

Compact Paddle Flow Sensor



measuring
•
monitoring
•
analyzing

DFT



- Measuring Ranges:
0.05...0.50 to 0.8...15 GPM
- PTFE or Brass Bodies
- Pulse Output Standard
- Optional Analog Outputs, Digital Displays, Totalizer and Batch Controllers
- No Straight Run Requirements
- Can Be Mounted in Any Orientation
- Compact, Economical Design



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Description

The DFT compact series of paddle flow sensors embodies the same rugged reliability of the workhorse DF series in a compact, more economical design. The DFT uses an inlet nozzle to re-direct flow onto the paddle thus there are no straight piping requirements as with many other paddle type designs. The DFT series is available in two material combinations to handle a wide variety of liquids. The nickel plated brass version handles water, light chemicals and low viscosity liquids (<10 cSt), while the PTFE version will stand up to aggressive chemicals. An open collector frequency output is standard with optional analog & controller outputs which offer an LCD displays, analog flow transmitters, programmable relays and totalizer & batch controller options.



Specifications

Flow Range:	0.05...0.30 GPM to 0.5...12 GPM
Accuracy:	±2.5% of Full Scale ±5 % of Full Scale (DFT-..0000)
Media:	Water and Other Low Viscosity Liquids
Maximum Pressure	
Brass Body:	230 PSIG
PTFE Body:	70 PSIG
Temperature Range:	-4...176°F
Wetted Materials	
Brass Body:	Nickel-plated Brass, POM, NBR, Ceramic or Sapphire
PTFE Body:	PTFE, Ceramic or Sapphire

Electrical Data

Pulse Output - Standard OEM

Output Type:	NPN Open Collector
Frequency Range:	0-100 Hz Approx.
Power Supply:	5-24 V _{DC} , 15 mA Max. Sink Current
Electrical Connection:	DIN 43650 Plug, PG 11
Electrical Protection:	IP 65

Pulse Output - F400

Output Type:	PNP Open Collector
Frequency Range:	0-100 Hz Approx.
Power Supply:	24 V _{DC} ±20%, Max. 20mA
Electrical Connection:	DIN 43650 Plug, PG 11
Electrical Protection:	IP 65

Analog Output - L443 & L442

Power Supply:	24 V _{DC} ±20%
Output:	4-20 mA 3-wire or 2-wire
Max Load:	500 Ohms
Electrical Connection:	DIN 43650 Plug, PG 11
Electrical Protection:	IP 65

Analog Output - MA Electronic

Power Supply:	24 V _{DC} , +15% / -10% 110 V _{AC} , ±20%
Output:	4-20 mA or 0-10 V _{DC}
Max Load:	500 Ohms
Electrical Connection:	1.5 m Cable Connection or Connector
Electrical Protection:	IP 65

Switching Output - WM Electronic

Power Supply:	24 V _{DC} , +15% / -10% 110 V _{AC} , ±20%
Output:	SPDT Contact Max. 250V / 5A
Contact Resistance:	< 100 mOhms
Electrical Connection:	1.5 m Cable Connection or Connector
Electrical Protection:	IP 65



Electrical Data (Continued)

Digital Rate Display - K Electronic

Display: LCD, 8-digit Backlit Rate,
Unit of Measure Selectable

Power Supply: 24 V_{DC}, +15% / -10%

Analog Output: 4-20 mA or 0-10 V_{DC}

Max Load: 500 Ohms

Switching Output: Min. and Max. SPDT Contact
Max. 24 V / 2A

Hysteresis: 2.5% of Measured Value

Electrical Connection: 1.5 m Cable Connection

Electrical Protection: IP 65

Totalizer Display - E Electronic

Display: LCD, 2-line, 8-digit Backlit
Rate, Total, & Grand Total
Unit of Measure Selectable

Analog Output: 4-20mA
Load: 0...500 Ohms or 0...10 V_{DC}
Load: > 100k Ohms

Relay Outputs: 2x, Max. 30V / 1.5A

Functions: Reset, MIN/MAX-memory, Flow
Rate Switch-point, Total & Grand
Total Switch-point, Language

Power Supply: 24 V_{DC} ±20%
Max. Sink Current 100 mA

Electrical Connection: 10-pin Cable or 2x M12 (5,8 Pin)

Electrical Protection: IP 65

Batching Display - G Electronic

Display: LCD, 2-line, 8-digit Backlit
Rate, Total, & Grand Total
Unit of Measure Selectable

Analog Output: 4-20mA
Load: 0...500 Ohms or 0...10 V_{DC}
Load: > 100k Ohms

Relay Outputs: 2x, max. 30V / 1.5A

Functions: Batch (Relay 2), Start, Stop, Reset,
Fine Batch, Correction Quantity,
Flow Rate Switch, Flow Total
Switch, Language

Power Supply: 24 V_{DC} ±20%
Max. Sink Current 100 mA

Electrical Connection: 10-pin Cable or 2x M12 (5,8 Pin)

Electrical Protection: IP 65

Frequency/Pressure-loss Table

Measuring Range (gal/min)	Brass Housing			PTFE Housing		
	Oriface (mm)	Frequency at Max. Flow	Pressure Loss at Max. Flow	Oriface (mm)	Frequency at Max. Flow	Pressure Loss at Max. Flow
0.05...0.50	2.0	approx. 70 Hz	11.6 PSI	2.0	approx. 80 Hz	10.15 PSI
0.13...1.8	4.3	approx. 85 Hz	8.7 PSI	4.3	approx. 95 Hz	7.25 PSI
0.26...4.0	5.9	approx. 130 Hz	11.6 PSI	5.9	approx. 140 Hz	10.5 PSI
0.5...9.5	9.0	approx. 130 Hz	11.6 PSI	9.0	approx. 120 Hz	13.0 PSI
0.8...15.0	13.5	approx. 85 Hz	11.6 PSI	13.5	approx. 80 Hz	13.0 PSI



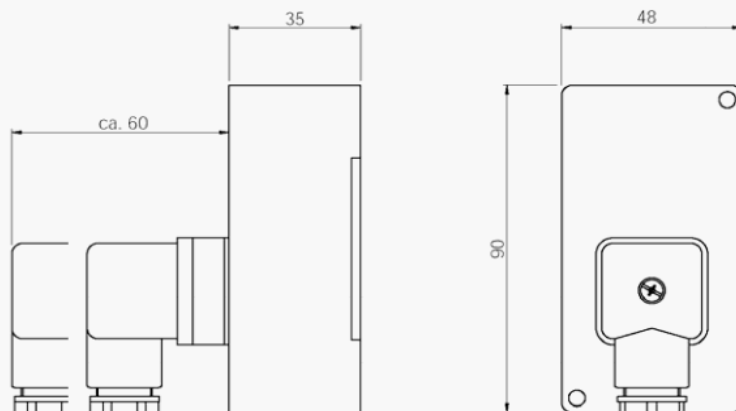
Compact Paddle Flow Sensor Model DFT

Order Details (Example: **DFT-3307N4L443**)

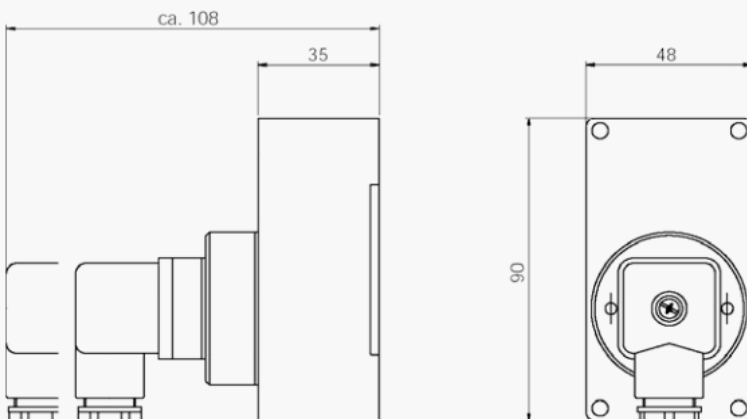
Measuring Range (GPM)	Model				Connection Female Thread
	Brass Housing Ceramic Axle	PTFE Housing Ceramic Axle	Brass Housing Sapphire Axle	PTFE Housing Sapphire Axle	
0.05...0.50	DFT-3103..	DFT-3303..	DFT-3603..	DFT-3803..	..N2.. = 1/4" NPT ..N4.. = 1/2" NPT ..G2.. = G 1/4 ..G4.. = G 1/2
0.13...1.8	DFT-3107..	DFT-3307..	DFT-3607..	DFT-3807..	
0.26...4.0	DFT-3116..	DFT-3316..	DFT-3616..	DFT-3816..	
0.5...9.5	DFT-3136..	DFT-3336..	DFT-3636..	DFT-3836..	..N4.. = 1/2" NPT ..N5.. = 3/4" NPT ..G4.. = G 1/2 ..G5.. = G 3/4
0.8...15.0	DFT-3160..	DFT-3360..	DFT-3660..	DFT-3860..	..N5.. = 3/4" NPT ..G5.. = G 3/4
Output/Electronic Option					
OEM Frequency Output					
...0000 = NPN, Connector DIN 43650					
Frequency Output					
...F400 = PNP, Connector DIN 43650					
Analog Output					
...L443 = Connector DIN 43650, 4-20 mA, 3-wire ...L442 = Connector DIN 43650, 4-20 mA, 2-wire					
MA Electronic with Analog Output Option					
..MK.. = 1.5 m Cable Connection		..1.. = 110 VAC		..4 = 4-20 mA	
..MG.. = Connector and Mating Connector		..3.. = 24 VDC		..1 = 0-10 V	
WM Electronic with 1 Contact					
..WK.. = 1.5 m Cable Connection		..1X = 110 VAC			
..WG.. = Connector and Mating Connector		..3X = 24 VDC			
K Electronic (Display, MIN/MAX-Contact, Analog Output)					
..KK.. = 1.5 m Cable Connection		..3.. = 24 VDC		..4 = 4-20 mA	
				..1 = 0-10 V	
Totalizer Electronic/Batching Electronic					
..E.. = Totalizer Electronic (2x SPDT)		..3.. = Plug 2x M12 / 24 VDC		..4R = 4-20 mA	
..G.. = Batching Electronic (2x SPDT)		..1.. = 1.5 m Cable / 24 VDC		..1R = 0-10 V	
Accessories: P/N 807.007 = 5-pin Micro-DC Connector with 6-foot Cable for Output Types E34R & G34R P/N 807.087 = 8-pin Micro-DC Connector with 6-foot Cable for Output Types E34R & G34R					

Dimensions Brass (mm)

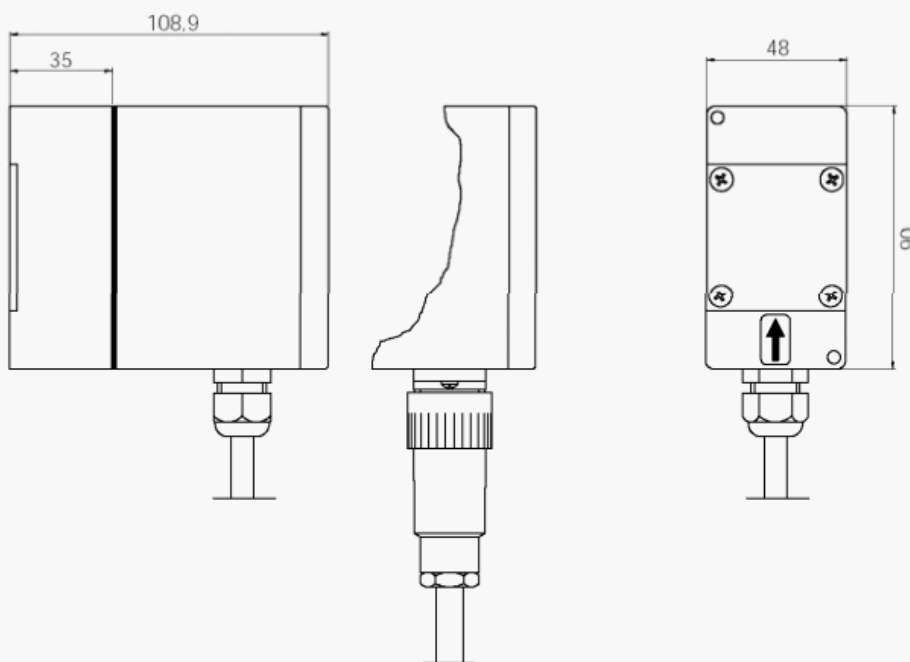
DFT-.0000



DFT-.F4../DFT-.L4..



DFT with MA/WM/K/E/G Electronics

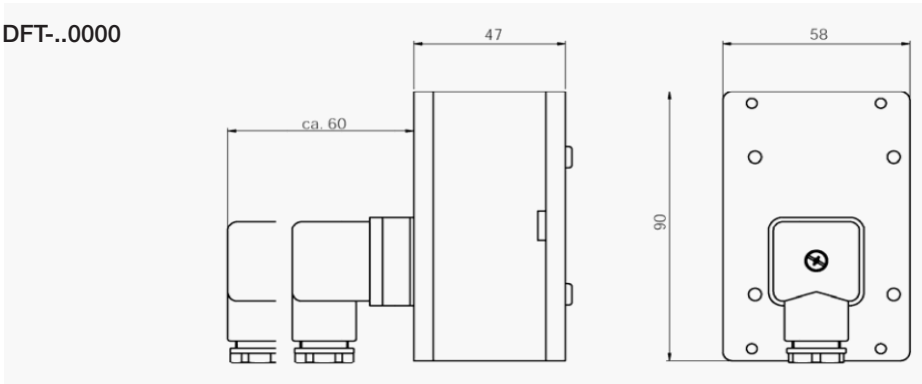




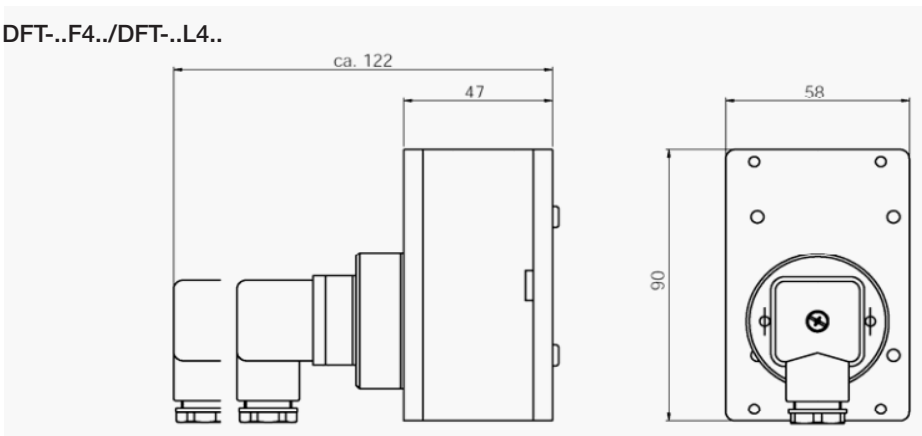
Compact Paddle Flow Sensor Model DFT

Dimensions PTFE (mm)

DFT-..0000



DFT-..F4../DFT-..L4..



DFT with MA/WM/K/E/G Electronics

