet, RH
MBK2DF	6 pint reservoir (3 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 3), end ratchet, LH
MBK3CL	6 pint reservoir (3 pump stations max), with motor mount base, 3/8 inch (9.5 mm) GBL 7500 pump (qty 2), 100:1 end rotary, RH
MBK3DK	6 pint reservoir (3 pump stations max), with motor mount base, 3/8 inch (9.5 mm) GBL 7500 pump (qty 3), 50:1 end rotary, RH
MBL0AA	8 pint reservoir (5 pump stations max), with motor mount base, no pumps installed, 1:1 direct drive, RH
MBL0AM	8 pint reservoir (5 pump stations max), with motor mount base, no pumps installed, 200:1 end rotary, RH
MBL0AN	8 pint reservoir (5 pump stations max), with motor mount base, no pumps installed, 400:1 end rotary, RH
MBL1EA	8 pint reservoir (5 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 4), 1:1 direct drive, RH
MBL1EN	8 pint reservoir (5 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 4), 400:1 end rotary, RH
MBL2EA	8 pint reservoir (5 pump stations max), with motor mount base, 1/4 inch (6.4 mm) GBL 7500 pump (qty 4), 1:1 direct drive, RH
MBL2EN	8 pint reservoir (5 pump stations max), with motor mount base, 1/4 inch (6.4 mm) GBL 7500 pump (qty 4), 400:1 end rotary, RH
MBL2FN	8 pint reservoir (5 pump stations max), with motor mount base, 1/4 inch (6.4 mm) GBL 7500 pump (qty 5), 400:1 end rotary, RH
MBL3CN	8 pint reservoir (5 pump stations max), with motor mount base, 3/8 inch (9.5 mm) GBL 7500 pump (qty 2), 400:1 end rotary, RH
MBL7CM	8 pint reservoir (5 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 2), Garza Level Controller "F4" (Class 1 Group D), 200:1 end rotary, RH
MBM1HN	12 pint reservoir (8 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 7), 400:1 end rotary, RH
MBM1JM	12 pint reservoir (8 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 8), 200:1 end rotary, RH
MBM2EK	12 pint reservoir (8 pump stations max), with motor mount base, 1/4 inch (6.4 mm) GBL 7500 pump (qty 4), 50:1 end rotary, RH
MBM2EM	12 pint reservoir (8 pump stations max), with motor mount base, 1/4 inch (6.4 mm) GBL 7500 pump (qty 4), 200:1 end rotary, RH
MBM2FN	12 pint reservoir (8 pump stations max), with motor mount base, 1/4 inch (6.4 mm) GBL 7500 pump (qty 5), 400:1 end rotary, RH
MBM2GM	12 pint reservoir (8 pump stations max), with motor mount base, 1/4 inch (6.4 mm) GBL 7500 pump (qty 6), 200:1 end rotary, RH
MBM2GN	12 pint reservoir (8 pump stations max), with motor mount base, 1/4 inch (6.4 mm) GBL 7500 pump (qty 6), 400:1 end rotary, RH
MBM2JL	12 pint reservoir (8 pump stations max), with motor mount base, 1/4 inch (6.4 mm) GBL 7500 pump (qty 8), 100:1 end rotary, RH
MBM3FL	12 pint reservoir (8 pump stations max), with motor mount base, 3/8 inch (9.5 mm) GBL 7500 pump (qty 5), 100:1 end rotary, RH

Compressor Lubrication

Manzel® MBL Box Lubricators

Ordering Information

Manzel® MBL Box Lubricators	
MBM4EM	12 pint reservoir (8 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 4), Rens Level Controller "F3", 200:1 end rotary, RH
MBN1BM	16 pint reservoir (12 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 1), 200:1 end rotary, RH
MBN1JM	16 pint reservoir (12 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 8), 200:1 end rotary, RH
MBN1KM	16 pint reservoir (12 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 9), 200:1 end rotary, RH
MBN1LN	16 pint reservoir (12 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 10), 400:1 end rotary, RH
MBN1MN	16 pint reservoir (12 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 11), 400:1 end rotary, RH
MBN1NK	16 pint reservoir (12 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 12), 50:1 end rotary, RH
MBN2JK	16 pint reservoir (12 pump stations max), with motor mount base, 1/4 inch (6.4 mm) GBL 7500 pump (qty 9), 50:1 end rotary, RH
MBN2MN	16 pint reservoir (12 pump stations max), with motor mount base, 1/4 inch (6.4 mm) GBL 7500 pump (qty 11), 400:1 end rotary, RH
MBN3DN	16 pint reservoir (12 pump stations max), with motor mount base, 3/8 inch (9.5 mm) GBL 7500 pump (qty 3), 400:1 end rotary, RH
MBN3NK	16 pint reservoir (12 pump stations max), with motor mount base, 3/8 inch (9.5 mm) GBL 7500 pump (qty 12), 50:1 end rotary, RH
MBP0AW	24 pint reservoir (16 pump stations max), with motor mount base, no pumps installed, 200:1 heavy duty, RH
MBP1RU	24 pint reservoir (16 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 14), 100:1 heavy duty, RH
MBP1SU	24 pint reservoir (16 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 15), 100:1 heavy duty, RH
MBP2NW	24 pint reservoir (16 pump stations max), with motor mount base, 1/4 inch (6.4 mm) GBL 7500 pump (qty 12), 200:1 heavy duty, RH
MBP2NY	24 pint reservoir (16 pump stations max), with motor mount base, 1/4 inch (6.4 mm) GBL 7500 pump (qty 12), 400:1 heavy duty, RH
MBR0AY	32 pint reservoir (20 pump stations max), with motor mount base, no pumps installed, 400:1 heavy duty, RH
MBR1UY	32 pint reservoir (20 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 17), 400:1 heavy duty, RH
MBR1VU	32 pint reservoir (20 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 18), 100:1 heavy duty, RH
MBR1WU	32 pint reservoir (20 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 19), 100:1 heavy duty, RH
MBR7VY	32 pint reservoir (20 pump stations max), with motor mount base, 3/16 inch (4.8 mm) GBL 7500 pump (qty 18), Garza Level Controller "F4" (Class 1 Group D), 400:1 heavy duty, RH
MBS0AU	40 pint reservoir (24 pump stations max), with motor mount base, no pumps installed, 100:1 heavy duty, RH
MBS0AX	40 pint reservoir (24 pump stations max), with motor mount base, no pumps installed, 300:1 heavy duty, RH
MBS0AY	40 pint reservoir (24 pump stations max), with motor mount base, no pumps installed, 400:1 heavy duty, RH
MBS2XA	40 pint reservoir (24 pump stations max), with motor mount base, 1/4 inch (6.4 mm) GBL 7500 pump (qty 20), 1:1 direct drive, RH
MBS2ZA	40 pint reservoir (24 pump stations max), with motor mount base, 1/4 inch (6.4 mm) GBL 7500 pump (qty 22), 1:1 direct drive, RH
MBS3LY	40 pint reservoir (24 pump stations max), with motor mount base, 3/8 inch (9.5 mm) GBL 7500 pump (qty 10), 400:1 heavy duty, RH

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

***Cannot use double reduction or right angle drives**

Pump Size – GBL 7500 Suction Pumps

Code	Former Code and Description
0	No Pump
1	GBL 7500 3/16 Suction
2	GBL 7500 1/4 Suction
3	GBL 7500 3/8 Suction
4	GBL 7500 3/16 and F3, RENS Level Controller - 556808
5	GBL 7500 1/4 and F3, RENS Level Controller
6	GBL 7500 3/8 and F3, RENS Level Controller
7	GBL 7500 3/16 and F4, GARZA Level Controller (Class 1 Group D) - 558221
8	GBL 7500 1/4 and F4, GARZA Level Controller (Class 1 Group D)
9	GBL 7500 3/8 and F4, GARZA Level Controller (Class 1 Group D)

Pump Quantity

Code	Qty	Code	Qty	Code	Qty	Code	Qty	Code	Qty	Code	Qty
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® MB Specialty 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
- 60:1 – 2 or 4 pump stations max, use with GBL 7500 Gravity-Fed or Pressure-Fed Box Lubricator
- 118:1 – 4 or 6 pump stations max, use with any GBL 7500 pump

24V068

Typical Applications

- MB60 is perfect for bolt-on gas compressor box lubrication solutions
- MB118 is the right size and durable for triplex and quintuplex mud pump applications

24W636

Typical Fluids Handled

- Mineral oil base or synthetics

Ordering Information

Manzel® MB Specialty Box Lubricators		
MB60	24V068	2 pint reservoir (2 pump stations max), no pumps installed, 60:1
	24U750	6 pint reservoir (4 pump stations max), no pumps installed, 60:1
MB118	24W633	4 pint reservoir (4 pump stations max), no pumps installed, 118:1
	24W634	8 pint reservoir (6 pump stations max), no pumps installed, 118:1
	24W636	4 pint reservoir (4 pump stations max), 1/4 inch GBL 7500 pump (qty 3), 118:1
	24W635	8 pint reservoir (6 pump stations max), 1/4 inch GBL 7500 pump (qty 5), 118:1

Compressor Lubrication

Manzel® GBL 7500 Pump

Features and Benefits

Each GBL 7500 single-piston pump is mechanically driven from a camshaft in the reservoir. They are adjustable from 1 to 27 drops per stroke and develop pressures up to 7500 psi (517 bar), depending on the piston size. All working parts are totally enclosed away from dirt, water, and impurities and are self-lubricated at all times by the fluid in the reservoir. Rugged construction for high performance and durability with easy to adjust pump output.

Typical Applications

- Compressors

Typical Fluids Handled

- Mineral or synthetics oil

Technical Specifications

Piston Size		Max Outlet Pressure			Drops/Stroke		Cubic Inch/ Stroke		Cubic cm/ Stroke		Strokes/minute	
inches	mm	PSI	MPa	bar	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
3/16	4.8	7500	51.7	517	0	7	0	0.014	0	0.229	3	50
1/4	6.4	6000	41.4	414	0	12	0	0.024	0	0.393	3	50
3/8	9.5	3500	24.1	241	0	27	0	0.054	0	0.885	3	50

Ordering Information

GBL 7500	
24J391	3/16 inch (4.8 mm) suction
24J392	1/4 inch (6.4 mm) suction
24J393	3/8 inch (9.5 mm) suction
24J394	3/16 inch (4.8 mm) gravity
24J395	1/4 inch (6.4 mm) gravity
24J396	3/8 inch (9.5 mm) gravity
24J397	3/16 inch (4.8 mm) pressure
24J398	1/4 inch (6.4 mm) pressure
24J399	3/8 inch (9.5 mm) pressure
24K466	Suction alarm pump

Suction
24J391

Gravity
24J394

Pressure
24J397

Alarm
24K466

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 Stoke		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

256907	(D1) 9/32 vacuum inlet pump
256908	(D2) 9/32 pressurized inlet pump
256929	Vacuum inlet pump w/suction tube length reduced by 1 in
24A453	3 station, 4 pt, 283:1 - right drive
24A454	9 station, 12 pt, 283:1 - right drive
24A455	3 station, 4 pt, 1:1 - left drive
24A456	3 station, 4 pt, 1:1 - right drive
24A457	6 station, 8 pt, 1:1 - left drive
24A458	6 station, 8 pt, 1:1 - right drive
24A459	9 station, 12 pt, 1:1 - left drive
24A460	9 station, 12 pt, 1:1 - right drive
24A461	3 station, 4 pt, 37.5:1 - left drive
24A462	3 station, 4 pt, 37.5:1 - right drive
24A463	3 station, 4 pt, 75:1 - left drive
24A464	3 station, 4 pt, 75:1 - right drive
24A465	6 station, 8 pt, 37.5:1 - left drive
24A466	6 station, 8 pt, 37.5:1 - right drive
24A467	6 station, 8 pt, 75:1 - left drive
24A468	6 station, 8 pt, 75:1 - right drive
24A469	9 station, 12 pt, 37.5:1 - left drive
24A470	9 station, 12 pt, 37.5:1 - right drive
24A471	9 station, 12 pt, 75:1 - left drive
24A472	9 station, 12 pt, 75:1 - right drive
24A473	12 station, 16 pt, 37.5:1 - left drive
24A474	12 station, 16 pt, 37.5:1 - right drive
24A475	12 station, 16 pt, 75:1 - left drive
24A476	12 station, 16 pt, 75:1 - right drive
24A477	3 station, 4 pt, 40:1 - left front drive
24A478	3 station, 4 pt, 40:1 - right front drive
24A479	3 station, 4 pt, 60:1 - left front drive
24A480	3 station, 4 pt, 60:1 - right front drive
24A481	3 station, 4 pt, 40:1 - left rear drive
24A482	3 station, 4 pt, 40:1 - right rear drive
24A483	3 station, 4 pt, 60:1 - left rear drive
24A484	3 station, 4 pt, 60:1 - right rear drive
24A485	6 station, 8 pt, 40:1 - left front drive
24A486	6 station, 8 pt, 40:1 - right front drive
24A487	6 station, 8 pt, 60:1 - left front drive
24A488	6 station, 8 pt, 60:1 - right front drive
24A489	6 station, 8 pt, 40:1 - left rear drive
24A490	6 station, 8 pt, 40:1 - right rear drive
24A491	6 station, 8 pt, 60:1 - left rear drive
24A492	6 station, 8 pt, 60:1 - right rear drive
24A493	9 station, 12 pt, 40:1 - left front drive
24A494	9 station, 12 pt, 40:1 - right front drive
24A495	9 station, 12 pt, 60:1 - left front drive

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

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.

562951

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 Stoke		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

Ordering Information

562918	HP-15 6 feed gear box without pumps
562919	HP-15 6 feed gear box with 6 HP-15 pumps
564272	HP-15 6 feed gear box with 6 HP-15 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 60,000 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 Stoke		Cubic cm Per Stroke		Strokes Per Minute	
				Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1-4	60,000	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 Proximity 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

563565

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

MVB Box lubricator

Compressor Lubrication

Manzel® MVB Box Lubricator Configurator

Ordering Menu Code

MV – X – X – X – X

Drive

Code	(Former Code) – Description
A	(DAA) Rachet Drive (102-2)
B	(DAB) Standard Drive (203-2)
C	(DAC) Standard Drive (207-2)
D	(DAD) Reverse Drive (303-2)
E	(DAE) 90-Degree Drive (401-2)
F	(DAF) Vertical Drive (501-2)
G	(N/A) Tandem Drive

Gear Box Ratio and Mounting Base Option

Code	(Former Code) – Description	Code	(Former Code) – Description	Code	(Former Code) – Description
A	(RAA) 1:1 Ratio Gear Box	J	(RAE) 3:1 Ratio Gear Box	S	(RAH) 1:8 Ratio Gear Box
B	(N/A) 1:1 Ratio Gear Box with a 10:1 Base	K	(N/A) 3:1 Ratio Gear Box with a 10:1 Base	T	(RAJ) 8:1 Ratio Gear Box
C	(N/A) 1:1 Ratio Gear Box with a 60:1 Base	L	(N/A) 3:1 Ratio Gear Box with a 60:1 Base	U	(N/A) 8:1 Ratio Gear Box with a KOA Base
D	(RAB) 1:2 Ratio Gear Box	M	(RAF) 1:4 Ratio Gear Box	V	(N/A) 8:1 Ratio Gear Box with a 10:1 Base
E	(RAC) 2:1 Ratio Gear Box	N	(RAG) 4:1 Ratio Gear Box	W	(RAK) 16:1 Ratio Gear Box
F	(N/A) 2:1 Ratio Gear Box with a 10:1 Base	P	(N/A) 4:1 Ratio Gear Box with a 10:1 Base	X	(N/A) 16:1 Ratio Gear Box with a KOA Base
G	(N/A) 2:1 Ratio Gear Box with a 60:1 Base	R	(N/A) 4:1 Ratio Gear Box with a 60:1 Base	Y	(N/A) 16:1 Ratio Gear Box with a 10:1 Base
H	(RAD) 1:3 Ratio Gear Box				

Pump Station One Configuration*

Code	Cam Style	Pump Size	Gauge PSI	Relief PSI	Code	Cam Style	Pump Size	Gauge PSI	Relief PSI
A	Single Lobe	No Pump	None	None	K	Double Lobe	1/4"	10,000	4,600
B	Single Lobe	1/4"	None	6,400	L	Double Lobe	3/8"	None	1,750
C	Single Lobe	1/4"	3,000	2,350	M	Double Lobe	3/8"	3,000	1,750
D	Single Lobe	1/4"	10,000	6,400	N	Triple Lobe	No Pump	None	None
E	Single Lobe	3/8"	None	2,350	P	Triple Lobe	1/4"	None	3,700
F	Single Lobe	3/8"	3,000	2,350	R	Triple Lobe	1/4"	3,000	2,350
G	Double Lobe	No Pump	None	None	S	Triple Lobe	1/4"	10,000	3,700
H	Double Lobe	1/4"	None	4,600	T	Triple Lobe	3/8"	None	1,450
J	Double Lobe	1/4"	3,000	2,350	U	Triple Lobe	3/8"	3,000	1,450

*Former codes AOA and AOC referred to 1/4" pump. Former codes AOB and AOD referred to 3/8" pump. Former code POA referred to standard (2,350 psi) blowout indicator. Former codes GOA, GOB, GOC, and GOD referred to gauge options; choose from standard gauge options shown above.

Pump Station Two Configuration**

Code	Cam Style	Pump Size	Gauge PSI	Relief PSI	Code	Cam Style	Pump Size	Gauge PSI	Relief PSI
A	Single Lobe	No Pump	None	None	K	Double Lobe	1/4"	10,000	4,600
B	Single Lobe	1/4"	None	6,400	L	Double Lobe	3/8"	None	1,750
C	Single Lobe	1/4"	3,000	2,350	M	Double Lobe	3/8"	3,000	1,750
D	Single Lobe	1/4"	10,000	6,400	N	Triple Lobe	No Pump	None	None
E	Single Lobe	3/8"	None	2,350	P	Triple Lobe	1/4"	None	3,700
F	Single Lobe	3/8"	3,000	2,350	R	Triple Lobe	1/4"	3,000	2,350
G	Double Lobe	No Pump	None	None	S	Triple Lobe	1/4"	10,000	3,700
H	Double Lobe	1/4"	None	4,600	T	Triple Lobe	3/8"	None	1,450
J	Double Lobe	1/4"	3,000	2,350	U	Triple Lobe	3/8"	3,000	1,450

**Former codes BOA and BOC referred to 1/4" pump. Former codes BOB and BOD referred to 3/8" pump. Former code HOA referred to standard (2,350 psi) blowout indicator. Former codes JOA, JOB, JOC, and JOD referred to gauge options; choose from standard gauge options shown above.

NOTE: Motors for KOA base with 8:1 or 16:1 drives:
558289 (MOA) - 1/4 HP, 115/230 VAC, 60 Hz, single-phase, 1,725 rpm, TENV, 56F
558290 (MOB) - 1/4 HP, 230/460 VAC, 60 Hz, three-phase, 1,725 rpm, TENV, 56F

Motors for 10:1 or 60:1 drives:
557271 - 1/2 HP, 115/230 VAC, 60 Hz, single-phase, 1,725 rpm, TEFC, 56C
557270 - 1/2 HP, 230/460 VAC, 60 Hz, three-phase, 1,725 rpm, TENV, 56C

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.
- Explosion-proof–UL and CSA Listed for Class I Groups C and D and Class II Groups E, F and G. Division 1 and 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 and 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 inch O.D. Tube, Standard Spring (installed), w/ Light Spring (loose)*
563033	N.O. Configuration w/Check Valves for 1/4 inch O.D. Tube, Standard Spring (installed), w/ Light Spring (loose)*
563032	N.O. Configuration w/Check Valves and Fittings for 1/8 inch NPTF Connections, Standard Spring (installed)
Inlet Check Valves	
563042	w/ 1/4 inch O.D. Tube Inlet (supplied w/1 and 2)
563041	w/ 7/16-20 Straight Female Thread Outlet (supplied w/3)
Outlet Check Valves	
563044	w/ 1/4 inch O.D. Tube Inlet (supplied w/1 and 2)
563043	w/ 7/16-20 Straight Female Thread Outlet (supplied w/3)
Fittings	
556624	(w/Check Valves 4 and 5), 7/16-20 Straight Male Thread x 1/8 inch NPTF (2 supplied w/3)
Springs	
556944	Standard Springs (installed at factory in 1 and 3)
556939	Light Spring for Low Flow Applicator (supplied loose w/1, installed in 2)*
Repair Parts	
556812	Switch Assembly
563031	Plunger and 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.

563506

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	-20º F to 180º F (-29º C to 82º 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 3,000 psi)
Operating Temperature	-10º F to 250º F (-23º C to 121º C)
Lubricant	Oil
Seals	Fluoroelastomer
Net Weight	1.19 lb (0.54 kg)

Ordering Information

563230	Balancing Valve
563911	Valve Seal Kit

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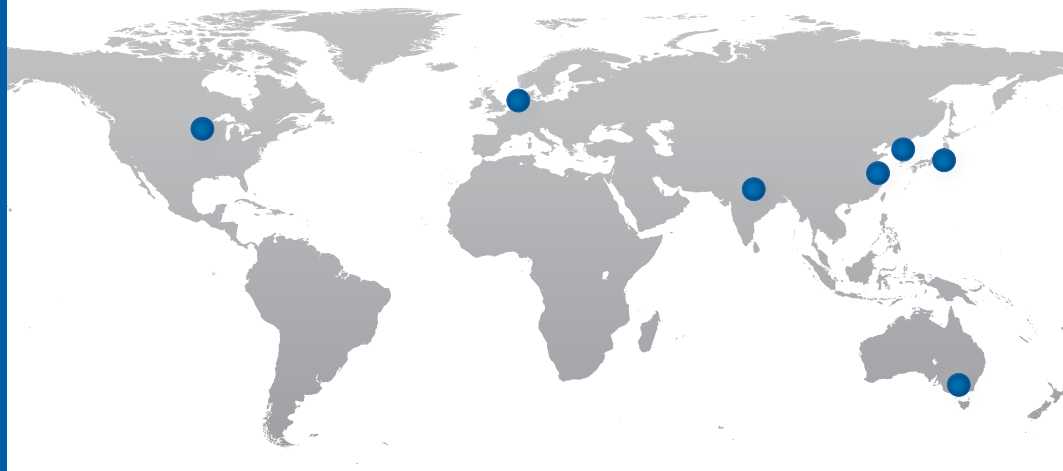

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