

General Description

The Model 1740 metering pump is a hydraulically actuated tubular diaphragm design, utilizing a pre-stressed diaphragm and vertical plunger configuration. The memory of the prestressed diaphragm returns to its exact reference position on every suction stroke giving the pump exceptional accuracy, outstanding lift capabilities and minimal NPSH requirements. The ability of the diaphragm to withstand higher vacuum prevents premature diaphragm failure. The unique hydraulic system provides the industry with the simplest and most reliable design for metering pumps.

Performance

The Model 1740 offers maximum capacities from 4 gph at a maximum pressure of 3000 psig to 415 gph at a maximum pressure of 150 psig. All models may be fitted with up to four independently controlled heads.

The stroke length can be manually adjusted from 0-100% by using the micrometer control to raise or lower the internal rate setter slide. The adjustment is independent of any internal resistance or pressure, thus allowing effortless manual control. The pump is available in four stroking speeds. Repetitive accuracy is +/-1%.

The hydraulic system is open to atmosphere on every stroke for the venting of air and refill of oil by gravity. Mechanical vent or refill valves are not required. This design means less maintenance, longer life and lower cost.

Materials of Construction

The Model 1740 can be supplied with Polypropylene, Ductile Iron, Alloy 20, and 316 Stainless Steel wetted ends. All diaphragms and seals are available in Hypalon® or Viton® suited for the most severe chemical duty applications. Check valves are single cartridge type for easy maintenance. Special H₂SO₄ and H₂O₂ compatible wetted ends are also available.



Features

- Micrometer adjustment allows effortless capacity range of 0-100%
- Pre-stressed tubular diaphragm withstands higher vacuum for longer life
- Power supply - single phase or 3-phase TE or XP motor
- Built-in pressure relief valves
- Unique vent and refill design
- Single cartridge type check valves

Options

- AEI/API for electronic or pneumatic control
- Double ball checks for higher pressures
- Back pressure valve for low discharge pressure
- Automatic AC or DC motor speed control by analog input signal
- Leak detection system
- Tungsten Carbide check valves
- Splash Guards

Applications

- High pressure applications
- Slurry service
- Potable water treatment
- Industrial chemical feed
- Wastewater treatment

Technical Data

| Capacity (gph) | Maximum Pressure (psig)* | Model | Plunger Diameter** | Speed (SPM) | Motor (Hp) |
|----------------|--------------------------|--------------|--------------------|-------------|------------|
| 4.0 | 3000 | 1741-1_-9212 | 1/2 | 48 | 1-1/2 |
| 4.5 | 2500 | 1741-1_-9211 | 1/2 | 48 | 1 |
| 8.3 | 3000 | 1741-1_-9512 | 1/2 | 96 | 1-1/2 |
| 9.0 | 2400 | 1741-1_-9511 | 1/2 | 96 | 1 |
| 16.8 | 3000 | 1741-1_-9814 | 1/2 | 192 | 3 |
| 18.6 | 2250 | 1741-1_-9813 | 1/2 | 192 | 2 |
| 19.4 | 1700 | 1741-1_-9812 | 1/2 | 192 | 1-1/2 |
| 20.0 | 1100 | 1741-1_-9811 | 1/2 | 192 | 1 |
| 40.0 | 2200 | 1741-5_-9815 | 3/4 | 192 | 5 |
| 41.3 | 1600 | 1741-5_-9814 | 3/4 | 192 | 3 |
| 42.4 | 1100 | 1741-5_-9813 | 3/4 | 192 | 2 |
| 43.0 | 800 | 1741-5_-9812 | 3/4 | 192 | 1-1/2 |
| 43.5 | 550 | 1741-5_-9811 | 3/4 | 192 | 1 |
| 90.0 | 100 | 1741-2_-9815 | 1 | 192 | 5 |
| 90.0 | 800 | 1741-2_-9814 | 1 | 192 | 3 |
| 91.0 | 550 | 1741-2_-9813 | 1 | 192 | 2 |
| 92.0 | 400 | 1741-2_-9812 | 1 | 192 | 1-1/2 |
| 92.5 | 250 | 1741-2_-9811 | 1 | 192 | 1 |
| 190.0 | 575 | 1741-3_-9815 | 1-3/8 | 192 | 5 |
| 191.0 | 400 | 1741-3_-9814 | 1-3/8 | 192 | 3 |
| 193.0 | 275 | 1741-3_-9813 | 1-3/8 | 192 | 2 |
| 194.0 | 200 | 1741-3_-9812 | 1-3/8 | 192 | 1-1/2 |
| 310.0 | 250 | 1741-4_-9714 | 2 | 144 | 3 |
| 315.0 | 150 | 1741-4_-9713 | 2 | 144 | 2 |
| 410.0 | 250 | 1741-4_-9815 | 2 | 192 | 5 |
| 415.0 | 150 | 1741-4_-9814 | 2 | 192 | 3 |

Suction Lift: 16 ft. H₂O

Weight including motor: Simplex: 225 lbs., Duplex: 275 lbs.

*Polypropylene construction is available in 2" plunger diameter only.

Maximum operating pressure is 75 psig.

**All plunger sizes may be operated at all speeds listed.

Temperature of Process Fluid

| Material | Temperature Range |
|---------------|-------------------|
| Hypalon® | 32-150°F |
| Viton® | 32-180°F |
| Polypropylene | 32-120°F |

