

Compact Vortex Flow Meter

for low viscous liquids



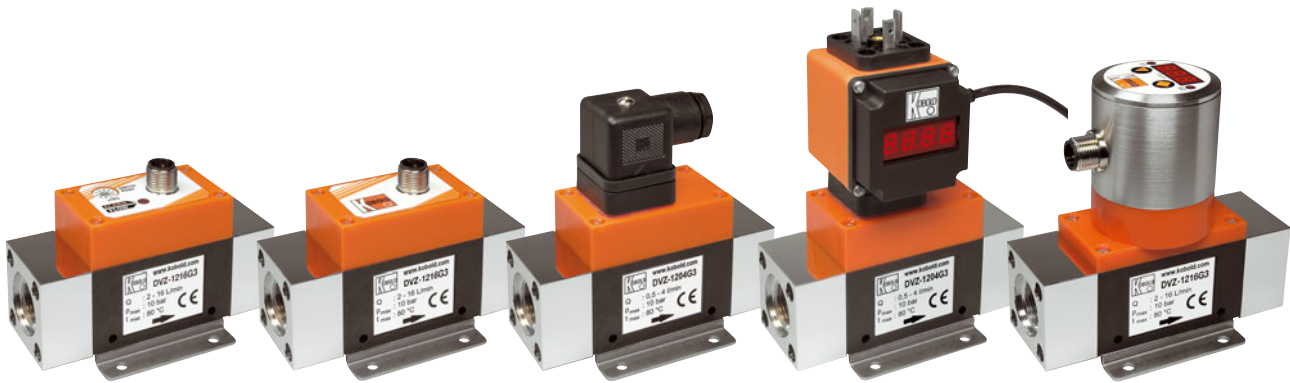
- Range:
0.5-4.5 to 10-100 L/min
- Accuracy:
± 2.5 % from F. S.
- p_{max} 10 bar; t_{max} 80 °C
- Connections:
G 1/4...G 1, 1/4 NPT...1 NPT
- Connection material:
Brass or stainless steel
- Switching output, frequency output, analogue output
- Compact electronics with digital display



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Model:
 DVZ



DVZ-...S300

DVZ-...F300
DVZ-...L303
DVZ-...L343

DVZ-...L443

DVZ-...L443
(usage with AUF-3000)

DVZ-...C3...
(Compact electronic)

Description

The compact KOBOLD Vortex flow meter Type DVZ is used for measuring and monitoring smaller and medium-sized flow of low viscous, water-like liquids in pipes. The device works using the vortex principle, making it virtually maintenance-free. This involves the installation of a sharp-edged object (the vortex generator) in the flow duct. Vortices are created behind the object whose frequency is proportional to the velocity of flow of the liquid. The flow volume can be determined with a very great degree of accuracy by measuring the vortex frequency. This achieves a very high linearity over the whole measuring range.

The device can be fitted with switching, frequency or analogue outputs. There is also an optional compact electronics package that includes a digital display, and both a switching and analogue output. Dosage and metering electronics are currently being developed.

Areas of application

- Monitoring the flow of low viscous liquids
- Measuring of aggressive, high-purity or salty solutions
- Unsuitable for abrasive media or media containing a large proportion of fibres

Technical Data

Measurement process: Vortex principle
 Mounting position: Any, flow in direction of arrow
 Accuracy: ±2.5% of F. S.
 Repeat accuracy: ±1% of F. S.
 Inlet/outlet runs: 10x DN
 Operating temperature: 0...80 °C
 Max. pressure: 10 bar
 Max. pressure loss: 0.25 bar at F. S.

Wetted parts

Sensor housing: PPS, fibreglass-reinforced
 Sensor: PVDF
 Connections: Brass, nickel plated or stainless steel 1.4404
 Bluff body: PPS, fibreglass-reinforced or oxide ceramic (non-wear version)
 Seal: NBR, EPDM or FPM
 Response time: 1 s
 Protection: IP 65
 Weight: varies for each version

Model	Weight fixed connections	Weight rotatable connect.
DVZ-...S300 DVZ-...F300 DVZ-...L3*3 DVZ-...L443	approx. 0.50 kg	approx. 0.90 kg
DVZ-...C3...	approx. 0.65 kg	approx. 1.10 kg

Technical Data (continued)

DVZ-...S300

Display: Duo-LED for switching condition and when range limit is exceeded

Switching output: Relay chanceover, max. 1 A/30 V_{DC}

Switch point: 10...100% FS in 10%-steps that can be configured by the customer using a rotary switch

Power supply: 24 V_{DC} ± 20%

Power consumption: 12 mA

Electr. connection: Plug M12x1.5 pole

DVZ-...F300

Impulse output: PNP, Open Collector, max. 200 mA

Power supply: 24 V_{DC} ± 20%

Power consumption: 5 mA

Electr. connection: Plug M12x1

DVZ-...L303; DVZ-...L343

Output: 0(4)-20 mA, 3-wire

Max. load: 500 Ω

Power supply: 24 V_{DC} ± 20%

Electr. connection: Plug M12x1

DVZ-...L443 (usage with AUF-3000)

Output: 4-20 mA, 3-wire

Max. load: 500 Ω

Power supply: 24 V_{DC} ± 20%

Electr. connection: Plug DIN 43650

DVZ-...C30* (compact electronics)

Display: 3-digit LED

Switching output: 2 Open Collector PNP or NPN, factory programmed

Contact function: N/C, N/O, frequency, programmable

Programming: with 2 keys

Power supply: 24 V_{DC} ± 20%, 3-wire techn.

Power consumption: approx. 100 mA

Electr. connection: Plug M12x1

DVZ-...C34* (compact electronics)

Display: 3-digit LED

Analogue output: (0)4...20 mA adjustable

Switching output: 1 Open Collector PNP or NPN, factory programmed

Contact function: N/C, N/O, frequency, programmable

Programming: with 2 keys

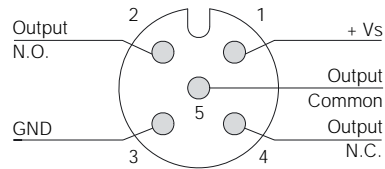
Power supply: 24 V_{DC} ± 20%, 3-wire techn.

Power consumption: approx. 100 mA

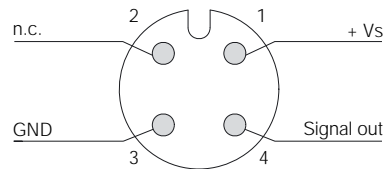
Electr. connection: Plug M12x1

Elektrische Anschlüsse:

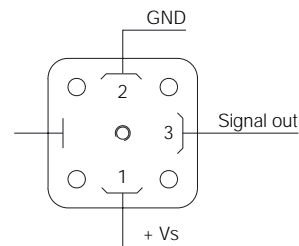
DVZ-...S300



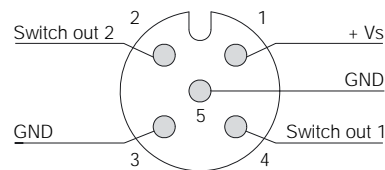
DVZ-...F300; DVZ-...L3x3



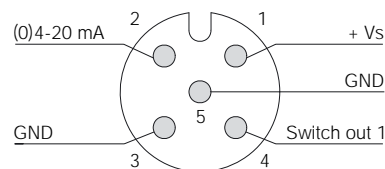
DVZ-...L443



DVZ-...C30*



DVZ-...C34*





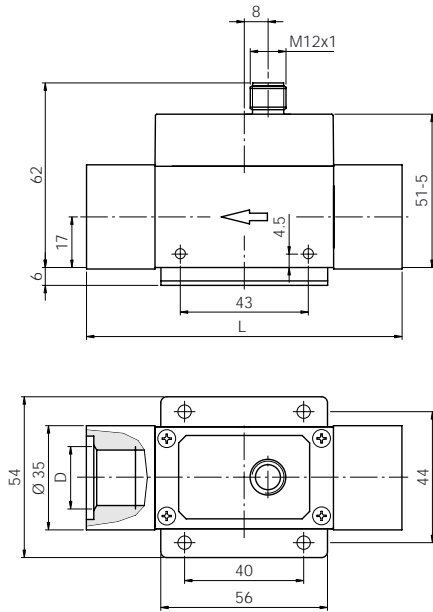
Order data (Example: DVZ-1 1 04 G2 S300)

Bluff body	Connection/ Seal	Measuring range	Connections		Electronics
			fixed	axially rotatable	
DVZ-1.. = PPS DVZ-2.. = Ceramic	..1.. = Brass/NBR ..2.. = St. steel/NBR ..4.. = Brass/EPDM ..5.. = St. steel/EPDM ..7.. = Brass/FPM ..8.. = St. steel/FPM	..04.. = 0.5-4.5 L/min ..07.. = 0.8-7.0 L/min ..10.. = 1.3-10.0 L/min	..G2.. = G 1/4 ..G3.. = G 3/8 ..G4.. = G 1/2 ..N2.. = 1/4 NPT ..N3.. = 3/8 NPT ..N4.. = 1/2 NPT	..B2.. = G 1/4 ..B3.. = G 3/8 ..B4.. = G 1/2 ..P2.. = 1/4 NPT ..P3.. = 3/8 NPT ..P4.. = 1/2 NPT	..S300 = Switching output, M12-Plug, Relay output ..F300 = Frequency output, M12-Plug ..L303 = Analogue output, M12-Plug, 0-20 mA
		..16.. = 2.0-16.0 L/min	..G3.. = G 3/8 ..G4.. = G 1/2 ..G5.. = G 3/4 ..N3.. = 3/8 NPT ..N4.. = 1/2 NPT ..N5.. = 3/4 NPT	..B3.. = G 3/8 ..B4.. = G 1/2 ..B5.. = G 3/4 ..P3.. = 3/8 NPT ..P4.. = 1/2 NPT ..P5.. = 3/4 NPT	..L343 = Analogue output, M12-Plug, 4-20 mA ..L443 = Analogue output, DIN-Plug, 4-20 mA
		..22.. = 3.2-22.0 L/min ..32.. = 4.0-32.0 L/min	..G4.. = G 1/2 ..G5.. = G 3/4 ..G6.. = G 1 ..N4.. = 1/2 NPT ..N5.. = 3/4 NPT ..N6.. = 1 NPT	..B4.. = G 1/2 ..B5.. = G 3/4 ..B6.. = G 1 ..P4.. = 1/2 NPT ..P5.. = 3/4 NPT ..P6.. = 1 NPT	..C30R = Compact electron., 2xOpen Coll., PNP ..C30M = Compact electron., 2xOpen Coll., NPN ..C34P = Compact electron., 4-20 mA, 1xOpen Coll., PNP
		..63*.. = 5.0-63.0 L/min ..99*.. = 10.0-100 L/min	..G5.. = G 3/4 ..G6.. = G 1 ..N5.. = 3/4 NPT ..N6.. = 1 NPT	..B5.. = G 3/4 ..B6.. = G 1 ..P5.. = 3/4 NPT ..P6.. = 1 NPT	..C34N = Compact electron., 4-20 mA, 1xOpen Coll., NPN

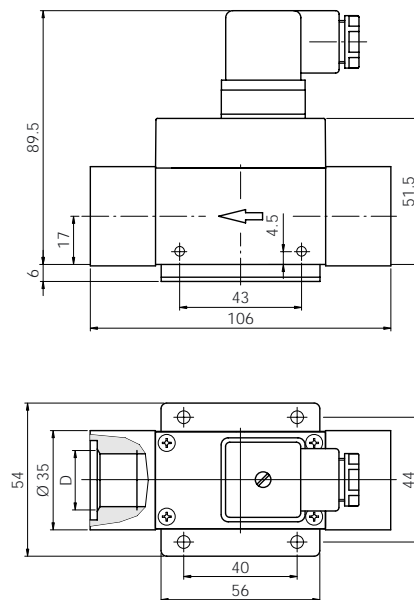
*Measuring ranges in preparation

Measurements

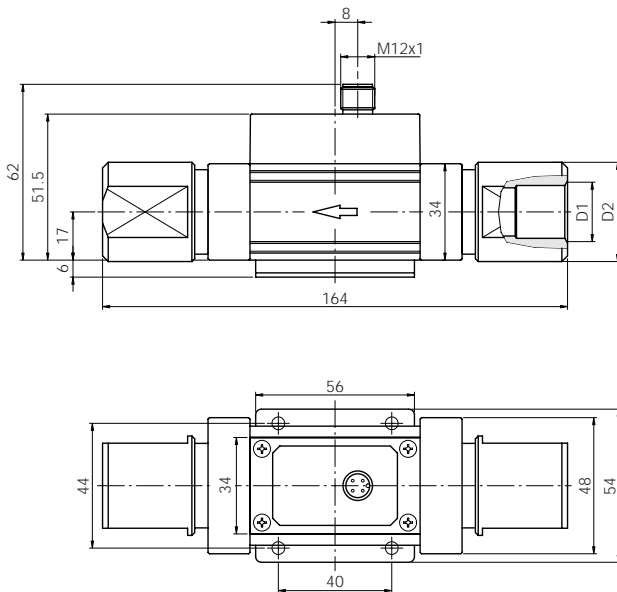
DVZ-...S300; DVZ-... F300; DVZ-...L3...
with fixed connection



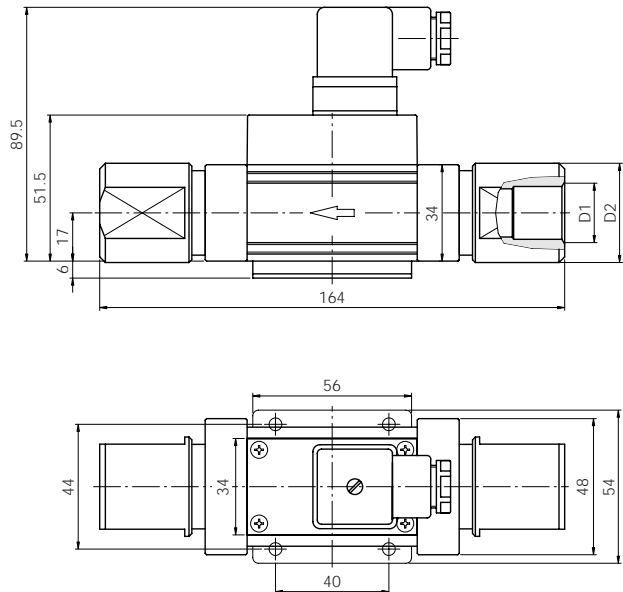
DVZ-...L443
with fixed connection



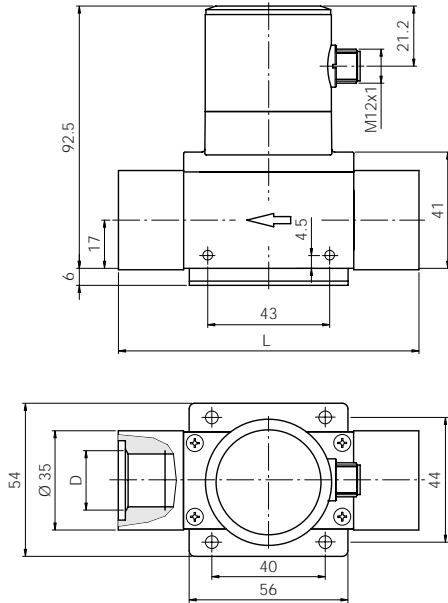
DVZ-...S300; DVZ-...F300; DVZ-...L3...
with rotatable connection



DVZ-...L443
with rotatable connection



DVZ-...C3...
with fixed connection



DVZ-...C3...
mit drehbarem Anschluss

