

**Applications:** A pre-lubrication & evacuation system intended for engines of 10 to 15 *ℓ* displacement or with sump capacities of 9-12 gallons. Systems are available for both 12 V and 24 V systems.

#### **Performance:** 24 V\* system

21.1 °C 15W40 Oil: 7-8 gpm @ 60-70 A depending on available engine port sizes			
0 °C 15W40 Oil: 4-5 gpm @ 80-90 A depending on available engine port sizes			
*12 V systems will draw ~90% higher motor current			
Maximum Duty Cycle (Evac operation)			
Ambient Temperature			

# **System Connections:**

- Plumbing Custom fittings are available to connect to the engine. Oil will be drawn through an oil pan port and returned to a port before the existing engine filter.
  - » Suction fitting in sump should have at least 12.7 ID (22.2 mm ORB, 12.7 mm NPT, M22) if used w/viscous oil (15W40 below 4.4 °C). If the available port is smaller, call for alternatives.
  - » Oil filter head return port should have at least 7.62 ID (9.5 mm pipe, 14.3 mm ORB, M16).
  - » Install the pressure switch into the furthest downstream port in the engine's pressurized oil system. Adapters available for most port types and sizes.
- Electrical Connect the motor to a source of power with the gauge of cables recommended on the next page. Install keyswitch and pressure switch adapter harnesses. Plug the main wiring harness into the connectors at the keyswitch harness, magswitch, pressure switch harness and control relay.

## **Motor-Pump Components and Features:**

- » Motor: Permanent Magnet DC motor. Insulated ground More reliable than case grounded motor. High efficiency reduces current draw at all conditions and allows longer motor run time.
- » Pump: Cast-iron housing with steel gears.
- » Integral Relief Valve (140 psi) and seal-protection feature prevent motor or pump damage due to excessive pump pressure.

## **Components and Features:**

- » Timer: Standard Prelub "no delay" relay timer delivers fastest possible start.
- » Wiring: Cable size & fuse prevent wire and motor damage due to excessive current.
- » Motor Switch: Rated for 100 A carry current and consumes minimal power for activation.
- » Inlet Hose: Rated for 148.9 °C oil. Will not collapse under any vacuum level.
- » Pressure Hose: Rated for 148.9 °C oil, and nearly 5 times maximum pump output pressure.
- » Check Valve: Prevents backflow of oil after engine start with minimal restriction and weight.
- » Pump Relief Valve: Standard.

# **Recommended Hardware:**

#### (Other Plumbing/ Electrical configurations are possible with RPM approval)

Maximum Suction Hose Length (For quick Prelub of typical engine sizes)

Suction Hose ID	Maximum Length
15.9 mm ID	0.6 m
22.2 mm ID	2.1 m







#### Maximum Pressure Hose Length (Limits pressure or motor current)

#### IF Suction Hose Length is $> \frac{1}{2}$ Maximum Length above,

#### THEN Use Max Permitted Ratio of Pressure Hose Length: Suction Hose Length

Suction Hose ID	Pressure Hose ID	
	12.7 mm ID	15.9 mm ID
15.9 mm ID	2.7: 1	7.5: 1
22.2 mm ID	1.5: 1	3.6: 1

# IF Suction Hose Length is < $\frac{1}{2}$ Maximum Length above, THEN Use Max Permitted Pressure Hose Length

Suction Hose ID	Maximum Length
12.7 mm ID	1.5 m
15.9 mm ID	3.7 m

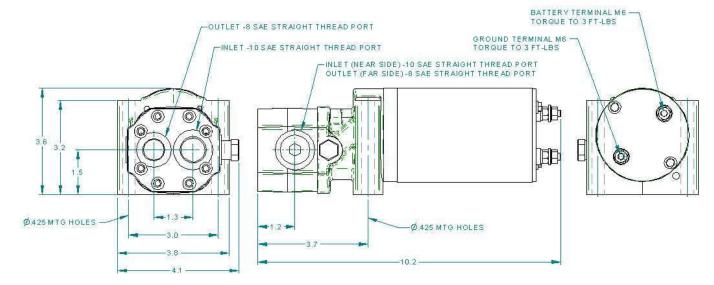
Electrical Connections (Total Length = Power Cable + Motor Cable + Ground Cable)

Wire Size	Maximum Length
8 Gauge	1270 (1/4 for 24 V)
6 Gauge	2032 (1/4 for 24 V)

Maximum resistance of all cabling is: 12 V System - 0.020 Ohm

# Motor/Pump Assembly Dimensions:

Length
Height
Width 4.1" (104 mm)
Motor/Pump Assembly Weight



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