

Flow switches | VHS06, VK306

For insertion installation

US version available

Note: The US versions are separate products.
The units are not converted, but pre-configured at the factory for the respective variants.



VHS06



VK306



Highlights

- 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	Max. 360 psi	PN 10	Max. 160 psi
Temperature ranges				
Medium	-25...110 °C	-13...230 °F	-25...100 °C	-13...212 °F
Ambient	-25...80 °C	-13...176 °F	-25...70 °C	-13...158 °F
Electrical data				
Electrical connection	Plug connector DIN EN 175301-803-A incl. cable socket		1.5 m PVC jacket cable	59" 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				
	TÜV certificate*			
	WRAS (approved product)*			
			KTW-BWGL: Product hygiene suitability for drinking water according to the 1+ system with external monitoring**	

* Only for flow switches with plastic paddle

** Only for VK3 flow switches with plastic paddle

Technical Datasheet

Options | Set point ranges

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 / -4...158 °F → 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 into pipe tees

Paddle to be trimmed to						
	Paddle mark	9	15	20	30	40
	Installation length L ₁ [inch]	1.6	1.8	2.1	2.5	2.9
Setpoints* / Max. flow rate [US gpm]						
¾"	Increasing flow ON**	4.8				
	Decreasing flow OFF	4.0				
	Max. flow rate	17.6				
1"	Increasing flow ON**	7.7	5.7			
	Decreasing flow OFF	6.9	4.8			
	Max. flow rate	37	22			
1¼"	Increasing flow ON**	12.7	9.2	7.8		
	Decreasing flow OFF	11.5	8	6.6		
	Max. flow rate	66	44	35.2		
1½"	Increasing flow ON**	19.3	14.5	12	9.1	
	Decreasing flow OFF	17	12.7	10.5	7.7	
	Max. flow rate	110	90	70	44	
2"	Increasing flow ON**		21	18.5	14.3	11.5
	Decreasing flow OFF		20	16.5	12.8	10.3
	Max. flow rate		150	130	100	61

* Water, 20 °C / 68 °F, horizontal pipe, tolerance ±15 %

** Typical value

Set point ranges

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				
	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

VHS06 / VK306 with plastic paddle, installation by welded socket ½" NPT female threaded, length 1"

Paddle to be trimmed to

	Paddle mark	15	20	30	40	50	60	70	80
	Installation length L ₁ [inch]	1.8	2	2.4	2.8	3.2	3.6	4	4.4

Setpoints* / Max. flow rate [US gpm]

2½"	Increasing flow ON**	38	31	23.5	19	16			
	Decreasing flow OFF	35	29.5	22	18	14.5			
	Max. flow rate	200	170	130	100	88			
3"	Increasing flow ON**	52	42	34	27	23	19	18	
	Decreasing flow OFF	50	41	31	25.5	22	18.5	16.5	
	Max. flow rate	390	300	240	190	160	140	120	
4"	Increasing flow ON**		68	55	46	39.5	34	28.5	27
	Decreasing flow OFF		64	50	42	35	31	26.5	25.5
	Max. flow rate		420	340	270	230	200	175	150
6"	Increasing flow ON**			150	120	100	86	79	68
	Decreasing flow OFF			140	110	88	78	70	61.5
	Max. flow rate			750	600	520	460	400	370
8"	Increasing flow ON**				240	198	167	147	130
	Decreasing flow OFF				230	192	159	141	126
	Max. flow rate				1100	990	870	770	695

* Water, 20 °C / 68 °F, horizontal pipe, tolerance ±15 %

** Typical value

Set point ranges

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 into pipe tees					
Paddle to be trimmed to					
	Paddle mark	15	20	30	40
	Installation length L ₁ [inch]	1.8	2	2.4	2.8
Setpoints* / Max. flow rate [US gpm]					
¾"	Increasing flow ON**	3.1			
	Decreasing flow OFF	2.6			
	Max. flow rate	30			
1"	Increasing flow ON**	5.5	4.4		
	Decreasing flow OFF	4.6	3.9		
	Max. flow rate	44	26		
1¼"	Increasing flow ON**	9.7	8.1	6.2	
	Decreasing flow OFF	8.8	7	5.3	
	Max. flow rate	88	65	50	
1½"	Increasing flow ON**	15	12	8.8	
	Decreasing flow OFF	13	11	7.9	
	Max. flow rate	144	100	80	
2"	Increasing flow ON**	22	18	14	12
	Decreasing flow OFF	20	17	13	10
	Max. flow rate	240	170	120	100

* Water, 20 °C / 68 °F, horizontal pipe, tolerance ±15 %

** Typical value

Set point ranges

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 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

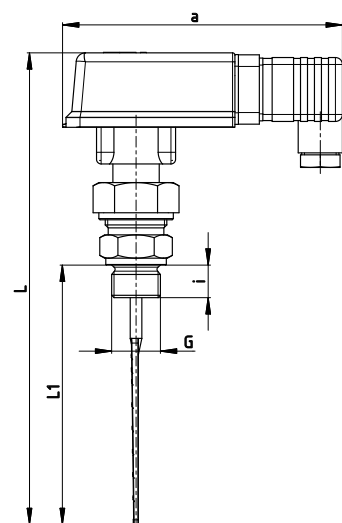
VHS06 / VK306 with stainless steel paddle, installation by welded socket ½" NPT female threaded, length 1"									
Paddle to be trimmed to									
	Paddle mark	15	20	30	40	50	60	70	80
	Installation length L ₁ [inch]	46	51	61	71	81	91	101	111
Setpoints* / Max. flow rate [US gpm]									
2½"	Increasing flow ON**	36	31	24	19	15			
	Decreasing flow OFF	34	28.5	22	17.5	14.5			
	Max. flow rate	400	320	250	200	150			
3"	Increasing flow ON**	50	42	33	27	23	20		
	Decreasing flow OFF	48.5	41.5	31	25.5	21	18		
	Max. flow rate	650	550	450	380	300	250		
4"	Increasing flow ON**		66	55	46	37.5	33	28.5	27
	Decreasing flow OFF		61	52.5	42	35	30	27	25
	Max. flow rate		800	650	520	450	400	350	300
6"	Increasing flow ON**				101	81.5	72.5	66	70
	Decreasing flow OFF				97	79	70	61	65
	Max. flow rate				1200	1000	900	800	700
8"	Increasing flow ON**					176	147	140	118
	Decreasing flow OFF					167	140	136	114
	Max. flow rate					1900	1600	1400	1300

* Water, 20 °C / 68 °F, horizontal pipe, tolerance ±15 %

** Typical value

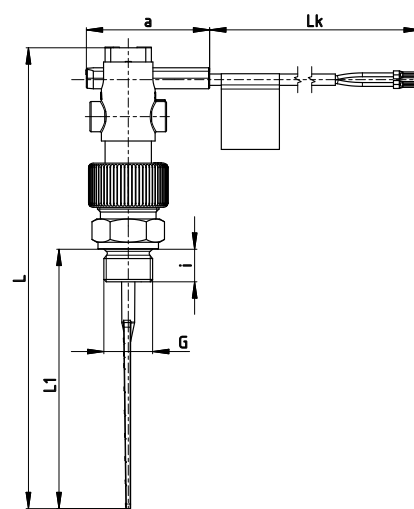
Technical Drawings | Dimensions

VHS06 with plastic paddle



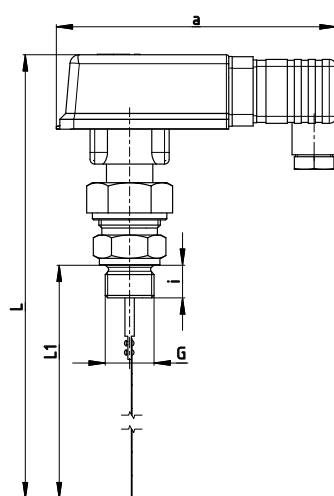
Flow direction

VK306 with plastic paddle



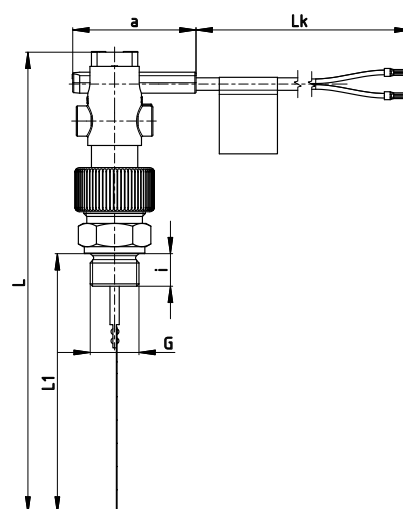
Flow direction

VHS06 with stainless steel paddle



Flow direction

VK306 with stainless steel paddle

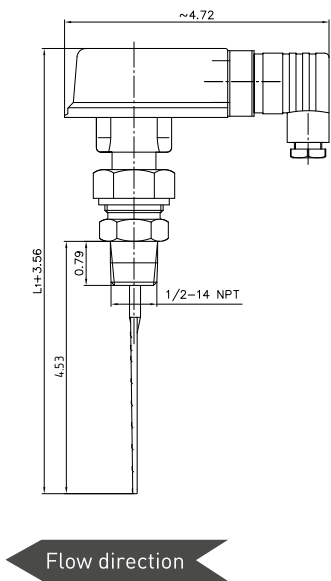


Flow direction

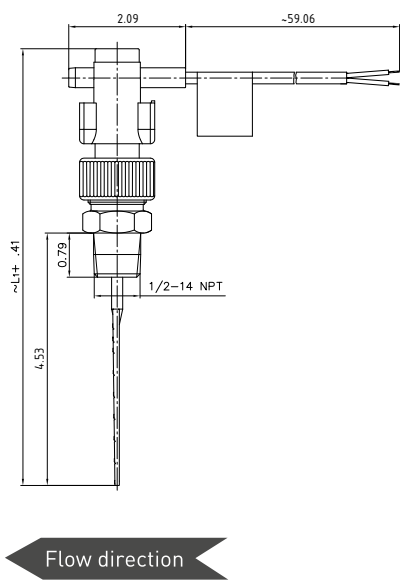
Dimensions (mm)

Type	L	L ₁	G	i	a	Lk
VHS06						
→ with plastic paddle	203	111.5	G½ A	14	120	—
→ with stainless steel paddle	202	111.5	G½ A	14	120	—
VK306						
→ with plastic paddle	198	111.5	G½ A	14	53	1500 ± 10
→ with stainless steel paddle	198	111.5	G½ A	14	53	1500 ± 10

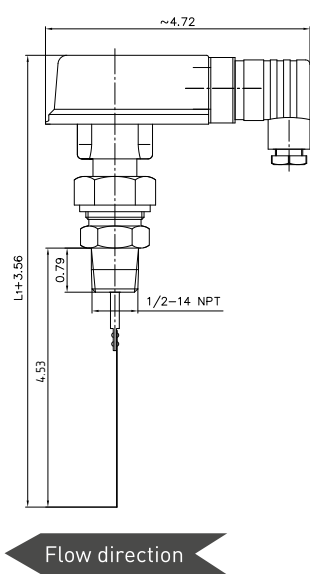
VHS06 NPT with plastic paddle



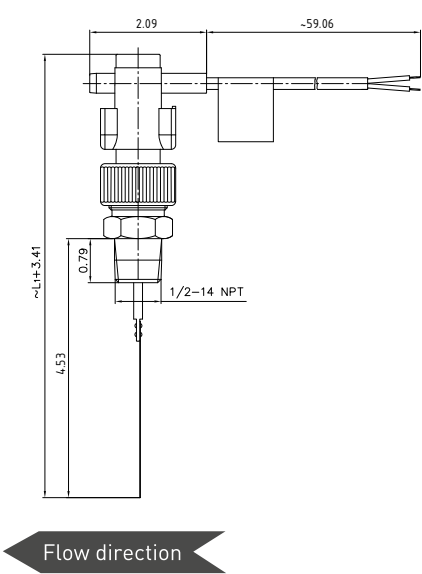
VK306 NPT with plastic paddle



VHS06 NPT with stainless steel paddle



VK306 NPT with stainless steel paddle



Materials

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	PPE+PS Noryl™ 30 % glass fibre reinforced
→ Stainless steel paddle	Stainless steel 1.4310 / Brass	Stainless steel 1.4310 / Brass
Pin	Stainless steel 1.4571	Without
Process connection	Brass CW614N	
Magnet	Hard ferrite	
O-ring	NBR	

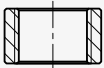
Article numbers

Type	Article number		
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 article number	VHS06M2	P	171R21

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

Type	Article number		
VHS06 NPT			
Plug connector incl. cable socket (standard)	VHS06M2		171Z21
Plug connector incl. cable socket with LED (option)	VHS06M2		191Z21
4-pin-sensor plug M12 x 1 (option)	VHS06M2		181Z21
VK306 NPT			
59" PVC jacket cable	VK306M2		10PZ21
Paddle			
Plastic		P	
Stainless steel		5	
Example article number	VHS06M2	P	171Z21

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