



# HVAC

CONTROLS PRODUCTS

# 2020

V20.1





浙江恒森实业集团有限公司是一家拥有近20年专业生产空调制冷配件、水暖管道及楼宇自控设备经验的制造型企业。拥有员工逾500人，技术人员100多人。

公司目前是国家重点扶持的“高新技术企业”，是“浙江省AAA级资信企业”、“浙江省重合同守信用AAA级单位”、“浙江省创新型试点企业”，拥有“国家CNAS认可实验室”、“浙江省研发中心”、“浙江省企业技术中心”、“浙江省专利示范企业”、“浙江省知名商号”、“浙江省著名商标”。公司生产的多个产品荣获“国家火炬计划项目”、“国家重点新产品”、“国家科技型中小企业创新基金项目”支持，多次荣获“浙江省科学技术奖”。“电动阀门”和“空调用管件”更是浙江名牌产品。产品长期配套于大金、三洋、美的、格力等厂家。

公司是全国最大的电动阀门生产厂家之一，负责起草“空调水系统用电动阀门”国家行业标准。同时，公司还参与起草“制冷空调用直动式电子膨胀阀”、“制冷系统用直动型双稳态电磁阀”、“小型制冷系统用二位三通电磁阀”等多个行业标准。

公司多年来积极开拓国内和国际市场，不仅在国内市场销售业务显著，更是将业务拓展至美国、英国、西班牙、德国、东南亚等多个国家和地区。

多年来，恒森集团通过深化内部管理，提高产品创新，向“创一流企业、树百年品牌”的目标迈进。我们真诚期盼您的加盟，与我们一起共创美好明天。

人生冷暖 恒森关怀

## 恒森集团

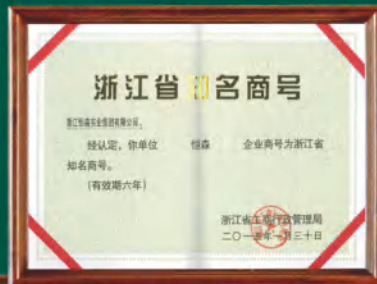
业集团有限公司  
INDUSTRIAL GROUP CO., LTD.

Founded in 1988, Zhejiang HengSen Industrial Group Co., Ltd is a manufacturer specialized in producing copper fittings, HVAC parts and air conditioner parts in Zhejiang province. Our factory occupied 85,000 m<sup>2</sup> of land, along with more than 500 staff. Nearly 100 of staff are professional technicians. Our corp turned over more than \$35,000,000 in the year of 2017, with \$10,000,000 of exportation volume.

Headquarter located in Zhuji city, Zhejiang province, we also own agencies in main domestic cities such as Hangzhou, Beijing, Shanghai, Guangzhou, Zhengzhou and Changsha. Since foundation, we have earned a good reputation by high quality staff group, producing first-class quality product with enormous potentiality and powerful technology. We got ISO9001 certification by adopting the most advanced technology and precision special machines to produce our products. Now, we have more than 500 featured products and more than 3000 specifications, such as 'Hengsen' Brand copper elbows, two-way, three-way, motorized valves, HVAC fittings.

We are actively engaged in R&D new products while producing products completely qualified for the national standard. We have received vast good reaction from customers by our products sold globally as far as Southeast Asia, west Asia, America and Europe.

We can produce all kinds of products according your special OEM/ODM requirements. Now, we are Looking for New Cooperators Globally. Hope we can together broaden our reach in global markets. If you are interested in our products or want to offer your advice, please contact us with detailed opinions.



Enterprise  
Honor



人生冷暖 恒森关怀

# CONTENTS

I . Motorised Valves and Actuators	P01-P27
II . Motorised Ball Valves and Actuators	P28-P51
III . Thermostats and Peripheral Products	P52-P75
IV . Others	P76-P80

## DJ series Hysteresis Synchronous Motor

Hysteresis synchronous motor is a small power synchronous motor that is started and operated by the hysteresis torque generated on the rotor.

Hysteresis motor has the advantages of simple structure, easy start-up and low noise, but its transient stability is poor and its efficiency is low. In the occasion of requiring lower speed, gear is needed to reduce speed.

The hysteresis motor has a large starting torque, can be pulled in synchronously and stably operated in a synchronous state, has a simple structure, reliable operation, high mechanical strength, is suitable for high-speed operation, and has a small starting current and low electromagnetic noise.

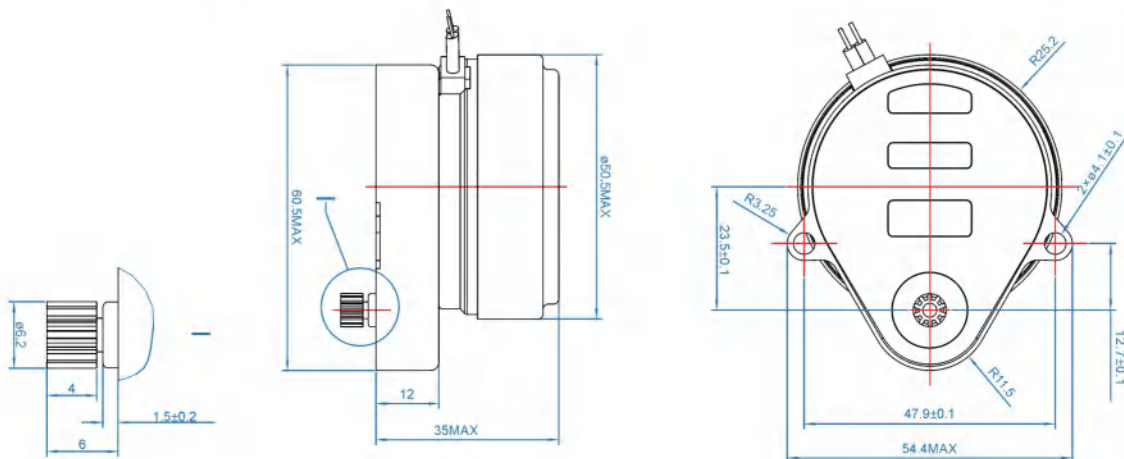
It is especially suitable for driving loads with large rotational inertia, constant speed, frequent starting and constant torque. Typical application area: valve control.



Model Selection Table

Model No.	Rated voltage V	Rated frequency Hz	Speed RPM	Current mA	Power W	Locked-rotor torque kgf.cm	Power failure return torque kgf.cm	Motor heating of locked rotor K	Noise dB	Insulation class
DJ-205-220	220	50/60	5	≤35	6±10%	≤0.65	≤0.22	≤65	≤35	F
DJ-205-110	110	50/60		≤65	6±10%	≤0.65	≤0.22	≤65	≤35	F
DJ-205-24	24	50/60		≤300	6±10%	≤0.65	≤0.22	≤65	≤35	F
DJ-204-220	220	50/60	4	≤35	6±10%	≤0.8	≤0.28	≤65	≤35	F
DJ-204-110	110	50/60		≤65	6±10%	≤0.8	≤0.28	≤65	≤35	F
DJ-204-24	24	50/60		≤300	6±10%	≤0.8	≤0.28	≤65	≤35	F
DJ-203-220	220	50/60	3	≤35	6±10%	≤1.08	≤0.32	≤65	≤35	F
DJ-203-110	110	50/60		≤65	6±10%	≤1.08	≤0.32	≤65	≤35	F
DJ-203-24	24	50/60		≤300	6±10%	≤1.08	≤0.32	≤65	≤35	F
DJ-201-220	220	50/60	1	≤35	6±10%	≤4.32	≤1.44	≤65	≤35	F
DJ-201-110	110	50/60		≤65	6±10%	≤4.32	≤1.44	≤65	≤35	F
DJ-201-24	24	50/60		≤300	6±10%	≤4.32	≤1.44	≤65	≤35	F

Mechanical Dimension





## DDF-X-H series Motorized valve

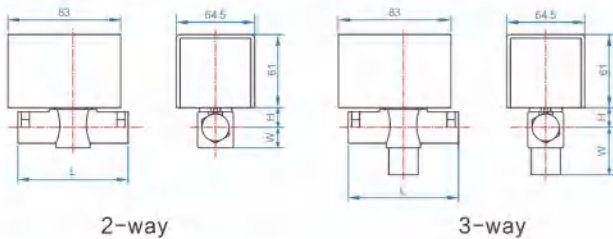


DDF-X series motorized valve is available for controlling central air conditioning and water heating system's opening and closing to control the room temperature. The control valve depends on the paraffin wax propeller drive the spring to reset. The actuator is normally closed when it doesn't work. If it needs to work, the thermostat will provide a signal of opening, then the actuator will get the power to work. Opening the valve, the cold and hot water will come into the fan coil to provide the cold or hot air. When the set temperature is achieved, the thermostat will cut off the actuator's power, then the reset spring can close the valve to stop the water which flows into the coil. So the room temperature is always maintained within the set range by the valve's opening and closing. The actuator and valve are connected by clamp connection way. Actuator should be installed after the valve. The installation is very convenient. Actuator installation can be close to the wall to save space. This product is durable and reliable. The operating noise is very low.

### Specifications

- Body material: forged brass
- Stem material: brass
- Sealing material: Fluoro rubber sealing ball
- Working medium: cold/hot water
- Fluid temperature: 2-94°C
- Pressure: 1.6MPa
- Ambient temperature: 0-65 °C maximum relative humidity is no dew
- Travel time: 11-15 seconds
- Motor torque: >800gf.cm

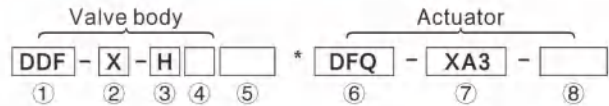
### Specifications



Order No.	Model No.	Valve Type	DN	Connection Type	Kvs	Maximum differential pressure kPa	Dimensions		
							L	W	H
12616	DDF-X-H215.88*DFQ-XA3-220	2-way	15.88	Welding	2.2	200	67	21	19
12617	DDF-X-H222.2*DFQ-XA3-220	2-way	22.2	Welding	3	180	78	21	19
12618	DDF-X-H228.6*DFQ-XA3-220	2-way	28.6	Welding	2.9	150	88	25	23

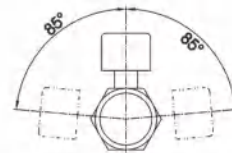
Note: The table is recommended model, you can refer to the following selection description of the combination of models, please consult the sales staff for details.

### Model Selection Description

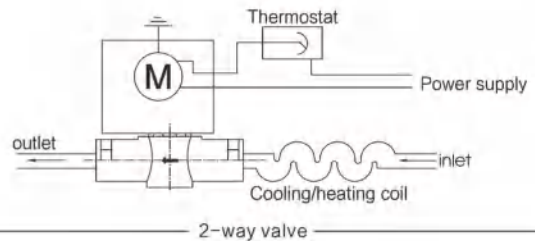


Serial number	Code definition	Optional range definition
①	Motorized valve body series	DDF
②	Valve body interface code	X=Adapted to X series actuator
③	Valve body connection type	H=Welding
④	Valve type	2-way valve
⑤	DN	15=DN15, 20=DN20, 25=DN25
⑥	Motorized valve actuator series	DFQ
⑦	Actuator code	XA3=2-wire
⑧	Input power	220=220VAC, 110=110VAC, 24AC=24VAC

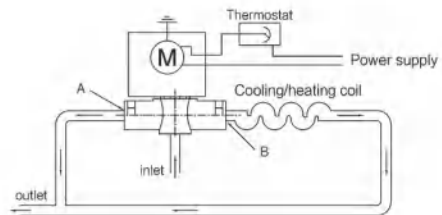
### Installation diagram



Installation angle



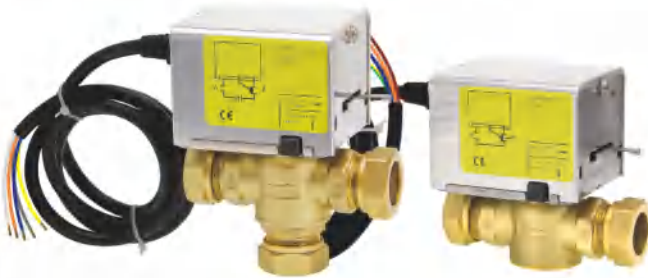
2-way valve



3-way valve

- For high-rise buildings, a reduction valve should be used on the bottom branch.
- The motor housing should prevent water from seeping in. So when the valve is installed, the actuator must not be under the pipe.
- When the valve is mounted on a vertical pipe, the motor housing must be protected from dripping.
- Manual lever: When the manual lever is slowly moved along the arrow and pressed into the notch, the valve is normally open. Whenever the current passes through the motorized valve for the first time, the manual lever is reset to the automatic position.
- If the actuator is not pre-installed on the valve body, when installing, first push the operating lever along the arrow direction into the lower groove, press the black button on the drive, put it on the valve body and release it, then it can be installed. Repeat the above steps if you need to disassemble.
- Note: The direction of water flow should be the same as the arrow on the valve body; the actuator should not be used as the fulcrum of force during installation.

## DDF-XK series Motorized valve

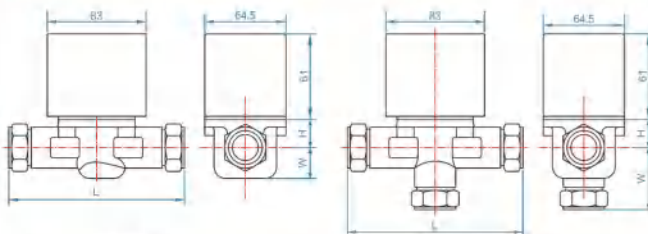


DDF-XK series motorized valve is available for controlling central air conditioning and water heating system's opening and closing to control the room temperature. The control valve depends on the paraffin wax propeller drive the spring to reset. The actuator is normally closed when it doesn't work. If it needs to work, the thermostat will provide a signal of opening, then the actuator will get the power to work. Opening the valve, the cold and hot water will come into the fan coil to provide the cold or hot air. When the set temperature is achieved, the thermostat will cut off the actuator's power, then the reset spring can close the valve to stop the water which flows into the coil. So the room temperature is always maintained within the set range by the valve's opening and closing. The actuator and valve is connected by clamp connection way. Actuator should be installed after the valve. The installation is very convenient. Actuator installation can be close to the wall to save space. This product is durable and reliable. The operating noise is very low.

### Specifications

- Body material: forged brass
- Stem material: brass
- Sealing material: nitrile rubber (NBR)
- Working medium: cold/hot water
- Fluid temperature: 2~94°C
- Pressure: 1.6MPa
- Ambient temperature: 0~65 °C maximum relative humidity is no dew
- Travel time: 11~15 seconds
- Motor torque: >800gf.cm

### Specifications



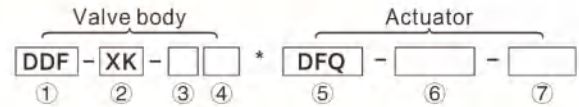
2-way

3-way

Order No.	Model No.	Valve Type	DN	Connection Type	Kvs	Maximum differential pressure kPa	Dimensions		
							L	W	H
12042	DDF-XK-221*DFQ-XA3-220	2-way	21	Welding	4.3	200	107	21	19
12043	DDF-XK-222*DFQ-XA3-220	2-way	22	Welding	4.3	200	107	21	19
12044	DDF-XK-228*DFQ-XA3-220	2-way	28	Welding	5	100	120	21	19
12045	DDF-XK-321*DFQ-XA4-220	3-way	21	Welding	4.3	200	107	48	19
12046	DDF-XK-322*DFQ-XA4-220	3-way	22	Welding	4.3	200	107	48	19
12047	DDF-XK-328*DFQ-XA4-220	3-way	28	Welding	5	100	120	51	19

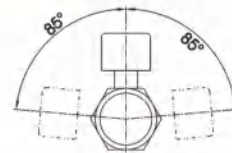
Note: The table is recommended model, you can refer to the following selection description of the combination of models, please consult the sales staff for details.

### Model Selection Description

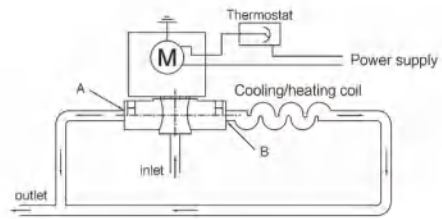
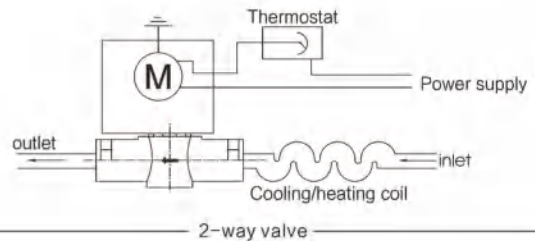


Serial number	Code definition	Optional range definition
①	Motorized valve body series	DDF
②	Valve body code	XK=Coupling connection split type motorized valve
③	Valve type	2=2-way valve, 3=3-way valve
④	DN	21=DN21, 22=DN22, 28=DN28
⑤	Motorized valve actuator series	DFQ
⑥	Actuator code	Xa3= special for 2-way valve with 5-wire XA4= special for 3-way valve with 5-wire
⑦	Input power	220=220VAC, 110=110VAC, 24AC=24VAC

### Installation diagram



Installation angle



- For high-rise buildings, a reduction valve should be used on the bottom branch.
- The motor housing should prevent water from seeping in. So when the valve is installed, the actuator must not be under the pipe.
- When the valve is mounted on a vertical pipe, the motor housing must be protected from dripping.
- Manual lever: When the manual lever is slowly moved along the arrow and pressed into the notch, the valve is normally open. Whenever the current passes through the motorized valve for the first time, the manual lever is reset to the automatic position.
- If the actuator is not pre-installed on the valve body, when installing, first push the operating lever along the arrow direction into the lower groove, press the black button on the drive, put it on the valve body and release it, then it can be installed. Repeat the above steps if you need to disassemble.
- Note: The direction of water flow should be the same as the arrow on the valve body; the actuator should not be used as the fulcrum of force during installation.

## DDF-K series Motorized valve



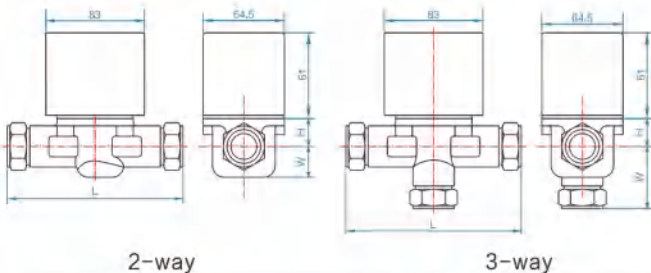
DDF-K series motorized valve are available for controlling the central air conditioning and heating system's opening and closing to control the room temperature. The control valve is driven by the unidirectional hysteresis synchronous motor and adopts spring reset. The actuator is normally closed when it doesn't work. If it needs to work, the thermostat will provide a signal of opening, and then the actuator will get the power to work. Opening the valve, the cold and hot water will come into the fan coil to provide the cold or hot air. When the set temperature is achieved, the thermostat will cut off the actuator's power, and then the reset spring can close the valve to stop the water flow into the coil. So the room temperature is always maintained within the set range by the valve's opening and closing.

The actuator and valve is connected by clamp connection way. Actuator should be installed after the valve. The installation is very convenient. This product is durable and reliable. The operating noise is very low.

### Specifications

- Body material: forged brass
- Stem material: stainless steel
- Sealing material: nitrile rubber (NBR)
- Working medium: cold/hot water
- Fluid temperature: 2-94°C
- Pressure: 1.6MPa
- Ambient temperature: 0-65 °C maximum relative humidity is no dew
- Travel time: 11~15 seconds
- Motor torque: >800gf.cm

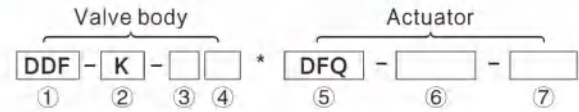
### Specifications



Order No.	Model No.	Valve Type	DN	Connection Type	Kvs	Maximum differential pressure kPa	Dimensions		
							L	W	H
12123	DDF-K-221*DFQ-HA1-220	2-way	21	Welding	4.3	80	113	21	25
12124	DDF-K-222*DFQ-HA1-220	2-way	22	Welding	4.3	80	113	21	25
12126	DDF-K-227.4*DFQ-HA1-220	2-way	27.4	Welding	5	60	115	21	25
12127	DDF-K-228*DFQ-HA1-220	2-way	28	Welding	5	60	115	21	25
12129	DDF-K-321*DFQ-HA2-220	3-way	21	Welding	4.3	80	113	53	25
12130	DDF-K-322*DFQ-HA2-220	3-way	22	Welding	4.3	80	113	53	25
12132	DDF-K-327.4*DFQ-HA2-220	3-way	27.4	Welding	5	60	115	56	25
12133	DDF-K-328*DFQ-HA2-220	3-way	28	Welding	5	60	115	56	25

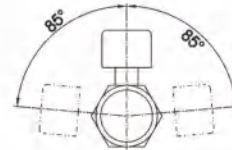
Note: The table is recommended model, you can refer to the following selection description of the combination of models, please consult the sales staff for details.

### Model Selection Description

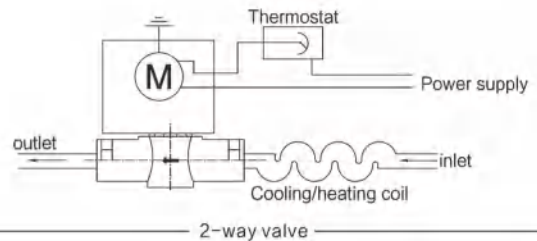


Serial number	Code definition	Optional range definition
①	Motorized valve body series	DDF
②	Valve body code	K=adapts H series actuator, coupling connection
③	Valve type	2=2-way valve, 3=3-way valve
④	DN	21=DN21, 22=DN22, 27.4=DN27.4, 28=DN28
⑤	Motorized valve actuator series	DFQ
⑥	Actuator code	HA1=special for 2-way valve with 5-wire HA2=special for 3-way valve with 5-wire
⑦	Input power	220=220VAC, 110=110VAC, 24AC=24VAC

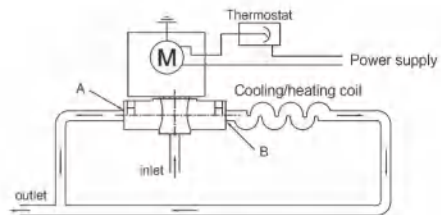
### Installation diagram



Installation angle



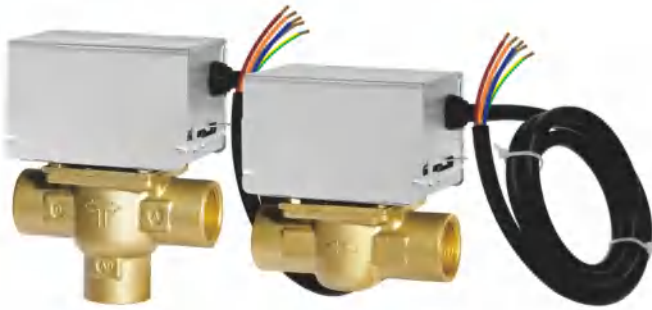
2-way valve



3-way valve

- For high-rise buildings, a reduction valve should be used on the bottom branch.
- The motor housing should prevent water from seeping in. So when the valve is installed, the actuator must not be under the pipe.
- When the valve is mounted on a vertical pipe, the motor housing must be protected from dripping.
- Manual lever: When the manual lever is slowly moved along the arrow and pressed into the notch, the valve is normally open. Whenever the current passes through the motorized valve for the first time, the manual lever is reset to the automatic position.
- If the actuator is not pre-installed on the valve body, when installing, first push the operating lever along the arrow direction into the lower groove, press the black button on the drive, put it on the valve body and release it, then it can be installed. Repeat the above steps if you need to disassemble.
- Note: The direction of water flow should be the same as the arrow on the valve body; the actuator should not be used as the fulcrum of force during installation.

## DDF-N series Motorised Valve

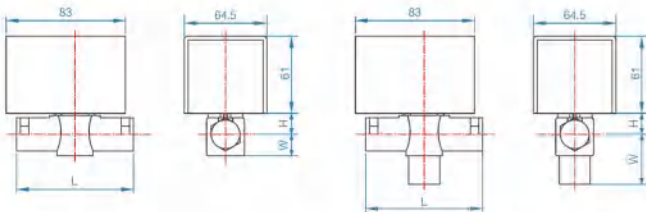


DDF-N series motorized valve are available for controlling the central air conditioning and heating system's opening and closing to control the room temperature. The control valve is driven by the unidirectional hysteresis synchronous motor and adopts spring reset. The actuator is normally closed when it doesn't work. If it needs to work, the thermostat will provide a signal of opening, and then the actuator will get the power to work. Opening the valve, the cold and hot water will come into the fan coil to provide the cold or hot air. When the set temperature is achieved, the thermostat will cut off the actuator's power, and then the reset spring can close the valve to stop the water flow into the coil. So the room temperature is always maintained within the set range by the valve's opening and closing.

### Specifications

- Body material: forged brass
- Stem material: stainless steel
- Sealing material: nitrile rubber (NBR)
- Working medium: cold/hot water
- Fluid temperature: 2-94°C
- Pressure: 1.6MPa
- Ambient temperature: 0-65 °C maximum relative humidity is no dew
- Travel time: 11-15 seconds
- Motor torque: >800gf.cm

### Specifications



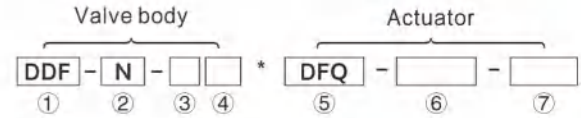
2-way

3-way

Order No.	Model No.	Valve Type	DN	Thread Size	Kvs	Maximum differential pressure kPa	Dimensions		
							L	W	H
12156	DDF-N-220*DFQ-HA1-220	2-way	20	G3/4	3	80	92	21	25
12157	DDF-N-225*DFQ-HA1-220	2-way	25	G1	2.9	60	92	21	25
12158	DDF-N-320*DFQ-HA2-220	3-way	20	G3/4	3.4	80	92	44	25
12159	DDF-N-325*DFQ-HA2-220	3-way	25	G1	2.9	60	92	44	25

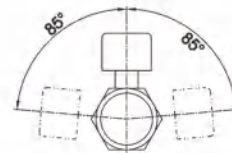
Note: The table is recommended model, you can refer to the following selection description of the combination of models, please consult the sales staff for details.

### Model Selection Description

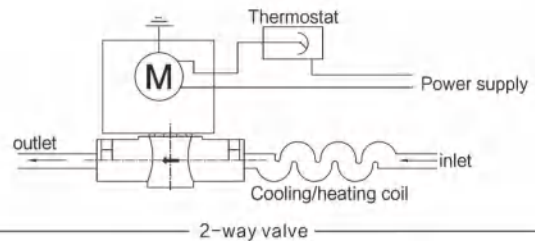


Serial number	Code definition	Optional range definition
①	Motorized valve body series	DDF
②	Valve body code	N=adapts H series actuator, female connection
③	Valve type	2=2-way valve, 3=3-way valve
④	DN	20=DN20, 25=DN25
⑤	Motorized valve actuator series	DFQ
⑥	Actuator code	HA1=special for 2-way valve with 5-wire HA2=special for 3-way valve with 5-wire
⑦	Input power	220=220VAC, 110=110VAC, 24AC=24VAC

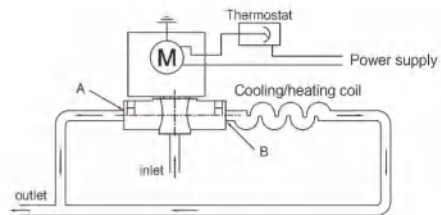
### Installation diagram



Installation angle



2-way valve



3-way valve

- For high-rise buildings, a reduction valve should be used on the bottom branch.
- The motor housing should prevent water from seeping in. So when the valve is installed, the actuator must not be under the pipe.
- When the valve is mounted on a vertical pipe, the motor housing must be protected from dripping.
- Manual lever: When the manual lever is slowly moved along the arrow and pressed into the notch, the valve is normally open. Whenever the current passes through the motorized valve for the first time, the manual lever is reset to the automatic position.
- If the actuator is not pre-installed on the valve body, when installing, first push the operating lever along the arrow direction into the lower groove, press the black button on the drive, put it on the valve body and release it, then it can be installed. Repeat the above steps if you need to disassemble.
- Note: The direction of water flow should be the same as the arrow on the valve body; the actuator should not be used as the fulcrum of force during installation.





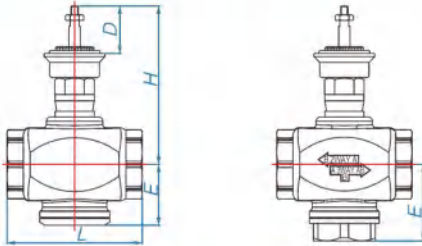
## DDF-Z-J series Cast Brass Valve

DDF-Z-J series cast brass valve can adjust the flow of cold/hot water after it matched with DFQ-J series motor actuator. It is widely used in the liquid control system such as the central air-conditioning, heating, water disposal, industry processing and so on.

### Features


- Stem seal: four layer V type O nitrile rubber seals, PTFE envelope
- Stem material: stainless steel 06Cr19Ni10
- Valve core: brass or stainless steel
- The rest of the parts are brass
- Nominal pressure (PN): 1.6MPa
- Working medium: water, fluid temperature 5-95°C
- Valve leakage: less than 0.05% of KVs

### Model Selection Description

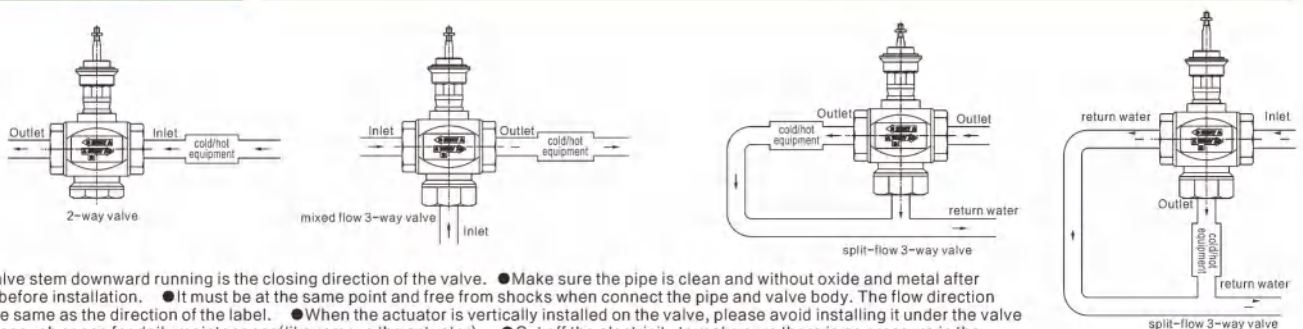


Rated travel	20mm
Rated thrust	1200N
Photo	
Model No.	DFQ-S1000J

See page 22 for details.

Photo	Order No.	Model No.	Valve Type	DN	Connection type	Thread Size	Kvs	Travel	Dimensions				Maximum differential pressure [kPa]
									L	H	D	E	
	12518	DDF-Z-J-215	2-way	15	Female	G1/2	4.3	15	84	130	42	38	500
	12519	DDF-Z-J-220	2-way	20	Female	G3/4	6.2	15	84	130	42	38	500
	12520	DDF-Z-J-225	2-way	25	Female	G1	9.7	20	104	135	42	50	350
	12521	DDF-Z-J-232	2-way	32	Female	G1-1/4	14.8	20	110	138	42	54	300
	12522	DDF-Z-J-232A	2-way	32	Female	G1-1/4	14	20	105	128	42	43	300
	12523	DDF-Z-J-240	2-way	40	Female	G1-1/2	20	20	120	140	42	54	250
	12524	DDF-Z-J-240A	2-way	40	Female	G1-1/2	18	20	115	130	42	48	250
	12525	DDF-Z-J-250	2-way	50	Female	G2	45	20	130	145	42	57.5	200
	12526	DDF-Z-J-250A	2-way	50	Female	G2	27	20	122	134	42	52.5	200
	12527	DDF-Z-J-265	2-way	65	Female	G2-1/2	63	20	160	152.5	42	75	200
	12528	DDF-Z-J-265A	2-way	65	Female	G2-1/2	49	20	150	145	42	64.5	200
	12529	DDF-Z-J-280	2-way	80	Female	G3	81.5	20	180	158.5	42	85	150
	12644	DDF-Z-J-315	3-way	15	Female	G1/2	4.3	15	84	130	42	49	500
	12530	DDF-Z-J-320	3-way	20	Female	G3/4	6.2	15	84	130	42	53	500
	12531	DDF-Z-J-325	3-way	25	Female	G1	9.7	20	104	135	42	64.5	350
	12532	DDF-Z-J-332	3-way	32	Female	G1-1/4	14.8	20	110	138	42	63	250
	12533	DDF-Z-J-332A	3-way	32	Female	G1-1/4	14	20	105	128	42	57.5	250
	12534	DDF-Z-J-340	3-way	40	Female	G1-1/2	20	20	120	140	42	68	250
	12535	DDF-Z-J-340A	3-way	40	Female	G1-1/2	18	20	115	130	42	63	250
	12536	DDF-Z-J-350	3-way	50	Female	G2	45	20	130	145	42	77.5	200
	12537	DDF-Z-J-350A	3-way	50	Female	G2	27	20	122	134	42	70.5	200
	12538	DDF-Z-J-365	3-way	65	Female	G2-1/2	63	20	160	152.5	42	88	150
	12539	DDF-Z-J-365A	3-way	65	Female	G2-1/2	49	20	150	145	42	83.5	150
	12540	DDF-Z-J-380	3-way	80	Female	G3	81.5	20	180	158.5	42	98.5	100

### Installation diagram



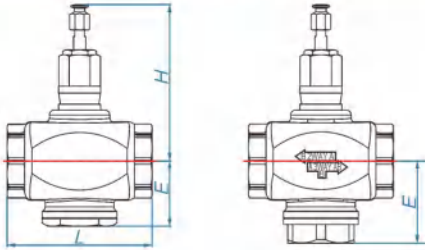
## DDF-Z-H series Cast Brass Valve

DDF-Z-G-J series cast brass valve can adjust the flow of cold/hot water after it matched with DFQ-J series motor actuator. It is widely used in the liquid control system such as the central air-conditioning, heating, water disposal, industry processing and so on.

### Features

- Stem seal: four layer V type O nitrile rubber seals, PTFE envelope
- Stem material: stainless steel 06Cr19Ni10
- Valve core: brass or stainless steel
- The rest of the parts are brass
- Nominal pressure (PN): 1.6MPa
- Working medium: water, fluid temperature 5-95°C
- Valve leakage: less than 0.05% of KV<sub>s</sub>

### Model Selection Description

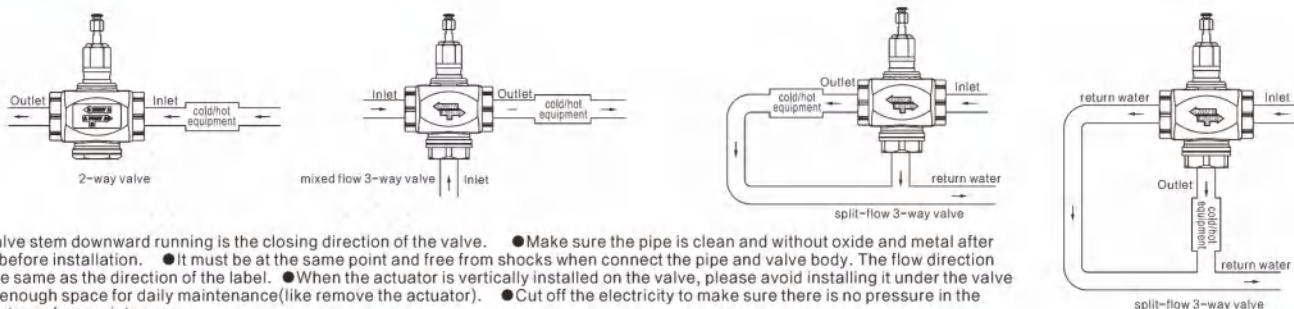


Rated travel	20mm
Rated thrust	1200N
Photo	
Model No.	DFQ-S1000H

See page 22 for details.

Photo	Order No.	Model No.	Valve Type	DN	Connection type	Thread Size	Kvs	Travel	Dimensions			Maximum differential pressure [kPa]
									L	H	E	
	12495	DDF-Z-H-215	2-way	15	Female	G1/2	4.3	15	84	118.6	42	500
	12496	DDF-Z-H-220	2-way	20	Female	G3/4	6.2	15	84	118.6	42	500
	12497	DDF-Z-H-225	2-way	25	Female	G1	9.7	20	104	124	46	350
	12498	DDF-Z-H-232	2-way	32	Female	G1-1/4	14.8	20	112	127	49	300
	12499	DDF-Z-H-232A	2-way	32	Female	G1-1/4	14	20	112	124.5	49	300
	12500	DDF-Z-H-240	2-way	40	Female	G1-1/2	20	20	120	129.5	53	250
	12501	DDF-Z-H-240A	2-way	40	Female	G1-1/2	18	20	120	126.5	53	250
	12502	DDF-Z-H-250	2-way	50	Female	G2	45	20	130	134	58	200
	12503	DDF-Z-H-250A	2-way	50	Female	G2	27	20	130	130.5	58	200
	12504	DDF-Z-H-265	2-way	65	Female	G2-1/2	63	20	160	142	72	200
	12505	DDF-Z-H-265A	2-way	65	Female	G2-1/2	49	20	150	140.5	64	200
	12506	DDF-Z-H-280	2-way	80	Female	G3	81.5	20	180	148	85	150
	12643	DDF-Z-H-315	3-way	15	Female	G1/2	4.3	15	84	118.6	48.6	500
	12507	DDF-Z-H-320	3-way	20	Female	G3/4	6.2	15	84	118.6	48.6	500
	12508	DDF-Z-H-325	3-way	25	Female	G1	9.7	20	104	124	53	350
	12509	DDF-Z-H-332	3-way	32	Female	G1-1/4	14.8	20	112	127	64.5	250
	12510	DDF-Z-H-332A	3-way	32	Female	G1-1/4	14	20	112	124.5	63	250
	12511	DDF-Z-H-340	3-way	40	Female	G1-1/2	20	20	120	129.5	68	250
	12512	DDF-Z-H-340A	3-way	40	Female	G1-1/2	18	20	120	126.5	68	250
	12513	DDF-Z-H-350	3-way	50	Female	G2	45	20	130	134	77.5	200
	12514	DDF-Z-H-350A	3-way	50	Female	G2	27	20	130	130.5	77.5	200
	12515	DDF-Z-H-365	3-way	65	Female	G2-1/2	63	20	160	142	88	150
	12516	DDF-Z-H-365A	3-way	65	Female	G2-1/2	49	20	150	140.5	84	150
12517	DDF-Z-H-380	3-way	80	Female	G3	81.5	20	180	148	98	100	

### Installation diagram



- The valve stem downward running is the closing direction of the valve.
- Make sure the pipe is clean and without oxide and metal after welding before installation.
- It must be at the same point and free from shocks when connect the pipe and valve body. The flow direction should be same as the direction of the label.
- When the actuator is vertically installed on the valve, please avoid installing it under the valve to leave enough space for daily maintenance (like remove the actuator).
- Cut off the electricity to make sure there is no pressure in the water system when maintenance.

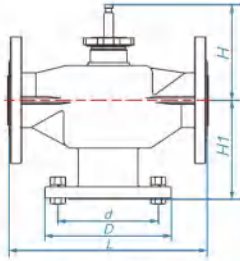
## DDF-S-J series Cast Iron Motorised Valve

DDF-S-J series thread cast iron valve can adjust the flow of cold/hot water after it's matched with DFQ-J series motor actuator. It is widely used in the liquid control system such as the central air-conditioning, heating, water disposal, industry processing and so on.

### Features

- The stem seal: four layer V type O type nitrile rubber seals, PTFE envelope
- Stem material: stainless steel 06Cr19Ni10
- Valve core: 06Cr19Ni10(2-Way), HPb59-1 (3-Way)
- Body, bonnet material: HT300
- Nominal pressure (PN): 1.6MPa
- Working medium: water, fluid temperature -10~95°C
- Valve leakage: less than 0.03% of KVs
- Flange standard: GB/T 17241.6-2008 PN16

### Model Selection Description

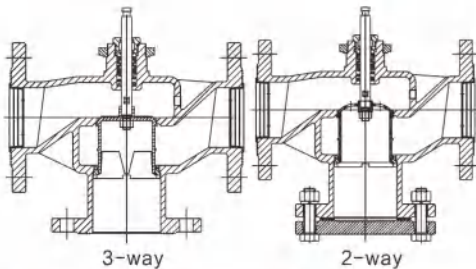


Rated travel Rated thrust	20mm 1000N	40mm 3000N	40mm 5000N
Photo			
Model No.	DFQ-S1000J	DFQ-S3000J	DFQ-S5000J

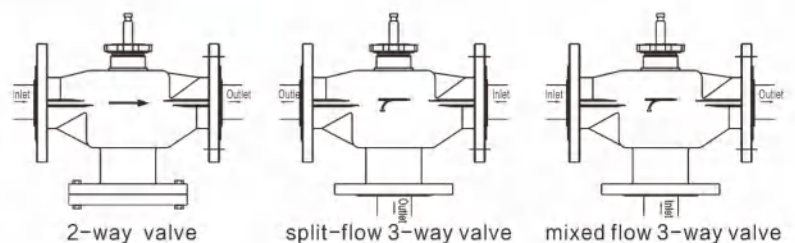
Refer to page 22 for details.

Photo	Order No.	Model No.	Valve Type	DN	Connection type	Bolt size	Kvs	Travel	Dimensions					Maximum differential pressure [kPa]	Maximum differential pressure [kPa]	Maximum differential pressure [kPa]
									L	d	D	H	H1			
	12664	DDF-S-J-232	2-way	32	Flange	4xM16	21	20	180	100	135	125	118	600	-----	-----
	12665	DDF-S-J-240	2-way	40	Flange	4xM16	28	20	200	110	145	128	130	500	-----	-----
	12483	DDF-S-J-250	2-way	50	Flange	4xM16	34	20	230	125	165	128	145	350	-----	-----
	12484	DDF-S-J-265	2-way	65	Flange	4xM16	54	20	290	145	185	140	176	250	-----	-----
	12485	DDF-S-J-280	2-way	80	Flange	8xM16	67	20	310	160	200	147	178	200	-----	-----
	12486	DDF-S-J-2100	2-way	100	Flange	8xM16	120	40	350	180	220	191	210	-----	300	500
	12487	DDF-S-J-2125	2-way	125	Flange	8xM16	180	40	400	210	250	205	240	-----	200	350
	12488	DDF-S-J-2150	2-way	150	Flange	8xM20	256	40	480	240	285	221	280	-----	150	200
12666	DDF-S-J-2200	2-way	200	Flange	12xM20	330	40	600	295	340	254	340	-----	-----	150	
	12667	DDF-S-J-332	3-way	32	Flange	4xM16	21	20	180	100	135	125	118	600	-----	-----
	12668	DDF-S-J-340	3-way	40	Flange	4xM16	28	20	200	110	145	128	130	500	-----	-----
	12489	DDF-S-J-350	3-way	50	Flange	4xM16	34	20	230	125	165	128	145	250	-----	-----
	12490	DDF-S-J-365	3-way	65	Flange	4xM16	54	20	290	145	185	140	176	200	-----	-----
	12491	DDF-S-J-380	3-way	80	Flange	8xM16	67	20	310	160	200	147	178	150	-----	-----
	12492	DDF-S-J-3100	3-way	100	Flange	8xM16	120	40	350	180	220	191	210	-----	250	350
	12493	DDF-S-J-3125	3-way	125	Flange	8xM16	180	40	400	210	250	205	240	-----	200	250
	12494	DDF-S-J-3150	3-way	150	Flange	8xM20	256	40	480	240	285	221	280	-----	-----	200
	12669	DDF-S-J-3200	3-way	200	Flange	12xM20	330	40	600	295	340	254	340	-----	-----	150

### Internal Structure Diagram



### Flow Direction Diagram



### Installation diagram

- The series valve can be compatible with Johnson actuator.
- The valve stem downward running is the closing direction of the valve.
- Make sure the pipe is clean and without oxide and metal after welding before installation.
- It must be at the same point and free from shocks when connect the pipe and valve body. The flow direction should be same as the direction of the label.
- When the actuator is vertically installed on the valve, please avoid installing it under the valve to leave enough space for daily maintenance(like remove the actuator).
- Cut off the electricity to make sure there is no pressure in the water system when maintenance.

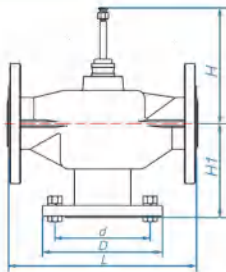
## DDF-S-H series Cast Iron Motorised Valve

DDF-S-H series thread cast iron valve can adjust the flow of cold/hot water after it's matched with the controller equipment of DFQ-H series motor actuator. It is available for the liquid control system such as the central air-conditioner, heating, water disposal, industry processing and so on.

### Features

- The stem seal: four layer V type O type nitrile rubber seals, PTFE envelope
- Stem material: stainless steel 06Cr19Ni10
- Valve core: 06Cr19Ni10(2-Way), HPb59-1 (3-Way)
- Body, bonnet material: HT300
- Nominal pressure (PN): 1.6MPa
- Working medium: water, fluid temperature -10~95°C
- Valve leakage: less than 0.03% of KVs
- Flange standard: GB/T 17241.6-2008 PN16

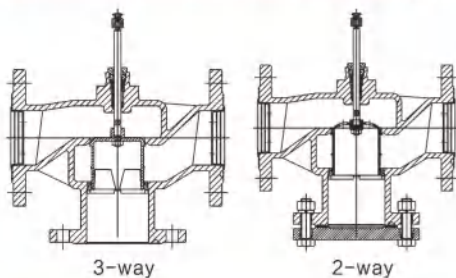
### Model Selection Description



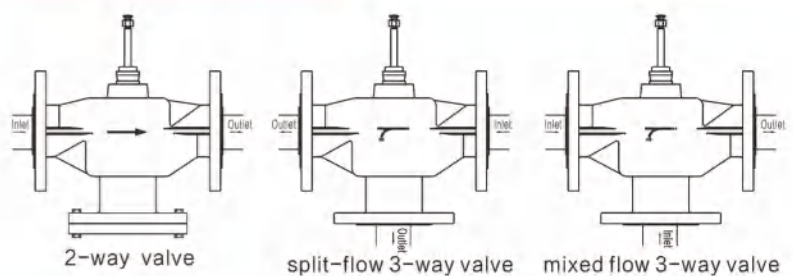
Rated travel Rated thrust	20mm 1000N	40mm 3000N	40mm 5000N
Photo			
Model No.	DFQ-S1000H	DFQ-S3000H	DFQ-S5000H

Photo	Order No.	Model No.	Valve Type	DN	Connection type	Bolt size	Kvs	Travel	Dimensions					最大关闭压差 [kPa]	最大关闭压差 [kPa]	最大关闭压差 [kPa]
									L	d	D	H	H1			
	12467	DDF-S-H-232	2-way	32	Flange	4xM16	21	20	180	100	135	163	118	600	-----	-----
	12468	DDF-S-H-240	2-way	40	Flange	4xM16	28	20	200	110	145	163	130	500	-----	-----
	12469	DDF-S-H-250	2-way	50	Flange	4xM16	34	20	230	125	165	167	145	350	-----	-----
	12470	DDF-S-H-265	2-way	65	Flange	4xM16	54	20	290	145	185	178	176	250	-----	-----
	12471	DDF-S-H-280	2-way	80	Flange	8xM16	67	20	310	160	200	182	178	200	-----	-----
	12472	DDF-S-H-2100	2-way	100	Flange	8xM16	120	40	350	180	220	264	210	-----	300	500
	12473	DDF-S-H-2125	2-way	125	Flange	8xM16	180	40	400	210	250	275	240	-----	200	350
	12474	DDF-S-H-2150	2-way	150	Flange	8xM20	256	40	480	240	285	290	280	-----	150	200
	12475	DDF-S-H-2200	2-way	200	Flange	12xM20	330	40	600	295	340	315	340	-----	-----	150
	12670	DDF-S-H-332	3-way	32	Flange	4xM16	21	20	180	100	135	163	90	600	-----	-----
	12671	DDF-S-H-340	3-way	40	Flange	4xM16	28	20	200	110	145	163	100	500	-----	-----
	12476	DDF-S-H-350	3-way	50	Flange	4xM16	34	20	230	125	165	167	145	250	-----	-----
	12477	DDF-S-H-365	3-way	65	Flange	4xM16	54	20	290	145	185	178	176	200	-----	-----
	12478	DDF-S-H-380	3-way	80	Flange	8xM16	67	20	310	160	200	182	178	150	-----	-----
	12479	DDF-S-H-3100	3-way	100	Flange	8xM16	120	40	350	180	220	264	210	-----	250	350
	12480	DDF-S-H-3125	3-way	125	Flange	8xM16	180	40	400	210	250	275	240	-----	200	250
	12481	DDF-S-H-3150	3-way	150	Flange	8xM20	256	40	480	240	285	290	280	-----	-----	200
	12482	DDF-S-H-3200	3-way	200	Flange	12xM20	330	40	600	295	340	315	340	-----	-----	150

### Internal Structure Diagram



### Flow Direction Diagram



### Installation diagram

- The series valve can be compatible with Honeywell actuator and Johnson actuator.
- The valve stem downward running is the closing direction of the valve.
- Make sure the pipe is clean and without oxide and metal after welding before installation.
- It must be at the same point and free from shocks when connect the pipe and valve body. The flow direction should be same as the direction of the label.
- When the actuator is vertically installed on the valve, please avoid installing it under the valve to leave enough space for daily maintenance(like remove the actuator).
- Cut off the electricity to make sure there is no pressure in the water system when maintenance.

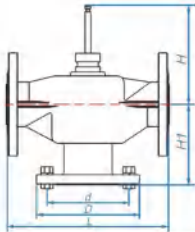
## DDF-S-X series Cast Iron Valve

DDF-S-X series cast iron valve can adjust the flow of cold/hot water after it matched with DFQ-J series motor actuator. It is widely used in the liquid control system such as the central air-conditioning, heating, water disposal, industry processing and so on.

### Feature

- The stem seal: four layer V type O type nitrile rubber seals, PTFE envelope
- Stem material: stainless steel 06Cr19Ni10
- Valve core: 06Cr19Ni10(2-Way), HPb59-1 (3-Way)
- Body, bonnet material: HT300
- Nominal pressure (PN): 1.6MPa
- Working medium: water, fluid temperature -10-95°C
- Valve leakage: less than 0.03% of KVs
- Flange standard: GB/T 17241.6-2008 PN16

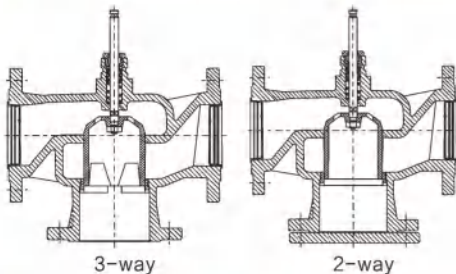
### Model Selection Description



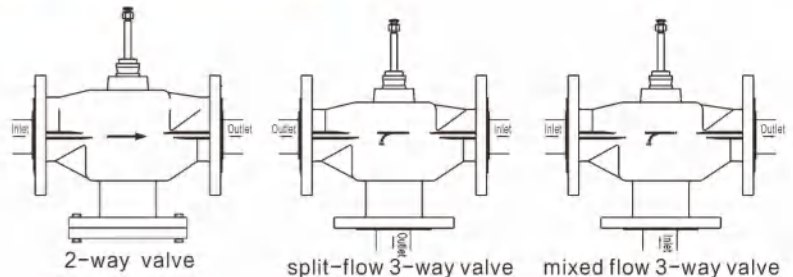
Rated travel Rated thrust	20mm 1000N	40mm 3000N	40mm 5000N
Photo			
	See page 22 for details.	See page 22 for details.	See page 22 for details.
Model No.	DDF-S-1000X	DDF-S-3000X	DDF-S-5000X

Photo	Order No.	Model No.	Valve Type	DN	Connection type	Bolt size	Kvs	Travel	Dimensions					Maximum differential pressure [kPa]	Maximum differential pressure [kPa]	Maximum differential pressure [kPa]
									L	d	D	H	H1			
	12451	DDF-S-X-232	2-way	32	Flange	4xM16	21	20	180	100	135	138	118	600	-----	-----
	12452	DDF-S-X-240	2-way	40	Flange	4xM16	28	20	200	110	145	139	130	500	-----	-----
	12453	DDF-S-X-250	2-way	50	Flange	4xM16	34	20	230	125	165	142	145	350	-----	-----
	12454	DDF-S-X-265	2-way	65	Flange	4xM16	54	20	290	145	185	154	176	250	-----	-----
	12455	DDF-S-X-280	2-way	80	Flange	8xM16	67	20	310	160	200	158	178	200	-----	-----
	12456	DDF-S-X-2100	2-way	100	Flange	8xM16	120	40	350	180	220	200	210	-----	300	500
	12457	DDF-S-X-2125	2-way	125	Flange	8xM16	180	40	400	210	250	213	240	-----	200	350
	12458	DDF-S-X-2150	2-way	150	Flange	8xM20	256	40	480	240	285	229	280	-----	150	200
	12459	DDF-S-X-2200	2-way	200	Flange	12xM20	330	40	600	295	340	259	340	-----	-----	150
	12672	DDF-S-X-332	3-way	32	Flange	4xM16	21	20	180	100	135	138	90	600	-----	-----
	12673	DDF-S-X-340	3-way	40	Flange	4xM16	28	20	200	110	145	139	100	500	-----	-----
	12460	DDF-S-X-350	3-way	50	Flange	4xM16	34	20	230	125	165	142	145	250	-----	-----
	12461	DDF-S-X-365	3-way	65	Flange	4xM16	54	20	290	145	185	154	176	200	-----	-----
	12462	DDF-S-X-380	3-way	80	Flange	8xM16	67	20	310	160	200	158	178	150	-----	-----
	12463	DDF-S-X-3100	3-way	100	Flange	8xM16	120	40	350	180	220	200	210	-----	250	350
	12464	DDF-S-X-3125	3-way	125	Flange	8xM16	180	40	400	210	250	213	240	-----	200	250
	12465	DDF-S-X-3150	3-way	150	Flange	8xM20	256	40	480	240	285	229	280	-----	-----	200
	12466	DDF-S-X-3200	3-way	200	Flange	12xM20	330	40	600	295	340	259	340	-----	-----	150

### Internal Structure Diagram



### Flow Direction Diagram



### Installation diagram

- This series valve can be matched with Siemens actuator.
- That valve stem downward running is the closing direction of the valve.
- Make sure the pipe is clean and without oxide and metal after welding before installation.
- It must be at the same point and free from shocks when connect the pipe and valve body. The flow direction should be same as the direction of the label.
- When the actuator is vertically installed on the valve, please avoid installing it under the valve to leave enough space for daily maintenance(like remove the actuator).
- Cut off the electricity to make sure there is no pressure in the water system when maintenance.

## PHF-DD-L Series Dynamic Balancing Motorised Valve (Screw Connection Type)



PHF-DD-L series dynamic balancing motorized valve integrates dynamic balance valve and adjustable valve. It is available for the temperature control of HVAC air-conditioning system's terminal equipment, such as air-conditioning cabinet, new fan group and air processor. It controls the water flow and temperature automatically to save energy rationally and realize intelligent management by its intelligent module device.

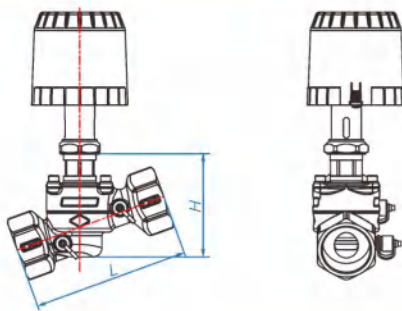
### Features

1. PHF-DD-L dynamic balancing motorized valve adopts ceresin wax propeller. There is no noise during its working. It has spring reset function. After the power is off, the valve is closed and the running place will be instructed by indication. Screw connection makes the installation easier, faster and more convenient.
2. Straight travel and good interchangeability.
3. KVs discrepancy:  $\leq 5\%$
4. Good stability. Flow value is not influenced by pressure undulation and is not influenced by each other.
5. Energy-saving. It saves more 6-20% energy than traditional system.
6. High efficiency: Greatly shorten the debugging time and high efficiency running.
7. Comfort: Higher temperature control precision, more comfortable than the traditional type.

### Product Parameter

- Diaphragm material: EPDM
- Stem material: stainless steel 06Cr19Ni10
- Valve body and cover material: C3771
- Nominal pressure (PN): 1.6MPa
- Working medium: water, fluid temperature -10-95°C
- Travel: 3mm

### Model Selection Description



Rated travel Rated thrust	3mm 115N	7mm 400N
Photo	 See page 54 for details.	 See page 33 for details.
Model No.	DRQ-1	DFQ-JL

Order No.	Model No.	Valve Type	DN	Connection type	Thread Size	Kvs	Dimensions		Maximum differential pressure [kPa]	Maximum differential pressure [kPa]
							L	H		
14001	PHF-DD-20L*DRQ-1K	2-way	20	Female	G3/4	0.9	100	135	150	---
14008	PHF-DD-25L*DRQ-1K	2-way	25	Female	G1	1.5	110	144	70	---
14074	PHF-DD-32L*DFQ-JL	2-way	32	Female	G1-1/4	3.5	130	145	---	300
14075	PHF-DD-40L*DFQ-JL	2-way	40	Female	G1-1/2	6	150	150	---	300
14076	PHF-DD-50L*DFQ-JL	2-way	50	Female	G2	8	170	160	---	300

## PHF-DD-HF Series Dynamic Balancing Motorised Valve (Flange Connection Type)

"PHF-DD-HF series dynamic balancing motorized valve integrates dynamic balance valve and adjustable valve. It is available for the temperature control of HVAC air-conditioning system's terminal equipment, such as air-conditioning cabinet, new fan group and air processor. It controls the water flow and temperature automatically to save energy rationally and realize intelligent management by its intelligent module device."

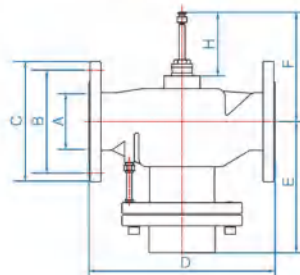
### Features

- Good stability: Flow value is not influenced by pressure undulation and is not influenced by each other.
- Energy-saving: It saves more 6-20% energy than traditional system.
- High efficiency: Greatly shorten the debugging time and high efficiency running.
- Higher temperature control precision, more comfortable than the traditional type.

### Product Parameter

- The stem seal: four layer V type O type nitrile rubber seals, PTFE envelope
- Stem material: stainless steel 06Cr19Ni10
- Valve core: brass
- Differential pressure range: 0.03-0.3Mpa
- Nominal pressure (PN): 1.6MPa
- Working medium: water, fluid temperature -10-95°C
- Valve leakage: less than 0.05% of KVs
- Flange standard: GB/T 17241.6-2008 PN16

### Model Selection Description

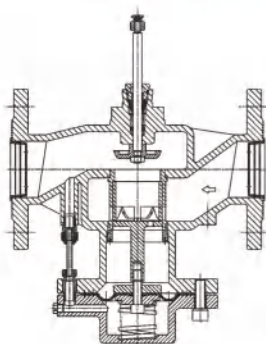


Rated travel Rated thrust	20mm 1000N	40mm 3000N	40mm 5000N
Photo			
Model No.	DFQ-S1000H	DFQ-S3000H	DFQ-S5000H

See page 22 for details. See page 22 for details. See page 22 for details.

Order No.	Model No.	Valve Type	DN	Connection type	Bolt size	Kvs	Dimensions								Maximum differential pressure [kPa]	Maximum differential pressure [kPa]	Maximum differential pressure [kPa]	
							A	B	C	D	E	F	H	N				K
14078	PHF-DD-H32F	2-way	32	Flange	4xM16	9	32	100	135	180	132	162	106	4	18	250	-----	-----
14079	PHF-DD-H40F	2-way	40	Flange	4xM16	12	40	110	144	200	146	162	106	4	18	200	-----	-----
14080	PHF-DD-H50F	2-way	50	Flange	4xM16	17	50	125	164	230	164	164	106	4	18	150	-----	-----
14081	PHF-DD-H65F	2-way	65	Flange	4xM16	23	65	145	184	290	201	178	106	4	18	125	-----	-----
14082	PHF-DD-H80F	2-way	80	Flange	8xM16	39	80	160	198	310	219	182	106	8	18	100	-----	-----
14083	PHF-DD-H100F	2-way	100	Flange	8xM16	53	100	180	219	350	241	264	166	8	18	-----	250	300
14084	PHF-DD-H125F	2-way	125	Flange	8xM16	80	125	210	249	400	276	275	166	8	22	-----	150	250
14133	PHF-DD-H150F	2-way	150	Flange	8xM20	102	150	240	284	480	337	291	166	8	22	-----	125	200
14085	PHF-DD-H200F	2-way	200	Flange	12xM20	180	200	295	340	600	403	312	166	12	22	-----	-----	150

### Internal Structure Diagram



### Installation diagram

- This series valve can be matched with Siemens actuator.
- That valve stem downward running is the closing direction of the valve.
- Make sure the pipe is clean and without oxide and metal after welding before installation.
- It must be at the same point and free from shocks when connect the pipe and valve body. The flow direction should be same as the direction of the label.
- When the actuator is vertically installed on the valve, please avoid installing it under the valve to leave enough space for daily maintenance (like remove the actuator).
- Cut off the electricity to make sure there is no pressure in the water system when maintenance.

## PHF-DD-XF Series Dynamic Balancing Motorised Valve (Flange Connection Type)

PHF-DD-XF series dynamic balancing motorized valve integrates dynamic balance valve and adjustable valve. It is available for the temperature control of HVAC air-conditioning system's terminal equipment, such as air-conditioning cabinet, new fan group and air processor. It controls the water flow and temperature automatically to save energy rationally and realize intelligent management by its intelligent module device.

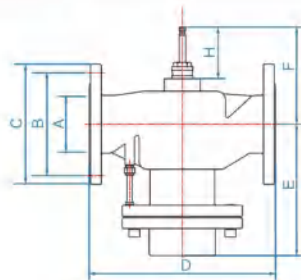
### Features

- Good stability: Flow value is not influenced by pressure undulation and is not influenced by each other.
- Energy-saving: It saves more 6-20% energy than traditional system.
- High efficiency: Greatly shorten the debugging time and high efficiency running.
- Higher temperature control precision, more comfortable than the traditional type.

### Product Parameter

- The stem seal: four layer V type O type nitrile rubber seals, PTFE envelope
- Stem material: stainless steel 06Cr19Ni10
- Valve core: brass
- Differential pressure range: 0.03-0.3Mpa
- Nominal pressure (PN): 1.6MPa
- Working medium: water, fluid temperature -10-95°C
- Valve leakage: less than 0.05% of KVs
- Flange standard: GB/T 17241.6-2008 PN16

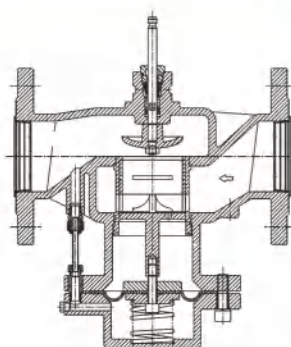
### Model Selection Description



Rated travel Rated thrust	20mm 1000N	40mm 3000N	40mm 5000N
Photo			
	See page 22 for details.	See page 22 for details.	See page 22 for details.
Model No.	DFQ-S1000X	DFQ-S3000X	DFQ-S5000X

Order No.	Model No.	Valve Type	DN	Connection type	Bolt size	Kvs	Dimensions								Maximum differential pressure	Maximum differential pressure	Maximum differential pressure	
							A	B	C	D	E	F	H	N	K	[kPa]	[kPa]	[kPa]
14086	PHF-DD-X32F	2-way	32	Flange	4xM16	9	32	100	135	180	132	138	96	4	18	250	-----	-----
14087	PHF-DD-X40F	2-way	40	Flange	4xM16	12	40	110	144	200	146	139	96	4	18	200	-----	-----
14088	PHF-DD-X50F	2-way	50	Flange	4xM16	17	50	125	164	230	164	142	96	4	18	150	-----	-----
14089	PHF-DD-X65F	2-way	65	Flange	4xM16	23	65	145	184	290	201	155	96	4	18	125	-----	-----
14090	PHF-DD-X80F	2-way	80	Flange	8xM16	39	80	160	198	310	219	158	96	8	18	100	-----	-----
14091	PHF-DD-X100F	2-way	100	Flange	8xM16	53	100	180	219	350	241	205	112	8	18	-----	250	300
14092	PHF-DD-X125F	2-way	125	Flange	8xM16	80	125	210	249	400	276	216	112	8	22	-----	150	250
14093	PHF-DD-X150F	2-way	150	Flange	8xM20	102	150	240	284	480	337	232	112	8	22	-----	125	200
14094	PHF-DD-X200F	2-way	200	Flange	12xM20	180	200	295	340	600	403	257	112	12	22	-----	-----	150

### Internal Structure Diagram



### Installation diagram

- This series valve can be matched with Siemens actuator.
- That valve stem downward running is the closing direction of the valve.
- Make sure the pipe is clean and without oxide and metal after welding before installation.
- It must be at the same point and free from shocks when connect the pipe and valve body. The flow direction should be same as the direction of the label.
- When the actuator is vertically installed on the valve, please avoid installing it under the valve to leave enough space for daily maintenance(like remove the actuator).
- Cut off the electricity to make sure there is no pressure in the water system when maintenance.

## PHF-DD-JF Series Dynamic Balancing Motorised Valve (Flange Connection Type)

"PHF-DD-JF series dynamic balancing motorized valve integrates dynamic balance valve and adjustable valve. It is available for the temperature control of HVAC air-conditioning system's terminal equipment, such as air-conditioning cabinet, new fan group and air processor. It controls the water flow and temperature automatically to save energy rationally and realize intelligent management by its intelligent module device."

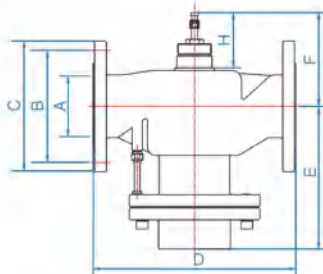
### Features

- Good stability: Flow value is not influenced by pressure undulation and is not influenced by each other.
- Energy-saving: It saves more 6-20% energy than traditional system.
- High efficiency: Greatly shorten the debugging time and high efficiency running.
- Higher temperature control precision, more comfortable than the traditional type.

### Product Parameter

- The stem seal: four layer V type O type nitrile rubber seals, PTFE envelope
- Stem material: stainless steel 06Cr19Ni10
- Valve core: brass
- Differential pressure range: 0.03-0.3Mpa
- Nominal pressure (PN): 1.6MPa
- Working medium: water, fluid temperature -10-95°C
- Valve leakage: less than 0.05% of KVs
- Flange standard: GB/T 17241.6-2008 PN10

### Model Selection Description

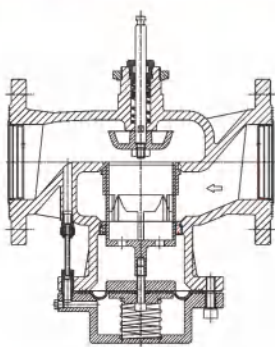


Rated travel Rated thrust	20mm 1000N	40mm 3000N	40mm 5000N
Photo			
	See page 22 for details.	See page 22 for details.	See page 22 for details.
Model No.	DFQ-S1000J	DFQ-S3000J	DFQ-S5000J

型号

Order No.	Model No.	Valve Type	DN	Connection type	Bolt size	Kvs	Dimensions								Maximum closing differential pressure [kPa]	Maximum closing differential pressure [kPa]	Maximum closing differential pressure [kPa]	
							A	B	C	D	E	F	H	N				K
14095	PHF-DD-J32F	2-way	32	Flange	4xM16	9	32	100	135	180	132	162	85	4	18	250	-----	-----
14096	PHF-DD-J40F	2-way	40	Flange	4xM16	12	40	110	144	200	146	162	85	4	18	200	-----	-----
14097	PHF-DD-J50F	2-way	50	Flange	4xM16	17	50	125	165	230	164	128	85	4	18	150	-----	-----
14098	PHF-DD-J65F	2-way	65	Flange	4xM16	23	65	145	185	290	201	140	85	4	18	125	-----	-----
14099	PHF-DD-J80F	2-way	80	Flange	8xM16	39	80	160	200	310	219	144	85	8	18	100	-----	-----
14100	PHF-DD-J100F	2-way	100	Flange	8xM16	53	100	180	220	350	241	194	104	8	18	-----	250	300
14101	PHF-DD-J125F	2-way	125	Flange	8xM16	80	125	210	250	400	276	204	104	8	22	-----	150	250
14102	PHF-DD-J150F	2-way	150	Flange	8xM20	102	150	240	285	480	337	220	104	8	22	-----	125	200
14103	PHF-DD-J200F	2-way	200	Flange	12xM20	180	200	295	340	600	403	246	104	12	22	-----	-----	150

### Internal Structure Diagram



### Installation diagram

- This series valve can be matched with Johnson actuator.
- That valve stem downward running is the closing direction of the valve.
- Make sure the pipe is clean and without oxide and metal after welding before installation.
- It must be at the same point and free from shocks when connect the pipe and valve body. The flow direction should be same as the direction of the label.
- When the actuator is vertically installed on the valve, please avoid installing it under the valve to leave enough space for daily maintenance(like remove the actuator).
- Cut off the electricity to make sure there is no pressure in the water system when maintenance.

## PHF-DDY series dynamic pressure balancing electric regulating valve (flange connection type)

PHF-DDY series dynamic pressure balancing electric regulating valve is used for terminal flow control and regulation of fan coils, cold ceilings and other HVAC systems in HVAC systems.

The PHF-DDY valve is not affected by changes in system pressure, and can guarantee full stroke adjustment and control at any flow rate.

### Features

1. P / T measurement port is available.
2. The characteristics of the valve are not affected by the flow setting.
3. It is composed of an adjustable flow dynamic balancing valve, a dynamic differential pressure balancing valve and a regulating valve with full stroke adjustment capability, integrating three valves in one. (PICV)
4. It can achieve 100% regulation and balance of water in the system, while creating a more comfortable environment and energy saving effect. When the system is rebuilt, it is not necessary to perform the hydraulic balance commissioning again.

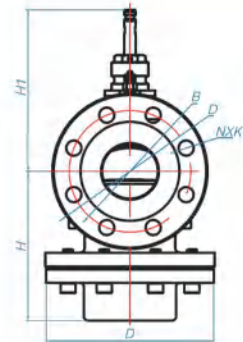
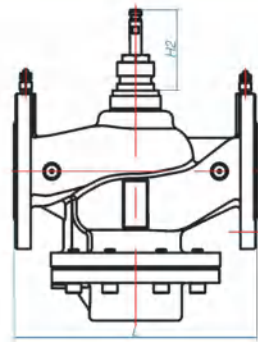
### Product parameters

- Specification: DN65-DN150 ● Working temperature: 2-94 °C ● Pressure rating; PN16 ● Working medium: hot and cold air conditioner, ≤50% glycol solution ● Connection method: flange connection ● Connection standard: GB / T 17241.6 ● Flow characteristics: Equal percentage characteristic curve ● Leakage rate: ≤0.01% KVS ● Flow adjustment: there are three levels of 30%, 70% and 100% ● with P / T measurement port

### Material

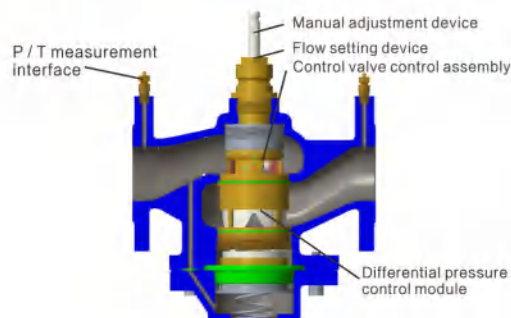
- Housing, bonnet: gray cast iron (HT300) ● Stem: 304 stainless steel ● Spring: stainless steel ● Seal material: EPDM + buried fiber

### Selection table



订货代号	型号	规格	口径	尺寸 (mm)								Kvs (m³/h)	行程
				B	D	L	H	H1	H2	N	K		
14138	PHF-DDY-X65F	二通阀	DN65	145	185	290	178	192	96	4	18	23	20
14139	PHF-DDY-X80F	二通阀	DN80	160	200	310	195	203	96	8	18	33	20
14140	PHF-DDY-X100F	二通阀	DN100	180	220	350	226	245	112	8	18	60	40
14141	PHF-DDY-X125F	二通阀	DN125	210	250	400	265	240	112	8	18	72	40
14142	PHF-DDY-X150F	二通阀	DN150	240	285	480	290	250	112	8	22	125	40

### Internal structure map



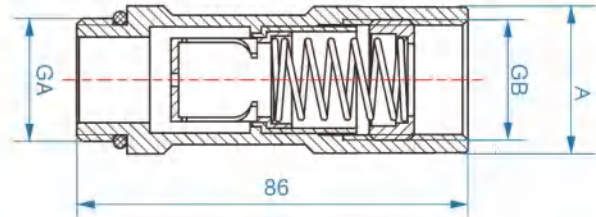
### Installation Notes

- This valve is compatible with Siemens actuators.
- Below the valve stem is the valve closing direction.
- Before installing the valve, ensure that the pipeline is clean and free of oxide scale, metal plates and other debris left during welding.
- The pipes must be concentric when connected to the valve body and not subject to vibration. The direction of water flow should be the same as that marked on the valve body.
- When the driver is installed vertically on the valve body, avoid installing the driver under the valve, and leave enough space for routine maintenance (such as removing the driver).
- When maintaining the valve, the power must be cut off or isolated. The water system should not be under pressure.

## PHF-DL-L Series Dynamic Balancing Valve (Thread Type)

Dynamic balancing valve belongs to self-operated regulating valve. It can maintain flux and differential pressure invariably under the large differential pressure and flux range. It is mainly applied to commercial building central air-conditionings, high-grade residences' water and heating supply, and balanced flow pipe in chemical industry. Its good energy saving effect and high precision automatic control function is highly praised in the industry.

### Model Selection Description



Order No.	Model No.	DN	Thread GA	Thread GB	A	PN	Flow m <sup>3</sup> /h ( under 0.1-0.35MPa pressure )
14074	PHF-DL-20L	DN20	G3/4	G3/4	31	PN16	1.1
14075	PHF-DL-25L	DN25	G1	G1	42.5	PN16	1.1

### Structure Principle

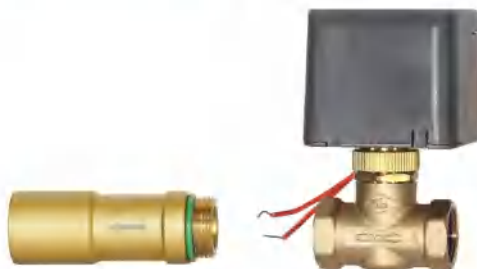
The application of dynamic flow balance valve is mainly in the initial adjustment of the system such as the initial distribution of central air conditioning, water and heating supply. It consists of a valve shell and a valve core. The valve core is the hydraulic automatic regulating orifice plate. And the hydraulic automatic regulating orifice plate is composed of a valve liner which can be automatically adjusted by the flow area and a high precision spring. Spring can automatic control the size of the flow area on the gall of the valve based on both ends of the differential pressure automatic control valve to maintain a constant flow of water.

- The differential pressure between the front and back of the balancing valve is less than minimum starting differential pressure.  
In this case, the spring will not be compressed (the gall of the valve has a preload when assemble), the valve is in a static state, the flow area is the largest. And the water flow through the balancing valve increases with the increase of differential pressure at this time
- The differential pressure between the front and back of the balancing valve is within the working range of the calibration  
At this time, the top of the gall of the valve under the action of fluid pressure begins to compress spring, the balancing valve gets into the working state. In the working pressure range, if the fluid pressure changes, the curve of excess channel on the gall of the valve will change accordingly. So in this pressure range, no matter how the pressure changes, output end of the water flow will be maintained.
- The differential pressure between the front and back of the balancing valve above the operating range:  
In this state, the spring in the inner of the balancing valve will be completely compressed. The water can only flow through a circular hole on both sides of the gall. The flow area will be maintained, and the flow is proportional to the differential pressure, and increases with the increase of the differential pressure.

### Product Advantages

- No need for system adjustment to save time and shorten the completion date.
- No need for same way pipe installation to increase the usable area and space to save the cost of installation and material.
- Convenient usage. Separate installation or separate equipment usage will not effect the balance of water system.
- Convenient alternation. Water system's partial redesign can't affect other area's water system design and balance.
- Save power. Balanced water system makes sure that refrigeration sets (boiler, heat exchanger) and pump is in the best work condition.
- Less abrasion and less waste. The product's good design makes sure that the flux will not excess. It can assure all the equipments has good durability to avoid excessive flow damages the brass pipe.
- High safety. Water system's automatic balance function avoids the possibility of man-made destructive adjustment.

### Installation instructions



This product can be applied to any kinds of motorised valve and ball valve. Make sure that the valves' moving direction is the same as the dynamic balancing valves' arrow. The installation is very easy. You just need to screw up the product and the valve.

## PHF-J series Static Flow Balancing Valve

Static flow balancing valves is used in hydraulic system. It can balance the flux in the end or every branch in the system accurately. Water system's balance is the premise for normal operation. The system can provide maximum comfort and the least energy consumption in this premise. Screw connection valves' body adopts Venturi flow meter. It makes the flow regulation be more accurate and the flow monitor be more convenient.

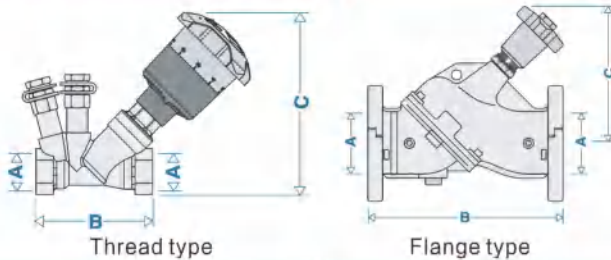
### Operational Principle And Advantages

Balancing valve is used to adjust the medium flux which flow through the valve body. Balance valve's shaft moves up and down after turning regulating valve's handle to adjust the flow diameter and change the curve feature. Depending on the differential pressure which is measured by the equipped pressure testing port can test and adjust the flux.

Features:

1. System's terminal can operate under heating, refrigeration and arefaction. It will not cause energy waste and the comfort can be ensured.
2. Pump works at the best position. And there is no overheat or wastage.
3. No noise and pipe corrosion.
4. Temperature adjustment valve always works under normal differential pressure range.

### Model Selection Description



Features:

- Body material: DN15–DN50 brass, DN65–DN150 gray cast iron maximum working pressure: 16bar
- Operating range: -20~120°C
- Medium: water and ethylene glycol, ethylene glycol ≤50%
- Accuracy: ± 10%
- Sealing material: EPDM
- Scale: DN15–DN50: 0–6 DN65–DN150: 0–7

Photo	Order No.	Model No.	Connection type	DN	Kvs ( l/h )	Dimensions		
						A	B	C
	14104	PHF-J-X15L	Thread type	DN15	3	G1/2	67	143
	14105	PHF-J-X20L	Thread type	DN20	4.4	G3/4	76	148
	14106	PHF-J-X25L	Thread type	DN25	7.5	G1	89.5	154
	14107	PHF-J-X32L	Thread type	DN32	12	G1-1/4	103	165
	14108	PHF-J-X40L	Thread type	DN40	17	G1-1/2	123	173.5
	14109	PHF-J-X50L	Thread type	DN50	26	G2	144	192
	14110	PHF-J-S15L	Thread type	DN15	3	G1/2	76	117
	14111	PHF-J-S20L	Thread type	DN20	4.4	G3/4	83	125
	14112	PHF-J-S25L	Thread type	DN25	7.5	G1	97	135
	14113	PHF-J-S32L	Thread type	DN32	12	G1-1/4	110	143
	14114	PHF-J-S40L	Thread type	DN40	17	G1-1/2	129	150
	14115	PHF-J-S50L	Thread type	DN50	26	G2	153	170
	14116	PHF-J-Z15L	Thread type	DN15	3	G1/2	67	116
	14117	PHF-J-Z20L	Thread type	DN20	4.4	G3/4	76	122
	14118	PHF-J-Z25L	Thread type	DN25	7.5	G1	89.5	127
	14119	PHF-J-Z32L	Thread type	DN32	12	G1-1/4	103	139
	14120	PHF-J-Z40L	Thread type	DN40	17	G1-1/2	123	147.5
	14121	PHF-J-Z50L	Thread type	DN50	26	G2	144	167
	14122	PHF-J-65F	Flange type	DN65	118	65	305	244
	14123	PHF-J-80F	Flange type	DN80	140	80	306.5	267
	14124	PHF-J-100F	Flange type	DN100	265	100	356	268
	14125	PHF-J-125F	Flange type	DN125	480	125	445	272
	14126	PHF-J-150F	Flange type	DN150	650	150	525	294

### Static Balancing Flow Tester

Order No:14134



PHF-J-TSY01 static balancing valve flow tester is used to the static balancing valve system's flow debugging. Equipped With the PHF-J series Hengsen static balancing valve can measure system pressure and differential pressure. And calculate the current flow automatically according to valve laps which is set by the user. Automatically calculate the quantity of the valve laps which need to be opened, change the previous trouble of manual inquiry the flow curve, and reduce the calculation error. Greatly improves the efficiency and accuracy of the static balancing valve system flow debugging.

Operator interface design with Chinese and English. Recharge or replace the lithium battery power supply, water and electricity separation, handheld operation, with backlight large digital display, compact and portable, adapt the complex scene debugging.

## PHF-DY-F self-Operated Differential Pressure Control Valve

PHF-DY-F Self-Operated differential pressure control valve, does not need external energy, depends on the modulated medium's pressure changes to adjust automatically, eliminates the flow change which caused by pipe net's residual pressure head and pressure fluctuation, constant user's inlet and outlet differential pressure, helps to stabilize the system operation.

### Features


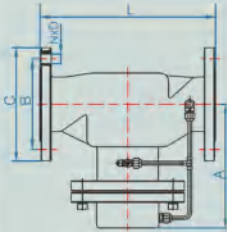
This valve is a double disc structure, stem unbalanced force is small, compact structure, used for water heating (air conditioning) system, constant differential pressure of the controlled system, and has the following features:

- Constant differential pressure of the controlled system;
- Support the controlled system internal automatic regulation;
- Absorbing outside net differential pressure fluctuation;
- Eliminate the logging automatically function.
- Use the advanced stepless voltage regulation structure, control pressure adjustable ratio up to 25: 1

### Product Parameter

- Working medium: water
- Working temperature: Fluid temperature 5-95 °C
- Nominal pressure (PN): 1.6MPa
- Working life: more than a decade
- Body material: high-quality gray cast iron
- Inner part material: brass, stainless steel
- Spring: Stainless steel
- Diaphragm: EPDM
- Flange standard: GB/T 17241.6-2008 PN10

### Model Selection Description

Photo	Diagram	Order No.	Model No.	Valve Type	DN	Connection type	Flow range (m <sup>3</sup> /h)	Working pressure (Mpa)	Control pressure (Mpa)	Dimensions (mm)				
										A	øB	øC	L	nxød
		14127	PHF-DY-32F	2-way	32	Flange	4-13	0.02-0.17	0.02-0.1	132	100	135	180	4x18
		14128	PHF-DY-40F	2-way	40	Flange	4-16.5	0.02-0.2	0.02-0.1	146	110	145	200	4x18
		14129	PHF-DY-50F	2-way	50	Flange	14.5-44.5	0.02-0.22	0.02-0.1	164	125	165	230	4x18
		14130	PHF-DY-65F	2-way	65	Flange	20.5-61	0.02-0.17	0.02-0.1	201	145	185	290	4x18
		14131	PHF-DY-80F	2-way	80	Flange	39-80	0.02-0.1	0.02-0.1	218.5	160	200	310	8x18
		14132	PHF-DY-100F	2-way	100	Flange	49-83	0.02-0.07	0.02-0.1	260	180	220	350	8x18

### Principle and performance curve

Self-operated differential pressure control valve can automatically change the drag coefficient according to the change of the water pressure in the system. The upper and the lower ends of the working diaphragm of the valve are respectively induce the high and low pressure side's pressure which is introduced through the guide tube. The location of the inner and outer sleeve is determined by the up and down ends of the diaphragm's differential pressure, when the diaphragm induces the change of differential pressure, the position of the sleeve corresponding changes, until it reaches a new balance.

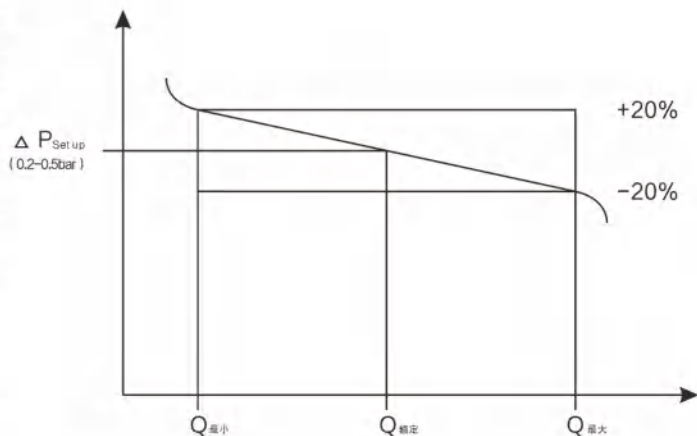
Remark: Under different pressure settings, the preset value of the performance curve parallel moves

Note: the outer net provides the minimum available pressure head should be

$$\Delta P_{\text{Minimum}} = \Delta P_{\text{Set up}} + (G_2 / Kvs_2)$$

G-flow through the valve (m<sup>3</sup>/h)

Kvs-drag coefficient of self-operated differential pressure control valve

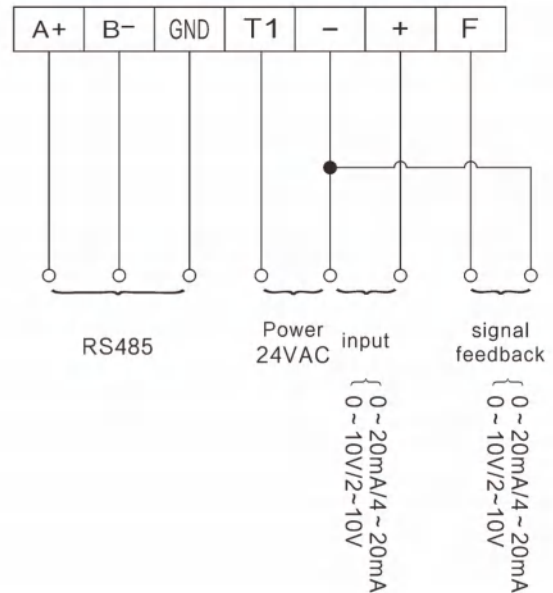


## DFQ-S Series Motorized Valve Actuator



DFQ-S series motorized valve actuator is compatible with two-way or three-way motorized valve used to regulate the flow of media. It's widely used in central air conditioning system, heating system or other occasions. It's available to meet clients' requirements of temperature control of a small room or a complex building. It makes people comfortable to reach the required ambient temperature and saves energy as well by controlling the flow.

### Wiring Diagram



### Feature

- Easily installed
- Connecting rod is unnecessary
- Accurate valve positioning
- With manual operator
- Terminal limit switch
- Forward and reverse action
- Brushless DC motor
- Corrosion protection design
- Maintenance free

### Technical Data

Model	DFQ-S1000X	DFQ-S1000H	DFQ-S1000J	DFQ-S3000X	DFQ-S3000H	DFQ-S3000J	DFQ-S5000X	DFQ-S5000H	DFQ-S5000J
Recommended valve diameter	DN32-80	DN32-80	DN32-80	DN100-150	DN100-150	DN100-150	DN100-200	DN100-200	DN100-200
Thrust	1000N	1000N	1000N	3000N	3000N	3000N	5000N	5000N	5000N
Journey	20mm	20mm	20mm	40mm	40mm	40mm	40mm	40mm	40mm
Power	24VAC ± 10% 50/60Hz								
Input signal	0 (2) ~ 10V, 0 (4) ~ 20mA are optional								
Signal feedback	0 (2) ~ 10V, 0 (4) ~ 20mA are optional								
Material	Gear: formaldehyde, nylon								
	Lower plate of reducer: galvanized steel								
	Bracket: die-cast aluminum alloy								
	Housing: flame retardant ABS engineering plastics								
Temperature	Ambient temperature: - 10 ~ + 50 °C storage temperature: - 40 ~ + 50 °C								
Protection Class	IP66								
Humidity	1%-95% RH no dew								
Fluid temperature	≤95°C								

## DFQ-XE Series Motorized Valve Actuator



DFQ-XEK  
DFQ-XEK-220

DFQ-XEM  
DFQ-XEM-485

DFQ-X series motorised valve actuator is matched with 2,3-way motorised valve to adjust the medium flow. It's widely used in central air conditioning system, heating system and other occasions to meet the user from simple single-room temperature control to complex building automatic control requirements. It can achieve the required ambient temperature, obtain a comfortable environment and save energy through flow control.

### Feature

- Easily installed
- Connecting rod is unnecessary
- Accurate valve positioning
- With manual operator
- Terminal limit switch
- Forward and reverse action
- Synchronous motor
- Corrosion protection design
- Maintenance free

### Technical Data

Model No.	DFQ-XEM	DFQ-XEM-485	DFQ-XEK
Power	24VAC ± 10% 50/60Hz		
Power consumption	5.6W when frequency is 50Hz 6W when frequency is 60Hz		5.3 when frequency is 50Hz 5.3W when frequency is 60Hz
Input signal	0 (2) ~10V, 0 (4) ~20mA optional		24VAC
Signal feedback	0 (2) ~10V	0 (2) ~10V, 0 (4) ~20mA optional	24VAC
Thrust	1000N		
Journey	20mm		
Journey time	140 seconds when 50Hz 120 seconds when 60Hz	140 seconds when 50Hz 120 seconds when 60Hz	170 seconds when 50Hz 140 seconds when 60Hz
Material	Gear: formaldehyde, nylon Lower plate of reducer: aluminum alloy Bracket: die-cast aluminum alloy Housing: flame retardant ABS engineering plastic		
Temperature	Ambient temperature: -10 ~ +50°C Storage temperature: -40 ~ +50°C		
Protection Class	Ip54		
Humidity	1%~95% RH no dew		
Fluid temperature	≤95°C		
Weight	1.6Kg		

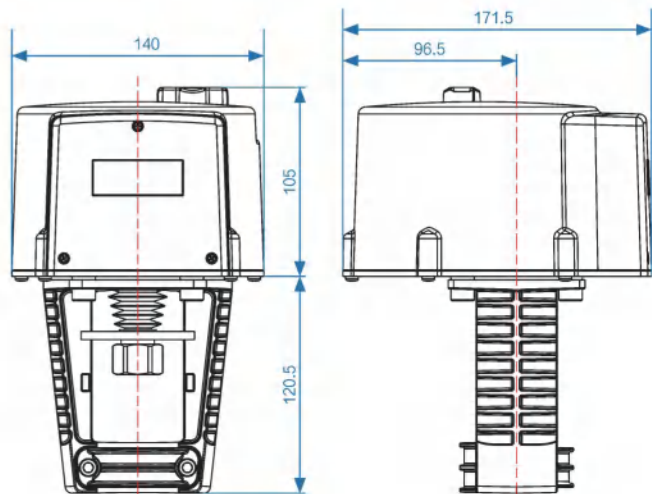
### Specification

Order No.	Model	Type	Adaptation motorized valve
12563	DFQ-XEK	ON/OFF	X series valve range from DN32-80
12564	DFQ-XEM	Modulation	X series valve range from DN32-80
12661	DFQ-XEM-485	Modulation, with RS-485 interface	X series valve range from DN32-80

### Wiring Diagram

Model	Wiring diagram
DFQ-XEK	<p>Uplink signal 1 Up 2 Downstream signal 3 Down 4 24V 5 220V</p>
DFQ-XEM	<p>Stretch 02 Draw back 01 Power 24VAC T1 T2 Input 0 ~ 20mA/4 ~ 20mA 0 ~ 10V/2 ~ 10V + Signal feedback 0 ~ 10V/2 ~ 10V F</p>
DFQ-XEM-485	<p>Rs485 interface A+ B- GND Power 24VAC T1 T2 Internally connected Input 0 ~ 20mA/4 ~ 20mA 0 ~ 10V/2 ~ 10V + Signal feedback 4 ~ 20mA, 0 ~ 20mA 2 ~ 10V, 0 ~ 10V F</p>

### Dimensions



## DFQ-XF Series Motorized Valve Actuator



DFQ-XFK  
DFQ-XFM

DFQ-XFM  
DFQ-XFM-485

DFQ-X series motorised valve actuator is matched with 2,3-way motorised valve to adjust the medium flow. It's widely used in central air conditioning system, heating system and other occasions to meet the user from simple single-room temperature control to complex building automatic control requirements. It can achieve the required ambient temperature, obtain a comfortable environment and save energy through flow control.

### Feature

- Easily installed
- Connecting rod is unnecessary
- Accurate valve positioning
- With manual operator
- Terminal limit switch
- Forward and reverse action
- Synchronous motor
- Corrosion protection design
- Maintenance free

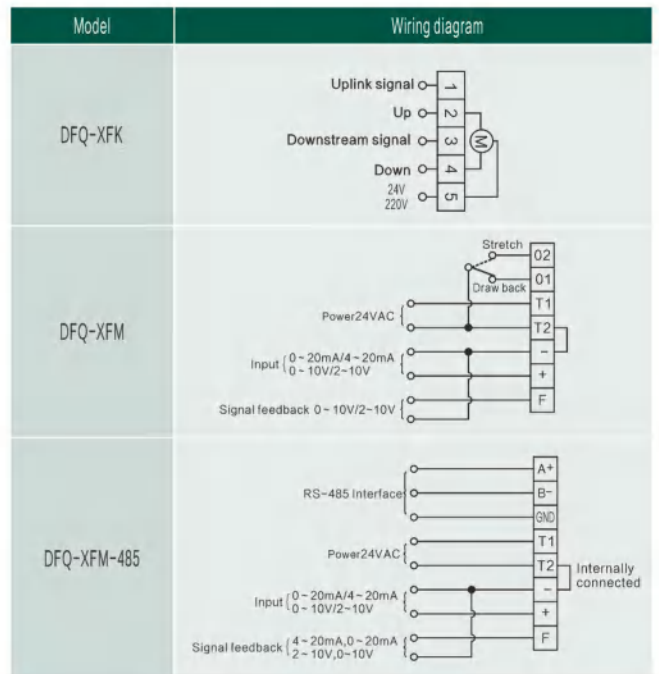
### Technical Data

Model No.	DFQ-XFM	DFQ-XF-P-M	DFQ-XFM-485	DFQ-XFK
Power	24VAC±10% 50/60Hz			
Power consumption	20.1W when frequency is 50Hz 26.0W when frequency is 60Hz		20.5W when frequency is 50Hz 27.6W when frequency is 60Hz	
Input signal	0 (2) ~10V, 0 (4) ~20mA optional			24VAC
Signal feedback	0 (2) ~10V	0 (2) ~10V, 0 (4) ~20mA optional		24VAC
Thrust	5000N			
Journey	40mm			
Journey time	240 seconds when 50Hz 200 seconds when 60Hz			
Material	Gear: formaldehyde, nylon			
	Lower plate of reducer: aluminum alloy			
	Bracket: die-cast aluminum alloy			
	Housing: flame retardant ABS engineering plastic			
Temperature	Ambient temperature: -10 ~ +50°C Storage temperature: -40 ~ +50°C			
Protection Class	IP54			
Humidity	1%~95% RH no dew			
Fluid temperature	≤95°C			
Weight	4.25kg			

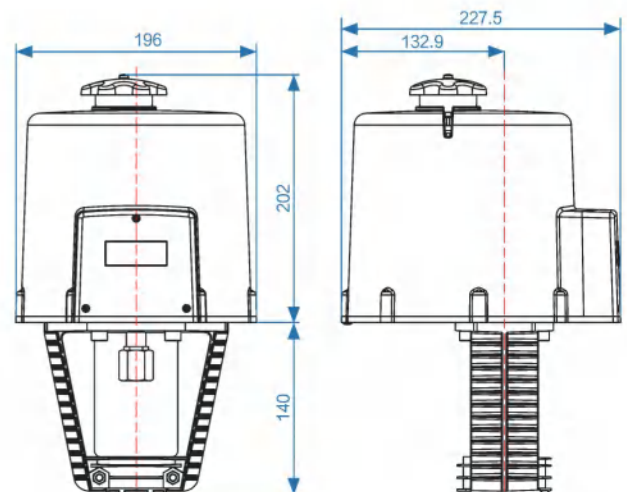
### Specification

Order No.	Model	Type	Adaptation motorized valve
12565	DFQ-XFK	ON/OFF	X series valve range from DN100-200
12566	DFQ-XFM	Modulation	X series valve range from DN100-200
	DFQ-XF-P-M	Modulation, With window	X series valve range from DN100-200
12662	DFQ-XFM-485	Modulation, with RS-485 interface	X series valve range from DN100-200

### Wiring Diagram



### Dimensions



## DFQ-XG Series Motorized Valve Actuator



DFQ-XGK

DFQ-XGM  
DFQ-XGM-485

DFQ-X series motorised valve actuator is matched with 2,3-way motorised valve to adjust the medium flow. It's widely used in central air conditioning system, heating system and other occasions to meet the user from simple single-room temperature control to complex building automatic control requirements. It can achieve the required ambient temperature, obtain a comfortable environment and save energy through flow control.

### Feature

- Easily installed
- Connecting rod is unnecessary
- Accurate valve positioning
- With manual operator
- Terminal limit switch
- Forward and reverse action
- Synchronous motor
- Corrosion protection design
- Maintenance free

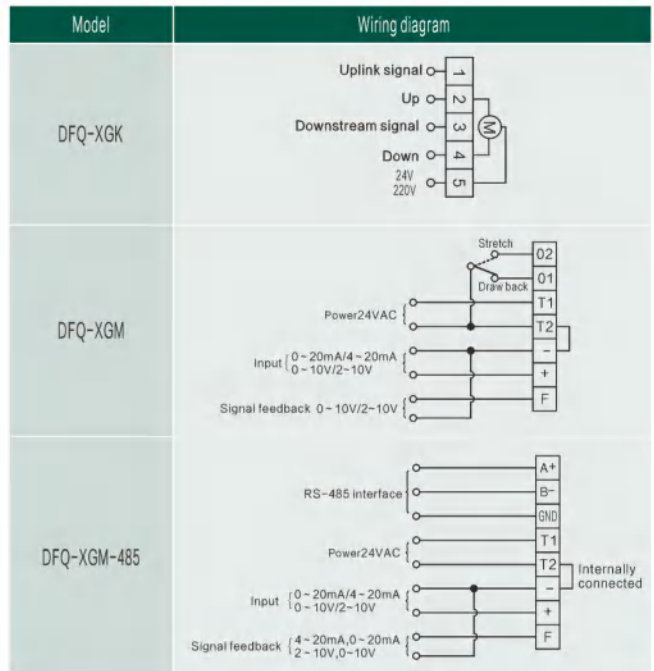
### Technical Data

Model No.	DFQ-XGM	DFQ-XGM-485	DFQ-XGK
Power	24VAC ± 10% 50/60Hz		
Power consumption	10.5W when frequency is 50Hz 13.1W when frequency is 60Hz		
Input signal	0 (2) ~10V, 0 (4) ~20mA optional		24VAC
Signal feedback	0 (2) ~10V	0 (2) ~10V, 0 (4) ~20mA optional	24VAC
Thrust	3000N		
Journey	40mm		
Journey time	200 seconds when 50Hz 180 seconds when 60Hz		
Material	Gear: formaldehyde, nylon		
	Lower plate of reducer: aluminum alloy		
	Bracket: die-cast aluminum alloy		
	Housing: flame retardant ABS engineering plastic		
Temperature	Ambient temperature: -10 ~ +50°C Storage temperature: -40 ~ +50°C		
Protection Class	IP54		
Humidity	1%~95% RH no dew		
Fluid temperature	≤95°C		
Weight	3.1kg		

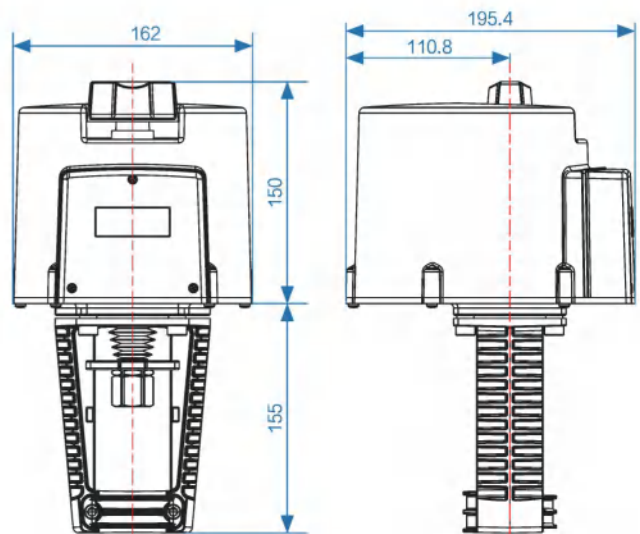
### Specification

Order No.	Model	Type	Adaptation motorized valve
12567	DFQ-XGK	ON/OFF	X series valve range from DN100-150
12568	DFQ-XGM	Modulation	X series valve range from DN100-150
12663	DFQ-XGM-485	Modulation, with RS-485 interface	X series valve range from DN100-150

### Wiring Diagram



### Dimensions



## DFQ-JL Series Motorized Valve Actuator



DFQ-J series motorized valve actuator is compatible with two-way or three-way motorized valve used to regulate the flow of media. It's Widely used in central air conditioning system, heating system or other occasions. It's available to meets clients' requirements of temperature control of a small room or a complex building. It makes people comfortable to reach the required ambient temperature and saves energy as well by controlling the flow.

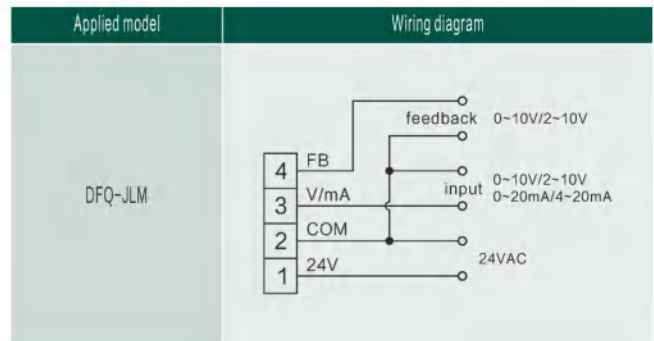
### Feature

- Easily installed
- Connecting rod is unnecessary
- Accurate valve positioning
- With manual operator
- Terminal limit switch
- Forward and reverse action
- Synchronous motor
- Corrosion protection design
- Maintenance free

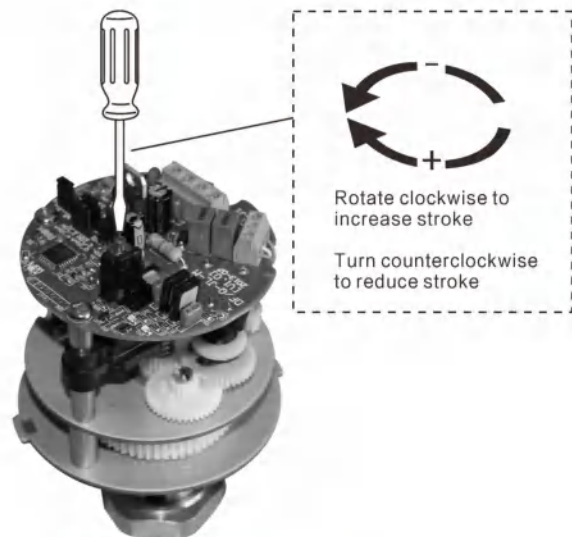
### Technical Data

Model	DFQ-JLM
Order No.	12600
Power	24VAC ± 10% 50/60Hz
Power consumption	
Signal input	0 (2) ~10V, 0 (4) ~20mA optional
Signal feedback	0 (2) ~10V
Thrust	400N
Stroke	
Travel time	
Material	Gear: formaldehyde, nylon
	Lower plate of reducer: Phosphating plate
	Bracket: die-cast aluminum alloy
	Housing: flame retardant ABS engineering plastics
Temperature limitation	Ambient temperature: -10 ~ +50 °C storage temperature: -40 ~ +50 °C
Protection grade	IP54
Humidity	1%~95% RH no dew
Fluid Temperature	≤95°C
Weight	

### Wiring diagram



- Attach the actuator bracket to the copper valve connector and tighten the drive mounting screw.
- Turn on the power to make the valve closed, align the closed scale with the scale indicator.
- During installation, vertical installation should be preferred and sufficient space should be left to remove the actuator when maintaining.
- Output the maximum and minimum signals through the controller respectively. Check whether the valve corresponds to the full open or full close position when the signal is received. If the stroke is not enough, clients can adjust the stroke with stroke adjusting screw. Check the picture for detailed adjust method.



- When repairing the actuator, the power must be turned off to prevent causing damage to the parts or hurting people caused by electric leakage.
- Do not attempt to connect or disassemble the wires when power is on.
- The actuator must be protected against leakage in case it damages the internal parts and motors.
- The actuator cannot be covered by insulation.



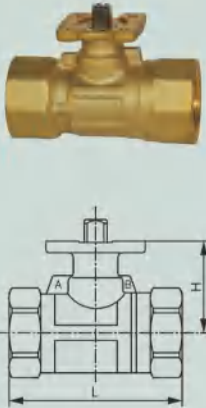
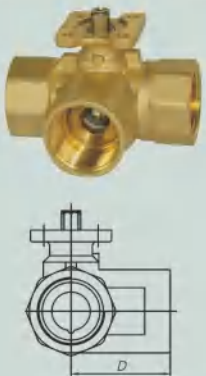
## DQF-B Series Motorised Ball Valve

DQF-B series motorised ball valves are available for terminal waterway control. Thermostat control the motorised ball valve actuator, and the actuator motor drive the valve ON/OFF to make the medium flow or disconnected, and the fan coil blow at the same time to control the temperature automatically.

- Easy installation and cost saving.
- Closing tightly and having a great differential pressure.
- Water flow smoothly and it won't be blocked by slag. KVS value is much larger than common 2-way valve.
- Valve opens safely to guard effectively against water hammer.

- Main material: forging brass body, seal PTFE / HNBR
- Valve opening torque:  
DN15~DN25 < 1N.m, DN32~50 < 2N.m
- Nominal pressure: 1.6MPa ● Working medium: water
- Fluid temperature 5~95°C ● Stem size: 10x10

Rated stroke Rated thrust	90° 2N.m	90° 10N.m	90° 5N.m	90° 10N.m
Photo illustration				
	check on page 36 for more details	check on page 37 for more details	check on page 38 for more details	check on page 42 for more details
Model	DQQ-B1	DQQ-B2	DQQ-B3	DQQ-E2-10

Photoes/Size drawing	Order No.	Model	Valve Type	DN	thread size	Kv value	dimension			Maximum differential pressure [kPa]	Maximum differential pressure [kPa]	Maximum differential pressure [kPa]	Maximum differential pressure [kPa]
							L	H	D				
	15579	DQF-B-215	2-way	15	G1/2	5.6	60	30	---	600	-----	600	-----
	15580	DQF-B-215A	2-way	15	G1/2	1.2	60	30	---	600	-----	600	-----
	15581	DQF-B-215B	2-way	15	G1/2	2.5	60	30	---	600	-----	600	-----
	15582	DQF-B-215C	2-way	15	G1/2	3.6	60	30	---	600	-----	600	-----
	15583	DQF-B-215D	2-way	15	G1/2	4.6	60	30	---	600	-----	600	-----
	15584	DQF-B-220	2-way	20	G3/4	9.5	67	35	---	600	-----	600	-----
	15585	DQF-B-220A	2-way	20	G3/4	1.5	67	35	---	600	-----	600	-----
	15586	DQF-B-220B	2-way	20	G3/4	2.3	67	35	---	600	-----	600	-----
	15587	DQF-B-220C	2-way	20	G3/4	4.5	67	35	---	600	-----	600	-----
	15588	DQF-B-220D	2-way	20	G3/4	6.5	67	35	---	600	-----	600	-----
	15589	DQF-B-220E	2-way	20	G3/4	20	67	35	---	600	-----	600	-----
	15590	DQF-B-225	2-way	25	G1	9.5	89	38	---	500	-----	500	-----
	15591	DQF-B-225A	2-way	25	G1	23.5	89	38	---	500	-----	500	-----
	15592	DQF-B-232	2-way	32	G1-1/4	15	103	43.5	---	-----	-----	500	-----
	15721	DQF-B-232A	2-way	32	G1-1/4	36	103	43.5	---	-----	-----	500	-----
15593	DQF-B-240	2-way	40	G1-1/2	24	113	48	---	-----	500	-----	500	
15594	DQF-B-250	2-way	50	G2	42	128	53	---	-----	400	-----	400	
	15595	DQF-B-315	3-way	15	G1/2	5.6	60	30	30.5	600	-----	600	-----
	15596	DQF-B-315A	3-way	15	G1/2	1.2	60	30	30.5	600	-----	600	-----
	15597	DQF-B-315B	3-way	15	G1/2	2.5	60	30	30.5	600	-----	600	-----
	15598	DQF-B-315C	3-way	15	G1/2	3.6	60	30	30.5	600	-----	600	-----
	15599	DQF-B-315D	3-way	15	G1/2	4.6	60	30	30.5	600	-----	600	-----
	15600	DQF-B-320	3-way	20	G3/4	9.5	67	35	32	600	-----	600	-----
	15601	DQF-B-320A	3-way	20	G3/4	1.5	67	35	32	600	-----	600	-----
	15602	DQF-B-320B	3-way	20	G3/4	2.3	67	35	32	600	-----	600	-----
	15603	DQF-B-320C	3-way	20	G3/4	4.5	67	35	32	600	-----	600	-----
	15604	DQF-B-320D	3-way	20	G3/4	6.5	67	35	32	600	-----	600	-----
	15605	DQF-B-325	3-way	25	G1	13	89	38	46.5	500	-----	500	-----
	15606	DQF-B-332	3-way	32	G1-1/4	15	99	43.5	49	-----	-----	500	-----
	15607	DQF-B-340	3-way	40	G1-1/2	24	110	48	52	-----	500	-----	500
	15608	DQF-B-350	3-way	50	G2	42	123	53	69	-----	400	-----	400

Note: DN15~DN20 ball valve, A:KV1.6, B:KV2.5, C:KV4.0, D:KV6.3, E: full diameter. DN25~DN50, without letters: indicates without guide vane.

# DQF-B\*DQQ-B1K3(2) Motorised Ball Valve



Motorised ball valves are available for terminal waterway control. Thermostat control the motorised ball valve actuator, and the actuator motor drive the valve ON/OFF to make the medium flow or disconnected, and the fan coil blow at the same time to control the temperature automatically.

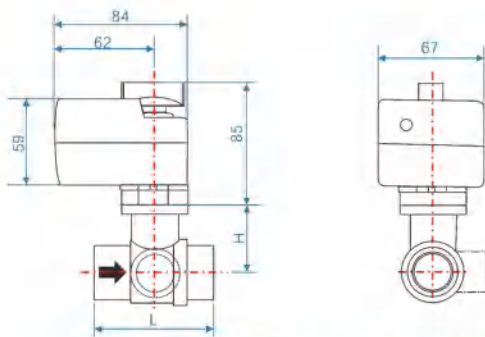
## Features

- Easy installation and cost saving.
- Closing tightly and having a great differential pressure.
- Water flow smoothly and it won't be blocked by slag. KVS value is much larger than common 2-way valve.
- Valve opens safety to guard effectively against water hammer.

## Product parameters

- Main material: forging brass body, seal PTFE / HNBR
- Valve opening torque: DN15~DN25 < 1N.m, DN32~50 < 2N.m
- Actuator torque: 2N.m
- Nominal pressure: 1.6MPa
- Working medium: water
- Fluid temperature 5~95°C
- Stem size: 9x9

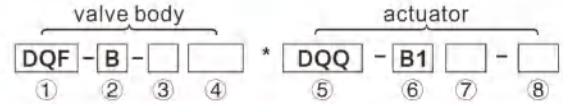
## Specification



Order No.	Model	Valve type	DN	Thread size	Kvs	Maximum differential pressure kPa	Dimension	
							L	H
15004	DQF-B-215*DQQ-B1K3-220	2-way	15	G1/2	5.6	600	60	30
15074	DQF-B-220*DQQ-B1K3-220	2-way	20	G3/4	9.5	600	67	35
15158	DQF-B-225*DQQ-B1K3-220	2-way	25	G1	9.5	500	89	38
15211	DQF-B-315*DQQ-B1K3-220	3-way	15	G1/2	5.6	600	60	30
15281	DQF-B-320*DQQ-B1K3-220	3-way	20	G3/4	9.5	600	67	35
15351	DQF-B-325*DQQ-B1K3-220	3-way	25	G1	13	500	89	38
15076	DQF-B-220*DQQ-B1K2-220	2-way	20	G3/4	9.5	600	67	35

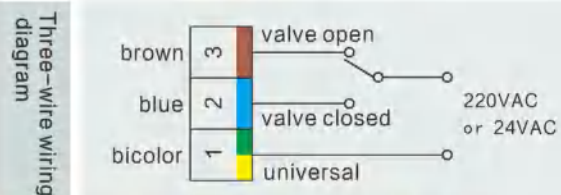
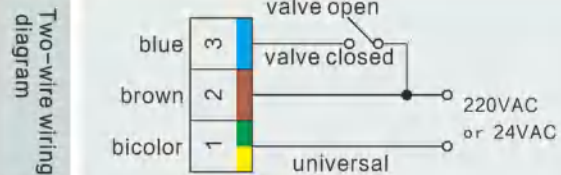
Note: the table above is the commonly recommended model. Please refer to the below model selected combination description for individual requirements. Please consult the sales staff for more details.

## Instruduction of selection

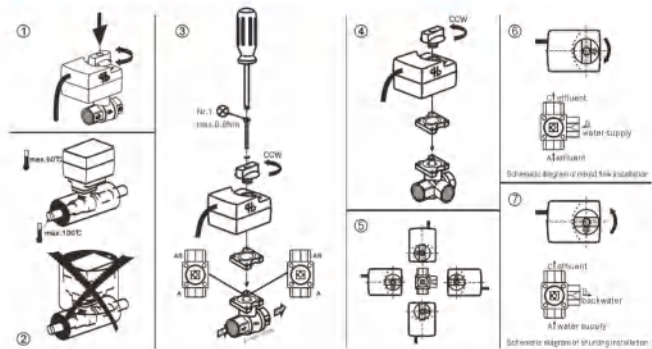


NO.	Code definition	option and interpretation
①	Motorized ball valve body series	DQF
②	Valve body series code	A = Development sequence
③	Valve type	2 = two-way valve, 3 = three-way valve
④	Valve size	15=DN15, 20=DN20, 25=DN25
⑤	Motorized ball valve actuator series	DQQ
⑥	Actuator series code	B1 = thrust 2N.m
⑦	Control mode	K2 = two-wire, on/off K3 = three-wire, on/off
⑧	Input power	24AC=24VAC, 220=220VAC

## Wiring diagram



## Install and operate instructions



- When requiring manual control, press down the switch knob firstly then it's available to turn the knob to the left or right to turn it on or off correspondingly. When it's in motorized mode, the universal line, valve opens when the blue wire is energized and valve closes when the brown wire is energized.
- Working environment: the temperature of the actuator cannot be higher than 50 °C, the temperature of medium cannot be higher than 100 °C.
- Use the screwdriver to unscrew the knob center screw to divided the ball valve into three parts: knob switch, actuator and valve body. After disassembly, t-shaped groove on the top of the stem indicates the current open and closed situation of the valve body. It indicates full open on the left and full closed on the right. When installing the actuator, notice that the switch must be consistent with the valve body in open or close condition.
- The disassembly method of the three-way valve is shown in the figure above. The ball valve can be divided into three parts: knob switch, actuator and valve body.
- The actuator and valve body can be combined as shown in four different directions, but please notice the switch direction and the stem t-groove direction when installing. See the figure 6,7 for details of the corresponding relation of usage.
- When the direction of the switch knob and the direction of the t-shaped groove of the valve stem is shown as figure 6, it is a mixed-flow three-way installation.
- When the direction of the switch knob and the direction of the t-shaped groove of the valve stem is shown as figure 7, it is a divided-flow three-way installation.

## DQF-B\*DQQ-B1KF Super Capacitor Power Cut and Self-reset Motorized Ball Valve



Motorised ball valves are available for terminal waterway control. Thermostat control the motorised ball valve actuator, and the actuator motor drive the valve ON/OFF to make the medium flow or disconnected, and the fan coil blow at the same time to control the temperature automatically.

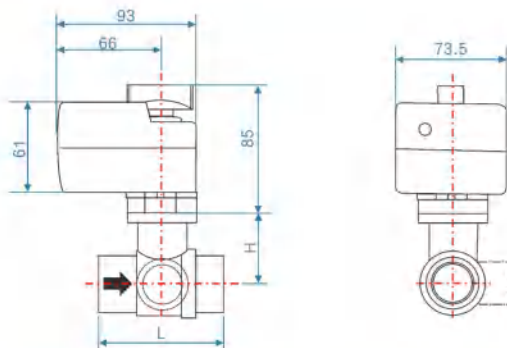
### Features

- Easy installation and cost saving.
- Closing tightly and having a great differential pressure.
- Water flow smoothly and it won't be blocked by slag. KVS value is much larger than common 2-way valve.
- Valve opens safely to guard effectively against water hammer.

### Product parameters

- Main material: forging brass body, seal PTFE / HNBR
- Valve opening torque: DN15~DN25 < 1N.m, DN32~50 < 2N.m
- Actuator torque: 2N.m ● Nominal pressure: 1.6MPa
- Working medium: water
- Fluid temperature 5~95°C ● Stem size: 9x9

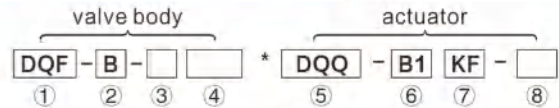
### Specification



Order No.	Model	Valve type	DN	Thread size	Kvs	Maximum differential pressure kPa	Dimension	
							L	H
15011	DQF-B-215*DQQ-B1KF-220	2-way	15	G1/2	5.6	600		
15081	DQF-B-220*DQQ-B1KF-220	2-way	20	G3/4	9.5	600		
15165	DQF-B-225*DQQ-B1KF-220	2-way	25	G1	9.5	500		
15218	DQF-B-315*DQQ-B1KF-220	3-way	15	G1/2	5.6	600		
15288	DQF-B-320*DQQ-B1KF-220	3-way	20	G3/4	9.5	600		
15358	DQF-B-325*DQQ-B1KF-220	3-way	25	G1	13	500		

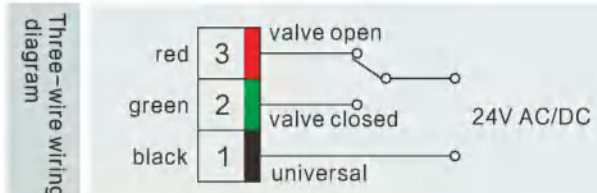
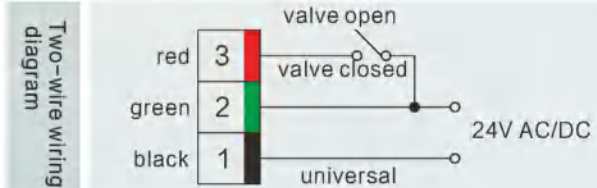
Note: the table above is the commonly recommended model. Please refer to the below model selected combination description for individual requirements. Please consult the sales staff for more details.

### Instrudction of selection

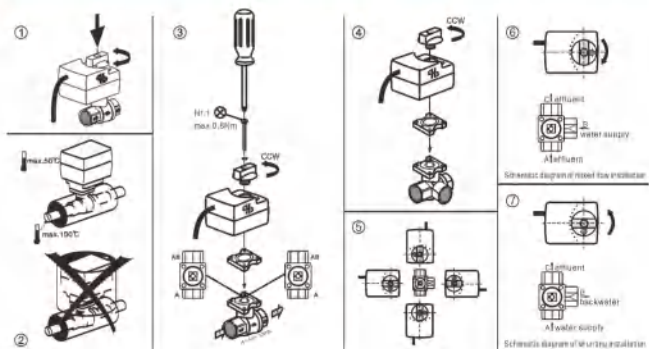


NO.	Code definition	Option and interpretation
①	Motorized ball valve body series	DQF
②	Valve body series code	B = Development sequence
③	Valve type	2 = two-way valve, 3 = three-way valve
④	Valve size	15=DN15, 20=DN20, 25=DN25
⑤	Motorized ball valve actuator series	DQQ
⑥	Actuator series code	B1 = thrust 2N.m
⑦	Control mode	KF = 2/3-wire universal, on/off
⑧	Input power	24=24V AC/DC, 220=220VAC

### Wiring diagram



### Install and operate instructions



- When requiring manual control, press down the switch knob firstly then it's available to turn the knob to the left or right to turn it on or off correspondingly. When it's in motorized mode, the bicolor line is the universal line, valve opens when the blue wire is energized and valve closes when the brown wire is energized.
- Working environment: the temperature of the actuator cannot be higher than 50 °C, the temperature of medium cannot be higher than 100 °C.
- Use the screwdriver to unscrew the knob center screw to divided the ball valve into three parts: knob switch, actuator and valve body. After disassembly, t-shaped groove on the top of the stem indicates the current open and closed situation of the valve body. It indicates full open on the left and full closed on the right. When installing the actuator, notice that the switch must be consistent with the valve body in open or close condition.
- The disassembly method of the three-way valve is shown in the figure above. The ball valve can be divided into three parts: knob switch, actuator and valve body.
- The actuator and valve body can be combined as shown in four different directions, but please notice the switch direction and the stem t-groove direction when installing. See the figure 6,7 for details of the corresponding relation of usage.
- When the direction of the switch knob and the direction of the t-shaped groove of the valve stem is shown as figure 6, it is a mixed-flow three-way installation.
- When the direction of the switch knob and the direction of the t-shaped groove of the valve stem is shown as figure 7, it is a divided-flow three-way installation.











## DQF-C\*DQQ-C1 Motorised Ball Valve



Motorised ball valves are available for terminal waterway control. Thermostat control the motorised ball valve actuator, and the actuator motor drive the valve ON/OFF to make the medium flow or disconnected, and the fan coil blow at the same time to control the temperature automatically.

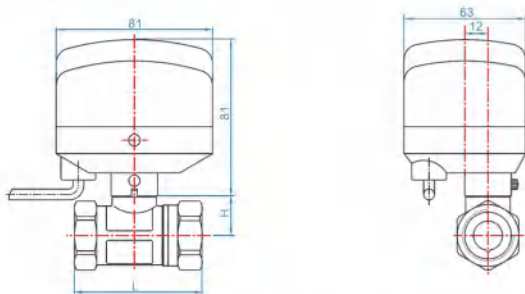
### Features

- Easy installation and cost saving.
- Closing tightly and having a great differential pressure.
- Water flow smoothly and it won't be blocked by slag. KVS value is much larger than common 2-way valve.
- Valve opens safely to guard effectively against water hammer.

### Product parameters

- Main material: forging brass body, seal PTFE / HNBR
- Actuator torque: 2.5N.m
- Valve opening torque: < 1N.m
- Nominal pressure: 1.6MPa
- Working medium: water
- Fluid temperature 5~95°C

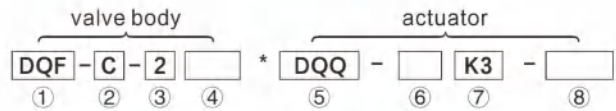
### Specification



Order No.	Model	Valve type	DN	Thread size	Kvs	Maximum differential pressure kPa	Demension	
							L	H
15390	DQF-C-215*DQQ-C1K3-220	2-way	15	G1/2	8	600	62	16.2
15394	DQF-C-220*DQQ-C1K3-220	2-way	20	G3/4	11	600	64	20
15402	DQF-C-225*DQQ-C1K3-220	2-way	25	G1	17.5	500	70	22
15414	DQF-C-232*DQQ-C1K3-220	2-way	32	G1-1/4	21.5	400	74	27

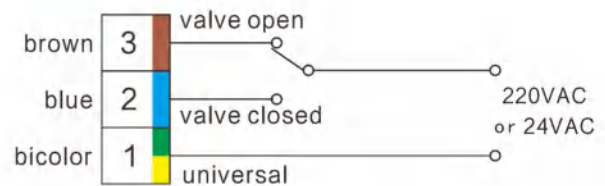
Note: the table above is the commonly recommended model. Please refer to the below model selected combination description for individual requirements. Please consult the sales staff for more details.

### Instruduction of selection



NO.	Code definition	Option and interpretation
①	Motorized ball valve body series	DQF
②	Valve body series code	C = Development sequence
③	Valve type	2 = two-way valve
④	Valve size	15=DN15, 20=DN20, 25=DN25, 32=DN32
⑤	Motorized ball valve actuator series	DQQ
⑥	Actuator series code	C1 = 2.5N.m, two-way rotating motor
⑦	Control mode	K3 = three-wire, on/off
⑧	Input power	24AC=24VAC, 220=220VAC

### Wiring diagram



note: only applicable in three wire system

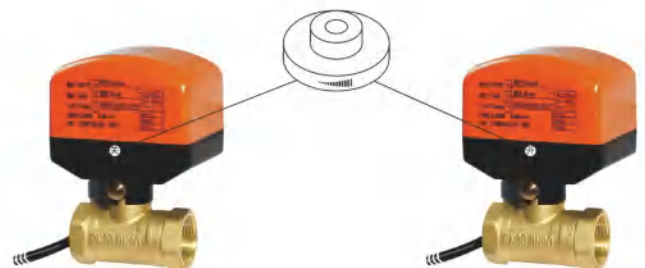
### Install and operate instructions

#### Install instructions

After the actuator is inserted into the valve body interface, tighten the lock screw to make the actuator firmly connected to the valve body.

#### operate instructions

During the time of valve opens, the label stripe shown on the aperture turns from small to large, the aperture shows open when the valve is open. During the time of valve closes, the label stripe shown on the aperture turns from large to small, the aperture shows closed when the valve is closed.



## DQF-C\*DQQ-C2 Motorised Ball Valve



Motorised ball valves are available for terminal waterway control. Thermostat control the motorised ball valve actuator, and the actuator motor drive the valve ON/OFF to make the medium flow or disconnected, and the fan coil blow at the same time to control the temperature automatically.

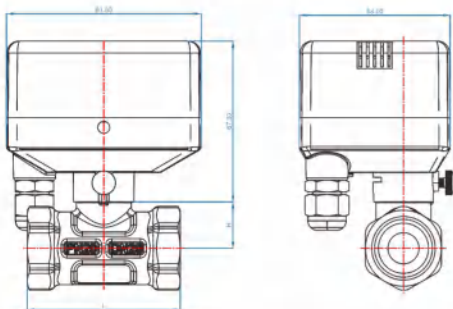
### Features

- Easy installation and cost saving.
- Closing tightly and having a great differential pressure.
- Water flow smoothly and it won't be blocked by slag. KVS value is much larger than common 2-way valve.
- Valve opens safely to guard effectively against water hammer.

### Product parameters

- Main material: forging brass body, seal PTFE / HNBR
- Actuator torque: 2.5N.m
- Valve opening torque: < 1N.m
- Nominal pressure: 1.6MPa
- Working medium: water
- Fluid temperature 5-95°C

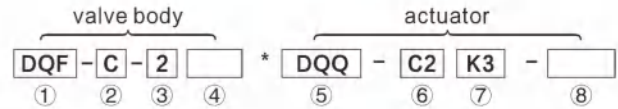
### Specification



Order No.	Model	Valve type	DN	Thread size	Kvs	Maximum differential pressure kPa	Dimension	
							L	H
15392	DQF-C-215*DQQ-C2K3-220	2-way	15	G1/2	8	600	62	16.2
15396	DQF-C-220*DQQ-C2K3-220	2-way	20	G3/4	11	600	64	20
15404	DQF-C-225*DQQ-C2K3-220	2-way	25	G1	17.5	500	70	22
15416	DQF-C-232*DQQ-C2K3-220	2-way	32	G1-1/4	21.5	400	74	27

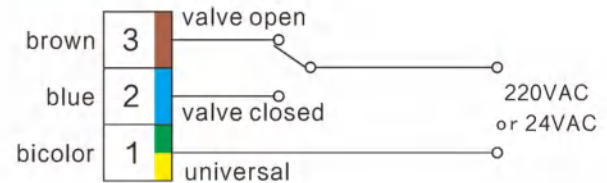
Note: the table above is the commonly recommended model. Please refer to the below model selected combination description for individual requirements. Please consult the sales staff for more details.

### Instrudction of selection



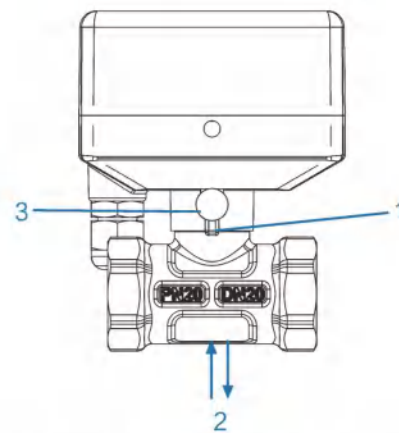
NO.	Code definition	Option and interpretation
①	Motorized ball valve body series	DQF
②	Valve body series code	C = Development sequence
③	Valve type	2 = two-way valve
④	Valve size	15=DN15, 20=DN20, 25=DN25, 32=DN32
⑤	Motorized ball valve actuator series	DQQ
⑥	Actuator series code	C2 = 2.5N.m, unidirectional motor
⑦	Control mode	K3 = three-wire, on/off
⑧	Input power	24AC=24VAC, 220=220VAC

### Wiring diagram



note: only applicable in three wire system

### Install and operate instructions



- 1.Align the locating block on the side of the valve body with the locating notch of the actuator and insert.
- 2.Push the valve body into the driver slot and it must be inserted to the bottom
- 3.Tighten the lock nut to secure the valve body. CW tighten and CCW loosen.

## DQF-C\*DQQ-C3 Motorised Ball Valve



Motorised ball valves are available for terminal waterway control. Thermostat control the motorised ball valve actuator, and the actuator motor drive the valve ON/OFF to make the medium flow or disconnected, and the fan coil blow at the same time to control the temperature automatically.

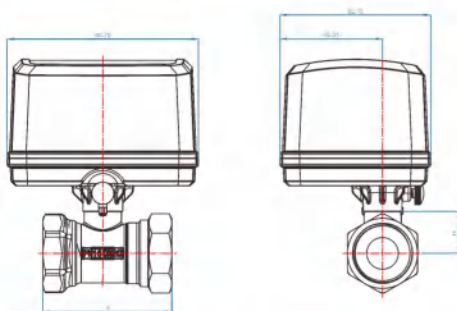
### Features

- Easy installation and cost saving.
- Closing tightly and having a great differential pressure.
- Water flow smoothly and it won't be blocked by slag. KVS value is much larger than common 2-way valve.
- Valve opens safely to guard effectively against water hammer.

### Product parameters

- Main material: forging brass body, seal PTFE / HNBR
- Actuator torque: 2.5N.m
- Valve opening torque: < 1N.m
- Nominal pressure: 1.6MPa
- Working medium: water
- Fluid temperature 5~95°C

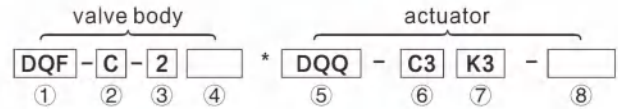
### Specification



Order No.	Model	Valve type	DN	Thread size	Kvs	Maximum differential pressure kPa	Dimension	
							L	H
15816	DQF-C-220B*DQQ-C3K3-220	2-way	20	G3/4	11	600	57	57

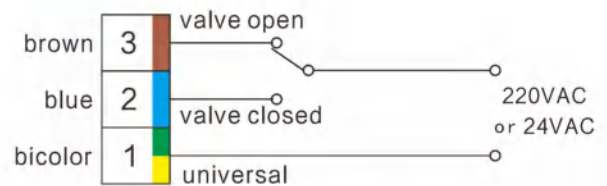
Note: the table above is the commonly recommended model. Please refer to the below model selected combination description for individual requirements. Please consult the sales staff for more details.

### Instrudction of selection



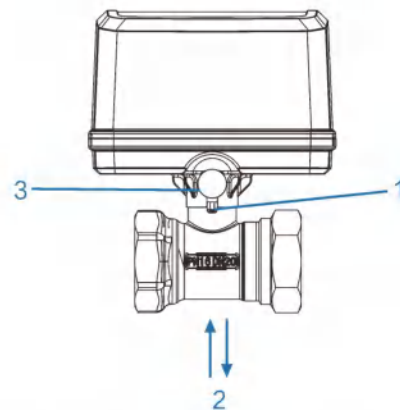
NO.	Code definition	Option and interpretation
①	Motorized ball valve body series	DQF
②	Valve body series code	C = Development sequence
③	Valve type	2 = two-way valve
④	Valve size	15=DN15, 20=DN20, 25=DN25, 32=DN32
⑤	Motorized ball valve actuator series	DQQ
⑥	Actuator series code	C3 = 2.5N.m, unidirectional motor
⑦	Control mode	K3 = three-wire, on/off
⑧	Input power	24AC=24VAC, 220=220VAC

### Wiring diagram



note: only applicable in three wire system

### Install and operate instructions



- 1.Align the locating block on the side of the valve body with the locating notch of the actuator and insert.
- 2.Push the valve body into the driver slot and it must be inserted to the bottom
- 3.Tighten the lock nut to secure the valve body. CW tighten and CCW loosen.

## DQF-D\*DQQ-D1 Motorised Ball Valve



Motorised ball valves are available for terminal waterway control. Thermostat control the motorised ball valve actuator, and the actuator motor drive the valve ON/OFF to make the medium flow or disconnected, and the fan coil blow at the same time to control the temperature automatically.

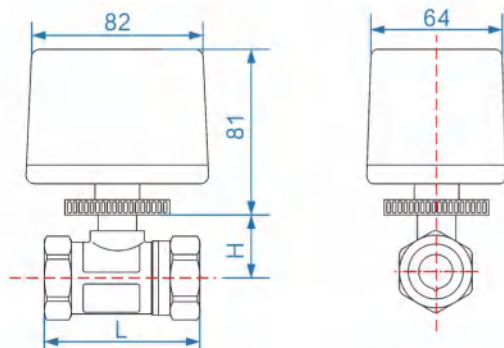
### Features

- Easy installation and cost saving.
- Closing tightly and having a great differential pressure.
- Water flow smoothly and it won't be blocked by slag. KVS value is much larger than common 2-way valve.
- Valve opens safely to guard effectively against water hammer.

### Product parameters

- Main material: forging brass body, seal PTFE / HNBR
- Actuator torque: 2.5N.m
- Valve opening torque: < 1N.m
- Nominal pressure: 1.6MPa
- Working medium: water
- Fluid temperature 5~95°C

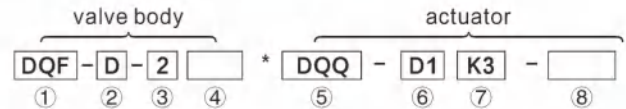
### Specification



Order No.	Model	Valve type	DN	Thread size	Kvs	Maximum differential pressure kPa	Dimension	
							L	H
15728	DQF-D-215*DQQ-D1K3-220	2-way	15	G1/2	11	600	58	26
15418	DQF-D-220*DQQ-D1K3-220	2-way	20	G3/4	11	600	64	27.5
15439	DQF-D-225*DQQ-D1K3-220	2-way	25	G1	20	500	73	30.5
15460	DQF-D-232*DQQ-D1K3-220	2-way	32	G1-1/4	23.5	400	81	35

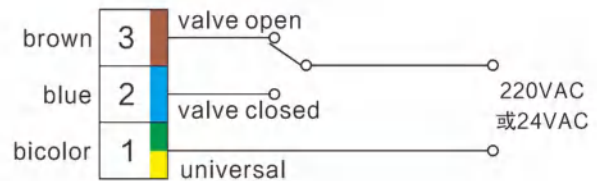
Note: the table above is the commonly recommended model. Please refer to the below model selected combination description for individual requirements. Please consult the sales staff for more details.

### Instrudction of selection



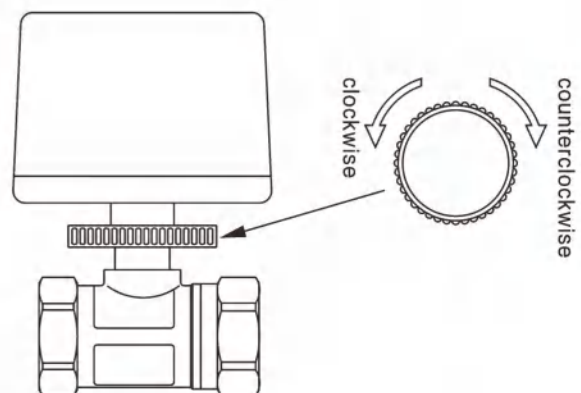
NO.	Code definition	Option and interpretation
①	Motorized ball valve body series	DQF
②	Valve body series code	D = Development sequence
③	Valve type	2 = two-way valve
④	Valve size	15=DN15, 20=DN20, 25=DN25, 32=DN32
⑤	Motorized ball valve actuator series	DQQ
⑥	Actuator series code	D1 = 2.5N.m, two-way rotating motor
⑦	Control mode	K3 = three-wire, on/off
⑧	Input power	24AC=24VAC, 220=220VAC

### Wiring diagram



note: only applicable in three wire system

### Install and operate instructions



The product adopts the screw connection as shown. Clockwise rotation means tightening, and counterclockwise rotation means loosening connection.



## DQF-F\* DQQ-E2 Series Motorised Ball Valve



DQF-F series motorised ball valves are widely used for fluid control in central air conditioning, heating, water treatment, industrial processing systems, etc. The DQQ-E2 series actuators are matched to support ball valve working. The actuator receives a standard regulating signal or a three-state floating point signal and rotates the ball to the designated position.

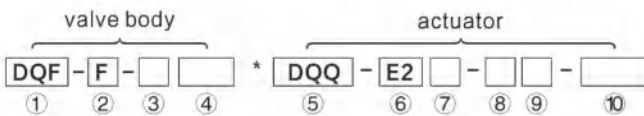
### Features

- Unique conical inlet design, achieving accurate percentage flow control characteristics
- Simple runner design, not easily jammed, more safe and reliable
- High flow capacity, low resistance loss
- Ultra-quiet flow channel design ensures a quiet working environment
- High cut-off pressure, high pressure rating
- Equipped with manual switch and opening indicator
- Equipped with pressure sensor interface

### Technical Specifications

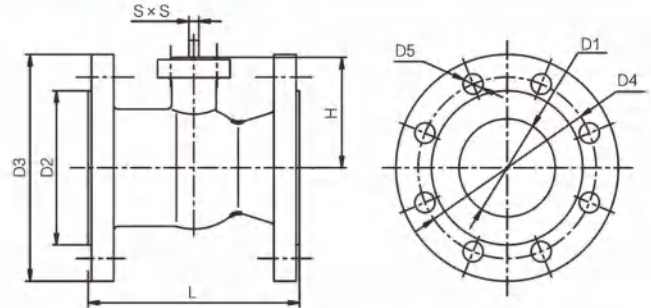
- Working temperature: 2-94°C
- Pressure grade: PN16 or PN25
- Medium: cold and hot water, ethylene glycol solution ≤ 50%
- Connection: flange
- Connection standard: GB/T 17241.6
- Close differential pressure: 400Kpa
- Flow characteristics: equal percentage characteristic curve
- Leakage rate: control path ≤ 0.01%KVS
- Adjustment: Angle stroke 90°
- Material:
  - Valve body: ductile cast iron QT450-10
  - Seat: PTFE
  - Valve ball: stainless steel
  - Valve shaft: Hpb58-2
  - Seal: EPDM

### Instrudction of selection



NO.	Code definition	Option and interpretation
①	Motorized ball valve body series	DQF
②	Valve body series code	F = Flange iron valve
③	Valve type	2 = two-way valve, 3 = three-way valve
④	Valve size	65=DN65, 80=DN80, 100=DN100, 125=DN125, 150=DN150
⑤	Motorized ball valve actuator series	DQQ
⑥	Actuator series code	E2 = Appearance function NO.
⑦	Control mode	K=2/3-wire universal, on/off M=modulating
⑧	Actuator thrust	15=15N.m, 20=20N.m, 30=30N.m
⑨	Auxiliary switch	none = no auxiliary switch, S1=1 auxiliary switch S2=2 auxiliary switches
⑩	Input power	24AC=24VAC/DC, 220=220VAC

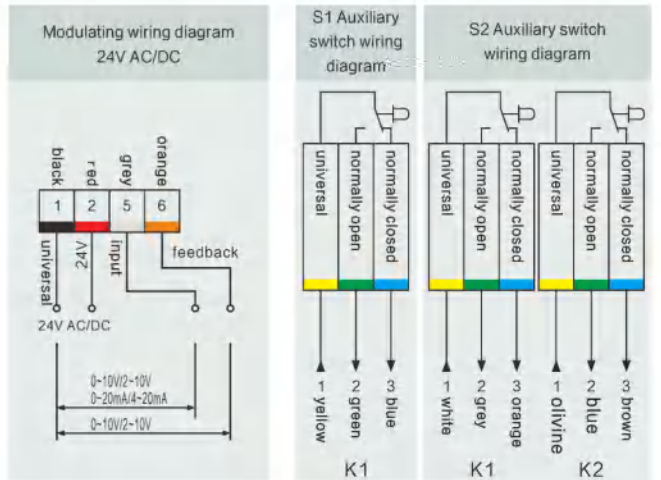
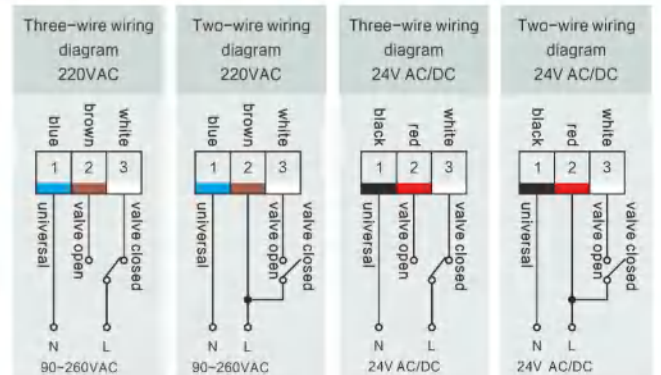
### Specification



Order No.	Model	Valve type	DN	PN	Kvs	Demension(mm)							actuator	
						L	H	D1	D2	D3	D4	D5		S x S
15805	DQF-F-265A	2-way	65	16	103	190	86	43	120	185	145	18	10 x 10	DQQ-E2M-10
15806	DQF-F-280A	2-way	80	16	185	203	94	54	136	200	160	18	10 x 10	DQQ-E2M-20
15807	DQF-F-2100A	2-way	100	16	300	229	103	65	156	220	180	18	12 x 12	DQQ-E2M-20
15808	DQF-F-2125A	2-way	125	16	480	245	117	84	188	250	210	18	12 x 12	DQQ-E2M-30
15809	DQF-F-2150A	2-way	150	16	600	250	130	100	210	285	240	22	12 x 12	DQQ-E2M-30
15810	DQF-F-2200A	2-way	200	16	916	300	163	215	284	340	295	22	12 x 12	DQQ-E2M-50
15811	DQF-F-265	2-way	65	25	103	190	86	43	120	185	145	18	10 x 10	DQQ-E2M-10
15812	DQF-F-280	2-way	80	25	185	203	94	54	136	200	160	18	10 x 10	DQQ-E2M-20
15813	DQF-F-2100	2-way	100	25	300	229	103	65	156	235	190	18	12 x 12	DQQ-E2M-20
15814	DQF-F-2125	2-way	125	25	480	245	117	84	188	270	220	18	12 x 12	DQQ-E2M-30
15815	DQF-F-2150	2-way	150	25	600	250	130	100	210	300	250	22	12 x 12	DQQ-E2M-30

注: KV单位m³/h, PN单位为bar。

### Wiring diagram



## DGQF series Motorized Ball Valve



DQF-G series motorised ball valves are available for terminal waterway control. Thermostat control the motorised actuator, and the reversing motor drive the valve ON/OFF to make the medium current or disconnected, and make the fan coil blow to control the temperature automatically. The valve combines dynamic and filter. It can adjust the water flow, balance the pressure. And the valve is equipped with temperature testing interface.

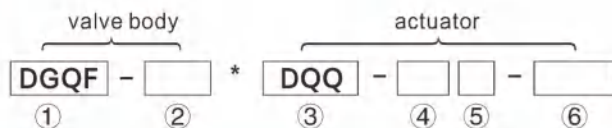
### Features

- Easy installation and cost saving.
- Closing tightly and having a great differential pressure.
- Integrated with the filter, filter the medium impurities effectively.
- Integrated with balance valve, available to balance pressure levels.
- Integrated with the filter and balance valve, small installation space, low cost, and convenient maintaining.

### Product parameters

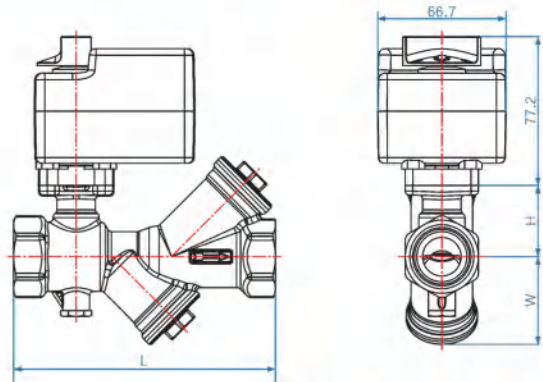
- Main material: forging brass body, seal PTFE、EPDM
- Nominal pressure: 1.6MPa
- Actuator torque: < 2N.m
- Valve opening torque: < 1N.m
- Working medium: cold, hot water, concentration of <50% ethylene glycol solution
- Medium temperature 5~95°C
- Stem size: 9 x 9mm

### Instrudction of selection



NO.	Code definition	Option and interpretation
①	Dynamic filter motorized ball valve body series	DGQF
②	Valve size	15=DN15, 20=DN20, 25=DN25 32=DN32, 40=DN40, 50=DN50
③	Motorized ball valve actuator series	DQQ
④	Actuator series code	B1 = thrust 2N.m, B2 = thrust 10N.m
⑤	Control mode	K= 2/3 - wire universal, on/off, M=modulating
⑥	Input power	24AC=24VAC, 220=220VAC

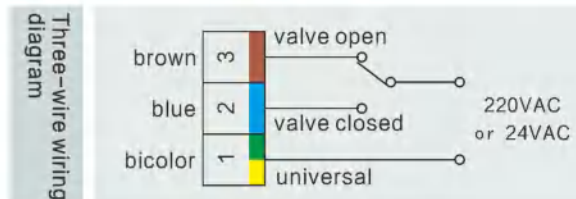
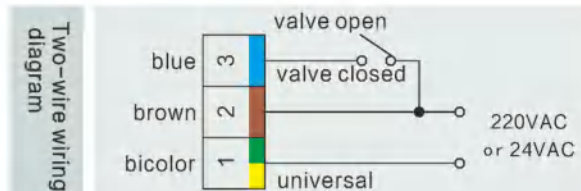
### Specification



Order No.	Model	Valve type	DN	Thread size	Kvs	Maximum differential pressure kPa	Demension		
							L	H	D
15811	DGQF-B-15*DQQ-B1K-220	2-way	15	G1/2	2.6	600	118	30	45.5
15812	DGQF-B-20*DQQ-B1K-220	2-way	20	G3/4	6.5	600	118	30	45.5
15570	DGQF-B-25*DQQ-B1K-220	2-way	25	G1	9.5	600	136	37	46
15813	DGQF-B-32*DQQ-B2K-220	2-way	32	G1-1/4	15	500	136	37	46
15577	DGQF-B-40*DQQ-B2K-220	2-way	40	G1-1/2	24	500	185	48	68
15814	DGQF-B-50*DQQ-B2K-220	2-way	50	G2	40	400	240	53	87
15815	DGQF-B-15*DQQ-B1M-24AC	2-way	15	G1/2	2.6	600	118	30	45.5
15816	DGQF-B-20*DQQ-B1M-24AC	2-way	20	G3/4	6.5	600	118	30	45.5
15568	DGQF-B-25*DQQ-B1M-24AC	2-way	25	G1	9.5	600	136	37	46
15817	DGQF-B-32*DQQ-B2M-24AC	2-way	32	G1-1/4	15	500	136	37	46
15575	DGQF-B-40*DQQ-B2M-24AC	2-way	40	G1-1/2	24	500	185	48	68
15818	DGQF-B-50*DQQ-B2M-24AC	2-way	50	G2	40	400	240	53	87

Note: the table above is the commonly recommended model. Please refer to the below model selected combination description for individual requirements. Please consult the sales staff for more details.

### Wiring diagram



## DQF-G Motorised Ball Valve

DDF-G series motorised ball valves are available for terminal waterway control. Thermostat control the motorised ball valve actuator, and the actuator motor drive the valve ON/OFF to make the medium flow or disconnected, and the fan coil blow at the same time to control the temperature automatically.

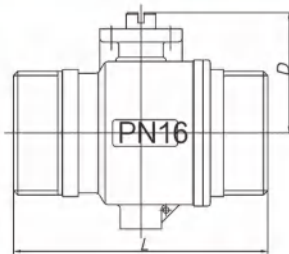
### Features

- Easy installation and cost saving.
- Closing tightly and having a great differential pressure.
- Water flow smoothly and it won't be blocked by slag. KVS value is much larger than common 2-way valve.
- Valve opens safely to guard effectively against water hammer.

### Product parameters

- Main material: forging brass body, seal PTFE / HNBR
- Actuator torque: 3.5N.m ● Valve opening torque: < 1N.m
- Nominal pressure: 1.6MPa ● Working medium: water
- Fluid temperature 5~95°C

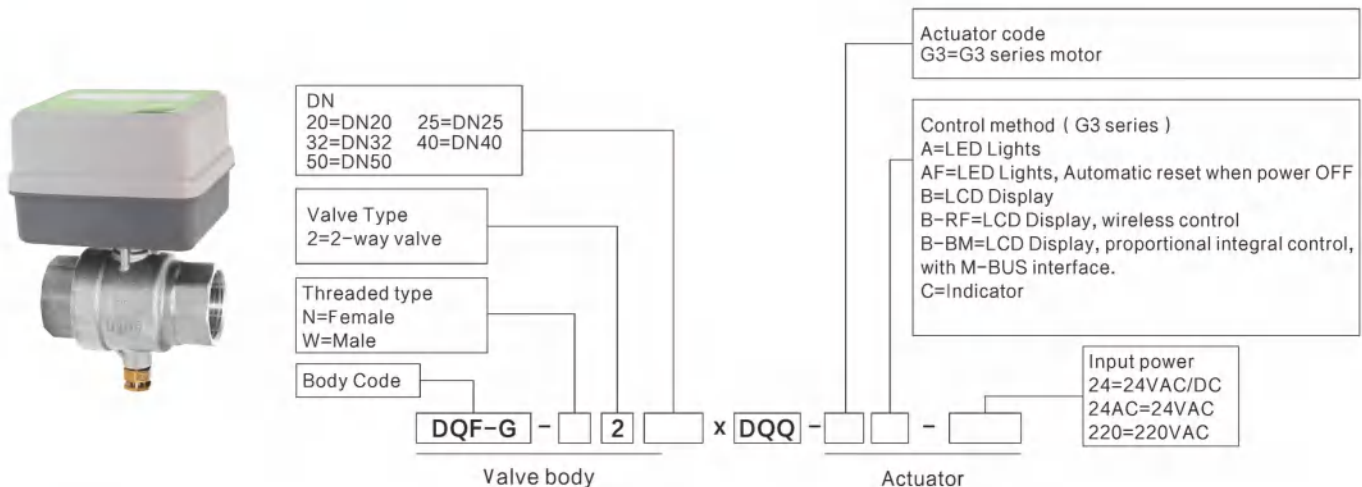
### List of models and technical parameters/recommended actuators



Rated stroke	90°
Rated thrust	3N.m
Photo	
Model	Refer to page 48 for details. DQQ-G3

Photo	Order No.	Model	Valve type	DN	Thread size	Kvs	Dimension		Maximum differential pressure [kPa]
							L	D	
	15629	DQF-G-N220	2-way	20	G3/4 internal thread	11	64	42	500
	15630	DQF-G-N220A	2-way	20	G3/4 internal thread	23.5	66	35.5	500
	15631	DQF-G-N225	2-way	25	G1 internal thread	23.5	81	40.8	500
	15632	DQF-G-W220	2-way	20	G3/4 external thread	20	72.5	35.5	500
	15633	DQF-G-W225	2-way	25	G1 external thread	23.5	86.2	40.8	500
	15634	DQF-G-W232	2-way	32	G1-1/4 external thread	36	96.7	44.4	300
	15635	DQF-G-N240	2-way	40	G1-1/2 internal thread	63	103	63.8	300
	15636	DQF-G-N250	2-way	50	G2 internal thread	95	113.5	70.5	300

### Instrudction of selection



## DQQ-G series Motorised Ball Valve Actuator

DQQ-G series ball valve actuator is used to control the motorised ball valve, it is widely used in heating, ventilation, air conditioning,refrigeration and other building automation system. By controlling the opening or closing the valve and the valve opening degree of the valve (modulation) to regulate the flow of fluid in the system pipeline to obtain a comfortable room temperature, and achieve the effect of energy saving.

### Features

- Easy installation, cost saving. ● Valve body and actuator is a whole set to prevent other people embezzle it.
- Protection class IP66 ● Storage temperature: -40~50 ● Working temperature: -10~50
- Ambient temperature: 1~95% RH no dew ● Operation angle: 90° ● Travel time: about 25 seconds

### Specifications and Technical Data



Photo	Order No.	Model No.	Control method	Power
	15698	DQQ-G3A	Indicator light, Remote lock valve	M-BUS automatic power supply
	15699	DQQ-G3AF-220	Indicator light, Automatic reset when power OFF, 2、3-wire switch	90-260VAC,50/60Hz
	15700	DQQ-G3AF-24	Indicator light, Automatic reset when power OFF, 2、3-wire switch	24VAC/DC self-adaption, 50/60Hz
	15701	DQQ-G3B	LCD, Automatic reset when power OFF, M-BUS interface, Wired valve	24VAC/DC self-adaption, 50/60Hz
	15702	DQQ-G3B-RF	LCD, Automatic reset when power OFF, M-BUS interface, Wireless valve	24VAC/DC self-adaption, 50/60Hz
	15703	DQQ-G3B-BM	LCD, Automatic reset when power OFF, M-BUS interface, Adjustable opening degree	M-BUS automatic power supply
	15704	DQQ-G3C-5DC	With indicator (display the valve open/closed)	5VDC

## WQF-SA series Temperature Control Ball Valve



### Product Description

WQF-SA series digital temperature control ball valve comes with temperature sensor (lower part of ball valve). In accordance with the water supply within the water pipe, the user can set the cooling and heating mode. In accordance with preset turn-on temperature and turn-off temperature, the temperature control ball valve will open or close the ball valve automatically.

Temperature sensor has been installed in the lower part of the ball valve, comes with 220VAC power plug, saving circuit installation time.

Optional relay without electricity normally opened and normally closed contact output, can synchronize the control of wall-hung boilers and other equipment.

Optional infrared remote control components, matching the remote control

Optional power failure self-reset function, the user can choose valve keep, open and closed, the temperature control ball valve running to the appropriate state when power failure.

### Features

- Wide voltage 90-260VAC
- Relay without electricity normally open and normally closed contact output
- Power failure self-reset
- Remote control components
- Temperature sensor fault alarm
- Motor fault alarm
- Keyboard lock
- Anti freezing in shut down state
- Shutdown with electricity
- 3 minutes protection
- The longest intervals of valve actuation

### Model Selection Description

Order No.	Model No	Valve Type	DN	Connection type	Thread size	Kvs	Maximum closing differential pressure [kPa]	Actuator features
18143	DQF-G-W220xWQF-SAA	2-way	20	Male	G3/4	20	500	Power 220VAC
18144	DQF-G-W220xWQF-SAA-J	2-way	20	Male	G3/4	20	500	Power 220VAC, relay without electricity normally open and normally closed contact output
18145	DQF-G-W220xWQF-SAA-JF	2-way	20	Male	G3/4	20	500	Power 220VAC, relay without electricity normally open and normally closed contact output, power failure self-reset.
18146	DQF-G-W220xWQF-SAA-JFY	2-way	20	Male	G3/4	20	500	Power 220VAC, relay without electricity normally open and normally closed contact output, power failure self-reset, remote control components
18147	DQF-G-W225xWQF-SAA	2-way	25	Male	G1	23.5	500	Power 220VAC
18148	DQF-G-W225xWQF-SAA-J	2-way	25	Male	G1	23.5	500	Power 220VAC, relay without electricity normally open and normally closed contact output
18149	DQF-G-W225xWQF-SAA-JF	2-way	25	Male	G1	23.5	500	Power 220VAC, relay without electricity normally open and normally closed contact output, power failure self-reset.
18150	DQF-G-W225xWQF-SAA-JFY	2-way	25	Male	G1	23.5	500	Power 220VAC, relay without electricity normally open and normally closed contact output, power failure self-reset, remote control components
18151	DQF-G-W232xWQF-SAA	2-way	32	Male	G1-1/4	36	300	Power 220VAC
18152	DQF-G-W232xWQF-SAA-J	2-way	32	Male	G1-1/4	36	300	Power 220VAC, relay without electricity normally open and normally closed contact output.
18153	DQF-G-W232xWQF-SAA-JF	2-way	32	Male	G1-1/4	36	300	Power 220VAC, relay without electricity normally open and normally closed contact output, power failure self-reset.
18154	DQF-G-W232xWQF-SAA-JFY	2-way	32	Male	G1-1/4	36	300	Power 220VAC, relay without electricity normally open and normally closed contact output, power failure self-reset, remote control components

## DQF-J Motorized Ball valve ( Ratchet ball valve)

DQF-J series motorised ball valves are available for ending waterway control. Thermostat control the motorised actuator, and the actuator motor drive the valve ON/OFF to make the medium current or disconnected, and make the fan coil blow to control the temperature automatically.



### Features

- Easy installation and cost saving.
- Closing tightly and having a great differential pressure.
- Water flow smoothly and it won't be blocked by slag. KVS value is much larger than common 2-way valve.
- Valve opens safely to guard effectively against water hammer.

### Product parameters

- Main material: forging brass body, seal PTFE/EPDM
- Nominal pressure: 1.6MPa
- Valve opening torque: < 1N.m
- Working medium: water
- Medium temperature 5~95°C

### Model Selection Description

Order No.	Model No.	Valve Type	DN	Thread Size	Kvs	Actuator Data
15705	DQF-J-220xJ1-220	2-way	20	G3/4	4.7	Power source: 50/60Hz 220VAC, power: 2.5W, maximum temperature: 52°C, travel time: 50s, 3-wire switch.
15706	DQF-J-220xK1-24	2-way	20	G3/4	4.7	Power source: 50/60Hz 24VAC, power: 1.0W, maximum temperature: 52°C, travel time: 18-20s, specialize for heating, M-BUS interface.

## DXFxXSQ-A Plug Valve

DXFxXSQ-A Plug Valve are available for control the room temperature by controlling the opening and closing of central air conditioning system and heating system. When it is needed, the thermostat gives a signal of opening the valve. Then the motorised valve will switch on and start opening. The cold or hot water come into the fan coil for providing cold or hot air. The thermostat will make the valve stop when the room temperature achieve the set temperature. And at the same time the water can not flow into the coil. The room temperature will be kept in the range of the set data by the way of opening and closing the valve. It also can be connected with the pipe to provide hot water through heat exchange equipment for any occasion.



### Technical Data and Features

- Motor supply voltage: 24VAC
- Frequency: 50Hz
- Power: 2W
- Motor insulation class: "F" grade
- Maximum ambient temperature: 52 °C
- Cable length: 900mm
- Travel time: 2s
- Plug valve is suit for regular operation, quickly and easily opening and closing.
- Fluid resistance is small
- Simple structure, small size, light weight, easy installation.
- Rare fouling, large flow
- Not limited by the installation direction, the flow of media can be arbitrary
- No vibration, low noise

### Model Selection Description

Order No.	Model No.	DN	Connection type	Thread Size	Kvs
18017	DXF-25xXSQ-A-24AC	DN25	Male	G1	6.7

## FFQ-A series Damper Actuator

FFQ-A series damper actuator is used to control the motorised ball valve, it is widely used in heating, ventilation, air conditioning, refrigeration and other building automation system. By controlling the opening or closing the valve and the valve opening degree of the valve (modulation) to regulate the flow of wind in the pipeline system to get the desired room temperature.

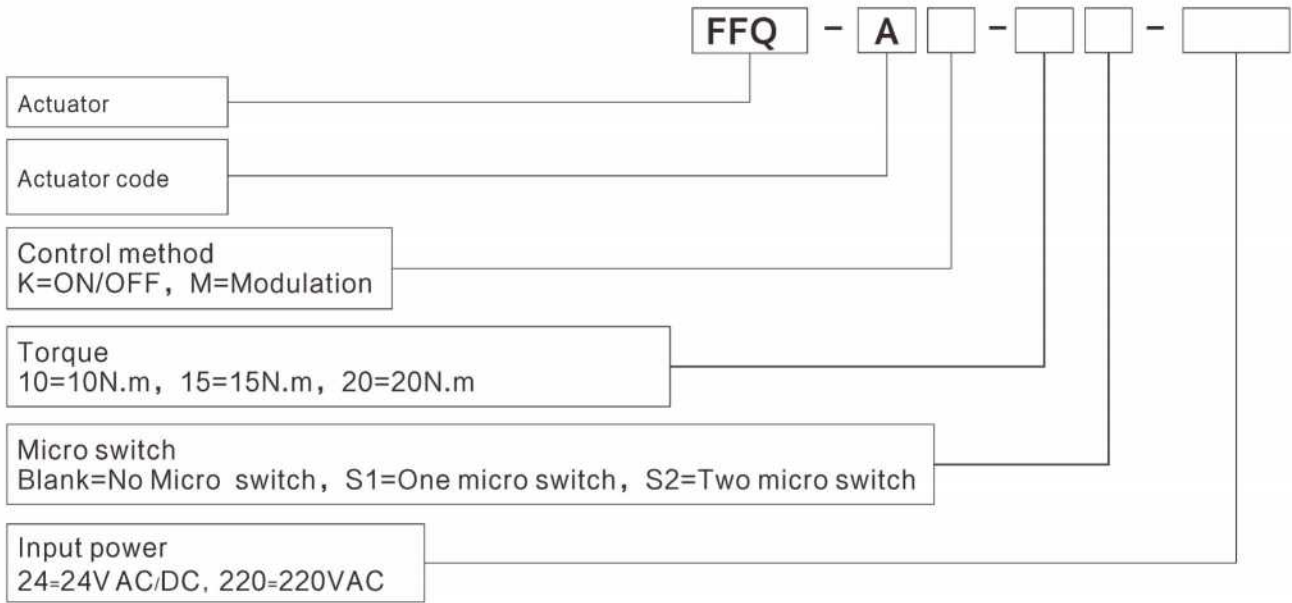
### Features

- Direct installation, do not need linkage device. Easy installation, time and cost saving.
- Overload protection function: when the control program detects overload, it can reduce the voltage across the motor, to protect against overloads of drive transmission mechanism and improve the reliability of actuator. What's more, it also can reduce the power consumption of the motor to protect the motor.
- Manual adjustment mechanism to simplify the on-site commissioning, and allow the manual operation in emergency situations to quickly locate.
- Position indicating device can observe the valve switch and the opening degree of the situation at any time.
- Modulation input: 2-10VDC, 0-20mA, 0-10VDC, 4-20mA optional.
- Modulation output: 2-10VDC, 0-10VDC can be optional.
- Adapt valve shaft size: 5N.m actuator, square shaft 7-11/ round shaft 10-16.  
10-20N.m actuator, square shaft 10-14 /round shaft 12-20.
- No-load running time: 5N.m actuator, 63 seconds; 10-20N.m actuator, 88 seconds.

Model Selection Table

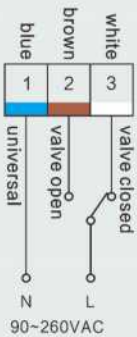
Photo	Order No.	Model No.	Torque	Control method	Micro switch	Power	Run Consumption	Damper Area	
	17000	FFQ-AK-05-24	5N.m	ON/OFF 2, 3-wire	-----	24V DC/AC, 50/60Hz	1.2W	1m <sup>2</sup>	
	17001	FFQ-AK-05-220	5N.m	ON/OFF 2, 3-wire	-----	90-260VAC, 50/60Hz	1.2W	1m <sup>2</sup>	
	17002	FFQ-AK-05S1-24	5N.m	ON/OFF 2, 3-wire	One	24V DC/AC, 50/60Hz	1.2W	1m <sup>2</sup>	
	17003	FFQ-AK-05S1-220	5N.m	ON/OFF 2, 3-wire	One	90-260VAC, 50/60Hz	1.2W	1m <sup>2</sup>	
	17004	FFQ-AM-05-24	5N.m	Modulation	-----	24V DC/AC, 50/60Hz	1.2W	1m <sup>2</sup>	
 开关量	17005	FFQ-AK-10-24	10N.m	ON/OFF 2, 3-wire	-----	24V DC/AC, 50/60Hz	2.1W	2m <sup>2</sup>	
	17006	FFQ-AK-10-220	10N.m	ON/OFF 2, 3-wire	-----	90-260VAC, 50/60Hz	1.4W	2m <sup>2</sup>	
	17007	FFQ-AK-10S1-24	10N.m	ON/OFF 2, 3-wire	One	24V DC/AC, 50/60Hz	2.1W	2m <sup>2</sup>	
	17008	FFQ-AK-10S1-220	10N.m	ON/OFF 2, 3-wire	One	90-260VAC, 50/60Hz	1.4W	2m <sup>2</sup>	
	17009	FFQ-AK-10S2-24	10N.m	ON/OFF 2, 3-wire	Two	24V DC/AC, 50/60Hz	2.1W	2m <sup>2</sup>	
	17010	FFQ-AK-10S2-220	10N.m	ON/OFF 2, 3-wire	Two	90-260VAC, 50/60Hz	1.4W	2m <sup>2</sup>	
	17011	FFQ-AM-10-24	10N.m	Modulation	-----	24V DC/AC, 50/60Hz	2.1W	2m <sup>2</sup>	
	17012	FFQ-AK-15-24	15N.m	ON/OFF 2, 3-wire	-----	24V DC/AC, 50/60Hz	3W	3m <sup>2</sup>	
	17013	FFQ-AK-15-220	15N.m	ON/OFF 2, 3-wire	-----	90-260VAC, 50/60Hz	1.6W	3m <sup>2</sup>	
	17014	FFQ-AK-15S1-24	15N.m	ON/OFF 2, 3-wire	One	24V DC/AC, 50/60Hz	3W	3m <sup>2</sup>	
	17015	FFQ-AK-15S1-220	15N.m	ON/OFF 2, 3-wire	One	90-260VAC, 50/60Hz	1.6W	3m <sup>2</sup>	
	17016	FFQ-AK-15S2-24	15N.m	ON/OFF 2, 3-wire	Two	24V DC/AC, 50/60Hz	3W	3m <sup>2</sup>	
	17017	FFQ-AK-15S2-220	15N.m	ON/OFF 2, 3-wire	Two	90-260VAC, 50/60Hz	1.6W	3m <sup>2</sup>	
	17018	FFQ-AM-15-24	15N.m	Modulation	-----	24V DC/AC, 50/60Hz	3W	3m <sup>2</sup>	
	 模拟量	17019	FFQ-AK-20-24	20N.m	ON/OFF 2, 3-wire	-----	24V DC/AC, 50/60Hz	3.7W	4m <sup>2</sup>
		17020	FFQ-AK-20-220	20N.m	ON/OFF 2, 3-wire	-----	90-260VAC, 50/60Hz	1.9W	4m <sup>2</sup>
		17021	FFQ-AK-20S1-24	20N.m	ON/OFF 2, 3-wire	One	24V DC/AC, 50/60Hz	3.7W	4m <sup>2</sup>
		17022	FFQ-AK-20S1-220	20N.m	ON/OFF 2, 3-wire	One	90-260VAC, 50/60Hz	1.9W	4m <sup>2</sup>
17023		FFQ-AK-20S2-24	20N.m	ON/OFF 2, 3-wire	Two	24V DC/AC, 50/60Hz	3.7W	4m <sup>2</sup>	
17024		FFQ-AK-20S2-220	20N.m	ON/OFF 2, 3-wire	Two	90-260VAC, 50/60Hz	1.9W	4m <sup>2</sup>	
17025		FFQ-AM-20-24	20N.m	Modulation	-----	24V DC/AC, 50/60Hz	3.7W	4m <sup>2</sup>	
17026		FFQ-AK-30-24	30N.m	ON/OFF 2, 3-wire	-----	24V DC/AC, 50/60Hz	3.7W	6m <sup>2</sup>	
	17027	FFQ-AK-30-220	30N.m	ON/OFF 2, 3-wire	-----	90-260VAC, 50/60Hz	1.9W	6m <sup>2</sup>	
	17028	FFQ-AK-30S1-24	30N.m	ON/OFF 2, 3-wire	One	24V DC/AC, 50/60Hz	3.7W	6m <sup>2</sup>	
	17029	FFQ-AK-30S1-220	30N.m	ON/OFF 2, 3-wire	One	90-260VAC, 50/60Hz	1.9W	6m <sup>2</sup>	
	17030	FFQ-AK-30S2-24	30N.m	ON/OFF 2, 3-wire	Two	24V DC/AC, 50/60Hz	3.7W	6m <sup>2</sup>	
	17031	FFQ-AK-30S2-220	30N.m	ON/OFF 2, 3-wire	Two	90-260VAC, 50/60Hz	1.9W	6m <sup>2</sup>	
	17032	FFQ-AM-30-24	30N.m	Modulation	-----	24V DC/AC, 50/60Hz	3.7W	6m <sup>2</sup>	

Model Selection Description

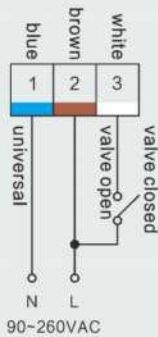


Wiring diagram

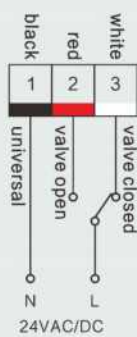
Three-wire wiring diagram  
220VAC



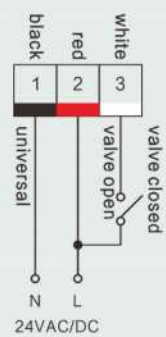
Two-wire wiring diagram  
220VAC



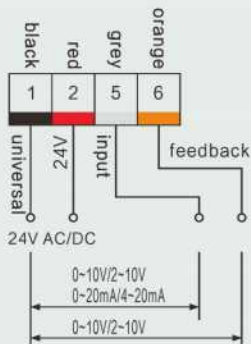
Three-wire wiring diagram  
24V AC/DC



Two-wire wiring diagram  
24V AC/DC



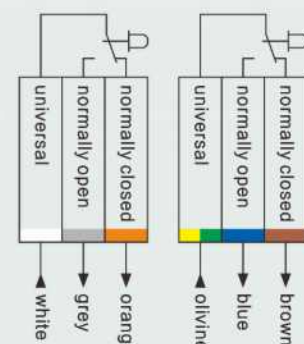
Modulating wiring diagram  
24V AC/DC



S1 Auxiliary switch  
wiring diagram



S2 Auxiliary switch wiring diagram





## DRQ series Electric thermal Valve Actuator

DRQ electric thermal valve is available for controlling central air conditioning and water heating system's opening and closing to control the room temperature. The control valve depends on the paraffin wax propeller drive the spring to reset. The electric thermal valve is normally closed when it doesn't work. If it needs to work, the thermostat will provide a signal of opening, then the electric thermal valve will get the power to work. Opening the valve, the cold and hot water will come into the fan coil to provide the cold or hot air. When the set temperature is achieved, the thermostat will cut off the electric thermal valve's power, then the reset spring can close the valve to stop the water which flow into the coil. So the room temperature is always maintained within the set range by the valve's opening and closing.

DRF-01 electric thermal valve adopts paraffin wax propeller. It's driven by the PTC heating without noise, with a spring reset function, the valve is closed after power off, and the position of the stroke has the indication of the opening degree. Screw connection is simple, fast and convenient to be disassembled.

### Product parameters

- Voltage: 220VAC ● Power : 2W ● Push: >115N ● Travel: 3mm ● Full time: 3-5min
- Connection size: M30\*15mm nut ● Ambient temperature: -5-60°C ● Lead length: 900mm
- Shell material: Flame retardant PC (inner parts of the Reinforced flame retardant PA66) ● Shell protection grade: IP54
- Installation position vertical to 85 degrees tilt angle

### Model Selection Table

Photo	Order No.	Model No.	thrust	Travel	Travel time	Product features
	16088	DRQ-1B	>115N	3mm	3-5min	Normally closed, pointer indicating the degree of opening
	16089	DRQ-1K	>115N	3mm	3-5min	Normally open, pointer indicating the degree of opening
	16090	DRQ-2K	>115N	3mm	3-5min	Normally open, pointer indicating the degree of opening
	16091	DRQ-3B	>115N	3mm	3-5min	Normally closed, transparent window indicating the degree of opening
	16092	DRQ-3K	>115N	3mm	3-5min	Normally open, transparent window indicating the degree of opening
	16093	DRQ-4B	>115N	3mm	3-5min	Normally closed, install the valve body through the clamping
	16094	DRQ-4K	>115N	3mm	3-5min	Normally open, install the valve body through the clamping

### Instruduction of selection



# Mechanical Thermostat

Mechanical air-conditioning thermostat can be used in commercial, industrial and civil construction, and can control the fan coil of center air-conditioning equipment, motorized valve and damper. It is used for keeping the temperature constant according to your operation. All switches are toggle switch, easy to operate.

Matching recommendation: DQF series motorised ball valve.

## Technical Data

1. Temperature control range: 10-30°C
2. Control Precision:  $\pm 0.8^\circ\text{C}$ , when it is 20°C
3. Temperature sensing element: precise metal monopole inflated film box
4. Voltage Rating: 220VAC  $\pm 10\%$  50/60Hz
5. Current Rating:  $< 6\text{A}$  (Resistive load)  $< 2\text{A}$  (Inductive load)
6. Lead connection: combined terminal/suitable for maximum 1.5 mm wire
7. Cover Material: Flame-retardant engineering plastic, milky white
8. Thermostat contact life:  $\geq 200000$  times when it is 220V
9. Toggle switch life: no less than 20000 times
10. Working Environment: 0-50°C 10-90%RH, no dew
11. Storing Temperature: -40°C ~ +70°C

## Installation Notice

1. The thermostat should be vertically installed on the indoor wall. The distance to the floor must be about 1.5m high to make sure that the thermostat can get enough airflow.
2. There must be no heat source and direct sunlight on the thermostat in the room.
3. Firstly loose the screw of the cover and remove it. Secondly pass the wire through the long hole which is on the upper left side of the base plate. Thirdly connect and fasten the combined terminal. Please do not dismantle the adjusting button during the operation
4. Pass the wire through the square hole which is on the upper right side of the base plate. And connect and fasten the wire according to the wiring diagram
5. Fasten the base plate to the junction box with the matching screws.
6. Put the switch and it's plate to the bottom (marked COOL, 3), install the cover. Make sure all the parts are in the right place. Then tighten all the screws.
7. The matching terminal junction box is built-in type. Its size is 86x96x32

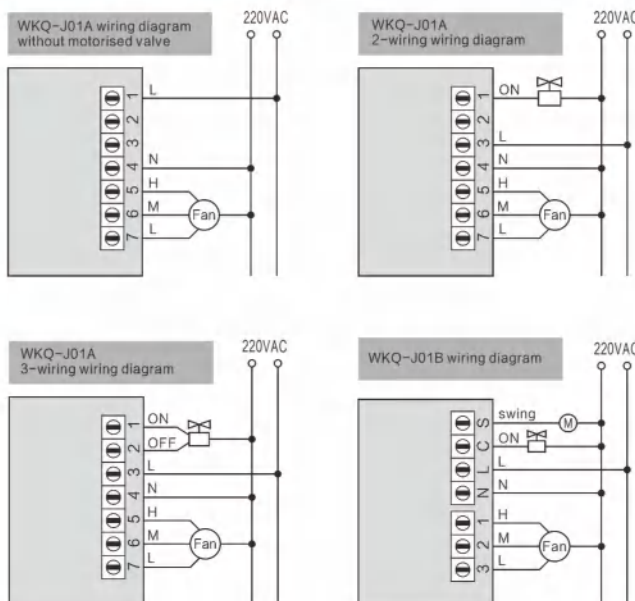
## WKQ-J01



## Selection Description

Order No.	Model NO.	Features
10000	WKQ-J01A	Switch Function: Power ON/OFF, cooling/heating, high/medium/low wind
10001	WKQ-J01B	Switch Function: Power ON/OFF, swing ON/OFF, high/medium/low wind

## Wiring Diagram



WKQ-J02

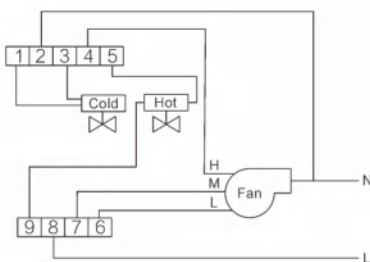


Selection Description

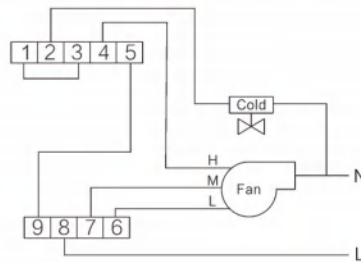
Order No.	Model NO.	Features
10003	WKQ-J02A	Switch Function: cooling/OFF/heating, high/medium/low wind, Polygon knob

Wiring Diagram

Four-pipe heating and cooling system wiring diagram



Two-pipe heating and cooling system wiring diagram



WKQ-J03

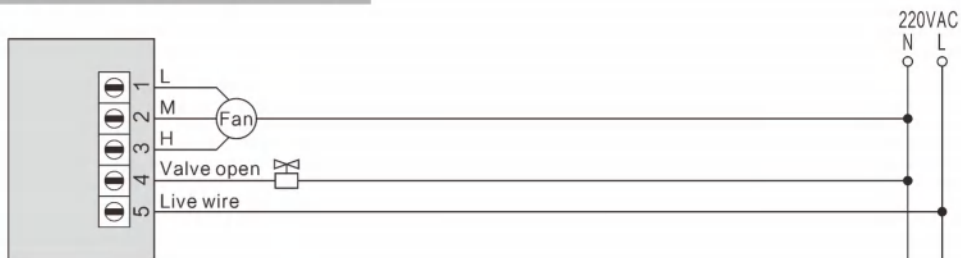


Selection Description

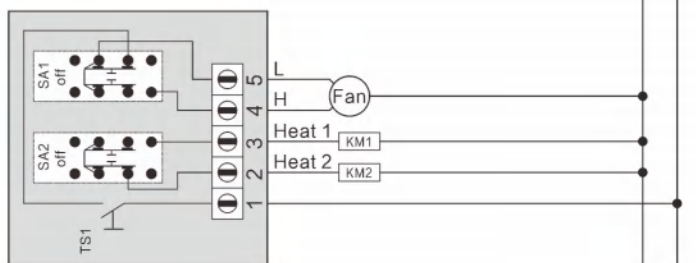
Order No.	Model NO.	Features
10005	WKQ-J03A	Switch Function: cooling/OFF/heating, high/medium/low wind, new cover
10006	WKQ-J03B	Switch Function: cooling/OFF/heating, high/medium/low wind, old cover
10007	WKQ-J03C	Switch Function: OFF/low heating/high heating, OFF/low/high wind

Wiring Diagram

WKQ-J03A/WKQ-J03B wiring diagram  
Applied to two-wire electric valve only



WKQ-J03C wiring diagram



## WKQ-J04

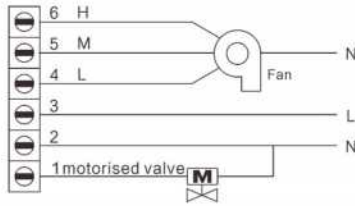


WKQ-J04

### Selection Description

Order No.	Model NO.	Features
10008	WKQ-J04	Switch Function: cooling/OFF/heating, high/medium/low wind, light:cooling light/heating light/valve light

### Wiring Diagram



## WKQ-J06



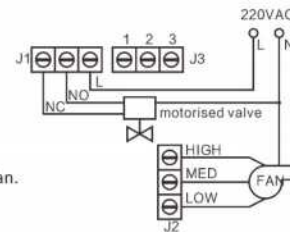
WKQ--J06A

### Selection Description

Order No.	Model NO.	Features
10014	WKQ-J06A	Switch Function: OFF/low wind/medium wind/high wind, cooling/heating,two-pipe
10015	WKQ-J06B	Switch Function: OFF/low wind/medium wind/high wind, cooling/heating,four-pipe

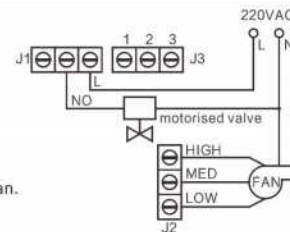
### Wiring Diagram

#### 2-pipe 3-wiring motorised valve wiring diagram



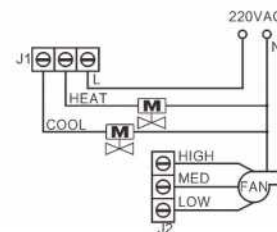
Note:jumper J3 set:connect foot 1 and 2,shut off valve,open fan.  
connect foot 2 and 3,shut off valve and fan.

#### 2-pipe 2-wiring motorised valve wiring diagram



Note:jumper J3 set:connect foot 1 and 2,shut off valve,open fan.  
connect foot 2 and 3,shut off valve and fan.

#### 4-pipe motorised valve wiring diagram



WKQ-J05

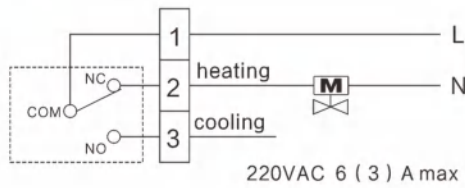


Selection Description

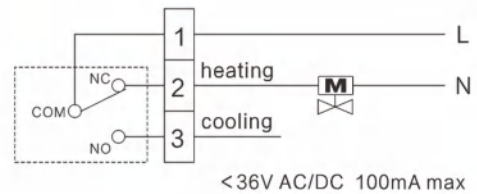
Order No.	Model NO.	Features
10009	WKQ-J05A	Common
10010	WKQ-J05B	Micro switch,designed for small current
10011	WKQ-J05C	Right side switch:ON/OFF
10012	WKQ-J05D	Right side switch:cooling/heating
10013	WKQ-J05E	With light at the right corner of the panel
10145	WKQ-J05F	Right side switch:ON/OFF ,With light at the right corner of the panel

Wiring Diagram

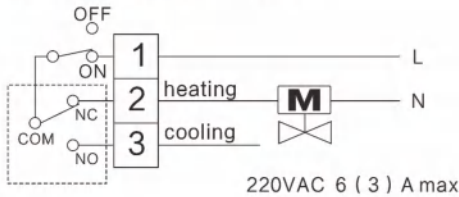
WKQ-J05A



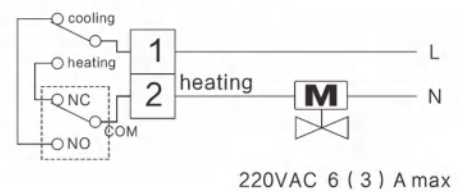
WKQ-J05B



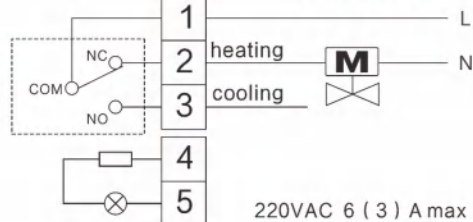
WKQ-J05C ( with power switch )



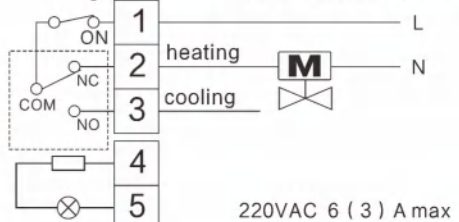
WKQ-J05D ( cooling/heating )



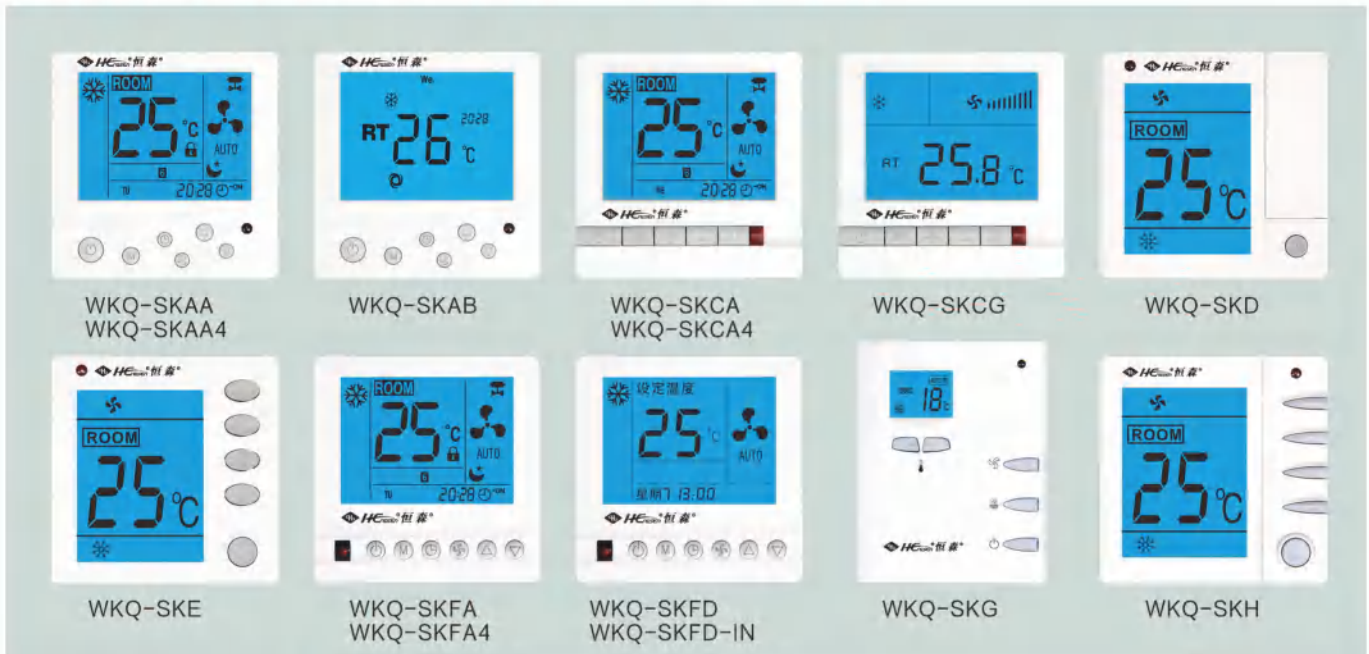
WKQ-J05E



WKQ-J05F ( with power switch )



## WKQ-SK Digital Air Conditioning Thermostat



### Product Introduction

WKQ-SK series thermostat is used for controlling temperature of 2-pipe water system or air system. It adopts microcomputer chip to control the working conditions of the fan-coil at the end of the air conditioning system, motorised valve, motorised ball valve or damper by the result of comparison of the room temperature and setting temperature. In order to adjust the ambient temperature and meet the purpose of human comfort and energy conservation.

### Features

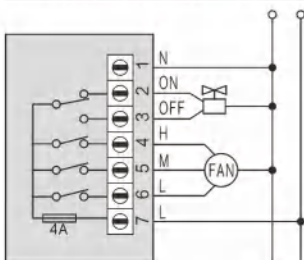
1. Three operating modes: cooling/ventilation(only for some models)/heating.
2. Four control type of fan: high/medium/low/nature wind.
3. Infrared remote control(optional).
4. Time and day of the week display( onle for some models).
5. Time data maintain without electricity function ( optional).
6. Temperature correction function.
7. Blue backlight function.
8. Touch key operation.

### Technical Data

Function Item	Specification
Rated working voltage / Frequency	90~260VAC 50/60Hz
Relay output	<3A (Resistive load) , <1A (Inductive load)
Working environment	0 ~ 60°C;
Temperature Control Percision	± 1°C;
Display board dimensions	85.5 × 85.5 × 14mm, WKQ-SKG为118x94x33mm
Mounting dimensions	Installation with standard 86 box, 14mm higher than former.

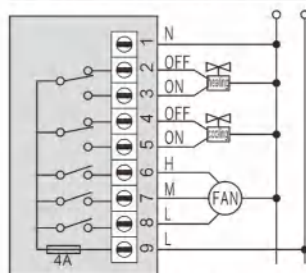
### Wiring Diagram

Two-pipe heating and 3-wiring wiring diagram 90-260VAC



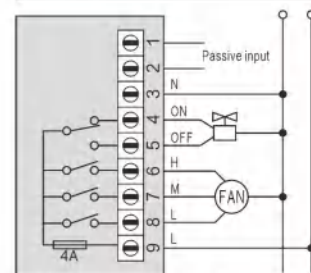
the closed end is not connected when connecting a 2-wiring valve

Four-pipe heating and 3-wiring wiring diagram 90-260VAC



the closed end is not connected when connecting a 2-wiring valve

Passive input 90-260VAC



the closed end is not connected when connecting a 2-wiring valve

### ★ WKQ-SKAA Selection description

A type LCD in English ; cooling/ventilation/heating;time and day of the week display;6 time period programmable timer switch function;sleep function;Keyboard lock;"C and" F selection

Order NO.	Model NO.	Features
10016	WKQ-SKAA-G	Backlight
10017	WKQ-SKAA-GY	Backlight, Remote control function
10018	WKQ-SKAA-GT	Backlight, Time data maintain without electricity function
10019	WKQ-SKAA-GYT	Backlight, Remote control function,Time data maintain without electricity function

Order NO.	Model NO.	Features
10156	WKQ-SKAA4-G	4-pipe, Backlight
10157	WKQ-SKAA4-GY	4-pipe, Backlight, Remote control function
10158	WKQ-SKAA4-GT	4-pipe, Backlight, Time data maintain without electricity function
10159	WKQ-SKAA4-GYT	4-pipe, Backlight, Remote control function,Time data maintain without electricity function

### ★ WKQ-SKAB Selection description

B type LCD in English; cooling/ventilation/heating;time and day of the week display;countdown timer switch function;sleep function;"C and F selection

Order NO.	Model NO.	Features
10020	WKQ-SKAB-G	Backlight
10021	WKQ-SKAB-GY	Backlight, Remote control function
10022	WKQ-SKAB-GT	Backlight, Time data maintain without electricity function
10023	WKQ-SKAB-GYT	Backlight, Remote control function,Time data maintain without electricity function

### ★ WKQ-SKCA Selection description

A type LCD in English; cooling/ventilation/heating;time and day of the week display;6 time period programmable timer switch function;sleep function;Keyboard lock;"C and F selection

Order NO.	Model NO.	Features
10024	WKQ-SKCA-G	Backlight
10025	WKQ-SKCA-GY	Backlight, Remote control function
10026	WKQ-SKCA-GT	Backlight, Time data maintain without electricity function
10027	WKQ-SKCA-GYT	Backlight, Remote control function,Time data maintain without electricity function

Order NO.	Model NO.	Features
10160	WKQ-SKCA4-G	4-pipe, Backlight
10161	WKQ-SKCA4-GY	4-pipe, Backlight, Remote control function
10162	WKQ-SKCA4-GT	4-pipe, Backlight, Time data maintain without electricity function
10163	WKQ-SKCA4-GYT	4-pipe, Backlight, Remote control function,Time data maintain without electricity function

### ★ WKQ-SKCG Selection description

G type LCD in English; cooling/ventilation/heating;Keyboard lock

Order NO.	Model NO.	Features
10028	WKQ-SKCG-G	Backlight
10029	WKQ-SKCG-GY	Backlight, Remote control function

### ★ WKQ-SKD Selection description

LCD in English; cooling/ventilation/heating;Keyboard lock

Order NO.	Model NO.	Features
10030	WKQ-SKD-G	Backlight
10031	WKQ-SKD-GY	Backlight, Remote control function

### ★ WKQ-SKE Selection description

LCD in English; cooling/ventilation/heating;Keyboard lock

Order NO.	Model NO.	Features
10032	WKQ-SKE-G	Backlight
10033	WKQ-SKE-GY	Backlight, Remote control function

### ★ WKQ-SKFA Selection description

A type LCD in English; blue keyboard light; cooling/ventilation/heating;time and day of the week display; 6 time period programmable timer switch function ;sleep function;Keyboard lock;"C and" F selection

Order NO.	Model NO.	Features
10034	WKQ-SKFA-G	Backlight
10035	WKQ-SKFA-GY	Backlight, Remote control function
10036	WKQ-SKFA-GT	Backlight, Time data maintain without electricity function
10037	WKQ-SKFA-GYT	Backlight, Remote control function,Time data maintain without electricity function
10170	WKQ-SKFA-485-G	RS485 communication function,Backlight
10171	WKQ-SKFA-485-GY	RS485 communication function,Backlight,Remote control function

Order NO.	Model NO.	Features
10164	WKQ-SKFA4-G	4-pipe, Backlight
10165	WKQ-SKFA4-GY	4-pipe, Backlight, Remote control function
10166	WKQ-SKFA4-GT	4-pipe, Backlight, Time data maintain without electricity function
10167	WKQ-SKFA4-GYT	4-pipe, Backlight, Remote control function,Time data maintain without electricity function

### ★ WKQ-SKFD Selection description

D type LCD in Chinese;blue keyboard light; cooling/ventilation/heating;time and day of the week display;weekly cycle;programmable timer switch function (one set of preset a day);sleep function;Keyboard lock;"C and" F selection

Order NO.	Model NO.	Features
10038	WKQ-SKFD-G	Backlight
10039	WKQ-SKFD-GY	Backlight, Remote control function
10172	WKQ-SKFD-485-G	RS485 communication function,Backlight
10173	WKQ-SKFD-485-GY	RS485 communication function,Backlight,Remote control function

Order NO.	Model NO.	Features
10168	WKQ-SKFD-IN-G	Passive input, Backlight
10169	WKQ-SKFD-IN-GY	Passive input, Backlight, Remote control function

### ★ WKQ-SKG Selection description

LCD in English ; cooling, heating; keyboard lock. Dimensions 118 \* 94 \* 33mm (don't include the protruding height of the power box).

Order NO.	Model NO.	Features
10040	WKQ-SKG-G	Backlight
10041	WKQ-SKG-GY	Backlight, Remote control function

### ★ WKQ-SKH Selection description

LCD in English ; cooling, heating; keyboard lock.

Order NO.	Model NO.	Features
10042	WKQ-SKH-G	Backlight
10043	WKQ-SKH-GY	Backlight, Remote control function

Note: The model with remote control function in the above table, without remote controller, remote controller need to be purchased separately.

## WKQ-SK Digital Air Conditioning Thermostat



### Product Introduction

WKQ-SK series thermostats are used in 2-pipe or 4-pipe water system or air system to control temperature. It adopts the microcomputer chip and depends on the comparison results of the room temperature and set temperature to control the working state for the fan-coil in the end of the air-conditioning system and motorised valve, motorised ball valve or fan valve, in order to adjust the ambient temperature, satisfy the body comfortable degree and save energy.

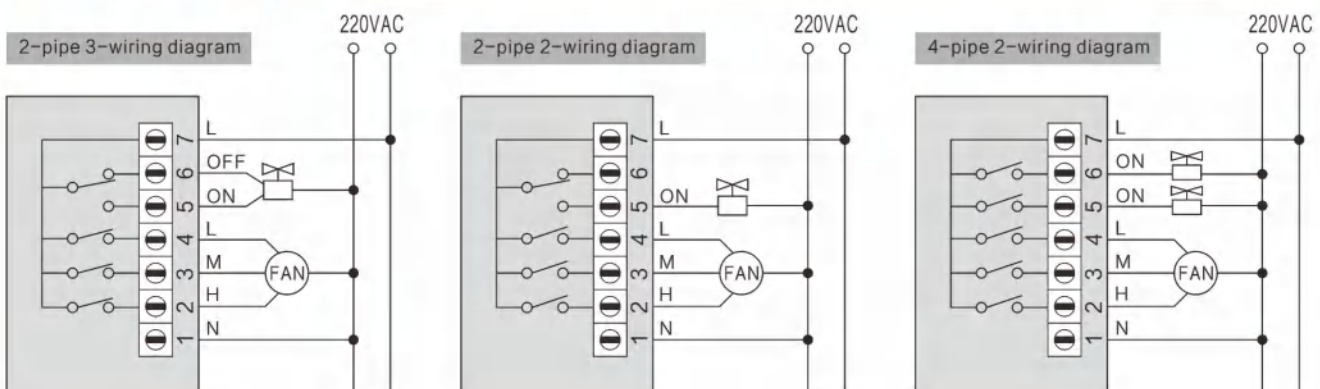
### Features

1. Two operating modes: cooling/heating
2. Four ways to control the fan: high/medium/low/nature wind
3. Power off, colck maintain function ( optional)
4. Power off, memory function
5. Infrared remote control(optional)
6. Temperature correction function
7. Blue backlight function
8. Touch key operation

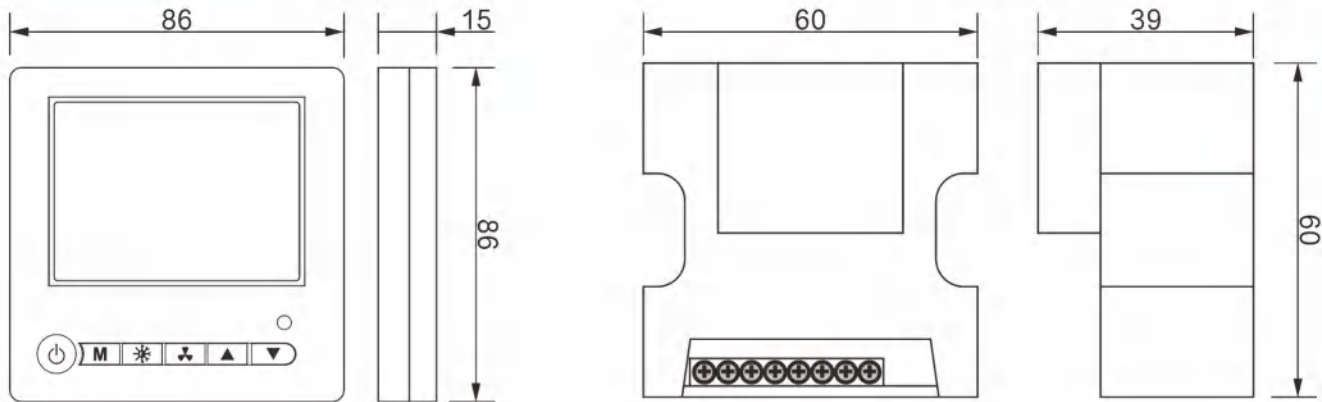
### Technical Data

Function Item	Specification
Rated working voltage / Frequency	90~260VAC 50/60Hz
Relay output	<3A (Resistive load) , <1A (Inductive load)
working environment	0 ~ 60°C;
Temperature Control Percision	± 1°C;
Display board dimensions	86 × 86 × 15mm
Mounting dimensions	Installation with standard 86 box, 15mm higher than former
Split Power Dimensions	60x60x39mm, Please refer to the dimensional drawing

### Wiring diagram



Dimensions



Panel dimensions

Power box dimensions

Selection description

★ WKQ-SKJ Selection description

Chinese and English Large screen LCD; cooling/ heating; clock, timer switch function; sleep function;

Order NO.	Model NO.	Features
10044	WKQ-SKJ2-G	2-pipe,Backlight
10045	WKQ-SKJ2-GY	2-pipe,Backlight,Remote control
10046	WKQ-SKJ2-GT	2-pipe,Backlight,Time data maintain without electricity function
10047	WKQ-SKJ2-GYT	2-pipe,Backlight,Remote control ,Time data maintain without electricity function
10048	WKQ-SKJ4-G	4-pipe,Backlight
10049	WKQ-SKJ4-GY	4-pipe,Backlight,Remote control
10050	WKQ-SKJ4-GT	4-pipe,Backlight,Time data maintain without electricity function
10051	WKQ-SKJ4-GYT	4-pipe,Backlight,Remote control ,Time data maintain without electricity function

Note: The model with remote control function in the above table, without remote controller, remote controller need to be purchased separately.

★ WKQ-SKL Selection description

English small screen LCD ; cooling/ heating; countdown timer switch function; sleep function;

Order NO.	Model NO.	Features
10052	WKQ-SKL2-G	2-pipe,Backlight
10053	WKQ-SKL2-GY	2-pipe,Backlight,Remote control
10054	WKQ-SKL4-G	4-pipe,Backlight
10055	WKQ-SKL4-GY	4-pipe,Backlight,Remote control

Note: The model with remote control function in the above table, without remote controller, remote controller need to be purchased separately.

★ WKQ-SKM Selection description

Chinese and English Large screen LCD ; cooling/ heating; countdown timer switch function; sleep function;

Order NO.	Model NO.	Features
10056	WKQ-SKM2-G	2-pipe,Backlight
10057	WKQ-SKM2-GY	2-pipe,Backlight,Remote control
10058	WKQ-SKM2-GT	2-pipe,Backlight,Time data maintain without electricity function
10059	WKQ-SKM2-GYT	2-pipe,Backlight,Remote control ,Time data maintain without electricity function
10060	WKQ-SKM4-G	4-pipe,Backlight
10061	WKQ-SKM4-GY	4-pipe,Backlight,Remote control
10062	WKQ-SKM4-GT	4-pipe,Backlight,Time data maintain without electricity function
10063	WKQ-SKM4-GYT	4-pipe,Backlight,Remote control ,Time data maintain without electricity function

Note: The model with remote control function in the above table, without remote controller, remote controller need to be purchased separately.



### ★ WKQ-SKSA Selection description

LCD A type in English; cooling/ventilation/heating/automatic(only for 4-pipe);time and day of the week display; 6 time period programmable timer switch function;sleep function;Keyboard lock;°C and°F selection.

Order NO.	Model NO.	Features
10064	WKQ-SKSA2-G	2-pipe,Backlight
10065	WKQ-SKSA2-GY	2-pipe,Backlight,Remote control
10066	WKQ-SKSA2-GT	2-pipe,Backlight,Time data maintain without electricity function
10067	WKQ-SKSA2-GYT	2-pipe,Backlight,Remote control ,Time data maintain without electricity function
10068	WKQ-SKSA4-G	4-pipe,Backlight
10069	WKQ-SKSA4-GY	4-pipe,Backlight,Remote control
10070	WKQ-SKSA4-GT	4-pipe,Backlight,Time data maintain without electricity function
10071	WKQ-SKSA4-GYT	4-pipe,Backlight,Remote control ,Time data maintain without electricity function



### ★ WKQ-SKSD Selection description

D type LCD in Chinese; cooling/ventilation/heating/automatic(only for 4-pipe);time and day of the week display; Programmable timer switch function (every day (one set of preset a day));sleep function;Keyboard lock;°C and°F selection.

Order NO.	Model NO.	Features
10072	WKQ-SKSD2-G	2-pipe,Backlight
10073	WKQ-SKSD2-GY	2-pipe,Backlight,Remote control
10074	WKQ-SKSD2-GT	2-pipe,Backlight,Time data maintain without electricity function
10075	WKQ-SKSD2-GYT	2-pipe,Backlight,Remote control ,Time data maintain without electricity function
10076	WKQ-SKSD4-G	4-pipe,Backlight
10077	WKQ-SKSD4-GY	4-pipe,Backlight,Remote control
10078	WKQ-SKSD4-GT	4-pipe,Backlight,Time data maintain without electricity function
10079	WKQ-SKSD4-GYT	4-pipe,Backlight,Remote control ,Time data maintain without electricity function

Note: The model with remote control function in the above table, without remote controller, remote controller need to be purchased separately.

## Product Introduction

WKQ-SKS series thermostats are used in 2-pipe or 4-pipe water system or air system to control temperature . It adopts the microcomputer chip and depends on the comparison results of the room temperature and set temperature to control the working state for the fan-coil in the end of the air-conditioning system and motorised valve, motorised ball valve or fan valve , in order to adjust the ambient temperature, satisfy the body comfortable degree and save energy.

## Features

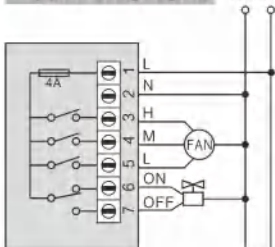
1. Four operating modes: cooling/ventilation/heating/automatic(only for 4-pipe)
2. Four ways to control the fan: wind high/medium/low/nature
3. Time and day of the week display
4. Time data maintain without electricity function ( optional)
5. Infrared remote control(optional)
6. Temperature correction function
7. Blue backlight function
8. Touch key operation

## Technical Data

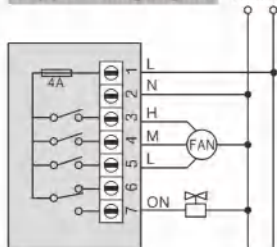
Function Item	Specification
Rated working voltage / Frequency	90~260VAC 50/60Hz
Relay output	<3A (Resistive load) , <1A (Inductive load)
working environment	0 ~ 60°C;
Temperature Control Percision	± 1°C;
Display board dimensions	92 X 92 X 42mm
Mounting dimensions	Installation with standard 86 box, 18mm higher than former.

## Wiring diagram

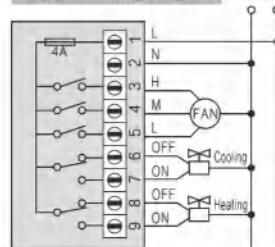
2-pipe 3-wiring diagram 90-260VAC



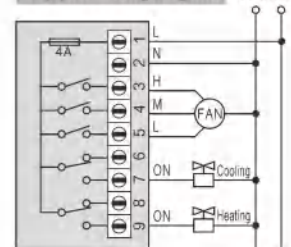
2-pipe 2-wiring diagram 90-260VAC



4-pipe 3-wiring diagram 90-260VAC



4-pipe 2-wiring diagram 90-260VAC



# Touch Type Digital Air Conditioning Thermostat



## Product Introduction

Thermostats are used in 2-pipe or 4-pipe water system or air system to control temperature. It adopts the microcomputer chip and depends on the comparison results of the room temperature and set temperature to control the working state for the fan-coil in the end of the air-conditioning system and motorised valve, motorised ball valve or fan valve, in order to adjust the ambient temperature, satisfy the body comfortable degree and save energy.

## Selection description

### ★ WKQ-CKA Selection description

Order NO.	Model NO.	Function	Features
10109	WKQ-CKA-G	Backlight	Touch type LCD in English; cooling/heating; keyboard lock
10110	WKQ-CKA-GY	Backlight, Remote control	

Note: The model with remote control function in the above table, without remote controller, remote controller need to be purchased separately.

### ★ WKQ-CKB Selection description

Order NO.	Model NO.	Features
10111	WKQ-CKB	Touch LCD in English; cooling/ventilation/heating; time and day of the week display; 4 time period programmable timer switch function; Keyboard lock; °C and °F selection Backlight, Remote control function, Time data maintain without electricity function, Touch keys, Auto-induction function

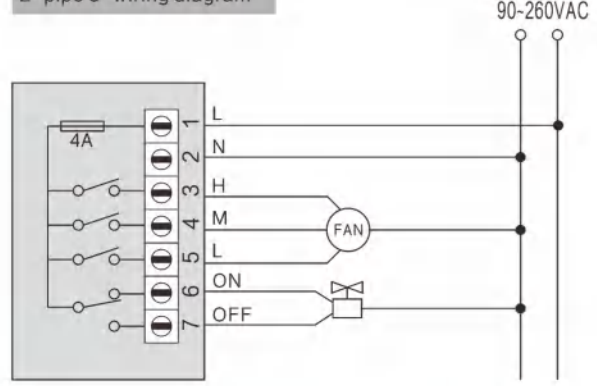
Note: Remote controller is not standard, remote controller is optional.

## Technical Data

Function Item	WKQ-CKA	WKQ-CKB
Rated working voltage / Frequency	90~260VAC 50/60Hz	90~260VAC 50/60Hz
Relay output	<3A (Resistive load) , <1A (Inductive load)	<3A (Resistive load) , <1A (Inductive load)
working environment	0 ~ 60°C;	0 ~ 60°C;
Temperature Control Percision	± 1°C;	± 1°C;
Display board dimensions	92 X 92 X 42mm	85.5 X 85.5 X 15.5mm
Mounting dimensions	Installation with standard 86 box, 18mm higher than former.	Installation with standard 86 box, 15.5mm higher than former.

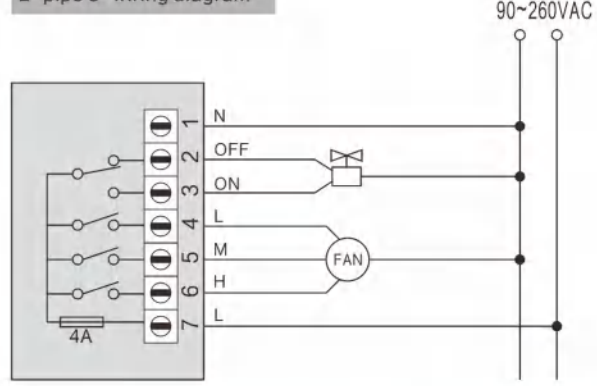
## Wiring diagram

WKQ-CKA  
2-pipe 3-wiring diagram



the closed end is not connected when connecting a 2-wiring valve

WKQ-CKB  
2-pipe 3-wiring diagram



the closed end is not connected when connecting a 2-wiring valve

## WKQ-CNA Scale Integral Mixing Water Thermostat For Floor Heating



### ★ WKQ-CNA Selection description

Touch LCD in English; adopts proportional integral to control valve; designed for mixing water for floor heating; keyboard lock

Order NO.	Model NO.	Features	Optional features
10112	WKQ-CNA-G		Backlight
10113	WKQ-CNA-GY		Backlight, Remote control function
10114	WKQ-CNA-VG	Circulation pump synchronizing input is 220VAC	Backlight
10115	WKQ-CNA-VGY	Circulation pump synchronizing input is 220VAC	Backlight, Remote control function
10116	WKQ-CNA-KG	Circulation pump synchronizing input is relay contact	Backlight
10117	WKQ-CNA-KGY	Circulation pump synchronizing input is relay contact	Backlight, Remote control function

Note: The above model with remote control function do not include remote controller, remote controller is optional.

### Product Introduction

WKQ-CNA series thermostat suitable for controlling the temperature of water-mixing floor heating system, control the valve and circulation pump by proportional integral to achieve the setting temperature. It is operated by touch-screen button.

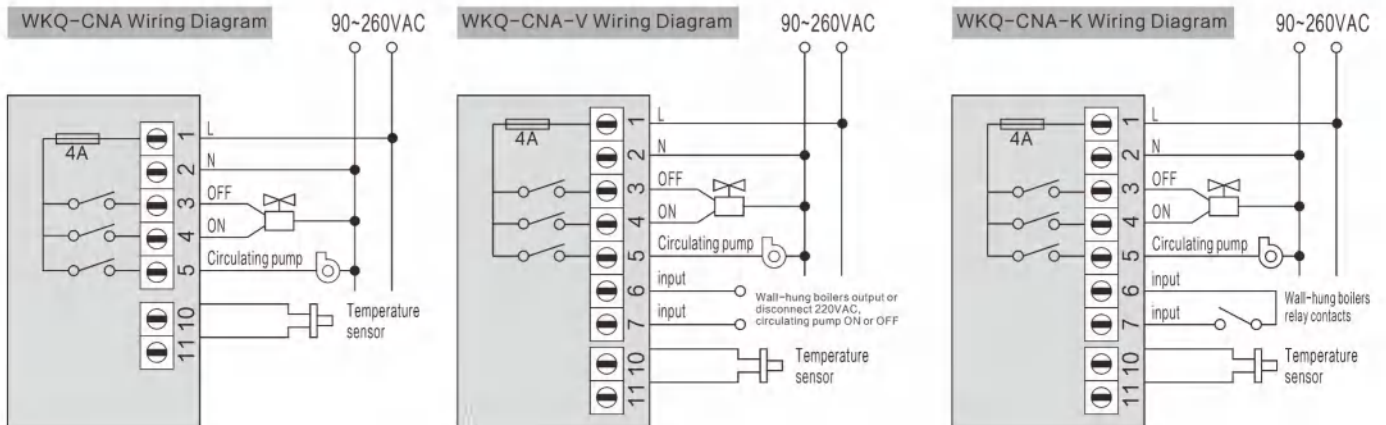
### Features

1. Water lack protection of circulating pump or synchronous input control 2. Touch key 3. Antifreeze function 4. Control valve with proportional integral 5. Blue backlight 6. Shutdown when electricity come after power off

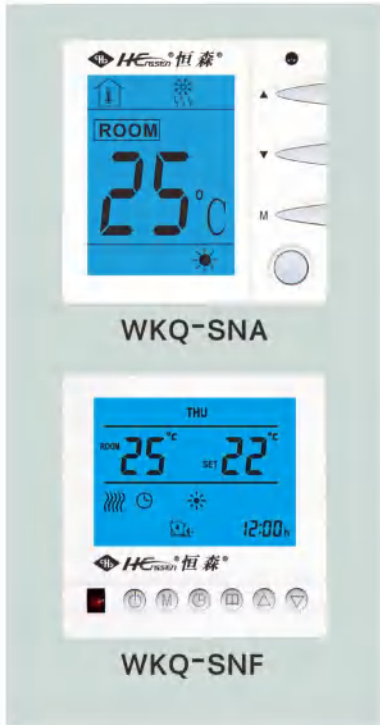
### Technical Data

Function Item	Specification
Rated working voltage / Frequency	90~260VAC 50/60Hz
Relay output	<3A (Resistive load) , <1A (Inductive load)
working environment	0 ~ 60°C;
Temperature Control Percision	± 1°C;
Display board dimensions	92 × 92 × 42mm
Mounting dimensions	Installation with standard 86 box, 18mm higher than former.

### Wiring Diagram



## Digital Thermostat



digital thermostat is divided into two kinds, one is designed for electric heating (D) and another is for Bi-direction valve(F). Temperature displays on the LCD directly. It used microcomputer chip to make the result of the comparison of the room temperature and setting temperature. And use the power relay to control the ON and OFF of the system. In order to adjust the ambient temperature and meet the purpose of human comfort and energy conservation.

### Selection description

#### ★ WKQ-CNA Selection description

LCD in English; internal or external temperature sensor ( 10K1% ) ;Keyboard lock

Order NO.	Model NO.	Features	Optional features
10088	WKQ-SNA-FG	Designed for Bi-direction valve, Load current < 2A	Backlight
10089	WKQ-SNA-FGY	Designed for Bi-direction valve, Load current < 2A	Backlight, Remote control function
10090	WKQ-SNA-DG	Designed for electric heating, Load current < 30A	Backlight
10091	WKQ-SNA-DGY	Designed for electric heating, Load current < 30A	Backlight, Remote control function

Note: The above model with remote control function do not include remote controller, remote controller is optional.

#### ★ WKQ-SNF Selection description

English LCD: time and day of the week display; 6 time period programmable timing temperature function; Internal or external temperature sensor (10 K 1%), keyboard lock.

Order NO.	Model NO.	Features	Optional features
10146	WKQ-SNF-FG	Designed for Bi-direction valve, Load current < 2A	Backlight
10147	WKQ-SNF-FGY	Designed for Bi-direction valve, Load current < 2A	Backlight, Remote control function
10148	WKQ-SNF-DG	Designed for electric heating, Load current < 30A	Backlight
10149	WKQ-SNF-DGY	Designed for electric heating, Load current < 30A	Backlight, Remote control function

Note: The above model with remote control function do not include remote controller, remote controller is optional.

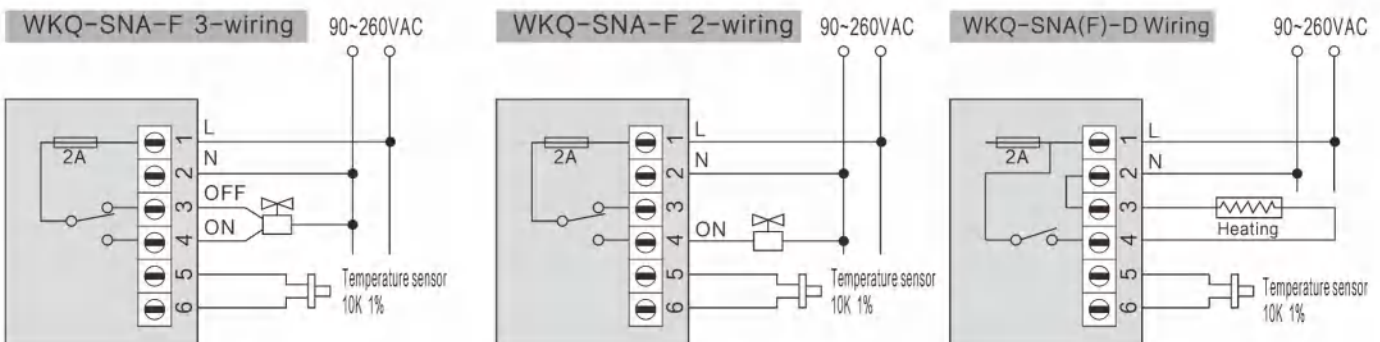
### Product Introduction

1. Working mode: heating
2. Antifreeze function
3. Blue backlight and LCD screen
4. Infrared remote control(optional)
5. Temperature compensation
6. Adjustable temperature function
7. Shutdown when electricity come after power off
8. Keyboard lock
9. Feather-touch button
10. Sensor ( inner control outler limit, inner control, external contorl)

### Technical Data

Function Item	Specification
Rated working voltage / Frequency	90~260VAC 50/60Hz
Relay output	WKQ-SNA-F Load current < 2A, WKQ-SNA-D Load current < 30A
working environment	0 ~ 60°C;
Temperature Control Percision	± 1°C;
Display board dimensions	85.5 × 85.5 × 14mm
Mounting dimensions	Installation with standard 86 box, 14mm higher than former.

### Wiring Diagram



## Fan Coil Measuring Digital Controller



### ★ Selection Description

Order NO.	Model NO.	Features
10118	WJL-SKA-M	Fan coil measuring controller, M-BUS interface
10150	WJL-FKB-485	Fan coil measuring controller, RS485 interface
10151	WKQ-FKB-485	Split central air conditioning thermostat, RS485 interface

### ★ WKQ-SKH Matching Thermostat Selection Description

LCD in English; cooling/heating; keyboard lock

Order NO.	Model NO.	Features
10084	WKQ-SKH-M-G	Backlight <input checked="" type="checkbox"/> Matching with M-BUS communication host
10085	WKQ-SKH-M-GY	Backlight <input type="checkbox"/> Remote control function <input checked="" type="checkbox"/> Matching with M-BUS communication host
10152	WKQ-SKH-R-G	Backlight, Matching with RS485 communication host
10153	WKQ-SKH-R-GY	Backlight <input type="checkbox"/> Remote control function, Matching with RS485 communication host

### ★ WKQ-SKFD Matching Thermostat Selection Description

D type LCD in Chinese; blue keyboard light; cooling/heating; display; weekly cycle, programmable timer switch function (one group of preset each day); sleep function; keyboard lock.

Order NO.	Model NO.	Features
10086	WKQ-SKFD-M-G	Backlight, Matching with M-BUS communication host
10087	WKQ-SKFD-M-GY	Backlight <input type="checkbox"/> Remote control function, Matching with M-BUS communication host
10154	WKQ-SKFD-R-G	Backlight, Matching with RS485 communication host
10155	WKQ-SKFD-R-GY	Backlight <input type="checkbox"/> Remote control function, Matching with RS485 communication host

Note: The above model with remote control function do not include remote controller, remote controller is optional.

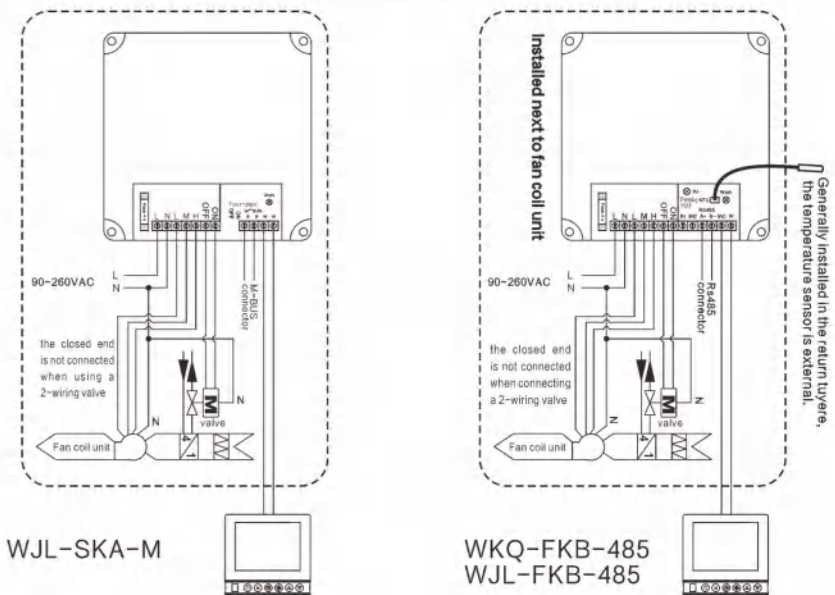
### Product Introduction

Fan coil measuring controller is used to calculate the energy of the room by measuring the valve's opening time at different wind speed, and use this as a basis for billing the charges. And it can match with its dedicated thermostat series and combined into a split structure.

Built in M-BUS interface. It can communicate with the computer control system, remote setting and read the state of the thermostat.

After installation or maintenance, please paste the fragile stickers to prevent users to change wiring privately.

### Wiring Diagram



## WKQ-AKA/WJL-AKA Concealed Thermostat/ Concealed Fan Coil Measuring Controller



### Selection Description

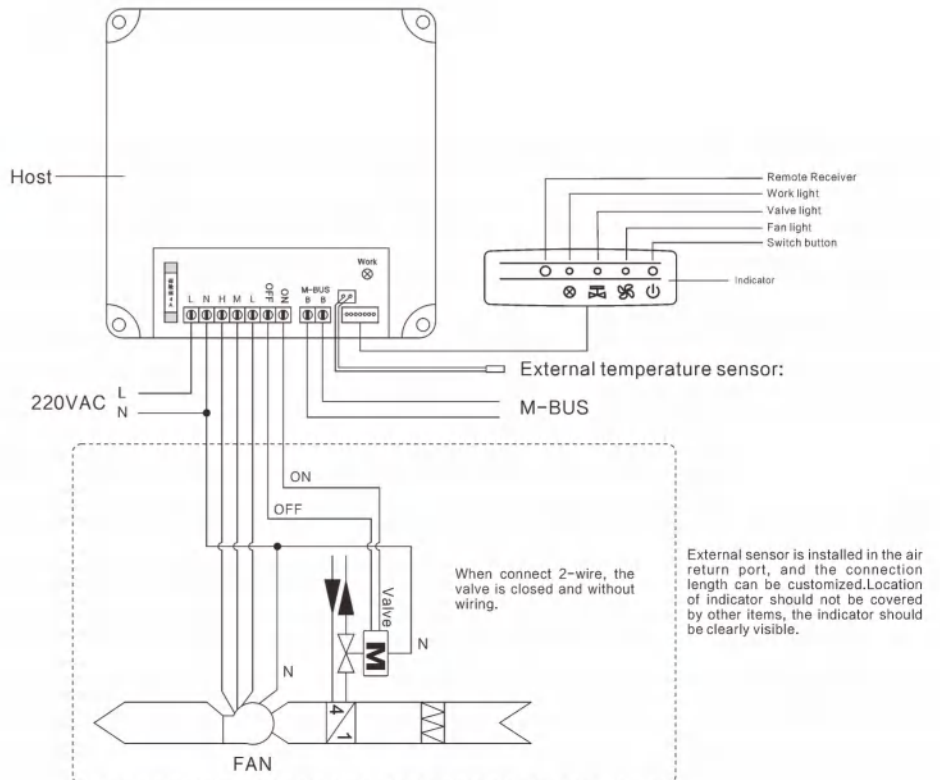
Order NO.	Model NO.	Features	Optional features
10100	Concealed thermostat	WKQ-AKA	Without M-BUS interface:
10101	Concealed thermostat	WKQ-AKA-M	With M-BUS interface:
10119	Concealed fan coil measuring controller	WJL-AKA-M	With M-BUS interface, metering function
10102	Concealed thermostat dedicated remote control	WKQ-YC-A	

### Product Introduction

WKQ-AKA series thermostat used in control the temperature of water system or air system. It used microcomputer chip to control the working conditions of the fan-coil at the end of the air conditioning system ,motorised valve, motorised ball valve or damper by the result of comparison of the room temperature and setting temperature. In order to adjust the ambient temperature and meet the purpose of human comfort and energy conservation.

WJL-SKA-M fan coil measuring controller is used to calculate the energy of the room by measuring the valve's opening time at different wind speed, and use this as a basis for billing the charges.After installation or maintenance, please paste the fragile stickers to prevent users to change wiring privately. Built in M-BUS interface. It can communicate with the computer control system, remote setting and read the state of the thermostat.And it can match with WKQ-YC-A remote controller and combined into a split structure.

### Wiring Diagram



## WKQ-SKSD-M Digital Communication Thermostat



### ★ WJL-SKSD-M Selection description

D type LCD in Chinese;cooling/ventilation/heating/automatic(only for 4-pipe);time and day of the week display;Programmable timer switch function (one set of presets a day);sleep function;Keyboard lock;°C and °F selection;with M-BUS interface

Order NO.	Model NO.	Features
10080	WKQ-SKSD2-M-G	With M-BUS interface,2-pipe,Backlight
10081	WKQ-SKSD2-M-GY	With M-BUS interface,2-pipe,Backlight,Remote control function
10082	WKQ-SKSD4-M-G	With M-BUS interface,4-pipe,Backlight
10083	WKQ-SKSD4-M-GY	With M-BUS interface,4-pipe,Backlight,Remote control function

Note: The model with remote control function in the above table, without remote controller, remote controller need to be purchased separately.

### Product Introduction

WKQ-SKSD-M thermostat adopts the microcomputer chip,can control the room temperature to meet the requirements of human comfort. It's applicable to controlling the central air-conditioning fan and motorised valve etc.

Built in M-BUS interface, can communicate with the computer control system, set remotely and read the status of the thermostat. It also can lock the thermostat of arrears users remotely.

4 pipe thermostat has two functions of air conditioning and heating function.

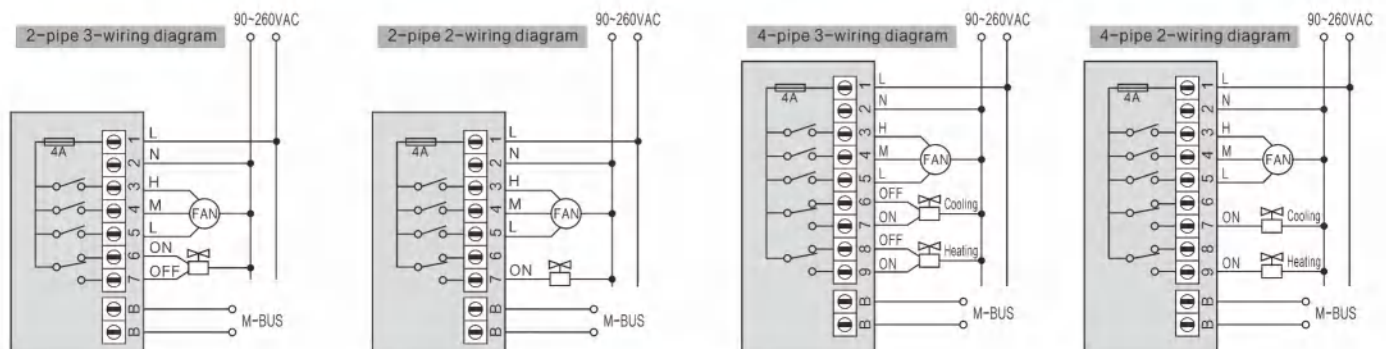
### Features

- Four operating modes: cooling/ventilation/heating/automatic(only for 4-pipe)
- Four ways to control the fan: high/medium/low/nature wind
- Time and day of the week display
- Host time synchronization
- Infrared remote control(optional)
- Blue backlight function
- Touch key operation
- Remote communication lock
- With M-BUS interface

### Technical Data

Function Item	Specification
Rated working voltage / Frequency	90~260VAC 50/60Hz
Relay output	<3A (Resistive load) , <1A (Inductive load)
working environment	0 ~ 60°C;
Temperature Control Percision	± 1°C;
Display board dimensions	92×92×42mm
Mounting dimensions	Installation with standard 86 box,18mm higher than former.

### Wiring Diagram



## WKQ-SNB-M Digital Communication Thermostat



### ★ WJL-SNB-M Selection description

LCD in English; Power 24VAC; With M-BUS interface

Order NO.	Model NO.	Features
10092	WKQ-SNB-M-FG24	With M-BUS interface, Special for bi-directional valve, Backlight
10093	WKQ-SNB-M-FGY24	With M-BUS interface, Special for bi-directional valve, Backlight, Remote control function
10094	WKQ-SNB-M-DG24	With M-BUS interface, Special for electric heating, Backlight
10095	WKQ-SNB-M-DGY24	With M-BUS interface, Special for electric heating, Backlight, Remote control function

Note: The model with remote control function in the above table, without remote controller, remote controller need to be purchased separately.

### Product Introduction

WKQ-SKSD-M thermostat adopts the microcomputer chip, can control the room temperature to meet the requirements of human comfort. It's applicable to controlling the central air-conditioning fan and motorised valve etc.

Built in M-BUS interface, can communicate with the computer control system, set remotely and read the status of the thermostat. It also can lock the thermostat of arrears users remotely.

4 pipe thermostat has two functions of air conditioning and heating function.

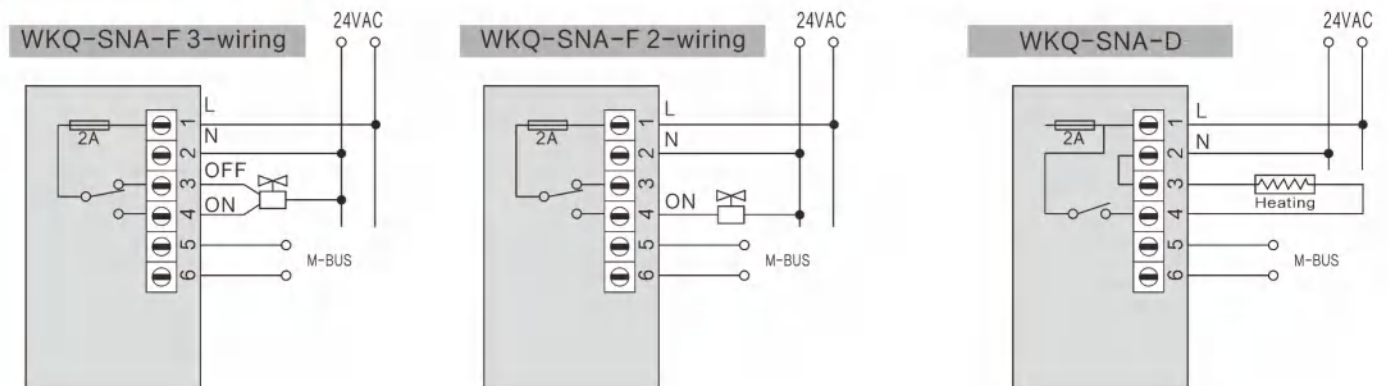
### Features

1. Four operating modes: cooling/ventilation/heating/automatic(only for 4-pipe)
2. Four ways to control the fan: high/medium/low/nature wind
3. Time and day of the week display
4. Host time synchronization
5. Infrared remote control(optional)
6. Blue backlight function
7. Touch key operation
8. Remote communication lock
9. With M-BUS interface

### Technical Data

Function Item	Specification
Rated working voltage / Frequency	24VAC ± 20% 50/60Hz
Relay output	WKQ-SNA-F Load current < 2A, WKQ-SNA-D Load current < 30A
working environment	0 ~ 60°C;
Temperature Control Percision	± 1°C;
Display board dimensions	92 × 92 × 42mm
Mounting dimensions	Installation with standard 86 box, 18mm higher than former.

### Wiring Diagram



## M-BUS Communication Heating Thermostat

### Selection Description

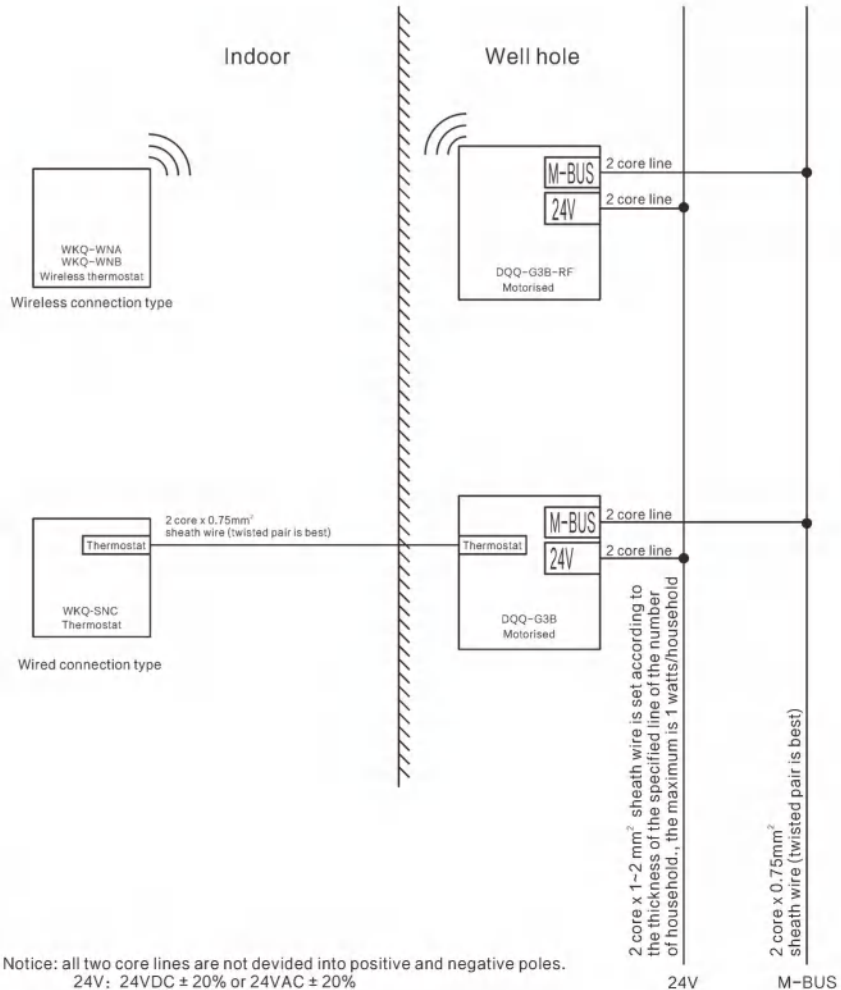
Order NO.	Model NO.	Features
10096	WKQ-SNC-M-G	Wired thermostat, Backlight, Specially equipped DQQ-G3B, communicate with computer by the M-BUS interface
10097	WKQ-SNC-M-GY	Wired thermostat, Backlight, Remote control function, Specially equipped DQQ-G3B, communicate with computer by the M-BUS interface
10122	WKQ-WNA	Wireless thermostat, Specially equipped DQQ-G3B-RF, communicate with computer by the M-BUS interface
10123	WKQ-WNB	Wireless thermostat, Specially equipped DQQ-G3B-RF, communicate with computer by the M-BUS interface

### Product Introduction

Wired or wireless thermostat and DQQ-G3B ball valve form a temperature control system. Thermostat controls the open - close for DQQ-G3B ball valve according to the comparison results of the room temperature and set temperature, in order to adjust the ambient temperature, satisfy the body comfortable degree and save energy.

DQQ-G3B with M-BUS interface, can communicate with the computer control system. Computer software can view and modify all the parameters of the valve and thermostat, such as indoor temperature, set temperature, freezing temperature, temperature correction, locking users, switch machine state, shutdown function with electricity, anti freezing function, normal temperature display, the state of the valve when the thermostat is broken, the longest interval of the valve works, valve opening or closing when the power-off etc. through the M-BUS interface.

### Wiring Diagram



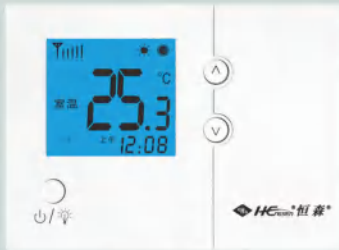
Notice: all two core lines are not divided into positive and negative poles.  
24V: 24VDC ± 20% or 24VAC ± 20%

24V

M-BUS



WKQ-SNC-M



WKQ-WNA



WKQ-WNB



DQQ-G3B  
DQQ-G3B-RF

## WKQ-YC LCD Remote Controller



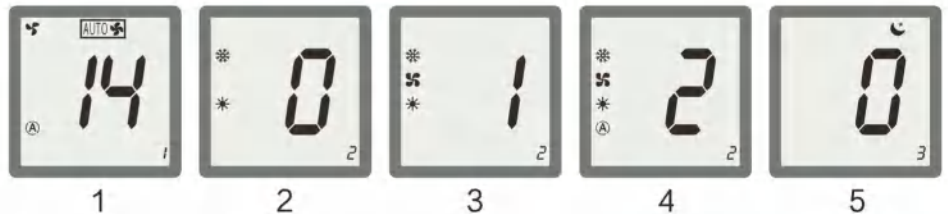
### Selection Description

Order No.	Product Desc	Model No	Description
10126	LCD Remote Controller	WKQ-YC	Digital display series thermostats are general

### Product Introduction

WKQ-YC LCD Remote controller adopts two AAA (7) batteries to supply power. It's suitable for central air-conditioning thermostat, can control the three-speed fan of fan coil and motorised valve. It also can select and change cooling, ventilation, heating, automatic model etc.







### System Setup Instructions



Press the set button for 5 seconds from the power off state, enter the system settings, then the lower right corner will display the steps 1, 2, 3, press the set button to switch.

- 1、LCD contrast: figure 1, setting range: 8-15, press the up or down arrows to adjust.
- 2、Model type selection: setting range: 0-2, press the up or down arrows to adjust. Select 0, cooling/heating (figure 2); select 1, cooling/ventilation/heating (figure 3); select 2, cooling/ventilation/heating/automatic (figure 4).
- 3、Sleep command selection: figure 5, setting range 0-1, press the up or down arrows to adjust. Select 0, sleep function on/sleep function off instructions are different (application: the new type thermostat); select 1, sleep function on/sleep function off instructions are the same (application: the old type thermostat).

### Key Operation Instructions

- ★ ON/OFF: ON/OFF for remote controller.
- ★ Mode: select the mode of operation in the state of power-on. (such as cooling, ventilation, etc.)
- ★ Wind speed: select the wind speed in the state of power-on. In the ventilation mode (the left side of the screen shows the ) , the automatic wind can not be selected.
- ★ Timing: Set the timer OFF time in the state of power-on. Set the timer ON time in the state of power-off. Press timer button to enter the timer switch function setting interface,  flashing, setting range 1-24 hours, press the up and down arrows to adjust the time, press the button to confirm the ON/OFF time, bottom of the screen displays  or  to complete the setup. Timing switch machine state, if you need to cancel the timer switch, press the timer button once, the  in the bottom of the screen will disappear, exit timing state. More than five seconds does not press the button, exit the setting state automatically in operating process.
- ★ Sleep: select sleep mode on or off in the state of power-on. When the sleep state is turned on,  will be displayed on the top of the screen, and it will shut down automatically after 15 hours. Sleep can not be selected in the "Ventilation" and "automatic" mode.
- ★ Clock: Press the button once to enter into the time setting state, then press switch to set the content: hours / minutes / week, press the up and down arrows to adjust. Press the set button to exit or do not press any key for 12 seconds to exit the settings.
- ★ Arrow: setting the temperature in the power-on state.

## WKQ-B01 Seires Proportional Integral Thermostat



### Selection Description

WKQ-B01 proportional integral thermostat is used in the central air-conditioning, heating and cooling system. When the temperature sensor detect the change of the controlled environment, the thermostat will generate an increasing or decreasing signal to adjust reversible motor actuator.

### Product Introduction

Order NO.	Model NO.	Features
10105	WKQ-B01-A	Temperature control range:0~40°C
10106	WKQ-B01-B	Temperature control range:3~120°C

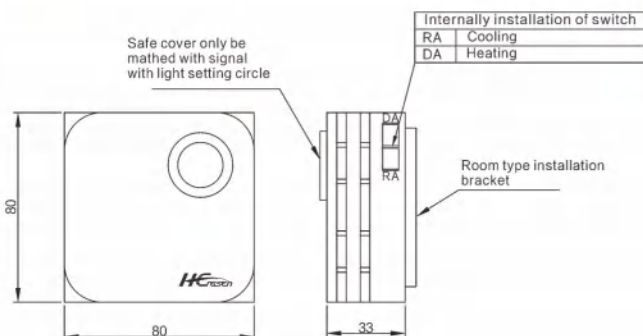
### Features

- 1.External with NTC thermistor temperature sensor.
2. Snap-on dial scale shade to avoid people changes the data without permission.
- 3.Changeable output function:DA or RA(summer or winter)---through inner switch or remote concentrate switch.
- 4.Adjustable proportional band.
- 5.Backup set data.
- 6.Flexible installation: wall installation,embedded,embedded plate installation or concealed installation in the terminal equipment of fan coil etc.

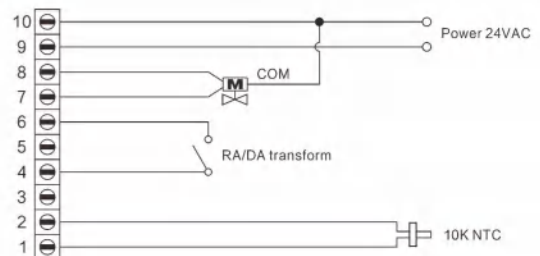
### Technical Data

Function	Description
Effect	Proportional + Integral,positive and negative
Supply vottage	24VAC±10% 50/60Hz
Output signal	24VAC(0.5A)Through the TRIAC
Power consumption	2W(No load)
Proportional band	1~7°C, adjustable, factory setting is about 4°C
Integral time	2~62seconds,adjustable
Temperature Setting range	0~40°C or 30~120°C
External NTC thermistor temperature sensor	NTC-10K 1% thermistor
Wire	Combined terminal/1.5mm <sup>2</sup>
Cover	(Thermal-resistance type & Auxiliary fire-resistant type) ABS,beige
Working environment	0~+50°C 10~90%RH no dew
Storage Temp.	-40 ~ +70°C
Net weight	120g
Accessory(extra order)	CGQ-W9000 temperature sensor

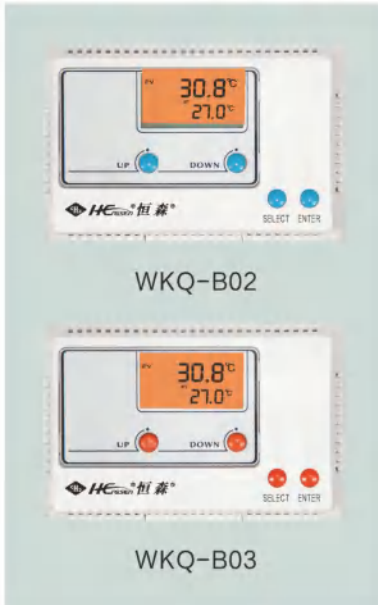
### Dimensions



### Wiring Diagram



## WKQ-B02/WKQ-B03 Scale integral thermostat



### Selection Description

WKQ-B02 proportional integral thermostat is used in the central air-conditioning, heating and cooling system.

When the temperature sensor detects the change of the controlled environment, the thermostat will generate a 2-10V or 4-20mA signal.

WKQ-B03 proportional integral thermostat is used in the central air-conditioning, heating and cooling system.

When the temperature sensor detects the change of the controlled environment, the thermostat will generate an increasing or decreasing signal to adjust reversible motor actuator.

### Product Introduction

Order NO.	Model NO.	Features
10107	WKQ-B02	Modulation output
10108	WKQ-B03	TRIAC ON/OFF output

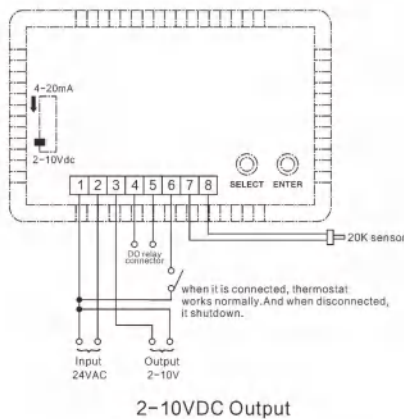
### Features

1. Internal or external with NTC.
2. All setting data can be displayed and operated on the LCD screen.
3. Flexible installation: wall installation, embedded or embedded plate installation.

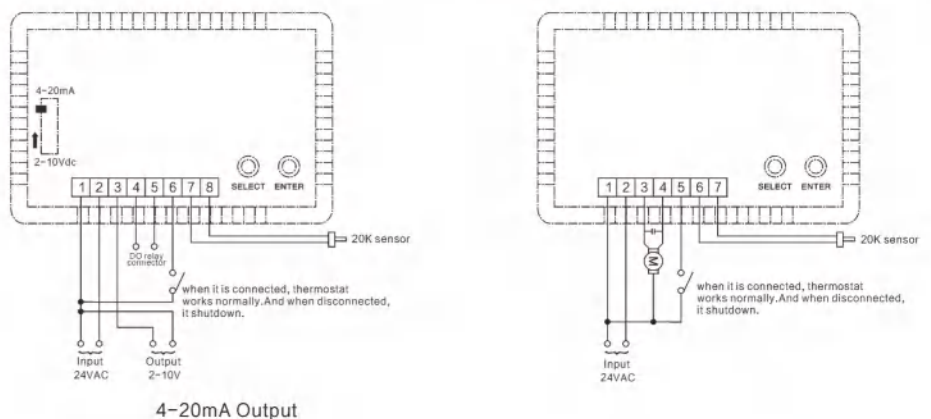
### Technical Data

Function	WKQ-B02	WKQ-B03
Control method	Scale+integral, imitate output	Proportional + Integral, forward or counter incremental output
Integral time	0.1-60 second	2-60 second
Output signal	2-10V or 4-20mA	Reversible TRIAC output
Supply voltage	24VAC ± 10% 50/60Hz	
Power consumption	2W(No load)	
Proportional band	2 ~ 19°C	
External NTC thermistor temperature sensor	NTC-20K 1% thermistor	
Wire	Combined terminal/1.5mm <sup>2</sup>	
Cover	(Thermal-resistance type & Auxiliary fire-resistant type) ABS, beige	
Working environment	0~+50°C 10~90%RH no dew	
Storage Temp.	-40 ~ +70°C	
Net weight	120g	
Accessory(extra order)	CGQ-W9100 temperature sensor	

### WKQ-B02 Wiring Diagram



### WKQ-B03 Wiring Diagram



## CGQ Temperature Sensor

### Selection Description

CGQ series temperature sensor adopts NTC thermistor as its temperature sensing parts. It is produced by accurate package technology. It has high sensibility, strong stability, corrosion preventive, long working life and convenient installation. It can adapt to any bad environment like high or low temperature and moist environment. The temperature sensor can quickly detect the temperature of air and water, then transmit the signal to control system to accurately control the temperature of air and water.

### Product Introduction

Order No.	Model No.	Appearance	Sensing element	Temperature range	Tube diameter	Tube length
10130	CGQ-W9000A	red	NTC-10K 1%	0 ~ 120°C	6 mm	135mm
10132	CGQ-W9100A	red	NTC-20K 1%	-30 ~ 120°C	6 mm	135mm
10134	CGQ-WT01	Stainless steel	NTC-10K 1%	0 ~ 120°C		

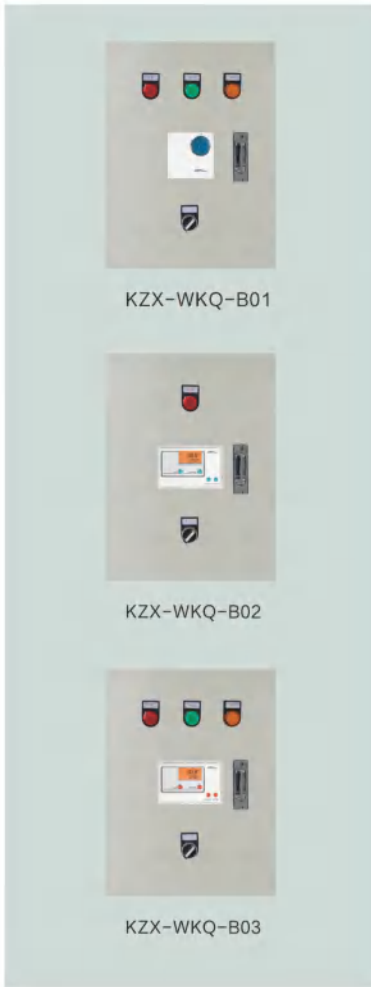
### Features

1. Sensing element:NTC
2. Operation range:0~120°C
3. Highest temperature of terminal box:70°C
4. Material of terminal box: tenacious flame-retardant PA engineering plastics
5. Installation: screw connection, insert type
6. Terminal material: flame-retardant PA engineering plastics
7. Protection grade:IP54
8. Pole pipe material :brass(nickel-plate),except CGQ-WT01



### The Data Between Temperature Of Sensor And Resistance

°C	Resistance(K Ω)		°C	Resistance(K Ω)		°C	Resistance(K Ω)		°C	Resistance(K Ω)		°C	Resistance(K Ω)		°C	Resistance(K Ω)	
	NTC10K	NTC20K		NTC10K	NTC20K		NTC10K	NTC20K		NTC10K	NTC20K		NTC10K	NTC20K		NTC10K	NTC20K
-30	-	426.4	-3	-	83.3	24	10.39	20.95	51	4.012	6.43	78	1.764	2.282	105	0.863	0.951
-29	-	399.1	-2	-	78.9	25	10.00	20.00	52	3.883	6.17	79	1.714	2.198	106	0.842	0.922
-28	-	373.8	-1	-	74.7	26	9.631	19.07	53	3.759	5.93	80	1.667	2.120	107	0.821	0.894
-27	-	350.3	0	27.62	70.7	27	9.227	18.21	54	3.640	5.70	81	1.621	2.051	108	0.801	0.867
-26	-	328.4	1	26.44	67.0	28	8.938	17.39	55	3.525	5.47	82	1.576	1.985	109	0.782	0.841
-25	-	308.0	2	25.32	63.5	29	8.613	16.61	56	3.415	5.26	83	1.533	1.922	110	0.763	0.816
-24	-	289.1	3	24.25	60.1	30	8.302	15.87	57	3.308	5.06	84	1.492	1.860	111	0.745	0.792
-23	-	271.4	4	23.23	57.0	31	8.004	15.16	58	3.205	4.86	85	1.451	1.801	112	0.728	0.769
-22	-	255.0	5	22.27	54.1	32	7.718	14.49	59	3.106	4.68	86	1.412	1.745	113	0.710	0.746
-21	-	239.7	6	21.34	51.8	33	7.444	13.86	60	3.011	4.50	87	1.374	1.690	114	0.694	0.725
-20	-	225.4	7	20.46	48.7	34	7.180	13.25	61	2.919	4.33	88	1.338	1.637	115	0.678	0.704
-19	-	211.9	8	19.63	46.2	35	6.928	12.67	62	2.830	4.17	89	1.302	1.587	116	0.662	0.683
-18	-	199.3	9	18.83	43.91	36	6.686	12.13	63	2.744	4.01	90	1.268	1.538	117	0.647	0.664
-17	-	187.6	10	18.07	41.72	37	6.754	11.61	64	2.662	3.86	91	1.235	1.487	118	0.632	0.645
-16	-	176.6	11	17.34	39.63	38	6.230	11.11	65	2.582	3.72	92	1.203	1.436	119	0.617	0.626
-15	-	166.8	12	16.65	37.66	39	6.016	10.61	66	2.505	3.58	93	1.171	1.392	120	0.603	0.609
-14	-	156.7	13	15.98	35.80	40	5.810	10.19	67	2.431	3.45	94	1.141	1.347	121	-	0.591
-13	-	147.7	14	15.35	34.05	41	5.613	9.76	68	2.359	3.324	95	1.112	1.304	122	-	0.575
-12	-	139.3	15	14.75	32.39	42	5.423	9.35	69	2.290	3.203	96	1.083	1.263	123	-	0.559
-11	-	131.5	16	14.17	30.82	43	5.240	8.96	70	2.223	3.088	97	1.056	1.223	124	-	0.543
-10	-	124.1	17	13.62	29.31	44	5.065	8.59	71	2.158	2.971	98	1.029	1.184	125	-	0.528
-9	-	117.1	18	13.09	27.94	45	4.897	8.24	72	2.096	2.859	99	1.003	1.147	126	-	0.513
-8	-	110.5	19	12.59	26.61	46	4.734	7.90	73	2.036	2.752	100	0.978	1.111	127	-	0.4983
-7	-	104.4	20	12.11	25.36	47	4.578	7.58	74	1.978	2.650	101	0.953	1.077	128	-	0.4856
-6	-	98.6	21	11.65	24.10	48	4.429	7.27	75	1.921	2.552	102	0.930	1.043	129	-	0.4724
-5	-	93.2	22	11.21	23.03	49	4.284	6.98	76	1.867	2.458	103	0.907	1.011	130	-	0.4596
-4	-	88.1	23	10.79	21.96	50	4.145	6.70	77	1.814	2.368	104	0.884	0.980			



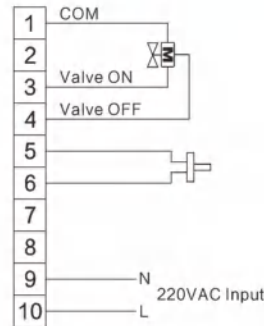
## KZX-WKQ Temperature Control Cabinet

Temperature control cabinet adopts proportional integral temperature controller. It is an independent control cabinet with leakage current protection and voltage changer and can be applied to control engineering motorized valve. KZX-WKQ-B01 is ON/OFF type, and use rotary switch to set temperature, easy operation. KZX-WKQ-B02 is modulation, display with LCD screen, operate with tact switch. KZX-WKQ-B03 is ON/OFF, display with LCD screen, operate with tact switch. It is designed for engineering installation, wide applicability and convenient installation. Equipped with a power switch and a safety lock, to prevent others from illegal operation.

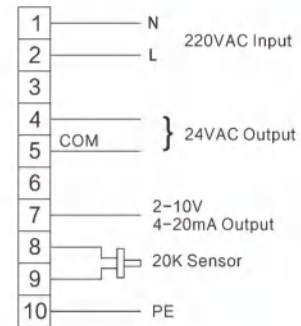
### Selection Description

Order No.	Model No.	Temperature range	Control Method
10135	KZX-WKQ-B01	0~40°C or 30~120°C	Proportion integral control method ( ON/OFF )
10136	KZX-WKQ-B02	10~60°C ( internally installed )	Proportion integral control method ( MODULATION )
10137	KZX-WKQ-B03	or -20~110°C ( externally installed )	Proportion integral control method ( ON/OFF )

### Wiring Diagram



KZX-WKQ-B01 ( 10K )  
KZX-WKQ-B03 ( 20K )

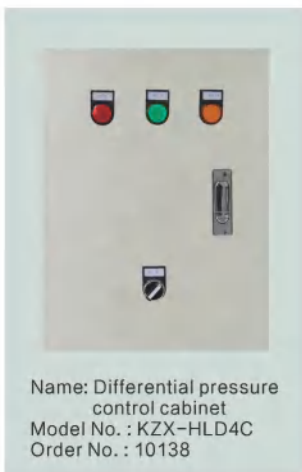


KZX-WKQ-B02

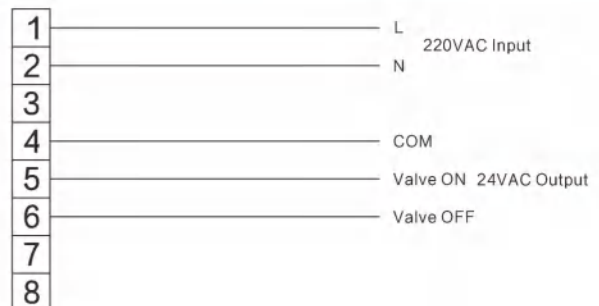
## KZX-HLD4C Differential Pressure Control Cabinet

KZX-HLD4C adopts HLLD4C as control unit. It is an independent control cabinet with leakage current protection and voltage changer. It is available for central air-conditioning water system control.

It is designed for engineering installation, wide applicability and convenient installation. Equipped with a power switch and a safety lock, to prevent others from illegal operation.



### Wiring Diagram



## KZX-MBUS Data Collection Cabinet

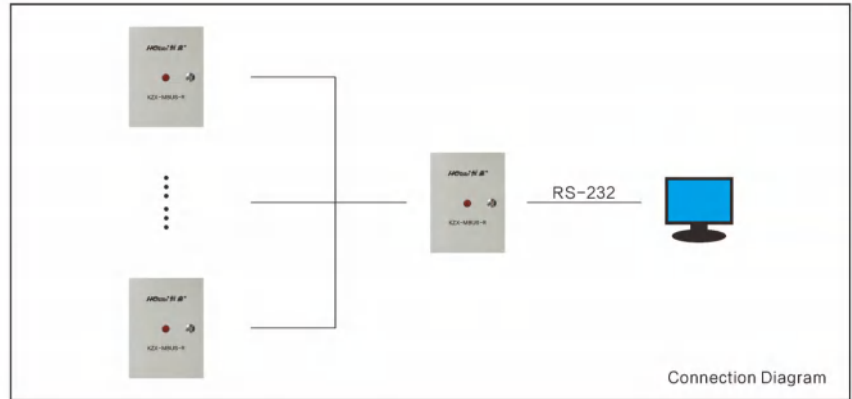
### Model Selection Description

Model No.	Item No.	Features
10139	KZX-MBUS-R	Rs232
10140	KZX-MBUS-R24V	RS232、For 24VDC / 5A Power
10141	KZX-MBUS-W	Wireless DTU
10142	KZX-MBUS-W24V	Wireless DTU、For 24VDC / 5A Power

### Model Selection Description



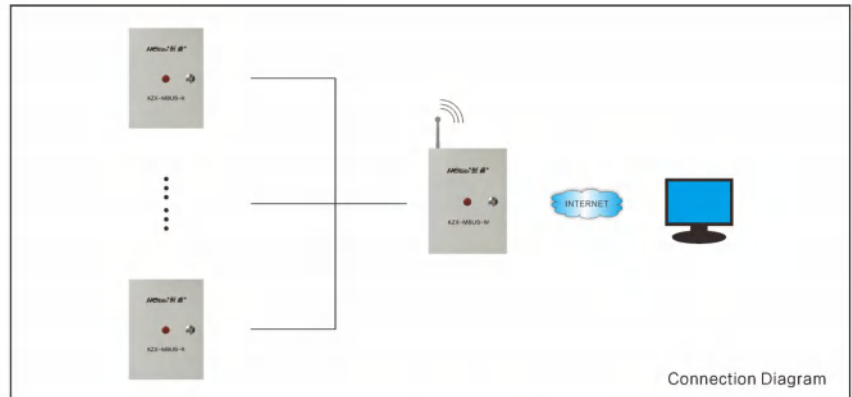
**KZX-MBUS-R**



- ★ The data collecting cabinet will communicate with the thermostat motorized ball valve system through the M-BUS host bus, and provides power for the data collection cabinet.
- ★ Built in M-BUS slave interface, can make it connected with the previous of the first data collection cabinet.
- ★ Built in RS232 interface, can directly connected with the computer. To complete control and meter reading charge.



**KZX-MBUS-W**



- ★ The data collecting cabinet will communicate with the thermostat motorized ball valve system through the M-BUS host bus, and provides power for the data collection cabinet.
- ★ Built in M-BUS slave interface, can make it connected with the previous of the first data collection cabinet.
- ★ Built in GRPS function, achieve long-distance communication with heating company's accounting control system through the internet. To complete control and meter reading charge.

## KZX-MBUS-RK7 Central Air Conditioning Fan Coil Centralized Controller

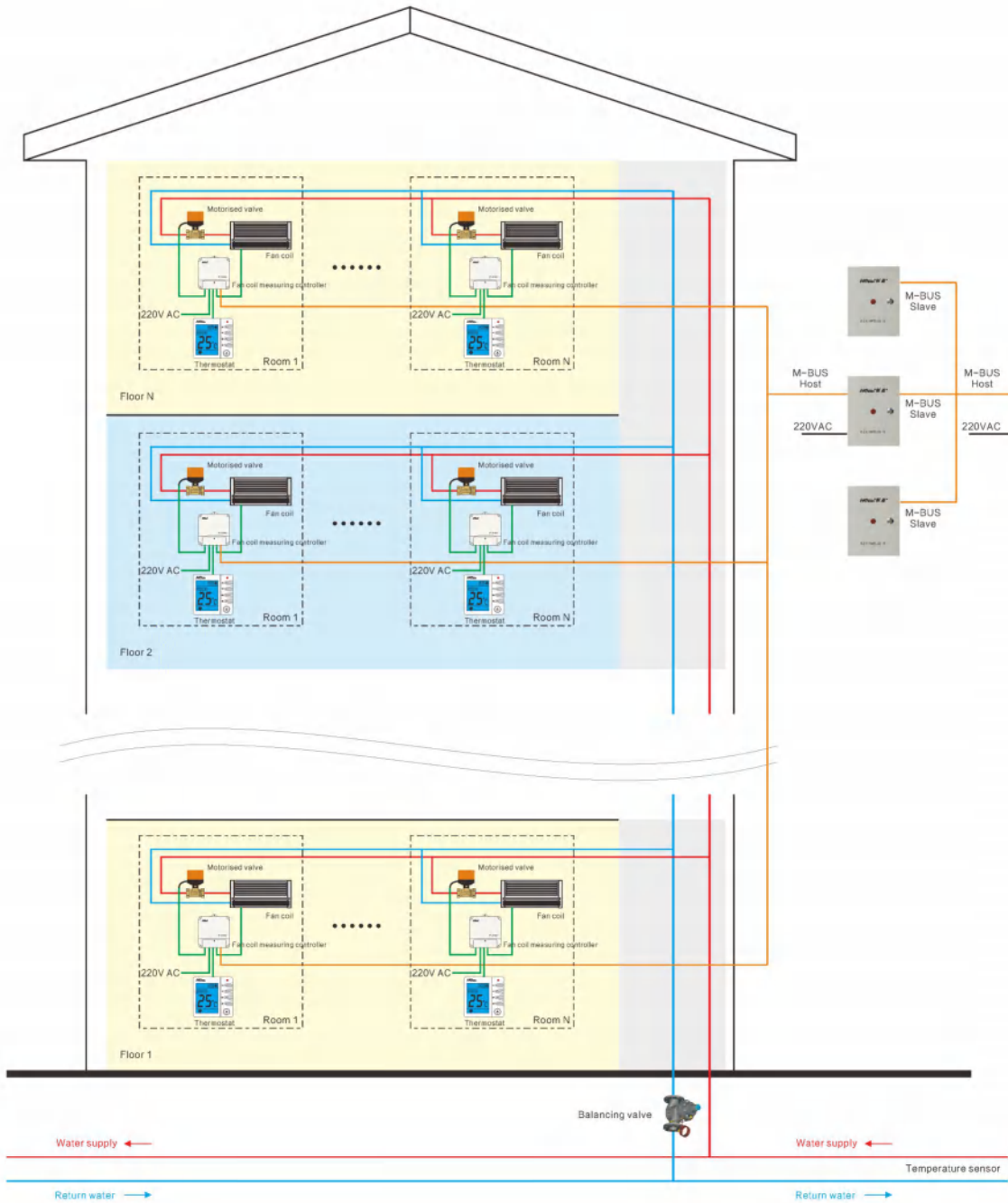
This product is suitable for central air conditioning system, adjust the thermostat's setting parameters in the system through the built-in M-BUS host interface (such as on-off, cooling and heating mode, temperature setting, etc.), the maximum number of controllable thermostats is 50pcs. Built-in 7-inch color LCD touch screen, the interface is intuitive and it's also easy to operate.

### Model Selection Description

Model No.	Item No.	Features
10143	KZX-MBUS-RK7	7-inch color LCD touch screen, M-BUS communication

The central air-conditionings which can be equipped with M-BUS are: WKQ-AKA-M concealed thermostat/WJL-SKA-M digital fan coil measuring controller/WKQ-SKSD2-M Digital Thermostate.

### Wiring Diagram



## Butterfly Valve



DFQ-JM-05-DFQ-JM-50



DFQ-JM-100-DFQ-JM-200

### Product Introduction

"Butterfly valve is a control valve with simple structure, it mainly used for cut off and throttling on the pipe, it can also be used for low pressure pipeline medium switch control. It suitable for water, electricity, gas, shipbuilding, water supply and drainage, metallurgy, energy and other engineering systems to transport all kinds of corrosive and non-corrosive liquid. And is used for adjust the media and cut off the flow."

### Valve Body Model Selection Description

Order No.	Model No.	Actuator Adapter	Spec. DN	Cvs For Valve Opening Angle		Technical Data
				90°	70°	
18032	DFR-01-50	DFQ-JM-05	50	135	90	<ul style="list-style-type: none"> <li>● Nominal pressure: 1.0MPa</li> <li>● Suitable temperature: -15 °C - 130 °C</li> <li>● Suitable medium: water, acid, alkali, salt, gas, steam and so on.</li> <li>● When the valve is controlled by switching quantity , Cv is selected at 90° .When the valve is controlled by analog quantity , Cv is selected at 70° . the control angle is recommended at 25° -70° , and the optimum control angle is 60° -65° .</li> </ul>
18033	DFR-01-65	DFQ-JM-05	65	220	144	
18034	DFR-01-80	DFQ-JM-05	80	302	183	
18035	DFR-01-100	DFQ-JM-05	100	600	364	
18036	DFR-01-125	DFQ-JM-10	125	1022	620	
18037	DFR-01-150	DFQ-JM-15	150	1579	958	
18038	DFR-01-200	DFQ-JM-25	200	3136	1903	
18039	DFR-01-250	DFQ-JM-50	250	5340	3240	
18040	DFR-01-300	DFQ-JM-50	300	8250	5005	
18041	DFR-01-350	DFQ-JM-100	350	11917	7230	
18042	DFR-01-400	DFQ-JM-200	400	16388	9942	
18043	DFR-01-450	DFQ-JM-200	450	21705	13168	
18044	DFR-01-500	DFQ-Z-350	500	27908	16931	
18045	DFR-01-600	DFQ-Z-500	600	43116	22769	

### Actuator Model Selection Description

Order No.	Model No.	Torque	Motor Power	Starting Current	Working Current	Technical Data
18025	DFQ-JM-05	50N.m	15W	0.25A	0.25A	<ul style="list-style-type: none"> <li>● Power Supply: 24VAC 50/60Hz, 220VAC 50/60Hz, 24VDC.</li> <li>● Angle of rotation: 0° ~ 90°</li> <li>● Ambient Temperature: -10°C - 60°C.</li> <li>● Protection Class: IP67.</li> <li>● Motor insulation class: F</li> <li>● Travel time: 15S, 30S, 60S optional</li> <li>● Modulation input signal: 4~20mA 0~10V, 1~5V; Output signal: 4~20mA 0~10V, 1~5V.</li> <li>● Limit: electric, fully open fully closed limit switch; manual, mechanical block</li> </ul>
18026	DFQ-JM-10	100N.m	25W	0.6A	0.52A	
18027	DFQ-JM-15	150N.m	30W	0.68A	0.55A	
18028	DFQ-JM-25	250N.m	45W	0.76A	0.7A	
18029	DFQ-JM-50	500N.m	90W	1.2A	1.15A	
18030	DFQ-JM-100	1000N.m	110W	1.36A	1.28A	
18031	DFQ-JM-200	2000N.m	110W	1.36A	1.28A	

## SLG Water Flow Switch



SLG-01



SLG-02



SLG-03

### Product Introduction

SLG water flow switch has SPDT output, high performance, and high precision, reliable features and so on. It can be installed in water pipe and liquids which have no corrosion to brass. When the liquid flow reached setting rate, it cannot reach to setting point. One loop closed, another loop open. It is typically used to protect the chain reaction or cut-off protection place.

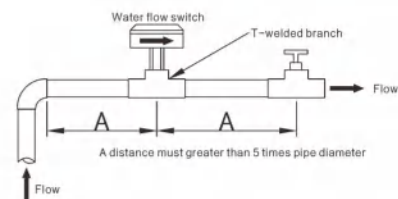
### Model Selection Description

Order No.	Model No.	Connection	Working pressure	Max. operating pressure	Fluid temperature	Contact Life	Bellows life	Insulation resistance
18019	SLG-01	1" ( R thread )	1.0MPa	1.6MPa	0~100°C	1000K	50K	> 100MΩ/500VDC
18020	SLG-02	1" ( R thread )	1.0MPa	1.6MPa	0~100°C	1000K	50K	> 100MΩ/500VDC
18021	SLG-03-G04	1/2" ( G thread )	1.0MPa	1.6MPa	0~100°C	1000K	50K	> 100MΩ/500VDC
18022	SLG-03-G06	3/4" ( G thread )	1.0MPa	1.6MPa	0~100°C	1000K	50K	> 100MΩ/500VDC
18023	SLG-03-G08	1" ( G thread )	1.0MPa	1.6MPa	0~100°C	1000K	50K	> 100MΩ/500VDC

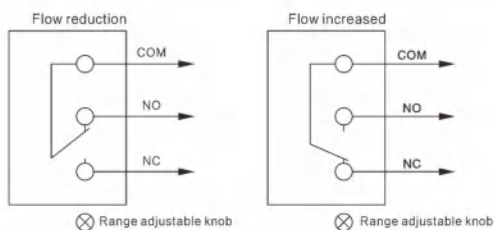
### Electrical parameters

Load Type	Voltage		Current	
	125VAC	250VAC	125VDC	250VDC
Resistive load	15A	15A	0.5A	0.25A
Inductive load	0.735A	0.735A	/	/

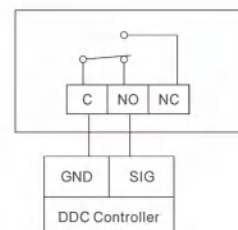
### Installation Diagram



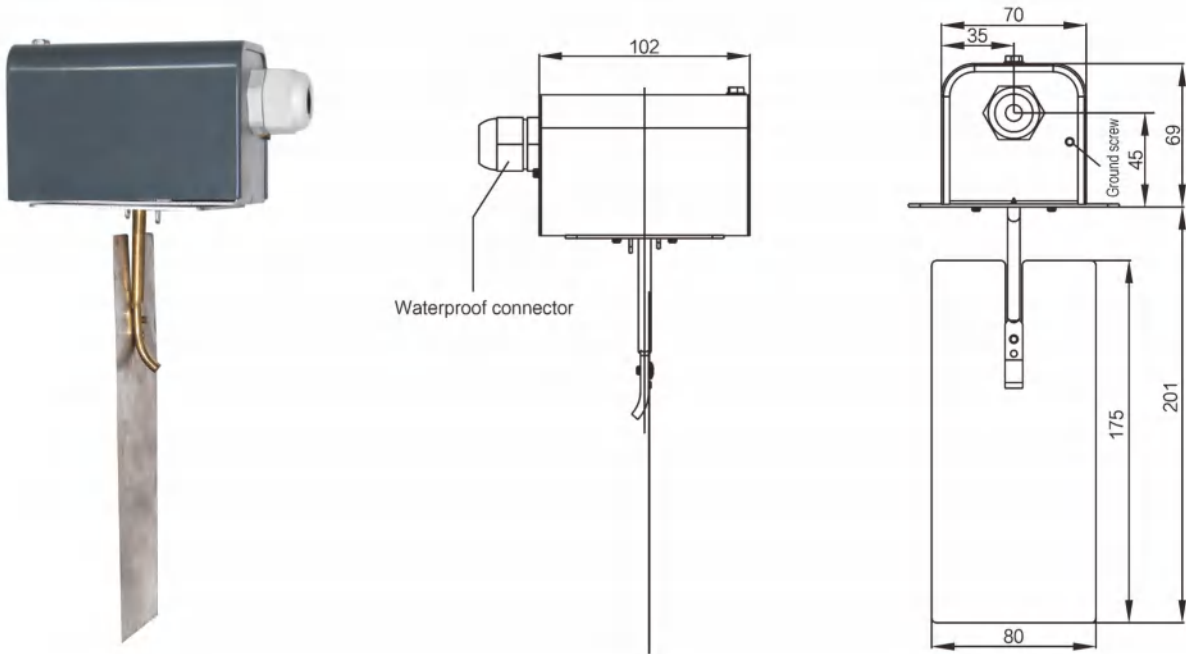
### SLG-01/03 Wiring Diagram



### SLG-02 Wiring Diagram



## FLG-01 Series Air Flow Switch



Order No.18024

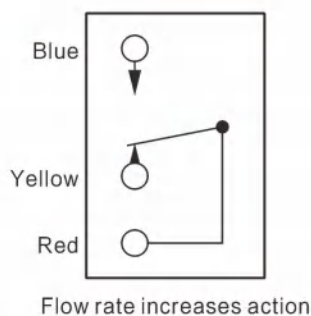
### Product Introduction

FLG-01 air flow switch is used for detecting the flow rate of air flow air on/off state. When air speed inside fan coil reached the set value, one switch contact open, another switch contact closed (SPDT). It can be used for alarm signal or chain purpose, to ensure the normal operation of the system. In air conditioning system, it can use switch contact as a "interruptible flow" alarm signal, or implement "interruptible flow" when power off of electric heater and control the motorized valve circuit and other chains. To avoid causing damage and loss to the equipment and user because of the "interruptible flow" and overheating of fan coil, freezing or other effects.

### Features

- NEMA standard shell adjustable scene settings
- Fast action switch with high reliability dust proof SPDT
- Easy lead connection
- Easy
- Widely used in air system, air cooling or heating process and exhaust system.
- Note: It cannot be installed in the outdoor

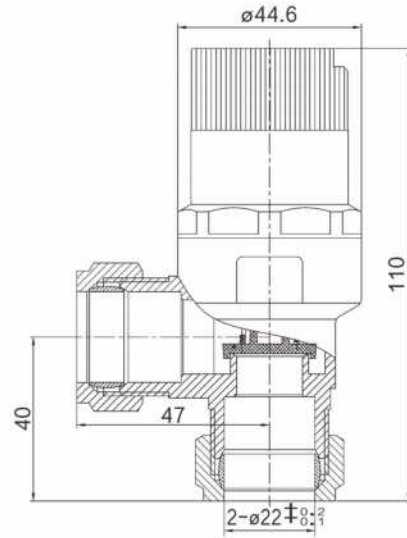
### Wiring Diagram



### Wind speed required for fan flow switch

Fan flow of switch contacts	Air flow switch required minimum wind speed (m/s)			
	Horizontal air flow		Vertically upward air flow	
	Duct cross-section 323cm or more	Duct cross-section smaller than 323cm <sup>2</sup>	Duct cross-section 323cm or more	Duct cross-section smaller than 323cm <sup>2</sup>
Fan flow increased, red-yellow closed	2.5	1.8	3.8	2.5
Fan flow decreased, red-blue closed	1.3	0.5	3.3	1.8

## ZBF series Automatic Bypass Valve



订货代号: 18062

### Feature

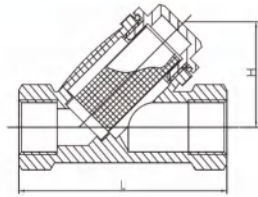
Automatic bypass valves are used in the closed cycle of air conditioning and heating systems, when the system pressure exceeds the set value can be automatically pressure relief, and after the pressure drops it will automatically reset to close to make the system pressure always within the set value to protect other components of the air conditioning system from over-pressure hazards. According to the different system operating pressure, it can manually adjust the pressure and the pressure adjustment range is 1-6bar.

### Technical Data

Item	parameter
Maximum working pressure	10bar
working temperature	0~120°C
Connection	coupling connection( 22)
	thread connection(G3/4)
Valve body	brass
Spring	stainless steel
Hand wheel	ABS
Sealing ring	ABS

## GH series

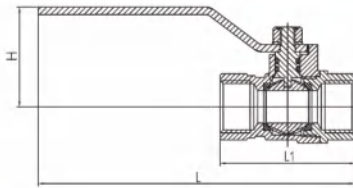
## Brass Filter



Order No.	Model No.	DN	Size	L	H
18064	GH-15	15	G1/2"	76	38.5
18065	GH-20A	20	G3/4"	68	41.7
18066	GH-20B	20	G3/4"	60	36.5
18067	GH-25A	25	G1"	74	46.2
18068	GH-32A	32	G1-1/4"	98.5	65.5
18069	GH-40A	40	G1-1/2"	102	66
18070	GH-50B	50	G2"	117	72.9

## QF series

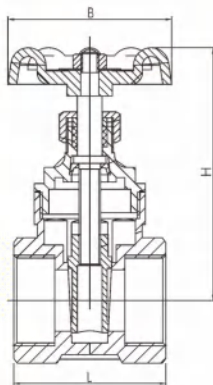
## Brass Female Ball Valve



Order No.	Model No.	DN	Size	L	L1	H
18071	QF-N-15	15	G1/2"	127	67.5	40
18072	QF-N-20	20	G3/4"	129.5	58.5	41.5
18073	QF-N-25	25	G1"	134	54	45
18074	QF-N-32	32	G1-1/4"	147	88	62.5
18075	QF-N-40	40	G1-1/2"	184	76.5	73
18076	QF-N-50	50	G2"	189	98.5	78

## ZF series

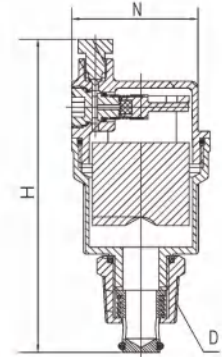
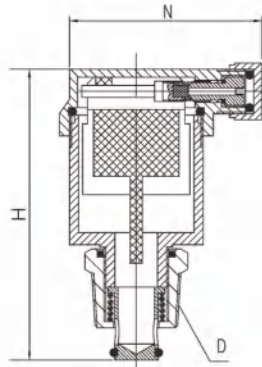
## Brass Female Gate Valve



Order No.	Model No.	DN	Size	L	H	B
18077	ZF-N-15A	15	Rc1/2"	55	106	56
18078	ZF-N-20A	20	Rc3/4"	52	86.5	56
18079	ZF-N-25	25	G1"	46	74	56
18080	ZF-N-32	32	G1-1/4"	43	69.5	71
18081	ZF-N-40	40	G1-1/2"	60	114	71
18082	ZF-N-50	50	G2"	71	141.6	78

PQF series

Exhaust Valve

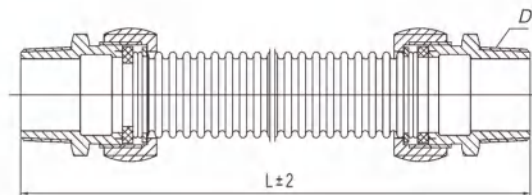


Order No.	Model No.	DN	Size	N	H
18083	PQF-15	15	R1/2"	47.5	72
18084	PQF-20	20	R3/4"	47.5	72
18085	PQF-25	25	R1"	47.5	80

Order No.	Model No.	DN	Size	N	H
18086	PQF-F-15	15	R1/2"	40	90.5
18087	PQF-F-20	20	R3/4"	40	90.5
18088	PQF-F-25	25	R1"	40	97.5

BWG Series

Bellows



Order No.	Model No.	DN	Size
18089	BWG-R48-250	R1/2	250
18090	BWG-R48-300	R1/2	300
18091	BWG-R48-350	R1/2	350
18092	BWG-R48-400	R1/2	400
18093	BWG-R48-450	R1/2	450
18094	BWG-R48-500	R1/2	500
18095	BWG-R68-160	R3/4	160
18096	BWG-R68-200	R3/4	200
18097	BWG-R68-250	R3/4	250
18098	BWG-R1-160	R1	160
18099	BWG-R1-200	R1	200
18100	BWG-R1-250	R1	250
18101	BWG-R1-300	R1	300
18102	BWG-R1-350	R1	350
18103	BWG-R1-400	R1	400
18104	BWG-R1-450	R1	450
18105	BWG-R1-500	R1	500

Order No.	Model No.	DN	Size
18106	BWG-R108-200	R1-1/4	200
18107	BWG-R108-250	R1-1/4	250
18108	BWG-R108-300	R1-1/4	300
18109	BWG-R108-350	R1-1/4	350
18110	BWG-R108-400	R1-1/4	400
18111	BWG-R108-450	R1-1/4	450
18112	BWG-R108-500	R1-1/4	500
18113	BWG-R128-250	R1-1/2	250
18114	BWG-R128-300	R1-1/2	300
18115	BWG-R128-350	R1-1/2	350
18116	BWG-R128-400	R1-1/2	400
18117	BWG-R128-450	R1-1/2	450
18118	BWG-R128-500	R1-1/2	500
18119	BWG-R2-250	R2	250
18120	BWG-R2-300	R2	300
18121	BWG-R2-350	R2	350
18122	BWG-R2-400	R2	400
18123	BWG-R2-450	R2	450
18124	BWG-R2-500	R2	500



>> 恒森楼宇自控产品系列  
HengSen central air-conditioner fittings



>> 恒森制冷配件产品系列  
HengSen refrigeration fittings



>> 恒森管道配件产品系列  
HengSen copper fittings



浙江恒森实业集团有限公司  
Zhejiang Hengsen Industrial Group Co., Ltd.

地址：浙江省诸暨市阮市镇金岭工业区

邮编：311802

电话：0575-87697789

传真：0575-87696177

网址：www.cnhengsen.com

邮箱：webmaster@cnhengsen.com

Add:Jinling Industry Zone,Ruanshi,Zhuji,Zhejiang

PostCode:311802

Cell:0086-15068589060

Fax:0086-575-87696177

Website:www.cnhengsen.com

E-mail:webmaster@cnhengsen.com