



KG Controls

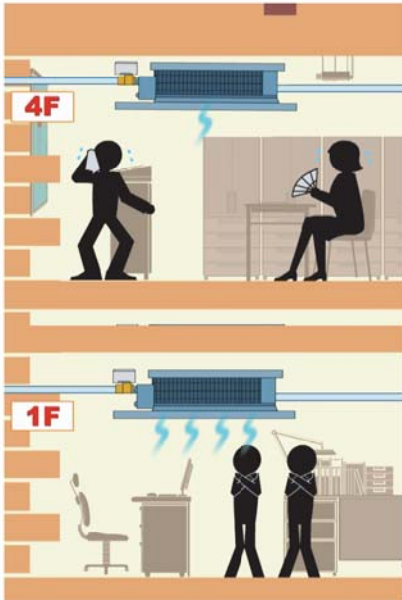
HVAC PRODUCTS



Balancing made simple
with KG Balancing Valve



Flow Balancing Modulating Valve

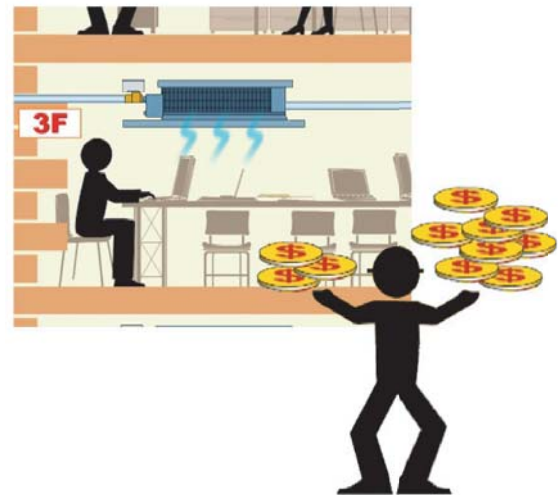


Q: The imbalance of flow distribution caused by load status of terminals in VAV system always bothers designers and users.

A: Balancing valve can solve this problem effectively. It makes terminals work under constant flow rates without being affected by parallel terminals. It also assures the whole system operating under dynamic balancing status.

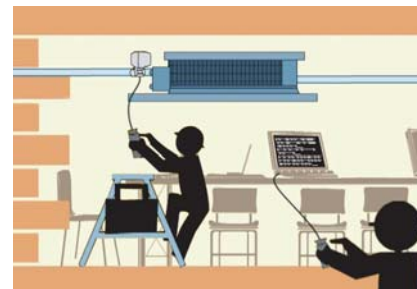
Q: I know about the balancing valves, they are quite expensive. I have to install manual balancing valves and automatic balancing valves along with zone valves to get the perfect operation status.

A: Exactly. But using KG flow balancing modulating valve, you will know how much you would have saved. It is comprised of typical balancing valve and zone valve's function. Its simple structure minimizes production cost and brings real benefit to clients.



Q: I know that a lot of people don't like balancing valves because of the adjusting work. If not every single balancing valve can be adjusted correctly, there will not be any balancing but only increase flow resistance and waste more pump power.

A: With KG flow balancing modulating valve, you don't need to worry about these at all. It is as easy as installing zone valves, and it can be pre-set in our factory or adjusted by on-site workers. No professional required!



FEATURES



Simpleness

Simple configuration
Simple maintenance
Easy to select model
Easy to install and set

Reliable

Widely use
High closing-off pressure
Low flow resistance
High accuracy
High blockage resistance

Comfortable

Ideal temperature control
Low noise

Energy Saving

Smaller pump request
Less electric power request
Less pipeline request

KG Patent Product's Function

- Flow Balancing
- Modulating Control
- LED Display
- Manual Lever



WORKING PRINCIPLE

KG flow balancing modulating valve employs the following two functions

Automatic Flow Balancing + Modulating Control

Automatic Flow Balancing

According to the load request of terminal units, KG flow balancing modulating valve can be setup to a certain flow rate and modulate it all the time, no matter how high or how low the HVAC system pressure is.

Finish the Max. flow setting point setup, when the system pressure changes with the flow changing, the flow sensor in the KG flow balancing modulating valve will detect the real-time flow and transfer the flow value to the actuator. If the real-time flow is bigger than the setting point, the micro processor which is in the actuator will compare the real-time flow with the setting point, and output the proper signal to control the valve opening degree, so as to attain the system dynamic balancing.



Real-time Flow > Max. Flow Setting Point — Automatic Flow Balancing

Modulating Control

KG flow balancing modulating valve employs modulating control function from the thermostat. First, the user setup a certain temperature at the thermostat at his pleasure. Then the processor in the actuator will output the control signal to open or close the valve, in order to maintain the room temperature as the user's setting. No matter how the valve opening degree is modulated, the real-time flow is still below the max. flow setting point. So it can provide both comfortable and system high precision balancing at the meanwhile.

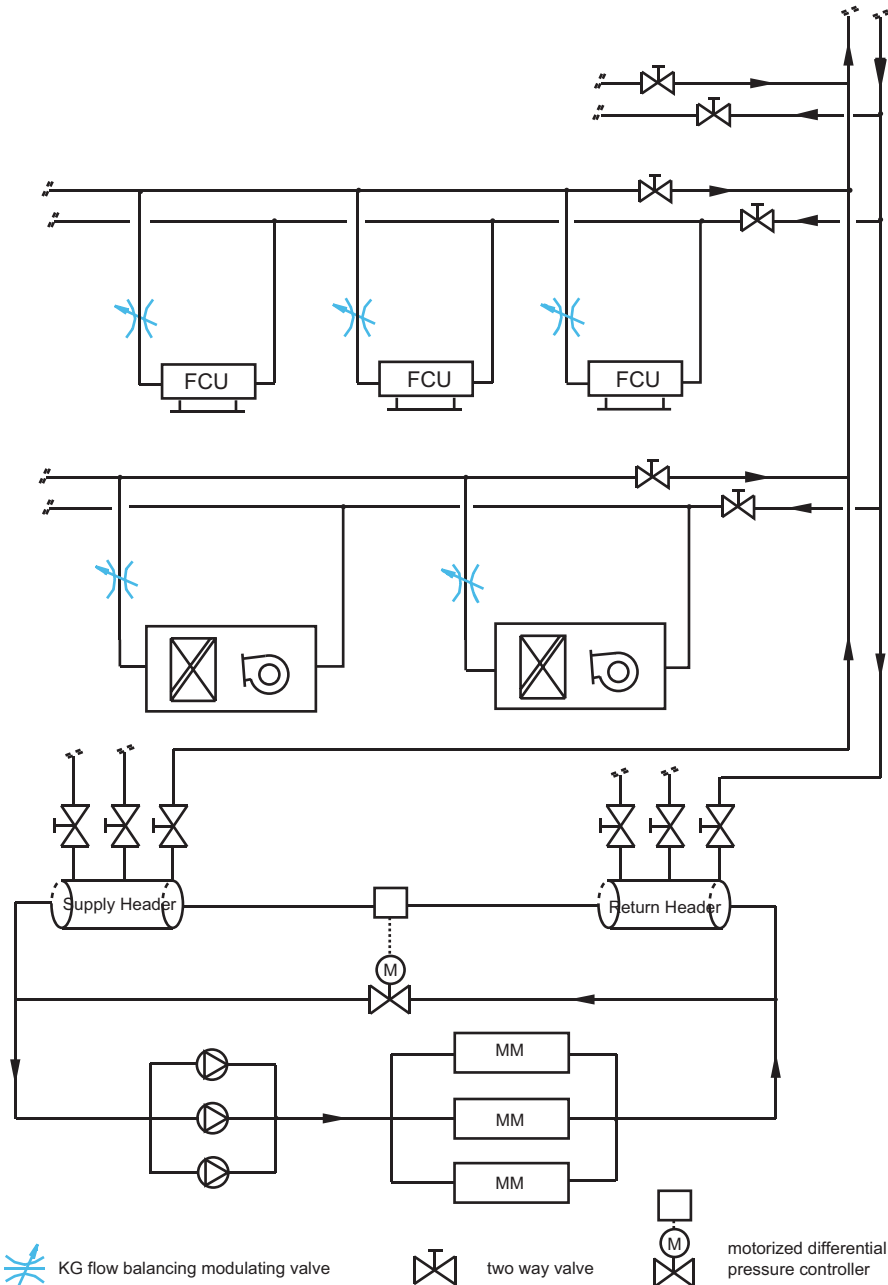


Real-time Flow < Max. Flow Setting Point — Modulating Control

APPLICATION

KG balancing modulating valve is widely used in each fan coil units, air handling units and other terminal devices of the HVAC system. It also can be used in floor branch pipe or zone main pipe. It can easily and reliably achieve a hydronic balance between the various circuits in multiple loop (circuit) systems, especially in Direct Return Design System. No matter the parallel valves are open or close, it won't effect the balancing modulating valve keeping maintain the certain flow.

For example:



INSTALLATION

KG balancing modulating valve doesn't need professional personnel and tools to adjust the balance. Just setup the Max. flow rate is OK.

Differences in installation

KG Flow Balancing Modulating Valve



Other Balancing Valve



Setting Method

Concealed manhole design help personnel to setup the Max. flow rate easily and protect the actuator safely. This setting step can be finished before leaving factory. Help saving the cost on setting and adjusting.



Material

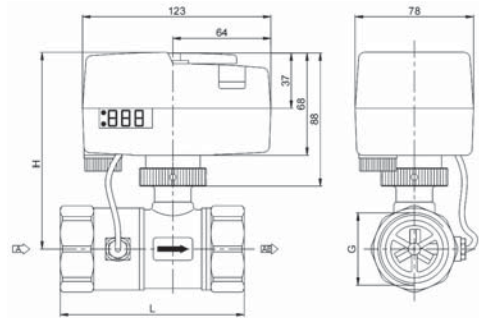


(DN20~DN25)

VALVE	BODY	Forged Brass
	BALL	Stainless steel
	STEM	Stainless steel
	SEAT	PTFE
	O-RING	NBR
ACTUATOR	COVER	Fire-retardant ABS engineering plastic
	CHASSIS	Fire-retardant Reinforced nylon PA6-110
SENSOR	STEM	Alloy (3J40)
	PROPELLER	PA66
	BEARING	Graphite Bearing
	HOUSING	PPS

Specification

Connection	Thread
Rated body pressure	PN25
Closing-off pressure	600kPa
Flow accuracy	±5%
Flow curve	Equal percentage
Working medium	Chilled/hot water or 50% glycol
Working temperature	2°C~94°C



Model	Size	Flow balancing range(m ³ /h)	L (mm)	H (mm)	G (mm)
SPV03G20	20	0.5~5.0	95	114	3/4"
SPV03G25	25	1~10	105	119	1"

Model	Power supply	Power	Control signal	Stroke time	Protection level
SBA04-024	24VAC	3VA (on load)	Floating	45s	IP54

Material

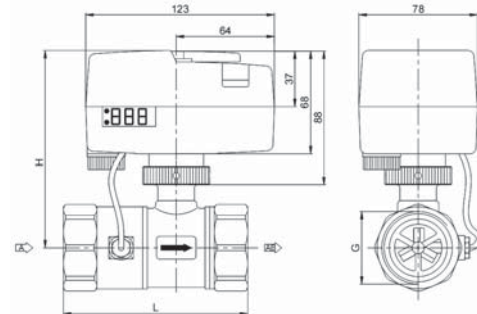
VALVE	BODY	Forged Brass
	BALL	Stainless steel
	STEM	Stainless steel
	SEAT	PTFE
	O-RING	NBR
ACTUATOR	COVER	Fire-retardant ABS engineering plastic
	CHASSIS	Fire-retardant Reinforced nylon PA6-110
SENSOR	STEM	Alloy (3J40)
	PROPELLER	PA66
	BEARING	Graphite Bearing
	HOUSING	PPS



(DN32~DN50)

Specification

Connection	Thread
Rated body pressure	PN25
Closing-off pressure	600kPa
Flow accuracy	±5%
Flow curve	Equal percentage
Working medium	Chilled/hot water or 50% glycol
Working temperature	2°C ~ 94°C



Model	Size	Flow balancing range(m ³ /h)	L (mm)	H (mm)	G (mm)
SPV03G32	32	3.2~16	125	128	1 1/4"
SPV03G40	40	5~25	125	128	1 1/2"
SPV03G50	50	8~40	144	132	2"

Model	Power supply	Power	Control signal	Stroke time	Protection level
SBA04-024	24VAC	3VA (on load)	Floating	60s	IP54

Material

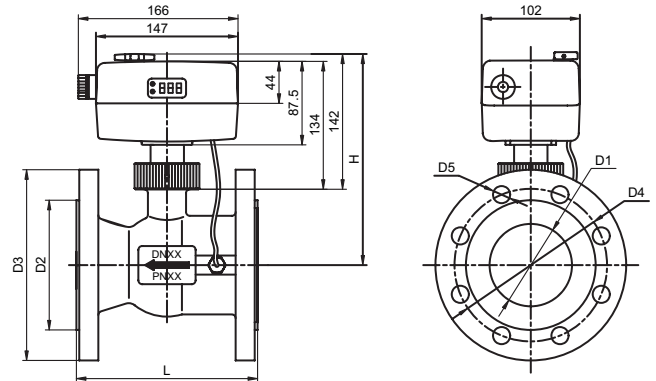


(DN65~DN100)

VALVE	BODY	Cast iron
	BALL	Stainless steel
	STEM	Stainless steel
	SEAT	PTFE+ graphite
	O-RING	NBR
ACTUATOR	COVER	Fire-retardant ABS engineering plastic
	CHASSIS	Die-casting aluminum alloy
SENSOR	STEM	Alloy (3J40)
	PROPELLER	PA66
	BEARING	Graphite Bearing
	HOUSING	PPS

Specification

Connection	Flanged
Rated body pressure	PN16/PN25
Closing-off pressure	600kPa
Flow accuracy	±5%
Flow curve	Equal percentage
Working temperature	2°C~94°C
Working medium	Chilled/hot water or 50% glycol



Model	Size	Flow balancing range (m ³ /h)	L(mm)	H(mm)	D1(mm)	D2(mm)	D3(mm)	D4(mm)	D5(mm)
SPV03F65	65	12.8 ~64	190 (190)	222 (222)	82 (82)	120 (120)	185 (185)	145 (145)	18 (18)
SPV03F80	80	20.4~102	190 (190)	222 (222)	82 (82)	136 (136)	200 (200)	160 (160)	18 (18)
SPV03F100	100	32.6~163	230 (230)	232 (232)	102 (102)	156 (162)	220 (235)	180 (190)	18 (23)

Note: The data inside “()” are for PN25 valve, Omitted are for PN16.

Model	Power supply	Power	Control signal	Stroke time	Protection level
SBA05-024	24VAC	3VA (on load)	Floating	120s	IP54

Material

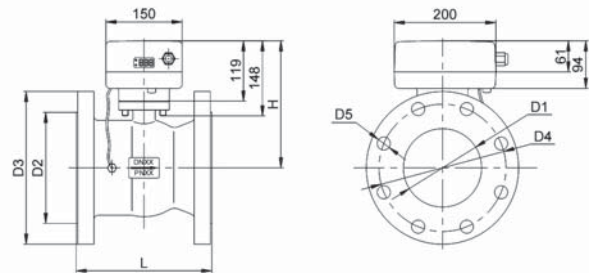
VALVE	BODY	Cast iron
	BALL	Stainless steel
	STEM	Stainless steel
	SEAT	PTFE+ graphite
	O-RING	NBR
ACTUATOR	COVER	Fire-retardant ABS engineering plastic
	CHASSIS	Die-casting aluminum alloy
SENSOR	STEM	Alloy (3J40)
	PROPELLER	PA66
	BEARING	Graphite Bearing
	HOUSING	PPS



(DN125~DN150)

Specification

Connection	Flanged
Rated body pressure	PN16/PN25
Closing-off pressure	600kPa
Flow accuracy	±5%
Flow curve	Equal percentage
Working temperature	2°C~94°C
Working medium	Chilled/hot water or 50% glycol



Model	Size	Flow balancing range (m³/h)	L(mm)	H(mm)	D1(mm)	D2(mm)	D3(mm)	D4(mm)	D5(mm)
SPV02F125	125	52 ~260	254 (254)	232 (232)	125 (125)	188 (180)	250 (270)	210 (220)	18 (26)
SPV02F150	150	83.2~416	267 (267)	250 (250)	154 (154)	210 (215)	285 (300)	240 (250)	22 (26)

Note: The data inside “()” are for PN25 vavle. Omitted are forPN16.

Model	Power supply	Power	Control signal	Stroke time	Protection level
SBA06-024	24VAC	3VA (on load)	Floating	120s	IP54



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