

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** **Viflon®-C** **FKM-F** **FKM-C** etc.

CONNECTION / FLANGED ————— **JIS10K, DIN, ANSI**

HIGH PURITY SERIES ————— **LUBRICANT FREE**

	FLUID TEMPERATURE	MAXIMUM WORKING PRESSURE (NORMAL TEMPERATURE) MPa(kgf/cm ²)					CONNECTION METHOD
		15mm	25mm	50mm	80mm	100mm	
U-PVC	0°C ~ 50°C	1.0 {10.2}			0.75 {7.7}		○
PVDF	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

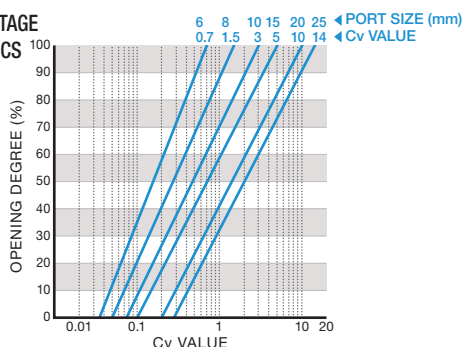
PRODUCT MODEL CODE LIST	ACTUATION	TYPE	ACTUATOR TYPE	ACTION / POWER SOURCE	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE	HIGH PURITY SERIES	POSITIONER
AUTOMATIC	A	CV	*	*	*	*	F	*	***	1	**
	A AUTOMATIC VALVE	CV CV	PNEUMATIC V TYPE AV	PNEUMATIC F DOUBLE ACTING G AIR TO OPEN	U U-PVC F PVDF	E EPDM F Viflon®F FKM-F C Viflon®C FKM-C	F FLANGED	1 JIS10K D DIN A ANSI	015 15mm ? 100 100mm	1 LUBRICANT FREE	PNEUMATIC 01 EP POSITIONER 02 PIP POSITIONER 03 E/P FR SET 04 P/P FR SET
			ELECTRIC M TYPE M	ELECTRIC 1 Single-Phase 100V 2 Single-Phase 200V D DC24V							* Specify only in the case of pneumatic type.

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

Cv VALUE PER OPENING DEGREE GRAPH

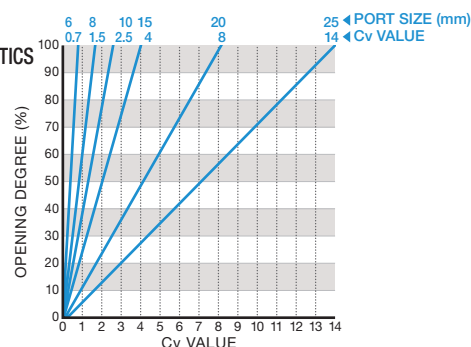
15 mm, 25 mm STANDARD Cv VALUE TYPE

EQUAL-PERCENTAGE CHARACTERISTICS



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 (mm)	SIZE 15 mm	17	16	17	18	-	-
	SIZE 25 mm	17	16	16	16	22	24

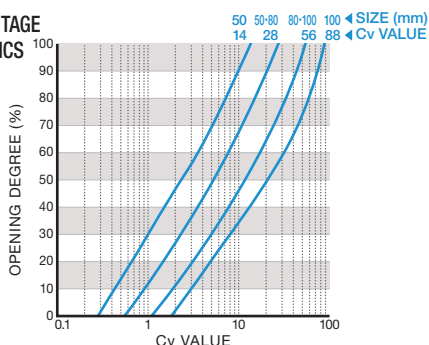
LINEAR CHARACTERISTICS



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 (mm)	SIZE 15 mm	16	16	15	16	-	-
	SIZE 25 mm	16	16	14	15	20	25

50 mm - 100 mm STANDARD Cv VALUE TYPE

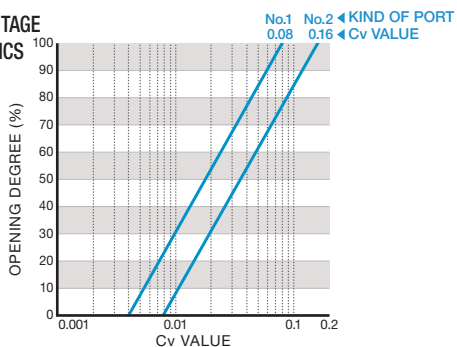
EQUAL-PERCENTAGE CHARACTERISTICS



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

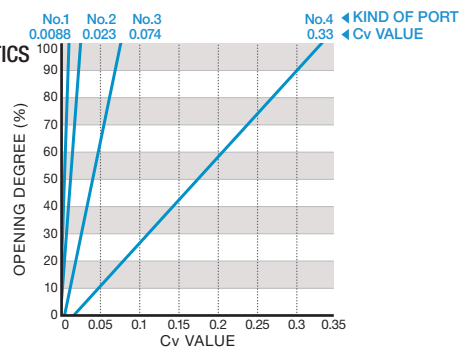
15 mm SMALL Cv VALUE TYPE

EQUAL-PERCENTAGE CHARACTERISTICS



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

LINEAR CHARACTERISTICS

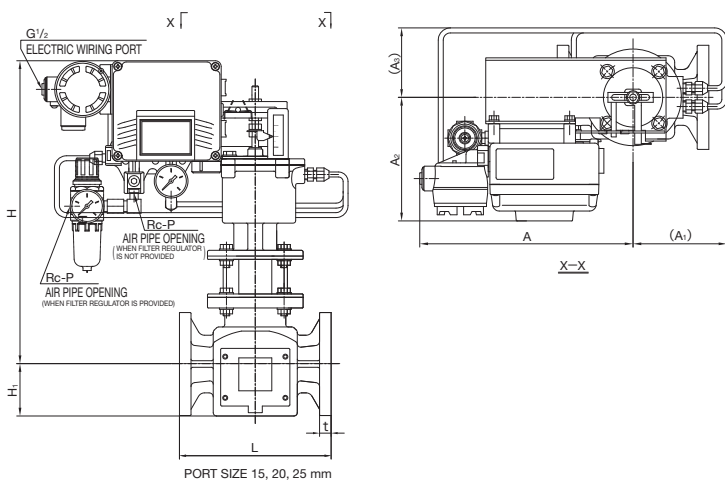


SIZE (mm)		15			
KIND OF PORT		No.1	No.2	No.3	No.4
Cv VALUE		0.0088	0.023	0.074	0.33
RANGEABILITY		15:1	15:1	15:1	15:1
STROKE (mm)		16	16	16	16

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 ₁		A	A ₁		A ₂	A ₃	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

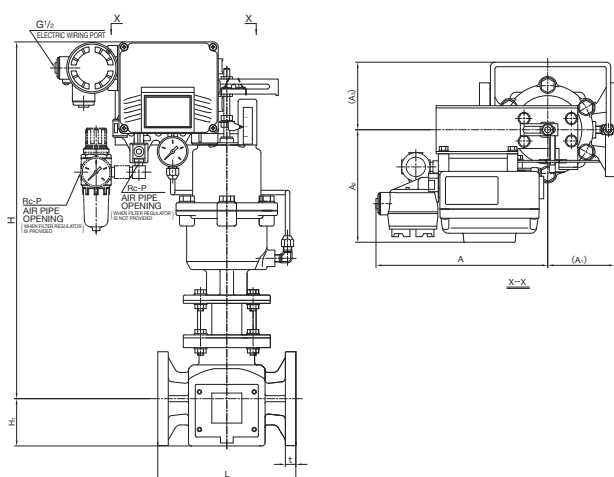
■ ANSI (UNIT: inch)

inch	mm	H		H ₁		A	A ₁		A ₂	A ₃	P	ANSI CLASS150	
		U-PVC	PVDF	U-PVC	PVDF		U-PVC	PVDF				L	t
1/2	15	13.27	12.80	2.01	1.95	10.20	5.12	4.33	5.91	2.76	1/4	6.30	0.47
1	25	14.49	13.92	2.48	2.40	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 ₁		A	A ₁		A ₂	A ₃	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 ₁		A	A ₁		A ₂	A ₃	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	18.03	2.48	2.40	9.02	3.50	3.37	5.91	3.54	1/4	7.24	0.55

AUTOMATIC

PNEUMATIC

TYPE AV

DOUBLE ACTING

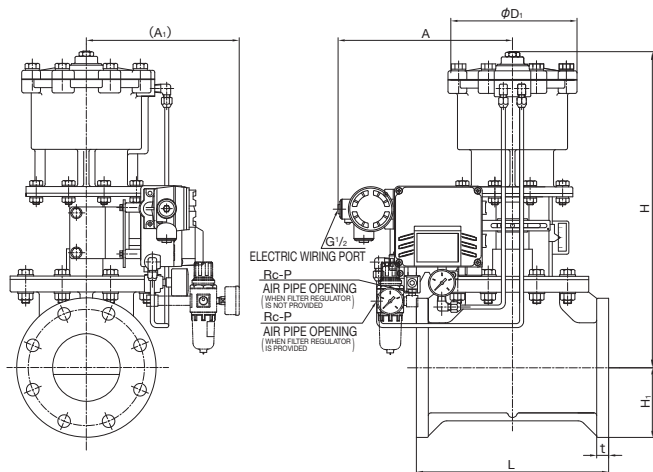
AIR TO OPEN

AIR TO CLOSE

CONTROL VALVE

TYPE—ACV

CONNECTION / FLANGED—JIS, ANSI



ACTUATOR SELECTION CHART

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

For detailed specifications, see P.119

■ JIS (Unit: mm)

mm	D ₁	H	H ₁	A	A ₁	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)

inch	mm	D ₁	H	H ₁	A	A ₁	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

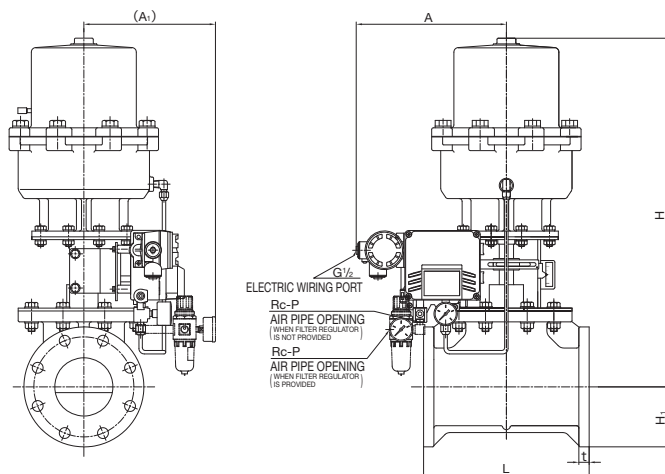
AIR TO OPEN

AIR TO CLOSE

CONTROL VALVE

TYPE—ACV

CONNECTION / FLANGED—JIS, ANSI



ACTUATOR SELECTION CHART

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

For detailed specifications, see P.119

■ JIS (Unit: mm)

mm	H	H ₁	A	A ₁	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)

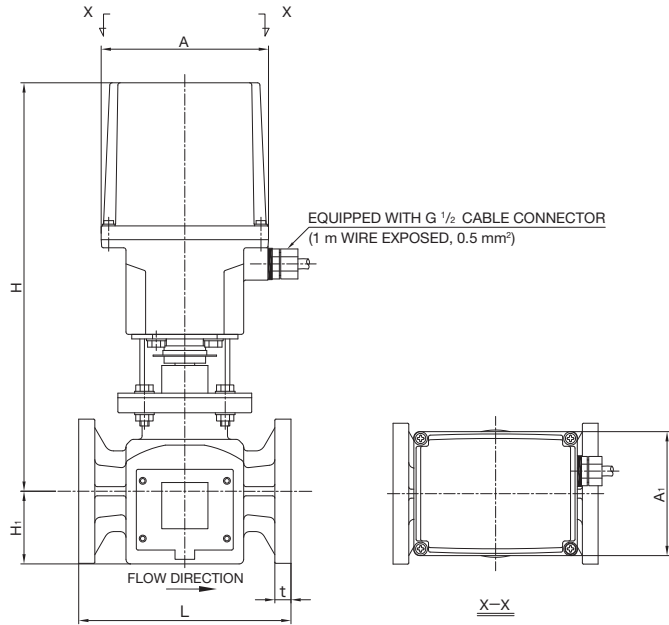
inch	mm	H	H ₁	A	A ₁	P	ANSI CLASS150	
							L	t
2	50	18.46	3.05	10.08	9.02	1/4	7.87	0.63

AUTOMATIC	ELECTRIC	TYPE M	Single-Phase 100V Single-Phase 200V DC24V
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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 ₁		A	A ₁	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 ₁		A	A ₁	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

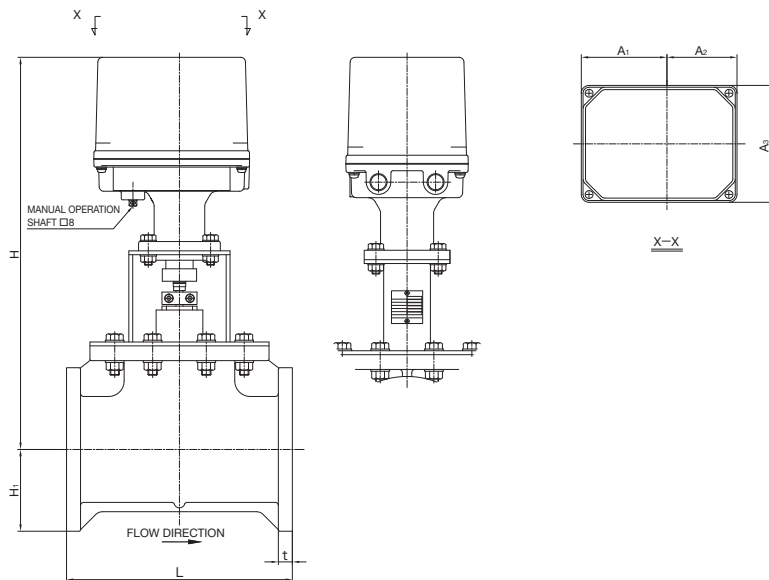
TYPE M

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)	PSN3

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

■ JIS (Unit: mm)

mm	H	H ₁	A ₁	A ₂	A ₃	JIS10K	
						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)

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