

## Force Feed Box Lubricators

The Manzel® Modular Box Lubricator (MBL) provides true modularity that permits customizing a pump-to-point lubrication system from off-shelf components. MBL pumping packages can also be used with MHH divider valves in a series progressive system. Each moving part is lubricated at all times by the fluid in the reservoir. This and the wide range of options, high discharge pressure and rugged construction make the MBL ideally suited for a wide variety of industries and applications.

### GBL 7500 Pumps

Modern design that has become the industry standard. See page 54 for pump part numbers.

### Suction Pumps Installed

Use ordering menu on page 55 to specify pumps to be installed. Gravity and Pressure Feed pumps are sold separately for field installation.

### Modular Drive

External drive assemblies available as replacement parts.



### Heater Port

Integrated 1 in NPT port makes optional electric heater installation simple.

### Heavy Steel Reservoirs and Mounting Bases

Eight reservoir capacities are available to hold up to 40 pints and 24 pumps.

### Technical Specifications

Maximum Pressure	7,500 psi (517 bar)
Power	115/230 VAC, 230/460 VAC, 60 Hz
Operating Temperature	-20°F to 140°F (-29°C to 60°C)
Reservoir Size	See the following pages
Maximum Run Time	Continuous
Output per Element/Min	0.7, 1.2, or 2.7 in <sup>3</sup> (11.45, 19.65, or 44.25 cm <sup>3</sup> )
Certifications/Standards	ATEX (depends on configuration)
Instruction Manual	3A2100

### Typical Fluids

- Mineral oil or synthetic based lubricants
- 80 to 5,000 SUS

### Typical Applications

- Compressors – petrochemical, refineries, gas transmission and more
- Edgers, planers and band saws
- Rubber mixers
- Cannery lid presses

## Manzel® MBL Pump/Reservoir Combinations with Motor Mounting Bases

**NOTE:** All part numbers on the chart below use "OA" (Zero-A) to indicate assemblies with NO pumps. Refer to Smart Code ordering details.

### End Rotary Drives

Add GBL 7500 pumps and a NEMA 56F motor, or 56C with feet, to complete the assembly – see motor options on page 55.

Drive Ratio	Reservoir Size				
	4 pint (1.9 L)/ 2 Feed	6 pint (2.8 L)/ 3 Feed	8 pint (3.8 L)/ 5 Feed	12 pint (5.7 L)/ 8 Feed	16 pint (7.6 L)/ 12 Feed
50:1	MBJOAK	MBKOAK	MBLOAK	MBMOAK	MBNOAK
100:1	MBJOAL	MBKOAL	MBLOAL	MBMOAL	MBNOAL
200:1	MBJOAM	MBKOAM	MBLOAM	MBMOAM	MBNOAM
400:1	MBJOAN	MBKOAN	MBLOAN	MBMOAN	MBNOAN
Replacement Camshaft	564166	564167	564170	560381	564179

### Heavy Duty Gearbox Drives

Add GBL 7500 pumps and a NEMA 56C motor to complete the assembly – see motor options on page 55.

Drive Ratio	Reservoir Size		
	24 pint (11 L)/ 16 Feed	32 pint (15 L)/ 20 Feed	40 pint (19 L)/ 24 Feed
400:1	MBPOAY	MBROAY	MBSOAY
Replacement Camshaft	564166	564167	564170

### MBL Replacement Parts

25T989	Cam replacement kit – includes cam, key, and set screw for one pump station. For replacement cam shafts, see tables above.
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### Replacement Gearboxes

Drive Letter from Ordering Menu	Drive Ratio	Spare Part Number	Compatible with Reservoir/Base J – N?
J	25:1	564055	No*
K	50:1	564054	Yes
L	100:1	563121	Yes
M	200:1	563122	Yes
N	400:1	563120	Yes

\*25:1 ratio is too low for use with 1,725 rpm motor.

Drive Letter from Ordering Menu	Drive Ratio	Spare Part Number
Y	400:1	557162

## Ordering Information

### 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 (1.9 L), 2 pump stations max	J	T1 and P1	4 pt, 2 pump stations max, motor mount base
B	T2	6 pt (2.8 L), 3 pump stations max	K	T2 and P2	6 pt, 3 pump stations max, motor mount base
C	T3	8 pt (3.8 L), 5 pump stations max	L	T3 and P3	8 pt, 5 pump stations max, motor mount base
D	T4	12 pt (5.7 L), 8 pump stations max	M	T4 and P4	12 pt, 8 pump stations max, motor mount base
E	T5	16 pt (7.6 L), 12 pump stations max	N	T5 and P5	16 pt, 12 pump stations max, motor mount base
F	T6	24 pt (11.4 L), 16 pump stations max	P	T6 and P6	24 pt, 16 pump stations max, motor mount base*
G	T7	32 pt (15.1 L), 20 pump stations max	R	T7 and P7	32 pt, 20 pump stations max, motor mount base*
H	T8	40 pt (18.9 L), 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
A	G01R	Direct End Rotary (50 rpm max)	H	G04L	End Rotary Ratchet 75:1 – max input of 800 RPM
B	G02R	End Ratchet (without drive arm 563005)	J	G05R	Double Reduction End Rotary 25:1
C	G03R	End Rotary Ratchet 37-1/2:1 – max input of 800 RPM	K	G06R	Double Reduction End Rotary 50:1
D	G04R	End Rotary Ratchet 75:1 – max input of 800 RPM	L	G07R	Double Reduction End Rotary 100:1
E	G01L	Direct End Rotary	M	G08R	Double Reduction End Rotary 200:1
F	G02L	End Ratchet (without drive arm 563005)	N	G09R	Double Reduction End Rotary 400:1
G	G03L	End Rotary Ratchet 37-1/2:1 – max input of 800 RPM	Y	G18R	400:1 Ratio Gear Reducer**

\*\*Y (G18) requires motor mounting base; can only be used with reservoir options P, R and S.

## Ordering Information


### MBL Box Lubricator Motors

	Part Number	Description
	558289	M2 – 1/4 hp, 1,725 rpm, 115/230V, 1 ph., TENV, Foot-Mounted (56F)
Image Coming Soon	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)
Image Coming Soon	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)
Image Coming Soon	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 drive “Y” (G18R) requires 56C, face-mount. Normally a 1/2 hp motor would be used because more pumps are being operated by the HD drives.


## Ordering Information

### Auto Fill Options


	Part Number	Description
	559037	F1 Gravity Supply

**NOTE:** F2 – obsolete, use F1 instead. F3 – ordered with pumps (see page 55). F4 – ordered with pumps (see page 55).

### Low Level Switches

	Part Number	Description
	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 Alarm

	Part Number	Description
	24K466	GBL 7500 Shaft Rotation Alarm Pump


### Heater Options

<i>Image Coming Soon</i>	Part Number	Description
	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.

**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

### Day Tank Options

Modu-Flo oil tanks include 1/2 in NPSF female thread at the bottom of the tank to receive a 1/2 in NPT male fitting.

	Part Number	Description
	563319	12 pt Tank
	563320	24 pt Tank
	563321	40 pt Tank