

DF PADDLE WHEEL FLOW SENSOR



Flow
Pressure
Level
Temperature
measurement
monitoring
control



S4

- $\pm 2.5\%$ of Full Scale Accuracy
- Analog Output
- Easy to Install and Maintain
- Robust and Reliable
- No. Min. Requirements for Straight Inlet and Outlet Pipe
- Low Pressure Drop
- 7 Different Material Combinations Available



Represented by:
M.A. Selmon Company, Inc.
40 Hathaway Drive
Stratford, CT 06615
Ph. 203-377-3525 Fax 203-377-5238
sales@maselmon.com

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Model:
DF



Flow Sensor DF

The main feature of the KOBOLD DF flow sensor is the incorporation of a multipole magnet ring into the paddlewheel. As the paddlewheel rotates, these magnets, hermetically separated from the fluid medium, induce an DC signal in a Hall sensor mounted on the device housing. Since the DC signal frequency is proportional to paddlewheel rotation, an accurate flowrate reading is possible.

The DF sensor, when coupled with the appropriate KOBOLD electronics unit, can offer the user a number of features useful in the measurement and control of fluid flow. These features include an analog output, adjustable switches, batch controller, or totalizer.

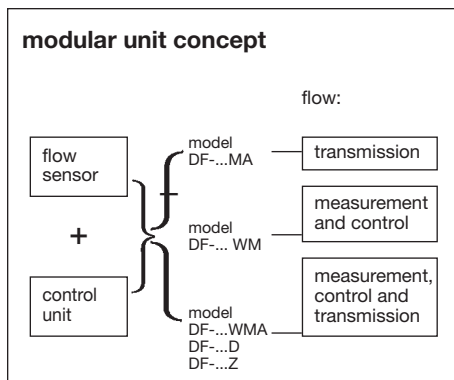
Specifications

- Accuracy:** ± 2.5% of full scale
- Media:** water and low viscosity liquids
- Orientation:** universal
- Fittings:** 1/8" NPT ... 1 1/2" NPT, flange ANSI 1/2", 1", 1 1/2"
- 7 different material combination:** trogamid, polysulfone, brass, SS, teflon



DF-... with flange

DF-... with female thread



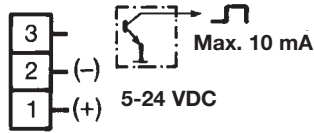
| Materials combination | Standard | | | | High Pressure Design | |
|---------------------------------|---------------------|---------------------|---------------------|----------------------|----------------------|------------------------|
| | I | II/IIB* | III | IV* | VI* | VII* |
| Connecting type | Female thread | Female thread | Female thread | Female thread flange | Female thread | Female thread flange |
| Housing | Trogamid | Polysulfone/PP | Brass Nickel-plated | SS | Brass Nickel-plated | SS |
| Housing lid | Trogamid | Polysulfone/PP | Polysulfone | Polysulfone | Brass Nickel-plated | SS |
| Connection | Brass Nickel-plated | SS/PP | Brass Nickel-plated | SS | Brass Nickel-plated | SS |
| Locking pins | Brass | Brass | Brass | - | - | - |
| O-rings | Buna-N | Viton | Buna-N | Viton | Buna-N | Viton |
| Paddle wheel | Delrin | Teflon | Delrin | Teflon | Delrin | Teflon |
| Axle | SS | SS/Ceramic | SS | SS | SS | SS |
| Axle Bearing | Teflon | Teflon | Teflon | Teflon | Teflon | Teflon |
| Orifice | Teflon ² | Teflon ² | Teflon ² | Teflon ² | Teflon ² | Teflon ² |
| Max. operating pressure PSI | 145 | 145/85 | 230 | 230 | 1450 | 1450 (with flange 580) |
| Max. operating temperature (°F) | 145 | 180 | 180 | 180 | 180 | 180 |

* Fittings not rotatable ¹for Model DF..01 Titanium ² for Model DF..01 SS

Description

The Kobold DF Flow Sensor is used in applications where flow measurement is desired and flow rate data is to be transmitted as a pulse rate output. The DF Flow Sensor contains a flow transducer which transmits a pulse signal. The output signal is linearly proportional to the flow and is transmitted by a bipolar transistor operating in an open collector configuration (10 mA sinking capability).

Wiring Diagram



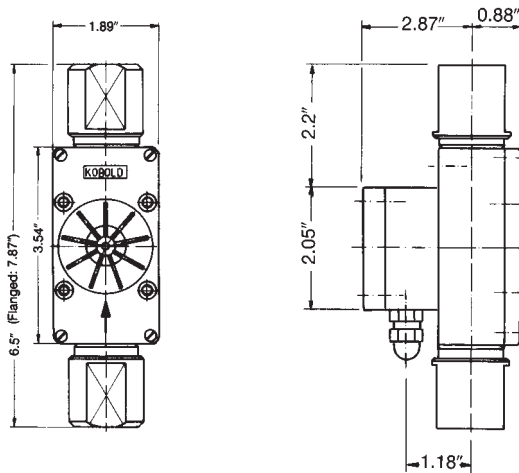
Specifications

- Power Supply:** + 5 to + 24 VDC
- Open Collector:** + 5 to + 24 VDC, 10 mA max.
- Temperature Range:** -10°F to 180°F (145°F DF-01...)
- Protection:** NEMA 4



S4

Dimensions



Order Numbers

| Range water | Stand. conn. | Dia. of Orifice | Press. drop max. | DF Flow Sensor Material Combination | | | | | | | Range Size |
|-------------|--------------|-----------------|------------------|-------------------------------------|---------|---------|---------|---------|---------|---------|------------|
| | | | | I | II | II B | III | IV | VI | VII | |
| GPM | NPT | inches | PSI | DF-01.. | DF-02.. | DF-00.. | DF-03.. | DF-04.. | DF-06.. | DF-07.. | |
| 0.02- 0.14 | 1/8" | 0.04 | 10.2 | | | | | | | | ..01 |
| 0.05- 0.30 | 1/4" | 0.08 | 4.2 | | | | | | | | ..02 |
| 0.05- 0.60 | 1/2" | 0.08 | 10.4 | | | | | | | | ..03 |
| 0.1 - 0.7 | 1/2" | 0.11 | 9.6 | | | | | | | | ..04 |
| 0.2 - 2.5 | 3/8" | 0.19 | 12.1 | | | | | | | | ..05 |
| 0.4 - 5 | 1/2" | 0.32 | 2.9 | | | | | | | | ..06 |
| 0.5 - 6 | 3/4" | 0.32 | 4.4 | | | | | | | | ..07 |
| 0.5 -12 | 3/4" | 0.49 | 4.4 | | | | | | | | ..08 |
| 1 -25 | 1 1/4" | 0.59 | 15.9 | | | | | | | | ..09 |
| 1.5 -36 | 1 1/4" | 0.73 | 13.5 | | | | | | | | ..10 |

Options
(add suffix to order number)

| Special conn. NPT Suffix "-B" | For flange connection (only material combination IV and VII) Suffix "FL" |
|-------------------------------|--|
| 1/4" | |
| 3/8" | |
| 3/8" | |
| 1/2" | |
| 3/4" | |
| 1" | |
| 1" | |
| 1 1/2" | |
| 1 1/2" | |
| 1 1/2" | |

Note to place an order

1. Select the sensor order no.
2. Select the required suffix

For example: DF-0109B

All Sensors will be delivered with calibration certificate

Subject to change without prior notice.