

# CONTROL VALVE

- OUR ORIGINAL SPECIAL PLUG SHAPE REDUCES EFFECTS OF FLUID VISCOSITY AND ALLOWS FOR HIGHLY ACCURATE FLOW CONTROL (IDEAL FOR CORROSIVE FLUID).
- USE OF HIGH-PERFORMANCE ALL ELECTRONIC SERVO ACTUATOR (ELECTRICALLY DRIVEN)
- EMBEDDED WITH ELECTRONIC LIMITER AND OVERLOAD PROTECTION CIRCUIT FOR ALL CYCLE TIME.

## BASIC SPECIFICATIONS

**VALVE TYPE** \_\_\_\_\_ **CONTROL VALVE**

**SIZE** \_\_\_\_\_ **15 mm—100 mm (1/2 inch—4 inch)**

**BODY MATERIAL** \_\_\_\_\_ **U-PVC** **PVDF**

**SEAL MATERIAL / SEAT** \_\_\_\_\_ **EPDM** **Viflon®F** **FKM-F** **Viflon®C** **FKM-C** **etc.**

**CONNECTION / FLANGED** \_\_\_\_\_ **JIS10K, DIN, ANSI**

	FLUID TEMPERATURE	MAXIMUM WORKING PRESSURE (NORMAL TEMPERATURE) MPa(kgf/cm <sup>2</sup> )				CONNECTION METHOD
		15mm	25mm	50mm	80mm	
<b>U-PVC</b>	0°C ~ 50°C	1.0 {10.2}		0.75 {7.7}		○
<b>PVDF</b>	0°C ~ 90°C	1.0 {10.2}		—		○

**NOTE** The maximum working pressure is the value including the water hammer pressure. Be careful that the maximum working pressure is not exceeded during use.  
 \* Concerning the allowable pressure for each temperature and material, see the technical documents at the end of this catalog.



## COMPATIBLE ACTUATOR **AUTOMATIC**

**PNEUMATIC** **TYPE AV** For detailed specifications, see **P.120**

**ELECTRIC** **TYPE M** For detailed specifications, see **P.129**

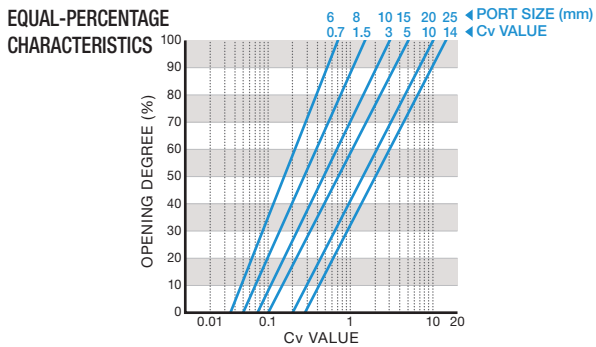
PRODUCT MODEL CODE LIST	ACTUATION	TYPE	ACTUATOR TYPE	ACTION / POWER SOURCE	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE	POSITIONER
<b>AUTOMATIC</b>	<b>A</b>	<b>CV</b>	<b>*</b>	<b>*</b>	<b>*</b>	<b>*</b>	<b>F</b>	<b>*</b>	<b>***</b>	<b>**</b>
	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
	<b>A</b> AUTOMATIC VALVE	<b>CV</b> CV	<b>PNEUMATIC</b> <b>V</b> TYPE AV <b>ELECTRIC</b> <b>M</b> TYPE M	<b>PNEUMATIC</b> <b>F</b> DOUBLE ACTING <b>G</b> AIR TO OPEN <b>ELECTRIC</b> <b>1</b> Single-Phase 100V <b>2</b> Single-Phase 200V <b>D</b> DC24V	<b>U</b> U-PVC <b>F</b> PVDF	<b>E</b> EPDM <b>F</b> Viflon®F FKM-F <b>C</b> Viflon®C FKM-C	<b>F</b> FLANGED	<b>1</b> JIS10K <b>D</b> DIN <b>A</b> ANSI	<b>015</b> 15mm <b>?</b> <b>100</b> 100mm	<b>PNEUMATIC</b> <b>01</b> E/P POSITIONER <b>02</b> P/P POSITIONER <b>03</b> E/P FR SET <b>04</b> P/P FR SET

**NOTE** DIN standard type is U-PVC 15 and 25 mm only. ANSI standard type is U-PVC 15, 25 and 50 mm only.

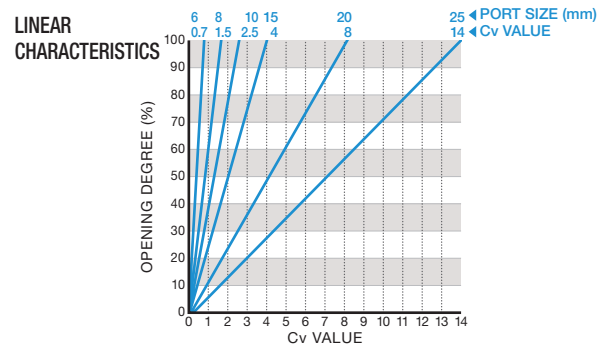
\* Specify only in the case of pneumatic type.

## Cv VALUE PER OPENING DEGREE GRAPH

### 15 mm, 25 mm STANDARD Cv VALUE TYPE

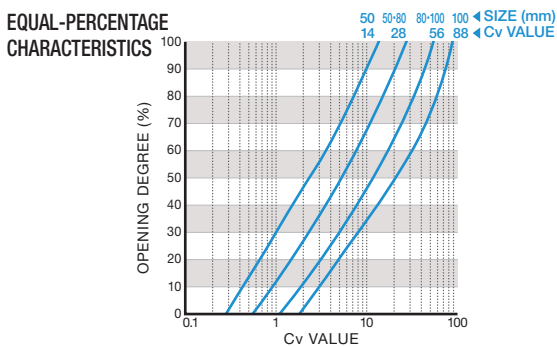


SIZE (mm)		25					
		15					
PORT SIZE [mm]		6	8	10	15	20	25
Cv VALUE		0.7	1.5	3	5	10	14
RANGEABILITY		20:1	30:1	40:1	50:1	50:1	50:1
STROKE	SIZE 15 mm	17	16	17	18	-	-
(mm)	SIZE 25 mm	17	16	16	16	22	24



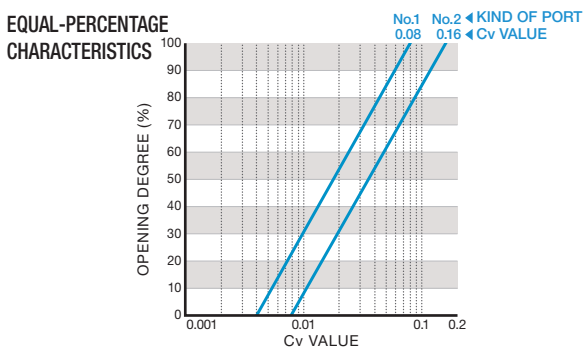
SIZE (mm)		25					
		15					
PORT SIZE [mm]		6	8	10	15	20	25
Cv VALUE		0.7	1.5	2.5	4	8	14
RANGEABILITY		20:1	25:1	30:1	40:1	40:1	50:1
STROKE	SIZE 15 mm	16	16	15	16	-	-
(mm)	SIZE 25 mm	16	16	14	15	20	25

### 50 mm - 100 mm STANDARD Cv VALUE TYPE

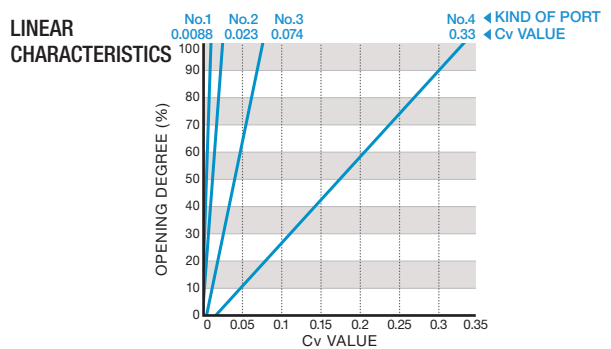


SIZE (mm)		50		80		100	
KIND OF PORT		S	L	S	L	S	L
Cv VALUE		14	28	28	56	56	88
RANGEABILITY		50:1	50:1	50:1	50:1	50:1	50:1
STROKE	(mm)	26	28	30	28	32	28

### 15 mm SMALL Cv VALUE TYPE



SIZE (mm)		15	
KIND OF PORT		No.1	No.2
Cv VALUE		0.08	0.16
RANGEABILITY		20:1	20:1
STROKE	(mm)	16	16

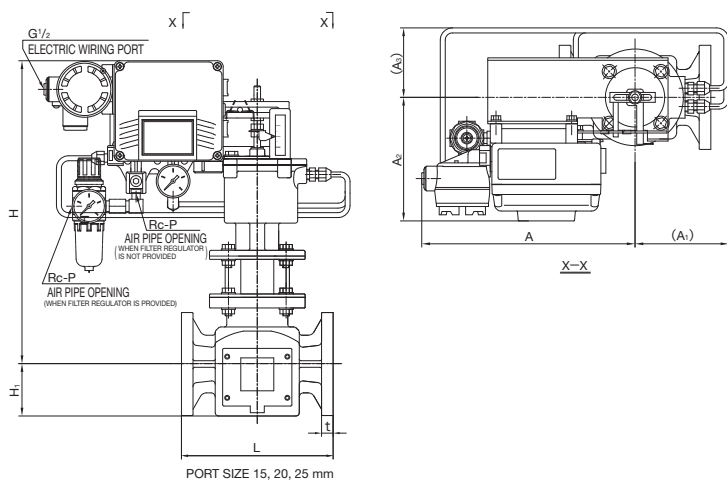


SIZE (mm)		15			
KIND OF PORT		No.1	No.2	No.3	No.4
Cv VALUE		0.0088	0.023	0.074	0.33
RANGEABILITY		15:1	15:1	15:1	15:1
STROKE	(mm)	16	16	16	16

**AUTOMATIC PNEUMATIC TYPE AV**  
**DOUBLE ACTING**  
 AIR TO OPEN  
 AIR TO CLOSE

# CONTROL VALVE

TYPE—ACV  
 CONNECTION / FLANGED—JIS, DIN, ANSI



**ACTUATOR SELECTION CHART**

SIZE	ACTUATOR TYPE	
	U-PVC BODY	PVDF BODY
15mm ( 1/2inch)	AVU-1DA	AVF-1DA
25mm ( 1inch)	AVU-2DA	AVF-2DA

For detailed specifications, see **P.119**

■ JIS, DIN (Unit: mm)

mm	H		H <sub>1</sub>		A	A <sub>1</sub>		A <sub>2</sub>	A <sub>3</sub>	P	JIS10K, DIN PN10	
	U-PVC	PVDF	U-PVC	PVDF		U-PVC	PVDF				L	t
15	337	325	51	49.5	259	130	110	150	70	1/4	160	12
25	368	354	63	66.5	259	130	110	150	70	1/4	164	14

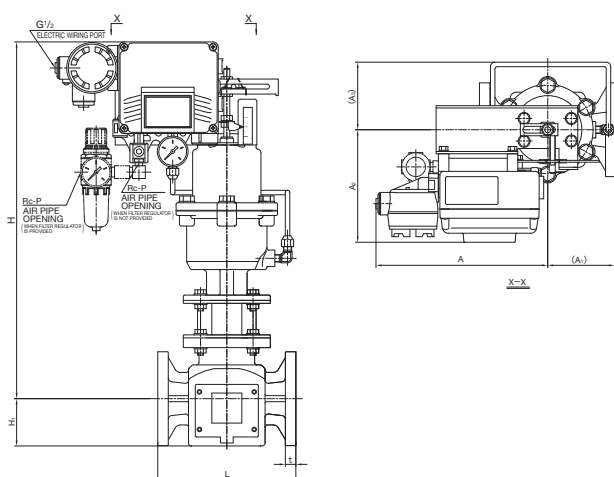
■ ANSI (UNIT: inch)

inch	mm	H		H <sub>1</sub>		A	A <sub>1</sub>		A <sub>2</sub>	A <sub>3</sub>	P	ANSI CLASS150	
		U-PVC	PVDF	U-PVC	PVDF		U-PVC	PVDF				L	t
1/2	15	13.27	12.79	2.01	1.95	10.20	5.12	4.33	5.91	2.76	1/4	6.30	0.47
1	25	14.49	13.91	2.48	2.41	10.20	5.12	4.33	5.91	2.76	1/4	6.46	0.55

**AUTOMATIC PNEUMATIC TYPE AV**  
**DOUBLE ACTING**  
 AIR TO OPEN  
 AIR TO CLOSE

# CONTROL VALVE

TYPE—ACV  
 CONNECTION / FLANGED—JIS, DIN, ANSI



**ACTUATOR SELECTION CHART**

SIZE	ACTUATOR TYPE	
	U-PVC BODY	PVDF BODY
15mm ( 1/2inch)	AVU-1AO	AVF-1AO
25mm ( 1inch)	AVU-2AO	AVF-2AO

For detailed specifications, see **P.119**

■ JIS, DIN (Unit: mm)

mm	H		H <sub>1</sub>		A	A <sub>1</sub>		A <sub>2</sub>	A <sub>3</sub>	P	JIS10K, DIN	
	U-PVC	PVDF	U-PVC	PVDF		U-PVC	PVDF				L	t
15	438	423	51	49.5	229	89	86	150	90	1/4	160	12
25	475	458	63	66.5	229	89	86	150	90	1/4	184	14

■ ANSI (UNIT: inch)

inch	mm	H		H <sub>1</sub>		A	A <sub>1</sub>		A <sub>2</sub>	A <sub>3</sub>	P	ANSI CLASS150	
		U-PVC	PVDF	U-PVC	PVDF		U-PVC	PVDF				L	t
1/2	15	17.24	16.67	2.01	1.95	9.02	3.50	3.37	5.91	3.54	1/4	6.30	0.47
1	25	18.70	18.12	2.48	2.41	9.02	3.50	3.37	5.91	3.54	1/4	7.24	0.55

AUTOMATIC

PNEUMATIC

TYPE AV

DOUBLE ACTING

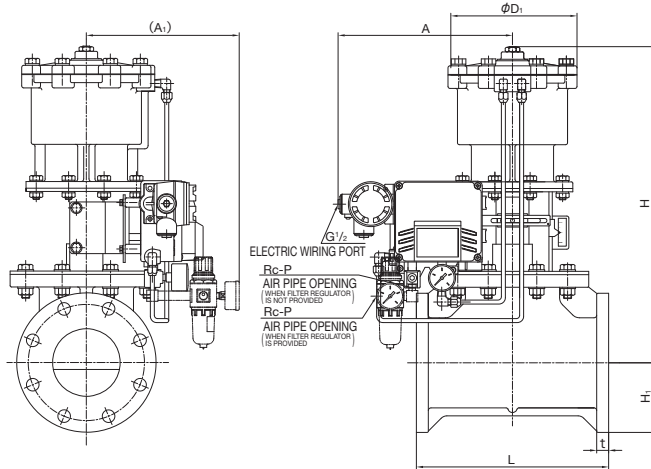
AIR TO OPEN

AIR TO CLOSE

# CONTROL VALVE

TYPE—ACV

CONNECTION / FLANGED—JIS, ANSI



### ACTUATOR SELECTION CHART

SIZE	ACTUATOR TYPE	
	U-PVC BODY	PVDF BODY
50mm ( 2inch)	AVU-3DA	AVF-3DA
80mm ( 3inch)	AVU-4DA	AVF-4DA
100mm ( 4inch)	AVU-5DA	AVF-5DA

For detailed specifications, see **P.119**

■ JIS (Unit: mm)

mm	D <sub>1</sub>	H	H <sub>1</sub>	A	A <sub>1</sub>	P	JIS10K	
							L	t
50	147	381	77.5	256	229	1/4	200	16
80	147	420	92	261	230	1/4	240	18
100	208	477	105	266	230	1/4	290	18

■ ANSI (UNIT: inch)

mm	inch	D <sub>1</sub>	H	H <sub>1</sub>	A	A <sub>1</sub>	P	ANSI CLASS150	
								L	t
2	50	5.79	15.00	3.05	10.08	9.02	1/4	7.87	0.63

AUTOMATIC

PNEUMATIC

TYPE AV

DOUBLE ACTING

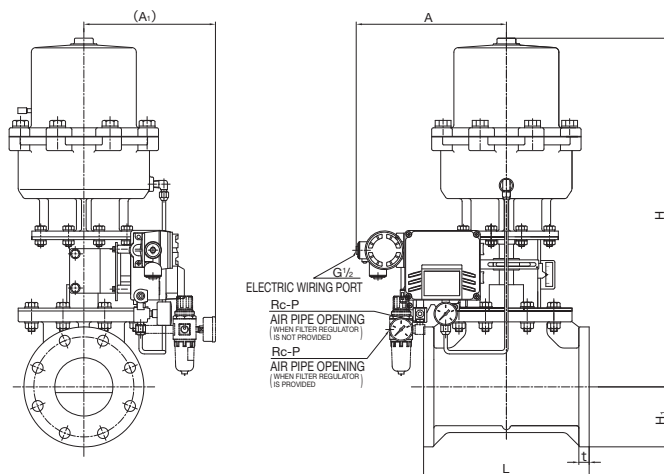
AIR TO OPEN

AIR TO CLOSE

# CONTROL VALVE

TYPE—ACV

CONNECTION / FLANGED—JIS, ANSI



### ACTUATOR SELECTION CHART

SIZE	ACTUATOR TYPE	
	U-PVC BODY	PVDF BODY
50mm ( 2inch)	AVU-3AO	AVF-3AO
80mm ( 3inch)	AVU-4AO	AVF-4AO
100mm ( 4inch)	AVU-5AO	AVF-5AO

For detailed specifications, see **P.119**

■ JIS (Unit: mm)

mm	H	H <sub>1</sub>	A	A <sub>1</sub>	P	JIS10K	
						L	t
50	469	77.5	256	229	1/4	200	16
80	562	92	261	230	1/4	240	18
100	611	105	266	230	1/4	290	18

■ ANSI (UNIT: inch)

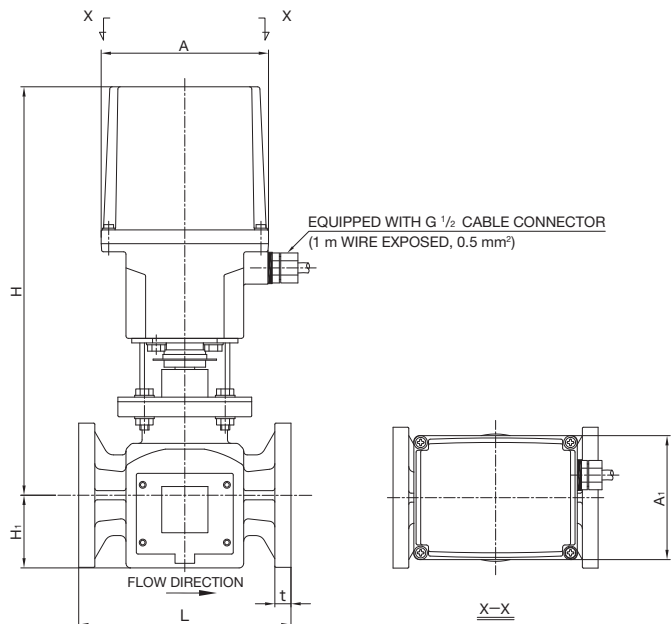
mm	inch	H	H <sub>1</sub>	A	A <sub>1</sub>	P	ANSI CLASS150	
							L	t
2	50	18.46	3.05	10.08	9.02	1/4	7.87	0.63

**AUTOMATIC ELECTRIC TYPE M**

Single-Phase 100V  
Single-Phase 200V  
DC24V

# CONTROL VALVE

TYPE—ACVM  
CONNECTION / FLANGED—JIS, ANSI



**ACTUATOR SELECTION CHART**

SIZE	ACTUATOR TYPE
15mm ( 1/2inch)	MSP6-□4
25mm ( 1inch)	MSP6-□6

For detailed specifications, see **P.129**

■ JIS (Unit: mm)

mm	H		H <sub>1</sub>		A	A <sub>1</sub>	JIS10K, DINPN10	
	U-PVC	PVDF	U-PVC	PVDF			L	t
15	335	372.5	51	49.5	145	110	160	12
25	354	366	63	66.5	145	110	184	14

■ ANSI (UNIT: inch)

inch	mm	H		H <sub>1</sub>		A	A <sub>1</sub>	ANSI CLASS150	
		U-PVC		U-PVC				L	t
1/2	15	13.19		2.01		5.71	4.33	6.30	0.47
1	25	13.94		2.48		5.71	4.33	7.24	0.55

**AUTOMATIC**

**ELECTRIC**

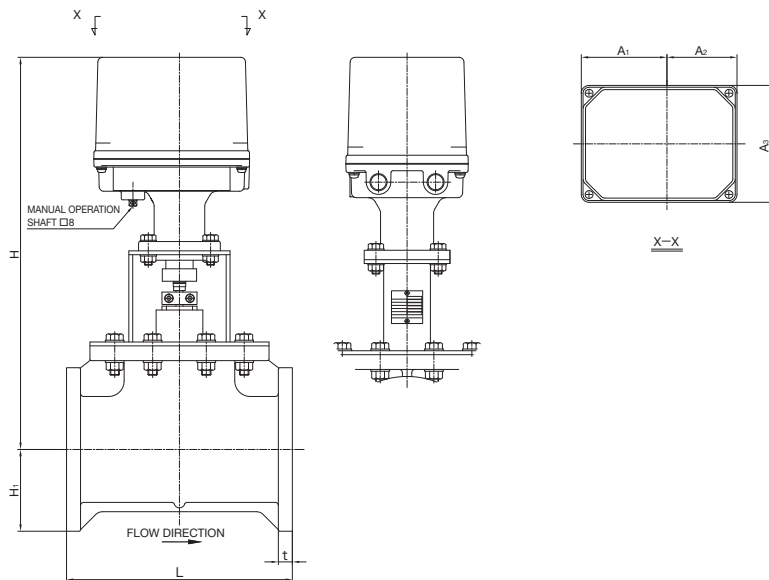
**TYPE M**

Single-Phase 100V  
Single-Phase 200V  
DC24V

# CONTROL VALVE

TYPE—ACVM

CONNECTION / FLANGED—JIS, ANSI



### ACTUATOR SELECTION CHART

SIZE	ACTUATOR TYPE
50mm ( 2inch)	PSN1
80mm ( 3inch)	PSN3
100mm ( 4inch)	

For detailed specifications, see **P.129**

■ JIS (Unit: mm)

							JIS10K	
mm	H	H <sub>1</sub>	A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	L	t	
50	433.5	77.5	101	81	140	200	16	
80	450.5	92	101	81	140	240	18	
100	503.5	105	110	90	160	290	18	

■ ANSI (UNIT: inch)

							ANSI CLASS150	
mm	inch	H	H <sub>1</sub>	A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	L	t
2	50	17.07	3.05	3.98	3.19	5.51	7.87	0.63