

Paddle Wheel Flow Sensors for Low Viscosity Liquids



measuring
•
monitoring
•
analyzing

DF



- Body Material Options: Brass, Stainless, Trogamid®, Polysulfone, or Polypropylene
- Easy to Install, No Straight Runs Required
- Robust and Reliable
- 7 Different Material Combinations Available
- Electronic Options: Frequency, Analog, Relay, Totalizer, and/or Batch Controllers with Digital Displays



Order from: **C A Briggs Company**
622 Mary Street; Suite 101; Warminster, PA 18974
Phone: 267-673-8117 - 800-352-6265; Fax: 267-673-8118
Sales@cabriggs.com - www.cabriggs.com

KOBOLD Instruments, Inc.
1801 Parkway View Drive
Pittsburgh, PA 15205



Paddle Wheel Flow Sensors DF Series

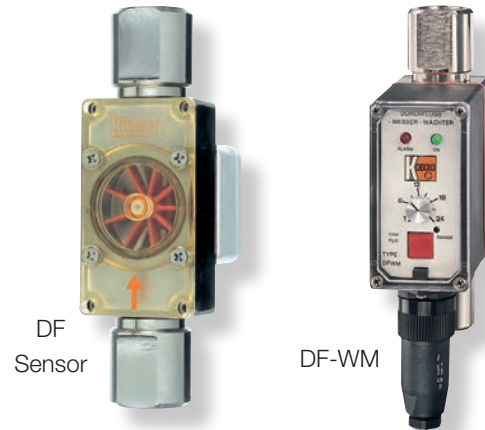
Description

The main feature of the DF flow sensors is the incorporation of a multipole magnet ring embedded into the paddlewheel. As the paddle wheel rotates, the magnets, hermetically separated from the liquid media, induce a DC signal into a Hall-Effect sensor mounted on the device housing. Since the DC signal frequency is proportional to paddlewheel rotation, an accurate flow rate reading is possible.

The DF sensors, when coupled with the appropriate KOBOLD electronics unit, can offer the user a number of features useful in the measurement and control of low viscosity liquid flow. These features include a frequency output, analog output, adjustable switches, digital displays with integrated batch controllers, or totalizers.

Specifications

Accuracy:	± 2.5% of full scale
Media:	Water and low viscosity liquids
Orientation:	Universal
Fittings:	1/8" NPT ... 1-1/2" NPT



Material Combination

Material Combination	Standard					High Pressure Design	
	I	II	II B ¹⁾	III	IV	VI ¹⁾	VII ¹⁾
Order Code	A	B	C ¹⁾	D	E	G ¹⁾	H ¹⁾
Connecting type	Female thread	Female thread	Female thread	Female thread	Female thread	Female thread	Female thread
Housing	Trogamid®	Polysulfone	PP	Brass, Nickel-plated	316L SS	Brass, Nickel-plated	316L SS
Housing lid	Trogamid®	Polysulfone	PP	Polysulfone	Polysulfone	Brass, Nickel-plated	316L SS
Connection	Brass, Nickel-plated	316-Ti SS	PP	Brass, Nickel-plated	316-Ti SS	Brass, Nickel-plated	316-Ti SS
Locking pins	Brass ³⁾	Brass ³⁾	Brass ³⁾	Brass ³⁾	-	-	-
O-rings	NBR	FKM	FKM	NBR	FKM	NBR	FKM
Paddle wheel	POM	PTFE	PTFE	POM	PTFE	POM	PTFE
Axle	316L SS	316L SS	Ceramic	316L SS	316L SS	316L SS	316L SS
Axle bushing	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE
Orifice	PTFE ²⁾	PTFE ²⁾	PTFE ²⁾	PTFE ²⁾	PTFE ²⁾	PTFE ²⁾	PTFE ²⁾
Max. operating pressure [PSI]	145	145	85	230	230	1450	1450
Max. operating temperature [°F]	145	180	180	180	180	180	180

¹⁾ Fittings are not rotatable ²⁾ For Model DF.01 Stainless Steel Orifice ³⁾ Non-wetted



Special Features

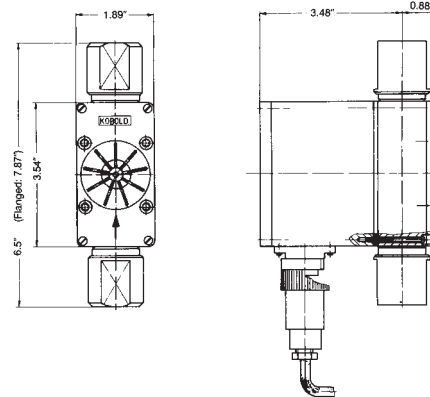
- Adjustable Limit Contact for Flow Control
- Push-Button Alarm Override Switch and Potentiometer with Scale for Indirect Flow Measurements

Specifications

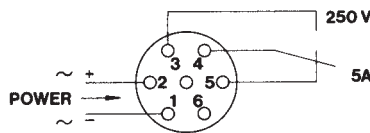
Power Consumption: 3.5 W max.
Power Supply: 24 V_{DC}, 24 V_{AC}, 110 V_{AC}, 230 V_{AC} + 15% / -10%
Contact Rating: 250 V max./5A
Contact Resistance: = < 100 Ω
Temperature Range: -10...180 °F (145 °F for DF-81..)
Cable Connection: (5 ft PVC-cable standard, Plug connection optional)
 No. 1 Power Supply (-)
 No. 2 Power Supply (+)
 No. 3 Relay Contacts
 No. 4 Relay Contacts
 No. 5 Relay Contacts



Dimensions



Wiring Diagram



Order Details (Example: DF-8308BP03)

Range (Water) (GPM)	Stand. Conn. (NPT)	Dia. of Orifice (Inch)	Press. Drop Max. (PSI)	DF-WM Material Combination							Options (add suffix to order number)		
				I	II	II B	III	IV	VI	VII	Suffix "..B.." Special Conn. (NPT)	Suffix "..L.." Special Range GPH (Water)	Suffix "..P.."
0.02...0.14	1/8"	0.04	10.2	DF-8101..	DF-8201..	DF-8001..	DF-8301..	DF-8401..	DF-8601..	DF-8701..	1/4"	1 - 7	Power Connector with Plug
0.05...0.30	1/4"	0.08	4.2	DF-8102..	DF-8202..	DF-8002..	DF-8302..	DF-8402..	DF-8602..	DF-8702..	3/8"	3 - 25	
0.05...0.60	1/4"	0.08	10.4	DF-8103..	DF-8203..	DF-8003..	DF-8303..	DF-8403..	DF-8603..	DF-8703..	3/8"	3 - 36	
0.1...0.7	1/4"	0.11	9.6	DF-8104..	DF-8204..	DF-8004..	DF-8304..	DF-8404..	DF-8604..	DF-8704..	3/8"	6 - 42	
0.2...2.5	3/8"	0.19	12.1	DF-8105..	DF-8205..	DF-8005..	DF-8305..	DF-8405..	DF-8605..	DF-8705..	1/2"	12 - 150	
0.4...5	1/2"	0.32	2.9	DF-8106..	DF-8206..	DF-8006..	DF-8306..	DF-8406..	DF-8606..	DF-8706..	3/4"	-	
0.5...6	3/4"	0.32	4.4	DF-8107..	DF-8207..	DF-8007..	DF-8307..	DF-8407..	DF-8607..	DF-8707..	1"	-	
0.5...12	3/4"	0.49	4.4	DF-8108..	DF-8208..	DF-8008..	DF-8308..	DF-8408..	DF-8608..	DF-8708..	1"	-	
1...25	1-1/4"	0.59	15.9	DF-8109..	DF-8209..	DF-8009..	DF-8309..	DF-8409..	DF-8609..	DF-8709..	1-1/2"	-	
1.5...36	1-1/4"	0.73	13.5	DF-8110..	DF-8210..	DF-8010..	DF-8310..	DF-8410..	DF-8610..	DF-8710..	1-1/2"	-	

Plug Connector with Plug Options	
Description	Add Suffix to Model Number
Power Supply 24 VDC	..P01
Power Supply 24 VAC	..P02
Power Supply 110 VAC	..P03
Power Supply 230 VAC	..P04

Note: To place an order

1. Select the sensor order no.
2. Select the desired option suffixes
3. Specify the required power supply suffix

No responsibility taken for errors; subject to change without prior notice.

Order from: **C A Briggs Company**
 622 Mary Street; Suite 101; Warminster, PA 18974
 Phone: 267-673-8117 - 800-352-6265; Fax: 267-673-8118
Sales@cabriggs.com - www.cabriggs.com