Honeywell

VM58/VN58 series

Motorized control valve

Specification Data

GENERAL

Model VM/VN series valves electric control valves are designed for general-purpose services. The compact valve body, having an S-shaped flow passage that features low pressure loss, allows a large flow capacity, rangeability, and high accuracy flow characteristics.

The actuator section performs two-position operation or proportional operation by directly receiving the signal of 4~20 mA DC from the electronic-type controller.

The VM/VN series valves are widely applicable for modulating control of hot/chilled water, glycol or steam in HVAC and process lines.

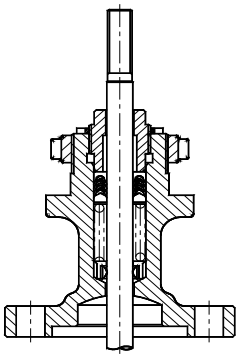
FEATURE

- Cast iron/steel or stainless steel body with flanged end connection
- Available in variety of sizes, 2-way : 1/2” ~ 12” 3-way: 1/2” ~ 6”
- Easy to install and maintain.
- Large capacity, Kvs from 4 to 998
- On-line interchangeable trim units.
- High dynamic stability.
- Self-alignment of cage and valve plug .
- Noise-Attenuating Trim to help reduce aerodynamic noise.
- IP 67 Enclosure

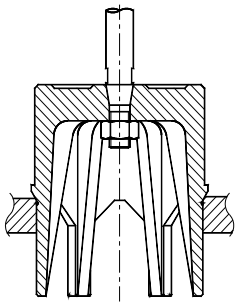
SPECIFICATIONS

Body type	Globe valve
Action	Stem down to close
Nominal pressure rating	PN16
Plug	Pressure balanced (2-way DN50~300), unbalanced plug
Flow characteristic	Equal percentage, linear
Range ability	50:1
Leakage rate	≤ 0.1%
Stroke	See Dimension table, P3
Body end connections	Flanged
Body material	Cast iron Stainless steel
Seat material	Stainless steel
Plug material	Stainless steel, Bronze
Stem material	Stainless steel
Packing	Spring loaded PTFE V-rings
Actuator type	Electric with manual override
Enclose	Dry-powder coating aluminum Alloy, IP67/NEMA 4X class
Position indicator	0~ 100%
Modulating rate	On– OFF and modulating type at 1500 starts per hour
Operation Temperature	-30~ 65 deg C
Loss of command input	Open/ close/ hold by setting
Standard Stroke	20 mm~ 100 mm
Dimensions	See Dimension table, P3
Medium temperature and Pressure	2~ 80℃: max. 1600 kPa 80~ 180℃ : max. 1300 kPa
Power Supply	220Vac
Input Signal	4~ 20mA / 1~5V/ 2~10V
Output Signal	4~ 20mA/ 2~10V

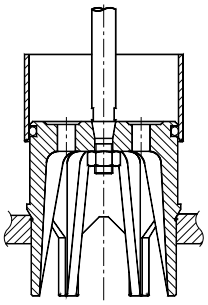
CONSTRUCTIONS



Spring loaded PTFE V-rings

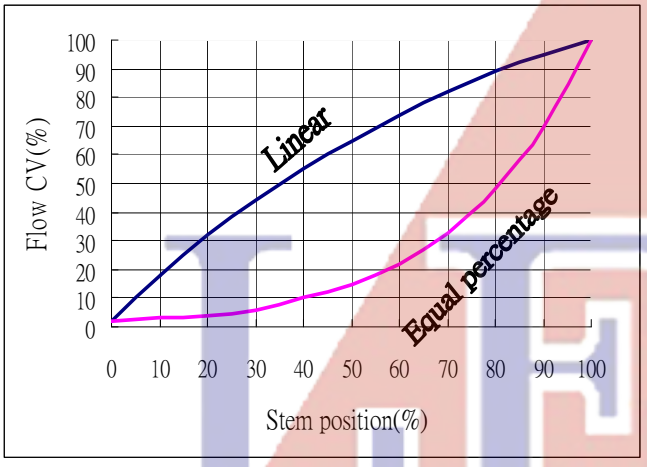


Unbalanced V-Port plug
For 1/2" ~ 1"



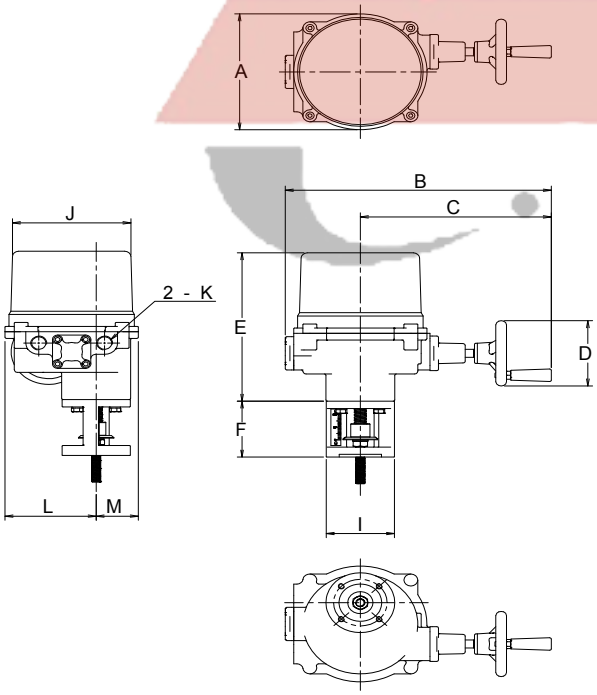
Balanced V-Port plug
For 1-1/2" ~ 12"

FLOW CURVE



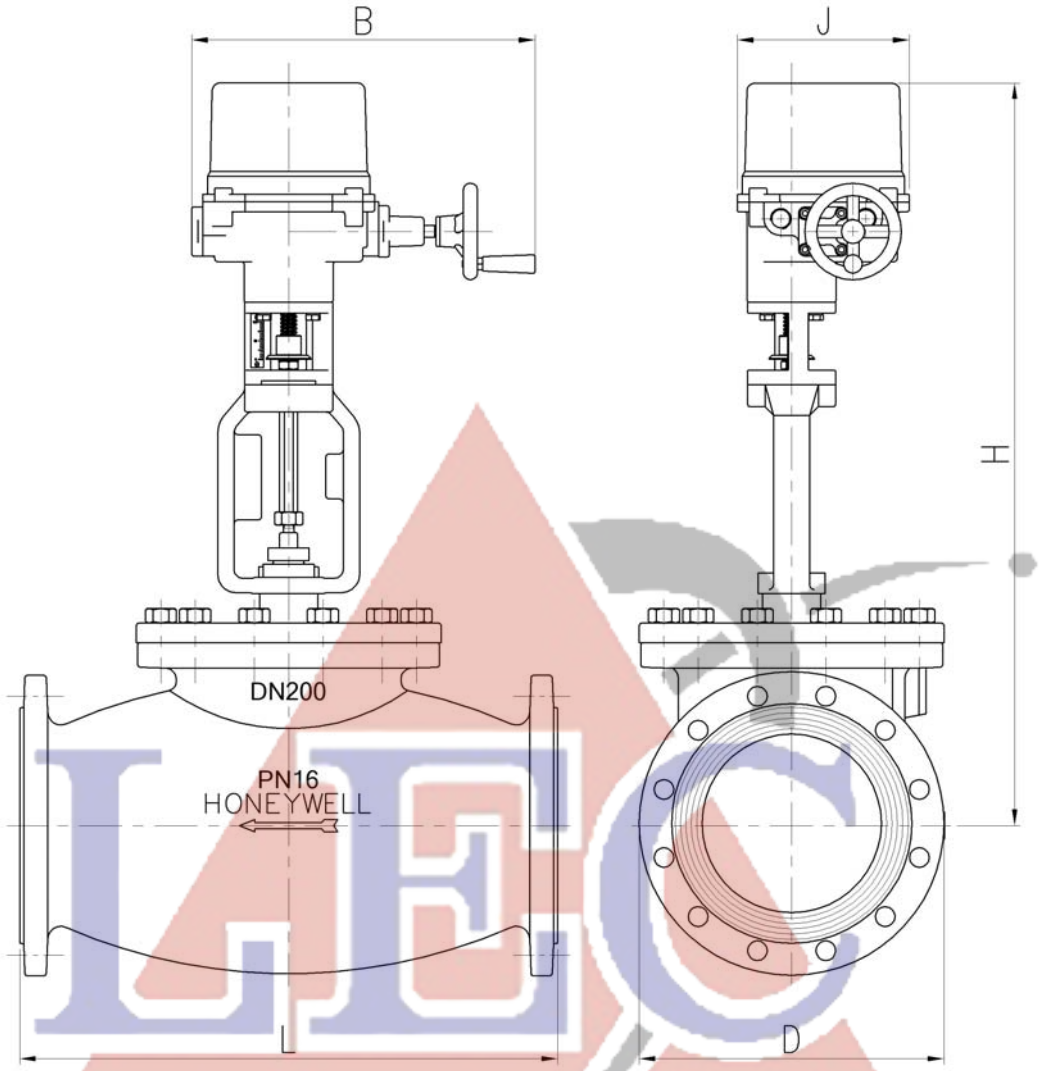
- Linear Characteristics
- Equal % Characteristics

Electric Linear Valve Actuator



Dimension:

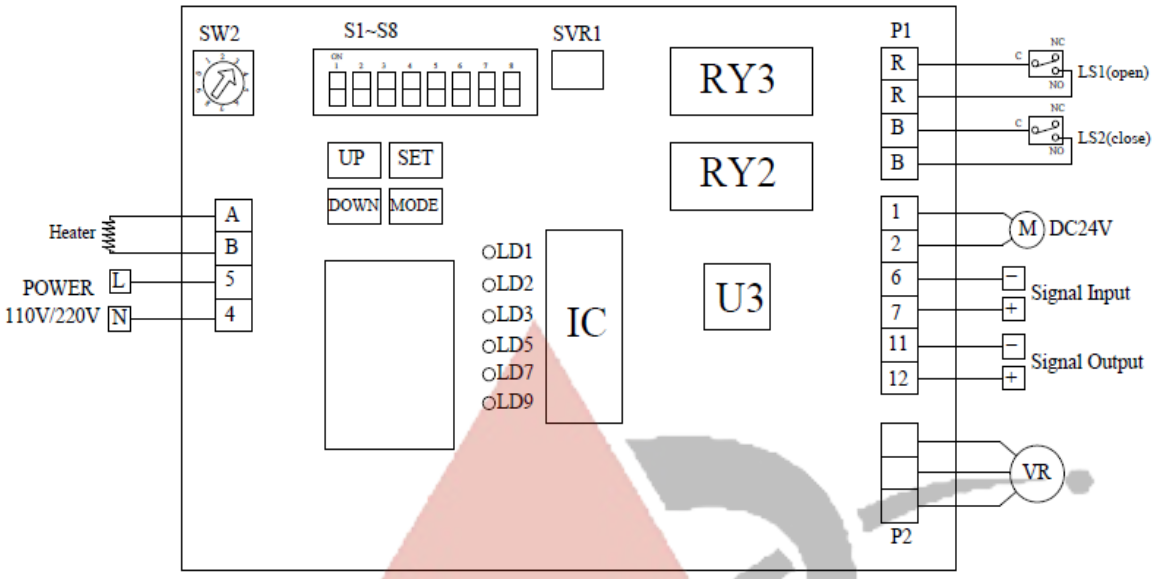
	L250	L500	L1000	
A	174	174	254	
B	349	349	465	
C	250	250	319	
D	∮ 98	∮ 98	∮ 123	
E	223	223	326	
I	∮ 90	∮ 90	∮ 125	
J	∮ 155	∮ 155	∮ 218	
K	1/2"	1/2"	1/2"	
L	119	119	176	
M	55	55	78	
F	84	84	-	20trip
	84	84	122	38trip
	96	96	122	50trip
	-	-	192	75trip
	-	-	192	100trip
Thrust(Kg)	250	500	1000	
Power	15W	15W	25W	
	L250	L500	L1000	



Dimension: For electric Actuator

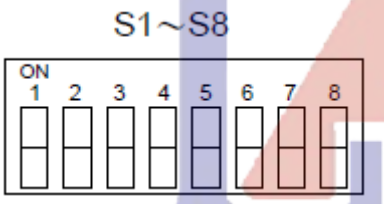
Size	1/2”	3/4”	1”	1-1/2”	2”	2-1/2”	3”	4”	5”	6”	8”	10”	12”
	15	20	25	40	50	65	80	100	125	150	200	250	300
L	130	150	160	200	230	290	310	350	400	480	543	673	737
D	95	105	115	150	165	185	200	220	250	285	448	580	525
H	637				718	746	755	837	885	903	983	1302	1365
B	349											465	
J	264											510	
Stroke	20							40			50	80	100
Actuator	**SY-L250**							**SY-L500**				**SY-L1000**	
Kvs	4.0	6.3	10.0	25	40	63	100	160	250	360	703	838	998
Max ΔP kPa	1000			900			800				700		

INSTALLATION
Modulating Actuator



Note: Don't change the setting before being trained.
Disconnect the power supply before changing the settings.

A. DIP Switch Setting



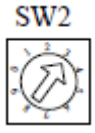
S1, S2	Input Signal
S3, S4, S5	Output Signal
S7, S8	Actuator response to the loose of control signal

Input Signal	S1	S2
2~10 V	OFF	ON
4~20 mA	ON	OFF
1~5 V	OFF	OFF

Output Signal	S3	S4	S5
2~10 V	ON	OFF	ON
4~20 mA	OFF	ON	OFF

When Signal Fails	S7	S8
Full Closed	OFF	ON
Full Open	ON	OFF
Stops	ON	ON

B. Sensitive Switch Setting



SW2 Setting: 1-2-3-4-5-6-7-8-9-0
Position "1" : highest sensitive, 0~90 degree divided into 75 steps;
Position "0" : lowest sensitive, 0~90 degree divided into 17 steps;
Position "3" : factory setting, 0~90 degree divided into 60 steps.

C. Input Signal Setting

Keep press " **SET**" for 3 seconds, then **LED 9** comes on, it will enter manual mode;

Setting for OPEN

1. keep press " **UP**" and keep the actuator on fully open position, then supplies input signal (5V or 10V or 20mA);
2. Press " mode" once.

Setting for CLOSE

1. keep press " **DOWN**" and keep the actuator on fully closed position, then supplies input signal (1V or 2V or 4mA);
2. Press " mode" once.

After finishing the above settings, press "**SET**" once.

D. Output Signal Setting
Adjust **VR1** and set fully open signal(10V/ 20mA) directly.

E. LED Instruction

LED1: Fully closed
LED2: Fully open
LED3: Power
LED5: Wrong input signal
LED7: Input signal short circuit
LED9: Manual control

To reset and return to original status- please power off and get troubleshooting, then power on after 5 seconds.

POWER CONSUMPTION

Power Supply	220V, 60/50 Hz							
Model	SY-L250 (modulating)				SY-L250 (On/Off)			
Stroke	Speed	Run		Lock	Speed	Run		Lock
		60 Hz	50 Hz			60 Hz	50 Hz	
20mm	34 sec	0.4A	0.4A	0.5A	34 sec	0.4A	0.4A	0.5A

Power Supply	220V, 60/50 Hz							
Model	SY-L500 (modulating)				SY-L500 (On/Off)			
Stroke	Speed	Run		Lock	Speed	Run		Lock
		60 Hz	50 Hz			60 Hz	50 Hz	
40mm	61 sec	0.4A	0.4A	0.5A	64 sec	0.4A	0.4A	0.5A
50mm	82 sec	0.4A	0.4A	0.5A	84 sec	0.4A	0.4A	0.5A

Power Supply	220V, 60/50 Hz							
Model	SY-L1000 (modulating)							
Stroke	Speed	Run		Lock	Speed	Run		Lock
		60 Hz	50 Hz			60 Hz	50 Hz	
80mm	151sec	0.3A	0.3A	1.5A	-	-	-	-
100mm	202sec	0.3A	0.3A	1.5A	-	-	-	-

ORDER NUMBER

VM58/ 59/ 68 ××× ××× × ×

A. Series	
VM58	Modulating control valve for water(2-way)
VM59	Modulating control valve for steam(2-way)
VM68	Modulating control valve for water(3-way)
VN58	On-Off control valve for water(2-way)
VN59	On-Off control valve for steam(2-way)
VN69	On-Off control valve for water(3-way)

Note: For 3 way valve, the size range is DN15~DN150

B. Diameter	
015	1/2” (15mm)
020	3/4” (20mm)
025	1” (25mm)
040	1-1/2” (40mm)
050	2” (50mm)
065	2-1/2” (65mm)
080	3” (80mm)
100	4” (100mm)
125	5” (125mm)
150	6” (150mm)
200	8” (200mm)
250	10” (250mm)
300	12” (300mm)

C. End Connection	
J10	JIS 10K R.F.
A15	ANSI 150 R.F.
P16	PN16 R.F.

D. Flow characteristic	
L	Linear
E	Equal percentage
O	On-Off
Z	Others

E. Body& Bonnet Material	
A	SCS 13
B	SCS 14
D	FC
Z	Others

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Honeywell

Automation and Control Solutions
Honeywell Taiwan Limited
9F, 168 Lien Cheng Road
Chung Ho City, Taipei County, Taiwan
Phone: +886-2-2243 1653
Fax: +886-2-2243 1244