

ECONOMICAL IN-LINE LIQUID FLOW METERS

FLMW and FLMH Series



- ✓ Direct-Reading Dual Scales
- ✓ Ranges from 0.1 to 150 GPM
- ✓ High Pressure: 3500 psi (Brass or Aluminum); 6000 psi (Stainless Steel)
- ✓ High Temperature: 116°C (240°F) Standard, 204 or 316°C (400 or 600°F) Optional
- ✓ Mounts in Any Position
- ✓ Relay Alarms and Analog Outputs Optional

The FLMW and FLMH flow meters can be installed directly in the fluid line without flow straighteners or special piping.

The spring-and-piston type assembly enables these flow meters to be mounted in any position and protects them against changes in viscosity.

The FLMW or the FLMH Series with the optional analog output (-MA) are typically used to transmit a signal proportional to the flow rate to a process controller, a PLC, a recorder, or a panel-mount display. With the -MA options the user can choose between reading a 0 to 2000 Hz square-wave pulse, a 0 to 5 Vdc analog signal, or a 2-wire 4 to 20 mA analog signal by connecting the appropriate pins.

SPECIFICATIONS

Measuring Accuracy: $\pm 2.5\%$ FS in the center third of the measuring range; $\pm 4\%$ FS over the entire scale range

Repeatability: $\pm 1\%$ FS

Flow Measuring Range:

0.4 to 550 LPM (0.1 to 150 GPM)

Max Operating Pressure:

Aluminum and Brass Monitors: 240 bar (3500 psig)

Stainless Steel Monitors: 410 bar (6000 psig) up to 116°C (240°F)

Max Operating Temperature: 116°C (240°F)

[Note: For high temperature ("HT", "UHT"), see chart on next page.]

All models shown smaller than actual size.

FLMW-1205BR-MA
5 GPM oil meter with
4 to 20 mA output

Standard Calibration Fluids:

Oil Monitors:

DTE 25 @ 43°C (110°F), 0.873 sg

Water Monitors:

Tap water @ 21°C (70°F), 1.0 sg

Maximum Particle Size:

76 microns

Relay (Optional): 1 or 2 form "C"

relays, rated 10 A @ 125 or 250 Vac or 0.25 A @ 250 Vdc

Mechanical Life:

>10⁷ cycles

Analog Output (Optional):

Supply voltage 12 to 35 Vdc, field selectable for 0 to 5 Vdc (100 W minimum load), 0 to 2000 Hz square-wave pulse or 4 to 20 mA
 $R_{max} = 50 (V_S - 12)$. V_S = supply voltage DC

FLMH-3810AL

FLMW-3405BR
5 GPM water meter

Materials of Construction (Wetted Components)

| Description | Aluminum (Not for Water) | Brass | Stainless Steel |
|---|--|--|---|
| High-pressure casing, end ports and tapered shaft | Aluminum | Brass | 304 SS |
| Seals | Buna (STD), EPR, FKM or Perfluoroelastomer | Buna (STD), EPR, FKM or Perfluoroelastomer | FKM with PTFE backup (STD) Buna, EPR or Perfluoroelastomer |
| Transfer magnet | PTFE-coated Alnico | PTFE-coated Alnico | PTFE-coated Alnico |
| Floating orifice disk | Stainless steel | Stainless steel | Stainless steel |
| All other internal parts | Stainless steel | Stainless steel | Stainless steel |

Materials of Construction (Non-Wetted Components)

| Description | Aluminum | Brass | Stainless Steel |
|--------------|-----------------------------|----------------------------|----------------------------|
| Window tube | Polycarbonate (STD), Pyrex® | Polycarbonate (STD), Pyrex | Polycarbonate (STD), Pyrex |
| Window seals | Buna (STD) | Buna (STD) | Buna (STD) |

| Port Sizes | ¼ to 1½ FNPT |
|-------------------------|---|
| Installation Dimensions | ¼ and ½ Port: 1½ OD x 168 mm (6.6") length ½ and 1.0 Port: 2½ OD x 183 mm (7.2") length 1½ and 1½ Port: 3½ OD x 257 mm (10.1") length |

Oil Flow meters

To Order

| Model No. | Max Rate LPM (GPM) | NPT Conn Size |
|--------------|--------------------------|---------------------|
| FLMH-1401(*) | 4 (1) | 1/4 |
| FLMH-1402(*) | 8 (2) | 1/4 |
| FLMH-1405(*) | 19 (5) | 1/4 |
| FLMH-1410(*) | 37 (10) | 1/4 |
| FLMH-1415(*) | 58 (15) | 1/4 |
| FLMH-3801(*) | 4 (1) | 3/8 |
| FLMH-3802(*) | 8 (2) | 3/8 |
| FLMH-3805(*) | 19 (5) | 3/8 |
| FLMH-3810(*) | 37 (10) | 3/8 |
| FLMH-3815(*) | 58 (15) | 3/8 |
| FLMH-1201(*) | 4 (1) | 1/2 |
| FLMH-1202(*) | 8 (2) | 1/2 |
| FLMH-1205(*) | 19 (5) | 1/2 |
| FLMH-1210(*) | 37 (10) | 1/2 |
| FLMH-1215(*) | 58 (15) | 1/2 |

* Indicate material: **AL** = aluminum, **standard**; **BR** = brass, **SS** = stainless steel for additional cost.

| Model No. | Max Rate LPM (GPM) | NPT Conn Size |
|--------------|--------------------------|---------------------|
| FLMH-3402(*) | 8 (2) | 3/4 |
| FLMH-3405(*) | 19 (5) | 3/4 |
| FLMH-3410(*) | 37 (10) | 3/4 |
| FLMH-3415(*) | 58 (15) | 3/4 |
| FLMH-3420(*) | 74 (20) | 3/4 |
| FLMH-3425(*) | 100 (25) | 3/4 |
| FLMH-3430(*) | 115 (30) | 3/4 |
| FLMH-3440(*) | 150 (40) | 3/4 |
| FLMH-1002(*) | 8 (2) | 1 |
| FLMH-1005(*) | 19 (5) | 1 |
| FLMH-1010(*) | 37 (10) | 1 |
| FLMH-1015(*) | 58 (15) | 1 |
| FLMH-1020(*) | 74 (20) | 1 |
| FLMH-1025(*) | 100 (25) | 1 |
| FLMH-1030(*) | 115 (30) | 1 |
| FLMH-1040(*) | 150 (40) | 1 |

* Indicate material: **AL** = aluminum, **standard**; **BR** = brass, **SS** = stainless steel for additional cost

| Model No. | Max Rate LPM (GPM) | NPT Conn Size |
|----------------|--------------------------|---------------------|
| FLMH-114025(*) | 100 (25) | 1 1/4 |
| FLMH-114050(*) | 185 (50) | 1 1/4 |
| FLMH-114075(*) | 280 (75) | 1 1/4 |
| FLMH-114100(*) | 370 (100) | 1 1/4 |
| FLMH-114150(*) | 550 (150) | 1 1/4 |
| FLMH-112025(*) | 100 (25) | 1 1/2 |
| FLMH-112050(*) | 185 (50) | 1 1/2 |
| FLMH-112075(*) | 280 (75) | 1 1/2 |
| FLMH-112100(*) | 370 (100) | 1 1/2 |
| FLMH-112150(*) | 550 (150) | 1 1/2 |

* Indicate material: **AL** = aluminum, **standard**; **BR** = brass, **SS** = stainless steel, for additional cost

Note: Minimum flow rate = 10% of maximum.

Water Flow meters

To Order

| Model No. | Max Rate LPM (GPM) | NPT Conn Size |
|--------------|--------------------------|---------------------|
| FLMW-1401(*) | 4 (1) | 1/4 |
| FLMW-1402(*) | 8 (2) | 1/4 |
| FLMW-1405(*) | 19 (5) | 1/4 |
| FLMW-1410(*) | 37 (10) | 1/4 |
| FLMW-3801(*) | 4 (1) | 3/8 |
| FLMW-3802(*) | 8 (2) | 3/8 |
| FLMW-3805(*) | 19 (5) | 3/8 |
| FLMW-3810(*) | 37 (10) | 3/8 |
| FLMW-3815(*) | 58 (15) | 3/8 |
| FLMW-1201(*) | 4 (1) | 1/2 |
| FLMW-1202(*) | 8 (2) | 1/2 |
| FLMW-1205(*) | 19 (5) | 1/2 |
| FLMW-1210(*) | 37 (10) | 1/2 |
| FLMW-1215(*) | 58 (15) | 1/2 |

* Indicate material: **BR**=brass, **standard**; **SS**=stainless steel for additional cost.

| Model No. | Max Rate LPM (GPM) | NPT Conn Size |
|--------------|--------------------------|---------------------|
| FLMW-3402(*) | 4 (2) | 3/4 |
| FLMW-3405(*) | 19 (5) | 3/4 |
| FLMW-3410(*) | 37 (10) | 3/4 |
| FLMW-3415(*) | 58 (15) | 3/4 |
| FLMW-3420(*) | 74 (20) | 3/4 |
| FLMW-3425(*) | 100 (25) | 3/4 |
| FLMW-3430(*) | 115 (30) | 3/4 |
| FLMW-3440(*) | 150 (40) | 3/4 |
| FLMW-1002(*) | 4 (2) | 1 |
| FLMW-1005(*) | 19 (5) | 1 |
| FLMW-1010(*) | 37 (10) | 1 |
| FLMW-1015(*) | 58 (15) | 1 |
| FLMW-1020(*) | 74 (20) | 1 |
| FLMW-1025(*) | 100 (25) | 1 |
| FLMW-1030(*) | 115 (30) | 1 |
| FLMW-1040(*) | 150 (40) | 1 |

* Indicate material: **BR**=brass, **standard**; **SS**=stainless steel for additional cost.

| Model No. | Max Rate LPM (GPM) | NPT Conn Size |
|----------------|--------------------------|---------------------|
| FLMW-114025(*) | 100 (25) | 1 1/4 |
| FLMW-114050(*) | 185 (50) | 1 1/4 |
| FLMW-114075(*) | 280 (75) | 1 1/4 |
| FLMW-114100(*) | 370 (100) | 1 1/4 |
| FLMW-114150(*) | 550 (150) | 1 1/4 |
| FLMW-112025(*) | 100 (25) | 1 1/2 |
| FLMW-112050(*) | 185 (50) | 1 1/2 |
| FLMW-112075(*) | 280 (75) | 1 1/2 |
| FLMW-112100(*) | 370 (100) | 1 1/2 |
| FLMW-112150(*) | 550 (150) | 1 1/2 |

* Indicate material: **BR**=brass, **standard**; **SS**=stainless steel for additional cost.

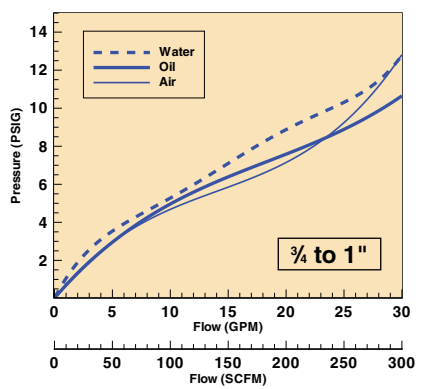
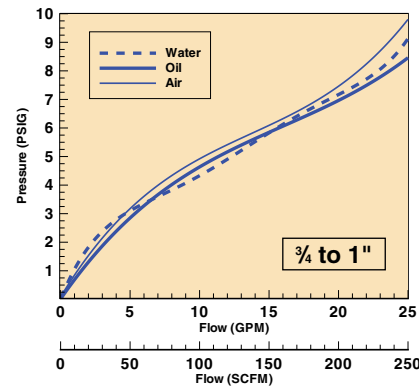
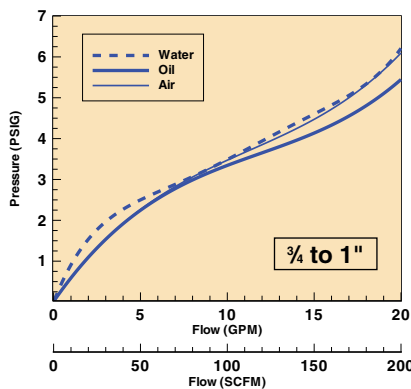
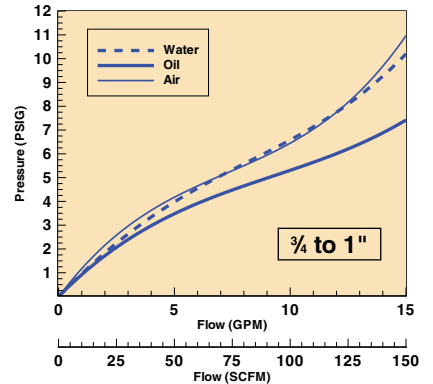
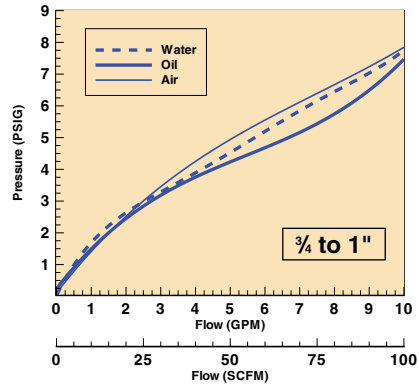
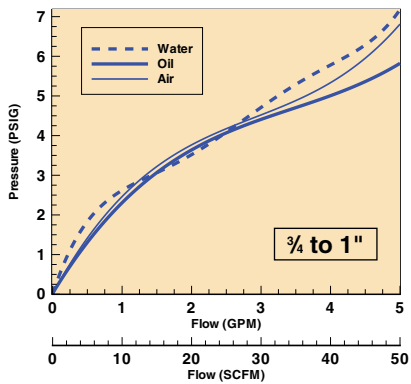
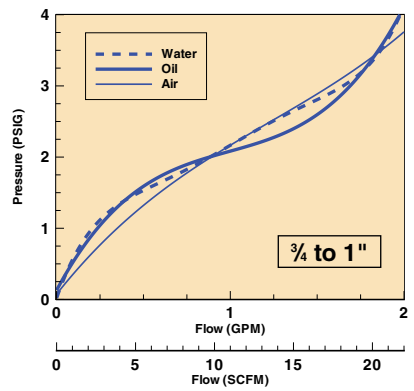
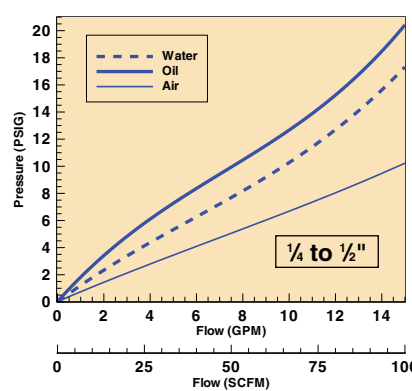
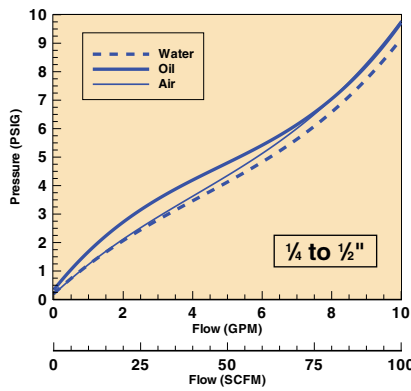
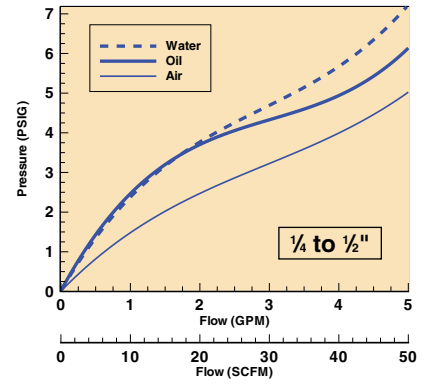
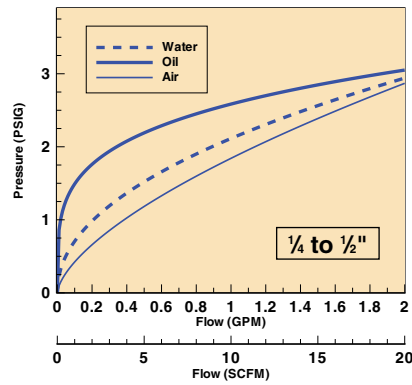
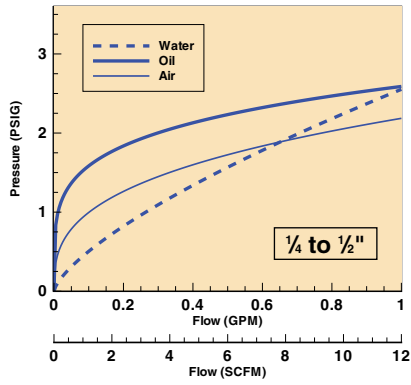
Options

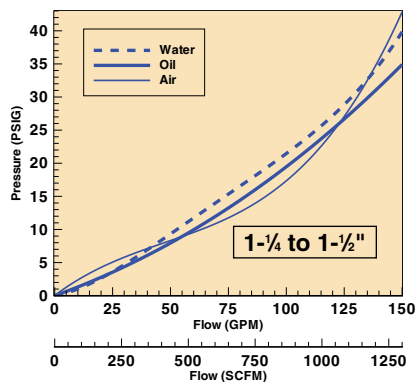
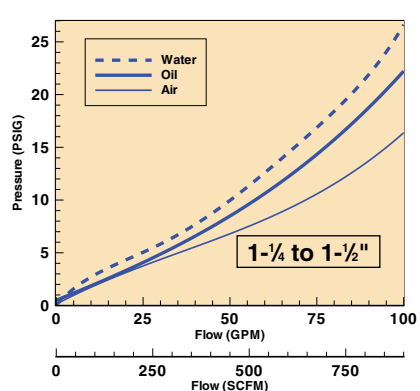
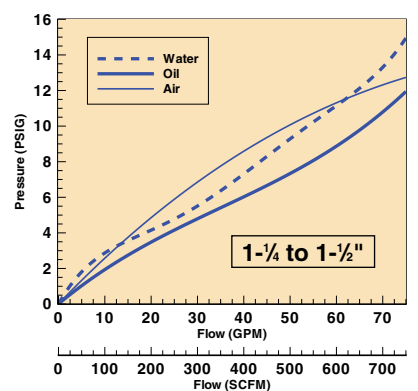
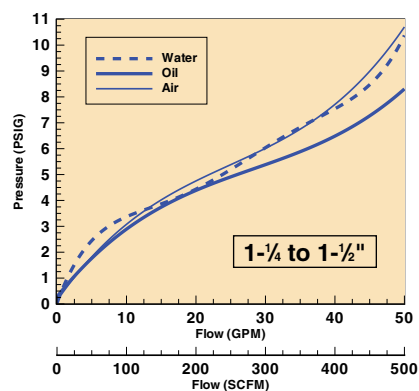
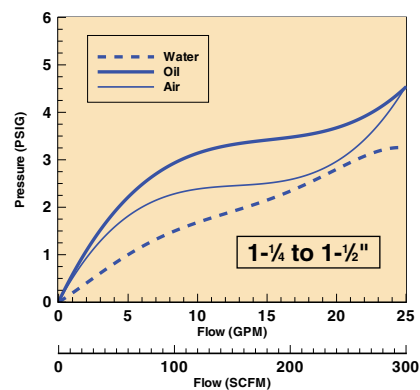
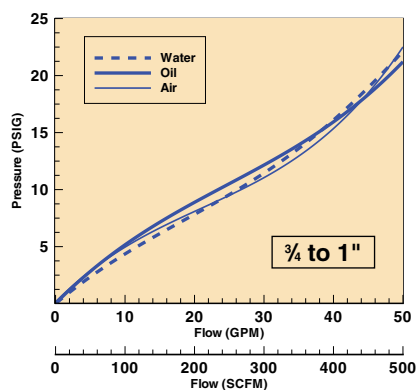
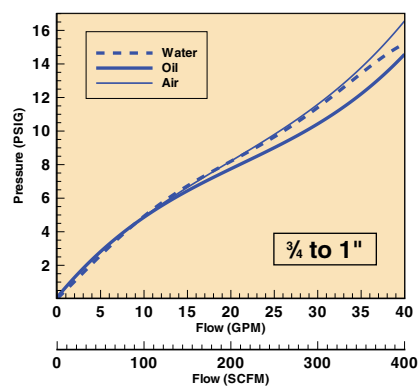
| Order Suffix | Description |
|--------------|--|
| -HT | High temperatures, 204°C (400°F) max |
| -UHT | Ultra high temperatures, 315°C (600°F) max |
| -R1 | Single SPDT relay, 10 A @ 220 Vac |
| -R2 | Dual SPDT relays, 10 A @ 220 Vac |
| -MA | 4 to 20 mA output (12 to 35 Vdc powered) |
| -BDF | Bi-directional flow (not available with 1 1/2" size units, or with UHT, R1, R2, or MA options) 1/4 to 1/2", 3/4 to 1", 1 1/4" sizes for additional cost |
| -NIST | NIST traceable certificate |

Note: Only one option may be ordered with each unit for additional cost. Options are available for additional cost.
For Bi-directional flow add "-BDF" to model number.
For BSPP threads add "-BSPP" to model number.

PRESSURE DROP GRAPHS

FLMG, FLMW, and FLMH





ULTRA HIGH TEMPERATURE UNITS

