

DW03

Vortex Flowmeter and Switch

- for low viscosity liquids
- compact dimensions
- Totalisatorfunction
- optional with valve
- rotatable, three coloured display



Description:

The flowmeter DW03 is based on the technology of generating vortices by an obstacle which is located in the flow duct. The principal was investigated by the Hungarian engineer von Kármán. The generated vortices are moved with the flow of the medium causing small pressure differences after the obstacle. The frequency of these pressure differences is directly proportional to the volume flow of the medium. The devices are available as a compact version with built-on electronics and display or separated with the display unit ready for panel mounting for a large variety of applications. In the case of the compact version the display is rotatable in steps by 45° to adapt easily to different mounting positions. As an option, a manually operated valve can be attached to adjust the flowrate for the measuring ranges up to 40 l/min.

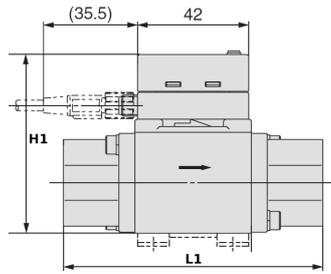
The devices are shipped with two electrical signal connections either as pulse and analogue output signals or one output and a digital input to reset remotely the totaliser or the min/max memory.

Applications:

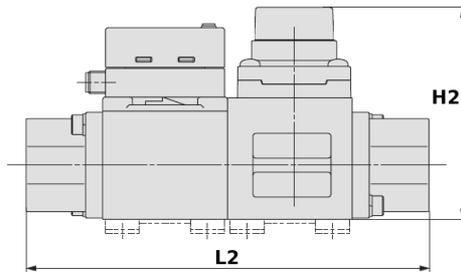
The Vortex flowmeters can be applied also in those cases, where the electrical conductivity of the liquid is too small for magnetic conductive devices, like e.g. demineralised water. Also in the case of cooling liquids with a high amount of glycols the DW03 flowmeters have delivered an optimal performance in practice.

Models:

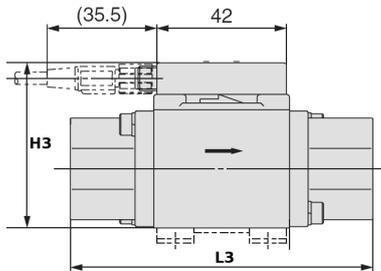
Compact version without valve



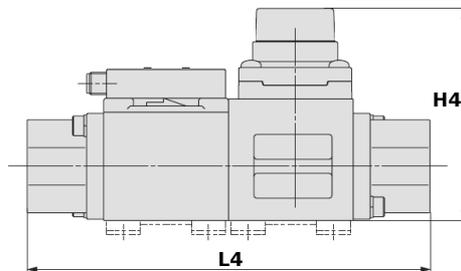
Compact version with valve



Separated sensor without valve



Separated sensor with valve



Range	L1	H1	L2	H2	L3	H3	L4	H4
004	70	60	104	68,6	70	45,6	70	45,6
016	78	60	112	68,6	78	45,6	78	45,6
040	98	68	142	81,0	98	53,6	98	53,6
100	124	77	-	-	124	62,6	-	-

Electrical output signals

sensor only Model 1	compact and separated version Models 2 and 3
I = 4...20 mA	NN = OUT1 NPN pulse, OUT2 NPN pulse
U = 1...5 V	PP = OUT1 PNP pulse, OUT2 PNP pulse
	NI = OUT1: NPN pulse, OUT2 analogue 4...20 mA
	NU = OUT1: NPN pulse, OUT2 analogue 1...5 V
	PI = OUT1: PNP pulse, OUT2 analogue 4...20 mA
	PU = OUT1: PNP pulse, OUT2 analogue 1...5 V
	NE = OUT1: NPN pulse, OUT2 external reset input
	PE = OUT1: PNP pulse, OUT2 external reset input

Ordering code:

Order number: DW03.10.004.2.NI.0.0

Vortex Flowmeter and Switch

Process connection:
 10 = female thread G 3/8"
 15 = female thread G 1/2"
 20 = female thread G 3/4"
 25 = female thread G 1"

Measuring range:
 004 = 0,5...4 l/min (G 3/8")
 016 = 2...16 l/min (G 3/8" and G 1/2")
 040 = 5...40 l/min (G 1/2" and G 3/4")
 100 = 10...100 l/min (G 3/4" and G 1")

Model:
 1 = sensor only, without display
 2 = compact version
 3 = separated version with display unit for panel mounting

Output signals:
 I ... PE = see table „Electrical output signals“

Valve:
 0 = without valve
 1 = with manually operated valve (not for range 100)

Options (combinable):
 0 = without
 P = testing record
 B = mounting bracket
 G = mating connector with 3 m cable attached

Technical Data:

Max. pressure: 10 bar

Medium temperature: 0..90 °C

Wetted parts

process connections: Stainless steel 1.4301
body and sensor: PPS
seals: FKM
valve body: PPS
valve stem: Stainless steel 1.4301

Accuracy: ±3% F.S.

Display: Two line, three coloured LED display for actual flow and optionally switching point, total, or min/max value

Power supply: 12...24 VDC ±10%

Power consumption: 0,6...1,2 W

Output signals: 4...20 mA or 1...5 V

Switching output

electrical data: NPN or PNP transistor output
 28 VDC, 80 mA max.

reaction time: adjustable 0,5 / 1 / 2 s

Protection class: IP65

Electr. connection:

sensor and compact: M8 plug 4 pin
separated display: system plug 4- and 5 pin