DHTF & DHTA Impeller Flow Meter
Installation Requirements

Method of Operation

The flow meters, type DHTF and DHTA utilize a paddle rotor fitted with permanent magnets. Liquids flowing through the units will cause the rotor to spin. The speed of rotation is, over a wide range, proportional to the velocity of liquid passing through the unit. The rotor rpm is detected by means of a Hall-Sensor. Flowmeters of type DHTA generate a 4 – 20 mA current by means of integrated electronics.

Mounting Position

The units function in any mounting position and allow maximum flexibility in system integration. Optimum de-aeration is achieved when the units are mounted Vertically.

If mounted horizontally, the sensor must be positioned to preclude accumulation of sediment and other impurities around the sensor. Ensure correct direction of flow at installation.

Range of Application

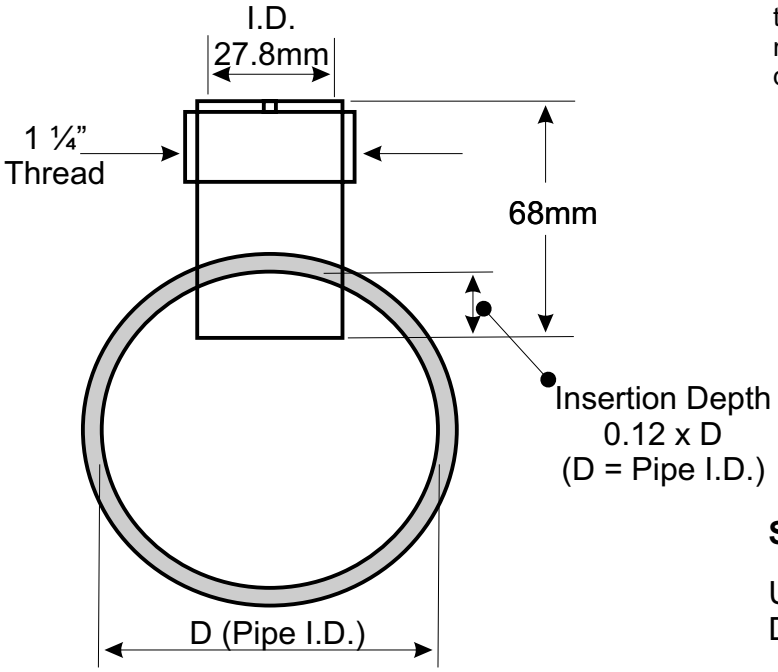
Measuring and monitoring of liquids within a viscosity range of 0,5 – 20 cSt.

Measuring Range

DHTF and DHTA
0,15 – 10 m/s

Maintenance Requirements

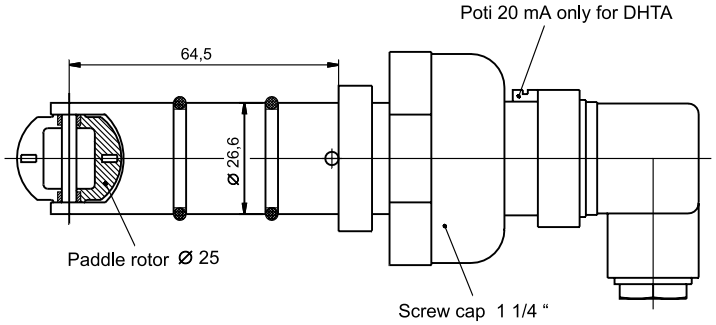
The flow meters require low maintenance. However, the system should be purged and cleaned of impurities at regular intervals. This is especially important, should metal particles contaminate the system, as they will adhere to the permanent magnets on the paddle rotor and may cause inaccurate readings and irreparable damage.



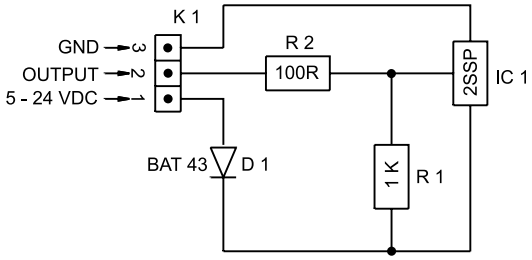
Straight Pipe Requirements

Upstream: > 10 x D (D = Pipe I.D.)
Downstream: > 7 x D (D = Pipe I.D.)

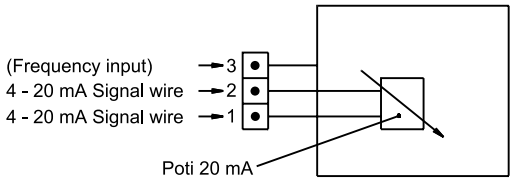
Installation diagram for DHTF and DHTA



Wiring diagram DHTF



Wiring diagram DHTA



Operating data:	**DHTF**	**DHTA**
Range:	0,15 – 10 m/s	0,15 – 10 m/s
Viscosity range:	0,5 – 20 cSt	0,5 – 20 cSt
Accuracy of measurement:	±1 % of rate over calibrated range	±2 % of rate over calibrated range
Repeatability:	±0,5 % of rate	±0,8 % of rate
Max. operating pressure:	10 bar	10 bar
Bursting pressure (at 22 °C):	15 bar	15 bar
Operating temperature:	-10 to +85 °C	-10 to +85 °C
Protection class:	IP 65	IP 65
Signal output:	true square wave pulse frequency approx. 42 Hz / $\frac{m}{s}$	4 – 20 mA (adjustable)
Max. current output (at 24 V):	11 mA *	----
Voltage requirement:	5 – 24 VDC	5 – 24 VDC (at 20 mA instrument leads arranged in series)
Power plug:	DIN 43650	DIN 43650
Electrical connections:	see wiring diagram	see wiring diagram
Sensor housing:	PP	PP
Paddle rotor:	ECTFE	ECTFE
Axle and bearing:	ceramics (A_2O_3) / ceramics (A_2O_3)	ceramics (A_2O_3) / ceramics (A_2O_3)
Magnets:	ECTFE–encapsulated	ECTFE–encapsulated
O–Rings:	Viton **	Viton **
Weight:	approx. 126 g	approx. 126 g
Connections:	by means of T-adapter or socket (not in scope of supply)	

* at temperatures < 60 °C: 15 mA; ** optional EPDM

technical changes and amendments

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