

Turbine flow sensors | VTY10, VTY15, VTY20, VTY25

US versions available

Note: The US versions are separate products.



VTY10
plastic



VTY15
brass



Features

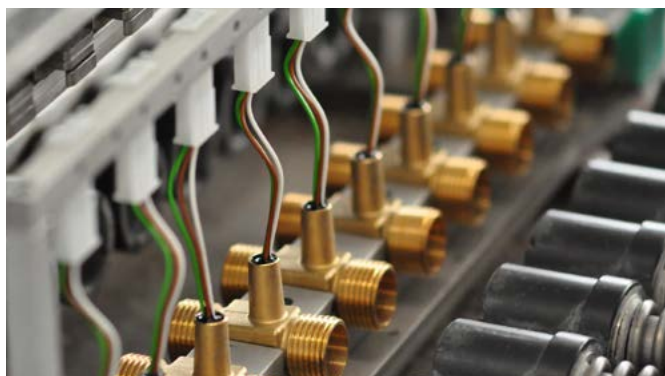
- Various drinking water approvals
- Flow sensor with high-quality sapphire bearing
 - Long-term stability
- 100% final test in water flow test bench
 - Guarantees a high level of operational safety
- Flow straighteners
 - Hardly any requirement for inlet and outlet sections
- Clever bearing system
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

Flushing bore



The wet bearing, created by the increase in centrifugal forces, provides cooling and the flushing out of any contaminants, thus ensuring a long service life.

Test bench VTY10: 100% final test!



Co-Engineering

- Providing material test certificates for customer product approvals within drinking water applications
- Test with real customer hydraulics on SIKA test bench
 - Best possible measurement performance
 - Test reports available for customers
- Customized electrical connection possible

QuickFasten

- Plug-in assembly – quick and tool-free
- Poka-Yoke – incorrect installation is impossible
- Inserted O-ring – radial sealing



Quality

- SIKA has more than 25 years of application experience, with approximately 7 million VTY turbine sensors in the field
- OEM product developed and produced in Germany

Service

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

General information on the principle of operation

SIKA turbine flow sensors measure the flow rate of a medium by detecting the rotational speed of a turbine. The turbine is equipped with magnets, whose movement is detected by a Hall sensor. The rotational speed of the turbine correlates directly with the flow rate, enabling precise measurement. The output signal is a frequency signal proportional to the flow rate.

Technical data

Technical data							
	VTY10			VTY15	VTY20		VTY25
Material pipe section	Plastic QF	Plastic	Brass	Brass	Brass	St. Steel	Brass
Flow range l/min (l/h)	1...30 (60...1,800)			1...45 (60...2,700)	1...60 (60...3,600)		1...90 (60...5,400)
Flow range US gpm (US gph)	0.26...7.9 (15.9...476)				0.26...16 (15.9...951)		0.26...24 (15.9...1,427)
Accuracy	±1 % of range			±(1 % of range + 0.5 % of reading)	±(1 % of range + 1 % of reading)		
Repeatability	±1 %						
Signal output l/min (l/h)	From 0.6 (36)			From 0.8 (48)			
Signal output US gpm (US gph)	From 0.16 (9.5)				From 0.21 (12.7)		
Medium temperature (non-freezing)	0...70 °C, temporary 95 °C	0...85 °C, temporary 95 °C	0...90 °C				
Medium temperature (non-freezing)	32...158 °F, temporary 203 °F	32...185 °F, temporary 203 °F	32...194 °F				
Ambient temperature	0...70 °C						
Ambient temperature	32...158 °F						
Storage temperature	-20...70 °C						
Storage temperature	-4...158 °F						
Pressure rating	PN 10		PN 16				
Pressure rating	Max. 145 psi		Max. 232 psi				
Degree of protection EN 60529	IP65 and IP67 (Does not apply to plug connectors or open wire ends)						
Nominal diameter	DN 10			DN 15	DN 20		DN 25
Nominal pipe size	½"				¾"		1"
Process connection	QuickFasten	G¾ male	G½ male	G ¾ male	G 1 male		G 1¼ male
Process connection	QuickFasten	G¾ male	½" NPT male		1" NPT male		1¼" NPT male
Sensor	Hall effect sensor						
Output signal	Square wave frequency signal, NPN open collector						
Pulse duty ratio	50:50						
Pulse rate / K-factor [pulses/l]	530		495	234	119	119	72
Pulse rate / K-factor [pulses/gallon]	2,006		1,874		454	450	273
Electrical connection	80 mm (VTY10 QuickFasten 90 mm) single wire with Molex Mini-Fit® Jr. plug connector (part number 39-01-4036)						
	Optional: Single wires (115 mm)	Optional: PVC cable (1 m), optional single wires	Optional: 0.5 m, 1 m or 2 m PVC cable				
Electrical connection	3.2" (3.5" VTY10 QuickFasten) single wire with Molex Mini-Fit® Jr. plug connector (part number 39-01-4036)						
	Optional: Single wires (5.7")	Optional: PVC cable (39.4")	Optional: 19.7", 39.4" or 78.7" PVC cable		Optional: 19.7", 39.4" or 78.7" PVC cable		
Power supply	4.5...24 VDC						
Current consumption	Typ. 1.6 mA						

Approvals

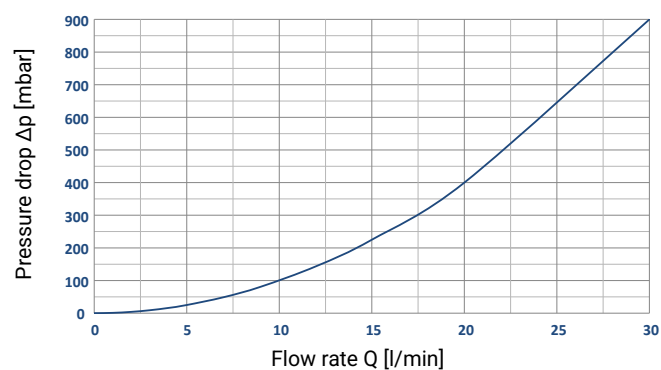
Drinking water approvals				
	VTY10	VTY15	VTY20	VTY25
	WRAS* (approved product) Certificate no. 2111343	WRAS (approved product) Certificate no. 2012341	WRAS** (approved product) Certificate no. 2310332	WRAS (approved product) Certificate no. 2309314
	KTW-BWGL*,** : Product hygiene suitability for drinking water according to the 1+ system with external monitoring, Certificate no. Z-346843-21-Hy112 Rev.01			
	Kiwa Regulation 4* (KUKreg4) Certification Certificate no. 2112709 (1)	Kiwa Regulation 4 (KUKreg4) Certification Certificate no. 2012725	Kiwa Regulation 4** (KUKreg4) Certification, Certificate no. 2310747 (2)	Kiwa Regulation 4 (KUKreg4) Certification Certificate no. 2308709 (1)
	NSF/ANSI 372 Certificate no. 8492 NSF/ANSI 61 Certificate no. N-8491 Available for: VY1030MKHN..A3 VY1030MKHN..N3 VY1030K5HN..A4		SF/ANSI 372** Certificate no. 8492 NSF/ANSI 61** Certificate no. N-8491 Available for: VY2061MKHN..A5 VY2061MKHN..N5	SF/ANSI 372 Certificate no. 8492 NSF/ANSI 61 Certificate no. N-8491 Available for: VY2590MKHN..N6
ACS (Attestation de conformité sanitaire)	Certificate no. 22 ACC LY 578**			

* not available for process connection NPT

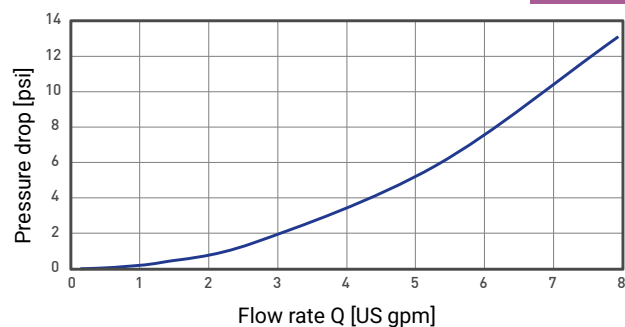
** not available for stainless steel version

Typical pressure drop

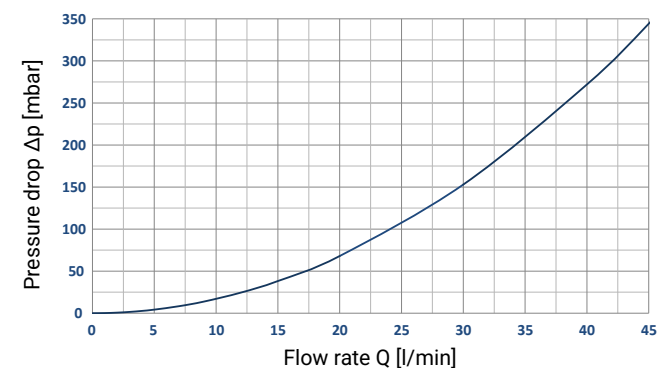
VTY10



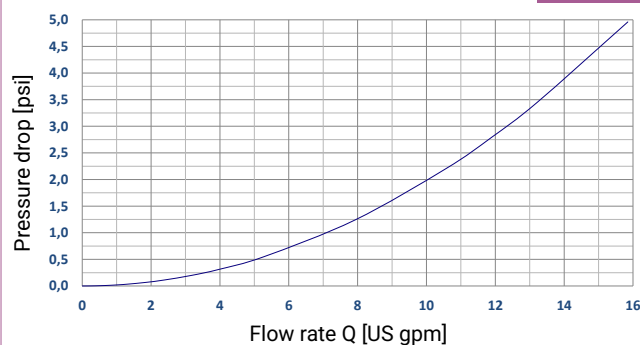
US version



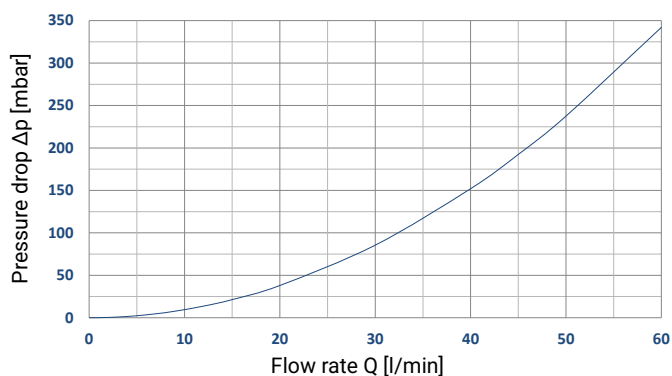
VTY15



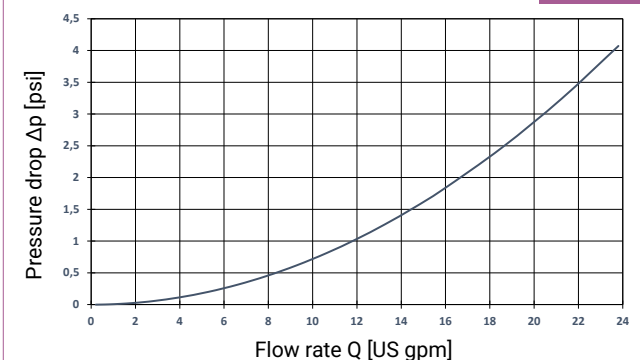
US version



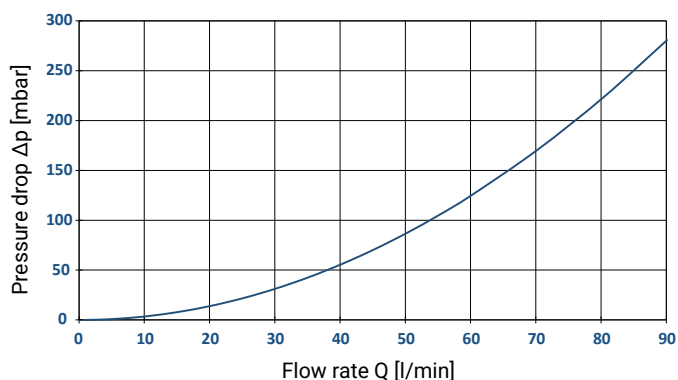
VTY20



US version



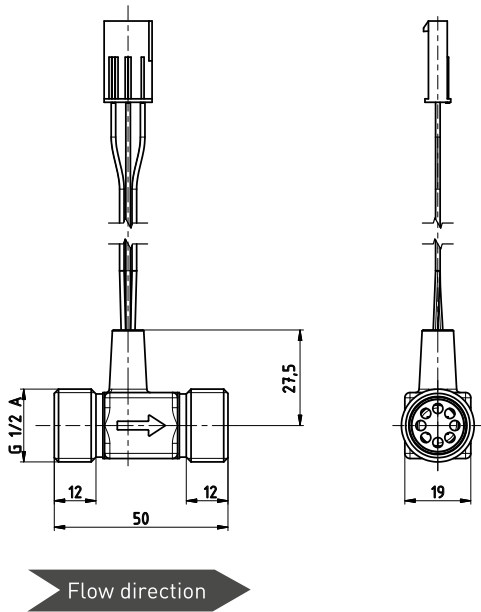
VTY25



Technical drawings | Dimensions

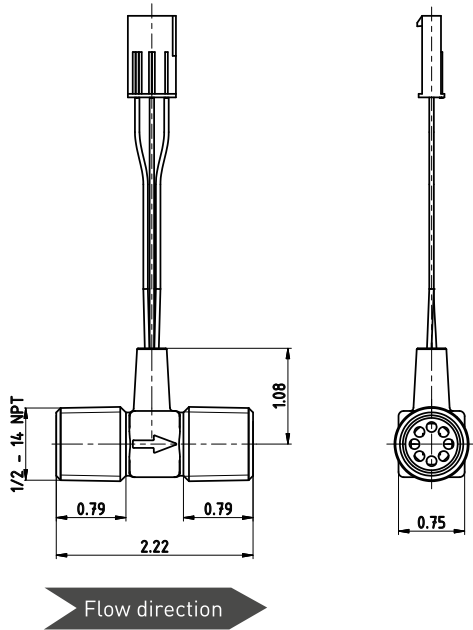
VTY10 threaded version, brass

All Dimensions in mm



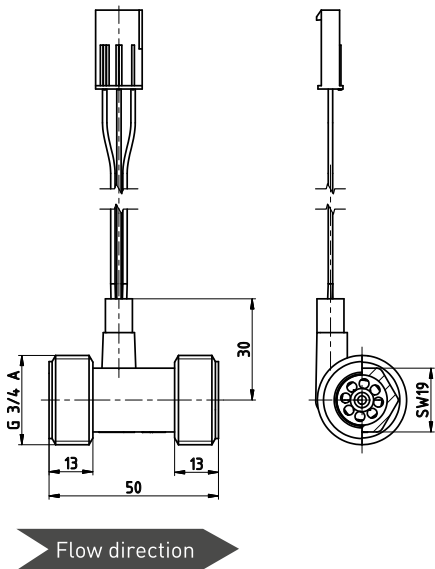
VTY10 NPT version, brass

All Dimensions in inch



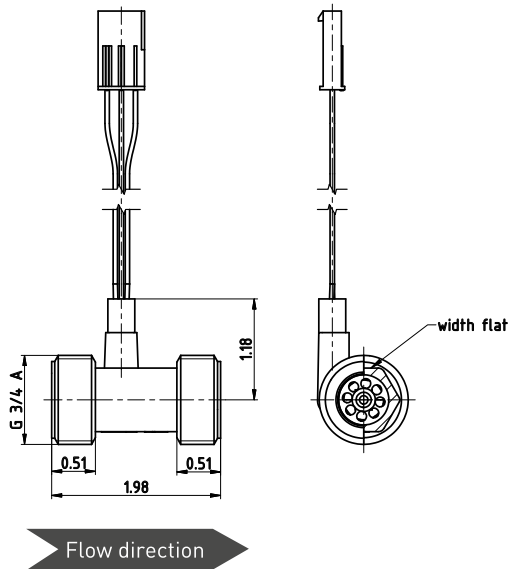
VTY10 Threaded version, plastic

All Dimensions in mm



VTY10 Threaded version, plastic

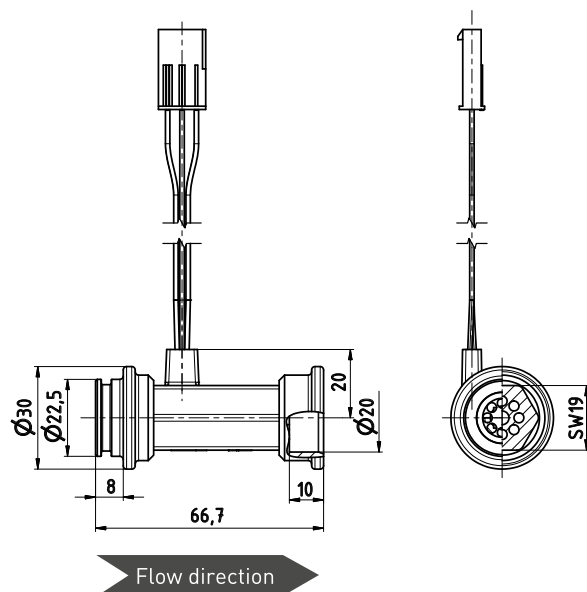
All Dimensions in inch



Technical drawings | Dimensions

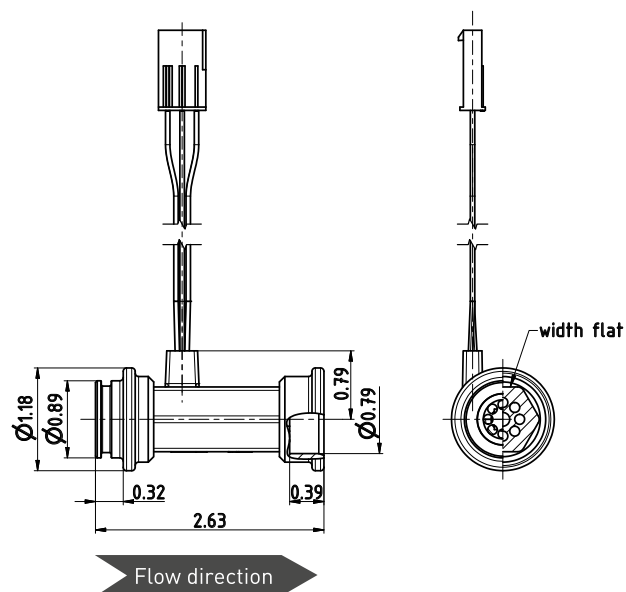
VTY10 QuickFasten, plastic

All Dimensions in mm



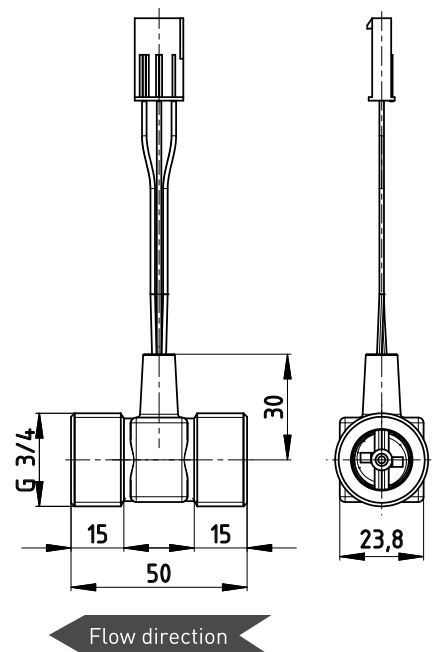
VTY10 QuickFasten, plastic

All Dimensions in inch



VTY15

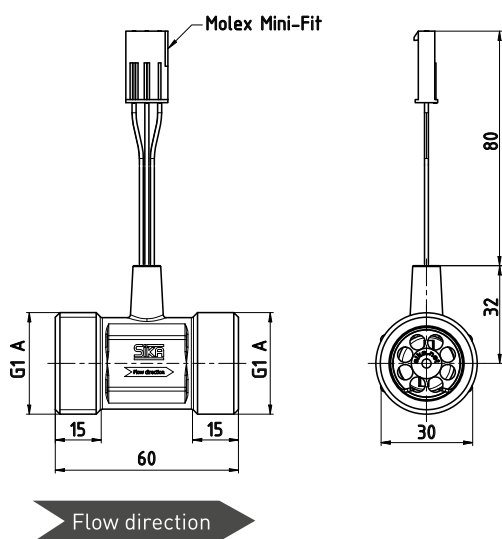
All Dimensions in mm



Technical drawings | Dimensions

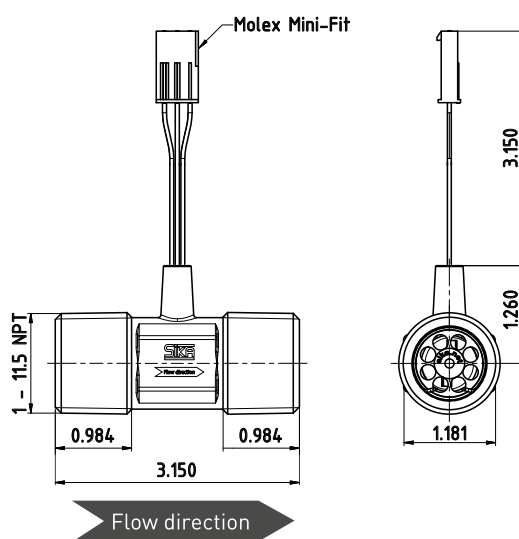
VTY20 threaded version

All Dimensions in mm



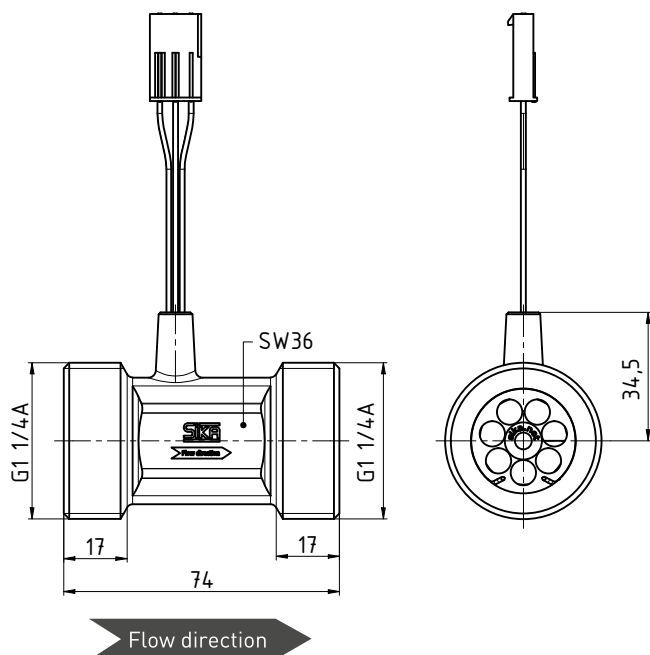
VTY20 NPT version

All Dimensions in inch



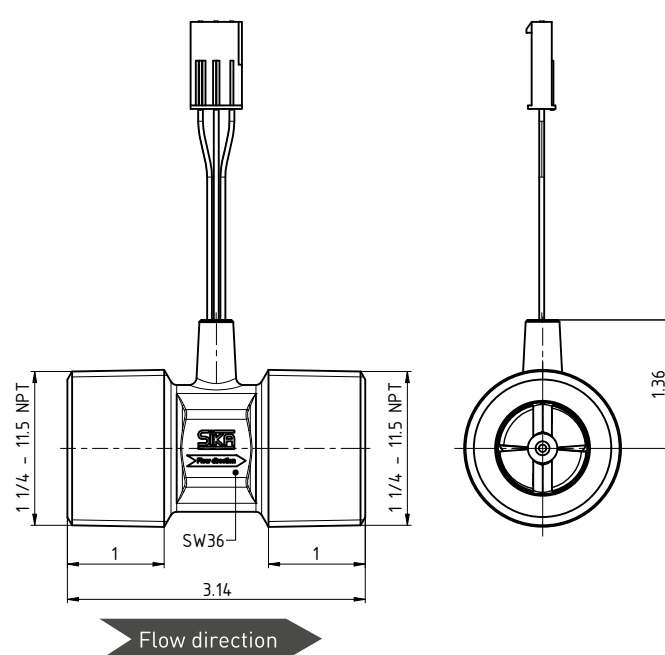
VTY25 threaded version

All Dimensions in mm

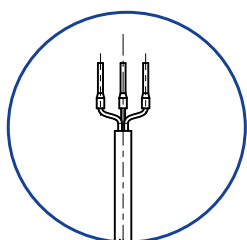


VTY25 NPT version

All Dimensions in inch

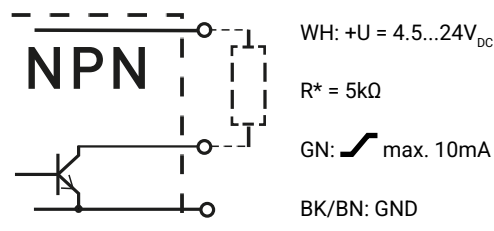


Alternative for electrical connection



Wiring | Pin assignment

Wiring

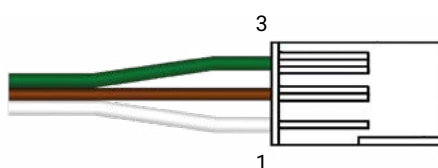
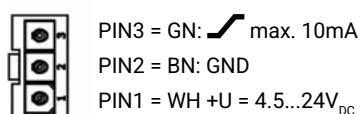


* Recommended pull-up resistance R ~ 5kΩ

Colour code

WH = white
 GN = green
 BK = black (single wire)
 BN = brown (PVC cable / Molex)
 R = resistance

Pin assignment Molex Mini-Fit® plug



Materials

Materials in contact with media VTY10			
	VTY10 G thread brass	VTY10 Plastic	VTY10 NPT thread brass
Pipe section	Brass CW617N	PPE+PS Noryl™ 30 % glass fibre reinforced	Brass CW724R
Rotor	PPE+PS Noryl™ 30 % glass fibre reinforced		
Magnet	Hard ferrite		
Shaft	Stainless steel / hard metal		
Axial bearing	Sapphire		
Radial bearing	PEEK		

Materials in contact with media VTY15 VTY20 VTY25						
	VTY15	VTY20 Stainless steel	VTY20 G thread brass	VTY20 NPT thread brass	VTY25	VTY25 NPT thread brass
Pipe section	Messing CW617N-DW oder Messing CW724R	Stainless steel 1.4308	Brass CW617N-DW or Brass CW724R	Brass CW724R	Messing CW617N-DW oder Messing CW724R	Brass CW724R
Turbine cage	PPE+PS Noryl™ 30 % glass fiber reinforced					
Rotor	PPE+PS Noryl™ 30 % glass fibre reinforced					
Magnet	Hard ferrite					
Shaft	Stainless steel / hard metal					
Axial bearing	Sapphire					
Radial bearing	PEEK					
Locking ring	Stainless steel					

Article numbers

Order code		
Type		
VTY10, plastic	VY1030K5HN	
Electrical connection		
1 m PVC-cable, threaded		10A4
80 mm single wire with Molex Mini-Fit® Jr. plug connector, threaded		X1A4
115 mm single wires, QuickFasten		P0Q1
90 mm single wires mit with Molex Mini-Fit® Jr. plug connector, QuickFasten		X2Q1
Example order number	VY1030K5HN	10A4

Order code		
Type		
VTY10, brass CW617N-DW	VY1030MAHN	A3
VTY15, brass CW617N-DW	VY1545MAHN	A4
VTY15, brass CW724R	VY1545MKHN	A4
VTY20, brass CW617N-DW	VY2061MAHN	A5
VTY20, brass CW724R	VY2061MKHN	A5
VTY20, stainless steel	VY2061VAHN	A5
VTY25, brass CW617N-DW	VY2590MAHN	A6
VTY25, brass CW724R	VY2590MKHN	A6
Electrical connection		
80 mm single wire with Molex Mini-Fit® Jr. plug connector	X1	
0.5 m PVC cable	05	
1 m PVC-cable	10	
2 m PVC cable	20	
Example order number	VY1030MAHN	X1 A3

Order code		
Type		
VTY10, plastic	VY1030K5HN	
Electrical connection		
39.4" PVC-cable, threaded		10A4
3.2" single wire with Molex Mini-Fit® Jr. plug connector, threaded		X1A4
5.7" single wires, QuickFasten		P0Q1
3.5" single wires mit with Molex Mini-Fit® Jr. plug connector, QuickFasten		X2Q1
Example order number	VY1030K5HN	10A4

Order code		
Type		
VTY10 NPT, brass CW724R	VY1030MKHN	N3
VTY20 NPT, brass CW724R	VY2061MKHN	N5
VTY20 NPT, stainless steel	VY2060VAHN	N5
VTY25 NPT, brass CW724R	VY2590MKHN	N6
Electrical connection		
3.2" single wire with Molex Mini-Fit® Jr. plug connector	X1	
19.7" PVC cable	05	
39.4" PVC cable	10	
78.7" PVC cable	20	
Example order number	VY1030MKHN	X1 N3

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

Note minimum order quantities.