Industrial Lubrication Equipment Buyer's Guide

Fluid Handling Equipment for Industrial and Commercial Applications

Industrial | Off-Road | On-Road | Mining | Construction | Energy | Oil and Gas

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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.

SP = Series Progressive SLP = Single Line Parallel SLR = Single Line Resistive

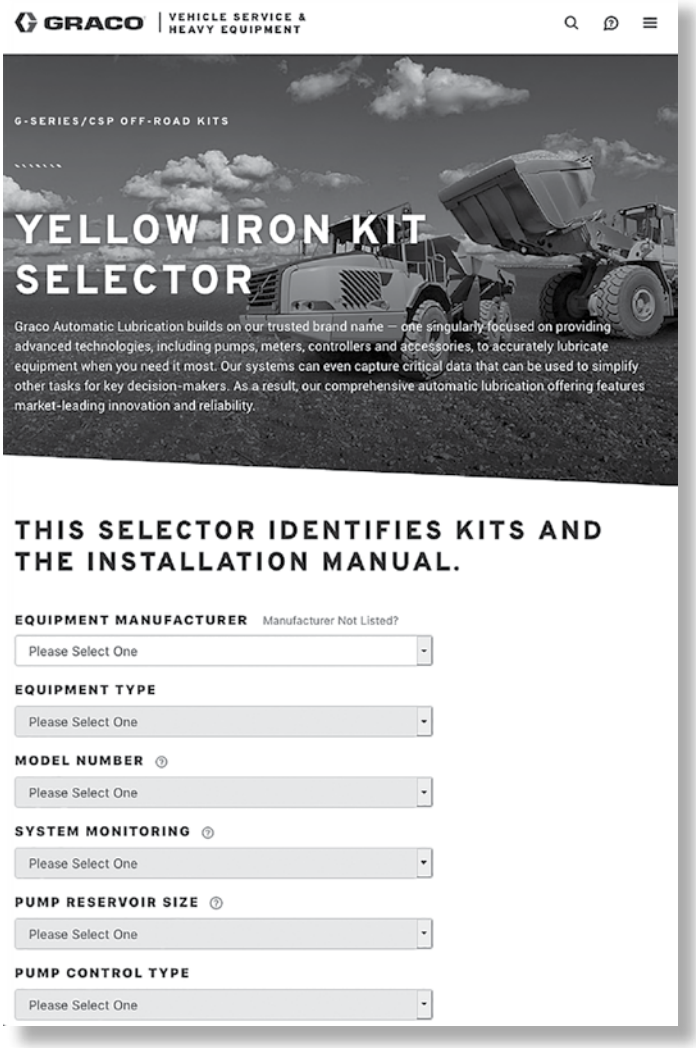
Graco Pump	Metering Device			Power Source						Fluid Type
	SP	SLP	SLR	AC	DC	Pneumatic	Hydraulic	Manual	Mechanical	
Dyna-Star®	●	●		●	●		●			Grease
E-Series™	●					●				Oil or grease
G-Mini™	●				●					Grease
G1™	●			●	●					Oil or grease
G3™	●	●		●	●					Oil or grease
Injecto-Flo®	●	●		●		●				Oil
Injecto-Flo® 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

Mobile Equipment Kits

Yellow Iron Selector Tool

Graco mobile equipment kits provide the latest technology from Graco, including the G-Series pumps, solid-state proximity switches, CSP divider valves, and hoses and fittings. Each kit will include all of the components necessary for model-specific customizations.

In order to eliminate system design and streamline the sales process, we have created a quick-to-spec, quick-to-quote and quick-to-sell solution. Scan the QR code below or visit **www.graco.com/offroadselector** to find an automatic lubrication kit for your piece of heavy equipment.



Electric Pumps

G-Mini™ Compact Pumps

Small size. Big value. Huge impact.

Make the most of your space, budget and machines. The new full-featured G-Mini offers reliable lubrication in a small footprint to fit more types of machines. Use it to simplify everyday maintenance, extend life cycles and optimize uptime. It's rugged and tough, perfect for handling the 24/7 rigors of any job, big or small. Best of all, it comes with a modest price tag – boosting your productivity and profitability.

Follower Plate and Stir Paddle

This unique combination combats oil separation while ensuring the pump element "loading chamber" is always full.

Patent-Pending Heater Option

Built-in heater option automatically turns on at 23ºF (-5ºC), allowing NLGI #2 grease to pump down to -40ºF (-40ºC).

M12 Input

M12 cycle or proximity switch input standard on all pumps with a controller.

5-Wire CPC Power Cable

Multifunction cable supplies power to the pump, pairs with a remote manual run button, and provides low level or cycle fault output.

Multiple Reservoir Options

Comes in both 0.5 liter and 1 liter sizes.

Up to Two Pump Elements

0.18 in^3/min (3 cm^3/min)
4,100 psi (280 bar)

Optional Controller

No Controller: Pair with either an external controller or a PLC.

Controller: Easy-to-program controller can be utilized for both time-based and cycle-based systems and provides low-level alert and alarm.

Rugged Construction

Designed to withstand the harshest of environments; IP69K rated.

Typical Applications

- Wind energy
- Industrial
- Off-road mobile equipment
- On-road mobile equipment

Technical Specifications

Power source	12 VDC or 24 VDC
Fluids handled	Grease NLGI 000 to #2
System	Pump to point or series progressive
Operating temperature	-40°F to 158°F (-40°C to 70°C)
Reservoir size	0.5 L / 1 L
Control option	No control, controller (time or cycle)
Pump elements	Up to 2
Output pressure	4,100 psi (280 bar)
Pump output	0.18 in^3/min (3 cm^3/min)
Pump outlet	1/4-18 NPSF, mates with 1/4-18 NPT male fittings
Protection grade	IP69K
Instruction manual	3A6714

Electric Pumps

G-Mini™ Compact Pumps

Ordering Information

G-MIni Pumps
G-Mini pumps **do not** come with power cables. See Accessories below for power cable options.

Controller Option	Voltage	Reservoir Size	Heater	Part Number	Part Description
No Controller	12V	0.5L	No	25R809	0.5 Liter, 12 Volt G-Mini Pump
		1L	No	25R802	1 Liter, 12 Volt G-Mini Pump
	24V	0.5L	No	25R807	0.5 Liter, 24 Volt G-Mini Pump
		1L	No	25R800	1 Liter, 24 Volt G-Mini Pump
Controller	12V	0.5L	No	25R810	0.5 Liter, 12 Volt G-Mini Pump with Controller
		1L	No	25R803	1 Liter, 12 Volt G-Mini Pump with Controller
			Yes	25R806	1 Liter, 12 Volt G-Mini Pump with Controller and Heater
	24V	0.5L	No	25R808	0.5 Liter, 24 Volt G-Mini Pump with Controller
		1L	No	25R801	1 Liter, 24 Volt G-Mini Pump with Controller
			Yes	25R804	1 Liter, 24 Volt G-Mini Pump with Controller and Heater

25R802

Accessories	
127783*	3-Wire CPC Power Cable
127780*	5-Wire CPC Power Cable
25C981	12V Manual Run Button (5-Wire CPC power cable required)
25C982	24V Manual Run Button (5-Wire CPC power cable required)
26C825	Direct Mount CSP Bracket (allows for drop-in replacement of competition)
26C826	Universal Mounting Bracket (allows for drop-in replacement of competition)
17L879	Graco CSP Solid State Proximity Switch (DC PNP)
17R703	1 ft Proximity Switch Cable, M12 female straight to M12 male straight cable
26A910	4,000 PSI Pressure Relief Kit (1/4 NPT to 1/8 NPT reducer bushing, 1/8 NPT branch T-fitting, 4,000 PSI Pressure Relief Valve)
25N827	Pump Element Kit (add a second pump element or replace existing)

*G-Mini pumps do not come with power cables. Power cables needed for installation.

25R803

See the G-Series Pump Accessories section (pages 18-20) for additional G-Mini accessories.

26C825

26C826

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.

Typical Applications

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

G1 Plus

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	-40ºF to 158ºF (-40ºC to 70ºC)
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) / min
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				
Application	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
			94G080	–	–	•				DIN
		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

Pro Model

Max 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

Typical Applications

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

Lubrication Used

- Oil
- NLGI #000 to NLGI #2

Technical Specifications

Max Pressure	5,100 psi (352 bar)
Power	12 VDC, 24 VDC, 90-240 VAC
Operating Temperature	-40ºF to 158ºF (-40ºC to 70ºC)
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	Standard - 332291 / Pro - 332298 / SP - 3A4676 / Max - 332305

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	Auto-Fill Shutoff	Power Connection
			2 liter	4 liter	8 liter	12 liter	16 liter					
Application	Grease	12 VDC	96G000	96G038	96G039	–	–	•				CPC
			96G003	96G044	96G045	–	–	•		•		CPC
		24 VDC	96G001	96G040	96G041	96G171	96G172	•				CPC
			96G005	96G048	96G049	96G199	96G220	•		•		CPC
			96G239	96G238	96G198	–	–	•		• CPC		5 Wire CPC
			96G006	96G053	96G192	–	–		•	•		CPC
			96G182	96G184	96G189	96G240	96G241	•		• DIN		DIN
			96G243	96G204	96G205	–	–		•	• DIN		DIN
		90-240 VAC	96G002	96G042	96G043	–	–	•				DIN
			96G007	96G055	96G056	96G057	96G058	•		•		DIN
			–	–	–	–	96G237	•		•	•	DIN
			96G008	96G062	–	–	–		•	•		DIN
			–	96G202	–	–	–	•		• DIN		DIN
	Oil	24 VDC	96G050	96G051	96G052	–	96G258			•		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					
Application	Grease	12 VDC	96G027	96G135	96G136	–	–		•			CPC
			96G033	96G147	96G148	–	–		•		•	5 Wire CPC**
		24 VDC	96G028	96G137	96G138	–	–		•			CPC
			96G011	96G068	96G069	96G247	–	•	•		•	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 SP (Series Progressive)

The G3 SP (Series Progressive) combines the robust, proven design of our G-Series pumps with simple programming and valuable system feedback. The only programming requirements are number of cycles and off time between lube events.

		Voltage	Reservoir Size				Wiper Arm	Low Level	Power Connection
			2 liter	4 liter	8 liter	12 liter			
Application	Grease	12 VDC	96G221	96G222	–	–	•	•	5 Wire CPC†
		24 VDC	96G223	96G224	96G225	96G226	•	•	5 Wire CPC†
		90-240 VAC	96G227	96G228	–	–	•		DIN

Note: G3 SP pumps for use in series progressive systems only and require proximity switch with M12 connection.

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.

		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	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	96G177	–	–	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

*If not connected, use part number 16T854 to cover the Vent Valve Output and maintain IP69K rating.

**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. If not connected, use part number 24P731 to cover the DIN connector and maintain IP69K rating.

***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 and SP 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

G3™ 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	–	96G252	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	–	96G235	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	–	–	–	–	1-2	•	•	•	•	•		•	DIN
		90-240 VAC	96G174	96G175	96G176	–	96G201	1-2	•	•	•	•	•		•	DIN

*If not connected, use part number 16T854 to cover the Vent Valve Output and maintain IP69K rating.

**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. If not connected, use part number 24P731 to cover the DIN connector and maintain IP69K rating.

***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

G3™ Pumps

G3 Pumps with Auto-Fill Shutoff

Versatile line of G3 Pumps (Standard, Pro, and Max) offered with a factory installed Auto-Fill Shutoff (AFSO). The AFSO feature automatically shuts off lubricant flow from a fill pump to the G3 reservoir once the G3 reservoir is full. The G3 AFSO is based on the same design concept as the Auto-Fill Shutoff offered in conjunction with the robust Electric Dyna-Star product line. Eliminate the need to climb up on equipment to refill an empty reservoir by adding Remote Fill Manifold 77X542 to your system at ground level.

Features and Benefits

- Eliminates Over- or Under-Filling
  - Completely fill the reservoir every time while avoiding costly spills
  - Does not require power to operate
  - Complies with stringent mining regulations where a system must be powered down during fluid refilling
  - Compatible with fast-fill-equipped lubrication trucks
  - Reservoir Full Visual Indication
  - Valve Plate activates a poppet valve, which cuts off grease flow into the reservoir
- Reservoir Full Visual Indication
  - Valve Plate activates a poppet valve, which cuts off grease flow into the reservoir
  - Poppet indicator can incorporate a signal switch for ground level monitoring

		Voltage	G3 Model	Reservoir Size		Number of Cycle/ Pressure Input	Vent Valve Output*	Wiper Arm	Low Level	Power Connection
				4 liter	8 liter					
Application	Grease	24 VDC	Standard	96G210	96G213			•	• DIN	DIN
				–	96G217			•	•	5 Wire CPC**
			Pro	96G211	96G214			•	•	5 Wire CPC†
			Max	96G212	96G215	1	•	•	•	5 Wire CPC†
		90-240 VAC	Standard	–	96G207			•	•	DIN
			Pro	–	96G208			•	•	DIN
			Max	–	96G209	1	•	•	•	DIN

*If not connected, use part number 16T854 to cover the Vent Valve Output and maintain IP69K rating.

**Low level in CPC.

†G3 Pro and 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 Auto-Fill Shutoff Field Conversion Kits

571286	G3 AFSO 4L Field Conversion Kit
571287	G3 AFSO 8L Field Conversion Kit
571288	G3 AFSO 12L Field Conversion Kit
571289	G3 AFSO 16L Field Conversion Kit

571287

Electric Pumps

G-Series Pump Packages and Accessories

Ordering Information

G3 Injector Pump Pre-assembled Modules	8 Liter	16 Liter
G3 Injector Pump Pre-assembled Module: 24V, Max, 5 Pin CPC (Alarm, Manual Run, Low Level in the CPC), 2 Pump Elements, Union Kit, Vent Valve, Pressure Switch, Pressure Gage.	17J999	17N926

G3 and G1 Accessories	
571041	G1/G3 Pump element – same adjustability as the pump included with G3 pumps.
24V837	Food and Beverage Upgrade Kit – contains pump element, stainless zerk fitting, and stainless reservoir plugs.

571041

G3 Pump Output Union Kits – pump element(s) sold separately.

Three (3) Pumps	Two (2) Pumps – Left and Right	Description
571026	571063	For systems without a direct-mount vent valve installed on the first pump outlet.
24P295	24P296	For systems with a direct-mount vent valve installed on the first pump outlet.

Each G3 includes one pump element when it ships. Add one or two more (p/n 571041) and the appropriate union kit if needed for your application.

Relief valve options for G-series pumps

Outlet Thread		
NPT	BSPP	Description
571028*	571071	Adjustable return-to-reservoir pressure relief kit – 500 to 3,500 psi (35 to 241 bar).
556420	n/a	Male run tee – 1/4 NPT, use with 571028 kit to increase pressure limit to 5,000 psi.
26C030	26C176	Pressure relief to atmosphere kit – 5,000 psi (345 bar).
26A910*	n/a	Pressure relief to atmosphere kit – 4,000 psi (276 bar).
115122*	n/a	Pressure relief to atmosphere valve – 1/8 in NPT male, 4,000 psi (276 bar).
571058*	571070	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 – 1,000 psi (69 bar)
563158*		Pressure relief valve – 1,500 psi (103 bar)
563159*		Pressure relief valve – 2,000 psi (138 bar)
563160*		Pressure relief valve – 2,500 psi (172 bar)
563161*		Pressure relief valve – 3,000 psi (207 bar)

*Acceptable for use with G-Mini pumps.

571028

G1/G3 Remote Manual Run/Monitoring Lights

12 VDC	24 VDC*	M12 Cable included?
571030	571031	No. Use with CPC-5 power cables.
571032	571033	Yes. 16.5 ft (5 m). Use with pumps that have M12 input for manual run.

*24 VDC is also used with AC powered G-Series pumps.

G1/G3 Mounting Bracket Options	
125910	G3 pump mounting L-bracket
571159	G3 reservoir support bracket for mobile installations – secures 12 and 16 liter reservoirs.
132187	G-Series isolation kit (vibration damper)

571036
571255

G1/G3 Protective Front Cover Kits	
571036	Black
571255	Clear
24Z962	Clear with cutouts for Reset and Manual Run buttons

Grease Pressure Gauges – stainless steel case, liquid filled (glycerine), 0-5,000 PSI (0-350 bar).

Part Number	Thread	Mount	Suggested Use
126005	1/4 NPT brass	Back	Vent valve gauge port
102814	1/4 NPT brass	Bottom	Tee into pump outlet with p/n 556420

571033

Electric Pumps

G-Series Pump Packages and Accessories

G1/G3 Reservoir Filling Accessories	
24M644*	High capacity fill coupler with quick disconnect and dust cover
121474*	Female coupler – mates to 24M644 fill stud and 77X542 remote fill manifold.
247886*	Manual pump – fits 5 gallon or 35 pound pail. Includes 121474 coupler.
571162	Manual hand pump – use with grease cartridges. Installs into alternate pump element port. (G3 only. Not recommended for pumps with follower plates or three-pump union kits.)
571167	Manual hand pump adaptor – for use with 571162 fill pump to protect threads in pump base.
571064*	Cold temperature fill relief kit – prevents over-pressurizing when filling in cold temperatures.
77X542	Remote-fill port manifold with vent – for use with reservoirs that have AFSO.
26C029	G1/G3 oil reservoir fill cap lanyard

*Acceptable for use with G-Mini pumps.

121474

571162

77X542

Refill Pump Kits – each kit includes 121474 coupler.	
247886	Manual hand pump for 35 lb pail
26A319	Fireball 225 120 lb keg. Includes cart for keg.
26A320	Fireball 225 400 lb barrel. Includes cart for barrel.

Solar Power Accessories – for use with 12 VDC pumps.	
26C432	Solar battery box with terminal strip
26C433	Solar Panel Kit. Includes battery box with terminal strip (26C432), solar panel and mounting hardware.
B32073	Solar panel base anchor kit
B32790	Solar panel stand kit – 3 ft (0.9 m) for 50-180W panels
B32793	Solar panel stand kit – 6 ft (1.8 m) for 50-180W panels
B32739	Solar panel A-frame stand kit

G3 Pump Enclosure Kits Ideal for fracturing equipment lubrication, these kits contain a G3 pump, valve assemblies, durable enclosure and mounting assemblies.	
132090	Triplex, 12V, G3 Pro
132091	Triplex, 24V, G3 Pro
132154	Triplex, 24V, G3 Standard
132092	Quintuplex, 12V, G3 Pro
132093	Quintuplex, 24V, G3 Pro
132155	Quintuplex, 24V, G3 Standard
132089	Standalone enclosure with G3/MSP mounting panel
132188	G3/MSP mounting panel
132163	Isolator kit

132155

G3 Input Sensors Ordering Information

Machine Count Sensors	
17J939	G3 machine count inductive sensor – 12-24 VDC. NPN normally open, M12 male, 5mm sensing distance.
557781	"Microswitch" dry contact limit switch – AC/DC. Can be wired N.O. or N.C. Use with cable 124300 and cord grip 260067.

Pressure Switches – use to read pressure in an injector-based system. After injectors dispense, controller or G3 Max will trigger pump shut down and vent.

Part Number	Voltage and Switch Type	Pressure Setting Range	Porting	Electrical Connector	Notes
24N181	AC/DC, Dry Contact	580 to 5,800 psi (40 to 400 bar)	1/4 NPT female	DIN connector (included)	Designed specifically for grease. Includes DIN connector – just add 124300 to connect to G3 Max.
24K414	10-32 VDC, PNP	set: 290 to 580 PSI (20 to 40 bar) reset: 175 to 5,685 PSI (12 to 392 bar)	1/4 NPT male	M12 male	Dual pressure setting adjustments. M12 connection makes it easy to wire to a G3 Max.

For more pressure switch options and more details, see page 95.

Solid State Proximity Switches – use with Series Progressive Divider Valves to count cycles.

Part Number	Voltage and Switch Type	Divider Valve	Thread	Electrical Connector
17L983	10-36 VDC, PNP	MSP and MHH	7/16-20	M12 male
17L879	10-36 VDC, PNP	CSP	M11	M12 male

17L983

Electric Pumps

G-Series Pump Packages and Accessories

Cables for Solid State Proximity Switches – use with a G3 Max or G3 SP when connecting directly to the pump, when LED cycle indication is required.				
Part Number	**Prox switch connection**	**2nd connection**	**Length**	**Notes**
25M602	M12 female, straight	Flying leads	16.5 ft (5 m)	PNP switch with NPN LED - requires 124594
25M603	M12 female, straight	M12 male, straight	16.5 ft (5 m)	PNP switch with NPN LED

For more proximity switch and cable options, and more details, see Proximity Switches section on pages 93-94.

Other wiring accessories for G-series pumps – use with a G3 Max, G3 SP or G-Mini when connecting directly to the pump, when LED cycle indication is not required.				
Part Number	**1st connection**	**2nd connection**	**Length**	**Notes**
126331	M12 female, straight	Flying leads	16.5 ft (5 m)	Requires 124594 when used with G3 Max/SP or G-Mini
124300	M12 male, straight	Flying leads	16.5 ft (5 m)	Accessory cable – add 124301 when connecting to an M12 sensor.
124333	M12 female, straight	M12 male, straight	16.5 ft (5 m)	Accessory cable
124301	M12 female, straight	n/a	n/a	Connector for 6-8 mm cable
124594	M12 male, straight	n/a	n/a	Connector for 6-8 mm cable
124595	M12 male, straight	n/a	n/a	Connector for 8-11 mm cable
124640	DIN female	Flying leads	6.6 ft (2 m)	Output cable for DIN alarm relay (G3 Max)
127123	DIN female	n/a	n/a	Field wireable DIN connector
24P731	DIN power/alarm cover	n/a	n/a	With gasket and screw, IP69K rated
16T854	Vent valve output cover	n/a	n/a	With o-ring, IP69K rated – use with G3 Max pumps that have the VV connector but no VV cable installed

Vent Valve Ordering Information

Direct-Mount Vent Valves for G3 Pumps

G3 pump vent valve kits include adjustable pressure relief, 500-3,500 psi (35-241 bar), and mount directly to a G3 pump.

Normally Closed Vent Valves for use with G3 Max pumps			
Voltage	NPT version	BSPP version	Power cable
12 VDC	571169	571171	Included
24 VDC	571170	571172	Included
AC pumps	571170	571172	Included

G3 Max AC pumps are 24 VDC internally, so they use 24 VDC accessories, including the vent valve and pressure sensors.

Normally Open Vent Valves for use with G3 Standard pumps			
Voltage	NPT version	BSPP version	Power cable
12 VDC	24M478	24M481	24N402
24 VDC	24M479	24M482	24N402
115 VAC	24M480	24M483	16U790*
230 VAC	24N182	24M484	16U790*

*24N351 is alternative patch cable which connects directly to DIN power connection.

Accessories for G3 Standard Systems	
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 in^3 (0.4 cm^3)
Motor . . . . . 24 VDC, 115 VAC
Max Output per Minute . . . . . 24 VDC - 0.29 in^3 (4.7 cm^3)
. . . . . 115 VAC - 0.58 in^3 (9.5 cm^3)
Max Operating Pressure . . . . . 2,500 psi (172 bar)
Max Run Time . . . . . 4 Minutes
Operating Temp . . . . . 20ºF to 140ºF (-7ºC to 60ºC)
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.

For new applications, consider a G3 Pump instead.

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 aluminum 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	
LM1115	12 pt Plastic Oil Reservoir (562892), 12 pt Oil Low Level, SPST, 10 watts (563015)
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), Low Level Switch (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, SPST, 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), Low Level Switch (20 pt Oil, SPDT, 15 amps) (563317)
LM2331	20 pt Plastic Oil Reservoir (562893), Floor-Mounting 10:1 Reduction (563388), Outlet (1/2 HP, 230/460 VAC, 3-Phase, 60 Hz, 1,725 rpm) (557270)
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), Low Level Switch (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)
LM4311	20 pt Metal Oil Reservoir (562895), Floor-Mounting 10:1 Reduction (563388)
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), Low Level Switch (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), Low Level Switch (20 pt Oil, SPDT, 15 amps) (563317)

LM5111	12 lb Plastic Grease Reservoir (562896)
LM5114	12 lb Plastic Grease Reservoir (562896), Low Level Switch (12 lb and 20 lb Grease, SPDT) (563322)
LM5311	12 lb Plastic Grease Reservoir (562896), Floor-Mounting 10:1 Reduction (563388)
LM5324	12 lb Plastic Grease Reservoir (562896), Floor-Mounting 10:1 Reduction (563388), Outlet (1/2 HP, 115/230 VAC, single phase, 60 Hz, 1,725 rpm) (557271), Low Level Switch (12 lb and 20 lb Grease, SPDT) (563322)
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), Low Level Switch (12 lb and 20 lb Grease, SPDT) (563322)
LM5514	12 lb Plastic Grease Reservoir (562896), Floor-Mounting 60:1 Reduction (563389), Low Level Switch (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), Low Level Switch (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), Low Level Switch (12 lb and 20 lb Grease, SPDT) (563322)
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), Low Level Switch (12 lb and 20 lb Grease, SPDT) (563322)

Ordering Information

LubeMaster Pumps	
LM6211	20 lb Plastic Grease Reservoir (562897), Clutch Drive (563383)
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), Low Level Switch (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), Low Level Switch (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), Low Level Switch (12 lb and 20 lb Grease, SPDT) (563322)
LM6514	20 lb Plastic Grease Reservoir (562897), Floor-Mounting 10:1 Reduction (563388), Low Level Switch (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), Low Level Switch (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), Low Level Switch (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), Low Level Switch (12 lb and 20 lb Grease, SPDT) (563322)
LM7214	12 lb Metal Grease Reservoir (562898), Clutch Drive (563383), Low Level Switch (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), Low Level Switch (12 lb and 20 lb Grease, SPDT) (553322)
LM7514	12 lb Metal Grease Reservoir (562898), Floor-Mounting 60:1 Reduction (563389), Low Level Switch (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), Low Level Switch (12 lb and 20 lb Grease, SPDT) (563322)
LM7544	12 lb Metal Grease Reservoir (562898), Floor-Mounting 60:1 Reduction (563389), Outlet (1/2 HP, 115/230 VAC, Single Phase, 60 Hz, 1,140 rpm) (557272), Low Level Switch (12 lb and 20 lb Grease, SPDT) (563322)
LM7614	12 lb Metal Grease Reservoir (562898), Wall-Mounting 60:1 Reduction (563387), Low Level Switch (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), Low Level Switch (12 lb and 20 lb Grease, SPDT) (563322)
LM8114	20 lb Metal Grease Reservoir (562899), Low Level Switch (12 lb and 20 lb Grease, SPDT) (563322)
LM8314	20 lb Metal Grease Reservoir (562899), Floor-Mounting 10:1 Reduction (563388), Low Level Switch (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), Low Level Switch (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), Low Level Switch (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), Low Level Switch (12 lb and 20 lb Grease, SPDT) (563322)
LM8514	20 lb Metal Grease Reservoir (562899), Floor-Mounting 60:1 Reduction (563389), Low Level Switch (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), Low Level Switch (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), Low Level Switch (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)

Pump Repair Kits At the heart of all current LubeMaster pump packages is pump part number 563380 (521-700-000). There are three repair kits for the pump, and some of the parts overlap because each kit includes some of the same seals. To completely rebuild the pump, all three kits are required, and some extra parts will remain because of this overlap.	
563915	Driveshaft Kit: Includes the driveshaft, cam, bearings, and related seals and hardware.
563921	Seal Kit: Includes seals and small hardware.
563916	Standard Output Manifold Kit: Includes pump piston and cylinder, output manifold block, and related seals and hardware.
Reservoir Repair Kits	
562902	Plastic tube with u-cup seal for part numbers 562892 and 562896
562903	Plastic tube with u-cup seal for part numbers 562893 and 562897
564270	Metal tube with u-cup seal for part numbers 562894 and 562898
564271	Metal tube with u-cup seal for part numbers 562895 and 562899
Blowout Disc Kits	
563962	Package of 6 Blowout Discs, Yellow, 1450 psi, Oil
563965	Package of 6 Blowout Discs, Aluminum, 2350 psi, Grease

LubeMaster Ordering Menu Code

Use the Smart Numbering System to order a complete assembly! The six-digit Smart Numbering System can help you order quickly and accurately. Simply follow the diagram for the configuration you want and build your order. Alternatively, use the part numbers at right to order individual components and assemble them in the field.

Code	Former Code	Description	Part Number	LM	Reservoir X	Drive X	Motor X	Low Level X
Product Identifier								
LM	LUB	LM = LubeMaster	563380					
Note: When ordering LubeMaster bare pump 563380 for use with a grease reservoir, a fill stud is required (part number 557374). Fill stud 557374 is compatible with mating coupler 558906. Order separately.								
Reservoir Options								
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/Overhead Supply	562908					
Drive Options								
1	DOO	No drive	N/A					
2	DOA	Clutch drive with ratchet arm	563383					
3	DOB	10:1 reduction, floor-mounting base	563388					
4	DOC	10:1 reduction, wall-mounting base	563386					
5	DOD	60:1 reduction, floor-mounting base	563389					
6	DOE	60:1 reduction, wall-mounting base	563387					
Note: Drive Options 3, 4, 5, and 6 each contain all required mounting hardware (mounting plate, coupler, coupler guard, nuts, bolts, and washers).								
Motor Options								
1	MOO	No motor	N/A					
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 Options								
1	LOO	No level switch	N/A					
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					
N/A*	N/A	High/low level switch kit (for METAL grease reservoirs only)	564318					
N/A*	LOH	Explosion-proof LL switch for grease reservoirs. (Class I, Group C and D; Class II, Group E, F, and G)	564377					
*564318 and 564377 are sold separately and field-installed. Choose option "1" and then order either part separately.								
Pressure Gauge (included)								
N/A	G1	No gauge	N/A					
N/A	G3	Liquid-filled 0-3000 psi gauge	557713					
Note: 557713 is included with every LMxxxx assembly, but not with the bare pump.								
Pressure Indicators (sold separately, but required for safety)								
N/A	POA	Standard Blowout, 1,450 psi (100 bar), Oil	563179					
N/A	POB	Standard Blowout, 2,350 psi (162 bar) Grease	563184					
N/A	POC	High-Pressure Blowout Switch, 1,450 psi (100 bar), Oil	563384					
N/A	POD	High-Pressure Blowout Switch, 2,350 psi (162 bar), Grease	563385					
Note: Options POC and POD require approximately 3 feet of 1/4 in OD copper tubing, which must be obtained from a 3rd party source.								

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 Meter-Flo'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

MM2211

Typical Applications

- Ideal for smaller series progressive systems requiring continuous lubrication

Lubrication Used

- Oil – 160 to 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

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 in^3/min (1,500 psi maximum operating pressure)
2 PB, 5 in^3/min (2,000 psi maximum operating pressure)
3 PC, 8 in^3/min (2,000 psi maximum operating pressure)
4 PD, 14 in^3/min (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 100ºF) 10W oil, 70ºF at 1,000 psi.
Example: Miniature Meter-Flo (MM) pump package consisting of a 3 gallon reservoir, 5 in^3/min 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 rpms with output volumes of 245 cubic inches per minute. Eleven different pump models to choose from.

557814

Typical Applications

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

Lubrication Used

- Oil – 300 to 3,000 SUS

Technical Specifications

Output volume per minute . . . . . .14 to 245 in^3 (230 to 4015 cm^3)
Max output pressure . . . . . 300 to 1,500 psi (20.7 to 103.5 bar)
Operating temp. . . . . .50ºF to 150ºF (10ºC to 65.5ºC)

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
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, ccw
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
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
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, cw
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
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

NOTE: cw – clock-wise rotation / cww – counter clock-wise rotation when facing pump shaft.

Motor Option	
558895	1/2 HP, 115/230 VAC, 1,725 rpm, single phase, 56C with feet
Repair Kits	
557997	Meter-Flo seal kit – 540-800-XX1 models
557998	Meter-Flo relief valve repair kit – 540-800-XX1 models
Meter-Flo Paddle Base and Pump Packages Include motor mounting base, pump, L-bracket, coupler, coupler guard, and other small hardware needed to mount a 56F motor. Simply add any 56F motor (or 56C with feet) to complete the pump package.	
563557	Paddle base with pump 557814
564411	Paddle base with pump 557813
24N405	Paddle base with pump 557815
24N406	Paddle base with pump 557816
24N407	Paddle base with pump 557817
24N408	Paddle base with pump 557818
24N409	Paddle base with pump 557820
Additional Mounting Options for Meter-Flo Pumps – pumps not included.	
558956	Bellh housing bracket and coupler kit – requires NEMA 56C motor with feet.
561067	L-bracket – bare part for mounting Meter-Flo pump in a custom application
563303	Extra long coupler used when replacing old "Webster" pumps with current Meter-Flo pumps

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 to 1,500 (SUS 250 to 5,000)

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 . . . . . 6 in^3/min (100 cm^3/min)
Pressure . . . . . 145 to 650 psi (10 to 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. . . . . 14ºF to 120ºF (-10ºC to 49ºC)
Reservoir . . . . . Plastic, rectangular
Reservoir size . . . . . 7.6 or 12.6 pint
Manual 313839A

Ordering Information

Injecto-Flo EO-1 Pumps	
562837	Pump with 3 liter plastic reservoir, 115 VAC
24B427	Pump with 3 liter plastic reservoir, 230 VAC
562849	Pump with 3 liter plastic reservoir, 230 VAC
562838	Pump with 3.6 liter plastic reservoir, 230 VAC
562839	Pump with 6 liter plastic reservoir, 115 VAC
562840	Pump with 6 liter plastic reservoir, 230 VAC
562841	Pump with 6 liter plastic reservoir, 230 VAC
562842	Pump with 6 liter plastic reservoir, 230 VAC, return port
562843	Pump with 6 liter metal reservoir, 115 VAC
562844	Pump with 12 liter metal reservoir, 115 VAC
Injecto-Flo EO-3 Pumps	
562851	Pump with 3 liter plastic reservoir, 115 VAC, remote control
562850	Pump with 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	
129781	Cap and strainer kit
556015	Adjustable relief valve
556013	Gear pump only
556014	Suction strainer
556011	115 VAC motor
556012	230 VAC motor
129520	6 liter metal reservoir replacement sight glass
Low Level Switches	
556018	Low level switch for 3 liter reservoirs
556019	Low level switch for 6 and 12 liter reservoirs

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.

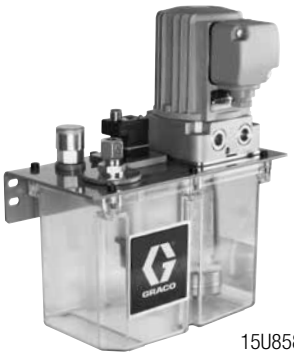
122895

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 in³ (500 cm³)
Grease . . . . . 12.20 in³ (200 cm³)
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)

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 to 10,000 SUS

Technical Specifications

Maximum output per minute . . . . . 0.42 in^3 (6.9 cm^3)
Maximum output pressure . . . . . 150 psi (10 bar)
Operating temp. . . . . 0ºF to 140ºF (-18ºC to 60ºC)
Motor . . . . . 120 VAC, 60 Hz
Reservoir . . . . . 4 pint (1.9 liters)

Ordering Information

Thrif-T Luber Pumps with Reservoir	
564068	TLEP-10 – solid state timer control built in
564067	TLEP-11 – remote control
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
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 to 30,000 SUS

Technical Specifications

Maximum output per stroke. . . . . 0.01 in^3 (0.165 cm^3)
Pump output Volume per minute . . . . . 0.11 in^3 (1.8 cm^3)
Maximum output pressure. . . . . 500 psi (34 bar)
Operating temp. . . . . 0ºF to 140ºF (-18ºC to 60ºC)
Material . . . . . Plastic, rectangular
Reservoir size . . . . . 4 pints (1.9 liters)
Motor . . . . . .120 VAC, 60 hz

Ordering Information

Maxi-Flo Packages	
563379	Solid state timer control built in
563376	Remote control
Accessories	
564376	High pressure switch
558899	Gauge, 0 to 1,000 psi
Replacement Parts	
558031	Timer replacement board
557641	Replacement 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.

Features and Benefits

- Factory-installed low level indicator
- 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

24Y499

17C753

24Z053

24Z028

17P751

17C750

24X694

Technical Specifications

	A900	H1900	A1900	A2600	A2800	A2900	A4000
Fluid Handling Capabilities	40 cSt oil minimum	40 cSt oil minimum	40 cSt oil minimum	Up to #2 grease	40 cSt oil minimum	Up to #2 grease	40 cSt oil - #2 grease
Maximum Working Pressure	1,350 psi (93.1 bar)	3,500 psi (241 bar)					4,000 psi (276 bar)
Pressure Ratio	9:1	19:1	19:1	26:1	28:1	29:1	40:1
Pump Output	1.5 in^3 (24.58 cm^3) per stroke	3.0 in^3 (49.16 cm^3) per stroke	3.0 in^3 (49.16 cm^3) per stroke	2.2 in^3 (36.05 cm^3) per stroke	0.56 in^3 (9.18 cm^3) per stroke	0.58 in^3 (9.5 cm^3) per stroke	50 in^3 (819 cm^3) per minute
Reservoir Capacity	2.8 liters (170.9 in^3)	–	2 liters (122 in^3)	4 lb	0.6 liters (36.6 in^3) 2 liters (122 in^3)	1 lb 4 lb	5.5 liters (335.6 in^3) 7.5 lb 13 lb
Maximum Air Inlet Pressure	150 psi (10.3 bar)	185 psi (12.8 bar)	185 psi (12.8 bar)	135 psi (9.3 bar)	175 psi (12.1 bar)		100 psi (6.89 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			1/4 in NPT		
Operating Temperature	-4ºF to 149ºF (-20ºC to 65ºC)	14ºF to 149ºF (-10ºC to 65ºC)					

Pneumatic Pumps

LubePro™

Ordering Information

				NPT		BSPP	
Pump Model	Fluid	Pressure Ratio	Reservoir Size	Pump Only	With Low Level Indicator	Pump Only	With Low Level Indicator
H1900	Oil	19:1	–	24Y498	24Y499	25Y498	25Y499
A1900	Oil	19:1	2 liters	17C753	17C752 (NO)	18C753	18C752 (NO)
					19C752 (NC)		20C752 (NC)
A2600	Grease	26:1	4 lb	17C750	17C751 (NO)	18C750	18C751 (NO)
					19C751 (NC)		20C751 (NC)
A2800	Oil	28:1	0.6 liters	24Z020	24Z021 (NO)	24Z023	24Z024 (NO)
					24Z022 (NC)		24Z025 (NC)
			2 liters	24Z026	24Z027 (NO)	24Z029	24Z030 (NO)
					24Z028 (NC)		24Z050 (NC)
A2900	Grease	29:1	1 lb	24Z051	24Z052 (NO)	24Z054	24Z055 (NO)
					24Z053 (NC)		24Z056 (NC)
			4 lb	24Z057	24Z058 (NO)	24Z060	24Z061 (NO)
					24Z059 (NC)		24Z062 (NC)

					NPT		
Pump Model	Fluid	Pressure Ratio	Reservoir Size	Low Level Detection	Pneumatic Vent Valve	Electric Vent Valve	Series Progressive
A4000	Oil	40:1	5.5 liters		17P752	17T195	17T178
				Yes	17P753	17T196	17T179
	Grease		7.5 lb	–	17P750	17T193	17T176
				Yes	17P751	17T194	17T177
			13 lb	Yes	17U217	–	–

LubePro™ Accessories

			Pump Compatibility					
Part Number	Description	Maximum Working Pressure	A1900	H1900	A2600	A2800	A2900	A4000
105474	3-way air valve, 150 psi (10 bar), 1/2 NPSM(F) conduit ports for wiring, 1/4 NPT(F) air ports. 24 VDC/120 VAC	150 psi (10.3 bar)				•	•	•
128305	4-way air valve, 12 VDC		•	•	•			
128254	4-way air valve, 24 VDC		•	•	•			
128255	4-way air valve, 120 VAC		•	•	•			
128257	4-way air valve, 240 VAC		•	•	•			
560734	Air valve reservoir mounting bracket		•		•			
24Y079	4-way air valve installation kit – 12 VDC air valve, bracket, air lines, fittings		•		•			
24Y080	4-way air valve installation kit – 24 VDC air valve, bracket, air lines, fittings		•		•			
24Y081	4-way air valve installation kit – 120 VAC air valve, bracket,air lines, fittings		•		•			
24Y082	4-way air valve installation kit – 240 VAC air valve, bracket, air lines, fittings		•		•			
121474	Female coupler. Quick-disconnect. 1/4 in NPT. Mates with fill stud on LubePro grease pumps.	3,700 psi (255 bar)	•	•	•	•	•	•

121474

Pneumatic Pumps
Modu-Flo®

Features and Benefits

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

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

Typical Applications

- In plant machinery, presses and mixers

Lubrication Used

- Oil and Grease up to NLGI #2

Technical Specifications

Output per Stroke
AL5 . . . . . 0.01 to 0.03 in^3 (0.16 to 0.49 cm^3)
AL-25 . . . . . 0.03 to 0.12 in^3 (0.49 to 1.96 cm^3)
AL-50 . . . . . 0.06 to 0.24 in^3 (0.94 to 3.93 cm^3)
Max Strokes per Minute 30
Max Output Pressure . . . . . 3,500 psi (241 bar)
Ratio 30:1

Pump package shown with oil reservoir

Pump package shown with grease reservoir

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 Kits	
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

NOTE: Manifolds include yellow blowout disks for use in oil applications. When used with grease, replace with red disk, p/n 557434.

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 Kits	
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

563364

Typical Applications

- Presses and other in-plant machines

Lubrication Used

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

Technical Specifications

Output per Stroke . . . . . 0.03 in^3 (0.49 cm^3)
Max Output Pressure . . . . . 2,000 psi (138 bar)
Ratio 20:1
Reservoir Material . . . . . Plastic, Cylindrical or Rectangular
Reservoir Size . . . . . 3 and 6 lb (1.36 kg and 2.72 kg), 4 pt (1.89 liter)
Air Pressure . . . . . 40 to 150 psi (2.8 to 10.3 bar)
Cycle Rate . . . . . 10 CPM grease, 30 CPM oil

Ordering Information

E-Series Assemblies with Fixed Output Pump	
563365	E-Series Pump with 3 lb (1.36 kg) Plastic Cylindrical Grease Reservoir, Low Level Switch, Pressure Gauge
563363	E-Series Pump with 6 lb (2.72 kg) Plastic Cylindrical Grease Reservoir with 2,350 psi (162 bar) Rupture Disc
563364	E-Series Pump with 6 lb (2.72 kg) Plastic Cylindrical Grease Reservoir, Low Level Switch with 2,350 psi (162 bar) Rupture Disc
563361	E-Series Pump with 4 pt (1.89 liter) Plastic Rectangular Oil Reservoir
563362	E-Series Pump with 4 pt (1.89 liter) Plastic Rectangular Oil Reservoir, Low Level Switch
E-Series Components	
563358	FIxed Output Pump only – with 1,750 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 12 pt (5.68 liter) Cylindrical Oil Reservoirs, SPDT
563318	15 amp Low Level Switch for 6 pt (2.84 liter) Cylindrical Oil Reservoirs and all Tank Reservoirs, SPDT
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)

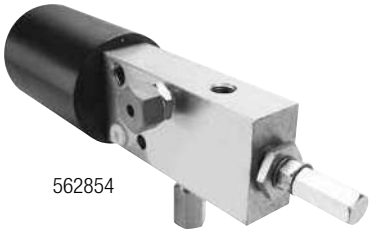
Pneumatic Pumps

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



562854

Typical Applications

- In-plant manufacturing presses, machinery and processing equipment

Lubrication Used

- Oil and Grease up to NLGI #2

562855

Technical Specifications

MSA-10

Material	Steel
Output per Stroke	0.04 to 120 in^3 (0.66 to 1.97 cm^3)
Max Pump Strokes per Minute	Single-Acting - 15
	Double-Acting - 60
Max Output Pressure	3,000 psi (207 bar)
Air Pressure	40 to 150 psi (2.8 to 10.3 bar)
Max Lube Inlet	500 psi (34 bar)
Ratio	25:1

MSA-100

Material	Aluminum
Seals	Buna-N and Fluoroelastomer
Output per Stroke	0.4 to 0.8 in^3 (6.57 to 13.11 cm^3)
Max Pump Strokes per Minute	Single-Acting - 15
	Double-Acting - 30
Max Output Pressure	3,000 psi (207 bar)
Air Pressure	60 to 140 psi (4.1 to 9.7 bar)
Max Lube Inlet	500 psi (34 bar)
Ratio	25:1

*Supplied with Rupture-to-Atmosphere Indicator rated to 1,450 psi (100 bar) (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 to 5,000 SUS

Technical Specifications

Output per stroke (single shot only) . . . . . 0.80 in^3 (13 cm^3)
Maximum 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 for 3 liter reservoirs
556019	Low level switch for 6 and 12 liter reservoirs

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 to 1,350 psi (25 to 93 bar)
Air Inlet Pressure . . . . . 40 to 150 psi (3 to 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 Repair Kits	
563762	Standard Pump Repair/Rebuild Kit - includes Pump Diaphragm

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 in^3 (1.5 cm^3)
Pressure Rating . . . . . 5,000 psi (345 bar)
Reservoir Capacity . . . . . 1 pint (500 cm^3), 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 in 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

564379

Typical Applications

- In-plant equipment and machinery

Lubrication Used

- Oil and Grease

Technical Specifications

Pump Output . . . . . 0.150 in^3 (2.46 cm^3) per full stroke
Maximum Operating Pressure . . . . . .3,000 psi (207 bar)
High Pressure Protection Relief Valve . . . . . .Set @ 2,500 psi (172 bar)
Force to Operate Handle . . . . . 29 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 . . . . . 0ºF to 140ºF (-17.8ºC to 60ºC)
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	0.100 in^3 (1.639 cm^3)	0.500 in^3 (8.195 cm^3)
60°	6:1	150 Max.	1500	15.00 in^3 (245.85 cm^3)	75.00 in^3 (1,229.25 cm^3)

Ordering Information

LubeMaster	
LM6214	20 lb (9.06 kg) Plastic Grease Reservoir (562897), Clutch Drive w/Arm (563383), Low Level Switch (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), Low Level Switch (12 lb / 5.44 kg and 20 lb / 9.06 kg Grease, SPDT) (563322)

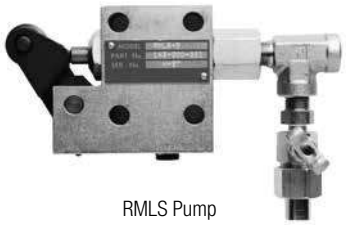
See page 23 for a complete LubeMaster ordering menu.

Mechanical Pumps

MLS Series™

Simple Installation and Operation

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



RMLS Pump

Typical Applications

- Where mechanical machine drive can be utilized

Technical Specifications

Minimum Piston Stroke Lube Discharge
RMLS-5 . . . . . 0.005 in^3 @ 3/16 in
RMLS-50 . . . . . 0.050 in^3 @ 5/16 in
Max Piston Stroke Lube Discharge
RMLS-5 . . . . . 0.012 in^3 @ 3/8 in
RMLS-50 . . . . . 0.050 in^3 @ 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 in^3, 0.008 in^3, 0.005 in^3

EMLS Pump

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 . . . . . 0.01 to 0.125 in^3 (0.16 to 2.0 cm^3)

Ordering Information

Part Number	Model Description	Maximum Pump Output/Stroke, in^3 (cm^3)	Maximum Cycles/ Minute	Ratio	Maximum Hydraulic Pressure, psi (bar)	Maximum Fluid Output Pressure, psi (bar)	Lubrication Type
563305	HLJ-5 pump, double acting (no reservoir)	0.01 to 0.03 (0.16 to 0.49)	60	5.5:1	200 to 2,000 (14 to 138)	11,000 (758.4)	Oil or grease up to NLGI #2
563345	HLJ-5X pump, double acting (no reservoir)	0.03 to 0.09 (0.49 to 1.5)	50	2.2:1	200 to 3,000 (14 to 207)	6,600 (455.1)	
563307	HLJ-25 pump, double acting (no reservoir)	0.03 to 0.12 (0.49 to 2.0)	50	5.5:1	200 to 2,000 (14 to 138)	11,000 (758.4)	

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

564034

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

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

Ordering Information

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

Thrif-T Luber - Type C Orifice	
564032	TLOC-3
564033	TLOC-4
564034	TLOC-5
564035	TLOC-2/0
564036	TLOC-3/0
Thrif-T Luber Hardware	
561217	TLMB-04 - 4-Port Manifold Bar
561218	TLMB-06 - 6-Port Manifold Bar
561219	TLMB-08 - 8-Port Manifold Bar
561220	TLMB-10 - 10-Port Manifold Bar
561215	TLTF-00 - Tee
561216	TLAB-00 - Anchor Block
558220	TLBF-00 - Bearing Fitting
558189	TLCN-00 - Compression Nut
558156	TLTC-01 - Tube Clip, 1-Tube
558157	TLTC-02 - Tube Clip, 2-Tubes
558158	TLTC-03 - Tube Clip, 3-Tubes
558159	TLTC-04 - Tube Clip, 4-Tubes
Thrif-T Luber Accessories	
564053	TLLF-00 - In-Line Filter
558296	TLPG-00 - Pressure Gauge
561143	TLTP-25 - 5/32 in (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 to .009 in^3 (0.01 to 0.16 cm^3)	.0006 to .006 in^3 (0.01 to 0.10 cm^3)	.006 to .036 in^3 (0.1 to 0.6 cm^3)	.006 to .018 in^3 (0.1 to 0.3 cm^3)	0.012 to 0.09 in^3 (0.2 to 1.5 cm^3)	.006 to .018 in^3 (0.1 to 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 cm^3 Output, M8 x 1
558307	0.03 cm^3 Output, M8 x 1
558308	0.06 cm^3 Output, M8 x 1
558309	0.10 cm^3 Output, M8 x 1
558310	0.16 cm^3 Output, M8 x 1
122804	0.01 cm^3 Output, M10 x 1
122805	0.03 cm^3 Output, M10 x 1
122806	0.06 cm^3 Output, M10 x 1
122807	0.10 cm^3 Output, M10 x 1
122808	0.16 cm^3 Output, M10 x 1
3410 Series Single Point Piston Distributors - Fluid Grease	
121654	0.01 cm^3 Output, M8 x 1
121655	0.03 cm^3 Output, M8 x 1
121656	0.06 cm^3 Output, M8 x 1
121657	0.10 cm^3 Output, M8 x 1

3400/3410 Series Bar Manifolds – use with M8 Piston Distributors

Part Number	Inlet Thread	Outlet Thread and Quantity
15X624	M8	M8-1 Port (Tee)
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

Ordering Information

3500 Series Single Point Piston Distributors - Oil	
121658	0.10 cm^3 Output, M10 x 1
121659	0.20 cm^3 Output, M10 x 1
121660	0.40 cm^3 Output, M10 x 1
121661	0.60 cm^3 Output, M10 x 1
3510 Series Single Point Piston Distributors - Fluid Grease	
121662	0.10 cm^3 Output, M10 x 1
121663	0.20 cm^3 Output, M10 x 1
121664	0.30 cm^3 Output, M10 x 1

3500/3510 Series Bar Manifolds – use with M10 Piston Distributors

Part Number	Inlet Thread	Outlet Thread and Quantity
15X625	M10	M10-1 Port (Tee)
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	
121665	0.20 cm^3 Output, M14 x 1.5
121666	0.40 cm^3 Output, M14 x 1.5
121667	0.60 cm^3 Output, M14 x 1.5
121668	1.00 cm^3 Output, M14 x 1.5
121669	1.50 cm^3 Output, M14 x 1.5
3910 Series Single Point Piston Distributors - Fluid Grease	
122825	0.10 cm^3 Output, M12 x 1
122826	0.20 cm^3 Output, M12 x 1
122827	0.30 cm^3 Output, M12 x 1
121670	0.10 cm^3 Output, M14 x 1.5
121671	0.20 cm^3 Output, M14 x 1.5
121672	0.30 cm^3 Output, M14 x 1.5

3900/3910 Series Bar Manifolds – use with M14 Piston Distributors

Part Number	Inlet Thread	Outlet Thread and Quantity
15X626	M14	M14-1 Port (Tee)
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

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 cm^3 (#1)
558311	0.03 cm^3 (#2)
558312	0.06 cm^3 (#3)
558313	0.10 cm^3 (#4)
558314	0.16 cm^3 (#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 cm^3 (#1)
558324	0.03 cm^3 (#2)
558325	0.06 cm^3 (#3)
558326	0.10 cm^3 (#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 cm^3 (#4)
558316	0.20 cm^3 (#5)
558317	0.40 cm^3 (#6)
558318	0.60 cm^3 (#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 cm^3 (#4)
558328	0.20 cm^3 (#5)
558329	0.30 cm^3 (#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 cm^3 (#5)
558320	0.40 cm^3 (#6)
558321	0.60 cm^3 (#7)
558322	1.00 cm^3 (#8)
558323	1.50 cm^3 (#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 cm^3 (#4)
558331	0.20 cm^3 (#5)
558332	0.30 cm^3 (#6)
Direct-to-Bearing Piston Distributors - For Oil Only	
122789	Direct Type F (M14/D4/0.03 cm^3)
122790	Direct Type F (M14/D4/0.06 cm^3)
122791	Direct Type F (M14/D4/0.10 cm^3)
122792	Direct Type F (M14/D6/0.03 cm^3)
122793	Direct Type F (M14/D6/0.06 cm^3)
122794	Direct Type F (M14/D6/0.10 cm^3)
122795	Direct Type GB (D10.35/0.03 cm^3)
122796	Direct Type GB (D10.35/0.06 cm^3)
122797	Direct Type GB (D10.35/0.10 cm^3)
122798	Direct Type GC (D13.5/0.10 cm^3)
122799	Direct Type GC (D13.5/0.20 cm^3)
122800	Direct Type GC (D13.5/0.30 cm^3)
122801	Direct Type GC (D13.5/0.40 cm^3)

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) ..... 1,000 psi (69 bar)
Output Range ..... 0.002 to 0.024 in^3 (0.033 to 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

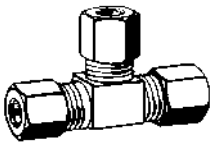
Injectors				
Size #	Output in^3 (cm^3)	Adjustment Spacers	Aluminum Alloy Injectors (Oil)	Aluminum Alloy Injectors (Grease)
			Part No.	Part No.
0	0.002 (0.033)	–	24Z888	24Z682
1	0.005 (0.082)	1	24Z889	24Z683
2	0.009 (0.148)	2	24Z890	24Z684
3	0.012 (0.197)	3	24Z891	24Z685
4	0.015 (0.246)	4	24Z892	24Z686
8	0.024 (0.393)	4	24Z893	24Z681
Spare O-ring			556587	556586

LubriSystem Manifolds and Accessories	
563769	Injector cycle Indicator
24Z808	Injector port plugs with O-ring 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 in OD x .059 in wall (7.9 mm x 1.5 mm), black, 60 feet (18.3 m) Burst Pressure Min. - 1,500 psi (103 bar) at 75ºF (24ºC)
561131	Point Distribution Line (injector to lube point): 3/16 in OD x .044 in wall (4.8 mm x 1.1 mm), black, 60 feet (18.3 m) Burst Pressure Min. - 2,000 psi (138 bar) at 75ºF (24ºC)
Self-Aligning Ferrules And Nuts	
556660	Brass Nut, w/captive ferrule, 3/16 in (4.8 mm) tube
556666	Brass Nut, w/captive ferrule, 5/16 in (7.9 mm) tube
557963	Brass Inserts for 5/16 in (7.9 mm) tubing (pack of 20)
Tees And Unions	
556636	Male Branch Tee, 5/16 in (7.94 mm) tube, 1/8 in (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 in (4.8 mm) tube x 1/8 in (3.2 mm) NPTF
556643	Female Connector, 5/16 in (7.94 mm) tube x 1/8 in (3.2 mm) NPTF
556644	Male Connector, 3/16 in (4.8 mm) tube x 1/8 in (3.2 mm) NPTF
556645	Male Connector, 5/16 in (7.94 mm) tube x 1/8 in (3.2 mm) NPTF
556646	Male Connector, 5/16 in (7.94 mm) tube x 1/4 in (6.35 mm) NPTF
Tubing Straps	
563770	100 pieces, 11-1/2 in (292 mm)
Steel Pipe and Adapter Elbows	
15K740	1/4 in-28 in / 6.35 mm-711 cm (male) x 1/8 in (3.2 mm) NPTF (female), 90º Adapter Elbow
15K783	90º Street Elbow, 1/8 in (3.2 mm) NPTF, PTF SAE Short
557395	45º Street Elbow, 1/8 in (3.2 mm) NPTF
Brass Male Tube Elbows	
556638	3/16 in (4.8 mm) tube x 1/8 in (3.2 mm) NPTF
556639	5/16 in (7.94 mm) tube x 1/8 in (3.2 mm) NPTF
556640	5/16 in (7.94 mm) tube x 1/4 in (6.35 mm) NPTF
Harness Clamps and Brackets	
557943	5/16 in (7.94 mm) diameter
557946	3/8 in (9.53 mm) diameter
557944	7/16 in (11.11 mm) diameter
557947	1/2 in (12.7 mm) diameter
557945	5/8 in (15.22 mm) diameter
Miscellaneous	
561113	Air Line Restrictor, 1/2 in x 1/8 in (12.7 mm x 3.2 mm), M to F Pipe
561114	Air Line Restrictor, 3/8 in x 1/8 in (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
121474	Coupler for use with 557880

561132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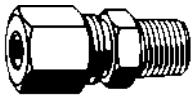
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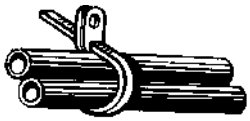
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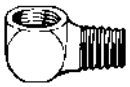
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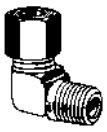
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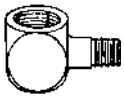
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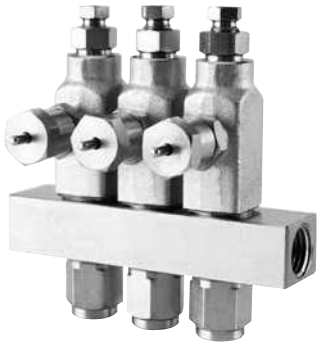
557947

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 350ºF (176ºC)



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

	GL-32 Grease Injectors	GL-43 Oil Injectors
Maximum Operating Pressure	3,500 psi (241 bar)	1,000 psi (69 bar)
Minimum Operating Pressure	1,200 psi (83 bar)	750 psi (52 bar)
Typical Operating Pressure	1,500 psi (103 bar)	850 psi (59 bar)
Reset Pressure	200 psi (13.7 bar)	150 psi (10 bar)
Output Volume Per Cycle (adjustable)	0.001 to 0.008 in^3 (0.02 to 0.13 cm^3)	
Maximum Temperature Rating	350ºF (176ºC)	
Cycle Indication	Visual pin	
Instruction Manual	313798	

Ordering Information

		GL-32 Grease Injectors		GL-43 Oil Injectors
		Carbon Steel	304 Stainless	Carbon Steel
Porting	Stand-Alone Injector, 1/4 NPT male inlet, 1/8 in OD tube outlet	24A919*	24E389*	24E240*
	Replacement Injector for manifolds, 1/8 in OD tube outlet	24A920*	24E390*	24E245*
	1-Injector Manifold, 1/4 NPT female inlet, 1/8 in OD tube outlet	24A921	24E391	24E241
	2-Injector Manifold, 1/4 NPT female inlet, 1/8 in OD tube outlet	24A922	24E392	24E242
	3-Injector Manifold, 1/4 NPT female inlet, 1/8 in OD tube outlet	24A923	24E393	24E243
	4-Injector Manifold, 1/4 NPT female inlet, 1/8 in OD tube outlet	24A924	24E394	24E244
	Replacement Injector for manifolds, 6 mm OD tube outlet	24F508*	24F550*	24F543*
	1-Injector Manifold, 1/8 BSPP female inlet, 6 mm OD tube outlet	24F509	24F551	24F544
	2-Injector Manifold, 1/8 BSPP female inlet, 6 mm OD tube outlet	24F510	24F552	24F545
	3-Injector Manifold, 1/8 BSPP female inlet, 6 mm OD tube outlet	24F511	24F553	24F546
	4-Injector Manifold, 1/8 BSPP female inlet, 6 mm OD tube outlet	24F512	24F554	24F548
	Repair/Overhaul Kit	24B360	24F944	24F201

*Must be ordered in quantities of five.

		GL-32, GL-33, GL-42 and GL-43 Outlet Fittings	
		Carbon Steel	Stainless Steel
Porting	JIC-4 male	17B168	17B169
	1/8 in OD tube	24B677	24F943
	1/8 in OD Push-to-Connect	17B879	17B880
	1/8 in NPT female	17B780	17B781
	4 mm OD tube	24F513	24F555
	6 mm OD tube	24F514	24F556
	Closure Plug	17B782	17B783

Accessories	
24W495	Manual grease fitting adapter – compatible with 1/8 in OD tube outlet only
17B785	Measuring chamber vinyl cap

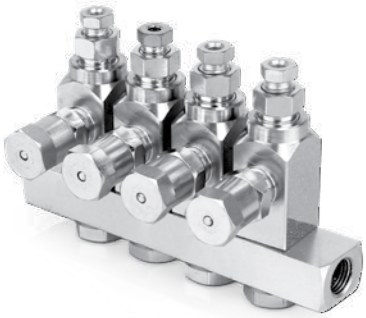
See page 58 for fitting and accessory illustrations.

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 350ºF (176ºC)



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

	GL-33 Grease Injectors	GL-42 Oil Injectors
Maximum Operating Pressure	3,500 psi (241 bar)	1,000 psi (69 bar)
Minimum Operating Pressure	1,200 psi (83 bar)	750 psi (52 bar)
Typical Operating Pressure	1,500 psi (103 bar)	850 psi (59 bar)
Reset Pressure	200 psi (13.7 bar)	150 psi (10 bar)
Output Volume Per Cycle (adjustable)	0.001 to 0.003 in^3 (0.02 to 0.05 cm^3)	
Maximum Temperature Rating	350ºF (176ºC)	
Cycle Indication	Visual Pin	
Instruction Manual	334495	

Ordering Information

		GL-33 Grease Injectors		GL-42 Oil Injectors
		Carbon Steel	304 Stainless	Carbon Steel
Porting	Stand-Alone Injector, 1/8 NPT male inlet, 1/8 in OD tube outlet	24W487*	24W489*	24W493*
	Replacement Injector for manifolds, 1/8 in OD tube outlet	24W483*	24W485*	24W491*
	1-injector manifold, 1/8 NPT female inlet, 1/8 in OD tube outlet	24W401	24W601	24W801
	2-injector manifold, 1/8 NPT female inlet, 1/8 in OD tube outlet	24W402	24W602	24W802
	3-injector manifold, 1/8 NPT female inlet, 1/8 in OD tube outlet	24W403	24W603	24W803
	4-injector manifold, 1/8 NPT female inlet, 1/8 in OD tube outlet	24W404	24W604	24W804
	5-injector manifold, 1/8 NPT female inlet, 1/8 in OD tube outlet	24X302	24X304	24X306
	6-injector manifold, 1/8 NPT female inlet, 1/8 in OD tube outlet	24W405	24W605	24W805
	9-injector manifold, 1/8 NPT female inlet, 1/8 in OD tube outlet	24W406	N/A	24W806
	10-injector manifold, 1/8 NPT female inlet, 1/8 in OD tube outlet	24W407	24W606	24W807
	15-injector manifold, 1/8 NPT female inlet, 1/8 in OD tube outlet	24W408	24W607	24W808
	Stand-Alone Injector, 1/8 NPT male inlet, 6 mm OD tube outlet	24W488*	24W490*	24W494*
	Replacement Injector for manifolds, 6 mm OD tube outlet	24W484*	24W486*	24W492*
	1-Injector Manifold, 1/8 BSPP female inlet, 6 mm OD tube outlet	24W501	24W701	24W901
	2-Injector Manifold, 1/8 BSPP female inlet, 6 mm OD tube outlet	24W502	24W702	24W902
	3-Injector Manifold, 1/8 BSPP female inlet, 6 mm OD tube outlet	24W503	24W703	24W903
	4-Injector Manifold, 1/8 BSPP female inlet, 6 mm OD tube outlet	24W504	24W704	24W904
	5-Injector Manifold, 1/8 BSPP female inlet, 6 mm OD tube outlet	24X303	24X305	24X307
	6-Injector Manifold, 1/8 BSPP female inlet, 6 mm OD tube outlet	24W505	24W705	24W905
	10-Injector Manifold, 1/8 BSPP female inlet, 6 mm OD tube outlet	24W506	24W706	24W906
	15-Injector Manifold, 1/8 BSPP female inlet, 6 mm OD tube outlet	24W507	24W707	24W907
	Repair/Overhaul Kit	24W913	24W914	24W915

*Must be ordered in quantities of five.

Single Line Parallel

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

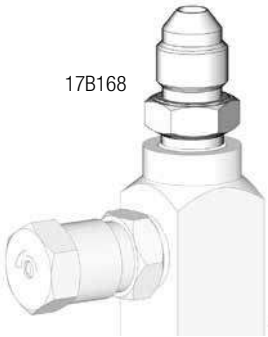
Ordering Information

		GL-32, GL-33, GL-42 and GL-43 Outlet Fittings	
		Carbon Steel	Stainless Steel
Porting	JIC-4 male	17B168	17B169
	1/8 in OD tube	24B677	24F943
	1/8 in OD Push-to-Connect	17B879	–
	1/4 in OD Push-to-Connect	17B880	–
	1/8 in NPT female	17B780	17B781
	4 mm OD tube	24F513	24F555
	6 mm OD tube	24F514	24F556
	Closure Plug	17B782	17B783

17B879

Accessories	
24W495	Manual grease fitting adapter – compatible with 1/8 in OD tube outlet only
17B785	Measuring chamber vinyl cap

17B780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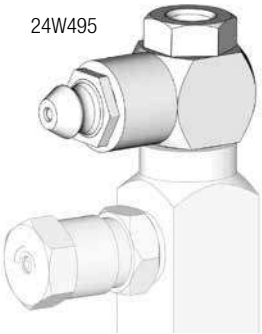
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17B782

24B677

17B785

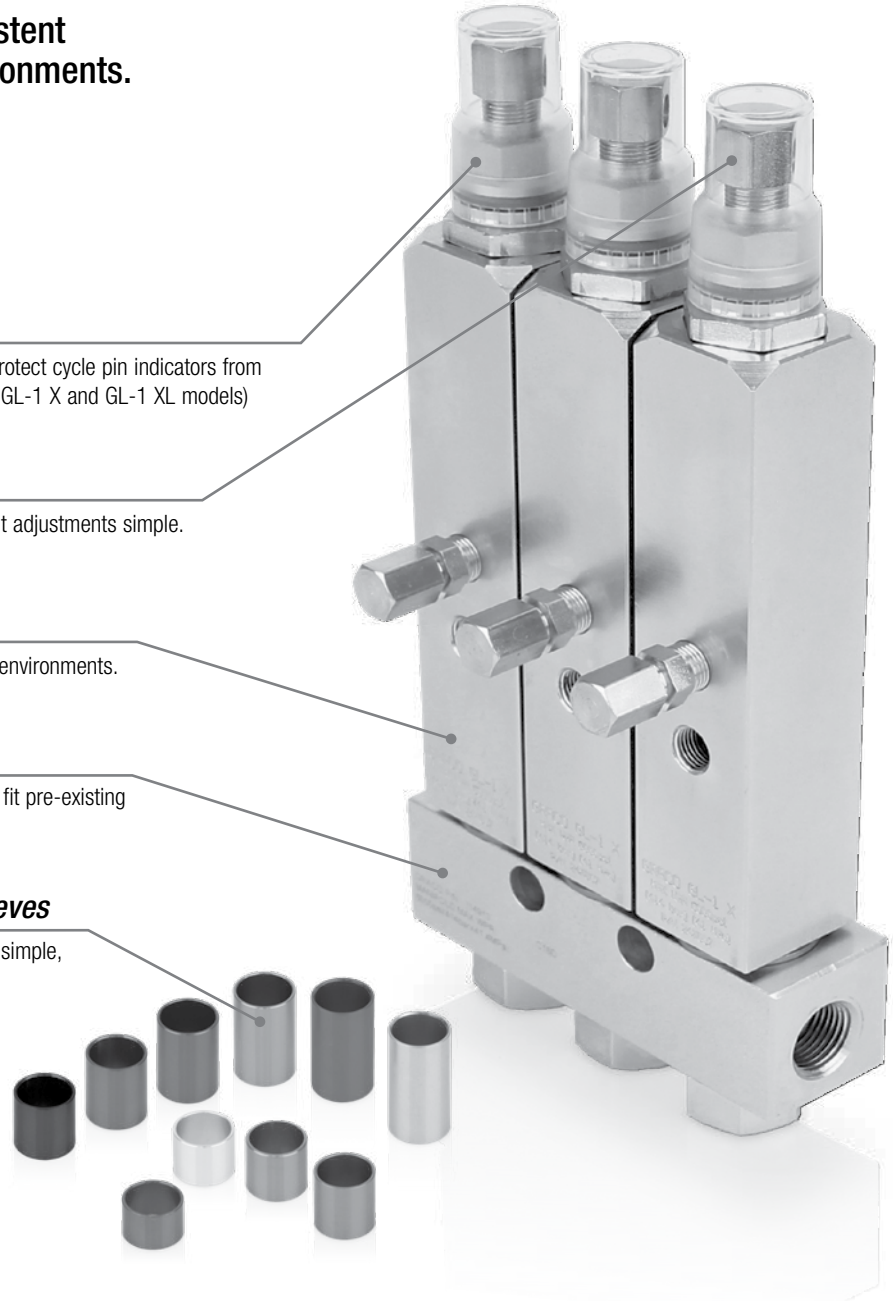
Notes

Single Line Parallel

GL-1™, GL-1™ SST, GL-1 X™, and GL-1 XL™ Injectors

Graco quality provides consistent performance in rugged environments.

- No vent holes to leak lubricants
- Fully-enclosed press fittings



Injector Covers

Clear, polycarbonate covers protect cycle pin indicators from contamination. (Included with GL-1 X and GL-1 XL models)

Hex-Head Adjustment Nut

Heavy-duty hex-head nut makes output adjustments simple.

Unibody Design

Rugged, single-piece body for use in harsh environments.

GL-1 Manifold

6,000 psi, 3/8 in NPT port manifolds fit pre-existing mounting patterns.

Output Spectrum Sleeves

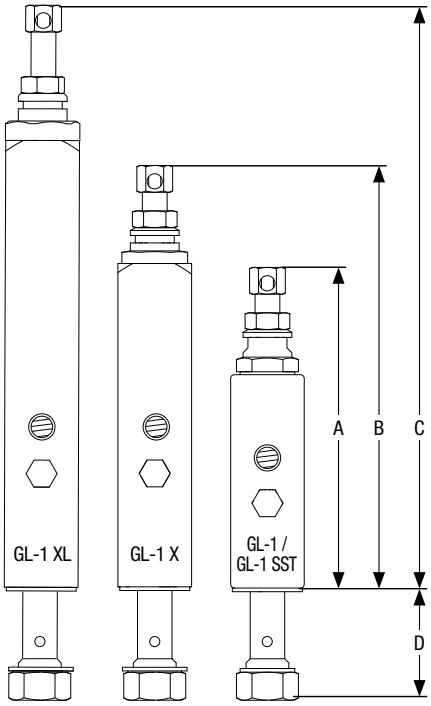
Colored-coded spacers enable simple, targeted output volume.

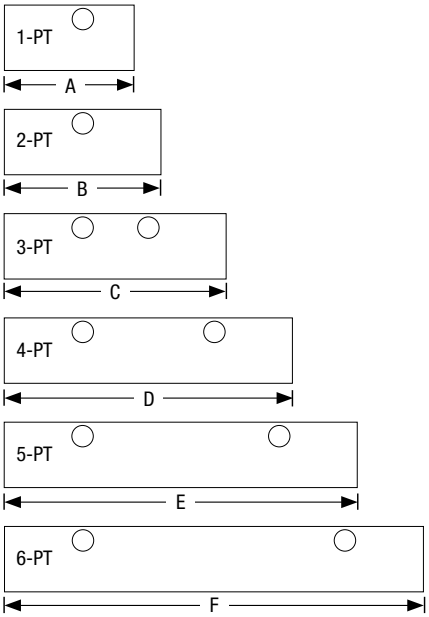
Technical Specifications

	GL-1	GL-1 SST	GL-1 X	GL-1 XL
Maximum operating pressure	3,500 psi (241 bar)	3,500 psi (241 bar)	6,000 psi (414 bar)	6,000 psi (414 bar)
Minimum operating pressure	1,850 psi (128 bar)	1,850 psi (128 bar)	1,850 psi (128 bar)	1,850 psi (128 bar)
Reset pressure	600 psi (41 bar)	600 psi (41 bar)	1,000 psi (69 bar)	1,000 psi (69 bar)
Output volume per cycle	0.008 to 0.08 in^3 (0.13 to 1.31 cm^3)	0.008 to 0.08 in^3 (0.13 to 1.31 cm^3)	0.015 to 0.08 in^3 (0.25 to 1.31 cm^3)	0.035 to 0.305 in^3 (0.57 to 5.0 cm^3)
Materials	Zinc-plated carbon steel	316 stainless steel	Zinc-plated carbon steel	Zinc-plated carbon steel

Single Line Parallel

GL-1™, GL-1™ SST, GL-1 X™, and GL-1 XL™ Injectors





114905

GL-1 Injector Dimensions

A	5.3 in (13.46 cm)
B	6.9 in (17.53 cm)
C	9.5 in (24.13 cm)
D	1.7 in (4.32 cm)

GL-1 Manifold Dimensions

A	2.5 in (6.35 cm)
B	3.0 in (7.62 cm)
C	4.2 in (10.67 cm)
D	5.5 in (13.97 cm)
E	6.7 in (17.02 cm)
F	8.0 in (20.32 cm)

24X807

Ordering Information

	GL-1	GL-1 SST	GL-1 X	GL-1 XL
GL-1 Injectors and Manifold Assemblies				
GL-1 one point assembly	114901	–	24X801	24X811
GL-1 two point assembly	114902	–	24X802	24X812
GL-1 three point assembly	114903	–	24X803	24X813
GL-1 four point assembly	114904	–	24X804	24X814
GL-1 five point assembly	114905	–	24X805	24X815
GL-1 six point assembly	117206	–	24X806	24X816
GL-1 single replacement injector (no manifold)	114909	25N109	24X807	24X817
GL-1 Bare Injector Manifolds (no injectors included)				
One bank GL-1 manifold	114911	25N101	114911	114911
Two bank GL-1 manifold	114912	25N102	114912	114912
Three bank GL-1 manifold	114913	25N103	114913	114913
Four bank GL-1 manifold	114914	25N104	114914	114914
Five bank GL-1 manifold	114915	25N105	114915	114915
Six bank GL-1 manifold	118206	25N106	118206	118206

24X817

Single Line Parallel

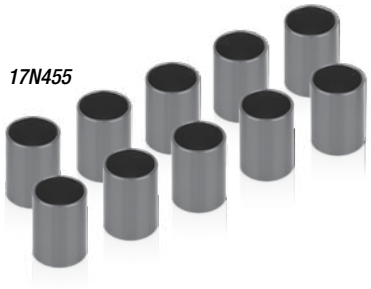
GL-1™, GL-1™ SST, GL-1 X™, and GL-1 XL™ Injectors

Ordering Information

	GL-1	GL-1 SST	GL-1 X	GL-1 XL
GL-1 Injector Accessories				
Injector cover kit, polycarbonate	17L754	17L754	17L754*	17L755*
Injector crossport kit	115120	–	115120	115120
Zerk and cap kit (5 pack)	17Y511	17Y498	17Y511	17Y511
Adjustment screw and lock nut (5 pack)	17Y510	17Y489	–	–
Seal repair kit	241234	241234	25A081	25A080
GL-1 oil conversion kit	25E349	25E349	–	–
Injector port manifold plug	25D336	–	25D336	25D336

*Included with every GL-1 X and GL-1 XL injector.

GL-1 Manifold Mounting Weld Bar	
One bank GL-1 manifold	17S392
Two bank GL-1 manifold	17S392
Three bank GL-1 manifold	17S393
Four bank GL-1 manifold	17S394
Five bank GL-1 manifold	17S395
Six bank GL-1 manifold	17S396



Output Spectrum Sleeves				
GL-1 Output Target in³ (cm³)	Output Target Ratio		Color	10-Pack Part Number
	From Minimum	From Maximum		
GL-1 / GL-1 SST Injectors				
0.01 (0.1)	1.0	0.10	N/A	N/A
0.03 (0.5)	2.0	0.50	Red	17K601
0.05 (0.8)	3.0	0.60	Silver	17K602
0.06 (1.0)	4.0	0.80	Gold	17K603
0.08 (1.3)	5.0	1.00	Green	17K604
GL-1 X Injectors				
0.01 (0.3)	1.0	0.20	N/A	N/A
0.03 (0.5)	2.0	0.40	Red	17K601
0.04 (0.7)	3.0	0.50	Silver	17K602
0.06 (0.8)	3.3	0.60	Gold	17K603
0.07 (1.2)	5.0	0.75	Green	17K604
GL-1 XL Injectors				
0.04 (0.6)	1.0	0.10	N/A	N/A
0.05 (0.8)	1.5	0.15	Red	17K601
0.06 (1.0)	2.1	0.25	Silver	17K602
0.09 (1.5)	2.8	0.30	Gold	17K603
0.12 (2.0)	3.4	0.40	Green	17K604
0.13 (2.0)	3.9	0.45	Black	17N453
0.15 (2.5)	4.3	0.50	Purple	17N454
0.18 (3.0)	5.4	0.60	Blue	17N455
0.21 (3.5)	6.4	0.75	Orange	17N456
0.24 (4.0)	7.5	0.90	Brown	17N457
0.30 (5.0)	8.6	1.00	Yellow	17N458

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 to 0.5 in^3 (0.82 to 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

Compact Series Progressive (CSP) Valves

Graco Quality in a Compact Package

Compact Series Progressive (CSP) valve with broad market versatility.
Combine with field-proven Graco pumps for a complete system solution.

1/8" NPT or BSPP Inlet

Built-in Durability

Zinc iron plating stands up to harsh environments.

Variety of Configurations

6 to 22 outlets, available with or without indicators.

High Output Pressure

Maximum working pressure of 5,076 psi (350 bar).

Output to Meet Your Needs

0.012 in^3 (0.2 cc)/stroke output with the ability to double-up outlets if greater output is required.

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 212ºF (100ºC)
Material ..... Carbon alloy steel with zinc iron plating

Ordering Information

	NPT	BSPP
CSP Valves without Indicator		
6 outlet, 1/8 in inlet	24Z486	24Z477
8 outlet, 1/8 in inlet	24Z487	24Z478
10 outlet, 1/8 in inlet	24Z488	24Z479
12 outlet, 1/8 in inlet	24Z489	24Z480
14 outlet, 1/8 in inlet	24Z490	24Z481
16 outlet, 1/8 in inlet	24Z491	24Z482
18 outlet, 1/8 in inlet	24Z492	24Z483
20 outlet, 1/8 in inlet	24Z493	24Z484
22 outlet, 1/8 in inlet	24Z494	24Z485
CSP Valves with Indicator		
6 outlet, 1/8 in inlet	24Z504	24Z495
8 outlet, 1/8 in inlet	24Z505	24Z496
10 outlet, 1/8 in inlet	24Z506	24Z497
12 outlet, 1/8 in inlet	24Z507	24Z498
14 outlet, 1/8 in inlet	24Z508	24Z499
16 outlet, 1/8 in inlet	24Z509	24Z500
18 outlet, 1/8 in inlet	24Z510	24Z501
20 outlet, 1/8 in inlet	24Z511	24Z502
22 outlet, 1/8 in inlet	24Z512	24Z503

CSP Valve Accessories	
25E935	Acrylic CSP Demo Kit

Ordering Information

G-Lock Push-to-Connect (PTC) Fittings For use with 1/8 in ID hose only	
17L441	1/4 in stud PTC, M10, CSP outlet
17L458	6 mm stud PTC, M10, CSP outlet. Refer to page 100 for mating 6 mm hose studs and hose.
25M496	90 degree 1/4 in field-installable stud
25M497	Straight 1/4 in field-installable stud
17L442	1/4 in stud PTC with male 1/8 in NPT, inlet or LP
17L547	1/4 in stud PTC with male 1/4 in NPT, pump outlet
Nylon Tube Push-To-Connect (PTC) Fittings For use with 1/4 in OD nylon tube	
17L440	1/4 in OD nylon tube PTC, M10, CSP outlet
17L652	90 degree 1/4 in OD nylon tube PTC, male 1/8 in NPT, inlet or LP
17L653	Straight 1/4 in OD nylon tube PTC, male 1/8 in NPT, inlet or LP
CSP Outlet Fittings	
25M498	1/8 in NPT female with check, M10
25M499	1/4 in compression with check, M10
17L550	6 mm stud compression, M10, CSP outlet. Refer to page 100 for mating 6 mm hose studs and hose.
Doubling Plug	
17L651	Doubling plug
Proximity Switch	
17L879	CSP – DC PNP, Solid state, 10-36 VDC, M12 connection
Weld Stud Accessories	
25N730	CSP weld bar kit
26A478	Weld stud kit
26A479	Weld stud template
1/4 in ID Hoses and Accessories	
128572	Hose, 1/4 in ID, 2,750 PSI, 100 ft, braided with polyurethane cover
128573	Hose, 1/4 in ID, 2,750 PSI, 125 ft, braided with polyurethane cover
128582	Hose guard, 1/2 in ID, 100 ft
128563	Field-installable swivel hose end fitting, 1/4 in ID hose, #4 JIC, SAE 7/16-20 female
128564	Field-installable swivel hose end fitting, 1/4 in ID Hose, 1/4 in NPT male
128565	Field-installable swivel hose end fitting, 1/4 in ID Hose, 1/8 in NPT male
1/8 in ID Hoses and Accessories	
128570	Hose, 1/8 in ID, 3,000 PSI, 200 ft, braided with polyurethane cover
128571	Hose, 1/8 in ID, 3,000 PSI, 400 ft, braided with polyurethane cover
128579	Hose guard, 3/8 in ID, 160 ft
128580	Hose guard, 3/8 in ID, 320 ft
128561	Field-installable swivel hose end fitting, 1/8 in ID hose, #4 JIC, SAE 7/16-20 female
128562	Field-installable swivel hose end fitting, 1/8 in ID hose, 1/8 in NPT male
1/4 in OD Tubing and Accessories	
127555	Tubing, 1/4 in OD, 625 PSI, 100 ft
127552	1/4 in tube x 1/4 in NPT straight compression fitting
555726	1/4 in tube x 1/4 in NPT elbow compression fitting
127553	1/4 in tube x 1/8 in NPT straight compression fitting
556634	1/4 in tube x 1/8 in NPT elbow compression fitting

17L441

17L652

25M499

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 350ºF (176ºC)

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	

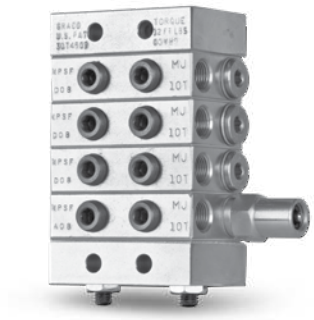
MD Spare Parts	
563555	Cycle indicator end plug assembly
122276	Viton o-ring

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.....200ºF (93ºC)
Max Cycle Rate with Cycle Pin.....60 cycles/min

	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
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

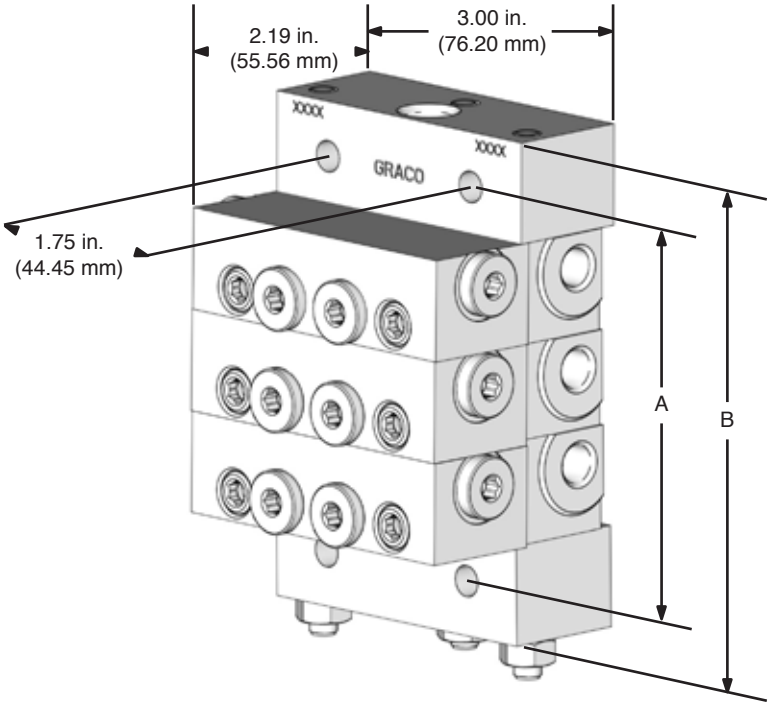
- Mobile, industrial, food and beverage, wind, and many more

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.....350ºF (176 ºC)
Max Cycle Rate with Cycle Pin.....60 cycles/minute
Max Cycle Rate without Cycle Pin.....200 cycles/minute

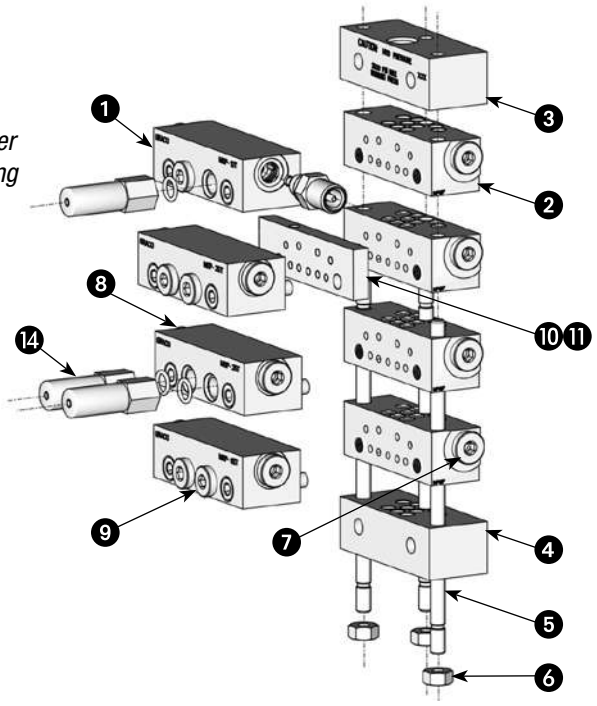


Number of Valve Sections	Dimensions *(for reference only)*	
	A	B
3	3.6 in (91.4 mm)	4.6 in (116.8 mm)
4	4.5 in (114.3 mm	5.0 in (127.0 mm)
5	5.4 in (137.2 mm)	6.4 in (162.6 mm)
6	6.3 in (160.0 mm)	7.4 in (188.0 mm)
7	7.3 in (185.4 mm)	8.3 in (210.8 mm)
8	8.2 in (208.3 mm)	9.2 in (233.7 mm)

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, in³ (cm³)	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	
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	
		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	
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 with o-ring	567251			
9	Indicator Port Plug with o-ring	16U217			

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 93	
14	Performance Indicators	Reset Indicator	See Page 88	
		Automatic Relief Indicator	See Page 89	
		Rupture to Atmosphere Indicator	See Page 91	
		Pressure Switches	See Page 95	
		Broken Line Indicator	See Page 96	
15	Mounting Brackets	Choose from universal, top, or side mounting	See Page 72	

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 in 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, 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		

Trabon® MSP Mounting Accessories and Spare Parts

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
17J423	MSP weld stud template
563929	MSP cycle pin indicator repair kit, o-ring
563928	MSP cycle pin indicator repair kit, gasket
556540	MSP o-ring (BUNA-N), black
557721	MSP (70 Duro) Viton o-ring, brown
122276	MSP standard high pressure o-ring (90 DURO Fluoroelastomer), black
556568	Piston enclosure o-ring (BUNA-N), black
556570	Piston enclosure o-ring (90 DURO Fluoroelastomer), black
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

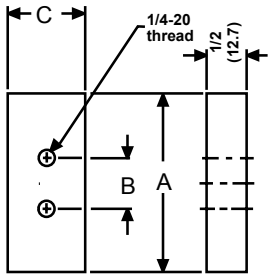


Fig. 2
Top Mount Bracket

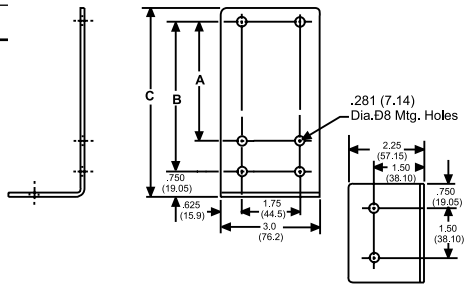
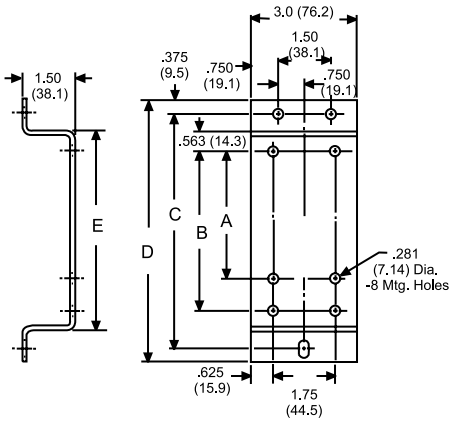


Fig. 3
Side Mount Bracket



Series Progressive

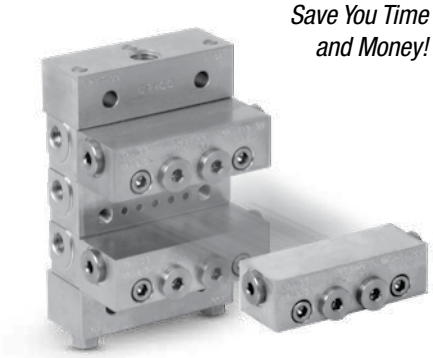
Trabon® MSP Stainless Steel Divider Valves

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 ..... 3,500 psi (241 bar)
Max Operating Temperature ..... 140ºF (60 ºC)
Max Cycle Rate with Cycle Pin ..... 60 cycles/min
Max Cycle Rate without Cycle Pin ..... 200 cycles/min

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, 1,500 psi SST
24N949	Valve, relief, 1/8 NPT, 2,000 psi SST
24N951	Valve, relief, 1/8 NPT, 2,500 psi SST
24N952	Valve, relief, 1/8 NPT, 3,000 psi SST
24R631	Crossport bar, both
24R632	Crossport bar, right
24R633	Crossport bar left

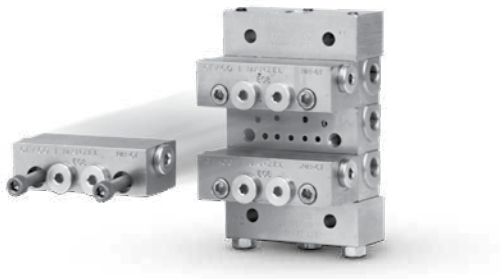
Series Progressive

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

Technical Specifications

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

	Output Twin Outlet, in^3 (cm^3)	Output Single Outlet, in^3 (cm^3)
MHH6	0.006 (0.098)	0.012 (0.197)
MHH9	0.009 (0.149)	0.018 (0.295)
MHH12	0.012 (0.197)	0.024 (0.393)
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

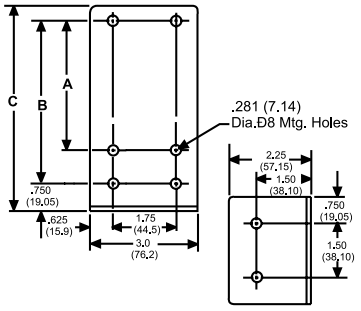
Series Progressive

Manzel® MHH Divider Valves

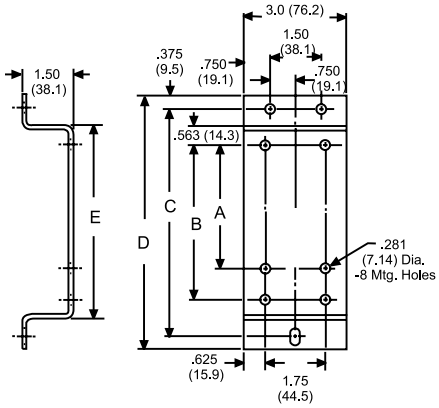
Ordering Information

MHH Base Plate Assemblies - Inlet, Intermediates, Ends and Tie Rods	
24F596	MHH – 3 section, NPSF
24F597	MHH – 4 section, NPSF
24F598	MHH – 5 section, NPSF
24F599	MHH - 6 section, NPSF
24F600	MHH - 7 section, NPSF
24F601	MHH – 8 section, NPSF
MHH Inlets, Intermediates and Ends (must be ordered in multiples of five)	
560919	Inlet, 1/4-18 NPSF (NPT)
560936	Inlet, 1/4-19 BSPP
560943	Inlet, 7/16-20 UNF-28 (SAE)
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), black
556371	Tie rod nut (3 required per assembly)
16U217	Indicator port plug with o-ring
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 in (101.6 mm) x 1-3/4 in (44.5 mm) (B) 1 in (25.4 mm) with 1/4 in (6.4 mm)-20 thread
563435	Top-mount bracket, (A) 3-37/64 in (90.9 mm) (B) 4-1/2 in (114.3 mm) (C) 5-21/32 in (143.7 mm)
563436	Top-mount bracket, (A) 5-27/64 in (137.7 mm) (B) 6-11/32 in (161.1 mm) (C) 7-1/2 in (190.5 mm)
563437	Top-mount bracket, (A) 7-17/64 in (184.5 mm) (B) 8-3/16 in (208.0 mm) (C) 9-11.32 in (237.3 mm)
563438	Side-mount bracket, (A) 3-37/64 in (90.9 mm) (B)4-1/4 in (114.3 mm) (C) 6-5/8 in (168.3 mm) (D) 3-7/8 in (187.3 mm) (E) 5-5/8 in (142.9 mm)
563439	Side-mount bracket, (A) 5-27/64 in (137.7 mm) (B) 6-11/32 in (161.1 mm) (C) 8-15.32 in (215.5 mm) (D) 9-7/32 in (234.2 mm) (E) 7-15/32 in (198.7 mm)
563440	Side-mount bracket, (A) 7-17/64 in (184.5 mm) (B) 8-3/16 in (208.0 mm) (C) 10-5/8 in (262.0 mm) (D) 11-1/16 in (281.0 mm) (E) 9-5/16 in (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.....200ºF (93ºC)
Maximum Cycle Rate with Cycle Pin.....60 cycles/min

	Output Twin Outlet, in³ (cm³)	Output Single Outlet, in³ (cm³)	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
563917	MX cycle indicator pin repair kit, current style
Plugs for MXP Base Section Outlet Ports	
557391	NPT plug 1/4-18
556430	SAE plug 9/16-18 with O-ring
556427	BSPP (ISO 1179) plug 1/4-19 with O-ring

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.....350ºF (176ºC)
Maximum Cycle Rate with Cycle Pin.....60 cycles/min
Maximum Cycle Rate without Cycle Pin.....110-200 cycles/min (see chart below)

MXP Maximum Cycle Rates without Cycle Pin (cycles/min)

		Number of Sections							
		3	4	5	6	7	8	9	10
Smallest Piston in Assembly	MXP-150	200	200	200	200	200	200	180	165
	MXP-125	200	200	200	200	200	195	175	155
	MXP-100	200	200	200	200	200	185	165	150
	MXP-75	200	200	200	200	200	175	155	140
	MXP-50	200	200	200	200	195	165	145	130
	MXP-25	200	200	200	200	165	140	125	120

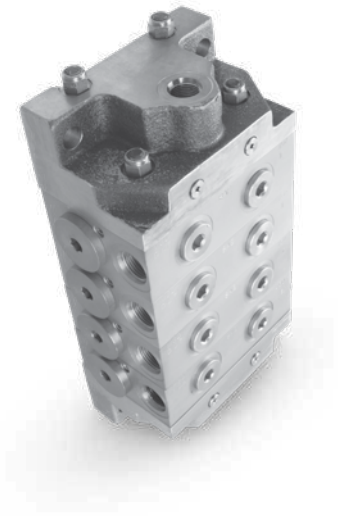
	Output Twin Outlet, in³ (cm³)	Output Single Outlet, in³ (cm³)	Cycle Indication
MXP-25	0.025 (0.41)	0.050 (0.82)	Electronic proximity switch
MXP-50	0.050 (0.82)	0.100 (1.64)	Electronic proximity switch, cycle indicator switch
MXP-75	0.075 (1.23)	0.150 (2.46)	
MXP-100	0.100 (1.64)	0.200 (3.28)	
MXP-125	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
MXP with 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 two)	
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	“MXPO” Intermediate base without outlet check, 1/4-18 NPSF
24Z675	“MXPO” Intermediate base without outlet check, 1/4-19 BSPP (ISO 1179)
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
115010	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
16U217	MXP indicator port plug with o-ring
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.....350ºF (176ºC)
Maximum Cycle Rate with Cycle Pin.....60 cycles/min
Maximum Cycle Rate without Cycle Pin.....110-200 cycles/min (see chart below)

MGO Maximum Cycle Rates without Cycle Pin (cycles/min)

		Number of Sections								
		3	4	5	6	7	8	9	10	11
Smallest Piston in Assembly	MGO-600	185	140	110	90	80	70	60	55	50
	MGO-450	185	135	110	90	75	65	60	50	50
	MGO-300	180	130	100	80	70	60	55	50	45
	MGO-150	180	125	100	80	65	55	50	45	40

	Output Twin Outlet, in³ (cm³)	Output Single Outlet, in³ (cm³)	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 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 (2,500 SUS)

Technical Specifications

Pump Output ..... 8.5 in^3/min (140 cm^3/min)
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 to 60 psi (2.07 to 4.14 bar)
Output Block Regulator ..... 30 to 60 psi (2.07 to 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 to 20 seconds
Pause (Off) Time ..... 2.5 to 30 minute
Fault Output ..... (Dry Contacts), 5 amp max up to 230 VAC
Air Cleanliness ..... 5 micron, 40ºF (4ºC) dew point
Operating Temperature ..... 40ºF to 120ºF (4ºC to 49ºC)
Lube Output ..... 0.0015, 0.0030 and 0.005 cu in/cycle (0.025, 0.049 and 0.082 cm^3/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	
26C419	SPG-E-0-024-2-33
258295	SPG-E-0-024-2-55
564445	SPG-E-0-024-3-333
25A202	SPG-E-0-230-4-3333
24B219	SPG-E-1-115-2-11
24R127	SPG-E-1-115-2-33
24V204	SPG-E-1-115-2-55
25C264	SPG-E-1-115-3-111
258347	SPG-E-1-115-6-333113
258301	SPG-E-1-115-6-333333
25C265	SPG-E-1-230-3-111
25A209	SPG-E-1-230-4-3333
24V531	SPG-E-1-230-5-55555
26C521	SPG-E-1-230-8-11111111
24H681	SPG-E-1-230-8-55555555
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, 10 micron, 1/4 in NPSF (FM) to 1/4 in NPTF (M)
557134	Replacement filter element - in-line lube filter
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

SPG – X – XXX – X – X

E – Electric Motor

CONTROLLER OPTION

0 – REMOTE (NO TIMER)
1 – WITH TIMER (AC MODELS ONLY)

VOLTAGE

024 – 24 VDC
115 – 115 VAC
230 – 230 VAC

NUMBER OF OUTLETS

1 – ONE
2 – TWO
3 – THREE
4 – FOUR
5 –FIVE
6 – SIX
7 – SEVEN
8 – EIGHT

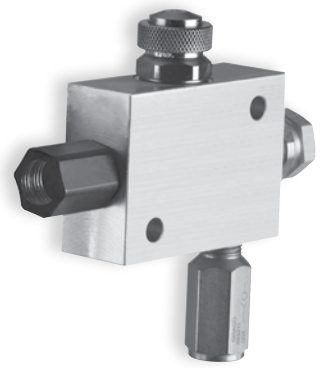
INDIVIDUAL OUTPUTS FROM INLET TO END CC/STROKE (CU IN/STROKE)

0 – PLUGGED
1 – 0.025 (0.0015)
3 – 0.049 (0.0030)
5 – 0.082 (0.0050)

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.
- Not to be used with G-Series Pumps or other low flow pumps.



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

Typical Fluids Handled

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

Technical Specifications

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

Ordering Information

Gear Spray Valves	
563275	Air-lube control valve and nozzle assembly – 4 in spray diameter, normal
563276	Air-lube control valve and nozzle assembly – 8 in spray diameter, wide

Zone Valves

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

Ordering Information

Zone Valves	
24P976	Two-way valve, 24 VDC, normally open, Deutsch cable, 3,500 psi (241 bar)
24T296	Two-way valve, 24 VDC, normally closed, Deutsch cable, 3,500 psi (241 bar)
24P977	Three-way valve, 24 VDC, normally closed, Deutsch cable, 3,500 psi (241 bar)
24P978	Three-way valve, 12 VDC, normally closed, Deutsch cable, 3,500 psi (241 bar)

24P977

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)	1,000 (69)	1,500 (103)	2,000 (138)	2,500 (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)

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 for MX	
563156	750 psi (52 bar)
563157	1,000 psi (69 bar)
563158	1,500 psi (103 bar)
563159	2,000 psi (138 bar)
563160	2,500 psi (172 bar)
563161	3,000 psi (207 bar)
Divider Valve Automatic Relief Indicators for MSP, MHH, MXP and MJ	
563163	750 psi (52 bar)
563164	1,000 psi (69 bar)
563165	1,250 psi (86 bar)
563166	1,500 psi (103 bar)
563167	2,000 psi (138 bar)
563168	2,500 psi (172 bar)
563169	3,000 psi (207 bar)
Divider Valve Automatic Relief Indicators with O-RIng Seal for MSP, MHH and MXP	
563170	750 psi (52 bar)
563171	1,000 psi (69 bar)
563172	1,250 psi (86 bar)
563173	1,500 psi (103 bar)
563174	2,000 psi (138 bar)
563175	2,500 psi (172 bar)
563176	3,000 psi (207 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)
563191	2,350 psi (162 bar)
563192	2,950 psi (203 bar)
563193	3,250 psi (224 bar)
563194	5,000 psi (345 bar)
563218	6,400 psi (441 bar)
563219	7,300 psi (503 bar)
563217	5,500 psi (379 bar)
Rupture-to-Atmosphere Indicators for MX	
563179	1,450 psi (100 bar)
563182	1,750 psi (121 bar)
563183	2,050 psi (141 bar)
563184	2,350 psi (162 bar)
563185	2,950 psi (203 bar)
563186	1,450 psi (100 bar), with spud assembly
563187	1,750 psi (121 bar), with spud assembly
563188	2,350 psi (162 bar), with spud assembly
Replacement Rupture Packs of 6 (11/16 in / 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 in / 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

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.

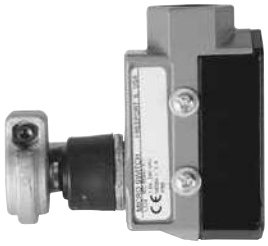
563251

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

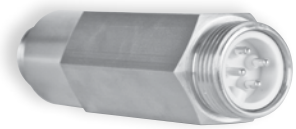
Cycle Switches	
563270	MD-2, cycle switch, bracket assembly
563271	MD-3, cycle switch, bracket assembly
564356	MD-4, cycle switch, bracket assembly
563269	MGO cycle switch (SPDT), bracket assembly
557781	Replacement cycle switch for 563269, 563270, 563271, 564356, 563272
564357	MHP cycle switch (DPDT) 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
260067	1/2 in NPT cord grip for use with switch 557781

General Accessories

Proximity Switches

Features and Benefits

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



557747

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

Ordering Information

Divider Valve Proximity Switches

Part Number	Divider Valve	Rating (if any)	Switch Type	Operating Voltage	Electrical Connection	LED	Max Cycles Per Min	Max Pressure, PSI (bar)	Rated Life Cycle
563495	MGO	UL+CSA	FSM	10-32 VDC	4-pin CH Mini	No	125	10,000 (690)	50,000,000+
564402	MGO	UL+CSA	FSM	115 VAC	5-pin BH Mini	No	125	10,000 (690)	50,000,000+
563970	MGO	UL+CSA	FSM	115 VAC	3-pin BH Mini	No	125	3,500 (241)	50,000,000+
17L881	MGO	IP65, IP68, IP69	Solid State PNP	10-32 DC	M12	No	200	6,000 (414)	50,000,000
564399	MXP/MX	UL+CSA	FSM	115 VAC	5-pin BH Mini	No	125	3,500 (241)	50,000,000+
563476	MXP/MX	UL+CSA	FSM	115 VAC	3-pin BH Mini	No	125	3,500 (241)	50,000,000+
563969	MXO (gasket)	UL+CSA	FSM	115 VAC	3-pin BH Mini	No	125	3,500 (241)	50,000,000+
563486	MXP/MX		FSmech	20-32 VDC	3-pin BH Mini	Yes	100	7,500 (518)	10,000,000+
564400	MXP/MX		FSmech	20-32 VDC	5-pin BH Mini	Yes	100	7,500 (518)	10,000,000+
564401	MXP/MX	CSA_{NRTL}	FSmech	115 VAC or 10-32 VDC	Explosion-Proof*	No	100	7,500 (518)	10,000,000+
557752	MXP/MX	UL+CSA	FSM	10-32 VDC	4-pin CH Mini	No	125	10,000 (690)	50,000,000+
558938	MXP/MX	UL+CSA	FSM	115 VAC	5-pin BH Mini	No	125	10,000 (690)	50,000,000+
564403	MXP/MX	UL+CSA	FSM	10-32 VDC	4-pin Micro	No	125	10,000 (690)	50,000,000+
17L880	MXP/MX	IP65, IP68, IP69	Solid State PNP	10-32 DC	M12	No	200	8,000 (552)	50,000,000
557741	MSP/MHH	UL+CSA	FSM	115 VAC	3-pin BH Mini	No	125	3,500 (241)	50,000,000+
557745	MSP/MHH	✓	FSM	115 VAC	Explosion-Proof*	No	125	3,500 (241)	50,000,000+
558933	MR (gasket)	✓	FSM	115 VAC	Explosion-Proof*	No	125	3,500 (241)	50,000,000+
557746	MSP/MHH	UL+CSA	FSM	115 VAC	5-pin BH Mini	No	125	3,500 (241)	50,000,000+
557747	MSP/MHH	UL+CSA	FSM	10-32 VDC	4-pin CH Mini	No	125	3,500 (241)	50,000,000+
563477	MSP/MHH		FSmech	20-32 VDC	5-pin BH Mini	Yes	100	7,500 (518)	10,000,000+
563478	MSP/MHH		FSmech	20-32 VDC	3-pin BH Mini	Yes	100	7,500 (518)	10,000,000+
563484	MSP/MHH		FSmech	115 VAC or 10-32 VDC	5-pin BH Mini	No	100	7,500 (518)	10,000,000+
563485	MSP/MHH	CSA_{NRTL}	FSmech	115 VAC or 10-32 VDC	Explosion-Proof*	No	100	7,500 (518)	10,000,000+
563427	MSP/MHH		Reed	115 VAC or 10-32 VDC	1/2 in NPT cond	No	60	7,500 (518)	10,000,000+
563501	MSP/MHH		FSmech	20-32 VDC	4-pin Micro	Yes	100	7,500 (518)	10,000,000+
17L983	MSP/MHH	IP65, IP68, IP69	Solid State PNP	10-32 DC	M12	No	200	7,500 (518)	50,000,000
17M380	MJ/MD	IP65, IP68, IP69	Solid State PNP	10-32 DC	M12	No	200	3,000 (207)	50,000,000
17L879	CSP	IP65, IP68, IP69	Solid State PNP	10-32 DC	M12	No	200	5,075 (350)	50,000,000

UL+CSA = Approved – search their respective website for the certifications or contact Graco Technical Assistance.
CSA_{NRTL} = Approved for hazardous locations: Class I, Groups A, B, C and D – Division 1
✓ = UL and CSA approved for hazardous locations: Class I, Groups A, B, C and D – Division 1; Class II, Groups E, F and G – Division 1
*Includes 6 ft, 3 conductor cable
BH = Brad Harrison
CH = Crouse-Hinds

17L880

Proximity Switch Cables

Ordering Information

Part Number	Proximity Switch Connection	2nd Connection	Length	Note
Cables for Legacy Proximity Switches				
558021	3-pin BH Mini, straight	Flying leads	6 ft (1.83 m)	–
558022	3-pin BH Mini, straight	Flying leads	12 ft (3.66 m)	–
558025	4-pin CH Mini, straight	Flying leads	12 ft (3.66 m)	PNP LED
558026	4-pin CH Mini, 90º	Flying leads	12 ft (3.66 m)	PNP LED
558023	5-pin BH Mini, straight	Flying leads	6 ft (1.83 m)	–
558024	5-pin BH Mini, straight	Flying leads	12 ft (3.66 m)	–
Cables for Solid State Proximity Switches				
For use with a G3 Max or G3 SP when connecting directly to the pump, when LED is required.				
25M602	M12 female, straight	Flying leads	16.5 ft (5 m)	PNP switch with NPN LED – requires 124594
25M603	M12 female, straight	M12 male, straight	16.5 ft (5 m)	PNP switch with NPN LED
For use with an external lubrication controller, G-Mini, PLC or other controller, when LED is required.				
25M604	M12 female, straight	Flying leads	16.5 ft (5 m)	–
24Z720	M12 female, 90º	Flying leads	16.5 ft (5 m)	–
For use when replacing a legacy proximity switch with a new solid state proximity switch.				
24Z714	M12 female, 90º	5-pin BH Mini, straight	1 ft (0.3 m)	NPN-BH adapter cable
24Z715	M12 female, 90º	3-pin BH Mini, straight	1 ft (0.3 m)	NPN-BH adapter cable
24Z716	M12 female, 90º	4-pin CH Mini, straight	1 ft (0.3 m)	NPN-BH adapter cable
24Z719	M12 female, 90º	4-pin CH Mini, straight	1 ft (0.3 m)	PNP-CH adapter cable
Other M12 cables, without LED indication				
126331	M12 female, straight	Flying leads	16.5 ft (5 m)	Requires 124594 when used with G3 Max, SP, etc.
124300	Flying leads	M12 male, straight	16.5 ft (5 m)	Requires 124301 when used with solid state proximity switch
124333	M12 female, straight	M12 male, straight	16.5 ft (5 m)	–
131214	M12 female, 90º	M12 male, straight	3.3 ft (1 m)	–
131215	M12 female, 90º	M12 male, straight	6.6 ft (2 m)	–
131216	M12 female, 90º	M12 male, straight	9.8 ft (3 m)	–
130282	M12 female, straight	M12 male, straight	3.3 ft (1 m)	–
130280	M12 female, straight	M12 male, straight	6.6 ft (2 m)	–
130283	M12 female, straight	M12 male, straight	9.8 ft (3 m)	–

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 Max 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 to 580 psi (20 to 40 bar), reset pressure range 175 to 5,685 psi (12 to 392 bar), M12 connector (female), 9.6 to 32 VDC, 1/4 in (7.6 cm) NPT thread (male), IP67

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 50 to 4,700 psi

557829

Ordering Information

Pressure Switches	
557830	2,000 psi (138 bar), 50 to 2,000 psi (3.4 to 138 bar) adjustable range (factory set @ 50 psi / 3.4 bar), moisture-resistant, NEMA 4
557828	4,700 psi (324 bar), 400 to 4,700 psi (28 to 324 bar) adjustable range (factory set @ 750 psi / 52 bar), moisture-resistant, NEMA 4
557829	4,700 psi (324 bar), 400 to 4,700 psi (28 to 324 bar) adjustable range (factory set @ 1,150 psi / 79 bar), moisture-resistant, NEMA 4

Features and Benefits

- High-low, adjustable pressure switches

115124

Ordering Information

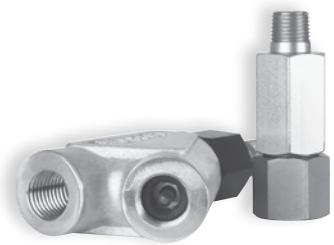
Pressure Switches	
115124	Single post pressure switch, NEMA 3
558947	Dual post control pressure switch, NEMA 3
24N180	IP65 rated for harsh environments. Fluoroelastomer seals are suitable for use in high temperature environments and synthetic lubricants. Large orifice reduces grease solidification. DIN connector. Adjustable from 580 to 5,800 psi (40 to 400 bar). 1/4 in 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 to 5,800 psi (40 to 400 bar). 1/4 in NPT inlet.

24N181

General Accessories
Broken Line Indicators

Features and Benefits

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



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)
Minimum Pump Pressure	1,000 psi (69.0 bar)	1,500 psi (103.4 bar)	2,500 psi (172.4 bar)
Application	Recirculating Oil	Recirculating Oil or Terminating Oil	Grease

Ordering Information

Broken Line Indicators

System Type	BLI Rating	Simulator Rating	ΔP	Pressure Switch Setting (psi)	Pump Relief Valve (psi)	Blowout Disc (psi)	Minimum Pump Capacity (psi)	BLI Kit Part Number	BLI Part Number	Simulator Part Number
Re-Circulating Oil	500	60	440	400	700	N/A	1,000	563078	563068	563075
Re-Circulating Oil	1,000	100	900	850	1,400	N/A	1,500	563079	563069	563076
Terminating Oil	1,000	100	900	850	N/A	1,450	2,000	563079	563069	563076
Terminating Grease	1,500	150	1,350	1,300	N/A	2,350	2,500	563080	563070	563077

Ordering Information

All filter ports are female both end (fbe) unless otherwise stated. For more details, search www.graco.com for brochure L15200.

MSP Inlet Oil Filters – Typically used as a secondary filter at the inlet of MSP divider valve assemblies.

Part Number	Type	Max Pressure PSI (bar)	Ports	Replacement Element	Micron Rating
563091	MSP standard inlet filter	3500 (241)	1/4-18 NPTF female x male	557134	10
563074	MSP zero-leak inlet "last chance" filter/restrictor		1/4-18 NPSF f x 1/4-18 NPTF m	N/A	90
563094	MSP standard/zero-leak/shunt valve inlet filter		1/4-18 NPSF f x 1/4-18 NPTF m		
564327	MSP standard/zero-leak/shunt valve inlet filter and check valve		1/4-18 NPSF f x 1/4-18 NPTF m		
564326	MSP standard Inlet filter and check valve		7/16-20 SAE-ORB female x male		
563073	MSP zero-leak and shunt "last chance" filter		9/16-18 SAE-ORB female x male		
564342	MSP standard and zero-leak inlet filter		1/4-19 BSPP female x male		
563480	ZMSP modular filter block	3000 (207)	Mounts on base 563479		25

Cartridge Oil Filters equipped with "HF2" replacement elements – Versatile medium pressure oil filters for applications up to 3 gpm (11 lpm).

Part Number	Type	Max Pressure PSI (bar)	Ports	Replacement Element	Micron Rating
564004	Single element with electrical and visual indicator	3000 (207)	3/4-14 BSPP (ISO-1179)	556031	10
564003			3/4-14 BSPP (ISO-1179)	556032	20
564005			M27 x 2 (ISO-6149)	556031	10
564006			M27 x 2 (ISO-6149)	556032	20
562880			1 1/16-12 SAE (ISO-11926)	556031	10
564007			1 1/16-12 SAE (ISO-11926)	556032	20
562881	Single element with visual indicator		3/4-14 BSPP (ISO-1179)	556031	10
564008			3/4-14 BSPP (ISO-1179)	556032	20
564009			M27 x 2 (ISO-6149)	556031	10
564010			M27 x 2 (ISO-6149)	556032	20
562882			1 1/16-12 SAE (ISO-11926)	556031	10
562883			1 1/16-12 SAE (ISO-11926)	556032	20

Note: for NPT applications, choose one of the "SAE" options above and add quantity 2 of part number 113613 to adapt to 1/2-14 NPTF thread.

Replacement Elements For Legacy Single and Dual Cartridge Filters – Use to replace string filters and pleated elements in legacy Trabon/Manzel canister filters.

Part Number	Dimensions	Micron Rating	Where used – legacy filter part number
557803	2-5/8 in (67 mm) OD x 3-5/8 in (92 mm) L	10	183-000-001, 183-000-041, 183-000-141
557804		25	183-000-011, 183-000-051, 183-000-151
557805		50	50 micron alternate for 3-5/8 in elements (above)
557806	2-5/8 in (67 mm) OD x 9-5/8 in (244 mm) L	10	183-000-071, 183-000-111, 183-000-201
557807		25	183-000-081, 183-000-121, 183-000-211
557808		50	50 micron alternate for 9-5/8 in elements (above)
557811		1	1 micron alternate for 9-5/8 in elements (above)

Spin-On Oil Filters – Low pressure, high flow oil filters for applications up to 20 gpm (76 lpm). Typical applications include return lines in recirculating systems, and fill lines.

Part Number	Type	Max Pressure PSI (bar)	Ports	Replacement Element	Micron Rating
563092	Assembly with internal 25 PSI (1.7 bar) bypass	200 (13.8)	3/4-14 NPT	563093	10
563095	Assembly with external 150 PSI (10.3 bar) relief				
564343	Assembly 563095 with fill stud and mounting bracket				
563096	Assembly with external 150 PSI (10.3 bar) relief			563097	25
563099	Assembly with external 150 PSI (10.3 bar) relief	150 (10.3)	3/4-14 BSPP (ISO 1179-1)		
563100	Assembly with external 150 PSI (10.3 bar) relief		M27x2 (ISO 6149)		

Ordering Information

In-Line Oil Filter – High-Pressure – Use with Trabon and G-series pumps in medium duty applications. Miniature Meter-Flo and Modu-Flo oil tanks include a bracket designed to receive these filters.

Part Number	Max Pressure PSI (bar)	Ports	Replacement Element	Micron Rating
563511	7500 (517)	1/4-18 NPTF	563509	10
563512			563510	25
563513		9/16-18 SAE	563509	10
563514			563510	25
563516		1/4-19 BSPP (ISO 1179)	563509	10
563515			563510	25

In-Line Grease/Heavy Oil Strainer – High-Pressure – Use with Trabon and G-series pumps in medium duty applications. Install on reservoir fill line or near pump outlet to protect system from contaminants.

Part Number	Type	Max Pressure PSI (bar)	Ports	Replacement Element	Micron Rating (Mesh Rating)
563508	Heavy oil strainer	7500 (517)	1/4-18 NPTF	557701	44 (325)
563507	Grease strainer		1/4-18 NPTF	557700	149 (100)
564406			1/4-19 BSPP (ISO 1179)		
563517			M14x1.5 (ISO 6419)		

Fill Point Stainers with Removable Element – Installs in fill port on reservoirs with 1/4 in NPT thread.

Part Number	Type	Max Pressure PSI (bar)	Ports	Replacement Element	Micron Rating (Mesh Rating)
563103	Oil	3000 (207)	1/4-18 NPSF f x 1/4-18 NPTF m	557154	44 (325)
563102	Grease			557153	149 (100)

System-Specific Oil Filters – Filters designed for use with application-specific oil systems.

Part Number	Type	Max Pressure PSI (bar)	Ports	Replacement Element	Micron Rating
564053	Thrif-T Luber (TLLF-00) in-line oil filter	500 (34)	1/8-27 NPSF	557132	25
561031	High-speed SpindL-Gard inlet block filter	N/A	N/A	563489	10
563563	MVB inlet filter/primer for single pump head	40 (2.8)	1/4-18 NPSF female inlet and return to sump, 3/8-18 NPTF male banjo bolt for pump inlet.	557827	10
563559	MVB inlet remote filter	40 (2.8)	1/4-18 NPSF female inlet, outlet and return to sump (1/8 in NPT adaptor included with return port)	557827	10
563560	MVB inlet remote filter, metal housing				
564417	MVB inlet remote filter			557824	25
563561	MVB inlet remote filter, metal housing				

Barrel Pump Fill Line Filter – Small inline filter for use as a fill filter for barrel pump modules including Fire-Ball and Dyna-Star families.

Part Number	Type	Max Pressure PSI (bar)	Ports	Replacement Element	Micron Rating
77X523	Inline fill line filter	5000 (344)	3/8-18 NPTF female inlet x male outlet	77X541	400

"Red Alert" Grease Filter – Ideal for use as a fill line filter for barrel pump modules including Fire-Ball and Dyna-Star families. The indicator provides gradual warning of a dirty element.

Part Number	Type	Max Pressure PSI (bar)	Ports	Replacement Element	Micron Rating
17L366	36 in² steel mesh filter, 2 gpm (7.57 lpm) flow capacity	3000 (207)	3/4-14 NPT	129031	380

Oil Brushes

Part Number	Material	Dimensions	Maximum Temperature	Thread
124089	Horsehair	3/4 in (20 mm) diameter	176°F (80°C)	1/4 in-19 BSPP female
124090		1.2 in (30 mm) x 1.6 in (40 mm)		
124091		1.2 in (30 mm) x 2.4 in (60 mm)		
124092		1.2 in (30 mm) x 3.9 in (100 mm)		
124114	Nylon	5/8 in (16 mm) diameter	160°F (71°C)	1/8 in-27 male
124115		1/2 in (13 mm) x 2 in (51 mm)		

124089

124090

Ordering Information

Pressure Gauges - Bottom and Back Mounted	
126005	0 to 5,000 psi (0 to 344.7 bar), 1/4 in (6.4 mm) NPT brass back mount connection, liquid-filled, operating range -40ºF to 150ºF (-40ºC to 66ºC)
557866	0 to 3,000 psi (0 to 206.8 bar), standard
558948	0 to 150 psi (0 to 10.3 bar), 1/4 in (6.4 mm) NPT brass bottom mount connection, standard
557713	0 to 3,000 psi (0 to 206.8 bar), 1/4 in (6.4 mm) NPT stainless steel bottom mount connection, liquid-filled
102814	0 to 5,000 psi (0 to 344.7 bar), 1/4 in (6.4 mm) NPT brass bottom mount connection, standard
557278	0 to 1,500 psi (0 to 103.4 bar), 1/4 in (6.4 mm) NPT brass back mount connection, standard
557864	0 to 3,000 psi (0 to 206.8 bar), 1/4 in (6.4 mm) NPT brass back mount connection, standard
558297	0 to 10,000 psi, 1/4 in NPT brass back mount connection, standard
558298	0 to 10,000 psi (0 to 689.5 bar), 1/4 in (6.4 mm) NPT steel back mount connection, liquid-filled
Outlet Check Valves	
563196	Single check valve, 1/8-27 in (3.2 mm-68.6 cm) NPTF x 1/8-27 in (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 in (11.1 mm-50.8 cm) x 7/16-20 in (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 in (11.1 mm-50.8 cm) x 7/16-20 in (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 in (3.2 mm) NPTF (M) x 1/8 in (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 in (3.2 mm) NPSF (F) x 1/8 in (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 in (3.2 mm) NPTF (M) x 1/8 in (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 in (3.2 mm) NPSF (F) x 1/8 in (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 in (3.2 mm) NPSF (F) x 1/8 in (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 in (3.2 mm) NPTF (M) x 1/8 in (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 in (3.2 mm) NPTF (M) x 1/8 in (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 in (3.2 mm) NPSF (F) x 1/8 in (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 in (3.2 mm) NPTF (M) x 1/8 in (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 in (6.4 mm) (M) x 1/4 in (6.4 mm) (F), steel body/ball, 5,000 psi (344.7 bar) max
563210	10 psi (.69 bar) nominal cracking pressure, 1/4 in (6.4 mm) NPSF (F) x 1/4 in (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 in (6.4 mm) NPTF (M) x 1/4 in (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 in (6.4 mm) NPSF (F) x 1/4 in (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 in (6.4 mm) NPTF (M) x 1/4 in (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 in (6.4 mm) NPSF (F) x 1/4 in (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 in (14.3 mm-50.8 cm) SAE (M) x 7/16-20 in (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 in (14.3 mm-45.7 cm) SAE (M) x 9/16-18 in (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 in (14.3 mm-50.8 cm) SAE (M) x 7/16-20 in (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 in (6.4 mm) NPSF (F) x 1/4 in (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 in (6.4 mm) NPSF (F) x 1/4 in (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 in (3.2 mm) NPSF (F) x 1/8 in (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 in (3.2 mm) NPTF (M) x 1/8 in (3.2 mm) NPSF (F), steel body/FKM ball, 100 psi (6.9 bar) max
Double Ball Check Valves	
562642	90 psi (6.2 bar) nominal cracking pressure, 1/8 in NPT(F) x 1/8 in NPT(M), carbon steel body, SS ball, 8,000 psi (551.6 bar) max
562647	90 psi (6.2 bar) nominal cracking pressure, 1/8 in NPT(F) x 1/8 in NPT(M), SS body/ball, 8,000 psi (551.6 bar) max
563203	45 psi (3.1 bar) nominal cracking pressure, twin tandem, 1/4 in (6.4 mm) NPTF (M) x 1/8 in (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 in (6.4 mm) NPTF (M) x 1/4 in (6.4 mm) NPTF (M), SS body/ball, 10,000 psi (690 bar) max
563058	100 psi (2.4 bar) nominal cracking pressure, 1/4 in (6.4 mm) IP (F) x 1/4 in (6.4 mm) IP (M), brass body/ball, 3,000 psi (206.9 bar) max
563059	100 psi (2.4 bar) nominal cracking pressure, 1/4 in (6.4 mm) in O.D. pipe inlet (F), 1/4 in (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 in (6.4 mm) NPSF (F) x 1/4 in (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 in (6.4 mm) NPSF (F) x 1/4 in (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

8.6 mm OD Hoses and Accessories				
Hose – 8.6 mm OD, 5/32 in (4 mm) ID, 3,000 PSI, braided with polyurethane cover				
17S552	82 ft (25 m)			
17S553	164 ft (50 m)			
17S554	328 ft (100 m)			
17S555	656 ft (200 m)			
Hose Ends – threaded, hose sleeve already included				
17Y690	Field-installable swivel hose end fitting, 8.6 mm OD hose, #4 JIC, SAE 7/16-20 female			
17Y691	Field-installable swivel hose end fitting, 8.6 mm OD hose, 1/8 NPT Male			
Hose Ends – 6 mm OD studs				
17L648	Hose sleeve, 8.6 mm OD hose – combine with any of the hose studs below			
G-Lock P-T-C	Compression			
17L649	17R565	Straight 6 mm hose stud		
17L650	17R566	90 deg. elbow 6 mm hose stud		
NPT and BSP Fittings – 6 mm ID on one end to receive 6 mm hose stud, male pipe thread on other end				
G-Lock P-T-C		Compression		
Straight	Elbow (90)	Straight	Elbow (90)	Pipe Thread
17Y689	N/A	17T780	17T781	1/8 in NPT
17L545	17L449	17L548	17L546	1/8 in BSP
17R569	N/A	17R571	17R572	1/4 in BSP
1/8 in ID Hoses and Accessories				
128570	Hose, 1/8 in ID, 3,000 PSI, 200 feet, braided with polyurethane cover			
128571	Hose, 1/8 in ID, 3,000 PSI, 400 feet, braided with polyurethane cover			
128862	Hose, 1/8 in ID, 3,000 PSI, 2,000 feet, braided with polyurethane cover			
128579	Hose guard, 3/8 in ID, 160 feet			
128580	Hose guard, 3/8 in ID, 320 feet			
128561	Field-installable swivel hose end fitting, 1/8 in ID hose, #4 JIC, SAE 7/16-20 female			
128562	Field-installable swivel hose end fitting, 1/8 in ID hose, 1/8 NPT male			
128006	Clamp, 3/8 in OD hose			
17L941	Hose repair kit, 1/8 in OD			
1/4 in ID Hoses and Accessories				
128572	Hose, 1/4 in ID, 2,750 PSI, 100 feet, braided with polyurethane cover			
128573	Hose, 1/4 in ID, 2,750 PSI, 125 feet, braided with polyurethane cover			
130281	Hose, 1/4 in ID, 2,750 PSI, 250 feet, braided with polyurethane cover			
131164	Hose, 1/4 in ID, 2,750 PSI, 500 feet, braided with polyurethane cover			
128581	Hose guard, 1/2 in ID 80 feet			
128582	Hose guard, 1/2 in ID 100 feet			
128563	Field-installable swivel hose end fitting, 1/4 in ID hose, #4 JIC, SAE 7/16-20 female			
128564	Field-installable swivel hose end fitting, 1/4 in ID hose, 1/4 NPT male			
128565	Field-installable swivel hose end fitting, 1/4 in ID hose, 1/8 NPT male			
557944	Clamp, 7/16 in OD hose			
17L942	Hose repair kit, 1/4 in OD			
3/8 in ID Hoses and Accessories				
17P336	Hose, 3/8 in ID, 4750 PSI, 100 feet, steel braided with synthetic rubber cover			
17P337	Field-installable swivel hose end fitting, 3/8 in ID hose, #6 JIC, SAE 9/16-18 female			
117832	Fitting, #6 JIC SAE 9/16-18 male x 3/8 in NPT male			
1/8 in OD Tubing and Accessories				
127554	Tubing, 1/8 in OD, 625 PSI, 100 feet			
127551	1/8 in tube x 1/8 in NPT straight compression fitting			
1/4 in OD Tubing and Accessories				
127555	Tubing, 1/4 in OD, 625 PSI, 100 feet			
127552	1/4 in tube x 1/4 in NPT straight compression fitting			
555726	1/4 in tube x 1/4 in NPT elbow compression fitting			
127553	1/4 in tube x 1/8 in NPT straight compression fitting			
556634	1/4 in tube x 1/8 in NPT elbow compression fitting			

128862

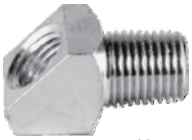
128571

128572

Ordering Information

3/16 in OD Tubing and Bulk Fittings	
16A169	Tubing, 3/16 in OD, Single Tube, 1,350 PSI, 100 Feet
16A171	Tubing, 3/16 in OD, Double Tube, 1,350 PSI, 100 Feet
16A172	Tubing, 3/16 in OD, Triple Tube, 1,350 PSI, 100 Feet
127722	Male Elbow, 3/16 in Tube x 1/8 in NPT, Brass, Quantity 250
127723	Male Connector, 3/16 in Tube x 1/8 in NPT, Brass, Quantity 250
127724	Union, 3/16 in Tube, Brass, Quantity 50
127725	Union, 5/16 in Tube, Brass, Quantity 50
Elbows	
556763	#4 JIC SAE 7/16-20 male x 1/8 in NPT male
556764	#4 JIC SAE 7/16-20 male x 1/4 in NPT male
15K740	1/4-28 NPT male x 1/8 in NPT female
15K783	1/8 NPT male x 1/8 NPT female, PTF SAE Short
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
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 in NPT male
556762	#4 JIC, SAE 7/16-20 male x 1/4 in 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
17G422	1/8 NPT female x 1/8 BSPT male short
17K061	1/8 NPT female x 1/8 BSPT male elbow
17K062	1/8 NPT female x 1/8 BSPT male long

15K783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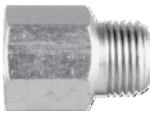
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General Accessories

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

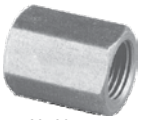
Ordering Information

Anchor Mounts	
560540	180° Straight Anchor Fitting ,1/8 in NPSF
560541	180° Straight Anchor Fitting, 1/4 in NPSF
558910	180° Straight Anchor Fitting, 1/2 in NPSF
560542	Cross Anchor Fitting, 1/4 in NPSF
560543	Cross Anchor Fitting, 1/8 in NPSF
561430	180° Straight Anchor Fitting, 2 lines, 1/4 in NPSF
560535	90° Drop Elbow Brass, 1/8 in NPSF
560537	Wing Tee, 1/4 in NPTF
Grease Zerks	
557969	Grease Zerk Cover
555888	1/8 in NPT, 5,000 PSI, Straight, Leakproof
556429	1/8 in NPTF, 5,000 PSI, 90 Degree, Leakproof, Buna-N
100054	1/8 in, 10,000 PSI
100848	1/4 in, 10,000 PSI
Fill Studs	
24M644	QD Style w/Cap
110712	1/4 in Button Head
100854	3/8 in Button Head
Mounting Weld Studs	
127512	1/4-20 x 0.710 in long
127513	1/4-20 x 0.96 in long
127514	1/4-20 x 1.2 in long
17D024	1/4-20 x 2 in long
17D023	3/8-16 x 1.25 in long
Clamps	
127012	3/8 in clamp diameter x 9/32 mounting hole
557944	1/2 in clamp diameter x 9/32 mounting hole
127515	1 1/2 in clamp diameter x 9/32 mounting hole
Bulkheads	
128566	1/4 NPT
557950	1/8 NPT
Hose Vise Block	
127145	1/8 in, 1/4 in, 1/2 in 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
Male 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)
Male 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 in NPT socket head
111697	1/4 in NPT square head
100040	3/8 in NPT square head
Cable Tie	
17K063	Cable tie 14 in x .30 in, qty 100

100848

24M644

557950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556419

100040

Ordering Information

Pipe Fittings	
560532	45º Street Elbow - 1/4 in (6.4 mm) Female x 1/4 in (6.4 mm) male, steel
560530	90º Street Elbow - 1/4 in (6.4 mm) Female x 1/8 in (3.2 mm) male, steel
15M045	90º Street Elbow - 1/4 in (6.4 mm) Female x 1/4 in (6.4 mm) male, steel
560533	90º Street Elbow - 1/8 in (3.2 mm) Female x 1/4 in (6.4 mm) male, steel
560534	Fitting - Street Elbow, 3/8 in (9.5 mm) Male x 3/8 in (9.5 mm) female
560528	Hex Coupling - 1/8 in (3.2 mm) female, steel
556402	Reducing Brushing - 1/4 in (6.4 mm) male x 1/8 in (6.4 mm) female, steel
563178	Extension Nipple - 1/8 in (6.4 mm) female x 1/8 in (6.4 mm) male, 2-1/4 in (5.7 cm) length, steel
556632	Male Connector - 1/4 in (6.4 mm) T x 1/8 in (3.2 mm) male, brass
556633	Male Connector - 1/4 in (6.4 mm) T x 1/4 in (6.4 mm) male, brass
556634	Male Elbow - 1/4 in (6.4 mm) T x 1/8 in (3.2 mm) male, brass
555726	Male Elbow - 1/4 in (6.4 mm) T x 1/4 in (6.4 mm) male, brass
555727	Tube Sleeve - 3/16 in (4.8 mm) T, brass
556635	Tube Sleeve - 1/4 in (6.4 mm) T, brass
Straight and Angle Swivels	
563212	90º Angle Swivel - 1/8 in (3.2 mm)
563214	90º Angle Swivel - 1/4 in (6.4 mm)
564350	90º Angle Swivel - 1/2 in (12.7 mm)
563213	180º Straight Swivel - 1/8 in (3.2 mm)
563215	180º Straight Swivel - 1/4 in (6.4 mm)
563154	180º Straight Swivel - 1/2 in (12.7 mm)
564352	180º Straight Swivel - 1 in (2.5 cm)
563146	90º Compact Swivel - 1/4 in (6.4 mm)
563147	180º Compact Swivel - 1/4 in (6.4 mm)
563150	180º Compact Swivel - 1/8 in (3.2 mm)
563148	90º Swivel Adapter - 1/8 in (3.2 mm) NPT x 1/8 in (3.2 mm) NPT female
Tube Fittings	
556448	Zerk Adapter Quick Fitting
556636	Male Tee - 5/16 in (7.9 mm) tube, 1/8 in (3.2 mm) NPTF
556637	Union Tee - 5/16 in (7.9 mm) tube
556638	Male Elbow - 3/16 in (4.8 mm) tube 1/8 in (3.2 mm) NPTF
556639	Male Elbow - 5/16 in (7.9 mm) tube, 1/8 in (3.2 mm) NPTF
556640	Male Elbow - 5/16 in (7.9 mm) tube, 1/4 in (6.4 mm) NPT
556642	Female Connector - 3/16 in (4.8 mm) tube, 1/8 in (3.2 mm) NPT
556643	Female Connector - 5/16 in (7.9 mm) tube, 1/8 in (3.2 mm) NPT
556644	Male Connector - 3/16 in (4.8 mm) tube, 1/8 in (3.2 mm) NPTF
556645	Male Connector - 5/16 in (7.9 mm) tube, 1/8 in (3.2 mm) NPTF
556646	Male Connector - 5/16 in (7.9 mm) tube, 1/4 in (6.4 mm) NPT
556647	Union - 3/16 in (4.8 mm) tube
556648	Union - 5/16 in (7.9 mm) tube
556649	Nut - 3/16 in (4.8 mm) tube
556650	Nut - 5/16 in (7.9 mm) tube
556652	Sleeve - 3/16 in (4.8 mm) tube
556653	Sleeve - 5/16 in (7.9 mm) tube
556656	5/16 in (7.9 mm) Tube Brass Insert - minimum order of 20 (price each)
556660	3/16 in (4.8 mm) Tube Nut and Sleeve
562995	Male Connector - 3/16 in (4.8 mm) Tube, 1/4-28 in (6.4 mm-71.1 cm) SAE male
556661	Straight Connector - push-to-connect 3/16 in (4.8 mm) tube, 1/8 in (3.2 mm) PM
556662	Elbow - 90 ft (27.4 m), push-to-connect 3/16 in (4.8 mm) tube, 1/8 in (3.2 mm) PM
556666	5/16 in (7.9 mm) Tube Nut and Sleeve
556670	90º Elbow - 3/16 in (4.8 mm) Tube, 1/8 in (3.2 mm) NPT female
15K783	90º Elbow - 1/8 in (3.2 mm) NPTF male/female, PTF SAE short
557395	45º Street Elbow - 1/8 in (3.2 mm) NPTF male/female
560534	Street Elbow Fitting - 3/8 in (9.5 mm) male, 3/8 in (9.5 mm) female
563759	Air-Operated Tractor Hardware Package - 30 point
557954	Adapter - 45º elbow, 1/4-28 in (6.4 mm-71.1 cm) SAE male x 1/8 in (3.2 mm) NPTF female
557968	Zerk Fitting - 1/8 in (3.2 mm) NPT @ 65º angle
563776	Zerk Adapter - 90º
563777	Zerk Adapter - straight
G-Lock Push-to-Connect (PTC) Fittings For use with 1/8 in ID hose only	
17L441	1/4 in stud PTC, M10, CSP outlet
25M496	90 degree 1/4 in field-installable stud
25M497	Straight 1/4 in field-installable stud
17L442	1/4 in stud PTC with male 1/8 in NPT, inlet or LP
17L547	1/4 in stud PTC with male 1/4 in NPT, pump outlet
Nylon Tube Push-To-Connect (PTC) Fittings For use with 1/4 in OD nylon tube	
17L440	1/4 in OD nylon tube PTC, M10, CSP outlet
17L652	90 degree 1/4 in OD nylon tube PTC, male 1/8 in NPT, inlet or LP
17L653	Straight 1/4 in OD nylon tube PTC, male 1/8 in NPT, inlet or LP
CSP Outlet Fittings	
25M498	1/8 in NPT female with check, M10
25M499	1/4 in compression with check, M10
Miscellaneous Adapters and Fittings	
556403	Reducing Bushing - 3/8 in (9.5 mm) NPT x 1/8 in (3.2 mm) NPT female
556407	Fitting Tee - 1/8 in (6.4 mm) male x (2) 1/8 in (6.4 mm) female
556420	Fitting Tee - 1/4 in (6.4 mm) male x (2) 1/4 in (6.4 mm) female
15M037	Press-to-Fit - 1/8 in (3.2 mm) NPSF
563148	90º Swivel Adapter - 1/8 in (3.2 mm) NPT x 1/8 in (3.2 mm) NPT female
557392	Extension - 1/8 in (3.2 mm) NPT x 1/8 in (3.2 mm) NPTF, 3/4 in (19 mm) long
557393	Extension - 1/8 in (3.2 mm) NPT x 1/8 in (3.2 mm) NPTF, 1-1/4 in (3.18 cm) long
557950	Bulkhead FTG - 1/8 in (3.2 mm) NPT
15K740	Elbow Adapter - 1/4-28 in (6.4 mm-71.1 cm) SAE male x 1/8 in (3.2 mm) NPTF female
15K784	Elbow Adapter - 1/4-28 in (6.4 mm-71.1 cm) SAE male x 1/8 in (3.2 mm) NPTF female, short
557955	Straight Adapter - 1/4-28 in (6.4 mm-71.1 cm) SAE male x 1/8 in (3.2 mm) NPTF female
Hose Fittings	
555749	Connector - 1/8 in (3.2 mm) NPT, #4 JIC
556762	Connector - 1/4 in (6.4 mm) NPT, #4 JIC
556763	90º Elbow - 1/8 in (3.2 mm) NPT, #4 JIC
556764	90º Elbow - 1/4 in (6.4 mm) NPT, #4 JIC

Graco Controllers-at-a-Glance

Selecting the Right Controller is Easy!

Feature	Controller											
	GLC 4400 AC (24B596)	GLC 4400 DC (24B591)	GLC-X	GLC 2200 (24N468)	Grease Jockey Timer (24W482)	Solid State Timer (562872)	G3 Max	G3 SP	G3 Pro	G1 Plus	Electric Grease Jockey	G-Mini Controller
Voltage	100-240 VAC	9-30 VDC	9-30 VDC	9-30 VDC	9-32 VDC	115/230 VAC	AC: 88-264 VAC 24V: 18-32 VDC 12V: 9-16 VDC				24V: 18-32 VDC 12V: 9-16 VDC	24V: 18-32 VDC 12V: 9-16 VDC
AC Frequency	50/60 Hz	N/A	N/A	N/A		50/60 Hz	AC: 47-63 (50/60) Hz – DC: N/A				N/A	N/A
Max amps (pump output)	10 A	5 A	10 A	7 A		3 A	N/A	N/A	N/A	N/A	N/A	N/A
Min On Time	1 sec		10 secs	1 sec		~ 12 secs	1 sec*	4 mins/ cyc	1 sec*	1 min	1 sec*	1 min
Max On Time	100 hrs (99:59:59)		100 hrs (99:59:59) (Timeout) Must be < Interval	60 mins (59:59)		13 mins	30 mins	4 mins/ cyc	30 mins	30 mins	30 mins	30 mins
Minimum Cycle Count	1 (optional)		1	1 (optional)	N/A	N/A	1 (optional)	1	N/A	N/A	N/A	1
Maximum Cycle Count	9,999		100	99	N/A	N/A	9,999	99	N/A	N/A	N/A	99
Pressure Switch Function	Configurable for both injectors and divider valves		Configurable for both injectors and divider valves	For injectors only	N/A	N/A	For injectors only	N/A	N/A	N/A	N/A	N/A
Min Off Time	1 sec		1 min (Interval) Must be > Timeout	1 min		30 secs	1 min	15 mins	N/A	1 hr	1 min	15 min
Max Off Time	9,999 hrs		100 hrs (99:59) (Interval)	100 hrs (99:59)		32 hrs	9,999 hrs	9,999 hrs	9,999 hrs	24 hrs	100 hrs (99:59)	99 hrs
Stroke/ Machine Count	Yes		Yes	–	–	–	Yes	–	–	–	–	–
Minimum Stroke/ Machine Count	1 (optional)		1	–	–	–	1 (optional)	–	–	–	–	–
Maximum Stroke/ Machine Count	9,999		10,000	–	–	–	9,999	–	–	–	–	–
Pulse mode for pump	Yes		Auto Lube App**	Yes	–	–	N/A	N/A	N/A	N/A	N/A	N/A
PreLube	Yes		Yes	–	–	–	Yes	–	Yes	–	–	Yes
PreLube Delay	Yes		Yes	–	–	–	Yes	–	Yes	–	–	Yes
Low Level Input	Yes		Yes	Yes	–	–	N/A	N/A	N/A	N/A	N/A	N/A
Low Level Output	Yes		Auto Lube App**	Yes	–	–	Yes	Yes	Yes	Yes	Yes	Yes
Alarm Output	Yes		Auto Lube App**	Yes	–	–	Yes	Yes	LL only	LL only	Yes	Yes
OK Signal	Yes		Auto Lube App**	–	–	–	–	–	–	–	–	–
Manual Run (onboard)	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Remote Manual Run	Yes		Auto Lube App**	–	–	–	Yes	Yes	Yes	Yes	Yes	Yes
Enclosure Rating (None are explosion proof)	IP69K		IP69K	IP54	IP54	N/A	IP69K	IP69K	IP69K	IP69K	Yes	IP69K

*Note: The 22 rpm motor needs 3 seconds to stroke the G3 or EGJ piston pump once. **These features are available via a Bluetooth connection to the Graco Auto Lube app on your smartphone or tablet.

Controllers

GLC™ 2200 Controller

24N468

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

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 in (140 mm)
Width ..... 2.75 in (70 mm)
Depth ..... 1.38 in (35 mm)
Protection Grade IP54
Operating Temperature ..... -40ºF to 176ºF (-40ºC to 80ºC)
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
24X606	Mounting bracket kit
17G007	Yellow iron mounting bracket with slide adjustment

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 ..... -40ºF to 145ºF (-40ºC to 63ºC)
Net Weight ..... 2 lbs (0.9 kg)
Standards ..... CE Marked
Manual 313855

Ordering Information

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

Drive More Productivity

The powerful, easy-to-use Graco GLC X automatic lubrication controller captures more information so operators, technicians and managers can make faster, smarter decisions. Paired with the intuitive Auto Lube app, users can monitor system performance and make adjustments with incredible speed, precision and freedom from their personal mobile device.

Indoor/Outdoor Mountable (IP69K)

Designed to withstand all the elements, including high-pressure washes and inclement weather encountered at the harshest and dirtiest sites.

Easy-to-Read Screen

High-contrast screen features text codes, faults and other data clearly in any ambient light without distracting operators.

Real-Time System Reporting

Program and display a wide range of customizable functions – including lubrication intervals, pressure limits, lubricant levels and more.

Smart Device and Mobile App

With the Auto Lube™ app, monitor lubrication levels, configure settings, track history and share important diagnostics.

Universal Compatibility

One controller for all your lubrication systems simplifies training and inventory.

Quick Technical Information Access

Easily scan this QR code for access to manuals, guides, video tutorials and more.

Scan Me!

Active Current Protection

9-30 VDC, 10 amp continuous power supply protects grease pumps from overcurrent and entire system from misfires, electrical shorts and surges.

Typical Applications

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

Technical Specifications

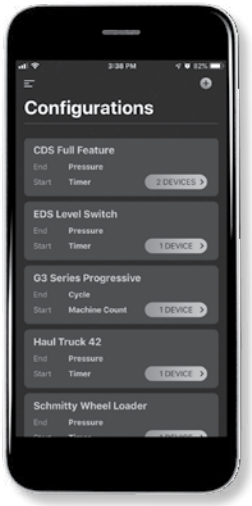
Inputs/Outputs 4/2
Power Source ..... 9-30 VDC
Modes ..... Pressure / Cycle / Timer
Dimensions ..... 3.62 in (92 mm) wide x 6.66 in (169 mm) high x 1.98 in (50 mm) deep
Operating Temperature ..... -22°F to 158°F (-30°C to 70°C)
Protection Grade IP69K
Manual 3A7031

Ordering Information

GLC X Controller	
26A855	GLC X controller with 20 ft (6 m) cable
26A814	GLC X controller
GLC X Accessories	
26A853	GLC X pump simulator
26A882	GLC X 20 ft (6 m) cable
26A883	GLC X to Compact Dyna-Star® 3 ft (1 m) cable
26A888	14-pin mating connector kit

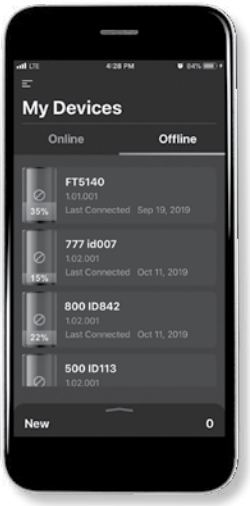
Productivity Leads to Profitability

Help your crews work faster and minimize downtime by simplifying their everyday lubrication tasks. Designed for today's modern personal mobile device user, the **Graco Auto Lube App** is intuitive and easy to learn for users in the field. They can view historical performance charts, access support and share information with a tap or swipe.



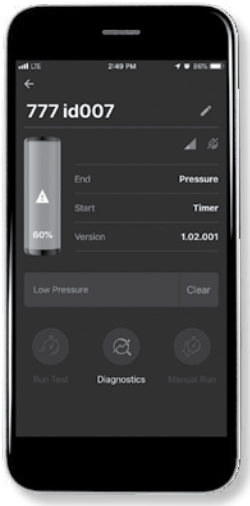
Control Lubrication Profile Configurations

- Customize profiles for equipment and end users
- Quickly and easily assign a Lube Profile Configuration with a GLCX Controller



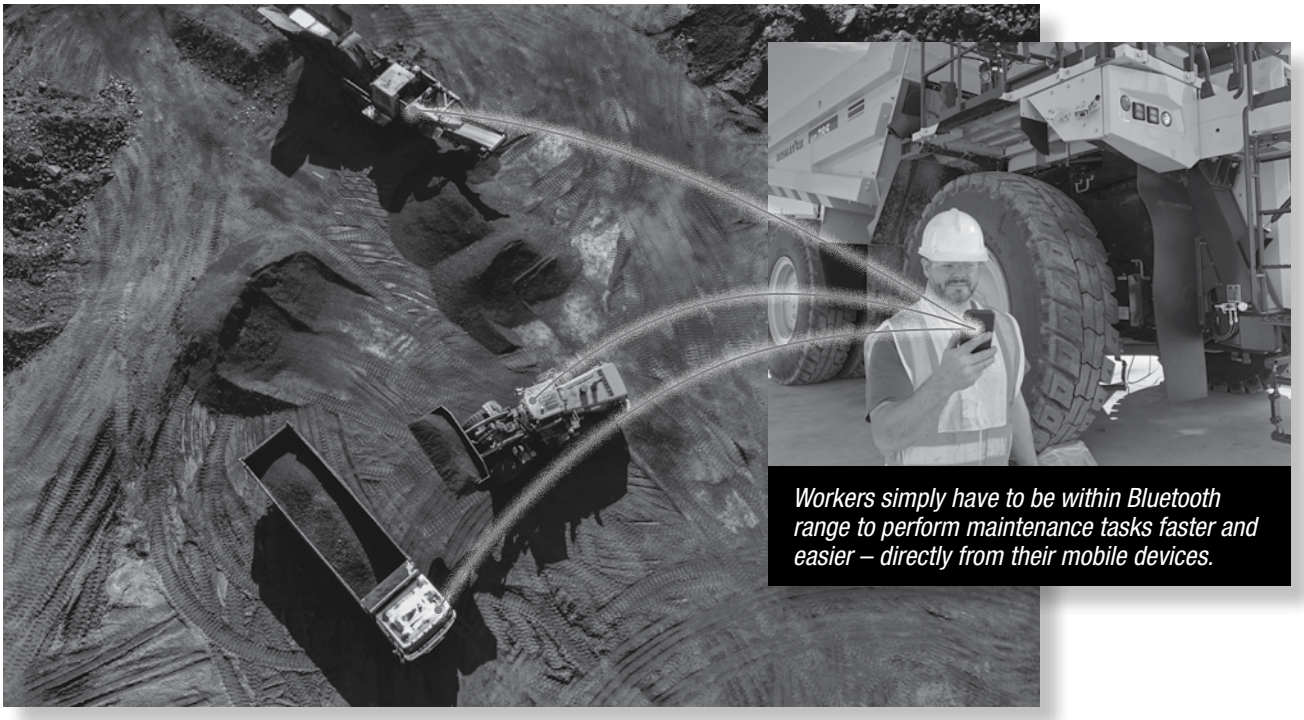
Manage Devices

- Connect via Bluetooth to get instant status
- Review last-known state on any historical device



Communicate in Real Time

- See, control, check and clear alarms
- Complete a manual run
- Review and share system history



Workers simply have to be within Bluetooth range to perform maintenance tasks faster and easier – directly from their mobile devices.

Download the **Graco Auto Lube** app from Google Play or the App Store (iOS) and perform all controller functions from the convenience of a smartphone or tablet.

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 to 131ºF (-18ºC to 55ºC)
Storage .....-67º to 185ºF (-55ºC to 85ºC)
Enclosure .....High Impact Plastic
Component Technology .....Solid-State CMOS
Cycle Interval, Adjustable:
Range 1 .....0.5 to 30 minutes
Range 2 ..... 0.5 to 32 hours
“On” Time .....0.2 to 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

On-Road Mobile Lubrication Systems

Electric Grease Jockey®

Ruggedized Construction

U.V., chemical, and high-impact resistant – rigorously tested and field-proven.

NLGI #2 Compatible

NLGI #000 to #2 and 2000 psi (138 bar).

Low Level Signal

Alerts when out of grease.

Electrical Drive

12 VDC (7 Amp) or 24 VDC (4 Amp) power. Protected against motor burn-out.

*Data Management System**

Track critical lubrication data.
Fast programming.

Integrated Controls

Includes adjustable ON/OFF times, PIN code lockout and on-panel alerts.

*In-Cab Feedback**

Tri-color LED system feedback indicator with Manual Run button.

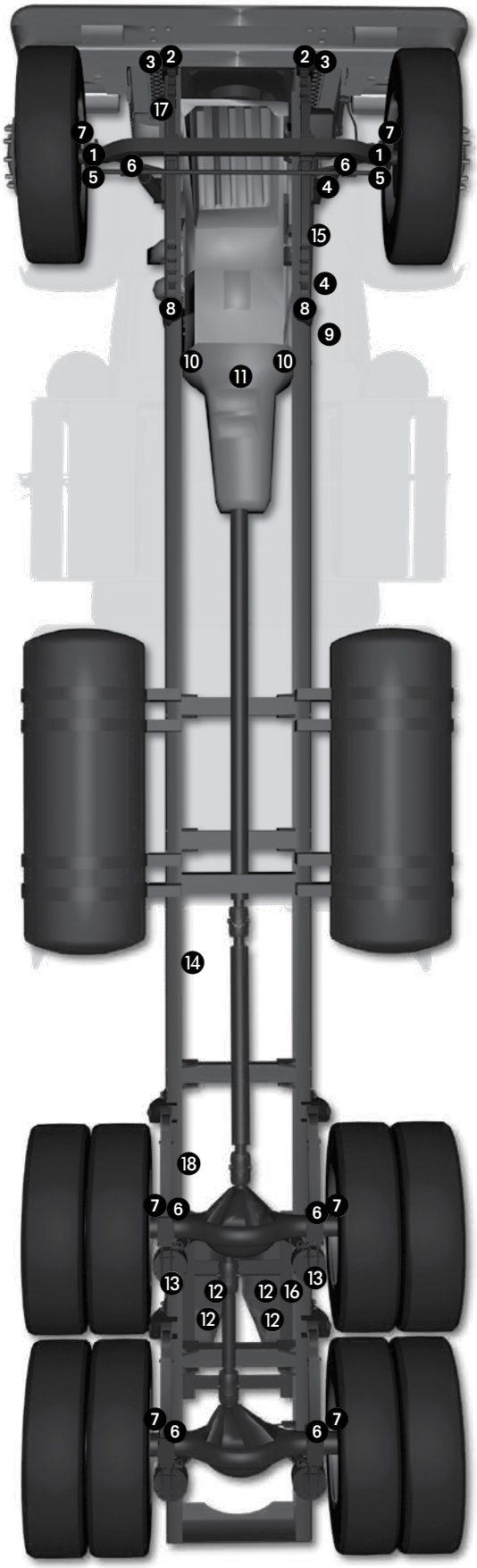
*DMS version optional equipment

Technical Specifications

Lubricant	NLGI #0 to #2 grease
Maximum Pressure	2,000 psi (352 bar)
Power	12 or 24 VDC
Operating Termperature	-40º F to 158º F (-40º C to 70º C)
Reservoir Capacity	2 liters
Maximum Run Time	30 min
Output per Element/Min	0.5 in^3 (24.6 cm^3)
Certifications/Standards	IP69K, CE, ROHS, EMC, Pressurized Equipment Directive, National Fluid Power Association
Instruction Manual	3A5082

On-Road Mobile Lubrication Systems

Electric Grease Jockey®



Truck and tractor lubrication systems lubricate these parts:

1. Upper King Pins
1. Lower King Pins
2. Hood Pins
3. Spring Pins
4. Drag Links
5. Tie Rod Ends
6. Slack Adjusters
7. S-Cams
8. Spring Hangers
9. Clutch Pedal
10. Clutch Cross Shafts
11. Clutch Throw Out Bearing
12. 5th Wheel Plate
13. 5th Wheel Pivots

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14. Pump
15. Left Front Module
16. 5th Wheel Module
17. Right Front Module
18. Rear Module

Whatever you drive, there's a Graco system to fit your needs

Ordering Information

Electric Grease Jockey Pump Packages

	Package Number	25C990	25C991	25C992	25C993
Package Includes	Pump	24Z764	24Z959	24Z660	24Z958
	Power	12V	24V	12V	24V
	Data Management System	–	–	Yes	Yes
	Power Cable	129644	129644	127782	127782
	Manual Run Button	–	–	25C981	25C982

Electric Grease Jockey System Installation Kits

		Truck with Greaseable Spring Pins			Truck with Sealed Spring Pins (non-greaseable)		
		Drum Brakes		Disc Brakes	Drum Brakes		Disc Brakes
		6 x 4 Tandem Axle	4 x 2 Single Axle		6 x 4 Tandem Axle	4 x 2 Single Axle	
		32 Point / 4 Module Kit	*28 Point / 3 Module Kit*	*20 Point / 3 Module Kit*	*26 Point / 4 Module Kit*	*22 Point / 3 Module Kit*	*14 Point / 3 Module Kit*
	Package Number	25C971	25C972	25C973	25C974	25C975	25C976
Package Includes	12 VDC Grease Jockey pump	25C990			25C990		
	18 ft mainline section/installable end kit	17S970			17S970		
	12 ft mainline section/installable end kit	17S969			17S969		
	6 ft mainline section/installable end kit (qty)	17S968 (2)	17S968 (1)	17S968 (1)	17S968 (2)	17S968 (1)	17S968 (1)
	Mainline tee (qty)	129759 (3)	129759 (2)	129759 (2)	129759 (3)	129759 (2)	129759 (2)
	Mainline elbow (2)	129755			129755		
	Front left meter module	25C854	25C854	25C857	25C858	25C858	25C849
	Front right meter module	25C859	25C859	25C850	25C851	25C851	25C852
	5th wheel meter module	25C853	25C855	25C853	25C853	25C855	25C853
	Rear axle meter module	25C856		–	25C856		–
	3/16 in to 1/8 NPT elbows, 10-Pack (qty)	25C977 (3)	25C977 (3)	25C977 (2)	25C977 (3)	25C977 (2)	25C977
	3/16 in to 1/8 NPT straights, 10-Pack	25C978			25C978		
	1/4-28 SAE to 1/8 NPT(F), 5-Pack	25C979			25C979		
	Mounting bracket	17S107			17S107		
	Zip ties, 100-count	17K063			17K063		
	Zip ties, looped, 10-count (qty)	25C980 (3)	25C980 (2)	25C980 (1)	25C980 (3)	25C980 (2)	25C980 (1)

Electric Grease Jockey Pump Accessories

	Part Number	Description
	24Z962	Protective pump cover
	17S107	Mounting bracket
	25C983	Output doubling kit

How to Select Your Graco Electric Grease Jockey Automatic Lubrication System

Determining the Electric Grease Jockey system best suited to your needs is accomplished by following steps A-D.

ELECTRIC PUMP

A — Choose an Electric Grease Jockey Pump with or without Data Management System (DMS)

Basic Pump:
- #2 grease
- Motor burn-out protection
- Low level feedback
- Power cable

DMS Pump:
All Standard Pump features, plus DMS:
- Performance data
- In-cab feedback
- Easy load profile option – plug and play programing

Pump Description	Part Number (select one)	
	12 VDC	24 VDC
Electric Grease Jockey	25C990	25C991
Electric Grease Jockey with DMS	25C992	25C993

Now that you've selected your pump configuration, it's time to determine the system lube points.

LUBE POINTS – FRONT

B — Determine Your System's Front Lube Points

Front modules all include king pin, tie rod end points, and drag link (left side).

What is your front braking system?
Do you have greaseable or sealed spring pins?

Braking System	Spring Pins	Part Number		
		Left Side		Right Side
Drum brakes (2 points each side)	Spring pins (3 points each side)	25C854 (10 points total)	and	25C859 (8 points total)
	Sealed springs (0 points)	25C858 (7 points total)	and	25C851 (5 points total)
Disc brakes (0 points)	Spring pins (3 points each side)	25C857 (8 points total)	and	25C850 (6 points total)
	Sealed springs (0 points)	25C849 (5 points total)		25C852 (3 points total)

LUBE POINTS – REAR BRAKES

C — Determine Your System's Rear Brake Lube Points

What is your rear braking system?
Do you have single or tandem axles?

Braking System	Axles	Part Number
Drum brakes	Tandem axle/TAX (8 points)	25C856
	Single axle/SAX (4 points)	25D084*
Disc brakes (0 points)	No kit needed	–

*If lubricating 5th wheel, order package 25C855 from section D instead of package 25D084.

LUBE POINTS – 5TH WHEEL

D — Determine Your System's 5th Wheel Lube Points

What is your 5th wheel configuration?

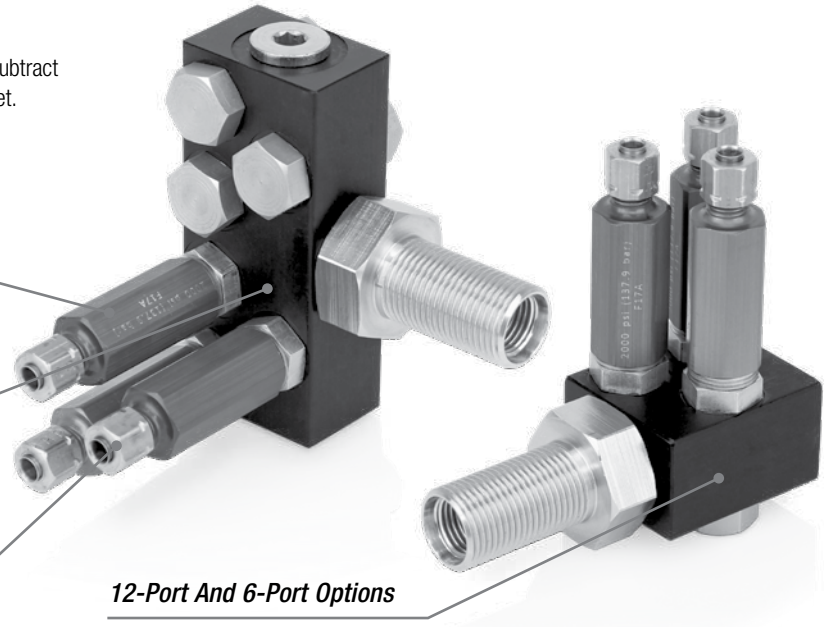
5th Wheel System	Part Number
5th wheel (6 points)	25C853
5th wheel/SAX drum (10 points)	25C855

The ***NEW*** G-Mini Compact Electric Pump is also suitable for on-road mobile lubrication applications. Refer to page 8 for details.

On-Road Mobile Lubrication Systems

Electric Grease Jockey® Manifolds

Grease Jockey modular design makes it easy to add or subtract lube points and commonize service parts across your fleet. Modules hold up to 6 or 12 lubrication point meters.



Build Your Own Module / Service Parts

Part Number	24Z682	24Z683	24Z684	24Z685	24Z686	24Z681
Grease Jockey Injector Size	#0	#1	#2	#3	#4	#8
Output Spacers	0	1	2	3	4	4
Dispense Amount in^3 (cc)	0.002 (0.03)	0.005 (0.08)	0.009 (0.15)	0.012 (0.20)	0.015 (0.25)	0.026 (0.43)
Typical Truck/Trailer Lube Points	S-Cam, Clutch	Slack Adjuster, Pivot Pins	Tie-Rod End, Drag Link	King Pin, Spring Pin	5th Wheel Cylinders	5th Wheel Face Plate

Part Number	Description
25C988	6 port manifold and mounting stem
25C989	12 port manifold and mounting stem

Part Number	Description
564086	Single tube, pre-charged, 10 ft
563984	Double tube bundle, pre-charged, 10 ft
563994	Triple tube bundle, pre-charged, 10 ft

Grease Jockey System Accessories

Expander Kit Accessories

Part Number	Description
25D012	Single, #3 injector and 10 ft, 3/16 in tube
25D013	Two, #3 injectors and 2-tube 10 ft, 3/16 in bundle
24Z808	Hex-head manifold plug with o-ring

Grease Options

Part Number	Description
557941	NLGI #00 EP lithium grease, 35 lb bucket

Refill Pump Kits

Part Number	Description
26A318	Fireball 225 35 lb bucket
26A319	Fireball 225 120 lb keg
26A320	Fireball 225 400 lb barrel
247886	35 lb hand pump

Fill Extension Kit

Part Number	Description
25A170	Fill extension kit

Electric Grease Jockey Pump Accessories

Part Number	Description
24Z962	Control panel protective cover
17S107	Pump mounting S-bracket
557966	Universal "Swiss Cheese" Flat Mounting Adapter
25A170	Fill extension kit
25C983	Output doubling kit (2nd pump element and union)
25C985	Fuse kit, in-line, 12 VDC
25C986	Fuse kit, in-line, 24 VDC

Electric Grease Jockey Pump Service Items

Part Number	Description
24Z764	12 VDC, 2L, bare pump with vent valve
24Z959	24 VDC, 2L, bare pump with vent valve
24Z660	DMS, 12 VDC, 2L, bare pump with vent valve
24Z958	DMS, 24 VDC, 2L, bare pump with vent valve
129644	Power cable, 30 ft (9.1 m), 2-wire CPC to flying leads
127782	DMS power cable, 30 ft (9.1 m), 5-wire CPC to flying leads
17S477	Power cable, 3 ft (1 m), 2-wire CPC to 2-pin automotive connector
25C981	Manual run button, 12 VDC
25C982	Manual run button, 24 VDC
25C987	Electric Grease Jockey pump element
25C965	Vent valve assembly, 12 VDC
25C966	Vent valve assembly, 24 VDC
129801	Vent valve power cable

Mainline and Fittings

Part Number	Description
17S968	6 ft (1.8 m) Mainline cut-to-length hose and fitting kit
17S969	12 ft (3.7 m) Mainline cut-to-length hose and fitting kit
17S970	18 ft (5.5 m) Mainline cut-to-length hose and fitting kit
25D338	36 ft (11 m) Mainline, cut-to-length hose and 4*131200 fitting kit
131200	Field-installable, mainline hose end fitting
129759	Tee fitting, 6 ORB x 9/16, 37° Flare (2)
129755	90° elbow, 6 ORB x 9/16, 37° Flare
129763	Straight connector, 6 ORB x 9/16, 37° Flare
131169	Meter manifold to meter manifold union, 6 ORB x 6 ORB
129761	Mainline Tee Fitting, 9/16, 37° Flare (3)
129872	45° mbf flare elbow fitting
129871	Manifold inlet adapter - 6 ORB (M) x 1/8 in NPT(F) (for Classic Grease Jockey Mainline)

Metering Modules

Front Modules all include king pin and tie rod end points.

Part Number	Description
25C849	Left Front - 5 points (Drag Link)
25C850	Right Front - 6 points (Spring Pins)
25C851	Right Front - 5 points (Drum Brakes)
25C852	Right Front - 3 points
25C853	5th Wheel - 6 points (Plate, Pivot pins)
25C854	Left Front - 10 points (Spring Pins, Drum Brakes, Drag Link)
25C855	5th Wheel - 10 points (Single Axle Drum Brakes, Plate, Pivot pins)
25C856	Tandem axle - 8 points (Drum Brakes)
25C857	Left front - 8 points (Spring Pins, Drag Link)
25C858	Left front - 7 points (Drum Brakes, Drag Link)
25C859	Right Front - 8 points (Spring Pins, Drum Brakes)
25D084	Single axle - 4 points (Drum Brakes)
26C081	TAX/5th Wheel - 14 point (Drum Brakes, Plate, Pivot pins) Double Module
26C101	Drop Axle, 8 Point (King Pins, drum brakes)
26C100	Drop Axle, 10 Point (King Pins, Tie-rod ends, drum brakes)
26C104	Dump Body, 10 Point
25D216	6 point (#3) meter module, pre-charged lines
25D217	12 point (#3) meter module, pre-charged lines

Notes: ***Meter modules do not include end-point fittings***. Customized meter modules available upon request, minimum order 50 units.

Metering Module Service Items and Accessories

Part Number	Description
24Z682	#0, Grease Injector Meter
24Z683	#1, Grease Injector Meter
24Z684	#2, Grease Injector Meter
24Z685	#3, Grease Injector Meter
24Z686	#4, Grease Injector Meter
24Z681	#8, Grease Injector Meter
25D012	One replacement #3 meter with pre-charged, 15 ft tube
25D013	Two replacement #3 meters with pre-charged, 15 ft 2-tube bundle
26C105	Two replacement #4 meters with pre-charged 30 ft 2-tube bundle
15W165	Feed Line 3/16 in tube, pre-charged, 30 ft, black
563789	Feed Line 3/16 in tube, pre-charged, 15 ft, orange
564090	Feed Line 3/16 in 2-tube bundle, pre-charged, 30 ft, orange/black
563796	Feed Line 3/16 in 3-tube bundle, pre-charged, 30 ft, orange/blue/black
24Z808	Manifold meter port plugs with o-rings
129752	Manifold inlet plugs
25C988	Bare manifold with stem, nut, and washer, 6 port
25C989	Bare manifold with stem, nut, and washer, 12 port

End-Point Fittings (not included with injector manifolds) and Installation Accessories

Part Number	Description
25C977	10 pack of P/N 556638, 3/16 in OD tube to 1/8 NPT elbows
26A405	200 pack of P/N 556638, 3/16 in OD tube to 1/8 NPT elbows
25C978	10 pack of P/N 556644, 3/16 in OD tube to 1/8 NPT straight connectors
26A404	200 pack of P/N 556644, 3/16 in OD tube to 1/8 NPT straight connectors
25C979	5 pack of P/N 15K740, 1/4-28 SAE (m) to 1/8 NPT(F) elbow, 90°
26A406	100 pack of P/N 15K740, 1/4-28 SAE (m) to 1/8 NPT(F) elbow, 90°
556660	3/16 in tube nut sleeve with captivated ferrule
15K783	1/8 NPT(M) to 1/8 NPT(F) elbow, 90°
560534	1/8 NPT(M) to 1/8 NPT(F) elbow, 45°
557392	0.75 in extension, 1/8 NPT(M) to 1/8 NPT(F)
557393	1.25 in extension, 1/8 NPT(M) to 1/8 NPT(F)
25M544	6 ft conduit sleeve
17K063	Cable ties, 100 pack
25C980	Figure-8 cable ties, 10 pack
26C326	Mainline purge adapter, JIC-6 x 1/4 in QD male

Lubricant

Part Number	Description
557941	NLGI #00 grease, 35 lb bucket

Grease Jockey Fill Pump Kits

Part Number	Description
26A318	Mini Fire-Ball 35 lb fill pump kit
26A319	Mini Fire-Ball 120 lb fill pump kit
26A320	Mini Fire-Ball 400 lb fill pump kit
247886	Manual 35 lb fill pump kit
121474	Coupler, hydraulic quick disconnect, 1/4 in NPT

Electric Grease Jockey Tractor Kits

Part Number	Description
25C971	EGJ spring pins, drum brakes, 6 x 4, 32 points
25C972	EGJ spring pins, drum brakes, 4 x 2, 28 points
25C973	EGJ spring pins, disc brakes, 20 points
25C974	EGJ sealed spring pins, drum brakes, 6 x 4, 26 points
25C975	EGJ sealed spring pins, drum brakes, 4 x 2, 22 points
25C976	EGJ sealed spring pins, disc brakes, 14 points

On-Road Mobile Lubrication Systems

Pneumatic 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!

High-strength, shatter-resistant reservoir

Utilizes a high-quality, polycarbonate reservoir that is securely mounted to the pump with rigid tie rods for optimal sealing

High-Capacity Fill Port

Saves time and keeps you on the road

Field-Proven Reliability

Over four decades of over-the-road experience

Rugged Cast Aluminum Construction

9:1 pump with 6 lb capacity

Digital Control Timer

PIN code lockout keeps your air-powered lubrication system profile safe

Technical Specifications

Construction	Cast aluminum body and bracket
Lubricant	NLGI #0, #00 or #000 grease
Output per Cycle	1.5 in^3 (24.6 cm^3)
Reservoir Capacity	6 lb (2.7 kg), 12 lb (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)
Instruction Manual	312054

Ordering Information

Pneumatic Grease Jockey Pumps

	Package Number	563625	563589	563590	563593	563888	563854	563874
Package Includes	Reservoir size	Pump only	6 lb	12 lb	6 lb	6 lb	6 lb	12 lb
	Fill port	Straight	Straight	Straight	Elbow	Elbow	Straight	Straight
	Solenoid	–	–	–	–	12 VDC	12 VDC	12 VDC
	Timer/wiring harness kit	–	–	–	–	–	25A118	25A118
	Mounting plate	–	–	–	–	–	Yes	Yes
	Mainline and hardware	–	–	–	–	–	Yes	Yes
	Extra fittings kit	–	–	–	–	–	Yes	Yes

Pneumatic Grease Jockey System Installation Kits

		Truck with Greaseable Spring Pins			Truck with Sealed Spring Pins (non-greaseable)		
		Drum Brakes		Disc Brakes	Drum Brakes		Disc Brakes
		6 x 4 Tandem Axle	4 x 2 Single Axle		6 x 4 Tandem Axle	4 x 2 Single Axle	
		34 Point / 4 Module Kit	28 Point / 3 Module Kit	20 Point / 3 Module Kit	26 Point / 4 Module Kit	22 Point / 3 Module Kit	14 Point / 3 Module Kit
	Package Number	563814	24Z809	24Z810	24Z811	24Z812	24Z813
Package Includes	12 VDC Grease Jockey pump and reservoir	563589 / 563854	24Z526	24Z526	24Z526	24Z526	24Z526
	Front left meter module	563644	24W623	563654	563706	563706	563728
	Front right meter module	563645	563858	563655	24W335	24W335	24H994
	5th wheel meter module	563648	258348	563648	563648	258348	563648
	Rear axle meter module	563646		–	563646		–
	Mounting bracket	128256	128256	128256	128256	128256	128256
	Control Timer	25A118			25A118		

Pneumatic Grease Jockey Pump Accessories	
128256	Mounting bracket
24W482	Digital control timer for air-powered systems

128256

24W482

How to Select Your Graco Pneumatic Grease Jockey Automatic Lubrication System

Determining the Pneumatic Grease Jockey system best suited to your needs is accomplished by using the following steps.

PUMP

A — Pneumatic Grease Jockey Pump

Pump Description	Part Number
Pneumatic Grease Jockey 9:1 ratio, 6 lb reservoir, 12 VDC, controller, solenoid, mainline, and mounting hardware	563854

Now that you've selected your pump configuration, it's time to determine the system lube points.

LUBE POINTS – FRONT LEFT

B — Determine Your System's Front Left Lube Points

What is your front braking system?
Do you have greaseable or sealed spring pins?

Braking System	Spring Pins	Part Number
Drum brakes (2 points)	Spring lube (3 points)	563644 (10 points total)
	Sealed springs (0 points)	563706 (7 points total)
Disc brakes (0 points)	Spring lube (3 points)	563654 (8 points total)
	Sealed springs (0 points)	563728 (5 points total)

LUBE POINTS – FRONT RIGHT / TRANSMISSION

C — Determine Your System's Front Right / Transmission Lube Points

Does your transmission have lube points? What is your front braking system?
Do you have greaseable or sealed spring pins?

Clutch Points	Braking System	Spring Pins	Part Number
2 clutch points	Drum brakes (2 points)	Spring lube (3 points)	563645 (10 pts total)
		Sealed springs (0 points)	563859 (7 pts total)
	Disc brakes (0 points)	Spring lube (3 points)	24X743 (8 pts total)
		Sealed springs (0 points)	563727 (5 pts total)
No clutch points	Drum brakes (2 points)	Spring lube (3 points)	563858 (8 pts total)
		Sealed springs (0 points)	563860 (5 pts total)
	Disc brakes (0 points)	Spring lube (3 points)	563655 (6 pts total)
		Sealed springs (0 points)	24H994 (3 pts total)

LUBE POINTS – REAR BRAKES

D — Determine Your System's Rear Brake Lube Points

What is your rear braking system?
Do you have single or tandem axles?

Braking System	Axles	Part Number
Drum brakes	Tandem axle/TAX (8 points)	563646
	Single axle/SAX (4 points)	563647*
Disc brakes (0 points)	No kit needed	–

*If lubricating 5th wheel, order package 258348 from Section E instead of package 563647.

LUBE POINTS – 5TH WHEEL

E — Determine Your System's 5th Wheel Lube Points

What is your 5th wheel configuration?

5th Wheel System	Part Number
5th wheel (6 points)	563648
5th wheel/SAX drum (10 points)	258348

ADDITIONAL SYSTEM PRODUCTS

Additional Grease Jockey System Products

Product Description	Part Number
Steering assist lube points for front right	563862 (2 points)
Steerable drop axle lube points	564194 (10 points)
Non-steerable drop axle lube points	563856 (6 points)
Dump body kit	563857 (6 points)

On-Road Mobile Lubrication Systems

Trailer Lubrication Systems

Features and Benefits

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

Typical Applications

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

Typical Fluids Handled

- Grease up to NLGI #2

Technical Specifications

Construction ..... Cast aluminum body and steel mounting bracket
Lubricant ..... NLGI #2 or lower
Output per Cycle ..... 0.010-0.030 cu. in (0.16-.49 cm^3)
Reservoir Capacity (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 in I.D. hose
Module to Point ..... 3/16 in O.D. heavywall nylon
Operating Pressure (nylon lines) ..... 1,350 psi (9,310 kPa)

563842

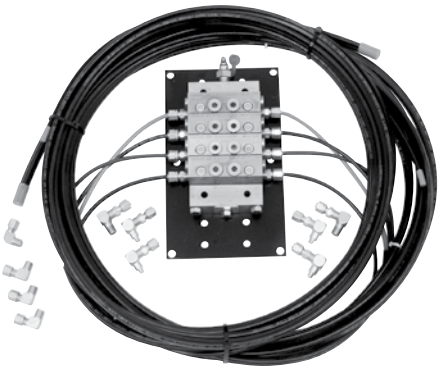
Universal Trailer Kits Ordering Information

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
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®



563853

Features and Benefits

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

Typical Applications

- Truck, tractor, and trailer chassis lubrication

Typical Fluids Handled

- Grease up to NLGI #2

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			

Hydraulic Pumps

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

247540

25A189

247450

Typical Applications

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

Typical Fluids Handled

- NLGI #2 grade grease

Technical Specifications

Part Number	247540	247443	247450	25A189
Drum Size	60 lb (27 kg)*	90/120 lb (41/55 kg)*	400 lb (180 kg)	120 lb (55 kg)
Overall Pump Length	33.9 in (861 mm)	41.5 in (1054 mm)	48.5 in (1232 mm)	41.5 in (1054 mm)
Pump Lower Length	19.15 in (501 mm)	26.75 in (679 mm)	33.75 in (857 mm)	26.75 in (679 mm)
Maximum Hydraulic Input Pressure	600 psi (41 bar)	600 psi (41 bar)	600 psi (41 bar)	900 psi (62 bar)
Maximum Hydraulic Fluid Input Volume	3 gpm (11.4 lpm)	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)	1.1 lb/min (0.5 kg/min)
Maximum CPM	60	60	60	60
Maximum Fluid Output Pressure	7,500 psi (517 bar)	7,500 psi (517 bar)	7,500 psi (517 bar)	10,000 psi (689 bar)
Hydraulic Supply Inlet	3/4 in–16 JIC (37º Flare)	3/4 in–16 JIC (37º Flare)	3/4 in–16 JIC (37º Flare)	3/4 in–16 JIC (37º Flare)
Hydraulic Return Outlet	3/4 in NPT	3/4 in NPT	3/4 in NPT	3/4 in NPT
Fluid Outlet	1/2 in NPT	1/2 in NPT	1/2 in NPT	13/16 - 16 UNC
Maximum Incoming Hydraulic Fluid Temp.	200ºF (93ºC)	200ºF (93ºC)	200ºF (93ºC)	200ºF (93ºC)
Manual	312350	312350	312350	3A3005

Ordering Information

247540	Dyna-Star 10:1, 60 lb (27 kg) pump*
247443	Dyna-Star 10:1, 90/120 lb (41/55 kg) pump*
247450	Dyna-Star 10:1, 400 lb (180 kg) pump
25A189	Dyna-Star 10:1, 10,000 psi (689 bar), 120 lb (55 kg) pump

*Used in Graco 60 or 90 lb (27 or 41 kg) reservoirs.

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	
24Y407	Dyna-Star 10:1 90 lb pump kit – injector – mechanical AFSO
24Y408	Dyna-Star 10:1 60 lb pump kit – injector – mechanical AFSO
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

247574

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*	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**	–	–	247970	–	247456	–	247457	–

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

**Kits include pump (247540, 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†
115124	Pressure switch
247575	Reservoir – 60 lb (27 kg)
241486	Reservoir – 90 lb (41 kg)

†Requires follower plate, order with part number 247700.

241573

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)
25D096	Fireball 300, 50:1 60 lb (27 kg) pump module. Includes pump (239877), reservoir assembly (247575), and vent valve assembly (241572)
241485	Follower plate (fits 241573 and 25D096)
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)

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

77X202

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/min (24.6 cm^3 - 410 cm^3/min)
HP models	1.5 in^3 - 18 in^3/min (24.6 cm^3 - 295 cm^3/min)
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

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
System Installation Kits	
77X960	24 VDC HP pump with auto-fill shutoff and low-level monitor, GLC2200 controller, wiring harness, low-level sensor cable, power cable, pressure switch, and remote fill manifold for 60 pound reservoir
77X990	24 VDC HP pump with auto-fill shutoff and low-level monitor, GLC2200 controller, wiring harness, low-level sensor cable, power cable, pressure switch, and remote fill manifold for 90 pound reservoir

Lubrication Systems

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

HP Pump Modules								
Part Number	Reservoir Size		Vent Valve	Dip Stick	Low Level 77X522 (DIN)	Follower Plate	Low Level 17L372 (M12)	Auto-Fill Shut Off
	60 lb	90 lb						
77X100	•		•	•				
77X101		•	•	•				
77X102	•		•					•
77X103		•	•					•
77X104	•		•		•	•		
77X105		•	•		•	•		
77X202	•		•				•	•
77X203		•	•				•	•
77X204	•		•				•	
77X205		•	•				•	
77X300	•			•				
77X301		•		•				
77X304	•				•	•		
77X305		•			•	•		
77X402	•						•	•
77X403		•					•	•

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 (replacement filter 77X541)
17L366	Red alert filter with 380µm, 36 in² steel mesh filter (replacement filter 129031)
24R952	Red alert filter with reservoir mounting kit (includes 17L366)
16V678	Red alert filter mounting bracket
77X524	110-230 VAC to 24 VDC converter box
77X540	24 VDC electric vent valve with pressure relief
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 in BSPP inlet, DIN 43650 connector (1 NO/1 NC), 7,250 psi (500 bar)
24N181	Pressure switch, 1/4 in NPT(F) inlet, DIN 43650 connector (1 NO/1 NC), 7,250 psi (500 bar)

77X102

77X001

77X524

77X514

77X515

77X500

77X513

77X523

77X542

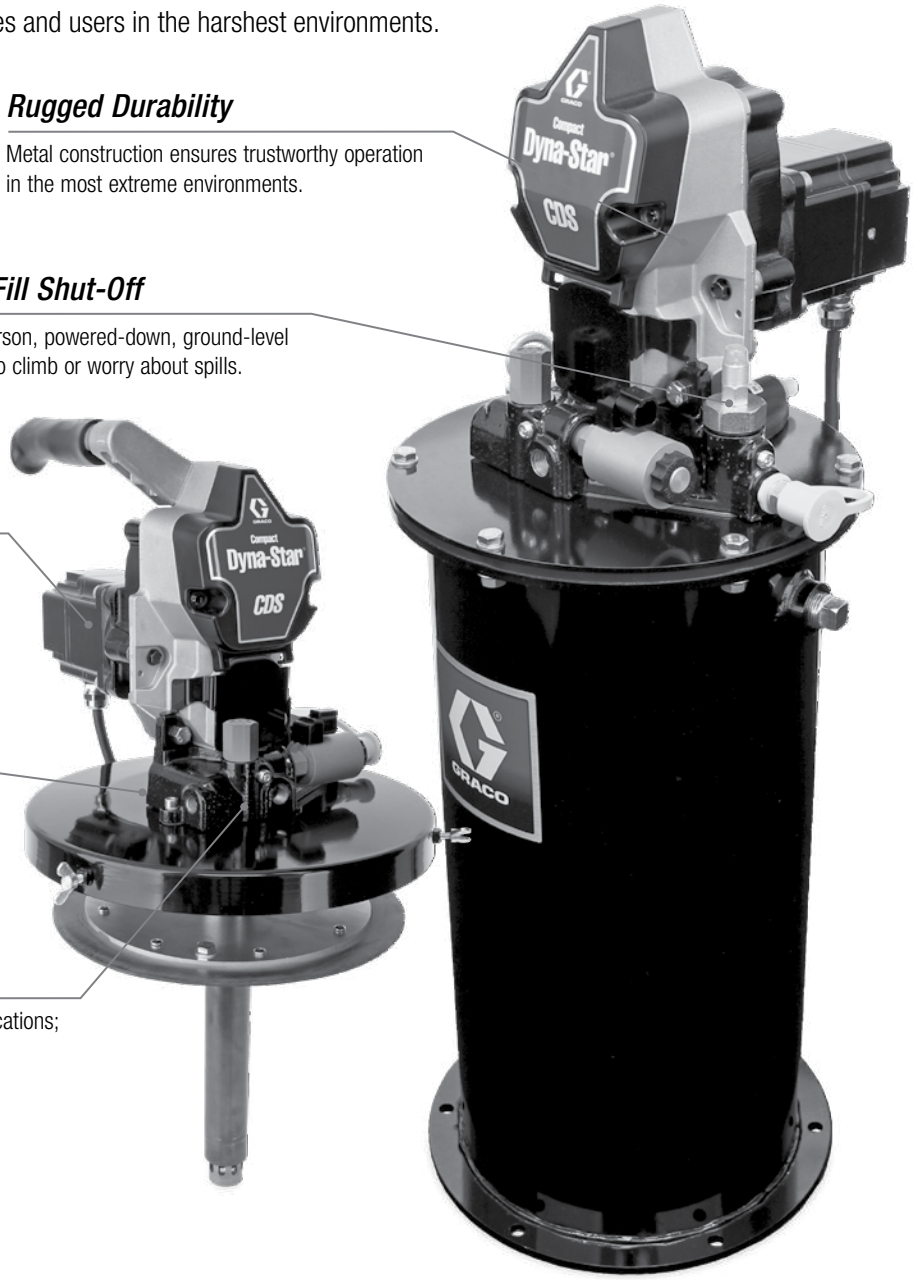
Lubrication Systems

Lubrication Systems

Compact Dyna-Star®

Right-Sized Solution

The Graco Compact Dyna-Star automatic lubrication system delivers high-capacity flow, robust durability and innovative control in a smaller footprint to extend uptime for today's toughest earth-moving machines and users in the harshest environments.



Rugged Durability

Metal construction ensures trustworthy operation in the most extreme environments.

Integrated Auto-Fill Shut-Off

Option enables single-person, powered-down, ground-level refills, without the need to climb or worry about spills.

Smart Power Train

24 VDC, brushless motor and zero-maintenance gear drive deliver lubricants on time, even at -40º F (-40º C).

Intelligent Monitoring

Optional pressure and lubricant level sensors provide useful system information in real time.

Compact Power

Fits easily in space-limited applications; powerful enough to keep up with aggressive lubrication interval.

Typical Applications

- Aggregates
- Mining
- Construction
- Hydraulic Fracturing Units

Technical Specifications

Maximum Working Pressure	3,500 psi (241 bar)
Operating Temperature	-40 to 149º F (-40 to 65º C)
Reservoir Size	12 or 20 liter
Maximum Flow Output Rate	4.5 in^3/min (74 cm^3/min)
Lube Type	Oil and grease up to NLGI #2
Certifications/Ratings	IP69K
Manual	3A6941

Lubrication Systems

Compact Dyna-Star®, GLC™ X Controller and Auto Lube™ App

Ordering Information

CD – X – X – X – X

Pump Description

Code	Description
1	12 L / 35 lb bucket length, 24 VDC
2	20 L reservoir length, 24 VDC

Metering System Feedback

Code	Description
0	Series progressive, no vent-valve, no pressure feedback (plugged outlet)
1	Vent-valve, no pressure feedback (plugged outlet)
2	Vent-valve, pressure switch
3	Vent-valve, pressure-reporting transducer

Reservoir

Code	Description
0	No reservoir, bare pump
1	12 L steel reservoir, follower plate
2	20 L steel reservoir, follower plate
3	35 lb plastic bucket kit
4	12 L steel reservoir, no follower plate
5	20 L steel reservoir, no follower plate

Reservoir Accessories

Code	Description
0	Bare pump or bucket kit (no reservoir)
1	Low-level switch
2	Level-reporting transducer
3	Auto-fill shut-off and low-level switch
4	Auto-fill shut-off and level-reporting transducer

CD1011

Ordering Information

CDS Accessories	
26A883	GLC X to CDS 3 ft (1 m) cable
26A884	CDS extension cable, 12-wire, 20 ft (6 m) with flying leads
26A889	12-pin DT female CDS mating connector kit
25R001	12 liter reservoir wall mount bracket
25R318	Mounting bracket for GLC X, Red Alert filter, 3- and 5-section MSP assemblies or 3- and 5-bank GL-1 series injectors

Pair with the GLC X Controller and Auto Lube App

Drive More Productivity

The powerful, easy-to-use Graco GLC X automatic lubrication controller captures more information so operators, technicians and managers can make faster, smarter decisions. Paired with the intuitive Auto Lube app, users can monitor system performance and make adjustments with incredible speed, precision and freedom from their personal mobile device.

Easy-to-Read Screen

High-contrast screen features text codes, faults and other data clearly in any ambient light without distracting operators.

Real-Time System Reporting

Program and display a wide range of customizable functions – including lubrication intervals, pressure limits, lubricant levels and more.

Smart Device and Mobile App

With the Auto Lube app, monitor lubrication levels, configure settings, track system history and share important diagnostics.

Ordering Information

GLC X Controller	
26A855	GLC X controller with 20 ft (6 m) cable
26A814	GLC X controller
26A882	GLC X wiring harness, 12-wire, 20 ft (6 m) with flying leads
GLC X Accessories	
26A853	GLC X pump simulator
26A882	GLC X 20 ft (6 m) cable
26A883	GLC X to Compact Dyna-Star® 3 ft (1 m) cable
26A888	14-pin mating connector kit

Download the **Graco Auto Lube App** from Google Play or the App Store (iOS) and perform all controller functions from the convenience of a smartphone or tablet.

Compressor Lubrication

Manzel® Model 25 Lubricator

Features and Benefits

- General-Purpose Lubrication: automatic, precision metering for all types of machinery
- The preferred lubricator of food processors who want to minimize the spare pumps they keep in stock
- Model 25 pumps manufactured today will fit in working Model 25 box lubricators no matter what their age – even 100 years old!
- Hand Crank: Standard. Convenient for rapid priming of lines before start-up or for momentarily increasing supply of lubricant. Does not affect adjustment of individual pumping units. Direct replacement for Kipp Model 50 Box Lubricators

Typical Applications

- Provide lubrication to cylinder walls, bearings and other moving parts of equipment such as continuous cookers, steam peelers, closing machines and other food processing equipment.
- Also used to replace existing Model 25 lubricators installed on other equipment.

562949

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	60
5/16 (7.9)	1,000 (69)	1/4	12	.0005	.0245	.005	.199	3	60

Pumps and Accessories

Model 25 Replacement Pumps	
562949	3/16 in (4.8 mm) diameter
562950	5/16 in (7.9 mm) diameter
Accessories and Spare Parts	
564317	Ratchet drive arm assembly
562988	Replacement hand crank
563939	Low level, fits into a pump slot

Replacement Site Glasses		
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

Manzel® Model 25 Box Lubricator Configurator

Ordering Information

MA – X – X – X – X

Reservoir

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

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

Pump Size

Code	Former Codes and Descriptions
A	P-1 - 3/16 in (4.8 mm) Diameter Plunger, 1,000 psi (68.9 bar) max Operating Pressure
B	P-2 - 5/16 in (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 - 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 - Left Hand Mount*
G	D3L - 37.5:1 Ratio - Left Hand Mount
H	D4L - 75:1 Ratio - Left Hand Mount

*Requires drive arm 564317, sold separately.

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 Fluids Handled

- Mineral oil base or synthetics

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

Application	Industry	Use
Compressors	Petrochemical, Refineries, Gas Transmission, Injection and Storage, Cold Storage, General Manufacturing, Air Systems	Lubricate cylinder walls and piston shaft packing
Edgers, Planers, Band Saws	Lumber	Lubricate slides and ways. Blade coolant.
Mixers	Rubber	Used in the bleeding process and to lubricate dust stop seals
Can Lid Presses	Food Processing	Lubricate high-speed bearings
Band Saws	Lumber	Saw guides

Modularity

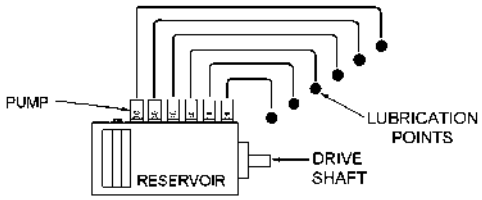
Force Feed Box Lubricators provide true modularity that permits customizing a pump-to-point lubrication system from off-shelf components. The modular variables consist of the following categories of components:

- Pumps
- Reservoir
- Reservoir Heaters
- Reservoir Oil Level Controls
- Drives
- Shaft Rotation Alarm
- Motor and Motor Mounting Bases

In addition to these Force Feed Box Lubricator components, Graco offers a complete line of auxiliary equipment. Also, MBL pumping packages can be used with divider valves in a series progressive installation. Graco's performance-proven products that may be used with Modular Box Lubricators are listed on the next page along with the respective literature number.

Description

A basic pump-to-point system is shown in the illustration which depicts six pumps mounted on a common reservoir from which each pump is dispensing oil to a single lubrication point. These pumps are operated by individual cams on one common drive shaft.



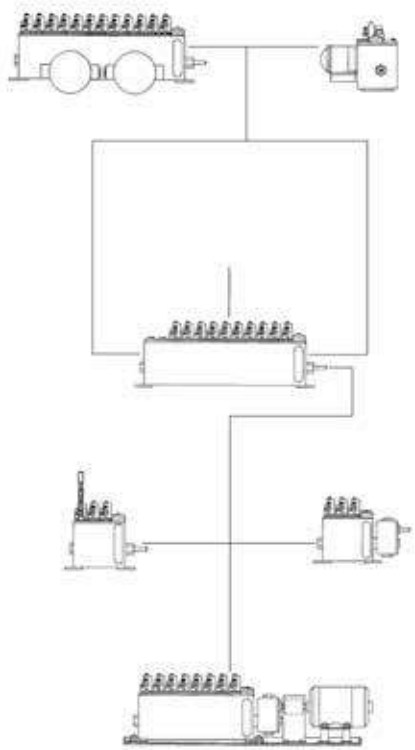
Pump-to-Point System

Interchangeability, Conversion and Retrofits

Graco GBL 7500 Pumps have been designed to be easily interchangeable with other manufacturers' pumps. For details contact your local Graco representative or call on us for system design and application assistance.

MBL Force Feed Box Lubricator = True Modularity

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



Pumps

Graco GBL 7500 pumps for pressures up to 7,500 psi.

24J391 – GBL 7500 Suction Pump, 3/16 in
24J392 – GBL 7500 Suction Pump, 1/4 in
24J393 – GBL 7500 Suction Pump, 3/8 in

- Ideal for heavy duty applications
- Interchangeable with pumps from competitive lubricators
- Suction (vacuum feed) pumps are available installed
- Pressure feed and gravity feed pumps are sold separately
- See manual 3A2257 for more information

Alarm Pump

Shaft Rotation/Low Level alarm based on GBL 7500 pump.

- Available as part number 24K466.
- Mounts in a pump slot
- Order separately for field installation.

Reservoirs and Mounting Bases

Eight reservoir capacities are available to hold from 4 to 40 pints and accommodate from 1 to 24 pumps. Blank cover assemblies included on unused pump stations. Eight sizes of motor mounting bases are available to accommodate the various reservoir sizes.

Reservoir Accessories

Automatic fill, low level, and electric heater options.

Drive Options

Over twenty drive options are available from direct drive to a reduction ratio of 400:1. Options provide left- or right-hand end of reservoir mounting, end or rear rotary drives, end ratchet drives and gear reducers. For details, see pages 9 and 10. See literature 352389 for MB60 (60:1) and MB118 (118:1) specialty box lubricators. See Graco manual 3A2953 for center rear drive options.

Motors

Single- and three-phase motors are available at ratings of 1/3,1/4 and 1/2 HP, for 115/230 volt or 230/460 volt, in explosion-proof, TEFC or TENV configuration. Some motor configurations are available foot-mounted and/or face-mounted.

"Smart" Part Numbers

- Graco part numbers are 6-digits long
- MBL Smart Part Numbers start with "MB"
- The next four letters each specify one or more options:
  - Option A: Reservoir and Motor Mounting Base
  - Option B: Pump Style and Monitor
  - Option C: Pump Quantity
  - Option D: Drive
- MBabcd – replace lower case letters with selections offered in **Smart Menu Code** to form a **Smart Part Number**

Literature

L54000	Lube Line Alert
L15831	Lube Sentry
L15825	Check Valves
L15200	In-Line Filters
L10103	MH Modular Divider Valves
3A2100	Modular Box Lubricator (MBL) manual
3A2257	GBL7500 pumps manual
352389	Manzel MB60 & MB118 flyer
3A2953	Center Drive Box Lubricator manual

Compressor Lubrication

Manzel® MBL Pump/Reservoir Combinations

NOTE: LH option currently available only on MBL-G01, G02, G03, G04, and G12 drives. All part numbers on the chart below use “OA” to indicate assemblies with NO pumps. Refer to Smart Code ordering details.

= Not compatible

		Reservoirs Without Motor Mounting Bases								Reservoirs Combined With Motor Mounting Bases							
		T1	T2	T3	T4	T5	T6	T7	T8	T1 + P1	T2 + P2	T3 + P3	T4 + P4	T5 + P5	T6 + P6	T7 + P7	T8 + P8
		4 pint / 2 feed	6 pint / 3 feed	8 pint / 5 feed	12 pint / 8 feed	16 pint / 12 feed	24 pint / 16 feed	32 pint / 20 feed	40 pint / 24 feed	4 pint / 2 feed	6 pint / 3 feed	8 pint / 5 feed	12 pint / 8 feed	16 pint / 12 feed	24 pint / 16 feed	32 pint / 20 feed	40 pint / 24 feed
G01R	Direct, 1:1	MBA0AA	MBB0AA	MBC0AA	MBD0AA	MBE0AA	MBF0AA	MBG0AA	MBH0AA								
G02R	End Ratchet	MBA0AB	MBB0AB	MBC0AB	MBD0AB	MBE0AB	MBF0AB	MBG0AB	MBH0AB								
G03R	37.5:1 Ratchet	MBA0AC	MBB0AC	MBC0AC	MBD0AC	MBE0AC	MBF0AC	MBG0AC	MBH0AC								
G04R	75:1 Ratchet	MBA0AD	MBB0AD	MBC0AD	MBD0AD	MBE0AD	MBF0AD	MBG0AD	MBH0AD								
G01L	Direct, 1:1	MBA0AE	MBB0AE	MBC0AE	MBD0AE	MBE0AE	MBF0AE	MBG0AE	MBH0AE								
G02L	End Ratchet	MBA0AF	MBB0AF	MBC0AF	MBD0AF	MBE0AF	MBF0AF	MBG0AF	MBH0AF								
G03L	37.5:1 Ratchet	MBA0AG	MBB0AG	MBC0AG	MBD0AG	MBE0AG	MBF0AG	MBG0AG	MBH0AG								
G04L	75:1 Ratchet	MBA0AH	MBB0AH	MBC0AH	MBD0AH	MBE0AH	MBF0AH	MBG0AH	MBH0AH								
G05R	25:1 End Rotary	MBA0AJ	MBB0AJ	MBC0AJ	MBD0AJ	MBE0AJ				MBJ0AJ	MBK0AJ	MBL0AJ	MBM0AJ	MBN0AJ			
G06R	50:1 End Rotary	MBA0AK	MBB0AK	MBC0AK	MBD0AK	MBE0AK				MBJ0AK	MBK0AK	MBL0AK	MBM0AK	MBN0AK			
G07R	100:1 End Rotary	MBA0AL	MBB0AL	MBC0AL	MBD0AL	MBE0AL				MBJ0AL	MBK0AL	MBL0AL	MBM0AL	MBN0AL			
G08R	200:1 End Rotary	MBA0AM	MBB0AM	MBC0AM	MBD0AM	MBE0AM				MBJ0AM	MBK0AM	MBL0AM	MBM0AM	MBN0AM			
G09R	400:1 End Rotary	MBA0AN	MBB0AN	MBC0AN	MBD0AN	MBE0AN				MBJ0AN	MBK0AN	MBL0AN	MBM0AN	MBN0AN			
G10R	25:1 Right Angle	MBA0AP	MBB0AP	MBC0AP	MBD0AP	MBE0AP											
G11R	50:1 Right Angle	MBA0AR	MBB0AR	MBC0AR	MBD0AR	MBE0AR											
G12R	188:1 Right Angle	MBA0AS	MBB0AS	MBC0AS	MBD0AS	MBE0AS											
G13R	375:1 Right Angle	MBA0AT	MBB0AT	MBC0AT	MBD0AT	MBE0AT											
G14R	100:1 Heavy Duty														MBP0AU	MBR0AU	MBS0AU
G15R	150:1 Heavy Duty														MBP0AV	MBR0AV	MBS0AV
G16R	200:1 Heavy Duty														MBP0AW	MBR0AW	MBS0AW
G17R	300:1 Heavy Duty														MBP0AX	MBR0AX	MBS0AX
G18R	400:1 Heavy Duty														MBP0AY	MBR0AY	MBS0AY
G12L	188:1 Right Angle	MBA0AZ	MBB0AZ	MBC0AZ	MBD0AZ	MBE0AZ											
G05L	25:1 End Rotary																
G06L	50:1 End Rotary																
G07L	100:1 End Rotary																
G08L	200:1 End Rotary																
G09L	400:1 End Rotary																
G10L	25:1 Right Angle																
G11L	50:1 Right Angle																
G14L	100:1 Heavy Duty																
G15L	150:1 Heavy Duty																
G16L	200:1 Heavy Duty																
G17L	300:1 Heavy Duty																
G18L	400:1 Heavy Duty																

Compressor Lubrication

Manzel® MBL Box Lubricator Configurator

MBL Smart Code Ordering Menu

MB – X – X – X – X

Reservoir (Smart Code Option A)

Code	Former Code(s)	Description	Code	Former Code(s)	Description
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 (Smart Code Option B)

Code	Former Code(s)	Description
0	00	No pumps
1	76/88B	3/16 in Suction Pump 24J391
2	76/88C	1/4 in Suction Pump 24J392
3	76/88E	3/8 in Suction Pump 24J393
4	76/88B and F3	3/16 in Suction Pump plus RENS Level Controller
5	76/88C and F3	1/4 in Suction Pump plus RENS Level Controller
6	76/88E and F3	3/8 in Suction Pump plus RENS Level Controller
7	76/88B and F4	3/16 in Suction Pump plus GARZO Level Controller
8	76/88C and F4	1/4 in Suction Pump plus GARZO Level Controller
9	76/88E and F4	3/8 in Suction Pump plus GARZO Level Controller

NOTES:

1. When pump quantity is less than maximum pump stations of specified reservoir, a blank cover assembly is installed at Graco.
2. When low level is specified, deduct one pump for each option.
3. When ordering a ratchet drive, the maximum number of pumps allowable is 20.

Pump Quantity (Smart Code Option C)

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		

Drive Options (Smart Code Option D)

Code	Former Code	Description	Code	Former Code	Description	Code	Former Code	Description
A	G01R	Direct End Rotary (50 rpm max)	J	G05R	Double Reduction End Rotary 25:1	T	G13R	RT Angle Rotary 375:1
B	G02R	End Ratchet (without drive arm 563005)	K	G06R	Double Reduction End Rotary 50:1	U	G14R	100:1 Ratio Gear Reducer**
C	G03R	End Rotary Ratchet 37-1/2:1 – max input of 800 RPM	L	G07R	Double Reduction End Rotary 100:1	V	G15R	150:1 Ratio Gear Reducer**
D	G04R	End Rotary Ratchet 75:1 – max input of 800 RPM	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 (without drive arm 563005)	P	G10R	RT Angle Rotary 25:1	Y	G18R	400:1 Ratio Gear Reducer**
G	G03L	End Rotary Ratchet 37-1/2:1 – max input of 800 RPM	R	G11R	RT Angle Rotary 50:1	Z	G12L	Left Angle Rotary 188:1
H	G04L	End Rotary Ratchet 75:1 – max input of 800 RPM	S	G12R	RT Angle Rotary 188:1			

**U (G14) through Y (G18) require motor mounting base; can only be used with reservoir options P, R, and S.

Ordering Information

Manzel® MBL Box Lubricator Motors	
558289	M2 – 1/4 hp, 1,725 rpm, 115/230V, 1 ph., TENV, Foot-Mounted (56F)
558293	M3 – 1/4 hp, 1,725 rpm, 115/230V, 1 ph., Hazardous Area, Class 1, Group D, Foot-Mounted (56F)
558290	M5 – 1/4 hp, 1,725 rpm, 230/460V, 3 ph., TENV, Foot-Mounted (56F)
558292	M6 – 1/4 hp, 1,725 rpm, 230/460V, 3 ph., Hazardous Area, Class 1, Group D, Foot-Mounted (56F)
558294	M7 – 1/2 hp, 1,725 rpm, 115/230V, 1 ph., Hazardous Area, Class 1, Group C, Severe Duty, Tropical Insulation, Face-Mounted or Foot-mounted (56C with feet)
558295	M8 – 1/2 hp, 1,725 rpm, 230/460V, 3 ph., Hazardous Area, Class 1, Group C, Severe Duty, Tropical Insulation, Face-Mounted or Foot-mounted (56C with feet)
558291	M10 – 1/2 hp, 1,725 rpm, 230/460V, 3 ph., 60Hz, Class 1, Group D, Face-Mounted (56C)
557271	M11 – 1/2 hp, 1,725 rpm, 115/230V, 1 ph., 60Hz, TEFC, Face-Mounted (56C)
557270	M12 – 1/2 hp, 1,725 rpm, 230/460V, 3 ph., 60Hz, TEFC, Face-Mounted (56C)
Note: Heavy Duty drives (G14 - G18) require 56C, face-mount. Normally a 1/2 hp motor would be used because more pumps are being operated by the HD drives.	
Auto-Fill Options	
559037	F1 Gravity Supply
Note: F2 – obsolete, use F1 instead. F3 – ordered with pumps (see page 133). F4 – ordered with pumps (see page 133).	
Low Level Switches	
563013	L1 – Low Level Switch Hazardous Area. Class 1, Group C and D; Class 2 Group, E, F and G.
564015	L2 – Low Level, 10 Watts at 120 VAC, SPST Reed Switch, NC
Shaft Rotation Arm	
24K466	GBL 7500 Suction Alarm Pump
Heater Options	
557207	120 VAC Electric Heater, Hazardous Area, Class 1, Group B, one-prong heater. Can be installed in 1 in NPT port on MBL reservoirs.
557208	240 VAC Electric Heater, Hazardous Area, Class 1, Group B, one-prong heater. Can be installed in 1 in NPT port on MBL reservoirs.
Note: Former codes H3, H4 and H6 use 557207. For H1, H2 and H5, contact factory for details about part number 564058 (two prong heater) Class 1, Group D	

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	6 pint reservoir (6 pump stations max), no pumps installed, 118:1
	24W636	4 pint reservoir (4 pump stations max), 1/4 in GBL 7500 pump (qty 3), 118:1
	24W635	6 pint reservoir (6 pump stations max), 1/4 in 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 in (4.8 mm) suction
24J392	1/4 in (6.4 mm) suction
24J393	3/8 in (9.5 mm) suction
24J394	3/16 in (4.8 mm) gravity
24J395	1/4 in (6.4 mm) gravity
24J396	3/8 in (9.5 mm) gravity
24J397	3/16 in (4.8 mm) pressure
24J398	1/4 in (6.4 mm) pressure
24J399	3/8 in (9.5 mm) pressure
24K466	Suction alarm pump
GBL Accessories and Spare Parts	
564332	Outlet Check Valve Assembly – maintains prime when changing out pumps
126070	Replacement Pump Gasket – used by all pumps
24T306	Sight Glass Replacement Kit – for use with suction, gravity and alarm pumps
563101	Replacement Suction Strainer – for use with suction and alarm pumps

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
- DSL pumps fit in both SVK and DSL boxes
- For SVH, SV and other legacy KLS box lubricators, the entire lubricator must be replaced with a new DSL or MBL box lubricator assembly

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
25E893	DSL Shaft Rotation Alarm Pump

Ordering Information

Drive Ratio and Orientation	Former Code	Reservoir				
		R3: 4 pint, 3 station	R6: 8 pint, 6 station	R9: 12 pint, 9 station	R12: 16 pint, 12 station	R20: 20 pint, 15 station
1:1 End Rotary Right-hand (RH)	ER1R	24A456	24A458	24A460		
1:1 End Rotary Left-hand (LH)	ER1L	24A455	24A457	24A459		
37.5:1 End Rotary RH	ER3R	24A462	24A466	24A470	24A474	
37.5:1 End Rotary LH	ER3L	24A461	24A465	24A469	24A473	
75:1 End Rotary RH	ER4R	24A464	24A468	24A472	24A476	
75:1 End Rotary LH	ER4L	24A463	24A467	24A471	24A475	
283:1 End Rotary RH	DR1R	24A453		24A454		
283:1 End Rotary LH	DR1L					
40:1 Front Rotary RH	FS1R	24A478	24A486	24A494		
40:1 Front Rotary LH	FS1L	24A477	24A485	24A493		
60:1 Front Rotary RH	FS2R	24A480	24A488	24A496		24A503
60:1 Front Rotary LH	FS2L	24A479	24A487	24A495		24A502
40:1 Rear Rotary RH	BS1R	24A482	24A490	24A498		
40:1 Rear Rotary LH	BS1L	24A481	24A489	24A497		
60:1 Rear Rotary RH	BS2R	24A484	24A492	24A501		24A505
60:1 Rear Rotary LH	BS2L	24A483	24A491	24A499		24A504
1:1 Bottom Rotary RH	BR1R	24A506	24A508			
2.5:1 Bottom Rotary RH	BR2R	24A507	24A509			

Pumps sold separately. Please see previous page for pump options.

Compressor Lubrication

Model HP-15™ High Pressure Lubricators

562951

Features and Benefits

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

Typical Applications

- Multi-stage gas compression

Typical Fluids Handled

- Mineral or synthetic oil

Technical Specifications

Number of Feeds	Max. Pressure	Reservoir Capacity (Quarts) (1)	Plunger Diameter (inches)	Drops Per Stroke		Cubic Inches Per 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
556808	Ren Oil Level Controller/Auto-fill, 5 psi maximum
558221	Garzo Oil Level Controller/Auto-fill, 70 psi maximum, Class 1, Groups C and D, Division I

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

Output per Pump in Pints (Liters) per Day

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)

*Constant X strokes per minute = output in pints per day. For 2 and 3 lobe cams, multiply camshaft RPM times 2 or 3.

Ordering Information

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

MVB Box lubricator

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	T	(RAJ) 8:1 Ratio Gear Box
D	(RAB) 1:2 Ratio Gear Box	M	(RAF) 1:4 Ratio Gear Box	U	(N/A) 8:1 Ratio Gear Box with a KOA Base
E	(RAC) 2:1 Ratio Gear Box	N	(RAG) 4:1 Ratio Gear Box	W	(RAK) 16:1 Ratio Gear Box
H	(RAD) 1:3 Ratio Gear Box	S	(RAH) 1:8 Ratio Gear Box	X	(N/A) 16:1 Ratio Gear Box with a KOA Base

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 in	10,000	4,600
B	Single Lobe	1/4 in	None	6,400	L	Double Lobe	3/8 IN	None	1,750
C	Single Lobe	1/4 in	3,000	2,350	M	Double Lobe	3/8 IN	3,000	1,750
D	Single Lobe	1/4 in	10,000	6,400	N	Triple Lobe	No Pump	None	None
E	Single Lobe	3/8 in	None	2,350	P	Triple Lobe	1/4 in	None	3,700
F	Single Lobe	3/8 IN	3,000	2,350	R	Triple Lobe	1/4 in	3,000	2,350
G	Double Lobe	No Pump	None	None	S	Triple Lobe	1/4 in	10,000	3,700
H	Double Lobe	1/4 in	None	4,600	T	Triple Lobe	3/8 IN	None	1,450
J	Double Lobe	1/4 in	3,000	2,350	U	Triple Lobe	3/8 IN	3,000	1,450

*Former codes AOA and AOC referred to 1/4 in pump. Former codes AOB and AOD referred to 3/8 in 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 in	10,000	4,600
B	Single Lobe	1/4 in	None	6,400	L	Double Lobe	3/8 IN	None	1,750
C	Single Lobe	1/4 in	3,000	2,350	M	Double Lobe	3/8 IN	3,000	1,750
D	Single Lobe	1/4 in	10,000	6,400	N	Triple Lobe	No Pump	None	None
E	Single Lobe	3/8 in	None	2,350	P	Triple Lobe	1/4 in	None	3,700
F	Single Lobe	3/8 IN	3,000	2,350	R	Triple Lobe	1/4 in	3,000	2,350
G	Double Lobe	No Pump	None	None	S	Triple Lobe	1/4 in	10,000	3,700
H	Double Lobe	1/4 in	None	4,600	T	Triple Lobe	3/8 IN	None	1,450
J	Double Lobe	1/4 in	3,000	2,350	U	Triple Lobe	3/8 IN	3,000	1,450

**Former codes BOA and BOC referred to 1/4 in pump. Former codes BOB and BOD referred to 3/8 in 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

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
Maximum Switch Rating.....350 VAC/VDC, 50 watt, 2 amp
Maximum Operating Pressure.....10,000 psi
Minimum Pressure Drop Access Alert.....150 psi
Flow Rate.....0.006 in^3 to 190 in^3/min @ 100 SUS
0.006 in^3 to 75 in^3/min @ 2000 SUS
Fluid Viscosity.....100 to 9000 SUS
Weight.....0.6 lbs

Ordering Information

Lube-Line Alert	
563030	N.C. Configuration w/Check Valves for 1/4 in O.D. Tube, Standard Spring (installed), w/ Light Spring (loose)*
563033	N.O. Configuration w/Check Valves for 1/4 in O.D. Tube, Light Spring (installed), w/ Standard Spring (loose)*
563032	N.O. Configuration w/Check Valves and Fittings for 1/8 in NPTF Connections, Standard Spring (installed)
Inlet Check Valves	
563042	w/ 1/4 in O.D. Tube Inlet (supplied w/1 and 2)
563041	w/ 7/16-20 Straight Female Thread Outlet (supplied w/3)
Outlet Check Valves	
563044	w/ 1/4 in O.D. Tube Inlet (supplied w/1 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 in 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 to 400 pints (1.89 to 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	-20ºF to 180ºF (-29ºC to 82ºC)
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

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	-10ºF to 250ºF (-23ºC to 121ºC)
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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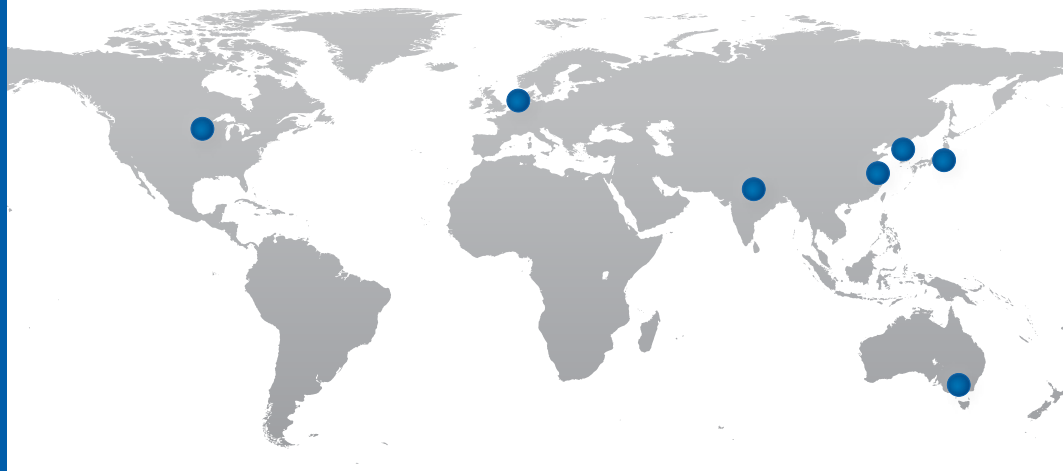

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