

Push-in flow sensors // VTY

Push-in turbine with Hall effect sensor



VTY10/15/20/25

Product

- Flow sensor with high-quality sapphire bearing
 - Long-term stability
- 100% final test in water flow test bench
 - Guarantees a high level of operational safety
- Compact dimensions
 - Easy to integrate
- Flow straighteners
 - Hardly any requirement for inlet and outlet sections
- Clever bearing system
 - Excellent signal-output at low flow
- Sophisticated bearing flushing
 - Particularly insensitive to contamination

Flushing bore



The wet bearing resulting from the increase in centrifugal forces ensures cooling and flushing out of any contaminants and thus a long service life.

Quality

- SIKA's application experience about 25 years with approx. 2.5 million VTY turbine sensors in field
- OEM product developed and produced in Germany

Co-Engineering

- Product adaptation to customer requirements
- Provision of 2D and 3D data
- Provision of material test certificates acc. to customer product approvals in drinking water applications
- Test with the real customer hydraulics on SIKA test bench
 - Best possible measurement performance
 - Test reports available for customers

Can be integrated



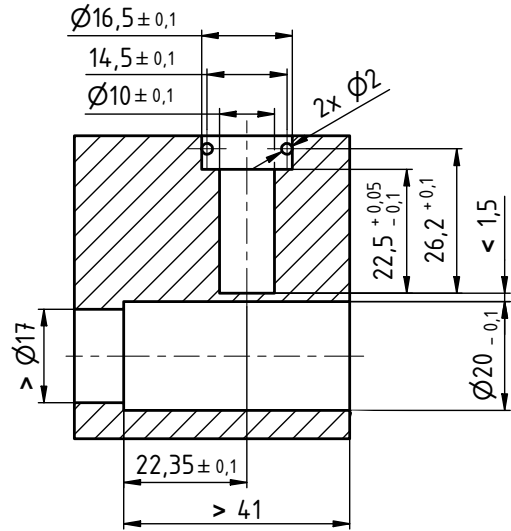
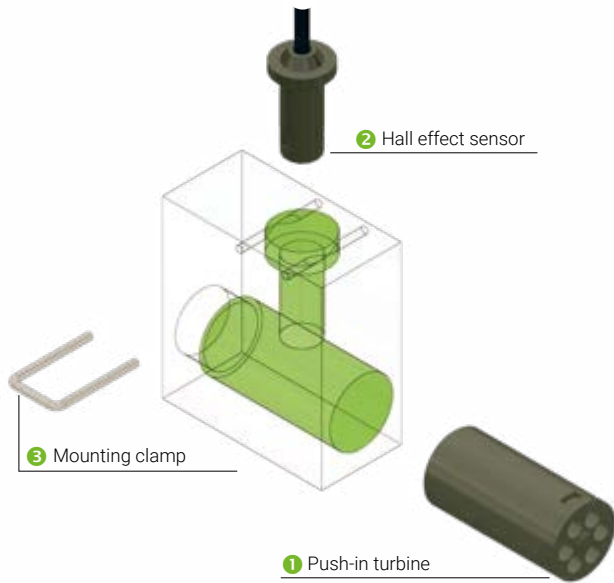
Service

- SIKA flow lab - various endurance tests
 - Test reports can be shared with our customers
- VTY is ideal for usage in drinking water applications

At the beginning of the project, the requirements for the flow sensor technology are coordinated. Based on this, the possibilities of clever integration concerning the flow sensor technology will be presented by SIKA via 2D and 3D data.



After the successful implementation of the project, SIKA supplies the components turbine capsule, hall-effect-sensor and mounting bracket. The OEM customer integrates these components into his fitting. From now on, the customer has an optimally adjusted and compact sensor unit

Installation space example VTY15





Technical data

1 Push-in turbine

Type	VTY10	VTY15	VTY20	VTY25
Flow range [l/min]	1...30	1...45	1...60	1...90
Flow range [US gpm]	0.26...7.9	0.26...11.9	0.26...16	0.26...24
Accuracy	±1 % of range	±(1 % of range + 0.5 % of reading)	±(1 % of range + 1 % of reading)	
Repeatability	±1 %			
Signal output	From 0.7 l/min	From 0.8 l/min		
Signal output	From 0.18 US gpm	From 0.21 US gpm		
Medium temperature	0...85 °C (non-freezing), temporary 95 °C	0...90 °C (non-freezing)		
Medium temperature	32...185 °F (non freezing), temporary 203 °F	32...194 °F (non-freezing)		
Nominal diameter	DN 10	DN 15	DN 20	DN 25
Nominal pipe size	3/8"	1/2"	3/4"	1"
Approvals				
	✓			WRAS requested
	Available for: VY1030K50000YY		Available for: VY2060K50000YY	
Drinking water hygienic suitability according to System 1+				

2 Hall effect sensor

Type	VTY10	VTY15	VTY20	VTY25
Nominal pulse rate	495 pulses/l	234 pulses/l	119 pulses/l	72 pulses/l
Nominal pulse rate	1874 pulses/gallon	886 pulses/gallon	450 pulses/gallon	273 pulses/gallon
Frequency output	Square wave frequency signal, NPN open collector			
Power supply	4.5...24 VDC			
Electrical connection	80 mm PVC cable with Molex Mini-Fit® Jr. plug connector (part number 0039014036) optional: 0.5 m PVC cable or 1 m PVC cable		3.2 inch single wire with Molex Mini-Fit® Jr. plug connector (part number 0039014036) optional: 19.7 inch PVC cable or 39.4 inch PVC cable	
Pressure rating			PN 16	
Pressure rating			Max. 145 psi	
Approvals				
	Not in contact with fluid		✓	Not in contact with fluid
			Available for: VY2060K5HNX1YY VY2060K5HN05YY	

Plastics and O-ring meet the requirements of the KTW guideline or the elastomer guideline of the Federal Environment Agency.

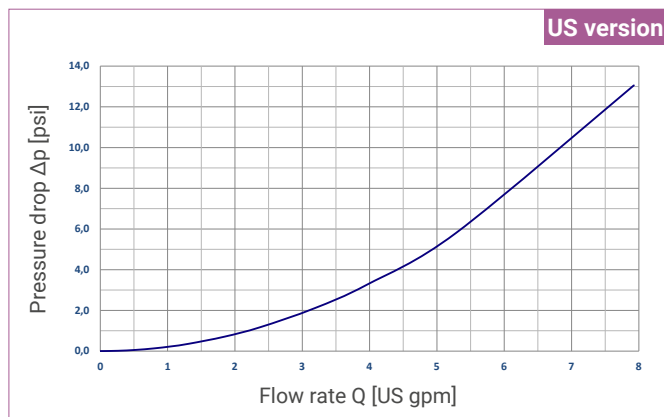
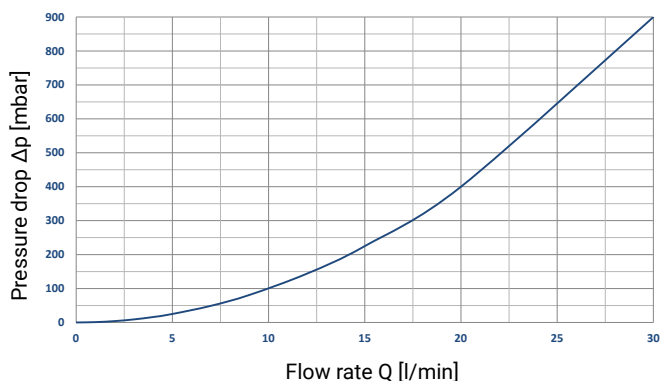
Stated values may vary depending on geometry of fittings.

3 Mounting clamp

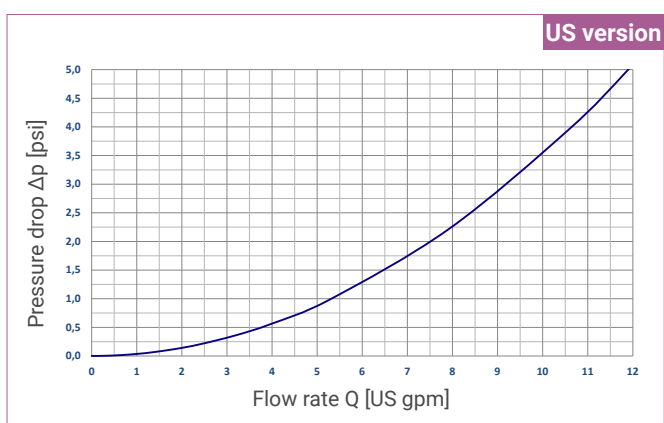
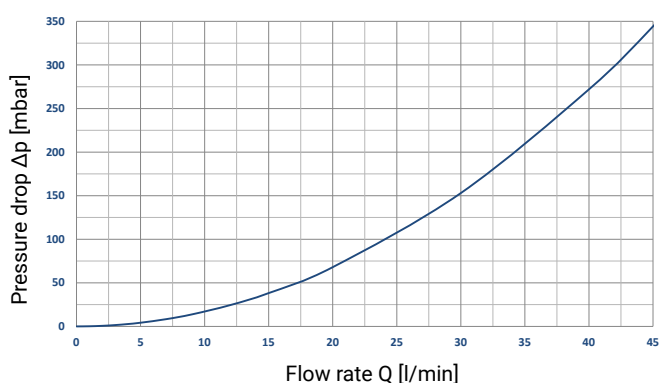
Type	VTY10	VTY15	VTY20	VTY25
Dimensions [mm]	16.5 x 25, Ø 2		11x18, Ø 1.5	16.5 x 25, Ø 2
Dimensions [inch]	0.65 x 0.98, Ø 0.08		0.43 x 0.71, Ø 0.06	0.65 x 0.98, Ø 0.08
Material	Stainless steel			

Typical pressure drop

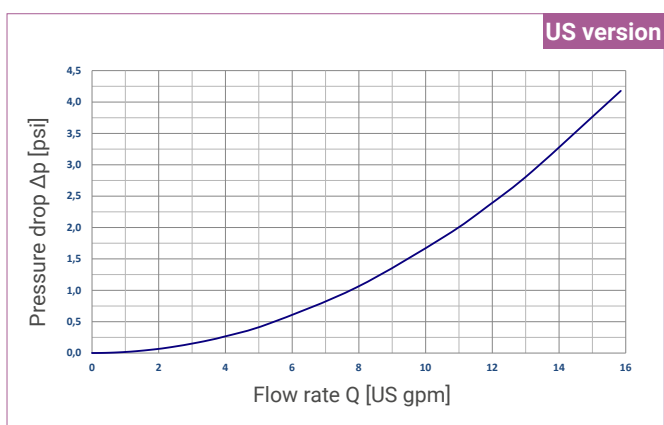
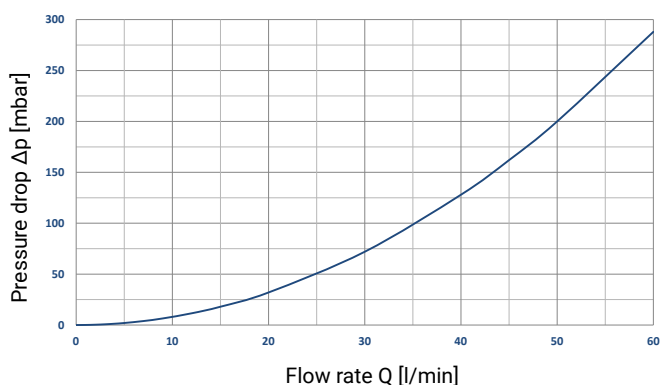
VTY10



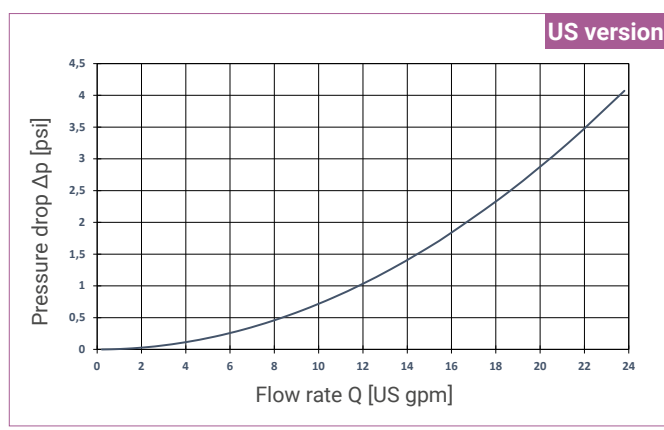
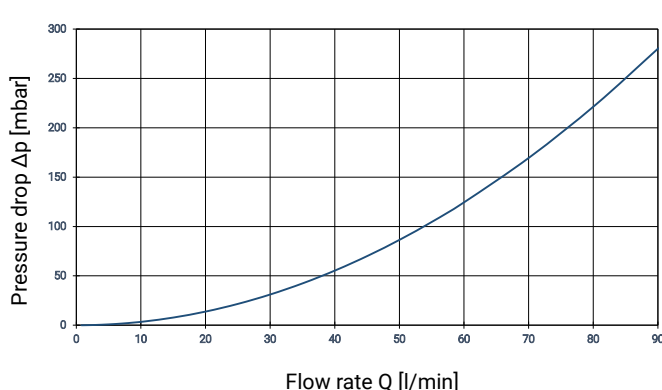
VTY15



VTY20



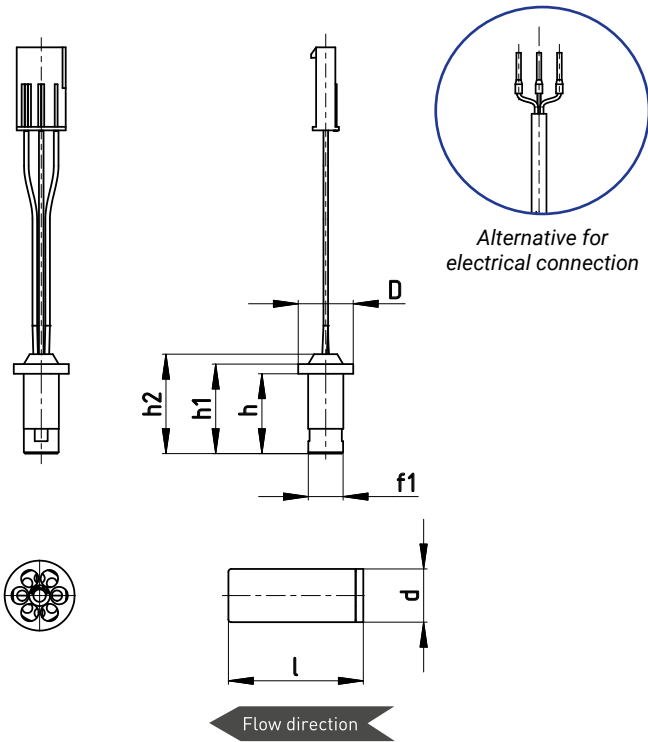
VTY25



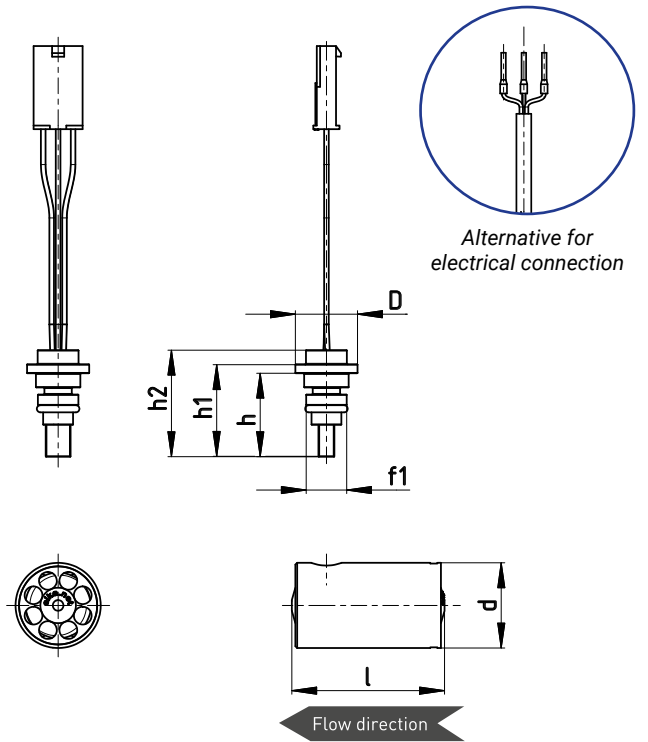
Pressure drop determined in SIKA standard pipe tee

Dimensions

VTY10 / VTY15 / VTY25



VTY20



Dimensions [mm]							
VTY	D	h	h1	h2	f1	l	d
10	Ø 15,5	22,5	25,2	28	Ø 9,8	38	Ø 15
15	Ø 15,5	22,5	25,2	28	Ø 9,8	43	Ø 19,7
25	Ø 15,5	22,5	25,2	28	Ø 9,8	41	Ø 27,9

Dimensions [mm]							
VTY	D	h	h1	h2	f1	l	d
20	Ø 17,5	23,5	25,8	30	Ø 11,4	43	Ø 24

Dimensions [inch]							
VTY	D	h	h1	h2	f1	l	d
10	Ø 0.61	0.89	0.99	1.10	Ø 0.39	1.50	Ø 0.59
15	Ø 0.61	0.89	0.99	1.10	Ø 0.39	1.69	Ø 0.78
25	Ø 0.61	0.89	0.99	1.10	Ø 0.39	1.61	Ø 1.10

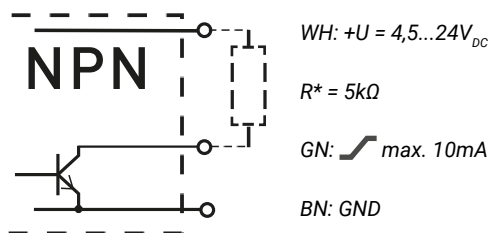
Dimensions [inch]							
VTY	D	h	h1	h2	f1	l	d
20	Ø 0.69	0.93	1.02	1.18	Ø 0.45	1.69	Ø 0.94

Materials

Materials in contact with fluid				
Type	VTY10	VTY15	VTY20	VTY25
Push-in turbine				
Turbine body	PPE+PS 30 % glass fibre reinforced			
Rotor	PPE+PS 30 % glass fibre reinforced			
Magnet	Hard ferrite			
Shaft	Stainless steel / Hard metal			
Axial bearing	Sapphire			
Radial bearing	PEEK			
Hall effect sensor				
Sensor	Not in contact with fluid		PPE+PS 30 % glass fibre reinforced	Not in contact with fluid
O-ring	without		EPDM	without

Wiring and pin assignment

Wiring

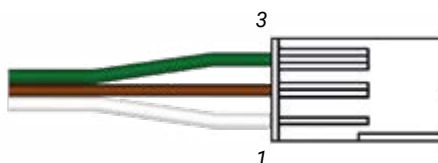
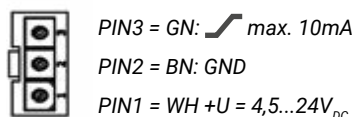


Colour code

WH = white
 GN = green
 BN = brown
 R = resistance

* Recommended pull-up resistance R ~ 5kΩ

Pin assignment Molex Mini-Fit® plug



Article numbers

VTY10	
Component	Article number
VTY10 push-in turbine	VY1030K50000YY
Hall effect sensor	
80 mm (3.2 inch) PVC cable with Molex Mini-Fit® Jr. connector	VY1030K8HNX6YY
0,5 m (19.7 inch) PVC cable	VY1030K8HN05YY
1 m (39.4 inch) PVC cable	VY1030K8HN10YY
Mounting clamp	
Mounting clamp for VTY10 and VTY15	XVT3214
VTY15	
Component	Article number
VTY15 push-in turbine	VY1545K50000YY
Hall effect sensor	
80 mm (3.2 inch) PVC cable with Molex Mini-Fit® Jr. connector	VY1030K8HNX6YY
0,5 m (19.7 inch) PVC cable	VY1030K8HN05YY
1 m (39.4 inch) PVC cable	VY1030K8HN10YY
Mounting clamp	
Mounting clamp for VTY10 and VTY15	XVT3214
VTY20	
Component	Article number
VTY20 push-in turbine	VY2060K50000YY
Hall effect sensor	
80 mm (3.2 inch) single wires with Molex Mini-Fit® Jr. connector	VY2060K5HNX1YY
0,5 m (19.7 inch) PVC cable	VY2060K5HN05YY
1 m (39.4 inch) PVC cable	VY2060K5HN10YY
Mounting clamp	
Mounting clamp for VTY20	XVT3220

Article numbers

VTY25	
Component	Article number
VTY25 push-in turbine	VY2590K50000YY
Hall effect sensor	
80 mm (3.2 inch) single wires with Molex Mini-Fit® Jr. connector	VY1030K8HNX6YY
0,5 m (19.7 inch) PVC cable	VY1030K8HN05YY
1 m (39.4 inch) PVC cable	VY1030K8HN10YY
Mounting clamp	
Mounting clamp for VTY10, VTY15 and VTY25	XVT3214

Service - Test in the test bench	
Article	Article number
Tests in provided customer hydraulics including a test report	VTYTESTREPORT01

Note minimum order quantities.