

Paddle Flow Switch WFS27020PF(xx) Series



Principles & Structures:

WFS27 series paddle flow switches are flow switches with brand-new structure, which developed by researchers specializing in this industry for years after an analysis of the shortcomings of the current flow switches applied in small heat generating air source heat pumps, water/pool heat pumps. It follows a simple and reliable design concept, and greatly improves the reliability of flow switches on structure aspect, which is incomparable to the non-traditional target flow switch. Besides what mentioned above, this type of flow switch is also famous for characters of plug-in installation, mechanical flow switch and built-in magnetic trigger switch.

Features:

Mechanical parts are safely isolated from electrical parts, and bellows vulnerable to cause malfunction are not part of our flow switch. Materials in contact with liquid are reinforced nylon, PPO, brass and stainless steel. All plastic flow switch are optional for connecting with male thread PVC joint, and is applicable to UPVC pipe of current seawater heat pump or swimming pool heat pump. Flow switches with brass components are applicable to small heating pump. Our flow switch use imported magnetism-sensitive switch as an electrical action component, which has small disconnection and reset flow, and its negligible pressure drop make it to be the first priority flow switch for pool heat pumps and other heat-pumping air conditioners.

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. Because the magnet of flow switch is not in a flowing channel, it can be used in sewage systems and work properly. It's the first priority flow protection switch for air source heat pumps, seawater or pool heat pumps.

Applicable Medium:



Please indicate your metering substances with your order.

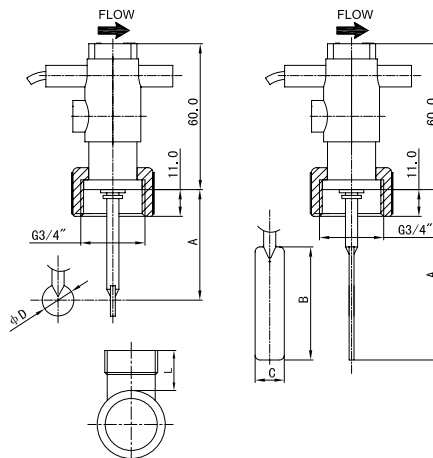
Parameters:

caliber	model	Adjustable flow range l/min(water)	Max Flow Rate l/min(water)	A mm	B mm	C mm	D mm	L mm
φ20	WFS27020PF30..	5.0(4.3) ~ 6.8(5.8)	40	29.5	--	--	13	29
φ25	WFS27020PF35..	7.7(6.6) ~ 10.5(8.9)	60	35.5	--	--	13	29
φ32	WFS27020PF35..	7.7(6.6) ~ 10.5(8.9)	80	35.5	--	--	13	29
φ40	WFS27020PF35..	19.9(16.9) ~ 26.9(22.9)	100	35.5	--	--	13	29
φ50	WFS27020PF45..	31.1(26.5) ~ 42.0(35.7)	150	45.5	--	--	13	29
φ63	WFS27020PF70..	48.0(40.8) ~ 64.9(55.2)	250	70	46.5	12	--	29

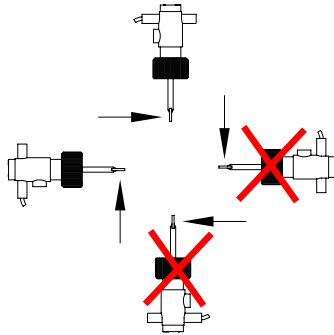
Note: 1. Of adjusting flow range parameters in the table above, outside the brackets are closed flow points; inside the brackets are disconnected (open) flow points.
 2. length of different paddles apply to different measuring method, please pay attention to measurement of figure A in the pictures below.
 3. Flow range refers to tested flow in certain UPVC tee joints, and it is for reference only; actual flow rate depends on what kind of tee joint used.
 4. This is just part of parameter range, for more information, please contact us

Technical Parameters:

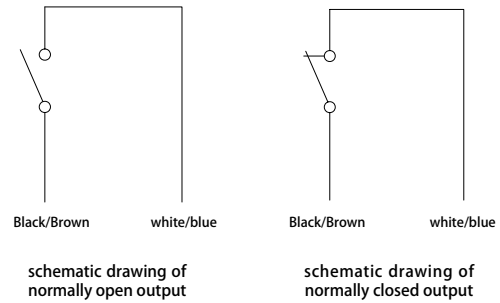
- Voltage: Max 250V
- Max Current: 1A, 50VA
- Connection Type: wire directly attached/DIN43650A industrial plug
- Output: SPST magnetism sensitive switch (default setting normally open)
- Proof pressure: 10bar (plastic shell at 25°C)
- Average Pressure loss: 0.01bar (at max flow rate)
- Working temperature: -20...85°C (customizable for -30°C lower temperature type)
- Enclosure protection grade: IP65
- Material: shell in contact with liquid: PPO plastic
Paddle: PPO plastic



Installation Locations:



Electrical Output:



Nomenclature:

WFS27	0	20	P	F	30	P	A	-1.0	/1M	Specification
WFS27										WFS27 series paddle flow switch
	0									shape with single magnet
	1									shape with double magnet
		20								body connected thread: G3/4" plug-in with female thread
			P							materials of shell in contact with liquid:engineering plastic
				F						connection type: plug-in with female thread
					28					code of paddle length: 28
					29					code of paddle length: 29
					30					code of paddle length: 30
					34					code of paddle length: 34
					35					code of paddle length: 35
					38					code of paddle length: 38
					40					code of paddle length: 40
					42					code of paddle length: 42
					44					code of paddle length: 44
					45					code of paddle length: 45
					46					code of paddle length: 46
					48					code of paddle length: 48
					55					code of paddle length: 55
					57					code of paddle length: 57
					70					code of paddle length: 70
					100					code of paddle length: 100
					...					... (length and type of paddles are influenced by pipe caliber and flow rate)
						P				nut material:plastic(can be omitted)
						B				nut material:nickle plated brass
							P			paddle material:plastic(can be omitted)
							A			paddle material:brass
								-1.0		protection flow in pipes of certain caliber ³ /h(not applicable for no protection flow)
							
									/1M	wire length:1M= 1 meter
									/D	DIN43650 industrial plug(with electrical junction box)
								

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.

Optional Joints:



Note: please indicate the joint in your order.

Paddle Flow Switch with Metal Shell WFS27020BFxx WFS27020SFxx plug-in with female thread Series



WFS27020BFxx

WFS27020SFxx

Applicable Medium:



Please indicate your metering substances with your order.

Parameters:

caliber	model	Adjustable flow range l/min(water)	Max Flow Rate l/min(water)	A mm	B mm	C mm	D mm	L mm
φ20	WFS27020BF30..	5.0(4.3) ~ 6.8(5.8)	40	29.5	--	--	13	29
φ25	WFS27020BF35..	7.7(6.6) ~ 10.5(8.9)	60	35.5	--	--	13	29
φ32	WFS27020BF35..	7.7(6.6) ~ 10.5(8.9)	80	35.5	--	--	13	29
φ40	WFS27020BF35..	19.9(16.9) ~ 26.9(22.9)	100	35.5	--	--	13	29
φ50	WFS27020BF45..	31.1(26.5) ~ 42.0(35.7)	150	45.5	--	--	13	29
φ63	WFS27020BF70..	48.0(40.8) ~ 64.9(55.2)	250	70	46.5	12	--	29

Note: 1. Of flow range parameters in the table above, outside the brackets are closed flow points; inside the brackets are disconnected (open) flow points.
 2. length of different paddles apply to different measuring method, please pay attention to measurement of figure A in the pictures below.
 3. Flow range refers to tested flow in certain UPVC tee joints, and it is for reference only; actual flow rate depends on what kind of tee joint used.
 4. This is just part of parameter range, for more information, please contact us.

Technical Parameters:

- Voltage: Max 250V
- Max Current: 1A, 50VA
- Connection Type: wire directly attached/DIN43650A industrial plug
- Output: SPST magnetism sensitive switch (default setting normally open)
- Proof pressure: 25bar (brass), 50bar (stainless steel)
- Average Pressure loss: 0.01bar (at max flow rate)
- Working temperature: -40...85°C (unfrozen liquid)
- Enclosure protection grade: IP65
- Material: shell in contact with liquid: brass or stainless steel
Paddle: brass or stainless steel

Principles & Structures:

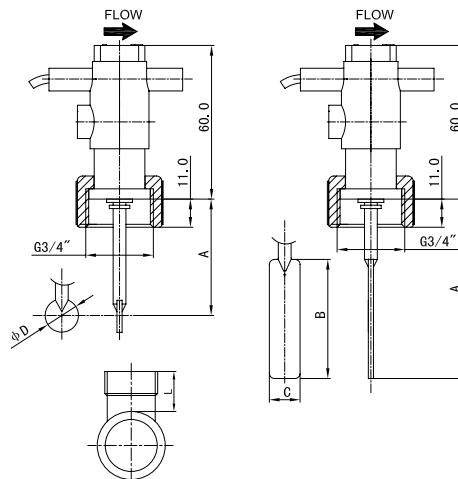
WFS27 series paddle flow switch with metal shell & lower pressure drop aims to solve problems of lower bearing pressure at high temperature, fragile plastic at lower temperature and easily getting aging outdoor. With its excellent flow performance, flow switch with metal shell can be widely used in heat pump air conditioning, laser machine and industrial cooling system. It follows a simple and reliable design concept, and greatly improves the reliability of flow switches on structure aspect, which is incomparable to the non-traditional target flow switch. Besides what mentioned above, this type of flow switch is also famous for characters of plug-in installation, mechanical flow switch and built-in magnetic trigger switch.

Features:

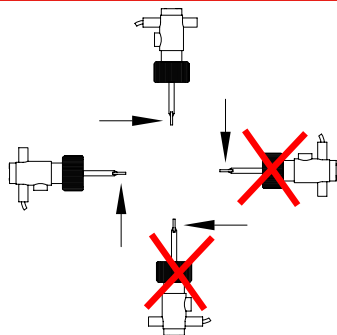
Mechanical parts are safely isolated from electrical parts, and bellows vulnerable to cause malfunction are not part of our flow switch. All materials in contact with liquid is brass or stainless steel, and brass joint with male thread is for optional. Combined with red copper tee joint, it's applicable to current heat pump air conditioner. It has a small disconnect and reset flow when imported magnetic-sensitive switches used as electrical action parts, and its negligible pressure drop is the preferred flow protection product for heat pump air conditioning.

Applications:

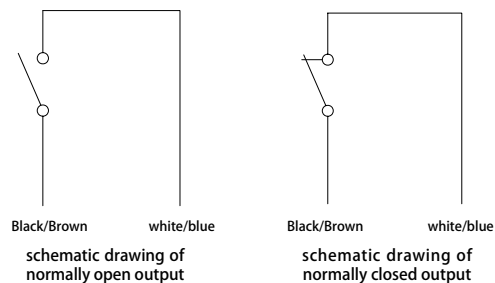
This type of switch is dual-use for vapor and liquid and is widely used in industrial automation/ mechanical equipment/ air compression industry/ refrigeration and air conditioning field. Magnet of flow switch is not in the flowing channel, material of 316L stainless steel can be used in sewage system and can work properly, so it's the first choice for water flow protection of heat pump.



Installation Locations:



Electrical Output:



Nomenclature:

WFS27	0	20	B	F	30	B	A	-1.0	/1M	Specifications
WFS27										WFS27 series paddle flow switch
	0									shape with single magnet
	1									shape with double magnet
		20								body connected thread: G3/4" plug-in with female thread
			B							materials of shell in contact with liquid:nickle plated brass
			S							materials of shell in contact with liquid:316L stainless steel
				F						connection type: plug-in with female thread
					28					code of paddle length: 28
					29					code of paddle length: 29
					30					code of paddle length: 30
					34					code of paddle length: 34
					35					code of paddle length: 35
					38					code of paddle length: 38
					40					code of paddle length: 40
					42					code of paddle length: 42
					44					code of paddle length: 44
					45					code of paddle length: 45
					46					code of paddle length: 46
					48					code of paddle length: 48
					55					code of paddle length: 55
					70					code of paddle length: 70
					100					code of paddle length: 100
					...					... (length and type of paddles are influenced by pipe caliber and flow rate)
						B				nut material:nickle plated brass
						S				nut material:stainless steel
							P			paddle material:plastic(can be omitted)
							A			paddle material:brass
							S			paddle material:stainless steel
								-1.0		protection flow in pipes of certain caliber ³ /h(not applicable for no protection flow)
							
									/D	DIN43650 industrial plug(with electrical junction box)
									/1M	wire length:1M= 1 meter
								

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.

Optional Joints:



G3/4- ø 15.5soldered joints
order no.: T10031



G3/4- ø 18.8soldered joints
order no.: T10030

Note: please indicate the joint in your order.

Paddle Flow Switch WFS270xxxE(xx) body Series



Applicable Medium:



Please indicate your metering substances with your order.

Parameters:

caliber	model	Adjustable flow range l/min(water)	Max Flow Rate l/min(water)	H mm
φ32	WFS27020PE31..	7.7(6.6) ~ 10.5(8.9)	80	31
φ40	WFS27020PE31..	19.9(16.9) ~ 26.9(22.9)	100	31
φ50	WFS27020PE46..	31.1(26.5) ~ 42.0(35.7)	150	46
φ63	WFS27020PE76..	48.0(40.8) ~ 64.9(55.2)	250	76
φ50	WFS27020PF45..	31.1(26.5) ~ 42.0(35.7)	150	45.5
φ63	WFS27020PE70..	48.0(40.8) ~ 64.9(55.2)	250	70

- Note: 1. Of flow range parameters in the table above, outside the brackets are closed flow points; inside the brackets are disconnected (open) flow points.
 2. length of different paddles apply to different measuring method, please pay attention to measurement of figure A in the pictures below.
 3. Flow range refers to tested flow in certain UPVC tee joints, and it is for reference only; actual flow rate depends on what kind of tee joint used.
 4. This is just part of parameter range, for more information, please contact us.

Technical Parameters:

- Voltage: Max 250V
- Max Current: 1A, 50VA
- Connection Type: wire directly attached/DIN43650A industrial plug
- Output: SPST magnetism sensitive switch (default setting normally open)
- Proof pressure: 10bar (plastic shell at 25°C) 25bar (metal shell)
- Average Pressure loss: 0.01bar (at max flow rate)
- Working temperature: -20...85°C plastic shell, -40...85°C metal shell
- Enclosure protection grade: IP65
- Material: shell in contact with liquid: PPO plastic/brass/stainless steel
Paddle: PPO plastic/brass/stainless steel
Encapsulation: EPDM

Principles & Structures:

WFS27 series paddle flow switches are flow switches with brand-new structure, which developed by researchers specializing in this industry for years after an analysis of the shortcomings of the current flow switch applied in small heat generating air source heat pump, water/pool heat pump. It follows a simple and reliable design concept, and greatly improves the reliability of flow switches on structure aspect, which is incomparable to the non-traditional target flow switch. Besides what mentioned above, this type of flow switch is also famous for characters of plug-in installation, mechanical flow switch and built-in magnetic trigger switch.

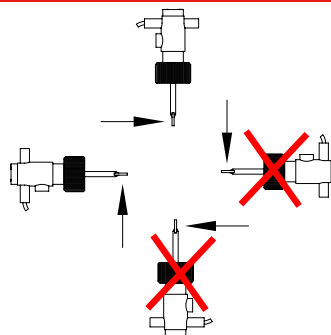
Features:

Mechanical parts are safely isolated from electrical parts, and bellows vulnerable to cause malfunction are not part of our flow switch. Materials in contact with liquid are reinforced nylon, PPO, brass and stainless steel. The all-plastic water flow switch is equipped with PVC joint with male thread, combined with UPVC tee joint, the flow switch is applicable to UPVC pipelines of seawater/pool heat pump. Flow switches with brass components are applicable to small heating pump. It has small disconnection and reset flow when imported magnetic-sensitive switches used as electrical action components, and its negligible pressure drop is the preferred flow protection product for pool heat pumps and other heat pump air conditioners.

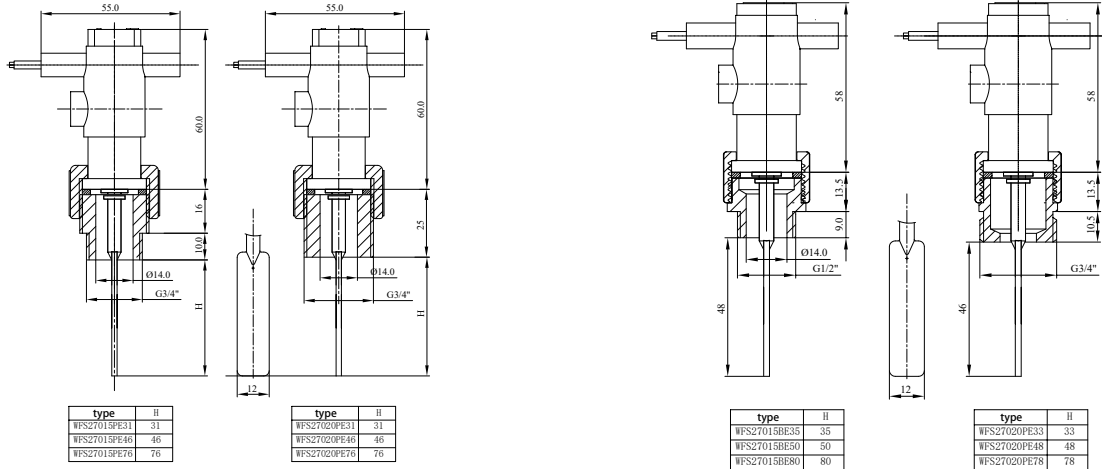
Applications:

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. Because the magnet of flow switch is not in a flowing channel, it can be used in sewage systems and work properly. It's the first priority flow protection switch for air source heat pumps, seawater or pool heat pumps.

Installation Locations:



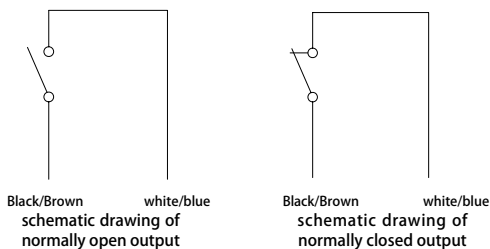
Dimensional Drawing :



Nomenclature :

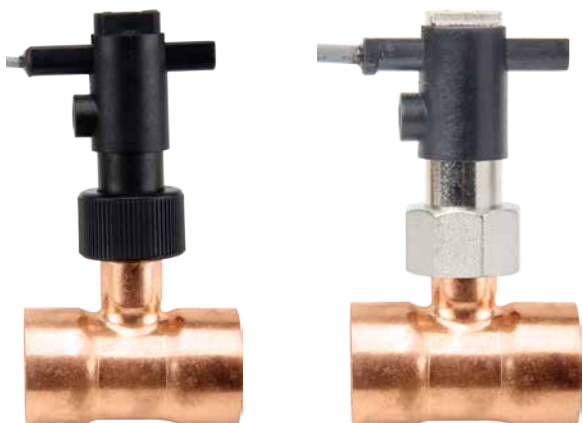
WFS27	0	20	P	E	31	P	A	-1.0	/1M	Specifications
WFS27										WFS27 series paddle flow switch
	0									shape with single magnet
	1									shape with double magnet
		15								caliber of body connected thread: G1/2"
		20								caliber of body connected thread: G3/4"
			P							materials of shell in contact with liquid:engineering plastic
			B							materials of shell in contact with liquid:nickle plated brass
			S							materials of shell in contact with liquid:316L stainless steel
				E						connection type: plug-in with male thread
					31					code of paddle length: 31
					46					code of paddle length: 46
					76					code of paddle length: 76
					35					code of paddle length: 35
					50					code of paddle length: 50
					80					code of paddle length: 80
					...					... (length and type of paddles are influenced by pipe caliber and flow rate)
						P				nut material:plastic(can be omitted)
						B				nut material:nickle plated brass
						S				nut material:stainless steel
							P			paddle material:plastic(can be omitted)
							A			paddle material:brass
							S			paddle material: 316L stainless steel
								-1.0		protection flow under certain caliber of pipes m ³ /h(not applicable to no protection flow)
							
									/1M	wire length:1M= 1 meter(standard 1 meter,can be omitted)
									/D	DIN43650 industrial plug(with electrical junction box)
								

Electrical Output :



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.

Paddle Flow Switch WFS270xxPGxx/WFS270xxBGxx Series

Applicable Medium:


Please indicate your metering substances with your order.

Parameters:

caliber	model	Adjustable flow range l/min(water)	Max Flow Rate l/min(water)	A mm	B mm	C mm
φ16	WFS27016BG..	5.8(4.9) ~ 7.8(6.6)	20	28	φ 16.0	50
φ19	WFS27019BG..	9.0(7.7) ~ 12.2(10.4)	40	34.5	φ 19.0	52
φ22	WFS27022BG..	10.9(9.3) ~ 14.8(12.6)	50	42	φ 22.2	58
φ25	WFS27025BG..	14.1(12.0) ~ 19.1(16.2)	70	37.5	φ 25.4	58
φ28	WFS27028BG..	17.7(15.0) ~ 24.0(20.4)	80	34	φ 28.6	58
φ32	WFS27032BG..	23.1(19.7) ~ 31.3(26.6)	120	37.5	φ 32.0	71
φ35	WFS27035BG..	27.7(23.5) ~ 37.4(31.8)	150	43	φ 35.1	74.5
φ38	WFS27038BG..	39.8(33.9) ~ 53.9(45.8)	200	37.5	φ 38.5	71
φ42	WFS27042BG..	79.5(73.5) ~ 93.2(85.3)	350	43.5	φ 42.3	79

Note: of flow range parameters above, outside brackets are closed flow points; inside brackets are disconnected (open) flow points. This data is for reference only, and the specific test data shall prevail.

Technical Parameters:

- Voltage: Max 250V
- Max Current: 1A, 50VA
- Connection Type: wire directly attached/DIN43650A industrial plug
- Output: SPST magnetism sensitive switch (default setting normally open)
- Proof pressure: 10bar (plastic shell at 25°C) 25bar (metal shell)
- Average Pressure loss: 0.01bar (at max flow rate)
- Working temperature: -20...85°C plastic shell, -40...85°C metal shell
- Enclosure protection grade: IP65
- Material: shell in contact with liquid: PPO plastic/brass/stainless steel
- Paddle: PPO plastic/brass/stainless steel
- Encapsulation: EPDM

Principles & Structures:

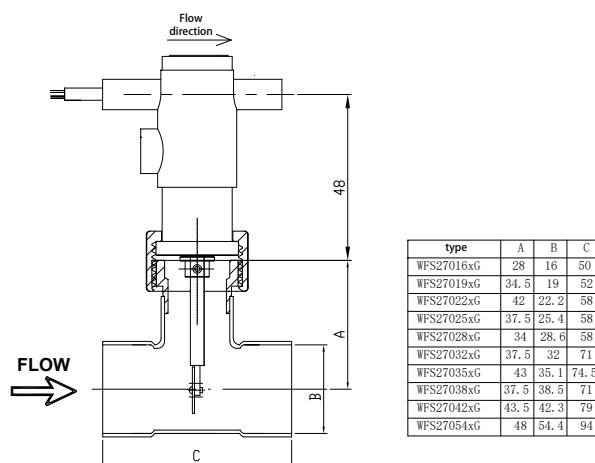
WFS27 series paddle flow switch with brand-new structure are developed by researchers specializing in this industry for years after an analysis of the shortcomings of the current market flow switch. It follows a simple and reliable design concept, and greatly improves the reliability of flow switch on structure aspect, which is incomparable to the non-traditional target flow switch. Besides what mentioned above, this type of flow switch is also famous for characters of plug-in installation, mechanical flow switch and built-in magnetic trigger switch.

Features:

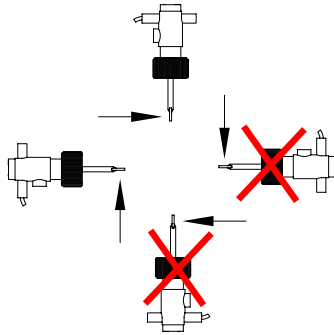
Mechanical parts are safely isolated from electrical parts, and bellows vulnerable to cause malfunction are not part of our flow switch. Materials in contact with liquid are reinforced nylon, PPO, brass and stainless steel. Combined with red copper tee joint, flow switch of plastic shell is applicable to current air source heat pump. Flow switch of brass shell can be applied to -35°C cryogenic heating pumps. It has a small disconnect and reset flow when imported magnetic-sensitive switches used as electrical action parts, and its negligible pressure drop is the preferred flow protection product for heat pump air conditioning.

Applications:

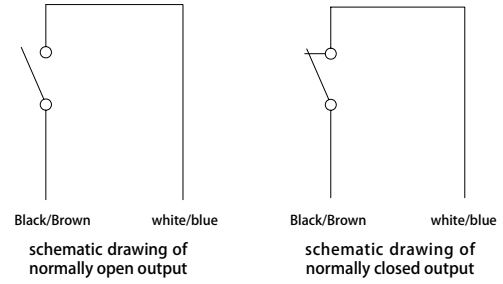
This type of switch is dual-use for vapor and liquid and is widely used in industrial automation/ mechanical equipment/ air compression industry/ refrigeration and air conditioning field. As magnet of flow switch is not in the flowing channel, it becomes the first priority flow protection switch of heat pumps.



Installation Locations:



Electrical Output:



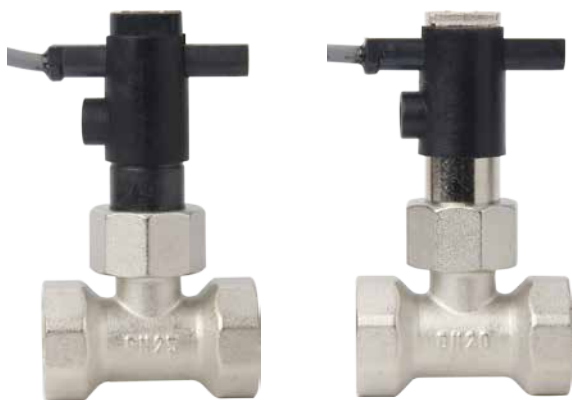
Nomenclature:

WFS27	0	20	P	G	30	B	A	-1.0	/1M	Specifications
WFS27										WFS27 series paddle flow switch
	0									shape with single magnet
	1									shape with double magnet
		16								red copper tee joint connected with flow switch: $\varnothing 16$ (British Standard $\varnothing 15.88$)
		19								red copper tee joint connected with flow switch: $\varnothing 19$ (British Standard $\varnothing 19.05$)
		22								red copper tee joint connected with flow switch: $\varnothing 22$ (British Standard $\varnothing 22.22$)
		25								red copper tee joint connected with flow switch: $\varnothing 25$ (British Standard $\varnothing 25.4$)
		28								red copper tee joint connected with flow switch: $\varnothing 28$ (British Standard $\varnothing 28.58$)
		32								red copper tee joint connected with flow switch: $\varnothing 32$
		35								red copper tee joint connected with flow switch: $\varnothing 35$ (British Standard $\varnothing 34.92$)
		38								red copper tee joint connected with flow switch: $\varnothing 38$
		42								red copper tee joint connected with flow switch: $\varnothing 42$ (British Standard $\varnothing 41.28$)
		54								red copper tee joint connected with flow switch: $\varnothing 54$ (British Standard $\varnothing 53.98$)
		...								...(different caliber of pipes are related with pipe material and flow rate.)
			P							materials of shell in contact with liquid:engineering plastic
			B							materials of shell in contact with liquid:nickle plated brass
			S							materials of shell in contact with liquid:316L stainless steel
				G						connection type: red copper tee joint (outer diameter of pipe)
					P					nut material:plastic(can be omitted)
					B					nut material:nickle plated brass
					S					nut material:stainless steel
						P				paddle material:plastic(can be omitted)
						A				paddle material:brass
						S				paddle material: 316L stainless steel
								-1.0		protection flow in pipes of certain caliber ³ /h(not applicable for no protection flow)
							
									/1M	wire length:1M= 1 meter
									/D	DIN43650industrial plug
								

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.

Paddle Flow Switch WFS27xxxPAxx/WFS27xxxBAxx Series



Applicable Medium:



Please indicate your metering substances with your order.

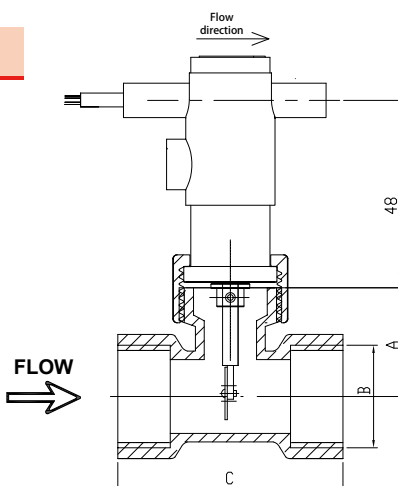
Parameters:

caliber	model	Adjustable flow range l/min(water)	Max Flow Rate l/min(water)	A mm	B mm	C mm
DN15	WFS27015xA..	5.1(4.3) ~ 6.9(5.8)	30	28	G1/2"	50
DN20	WFS27020xA..	9.0(7.7) ~ 12.2(10.4)	60	28	G3/4"	58
DN25	WFS27025xA..	14.1(12.0) ~ 19.1(16.2)	80	36	G1"	58
DN32	WFS27032xA..	23.1(19.7) ~ 31.3(26.6)	150	34	G1-1/4"	72
DN40	WFS27040xA..	36.1(30.7) ~ 48.9(41.5)	250	39	G1-1/2"	72
DN50	WFS27050xA..	56.4(48.0) ~ 76.4(64.9)	300	44	G2"	72

Note: 1、Of flow range parameters in the table above,outside the brackets are closed flow points;inside the brackets are disconnected(open) flow points.
 2、Flow range above is just part of flow range for reference, please contact us for more information.

Technical Parameters:

- Voltage:Max 250V
- Max Current:1A、50VA
- Connection Type: wire directly attached/DIN43650A industrial plug
- Output:SPST magnetism sensitive switch(default setting normally open)
- Proof pressure:10bar(plastic shell at 25°C)25bar (brass shell) 50bar (stainless steel shell)
- Average Pressure loss:0.01bar(at max flow rate)
- Working temperature: -20...85°C (plastic shell)
-40...85°C (metal shell)
- Enclosure protection grade:IP65
- Material: shell in contact with liquid:PPO plastic/brass/stainless steel
Paddle:PPOplastic/brass/stainless steel
Encapsulation: EPDM



type	A	B	C
WFS27015xA	28	G1/2"	50
WFS27020xA	28	G3/4"	58
WFS27025xA	35.5	G1"	58
WFS27032xA	34	G1-1/4"	72
WFS27040xA	38.5	G1-1/2"	72
WFS27050xA	44	G2"	72

Principles & Structures:

WFS27 series lower pressure drop paddle flow switch with brand-new structure are developed by researchers specializing in this industry for years after an analysis of the shortcomings of the current flow switch of heat pumps.It follows a simple and reliable design concept, and greatly improves the reliability of flow switches on structure aspect, which is incomparable to the non-traditional target flow switch.Besides what mentioned above, this type of flow switch is also famous for characters of plug-in installation, mechanical flow switch and built-in magnetic trigger switch.

Features:

Mechanical parts are safely isolated from electrical parts, and bellows vulnerable to cause malfunction are not part of our flow switch.Materials in contact with liquid are reinforced nylon,PPO,brass and stainless steel. Combined with brass tee joint, flow switch with plastic shell is applicable to current air source heat pumps. And flow switch with brass shell can be applied to -35°C cryogenic heating pumps. It has small disconnection and reset flow when imported magnetic-sensitive switches used as electrical action components, and its negligible pressure drop is the preferred flow protection product for pool heat pumps and other heat pump air conditioners.

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.As magnet of flow switch is not in the flowing channel, it becomes the first priority flow protection switch of heat pumps.

Paddle Flow Switch WFS27xxxPCxx/WFS27xxxBCxx Series



Applicable Medium:



Please indicate your metering substances with your order.

Parameters:

caliber	model	Adjustable flow range l/min(water)	Max Flow Rate l/min(water)	A mm	B mm	C mm
DN15	WFS27015xC..	5.1(4.3) ~ 6.9(5.8)	30	28	G1/2"	50
DN20	WFS27020xC..	9.0(7.7) ~ 12.2(10.4)	60	28	G3/4"	58
DN25	WFS27025xC..	14.1(12.0) ~ 19.1(16.2)	80	36	G1"	58
DN32	WFS27032xC..	23.1(19.7) ~ 31.3(26.6)	150	34	G1-1/4"	68
DN40	WFS27040xC..	36.1(30.7) ~ 48.9(41.5)	250	39	G1-1/2"	72
DN50	WFS27050xC..	56.4(48.0) ~ 76.4(64.9)	300	44	G2"	72

Note: of flow range parameters above, outside brackets are closed flow points; inside brackets are disconnected (open) flow points.

Technical Parameters:

- Voltage: Max 250V
- Max Current: 1A, 50VA
- connection type: wire directly attached Output: SPST magnetism sensitive switch (default setting normally open)
- Proof pressure: 10bar (plastic shell at 25°C) 25bar (brass shell) 50bar (stainless steel shell)
- Average Pressure loss: 0.01 bar (at max flow rate)
- Working temperature: -20...85°C (plastic shell) -40...85°C (metal shell)
- Enclosure protection grade: IP65
- Material: shell in contact with liquid: plastic/nickel plated brass/316L stainless steel
paddle: plastic/nickel plated brass/316L stainless steel
Encapsulation: EPDM

Principles & Structures:

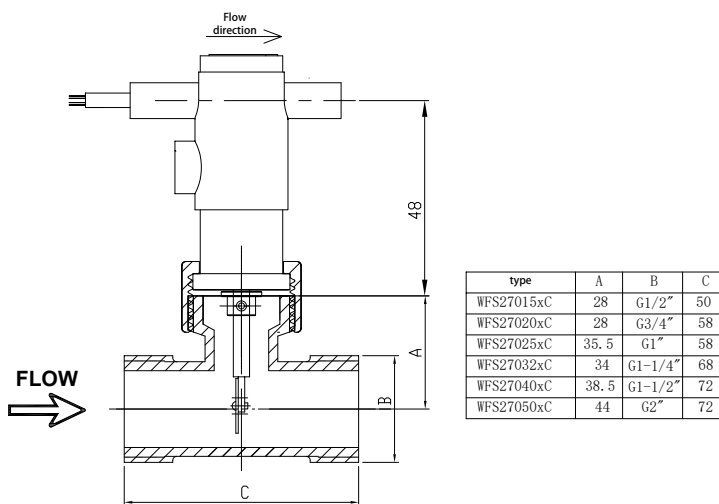
WFS27 series paddle flow switch with brand-new structure are developed by researchers specializing in this industry for years after an analysis of the shortcomings of the current market flow switch. It follows a simple and reliable design concept, and greatly improves the reliability of flow switch on structure aspect, which is incomparable to the non-traditional target flow switch. Besides what mentioned above, this type of flow switch is also famous for characters of plug-in installation, mechanical flow switch and built-in magnetic trigger switch.

Features:

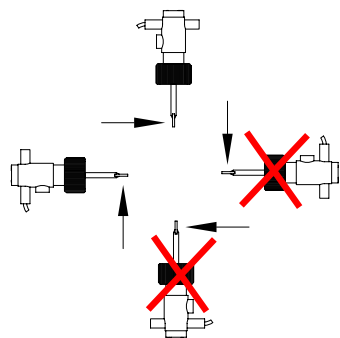
Mechanical parts are safely isolated from electrical parts, and bellows vulnerable to cause malfunction are not part of our flow switch. Materials in contact with liquid are reinforced nylon, PPO, brass and stainless steel. Combined with brass tee joint, flow switch with plastic shell is applicable to current air source heat pumps. And flow switch with brass shell can be applied to -35°C cryogenic heating pumps. It has small disconnection and reset flow when imported magnetic-sensitive switches used as electrical action components, and its negligible pressure drop is the preferred flow protection product for pool heat pumps and other heat pump air conditioners.

Applications:

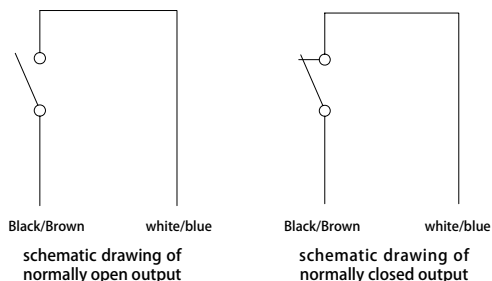
This type of switch is dual-use for vapor and liquid and is widely used in industrial automation/ mechanical equipment/ air compression industry/ refrigeration and air conditioning field. Magnet of flow switch is not in the flowing channel, material of 316L stainless steel can be used in sewage system and can work properly, so it's the first choice for water flow protection of heat pump.



Installation Locations:



Electrical Output:



Nomenclature:

WFS27	0	15	P	A	30	B	A	-1.0	/1M	Specifications
WFS27										WFS27 series paddle flow switch
	0									shape with single magnet
	1									shape with double magnet
		10								caliber of body connected thread tee joint: DN10
		15								caliber of body connected thread tee joint: DN15
		20								caliber of body connected thread tee joint: DN20
		25								caliber of body connected thread tee joint: DN25
		32								caliber of body connected thread tee joint: DN32
		40								caliber of body connected thread tee joint: DN40
		50								caliber of body connected thread tee joint: DN50
			P							materials of shell in contact with liquid:engineering plastic
			B							materials of shell in contact with liquid:nickle plated brass
			S							materials of shell in contact with liquid:316L stainless steel
				A						connection type: tee joint with female thread (nickle plated brass or 316L stainless steel)
				C						connection type: tee joint with male thread (nickle plated brass)
					P					nut material:plastic(can be omitted)
					B					nut material:nickle plated brass
					S					nut material:stainless steel
						P				paddle material:plastic(can be omitted)
						A				paddle material:brass
						S				paddle material: 316L stainless steel
								-1.0		protection flow in pipes of certain caliber ³ /h(not applicable for no protection flow)
							
									/1M	wire length:1M= 1 meter
									/D	DIN43650industrial plug
								

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.

Paddle Flow Switch WFS27xxxPH Series



Applicable Medium:



Please indicate your metering substances with your order.

参数表:

caliber	model	Adjustable flow range l/min(water)	Max Flow Rate l/min(water)	A mm	B mm	C mm
φ25	WFS27025PH..	7.8(6.6) ~ 10.5(8.9)	60	34.5	φ25	68
φ32	WFS27032PH..	12.7(10.8) ~ 17.2(14.7)	80	38.5	φ30	80
φ40	WFS27040PH..	19.9(16.9) ~ 27.0(22.9)	100	42	φ40	90
φ50	WFS27050PH..	31.1(26.5) ~ 42.1(35.8)	150	48	φ50	98.5
φ63	WFS27063PH..	49.4(42.0) ~ 66.9(56.8)	250	55	φ63	110

Note: of flow range parameters above, outside brackets are action flow points; inside brackets are reset flow points.

Technical Parameters:

- Voltage: Max 250V
- Max Current: 1A, 50VA
- Connection Type: wire directly attached/DIN43650A industrial plug
- Output: SPST magnetism sensitive switch (default setting normally open)
- Proof pressure: 10bar (testing medium at 25°C)
- Average Pressure loss: 0.01bar (at max flow rate)
- Working temperature: -20...85°C (plastic shell)
- Enclosure protection grade: IP65
- Material: shell in contact with liquid: PPO plastic
Paddle: PPO plastic
Encapsulation: EPDM

Principles & Structures:

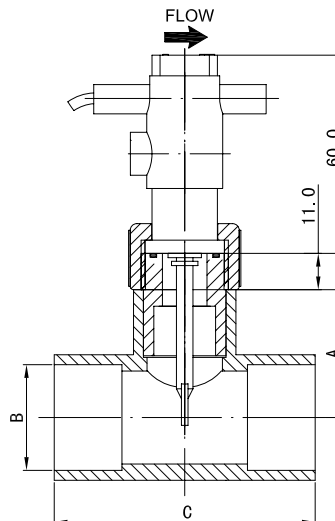
WFS27 series paddle flow switch with brand-new structure and lower pressure drop are developed by researchers specializing in this industry for years after an analysis of the shortcomings of the current flow switch of seawater source heat pump and pool heat pumps. It follows a simple and reliable design concept, and greatly improves the reliability of flow switches on structure aspect, which is incomparable to the non-traditional target flow switch. Besides what mentioned above, this type of flow switch is also famous for characters of plug-in installation, mechanical flow switch and built-in magnetic trigger switch.

Features:

Mechanical parts are safely isolated from electrical parts, and bellows vulnerable to cause malfunction are not part of our flow switch. All materials contacted with liquid are reinforced nylon or PPO, and PVC joint with male thread is optional. Combined with UPVC tee joint, the flow switch is applicable to UPVC pipes of seawater heat pumps or pool heat pumps. It has small disconnection and reset flow when imported magnetic-sensitive switches used as electrical action components, and its negligible pressure drop is the preferred flow protection product for pool heat pumps and other heat pump air conditioners.

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. Because the magnet of flow switch is not in a flowing channel, it can be used in sewage systems and work properly. And it's the first priority switch of flow protection for seawater heat pumps or pool heat pumps.



Paddle Flow Switch WFS27xxxBRxx Series



Applicable Medium:



Please indicate your metering substances with your order.

Parameters:

caliber	model	Adjustable flow range l/min(water)	Max Flow Rate l/min(water)	A mm	B mm	C mm
φ25	WFS27025BR..	7.8(6.6) ~ 10.5(8.9)	60	38	φ24	61
φ32	WFS27032BR..	12.7(10.8) ~ 17.2(14.7)	80	42	φ30	63
φ40	WFS27040BR..	19.9(16.9) ~ 27.0(22.9)	100	48	φ39	72
φ50	WFS27050BR..	31.1(26.5) ~ 42.1(35.8)	150	46	φ49	91
φ63	WFS27063BR..	49.4(42.0) ~ 66.9(56.8)	250	53	φ62	97
φ75	WFS27075BR..	89.0(82.0) ~ 126.5(116.0)	400	63	φ73	98

Note: of flow range parameters above, outside brackets are action flow points; inside brackets are reset flow points.

Technical Parameters:

- Voltage: Max 250V
- Max Current: 1A, 50VA
- Connection Type: wire directly attached/DIN43650A industrial plug
- Output: SPST magnetism sensitive switch (default setting normally open)
- Proof pressure: 10bar (PPR tee joint)
- Average Pressure loss: 0.01bar (at max flow rate)
- Working temperature: -40...85°C (brass shell)
- Enclosure protection grade: IP65
- Material: shell in contact with liquid: brass
paddle: brass Encapsulation: EPDM

Principles & Structures:

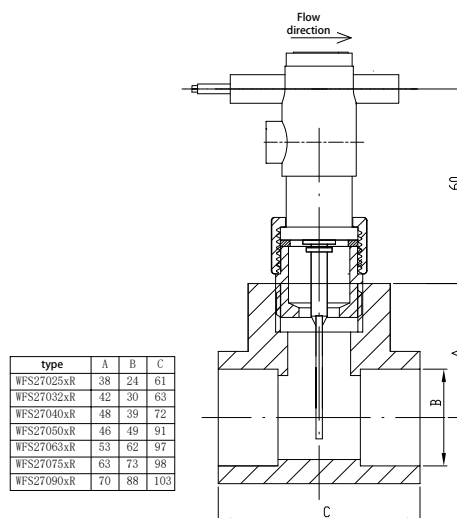
WFS27 series paddle flow switch with brand-new structure are developed by researchers specializing in this industry for years after an analysis of the shortcomings of the current market flow switch. It follows a simple and reliable design concept, and greatly improves the reliability of flow switch on structure aspect, which is incomparable to the non-traditional target flow switch. Besides what mentioned above, this type of flow switch is also famous for characters of plug-in installation, mechanical flow switch and built-in magnetic trigger switch.

Features:

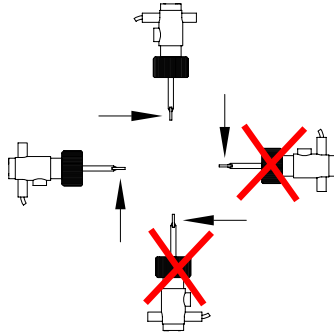
Mechanical parts are safely isolated from electrical parts, and bellows vulnerable to cause malfunction are not part of our flow switch. Brass shell in contact with liquid and PPR tee joint is applicable to installation on pipelines of air source heat pumps. And flow switch with brass shell can be applied to -35°C cryogenic heating pumps. It has small disconnection and reset flow when imported magnetic-sensitive switches used as electrical action components, and its negligible pressure drop is the preferred flow protection product for pool heat pumps and other heat pump air conditioners.

Applications:

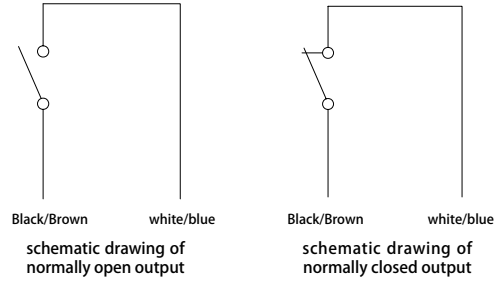
This type of switch is dual-use for vapor and liquid and is widely used in industrial automation/ mechanical equipment/ air compression industry/ refrigeration and air conditioning field. Because the magnet of flow switch is not in a flowing channel, it can be used in sewage systems and work properly. And it's the first priority switch of flow protection for seawater heat pumps or pool heat pumps.



Installation Locations:



Electrical Output:



Nomenclature:

WFS27	0	25	P	H	30	B	A	-1.0	/1M	Specifications
WFS27										WFS27 series paddle flow switch
	0									shape with single magnet
	1									shape with double magnet
		25								caliber of PPR tee joint connected with flow switch: $\varnothing 25$ (outer diameter)
		32								caliber of PPR tee joint connected with flow switch: $\varnothing 32$ (outer diameter)
		40								caliber of PPR tee joint connected with flow switch: $\varnothing 40$ (outer diameter)
		50								caliber of PPR tee joint connected with flow switch: $\varnothing 50$ (outer diameter)
		63								caliber of PPR tee joint connected with flow switch: $\varnothing 63$ (outer diameter)
		75								caliber of PPR tee joint connected with flow switch: $\varnothing 75$ (outer diameter)
		...								...more calibers of pipes
			P							materials of shell in contact with liquid:reinforced plastic (equipped with UPVC tee joint)
			B							materials of shell in contact with liquid:nickle plated brass (equipped with PPR tee joint)
				H						connection type: UPVC tee joint (outer diameter)
				R						connection type: PPR tee joint (outer diameter)
						P				nut material:plastic(can be omitted)
						B				nut material:nickle plated brass
							P			paddle material:plastic(can be omitted)
							A			paddle material:brass
								-1.0		protection flow under certain caliber of pipem ³ /h(not applicable to no protection flow)
							
									/1M	wire length:1M= 1 meter
									/D	DIN43650industrial plug
								

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.

Nomenclature of WFS27 All Series Models

WFS27	0	020	P	F	30	B	A	-1.0	/1M	Specifications
WFS27										WFS27 series paddle flow switch
	0									shape with single magnet
	1									shape with double magnet
		015								body connected thread: G1/2" or φ15(tee joint and body for optional)
		019								caliber of body connection: φ19 (normally, caliber of red copper tee joint)
		020								body connected thread: G3/4" or φ20 plastic(tee joint and plug-in with female thread for optional)
		022								caliber of body connection: φ22 (normally, caliber of red copper tee joint)
		025								body connected thread: G1" or φ25 red copper tee joint /plastic tee joint
		028								caliber of body connection: φ28 (normally, caliber of red copper tee joint)
		032								body connected thread: G1-1/4" or φ32 red copper tee joint /plastic tee joint(only threaded tee joint)
		035								caliber of body connection: φ35 (normally, caliber of red copper tee joint)
		038								caliber of body connection: φ38 (normally, caliber of red copper tee joint)
		040								body connected thread: G1-1/2" or φ40 plastic tee joint(only threaded tee joint)
		042								caliber of body connection: φ42 (normally, caliber of red copper tee joint)
		050								body connected thread: G2" or φ50(only threaded tee joint)
		054								caliber of body connection: φ54 (normally, caliber of red copper tee joint)
		...								...(different caliber of pipes are related with pipe material and flow rate.)
			P							materials of shell in contact with liquid:reinforced plastic
			B							materials of shell in contact with liquid:nickle plated brass
			S							materials of shell in contact with liquid:316L stainless steel
				A						connection type: tee joint with female thread
				C						connection type: tee joint with male thread
				E						connection type: plug-in with male thread
				F						connection type: plug-in with female thread
				G						connection type: red copper tee joint (outer diameter of pipe)
				H						connection type: UPVC tee joint (outer diameter)
				R						connection type: PPR tee joint (outer diameter)
					30					code of paddle length: 30 (applicable to plug-in, inapplicable to tee joint)
					35					code of paddle length: 35 (applicable to plug-in, inapplicable to tee joint)
					45					code of paddle length: 45 (applicable to plug-in, inapplicable to tee joint)
					70					code of paddle length: 70 (applicable to plug-in, inapplicable to tee joint)
					100					code of paddle length: 100 (applicable to plug-in, inapplicable to tee joint)
					...					... (length and type of paddles are influenced by pipe caliber and flow rate)
						P				nut material:plastic(can be omitted)
						B				nut material:nickle plated brass
						S				nut material:stainless steel
							P			paddle material:plastic(can be omitted)
							A			paddle material:brass
							S			paddle material:stainless steel
								-1.0		protection flow in pipes of certain caliber ³ /h(not applicable for no protection flow)
							
									/1M	wire length:1M= 1 meter
									/D	DIN43650 industrial plug
								

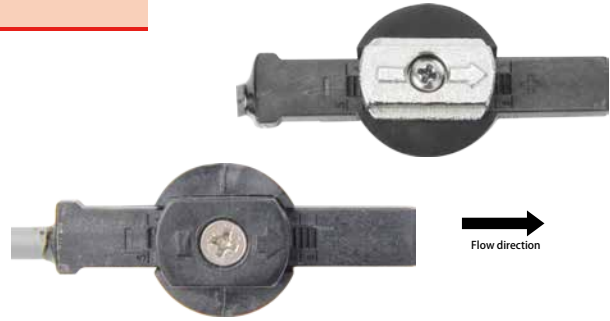
Hints for Orders:

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.

Application Description of WFS27 Series

Installations:

Paddle flow switch is generally installed in the pipeline from the water outlet of the pump to the water outlet of the equipment, and to reduce the impact of the pump outlet, the best installation position is the water outlet of the heat exchangers. To avoid abnormal absorption of water pump and malfunction of flow switch, we should pay attention to not to install flow switch in the pipeline of water inlet of pumps. It's allowed that flow switches can be installed horizontally (plastic part on top) and vertically upward. To ensure accuracy of flow protection value of water flow switches, it should be installed in the straight pipe section as far as possible. The distance between two sides and the water flow switch should be 5 times larger caliber of the pipe, otherwise there may be water flow noise and paddles are easy to break due to excessive impulsive force. When selecting a flow switch, the model with small paddle should be selected in accordance with the protection flow, so that the pressure drop of the flow switch is relatively small.

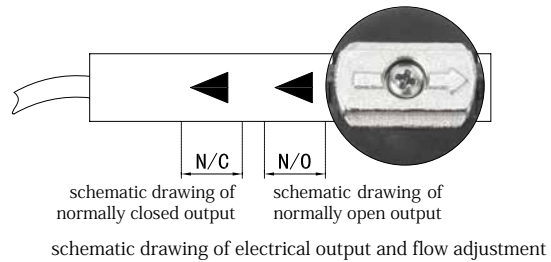
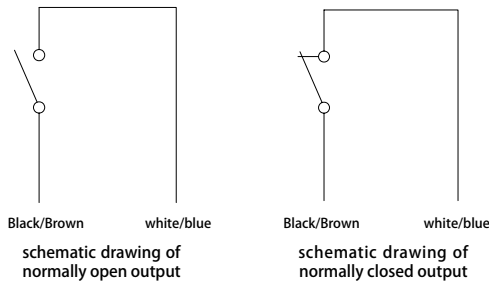


Note: When installing paddle flow switch, it is necessary to note that the direction of water flow in the pipeline must be consistent with the direction of the arrow on the top of the flow switch shell, otherwise the flow switch may not work.

Adjustment of Flow Protection Value:

As required, paddle flow switches can be set to normally open or normally closed SPST passive dry contact output by ACOL factory. If no special instructions given, default setting will be normally open output. If you need to adjust the screws onsite, use a Phillips screwdriver to loosen the screws counterclockwise, carefully remove the plastic parts, and insert them in the opposite direction. Normally, flow protection value has been calibrated in the factory and does not need to be adjusted. If it has to be adjusted on site, please loosen the fastening screw and reset the flow protection value by adjusting the plastic rod (with magnetic-sensitive switch inside).

For more stringent requirements on water flow, the protection flow value must be recalibrated on the test bench with flowmeter installed. For those who do not have high requirements on flow, we could use the resistance range of a multimeter to measure the connection of the two wires of the flow switch. Firstly, use hand to simulate water flow to push the paddle to see whether an on-off state changes appear on the multimeter. The force to push a paddle is equal to the force of water flow. After the adjustment, use a Phillips screwdriver to tighten the screws carefully. If the screws are excessively tightened, the glass tube of the magnetic-sensitive switch may be broken and fail.



switch points setting of flow switch output

Setting method of normally open (N.O) contacts
 Normally open point means a switch is disconnected when there is no flow or few flow, and it is closed only with flow increasing to some certain value. Move the plastic rod in the direction of water flow to reduce flow setting value; move the plastic rod towards the opposite direction of water flow to increase flow setting value. For flow switches with flow "+" and flow "-", flow increases if move towards "+", and decreases towards "-". However, if moving excessively, the flow switch will become normally closed or normally open, losing its protective effect.

Setting method of normally closed (N.C) contacts
 Normally closed point means a switch is closed when there is no flow or few flow, and it is disconnected only with flow increasing to some certain value. Move the plastic rod in the direction of water flow to increase flow setting value; move the plastic rod towards the opposite direction of water flow to reduce flow setting value. Specific information of electrical output of normally open/ normally closed of flow switch, please see schematic drawings.

Problems happened in Applications:

1. If the flow switch is not closed during debugging process, the flow can be adjusted by adjusting the position of the plastic rod equipped with magnetic sensitive switch after confirming that the water flow is normal.
2. If flow switch is always closed with or without water flow, it can be adjusted by adjusting the position of the plastic rod equipped with magnetic sensitive switch.
3. In case of impact on action of flow switches, flow switches should stay away from strong magnetic fields, like electrical machines nearby.
4. Flow switches should not directly control the inductive load, such as directly driving the AC contactor, otherwise, the magnetic switch may not be closed or disconnected normally.

5. Appropriate materials of flow switch must be chosen when applied to different kinds of outdoor temperatures and pressures.
6. In the process of installation, it is forbidden to pull the sensor with wire by hand, otherwise the water flow switch will fail and be damaged.
7. When used in the outdoor environment below 0°C, the water flow switch should be insulated to avoid freezing and damage in winter.
8. When connect flow switch with plastic shell with metal tee joint, users should use rubber gaskets rather than O rings to separate them, for plastic may break due to stress caused by contact between plastic and metal.
9. For other problems happened in application, please feel free to contact ACOL for more support.