

## VM58/VN58 series Motorized control valve

### Specification Data



### GENERAL

Model VP58/59/68 series 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 VP58/59 valves are widely applicable for modulating control of hot/chilled water, glycol or steam in HVAC and process lines.

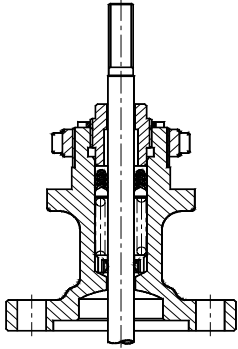
### FEATURE

- 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

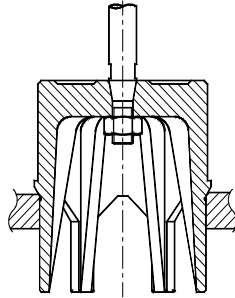
### SPECIFICATIONS

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

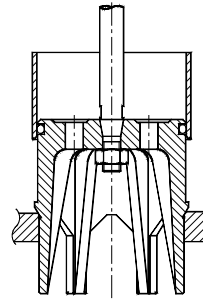
# CONSTRUCTIONS



Spring loaded PTFE V-rings

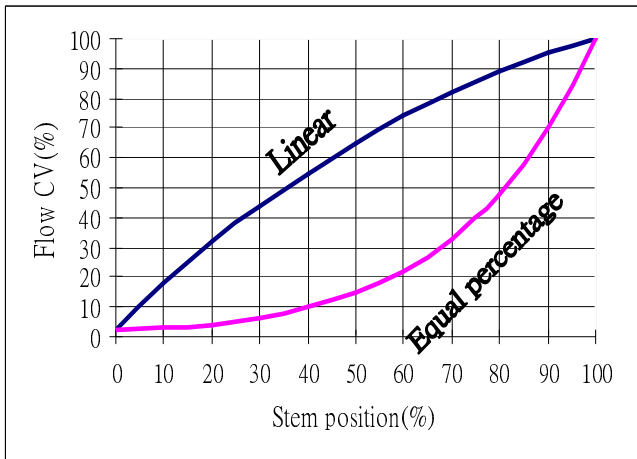


Unbalanced V-Port plug  
For 1/2" ~ 1"



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

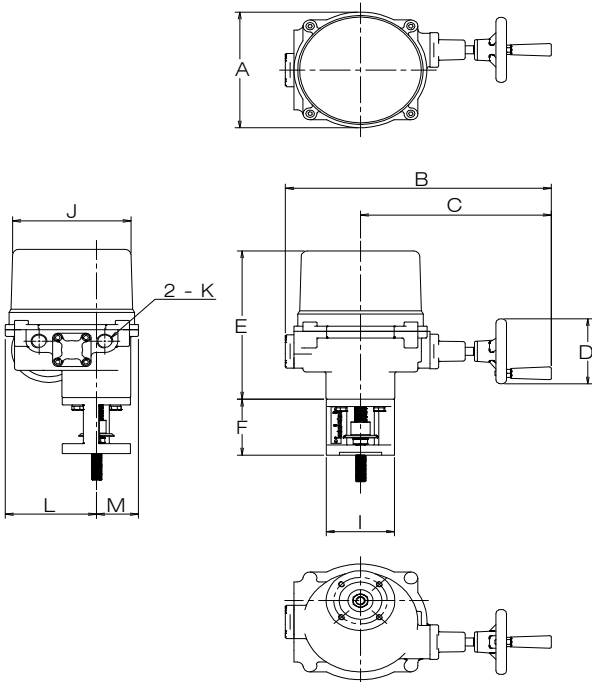
# FLOW CURVE



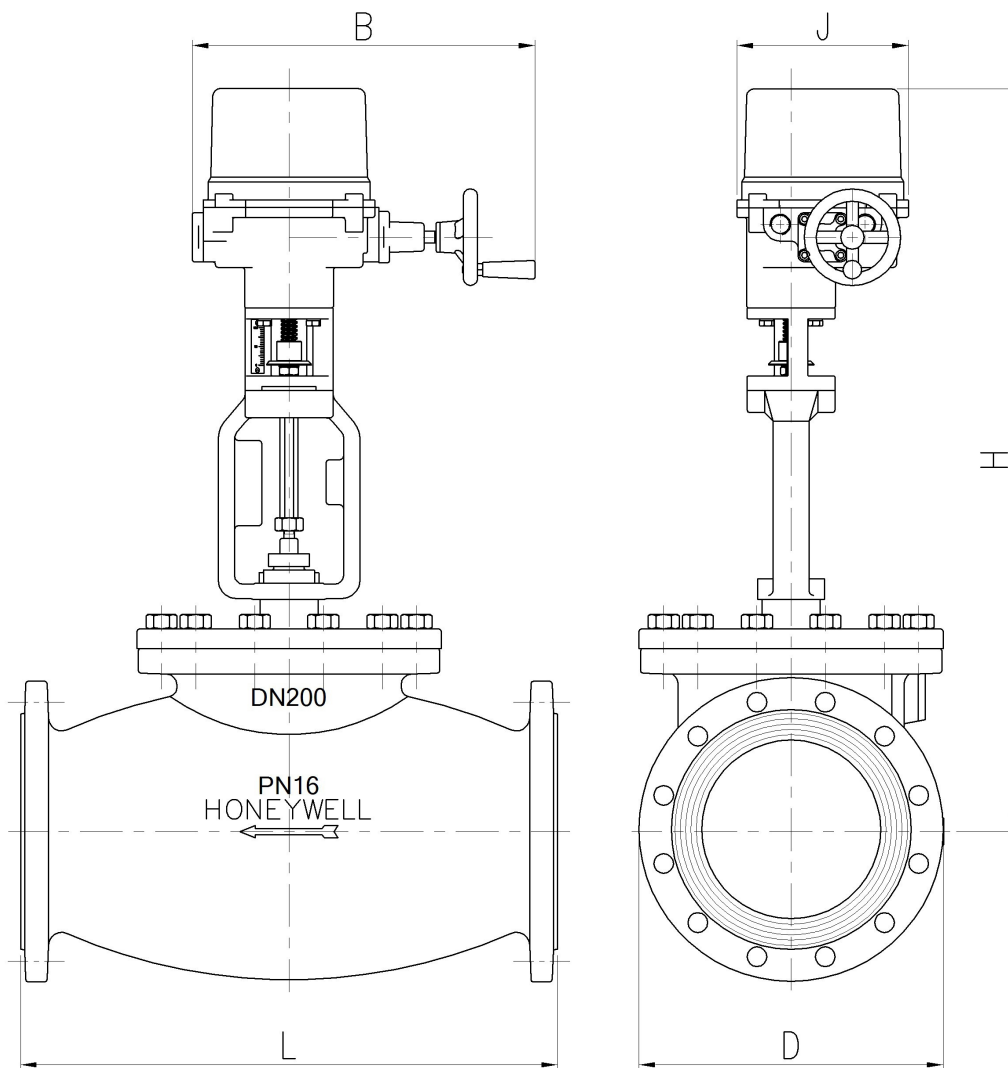
- Linear Characteristics
- Equal % Characteristics

# 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	

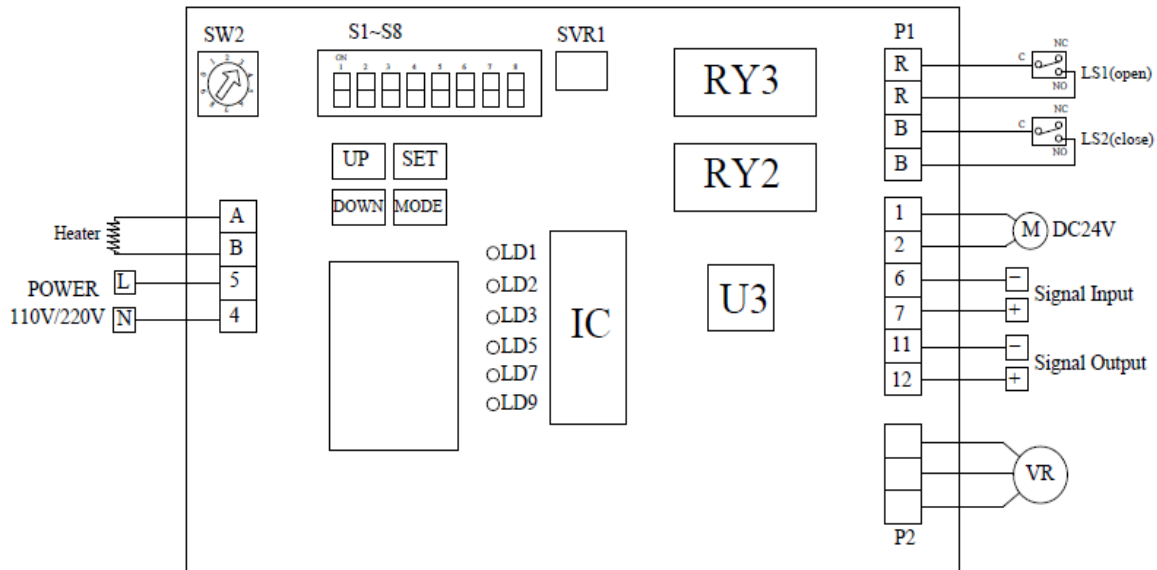


**Dimension: For electric Actuator**

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	<b>SY-L250</b>						<b>SY-L500</b>				<b>SY-L1000</b>		
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

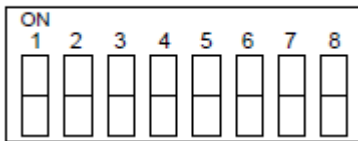
## Modulating Actuator



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

### A. DIP Switch Setting

S1~S8



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



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)				SY-L1000 (On/Off)			
Stroke	Speed	Run		Lock	Speed	Run		Lock
		60 Hz	50 Hz			60 Hz	50 Hz	
80mm	151sec	0.3A	0.3A	1.5A	151sec	0.3A	0.3A	1.5A
100mm	202sec	0.3A	0.3A	1.5A	202sec	0.3A	0.3A	1.5A

# ORDER NUMBER

VM58/ 59/ 68    xxx    xxx    x    x

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)

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)

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

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

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

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

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Subject to change without notice.