



Zertifiziertes
QM-System
DIN EN ISO 9001
Zertifikat-Nr. 01017

Torsional Paddle Flow Meter/ Monitor



measuring
•
monitoring
•
analysing

DPT



- Measuring ranges:
5 - 30 ... 850 - 1900 l/min water
- Accuracy: $\pm 3\%$ of full scale
- p_{\max} : PN 40; t_{\max} : 80 °C
- Connection:
G $\frac{3}{8}$... G 3 female thread,
 $\frac{3}{8}$ " NPT ... 3" NPT female thread
- Material:
brass or stainless steel

3

KOBOLD companies worldwide:

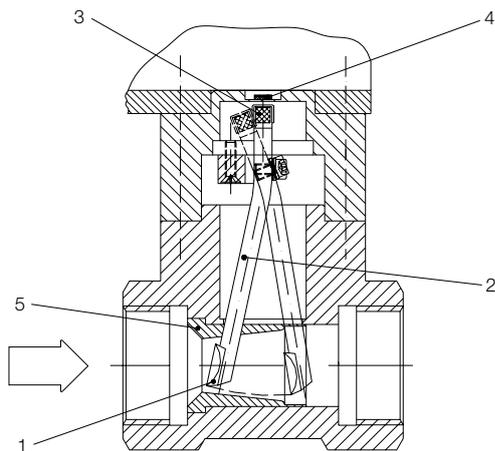
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Description

The patented KOBOLD torsional paddle flow meter type DPT operates according to the diaphragm plate principle. For the first time a flat torsion spring simultaneously acts as a mount for the paddle and as an elastic force. The device thus operates with almost no wear.

The paddle comprises a diaphragm plate (1) and a lever arm (2).



When the diaphragm plate is moved by the flow in the flow direction, the lever arm is deflected by the force of the leaf spring.

This angular motion is transferred non-contacting through the casing wall by a magnet (3) to a Hall-effect sensor (4) with no losses. Different measuring ranges and instrument sizes are realized with the geometry of the lever arm, the diameter and shape of the diaphragm plate as well as the height and thickness of the leaf spring. Calibration nozzles (5) can also be press-fitted to adapt the measuring ranges. The signal from the Hall-effect sensor is displayed by different electronic means and serves to monitor the volume flow.

● **Compact electronics**

- 3-segment LED display
- Analogue output (0)4-20 mA
- Power supply: 24 V_{DC}

● **ADI electronic indicator**

- Combined digital- and bar graph display
- Analogue output (0)4-20 mA
- 2 relays
- Power supply: 100 ... 240 V_{AC} ± 10 % or 18 ... 30 V_{AC} / 10 ... 40 V_{DC}

Areas of Application

- Mechanical engineering and capital equipment
- Chemical and pharmaceuticals industries
- Heavy goods industry
- Drinks and semi-luxury food industry

Technical Details

- Accuracy: 3% of full scale
- Mounting position: horizontal
- Process temperature: max. 80 °C
- Ambient temperature: max. 80 °C
- Max. operating pressure: PN 40/20 °C
- Protection type: IP 65

Materials

- Case: brass
- stainless steel 1.4581
- Paddle, spring strip: stainless steel 1,4571
- Calibration nozzles: stainless steel 1.4571
- Seals: brass version: NBR
- stainless steel version: FPM
- Magnet: oxide ceramics

Electronics

● **Compact Electronics**

- Display: 3-segment LED
- Analogue output: (0)4...20 mA adjustable, max. 500 Ω
- Switching outputs: 1 (2) semiconductor PNP or NPN set at the factory
- Contact operation: programmable N/C/N/O contact with 2 buttons
- Setting: 24 V_{DC} ±20%, 3-wire technology, approx. 100 mA
- Supply: 24 V_{DC} ±20%, 3-wire technology, approx. 100 mA
- Electr. connection: plug connector M12x1

● **ADI electronics**

- Display: bar graph and 5-digit digital display
- Analogue output: (0)4...20 mA, 0-10 V_{DC}
- 2 switching outputs: relay /changeover contact, max. 250 V_{AC}/5 A resistive load, max. 30 V_{DC} / 5 A
- Setting: via 4 buttons
- Supply: 100... 240 V_{AC} ± 10 % or 18... 30 V_{AC} / 10... 40 V_{DC}
- Electr. Connection: pluggable terminal block via cable gland

For more technical details on ADI electronic indicator see data sheet ADI-1.

Pressure loss (for full-scale value water)

Model	Pressure loss [bar]	Model	Pressure loss [bar]
DPT-xx05...	0.74	DPT-xx40...	0.41
DPT-xx10...	0.78	DPT-xx45...	0.15
DPT-xx15...	0.86	DPT-xx50...	0.28
DPT-xx20...	0.65	DPT-xx55...	0.02
DPT-xx25...	0.33	DPT-xx60...	0.16
DPT-xx30...	0.95	DPT-xx65...	0.01
DPT-xx35...	0.27	DPT-xx70...	0.01



Order Details (Example: DPT 1105H G3 K002)

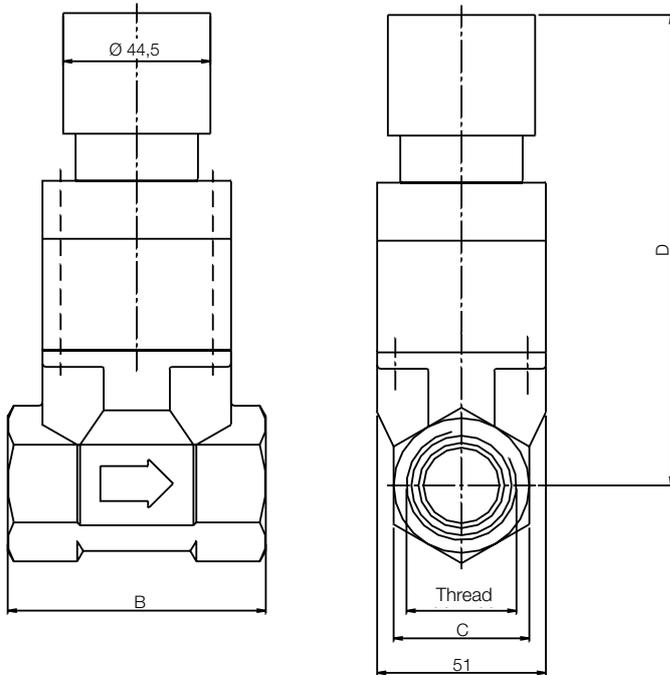
Measuring range l/min water	Model ¹⁾		Connection		Electronics			
	Material brass	Material stainless steel	Standard	Special				
5-30 12-50	DPT 1105H... DPT 1110H...	DPT 1205H... DPT 1210H...	G3 = G ¾	N3 = ¾" NPT	ADI electronics			
					Display	Supply	Output	Contacts
5.5-30 12-70	DPT 1115H... DPT 1120H...	DPT 1215H... DPT 1220H...	G4 = G ½	N4 = ½" NPT	K = bargraph/ digital	0 = 100-230 V _{AC/DC} 3 = 18-30V _{AC} , 10-40 V _{DC}	0 = without 4 = 0(4)-20 mA, 0-10 V	2 = 2 changeover contact
6.5-55 15-85	DPT 1125H... DPT 1130H...	DPT 1225H... DPT 1230H...	G5 = G ¾	N5 = ¾" NPT				
15-65 70-130	DPT 1135H... DPT 1140H...	DPT 1235H... DPT 1240H...	G6 = G 1	N6 = 1" NPT				
50-170 100-230	DPT 1145H... DPT 1150H...	DPT 1245H... DPT 1250H...	G8 = G 1 ½	N8 = 1 ½" NPT	Compact electronics			
					Display	Supply	Output/Contacts	
80-450 150-800	DPT 1155H... DPT 1160H...	DPT 1255H... DPT 1260H...	G9 = G 2	N9 = 2" NPT	C = digital	3 = 24 V _{DC}	0R = 2 x Open Collector, PNP 0M = 2 x Open Collector, NPN 4P = 4-20 mA; 1 x Open Coll. PNP 4N = 4-20 mA; 1 x Open Coll. NPN	
650-1500 850-1900	DPT 1165H... DPT 1170H...	DPT 1265H... DPT 1270H...	GB = G 3	NB = 3" NPT				

¹⁾ Replace 'H' with 'G' to order GPM

Please mention in order: Flow direction (*left* → *right* or *right* → *left*) specify in clear text.

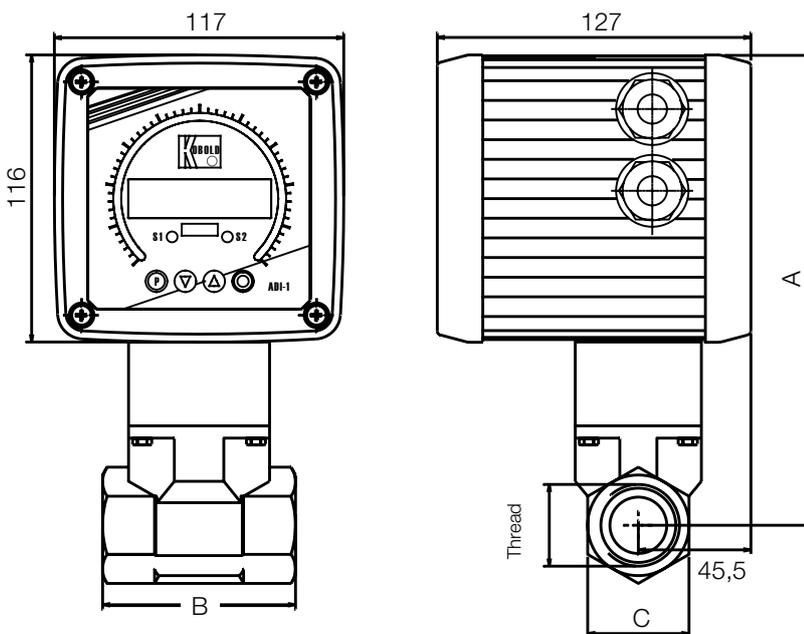
Dimensions [mm]

DPT...C with compact electronics



Thread	B	C	D
G 3/8	78	27AF	138
G 1/2	78	27AF	138
G 3/4	78	41AF	139
G 1	78	41AF	139
G 1 1/2	78	55AF	155
G 2	81	70AF	157
G 3	106	100AF	174

DPT...K with ADI electronic indicator



Thread	A	B	C
G 3/8	186	78	27AF
G 1/2	186	78	27AF
G 3/4	187	78	41AF
G 1	187	78	41AF
G 1 1/2	203	78	55AF
G 2	205	81	70AF
G 3	222	106	100AF