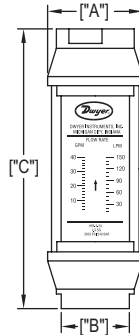


# IN-LINE FLOW MONITOR

For Air, Water or Caustic Fluids,  $\pm 2\%$  FS, Unrestricted Mounting, High Temperature and Pressure Options



| Valve Size         | "A" Reference | "B" Wrench Flats | "C" Reference |
|--------------------|---------------|------------------|---------------|
| 1/8 NPT            | 1.25          | 0.875            | 4.813         |
| 1/4 to 1/2 NPT     | 1.875         | 1.250            | 6.562         |
| 3/4 to 1 NPT       | 2.375         | 1.750            | 7.125         |
| 1-1/4 to 1-1/2 NPT | 3.500         | 2.250            | 10.125        |
| 2 NPT              | 3.500         | 2.250            | 12.625        |

The **Series HF In-Line Flow Monitor** is ruggedly constructed and ideal for direct measurement for a range of compatible gases, oil or water based liquids. This Series is designed based on a floating orifice disk and variable area flow measurement. Flowing media forces linear motion of the orifice disk and a ring shaped magnet which ride on a tapered center shaft. The transfer magnet drives a clearly visible magnet follower located outside the flow tube, and a ring on the magnet follower indicates flow rate on the direct reading scale.

### FEATURES/BENEFITS

- This unique design allows accurate performance with fluid viscosities up to 500 SSU
- All internal wetted parts are contained inside a sealed metal tubular casing assuring a virtually maintenance-free unit
- Increased application versatility with no inlet or outlet straight plumbing requirement and can be mounted horizontally, vertically, or inverted
- Rugged construction allows for high pressure and temperature rating for long operation life

### APPLICATIONS

- Setting pressure relief valves
- Fluid handling equipment
- Detecting low-flow rates for lubricating liquids
- Pulp and paper
- Industrial maintenance
- Fluid power
- Heating loop flow

| MODEL CHART - BRASS BODY FOR WATER BASED FLUIDS (NON-STEAM) |                   |                         |
|---|-------------------|-------------------------|
| Model   | Connection Size   | Range: Water GPM (LPM)* |
| HFB-2-05  | 1/2" female NPT   | 0.5 to 5.0 (1 to 19)    |
| HFB-3-15  | 3/4" female NPT   | 2 to 15 (7.5 to 55)     |
| HFB-3-20  | 3/4" female NPT   | 2 to 20 (7.5 to 75)     |
| HFB-4-35  | 1" female NPT     | 5 to 35 (19 to 130)     |
| HFB-5-50  | 1-1/2" female NPT | 5 to 50 (19 to 189)     |
| HFB-5-100   | 1-1/2" female NPT | 10 to 100 (38 to 379)   |
| HFB-6-75  | 2" female NPT     | 8 to 75 (31 to 284)     |
| HFB-6-150   | 2" female NPT     | 20 to 150 (76 to 568)   |

\*Dual scale range

| MODEL CHART - ALUMINUM, BRASS, AND STAINLESS STEEL FOR AIR AND OTHER NON-CORROSIVE GASES |             |                       |                                   |                        |
|--|-------------|-----------------------|-----------------------------------|------------------------|
| Aluminum Model   | Brass Model | Stainless Steel Model | Connection (NPT female, dry seal) | Range: SCFM (LPS)*     |
| HFA-1-001  | HFB-1-001   | HFS-1-001             | 1/4"                              | 1.5 to 12 (0.5 to 5.5) |
| HFA-1-002  | HFB-1-002   | HFS-1-002             | 1/4"                              | 4 to 23 (2 to 10)      |
| HFA-1-003  | HFB-1-003   | HFS-1-003             | 1/4"                              | 5 to 50 (2.5 to 25)    |
| HFA-1-004  | HFB-1-004   | HFS-1-004             | 1/4"                              | 10 to 100 (5 to 45)    |
| HFA-8-001  | HFB-8-001   | HFS-8-001             | 3/8"                              | 1.5 to 12 (.5 to 5.5)  |
| HFA-8-002  | HFB-8-002   | HFS-8-002             | 3/8"                              | 4 to 23 (2 to 10)      |
| HFA-8-003  | HFB-8-003   | HFS-8-003             | 3/8"                              | 5 to 50 (2.5 to 25)    |
| HFA-8-004  | HFB-8-004   | HFS-8-004             | 3/8"                              | 10 to 100 (5 to 45)    |
| HFA-2-001  | HFB-2-001   | HFS-2-001             | 1/2"                              | 1.5 to 12 (.5 to 5.5)  |
| HFA-2-002  | HFB-2-002   | HFS-2-002             | 1/2"                              | 4 to 23 (2 to 10)      |
| HFA-2-003  | HFB-2-003   | HFS-2-003             | 1/2"                              | 5 to 50 (2.5 to 25)    |
| HFA-2-004  | HFB-2-004   | HFS-2-004             | 1/2"                              | 10 to 100 (5 to 45)    |
| HFA-3-003  | HFB-3-003   | HFS-3-003             | 3/4"                              | 5 to 50 (3 to 23)      |
| HFA-3-004  | HFB-3-004   | HFS-3-004             | 3/4"                              | 10 to 100 (4 to 48)    |
| HFA-3-005  | HFB-3-005   | HFS-3-005             | 3/4"                              | 15 to 150 (8 to 56)    |
| HFA-3-006  | HFB-3-006   | HFS-3-006             | 3/4"                              | 30 to 330 (20 to 150)  |
| HFA-4-003  | HFB-4-003   | HFS-4-003             | 1"                                | 5 to 50 (3 to 23)      |
| HFA-4-004  | HFB-4-004   | HFS-4-004             | 1"                                | 10 to 100 (4 to 48)    |
| HFA-4-005  | HFB-4-005   | HFS-4-005             | 1"                                | 15 to 150 (8 to 56)    |
| HFA-4-006  | HFB-4-006   | HFS-4-006             | 1"                                | 30 to 330 (20 to 150)  |
| HFA-9-007  | HFB-9-007   | HFS-9-007             | 1-1/4"                            | 30 to 470 (15 to 220)  |
| HFA-9-008  | HFB-9-008   | HFS-9-008             | 1-1/4"                            | 150 to 900 (75 to 425) |
| HFA-5-007  | HFB-5-007   | HFS-5-007             | 1-1/2"                            | 30 to 470 (15 to 220)  |
| HFA-5-008  | HFB-5-008   | HFS-5-008             | 1-1/2"                            | 150 to 900 (75 to 425) |

\*Dual scale range

### SPECIFICATIONS

**Service:** Compatible gases or liquids.  
**Wetted Materials:** HFA: Aluminum casing, Buna-N seals, PTFE coated Alnico magnet, SS disk; HFB: Brass casing, Buna-N seals, PTFE coated Alnico magnet, SS disk; HFS: 303 SS casing, FKM seals with PTFE backup, PTFE coated Alnico magnet, SS disk.  
**Maximum Viscosity:** 500 SSU.  
**Temperature Limits:** 240°F (116°C).  
**Pressure Limits:** HFA, HFB, HFL and HFH models: 600 psig (41 bar) for air and gas, 3500 psig (241 bar) for liquids; HFS model: 1000 psig (70 bar) for air and gas, 6000 psig (413 bar) for liquids.  
**Accuracy:**  $\pm 2\%$  FS.  
**Repeatability:**  $\pm 1\%$  of FS.  
**Shipping Weight:** 1/4" to 1/2" female NPT models: 2 lb (0.9 kg); 3/4 to 1" female NPT models: 3.5 lb (1.59 kg); 1-1/2" female NPT models: 11 lb (5 kg); 2" female NPT models: 13.5 lb (6.12 kg).

**Note:** Series HF monitors are recommended for use with system filtration of at least 74 microns or a 200 mesh screen

| MODEL CHART - ALUMINUM BODY FOR OIL BASED FLUIDS |                 |                       |
|--|-----------------|-----------------------|
| Model  | Connection Size | Range: Oil GPM (LPM)* |
| HFL-2-05   | 1/2" female NPT | 0.5 to 5.0 (1 to 19)  |
| HFL-4-25   | 1" female NPT   | 2 to 25 (7.5 to 95)   |

\*Dual scale range

| MODEL CHART - 304 SS BODY FOR HIGH-PRESSURE FLUIDS |                 |                          |
|--|-----------------|--------------------------|
| Model  | Connection Size | Range: Water GPM (LPM)*  |
| HFS-2-02   | 1/2" female NPT | 0.2 to 2.0 (0.75 to 7.5) |
| HFS-2-10   | 1/2" female NPT | 0.5 to 10 (1.9 to 38)    |

\*Dual scale range