



- Measuring ranges:
5-30 to 850-1900 l/min water
10-50 to 450-2800 Nm³/h air
- Measurement accuracy: $\pm 3\%$ f. s.
- p_{max} PN 40
- t_{max} 80 °C
- Connection:
G 3/8 to G 3 female thread,
3/8 NPT to 3 NPT female thread
- Material: aluminium bronze
or stainless steel



KOBOLD offices exist in the following countries:

**ARGENTINA, AUSTRIA, BELGIUM, BRAZIL, CANADA,
CHINA, COLOMBIA, FRANCE, GREAT BRITAIN, NETHERLANDS,
POLAND, SWITZERLAND, USA, VENEZUELA**

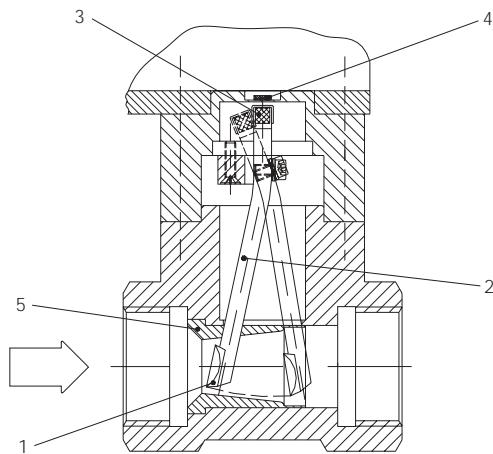
KOBOLD Messring GmbH
Nordring 22-24
D-65719 Hofheim/Ts.
☎ (06192) 299-0
Fax (06192) 23398
E-mail: info.de@kobold.com
Internet: www.kobold.com

Model:
DPT



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 or open-collector switching outputs
Power supply: 24 V_{DC}, 24, 110, 250 V_{AC}

Areas of Application

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

Technical Details

Measurement accuracy: 3% f.s.
 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 st. 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
 Setting: with 2 buttons
 Supply: 24 V_{DC} ± 20%, 3-wire technology, ca. 100 mA
 Electrical connection: plug connector M12x1

● ADI electronic analyser

Display: bar graph, 3.5-segment digital or combination display
 Analogue output: (0)4 - 20 mA, 0 - 10 V, scaleable pulse output 0 - 1000 Hz
 2 switching outputs: 2 relays/changeover contacts max. 230 V_{AC}, 5 A resistive load max. 30 V_{DC} / 5 A
 Option: 2 optocouplers max. 35 V_{DC}, I = 10 - 50 mA
 Setting: with 3 buttons
 Power supply: 230/115/48/24 V_{AC}, 24 V_{DC}
 Electrical connection: pluggable terminal block through Pg 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 B000)

Measuring range l/min. Water	Typ		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= 3/8 NPT	ADI electronic indicator			
5.5-30 12-70	DPT 1115H... DPT 1120H...	DPT 1215H... DPT 1220H...	G4= G 1/2	N4= 1/2 NPT	K=Bargr./Digital	0= 230 V _{AC} 4= 115 V _{AC} 2= 24 V _{AC} 1= 48 V _{AC} 3= 24 V _{DC}	0= without F= scalable frequency* 1= 0-10 V 2= 0-20 mA 4= 4-20 mA	0= without 2= 2 change-over cont. 6= 2 Opto-couplers
6.5-55 15-85	DPT 1125H... DPT 1130H...	DPT 1225H... DPT 1230H...	G5= G 3/4	N5= 3/4 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 1/2	N8= 1 1/2 NPT				
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				

* only for ADI-K

Order details (Example: DPT 1105L G3 B000)

Measuring range Nm ³ /h* Air	Model		Connection		Electronics			
	Material aluminium bronze	Material stainless steel	Standard	Special	Display	Supply	Output	Contacts
10-50 25-110	DPT 1105L... DPT 1110L...	DPT 1205L... DPT 1210L...	G3= G 3/8	N3= 3/8 NPT	ADI electronic indicator			
15-45 35-120	DPT 1115L... DPT 1120L...	DPT 1215L... DPT 1220L...	G4= G 1/2	N4= 1/2 NPT	K=Bargr./Digital	0= 230 V _{AC} 4= 115 V _{AC} 2= 24 V _{AC} 1= 48 V _{AC} 3= 24 V _{DC}	0= without F= scalable frequency** 1= 0-10 V 2= 0-20 mA 4= 4-20 mA	0= without 2= 2 change-over cont. 6= 2 Opto-couplers
10-90 20-125	DPT 1125L... DPT 1130L...	DPT 1225L... DPT 1230L...	G5= G 3/4	N5= 3/4 NPT				
10-120 75-220	DPT 1135L... DPT 1140L...	DPT 1235L... DPT 1240L...	G6= G 1	N6= 1 NPT				
85-300 90-400	DPT 1145L... DPT 1150L...	DPT 1245L... DPT 1250L...	G8= G 1 1/2	N8= 1 1/2 NPT				
150-900 250-1250	DPT 1155L... DPT 1160L...	DPT 1255L... DPT 1260L...	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	
300-2200 450-2800	DPT 1165L... DPT 1170L...	DPT 1265L... DPT 1270L...	GB= G 3	NB= 3 NPT				

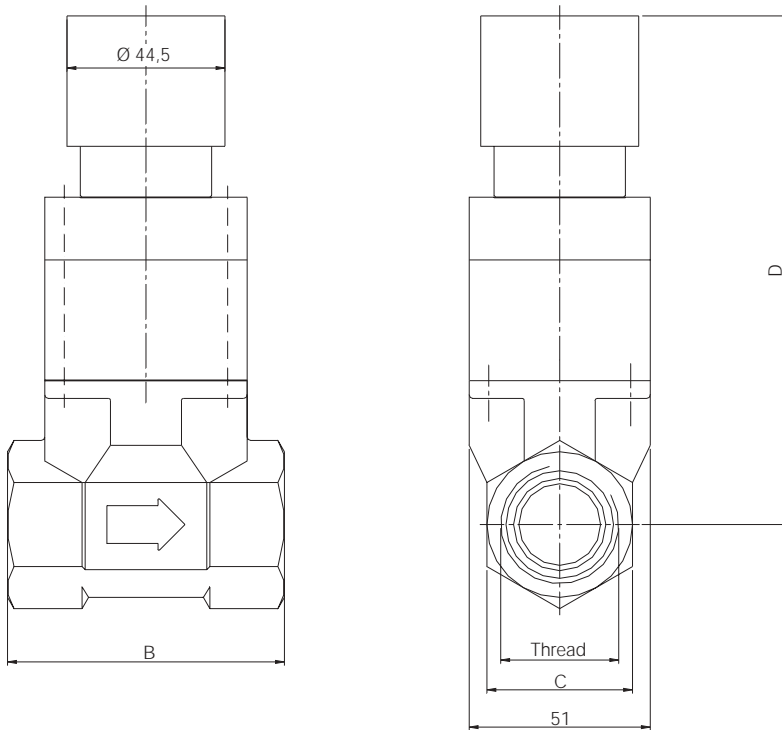
* at 20°C, 1 bar abs.

** only for ADI-K

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

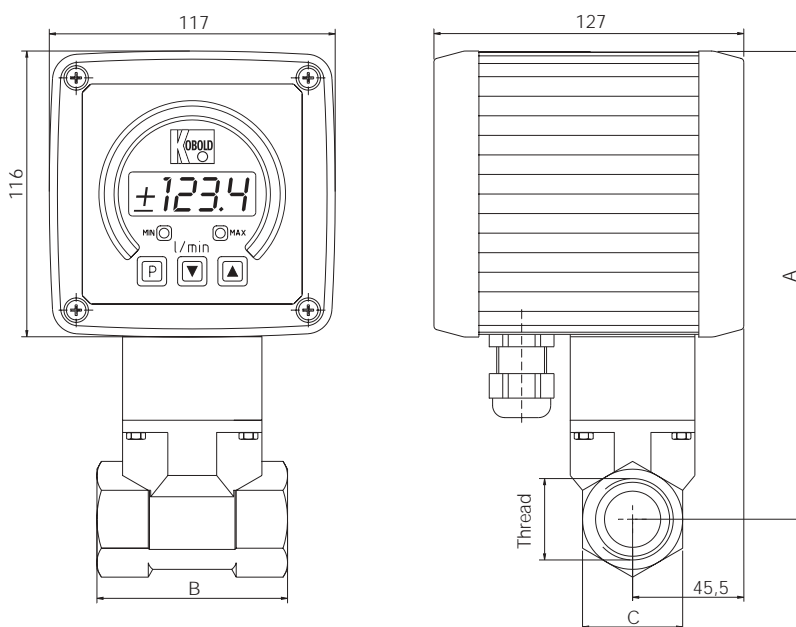
Dimensions

DPT...C with compact electronics



Thread	B	C	D
G 3/8	78	SW27	138
G 1/2	78	SW27	138
G 3/4	78	SW41	139
G 1	78	SW41	139
G 1 1/2	78	SW55	155
G 2	81	SW70	157
G 3	106	SW100	174

DPT...K with ADI electronic indicator



Thread	A	B	C
G 3/8	186	78	SW27
G 1/2	186	78	SW27
G 3/4	187	78	SW41
G 1	187	78	SW41
G 1 1/2	203	78	SW55
G 2	205	81	SW70
G 3	222	106	SW100