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

Rotating Vane Flow Meter

for liquids

measuring • monitoring • analysing

DRG

Model: DRG-...L

Model: ADI-1

Model: DRG-...C

- Measuring ranges:
  0.5 - 12 ... 10 - 140 l/min water
- Measuring accuracy:
  ±3% of full scale
- p_{max}: 40 bar; t_{max}: 80 °C
- Connection:
  G ⅛, G ¼, G ½, G ¾, G 1 female,
  ⅛" NPT, ¼" NPT, ½" NPT,
  ¾" NPT,1" NPT female
- Material:
  brass, stainless steel, PP
- Viscosity range: low viscous
- Output:
  pulses, 4 - 20 mA, LED display

S4

KOBOLD companies worldwide:

AUSTRALIA, AUSTRIA, BELGIUM, BULGARIA, CANADA, CHINA, CZECHIA, FRANCE, GERMANY, GREAT BRITAIN, HUNGARY, INDIA, INDONESIA, ITALY, MALAYSIA, MEXICO, NETHERLANDS, PERU, POLAND, REPUBLIC OF KOREA, SPAIN, SWITZERLAND, THAILAND, TUNISIA, TURKEY, USA, VIETNAM

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1/05 - 2024

Description

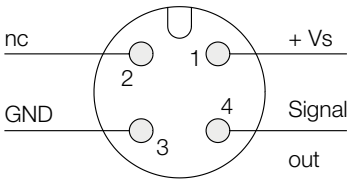
KOBOLD rotating vane flow meters series DRG are used for measuring and monitoring low viscous liquids.
Series DRG flow meters are working according the well-known rotating vane principle. A magnet fitted in the vane and hermetically sealed from the medium transfers non-contacting the rotary motion to a Hall-effect sensor mounted in the housing. The sensor converts the rotary motion which is proportional to the flow to a frequency signal. A series-connected electronics unit converts the signal to an analogue output, limit contacts or display.

Fields of Application

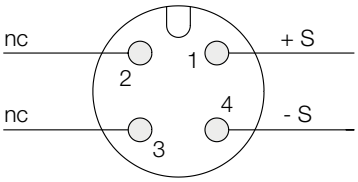
- Cooling water monitoring
- Agricultural machinery
- PCB board industry

Electrical Connection

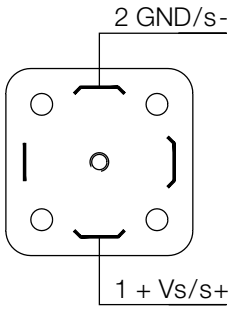
DRG-...F.., DRG-...L3... 3-wire



DRG-...L342... 2-wire



DRG-...L4...



Technical Details

Material combinations:	see order details
Max. operating pressure:	see order details
Max. temperature:	see order details
Measuring accuracy:	±3% of full scale
Electrical connection:	plug connector DIN 43 650, plug connector M12x1
Pressure loss:	max. 1 bar at max. range
Protection:	IP 65

Electronics

- **Frequency output (...F300)**

Power supply:	12-28 V_{DC}
Power consumption:	10 mA
Pulse output:	PNP, open collector max. 25 mA
Electrical connection:	plug connector M12x1

- **Frequency output with frequency divider**

Power supply:	24 V_{DC} ±20%
Power consumption:	15 mA
Pulse output:	PNP, open collector, max. 25 mA
Electrical connection:	plug connector M12x1
Division ratio:	1 ... $^{1}/_{128}$, factory set

- **Analogue output (Option plug-on display)**

Power supply:	24 V_{DC} ±20%
Output:	0 - 20 mA or 4 - 20 mA, 2-wire or 3-wire
Max. load:	500 Ω
Electrical connection:	plug connector M12x1 or DIN 43650
Option:	plug-on display (with plug connector DIN 43650 and output 4 - 20 mA only), 2-wire

- **Compact electronics**

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

No responsibility taken for errors;
subject to change without prior notice.

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Order Details (Example: DRG-1 1 05 G1 F300)

Measuring range		Orifice diameter	Model	Connection	
Water [l/min]	approx. frequency [Hz] at F.S.	[mm]		Standard female	Special female
0.5 - 12	120	6	**DRG-1X05..**	**..G1..** = G⅛	**..N1..** = ⅛" NPT
0.5 - 25	217	6	**DRG-1X10..**	**..G2..** = G¼	**..N2..** = ¼" NPT
1 - 30	217	8	**DRG-1X15..**	**..G2..** = G¼	**..N2..** = ¼" NPT
1 - 30	190	7	**DRG-1X15..**	**..G4..** = G½	**..N4..** = ½" NPT
2 - 45	215	8	**DRG-1X20..**	**..G4..** = G½ **..G5..** = G¾ **..G6..** = G 1	**..N4..** = ½" NPT **..N5..** = ¾ " NPT **..N6..** = 1" NPT
5 - 90	265	12	**DRG-1X25..**	**..G4..** = G½ **..G5..** = G¾ **..G6..** = G 1	**..N4..** = ½" NPT **..N5..** = ¾ " NPT **..N6..** = 1" NPT
5 - 140	116	16	**DRG-1X30..**	**..G5..** = G¾	**..N5..** = ¾ " NPT
10 - 140	180	16	**DRG-1X35..**	**..G6..** = G 1	**..N6..** = 1" NPT

Evaluating electronics

Frequency output

..**F300** = Frequency output, plug connector M12 x 1
..**F320** = Frequency divider 1:2, plug connector M12 x 1
..**F340** = Frequency divider 1:4, plug connector M12 x 1
..**F390** = Frequency divider 1...$^{1}/_{128}$, plug connector M12x 1

Analogue output

..**L303** = 0-20 mA output, 3-wire, M12 x 1 plug connector
..**L342** = 4-20 mA output, 2-wire, M12 x 1 plug connector
..**L343** = 4-20 mA output, 3-wire, M12 x 1 plug connector
..**L442** = 4-20 mA output, 2-wire, plug connector DIN 43 650

Compact electronics*

..**C30R** = LED display, 2 x open Collector, PNP, plug connector M12 x 1
..**C30M** = LED display, 2 x open Collector, NPN, plug connector M12 x 1
..**C34P** = LED display, 4-20 mA, 1 x open Collector PNP, plug connector M12 x 1
..**C34N** = LED display, 4-20 mA, 1 x open Collector NPN, plug connector M12 x 1

* Please specify flow direction in writing.

Material Combinations (Please enter order code instead of X "model")

Device parts	Order code: 1	Order code: 2	Order code: 4	Order code: 5	Order code: 8	Order code: 9
Housing	Brass	Brass	1.3955	1.3955	Polypropylene	Polypropylene
Housing cover	Polysulfone	Brass	Polysulfone	1.4404	Polypropylene	Polysulfone
Seal	NBR	NBR	FPM	FPM	NBR	NBR
Rotating vane	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE
Axle	Ceramic	Ceramic	Ceramic	Ceramic	Ceramic	Ceramic
Bearing	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE
p_{max}:	16 bar	40 bar	16 bar	40 bar	7 bar	7 bar
t_{max}:	80 °C	80 °C	80 °C	80 °C	80 °C	80 °C
Sensor Weight	580 g	580 g	480 g	480 g	120 g	120 g

Plug-on Display

for model DRG...L442 (with 4-20 mA output and DIN plug connector)

Description	Order number
4-digit LED, connector DIN 43650, 2-wire, supply through analogue output	**AUF-1000**
as above however with additional open collector output	**AUF-1001**

Electronic weight

Frequency output: approx. 35 g
Analogue output (...L3...): approx. 35 g
Analogue output (...L4...): approx. 100 g
Compact electronics: approx. 650 g

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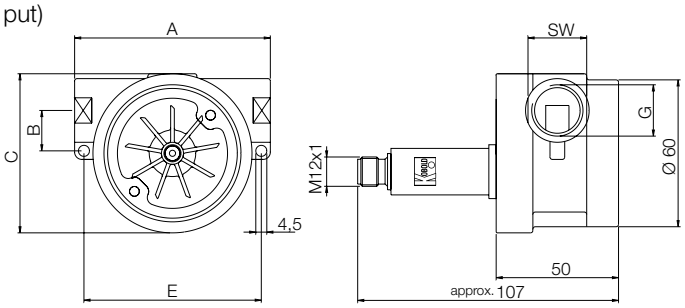
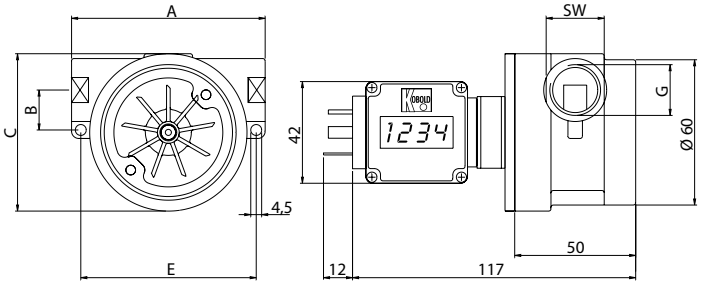
Dimensions

Model: DRG-F3... (with frequency output)**, DRG-..L3..** (with analogue output)



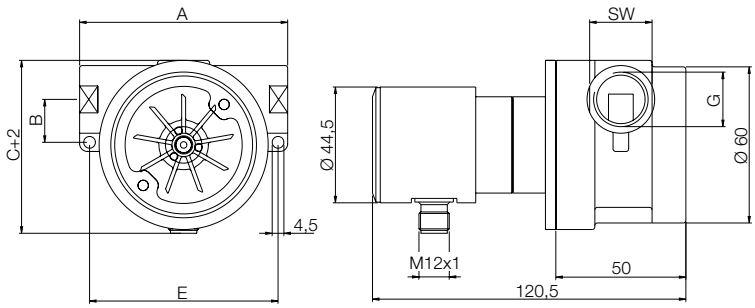
G*	A	B	C	E	SW
1/8	80	16.5	63.0	72.5	24
¼	80	16.5	63.0	72.5	24
½	80	16.5	63.0	72.5	24
¾	100	25.0	69.5	90.0	38
1	100	25.0	69.5	90.0	38

Model: DRG-...L442 (with analogue output and plug-on display)



G*	A	B	C	E	SW
1/8	80	16.5	63.0	72.5	24
¼	80	16.5	63.0	72.5	24
½	80	16.5	63.0	72.5	24
¾	100	25.0	69.5	90.0	38
1	100	25.0	69.5	90.0	38

Model: DRG-...C (with compact electronics)



G*	A	B	C	E	SW
1/8	80	16.5	63.0	72.5	24
¼	80	16.5	63.0	72.5	24
½	80	16.5	63.0	72.5	24
¾	100	25.0	69.5	90.0	38
1	100	25.0	69.5	90.0	38

* Screw-in depth acc. to DIN 3852-2 short version

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