

M34DM-3 Bio Pump



Providing Solutions Today for Tomorrows Bio Fuel Market

Webster[®]

Fuel Pumps & Valves

M34DM-3 Bio Pump

Features

To meet the needs of today's fuel-efficient, downsized and space efficient burners, Webster's M34DM-3 incorporates improved access to both the bleed valve and bypass plug. Locating the bleed port plug assembly on the side of the fuel unit provides the service technician with one visible and accessible location to either bleed the fuel unit or change the bypass plug without removing the burner.

In addition to improved access the M34DM-3 cleaner blade has been thickened to provide a more robust cleaning action. For maximum protection, an additional line filter should be used in accordance with recommended standard practice. All of the BUNA-N elastomers have been replaced with VITON to provide extended life at critical locations within the fuel unit.

The M34DM-3 retains all the industry accepted, state-of-the-art features of the M34DK-3 fuel unit. These include faster fuel cut-off, improved priming on single pipe installations. This unit can easily replace your standard M34D or A2VA residential pump.

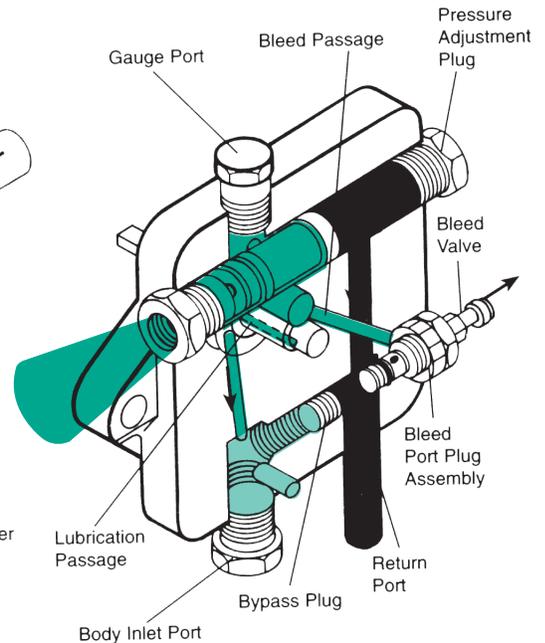
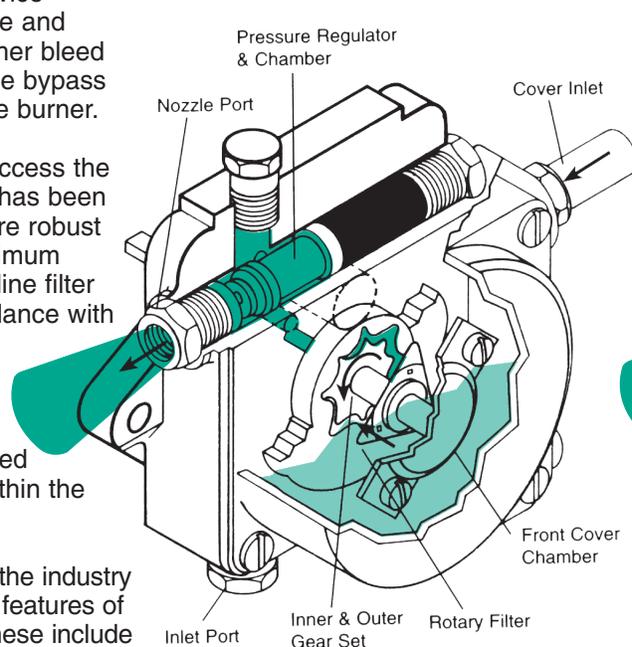
The M34DM-3 is capable of maintaining a three gallon per hour fire size at up to 150 PSI throughout its design life. The M34DM-3 is factory preset to 100 PSI and is adjustable to 150 PSI.

General Operation and Fuel Unit Oil Flow

The compact M34DM-3 Fuel Unit is engineered for efficient pumping of Bio fuel. The cut-away view illustrates the oil flow through an M34DM-3 operating in a one pipe system, with a suction line and no return to the storage tank.

A one pipe system is frequently used when the storage tank is located above the fuel unit, or when automatic venting is not necessary. Vacuum at the pump inlet should not exceed 10" Hg. For this type of installation to be reliable, the total system must be completely airtight. During installation or servicing of the fuel unit, air may be manually bled from the system through the side-located bleed valve.

- Fuel subject to vacuum
- Fuel at atomization pressure
- Fuel at return pressure



The M34DM-3 will provide up to 10" Hg of inlet vacuum. The two pipe system (shown below), with both a suction and return line is self-venting. This allows any air in the system to escape and be returned to the storage tank through the return line.

One Pipe System

Fuel enters the fuel unit through the inlet port and is drawn into the front cover chamber. A vacuum, created by an inner and outer rotating gear set, pulls oil through the rotary filter and into the gears. As oil moves around the gears, it is compressed, creating a higher pressure. Oil leaving the gear set branches into two paths. One path leads to the pressure regulating chamber. A second path directs oil to the bleed valve. Oil flowing into the pressure regulating chamber branches into two paths. Up to three gallons per hour can flow out the nozzle port, and the remaining oil by-passes the pressure regulator, returning to the front cover chamber.

Two Pipe System

The by-pass plug, inserted through the bleed valve port, blocks the surplus oil return to the front chamber. This oil is directed to the return port and back to the storage tank.

**For More Information on Bio Fuel
Go To www.biodiesel.org.**

Specifications

Firing Capacity:

Recommended to 3 GPH fire size for pressures from 100 to 150 PSI with #1, #2 fuel oil, Kerosene, or Bio Fuel B100-B5 Bio Diesel

Gear Capacity:

25 GPH @ 100-150 PSI with #1, #2 fuel oil, Kerosene, or Bio Fuel. B100-B5 Bio Diesel.

Pressure:

Factory set at 100 PSI.
Adjustable to 150 PSI.

Inlet Requirements:

10" Hg maximum vacuum (approx.
10' vertical lift - exact distance will vary with tubing diameter and length).
3 psig maximum inlet pressure.

Speed:

3450 RPM.

Rotation: (As viewed from shaft end):

Clockwise (D Style).

Porting:

- 1/8" NPTF, side located nozzle port.
- 1/8" NPTF, top located gauge port.
- 1/4" NPTF, bottom and cover located inlet ports and bottom located return port.
- Bypass plug accessible through the side located bleed port plug assembly.
- 3/8" flow through bleed valve.

Nozzle Location:

(As viewed from shaft end):
Clockwise (D Style) - Right side.

Shaft:

5/16" dia., 1.65" extension from mounting face, with keyless "D" drive.

Filter:

Self-cleaning rotary type.

Elastomers:

VITON shaft seal.
All other seals are VITON.

Mounting:

2 bolt flange - see interface dimensions.

Weight:

4 lbs., 2 oz., shipped oil-filled.

NOTE: To assure compliance with National Fire Protection Association Bulletin 31, "Installation of Oil Burning Equipment", fuel unit inlet pressure should not exceed 3 psig.

Dimensions

Dimensions in inches, () = cm

