



OEM Sensors

FOR HVAC MANUFACTURERS



Your Products -

our matching components!

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“ Find your sensor solution here –
Whether it's a proven standard component
with a short delivery time or a custom mass
produced product as a result of successful
co-engineering. ”



SIKA OEM sensors - what makes the difference?

SIKA FlowLabs

40 test benches used by our test engineers conduct more than 250 tests every year. Many of the tests are aimed to fully qualify SIKA sensors for difficult and demanding conditions that can be found in HVAC applications. Inside SIKA FlowLabs you will find test equipment including: temperature cycle facilities, water hammer test benches, rusty water endurance flow rigs, climate controlled cabinets, vibration test facilities and many other customer defined rigs. Quality is our tradition, achieved by continuous testing.

Working in close cooperation with our customers the SIKA FlowLabs qualify the OEM sensors by conducting a range of agreed tests and specific environmental conditions. Customer subassemblies consisting of pipe sections, heat exchangers, manifolds and other components, can be tested together with SIKA sensors guaranteeing exact simulation, fully proving functionality and specification.



Our highly sophisticated computer based data acquisition system enables our test engineers to issue test reports with a high degree of process detail.

Bespoke sensor Engineering

Standard SIKA products not fully meeting your needs? No problem, we can customise our sensors to achieve your exact requirements.

Experience in HVAC

SIKA flow sensors have been utilised in HVAC applications for more than 50 years. Used in high volume market leading appliances as well as innovative systems found in lower volume niche applications.



Heating water

Typical flow switch application

Product features

- Reliable pump monitoring
- For soldering into existing copper pipes or with a pipe tee
- Special protection against contamination
- Customised set point
- Glass-fibre reinforced plastics
- Used in market-leading heating appliances

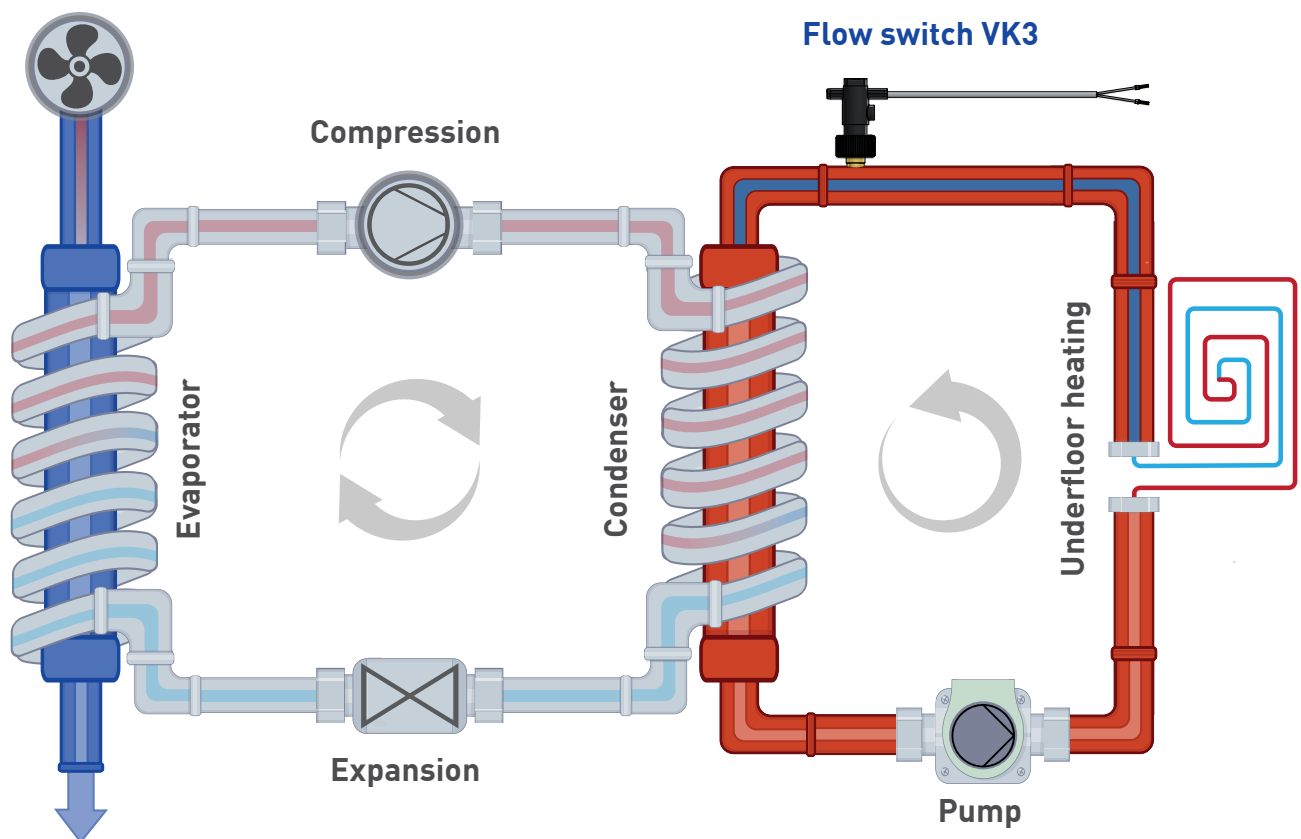


VK3 in heating circuits

SIKA flow switches are typically utilised in heating circuits. The most common application is in air to water heat pumps. A lack of flow in the heating circuit during chilling or defrosting mode might cause partial freezing of the heat exchanger. SIKA can provide customised flow switches to meet your set point requirements adapted to the individual needs of the heat exchanger, therefore detecting these critical flow values. SIKA flow switches help to prevent freezing in heat exchangers. The installation is highly cost effective since they can be inserted into existing copper pipes.

“ A flow switch also gives protection of the electrical back-up heater in the water tank against overheating in case of lack of flow. ”

Outside air



Heating water

Typical vortex flow sensor application

Product features

- For energy balancing and pump control
- Sensor element encapsulated entirely in plastic
- Insensitive to pressure peaks during filling
- Integrated temperature sensor
- Threaded connection or QuickFasten
- Digital or analogue output signal
- Customised setup by parameters

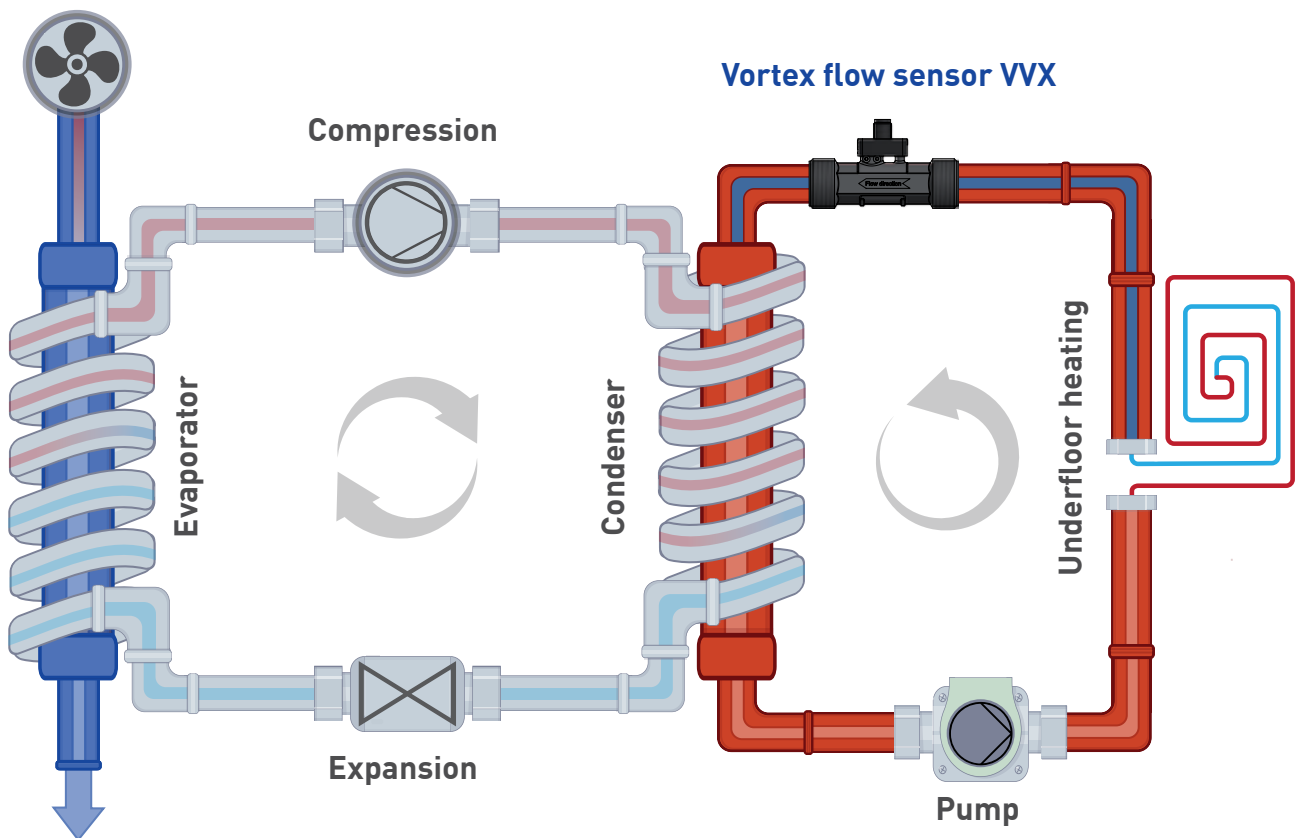


VVX in heating circuits

SIKA Vortex flow sensors are the latest technology in heating circuits of "air to water" heat pumps utilised by the leading global heat pump manufacturers. The flow proportional signal of the flow sensor facilitates a higher efficiency operation of the heat pump, in addition to the prevention of freezing in the heat exchanger.

“ 100 % of SIKA Vortex flow sensors get a 3 or 6 point calibration in a water test bench and are traceable via serial number. ”

Outside air

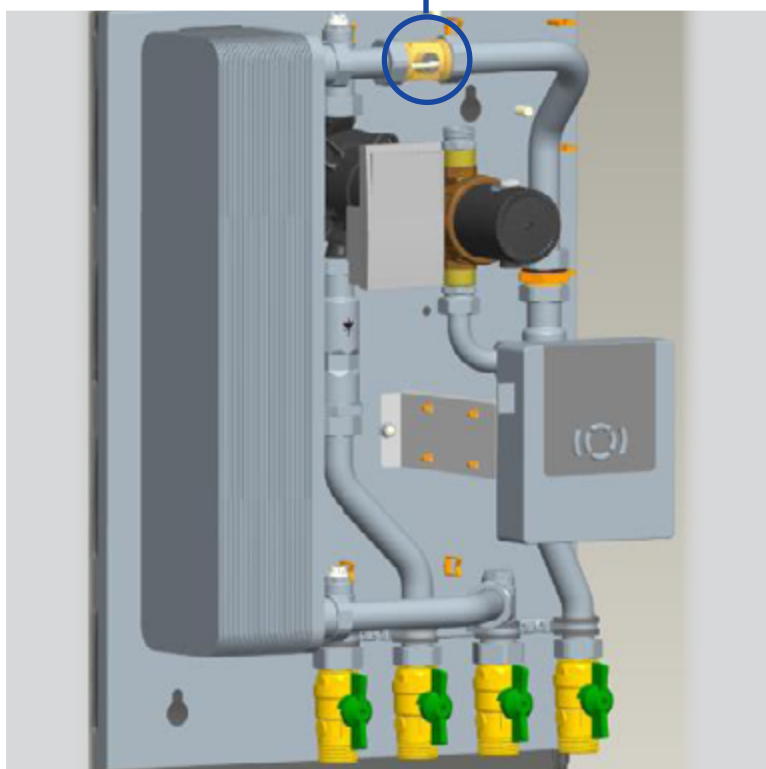


Potable water

Typical turbine flow sensor application

Product features

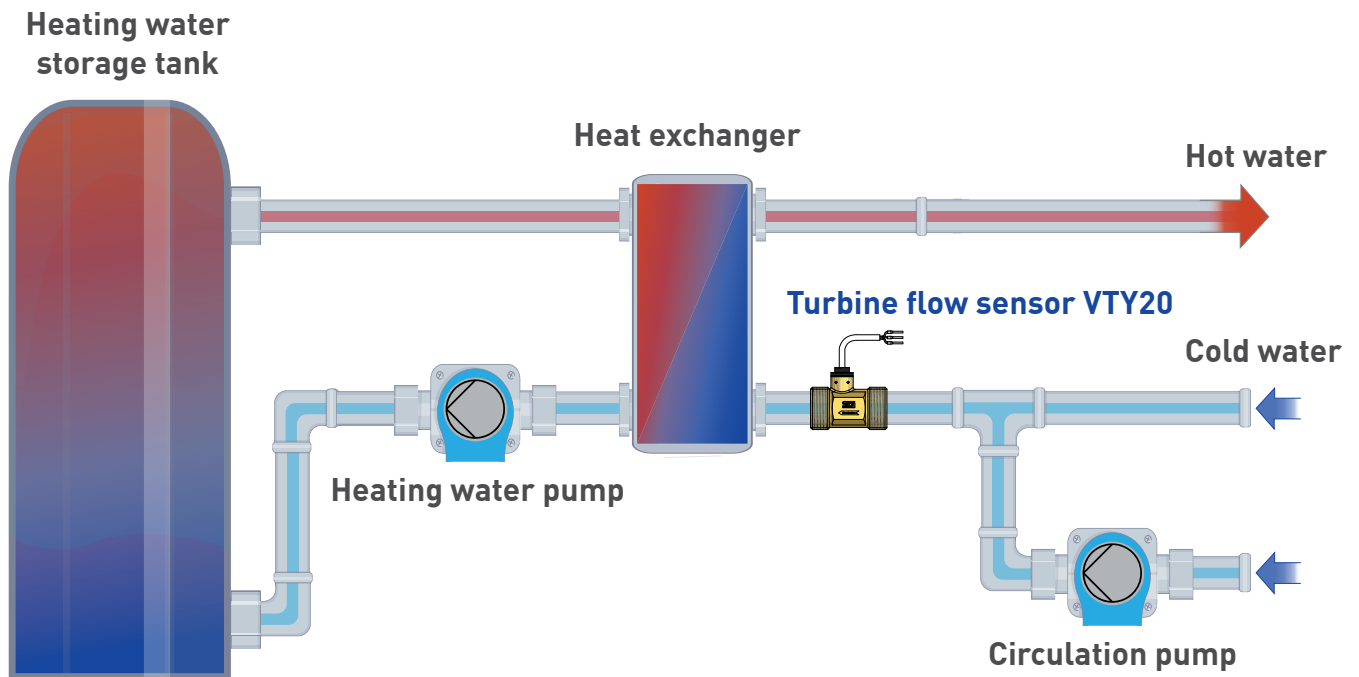
- Tap water measurement for sanitary hot water
- Turbine body made of brass
- Durable thanks to high-grade sapphire bearings
- Insensitive to pressure peaks



VTY20 for fresh water modules

SIKA flow sensors have a variety of different drinking water approvals. They are typically utilised in water heaters or fresh water modules to detect the demand of sanitary hot water. The most common position of installation is at the mains cold water inlet. Their rugged body provides an ideal interface to the outer plumbing.

“ VTY20's excellent low flow performance and it's wide flow range are ideal for fresh water modules. ”



Potable water

Typical turbine flow sensor application

Product features

- Tap water measurement for potable water heating
- Turbine body made of brass or glass-fibre reinforced plastic
- Durable thanks to high-grade sapphire bearings
- Insensitive to pressure surges

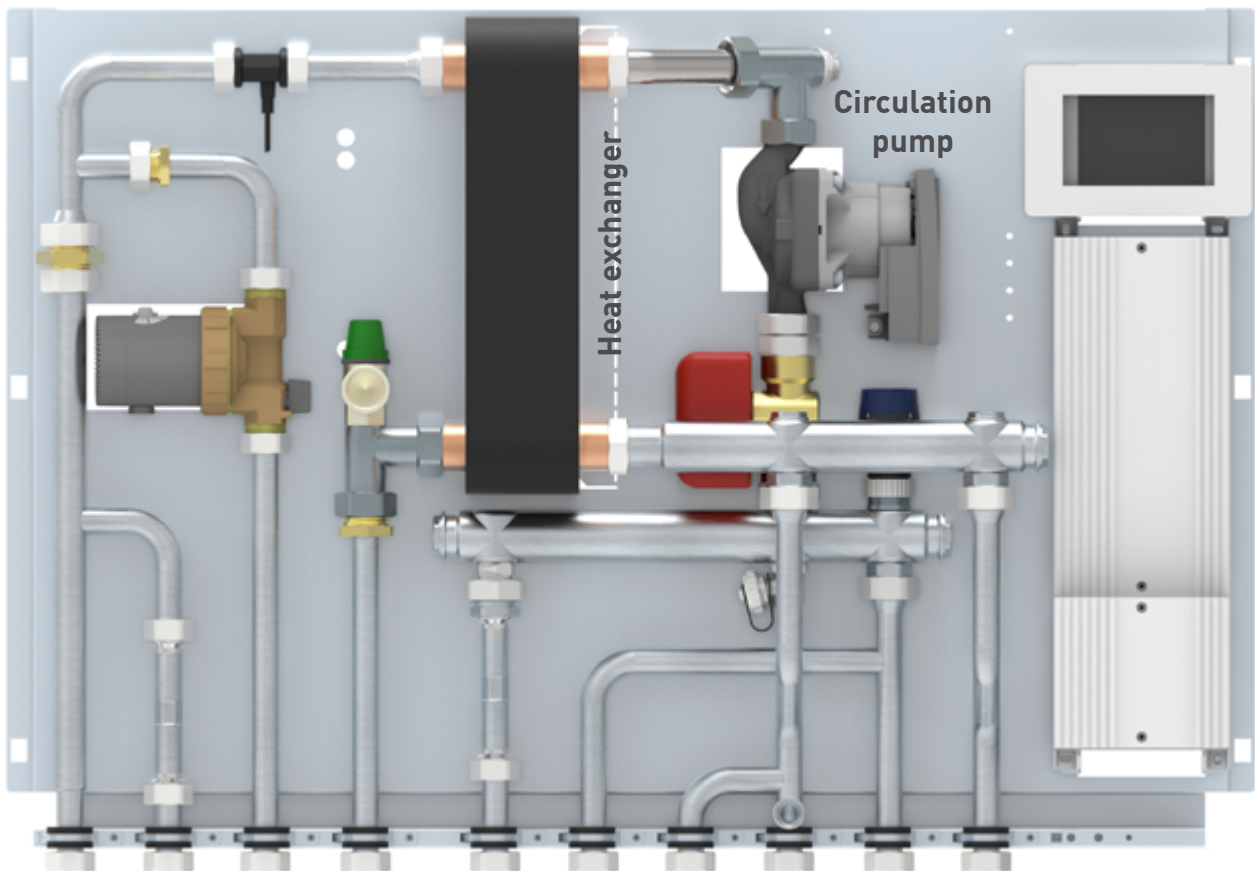


VTY10 for heat interface units (HIU)

SIKA turbine flow sensors are widely used for tap water measurement in heat interface units (HIU). Providing an output signal from low starting flow rates this signal can then be used to control the feed pump to operate with optimal variable speed. The fast response and high resolution output from the flow sensor enables the HIU's to quickly adapt to rapid flow rate changes, which means more comfort for the user of the hot water. The flow sensor can be utilised at the cold water inlet as the interface to the outer plumbing due to its rugged brass body.

“ *The turbine flow sensor VTY10 is practically independent of inflow section and installation position.* ”

Flow sensor VTY10



Potable water

Typical push-in turbine flow application

Product features

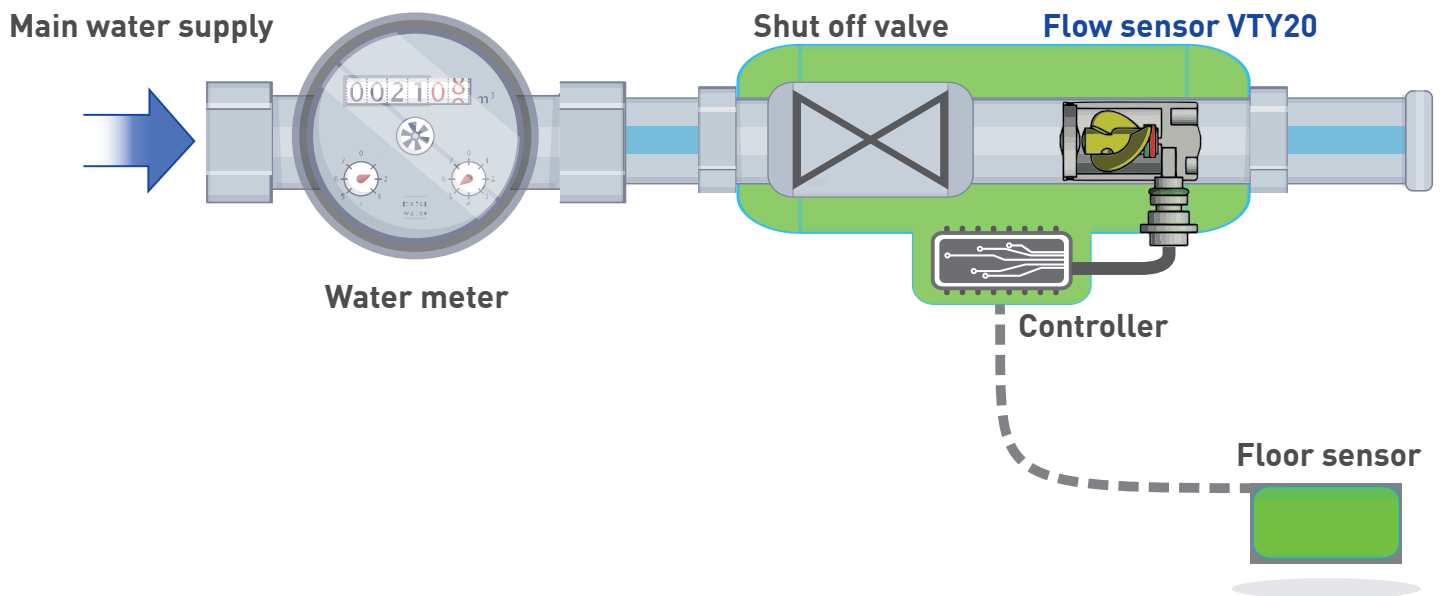
- Simple integration into valve bodies
- Comprises
 - Push-in turbine
 - Hall-effect sensor
- Separation of hydraulic and electrical components
- For water treatment equipment
- Measures lowest flow rates / leak detection



VTY20 capsule for leak detection

These capsule flow sensors are easily integrated into bodies of domestic water treatment units. The most common application is in entry point leak detection units. The turbine flow sensor measures the incoming flow rate to one or two family homes to enable the leak detector to differ between normal consumption and burst pipes.

“ You get the VTY20 capsule flow sensor with durable sapphire bearings and multiple drinking water approvals. ”



Pool water

Typical flow switch application

Product features

- Pump monitoring
- For pool heaters or water disinfection
- Protection against overheating, dry-running and gas formation
- Installation with union nut or push-in
- Paddle reset with magnetic force
- More than 1,000,000 switching cycles (load-dependent)
- Metal-free for seawater pools
- Proven in the market leader's pool heaters

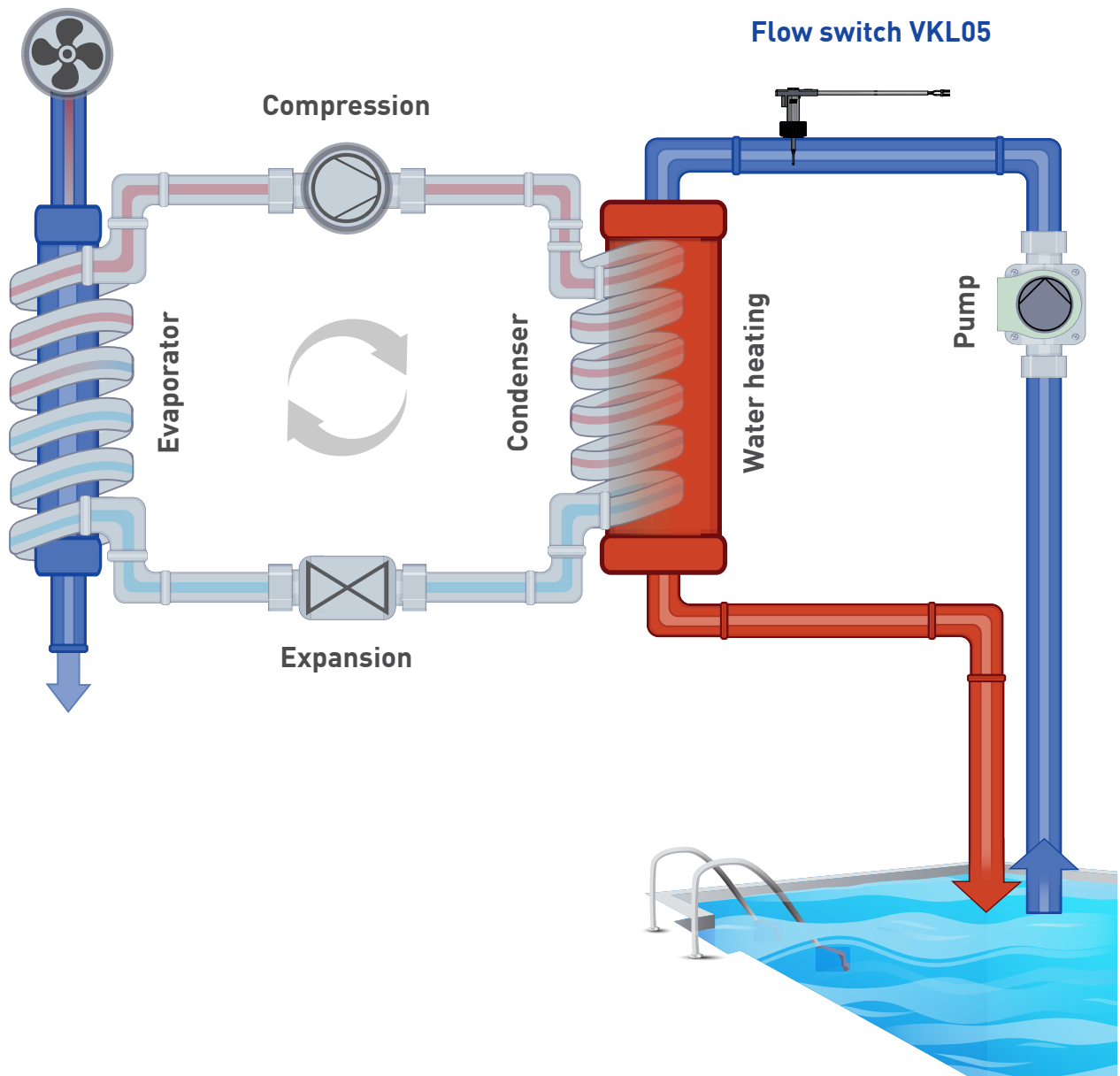


VKL05 for pool heat pumps

The flow switches are typically utilised in pool heaters or pool water disinfection units. They can prevent overheating (heaters) or overdosing (disinfectors). The flow switch monitors the flow rate and can easily detect pump breakdowns. The inexpensive insertion installation into DN50 or DN65 plastic pipes is the most common kind of installation. Metal free versions are suitable for sea water pools.

“ The pump monitoring is not affected by different vertical heights of pool and heater. ”

Outside air



Heat recovery / Chiller

Typical magnetic-inductive flow sensor application

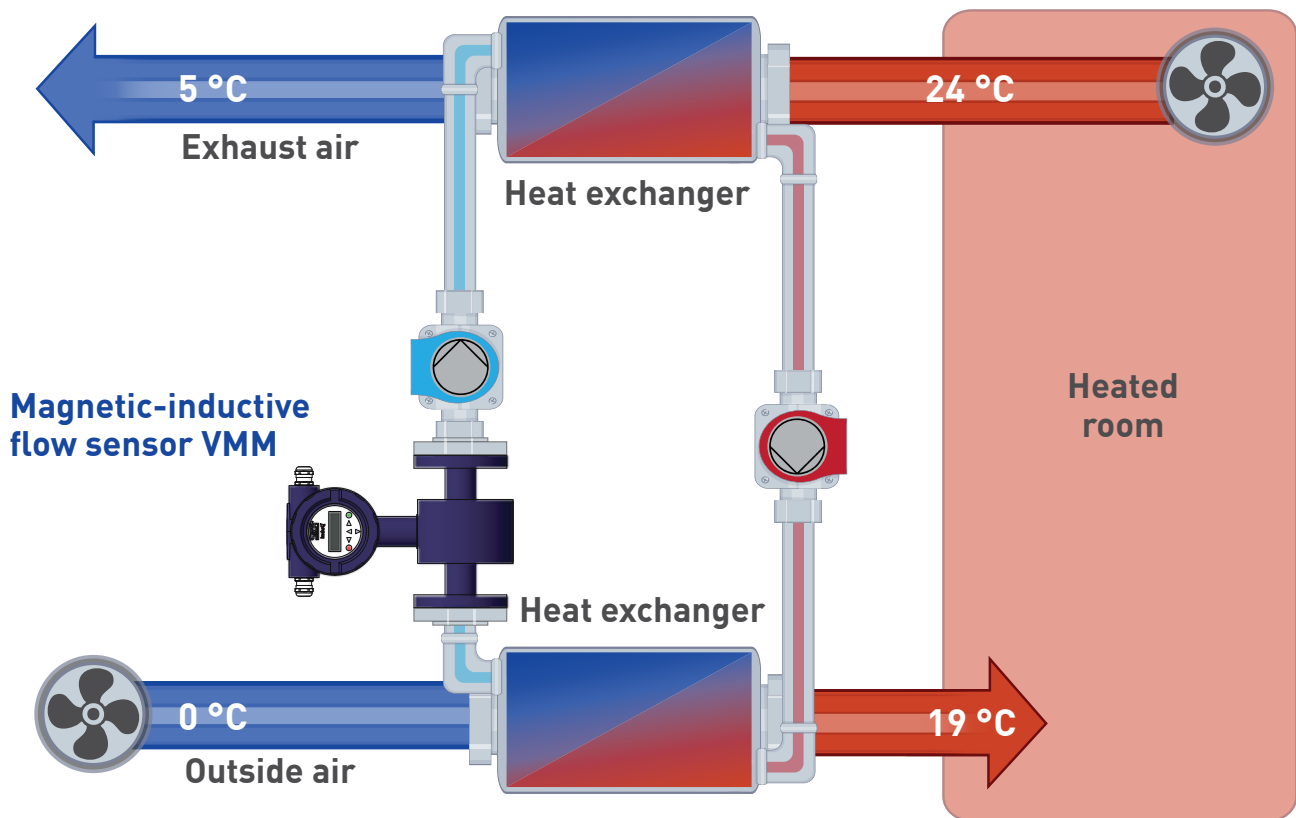
Product features

- For determining the energy balance
- Measurement signal independent of viscosity changes
- Free pipe cross section, no moving or protruding parts
- No additional pressure drop
- Analogue and digital outputs



VMM for heat recovery units

The flow sensor provides the flow rate signal for pump speed control and for energy measurement.



Heat recovery / Chiller

Typical flow switch application

Product features

- Installation into existing pipes
- Threaded, welding or soldering adapter
- Union nut connection for simple installation
- Various plug connectors or connection cables
- TÜV type approved
- No springs, no bellows



“ Thanks to the trimmable paddle, one flow switch fits to pipe sizes DN 20...200. ”

VHS06 for chillers

Flow rate monitoring in a chiller.
By trimming the paddle length of these insertion type flow switches the unit can be both:

- Adapted to the pipe size DN 20...DN 200
- Set point adjusted to meet the individual requirements to protect the heat exchanger against freezing

Male threaded versions are available for steel pipes and versions with soldering adapters are available for copper pipes. Both versions have an integrated union nut for easy installation and orientation.



Technical data

Flow switches

- Heating water
- Potable water
- Pool water
- Heat recovery / Chiller

from p. 20

Vortex flow sensors

- Heating water
- Potable water

from p. 42

Turbine flow sensors

- Potable water

from p. 50

Magnetic-inductive flow sensors

- Heat recovery / Chiller

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Temperature sensors

- Potable water

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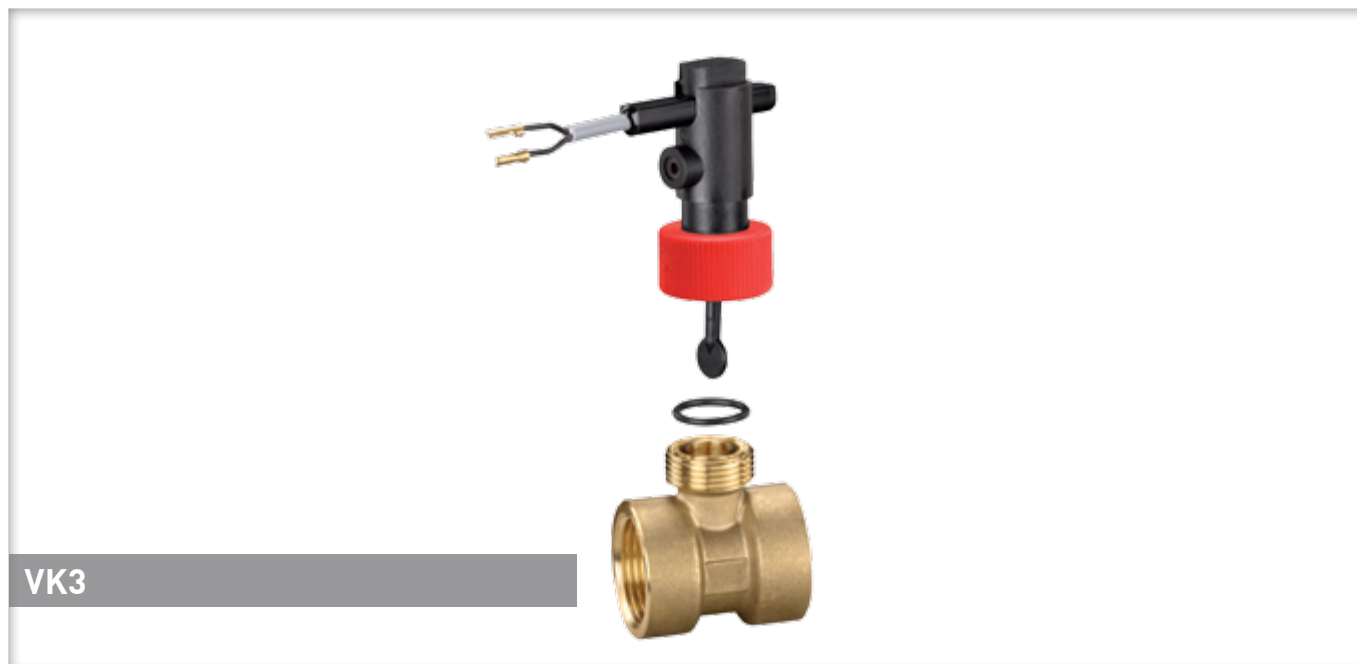
For any questions
or comprehensive
technical consulting,
please contact:

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Email: info@sika.net

VK3 // with pipe tee



VK3

Your advantages

Series	VK3
	Cost optimized plastic version Factory set special set points for series applications Brass tee DN 8...50

Technical data

Switching function	Contact → closes at increasing flow → opens at decreasing flow Reversing possible
Pressure rating	PN 10
Temperature ranges	
Medium	-25...100 °C
Ambient	-25...70 °C
Electrical data	
Electrical connection	1.5 m PVC jacket cable
Switching current	Max. 1 A
Switching voltage	Max. 230 VAC, 48 VDC
Rating	Max. 26 VA, 20 W
Degree of protection EN 60529	IP65
Protection class EN 60730-1	Class II
Approvals	



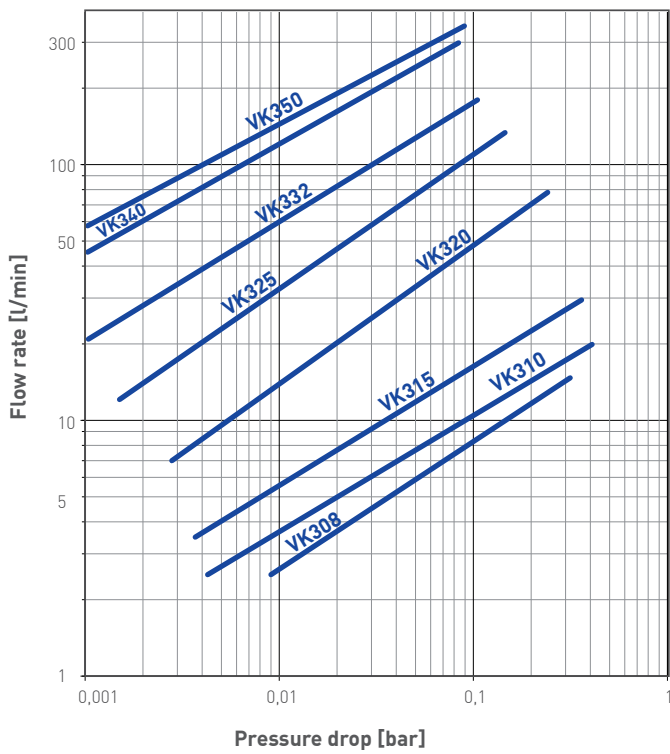
Options

For type	On request
VK3	→ Special setpoints → 4 different colours of the union nut for distinction → Recognized component ETL according to UL & CSA standards

Nominal diameter	Thread connection D ₁	Setpoint ranges [l/min]*		Max. flow rate [l/min]
		Increasing flow ON	Decreasing flow OFF	
DN 8	G ¹ / ₄	2.7...3.0	2.6...2.9	15
DN 10	G ³ / ₈	3.0...3.8	2.8...3.7	20
DN 15	G ¹ / ₂	3.8...5.1	3.6...4.9	30
DN 15	G ¹ / ₂ male	3.0...3.8	2.8...3.7	20
DN 15	G ³ / ₄ male	3.0...3.8	2.8...3.7	20
DN 20	G ³ / ₄	7.2...9.0	6.9...8.7	80
DN 25	G 1	13.0...16.5	12.3...15.9	130
DN 32	G 1 ¹ / ₄	16.5...21.0	16.0...20.5	180
DN 40	G 1 ¹ / ₂	27.0...33.5	25.5...32.5	300
DN 50	G 2	41.5...53.5	40.6...52.8	350

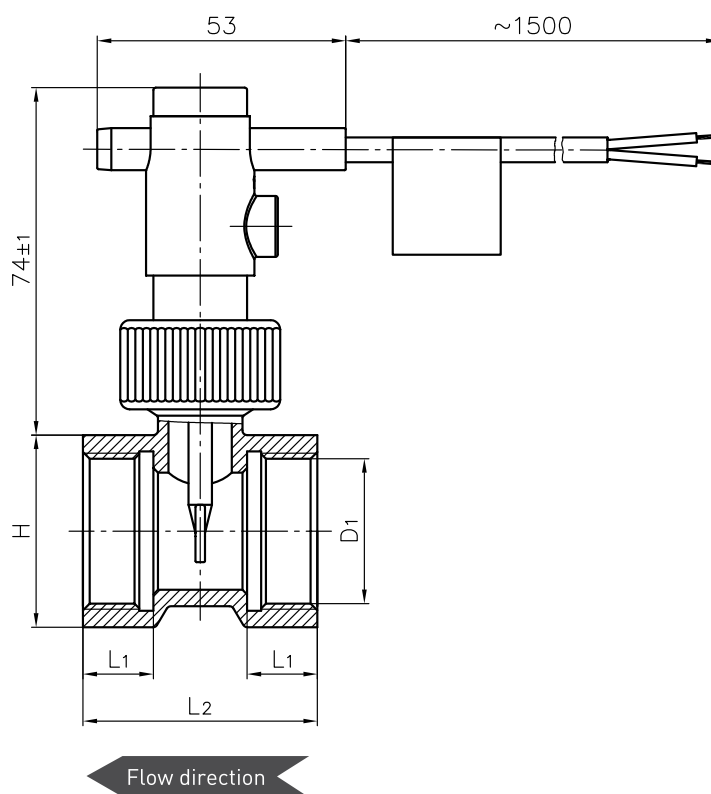
* Water, 20 °C, horizontal pipe, tolerance ±15 %

Typical pressure drop



Dimensions [mm]

Thread connection D ₁	L ₁	L ₂	H
G 1/4	11	50	27
G 3/8	11	50	27
G 1/2	11	50	27
G 1/2 male	10	60	
G 3/4 male	11	50	
G 3/4	15	50	32
G 1	15	50	41
G 1 1/4	15	50	48
G 1 1/2	15	50	55
G 2	22	64	70



Materials in contact with fluid

Body, Paddle	PPE+PS Noryl™ 30 % glass fibre reinforced
Pipe tee	Brass CW617N
Pin*	Stainless steel 1.4571
Magnet	Hard ferrite
O-ring	NBR

* only VK340 and VK350

Order code		
Nominal diameter	Thread connection	Order number
DN 8	G 1/4	VK308M0P10PI11
DN 10	G 3/8	VK310M0P10PI21
DN 15	G 1/2	VK315M0P10PI31
DN 15	G 1/2 male	VK315M0P10PA31
DN 15	G 3/4 male	VK315M0P10PA41
DN 20	G 3/4	VK320M0P10PI41
DN 25	G 1	VK325M0P10PI51
DN 32	G 1 1/4	VK332M0P10PI61
DN 40	G 1 1/2	VK340M0P10PI71
DN 50	G 2	VK350M0P10PI81



VK3 // for insertion installation



VK3

Your advantages

Series	VK3
	Cost optimized plastic version Factory set special set points for series applications Paddle lengths for copper pipes Ø 22...54 Different colours of the union nut for an easy distinction Soldering adapter for copper pipes

Technical data	
Switching function	Contact → closes at increasing flow → opens at decreasing flow
Pressure rating	PN 10
Temperature ranges	
Medium	-25...100 °C
Ambient	-25...70 °C
Electrical data	
Electrical connection	1.5 m PVC jacket cable
Switching current	Max. 1 A
Switching voltage	Max. 230 VAC, 48 VDC
Rating	Max. 26 VA, 20 W
Degree of protection EN 60529	IP65
Protection class EN 60730-1	Class II
Approvals	
 	

Options	
For type	On request
VK3	→ Special setpoints → Reversed switching function → Insertion into collared copper pipes* → Recognized component ETL according to UL & CSA standards

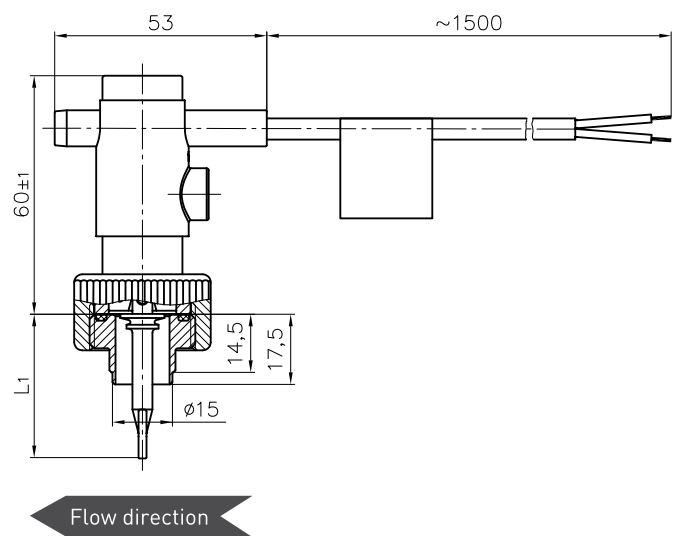
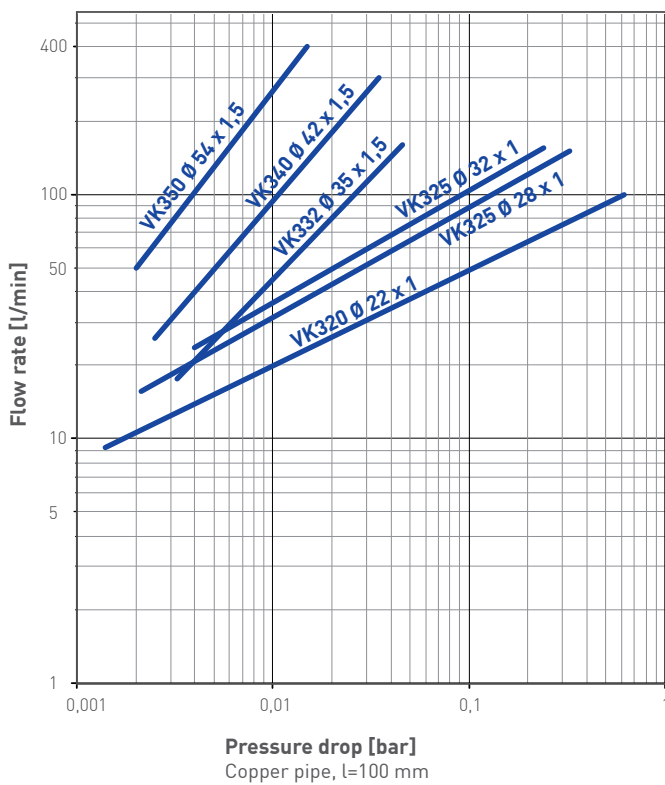
* Set points can differ

Order code						
Type	Color union nut	For copper pipes	Setpoints [l/min]*		Max. flow rate [l/min]	Order number
			Increasing flow ON**	Decreasing flow OFF		
VK320	●	∅ 22x1	10.5	9.2	100	VK320M0P10PD11
VK325	●	∅ 28x1	17.6	15.7	150	VK325M0P10PD11
		∅ 32x1	25.7	23.6	155	
VK332	●	∅ 35x1.5	20.0	17.5	160	VK332M0P10PD11
VK340	●	∅ 42x1.5	28.0	25.8	300	VK340M0P10PD11
VK350	●	∅ 54x1.5	58.3	50.2	400	VK350M2P10PD11

* Water, 20 °C, horizontal pipe, tolerance ±15 %

** Typical value

Typical pressure drop



Dimensions [mm]	
Type	Paddle length L ₁
VK320	33.5
VK325	36.0
VK332	44.5
VK340	47.5
VK350	56.5

Materials in contact with fluid	
Body	PPE+PS Noryl™ 30 % glass fibre reinforced
Paddle	PPE+PS Noryl™ 30 % glass fibre reinforced
Soldering adapter	Brass CW617N
Magnet	Hard ferrite
O-ring	NBR

VHS06, VK306 // for insertion installation



Your advantages

Series	VHS06 / VK306
	Universal flow switches for DN 20...200 Adjustable for pipe size and setpoint by trimming the paddle Threaded adapters for tees or for direct insertion into pipes

Technical data	VHS06	VK306
Switching function	Contact → closes at increasing flow → opens at decreasing flow Reversing possible	Contact → closes at increasing flow → opens at decreasing flow
Pressure rating	PN 25	PN 10
Temperature ranges		
Medium	-25...110 °C	-25...100 °C
Ambient	-25...80 °C	-25...70 °C
Electrical data		
Electrical connection	Plug connector DIN EN 175301-803-A incl. cable socket	1.5 m PVC jacket cable
Max. Switching current	1 A	
Max. Switching voltage	230 VAC, 48 VDC	
Max. Rating	26 VA, 20 W	
Degree of protection EN 60529	IP65	
Protection class EN 60730-1	Class II	

Approvals*



* Only for flow switches with plastic paddle

Options	
For type	See oder code
VHS06	→ Plug connector DIN EN 175301-803-A incl.cable socket with two LED for switching voltages 24 V...230 V AC/DC ±20 %, ambient temperature -20...70 °C → or 4-pin-sensor plug M12 x 1
For type	On request
VK306	→ Reversed switching function
VK306 with plastic paddle	→ Recognized component ETL according to UL & CSA standards

VHS06 / VK306 with plastic paddle, installation into pipe tees according to EN 10242

Paddle to be trimmed to						
	Paddle mark	9	15	20	30	40
	Installation length L ₁ [mm]	40	46	51	61	71
Setpoints* / Max. flow rate [m ³ /h]						
DN 20	Increasing flow ON**	1.1				
	Decreasing flow OFF	0.9				
	Max. flow rate	4				
DN 25	Increasing flow ON**	1.7	1,3			
	Decreasing flow OFF	1.5	1.1			
	Max. flow rate	8.5	5			
DN 32	Increasing flow ON**	2.9	2.2	1.9		
	Decreasing flow OFF	2.6	1.9	1.6		
	Max. flow rate	15	10	8		
DN 40	Increasing flow ON**	4.2	3.2	2.8	2.1	
	Decreasing flow OFF	3.8	2.8	2.4	1.8	
	Max. flow rate	25	18	14	10	
DN 50	Increasing flow ON**	6.5	4.9	4.4	3.3	2.7
	Decreasing flow OFF	6	4.5	4	3	2.4
	Max. flow rate	41	29	24	17	13

VHS06 / VK306 with plastic paddle, installation by welded socket according to EN 10241, G¹/₂ female, length 15 mm

Paddle to be trimmed to									
	Paddle mark	15	20	30	40	50	60	70	80
	Installation length L ₁ [mm]	46	51	61	71	81	91	101	111
Setpoints* / Max. flow rate [m ³ /h]									
DN 65	Increasing flow ON**	8.8	7.4	5.6	4.5				
	Decreasing flow OFF	8.5	7	5.2	4.2				
	Max. flow rate	50	45	34	27				
DN 80	Increasing flow ON**	13.8	11.7	9.2	7.5	6.5	5.1		
	Decreasing flow OFF	11.3	9.6	7.7	6.3	5.3	4.7		
	Max. flow rate	80	65	50	40	33	28		
DN 100	Increasing flow ON**		18.8	14.6	12.3	10.2	8	6.9	6.2
	Decreasing flow OFF		16.3	12	10	8	7.1	6.3	5.9
	Max. flow rate		110	80	65	55	50	40	36
DN 150	Increasing flow ON**				27	22.8	19.5	18	15.7
	Decreasing flow OFF				25	19.8	17.8	16	14.3
	Max. flow rate				150	130	110	100	90
DN 200	Increasing flow ON**					45	38	33.5	30
	Decreasing flow OFF					43.5	36	32	29
	Max. flow rate					230	200	175	160

* Water, 20 °C, horizontal pipe, tolerance ±15 %

** Typical value

VHS06 / VK306 with stainless steel paddle, installation into pipe tees according to EN 10242

Paddle to be trimmed to					
	Paddle mark	15	20	30	40
	Installation length L ₁ [mm]	46	51	61	71
Setpoints* / Max. flow rate [m ³ /h]					
DN 25	Increasing flow ON**	1.2	1		
	Decreasing flow OFF	1	0.9		
	Max. flow rate	10	6		
DN 32	Increasing flow ON**	2	1.7		
	Decreasing flow OFF	1.7	1.5		
	Max. flow rate	20	15		
DN 40	Increasing flow ON**	3.3	2.7	2	
	Decreasing flow OFF	3	2.5	1.8	
	Max. flow rate	34	26	18	
DN 50	Increasing flow ON**	4.8	4	3.2	2.6
	Decreasing flow OFF	4.6	3.8	2.9	2.4
	Max. flow rate	55	45	32	24

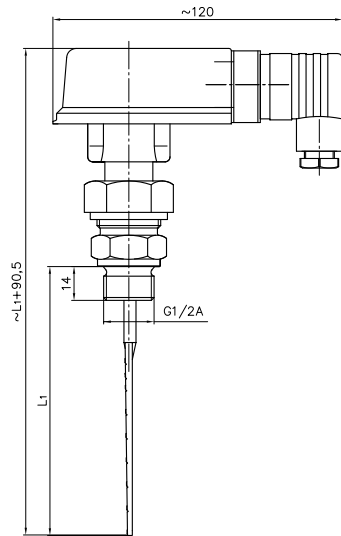
VHS06 / VK306 with stainless steel paddle, installation by welded socket according to EN 10241, G½ female, length 15 mm

Paddle to be trimmed to									
	Paddle mark	15	20	30	40	50	60	70	80
	Installation length L ₁ [mm]	46	51	61	71	81	91	101	111
Setpoints* / Max. flow rate [m ³ /h]									
DN 65	Increasing flow ON**	7.2	6.0	4.5	3.6				
	Decreasing flow OFF	6.8	5.7	4.2	3.3				
	Max. flow rate	100	80	65	50				
DN 80	Increasing flow ON**	11.7	10	7.7	6.4	5.3	4.6		
	Decreasing flow OFF	11.4	9.6	7.5	6	4.9	4.2		
	Max. flow rate	150	125	95	75	60	50		
DN 100	Increasing flow ON**		16	12.4	10.3	8.7	7.7	6.7	6.1
	Decreasing flow OFF		15.9	11.9	9.8	8.1	7.1	6.3	5.6
	Max. flow rate		200	150	120	105	90	75	70
DN 150	Increasing flow ON**				24	20.3	18	16.3	14.7
	Decreasing flow OFF				22.7	19	17.3	15.3	13.8
	Max. flow rate				290	250	210	190	170
DN 200	Increasing flow ON**					41	35.7	31.7	26.7
	Decreasing flow OFF					38.7	34	29.7	23.3
	Max. flow rate					450	390	350	310

* Water, 20 °C, horizontal pipe, tolerance ±15 %

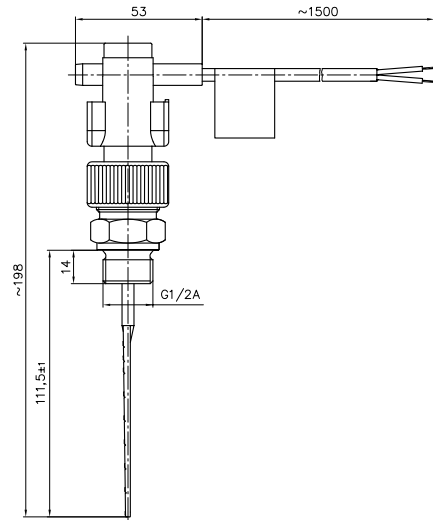
** Typical value

VHS06 with plastic paddle



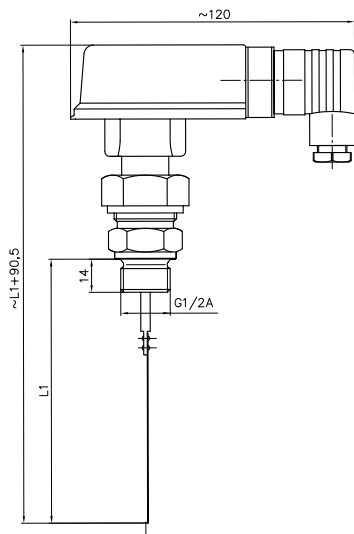
Flow direction

VK306 with plastic paddle



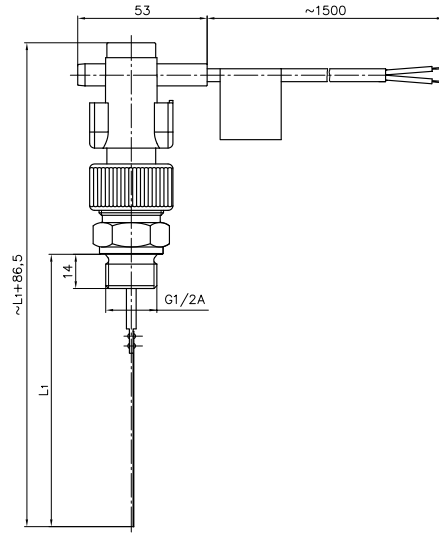
Flow direction

VHS06 with stainless steel paddle



Flow direction

VK306 with stainless steel paddle



Flow direction

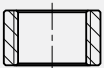
Materials in contact with fluid

Type	VHS06	VK306
Body	Brass CW614N	PPE+PS Noryl™ 30 % glass fibre reinforced
Paddle	Plastic paddle: PPE+PS Noryl™ 30 % glass fibre reinforced / stainless steel Stainless steel paddle: Stainless steel 1.4310 / brass	
Pin	Stainless steel 1.4571	
Process connection	Brass CW614N	
Magnet	Hard ferrite	
O-ring	NBR	

Order code			
Type			
VHS06	Plug connector incl. cable socket (standard)	VHS06M2	171R21
	Plug connector incl. cable socket with LED (option)	VHS06M2	191R21
	4-pin-sensor plug M12 x 1 (option)	VHS06M2	181R21
VK306	1.5 m PVC jacket cable	VK306M2	10PR21
Paddle			
	Plastic	P	
	Stainless steel	5	
Example order number		VHS06M2	P 171R21

BEST
SELLER

Type		Order number		
VHS06	Plug connector (standard), paddle plastic	VHS06M2	P	171R21
VHS06	Plug connector (standard), paddle stainless steel	VHS06M2	5	171R21

Order code		
Accessories		Order number
	Welding socket according to EN 10241, G½ female thread, length 15 mm, steel S 235 JR	XVH1470

VHS09, VK309 // for insertion installation



Your advantages

Series	VHS09 / VK309
	Universal flow switches for Kupferrohr Ø 32...88,9 Adjustable for pipe size and setpoint by trimming the paddle Soldering adapter for copper pipes

Technical data	VHS09	VK309
Switching function	Contact → closes at increasing flow → opens at decreasing flow Reversing possible	Contact → closes at increasing flow → opens at decreasing flow
Pressure rating	PN 25	PN 10
Temperature ranges		
Medium	-25...110 °C	-25...100 °C
Ambient	-25...80 °C	-25...70 °C
Electrical data		
Electrical connection	Plug connector DIN EN 175301-803-A incl. cable socket	1.5 m PVC jacket cable
Switching current	Max. 1 A	
Switching voltage	Max. 230 VAC, 48 VDC	
Rating	Max. 26 VA, 20 W	
Degree of protection EN 60529	IP65	
Protection class EN 60730-1	Class II	

Approvals



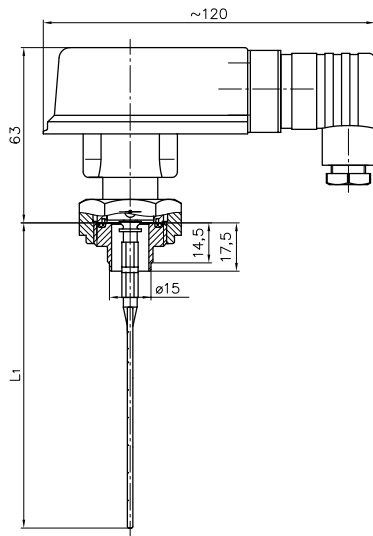
Options	
For type	See order code
VHS09	→ Plug connector DIN EN 175301-803-Aincl.cable socket with two LED for switching voltages 24 V...230 V AC/DC ±20 %, ambient temperature -20...70 °C → or 4-pin-sensor plug M12 x 1
For type	On request
VK309	→ Reversed switching function → Recognized component ETL according to UL & CSA standards

Set point ranges								
Paddle to be trimmed to								
	Paddle mark	9	15	20	30	40	50	60
	Installation length L ₁ [mm]	39	45	50	60	70	80	90
Setpoints* / Max. flow rate [m ³ /h]								
Ø 32 x 1	Increasing flow ON**	2						
	Decreasing flow OFF	1.9						
	Max. flow rate	10						
Ø 35 x 1	Increasing flow ON**	2.6	1.8					
	Decreasing flow OFF	2.4	1.6					
	Max. flow rate	20	13					
Ø 35 x 1.5	Increasing flow ON**	2.5	1.7					
	Decreasing flow OFF	2.2	1.6					
	Max. flow rate	18	12					
Ø 42 x 1.5	Increasing flow ON**	3.9	2.8	2.2				
	Decreasing flow OFF	3.7	2.7	2.1				
	Max. flow rate	30	20	15				
Ø 54 x 1.5	Increasing flow ON**				3.2			
	Decreasing flow OFF				3			
	Max. flow rate				21			
Ø 54 x 2	Increasing flow ON**				3			
	Decreasing flow OFF				2.9			
	Max. flow rate				20			
Ø 64 x 2	Increasing flow ON**		8.6	7.2	5.2	4		
	Decreasing flow OFF		7.9	6.6	4.7	3.7		
	Max. flow rate		53	42	30	24		
Ø 76,1 x 2	Increasing flow ON**		13.6	10.8	8	6.4	5.2	
	Decreasing flow OFF		12.1	10	7.4	5.8	4.7	
	Max. flow rate		80	65	46	35	31	
Ø 88,9 x 2	Increasing flow ON**				10.9	9	7.3	6.1
	Decreasing flow OFF				10.7	8.4	6.9	5.9
	Max. flow rate				67	52	42	39

* Water, 20 °C, horizontal pipe, tolerance ±15 %

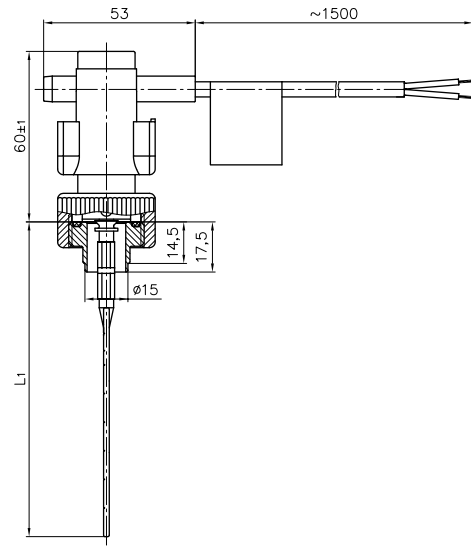
** Typical value

VHS09



Flow direction

VK309



Flow direction

Materials in contact with fluid

Type	VHS09	VK309
Body	Brass CW614N	PPE+PS Noryl™ 30 % glass fibre reinforced
Paddle / Sleeve	PPE+PS Noryl™ 30 % glass fibre reinforced / Stainless steel	
Process connection	Brass CW614N	
Pin	Stainless steel 1.4571	
Magnet	Hard ferrite	
O-ring	NBR	

Order code

Type	Order number
VHS09	
Plug connector incl. cable socket (standard)	VHS09M2P171D11
Plug connector incl. cable socket with LED (option)	VHS09M2P191D11
4-pin-sensor plug M12 x 1 (option)	VHS09M2P181D11
VK309	
1.5 m PVC jacket cable	VK309M2P10PD11

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Type	Order number
VHS09	Plug connector (Standard), Paddle plastic
	VHS09M2P171D11



VKX05 // for insertion installation

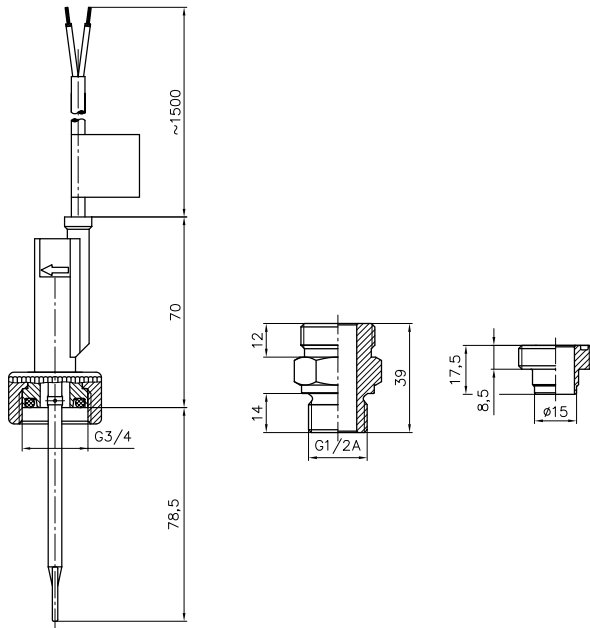


VKX05

Your advantages

Series	VKX05
	Direct installation into pipe lines DN 50...150 Sealed with integrated O-ring

Technical data	VKX05
Switching function	Contact closes at increasing flow
Nominal diameter range	Applicable in DN 50...150
Pressure rating	PN 10
Temperature ranges	
Medium	-20...100 °C
Ambient	-20...70 °C
Electrical data	
Electrical connection	1.5 m PVC jacket cable
Degree of protection EN 60529	IP65
Max. Switching current	Max. 1 A
Max. Rating	Max. 26 VA, 20 W
Max. Switching voltage	230 VAC, 48 VDC or 24 VAC, 42 VDC
Protection class EN 60730-1	Class II or Class III
Approvals	
 	



Materials in contact with fluid	
Type	VKX05
Body	PPE+PS Noryl™ 30 % glass fibre reinforced
Paddle	PPE+PS Noryl™ 30 % glass fibre reinforced
Pin	Stainless steel 1.4571 or titanium
Magnet	Hard ferrite
O-ring	EPDM
Soldering adapter	Brass CW614N
Process connection	Brass CW614N or stainless steel 1.4571

Order code			
Type			
VKX05	VKX05M2P2		
VKX05 with titanium pin	VKX05M2B2		
Switching voltage			
230 VAC, 48 VDC		AP	
24 VAC, 42 VDC		BP	
Process connection			
Union nut G ³ / ₄			U10
Threaded adapter G ¹ / ₂ brass			R21
Threaded adapter G ¹ / ₂ stainless steel			R23
Soldering adapter			D11
Example order number	VKX05M2P2	AP	U10

VKX15 // with pipe tee



VKX15

Your advantages

Series	VKX15
	Cost optimized version Pipe tee with threaded or soldering ends

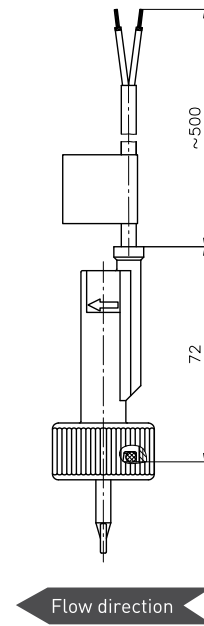
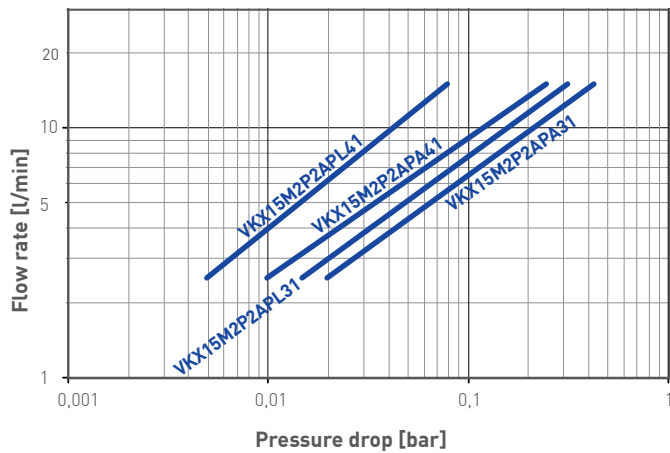
Technical data

Switching function	Contact closes at increasing flow
Setpoint	2.5 ±0.5 l/min*
Max. flow rate	
→ Pipe tee G $\frac{1}{2}$ male	40 l/min
→ Pipe tee G $\frac{3}{4}$ male	18 l/min
→ Pipe tee 15 mm soldering connection	40 l/min
→ Pipe tee 22 mm soldering connection	34 l/min
Nominal diameter	DN 15
Pressure rating	PN 10
Temperature ranges	
Medium	-20...100 °C
Ambient	-20...70 °C
Electrical data	
Electrical connection	0.5 m PVC jacket cable
Degree of protection EN 60529	IP65
Max. Switching current	Max. 1 A
Max. Rating	Max. 26 VA, 20 W
Max. Switching voltage	230 VAC, 48 VDC or 24 VAC, 42 VDC
Protection class EN 60730-1	Class II or Class III
Approvals **	

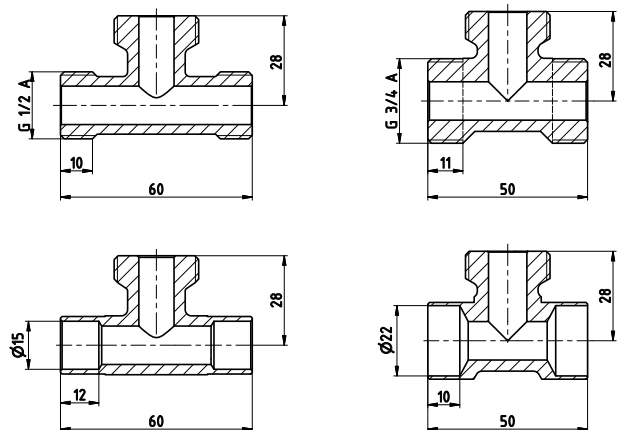


* Water, 20 °C, horizontal pipe, other setpoints on request

Typical pressure drop



Materials in contact with fluid	
Body	PPE+PS Noryl™ 30 % glass fibre reinforced
Paddle	PPE+PS Noryl™ 30 % glass fibre reinforced
Pin	Stainless steel 1.4571
Magnet	Hard ferrite
O-ring	EPDM
Pipe tee	Brass CW617N



Order code		
Type		
VKX15		VKX15M2P2
Switching voltage		
230 VAC, 48 VDC		AP
24 VAC, 42 VDC		BP
Process connection		
Pipe tee G 1/2 male		A31
Pipe tee G 3/4 male		A41
Pipe tee 15 mm soldering connection		L31
Pipe tee 22 mm soldering connection		L41
Example order code		VKX15M2P2 AP A31

VKL05 // for insertion installation

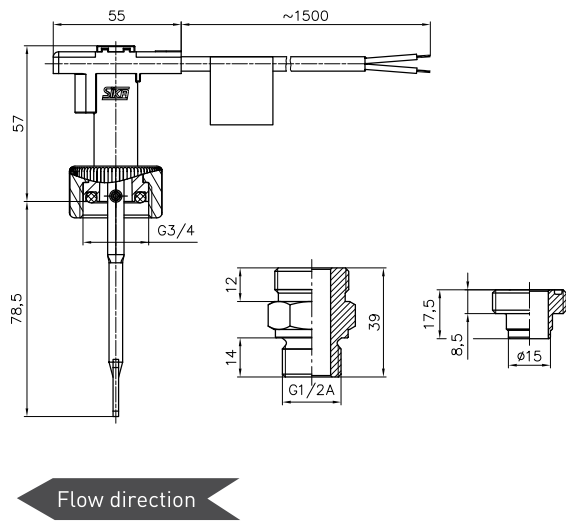


Your advantages

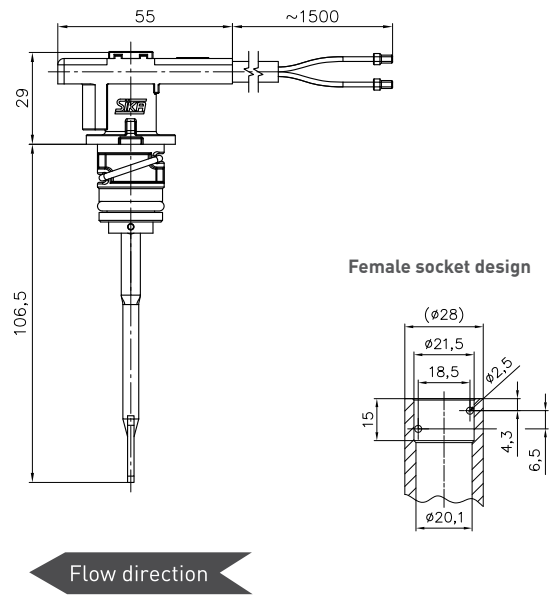
Series	VKL05 / VKL05 Push-In
	Direct installation into pipe lines DN 50...150 Optional: Push-In installation Sealed with integrated O-ring

Technical data	VKL05 / VKL05 Push-In
Switching function	Contact closes at increasing flow
Nominal diameter range	Applicable in DN 50...150
Pressure rating	PN 10
Temperature ranges	
Medium	-20...70 °C
Ambient	-20...70 °C
Electrical data	
Electrical connection	1.5 m PVC jacket cable
Degree of protection EN 60529	IP65
Max. Switching current	1 A
Max. Rating	26 VA, 20 W
Max. Switching voltage	230 VAC, 48 VDC
Protection class EN 60730-1	Class II

VKL05



VKL05 Push-In



Materials in contact with fluid

Type	VKL05	VKL05 Push-In
Body	PPE+PS Noryl™ 30 % glass fibre reinforced	
Paddle	PPE+PS Noryl™ 30 % glass fibre reinforced	
Pin	PPE+PS Noryl™ 30 % glass fibre reinforced	
Magnet	Hard ferrite	
O-ring	EPDM	
Soldering adapter	Brass CW614N	
Process connection	Brass CW614N or stainless steel 1.4571	

Order code

Type

VKL05

VKL05M1P2BP

Process connection

Union nut G³/₄

U10

Threaded adapter G¹/₂ brass

R21

Threaded adapter G¹/₂ stainless steel

R23

Soldering adapter

D11

Push-In for manifold mounting

H20

Example order number

VKL05M1P2BP

U10

VVX



VVX15



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VVX20

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Your advantages

Series	VVX
	<p>No mechanical wear → Flow sensor for liquids with no moving parts</p> <p>Highest strength and performance → Rugged glass fibre reinforced plastic</p> <p>Completely encapsulated piezoceramic sensor to detect the vortices → No direct contact with the medium</p> <p>Wide measuring span (up to 1:21), integrated temperature sensor, high interference resistance, wetted parts metal-free, traceability by serial number, thread connection or QuickFasten</p>

Technical data	VVX15	VVX20	VVX25
Nominal diameter	DN 15	DN 20	DN 25
Process connection	G¾-ISO 228 male, incl. O-rings	QuickFasten or G1-ISO 228 male, incl. O-rings	G 1¼-ISO 228 male, incl. O-rings
Inner diameter	Ø 13 mm	Ø 19 mm	Ø 25 mm
Flow range	2...40 l/min	5...80 l/min	7...150 l/min
Accuracy	±2 % of range*, deviations with high viscous media		
Repeatability	±0,5 % or ±1 %, see temperature ranges ambient		
Medium	Water and aqueous solution		
Pressure rating	PN 10		
Degree of protection EN 60529	IP65***		
Temperature ranges			
Medium	5...90 °C, -20...90 °C**		
Ambient	5...70 °C → Repeatability ±0,5 %, -20...70 °C → Repeatability ±1 %		
Electrical data			
Electrical connection	5-pin plug connector M12 x 1		
Power supply	8...30 V DC or 5 V DC (±5 %) or 12...24 VDC****		
Current consumption	< 15 mA		
Approvals			
			
Option	Recognized component ETL according to UL und CSA Standards		

Three different versions available:

- Frequency output (1)
- Analogue 0.5...3.5 V and frequency output (2)
- Analogue 0...10 V or 4...20 mA and frequency output (3)

Frequency output (1)	VVX15	VVX20	VVX25
Output signal flow	Frequency signal, square wave, pulse duty ratio 50:50, signal current max. 20 mA		
Pulse rate	500 1/l (optional 3...1000 1/l)	200 1/l (optional 2...800 1/l)	100 1/l (optional 1...500 1/l)
Output signal temperature	Pt1000 2 wire, class B or NTC 10.74k, B 0/100 3450 or none		

Analogue output (2)	VVX15	VVX20	VVX25
Output signal flow	0.5...3.5 V		
Scaling	2...40 l/min	5...80 l/min	7...150 l/min
Voltage rate → 0.5...3.5 V	0.07895 V / l/min	0.04000 V / l/min	0.02098 V / l/min
Output signal temperature *****	Voltage signal 0.5...3.5 V corresponds to 0...90 °C or Pt1000 2 wire, class B or NTC 10.74k, B 0/100 3450 or none		

Analogue output (3)	VVX15	VVX20	VVX25
Output signal flow	0...10 V or 4...20 mA		
Scaling	0...40 l/min	0...80 l/min	0...150 l/min
Voltage rate → 0...10 V	0.25000 V / l/min	0.12500 V / l/min	0.06667 V / l/min
Current rate → 4...20 mA	0.40000 mA / l/min	0.20000 mA / l/min	0.10667 mA / l/min

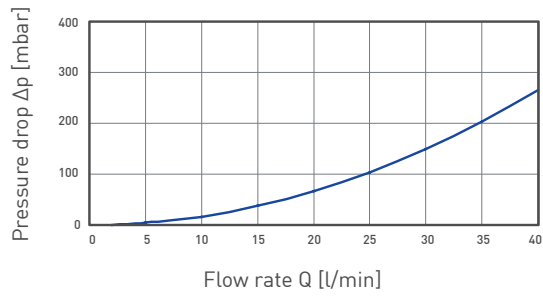
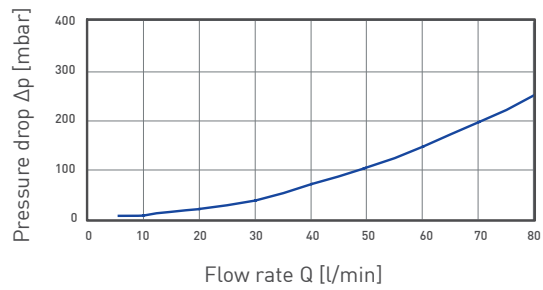
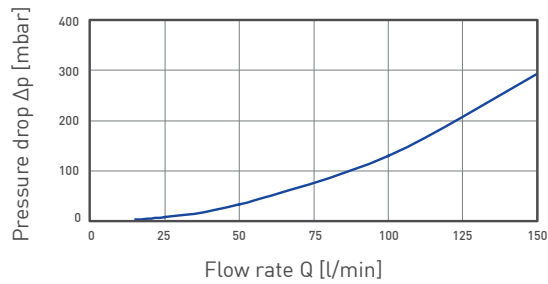
* Test conditions:

- Test medium water
- Media temperature 20...30 °C
- Inlet pressure 7...10 bar
- Defined inlet and outlet pipes (see operating manual)

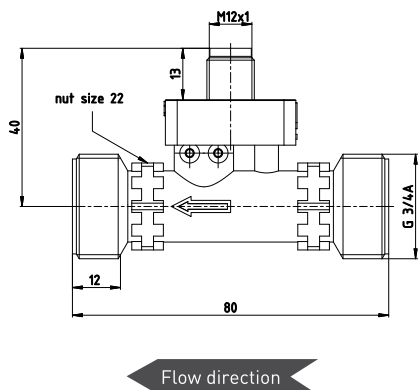
*** With attached cable socket only

**** Only available for output signal flow 4...20 mA and 0...10 V

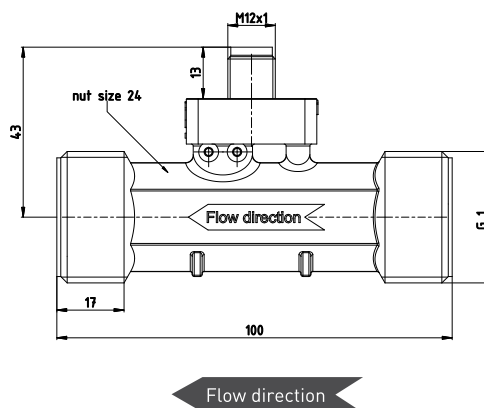
** Temperature cycle test: -20 °C / 70 °C, 0 % rH, cycle time 1.5 h, temperature gradient approx. 2.5 K/min, hold time at -20 °C and 70 °C 10 min each, 90 cycles: no failures

Typical pressure drop VVX15**Typical pressure drop VVX20****Typical pressure drop VVX25**

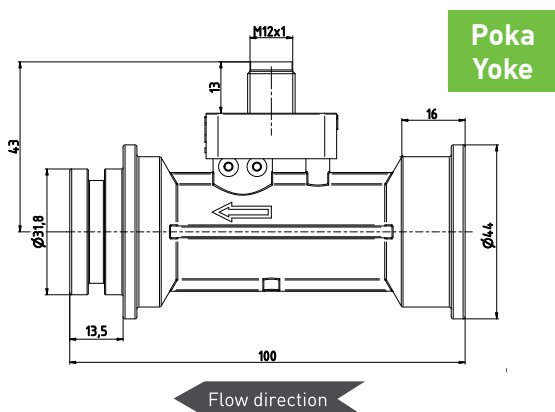
VVX15



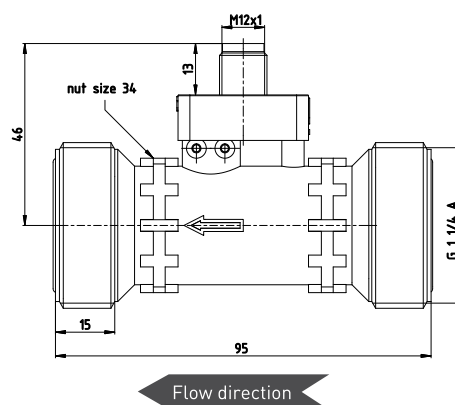
VVX20 threaded version



VVX20 QuickFasten



VVX25



Materials in contact with media	
VVX15, VVX20, VVX25	
Body /tube	PPS Fortron® 40 % glass fibre reinforced
Sensor	ETFE Tefzel®
O-rings	EPDM

Version frequency output

Order code						
Nominal diameter						
DN 15	VXA1S		A			514
DN 20 QuickFasten	WXC9S		B			52P
DN 20 G1	WXC9S		B			527
DN 25	WXB2S		B			516
Power supply						
8...30 V DC		G			1	
5 V DC		P			2	
Output signal temperature						
Pt1000				RRRP		
NTC 10.74K				RRRN		
none				0000		
Example order number						
	VXA1S	G	A	RRRP	1	514

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Type	Order number						
VVX15	DN 15, power supply 8...30 VDC, output signal temperature Pt1000	VXA1S	G	A	RRRP	1	514
VVX20	DN 20 G1, power supply 8...30 VDC, output signal temperature Pt1000	WXC9S	G	B	RRRP	1	527
VVX25	DN 25, power supply 8...30 VDC, output signal temperature Pt1000	WXB2S	G	B	RRRP	1	516

Version analogue output (0.5...3.5 V) and frequency output

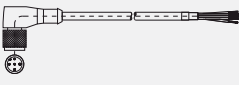











Order code						
Nominal diameter						
DN 15	VXA1SNA	U1				514
DN 20 QuickFasten	WXC9SNB	UC				52P
DN 20 G1	WXC9SNB	UC				527
DN 25	WXB2SNB	U2				516
Output signal temperature						
0.5...3.5 V*				U1		
Pt1000*				RP		
NTC 10.74K*				RN		
none				00		
Power supply						
8...30 V DC					1	
5 V DC					2	
Example order number						
	VXA1SNA	U1	U1	1		514

Version analogue output (0...10 V or 4...20 mA) and frequency output

Order code		
Nominal diameter		
DN 15	VXA1SGA	K003514
DN 20 QuickFasten	VXC9SGB	N00352P
DN 20 G1	VXC9SGB	N003527
DN 25	VXB2SGB	L003516
Output signal flow		
0...10 V	V	
4...20 mA	A	
Example order number	VXA1SGA v	K003514

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Type		Order number
VVX15	DN 15, output signal flow 4...20 mA	VVXA1SGA A K003514
VVX20	DN 20 G1, output signal flow 4...20 mA	VVXC9SGB A N003527
VVX25	DN 25, output signal flow 4...20 mA	VVXB2SGB A L003516

Order code				
Type	Accessories		Length	Order number
VWX15 VWX20 VWX25		Connection cable with 5 pin cable socket M12 x 1, angle type molded lead 5 x 0.34 mm ² , sheathing material PVC (Tmax = 80 °C)*	1 m	XVWX040
			2 m	XVWX051
			3 m	XVWX039
			5 m	XVWX041
			10 m	XVWX042
		Connection cable with 5 pin cable socket M12 x 1, molded lead 5 x 0.34 mm ² , sheathing material PVC, 4 pin Molex MicroBlade wire-to-board housing, (Tmax = 80 °C)	1.5 m	XVWX065
Type	Accessories		Order number**	
VWX15		Screw coupling G 1/2, brass	BVWX1007	
		Soldering coupling Ø 15 mm, brass	BVWX1008	
VWX20		O-ring for QuickFasten, EPDM	XVWX061	
		Joint clip QuickFasten, stainless steel	XVWX052	
		Screw coupling G 1***, brass, compatibility type	BVWX1021	
VWX25		Screw coupling R1, brass	BVWX1003	
		Soldering coupling Ø 28 mm, brass	BVWX1004	
		Bonding coupling Ø 25 mm, PVC	BVWX1005	
		Screw coupling G 1, stainless steel 1.4571	BVWX1006	
		Screw coupling G 1 1/4***, brass, compatibility type	BVWX1022	

* Connection cable with UL approval on request

** Supplied piecewise

*** Two pieces are required for the assembly

VTY10



VTY10, brass



VTY10, plastic

Your advantages

Series	VTY10
	Low wear and extremely long durability due to high quality bearing Practically no deviation in mass production due to fixed pulse rate, insensitive against water hammers Threaded connection or QuickFasten, proven in numerous mass production applications High measuring accuracy, mostly independent of fitting position due to integrated flow straightener

Technical data	VTY10 threaded	VTY QuickFasten
Material pipe section	Brass	Plastic
Flow range	1...30 l/min	
Accuracy	±1 % of range	
Repeatability	±1 %	
Signal output	From 0.7 l/min	From 0.6 l/min
Medium temperature	0...90 °C (non-freezing)	0...85 °C (non-freezing), temporary 95 °C
Ambient temperature	0...70 °C	
Pressure rating	PN 16	PN 10
Nominal diameter	DN 10	
Process connection	G½ male thread	G¾ male thread
Sensor	Hall effect sensor	
Output signal	Square wave frequency signal, NPN open collector	
Pulse duty ratio	50:50	
Pulse rate / K-factor	495 pulses/l	530 pulses/l
Electrical connection	80 mm (QuickFasten 90 mm) single wire with Molex Mini-Fit® Jr. plug connector (part number 39-01-4036)	
	Optional: PVC-cable (1 m), optional single wires	Optional: Single wires (145 mm)
Power supply	4.5...24 VDC	

Approvals



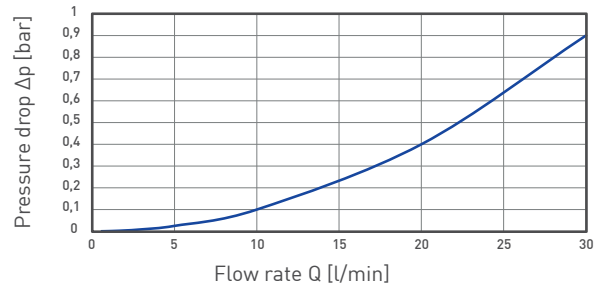
NSF/ANSI 372
NSF/ANSI 61



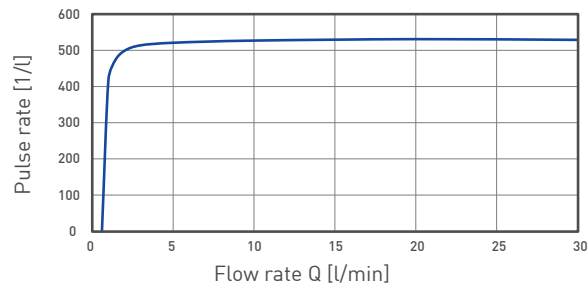
Available for:

VY1030MKHNX1A3
VY1030MKHN10A3
VY1030K5HNX1A4
VY1030K5HN10A4

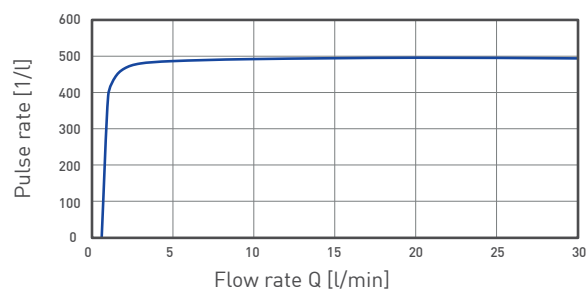
Typical pressure drop



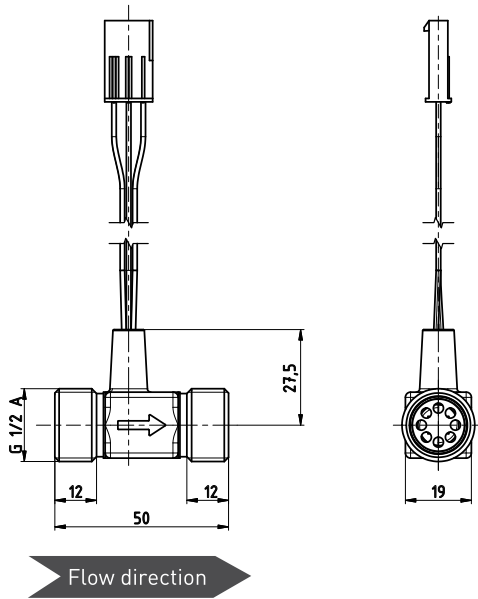
Characteristic curve, plastic



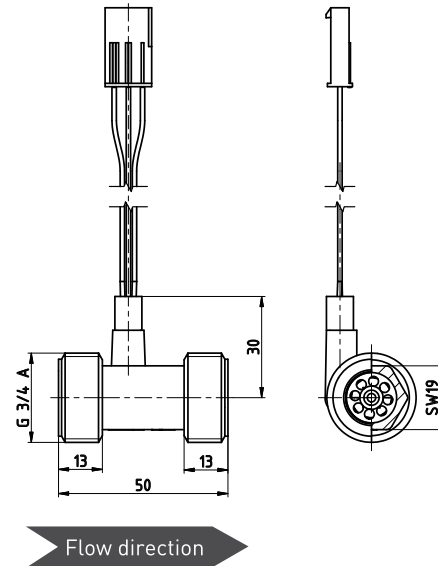
Characteristic curve, brass



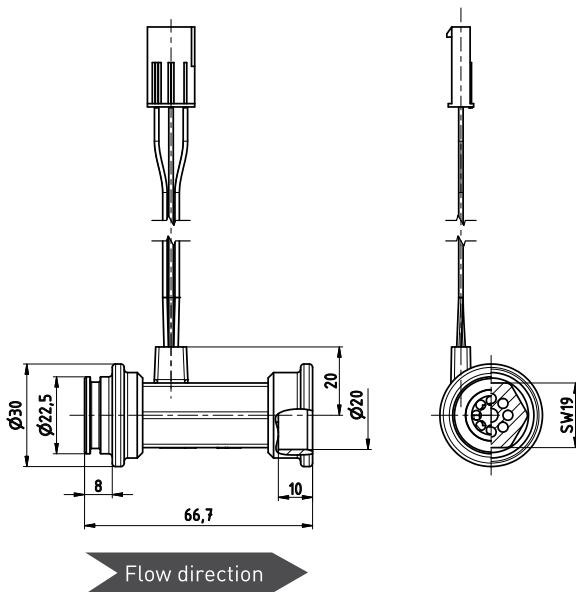
Threaded version, brass



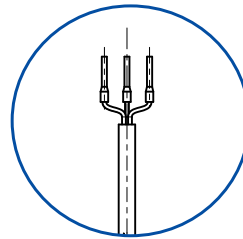
Threaded version, plastic



QuickFasten, plastic



Alternative electrical connection



Materials in contact with fluid

Type	VTY10, brass	VTY10, plastic
Pipe section	Brass CW617N	PPE+PS Noryl™ 30 % glass fibre reinforced
Rotor	PPE+PS Noryl™ 30 % glass fibre reinforced	
Magnet	Hard ferrite	
Shaft	Stainless steel / Hard metal	
Axial bearing	Saphir	
Radial bearing	PEEK Victrex™	

Order code		
Type		
VTY10, brass	VY1030MAHN	
Electrical connection		
80 mm single wire with Molex Mini-Fit® Jr. plug connector		X1A3
1 m PVC-cable		10A3
Example order number	VY1030MAHN	X1A3

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
145 mm single wires, QuickFasten		P0Q1
90 mm single wires mit with Molex Mini-Fit® Jr. plug connector, QuickFasten		X2Q1
Example order number	VY1030K5HN	10A4

Minimum lot size 100 pieces

VTY20



VTY20

Your advantages

Series	VTY20
	<p>Low wear and extremely long durability due to high quality bearing</p> <p>Practically no deviation in mass production due to fixed pulse rate, wide measuring span (up to 1:60),</p> <p>Insensitive against water hammers, proven in numerous mass production applications</p> <p>High measuring accuracy, mostly independent of fitting position due to integrated flow straightener</p>

Technical data

Material pipe section	Brass
Flow range	1...60 l/min
Accuracy	±1 % of range ±1 % of reading
Repeatability	±1 %
Signal output	From 0.8 l/min
Medium temperature	0...90 °C
Ambient temperature	0...70 °C
Pressure rating	PN 16
Nominal diameter	DN 20
Process connection	G 1 male thread
Sensor	Hall effect sensor
Output signal	Square wave - frequency signal, NPN open collector
Pulse duty ratio	50:50
Pulse rate / K-factor	119 pulses/l
Electrical connection	80 mm single wire with Molex Mini-Fit® Jr. plug connector (part number 39-01-4036) optional: 0.5 m PVC cable
Power supply	4.5...24 VDC
Pressure drop	0.33 bar (at Q = 60 l/min)

Approvals



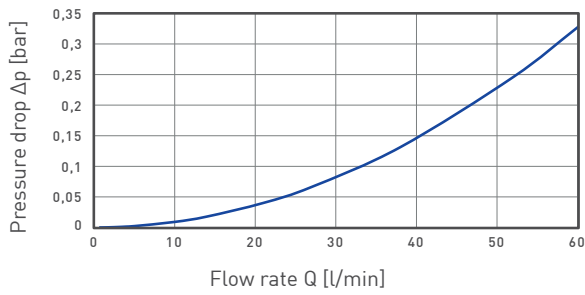
NSF/ANSI 372
NSF/ANSI 61



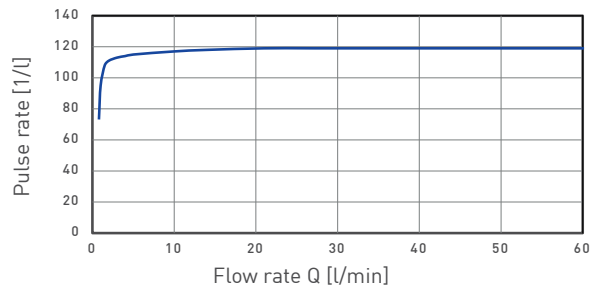
Available for:
VY2060MKHNX1A5
VY2060MKHN05A5

Plastic parts and O-Ring comply with KTW-guidance or the Elastomer Guideline of the German Federal Environmental Agency

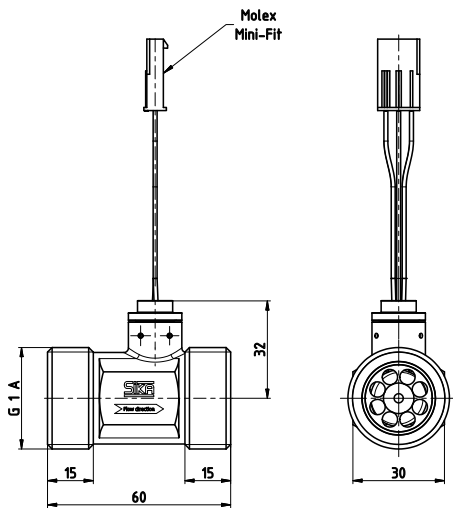
Typical pressure drop



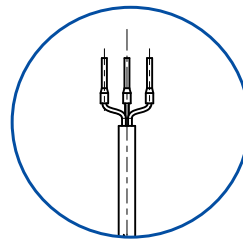
Characteristic curve



VTY20



Alternative electrical connection



Materials in contact with fluid	
Pipe section	Brass CW617N
Turbine cage	PPE+PS Noryl™ 30 % glass fibre reinforced
Rotor	PPE+PS Noryl™ 30 % glass fibre reinforced
Magnet	Hard ferrite
Shaft	Stainless steel 1.4305 / Tungsten carbide
Axial bearing	Sapphire
Radial bearing	PEEK Victrex™

Order code		
Type		
VTY20	VY2060MAHN	
Electrical connection		
80 mm single wire with Molex Mini-Fit® Jr. plug connector		X1A5
0.5 m PVC-cable		05A5
Example order number	VY2060MAHN	X1A5

Minimum lot size 60 pieces

Push-in flow sensors // VTY10



VTY10

Your advantages

Series	VTY10
	<p>Low deviation in mass production, fixed pulse rate</p> <p>High measuring accuracy</p> <p>Low wear and extremely long durability due to high quality bearing</p> <p>Compact dimensions, proven in numerous mass production applications</p>

① Push in turbine

Flow range	1...30 l/min
Accuracy	±1 % of range
Repeatability	±1 %
Signal output	From 0.7 l/min
Medium temperature	Max. 85 °C, temporary 95 °C
Nominal diameter	DN 10

Approvals



NSF/ANSI 372
NSF/ANSI 61



Available for:
VY1030K50000YY

② Hall effect sensor*

Nominal pulse rate	495 pulses / l
Frequency output	NPN open collector
Power supply	4.5...24 VDC
Electrical connection	2 m PVC cable, shielded (T _{max} = 75 °C)

③ Adapter sleeve for hall effect sensor**

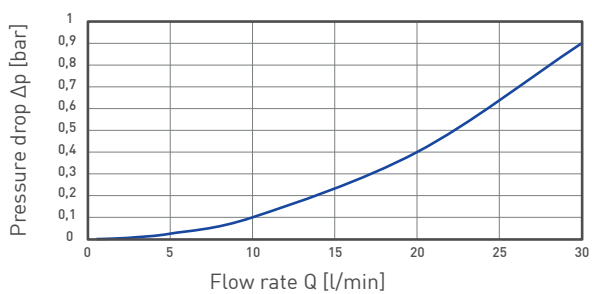
Pressure rating	PN 10
Process connection	G $\frac{3}{8}$ A
Approvals	Plastic parts and O-Ring comply with KTW-guidance or the Elastomer Guideline of the German Federal Environmental Agency

Stated values may vary depending on geometry of fittings.

* Union nut included

** O-ring included

Typical pressure drop*



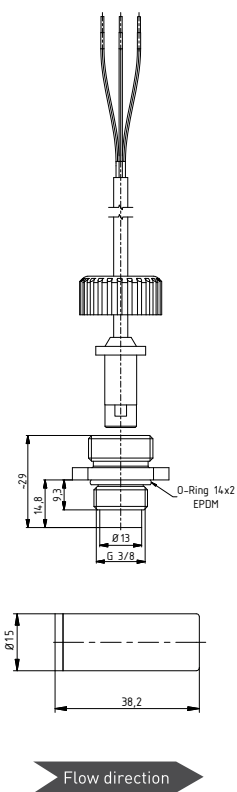
* determined in SIKA pipe tee

VTY10

Materials in contact with fluid	
Push in turbine	
Turbine body	PPE+PS Noryl™ 30 % glass fibre reinforced
Rotor	PPE+PS Noryl™ 30 % glass fibre reinforced
Magnet	Hard ferrite
Shaft	Stainless steel / Hard metal
Axial bearing	Sapphire
Radial bearing	PEEK
Adapter sleeve for Hall effect sensor	
Adapter sleeve	PPE+PS Noryl™ 30 % glass fibre reinforced
O-ring	EPDM

Order code	
Component	Order number
Push in turbine	VY1030K50000YY
Hall effect sensor	VT2282
Adapter sleeve for Hall effect sensor	VT25Z000000002

Minimum lot size 50 pieces



Push-in flow sensors // VTY20



VTY20

Your advantages

Series	VTY20
	Low deviation in mass production, fixed pulse rate High measuring accuracy Low wear and extremely long durability due to high quality bearing Compact dimensions, proven in numerous mass production applications

1 Push in turbine

Flow range	1...60 l/min
Accuracy	±1 % of range ±1 % of reading
Repeatability	±1 %
Signal output	From 0.8 l/min
Medium temperature	0...90 °C
Nominal diameter	DN 20

Approvals



NSF/ANSI 372
NSF/ANSI 61



Available for:
VY2060K50000YY

Plastic parts and O-Ring comply with KTW-guidance or the Elastomer Guideline of the German Federal Environmental Agency

2 Hall effect sensor*

Nominal pulse rate	119 Pulse/l
Frequency output	NPN open collector
Power supply	4.5...24 VDC
Electrical connection	80 mm single wire with Molex Mini-Fit® Jr. plug connector (part number 39-01-4036) optional: 0.5 m PVC cable
Pressure rating	PN 16

Approvals



NSF/ANSI 372
NSF/ANSI 61



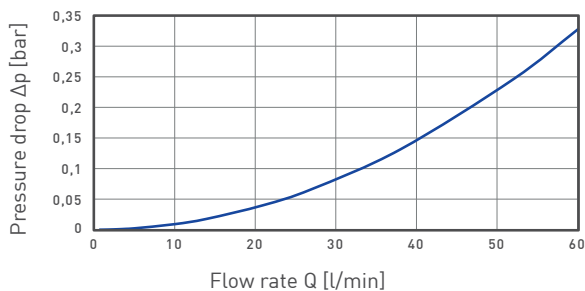
Available for:
VY2060K5HNN1YY
VY2060K5HNN05YY

Plastic parts and O-Ring comply with KTW-guidance or the Elastomer Guideline of the German Federal Environmental Agency

Stated values may vary depending on geometry of fittings.

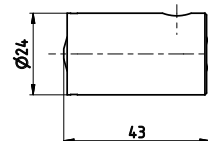
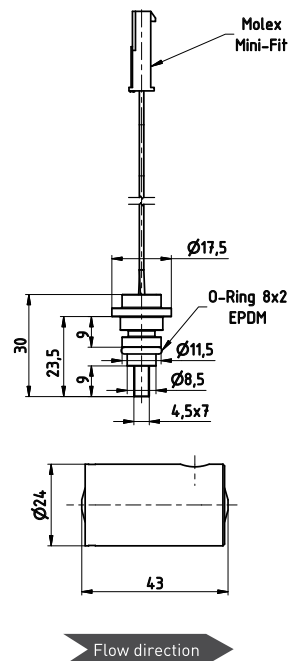
* O-ring included

Typical pressure drop*



* determined in SIKA pipe tee

VTY20

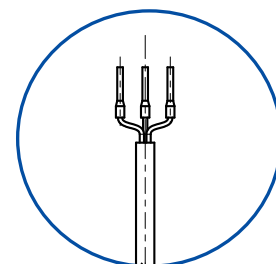


Materials in contact with fluid	
Push in turbine	
Turbine body	PPE+PS Noryl™ 30 % glass fibre reinforced
Rotor	PPE+PS Noryl™ 30 % glass fibre reinforced
Magnet	Hard ferrite
Shaft	Stainless steel 1.4305 / Hard metal
Axial bearing	Sapphire
Radial bearing	PEEK Victrex™
Adapter sleeve for Hall effect sensor	
Adapter sleeve	PPE+PS Noryl™ 30 % glass fibre reinforced
O-ring	EPDM

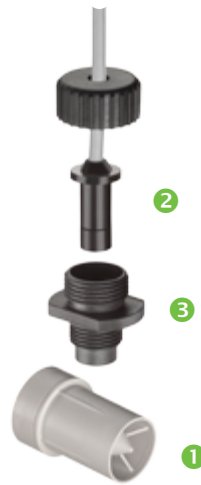
Order code	
Component	Order number
Push in turbine	VY2060K50000YY
Hall effect sensor	
→ 80 mm single wire	
with Molex Mini-Fit® Jr. plug connector	VY2060K5HNX1YY
→ 0.5 m PVC-cable	VY2060K5HN05YY

Minimum lot size 50 pieces

Alternative electrical connection



Push-in flow sensors // VTH20



VTH20

Your advantages

Series	VTH20
	Low deviation in mass production, fixed pulse rate, low start-up High measuring accuracy, compact dimensions Proven in numerous mass production applications

① Push in turbine

Flow range	1...42 l/min with continuous operation max. 25 l/m
Accuracy	±1 % of range, ±3 % of reading (from 15 l/min)
Repeatability	±0.2 %
Signal output	From 0.33 l/min
Medium temperature	Max. 60 °C
Nominal diameter	DN 20

Approvals

Plastic parts and O-Ring comply with KTW-guidance or the Elastomer Guideline of the German Federal Environmental Agency

② Hall effect sensor*

Nominal pulse rate	232 Pulse/l
Frequency output	NPN open collector
Power supply	10...30 VDC (optional 4.5...26.5 VDC)
Electrical connection	2 m PVC-cable, shielded ($T_{max} = 75\text{ °C}$)

③ Adapter sleeve for hall effect sensor**

Pressure rating	PN 10
Process connection	G $\frac{3}{8}$ A

Approvals

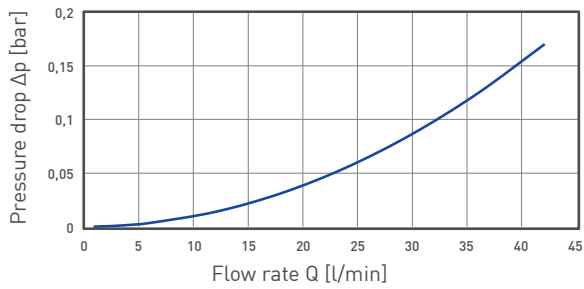
Plastic parts and O-Ring comply with KTW-guidance or the Elastomer Guideline of the German Federal Environmental Agency

Stated values may vary depending on geometry of fittings.

* Union nut included

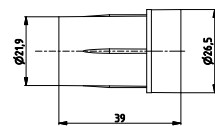
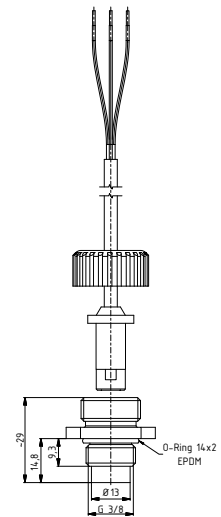
** O-ring included

Typical pressure drop*



* determined in SIKA pipe tee

VTH20



Materials in contact with fluid	
Push in turbine	
Turbine body	PS-ST Xarec® 20 % glass fibre reinforced
Rotor	PS-ST Xarec® 20 % glass fibre reinforced
Shaft	Stainless steel 1.4539
Axial bearing	Sapphire
Radial bearing	PA
Adapter sleeve for Hall effect sensor	
Adapter sleeve	PPE+PS Noryl™ 30 % glass fibre reinforced
O-ring	EPDM

Order code	
Component	Order number
Push in turbine	VT20Z000000001
Hall effect sensor	VT2228
Adapter sleeve for Hall effect sensor	VT25Z000000002

Minimum lot size 50 pieces

Push-in flow sensors // VTH25



VTH25

Your advantages

Series	VTH25
	Low deviation in mass production, fixed pulse rate, low start-up High measuring accuracy, compact dimensions Proven in numerous mass production applications

1 Push in turbine

Flow range	4...160 l/min
Accuracy	±5 % of range (up to 5 l/min ±7 % of reading)
Repeatability	±0.5 %
Signal output	From 1 l/min
Medium temperature	Max. 85 °C
Nominal diameter	DN 25

Approvals

Plastic parts and O-Ring comply with KTW-guidance or the Elastomer Guideline of the German Federal Environmental Agency

2 Hall effect sensor*

Nominal pulse rate	65 Pulse/l
Frequency output	NPN open collector
Power supply	10...30 VDC (optional 4.5...26.5 VDC)
Electrical connection	2 m PVC-cable, shielded (T _{max} = 75 °C)

3 Adapter sleeve for hall effect sensor**

Pressure rating	PN 10
Process connection	G $\frac{3}{8}$ A

Approvals

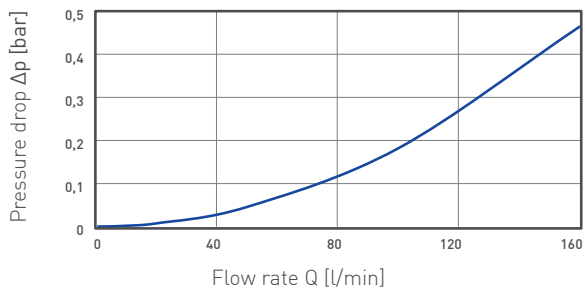
Plastic parts and O-Ring comply with KTW-guidance or the Elastomer Guideline of the German Federal Environmental Agency

Stated values may vary depending on geometry of fittings.

* Union nut included

** O-ring included

Typical pressure drop



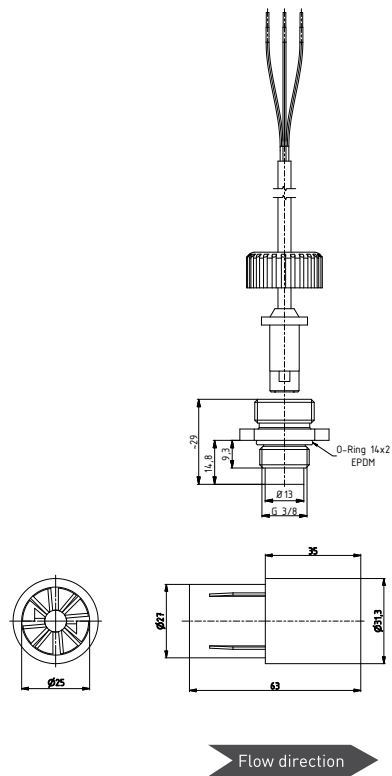
* determined in SIKA pipe tee

Materials in contact with fluid	
Push in turbine	
Turbine body	PS-ST Xarec® 20 % glass fibre reinforced
Rotor	PS-ST Xarec® 20 % glass fibre reinforced
Shaft	Stainless steel 1.4539
Axial bearing	Sapphire
Radial bearing	PA
Adapter sleeve for Hall effect sensor	
Adapter sleeve	PPE+PS Noryl™ 30 % glass fibre reinforced
O-ring	EPDM

Order code	
Component	Order number
Push in turbine	VT2511020000YY
Hall effect sensor	VT2228
Adapter sleeve for Hall effect sensor	VT25Z000000002

Minimum lot size 50 pieces

VTH25



VMM induQ®



Your advantages

Series	VMM
	Magnetic inductive flow sensors for nominal sizes DN15...200 No mechanical wear Robust industrial design Easy menu-driven operation and programming by display Delivery including works calibration certificate

Outputs

- Analogue output (0)4...20 mA
- Frequency or Impulse output
- 2 alarm / status outputs

Units

- Divers, e.g. m³/h, l/s, USG/min, kg/h (density programmed)

Displays

- Flow rate, several total flows
- Flow velocity
- Relative flow rate [%]
- Mass and mass flow (enter density)

Type	VMM15	VMM25	VMM32	VMM40	VMM50	VMM65	VMM80	VMM100	VMM125	VMM150	VMM200
Characteristics											
Nominal diameter	DN 15	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200
Process connection	Flange connection in accordance with EN 1092-1, JIS B2220 10K or ANSI B16.5										
Inner diameter											
→ Hard rubber	14.0	27.0	33.3	38.0	48.5	64.3	76.9	102.5	127.7	156.3	205.1
→ PTFE	14.0	27.0	33.3	38.0	48.5	63.3	75.9	102.5	124.7	152.3	201.1
Flow range											
→ Flow velocity [m/s]	0...10										
→ Volumetric flow [m³/h]	0...6.3	0...17.6	0...28.9	0...45.2	0...70.6	0...119.4	0...180.9	0...282.7	0...441.7	0...636.1	0...1130
Accuracy*											
v = 1...10 m/s	±0.5 % of reading										
v < 1 m/s	±0.4 % of reading ±1 mm/s										
additionally											
Frequency output	±0.05 % per 10 K										
Analogue output	±0.1 % per 10 K										
Repeatability	±0.15 %										
Response time	< 100 ms**										
Signal output starting from	> 0 m/s										
Medium / min. conductivity of medium	Water and other conductive liquids / 50 µS/cm										
Medium temperature											
→ Hard rubber	0...90 °C										
→ PTFE	-20...100 °C at 40 bar -20...150 °C at 25 bar -20...180 °C at 16 bar										
→ Process connections	Min. -10 °C [steel]										
→ Process connections	Min. -20 °C [stainless steel]										
Ambient temperature											
→ Hard rubber	0...80 °C										
→ PTFE	-20...100 °C										
→ Process connections	Min. -10 °C [steel]										
→ Process connections	Min. -20 °C [stainless steel]										
→ Display	-20...50 °C***										
Storage and transport temperature	-20...60 °C										
Pressure rating											
→ EN1092-1	PN 40	PN 40	PN 40	PN 40	PN 40	PN 16**** PN 40	PN 16 PN 40	PN 16 PN 40	PN 16 PN 40	PN 16 PN 40	PN 10 PN 16 PN 25 PN 40
→ JIS B2220 10K	9.8 bar										
→ ANSI B16.5 150 RF	19.6 bar (Process connection, steel) 15.9 bar (Process connection, stainless steel)										
Display	LCD two-line, backlight										
Operation	6 keys, menu-driven										
Degree of protection EN 60529	IP67										

* Reference conditions: Media temperature 10...30 °C; Ambient temperature 20...30 °C; warm-up period 30 min.; straight pipe lengths; inlet 5 x DN, outlet 2 x DN, regularly centered and earthed

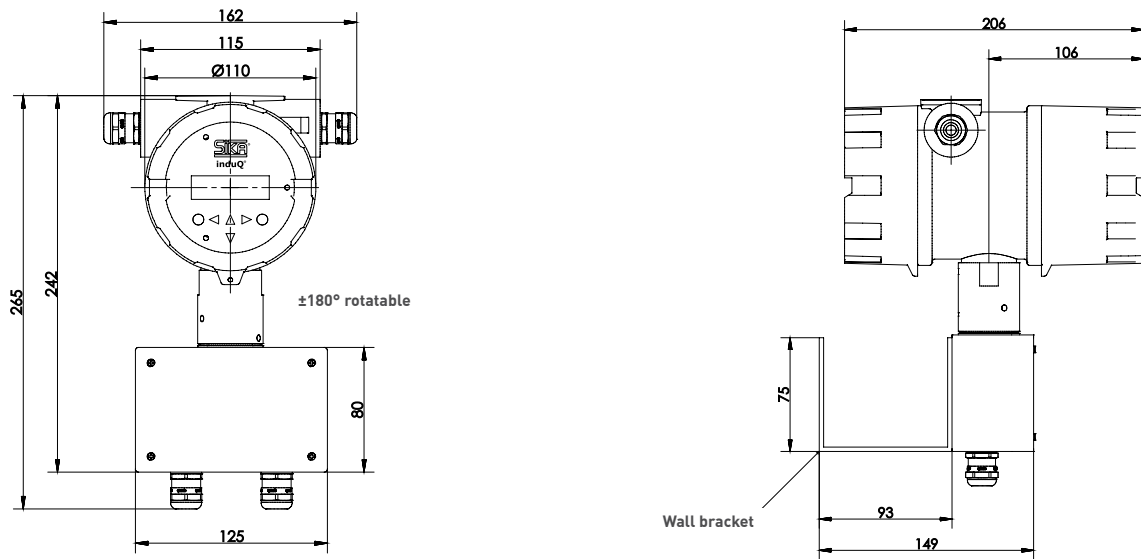
** Depending on the electronics settings

**** 8 bolt flanges

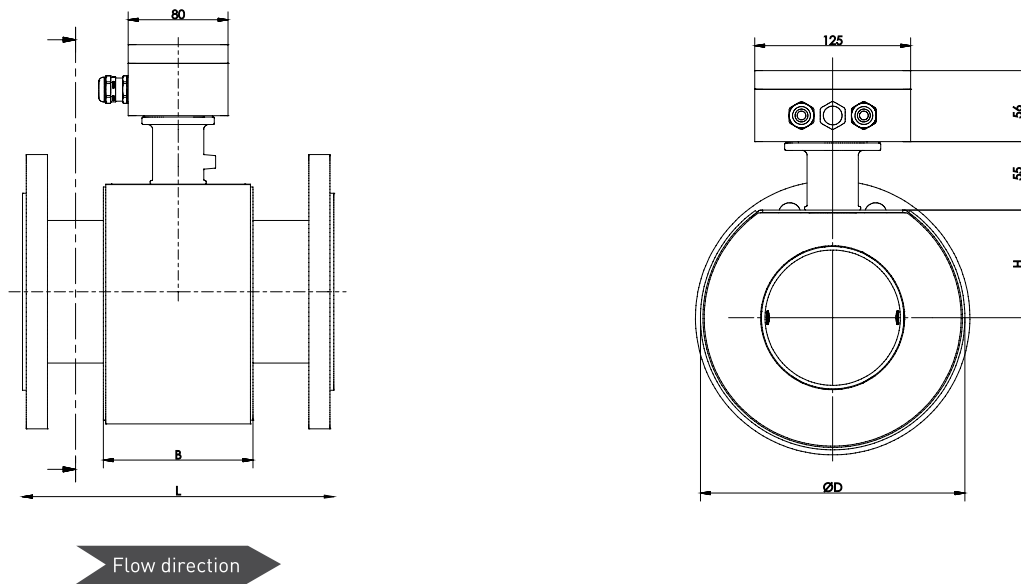
*** The readability of the LCD display is restricted below 0 °C

Output signals											
Type	VMM15	VMM25	VMM32	VMM40	VMM50	VMM65	VMM80	VMM100	VMM125	VMM150	VMM200
Pulse / frequency output											
→ Configuration	Pulse signal or frequency signal selectable										
Pulse output											
→ Pulse rate (factory-set) [pulses/m ³]	1000	1000	1000	1000	1000	1000	1000	1000	100	100	100
→ Pulses/Time	≤ 1000 Pulses/s										
→ Pulse width	≥ 0.1 ms (max. 2 s), adjustable										
→ Signal shape	Squarewave signal										
Frequency output											
→ Factory-scaled measuring range [m ³ /h] corresponds to 0...1 kHz	0...3	0...10	0...10	0...10	0...20	0...50	0...50	0...70	0...100	0...150	0...250
→ Frequency	0...1 kHz										
→ Signal shape	Squarewave signal										
Analogue output											
→ Factory-scaled measuring range [m ³ /h] corresponds to 4...20 mA	0...3	0...10	0...10	0...10	0...20	0...50	0...50	0...70	0...100	0...150	0...250
→ Operating range	0 ... 20 mA / 4 ... 20 mA, selectable										
→ Current limitation	21.6 mA										
→ Max. burden	600 Ω										
→ Short-circuit proof	Permanent										
Alarm output											
→ Quantity	2										
→ Version	Optocoupler										
→ Functions	Status output: Preflow, backflow, MIN flow rate, MAX flow rate, alarm (adjustable)										
→ Switching values	U _{max} : 30 V; I _{max} : 60 mA; P _{max} : 1,8 W										
Electrical data											
Electrical connection	Cable gland M20 x 1.5										
Power supply	230 VAC (-15 % / +10 %), 50/60 Hz or 115 VAC (-15 % / +10 %), 50/60 Hz or 18...36 VDC										
Power consumption	15 VA										

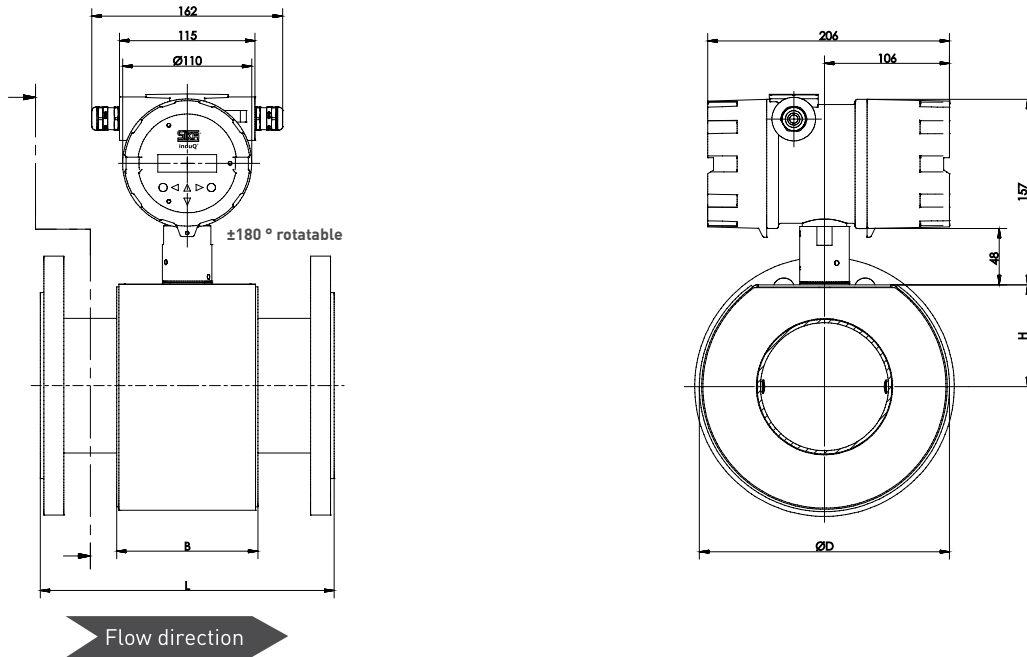
Separate version (Display)



Separate version (Sensor)



Compact type



Dimensions [mm]

Process connection		Installation length L							Weight EN 1092-1 [kg]*	
EN 1092-1 JIS B2220 10K	ANSI B16.5	Hard rubber	PTFE		Tolerance	B	D	H	Sensor	Compact type
			Without protection rings	With protection rings						
DN 15	1/2"	200	200	206	+0 / -3	80	130	53	5	8
DN 25	1"	200	200	206	+0 / -3	80	130	53	6	9
DN 32	1 1/4"	200	200	206	+0 / -3	80	130	53	7	10
DN 40	1 1/2"	200	200	206	+0 / -3	80	130	53	7.5	10.5
DN 50	2"	200	200	206	+0 / -3	80	140	57	9	12
DN 65	2 1/2"	200	200	206	+0 / -3	80	155	63	10	13
DN 80	3"	200	200	206	+0 / -3	80	170	70	13	16
DN 100	4"	250	250	256	+0 / -3	120	210	86	15	18
DN 125	5"	250	250	256	+0 / -3	120	240	98	19	22
DN 150	6"	300	300	306	+0 / -3	120	285	117	23	26
DN 200	8"	350	350	360	+0 / -3	200	350	143	36	39

* valid for DN 15...DN 50 (PN 40), DN 65...DN 150 (PN 16), DN 200 (PN 10)

Materials

Not in contact with fluid

Display housing	Casted aluminium
Sensor housing	Steel
Measuring pipe	Stainless steel
Process connection	Steel 1.0460 or stainless steel 1.4404

In contact with fluid

Electrodes	Stainless steel 1.4571 or Hastelloy C276
Measuring pipe lining	PTFE or Hard rubber

Order code								
Nominal diameter								
DN 15 / ½"	VMM15							
DN 25 / 1"	VMM25							
DN 32 / 1¼"	VMM32							
DN 40 / 1½"	VMM40							
DN 50 / 2"	VMM50							
DN 65 / 2½"	VMM65							
DN 80 / 3"	VMM80							
DN 100 / 4"	VMM1C							
DN 125 / 5"	VMMV3							
DN 150 / 6"	VMM3L							
DN 200 / 8"	VMM2C							
Process connection								
EN 1092-1 PN 10 starting from DN 200	A							
EN 1092-1 PN 16 starting from DN 65	B							
EN 1092-1 PN 25 starting from DN 200	C							
EN 1092-1 PN 40 starting from DN 15	D							
JIS B2220 10K	J							
ANSI B16.5 150 RF	I							
Material process connection								
Steel 1.0460		1						
Stainless steel 1.4404		2						
Lining								
PTFE			0					
Hard rubber			1					
Material electrodes								
Stainless steel 1.4571				1				
Hastelloy C276				2				
Earth electrode								
Without					0			
One					1			
Two					2			
Type								
Compact type with display							KAMA	
Separate type with display							GAMA	
Power supply								
230 VAC, 50/60 Hz								20
115 VAC, 50/60 Hz								40
19...36 VDC								30
Example order number	VMM15	A	1	0	1	0	KAMA	20

BEST
SELLER

Type	Nominal Diameter	Pressure rating		Order number							
VMM	DN 15	PN 40	Material process connection: Steel Lining: Hard rubber	VMM15	D	1	0	1	0	KAMA	20
	DN 25	PN 40		VMM25	D	1	0	1	0	KAMA	20
	DN 32	PN 40	Material electrodes: Stainless steel	VMM32	D	1	0	1	0	KAMA	20
	DN 40	PN 40		VMM40	D	1	0	1	0	KAMA	20
	DN 50	PN 40		VMM50	D	1	0	1	0	KAMA	20
	DN 65	PN 16	Without earth electrode, compact type	VMM65	B	1	0	1	0	KAMA	20
	DN 80	PN 16		VMM80	B	1	0	1	0	KAMA	20
	DN 100	PN 16	Power supply: 230 VAC 50/60 Hz	VMM1C	B	1	0	1	0	KAMA	20
	DN 125	PN 16		VMMV3	B	1	0	1	0	KAMA	20
	DN 150	PN 16		VMM3L	B	1	0	1	0	KAMA	20
	DN 200	PN 10		VMM2C	A	1	0	1	0	KAMA	20

Accessories



Earthing ring

An earthing ring is used for the electrical reference and earthing of the medium being measured. It is necessary if the pipes are not electrically conductive or lined (plastic or concrete pipes, etc.). The earthing ring must be connected to the provided earthing screw of the sensor. Retrofitting is possible. Material stainless steel 1.4571.

Sensor cable set

Sensor cable between sensor and display unit (separate design) consisting of magnetic power cable and electrode cable for configuration of M16 x 1.5 screw connection.



Pair of protection rings

Protection rings protect the inlet and outlet edges of the sensor against mechanical damage, in particular when abrasive media such as gravel, sand, etc. are concerned. At the same time, they also serve as earthing rings. The protection rings are firmly screwed to the sensor. Material stainless steel 1.4571.

Order example			
Type			
Earthing ring	VMMZEW		
Protection rings (pair)	VMMZPR		
Nominal diameter			
DN 15 / ½"		15	
DN 25 / 1"		25	
DN 32 / 1¼"		32	
DN 40 / 1½"		40	
DN 50 / 2"		50	
DN 65 / 2½"		65	
DN 80 / 3"		80	
DN 100 / 4"		1C	
DN 125 / 5"		V3	
DN 150 / 6"		3L	
DN 200 / 8"		2C	
Process connection			
EN 1092-1			E
JIS B2220 10K			J
ANSI B16.5 150 RF			A
Lining			
PTFE			0
Hard rubber			1
Example order number	VMMZEW	15	E 1

Order code		
Accessories	Cable length	Order number
Sensor cable set	5 m	VMMZSC000Z0005
	10 m	VMMZSC000Z0010

WFI // -40...125 °C



WFI

Your advantages

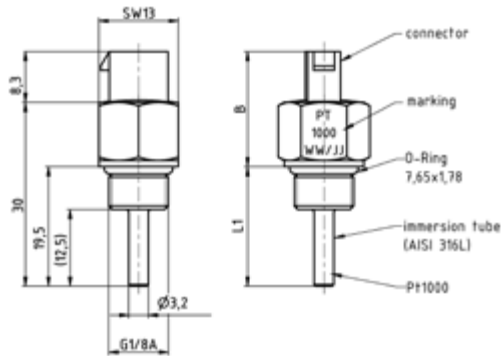
Series

WFI	<ul style="list-style-type: none"> Cost-effective electrical connection using Mini-Fit connector Effective regulation by short response time Customer-specific fitting lengths and fixing thread High reliability due to special internal construction Measured values reproducible for years due to very low long-term drift
-----	--

Technical data

Type	Temperature sensor with Mini-Fit connector
Measuring range	-40...125 °C
Medium	Water and aqueous liquids, non-aggressive gases
Immersion tube length	15...19.5 mm
Immersion tube diameter	6.5 mm
Process connection	Fixed thread connection
Pressure rating	PN 25
Medium temperature	-40...125 °C
Ambient temperature	-40...105 °C
Storage temperature	-25...70 °C
Degree of protection EN 60529	IP54

Electrical data	
Sensor element	Resistance thermometer Pt1000, NTC 5k or KTY 81-210
Accuracy	Pt1000: class B / optional class A NTC 5k: ±0.5 °C (beta 1 %) KTY 81-210: ±1 %
Electrical connection	Mini-Fit connector, 2-pin, max. temperature 100 °C



Materials in contact with fluid	
Process connection	Stainless steel 1.4571 / 1.4404
Immersion tube	Stainless steel 1.4571 / 1.4404
Sealing	Compound E7108, rubber grade EPDM

Order example								
Type								
Resistance thermometer	W							
Diameter								
6.5 mm	65							
4.3 mm	45							
3.2 mm	32							
Material								
Stainless steel 1.4571 / 1.4404		3						
Sensor element								
1 x Pt1000 2-wire / class B			P12					
1 x NTC 5k			N01					
1 x KTY81 / 210			C01					
Length L₁*								
15 mm				015				
19.5 mm				019				
Measuring insert								
Not interchangeable					0			
Electrical connection								
Mini-fit, 2-pin							X0	
Process connection*								
G1/8 A								M
Example order number	W	65	3	P12	015	0	X0	M

* Other specifications available on request



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