

# 3500/6000 PSI High Temperature Flow Meters For Petroleum Fluids

- Direct reading
- Install in any position
- 360° Rotatable Guard/Scale
- Easier to Read Linear Scale
- No Flow Straighteners or Special Piping Required
- Insensitive to Shock and Vibration
- Good Viscosity Stability
- Temperature up to 500°F
- Accuracy  $\pm 2\%$  Full Scale
- Repeatability  $\pm 1\%$
- Special Scales Available
- Calibrated for .876 S.G.



## SPECIFICATIONS:

### MATERIALS:

2024 - T351 Anodized aluminum body, piston and cone

C360 Brass body, piston and cone

T303 Stainless body, 2024 - T351 Anodized aluminum piston and cone

### COMMON PARTS:

Spider Plate: T316 SS

Spring: T302 SS

Fasteners: T303 SS

Seals: Viton®

Scale Support: T316 SS

Scale: Polyimide

**Retaining Ring:** SAE 1070/1090 Carbon Steel

**Retaining Spring:** SAE 1070/1090 Carbon Steel

**Indicator:** Nickel-plated Carbon Steel

**Internal Magnet:** Teflon Coated Alnico 8

**Bumper:** 2011 - T3 Anodized Aluminum

**Guard:** Cylindrical Pyrex™ Glass

**End Caps:** 2011 - T3 Anodized Aluminum

**THREADS:** SAE J1926/1, NPTF ANSI B2.2, BSPP ISO1179, and Code 62: SAEJ518

**TEMPERATURE RANGE:** -20 to 400°F (-29 to 205°C) Continuous

400 to 500°F (205 to 260°C) Intermittent

For detailed "Pressure vs. Temperature" correlation information, see page 14.

### PRESSURE RATING:

**Aluminum / Brass Operating:** 3,500 psi/241 bar max. with a 3:1 safety factor.

**Fatigue Rating:** per NFPA T2.6.1R1-1991, (for details see page 7)

**Stainless Steel Operating:** 6,000 psi/414 bar max., (5,000 psi/345 bar max.

for 3/4 to 1-1/2" series) with a 3:1 safety factor.

**Fatigue Rating:** per NFPA T2.6.1R1-1991, (for details see page 7)

**PRESSURE DROP:** See Ordering Information Table, page 14. For detailed differential pressure charts, see page 51.

**ACCURACY:**  $\pm 2\%$  of full scale reading

**REPEATABILITY:**  $\pm 1\%$

**REVERSE FLOW BY-PASS OPTION:** Features a two-piece cone that responds to flow in the primary flow direction in the same manner as the standard design.

Flow in the reverse direction causes the lower cone shuttle to shift, moving it below the sharp-edged piston orifice, which allows the fluid to flow freely in the reverse direction.



Normal Flow Direction



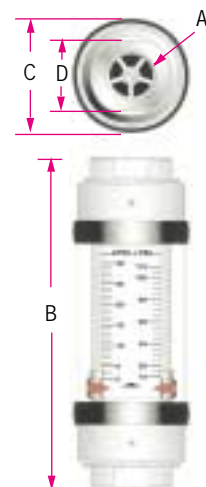
Reverse Flow By-Pass

## DIMENSIONS:

| A                 | B              | C             | D             |
|-------------------|----------------|---------------|---------------|
| NOMINAL PORT SIZE | LENGTH in (mm) | WIDTH in (mm) | FLATS in (mm) |
| 1/4 (SAE 6)       | 6.60 (168)     | 2.01 (53)     | 1.25 (32)     |
| 1/2 (SAE10)       | 6.60 (168)     | 2.01 (53)     | 1.25 (32)     |
| 3/4 (SAE 12)      | 7.20 (183)     | 2.48 (63)     | 1.50 (38)     |
| 1 (SAE 16)        | 7.20 (183)     | 2.48 (63)     | 1.50 (38)     |
| 1-1/4 (SAE 20)    | 12.20 (310)    | 4.20 (105)    | 2.75 (70)     |
| 1-1/2 (SAE 24)    | 12.20 (310)    | 4.20 (105)    | 2.75 (70)     |

**NOTE:** Dimensions for 1-1/2" Code 62 can be found on page 50.

Weights for all sizes can be found on page 57.

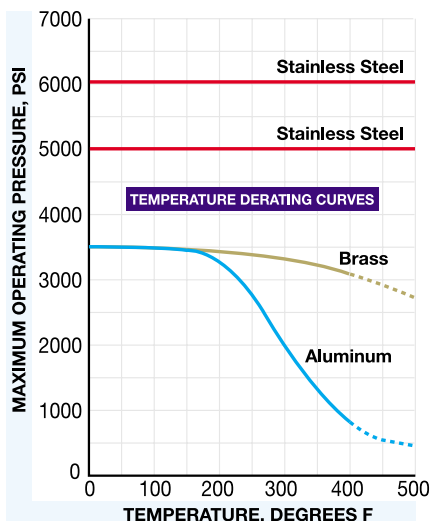


# 3500/6000 PSI High Temperature Flow Meters For Petroleum Fluids

## ORDERING INFORMATION:

| NOMINAL<br>PORT<br>SIZE | FLOW RANGE |            | PRESSURE DROP            |                           |                                   | MODEL NUMBER <i>(see example below*)</i> |                   |                 | MATERIAL             |                   |           | OPTIONS                      |
|-------------------------|------------|------------|--------------------------|---------------------------|-----------------------------------|--|-------------------|-----------------|----------------------|-------------------|-----------|------------------------------|
|                         | GPM        | LPM        | 50%<br>FLOW<br>PSI (BAR) | 100%<br>FLOW<br>PSI (BAR) | REVERSE<br>100% FLOW<br>PSI (BAR) | SAE                                      | NPTF              | BSPP            | ALUMINUM<br>3500 PSI | BRASS<br>3500 PSI | STAINLESS | REVERSE<br>FLOW              |
| 1/4<br>SAE 6            | 0.1 - 1.0  | 0.5 - 3.75 | 4.0 (.28)                | 9.0 (.62)                 |                                   | H200 * - 010 - HT                        | H201 * - 010 - HT | H202 * 010 - HT | A                    | B                 | S         | 6000 PSI<br>Not<br>Available |
|                         | 0.2 - 2.0  | 1.0 - 7.5  | 6.0 (.41)                | 13 (.90)                  |                                   | H200 * - 020 - HT                        | H201 * - 020 - HT | H202 * 020 - HT |                      |                   |           |                              |
| 1/2<br>SAE 10           | 0.1 - 1.0  | 0.5 - 3.75 | 2.0 (.14)                | 2.75 (.19)                | 5.2 (.36)                         | H600 * - 001 - HT                        | H601 * - 001 - HT | H602 * 001 - HT | A                    | B                 | S         | 6000 PSI<br>HR               |
|                         | 0.2 - 2.0  | 1.0 - 7.5  | 2.0 (.14)                | 3.0 (.21)                 | 9.6 (.66)                         | H600 * - 002 - HT                        | H601 * - 002 - HT | H602 * 002 - HT |                      |                   |           |                              |
|                         | 0.5 - 5.0  | 2 - 19     | 3.0 (.21)                | 6.0 (.41)                 | 4.8 (.33)                         | H600 * - 005 - HT                        | H601 * - 005 - HT | H602 * 005 - HT |                      |                   |           |                              |
|                         | 1 - 10     | 5 - 38     | 4.0 (.28)                | 9.5 (.66)                 | 23.0 (1.6)                        | H600 * - 010 - HT                        | H601 * - 010 - HT | H602 * 010 - HT |                      |                   |           |                              |
|                         | 1 - 15     | 4 - 56     | 6.5 (.45)                | 18.5 (1.3)                | 55.2 (3.8)                        | H600 * - 015 - HT                        | H601 * - 015 - HT | H602 * 015 - HT |                      |                   |           |                              |
| 3/4<br>SAE 12           | 0.2 - 2.0  | 1 - 7.5    | 1.0 (.07)                | 2.0 (.14)                 | 2.9 (.20)                         | H700 * - 002 - HT                        | H701 * - 002 - HT | H702 * 002 - HT | A                    | B                 | S         | 5000 PSI<br>HR               |
|                         | 0.5 - 5.0  | 2 - 19     | 2.5 (.17)                | 3.5 (.24)                 | 5.3 (.37)                         | H700 * - 005 - HT                        | H701 * - 005 - HT | H702 * 005 - HT |                      |                   |           |                              |
|                         | 1 - 10     | 5 - 38     | 3.5 (.24)                | 9.0 (.62)                 | 8.8 (.61)                         | H700 * - 010 - HT                        | H701 * - 010 - HT | H702 * 010 - HT |                      |                   |           |                              |
|                         | 2 - 20     | 10 - 76    | 4.0 (.28)                | 9.0 (.62)                 | 18.0 (1.24)                       | H700 * - 020 - HT                        | H701 * - 020 - HT | H702 * 020 - HT |                      |                   |           |                              |
|                         | 3 - 30     | 10 - 115   | 7.0 (.48)                | 16.5 (1.1)                | 45.1 (3.11)                       | H700 * - 030 - HT                        | H701 * - 030 - HT | H702 * 030 - HT |                      |                   |           |                              |
| 1<br>SAE 16             | 0.2 - 2.0  | 1 - 7.5    | 1.0 (.07)                | 2.0 (.14)                 | 2.9 (.20)                         | H760 * - 002 - HT                        | H761 * - 002 - HT | H762 * 002 - HT | A                    | B                 | S         | 5000 PSI<br>HR               |
|                         | 0.5 - 5.0  | 2 - 19     | 2.5 (.17)                | 3.5 (.24)                 | 5.3 (.37)                         | H760 * - 005 - HT                        | H761 * - 005 - HT | H762 * 005 - HT |                      |                   |           |                              |
|                         | 1 - 10     | 5 - 38     | 3.5 (.24)                | 9.0 (.62)                 | 8.8 (.61)                         | H760 * - 010 - HT                        | H761 * - 010 - HT | H762 * 010 - HT |                      |                   |           |                              |
|                         | 2 - 20     | 10 - 76    | 4.0 (.28)                | 9.0 (.62)                 | 18.0 (1.24)                       | H760 * - 020 - HT                        | H761 * - 020 - HT | H762 * 020 - HT |                      |                   |           |                              |
|                         | 3 - 30     | 10 - 115   | 7.0 (.48)                | 16.5 (1.1)                | 45.1 (3.11)                       | H760 * - 030 - HT                        | H761 * - 030 - HT | H762 * 030 - HT |                      |                   |           |                              |
|                         | 4 - 40     | 15 - 150   | 9.0 (.62)                | 24 (1.7)                  | 87.5 (6.04)                       | H760 * - 040 - HT                        | H761 * - 040 - HT | H762 * 040 - HT |                      |                   |           |                              |
| 1-1/4<br>SAE 20         | 3 - 30     | 10 - 110   | 3.0 (.21)                | 4.0 (.28)                 | 4.8 (.33)                         | H800 * - 030 - HT                        | H801 * - 030 - HT | H802 * 030 - HT | A                    | B                 | S         | 5000 PSI<br>HR               |
|                         | 5 - 50     | 20 - 190   | 3.5 (.24)                | 7.0 (.48)                 | 12.5 (.86)                        | H800 * - 050 - HT                        | H801 * - 050 - HT | H802 * 050 - HT |                      |                   |           |                              |
|                         | 10 - 75    | 40 - 280   | 5.0 (.35)                | 10.5 (.72)                | 31.9 (2.2)                        | H800 * - 075 - HT                        | H801 * - 075 - HT | H802 * 075 - HT |                      |                   |           |                              |
|                         | 10 - 100   | 50 - 380   | 6.5 (.45)                | 15 (1.0)                  | 39.0 (2.7)                        | H800 * - 100 - HT                        | H801 * - 100 - HT | H802 * 100 - HT |                      |                   |           |                              |
|                         | 10 - 150   | 50 - 560   | 10.5 (.72)               | 27.5 (1.9)                | 110 (7.6)                         | H800 * - 150 - HT                        | H801 * - 150 - HT | H802 * 150 - HT |                      |                   |           |                              |
| 1-1/2<br>SAE 24         | 3 - 30     | 10 - 110   | 3.0 (.21)                | 4.0 (.28)                 | 4.8 (.33)                         | H860 * - 030 - HT                        | H861 * - 030 - HT | H862 * 030 - HT | A                    | B                 | S         | 5000 PSI<br>HR               |
|                         | 5 - 50     | 20 - 190   | 3.5 (.24)                | 7.0 (.48)                 | 12.5 (.86)                        | H860 * - 050 - HT                        | H861 * - 050 - HT | H862 * 050 - HT |                      |                   |           |                              |
|                         | 10 - 75    | 40 - 280   | 5.0 (.35)                | 10.5 (.72)                | 31.9 (2.2)                        | H860 * - 075 - HT                        | H861 * - 075 - HT | H862 * 075 - HT |                      |                   |           |                              |
|                         | 10 - 100   | 50 - 380   | 6.5 (.45)                | 15.0 (1.0)                | 39.0 (2.7)                        | H860 * - 100 - HT                        | H861 * - 100 - HT | H862 * 100 - HT |                      |                   |           |                              |
|                         | 10 - 150   | 50 - 560   | 10.5 (.72)               | 27.5 (1.9)                | 110 (7.6)                         | H860 * - 150 - HT                        | H861 * - 150 - HT | H862 * 150 - HT |                      |                   |           |                              |
| 1-1/2<br>Code 62        | 3 - 30     | 10 - 110   | 3.0 (.21)                | 4.0 (.28)                 | 4.8 (.33)                         | H808 * - 030 - HT                        |                   |                 | A                    | B                 | S         | 5000 PSI<br>HR               |
|                         | 5 - 50     | 20 - 190   | 3.5 (.24)                | 7.0 (.48)                 | 12.5 (.86)                        | H808 * - 050 - HT                        |                   |                 |                      |                   |           |                              |
|                         | 10 - 75    | 40 - 280   | 5.0 (.35)                | 10.5 (.72)                | 31.9 (2.2)                        | H808 * - 075 - HT                        |                   |                 |                      |                   |           |                              |
|                         | 10 - 100   | 50 - 380   | 6.5 (.45)                | 15 (1.0)                  | 39.0 (2.7)                        | H808 * - 100 - HT                        |                   |                 |                      |                   |           |                              |
|                         | 10 - 150   | 50 - 560   | 10.5 (.72)               | 27.5 (1.9)                | 110 (7.6)                         | H808 * - 150 - HT                        |                   |                 |                      |                   |           |                              |

(example) H 701 <sup>\*</sup>A - 030 - HR



NOTE: HT suffix represents standard high temperature configuration. For reverse flow high temperature, replace HT with HR suffix.

⚠ CAUTION: HR option is not available with brass flow meters.