# **LUBRICATION EQUIPMENT**

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## AIR OVER OIL RESERVOIRS

### **BASE MOUNT**

Air over oil reservoirs provide precision hydraulic power from shop air. Exact cylinder movement is achieved without the high cost of conventional hydraulic power requiring pump, motor, filter, etc.

Basic circuits, when used with low pressure hydraulic check, flow control and directional valves, allow oil (driven at 1:1 ratio) to force piston rod at the same speed through both forward and return stroke. The speed control is adjustable to your work requirement.

#### **Standard Materials:**

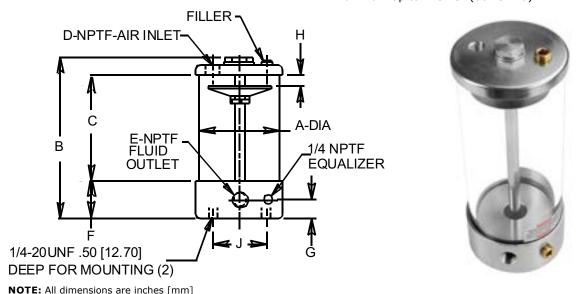
- Aluminum base and cover
- Buna N seals

h : 920-682-6877 x : 920-684-7210

- Steel stem
- Break resistant, colorless, transparent polymer bowl
- · Aluminum bowl and sight gage may be specified

### **Temperature and Pressure Ratings:**

- Maximum working temperature
  - Polymer up to 140°F (60°C)
  - Aluminum up to 250°F (121.1°C)
- Maximum working pressure
  - Polymer up to 80 PSI (552 kPa)
  - Aluminum up to 125 PSI (861.9 kPa)



	Air Over Oil Reservoir - Base Mount											
Part N	umber	incl	acity nes³ n³)	Dimensional Information inches (mm)								
Polymer	Aluminum w/gage	Polymer	Aluminum	A	В	С	D	E	F	G	н	J
A/OR1009-1	_	6.90 (113.10)	8.80 (144.20)	2.50 (63.50)	4.12 (104.60)	2.25 (57.20)	1/8	1/4	1.44 (36.60)	.81 (20.60)	.25 (6.40)	1.25 (31.80)
A/OR1018-2	A/OR11018-2	14.00 (229.40)	18.00 (295.00)	2.50 (63.50)	6.62 (168.10)	4.75 (120.60)	1/4	1/4	1.44 (36.60)	.81 (20.60)	.25 (6.40)	1.25 (31.80)
A/OR1024-2	_	20.00 (327.70)	26.00 (426.10)	2.50 (63.50)	8.62 (218.90)	6.75 (171.40)	1/4	1/4	1.44 (36.60)	.81 (20.60)	.25 (6.40)	1.25 (31.80)
A/OR1030-2	A/OR11030-2	26.00 (426.10)	33.00 (540.80)	2.50 (63.50)	10.62 (269.70)	8.75 (222.20)	1/4	1/4	1.44 (36.60)	.81 (20.60)	.25 (6.40)	1.25 (31.80)
A/OR1042-2	_	35.00 (573.40)	45.00 (737.40)	2.50 (63.50)	13.62 (345.90)	11.75 (298.40)	1/4	1/4	1.44 (36.60)	.81 (20.60)	.25 (6.40)	1.25 (31.80)
A/OR2053-3	A/OR12053-3	47.00 (770.20)	56.00 (917.70)	3.50 (88.90)	8.94 (227.10)	6.88 (174.8)	1/4	3/8	1.62 (41.10)	.94 (23.90)	.50 (12.70)	2.00 (50.80)
A/OR2075-3 A/OR2075-4	_	67.00 (1098.00)	79.00 (1295.00)	3.50 (88.90)	11.81 (300.00)	9.75 (247.60)	1/4	3/8 1/2	1.62 (41.10)	.94 (23.90)	.50 (12.70)	2.00 (50.80)
A/OR2100-3	_	88.00 (1442.00)	104.00 (1704.00)	3.50 (88.90)	15.08 (383.00)	12.75 (323.80)	1/4	3/8	1.62 (41.10)	.94 (23.90)	.50 (12.70)	2.00 (50.80)
A/OR2150-3	_	130.00 (2130.00)	153.00 (2507.00)	3.50 (88.90)	20.81 (528.60)	18.75 (476.20)	1/4	3/8	1.62 (41.10)	.94 (23.90)	.50 (12.70)	2.00 (50.80)
A/OR2200-3	_	171.00 (2802.00)	201.00 (3294.00)	3.50 (88.90)	27.02 (686.30)	24.75 (628.60)	1/4	3/8	1.62 (41.10)	.94 (23.90)	.50 (12.70)	2.00 (50.80)

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## AIR OVER OIL RESERVOIRS

### WALL MOUNT

Air over oil reservoirs provide precision hydraulic power from shop air. Exact cylinder movement is achieved without the high cost of conventional hydraulic power requiring pump, motor, filter, etc.

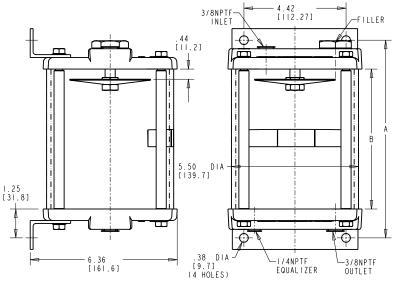
Basic circuits, when used with low pressure hydraulic check, flow control and directional valves, allow oil (driven at 1:1 ratio) to force piston rod at the same speed through both forward and return stroke. The speed control is adjustable to your work requirement.

#### **Standard Materials:**

- Aluminum base and cover
- Buna N seals
- Break resistant, colorless, transparent polymer
- Aluminum bowl and sight gage may be specified

### **Temperature and Pressure Ratings:**

- Maximum working temperature
  - Polymer up to 140°F (60°C)
  - -Aluminum up to 250°F (121.1°C)
- Maximum working pressure
  - Polymer up to 60 PSI (413.7 kPa)
  - Aluminum up to 100 PSI (689.5 kPa)



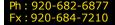


NOTE: All dimensions are inches [mm]

Air Over Oil Reservoir - Wall Mount							
Part No.		incl	acity nes³ n³)	A	В		
Polymer	Alumunium w/gage			inches (mm)	inches (mm)		
A/OR5075-3	_	97.00 (1589.50)	102.0 (1671.50)	7.06 (179.32)	4.56 (115.82)		
A/OR5100-3	_	127.00 (2081.20)	133.00 (2179.50)	8.56 (217.42)	6.06 (153.92)		
_	A/OR15175-3	196.00 (3211.90)	205.00 (3359.30)	12.06 (306.32)	9.56 (242.82)		
A/OR5200-3	_	220.0 (3605.2)	231.0 (3785.4)	13.31 (388.07)	10.81 (274.57)		

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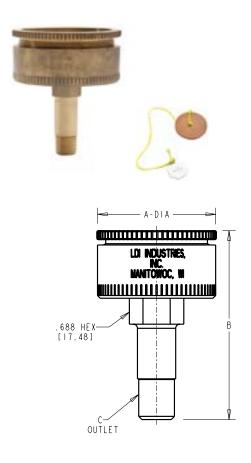


### **GREASE CARTRIDGE ADAPTER**

Grease Cartridge Adapters are designed to take advantage of readily available grease cartridges. These cartridges are available in most commonly used NLGI grades at the retail or wholesale level. These brass adapters are ideally suited for operation with LDI's Precision Metering Pumps PMP100 (air operated) and PMP200 (motor operated).

#### **Standard Materials:**

- Brass construction
- Buna N seals

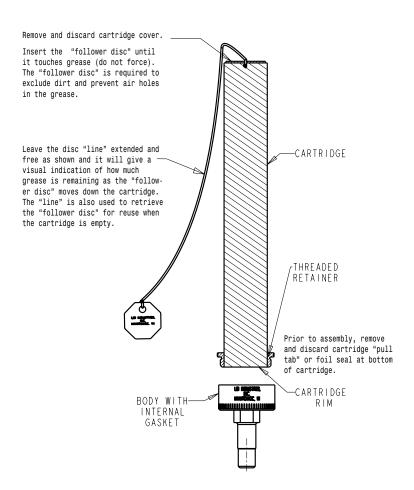


#### **Standard Features:**

- GCA100 Adapts the nominal 3 ounce (85g) standard cartridge size 1.31 (33.27mm) dia x 6.00 (152.40mm) long
- GCA200 Adapts the nominal 14 ounce (397g) standard cartridge size 2.12 (53.85mm) dia x 9.00 (228.60mm) long

#### **Temperature Rating:**

Maximum operating temperature up to 120°F (48°C)



NOTE: All dimensions are inches [mm]

	Grease Cartridge Adapters						
Part No.	A Inches (mm)	B Inches (mm)	C Outlet	Capacity Nominal Cartridge Weight			
GCA100	1.75 (44.45)	2.75 (69.85)	1/4-18NPTF	3 oz. (85g)			
GCA200	2.50 (63.50)	2.81 (71.37)	1/4-18NPTF	14 oz. (397g)			

 $\begin{array}{l} \textbf{GCA100} \text{ adapts the nominal 3 ounce (85 g)} \\ \text{standard cartridge size 1.31 in (33.27 mm)} \\ \text{diameter x 6.00 in (152.40 mm) long} \end{array}$ 

**GCA200** adapts the nominal 14 ounce (397 g) standard cartidge size 2.12 (53.85 mm) diameter  $\times$  9.00 in (228.60 mm) long

Patent Number: 6,149,037





### **GREASE RESERVOIRS - REMOTE/WALL MOUNT**

Grease Reservoirs are ideal for supplying positive displacement pumps, such as the PMP100 or PMP200 Precision Metering Pumps, when larger capacities are required than offered by the GCA100 or GCA200 Grease Cartridge Adapters. These reservoirs feature a conveniently located grease fitting for filling, an internal follower piston to prevent air passing through the grease to the outlet and a large outlet to minimize restriction when connecting to a pump. Top and bottom mounting brackets minimize installation time. The reservoir must be mounted vertically with the outlet down and must not be pressurized on the grease side or the vent side.

#### **Standard Materials:**

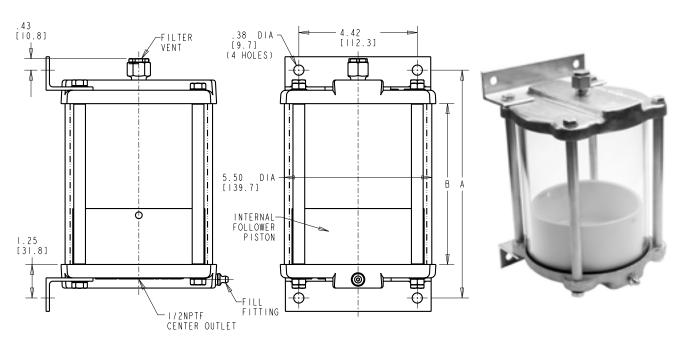
- Aluminum construction
- Buna N seals
- Break resistant, colorless, transparent acrylic bowl

#### Standard Features:

- 40 micron air filter vent to minimize contamination
- Full 360° visual check of the grease level
- Mounting brackets feature (4) .38 inch diameter mounting holes

### **Temperature and Pressure Ratings:**

- Maximum operating temperature up to 160°F (71°C)
- Working pressure is from atmospheric to minus 29 inHg (737 mmHg)



NOTE: All dimensions are inches [mm]

	<b>Grease Reservoir Series</b>					
Part No.	Capacity (weight)	A inches (mm)	B inches (mm)			
GR75	75 in³ (1229 cm³) [41 oz (1.16 kg)]	8.50 (215.90)	6.06 (153.92)			
GR168	168 in³ (2753 cm³) [91 oz (2.58 kg)]	13.25 (336.55)	10.69 (271.53)			



### PMP100 SERIES - PNEUMATIC

The PMP100 Series air operated metering pumps are unique in that each outlet/feed is an individual positive displacement pump. These pumps are ideal for dispensing precise, easily adjustable volumes of a variety of fluids including: oils or grease for lubrication, inks, dyes, chemical additives and cutting fluids. The factory should be consulted before using with high water base fluids.

The air operated metering pumps are:

- Positive displacement
- Self priming with up to 27 InHg (686mmHg)
- Will operate in any position.

They are available in 1 to 15 feeds for oil or 1 to 5 feeds for grease with each feed independently and externally adjustable from 0 to .01 cu. in. (0 to .20 cu. cm.) by a micrometer thread .02 (.57mm) pitch.

A patented feature allows additional pumps (AMP100) to be easily added to a PMP100-02 or more pump banks. The air operated metering pumps are intended for "on command", higher output pressure applications where a compressed air supply of 25 to 125 PSIG (172.50 to 862.50 kPa) is available.

All feeds will actuate at the same time "on command" by using compressed air or other fluids through LDI Industries' 3-way Solenoid Valve (item no. **832160**) actuated by LDI's Repeat Cycle Timers (item no. **833380**). LDI's R100 Series filtered reservoirs are ideal for oil applications.

Grease applications should use LDI's **GCA100** or **GCA200** Grease Cartridge Adapters or **GR75** or **GR168** Grease Reservoirs.

#### **Standard Materials:**

- · Aluminum, Brass, Steel, Acrylic
- Buna N & Viton® seals

### **Temperature and Pressure Ratings:**

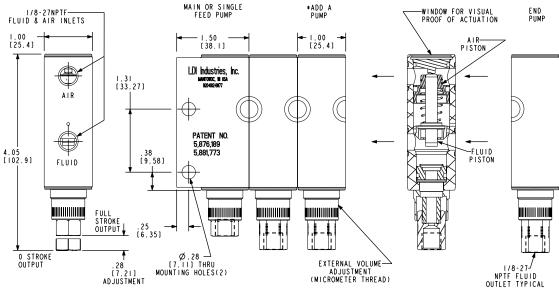
- Maximum operating temperature up to 120°F (48°C)
- Minimum operating temperature 0°F (-17°C), oil
- Minimum operating temperature 32°F (0°C), grease
- Maximum output pressure up to 250 PSIG (1725 kPa)

#### **CAUTION:**

• For grease applications, the combination of higher viscosities, ambient temperatures lower than 32°F (0°C), excessively long runs of output feed lines, along with the type and use of smaller inside diameter feed lines, will have an effect on the feed rate and output capabilities of these pumps.

#### NOTE:

• Please refer to Appendix LE-2 on page LE-A2 for PMP100 Installation information



NOTE: All dimensions are inches [mm]

### **HOW TO ORDER:**

ት : 920-682-6877 x : 920-684-7210

After **PMP100** (Part Number), specify the number of feeds required, separated by a dash (-). Specify 1 through 15 feeds (-01/-15).

Example PMP100-05 — 5 FEED

To Add A Pump to existing multiple feed bank, order Part Number AMP100 (Not used with single feed P/N PMP100-01)
Patent Numbers: 5,876,189 and 5,881,773



### **PMP200 SERIES - ELECTRIC**

Motor operated metering pumps are unique in that each outlet/feed is an individual positive displacement pump. These pumps are ideal for dispensing precise easily adjustable volumes of a variety of fluids including: oils or grease for lubrication, inks, dyes, chemical additives and cutting fluids.

The factory should be consulted before using with high water base fluids.

The motor operated metering pumps are:

- Positive displacement, self priming with up to 27 InHg (686mmHg)
- Will operate in any position.
- Are available in 1 to 4 pumps with each pump independently and externally adjustable from 0 to .01 cu. in. (0 to .20 cu. cm.) by a micrometer thread .02 (.57mm) pitch.
- Each pump will actuate once per minute of motor run time. The motor operated metering pumps are intended for lower output pressure applications or where a compressed air supply is not available.
- Oil applications should use R100 series filtered reservoirs.
- Grease applications should use GCA100 or GCA200, GR75 or GR168 Grease Reservoirs.

#### **Standard Materials:**

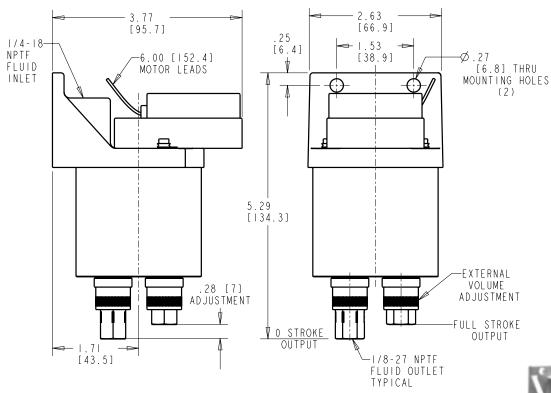
- Aluminum, Brass, Steel, Acrylic
- Buna N & Viton® seals

### **Temperature and Pressure Ratings:**

- Maximum operating temperature up to 120°F (48°C)
- Minimum operating temperature 0°F (-17°C), oil
- Minimum operating temperature 32°F (0°C), grease
- Maximum output pressure up to 50 PSIG (345 kPa)
- -120V, 60Hz, 4W

#### **CAUTION:**

• For grease applications, the combination of higher viscosities, ambient temperatures lower than 32°F (0°C), excessively long runs of output feed lines, along with the type and use of smaller inside diameter feed lines, will have an effect on the feed rate and output capabilities of these pumps



NOTE: All dimensions are inches [mm]

#### **HOW TO ORDER:**

920-682-6877 920-684-7210

After **PMP200** (Part Number), specify the number of feeds required, separated by a dash (-). Specify 1 through 4 feeds (-01/-04).

Example PMP200-04 \_\_\_\_ 4 FEED (shown)

Patent Number: 5,876,189



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### PMP300 SERIES - PNEUMATIC PANEL MOUNT SYSTEMS

These "quick install" cost effective Centralized Lubrication Systems are pre-assembled with compatible components to minimize specification, purchasing and installation time. The automatic lubrication systems operate on 25 to 125 PSIG regulated & filtered shop air and a 120V, 60Hz 1Ph electrical supply for the included dual adjustable Repeat Cycle Timer and 3-Way Solenoid Valve. The systems are sized to meet most lubrication requirements. Each feed pump is independently and externally adjustable 0 to .01 cu in (0 to .20 cu cm) by using a fine micrometer thread .02 (.57mm) pitch adjustment. A clear window is provided on each Metering Pump for visual proof of actuation.

#### **Standard Materials:**

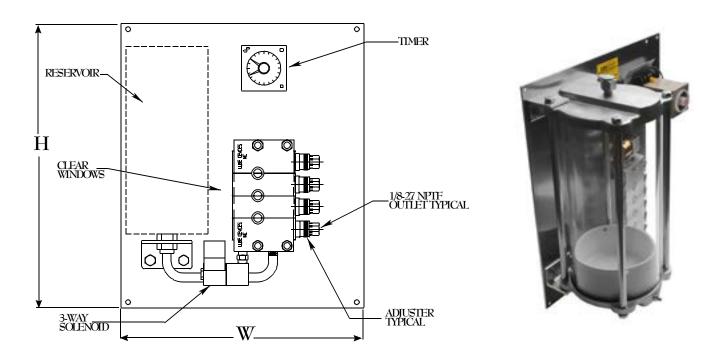
- Aluminum, Brass, Steel, Acrylic
- Buna N & Viton® seals
- Nema compliant panels

### Temperature and Pressure Ratings:

- Maximum operating temperature up to 120°F (48°C)
- Minimum operating temperature 0°F (-17°C), oil
- Minimum operating temperature 32°F (0°C), grease
- Maximum output pressure up to 300 PSIG (2068 kPa)

#### **CAUTION:**

• For grease applications, the combination of higher viscosities, ambient temperatures lower than 32°F (0°C), excessively long runs of output feed lines, along with the type and use of smaller inside diameter feed lines, will have an effect on the feed rate and output capabilities of these pumps.



PMP300 Series (Oil Application)						
Part No.	Reservoir Capacity	No. of Feeds	Nema Panel W x H (inches)	O. A. Depth (inches)		
PMP340-04	1 quart	4				
PMP340-06	1 quart	6		4.75		
PMP340-08	1 quart	8	10.88			
PMP360-06	.5 gallon	6	12.75			
PMP360-08	.5 gallon	8		6.00		
PMP360-12	.5 gallon	12				

PMP300 Series (Grease Application)						
Part No.	Reservoir Capacity	No. of Feeds	Nema Panel W x H (inches)	O. A. Depth (inches)		
PMP330-02		2	10.88			
PMP330-04	75 in³	4	X			
PMP330-06		6	12.75	7.00		
PMP350-02		2	12.88	7.00		
PMP350-04	168 in³	4	x			
PMP350-06		6	14.75			
PMP390-02	14 oz	2	8.88			
PMP390-04	Cartridge	4	x 14.75	3.75		
PMP390-06	Adapter	6				

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### PMP400 SERIES - ELECTRIC PANEL MOUNT SYSTEMS

These "quick install" cost effective Centralized Lubrication Systems are pre-assembled with compatible components to minimize specification, purchasing and installation time. The automatic lubrication systems operate on a 120V, 60Hz 1Ph electrical supply for the motor. The systems are sized to meet most lubrication requirements where a compressed air supply is not available. Each feed pump is independently and externally adjustable 0 to .01 cu in (0 to .20 cu cm) by using a fine micrometer thread .02 (.57mm) pitch adjustment. Each feed pump will actuate once per minute of motor run time.

#### **Standard Materials:**

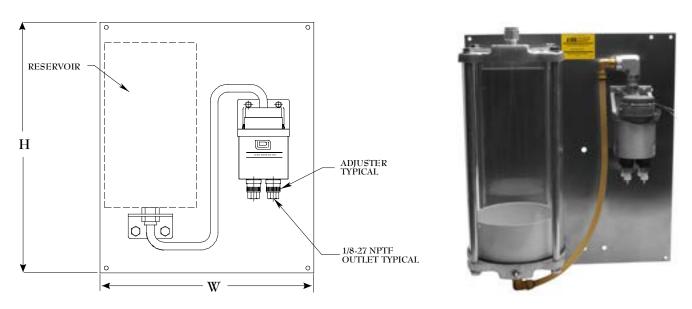
- · Aluminum, Brass, Steel, transparent polymer
- Buna N & Viton® seals
- Nema compliant panels

### **Temperature and Pressure Ratings:**

- Maximum operating temperature up to 120°F (48°C)
- Minimum operating temperature 0°F (-17°C), oil
- Minimum operating temperature 32°F (0°C), grease
- Maximum output pressure up to 50 PSIG (345 kPa)
- 120V, 60Hz, 4W

#### **CAUTION:**

• For grease applications, the combination of higher viscosities, ambient temperatures lower than 32°F (0°C), excessively long runs of output feed lines, along with the type and use of smaller inside diameter feed lines, will have an effect on the feed rate and output capabilities of these pumps.

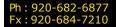


PMP400 Series (Oil Application)						
Part No.	Reservoir Capacity	No. of Feeds	Nema Panel W x H (inches)	O. A. Depth (inches)		
PMP440-01		1				
PMP440-02	1 guart	2	10.88	4.75		
PMP440-03	1 quart	3		4.73		
PMP440-04		4				
PMP460-01		1	- x 12.75			
PMP460-02	.5 gallon	2		6.00		
PMP460-03		3		0.00		
PMP460-04		4				

PMF	PMP400 Series (Grease Application)						
Part No.	Reservoir Capacity	No. of Feeds	Nema Panel W x H (inches)	O. A. Depth (inches)			
PMP430-01		1					
PMP430-02	75 in <sup>3</sup>	2	10.88 x				
PMP430-03	/5 III <sup>5</sup>	3	12.75				
PMP430-04		4		7.00			
PMP450-01		1		7.00			
PMP450-02	168 in <sup>3</sup>	2	12.88 X 14.75				
PMP450-03	100 1115	3					
PMP450-04		4					
PMP490-01		1					
PMP490-02	14 oz	2	8.88	4.00			
PMP490-03	Cartridge Adapter	3	x 14.75	4.00			
PMP490-04	•	4					

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### PMP500 SERIES - PNEUMATIC NEMA MOUNT SYSTEMS

These "quick install" cost effective Centralized Lubrication Systems are pre-assembled with compatible components to minimize specification, purchasing and installation time. The automatic lubrication systems operate on 25 to 125 PSIG regulated & filtered shop air and a 120V, 60Hz 1Ph electrical supply for the included dual adjustable Repeat Cycle Timer and 3-Way Solenoid Valve. The systems are sized to meet most lubrication requirements. Each pump outlet is independently and externally adjustable 0 to .01 cu in (0 to .20 cu cm) by using a fine micrometer thread .02 (.57mm) pitch adjustment.

#### **Standard Materials:**

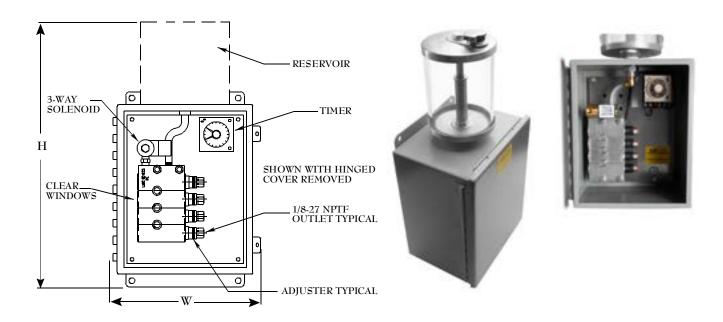
- · Aluminum, Brass, Steel, transparent polymer
- Buna N & Viton® seals
- Patined Steel Nema Type 12 & 13 Box

### **Temperature and Pressure Ratings:**

- Maximum operating temperature up to 120°F (48°C)
- Minimum operating temperature 0°F (-17°C), oil
- Minimum operating temperature 32°F (0°C), grease
- Maximum output pressure up to 300 PSIG (2068 kPa)

#### **CAUTION:**

• For grease applications, the combination of higher viscosities, ambient temperatures lower than 32°F (0°C), excessively long runs of output feed lines, along with the type and use of smaller inside diameter feed lines, will have an effect on the feed rate and output capabilities of these pumps.

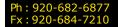


PMP500 Series (Oil Application)						
			Nema Panel	O. A.		
Part No.	Reservoir Capacity	No. of Feeds	W x H (inches)	Depth (inches)		
PMP540-04		4	9.00			
PMP540-06	1 quart	6	x 18.00	6.38		
PMP540-08		8				
PMP560-06	.5 gallon	6	9.00	0.36		
PMP560-08		8	X			
PMP560-12		12	20.12			

PMP500 Series (Grease Application)						
Part No.	Reservoir Capacity	No. of Feeds	Nema Panel W x H (inches)	O. A. Depth (inches)		
PMP530-02		2	9.00			
PMP530-04	75 in³	4	х			
PMP530-06		6	19.80	6.56		
PMP550-02		2	9.00	0.30		
PMP550-04	168 in³	4	x 24.55			
PMP550-06		6				

# MODIFICATIONS AVAILABLE MADE TO ORDER - CONSULT OUR FACTORY (MINIMUM ORDER MAY BE REQUIRED)

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.





### PMP600 SERIES - ELECTRIC NEMA MOUNT SYSTEMS

These "quick install" cost effective Centralized Lubrication Systems are pre-assembled with compatible components to minimize specification, purchasing and installation time. The automatic lubrication systems operate on a 120V, 60Hz 1Ph electrical supply for the motor. The systems are sized to meet most lubrication requirements where a compressed air supply is not available. Each pump outlet is independently and externally adjustable 0 to .01 cu in (0 to .20 cu cm) by using a fine micrometer thread .02 (.20 mm) pitch adjustment. Each pump outlet will actuate once per minute of motor run time.

#### **Standard Materials:**

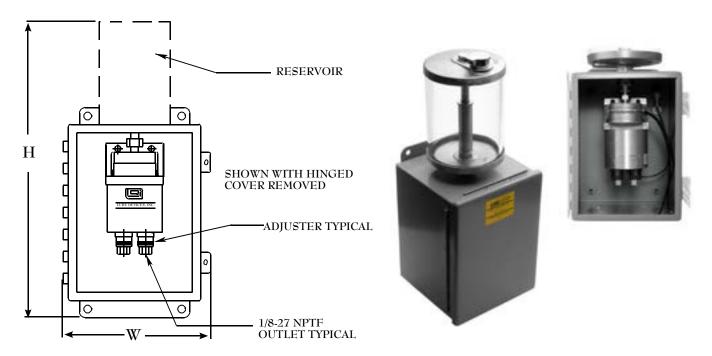
- · Aluminum, Brass, Steel, transparent polymer
- Buna N & Viton® seals
- Patined Steel Nema Type 12 & 13 Box

### **Temperature and Pressure Ratings:**

- Maximum operating temperature up to 120°F (48°C)
- Minimum operating temperature 0°F (-17°C), oil
- Minimum operating temperature 32°F (0°C), grease
- Maximum output pressure up to 50 PSIG (345 kPa)
- 120V, 60Hz, 4W

#### **CAUTION:**

• For grease applications, the combination of higher viscosities, ambient temperatures lower than 32°F (0°C), excessively long runs of output feed lines, along with the type and use of smaller inside diameter feed lines, will have an effect on the feed rate and output capabilities of these pumps.

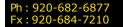


PI	PMP600 Series (Oil Application)						
Part No.	Reservoir Capacity	No. of Feeds	Nema Panel W x H (inches)	O. A. Depth (inches)			
PMP640-01		1					
PMP640-02	1 quart	2	7.00 x 16.00	6.38			
PMP640-03	ı quart	3					
PMP640-04		4					
PMP660-01		1		0.50			
PMP660-02	.5 gallon	2	7.00				
PMP660-03		3	x 18.12				
PMP660-04		4					

PMP600 Series (Grease Application)				
Part No.	Reservoir Capacity	No. of Feeds	Nema Panel W x H (inches)	O. A. Depth (inches)
PMP630-01		1		
PMP630-02	75 in <sup>3</sup>	2	7.00 x	
PMP630-03	/3 III <sup>e</sup>	3	17.80	
PMP630-04		4		6.56
PMP650-01		1		0.50
PMP650-02	168 in³	2	7.00	
PMP650-03		3	x 22.55	
PMP650-04		4		

# MODIFICATIONS AVAILABLE MADE TO ORDER - CONSULT OUR FACTORY (MINIMUM ORDER MAY BE REQUIRED)

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### REPEAT CYCLE TIMER

This versatile timer is ideal for controlling the 3-Way Normally Closed Air Solenoid Valve (Part No: 832160) used to activate PMP100 when a PLC, touch activated switch, photo cell or proximity sensor are not available.

#### **Standard Materials:**

- Molded plastic
- Screw terminals
- · Operating instructions included
- Mounting hardware not furnished
- 8-Pin mounting base

#### NOTE:

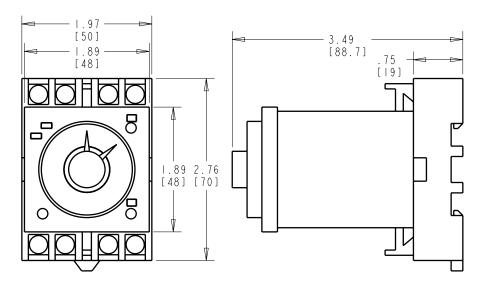
Recommended for use with PMP100 grease applications

#### **Standard Features:**

- "On time" setting energizes the solenoid valve which activates the PMP100.
- "Off time" setting de-energizes the solenoid valve which allows the PMP100 to reset for the next cycle and controls when that next cycle will occur.
- Will accommodate most industrial applications.
- Can be wired through a relay so it is only active when the "machine" to be lubricated by the PMP100 is actually running; or, it can be wired uninterrupted for continual operation.

### **Operating Conditions:**

- For operation on 100 to 240V, 60Hz, 1Ph
- Output DPDT rated 5A max @ 240V, 60Hz, 1Ph
- Independently adjustable on time & off time by multiple ranges of 1.20 seconds to 300 hours
- 0.10 to 10.10 minute adjustable off time
- 14°F(-10°C) to 131°F(55°C) operating temperature



**NOTE:** All dimensions are inches [mm]



Repeat Cycle Timer
Part No.
833380

### **SOLENOID VALVE**

This compact low wattage 3-way valve is ideally suited for operating the PMP100. This 3-way valve should be mounted close to the PMP100 to insure a fast response time and minimize the quantity of compressed air used.

#### **Standard Materials:**

920-682-6877 920-684-7210

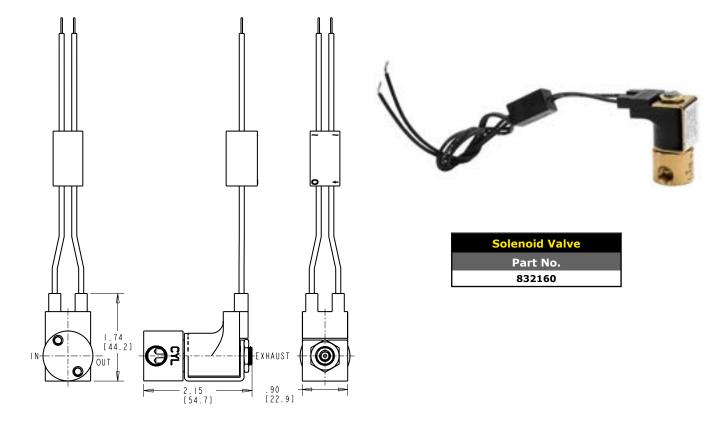
- Brass body (with two #8-32UNF-2B mounting holes) and stainless steel internals compatible with air, water and inert gasses
- ·Class F, Nema 4 / 4X molded coil

#### **Standard Features:**

- 1/8-27 NPT inlet and outlet ports
- 1/16 inch diameter orifice
- #10-32UNF-2B exhaust port
- #20 AWG lead wires, 18 inches long

### **Operating Conditions:**

- For operation on 120V, 60Hz, 1Ph; 6W
- 125 PSIG max working pressure
- -40°F(-40°C) to +180°F(+82°C) media temperature
- +311°F(+155°C) max coil operating temperature





### **NVB SERIES - STRAIGHT VALVE BRUSH, ROUND OR FLAT**

The NVB Series of brushes with metering valves are designed to apply lubricant to chain drives and they can be connected in series to lubricate several points and feed from a central reservoir.

Straight valve with either a round or flat brush can be used to apply lubricant to chain drives traveling in a horizontal or slightly inclined plane. Valve brushes for vertical chains are available. Used with reservoir series RFF/REF.

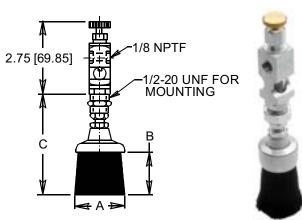
#### Standard Materials:

- Aluminum construction body
- Nylon brush
- Pipe threads are dryseal

### **Temperature Rating:**

Nylon maximum working temperatures up to 250°F (121°C)

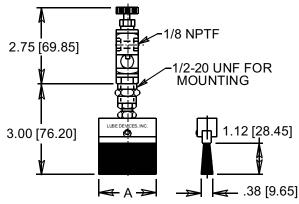
### **NVB100 SERIES - STRAIGHT VALVE WITH ROUND BRUSH**

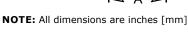


	Straight Valve w/Round Brush				
	Part No.	Brush Material	A Dia inches (mm)	B inches (mm)	C inches (mm)
N	IVB103-2	Nylon	1.00	1.62	3.62
N	IVB103-3	Stainless Steel	(25.40)	(41.15)	(91.95)

**NOTE:** All dimensions are inches [mm]

### **NVB300 SERIES - STRAIGHT VALVE WITH FLAT BRUSH**







Straight Valve w/Flat Brush		
Part No.	Brush Material	A inches (mm)
NVB301-2	Nylon	.50 (12.70)
NVB303-2	Nylon	1.00 (25.40)
NVB304-2	Nylon	1.50
NVB304-3	Stainless Steel	(38.10)
NVB305-2	Nylon	2.25
NVB305-3	Stainless Steel	(57.15)





### **NVB SERIES - FLAT STRIP BRUSH, STRAIGHT OR 45°**

The NVB Series of brushes with metering valves are designed to apply lubricant to chain drives and they can be connected in series to lubricate several points and feed from a central reservoir.

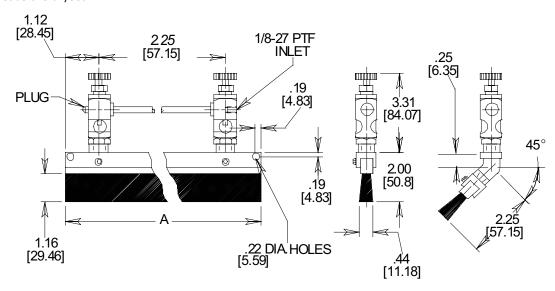
Provides precision control of lubricant to drive chains, strip stock, gears, conveyors, etc. Strip brushes are available in 2.25 inch (57.15mm) increments. Valves allow accurate feed control with drip rate readily visible through the sight window. Brush holder provides (2) .22 inch diameter (5.59mm) holes for easy mounting.

#### **Standard Materials:**

- Aluminum construction body
- Nylon brush
- Pipe threads are dryseal

### **Temperature Rating:**

• Nylon maximum working temperatures up to 250°F (121°C)



NOTE: All dimensions are inches [mm]



Straight

Straight Strip Brush			
Part no.	Brush Material	A inches (mm)	Feeds
NVB201-2	Nylon	2.25 (57.15)	1
NVB202-2	Nylon	4.50 (114.30)	2



45° Strip Brush			
Part No.	Brush Material	A inches (mm)	Feeds
NVB251-2	Nylon	2.25 (57.15)	1
NVB252-2	Nylon	4.50 (114.30)	2

MODIFICATIONS AVAILABLE MADE TO ORDER - CONSULT OUR FACTORY (MINIMUM ORDER MAY BE REQUIRED)

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### **NVB SERIES - 45° VALVE WITH FLAT BRUSH**

The NVB Series of brushes with metering valves are designed to apply lubricant to chain drives and they can be connected in series to lubricate several points and feed from a central reservoir.

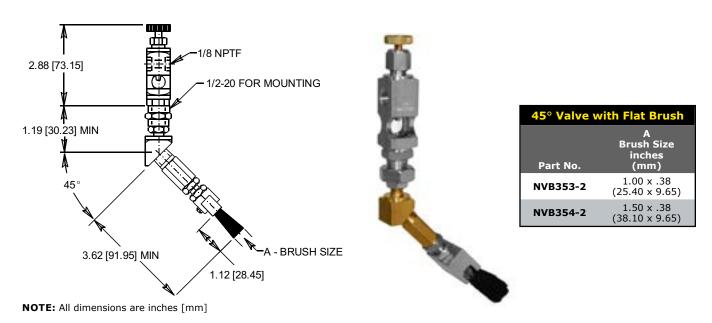
These are for applications where conditions require the lubricant to be applied at an angle. Two sizes of brushes allow selection to fit almost any chain width.

#### **Standard Materials:**

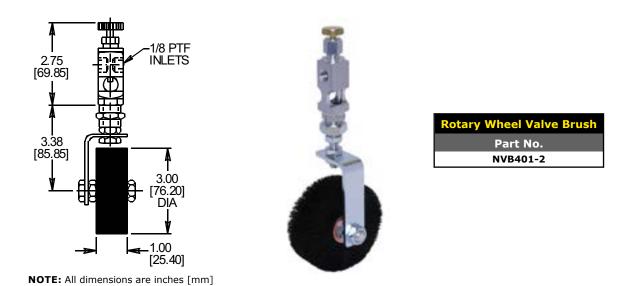
- Aluminum construction body
- Nylon brush
- Pipe threads are dryseal

#### **Temperature Rating:**

Nylon maximum working temperatures up to 250°F (121°C)



### **NVB SERIES - ROTARY WHEEL VALVE BRUSH**





### **OILERS & APPL**

### **RDB300 SERIES**

The RDB300 Series of manual control chain oilers offers a selection of nine long wearing nylon or stainless steel bristle brushes. The toggle shut-off on the reservoir can be turned on and off without affecting the previously set feed rate. The drip rate is clearly visible through the large viewing window in the mounting shank.

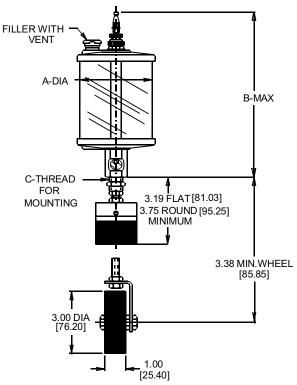
There are five sizes of flat brushes available allowing inexpensive brush replacement at a fraction of former cost. Flat brushes can be set at bias to adapt to width needed or be trimmed to suit individual preferences.

#### **Standard Materials:**

- Aluminum construction
- Buna N seals
- Break resistant, colorless transparent polymer

#### NOTE:

 Please refer to Appendix LE-3 on page LE-A3 for Toggle Valve Adjustment Instructions



NOTE: All dimensions are inches [mm]

	RDB300 Series			
Part No.	Capacity	A inches (mm)	B inches (mm)	C Thread UNF
RDB303	2.50 oz (73.90 mL)	2.00 (50.80)	5.19 (131.83)	1/2-20
RDB304	5.00 oz (147.90 mL)	2.50 (63.50)	5.75 (146.05)	1/2-20
RDB306	9.00 oz (266.20 mL)	3.00 (76.20)	7.00 (177.80)	5/8-18
RDB307	12.00 oz (354.90 mL)	3.00 (76.20)	8.38 (212.85)	5/8-18
RDB308	1.00 pt (.47 L)	3.50 (88.90)	8.38 (212.85)	5/8-18
RDB309	1.00 qt (.95 L)	4.25 (107.95)	9.38 (238.25)	5/8-18
RDB310	.50 gal (1.90 L)	5.50 (139.70)	11.31 (287.27)	5/8-18
RDB311	1.00 gal (3.80 L)	5.50 (139.70)	16.31 (414.27)	5/8-18

#### Standard Features:

- Central mounting shank facilitates mounting to customer supplied bracket
- Easily disassembled for occasional cleaning

### **Temperature and Pressure Ratings:**

- Polymer maximum working temperature up to 140° F (60°C)
- Nylon brush maximum working temperature up to 250°F (121°C)
- Stainless steel brush for maximum working temperature over 250°F (121°C)
- Ratings are at atmospheric pressure



#### ORDERING OPTIONS:

	OKDEKING OPTIONS:
Order Suffix	Option
	Material
-N	Nylon bristle
-S	Stainless steel bristle
	Size
-1	.50 in x .38 in (12.70 mm x 9.65 mm) flat brush
-2	.75 in x .38 in (19.05 mm x 9.65 mm) flat brush
-3	1.00 in x .38 in (25.40 mm x 9.65 mm) flat brush
-4	1.50 in x .38 in (38.10 mm x 9.65 mm) flat brush
-5	2.25 in x .38 in (57.15 mm x 9.65 mm) flat brush
-6	.62 in (15.75 mm) diameter round brush
-7	1.00 in (25.40 mm) diameter round brush
-8	1.50 in (38.10 mm) diameter round brush
-9	3.00 in (76.20 mm) diameter x 1.00 in (25.40 mm) rotary wheel

#### **HOW TO ORDER**

**EXAMPLE:** 

RDB308-N-3  $1.00 \times .38$  inch (25.40 mm x 9.65 mm) flat brush Nylon bristle

- Series RDB308, 1 pint (.47 liter) capacity reservoir

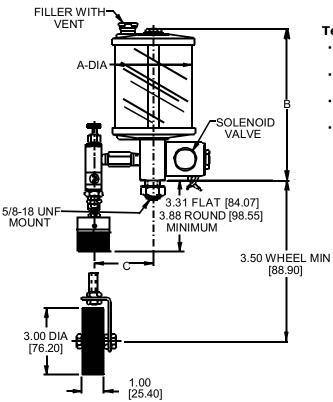
### **REB SERIES**

The REB Series of electro chain oilers offers a selection of nine long wearing nylon or stainless steel bristle brushes. For automatic operation, wire the normally closed solenoid across machine starting switch; feeding stops when machine is turned off.

There are five sizes of flat brushes available allowing inexpensive brush replacement at a fraction of former cost. Flat brushes can be set at bias to adapt to width needed or be trimmed to suit individual preferences.

#### **Standard Materials:**

- Aluminum top and bottom plates
- Buna N seals
- Break resistant, colorless transparent polymer
- Class "B" molded water resistant coil



NOTE: All dimensions are inches [mm]

	REB Series			
Part No.	Capacity	A inches (mm)	B inches (mm)	C inches (mm)
REB303	2.50 oz	2.00	4.69	1.62
	(73.90 mL)	(50.80)	(119.13)	(41.15)
REB304	5.00 oz	2.50	5.19	1.88
	(147.90 mL)	(63.50)	(131.83)	(47.75)
REB306	9.00 oz	3.00	6.00	2.44
	(266.20 mL)	(76.20)	(152.40)	(61.98)
REB307	12.00 oz	3.00	7.00	2.44
	(354.90 mL)	(76.20)	(177.80)	(61.98)
REB308	1.00 pt	3.50	7.00	2.56
	(.47 L)	(88.90)	(177.80)	(65.02)
REB309	1.00 qt	4.25	8.44	2.88
	(.95 L)	(107.95)	(214.38)	(73.15)
REB310	.50 gal	5.50	10.44	3.62
	(1.90 L)	(139.70)	(265.18)	(91.95)
REB311	1.00 gal	5.50	15.44	3.62
	(3.80 L)	(139.70)	(392.18)	(91.95)

### **Standard Features:**

- Central mounting shank facilitates mounting to customer supplied bracket
- Reservoir provides a quick, visual check of fluid level and condition
- Unit is easily disassembled for occasional cleaning

### **Temperature and Pressure Ratings:**

- Polymer maximum working temperature up to 140°F (60°C)
- Nylon brush maximum working temperature up to 250°C (121°C)
- Stainless steel brush for maximum working temperature over 250°F (121°C)
- Ratings are at atmospheric pressure



### **ORDERING OPTIONS:**

Order Suffix	Option	
	Material	
-N	Nylon bristle	
-s	Stainless steel bristle	
	Size	
-1	.50 in x .38 in (12.70 mm x 9.65 mm) flat brush	
-2	.75 in x .38 in (19.05 mm x 9.65 mm) flat brush	
-3	1.00 in x .38 in (25.40 mm x 9.65 mm) flat brush	
-4	1.50 in x .38 in (38.10 mm x 9.65 mm) flat brush	
-5	2.25 in x .38 in (57.15 mm x 9.65 mm) flat brush	
-6	.62 in (15.75 mm) diameter round brush	
-7	1.00 in (25.40 mm) diameter round brush	
-8	1.50 in (38.10 mm) diameter round brush	
-9	3.00 in (76.20 mm) diameter x 1.00 in (25.40 mm) rotary wheel	
	Solenoid Valve	
-26	120V, 60Hz, 1 Ph class B	
-27	240V, 60Hz, 1 Ph class B	
-28	480V, 60Hz, 1 Ph class B	
-43	24V DC	

**HOW TO ORDER** 

**EXAMPLE:** 

REB309-N-4-26 — 120V, 60Hz, 1 Ph class B 1.50 in x .38 in (38.10 mm x 9.65 mm) flat brush Nylon bristle Series REB309, 1 quart (.95 L) capacity reservoir

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.

### REPLACEMENT BRUSHES

The LDI Replacement Brushes are direct replacements for shank or valve brushes and manual or electric chain oiler brushes. These three styles meet any lubrication requirement. The round brush is an all-in-one brush and holder unit. The flat brush is available as a flat strip only or complete with brush and holder.

Brushes are interchangeable, but if the style is changed from round to flat for instance, the flat brush with holder should be ordered, since the holder is an integral part of the brush.

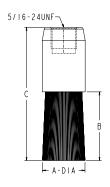
### **Standard Material:**

Long wearing nylon bristles

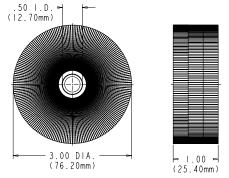
### **Temperature Ratings:**

- Nylon maximum working temperature up to 250°F (121°C)
- For temperatures over 250°F (121°C), please specify stainless steel

Round Brushes				
Part No.	Brush Material	A inches (mm)	B inches (mm)	C inches (mm)
B102-2	Nylon	.62 (15.75)	1.00 (25.40)	1.94 (49.28)
B103-2	Nylon	1.00	1.62	2.62
B103-3	Stainless Steel	(25.40)	(41.15)	(66.55)







NOTE: All dimensions are inches (mm)

<b>Rotary Brush</b>	
Part No.	Brush Material
B161-2	Nylon

Flat With Holder	
5/16-24UNF (14.22mm)	Flat
(50.80mm)	1.50 (38.10mm) (29.46mm)
.44 (11.18mm)	<u>↓</u>

Flat Brushes and with Holder						
Part No. (Flat Brush)	Part No. (w/Holder)	Brush Material	A inches (mm)			
B151-2	_	Nylon	.50 (12.70)			
B153-2	B123-2	Nylon	1.00 (25.40)			
B154-2	B124-2	Nylon	1.50 (38.10)			
B155-2	B125-2	Nylon	2.25			
B155-3	B125-3	Stainless Steel	(57.15)			

NOTE: All dimensions are inches (mm)

### **SB SERIES**

The SB Series of shank brushes can be remotely mounted and fed from valves on a central dispenser. Available with either round or flat brush.

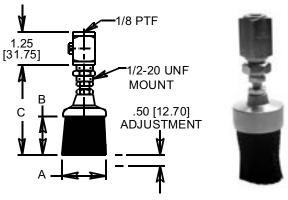
#### **Standard Materials:**

- Aluminum construction
- Pipe threads are dryseal
- Brush material either nylon or stainless steel

### **Temperature Ratings:**

- Nylon maximum working temperature up to 250°F (121°C)
- For temperatures over 250°F (121°C), please specify stainless steel

S	SB Series - Round Shank Brush							
Part No.	Brush Material	A Dia inches (mm)	B Dia inches (mm)	C inches (mm)				
SB102-2	Nylon	.62 (15.75)	1.00 (25.40)	3.00 (76.20)				
SB103-2	Nylon	1.00 (25.40)	1.62 (41.15)	3.62 (91.95)				
SB104-2	Nylon	1.50 (38.10)	1.62 (41.15)	3.62 (91.95)				



NOTE: All dimensions are inches [mm]

SB Series - Flat Shank Brush						
Part No.	Brush Material	A inches (mm)				
SB301-2	Nylon	.50 (12.70)				
SB303-2	Nylon	1.00 (25.40)				
SB304-2	Nixlon	1.50 (38.10)				
SB305-2	Nylon	2.25 (57.15)				

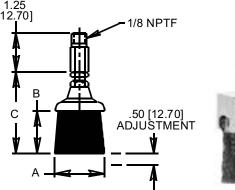
- Four sizes of flat insertable brushes are available
- .50 in (12.70 mm) adjustment for wear is provided

<u></u>			1/8 PTI	F
1.25 [31.75]			<del>-</del> 1/2-2	20 UNF
3.00 [76.20]	₩ 1		MOI	
[70.20]	1.16 [29.46]			
.50 [12.70]	<b></b>			<b>≪</b> .44 [11.18]
ADJUSTMEN	т '	~ >	ΗA	[0]

NOTE: All dimensions are inches [mm]



SB Series - Round & Flat Brush w/Pipe Thread								
Part No.	Brush Material	A inches (mm)	B inches (mm)	C inches (mm)				
SB204-2	Nylon	1.50 Dia round	1.62	3.00				
SB204-3	Stainless Steel	(38.10)	(41.15)	(76.20)				
SB354-2	Nylon	1.50 x .44 Flat	1.16	2.38				
SB354-3	Stainless Steel	(38.10 x 11.18)	(29.46)	(60.45)				
SB355-2	Nylon	2.25 x .44 Flat	1.16	2.38				
SB355-3	Stainless Steel	(57.15 x 11.18)	(29.46)	(60.45)				





NOTE: All dimensions are inches [mm]

NOTE: ALL SHANK BRUSHES SHOWN ON THIS SHEET REQUIRE SEPARATE CONTROL FOR FLUID METERING

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.



### **SV SERIES**

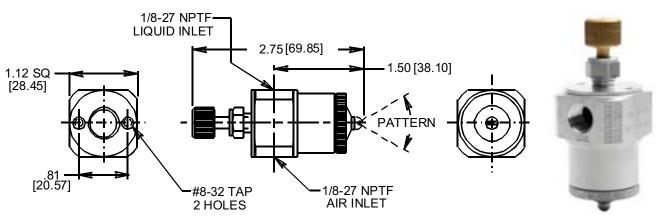
Spray valves when used with series RVP100 pressure reservoirs, will spray lubricant on bearings, rollers or chain. Sheet stock may be lubricated prior to blanking or drawing. Regulators on reservoir provide precise adjustment of fluid pressure and nozzle pressure to allow accurate control of pattern size, preventing excessive oiling and over spray.

**CAUTION:** 

#### **Standard Materials:**

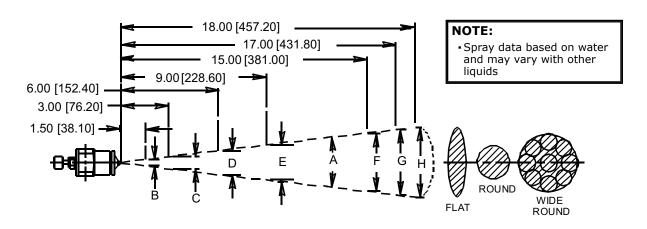
- Aluminum body
- Brass nozzle

• Fluids above 750SSU at 69° F (20.6° C) subject to testing



NOTE: All dimensions are inches [mm]

	SV Series											
		А	Spray Dia. or width at a given distant Air Liquid from the nozzle Dimensions in inches (1									
Part No.	Spray Pattern	PSI (kPa)	SCFH (m³/H)	PSI (kPa)	Angle A	В	С	D	E	F	G	н
SV101	Flat	22 (152)	60 (1.70)	10 (69)	_	3.00 (76.20)	6.00 (152.40)	10.00 (254.00)	13.00 (330.20)	18.00 (457.20)	_	_
CV102	Davind	12 (83)	45 (1.27)	10 (69)	12°	_	_	1.30 (33.02)	1.90 (48.26)	3.20 (81.28)	3.60 (91.44)	3.80 (96.52)
SV102	Round	20 (138)	50 (1.42)	20 (138)	13°	_	_	1.40 (35.56)	2.10 (53.34)	3.40 (86.36)	3.90 (99.06)	4.10 (104.14)
CV102	Wide	10 (69)	25 (.708)	10 (69)	-	_	_	5.50 (139.70)	7.00 (177.80)	9.00 (228.60)	_	_
SV103	Round	20 (138)	35 (.991)	20 (138)	_	_	_	6.00 (152.40)	7.50 (190.50)	9.50 (241.30)	_	_



NOTE: All dimensions are inches [mm]

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.



### F50/60 SERIES

Compact design inline flow sights may be used in either horizontal or vertical pipe runs to indicate flow. May also be used to check clarity of fluid. Machined from solid brass bar stock with large sight windows.

### **Standard Materials:**

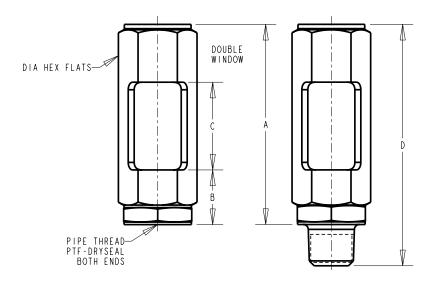
- Brass construction
- Buna N seals
- Borasilicate sight

### **Temperature and Pressure Ratings:**

- Maximum working temperature up to 200°F (93°C)
- Maximum working pressure up to 50 PSI (345 kPa) at 70°F (21°C)
- No corrosion

### **Caution:**

Scratched glass significantly reduces pressure rating.





	F50/60 Series								
Part Female X Female	Female X Male	Pipe Thread	Hex Flats inches (mm)	A inches (mm)	B inches (mm)	C inches (mm)	D inches (mm)		
F52	F62	1/4-18	.81 (20.57)	2.41 (61.21)	.66 (16.76)	1.06 (26.92)	2.91 (73.91)		
F53	_	3/8-18	1.12 (28.45)	2.38 (60.45)	.69 (17.53)	1.00 (28.45)	2.88 (73.15)		
F56	_	1-11 1/2	2.50 (63.50)	3.50 (88.90)	.88 (22.35)	1.75 (44.45)	4.31 (109.47)		
F57	_	1 1/4-11 1/2	2.50 (63.50)	3.50 (88.90)	.88 (22.35)	1.75 (44.45)	4.34 (110.24)		

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### **F150/160 SERIES**

Inline flow sights can be used in either vertical or horizontal fluid lines to observe fluid flow, clarity or condition of medium. A ball float can be supplied to aid observation of flow of dark fluids or fluids in dimly lit conditions.

#### **Standard Materials:**

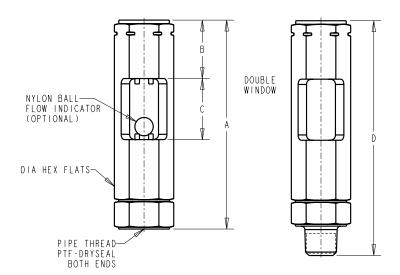
- Brass construction
- Buna N seals
- Borasilicate sight

### **Temperature Ratings:**

- Maximum working temperature up to 180°F (82°C)
- For applications requiring maximum working temperature over 180°F (82°C), please consult factory

#### **Caution:**

Scratched glass significantly reduces pressure rating.





	F150/160 Series								
Part Female X Female	No. Female X Male	Pipe Thread	Hex Flats inches (mm)	Orifice Dia. w/o Ball inches (mm)	A inches (mm)	B inches (mm)	C inches (mm)	D inches (mm)	Max. Working Pressure @ 150°F (65°C) PSI (kPa)
F151	_	1/8-27	.88 (22.35)	.234 (5.94)	3.34 (84.84)	.78 (19.81)	1.04 (26.42)	3.66 (92.96)	435 (2999)
F152	F162	1/4-18	.88 (22.35)	.234 (5.94)	3.56 (90.42)	1.00 (25.40)	1.04 (26.42)	4.00 (101.60)	435 (2999)
F153	F163	3/8-18	1.06 (26.92)	.312 (7.92)	4.25 (107.95)	1.12 (28.45)	1.12 (28.45)	4.75 (120.65)	425 (2930)
F154	_	1/2-14	1.25 (31.75)	.375 (9.52)	4.62 (117.35)	1.25 (31.75)	1.30 (33.02)	5.12 (130.05)	380 (2620)
F155	_	3/4-14	1.38 (35.05)	.500 (12.70)	5.25 (133.35)	1.35 (34.29)	1.36 (34.54)	5.41 (137.41)	345 (2379)
F156	_	1-11 1/2	1.62 (41.15)	.531 (13.49)	6.31 (160.27)	1.69 (42.93)	1.48 (37.59)	6.31 (160.27)	270 (1862)

### **HOW TO ORDER:**

To order F150/160 Series flow sights with a float ball, add **-01** after the part number.

**Example** F151-01



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### **F250 SERIES**

Inline double window flow sights can be used to determine flow, clarity of fluid and impurities in either horizontal or vertical pipe runs. Nylon ball flow indicator gives positive flow indication with dark or opaque fluids.

### **Standard Materials:**

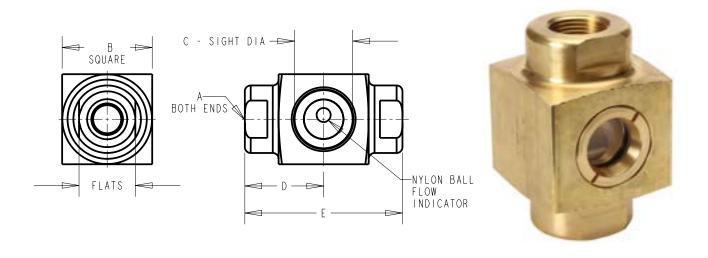
- Brass body
- Tempered borosilicate sight window
- Buna N seals

### **Temperature Ratings:**

- Maximum working temperature up to 180°F (82°C)
- For applications requiring maximum working temperature over 180°F (82°C), please consult factory

#### **Caution:**

Scratched glass significantly reduces pressure rating.



	F250 Series								
Part No Ball	: No. Ball	A Female NPTF	B inches (mm)	C inches (mm)	D inches (mm)	E inches (mm)	Max. Working Pressure @ 150°F (65°C) PSI (kPa)		
_	F251-04-01	1/2-14	2.00 (50.80)	.88 (23.35)	1.75 (44.45)	3.50 (88.90)	400 (2758)		
_	F251-05-01	3/4-14	2.25 (57.15)	.88 (23.35)	1.75 (44.45)	3.50 (88.90)	400 (2758)		
_	F251-06-01	1-11 1/2	2.50 (63.50)	1.38 (35.05)	2.31 (58.67)	4.62 (117.35)	160 (1103)		
F251-08	_	1 1/2-11 1/2	3.00 (76.20)	1.88 (47.75)	2.88 (73.15)	5.75 (146.05)	85 (586)		

# MODIFICATIONS AVAILABLE MADE TO ORDER - CONSULT OUR FACTORY (MINIMUM ORDER MAY BE REQUIRED)

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.



### F300 SERIES

Wide view flow sights can be used in either horizontal or vertical pipe runs to observe fluid flow clarity. Large cylindrical sight allows 360° viewing and flow is readily seen from a distance, in elevated or dimly lighted conditions. In vertical pipe run, fluid flow should come in from bottom to note ball action as a flow indicator. The ball stop slightly restricts flow.

### **Standard Materials:**

- Brass construction
- Borosilicate sight
- Buna N seals
- Nylon ball indicator

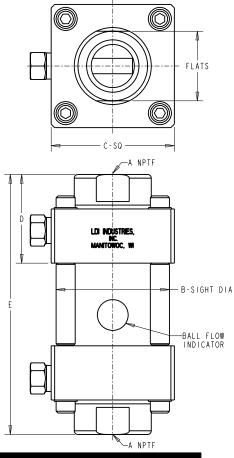
#### **Caution:**

Scratched glass significantly reduces pressure rating.



### **Temperature and Pressure Ratings:**

• Noted below in chart



	F300 Series								
		Max Working Pressure @ Temperature Shown							
Part No.	A Female NPTF	B inches (mm)	C inches (mm)	D inches (mm)	E inches (mm)	PSI (kPa)	°F (°C)		
F301-04-01	1/2-14	1.75 (44.45)	2.00 (50.80)	1.44 (36.58)	4.25 (107.95)	130 (896)	212 (100)		
F301-05-01	3/4-14	1.75 (44.45)	2.00 (50.80)	1.44 (36.58)	4.25 (107.95)	130 (896)	212 (100)		
F301-06-01	1-11 1/2	1.75 (44.45)	2.25 (57.15)	1.75 (44.45)	4.88 (123.95)	130 (896)	212 (100)		
F301-07-01	1 1/4-11 1/2	2.50 (63.50)	3.00 (76.20)	1.75 (44.45)	5.62 (142.75)	100 (690)	185 (85)		
F301-08-01	1 1/2-11 1/2	2.50 (63.50)	3.00 (76.20)	1.88 (47.75)	5.88 (149.35)	100 (690)	185 (85)		
F301-09-01	2-11 1/2	3.50 (88.90)	4.00 (101.60)	1.88 (47.75)	7.50 (190.50)	60 (414)	150 (65)		

# MODIFICATIONS AVAILABLE MADE TO ORDER - CONSULT OUR FACTORY (MINIMUM ORDER MAY BE REQUIRED)

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### **F560 SERIES**

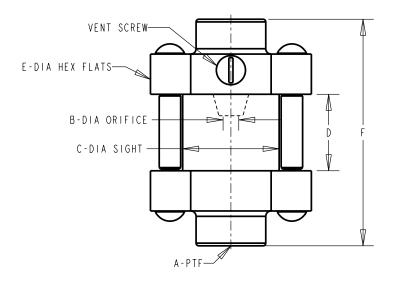
Wide view flow sights with a restrictor orifice and cylindrical sight provide maximum 360° visual observation of fluid flow, color and clarity. Mount on the downstream side of vertical lines on cooling or lubricating systems.

### **Standard Materials:**

- Aluminum construction
- Clear polymer sight
- Buna N seals

### **Temperature and Pressure Ratings:**

- Maximum working temperature up to 140°F (60°C)
- Maximum working pressure of orifice up to 125 PSI (862 kPa)





		F56	0 Series	5		
Part No.	A Thread	B inches (mm)	C inches (mm)	D inches (mm)	E inches (mm)	F inches (mm)
F561-02	1/4-18	.19 (4.83)	1.12 (28.45)	.88 (22.35)	1.62 (41.15)	2.62 (66.55)
F562-01	1/8-27	.16 (4.06)	1.50 (38.10)	1.19 (30.23)	2.00 (50.80)	3.12 (79.25)
F562-03	3/8-18	.25 (6.35)	1.50 (38.10)	1.19 (30.23)	2.00 (50.80)	3.12 (79.25)
F563-04	1/2-14	.38 (9.65)	2.00 (50.80)	1.69 (42.93)	2.62 (66.55)	4.25 (107.95)
F563-05	3/4-14	.50 (12.70)	2.00 (50.80)	1.69 (42.93)	2.62 (66.55)	4.25 (107.95)
F564-06	1-11 1/2	.62 (15.75)	2.50 (63.50)	2.06 (52.32)	3.00 (76.20)	5.38 (136.65)

# **INLINE FILTER - LIQUID**

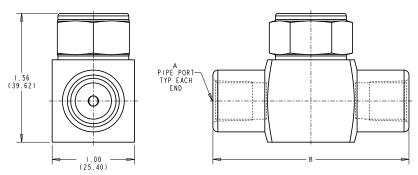
The Liquid Inline Filter can be used in liquid lines where dirt or particles could cause clogging, such as oil going to a spray valve. The inline cap can be taken off to clean the filter without dismantling unit from the line.

### **Standard Materials:**

- Brass construction
- Buna N seals
- •40 micron filter

### **Temperate and Pressure Ratings:**

- Maximum working pressure up to 150 PSI (1034 kPa)
- Maximum temperature up to 175°F (79°C)





NOTE: All dimensions are inches (mm)

Inline Filter - Liquid						
Part No.	A PTF	B inches (mm)				
LF201-02	1/4-18	2.38 (60.45)				
LF201-03	3/8-18	2.62 (66.55)				

### **GUN-FIL® LUBRICATOR**

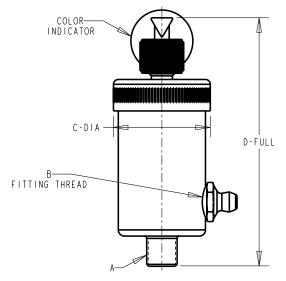
The GUN-fil® Lubricator series can be used to replace grease fittings in new or existing applications. They can be mounted in any position horizontally, vertically, or inclined at any angle. Mating thread can be either standard pipe thread (NPT) or dryseal (NPTF) threads. All GUN-fil® Lubricators feature single point, spring loaded grease applicator which feeds each individual bearing only the amount of lubricant required. Economical to use valve or grease flow reducer which feeds only while bearing is in motion, flow of grease ceases when bearing stops. Quick visual refill check-colored stem indicator lowers to show when refill is needed. Lubricator comes standard with straight grease fitting. Optional fittings are available as listed below.

#### **Standard Material:**

 Rugged steel construction for maximum service life in harshest of conditions.

### **Standard Valve Speeds (color indicators):**

- Red (slow feed) for high ambient temperatures, close or tight fitting bearings, intermittent operations
- Green (fast feed) for low ambient temperatures, loose fitting bearings, continuous operation



### Standard Feed Rates (adjustable):

- No.1 for bearings up to 50 sq. in. (1270 sq. mm)
- No.2 for bearings 50 to 100 sq. in. (1270 to 2540 sq. mm)
- No.3 for bearings 100 to 250 sq. in. (2540 to 6350 sq. mm)
- No.4 for bearings 250 to 400 sq. in. (6350 to 10160 sq. mm)

#### Temperature Ratings:

- Maximum operating temperatures up to 180°F (82°C)
- For applications requiring maximum operating temperatures of 180°F (82°C) and above, please consult factory



	GUN-fil® Lubricator					
Part No.	Size and Capacity	Valve Color	A Shank	B Thread	C inches (mm)	D inches (mm)
201452	#1 .50 oz	RED	1/8-27	1/8-27	1.25	4.15
201453	(14.80 mL)	GREEN	1/0-27	1/0-2/	(31.75)	(105.41)
201464	#2 1.75 oz	RED	3/8-18	1/4-18	2.50	4.35
201465	(51.80 mL)	GREEN	3/0-10	1/4-10	(63.50)	(110.49)
201468	#3 3.50 oz	RED	3/8-18	1/4-18	2.50	6.21
201469	(103.50 mL)	GREEN	3/0-10	1/4-10	(63.50)	(157.73)
201472	#4 8.00 oz	RED	3/4-14	1/4-18	3.25	9.74
201473	(236.60 mL)	GREEN	3/4-14	1/4-10	(82.55)	(247.40)

OPTIONAL FITTINGS						
PRESSURE RELIEF GREASE FITTING 1/8-27PTF P/N 809310	ADAPTER 1/4-18 MALE BY 1/8-27 FEMALE P/N PF101-4-2					

To prevent over-filling, order grease fitting with integral pressure relief valve (P/N 809310) Fits **GUN-fil® LUBRICATOR** size #1 (1/8 inch female thread). To fit sizes #2, #3 and #4, also order adapter (P/N PF101-4-2).

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.



### **R100 SERIES**

### **GRAVITY FEED W/OUT FLOW CONTROL**

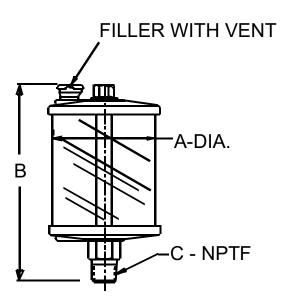
The R100 Series of gravity feed reservoirs without flow control are ideal for use as make-up or replenishing reservoirs. They can be installed in most cases to serve both as an oil cup to maintain oil level and as an oil gage to provide 360° visual check of fluid level and condition. All reservoirs feature self-closing snap lid filler caps, vented on the vertical plane to minimize the possibility of dust and dirt from entering the reservoir through the vent. Reservoirs can be disassembled for occasional cleaning.

### **Standard Materials:**

- Aluminum construction
- Buna N seals
- Break resistant colorless transparent polymer
- Borosilicate glass for fluid compatibility and thermal shock

### **Temperature and Pressure Ratings:**

- Polymer maximum working temperature up to 140°F (60°C)
- Glass maximum working temperature up to 250°F (121°C)
- Ratings are at atmospheric pressure.





<b>MODIFICATIONS AVAILABLE MADE TO</b>
ORDER - CONSULT OUR FACTORY
(MINIMUM ORDER MAY BE REQUIRED)

R100 Se	R100 Series Gravity Feed Reservoir without Flow Control						
Part Polymer	: No. Glass	Capacity	A inches (mm)	B inches (mm)	C Thread NPTF		
R151-01	_	1.00 oz	1.50	3.00 (76.20)	1/8		
R151-02	R151-12	(29.60 mL)	(38.10)	3.19 (81.03)	1/4		
R152-01	_	1.38 oz	1.75	2.94 (74.68)	1/8		
R152-02	_	(40.70 mL)	(44.45)	2.95 (74.93)	1/4		
R153-01	_	1.75 oz	2.00	3.12 (79.25)	1/8		
R153-02	_	(51.80 mL)	(50.80)	3.38 (85.85)	1/4		
R154-01	R154-11	2.50 oz	2.00	3.50 (88.90)	1/8		
R154-02	-	(73.90 mL)	(50.80)	3.75 (95.25)	1/4		
R155-01	_	5.00 oz	2.50	4.12 (104.65)	1/8		
R155-02	-	(147.90 mL)	(63.50)	4.31 (109.47)	1/4		
R107-01	_			5.19 (131.83)	1/8		
R107-02	_	8.00 oz (236.60 mL)	2.50 (63.50)	5.38 (136.65)	1/4		
R107-03	_			5.38 (136.65)	3/8		
R108-01	_	9.00 oz	3.00	5.38 (136.65)	1/8		
R108-02	_	(266.20 mL)	(76.20)	5.50 (139.70)	1/4		
R109-03	_	12.00 oz	3.00	6.44 (163.58)	3/8		
R109-04	_	(354.90 mL)	(76.20)	6.62 (168.15)	1/2		
R110-03	_	1.00 pt	3.50	6.56 (166.62)	3/8		
R110-04	R110-14	(.47 L)	(88.90)	6.62 (168.15)	1/2		
R111-03	_	1.00 qt	4.25	7.94 (201.68)	3/8		
R111-04		(.95 L)	(107.95)	8.06 (204.72)	1/2		
R112-03	_	.50 gal	5.50	9.94 (252.48)	3/8		
R112-04	R112-14	(1.90 L)	(139.70)	10.12 (257.05)	1/2		
R113-03	_	1.00 gal	5.50	14.94 (379.48)	3/8		
R113-04	R113-14	(3.80 L)	(139.70)	15.25 (387.35)	1/2		

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.



### **R100 SERIES**

### **GRAVITY FEED W/FILTER - NO FLOW CONTROL**

The R100 Series of gravity feed reservoirs without flow control are ideal for use as make-up or replenishing reservoirs. They can be installed in most cases to serve both as an oil cup to maintain oil level and as an oil gage to provide 360° visual check of fluid level and condition. All reservoirs feature self-closing snap lid filler caps, vented on the vertical plane to minimize the possibility of dust and dirt from entering the reservoir through the vent. Reservoirs can be disassembled for occasional cleaning.

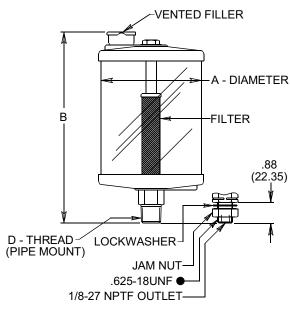
### **Standard Materials:**

- Aluminum construction
- Buna N seals
- Break resistant colorless transparent polymer
- 100 Mesh Stainless Steel filter
- Some sizes have a brass shank

### **Temperature and Pressure Ratings:**

- Polymer maximum working temperature up to 140°F (60°C)
- Ratings are at atmospheric pressure.

NOTE: Pipe or bracket mount styles available



NOTE: All dimensions are inches (mm)





R100 Series Gravity Feed w/Filter - No Flow Control						
Part No.	Capacity	A inches (mm)	B inches (mm)	D Thread		
R110-02F			6.38 (162.05)	1/4 NPTF		
R110-03F	1.00 pt	3.50	6.44 (163.58)	3/8 NPTF		
R110-04F	(.47 L)	(88.90)	6.62 (168.15)	1/2 NPTF		
R110-08F			6.69 (169.93)	5/8-18 UNF •		
R111-02F	1.00 qt (.95 L)		7.78 (197.61)	1/4 NPTF		
R111-03F		4.25	7.84 (199.14)	3/8 NPTF		
R111-04F		(107.95)	8.00 (203.20)	1/2 NPTF		
R111-08F			8.06 (204.72)	5/8-18 UNF •		
R112-02F			9.91 (251.72)	1/4 NPTF ▼		
R112-03F	.50 gal	5.50	9.97 (253.24) 3/8 ľ	3/8 NPTF		
R112-04F	(1.90 L)	(139.70)	10.12 (257.05)	1/2 NPTF		
R112-08F			10.19 (258.83)	5/8-18 UNF •		
R113-02F	_		14.91 (378.72)	1/4 NPTF ▼		
R113-03F	1.00 gal	5.50	14.97 (380.24)	3/8 NPTF		
R113-04F	(3.80 L)	(139.70)	15.12 (384.05)	1/2 NPTF		
R113-08F			15.19 (385.83)	5/8-18 UNF •		





### **R100 SERIES**

### **GRAVITY FEED W/FILTER & LOW LEVEL SWITCH**

The R100 Series of gravity feed reservoirs without flow control are ideal for use as make-up or replenishing reservoirs. They can be installed in most cases to serve both as an oil cup to maintain oil level and as an oil gage to provide 360° visual check of fluid level and condition. All reservoirs feature self-closing snap lid filler caps, vented on the vertical plane to minimize the possibility of dust and dirt from entering the reservoir through the vent. Reservoirs can be disassembled for occasional cleaning. The low level switch provides an electrical interface to activate a low reservoir level alarm or monitor used to determine when to refill the reservoir.

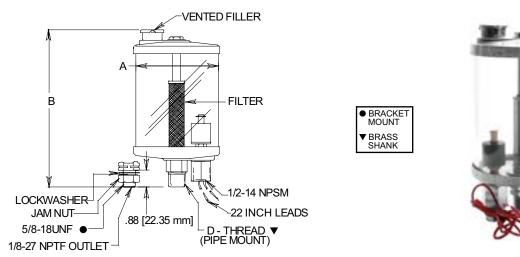
#### **Standard Materials:**

- Aluminum construction
- Buna N seals
- Break resistant colorless transparent polymer
- 100 mesh stainless steel filter
- 10 VA switch closes on descending level
- Some sizes have a brass shank
- DPDT, 10A, 120V, 60Hz relay for switch is available

### **Temperature and Pressure Ratings:**

- Polymer maximum working temperature up to 140°F (60°C)
- Ratings are at atmospheric pressure.

NOTE: Pipe or bracket mount styles available



NOTE: All dimensions are inches [mm]

R100 Series Gravity w/Filter & Low Level Switch						
Part No.	Capacity	A inches (mm)	B inches (mm)	D Thread		
R111-02FS			7.78 (197.61)	1/4 NPTF		
R111-03FS	1.00 qt	4.25	7.84 (199.14)	3/8 NPTF		
R111-04FS	(.95 L)	(107.95)	8.00 (203.20)	1/2 NPTF		
R111-08FS			8.06 (204.72)	5/8-18 UNF •		
R112-02FS			9.91 (251.72)	1/4 NPTF ▼		
R112-03FS	.50 gal	5.50	9.97 (253.24)	3/8 NPTF		
R112-04FS	(1.90 L)	(139.70)	10.12 (257.05)	1/2 NPTF		
R112-08FS			10.19 (258.83)	5/8-18 UNF •		
R113-02FS			14.91 (378.72)	1/4 NPTF ▼		
R113-03FS	1.00 gal	5.50	14.97 (380.24)	3/8 NPTF		
R113-04FS	(3.80 L)	(139.70)	15.12 (384.05)	1/2 NPTF		
R113-08FS			15.19 (385.83)	5/8-18 UNF •		



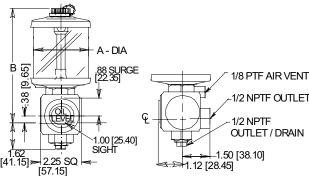
### **RCL SERIES**

The RCL Series of constant level reservoirs feature a large sight window for viewing liquid level and fluid condition. Furnished with "Oil Level" and line for positive level viewing. Reservoirs can be mounted on the side or bottom. They can be vented to atmosphere or back vented to housing.

#### **Standard Materials:**

- · Aluminum construction
- Buna N seals
- Break resistant, colorless transparent polymer
- Borosilicate glass for fluid compatibility and thermal
- Pilot duty switch closes (activates) on descending level (conduit included)

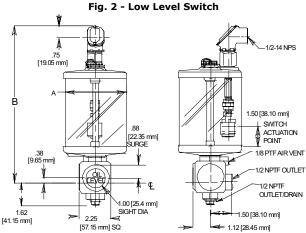
Fig. 1 - Top Fill with Sight Window

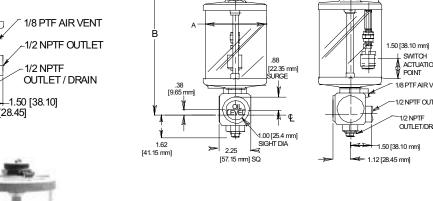


**NOTE:** All dimensions are inches [mm]

## **Temperature and Pressure Ratings:**

- Polymer up to 140° F (60°C)
- Glass up to 180°F (82°C)
- Ratings are at atmospheric pressure
- For applications requiring maximum working temperatures of 180°F (82°C) and above, please consult factory







NOTE: Low level switch reservoirs available in large capacity units 1 quart (.95 liter), 1/2 gallon (1.89 liter), and 1 gallon (3.79 liter) sizes.

	RCL Series							
Fig	Part Number Polymer Glass		Capacity	A inches (mm)	B inches (mm)			
	_	RCL311	2.50 oz (73.90 mL)	2.00 (50.80)	4.88 (123.95)			
	RCL302	_	5 oz (147.90 mL)	2.50 (63.50)	5.38 (136.65)			
1	RCL303	RCL313	9 oz (266.20 mL)	3.00 (76.20)	6.19 (157.23)			
	_	_	1 pt (.47 L)	3.50 (88.90)	7.19 (182.63)			
	_	RCL315	1 qt (.95 L)	4.25 (107.95)	8.44 (214.38)			
	RCL305LS	_	1 qt (.95 L)	4.25 (107.95)	10.94 (277.88)			
2	RCL306LS	_	.50 gal (1.90 L)	5.50 (139.70)	13.00 (330.20)			
	_	-	1.00 gal (3.80 L)	5.50 (139.70)	18.00 (457.20)			



### RDF SERIES PIPE THREAD NPTF

The RDF Series of drop feed reservoirs feature a vented sight chamber, adjustable metering and toggle shut-off. All reservoirs feature self-closing snap lid filler caps, vented on the vertical plane to minimize the possibility of dust and dirt from entering the reservoir through the vent. Reservoirs can be disassembled for occasional cleaning.

### **Standard Materials:**

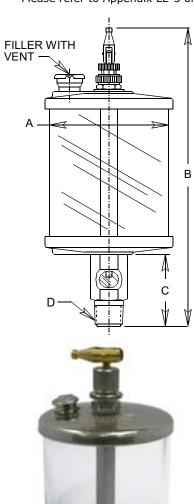
- Aluminum construction
- Buna N seals
- Gage glass sight
- Break resistant, colorless transparent polymer
- Borosilicate glass for fluid compatibility and thermal shock

### **Operating Conditions**

- Polymer up to 140°F (60°C)
- Glass up to 250°F (121°C)
- Ratings are at atmospheric pressure
- Maximum viscosity 1500 SSU

#### NOTE:

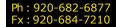
• Please refer to Appendix LE-3 on page LE-A3 for Toggle Valve Adjustment Instructions



RDF Series Pipe Thread NPTF						
Part Polymer	: No. Glass	Capacity	A inches (mm)	B inches (mm)	C inches (mm)	D Thread NPTF
RDF101-01	RDF101-11	.62 oz. (18.50 mL)	1.50 (38.10)	4.56 (115.82)	1.38 (35.05)	1/8
RDF102-01	_	1.00 oz.	1.50	5.00 (127.00)	1.38 (35.05)	1/8
RDF102-02	RDF102-12	(29.60 mL)	(38.10)	5.19 (131.83)	1.56 (39.62)	1/4
RDF103-02	RDF103-12	1.50 oz. (44.40 mL)	1.75 (44.45)	5.38 (136.65)	1.56 (39.62)	1/4
RDF104-01	_	2.50 oz.	2.00	5.56 (141.22)	1.38 (35.05)	1/8
RDF104-03	RDF104-13	(73.90 mL)	(50.80)	5.75 (146.05)	1.56 (39.62)	3/8
RDF105-02	_	5.00 oz.	2.50	6.38	1.56	1/4
RDF105-03	RDF105-13	(147.90 mL) (63.5	(63.50)	(162.05)	(39.62)	3/8
RDF106-01	_	8.00 oz. (236.60 mL)	2.50 (63.50)	7.31 (185.67)	1.38 (35.05)	1/8
RDF107-03	RDF107-13	9.00 oz.	3.00	7.62 (193.55)	1.94 (49.28)	3/8
RDF107-04	RDF107-14	(266.20 mL)	(76.20)	7.81 (198.37)	2.12 (53.85)	1/2
RDF108-02	_			8.94 (227.08)	1.94 (49.28)	1/4
RDF108-03	_	12.00 oz. (354.90 mL)	3.00 (76.20)	8.94 (227.08)	1.94 (49.28)	3/8
RDF108-04	-			9.12 (231.65)	2.12 (53.85)	1/2
RDF109-02	_			8.94 (227.08)	1.94 (49.28)	1/4
RDF109-03	RDF109-13	1.00 pt. (.47 L)	3.50 (88.90)	8.94 (227.08)	1.94 (49.28)	3/8
RDF109-04	RDF109-14			9.12 (231.65)	2.12 (53.85)	1/2
RDF110-03	_	1.00 qt.	4.25	9.94 (252.48)	1.94 (49.28)	3/8
RDF110-04	RDF110-14	(.95 L)	(107.95)	10.12 (257.05)	2.12 (53.85)	1/2
RDF111-04	RDF111-14	.50 gal. (1.90 L)	5.50 (139.70)	12.06 (306.32)	2.12 (53.85)	1/2
RDF112-04	_	1.00 gal. (3.80 L)	5.50 (139.70)	17.06 (433.32)	2.12 (53.85)	1/2

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### RDF SERIES STRAIGHT THREAD/REMOTE MOUNT

The RDF Series of drop feed reservoirs feature a vented sight chamber, adjustable metering and toggle shut-off. All reservoirs feature self-closing snap lid filler caps, vented on the vertical plane to minimize the possibility of dust and dirt from entering the reservoir through the vent. Reservoirs can be disassembled for occasional cleaning.

### **Standard Materials:**

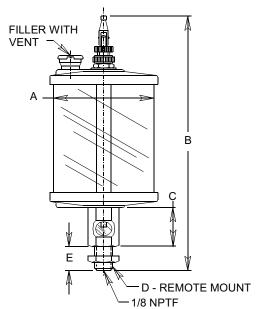
- · Aluminum construction
- Buna N seals
- Gage glass sight
- Break resistant, colorless transparent polymer

### **Operating Conditions:**

- Polymer up to 140°F (60°C)
- Ratings are at atmospheric pressure
- Maximum viscosity 1500 SSU

#### NOTE:

• Please refer to Appendix LE-3 on page LE-A3 for Toggle Valve Adjustment Instructions





	RDF Serie	s Straigh	t Thread/I	Remote M	ount	
Part No.	Capacity	A inches (mm)	B inches (mm)	C inches (mm)	D Thread UNF	E inches (mm)
RDF102-06	1.00 oz (29.60 mL)	1.50 (38.10)	5.30 (134.62)	1.00 (25.40)	9/16-18	.62 (15.75)
RDF103-06	1.50 oz (44.40 mL)	1.75 (44.45)	5.45 (138.43)	1.00 (25.40)	9/16-18	.62 (15.75)
RDF104-06	2.50 oz (73.90 mL)	2.00 (50.80)	5.74 (145.80)	1.00 (25.40)	9/16-18	.62 (15.75)
RDF105-06	5.00 oz (147.90 mL)	2.50 (63.50)	6.37 (161.80)	1.00 (25.40)	9/16-18	.62 (15.75)
RDF107-08	9.00 oz (266.20 mL)	3.00 (76.20)	7.00 (177.80)	1.38 (35.05)	5/8-18	.88 (22.35)
RDF108-08	12.00 oz (354.90 mL)	3.00 (76.20)	8.38 (212.85)	1.38 (35.05)	5/8-18	.88 (22.35)
RDF109-08	1.00 pt (.47 L)	3.50 (88.90)	8.94 (227.08)	1.38 (35.05)	5/8-18	.88 (22.35)
RDF110-08	1.00 qt (.95 L)	4.25 (107.95)	9.38 (238.25)	1.38 (35.05)	5/8-18	.88 (22.35)
RDF111-08	.50 gal (1.90 L)	5.50 (139.70)	12.19 (309.63)	1.38 (35.05)	5/8-18	.88 (22.35)
RDF112-08	1.00 gal (3.80 L)	5.50 (139.70)	16.31 (414.27)	1.38 (35.05)	5/8-18	.88 (22.35)

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### **RDM SERIES**

The RDM Series of multiple feed, large capacity reservoirs with central mounting shank provide for controlled lubrication for up to 30 points from one location. Manually operated toggle lever at the top of reservoir controls on/off full flow of oil to valves. Valve drip feed rate is individually set at each valve. Large reservoir provides 360° viewing at a glance. Vent on the vertical plane so dust and dirt cannot enter the reservoir. Exclusive patented compact manifold design allows for easy removal of any of the valves. Units with odd number of feeds will be furnished with greater number of feeds to the right side unless otherwise specified.

#### **Standard Materials:**

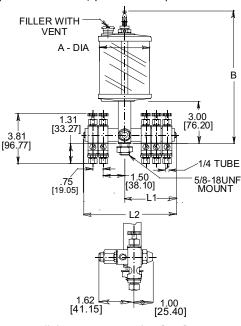
- Aluminum construction
- Buna N seals
- Break resistant, colorless transparent polymer

### **Temperature and Pressure Ratings:**

- Maximum working temperature up to 140°F (60°C)
- Rating is at atmospheric pressure

#### NOTE:

- Please refer to Appendix LE-3 on page LE-A3 for Toggle Valve Adjustment Instructions
- For outdoor or damp applications, please specify Anodized.
- For replacement feeds, please order part number 352890



NOTE: All dimensions are inches [mm]

### **ORDERING OPTIONS:**

Order Suffix	Feeds
-02	Specify 02 through 30 feeds.
-30	(2 feeds are standard)

#### **HOW TO ORDER**

EXAMPLE:

**RDM103-02** — 2 feeds (standard)

Series RDM103 - 1 pint (.47 liter)

capacity reservoir

	L.	
TO COLOR		

RDM Series							
Part No.	Capacity	A inches (mm)	B inches (mm)				
RDM101	9.00 oz	3.00	8.50				
	(266.20 mL)	(76.20)	(215.90)				
RDM102	12.00 oz	3.00	9.50				
	(354.90 mL)	(76.20)	(241.30)				
RDM103	1.00 pt	3.50	9.50				
	(.47 L)	(88.90)	(241.30)				
RDM104	1.00 qt	4.25	10.69				
	(.95 L)	(107.95)	(271.53)				
RDM105	.50 gal	5.50	12.75				
	(1.90 L)	(139.70)	(323.85)				
RDM106	1.00 gal	5.50	17.75				
	(3.80 L)	(139.70)	(450.85)				

Feeds	-02	-03	-04	-05	-06	-10	-20	-30
	inches							
	(mm)							
L1	2.19	2.94	2.94	3.69	3.69	5.19	8.94	12.69
	(55.62)	(74.68)	(74.68)	(93.73)	(93.73)	(131.83)	(227.08)	(322.33)
L2	4.38	5.12	5.88	6.62	7.38	10.38	17.88	25.38
	(111.25)	(130.05)	(149.35)	(168.15)	(187.45)	(263.65)	(454.15)	(644.65)

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### **REF SERIES**

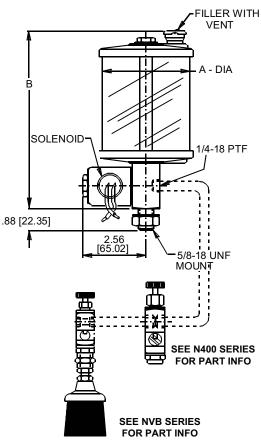
The REF Series of large capacity, full flow reservoirs are mounted at an accessible central location to automatically control fluid flow. Designed for gravity flow, can be connected in a series to any number of metering valves or valve brushes to provide an inexpensive, automatic lubrication system. Large reservoir clearly provides 360° visual check of fluid level and condition. Normally closed solenoid is usually wired across machine starting switch to provide automatic off / on full flow fluid control. Compact center solenoid valve and mounting shank combination provides good weight distribution and facilitates mounting. Other commercial voltages available - Please specify.

#### **Standard Materials:**

- Aluminum construction
- Buna N seals
- Break resistant, colorless transparent polymer
- Class "B" molded water resistant coil

#### **Standard Features:**

- •5/8 inch UNF stud end
- 1/4 PTF female connection
- · Voltages available:
  - 24V, DC
  - ∘120V/60Hz 1Ph
  - -240V/60Hz 1Ph
  - -480V/60Hz 1Ph



NOTE: All dimensions are inches [mm]



REF Series							
Part No.	Capacity	A inches (mm)	B inches (mm)				
REF151	9 oz	3.00	6.00				
	(266.20 mL)	(76.20)	(152.40)				
REF152	12 oz	3.00	7.00				
	(354.90 mL)	(76.20)	(177.80)				
REF153	1 pt	3.50	7.00				
	(.47 L)	(88.90)	(177.80)				
REF154	1 qt	4.25	8.44				
	(.95 L)	(107.95)	(214.38)				
REF155	.50 gal	5.50	10.44				
	(1.90 L)	(139.70)	(265.18)				
REF156	1.00 gal.	5.50	15.44				
	(3.80 L)	(139.70)	(392.18)				

#### **ORDERING OPTIONS:**

Order Suffix	Solenoid Voltage/Hertz:
-26	120V/60Hz, 1Ph
-27	240V/60Hz, 1Ph
-28	480V/60Hz, 1Ph
-43	24V DC

#### **HOW TO ORDER**

**EXAMPLE:** 

REF153-26 — 120V/60Hz, 1 Ph Solenoid voltage
Series REF153 - 1 pint (.473 liter)
capacity reservoir



### **REM SERIES**

The REM Series of multiple feed, large capacity electro reservoirs with central mounting shank provide for controlled lubrication for 2 to 30 points from one location. Solenoid valve automatically controls full flow of oil from reservoir to valves. Drip feed rate is determined by your adjustment of each needle valve. Large reservoir provides 360° viewing at a glance. Units with odd number of feeds will be furnished with greater number of feeds to the right side unless otherwise specified.

#### **Standard Materials:**

- Aluminum construction
- Buna N seals
- · Class 'B' molded water resistant coil
- Break resistant, colorless transparent polymer

### **Standard Features:**

- Up to 30 feeds can be specified
- Voltages available:
  - 24V, DC
  - ∘120V/60Hz 1Ph
  - 240V/60Hz 1Ph
  - ∘480V/60Hz 1Ph

### **Temperature and Pressure Ratings:**

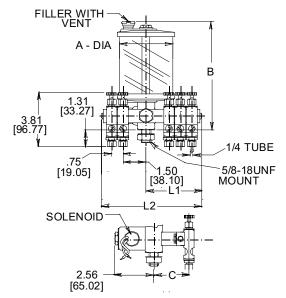
- Maximum working temperature up to 140°F (60°C)
- Rating is at atmospheric pressure

#### NOTE:

- For outdoor or damp applications, please specify Anodized.
- For replacement feeds, please order part number 352890



REM Series						
Part No.	Capacity	A inches (mm)	B inches (mm)	C inches (mm)		
REM151	9 oz	3.00	6.00	2.00		
	(266.20 mL)	(76.20)	(152.40)	(50.80)		
REM152	12 oz	3.00	7.00	2.00		
	(354.90 mL)	(76.20)	(177.80)	(50.80)		
REM153	1 pt	3.50	7.00	2.25		
	(.47 L)	(88.90)	(177.80)	(57.15)		
REM154	1 qt	4.25	8.44	2.62		
	(.95 L)	(107.95)	(214.38)	(66.55)		
REM155	.50 gal	5.50	10.44	3.25		
	(1.90 L)	(139.70)	(265.18)	(82.55)		
REM156	1.00 gal	5.50	15.44	3.25		
	(3.80 L)	(139.70)	(392.18)	(82.55)		
REM157	2.00 gal	5.50	28.44	3.25		
	(7.60 L)	(139.70)	(722.38)	(82.55)		



NOTE: All dimensions are inches [mm]

### **ORDERING OPTIONS:**

Order Suffix	Feeds
-02 -30	Specify 02 through 30 feeds. (2 feeds are standard)

Order Suffix			
-26	120V/60Hz, 1Ph		
-27	240V/60Hz, 1Ph		
-28	480V/60Hz, 1Ph		
-43	24V DC		



120V/60Hz, 1 Ph
2 feeds (standard)
Series REM153 - 1 pint (.473 liter) capacity reservoir

Feeds	-02	-03	-04	-05	-06	-10	-20	-30
	inches							
	(mm)							
L1	2.19	2.94	2.94	3.69	3.69	5.19	8.94	12.69
	(55.62)	(74.68)	(74.68)	(93.73)	(93.73)	(131.83)	(227.08)	(322.33)
L2	4.38	5.00	5.88	6.62	7.38	10.38	17.88	25.38
	(111.25)	(127.00)	(149.35)	(168.15)	(187.45)	(263.65)	(454.15)	(644.65)

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Industries

### **REO SERIES**

The REO Series of sturdily constructed automatic solenoid controlled lubricators provides for precise control of lubricant through a needle valve. The normally closed solenoid is usually wired across machine starting switch to provide automatic off / on full flow fluid control. Feeding stops when machine is turned off. Compact center solenoid valve and mounting shank combination provides good weight distribution and facilitates mounting.

### **Standard Materials:**

- Aluminum construction
- Buna N seals
- Break resistant, colorless transparent polymer
- Class "B" molded water resistant oil

### **Standard Features:**

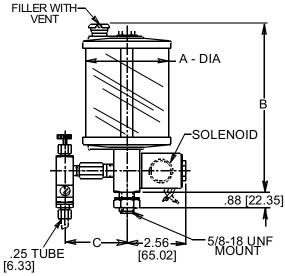
- Voltages available:
  - 24V, DC
  - ∘120V/60Hz 1Ph
  - -240V/60Hz 1Ph
  - ∘480V/60Hz 1Ph

### **Temperature and Pressure Ratings:**

- Maximum working temperature up to 140°F (60°C)
- Rating is at atmospheric pressure

#### NOTE:

- For outdoor or damp applications, please specify Anodized.
- For replacement needle valve please order part number N403-04





	REO Series					
Part No.	Capacity	A inches (mm)	B inches (mm)	C inches (mm)		
REO151	2.50 oz	2.00	4.69	1.58		
	(73.90 mL)	(50.80)	(119.13)	(40.13)		
REO152	5.00 oz	2.50	5.19	2.06		
	(147.90 mL)	(63.50)	(131.83)	(52.32)		
REO153	9.00 oz	3.00	6.00	2.38		
	(266.20 mL)	(76.20)	(152.40)	(60.45)		
REO154	12.00 oz	3.00	7.00	2.38		
	(354.90 mL)	(76.20)	(177.80)	(60.45)		
REO155	1.00 pt	3.50	7.00	2.69		
	(.47 L)	(88.90)	(177.80)	(68.33)		
REO156	1.00 qt	4.25	8.44	2.75		
	(.95 L)	(107.95)	(214.38)	(69.85)		
REO157	.50 gal	5.50	10.44	3.53		
	(1.90 L)	(139.70)	(265.18)	(89.66)		
REO158	1.00 gal	5.50	15.44	3.81		
	(3.80 L)	(139.70)	(392.18)	(96.77)		
REO159	2.00 gal	5.50	28.44	3.50		
	(7.60 L)	(139.70)	(722.38)	(88.90)		



### **ORDERING OPTIONS:**

Order Suffix	Solenoid Voltage/Hertz:	
-26	120V/60Hz, 1Ph (standard)	
-27	240V/60Hz, 1Ph (standard)	
-28	480V/60Hz, 1Ph	
-43	24V DC	

**HOW TO ORDER** 

**EXAMPLE:** 

RE0155-26 — 120V/60Hz, 1 Ph Solenoid voltage Series RE0155 - 1 pint (.47 liter)

capacity reservoir





## **RFF100 SERIES**

The RFF100 Series of full flow dispensers is designed to serve as a central reservoir for lubricating systems. Reservoirs are gravity feed and provide a full flow of oil which can be manually shut off by flipping the toggle at the top of the reservoir to a horizontal position. Electric Solenoid shut off is available. Reservoirs provide a 360° visual check of fluid level and condition. All reservoirs also feature a self-closing snap lid filler cap, vented on the vertical plane to minimize the possibility of dust and dirt from entering the reservoir through the vent. Reservoirs can be disassembled for occasional cleaning.

### **Standard Materials:**

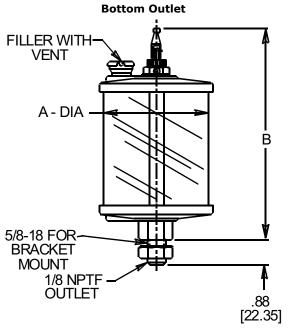
- Aluminum construction
- Buna N seals
- Break resistant, colorless transparent polymer

### **Temperature and Pressure Ratings:**

- Maximum working temperature up to 140°F (60°C)
- Rating is at atmospheric pressure

### NOTE:

• Please refer to Appendix LE-3 on page LE-A3 for Toggle Valve Adjustment Instructions





NOTE: All dimensions are inches [mm]

RFF100 Series					
Part No.	Capacity	A inches (mm)	B inches (mm)		
RFF101	9.00 oz	3.00	6.00		
	(266.20 mL)	(76.20)	(152.40)		
RFF102	12.00 oz	3.00	7.00		
	(354.90 mL)	(76.20)	(177.80)		
RFF103	1.00 pt	3.50	7.00		
	(.47 L)	(88.90)	(177.80)		
RFF104	1.00 qt	4.25	8.25		
	(.95 L)	(107.95)	(209.55)		
RFF105	.50 gal	5.50	10.25		
	(1.90 L)	(139.70)	(260.35)		
RFF106	1.00 gal	5.50	15.25		
	(3.80 L)	(139.70)	(387.35)		

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## **RVP SERIES**

The RVP Series of air operated reservoirs can be used for applying lubricants to chains or rollers or for spraying large sheets using the SV100 series spray valves. By varying the air pressure on fluid and to the spray valve, the valve spray pattern can be accurately adjusted to prevent overspray and drip. The use of solenoid valves on the outlet sides provides a positive shut-off of air and liquid.

### **Standard Materials:**

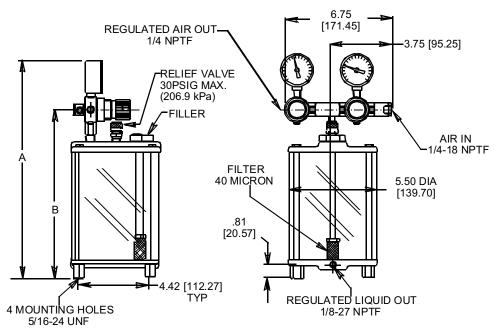
- Aluminum construction
- Buna N seals
- Break resistant, colorless, transparent polymer

### Standard Feature:

• 40 micron filter

### **Pressure Ratings:**

- Inlet unregulated air pressure to 125 psig (862 kPa) max
- Regulated air and fluid pressure to 30 psig (207 kPa) max



NOTE: All dimensions are inches [mm]



RVP Series				
Part No.	Capacity	A inches (mm)	B inches (mm)	
RVP101	1 qt	10.75	7.25	
	(.95 L)	(273.05)	(184.15)	
RVP102	.50 gal	14.25	10.75	
	(1.90 L)	(361.95)	(273.05)	
RVP103	1.00 gal	19.25	15.75	
	(3.80 L)	(488.95)	(400.05)	
RVP104	2.00 gal	32.25	28.75	
	(7.60 L)	(819.15)	(730.25)	

### **ESS SERIES**

The exclusive "LUBE-O-MATIC" features an integral solenoid/sight feed package which offers automatic fluid flow. The coil wires (normally closed valve) connect across the drive line or start switch allowing the unit to feed only when the machine is running. The knurled adjustment wheel provides positive, smooth feed rate adjustment from full-flow to shut-off. A large vented sight window is provided for easy viewing of the feed rate.

### **Standard Features:**

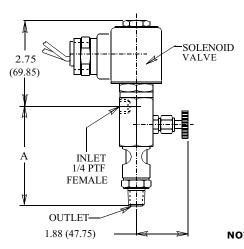
- Available in either angle or straight pattern
- •.09 inch (2.39 mm) minimum orifice

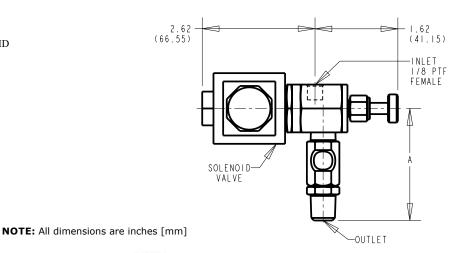
### **Standard Materials:**

- · Class 'B' molded water resistant coil
- Needle valve is brass construction

### **Operating Conditions:**

- 11.5 watts power consumption for all units
- Gravity flow





ESS Series - Angle Pattern				
Part No.	Outlet	A inches (mm)		
ESS101	1/4 Tube	3.19 (81.03)		
ESS102	1/4 Male NPTF	3.19 (81.03)		
ESS103	1/8 Male NPTF	3.00 (76.20		



ESS Series - Straight Pattern				
Part No.	Outlet	A inches (mm)		
ESS151	1/8 Male NPTF	2.50 (63.50)		
ESS152	1/4 Male NPTF	2.56 (65.02)		
ESS155	1/4 Tube	2.62 (66.55)		

ORDERING OPTIONS:			
Order Suffix	Solenoid Voltage/Hertz:		
-26	120V/60Hz, 1Ph		
-27	240V/60Hz, 1Ph		
-28	480V/60Hz, 1Ph		
-42	12V, DC		
-43	24V. DC		

HOW TO ORDER

EXAMPLE:

ESS102-26 — 120V/60Hz, 1 Ph Solenoid voltage

Series ESS102- (angle pattern)

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### **ESV SERIES**

The ESV Series straight pattern solenoid valve features a compact, rugged design. This normally closed two-way valve has female pipe thread (Dryseal) inlet and outlet which are in a straight line through the body. When the solenoid is energized, the plunger lifts, opening the valve. When the circuit is broken, the spring loaded plunger returns, closing the orifice.

### **Standard Features:**

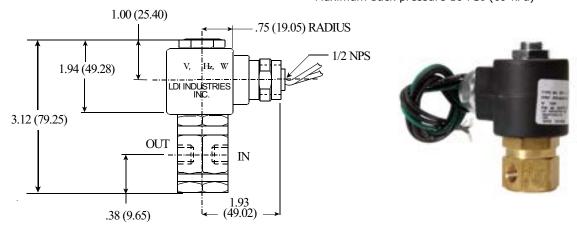
- 1/8 inch PTF female connection
- Straight pattern
- •.09 (2.39mm) minimum orifice
- Voltages available:
  - ∘12V, DC
  - 24V, DC
  - ∘120V/60Hz, 1Ph
  - □240V/60Hz, 1Ph
  - ∘480V/60Hz, 1Ph

### **Standard Materials:**

- · Class 'B' molded water resistant coil
- Solenoid valve body is brass construction
- Plunger, tube and case assembly are Stainless Steel construction
- Plunger valve discs are molded and ground synthetic

### **Pressure Ratings:**

- 11.50 watts power consumption for all units
- Maximum inlet pressure 65 PSI (448 kPa)
- Maximum back pressure 10 PSI (69 kPa)



NOTE: All dimensions are inches (mm)

ESV Series					
Part No.	PTF	Orifice Diameter inches (mm)	Maximum Inlet Pressure PSI (kPa)	Maximum Back Pressure PSI (kPa)	
ESV501	1/8 × 1/8	.20 (5.16)	65 (448)	10 (69)	

ORDERI	ORDERING OPTIONS:							
Order Suffix	Solenoid Voltage/Hertz:							
-26	120V/60Hz, 1Ph							
-27	240V/60Hz, 1Ph							
-28	480V/60Hz, 1Ph							
-42	12V DC							
-43	24V DC							

HOW TO ORDER

EXAMPLE:

ESV501-26 — 120V/60Hz, 1 Ph Solenoid voltage

Series ESV501- (straight pattern)

MODIFICATIONS AVAILABLE MADE TO ORDER - CONSULT OUR FACTORY (MINIMUM ORDER MAY BE REQUIRED)

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.

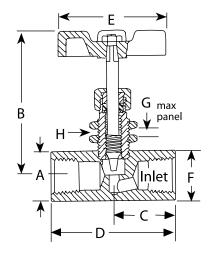


### FFG SERIES - HEAVY DUTY

The FFG Series is ideal for applications which require fine metering and shut-off. Designed for use with air, oil, water, steam, liquid fuels and most chemicals.

#### **Standard Features:**

- Heavy duty brazed construction for added strength and safety
- Precision machined stems and valve bodies provide perfect seat alignment for leak-free shut off
- Carbon steel valves are zinc plated and sealed with black chromate for double corrosion protection
- Stem Taper
  - -10.5° (1/4, 3/8, 1/2 inch sizes)
  - ∘15° (3/4 inch size)
- Stem Pitch
  - ∘16 threads/inch (1/4, 3/8, 1/2 inch sizes)
  - ∘14 threads/inch (3/4 inch size)



### **Standard Material:**

Carbon steel

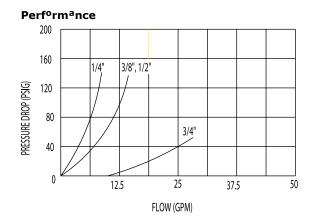
### **Temperature and Pressure Ratings:**

- Maximum operating pressure 10,000 PSI (68948 kPA) Hydraulic Oil
- Maximum operating pressure 2000 PSI (13790 kPa) Air
- Temperature range -40° F to 500° F (-40° C to 260° C)



	FFG Series										
P <sup>a</sup> rt N <sup>o</sup> .	B <sup>o</sup> dy M <sup>a</sup> teri <sup>a</sup> l	A Fem <sup>a</sup> le NPT	B M <sup>a</sup> x (inches)	C (inches)	D (inches)	E (inches)	F (inches)	G (inches)	H Di <sup>a</sup> (inches)	Orifice Di <sup>a</sup> . (inches)	CV
FFG <sup>2002</sup> T	Carbon Steel	1/4	3,50	1.03	2.06	2,50	.88	.38	.62	.22	.66
FFG <sup>2003</sup> T	Carbon Steel	3/8	3,62	1,44	2,75	2,50	1,12	.38	.75	.22	.70
FFG <sup>2004</sup> T	Carbon Steel	1/2	3,62	1,44	2.75	2.50	1,12	.38	.75	.22	.70
FFG <sup>2006</sup> TA	Carbon Steel	3/4	5.19	1,81	3,62	4.25	1,50	.88	1,50	.56	3.90

Panel Mountin	ng Kits
Valve Size (inch)	Kit Nº.
.25	<sup>2002</sup> S
.38 to .50	<sup>2004</sup> S
.75	<sup>2005</sup> S



### **MINI LINE SERIES**

The Mini Line Series is ideal for test bench and control panel applications. Designed for use with air, oil, water, steam, vaccum service and most chemicals.

### **Standard Features:**

- Compact design provides easy installation
- Fine stem threading and long taper allow precise metering and leak-free shut off
- Internal stop prevents the stem from being accidentally unscrewed from the body
- Valves come equipped for panel mounting
- .182 inch orifice diameter
- 15° stem taper
- 32 threads/inch stem pitch

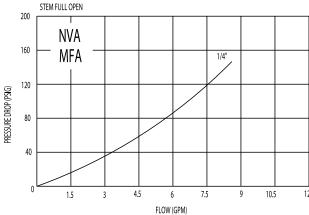
### **Standard Materials:**

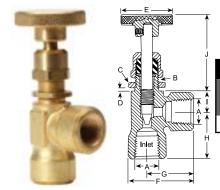
- Body, stem, knob, bonnet nut, panel mount nut Brass
- · Set screw Steel
- •Stem packing Teflon with brass gland

### **Temperature and Pressure Ratings:**

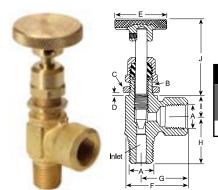
- Maximum operating pressure 5000 PSI (34474 kPa) Hydraulic oil
- Maximum operating pressure 2000 PSI (13790 kPa) Air
- •Temperature range -40°F to 500°F (-40°C to 260°C)







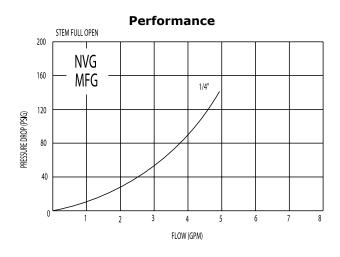
NVA (dimensions in inches)												
P <sup>a</sup> rt N <sup>o</sup> .		B Thre <sup>a</sup> d Size UNS- <sup>2</sup> B			E	F	G	н	ı	J Open	J Clºsed	CV
NVA <sup>250</sup> B	1/4	1/2-27	.69	.22	1.25	1,41	1.00	1.00	.44	2,16	1,59	.70

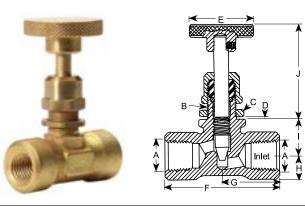


	MFA (dimensions in inches)											
P <sup>a</sup> rt N <sup>o</sup> .	B C A Thre <sup>a</sup> d Size Hex D J J P <sup>a</sup> rt N°. NPT UNS- <sup>2</sup> B Size M <sup>a</sup> x E F G H I Open Cl <sup>o</sup> sed CV										cv	
MFA <sup>250</sup> B	1/4	1/2-27	.69	.22	1,25	1,34	1.00	1.00	.44	2,16	1.59	.70

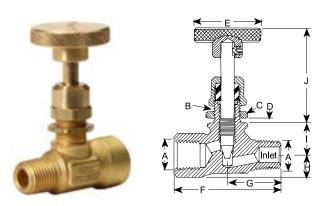
Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.

## MINI LINE SERIES (CONT'D)





	NVG (dimensions in inches)											
P <sup>a</sup> rt N <sup>o</sup> .		B Thre <sup>a</sup> d Size UNS- <sup>2</sup> B			E	F	G	н	I	J Open	J Cl <sup>o</sup> sed	cv
NVG <sup>250</sup> B	1/4	1/2-27	.69	.22	1,25	1.34	1.00	1.00	.44	2,16	1.59	.70



	MFG (dimensions in inches)											
P <sup>a</sup> rt N <sup>o</sup> .		B Thre <sup>a</sup> d Size UNS- <sup>2</sup> B			E	F	G	н	ı	J Open	J Cl <sup>o</sup> sed	CV
MFG <sup>250</sup> BF	1/4	1/2-27	.69	.22	1,25	2,00	1.00	.41	.44	2,16	1.78	.50

### **N100 SERIES**

The N100 Series straight pattern needle valves with sight are ideally suited for vertical inline installation requiring controlled visible fluid metering. Knurled wheel provides for smooth, accurate adjustments of flow rate. Drip feed rate is adjustable from full orifice flow to complete shut-off. Flow is readily visible through large sight window. Pressure units supplied with non-vented sights. Gravity feed valves are furnished with a vented sight chamber, provided by a split in the gasket above the sight glass.

#### **Standard Features:**

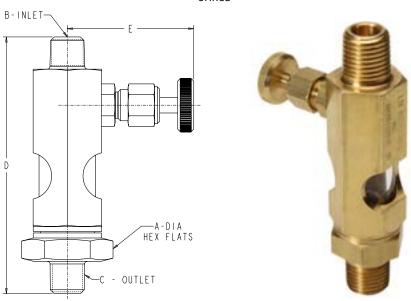
- 1/8, 1/4, 3/8 or 1/2 inch NPTF connections
- · Available in either male or female connections

#### **Standard Materials:**

- Precision machined from brass bar stock.
- Buna N seals.
- Gage glass sight.
- Pipe threads are dryseal

### **Pressure Rating:**

Maximum operating pressure 125 PSI (862 kPa) to orifice



			N100 S	eries			
Part Gravity	: No. Pressure	A Hex Dia. inches (mm)	Orifice inches (mm)	B Inlet	C Outlet	D inches (mm)	E inches (mm)
N102-01	_			1/8 M	1/8 M	3.03 (76.96)	
N102-02	N102-12			1/4 M	1/4 M	3.41 (86.61)	
N102-03	_	.81 (20.57)	.09 (2.39)	1/8 F	1/8 F	2.72 (69.09)	1.50 (38.10)
N102-04	N102-14			1/4 F	1/4 F	2.97 (75.44)	
N102-06	_			1/4 M	1/4 T	3.44 (87.38)	
N103-01	_	.94	.11	3/8 M	3/8 M	3.56 (90.42)	1.75
N103-02	_	(23.88)	(2.77)	3/8 F	3/8 F	3.25 (82.55)	(44.45)
N104-01	_	1.06	.15	1/2 M	1/2 M	3.94 (100.08)	1.75
N104-02	N104-12	(26.92)	(3.86)	1/2 F	1/2 F	4.62 (117.35)	(44.45)

# MODIFICATIONS AVAILABLE MADE TO ORDER - CONSULT OUR FACTORY (MINIMUM ORDER MAY BE REQUIRED)

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.



## **N400 SERIES**

The N400 Series Needle Valves allow the flow to be accurately controlled from full orifice opening to shut off. Fluid flow is readily visible through a large sight window. Cross pattern can be used singularly or installed in series. Pressure units supplied with non-vented sights. Gravity feed valves are furnished with a vented sight chamber, provided by a split in the gasket above the sight glass.

### **Standard Features:**

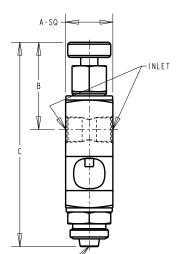
- 1/8 inch PTF female or 1/8 inch NPTF male connection for inlet and outlets
- 1//4 inch tubing outlet also available
- Vacuum application is available (requires modification)

### **Standard Materials:**

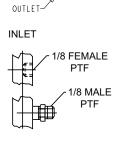
- Precision machined from aluminum bar stock
- Pipe threads are dryseal

### **Pressure Rating:**

 Maximum working pressure up to 125 PSI (862 kPa) to orifice

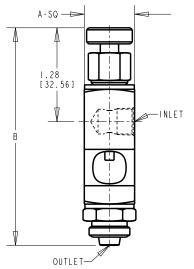


	N400 Series - Cross Pattern										
Part Gravity	No. Pressure	A Hex Dia inches (mm)	Orifice inches (mm)	Inlet	Outlet	B inches (mm)	C inches (mm)				
N401-01	N401-11	.69	.09	1/0 ⊑	1/8 F	1.38	2.94 (74.68)				
N401-04	_	(17.53)	2.39	1/8 F	1/4 T	(35.05)	3.38 (85.85)				





	N400 Series - Angle Pattern									
Part Gravity	No. Pressure	A Hex Dia inches (mm)	Orifice inches (mm)	Inlet	Outlet	B inches (mm)				
N403-01	_				1/8 F	2.94 (74.68)				
N403-02	_	.69	.09	1/8 F	1/8 M	3.12 (79.25)				
N403-04		(17.53)	2.39		1/4 T	3.38 (85.85)				
N404-01	N404-11			1/8 M	1/8 F	2.94 (74.68)				



NOTE: All dimensions are inches (mm)

MODIFICATIONS AVAILABLE MADE TO ORDER - CONSULT OUR FACTORY (MINIMUM ORDER MAY BE REQUIRED)

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## **N470 SERIES**

The N470 Series toggle type valves are designed for controlled flow applications that require shutting off at times. This style of valve can be shut off and turned on again without affecting the previous preset drip rate. Fine adjustments can be made and easily locked by the knurled friction lock-ring. The drip rate is clearly visible through the large sight. Gravity feed valves are furnished with a vented sight chamber, provided by a split in the gasket above the sight glass. Valves for pressure applications have a solid gasket in both ends of the sight glass. (Non-vented)

#### **Standard Materials:**

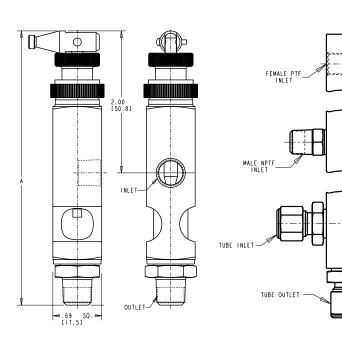
- Brass Construction
- Buna N Seals
- Pipe threads are dryseal

### **Pressure Ratings:**

- Pressure version is rated for maximum working pressure applications up to 125 PSI (862 kPa)
- •.09 (2.39mm) minimum orifice

### NOTE:

• Please refer to Appendix LE-3 on page LE-A3 for Toggle Valve Adjustment Instructions





NOTE: All dimensions are inches [mm]

N47	0 Series - A	Angle Patt	ern
Part	t No.		A inches
Gravity	Pressure	Outlet	(mm)
	1/8 PTF Fen	nale Inlet	
N471-02	_	1/8 Male	3.81 (96.77)
N471-03	_	1/4 Tube	4.00 (101.60)
	1/8 NPTF M	lale Inlet	
N472-03	N472-13	1/4 Tube	4.00 (101.60)
	1/4 NPTF M	lale Inlet	
N473-03	_	1/4 Tube	4.00 (101.60)

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.

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### **NVM SERIES**

The NVM Series is designed for controlled multiple oiling from central location. Lubricant, (in reservoir of dispenser) individually metered at valve bank, travels to various points servicing hard to get at places, and eliminating individual oil cups. Easily disassembled for cleaning. Individual valves remove without disturbing other components. Gravity feed valves are furnished with a vented sight chamber, provided by a split in the gasket above the sight glass.

### **Standard Features:**

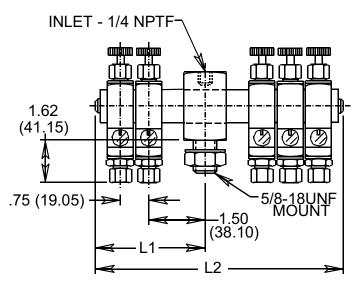
- Pressure units supplied with non-vented sight
- 2 to 8 feeds available

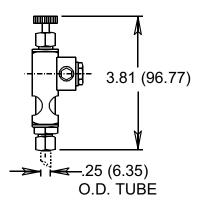
### **Standard Materials:**

- Aluminum Construction
- Buna N seals
- Gage glass sight

### **Pressure Rating:**

• Pressure applications up to 125 PSI (862 kPa) non-vented





NOTE: All dimensions are inches (mm)

	NVM	Series		
Part	No.			
Gravity Vented Sight	Pressure Non-Vented Sight	Feeds	L1 inches (mm)	L2 inches (mm)
NVM102-002	NVM102-102	2	2.09 (53.09)	4.19 (106.43)
NVM102-003	NVM102-103	3	2.09 (53.09)	4.94 (125.48)
NVM102-004	NVM102-104	4	2.84 (72.14)	5.69 (144.53)
NVM102-005	NVM102-105	5	2.84 (72.14)	6.44 (163.58)
NVM102-006	NVM102-106	6	3.59 (91.19)	7.19 (182.63)
NVM102-008	NVM102-108	8	4.34 (110.24)	8.69 (220.73)



MODIFICATIONS AVAILABLE MADE TO ORDER - CONSULT OUR FACTORY (MINIMUM ORDER MAY BE REQUIRED)

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### TMF SERIES

The TMF Series is designed for extremely precise control of hydraulic and pneumatic actuators. Provides metered flow in one direction and free flow in the reverse direction.

#### **Standard Features:**

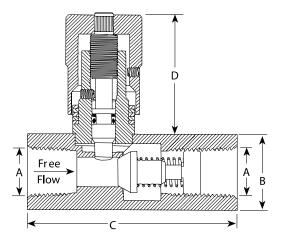
- Easy-to-read color bands and micrometer knobs for exact flow settings
- Re-set repeatability within 1%
- Precision-machined Double-Step stem with fine threading provides accurate control, even at extremely low flows
- Rugged, all metal construction-no plastic parts
- Bleed holes in piston provide a cushion to soften closing impact and extend valve life
- Brazed construction to withstand high pressure
- Set screw provided to secure valve setting
- Steel valves are zinc-plated AND sealed with black chromate for double corrosion protection
- <sup>20</sup> x 45° double-step stem taper
- 40 threads/inch stem pitch

### **Standard Materials:**

- Body Steel
- Piston seal Metal
- Piston, piston retainer, spring and stem, Stainless Steel
- Knob & color bands Anodized Aluminum
- · Set screw Steel
- Stem packing Viton O-Ring with Teflon backup

### **Temperature and Pressure Ratings:**

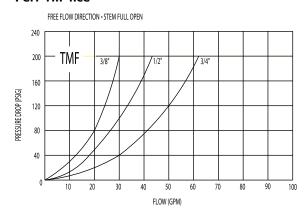
- Maximum operating pressure 5000 PSI (34474 kPa)
- Temperature range: -20°F to +400°F (-28°C to 204 °C)
- Cracking Pressure (Check valve): 2 PSI (14 kPa)

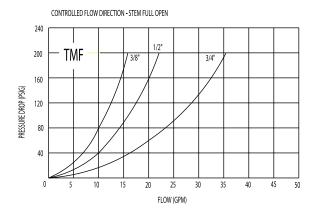




### Perf<sup>o</sup>rm<sup>a</sup>nce

920-682-6877 920-684-7210





	TMF Series (dimensions in inches)								
P <sup>a</sup> rt N <sup>o</sup> .	B <sup>o</sup> dy M <sup>a</sup> teri <sup>a</sup> l	Pist <sup>o</sup> n Se <sup>a</sup> l	A NPT Fem <sup>a</sup> le	B Squ <sup>a</sup> re (inch)	С	D Max	Orifice Di <sup>a</sup> meter	CV Free-fl <sup>o</sup> w Directi <sup>o</sup> n	CV Controlled Flow Direction
TMF <sup>375</sup> S	Steel	Metal	3/8	1.00	2,75	1,72	.22	2,95	.72
TMF <sup>500</sup> S	Steel	Metal	1/2	1,12	3,44	2,25	.31	4.50	1,07
TMF750S	Steel	Metal	3/4	1,50	3,88	2,47	.38	5.41	1,71



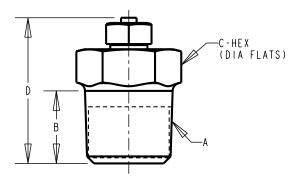
## PRESSURE/VACUUM RELIEF VENTS

### **PRV100 SERIES**

Dual purpose relief or filler vent plugs can be used for gear box housings and bearings where excessive pressures are not desirable. Unit will reseat itself for continuous duty.

#### **Standard Material:**

Plated steel



PRV100 Series					
Part No.	A PTF	B inches (mm)	C inches (mm)	D inches (mm)	
PRV101-(x)	1/8	.31 (7.87)	.44 (11.18)	.59 (14.99)	
PRV102-(x)	1/4	.50 (12.70)	.62 (15.75)	1.12 (28.45)	
PRV103-(x)	3/8	.50 (12.70)	.75 (19.05)	1.19 (30.23)	
PRV104-(x)	1/2	.62 (15.75)	.88 (22.35)	1.38 (35.05)	



When ordering, select catalog number followed by suffix number for the relief pressure - (x).

#### **EXAMPLE:**

PRV104-4 — 15 to 25 PSI (103 to 172 kPa) relief pressure 1/2-14 PTF

Suffix	-1	-2	-3	-4	-5
	PSI	PSI	PSI	PSI	PSI
	(kPa)	(kPa)	(kPa)	(kPa)	(kPa)
Min.	.25	1	7.50	15	45
	(1.7)	(6.9)	(51.7)	(103.4)	(310.3)
Max.	1	5	15	25	80
	(6.9)	(34.5)	(103.4)	(172.4)	(551.6)

### **PRV200 SERIES**

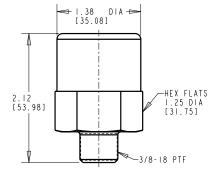
The PRV200 Series relief vents provide protection from excessive pressure buildup and from potential collapse caused by a vacuum condition forming in their installed applications. These valves are designed to exchange air between the interior of the reservoir and the outside atmosphere.

### **Standard Feature:**

-3/8 inch PTF stud end

### **Standard Materials:**

- 20 micron bronze filter
- Steel body
- Aluminum cap
- Buna N seals



**NOTE:** All dimensions are inches (mm)



PRV200 Series					
Part No.	PSI (kPa)	Vacuum inches Hg (mm Hg)			
PRV201-03	3.0 - 6.0 (20.7 - 41.4)	2.0 - 3.0 (50.8 - 76.2)			
PRV201-13	6.0 - 12.0 (41.4 - 82.7)	28.0 - 30.0 (711.0 - 762.0)			
PRV201-30	0.4 - 0.9 (2.8 - 6.2)	20.0 - 25.0 (508.0 - 635.0)			

NOTE: Modifications are available

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.



## SAMPLING VALVE

## **V101 SERIES**

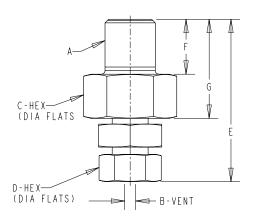
The V101 Series Sampling Valve is used to bleed excessive air pressure out of system or to sample liquid in system to view condition and clarity. A locknut prevents the screw from backing out of base in high vibration situations.

### **Standard Materials:**

- Brass construction
- Stainless Steel ball seated in brass

### **Operating Conditions:**

• For pressures up to 6000 PSI (41370 kPa)





V101 Series								
Part No.	A NPTF	B inches (mm)	C inches (mm)	D inches (mm)	E inches (mm)	F inches (mm)	G inches (mm)	Features
V101	1/8	.076 (1.93)	.56 (14.22)	.38 (9.65)	1.19 (30.23)	.38 (9.65)	.69 (17.53)	With Locknut

### **G100 SERIES**

The G100 Series vented brass oil gage has a male elbow base for direct side mounting. The viewing window has 360° adjustment for optimal orientation to view fluid after installation. The sealing gaskets are contained on both their ID and OD to facilitate trouble-free assembly after on-site repositioning of the viewing window.

### **Standard Features:**

- •.50 inch SQ base for G51-1 and G52-1
- •.69 inch SQ base for G100 gages
- Male tapered pipe thread base connection (1/8, 1/4 or 3/8 inch NPTF)
- .31 inch wide viewing window on G51-1 and G52-1, length of .79 and 1.79 inches respectively
- .39 inch wide viewing window on G100 gages, length varies from .83 to 5.33 inches depending on gage selected
- 360° adjustment of viewing window
- Suitable for use with most machine lubricating oils

### **Standard Materials:**

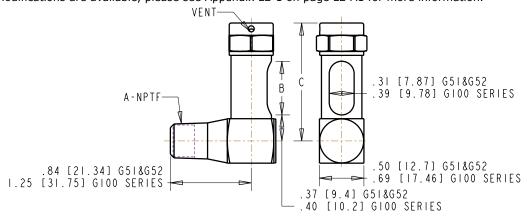
- Brass construction
- Buna N seals
- Borosilicate glass sight

### **Temperature Rating:**

 Maximum operating temperature of 250°F (121°C) with standard Buna N seals. For applications not compatible with Buna N seal material, consult factory for available options and corresponding temperature ratings.

### Note:

- When installing oil gage in a confined space, disassemble base from oil gage to allow the individual base to be installed separately to the reservoir. Once base is in position and secure, reassemble the loose oil gage components to the base.
- Oil Gage Modifications are available, please see Appendix LE-1 on page LE-A1 for more information.



NOTE: All dimensions are inches [mm]

	G100 Series					
Part No.	A NPTF	B inches (mm)	C inches (mm)			
G51-1	1/8	.79 (20.07)	1.61 (40.89)			
G52-1	1/8	1.79 (45.47)	2.61 (66.29)			
G101-2	1/4	.83 (21.08)	1.82 (46.23)			
G101-3	3/8	.83 (21.08)	1.82 (46.23)			
G102-1	1/8	1.33 (33.78)	2.32 (58.93)			
G102-2	1/4	1.33 (33.78)	2.32 (58.93)			
G102-3	3/8	1.33 (33.78)	2.32 (58.93)			
G103-1	1/8	1.83 (46.48)	2.82 (71.63)			
G103-2	1/4	1.83 (46.48)	2.82 (71.63)			
G103-3	3/8	1.83 (46.48)	2.82 (71.63)			

G100 Series						
Part No.	A NPTF	B inches (mm)	C inches (mm)			
G104-2	1/4	2.33 (59.18)	3.32 (84.33)			
G104-3	3/8	2.33 (59.18)	3.32 (84.33)			
G105-1	1/8	2.83 (71.88)	3.82 (97.03)			
G105-2	1/4	2.83 (71.88)	3.82 (97.03)			
G105-3	3/8	2.83 (71.88)	3.82 (97.03)			
G106-2	1/4	3.33 (84.58)	4.32 (109.73)			
G106-3	3/8	3.33 (84.58)	4.32 (109.73)			
G107-2	1/4	4.33 (109.98)	5.32 (135.13)			
G107-3	3/8	4.33 (109.98)	5.32 (135.13)			
G108-2	1/4	5.33 (135.38)	6.32 (160.53)			
G108-3	3/8	5.33 (135.38)	6.32 (160.53)			



### **GT100 SERIES**

The GT100 Series vented brass oil gage has a male elbow base and integral, wetted dial thermometer providing direct reading of the fluid temperature. The viewing window has 360° adjustment for optimal orientation to view fluid after installation. The sealing gaskets are contained on both their ID and OD to facilitate trouble-free assembly after on-site repositioning of the viewing window.

### **Standard Features:**

- .88 inch SQ base
- Male tapered pipe thread base connection (1/4, 3/8, 1/2 or 3/4 inch NPTF)
- .39 inch wide viewing window, length varies from 1.33 to 7.33 inches depending on gage selected
- 1.38 inch diameter dual scale dial thermometer, 50° to 300°F and 10° to 150°C
- 360° adjustment of viewing window
- Suitable for use with most machine lubricating oils

#### **Standard Materials:**

- Brass construction
- Buna N seals
- Borosilicate glass sight

### **Temperature Rating:**

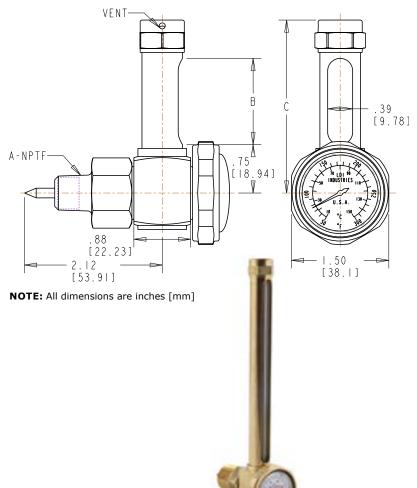
 Maximum operating temperature of 250°F (121°C) with standard Buna N seals. For applications not compatible with Buna N seal material, consult factory for available options and corresponding temperature ratings.

#### **Notes:**

- When installing oil gage in a confined space, disassemble the base subassembly from the rest of the oil gage. The base subassembly consists of the pipe adapter, base and thermometer. Install the base subassembly separately to the reservoir. Once base subassembly is in position and secure, reassemble the loose oil gage components to the base.
- Oil Gage Modifications are available, please see Appendix LE-1 on page LE-A1 for more information.

#### Caution:

Reservoir must be drained to remove dial thermometer or loss of fluid will occur.



GT100 Series					
Part No.	A NPTF	B inches (mm)	C inches (mm)		
GT102-2	1/4	1.33 (33.78)	2.66 (67.56)		
GT102-3	3/8	1.33 (33.78)	2.66 (67.56)		
GT103-2	1/4	1.83 (46.48)	3.16 (80.26)		
GT105-2	1/4	2.83 (71.88)	4.16 (105.66)		
GT105-3	3/8	2.83 (71.88)	4.16 (105.66)		
GT105-4	1/2	2.83 (71.88)	4.16 (105.66)		
GT107-4	1/2	4.33 (109.98)	5.66 (143.76)		
GT108-2	1/4	5.33 (135.38)	6.66 (169.16)		
GT108-4	1/2	5.33 (135.38)	6.66 (169.16)		
GT108-5	3/4	5.33 (135.38)	6.66 (169.16)		
GT109-5	3/4	7.33 (186.18)	8.66 (219.96)		



## **GTW100 SERIES**

The GTW100 Series vented brass oil gage has a male elbow base with integral dial thermometer. The viewing window has 360° adjustment during installation for optimal orientation to view fluid during installation. The dry dial thermometer is self-contained within a thermowell for monitoring fluid temperature. This construction allows the thermometer face to be rotated after gage installation for optimal viewing position. The sealing gaskets are contained on both their ID and OD to facilitate trouble-free assembly after on-site repositioning of the viewing window.

#### **Standard Features:**

- .88 inch SQ base
- Male tapered pipe thread base connection (3/8 or 1/2 inch NPTF)
- -.39 inch wide viewing window, length varies from 1.83 to 5.33 inches depending on gage selected
- 360° adjustment of viewing window
- 1.38" diameter dual scale dial thermometer, 50° to 300°F and 10° to 150°C
- Dial thermometer may be rotated or removed from gage without loss of fluid
- Suitable for use with most machine lubricating oils

### **Standard Materials:**

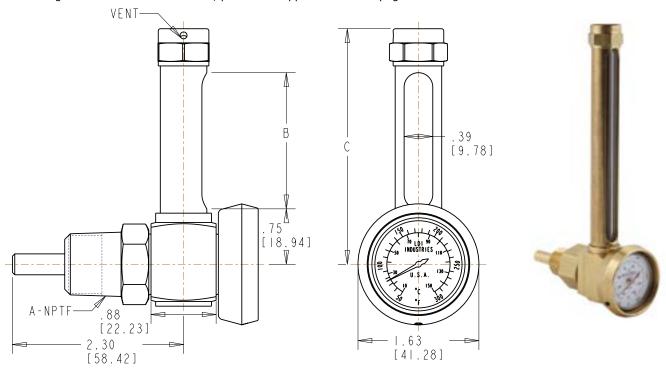
- Brass construction
- Buna N seals
- Borosilicate glass sight

### Temperature Rating:

 Maximum operating temperature of 250°F (121°C) with standard Buna N seals. For applications not compatible with Buna N seal material, consult factory for available options and corresponding temperature ratings.

#### Notes:

- When installing oil gage in a confined space, disassemble the base subassembly from the rest of the oil gage. The base subassembly consists of the pipe adapter, base and thermometer. Install the base subassembly separately to the reservoir. Once base subassembly is in position and secure, reassemble the loose oil gage components to the
- Oil Gage Modifications are available, please see Appendix LE-1 on page LE-A1 for more information.



**NOTE:** All dimensions are inches [mm]

GTW100 Series					
Part No.	A NPTF	B inches (mm)	C inches (mm)		
GTW103-4	1/2	1.83 (46.48)	3.16 (80.26)		
GTW107-3	3/8	4.33 (109.98)	5.66 (143.76)		
GTW108-4	1/2	5.33 (135.38)	6.66 (169.16)		

### G150 SERIES

The G150 Series vented oil gage has a long male elbow base for direct side mounting. The viewing window has 360° adjustment for optimal orientation to view fluid after installation. The sealing gaskets are contained on both their ID and OD to facilitate trouble-free assembly after on-site repositioning of the viewing window.

### **Standard Features:**

- .69 inch SQ base
- Male tapered pipe thread base connection (1/8, 1/4 or 3/8 inch NPTF)
- .39 inch wide viewing window, length varies from 1.33 to 4.33 inches depending on gage selected
- 360° adjustment of viewing window
- Suitable for use with most machine lubricating oils

### Standard Materials:

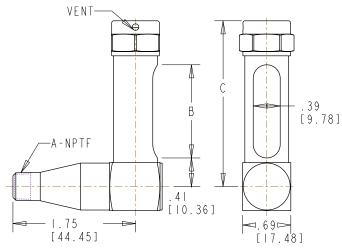
- Brass construction
- Buna N seals
- Borosilicate glass sight

### Temperature Rating:

 Maximum operating temperature of 250°F (121°C) with standard Buna N seals. For applications not compatible with Buna N seal material, consult factory for available options and corresponding temperature ratings

### **Notes:**

- When installing oil gage in a confined space, disassemble base from oil gage to allow the individual base to be installed separately to the reservoir. Once base is in position and secure, reassemble the loose oil gage components to the base.
- Oil Gage Modifications are available, please see Appendix LE-1 on page LE-A1 for more information.



NOTE: All dimensions are inches [mm]



G150 Series						
Part No.	A NPTF	B inches (mm)	C inches (mm)			
G152-1	1/8	1.33 (33.78)	2.32 (58.93)			
G152-2	1/4	1.33 (33.78)	2.32 (58.93)			
G152-3	3/8	1.33 (33.78)	2.32 (58.93)			
G153-1	1/8	1.83 (46.48)	2.82 (71.63)			
G153-2	1/4	1.83 (46.48)	2.82 (71.63)			
G153-3	3/8	1.83 (46.48)	2.82 (71.63)			
G154-2	1/4	2.33 (59.18)	3.32 (84.33)			
G155-1	1/8	2.83 (71.88)	3.82 (97.03)			
G155-2	1/4	2.83 (71.88)	3.82 (97.03)			
G155-3	3/8	2.83 (71.88)	3.82 (97.03)			
G156-1	1/8	3.33 (84.58)	4.32 (109.73)			
G156-2	1/4	3.33 (84.58)	4.32 (109.73)			
G156-3	3/8	3.33 (84.58)	4.32 (109.73)			
G157-2	1/4	4.33 (109.98)	5.32 (135.13)			
G157-3	3/8	4.33 (109.98)	5.32 (135.13)			

### **GTW150 SERIES**

The GTW150 Series vented brass oil gage has a male elbow base with integral dial thermometer. The viewing window has 360° adjustment during installation for optimal orientation to view fluid during installation. The dry dial thermometer is self-contained within a thermowell for monitoring fluid temperature. This construction allows the thermometer face to be rotated after gage installation for optimal viewing position. The sealing gaskets are contained on both their ID and OD to facilitate trouble-free assembly after on-site repositioning of the viewing window.

### **Standard Features:**

- .88 inch SQ base
- Male tapered pipe thread base connection (1/4, 1/2 or 3/4 inch NPTF)
- .39 inch wide viewing window, length varies from 1.33 to 7.33 inches depending on gage selected
- 360° adjustment of viewing window
- 1.81 inch diameter dual scale dial thermometer, 0° to 300°F and -20° to 150°C
- Dial thermometer may be rotated or removed from gage without loss of fluid
- Suitable for use with most machine lubricating oils

### **Standard Materials:**

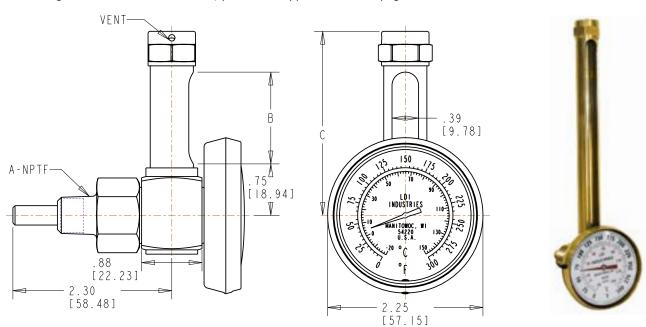
- Brass construction
- Buna N seals
- Borosilicate glass sight

### **Temperature Rating:**

 Maximum operating temperature of 250°F (121°C) with standard Buna N seals. For applications not compatible with Buna N seal material, consult factory for available options and corresponding temperature ratings.

#### **Notes:**

• Oil Gage Modifications are available, please see Appendix LE-1 on page LE-A1 for more information.



NOTE: All dimensions are inches [mm]

GTW150 Series					
Part No.	A NPTF	B inches (mm)	C inches (mm)		
GTW152-2	1/4	1.33 (33.78)	2.66 (67.56)		
GTW154-2	1/4	2.33 (59.18)	3.66 (92.96)		
GTW157-4	1/2	4.33 (109.98)	5.66 (143.76)		
GTW158-4	1/2	5.33 (135.38)	6.66 (169.16)		
GTW159-5	3/4	7.33 (186.19)	8.66 (219.96)		



### **G200 SERIES**

The G200 Series vented brass oil gage has a male elbow base for direct side mounting. The viewing window has 360° adjustment for optimal orientation to view fluid after installation. The sealing gaskets are contained on both their ID and OD to facilitate trouble-free assembly after on-site repositioning of the viewing window.

### **Standard Features:**

- .88 inch SQ base
- Male tapered pipe thread base connection (3/8 or 1/2 inch NPTF)
- .53 inch wide viewing window, length varies from 4.33 to 12.58 inches depending on gage selected
- 360° adjustment of viewing window
- Suitable for use with most machine lubricating oils

### **Standard Materials:**

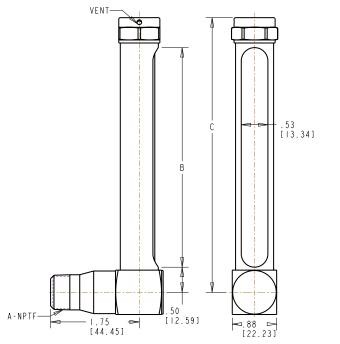
- Brass construction
- Buna N seals
- Borosilicate glass sight

### **Temperature Rating:**

 Maximum operating temperature of 250°F (121°C) with standard Buna N seals. For applications not compatible with Buna N seal material, consult factory for available options and corresponding temperature ratings.

### **Notes:**

- When installing oil gage in a confined space, disassemble base from oil gage to allow the individual base to be installed separately to the reservoir. Once base is in position and secure, reassemble the loose oil gage components to the base.
- Oil Gage Modifications are available, please see Appendix LE-1 on page LE-A1 for more information.





NOTE: All dimensions are inches [mm]

G200 Series					
Part No.	A NPTF	B inches (mm)	C inches (mm)		
G211-3	3/8	4.33 (109.98)	5.42 (137.67)		
G211-4	1/2	4.33 (109.98)	5.42 (137.67)		
G213-3	3/8	7.58 (192.53)	8.67 (220.22)		
G213-4	1/2	7.58 (192.53)	8.67 (220.22)		
G214-4	1/2	9.58 (243.33)	10.67 (271.02)		
G215-3	3/8	12.58 (319.53)	13.67 (347.22)		
G215-4	1/2	12.58 (319.53)	13.67 (347.22)		

### **G260 SERIES**

The G260 Series vented oil gage has a long male elbow base for direct side mounting. The viewing window has 360° adjustment for optimal orientation to view fluid after installation. The sealing gaskets are contained on both their ID and OD to facilitate trouble-free assembly after on-site repositioning of the viewing window.

### **Standard Features:**

- .88 inch SQ base
- Male tapered pipe thread base connection (3/8 or 1/2 inch NPTF)
- .53 inch wide viewing window, length varies from 4.33 to 12.58 inches depending on gage selected
- 360° adjustment of viewing window
- Suitable for use with most machine lubricating oils

### **Standard Materials:**

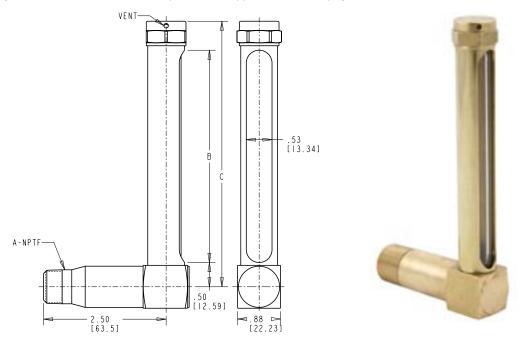
- Brass construction
- Buna N seals
- Borosilicate glass sight

### **Temperature Rating:**

 Maximum operating temperature of 250°F (121°C) with standard Buna N seals. For applications not compatible with Buna N seal material, consult factory for available options and corresponding temperature ratings.

### **Notes:**

- When installing oil gage in a confined space, disassemble base from oil gage to allow the individual base to be installed separately to the reservoir. Once base is in position and secure, reassemble the loose oil gage components to the base.
- Oil Gage Modifications are available, please see Appendix LE-1 on page LE-A1 for more information.



NOTE: All dimensions are inches [mm]

	G260 Series							
Part No.	A NPTF	B inches (mm)	C inches (mm)					
G261-3	3/8	4.33 (109.98)	5.42 (137.67)					
G261-4	1/2	4.33 (109.98)	5.42 (137.67)					
G262-4	1/2	5.58 (141.73)	6.67 (169.42)					
G263-3	3/8	7.58 (192.53)	8.67 (220.22)					
G263-4	1/2	7.58 (192.53)	8.67 (220.22)					
G265-3	3/8	12.58 (319.53)	13.67 (347.22)					
G265-4	1/2	12.58 (319.53)	13.67 (347.22)					



### **G300 SERIES**

The G300 Series vented brass oil gage has a straight hex base with male pipe thread. A shield with machined viewing window surrounds the tubular glass sight. The viewing window has 360° adjustment for optimal orientation to view fluid after installation. The sealing gaskets are contained on both their ID and OD to facilitate trouble-free assembly after on-site repositioning of the viewing window.

### **Standard Features:**

- Gage base machined from brass hex bar stock
- Male tapered pipe thread base connection (1/8, 1/4 or 3/8 inch NPTF)
- .39 inch wide viewing window, length varies from 1.79 to 7.33 inches depending on gage selected
- 360° adjustment of viewing window
- · Suitable for use with most machine lubricating oils

### **Standard Materials:**

- Brass construction
- Buna N seals
- Borosilicate glass sight

### **Temperature Rating:**

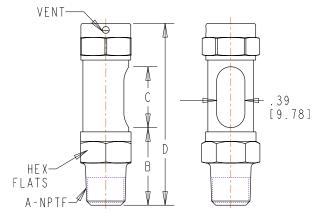
 Maximum operating temperature of 250°F (121°C) with standard Buna N seals. For applications not compatible with Buna N seal material, consult factory for available options and corresponding temperature ratings.

### Note:

• Oil Gage Modifications are available, please see Appendix LE-1 on page LE-A1 for more information.

	G300 Series						
Part No.	A NPTF	B inches (mm)	C inches (mm)	D inches (mm)	HEX FLATS		
G62-1	1/8	.79 (20.07)	1.79 (45.47)	3.06 (77.72)	.50 (12.70)		
G301-2	1/4	1.06 (26.87)	.83 (21.08)	2.48 (62.99)	.69 (17.53)		
G302-1	1/8	.87 (22.10)	1.33 (33.78)	2.29 (58.17)	.69 (17.53)		
G302-2	1/4	1.06 (26.87)	1.33 (33.78)	2.98 (75.69)	.69 (17.53)		
G302-3	3/8	1.06 (26.87)	1.33 (33.78)	2.98 (75.69)	.69 (17.53)		
G303-1	1/8	.87 (22.10)	1.83 (46.48)	3.29 (83.57)	.69 (17.53)		
G303-2	1/4	1.06 (26.87)	1.83 (46.48)	3.48 (88.39)	.69 (17.53)		
G303-3	3/8	1.06 (26.87)	1.83 (46.48)	3.48 (88.39)	.69 (17.53)		
G304-2	1/4	1.06 (26.87)	2.33 (59.18)	3.98 (101.09)	.69 (17.53)		
G304-3	3/8	1.06 (26.87)	2.33 (59.18)	3.98 (101.09)	.69 (17.53)		





NOTE: All dimensions are inches [mm]

	G	300 Seri	es (cont	d)	
Part No.	A NPTF	B inches (mm)	C inches (mm)	D inches (mm)	HEX FLATS
G305-2	1/4	1.06 (26.87)	2.83 (71.88)	4.48 (113.79)	.69 (17.53)
G305-3	3/8	1.06 (26.87)	2.83 (71.88)	4.48 (113.79)	.69 (17.53)
G306-2	1/4	1.06 (26.87)	3.33 (84.58)	4.98 (126.49)	.69 (17.53)
G306-3	3/8	1.06 (26.87)	3.33 (84.58)	4.98 (126.49)	.69 (17.53)
G307-1	1/8	.87 (22.10)	4.33 (109.98)	5.79 (147.07)	.69 (17.53)
G307-2	1/4	1.06 (26.87)	4.33 (109.98)	5.98 (151.89)	.69 (17.53)
G307-3	3/8	1.06 (26.87)	4.33 (109.98)	5.98 (151.89)	.69 (17.53)
G308-2	1/4	1.06 (26.87)	5.33 (135.38)	6.98 (177.29)	.69 (17.53)
G308-3	3/8	1.06 (26.87)	5.33 (135.38)	6.98 (177.29)	.69 (17.53)
G309-2	1/4	1.06 (26.87)	7.33 (186.18)	8.98 (228.09)	.69 (17.53)
G309-3	3/8	1.06 (26.87)	7.33 (186.18)	8.98 (228.09)	.69 (17.53)





### **G320 SERIES**

The G320 Series vented brass oil gage has a large straight hex base with male pipe thread. A shield with machined viewing window surrounds the tubular glass sight. The viewing window has 360° adjustment for optimal orientation to view fluid after installation. The sealing gaskets are contained on both their ID and OD to facilitate trouble-free assembly after on-site repositioning of the viewing window.

### **Standard Features:**

- Gage base machined from brass hex bar stock
- Male tapered pipe thread base connection (3/8, 1/2 or 3/4 inch NPTF)
- .53 inch wide viewing window, length varies from 4.33 to 12.58 inches depending on gage selected
- 360° adjustment of viewing window
- Suitable for use with most machine lubricating oil

### **Standard Materials:**

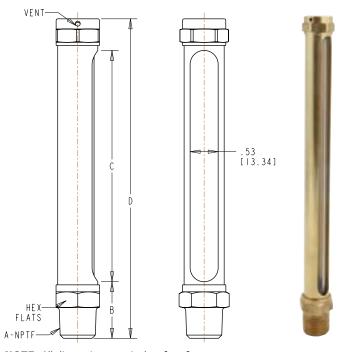
- Brass construction
- Buna N seals
- Borosilicate glass sight

### **Temperature Rating:**

 Maximum operating temperature of 250°F (121°C) with standard Buna N seals. For applications not compatible with Buna N seal material, consult factory for available options and corresponding temperature ratings.

### Note:

• Oil Gage Modifications are available, please see Appendix LE-1 on page LE-A1 for more information.



**NOTE:** All dimensions are inches [mm]

		G320	Series		
Part No.	A NPTF	B inches (mm)	C inches (mm)	D inches (mm)	HEX FLATS
G321-3	3/8	1.16 (29.46)	4.33 (109.98)	6.00 (152.40)	.81 (20.57)
G321-4	1/2	1.35 (34.29)	4.33 (109.98)	6.19 (157.23)	.94 (23.88)
G322-3	3/8	1.16 (29.46)	5.58 (141.73)	7.25 (184.14)	.81 (20.57)
G322-4	1/2	1.35 (34.29)	5.58 (141.73)	7.44 (188.98)	.94 (23.88)
G322-5	3/4	1.35 (34.29)	5.58 (141.73)	7.44 (188.98)	1.06 (26.92)
G323-2	1/4	1.16 (29.46)	7.58 (192.53)	9.25 (234.95)	.81 (20.57)
G323-4	1/2	1.35 (34.29)	7.58 (192.53)	9.44 (239.78)	.94 (23.88)
G324-2	1/4	1.16 (29.46)	9.58 (243.33)	11.25 (285.75)	.81 (20.57)
G324-3	3/8	1.16 (29.46)	9.58 (243.33)	11.25 (285.75)	.81 (20.57)
G324-4	1/2	1.35 (34.29)	9.58 (243.33)	11.44 (290.58)	.94 (23.88)
G325-3	3/8	1.16 (29.46)	12.58 (319.53)	14.25 (361.95)	.81 (20.57)
G325-4	1/2	1.35 (34.29)	12.58 (319.53)	14.44 (366.78)	.94 (23.88)

### **G400 SERIES**

The G400 Series vented brass oil gage has a female elbow base. A shield with machined viewing window surrounds the tubular glass sight. The viewing window has 360° adjustment for optimal orientation to view fluid after installation. The sealing gaskets are contained on both their ID and OD to facilitate trouble-free assembly after onsite repositioning of the viewing window.

### **Standard Features:**

- .88 inch SQ base machined from brass bar stock
- Female tapered pipe thread base connection (1/8, 1/4 or 3/8 inch NPTF)
- .39 inch wide viewing window, length varies from .83 to 5.33 inches depending on gage selected
- 360° adjustment of viewing window
- Suitable for use with most machine lubricating oils

#### **Standard Materials:**

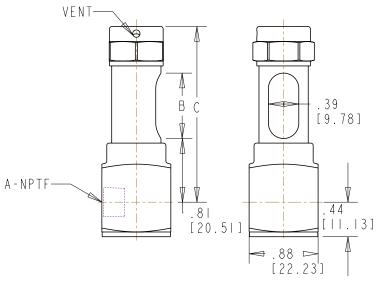
- Brass construction
- Buna N seals
- Borosilicate glass sight

### Temperature Rating:

 Maximum operating temperature of 250°F (121°C) with standard Buna N seals. For applications not compatible with Buna N seal material, consult factory for available options and corresponding temperature ratings.

### **Notes:**

- When installing oil gage in a confined space, disassemble base from oil gage to allow the individual base to be installed separately to the reservoir. Once base is in position and secure, reassemble the loose oil gage components to the base.
- Oil Gage Modifications are available, please see Appendix LE-1 on page LE-A1 for more information.



NOTE: All dimensions are inches [mm]



G400 Series						
Part No.	A NPTF	B inches (mm)	C inches (mm)			
G401-1	1/8	.83 (21.08)	2.23 (56.72)			
G402-1	1/8	1.33 (33.78)	2.73 (69.42)			
G402-2	1/4	1.33 (33.78)	2.73 (69.42)			
G402-3	3/8	1.33 (33.78)	2.73 (69.42)			
G403-1	1/8	1.83 (46.48)	3.23 (82.12)			
G403-2	1/4	1.83 (46.48)	3.23 (82.12)			
G403-3	3/8	1.83 (46.48)	3.23 (82.12)			
G404-2	1/4	2.33 (59.18)	3.73 (94.82)			
G405-1	1/8	2.83 (71.88)	4.23 (107.52)			
G405-2	1/4	2.83 (71.88)	4.23 (107.52)			
G405-3	3/8	2.83 (71.88)	4.23 (107.52)			
G406-2	1/4	3.33 (84.58)	4.73 (120.22)			
G407-2	1/4	4.33 (109.98)	5.73 (145.62)			
G408-2	1/4	5.33 (135.38)	6.73 (171.02)			





### **G420 SERIES**

The G420 Series vented brass oil gage has a female elbow base. A shield with machined viewing window surrounds the tubular glass sight. The viewing window has 360° adjustment for optimal orientation to view fluid after installation. The sealing gaskets are contained on both their ID and OD to facilitate trouble-free assembly after onsite repositioning of the viewing window.

### **Standard Features:**

- •1.00 inch SQ base machined from brass bar stock
- Female tapered pipe thread base connection (3/8 or 1/2 inch NPTF)
- .53 inch wide viewing window, length varies from 4.33 to 12.58 inches depending on gage selected
- 360° adjustment of viewing window
- · Suitable for use with most machine lubricating oils

### **Standard Materials:**

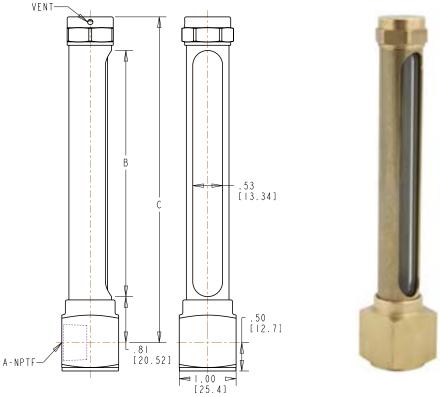
- Brass construction
- Buna N seals
- Borosilicate glass sight

### Temperature Rating:

 Maximum operating temperature of 250°F (121°C) with standard Buna N seals. For applications not compatible with Buna N seal material, consult factory for available options and corresponding temperature ratings.

### Note:

- When installing oil gage in a confined space, disassemble base from oil gage to allow the individual base to be installed separately to the reservoir. Once base is in position and secure, reassemble the loose oil gage components to the base.
- Oil Gage Modifications are available, please see Appendix LE-1 on page LE-A1 for more information.



NOTE: All dimensions are inches [mm]

	G420	Series					
B C A inches inches Part No. NPTF (mm) (mm)							
G421-3	3/8	4.33 (109.98)	5.73 (145.62)				
G421-4	1/2	4.33 (109.98)	5.73 (145.62)				
G423-3	3/8	7.58 (192.53)	8.98 (228.17)				
G423-4	1/2	7.58 (192.53)	8.98 (228.17)				
G425-4	1/2	12.58 (319.53)	13.98 (355.09)				



### **G650 SERIES**

The G650 Series vented oil gage utilizes an adapter union fitting to connect the base of the oil gage to the reservoir. This construction offers advantages when installing oil gages in confined spaces by not requiring disassembly of the gage base. The viewing window and shield do not rotate during installation of the oil gage. The viewing window still has 360° adjustment for optimal orientation to view fluid after installation. The sealing gaskets are contained on both their ID and OD to facilitate trouble-free assembly after on-site repositioning of the viewing window.

#### Standard Features:

- .69 inch SQ base
- Adapter union fitting between reservoir and gage hase
- Reservoir thread connections of 1/8, 1/4 or 3/8 inch NPTF
- .39 inch wide viewing window, length varies from 1.33 to 7.33 inches depending on gage selected
- 360° adjustment of viewing window
- Suitable for use with most machine lubricating oils

#### **Standard Materials:**

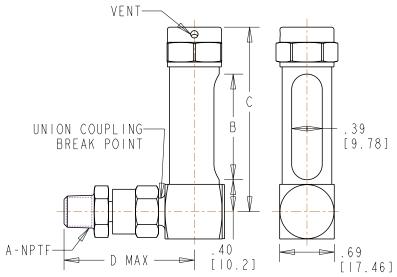
- Brass construction
- Buna N seals
- · Borosilicate glass sight

### **Temperature Rating:**

 Maximum operating temperature of 250°F (121°C) with standard Buna N seals. For applications not compatible with Buna N seal material, consult factory for available options and corresponding temperature ratings.

### Note:

• Oil Gage Modifications are available, please see Appendix LE-1 on page LE-A1 for more information.





NOTE: All dimensions are inches [mm]

	G650 Series							
Part No.	A NPTF	B inches (mm)	C inches (mm)	D inches (mm)				
G652-1	1/8	1.33 (33.78)	2.32 (58.93)	1.68 (42.67)				
G652-2	1/4	1.33 (33.78)	2.32 (58.93)	2.17 (55.12)				
G652-3	3/8	1.33 (33.78)	2.32 (58.93)	2.25 (57.15)				
G653-1	1/8	1.83 (46.48)	2.82 (71.63)	1.68 (42.67)				
G653-2	1/4	1.83 (46.48)	2.82 (71.63)	2.17 (55.12)				
G653-3	3/8	1.83 (46.48)	2.82 (71.63)	2.25 (57.15)				
G654-1	1/8	2.33 (59.18)	3.32 (84.33)	1.68 (42.67)				
G654-2	1/4	2.33 (59.18)	3.32 (84.33)	2.17 (55.12)				
G654-3	3/8	2.33 (59.18)	3.32 (84.33)	2.25 (57.15)				

G650 Series						
Part No.	A NPTF	B inches (mm)	C inches (mm)	D inches (mm)		
G655-1	1/8	2.83 (71.88)	3.82 (97.03)	1.68 (42.67)		
G655-2	1/4	2.83 (71.88)	3.82 (97.03)	2.17 (55.12)		
G655-3	3/8	2.83 (71.88)	3.82 (97.03)	2.25 (57.15)		
G656-2	1/4	3.33 (84.58)	4.32 (109.73)	2.17 (55.12)		
G656-3	3/8	3.33 (84.58)	4.32 (109.73)	2.25 (57.15)		
G657-2	1/4	4.33 (109.98)	5.32 (135.13)	2.17 (55.12)		
G658-2	1/4	5.33 (135.38)	6.32 (160.53)	2.17 (55.12)		
G658-3	3/8	5.33 (135.38)	6.32 (160.53)	2.25 (57.15)		
G659-2	1/4	7.33 (186.18)	8.32 (211.33)	2.17 (55.12)		
G659-3	3/8	7.33 (186.18)	8.32 (211.33)	2.25 (57.15)		

### **G710 SERIES**

The G710 Series vented oil gage utilizes an adapter union fitting to connect the base of the oil gage to the reservoir. This construction offers advantages when installing oil gages in confined spaces by not requiring disassembly of the gage base. The viewing window and shield do not rotate during installation of the oil gage. The viewing window still has 360° adjustment for optimal orientation to view fluid after installation. The sealing gaskets are contained on both their ID and OD to facilitate trouble-free assembly after on-site repositioning of the viewing window.

#### **Standard Features:**

- .88 inch SQ base
- Adapter union fitting between reservoir and gage base
- .53 inch wide viewing window, length varies from 4.33 to 12.58 inches depending on gage selected
- 360° adjustment of viewing window
- · Suitable for use with most machine lubricating oils

#### **Standard Materials:**

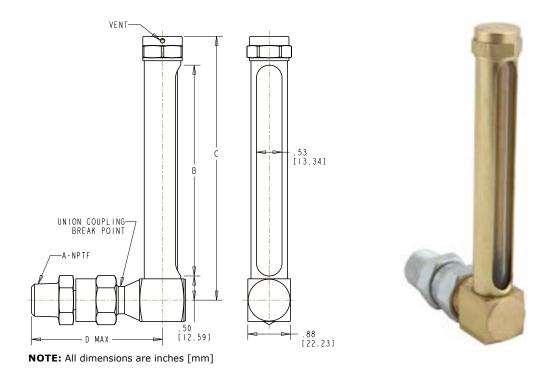
- Brass construction
- Buna N seals
- · Borosilicate glass sight

### **Temperature Rating:**

 Maximum operating temperature of 250°F (121°C) with standard Buna N seals. For applications not compatible with Buna N seal material, consult factory for available options and corresponding temperature ratings.

### Note:

• Oil Gage Modifications are available, please see Appendix LE-1 on page LE-A1 for more information.



G710 Series						
Part No.	A NPTF	B inches (mm)	C inches (mm)	D inches (mm)		
G711-3	3/8	4.33 (109.98)	5.42 (137.67)	2.69 (68.33)		
G711-4	1/2	4.33 (109.98)	5.42 (137.67)	2.79 (70.87)		
G713-3	3/8	7.58 (192.53)	8.67 (220.22)	2.69 (68.33)		
G713-4	1/2	7.58 (192.53)	8.67 (220.22)	2.79 (70.87)		
G715-3	3/8	12.58 (319.53)	13.67 (347.22)	2.69 (68.33)		
G715-4	1/2	12.58 (319.53)	13.67 (347.22)	2.79 (70.87)		

### **G800 SERIES**

The G800 Series vented brass oil gage has a male elbow base with integral drain. Flow through the drain is controlled by a needle valve in the gage base. The viewing window has 360° adjustment for optimal orientation to view fluid after installation. The sealing gaskets are contained on both their ID and OD to facilitate trouble-free assembly after on-site repositioning of the viewing window.

### **Standard Features:**

- .69 inch SQ base
- Male tapered pipe thread base connection (1/8, 1/4 or 3/8 inch NPTF)
- Designed for removal of base to facilitate gage installation in a confined space
- Drain with needle valve control
- .39 inch wide viewing window, length varies from 1.33 to 5.33 inches depending on gage selected
- 360° adjustment of viewing window
- · Suitable for use with most machine lubricating oils

### **Standard Materials:**

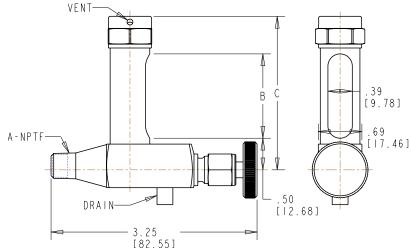
- Brass construction
- Buna N seals
- Borosilicate glass sight

### **Temperature Rating:**

 Maximum operating temperature of 250°F (121°C) with standard Buna N seals. For applications not compatible with Buna N seal material, consult factory for available options and corresponding temperature ratings.

#### Note:

- When installing oil gage in a confined space, disassemble the base needle valve subassembly from the rest of the oil gage. Install the base subassembly separately to the reservoir. Once base subassembly is in position and secure, reassemble the loose oil gage components to the base.
- Oil Gage Modifications are available, please see Appendix LE-1 on page LE-A1 for more information.



**NOTE:** All dimensions are inches [mm]



	G800 Series						
Part No.	A NPTF	B inches (mm)	C inches (mm)				
G802-1	1/8	1.33 (33.78)	2.42 (61.47)				
G802-2	1/4	1.33 (33.78)	2.42 (61.47)				
G802-3	3/8	1.33 (33.78)	2.42 (61.47)				
G803-1	1/8	1.83 (46.48)	2.92 (74.17)				
G803-2	1/4	1.83 (46.48)	2.92 (74.17)				
G804-2	1/4	2.33 (59.18)	3.42 (86.87)				
G805-1	1/8	2.83 (71.88)	3.92 (99.57)				
G805-2	1/4	2.83 (71.88)	3.92 (99.57)				
G805-3	3/8	2.83 (71.88)	3.92 (99.57)				
G806-2	1/4	3.33 (84.58)	4.42 (112.27)				
G806-3	3/8	3.33 (84.58)	4.42 (112.27)				
G807-2	1/4	4.33 (109.98)	5.42 (137.67)				
G807-3	3/8	4.33 (109.98)	5.42 (137.67)				
G808-3	3/8	5.33 (135.38)	6.42 (163.07)				

### **G900 SERIES**

The G900 Series vented brass oil gage with male elbow base with integral drain. Flow through the drain is controlled by a needle valve in the gage base. Thread options include 3/8 or 1/2 NPTF threads. The viewing window has 360° adjustment for optimal orientation to view fluid after installation. The sealing gaskets are contained on both their ID and OD to facilitate trouble-free assembly after on-site repositioning of the viewing window.

### **Standard Features:**

- .88 inch SQ base
- Male tapered pipe thread base connection (3/8 or 1/2 inch NPTF)
- Designed for removal of base to facilitate gage installation in a confined space
- Drain with needle valve control
- .53 inch wide viewing window, length varies from 4.33 to 12.58 inches depending on gage selected
- 360° adjustment of viewing window
- · Suitable for use with most machine lubricating oils

### **Standard Materials:**

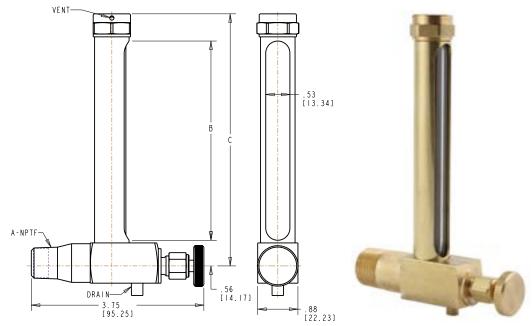
- Brass construction
- Buna N seals
- Borosilicate glass sight

### **Temperature Rating:**

 Maximum operating temperature of 250°F (121°C) with standard Buna N seals. For applications not compatible with Buna N seal material, consult factory for available options and corresponding temperature ratings.

#### Notes:

- When installing oil gage in a confined space, disassemble the base needle valve subassembly from the rest of the oil gage. Install the base subassembly separately to the reservoir. Once base subassembly is in position and secure, reassemble the loose oil gage components to the base.
- Oil Gage Modifications are available, please see Appendix LE-1 on page LE-A1 for more information.



NOTE: All dimensions are inches [mm]

<b>G900 Series</b>								
Part No.	B C A inches inches Part No. NPTF (mm) (mm)							
G901-3	3/8	4.33 (109.98)	5.48 (139.19)					
G901-4	1/2	4.33 (109.98)	5.48 (139.19)					
G903-3	3/8	7.58 (192.53)	8.73 (221.74)					
G903-4	1/2	7.58 (192.53)	8.73 (221.74)					
G905-3	3/8	12.58 (319.53)	13.73 (348.74)					
G905-4	1/2	12.58 (319.53)	13.73 (348.74)					

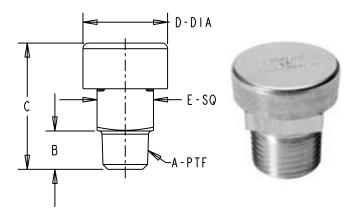
## **VENTS & BREATHERS**

### **AV100 SERIES**

The AV100 Series of protected vents features a labyrinth air path that restricts direct entry of dirt and moisture.

### **Standard Material:**

Aluminum construction



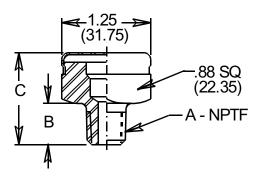
AV100 Series							
Part No.	B C D E A inches inches inches inches Part No. PTF (mm) (mm) (mm)						
AV101	1/8	.33 (8.38)	1.12 (28.45)	.75 (19.05)	.50 (12.70)		
AV102	1/4	.50 (12.70)	1.19 (30.23)	.75 (19.05)	.56 (14.22)		
AV103	3/8	.51 (12.95)	1.25 (31.75)	1.00 (25.40)	.69 (17.53)		
AV104	1/2	.66 (16.76)	1.31 (33.27)	1.25 (31.75)	.88 (22.35)		
AV105	3/4	.66 (16.76)	1.50 (38.10)	1.50 (38.10)	1.12 (28.45)		

### **AV200 SERIES**

The AV200 Series of high flow vents features a large flow area with a low profile and tamper proof cap.

### **Standard Materials:**

- Steel construction
- Zinc plated



NOTE: All dimensions are inches (mm)



AV200 Series						
Part No.	A NPTF	B inches (mm)	C inches (mm)			
AV201	1/8	.38 (9.65)	1.08 (27.43)			
AV202	1/4	.56 (14.22)	1.26 (32.00)			
AV203	3/8	.56 (14.22)	1.26 (32.00)			
AV204	1/2	.75 (19.05)	1.45 (36.83)			

AV200 Series currently made to order. (Minimum order may be required)

### **ORDERING OPTIONS:**

No suffix = Full Flow.

-B Baffle

-F Felt filter (SAE F10 material)

-S Screen (100 mesh Stainless Steel)

### **HOW TO ORDER**

**EXAMPLE:** 

AV204-S Optional screen (100 mesh Stainless Steel)
AV204 Series

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.



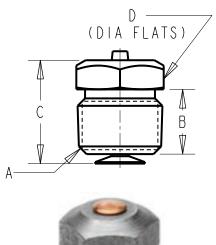
## **VENTS & BREATHERS**

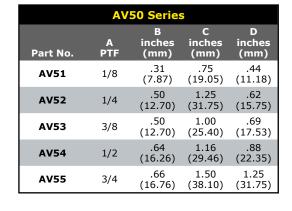
### **AV50 SERIES**

The AV50 Series of baffle vents are used to vent gear cases, transmission housings and speed reducers.

### **Standard Materials:**

- Steel body
- Copper baffle



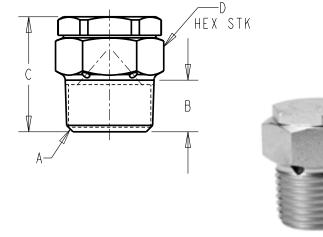


## **FV100 SERIES**

The FV100 Series of filter vents features a 40 micron filter element which is easily removable for cleaning.

### **Standard Materials:**

- Steel zinc plated construction
- Optional 10 micron filter element is available



FV100 Series						
Part No.	A PTF	B inches (mm)	C inches (mm)	D inches (mm)		
FV101-S	1/8	.31 (7.87)	1.06 (26.92)	.75 (19.05)		
FV102-S	1/4	.50 (12.70)	1.19 (30.23)	.75 (19.05)		
FV103-S	3/8	.50 (12.70)	1.03 (26.16)	.75 (19.05)		
FV104-S	1/2	.62 (15.75)	1.21 (30.73)	.94 (23.88)		
FV105-S	3/4	.62 (15.75)	1.37 (34.80)	1.12 (28.45)		
FV106-S	1	.81 (20.57)	1.56 (39.62)	1.38 (35.05)		

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.



## **APPENDIX LE-1**

### **OIL GAGE MODIFICATIONS**

Modifications are specified below. Standard shield threads are 5/8-27 or 3/4-27. Minimum order quantity may be required.

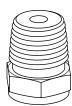
### **TOP CAP with MALE PIPE**

NPTF (dryseal)

**-1MP** = 1/8 inch **-2MP** = 1/4 inch

**-3MP** = 3/8 inch

**-4MP** = 1/2 inch



### **TOP CAP, NON VENTED**

-1NV

Up to 100 PSI



## TOP CAP with FEMALE PIPE

NPTF (dryseal)
-1FP = 1/8 inch

**-2FP** = 1/4 inch

-3FP = 3/8 inch



# 40 MICRON FILTER VENT -FV

Available for both diameter sizes



## TOP CAP with COMPRESSION FITTING STRAIGHT TUBE

O.D. TUBE

**-1T** = 1/8 inch

-3T = 1/4 inch

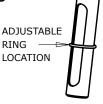


## ADJUSTABLE BRASS RING(S) FLUID LEVEL INDICATORS

TOP CAP with REPLACEABLE

-1RNG = One ring

-2RNG = Two rings



## TOP CAP with COMPRESSION FITTING 90° TUBE

O.D. TUBE

**-3TA** = 1/4 inch

-4TA = 5/16 inch



## SEAL MATERIALS OTHER THAN BUNA N (STANDARD)

**-2BU** = Butyl

**-4EP** = Ethylene Propylene

-3VI = Viton A®

-5SI = Silicone

## TOP CAP with SNAP LID FILLER

-1FC



## TOP CAP with THREADED FILLER

-2FC



## SIGHT MATERIALS OTHER THAN GAGE GLASS (STANDARD)

Minimum order quantity may be required

**-1PC** = Polycarbonate

# METAL GAGE PARTS OTHER THAN BRASS (STANDARD)

Minimum order quantity may be required

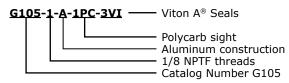
-A = Aluminum

### **HOW TO ORDER LDI INDUSTRIES OIL GAGES WITH MODIFICATIONS**

Specify the catalog number and pipe thread of the gage required. Then simply choose the modifications you need using the order code shown above, separating each with a dash.

If you need a modification not included above ask us about it! We will be happy to quote from your sketch or specifications.

### EXAMPLE:



Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.



## APPENDIX LE-2

## **INSTALLATION INSTRUCTIONS - PMP100-() AIR OPERATED**

- 1. Prior to mounting the **PMP100**:, install the 1/8-27 NPT(F) outlet fittings (S) at the bottom of each metering pump while holding the 1/2" HEX outlet adapters(S) with a wrench.
- 2.To greatly shorten the "self priming" time of the PMP100, pre-fill the liquid inlet (SEE DIAGRAM) and supply lines prior to operation. Connect an LDI "R" SERIES VENTED RESERVOIR from 1 oz. to 1 gal., sized to hold enough fluid to meet your servicing schedule. DO NOT DISASSEMBLE THE PMP100 AS DAMAGE TO THE PUMP COULD RESULT.
- 3. Mounting the PMP100(S) and connecting the fluid supply: the clear window at the top of each metering pump is offered as a means to visually verify that the lube cycles are taking place. The PMP100 will operate in any position and can be located above or below the reservoir.

**NOTE:** If the reservoir is to be remotely mounted from the PMP100, it is recommended to use a minimum of 1/4" I.D. tube as a supply line. Location should provide protection from spilled liquids, dirt, physical damage, vibration and temperatures below or 32°F above 110°F.

## DO NOT USE ANY PRESSURIZED RESERVOIRS, REGARDLESS OF FLUID OR GREASE.

4. Connecting the air circuits and electrical to the PMP100(S): a filtered and regulated air supply (15 TO 125 PSI) is to be connected to the inlet of the 3-Way Air Solenoid Valve (LDI P/N 823160, 120V/60Hz) and it's outlet connected to the air inlet of the PMP100(S). The solenoid leads are to be connected to either an existing P.L.C. or the basic adjustable repeat cycle timer

NOTE: Some "grease" applications may require an optional timer (LDI P/N 833380, 120V/60Hz). The timer lead should be connected to a fused & grounded electrical supply (usually to the control voltage of the machinery to be lubricated). The cycle timer will begin to cycle upon start up.

- 5. Adjusting the lube cycle interval and individual volume control output(s):
  Begin by setting the "off" time between cycles at an interval that seems to be
  reasonable to suit the overall application. Adjust each PMP100 outlet(s) to meet
  the proper individual application requirement as needed. The adjustment of cycle
  times and the individual output volumes will offer a wide range of flexibility to
  meet most application requirement.
  - Each outlet will dispense up to .012 cu .in. per cycle at full setting and is adjustable downward to zero (0) volume output.
  - **-DO NOT PLUG OFF ANY OUTLET LINES**. Simply adjust any unused outlets by turning the knurled adjusting ring clockwise to the zero (0) output setting, or remove the unused pump(s).

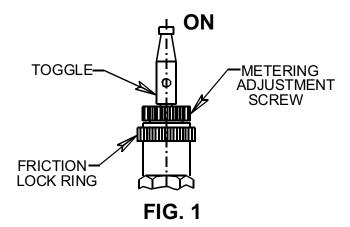
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## TOGGLE VALVE ADJUSTMENT INSTRUCTIONS

### **MINIMUM LIFT CONDITION - FIG. 1**

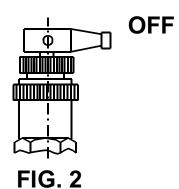
- 1. Loosen friction lock-ring
- 2. Raise toggle to "on" position and turn metering adjustment screw in until toggle and screw just clear each other.
- 3. The toggle is now in a no lift condition. Fluid will not flow since the port will not be open.
- 4. Gradually start turning metering adjustment screw out with the toggle in the "on" positions, and at the same time observe drip rate at the nozzle.
- 5. When proper drip rate is established, hold metering adjustment screw in place and turn down friction lock-ring to lock setting.
- 6. To stop flow, flip toggle to "off" position.
- 7. To start flow, raise toggle to "on" position. Drip rate, as previously set is retained.



Set until light can be seen between mating surfaces or until a slight free wiggle of toggle can be felt.

### **MAXIMUM LIFT CONDITION - FIG. 2**

- 1. Loosen friction lock-ring.
- 2. Flip toggle to "off" position and turn metering adjustment screw out until toggle and metering adjustment screw just clear each other.
- 3. Do not turn metering adjustment screw beyond this point. Doing so will lift valve stem off of the seat, allowing uncontrolled flow of fluid and no shut-ff.
- 4. Raise toggle to "on" position and observe drip rate at the nozzle.
- 5. If flow is too great, turn metering adjustment screw in until desired drip rate is reached, hold metering adjustment screw in place and turn down friction lock-ring to lock setting.
- 6. To stop flow, flip toggle to "off" position.
- 7. To start flow, raise toggle to "on" position. Drip rate, as previously set is retained.



Toggle valves are normally shipped with toggle in "off" position but with some lift when raised to "on" position. This setting may not be required. Please check and adjust the setting to your specific needs.

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