

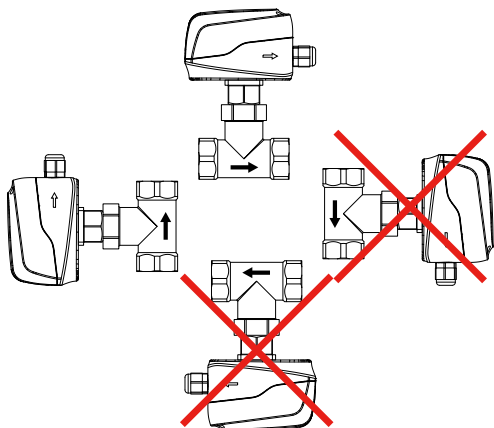
VAS-10 series Non condensation paddle flow switch



Technical Parameters:

- Voltage: Max 250V
- Max Current: 8A
- Connection Type: inside terminal blocks/wire attached for optional
- Output: SPDT Micro-motion Switch
- Proof Pressure: 20bar
- Working Temperature: -20...80°C (liquid does not freeze)
- International Protection Grade: IP65
- Material: Shell in contact with liquid: nickle plated brass/
stainless steel/Plastic
Paddle: 316 Stainless Steel Hard Paddle+Beryllium
Copper soft Paddle
Electric Shell: ABS+PC

Installation Locations:



Principles & Structures:

WFS25 series paddle flow switches have fundamentally solved problems that paddles of traditional target flow switch are easily broke and easy to condense and result in malfunction when installed on the chilled side of chillers. Their new designed structure abandon bellows prone to failure, and they also has many other features like IP65 water-proof electrical box without metal components, which completely avoid micro-motion switch failure caused by condensation of chilled water. In addition, the adopted new mechanical transfer structure make its dirt-resistant ability stronger and is applicable to sewage systems. Its unbreakable design of combination of soft and hard paddles helps switches installed at elbow of pipe and work properly. Particularly, we have many types of micro-motion switch used as electrical action parts for large currency and various applications, and it is the first priority flow protection products in central air conditioning and industrial fluid control field.

Applications:

This type of switch is dual-use for vapor and liquid and is widely used in industrial automation/ mechanical equipment/ air compression industry/ refrigeration and air conditioning field, and is also applicable to industrial applications in water-cooled welding machine, laser equipment cooling system, vacuum coating machine, electric furnace, polysilicon ingot furnace and other equipment. Because the magnet of flow switch is not in a flowing channel, it can be used in sewage systems and work properly. The outlet water temperature of the chiller is generally lower than the dew point temperature. However, the traditional water flow switch often fails due to the low protection level and its internal metal parts such as bellows are prone to condensation of water, which causes corrosion of micro-motion switch. The picture below shows the failure of the traditional water flow switch.



Apart from IP65, WFS25 series uses inside plastic components in case of cold bridge and moisture condensation caused corrosion of micro-motion switch. WFS25 series adopted a brand-new structure, abandoned bellows used as traditional components of flow switch to separate water and electricity. As we all known, changes of water pressure inside pipe may lead to deviation of set flow protection value, and this is a disadvantage for main engine protection. What's more, WFS25 series is the best priority substitute of traditional target flow switch for particular design of unbreakable paddles, and is widely used in water flow protection of modular water chilling equipment and these with large and medium scales.

Applicable Medium:



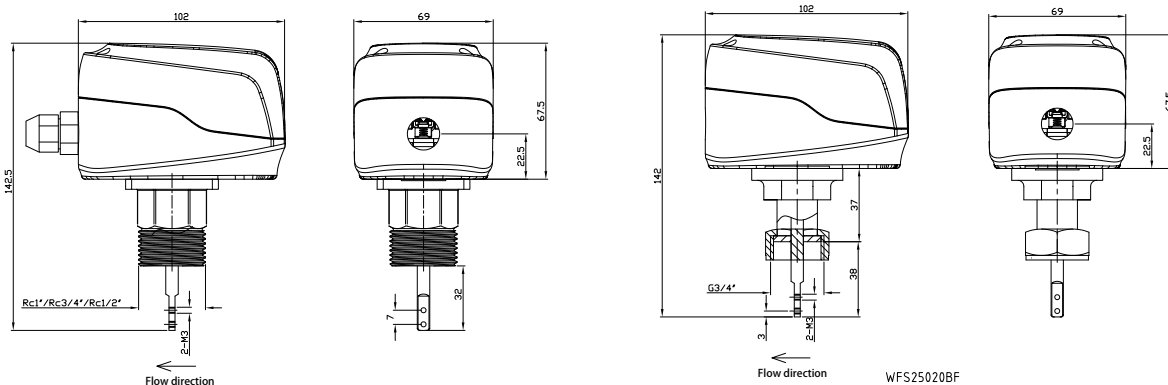
water



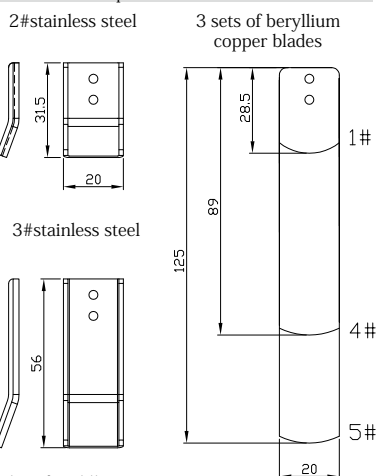
gas

Please indicate your metering substances with your order.

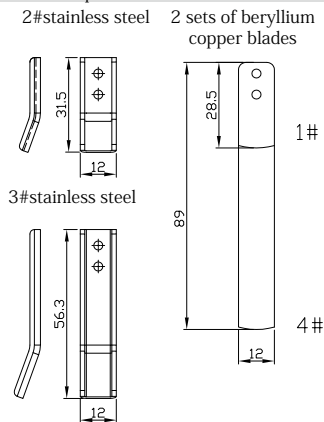
Dimensional Drawing:



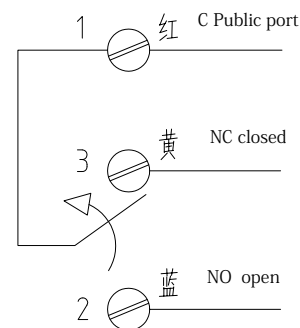
WFS25025 paddles fit for Caliber G1



WFS25020/15 paddles fit for caliber G3/4" & G1/2"



Wire Schematic Drawing:



when flow reach to closed value, no.1 and no.2 connected; when reduced to protection value, no.1 and no.2 disconnected

Rules of paddles using:

1. paddles of 1#beryllium copper, 2#, 3#stainless steel can be used separately.
2. when using paddle 4#, users should make sure paddle 4# overlay paddle 3#, it's not easily broken with 3# backing.
3. when using paddle 5#, paddle 4# overlay paddle 3#, and paddle 5# overlay paddle 4#; it's not easily broken when paddle 5# is the first one to contact water.

Nomenclature:

WFS25	025	B	E	35	R	-21.5	/1M	Specification
WFS25								WFS22 series paddle flow switch
	025							Body connected thread: 1" (paddle width 20)
	020							Body connected thread: 3/4" (paddle width 12)
	015							Body connected thread: 1/2" (paddle width 12)
		B						shell in contact with liquid: nickel plated brass
		S						shell in contact with liquid: 316L stainless steel
		P						shell in contact with liquid: plastic
			A					connection type: tee joint with female thread
			C					connection type: tee joint with male thread
			E					connection type: plug-in tee with male thread
			F					connection type: plug-in tee with female thread (仅G3/4")
				35				Paddle length (optional for single customized paddle, not applicable to multi-paddles & tee joint)
				...				...
					G			Specification of connected thread: G Straight pipe thread G (only connected with female thread)
					R			Specification of connected thread: Rc Inside taper pipe thread (only connected with male thread)
					N			Specification of connected thread: NPT Taper pipe thread for general purpose (only connected with male thread)
						-21.5		Default setting disconnected flow set value m ³ /h (not applicable to no flow rate)
						...		...
							/1M	Wire length: 1M=1 meter, not applicable to no wires.
							...	...

Flow Parameters form of Paddle G1" with width 20mm & male thread

caliber	Adjustable range (m ³ /h)				
	paddle 1#	Stainless steel hard paddle 2#	Stainless steel hard paddle 3#	paddle 3#+4#	paddle 3#+4#+5#
DN32	1.7(1.4) ~ 1.8(1.5)	--	--	--	--
DN40	1.7(1.4) ~ 2.4(2.0)	--	--	--	--
DN50	4.5(3.8) ~ 4.9(4.2)	1.2(1.0) ~ 1.4(1.2)	--	--	--
DN65	9.5(8.1) ~ 11.2(9.5)	3.2(2.7) ~ 3.6(3.1)	--	--	--
DN80	13.5(11.5) ~ 14.8(12.6)	5.9(5.0) ~ 7.4(6.3)	1.4(1.2) ~ 2.7(2.3)	--	--
DN100	25.8(21.9) ~ 30.2(25.7)	8.3(7.1) ~ 8.8(7.5)	3.3(2.8) ~ 3.9(3.3)	2.3(2.0) ~ 3.8(3.2)	--
DN125	35.5(30.2) ~ 41.6(35.4)	11.7(9.9) ~ 13.1(11.1)	5.1(4.3) ~ 5.8(4.9)	3.1(2.6) ~ 3.8(3.2)	35.5(30.2) ~ 41.6(35.4)
DN150	49.6(42.2) ~ 54.7(46.5)	14.8(12.6) ~ 16.9(14.4)	6.2(5.3) ~ 6.6(5.6)	4.0(3.4) ~ 4.5(3.8)	49.6(42.2) ~ 54.7(46.5)
DN200	88.2(75.0) ~ 97.3(82.7)	26.3(22.4) ~ 30.0(25.5)	11.0(9.4) ~ 11.7(9.9)	7.1(6.0) ~ 8.0(6.8)	88.2(75.0) ~ 97.3(82.7)

Note: 1、All of the flow range parameters above are acquired under circumstance of testing in certain pipe with switch inserted certain depth, for reference only.To be Accuracy, actual protection flow must tested on site.

2、of parameters above, outside brackets are closed flow points(contact point 1 &2);inside bracket are disconnected protection flow points(contact point 1&2 disconnected).

3、For caliber larger than DN200,flow setting points must be measured by users.

Flow Parameter Form of Paddle width 12 & caliber G3/4" & 1/2" male thread & G3/4 female thread

caliber	Adjustable range (m ³ /h)			
	paddle 1#	Stainless steel hard paddle 2#	Stainless steel hard paddle 3#	paddle 3#+4#
DN32	1.7(1.4) ~ 1.8(1.5)	--	--	--
DN40	1.7(1.4) ~ 2.4(2.0)	--	--	--
DN50	4.5(3.8) ~ 4.9(4.2)	1.2(1.0) ~ 1.4(1.2)	--	--
DN65	9.5(8.1) ~ 11.2(9.5)	3.2(2.7) ~ 3.6(3.1)	--	--
DN80	13.5(11.5) ~ 14.8(12.6)	5.9(5.0) ~ 7.4(6.3)	1.4(1.2) ~ 2.7(2.3)	--
DN100	25.8(21.9) ~ 30.2(25.7)	8.3(7.1) ~ 8.8(7.5)	3.3(2.8) ~ 3.9(3.3)	2.3(2.0) ~ 3.8(3.2)
DN125	35.5(30.2) ~ 41.6(35.4)	11.7(9.9) ~ 13.1(11.1)	5.1(4.3) ~ 5.8(4.9)	3.1(2.6) ~ 3.8(3.2)
DN150	49.6(42.2) ~ 54.7(46.5)	14.8(12.6) ~ 16.9(14.4)	6.2(5.3) ~ 6.6(5.6)	4.0(3.4) ~ 4.5(3.8)
DN200	88.2(75.0) ~ 97.3(82.7)	26.3(22.4) ~ 30.0(25.5)	11.0(9.4) ~ 11.7(9.9)	7.1(6.0) ~ 8.0(6.8)

Note: 1、All of the flow range parameters above are acquired under circumstance of testing in certain pipe with switch inserted certain depth, for reference only.To be Accuracy, actual protection flow must tested on site.

2、of parameters above, outside brackets are closed flow points(contact point 1 &2);inside bracket are disconnected protection flow points(contact point 1&2 disconnected).

3、For caliber larger than DN200,flow setting points must be measured by users.

Adjustment of Flow Protection Value:

1. Under normal circumstances, flow protection value has been calibrated to the minimum value as default setting.To increase the flow set value, adjust screw ① clockwise to "+" direction;to decrease, counterclockwise to the direction of "-"

2. Press the paddle to check whether the micro-motion switch can work normally. Do not excessively rotate the adjusting screw counterclockwise, otherwise the spring under the screw may be out of function.

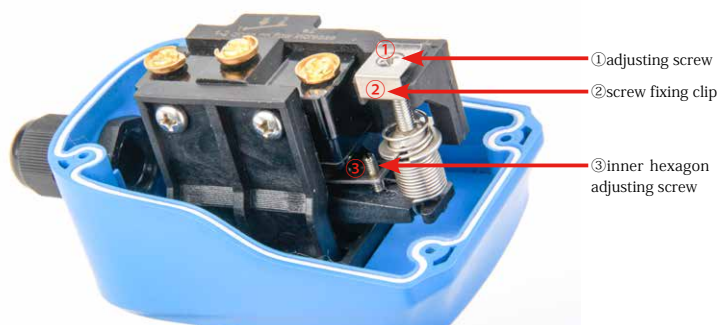
3. After installation, press the flow switch to check the lever for several times.Once the lever does not "click", turn the adjusting screw clockwise until it does;

4. Do not take out fixing clip ② of the adjusting screw, otherwise it may not be adjusted.

5. Inner hexagon adjustment screw ③ is only for factory adjustment of water flow switch state, please do not adjust on site, otherwise the

water flow switch will be out of function

6. State of open & closed and flow protection of water flow switch should be observed for three periods to ensure that the water flow switch play a role in flow protection. The debugging work is completed till then.



Hints for Orders:

1.Please specify medium flow direction, medium type, pipe diameter and expected setting value when ordering.We can complete it in factory settings.

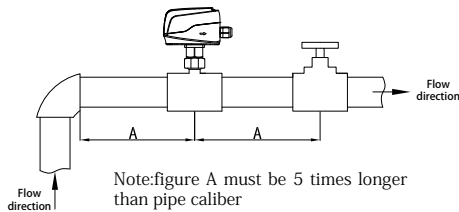
2.If viscous medium, please indicate viscosity, temperature and type of medium.

3.If gaseous medium, please indicate pressure (gauge/absolute pressure), temperature and type of medium.

Installation:

A paddle flow switch is generally installed in a pipeline from water outlet of a pump to water outlet of an equipment. we should pay attention not to install a switch in the suction pipe of the pump, for such operation may lead to abnormal pump absorption and flow switches being not open. Paddle flow switches support

horizontal (plastic part on top) installation and vertical installation (service life shorter than horizontal installation). we should consider weight of paddles when switches are installed upward at vertical pipes, for flow protection value is larger if switches installed vertically. Installation at vertical downward pipe is not allowed.



Note: When installing a flow switch, please note that direction of water flow in a pipeline must be consistent with arrow direction on the top of the flow switch, otherwise the flow switch cannot work. Besides, do not casually fix black plastic shell in case of malfunction. Hex nuts must be tightened by spanners, or switches may not work.

Installation Drawing of paddles overlaying

It is very important to choose appropriate paddles for protection flow in actual pipes, and it is not the larger the pipe, the longer the paddle is selected. Longer paddle is more likely to break for bearing greater pressure. The correct choice is to select the appropriate paddle after referring to the pipe diameter and flow value of the form above.

Correct Installation Methods of Paddles are as follow:

paddles of 1# beryllium copper, 2#, 3# stainless steel can be used separately; when using paddle 4#, users should make sure paddle 4# overlay hard paddle 3#, it's not easily broken with 3# backing; when using paddle 5#, paddle 5# overlay soft paddle 4# and hard paddle 3#. Paddles should be overlaid from long to short, please make sure the longest is outside.

Please do remember paddle 4# & 5# can not be used without 3#, or paddles are easily broken.



assembling & installation drawing of soft and hard paddles

