

Flow switches made of metal

For insertion installation

Type VHS / VH3



Technical data

Switching function	Contact → closes at increasing flow → opens at decreasing flow Reversing possible
Pressure rating	PN 25
Temperature ranges	
Medium	-25...110 °C
Ambient	-25...80 °C
Electrical data	
Electrical connection → VHS → VH3	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	



Advantages

- Direct installation into pipe lines DN 50...150
- Threaded adapters for tees and direct insertion into pipes
- Alternatively soldering adapter or welding adapter
- Easy installation due to union nut
- Various connectors or 1.5 m jacket cable

Options

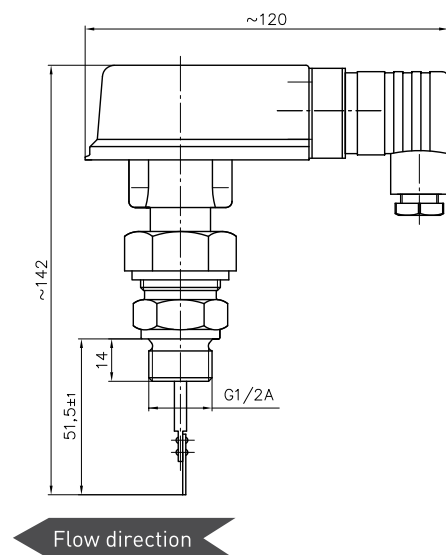
For type	See order code
VHS	→ Plug connector DIN EN 175301-803-A incl. cable socket with two LED for switching voltages 24 V...230 V AC/DC ±20 %, ambient temperature -20...70 °C → or 4-pin-sensor plug M12 x 1
VHS / VH3	→ For use in potentially explosive atmospheres (Version VH...X) max. media temperature 100 °C

Type	Process connection	Insert in Nominal diameter	Setpoint ranges [m³/h]*		Max. flow rate [m³/h]
			Increasing flow ON	Decreasing flow OFF	
VH305 / VHS05	Threaded adapter G½**	DN 50	1.9...2.7	1.8...2.6	30
		DN 80	5.0...8.0	4.9...7.9	80
		DN 100	8.3...12.5	8.2...12.4	150
		DN 150	17.5...25.0	17.4...24.9	200
VHS01	Soldering adapter / welding adapter	DN 50	3.8...4.9	3.7...4.8	30
		DN 80	9.0...14.3	8.9...14.2	100
		DN 100	13.0...18.8	12.7...18.4	150
		DN 150	33.0...46.0	32.9...45.9	200

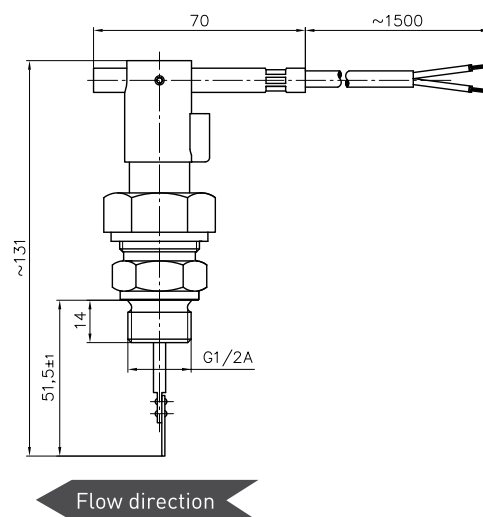
* Water, 20 °C, horizontal pipe, tolerance ±15 %

** Installation into welded socket according to EN 10241, G½ female, length 15 mm

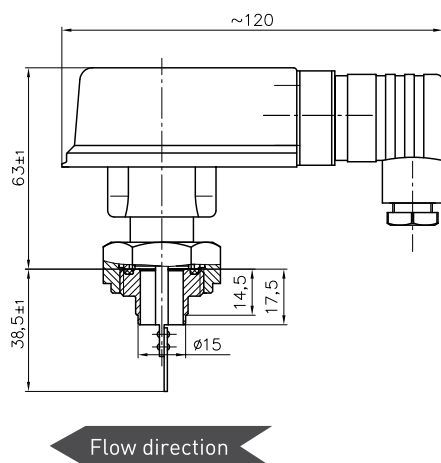
VHS05



VH305



VHS01



Materials in contact with fluid

	Brass version	Stainless steel version
Body, Paddle	CW614N	1.4571
Process connection	VHS05: CW614N VH305: CW614N VHS01: CW617N	1.4571
Bushing	PPO Noryl GFN 3	PVDF
Rivet	CW508L	1.4303
Pin	1.4571	
Magnet	Hard ferrite	
O-ring	NBR	

Order code	Example → VHS	05M0	1	17	1	R2	1	
Type								
VHS								
Plug connector incl. cable socket (Standard)	VHS			17				
Plug connector incl. cable socket with LED (option)	VHS			19				
4-pin-sensor plug M12 x 1 (option)	VHS			18				
Process connection								
Threaded Adapter G $\frac{1}{2}$	05M0					R2		
Soldering adapter (brass) or welding adapter (stainless steel)	01M0					D1		
Material								
Brass			1		1		1	
Stainless steel			3		3		3	
Version								
Standard								[]*
For use in potentially explosive atmospheres (option)**								X

* No character

** Only available with plug connector incl. cable socket

Order code	Example → VH305M0	1	11	1	R2	1	
Type							
VH3							
1.5 m PVC jacket cable	VH305M0		11		R2		
1.5 m PVC blue jacket cable (only for option „for use in potentially explosive atmospheres“)	VH305M0		13		R2		
Material							
Brass		1		1		1	
Stainless steel		3		3		3	
Version							
Standard							[]*
For use in potentially explosive atmospheres (option)**							X

* No character

** Only available with blue jacket cable

Accessories for VHS05 / VH305	Order code	
Welding socket according to EN 10241 G $\frac{1}{2}$ female thread, length 15 mm Steel S 235 JR	XVH1470	

Flow switches for insertion installation

Threaded adapter with trimmable paddle



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
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*		



* Only for flow switches with plastic paddle

Advantages

- Universal Flow switches for DN 20...200
- Fully adjustable for pipe size and setpoint by trimming the paddle
- Glass fibre reinforced plastic paddle or stainless steel paddle for higher flow rates
- Threaded adapters for tees or for direct insertion into pipes
- Easy installation due to union nut

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 [m³/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, 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 [m³/h]

DN 65	Increasing flow ON**	8.8	7.4	5.6	4.5	3.8	3.2		
	Decreasing flow OFF	8.5	7	5.2	4.2	3.4	3		
	Max. flow rate	50	45	34	27	22	18		
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 [m³/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

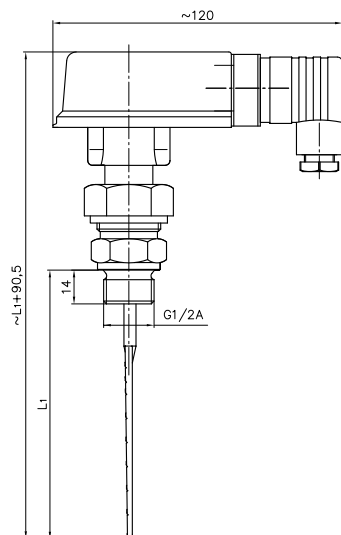
VHS06 / VK306 with stainless steel paddle, installation by welded socket according to EN 10241, G½ female, length 15 mm

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 [m³/h]									
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 %

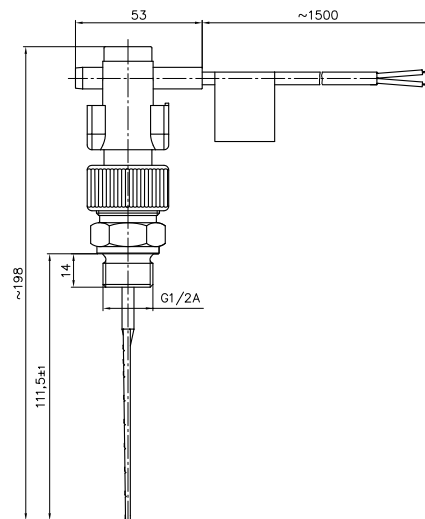
** Typical value

VHS06 with plastic paddle



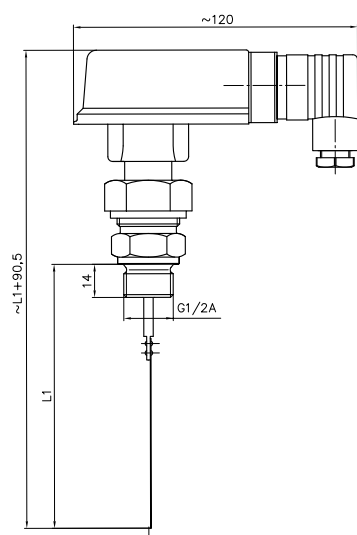
Flow direction

VK306 with plastic paddle



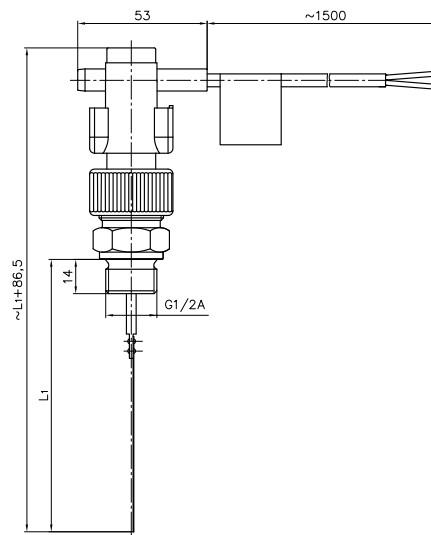
Flow direction

VHS06 with stainless steel paddle



Flow direction

VK306 with stainless steel paddle



Flow direction

Materials in contact with fluid

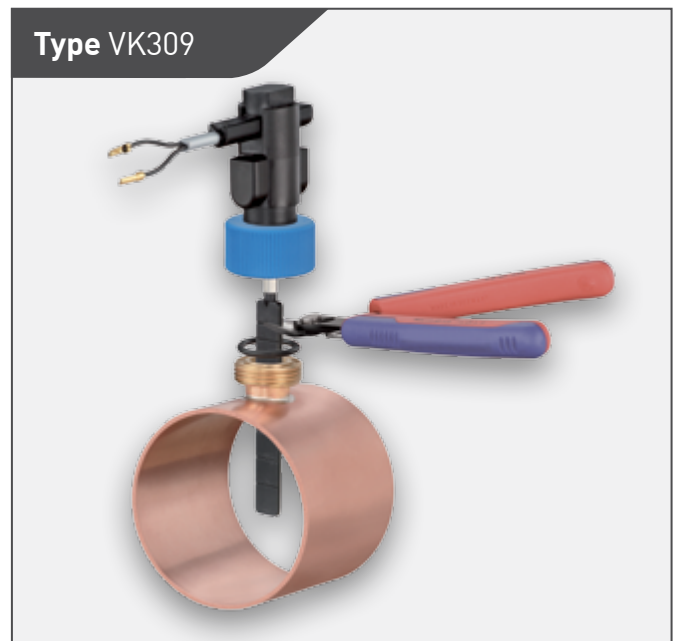
Type	VHS06	VK306
Body	Brass CW614N	Noryl PPO GFN3
Paddle	Plastic paddle: Noryl PPO GFN3 / stainless steel Stainless steel paddle: Stainless steel 1.4310 / brass	
Pin	Stainless steel 1.4571	
Process connection	Brass CW614N	
Magnet	Hard ferrite	
O-ring	NBR	

Order code	Example → VHS06M2	P	171R21
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	

Accessories for VHS06 / VK306	Order code	
Welding socket according to EN 10241 G½ female thread, length 15 mm Steel S 235 JR	XVH1470	

Flow switches for insertion installation

Soldering adapter with trimmable paddle



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		



Advantages

- Universal Flow switches for copper pipes Ø 32...88.9
- Fully adjustable for pipe size and setpoint by trimming the paddle
- Glass fibre reinforced paddle
- Soldering adapter for copper pipes
- Easy installation due to union nut

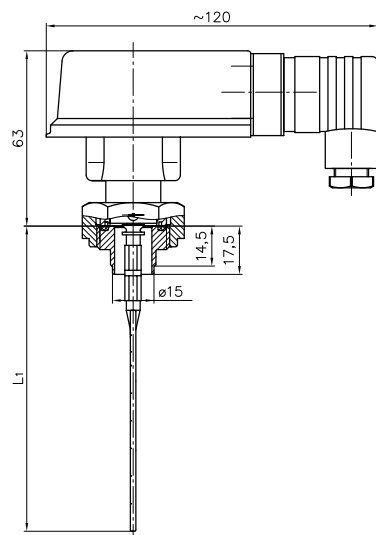
Options	
For type	See oder code
VHS09	→ Plug connector DIN EN 175301-803-A incl.cable socket with two LED for switching voltages 24 V...230 V AC/DC ±20 %, ambient temperature -20...70 °C → or 4-pin-sensor plug M12 x 1
For type	On request
VK309	→ Reversed switching function
VK309	→ Recognized component 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 [m³/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 %

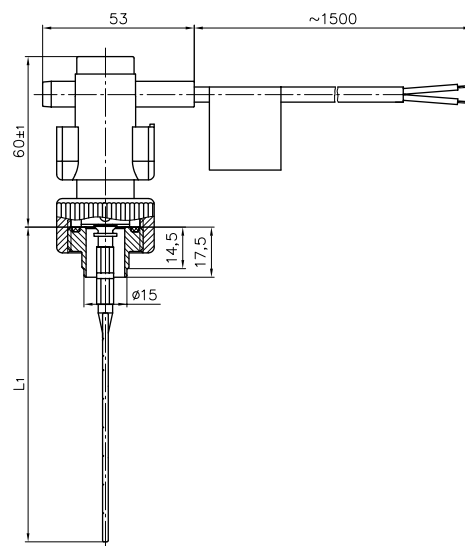
** Typical value

VHS09



Flow direction

VK309



Flow direction

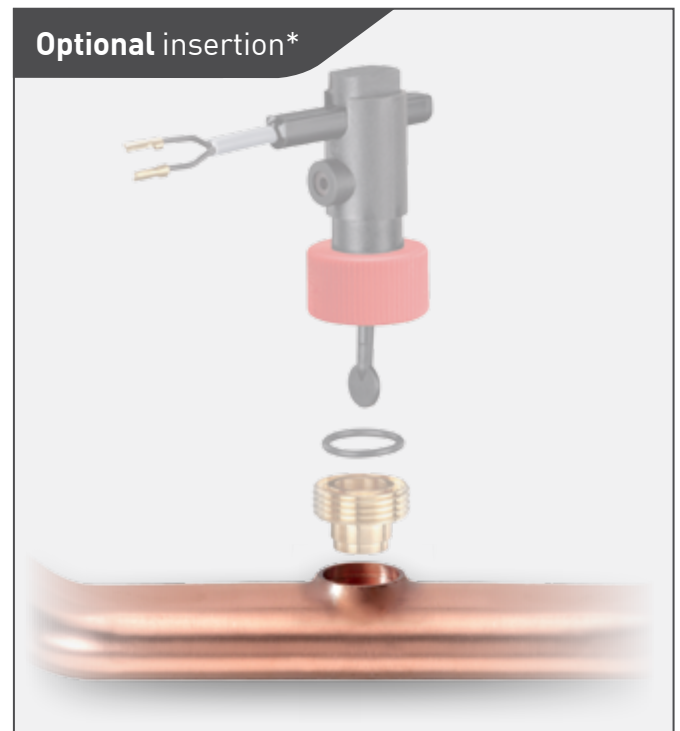
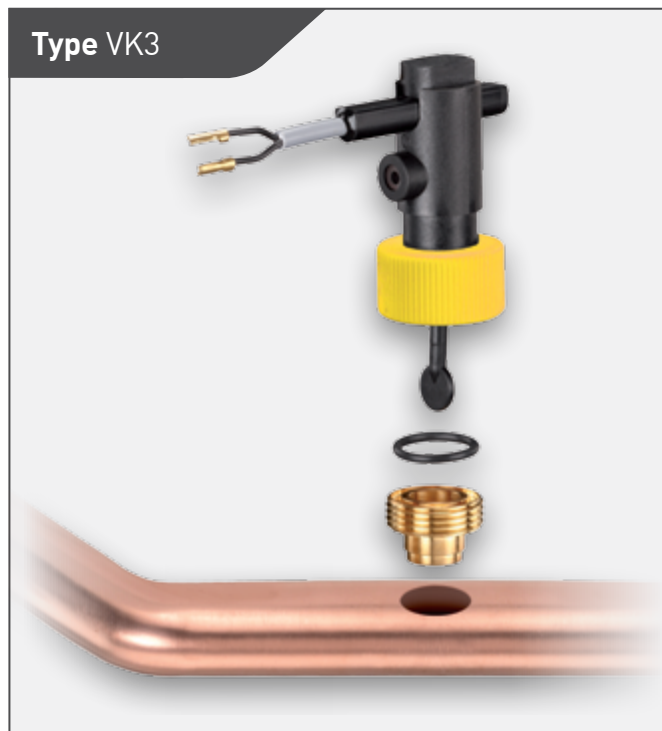
Materials in contact with fluid

Type	VHS09	VK309
Body	Brass CW614N	Noryl PPO GFN3
Paddle	Noryl PPO GFN3 / Stainless steel	
Process connection	Brass CW614N	
Pin	Stainless steel 1.4571	
Magnet	Hard ferrite	
O-ring	NBR	

Order code	
Type	
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

Flow switches for insertion installation

Made of plastic, with 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	
 	

* Insertion into collared copper pipes
Set points can differ

Advantages

- Direct installation into copper pipes
- Easy installation:
→ Solder the adapter
→ Install the O-ring
→ Tighten the union nut
- Delivery incl. flow switch, O-ring and soldering adapter
- Paddle lengths for copper pipes Ø 22...54
- Different colours of the union nut for an easy distinction

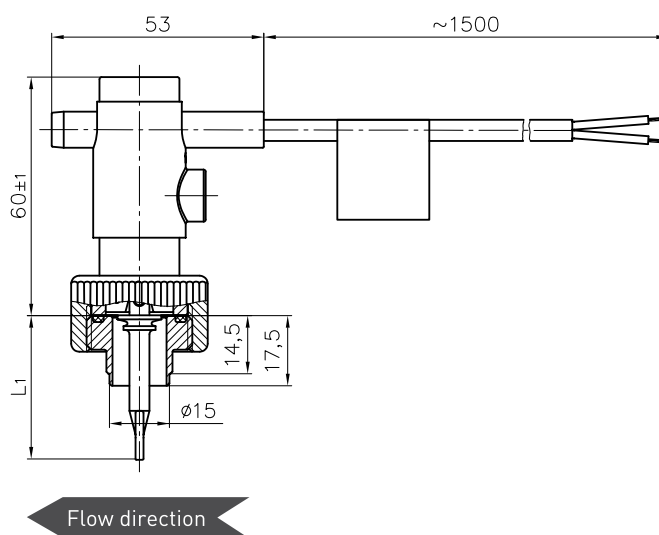
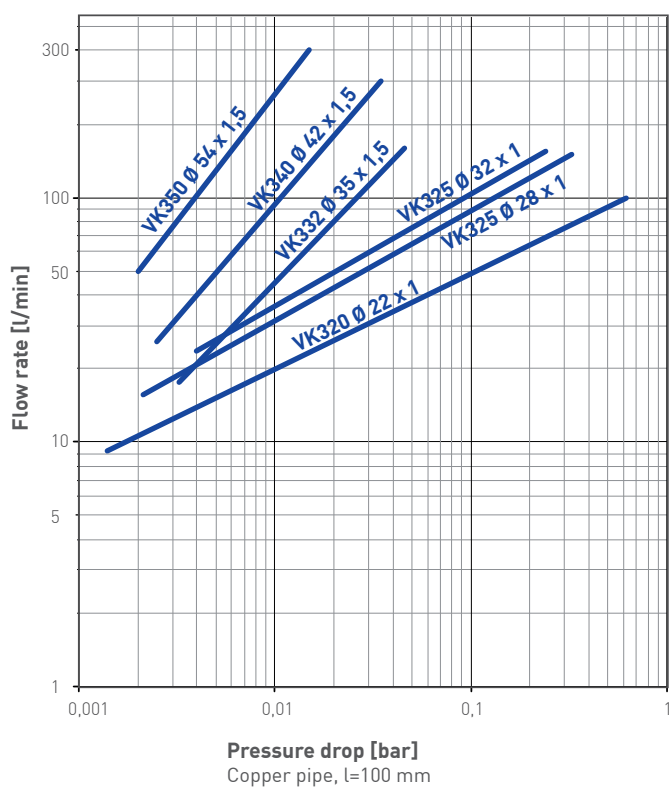
Options	
For type	On request
VK3	→ Special setpoints → Reversed switching function → Insertion into collared copper pipes → Recognized component ETL according to UL & CSA standards

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

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

** Typical value

Typical pressure drop



Dimensions [mm]

Order code	Paddle length L ₁
VK320M0P10PD11	33.5
VK325M0P10PD11	36.0
VK332M0P10PD11	44.5
VK340M0P10PD11	47.5
VK350M2P10PD11	56.5

Materials in contact with fluid

Body	Noryl PPO GFN3
Paddle	Noryl PPO GFN3
Soldering adapter	Brass CW614N
Pin*	Stainless steel 1.4571
Magnet	Hard ferrite
O-ring	NBR

* only VK325, VK340 and VK350

Flow switches for HVAC applications

For potable water applications

Type VKX15



Type VKX15 Push-In



Technical data

Switching function	Contact closes at increasing flow	
Setpoint (others on request)	2.5 ±0.5 l/min*	
Flow rate	Max. 15 l/min	
Nominal diameter	DN 15	
Pressure rating	PN 10	
Temperature ranges		
Medium		
→ VKX15	-20...100 °C	
→ VKX15 Push-In	-20...70 °C	
Ambient	-20...70 °C	
Electrical data		
Electrical connection	0.5 m PVC jacket cable	
Degree of protection EN 60529	IP65	
Switching current	Max. 1 A	
Rating	Max. 26 VA, 20 W	
Switching voltage	Max. 230 VAC, 48 VDC	Max. 24 VAC, 42 VDC
Protection class EN 60730-1	Class II	Class III
Approvals **		



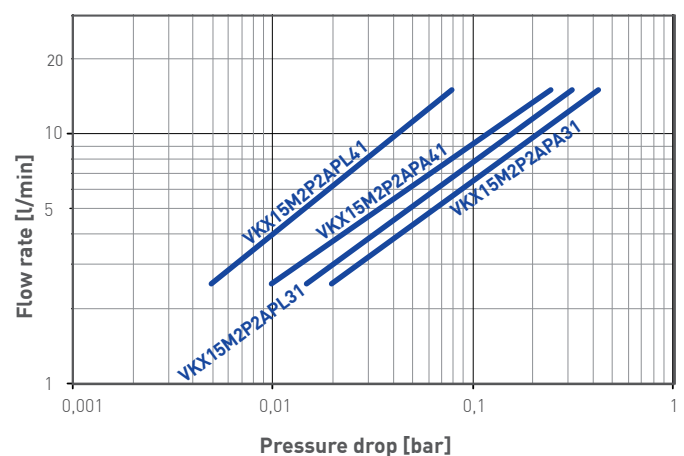
* Water, 20 °C, horizontal pipe

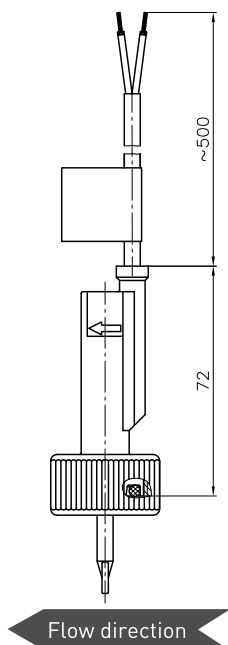
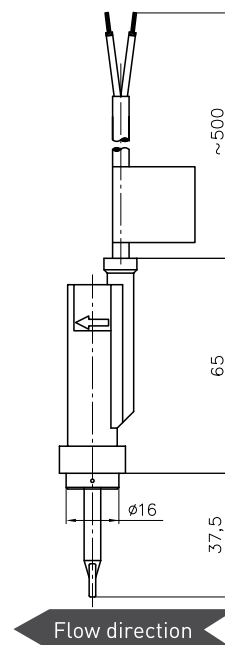
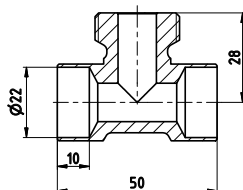
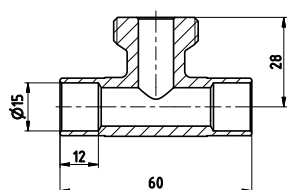
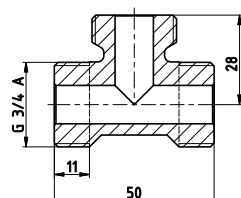
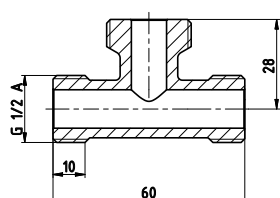
** Not for VKX15 Push-In

Advantages

- Flow switches for tap water detection
- Pipe tees with threaded or soldering ends
- Push-in installation into manifolds or armatures
- OEM flow switches, delivery lots from 100 units

Typical pressure drop



VKX15

VKX15 Push-In

Female socket design

Materials in contact with fluid

Type	VKX15	VKX15 Push-In
Body	Noryl PP0 GFN3	
Paddle	Noryl PP0 GFN3	
Pin	Stainless steel 1.4571	
Magnet	Hard ferrite	
O-ring	EPDM	
Pipe tee	Brass CW617N	

Order code	Example → VKX15M2P2	AP	A31
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
Push-In for manifold mounting			H10

Flow switches for HVAC applications

For pool applications

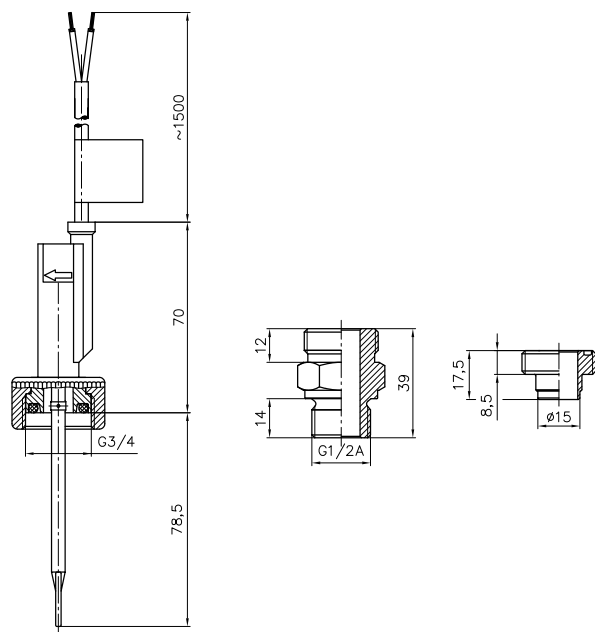


Advantages

- Flow switches for pool applications
- Insertion installation into pipelines DN 50...150
- Installation with union nut or Push-In
- With integrated O-ring
- VKL - pin made of plastic
- OEM flow switches, delivery lots from 100 units

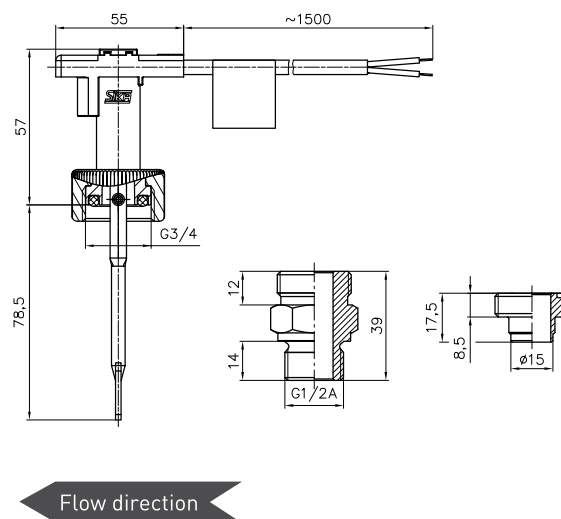
Technical data	VKX05	VKL05 / VKL05 Push-In	
Switching function	Contact closes at increasing flow		
Nominal diameter range	Applicable in DN 50...150		
Pressure rating	PN 10		
Temperature ranges			
Medium	-20...100 °C	-20...70 °C	
Ambient	-20...70 °C		
Electrical data			
Electrical connection	1.5 m PVC jacket cable		
Degree of protection EN 60529	IP65		
Switching current	Max. 1 A		
Rating	Max. 26 VA, 20 W		
Switching voltage	Max. 230 VAC, 48 VDC	Max. 24 VAC, 42 VDC	Max. 230 VAC, 48 VDC
Protection class EN 60730-1	Class II	Class III	Class II
Approvals			
			

VKX05

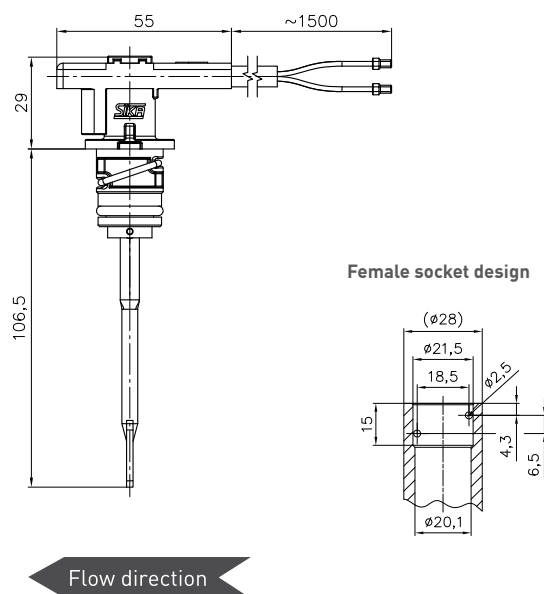


Flow direction

VKL05



VKL05 Push-In



Female socket design

Materials in contact with fluid

Type	VKX05	VKL05	VKL05 Push-In
Body	Noryl PPO GFN3	Noryl PPO GFN 1630V	
Paddle	Noryl PPO GFN3	Noryl PPO GFN 1630V	
Pin	Stainless steel 1.4571	Noryl PPO GFN 1630V	
Magnet	Hard ferrite		
O-ring	EPDM		
Soldering adapter	Brass CW614N		
Process connection	Brass CW614N or stainless steel 1.4571		

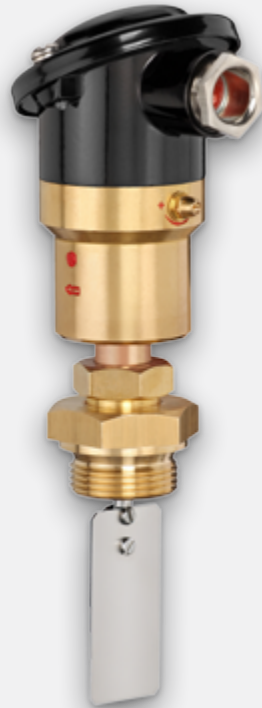
Order code	Example → VKX05M2P2	AP	U10
Type			
VKX05	VKX05M2P2		
Switching voltage			
230 VAC, 48 VDC		AP	
24 VAC, 42 VDC		BP	
Process connection			
Union nut G ³ / ₄			U10
Threaded adapter G ¹ / ₂ brass			R21
Threaded adapter G ¹ / ₂ stainless steel			R23
Soldering adapter			D11

Order code	Example → VKL05M1P2BP	U10
Type		
VKL05	VKL05M1P2BP	
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
Push-In for manifold mounting		H20

Flow switches for insertion installation

Paddles interchangeable, for marine applications

Type VH500



Technical data	
Switching function	Change over contact
Pressure rating (Test pressure)	Max. 6 bar (10 bar) or max. 10 bar (15 bar)
Temperatures	
Medium	Max. 100 °C
Ambient	Max. 85 °C
Electrical data	
Max. contact rating	24 VDC, 5 A resistive load 4 A inductive load 60 VDC, 1 A resistive load 0.5 A inductive load 250 VAC, 10 A resistive load 10 A inductive load
Degree of protection EN 60529	IP54
Protection class EN 60730-1	Class I
Approvals	
 Germanischer Lloyd, Type Approval Certificate No. 89824-94HH and 94970-10HH	

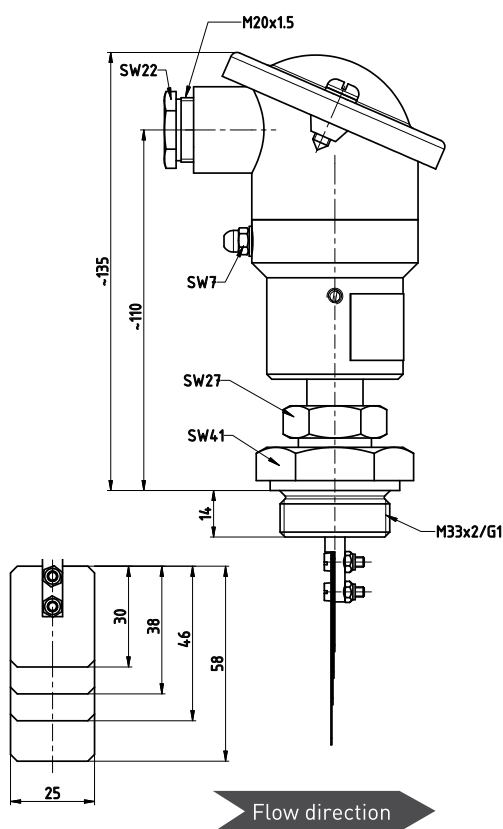
Advantages

- Germanischer Lloyd Type Approval
- Suitable for water, oil, etc.
- Insertion installation into pipes or pipe tees DN 25...DN 50 or bigger
- Easy installation and alignment due to screw in connection
- Four paddles in different sizes included, selection in accordance to the pipe size
- Set point adjustment by paddle size selection and by adjustment screw
- Micro switch with high contact rating
- Robust, vibration-resistant up to 4 g

Size of pipe tee	Paddle to select**	Set point ranges [m³/h]*	
		Increasing flow ON	Decreasing flow OFF
DN 25	25 x 30 mm	1.0...1.25	1.05...1.2
DN 32	25 x 38 mm	1.7...2.05	1.6...1.95
DN 40	25 x 46 mm	2.2...2.55	2.1...2.45
DN 50	25 x 58 mm	3.25...3.85	3.15...3.75

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

** Higher set points selectable by use of smaller paddle sizes
Set points for bigger pipe sizes on request



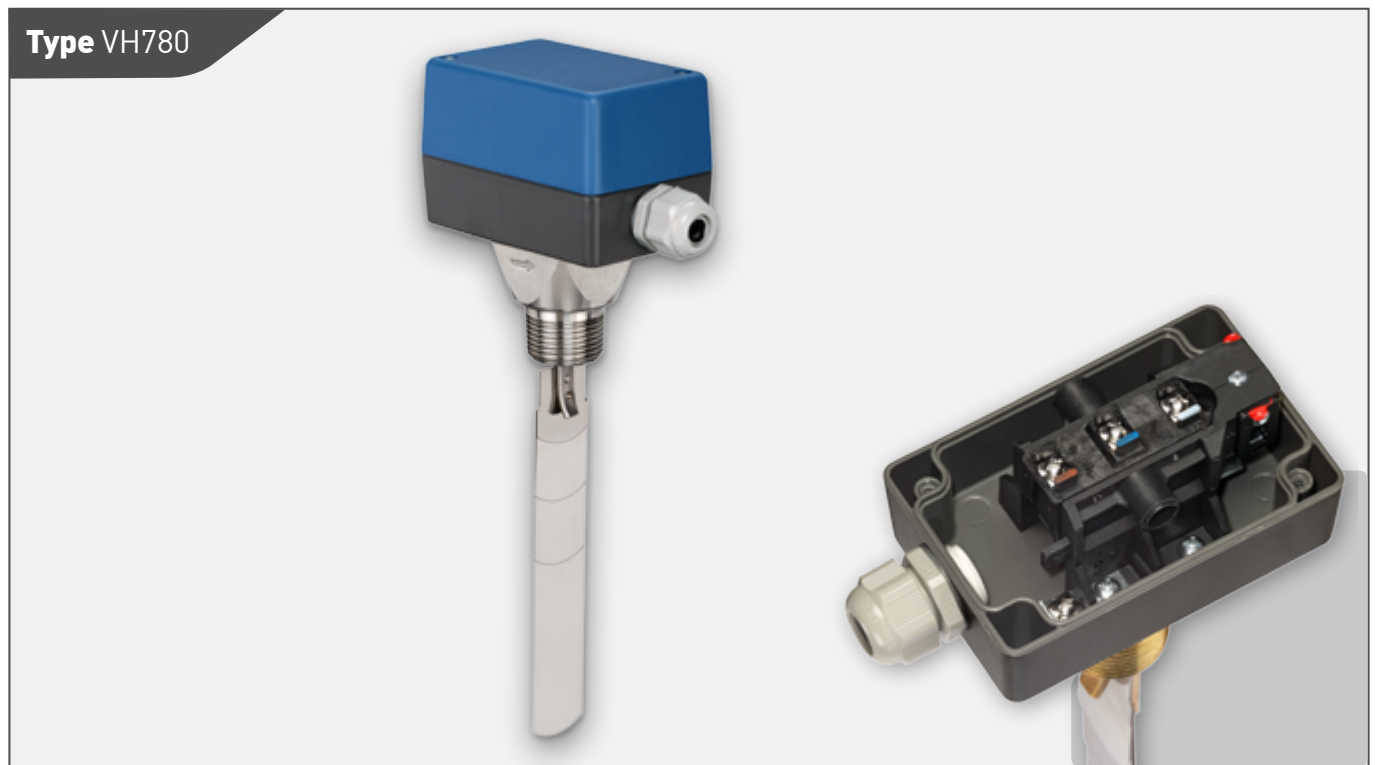
Materials in contact with fluid

Body, process connection	Brass 2.0401
Bellow system	Stainless steel 1.4571
Paddles	Stainless steel 1.4310
Flat gasket	HD 300
O-ring	NBR

Order code	Example → VH500	N	I3451R41
Type			
VH500	VH500		
Pressure rating			
6 bar		N	
10 bar		R	
Process connection			
G1			I3451R41
M33 x 2			M3451M41

Flow switches for insertion installation

Paddles interchangeable



Type VH780

Technical data	
Switching function	Change over contact
Pressure rating	Max. 11 bar (brass) Max. 30 bar (stainless steel)
Temperature ranges	
Medium	-40...120 °C
Ambient	-40...85 °C (10...90 % rH)
Storage and Transportation	-40...85 °C, < 95 % rH
Electrical data	
Change over contact max. contact rating	250 VAC, 15 A, 8 A inductive load
Degree of protection EN 60529	IP65
Protection class EN 60730-1	Class I

Advantages

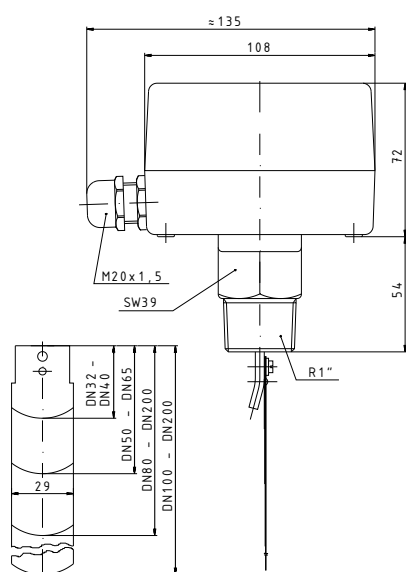
- Insertion installation into existing pipes
- One unit covers a wide range of pipe sizes (DN 32...200)
- Two versions (set point ranges)
- Adjustable setpoint
- Micro switch for high contact rating

Nominal diameter	Paddle to select**	Setpoint ranges [m³/h]*				Max. flow rate [m³/h]
		Standard Setpoint		Low Setpoint		
		Increasing flow ON	Decreasing flow OFF	Increasing flow ON	Decreasing flow OFF	
DN 32	29 x 34 mm	1.3...3.0	0.8...2.8	0.9...1.6	0.25...1.4	3.6
DN 40	29 x 34 mm	1.7...4.0	1.1...3.7	1.2...2.2	0.5...1.6	4.8
DN 50	29 x 60 mm	3.1...6.1	2.2...5.7	2.3...4.1	0.9...3.6	7.3
DN 65	29 x 60 mm	4.0...7.0	2.7...6.5	3.1...5.5	1.2...4.9	8.4
DN 80	29 x 89 mm	6.2...11.4	4.3...10.7	4.9...8.2	2.1...7.4	13.7
DN 100	29 x 167 mm***1	8.0...18.4	6.1...17.3	7.7...13.0	3.3...11.6	22.1
DN 125	29 x 167 mm***2	12.9...26.8	9.3...25.2	11.5...19.6	5.0...17.5	32.2
DN 150	29 x 167 mm***3	16.8...32.7	12.3...30.6	14.1...23.9	6.1...21.4	39.2
DN 200	29 x 167 mm	46.5...94.2	38.6...90.8	36.5...61.8	21.7...55.3	113

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

** Higher setpoints selectable by use of smaller paddle sizes.

***1shortened to 29 x 91 mm, ***2shortened to 29 x 117 mm, ***3shortened to 29 x 144 mm



Flow direction

Materials in contact with fluid

	Brass version	Stainless steel version
Body	Brass CW617N	Stainless steel 1.4404
Paddle	Stainless steel 1.4404	
Lever	Brass CW617N	Stainless steel 1.4404
Teeth lock washer	Stainless steel 1.4301	
Fastening screw	Stainless steel 1.4301	
Bellow	Bronze CW453	Stainless steel 1.4404

Flow direction

Order code	Example → VH780J4	1	1LS10110
Type	VH780		
Material	Brass	1	
	Stainless steel	3	
Setpoint	Standard		1LS10110
	Low		2LS10110

Flow switches for air flow

Type VH780



Technical data

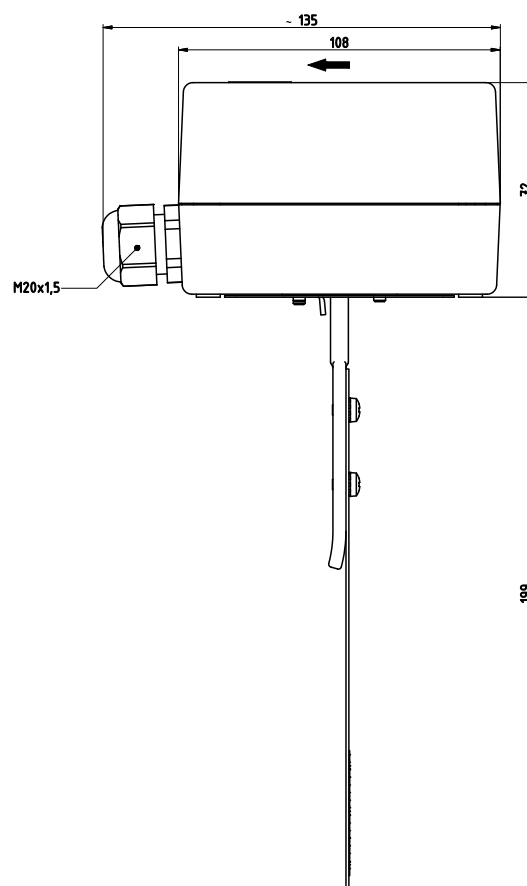
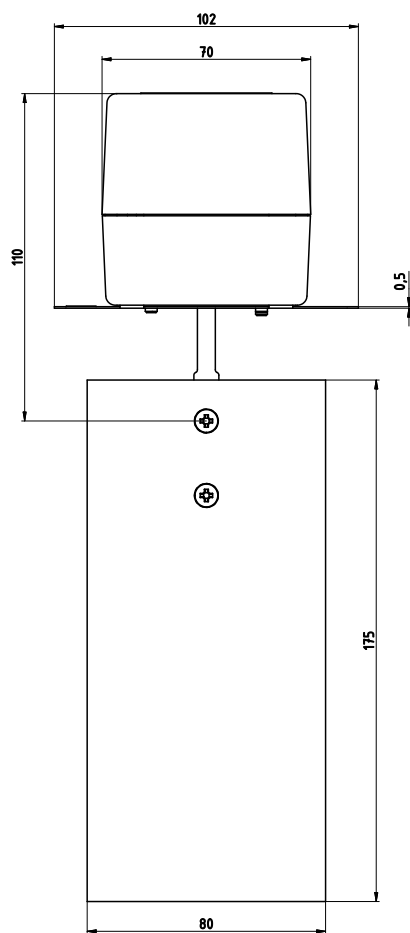
Switching function	Change over contact
Pressure rating	Atmospheric pressure
Temperature ranges	
Medium	-10...85 °C
Ambient	-35...65 °C
Storage and Transportation	-40...85 °C
Electrical data	
Max. contact rating	250 VAC, 15 A, 8 A inductive load
Degree of protection EN 60529	IP65
Protection class EN 60730-1	Class I

Advantages

- Flange connection for square air ducts
- Adjustable setpoint
- Micro switch for high contact rating

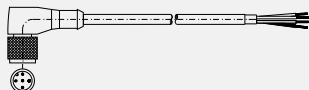
Setpoint ranges [m/s]

Paddle size	Increasing velocity ON	Decreasing velocity OFF	Max. velocity
175 x 80 mm	2...5	1...4	7
Cut to 175 x 45 mm	2.5...9.2	2...8	10



Materials	
Paddle	Stainless steel 1.4404
Lever	Brass CW607N
Flange	Zink coated steel
Case	ABS / PC
Flange gasket	Betaflex® 77

Order code
VH780V1S1AS13130

Accessories	Länge	Bestellcode	
Connection cable with 4-pin cable socket M12 x 1, angle type moulded lead, sheathing material PUR, shielded, ($T_{\max} = 80\text{ °C}$) - UL-approval	3 m 5 m 10 m	XVT2053 XVT2009 XVT2070	
4-pin cable socket M12 x 1 angle type, unassembled		VT1331	
Cable socket with two LEDs Switching voltage 24...230 V AC/DC $\pm 20\%$ Ambient temperature -20...70 °C for retrofit / replacement of cable socket without LED		XVH958	

