

3500/6000 PSI High Temperature

Flow Meters For Water-based Fluids (Water/Oil Emulsions)

- Direct reading
- Install in any position
- 360° rotatable guard/scale
- Easier-to-read linear scale
- No flow straighteners or special piping required
- Relatively 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 1.0 S.G.
- For 80/20 and other water/oil emulsions



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: T316 SS

Retaining Spring: T316 SS

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, **Code 62:** SAE J518

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 26.

PRESSURE RATING:

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

For High Cycle Applications: 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.

For High Cycle Applications: see page 7

PRESSURE DROP: See Ordering Information Table, page 26.

For detailed differential pressure charts, see page 57.

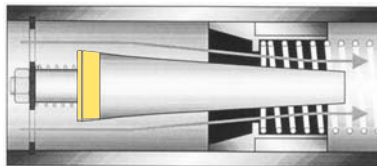
ACCURACY: $\pm 2\%$ of full scale

REPEATABILITY: $\pm 1\%$

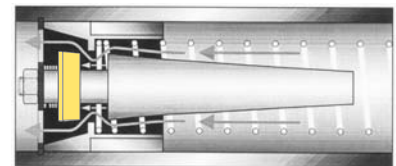
REVERSE FLOW BY-PASS OPTION:

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



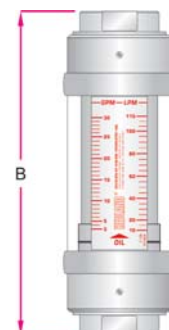
Reverse Flow By-Pass

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 (SAE 10)	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 72.

Weights for all sizes can be found on page 73.



Pyrex is a registered trademark of Corning, Inc.

Teflon is a registered trademark of E.I. duPont de Nemours & Co.

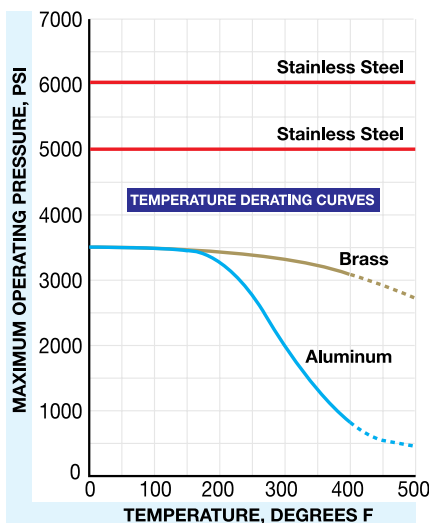
Viton is a registered trademark of DuPont Dow Elastomers

3500/6000 PSI High Temperature Flow Meters For Water-based Fluids (Water/Oil Emulsions)

ORDERING INFORMATION:

NOMINAL PORT SIZE	FLOW RANGE		PRESSURE DROP			MODEL NUMBER <i>(see example below)</i>			MATERIAL			OPTIONS
	GPM	LPM	50% FLOW PSI (BAR)	100% FLOW PSI (BAR)	REVERSE 100% FLOW PSI (BAR)	SAE	NPTF	BSPP	ALUMINUM 3500 PSI	BRASS 3500 PSI	STAINLESS	REVERSE FLOW
1/4 SAE 6	0.1 - 1.0 0.2 - 2.0	0.5 - 3.75 1.0 - 7.5	4.0 (.28) 6.0 (.41)	9.0 (.62) 13 (.90)		H212 * - 010 - HT H212 * - 020 - HT	H213 * - 010 - HT H213 * - 020 - HT	H214 * - 010 - HT H214 * - 020 - HT	A	B	6000 PSI S	Not Available
1/2 SAE 10	0.1 - 1.0 0.2 - 2.0 0.5 - 5.0 1 - 10 1 - 15	0.5 - 3.75 1.0 - 7.5 2 - 19 5 - 38 4 - 56	2.0 (.14) 2.0 (.14) 3.0 (.21) 4.0 (.28) 6.5 (.45)	2.75 (.19) 3.0 (.21) 6.0 (.41) 9.5 (.66) 18.5 (1.3)	5.2 (.36) 9.6 (.66) 4.8 (.33) 23.0 (1.6) 55.2 (3.8)	H612 * - 001 - HT H612 * - 002 - HT H612 * - 005 - HT H612 * - 010 - HT H612 * - 015 - HT	H613 * - 001 - HT H613 * - 002 - HT H613 * - 005 - HT H613 * - 010 - HT H613 * - 015 - HT	H614 * - 001 - HT H614 * - 002 - HT H614 * - 005 - HT H614 * - 010 - HT H614 * - 015 - HT	A	B	6000 PSI S	HR
3/4 SAE 12	0.2 - 2.0 0.5 - 5.0 1 - 10 2 - 20 3 - 30	1 - 7.5 2 - 19 5 - 38 10 - 76 10 - 115	1.0 (.07) 2.5 (.17) 3.5 (.24) 4.0 (.28) 7.0 (.48)	2.0 (.14) 3.5 (.24) 9.0 (.62) 9.0 (.62) 16.5 (1.1)	2.9 (.20) 5.3 (.37) 8.8 (.61) 18.0 (1.24) 45.1 (3.11)	H712 * - 002 - HT H712 * - 005 - HT H712 * - 010 - HT H712 * - 020 - HT H712 * - 030 - HT	H713 * - 002 - HT H713 * - 005 - HT H713 * - 010 - HT H713 * - 020 - HT H713 * - 030 - HT	H714 * - 002 - HT H714 * - 005 - HT H714 * - 010 - HT H714 * - 020 - HT H714 * - 030 - HT	A	B	5000 PSI S	HR
1 SAE 16	0.2 - 2.0 0.5 - 5.0 1 - 10 2 - 20 3 - 30 4 - 40 5 - 50	1 - 7.5 2 - 19 5 - 38 10 - 76 10 - 115 15 - 150 20 - 190	1.0 (.07) 2.5 (.17) 3.5 (.24) 4.0 (.28) 7.0 (.48) 9.0 (.62) 12.5 (.86)	2.0 (.14) 3.5 (.24) 9.0 (.62) 9.0 (.62) 16.5 (1.1) 24 (1.7) 34 (2.3)	2.9 (.20) 5.3 (.37) 8.8 (.61) 18.0 (1.24) 45.1 (3.11) 87.5 (6.04) 150 (10.4)	H782 * - 002 - HT H782 * - 005 - HT H782 * - 010 - HT H782 * - 020 - HT H782 * - 030 - HT H782 * - 040 - HT H782 * - 050 - HT	H783 * - 002 - HT H783 * - 005 - HT H783 * - 010 - HT H783 * - 020 - HT H783 * - 030 - HT H783 * - 040 - HT H783 * - 050 - HT	H784 * - 002 - HT H784 * - 005 - HT H784 * - 010 - HT H784 * - 020 - HT H784 * - 030 - HT H784 * - 040 - HT H784 * - 050 - HT	A	B	5000 PSI S	HR
1-1/4 SAE 20	3 - 30 5 - 50 10 - 75 10 - 100 10 - 150	10 - 110 20 - 190 40 - 280 50 - 380 50 - 560	3.0 (.21) 3.5 (.24) 5.0 (.35) 6.5 (.45) 10.5 (.72)	4.0 (.28) 7.0 (.48) 10.5 (.72) 15 (1.0) 27.5 (1.9)	4.8 (.33) 12.5 (.86) 31.9 (2.2) 39.0 (2.7) 110 (7.6)	H812 * - 030 - HT H812 * - 050 - HT H812 * - 075 - HT H812 * - 100 - HT H812 * - 150 - HT	H813 * - 030 - HT H813 * - 050 - HT H813 * - 075 - HT H813 * - 100 - HT H813 * - 150 - HT	H814 * - 030 - HT H814 * - 050 - HT H814 * - 075 - HT H814 * - 100 - HT H814 * - 150 - HT	A	B	5000 PSI S	HR
1-1/2 SAE 24	3 - 30 5 - 50 10 - 75 10 - 100 10 - 150	10 - 110 20 - 190 40 - 280 50 - 380 50 - 560	3.0 (.21) 3.5 (.24) 5.0 (.35) 6.5 (.45) 10.5 (.72)	4.0 (.28) 7.0 (.48) 10.5 (.72) 15.0 (1.0) 27.5 (1.9)	4.8 (.33) 12.5 (.86) 31.9 (2.2) 39.0 (2.7) 110 (7.6)	H882 * - 030 - HT H882 * - 050 - HT H882 * - 075 - HT H882 * - 100 - HT H882 * - 150 - HT	H883 * - 030 - HT H883 * - 050 - HT H883 * - 075 - HT H883 * - 100 - HT H883 * - 150 - HT	H884 * - 030 - HT H884 * - 050 - HT H884 * - 075 - HT H884 * - 100 - HT H884 * - 150 - HT	A	B	5000 PSI S	HR
1-1/2 Code 62	3 - 30 5 - 50 10 - 75 10 - 100 10 - 150	10 - 110 20 - 190 40 - 280 50 - 380 50 - 560	3.0 (.21) 3.5 (.24) 5.0 (.35) 6.5 (.45) 10.5 (.72)	4.0 (.28) 7.0 (.48) 10.5 (.72) 15 (1.0) 27.5 (1.9)	4.8 (.33) 12.5 (.86) 31.9 (2.2) 39.0 (2.7) 110 (7.6)	H818 * - 030 - HT H818 * - 050 - HT H818 * - 075 - HT H818 * - 100 - HT H818 * - 150 - HT			A	B	5000 PSI S	HR

(example) H 713 **A** - 030 - **HR**



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

NOTE: **HR** option is not available with brass flow meters.

CAUTION: For emulsions with less than 20% oil, factory recommends the Brass body meter.