

VZTH 8

Rotary piston flowmeter

Applications

These rotary piston type flowmeters work on the volumetric displacement principle. They cover a wide measuring range with high precision, and are suitable for relatively high viscosities. They do not require a power supply and are insensitive to turbulent flow.



Features

- For a wide range of liquid chemicals and for water
- Mechanical roller counter
- Max. operating temperature 50 °C with hard rubber piston, or 90 °C with graphite piston
- Rated pressure 25 bar
- Reed type pulse transmitter version available

Your benefits

- Reliable monitoring
- Accurate measurements
- Highly flexible mounting with very small space requirements
- For horizontal, vertical or slant installation

Meter data

Function

The flow meters work on the volumetric principle of rotary piston meters (positive displacement meters). The main features of this measuring principle are large measuring ranges, high accuracy, suitability for high viscosities and independence from power supply; flow disturbances do not influence proper operation.



Design

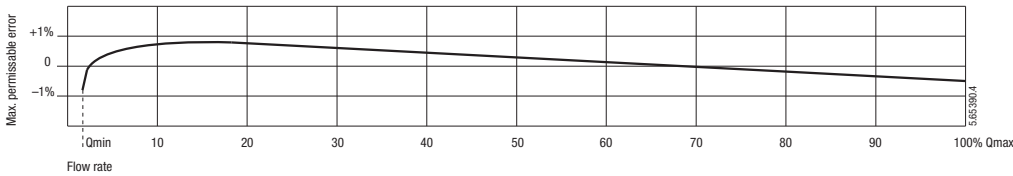
The only moving parts in contact with the medium are the rotary piston, the guide roll and the carrier dog. The actual metering components are hermetically sealed from the medium, since rotary motion is transmitted magnetically through the cover of the totally enclosed measuring chamber.

- Compact cubic design with both connections at the bottom.
- Cover of transparent, oil-resistant plastic, with integrated window for the roller counter.

Measuring error under reference conditions

- Reference conditions:
- Medium Water
 - Temperature 20 °C

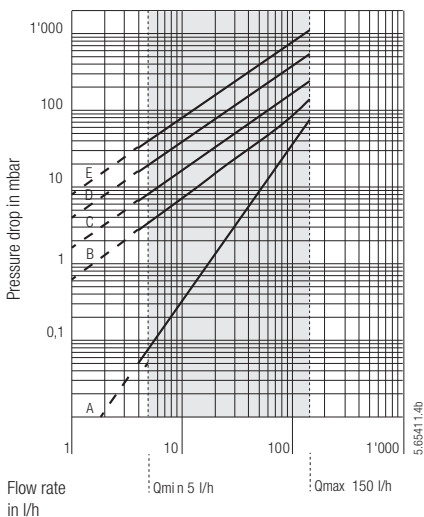
Horizontal mounting position, reading on roller counter.



Materials

- Housing or measuring chamber: • Brass
- Rotary piston: • Hard rubber or graphite
- Seal: • FPM fluor elastomer (Viton)
- Cover: • Oil-resistant plastic

Pressure drop curves



Recommended pressure drop max. 1 bar

- Viscosities
- A = 4,5 mPa.s
 - B = 50 mPa.s
 - C = 100 mPa.s
 - D = 200 mPa.s
 - E = 500 mPa.s

Technical data ¹⁾



- Counter with tapped connection at the bottom
- Compact cubic design
- Mechanical roller counter
- For horizontal, vertical or slant installation
- Max. permissible error +/- 1 % of reading, repeatability +/- 0.2 %
- Max. operating temperature 50 °C with hard rubber piston, or 90 °C with graphite piston
- Rated pressure 25 bar
- Versions with reed pulser available

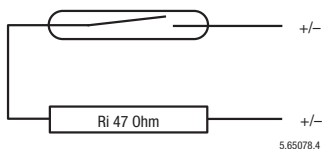
Type		VZTH 8	
Nominal diameter	mm	8	
	inch	1/4	
Connection threads of the meter	inch	1/4	
Nominal pressure	bar	25	
Maximum temperature			
- with hard rubber piston	T _{max}	° C	50
- with graphite piston	T _{max}	° C	90
Maximum flow rate	Q _{max}	l/h	150
Nominal flow rate	Q_{cont}	l/h	75
Minimum flow rate	Q _{min}	l/h	5
Approx. starting flow rate		l/h	2
Smallest readable amount		l	0,01
Registration capacity		m ³	1000
Registration at Q _{cont} until overrunning to zero		h	13300
Safety filter mesh size		mm	0,150
Dirt filter mesh size		mm	0,100
Volume of the measuring chamber		approx. cm ³	12,5
Weight without couplings		approx. kg	0,75
Reed pulsers	RE 1	l/pulse	1
	RE 0,00314	l/pulse	0,00314
Pulse frequency for	RE 0,00314	at Q _{max}	Hz
		at Q _{min}	Hz
			13,270
			0,442

1) Manufacturer's specification

Pulse transmitter RE

Electronic pulse counters have low switching power consumption and can thus be driven directly by the pulse transmitter. Electromechanical pulse transmitters consuming more than 2 Watts need an intermediate switching relay.

Wiring Diagramm



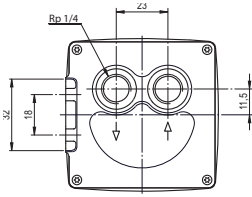
Switching element:
Schaltspannung:
Switching current:
Switching power:
Quiescent current:
ON-time:

Ambient temperature:
Protection:

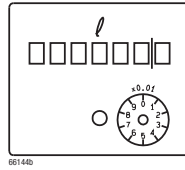
Cable cross section:

- Reed switch with dry contact (inert gas)
- Max. 48 VAC/DC, protection class III (SELV)
- Max. 50 mA
- Max. 2 W
- Open contact
- 40...60 % (1 l/pulse)
- 30...70 % (0,0034 l/pulse)
- -10...60 °C
- IP 54 (IEC 60529) against harmful dust deposits
- Option: IP 54
- On plug connector with cable, 3,5 - 5 mm Ø

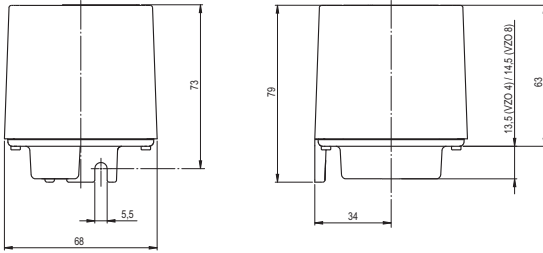
Dimension drawings



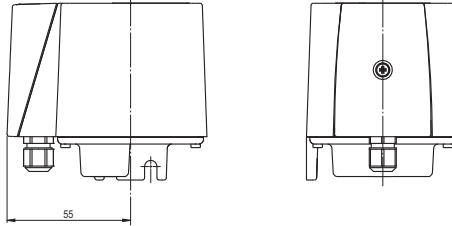
Dial



without pulse transmitter

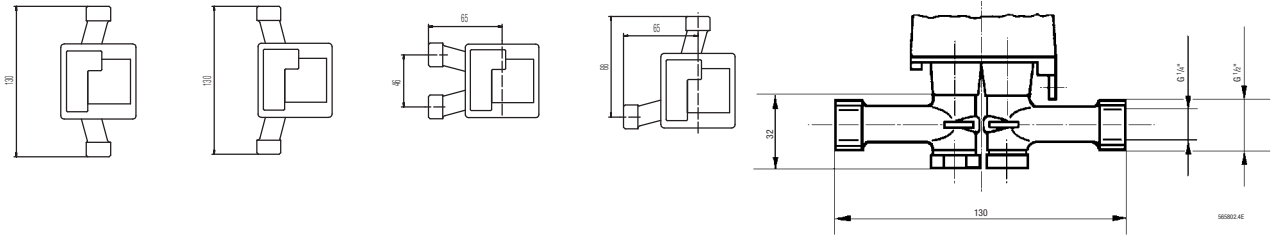


with pulse transmitter



Mounting kit

Possible mounting positions:



Ordering data

	Type designation	version	Art. No.
	VZTH 8 H	execution with hard rubber piston	92536
	VZTH 8 H-RE 0,00314	with pulser RE 0,00314	89722
	VZTH 8 H-RE 1	with pulser RE 1	89721
	VZTH 8 G	execution with graphite piston	92537
	VZTH 8 G-RE 0,00314	with pulser RE 0,00314	89727
	VZTH 8 G-RE 1	special version with pulser RE 1 I	on request

Modification	Increased Protection (IP 54)	80368
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Mounting Kit: Art. No. 81130
 Threaded connection VSR 3/8": Art. No. 81156

DISTRIBUTOR:

Contact, Adress and Stamp

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