



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: aluminium bronze
or stainless steel



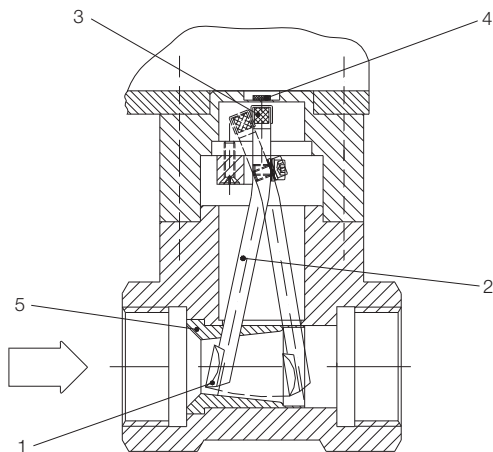
KOBOLD companies worldwide:

ARGENTINA, AUSTRIA, BELGIUM, BULGARIA, CANADA, CHILE, CHINA, COLUMBIA, CZECHIA, DOMINICAN REPUBLIC, EGYPT, FRANCE, GERMANY, GREAT BRITAIN, HUNGARY, INDIA, INDONESIA, ITALY, MALAYSIA, MEXICO, NETHERLANDS, PERU, POLAND, ROMANIA, SINGAPORE, SOUTH KOREA, SPAIN, SWITZERLAND, TAIWAN, THAILAND, TUNISIA, USA, VIETNAM

KOBOLD Messring GmbH
Nordring 22-24
D-65719 Hofheim/Ts.
Head Office:
+49(0)6192 299-0
+49(0)6192 23398
info.de@kobold.com
www.kobold.com

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: aluminium bronze
stainless steel 1.4581
Paddle, spring strip: stainless steel 1,4571
Calibration nozzles: stainless steel 1.4571
Seals: aluminium bronze 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:
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 brochure Z2.

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



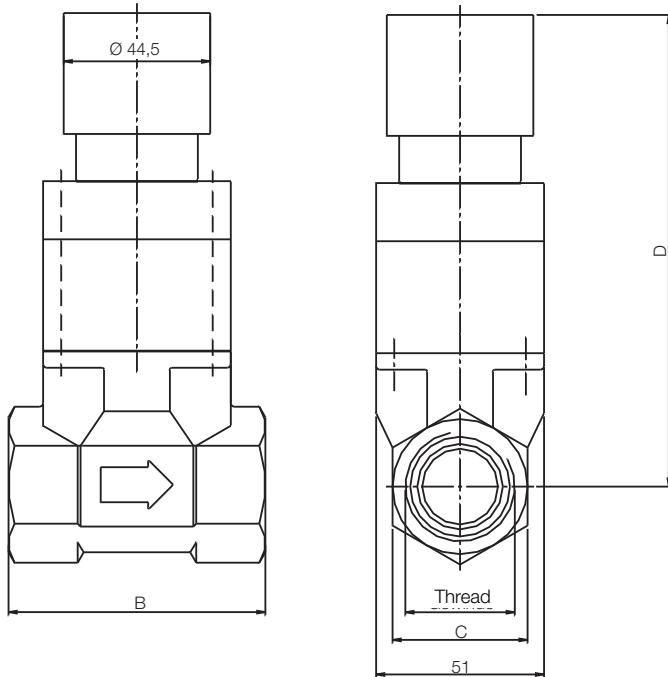
Order Details (Example: DPT 1105H G3 K002)

Measuring range L/min water	Model		Connection		Electronics			
	Material aluminium bronze	Material stainless steel	Standard	Special	Display	Supply	Output	Contacts
5-30 12-50	DPT 1105H... DPT 1110H...	DPT 1205H... DPT 1210H...	G3 = G 3/8	N3 = G 3/8	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
5.5-30 12-70	DPT 1115H... DPT 1120H...	DPT 1215H... DPT 1220H...	G4 = G 1/2	N4 = G 1/2				
6.5-55 15-85	DPT 1125H... DPT 1130H...	DPT 1225H... DPT 1230H...	G5 = G 3/4	N5 = G 3/4				
15-65 70-130	DPT 1135H... DPT 1140H...	DPT 1235H... DPT 1240H...	G6 = G 1	N6 = G 1				
50-170 100-230	DPT 1145H... DPT 1150H...	DPT 1245H... DPT 1250H...	G8 = G 1 1/2	N8 = G 1 1/2	C = digital	3 = 24 V _{DC}	Compact electronics Display Supply Output / Contacts	
80-450 150-800	DPT 1155H... DPT 1160H...	DPT 1255H... DPT 1260H...	G9 = G 2	N9 = G 2			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 = G 3				

Please mention in order: Flow direction (left → right or right → left)

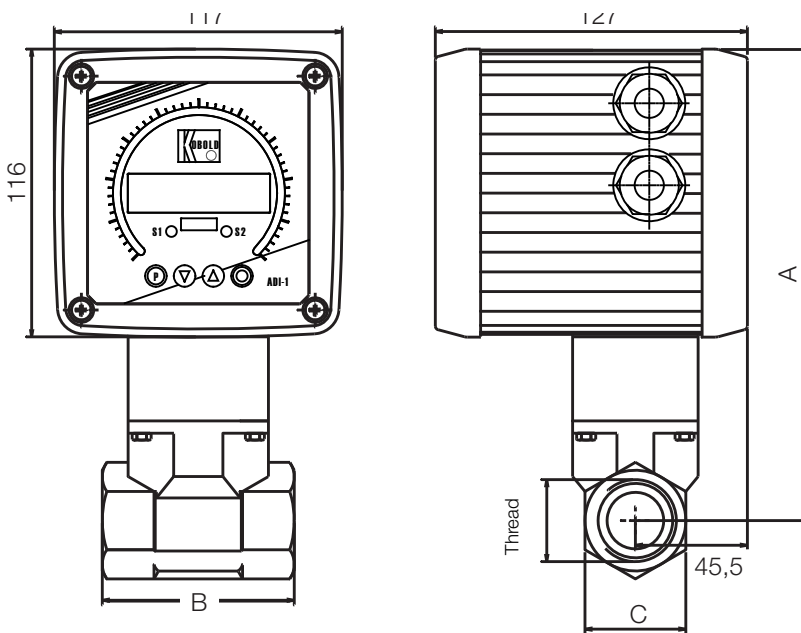
Dimensions

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