

# Lubrication Pumps



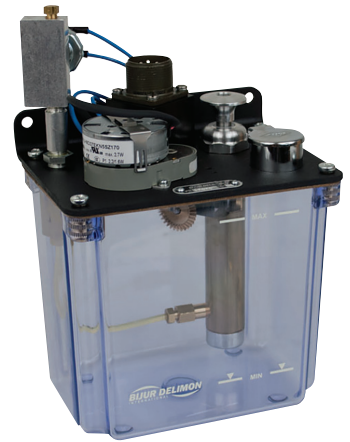
## Application

TM-1 Lubricators are used with single line resistance type centralized lubricating systems. These systems utilize cyclic delivery meter units to proportion oil discharged from the lubricator.

## Operation

Lubricator is a motor-driven, spring discharge piston pump. The motor incorporates a gear reduction which determines the operating cycle time of the pump piston. Available cycle times are shown in the table below.

Cycle Time - 115 VAC		Cycle Time - 230 VAC	
50 Hz	60 Hz	50 Hz	60 Hz
145 min	120 min	145 min	120 min
72 min	60 min	72 min	60 min
15 min	12.5 min	15 min	12.5 min
7.5 min	6.25 min	9 min	7.5 min
Cycle Time - 115/230 VAC		Cycle Time - 110/120 VAC	
2 min	1.7 min	6 min	5 min



## Technical Data

Reservoir Capacity	1 pint (475 cc) 1 liter
Lubricator Inlet Filter	40 micron particle separation
Discharge Pressure	20-50 psi
Factory Discharge Setting	1.0cc
Discharge Volume Per Cycle*	0.2cc to 1.0cc adjustable
Viscosity range	150 to 8,000 SSU (35-1750 cSt) at operating temperature

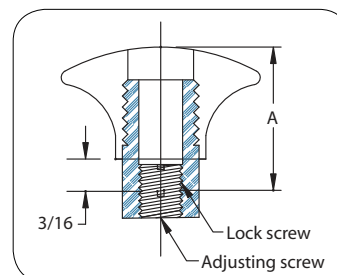
## Notes Regarding Use

- Lubricator inlet filter should be inspected periodically and cleaned/replaced as required.
- Discharge pressure will decrease as the number of meter units in the system increases.

### \*Discharge Volume Per Cycle

To reduce oil delivery, remove lock screw, measure "A", turn adjusting screw clockwise, increasing "A" by "B" dimension, as shown on table.

B	Discharge
0.44"	0.2cc
0.33"	0.4cc
0.22"	0.6cc
0.11"	0.8cc
0"	1.0cc



## Distribution System

Uses Type F meter units. For system ( $\emptyset$ ) limitations, see *Bijur Engineering Manual*. For system flow value ( $\emptyset T$ ) limitations, refer to table below.

Meter Units (#)	Discharge Per Cycle (cc)		
	.25	.50	1
5	95	145	240
10	65	100	170
15	55	85	140
20	45	75	115

## Motor

Continuous duty, single phase, synchronous induction timing motor for 50/60 Hz single voltage 115 and 230 VAC and dual voltage for 115/230 VAC. Power consumption is 3 watts.

	Wiring for Single Voltage Motor	Wiring for Dual Voltage Motor
115 VAC	Two red wires	Connect yellow and red, insulate black
230 VAC	Two black wires	Connect yellow and black, insulate red

*Bijur reserves the right to change motor size, mounting dimensions and/or manufacturer.*

## Liquid Level Switch

Models of this lubricator equipped with liquid level switch are listed in the *How to Order* chart on page 3. They are supplied so the switch will close an electrical circuit whenever the oil in the reservoir is **above** the minimum operating level. Thus, when connected to a light or other indicating device, the liquid level can be monitored.

Customers may reverse the operation when desired, by inverting the float. When the float is reversed, the switch will close an electrical circuit whenever the oil level is **below** the minimum operating level.

*Note: The low level switch is intended to be a reservoir low level indication device, and thus is not intended to be wired in series with the motor. Switch contact rating is 10 watts maximum (light or indicating device is not supplied by Bijur Delimon).*

Volts	Amps	
	AC	DC
0 - 50	.20	.13
120	.08	.05
240	.02	.02

## Maintenance

### Filter Replacement

A filter at pump inlet protects the lubricating system. The felt filter disc should be inspected every six months. If not clean, replace. To remove filter, pry filter cup loose in several places with a screwdriver. Remove screens and felt filter disc. Insert new filter disc in cup, then screens, so that course screen in next to pump body when installed. Reinstall assembly, making sure that it is tight and that the tip of the filter cup is about 1/16" from the shoulder on pump as shown.

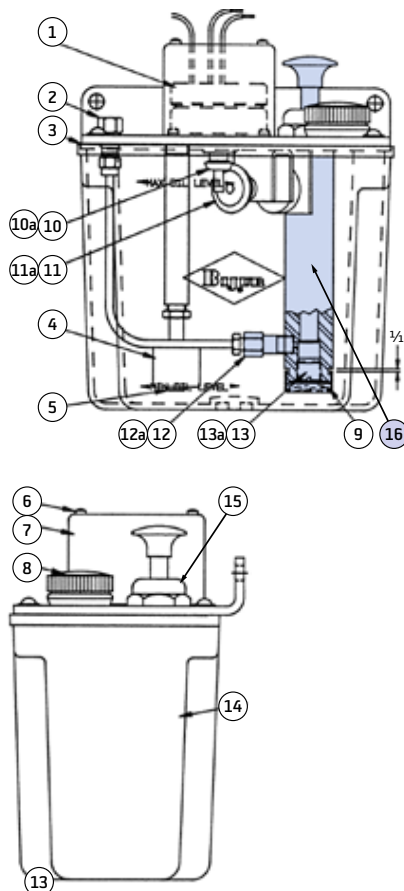
## How To Order

Volts	Cycle Time		TM-1 with 1 Pint Reservoir		TM-1 with 1 Liter Reservoir		Motor & Gear Box
	50 Hz	60 Hz	w/ Level Switch	No Level Switch	w/ Level Switch	No Level Switch	
			Part #	Part #	Part #	Part #	
115 VAC	145 min	120 min	C2889	C2731	D3087	D3107	19422-2
	72 min	60 min	C2890	C2739	D3089	D3108	19422-3
	15 min	12.5 min	C2891	C2741	D3090	D3109	19422-1
	7.5 min	6.25 min	C2896	C2803	D3095	D3115	19422-1
230 VAC	145 min	120 min	C2892	C2763	D3091	D3110	24095-2
	72 min	60 min	C2893	C2764	D3092	D3111	24095-3
	15 min	12.5 min	C2894	C2765	D3093	D3112	24095-1
	9 min	7.5 min	C2897	C2774	D3096	D3113	24095-1
115/230 VAC	2 min	1.7 min	C2895	C2798	D3094	D3114	23086
110/120 VAC	6 min	5 min	---	---	20439	---	19422-5

When ordering, specify lubricator type and part number, such as: TM-1 Lubricator, Part #C2731.

## Service Parts

Item	Part #	Description
1	Various	Electric Motor, 100/120 V
2	B3108	Thru Coupling
3	B8216	Reservoir Gasket (1 pint)
	21433	Reservoir Gasket (1 liter)
4	B8807	Float Switch Assembly (1 pint)
	B7760	Float Switch Assembly (1 liter)
5	H0402	O-ring (Float Switch)
6	HS195	Screw, Cover Mounting (x4)
7	B7827	Motor Housing
8	B9230	Fill Cap
9	S178	Filter Group
10	B7824	Bevel Gear
10a	HS209	Set Screw, Bevel Gear
11	B7823	Bevel Gear
11a	HS210	Set Screw, Bevel Gear
12	B3344	Outlet Check Valve
12a	A3844	Outlet Valve Gasket
13	B4359	Inlet Check Valve
13a	A4191	Inlet Valve Gasket
14	D3086C-KIT	Reservoir, Plastic (1 pint)
	20324-KIT*	Reservoir, Plastic (1 liter)
15	B7389	Nut
16	B7378	Pump Assembly (1 pint)
	B8827	Pump Assembly (1 liter)



### ATTENTION

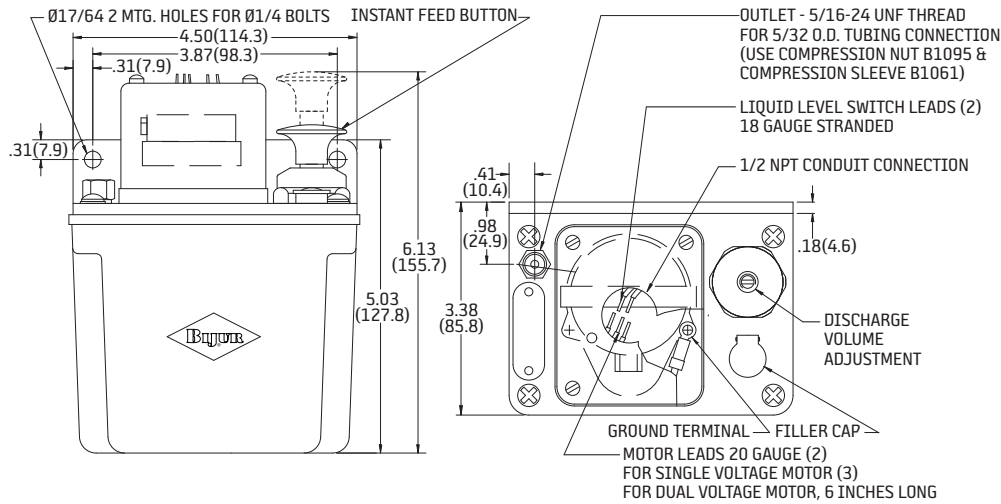
\* 1 liter reservoir (part #20324- KIT) is for model year 2003 to current.

1 liter reservoir (part #D3218- KIT) is for model year 2002 and before.

## Dimensional Schematics

Measurements shown in inches (mm).

### TM-1 with 1 Pint Reservoir



### TM-1 with 1 Liter Reservoir

