

True Union Diaphragm Valve Type AI (Pneumatic Type)

Features

- Near-Linear flow characteristics
- Maximum working pressure of 1.0MPa excellent open/close durability to withstand more than 500,000 cycles of opening and closing.
- For the air to open type, two spec types (1.0MPa and 0.7MPa) are available.
- All-plastic design ensures excellent corrosion resistance.



Basic specifications

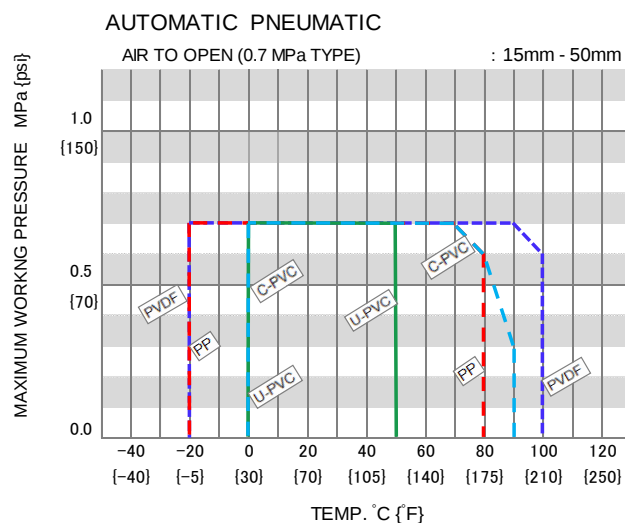
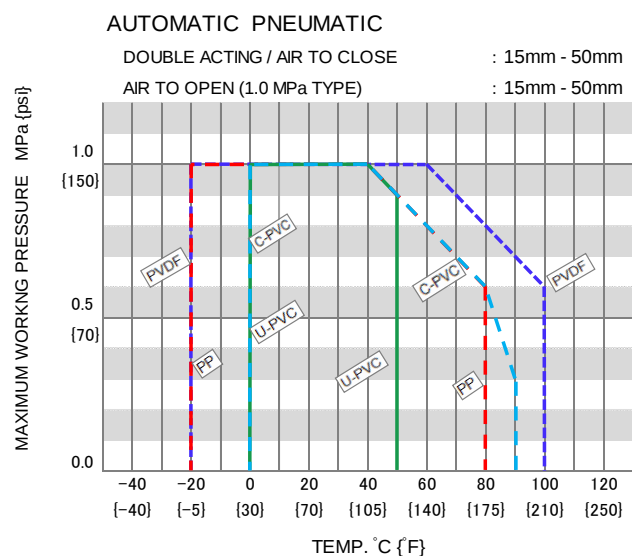
- Valve Type : True Union Diaphragm Valve Type AI
- Size : 15 mm - 50 mm (1/2 inch – 2 inch)
- Body Material : U-PVC (Conforming to ASTM D1784 Cell Classification 12454A)
: C-PVC (Conforming to ASTM D1784 Cell Classification 23567-A)
: PP (Conforming to ASTM D4101 Cell Classification PP0110B67272)
: PVDF (Conforming to ASTM D3222 Cell Classification Type II)
- Seal Material / Diaphragm : EPDM, PTFE
O-Ring : EPDM, FKM
- Connection / Socket : JIS, DIN, ASTE D2466 SCH80, BS 4346
Threaded : Rc, Rp, NPT
Spigot : DIN

Body Material	Fluid Temperature °C { °F }	Maximum working pressure (Normal temperature) MPa { psi }	Connection method		
			SOCKET	SPIGOT	THREADED
U-PVC	0 ~ 50 { 30~120 }	1.0 { 150 }	○	○	○
C-PVC	0 ~ 90 { 30~195 }	1.0 { 150 }	○	-	○
PP	-20 ~ 80 { -5~175 }	1.0 { 150 }	○	○	○
PVDF	-20 ~ 100 { -5~210 }	1.0 { 150 }	○	○	○

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.

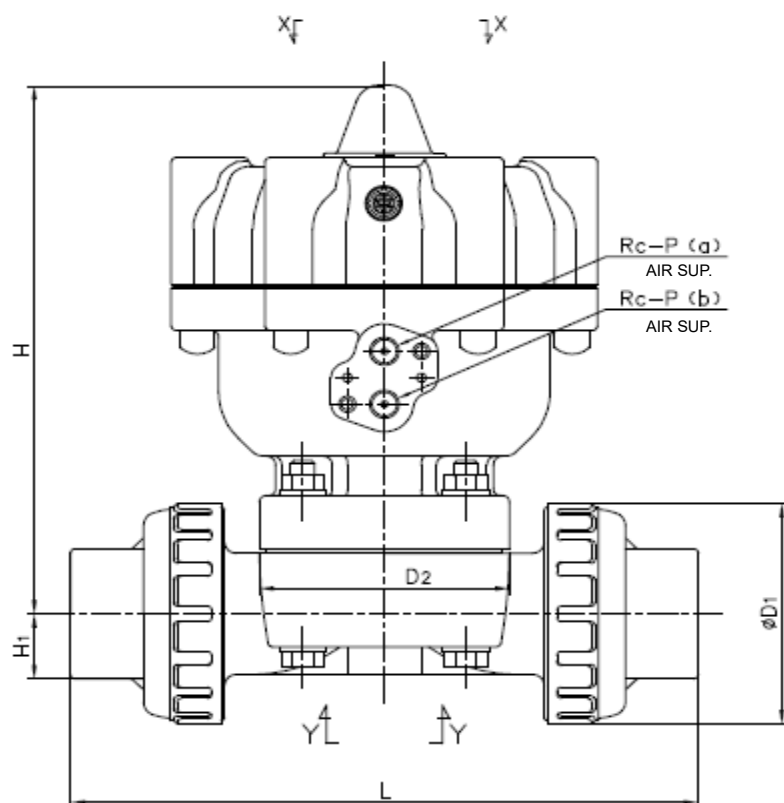
- * Concerning the allowable pressure for each temperature, material and actuator type, see the technical documents at the end of this catalog.
- * The diaphragm may become loose due to temperature changes during long storage, operation stop or while in use. Check the conditions and then retighten the bolts and nut between the bonnet and the body to the "bonnet tightening torque". (Failure to do so may cause fluid leakage.)

Working pressure vs. Temperature

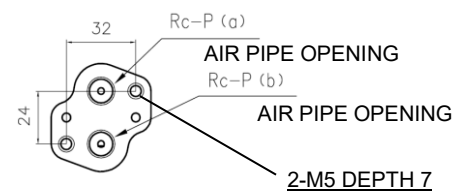


Note : Make sure that the temperature and pressure are within the working range during operation.
 (If the tolerance range is exceeded during use, the valve may be damaged.)

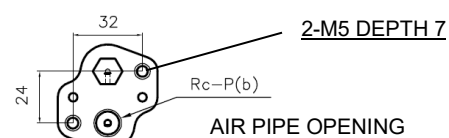
Product dimension



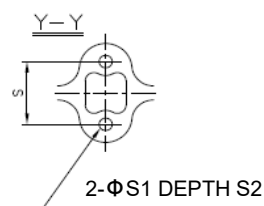
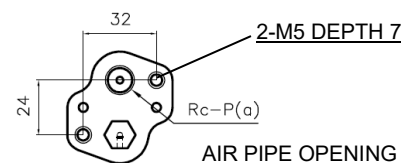
AIR PIPE OPENING (For Double Acting)



AIR PIPE OPENING (For Air to Open)



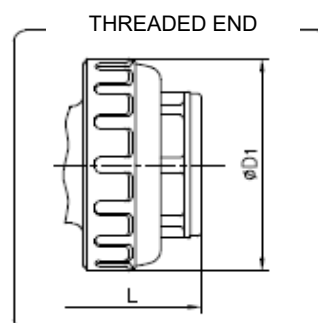
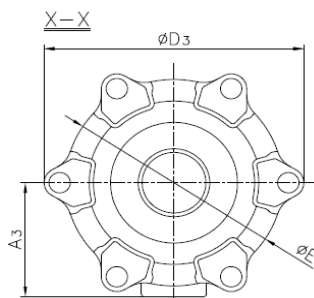
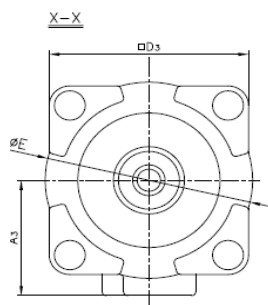
AIR PIPE OPENING (For Air to Close)



(ENSAT FITTING MOUNTING HOLE)

SIZE 15 – 32 mm

SIZE 40 , 50 mm



■ JIS, DIN (Unit: mm)

JIS, DIN (Unit: mm)													JIS		
mm	D ₂	D ₃	E	H		H ₁	A ₃		S	S ₁	S ₂	P	SOCKET	THREADED	
				DOUBLE ACTING AIR TO OPEN(0.7MPa) AIR TO CLOSE	AIR TO OPEN (1.0MPa)		DOUBLE ACTING	AIR TO OPEN AIR TO CLOSE					L	L	
													U-PVC C-PVC	U-PVC C-PVC	PP PVDF
15	54X66	91	94	145	145	19.5	55	67	25	7	13	1/4	134	128	128
20	60X74	91	94	153	153	17.5	55	67	25	7	13	1/4	156	148	148
25	67X80	100	102	161	161	18.5	60	72	25	7	13	1/4	186	172	172
32	67X80	100	102	165	165	22.5	60	72	25	7	13	1/4	200	188	188
40	108X108	184	154	238	238	27.5	85	97	45	9	15	1/4	271	245	245
50	123X123	184	154	254	278	36	85	97	45	9	15	1/4	303	281	278

DIN							
SOCKET		THREADED		SPIGOT			
L		L		L		t	
U-PVC C-PVC	PP PVDF	U-PVC C-PVC	PP PVDF	U-PVC C-PVC	PP PVDF	PP	PVDF
128	125	128	128	150	150	2.5	1.9
147	141	148	148	172	172	2.7	1.9
172	164	172	172	195	195	3.0	2.4
188	177	188	188	212	212	3.7	2.4
246	231	245	245	276	276	4.6	3.0
294	274	281	278	308	307	5.8	3.0

■ ANSI (Unit: inch)

ANSI (Unit: inch)															ANSI			
inch	mm	D ₁	D ₂	D ₃	E	H		H ₁	A ₃		S	S ₁	S ₂	P	SOCKET		THREADED	
						DOUBLE ACTING AIR TO OPEN(0.7MPa) AIR TO CLOSE	AIR TO OPEN (1.0MPa)		DOUBLE ACTING	AIR TO OPEN AIR TO CLOSE					U-PVC C-PVC	PP PVDF	U-PVC C-PVC	PP PVDF
1/2	15	1.89	2.13X2.60	3.58	3.70	5.71	5.71	0.77	2.17	2.64	0.98	0.28	0.51	1/4	5.47	5.43	5.04	5.04
3/4	20	2.36	2.36X2.91	3.58	3.70	6.02	6.02	0.69	2.17	2.64	0.98	0.28	0.51	1/4	6.18	6.09	5.83	5.83
1	25	2.76	2.64X3.15	3.94	4.02	6.34	6.34	0.73	2.36	2.83	0.98	0.28	0.51	1/4	7.32	7.24	6.77	6.77
1 1/4	32	3.23	2.64X3.15	3.94	4.02	6.50	6.50	0.89	2.36	2.83	0.98	0.28	0.51	1/4	7.95	7.80	7.40	7.40
1 1/2	40	3.94	4.25X4.25	7.24	6.06	9.37	9.37	1.08	3.35	3.82	1.77	0.35	0.59	1/4	10.47	10.28	9.65	9.65
2	50	4.17	4.84X4.84	7.24	6.06	10.00	10.94	1.42	3.35	3.82	1.77	0.35	0.59	1/4	11.54	11.54	11.06	10.95

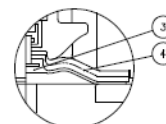
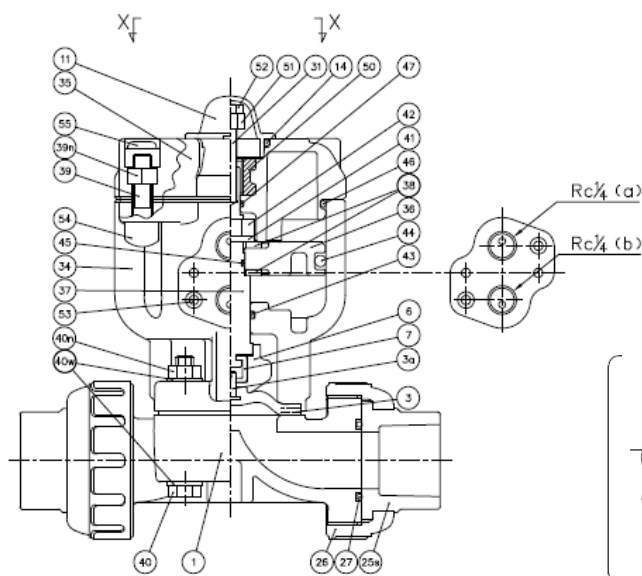
ACTUATOR SELECTION CHART

SIZE	ACTUATOR TYPE				
	DOUBLE ACTING	AIR TO OPEN (0.7MPa TYPE)	AIR TO OPEN (1.0MPa TYPE)	AIR TO OPEN (1.0MPa TYPE)	AIR TO CLOSE
		DIAPHRAGM COMMON	PTFE DIAPHRAGM	EPDM DIAPHRAGM	
15mm (1/2inch)	AI-1DA	AI-1AO	AI-1AO-P	AI-1AO-E	AI-1AS
20mm (3/4inch)	AI-2DA	AI-2AO	AI-2AO-P	AI-2AO-E	AI-2AS
25mm (1inch)	AI-3DA	AI-3AO	AI-3AO-P	AI-3AO-E	AI-3AS
32mm (1 1/4inch)					
40mm (1 1/2inch)	AI-4DA	AI-4AO	AI-4AO-P	AI-4AO-E	AI-4AS
50mm (2inch)	AI-5DA	AI-5AO	AI-5AO-P	AI-5AO-E	AI-5AS

DATASHEET

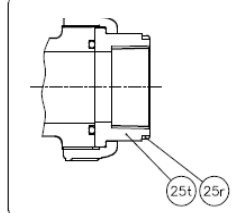
Parts list

AUTOMATIC [PNEUMATIC] DOUBLE ACTING: SIZE 15 - 32 mm



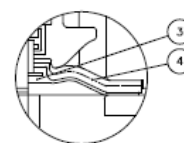
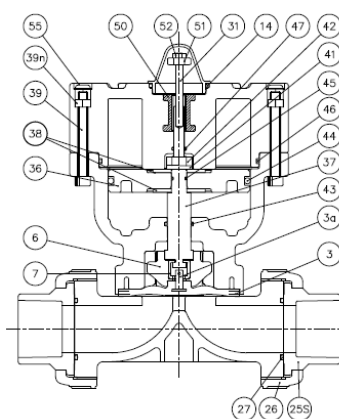
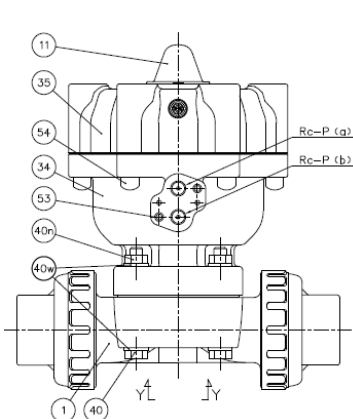
In case material of diaphragm is PTFE

THREADED END



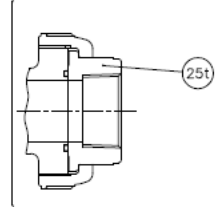
PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL
1 BODY	1	PVC, C-PVC, PP, PVDF	31 INDICATOR ROD	1	STAINLESS STEEL	43 O-RING (No.43)	1	NBR
25s END CONNECTOR (SOCKET END)	2		34 CYLINDER BODY	1	PPG	44 O-RING (No.44)	1	NBR
25t END CONNECTOR (THREADED END)	2		35 CYLINDER COVER	1	PPG	45 O-RING (No.45)	1	NBR
26 UNION NUT	2		36 PISTON	1	PPG	46 O-RING (No.46)	1	NBR
3 DIAPHRAGM	1	EPDM, PTFE, Others	37 STEM FOR PNEUMATIC ACTUATOR	1	COPPER ALLOY	47 O-RING (No.47)	1	NBR
3a INSERTED METAL OF DIAPHRAGM	1	STAINLESS STEEL	38 WASHER (No.38)	2	STAINLESS STEEL	50 INSERTED METAL OF CYLINDER COVER	1	STAINLESS STEEL
4 CUSHION	1	EPDM	39 HEXAGON SOCKET HEAD CAP SCREWS	4	STAINLESS STEEL	51 STOPPER FOR PNEUMATIC ACTUATOR	1	STAINLESS STEEL
		Used for PTFE Diaphragm	39n NUT (No.39)	4	STAINLESS STEEL	52 NUT (No.52)	1	STAINLESS STEEL
6 COMPRESSOR	1	PVDF	40 BOLT (No.40)	4	STAINLESS STEEL	53 INSERTED METAL OF CYLINDER BODY	2	STAINLESS STEEL
7 JOINT	1	STAINLESS STEEL	40w WASHER (No.40)	8	STAINLESS STEEL	54 CAP FOR HEXAGON SOCKET HEAD CAP SCREW	4	PVC
11 GAUGE COVER	1	PC	40n NUT (No.40)	4	STAINLESS STEEL	55 CAP	4	EPDM Blue
14 O-RING (No.14)	1	EPDM	41 SPRING WASHER	1	STAINLESS STEEL	25r RING FOR END CONNECTOR (THREADED END)	2	Used for C-PVC Body. Threaded End : 15mm-25mm
27 O-RING (No.27)	2	EPDM, Others	42 NUT (No.42)	1	STAINLESS STEEL			

AUTOMATIC [PNEUMATIC] DOUBLE ACTING: SIZE 40,50 mm



In case material of Diaphragm is PTFE

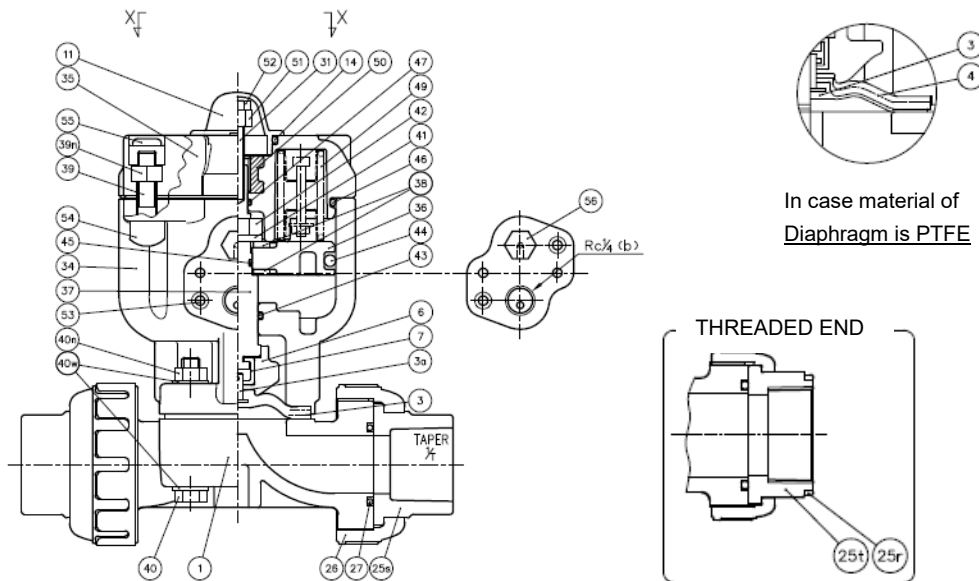
THREADED END



PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL
1 BODY	1	PVC, C-PVC, PP, PVDF	27 O-RING (No.27)	2	EPDM, Others ()	43 O-RING (No.43)	1	NBR
25s END CONNECTOR (SOCKET END)	2		31 INDICATOR ROD	1	STAINLESS STEEL	44 O-RING (No.44)	1	NBR
25t END CONNECTOR (THREADED END)	2		34 CYLINDER BODY	1	PPG	45 O-RING (No.45)	1	NBR
26 UNION NUT	2		35 CYLINDER COVER	1	PPG	46 O-RING (No.46)	1	NBR
3 DIAPHRAGM	1	EPDM, PTFE, Others	36 PISTON	1	PPG	47 O-RING (No.47)	1	NBR
3a INSERTED METAL OF DIAPHRAGM	1	STAINLESS STEEL	37 STEM FOR PNEUMATIC ACTUATOR	1	COPPER ALLOY	50 INSERTED METAL OF CYLINDER COVER	1	STAINLESS STEEL
4 CUSHION	1	EPDM	38 WASHER (No.38)	2	STAINLESS STEEL	51 STOPPER FOR PNEUMATIC ACTUATOR	1	STAINLESS STEEL
		Used for PTFE Diaphragm	39 BOLT (No.39)	6	STAINLESS STEEL	52 NUT (No.52)	1	STAINLESS STEEL
6 COMPRESSOR	1	PVDF	39n NUT (No.39)	6	STAINLESS STEEL	53 INSERTED METAL OF CYLINDER BODY	2	STAINLESS STEEL
7 JOINT	1	STAINLESS STEEL	40 BOLT (No.40)	4	STAINLESS STEEL	54 CAP FOR HEXAGON SOCKET HEAD CAP SCREWS	6	PVC
11 GAUGE COVER	1	PC	40w WASHER (No.40)	8	STAINLESS STEEL	55 CAP	6	EPDM Blue
14 O-RING (No.14)	1	EPDM	40n NUT (No.40)	4	STAINLESS STEEL			
			41 SPRING WASHER	1	STAINLESS STEEL			
			42 NUT (No.42)	1	STAINLESS STEEL			

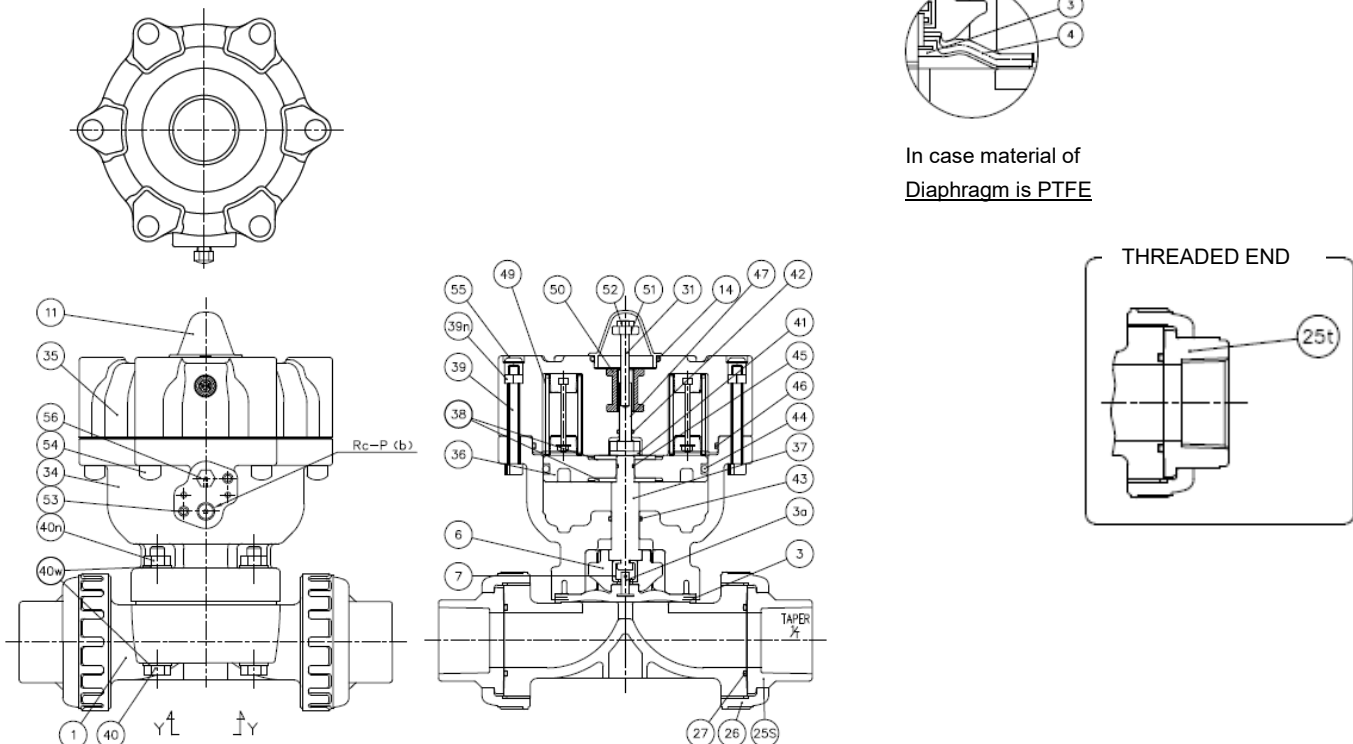
DATASHEET

AUTOMATIC [PNEUMATIC] AIR TO OPEN: SIZE 15 - 32 mm [PN0.7, PN1.0]



PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL
1 BODY	1	PVC, C-PVC, PP, PVDF	36 PISTON	1	PPG	49 SPRING UNIT	-	SWOSC-V etc
25s END CONNECTOR (SOCKET END)	2		37 STEM FOR PNEUMATIC ACTUATOR	1	COPPER ALLOY	50 INSERTED METAL OF CYLINDER COVER	1	STAINLESS STEEL
25t END CONNECTOR (THREADED END)	2		38 WASHER (No.38)	2	STAINLESS STEEL	51 STOPPER FOR PNEUMATIC ACTUATOR	1	STAINLESS STEEL
26 UNION NUT	2		39 HEXAGON SOCKET HEAD CAP SCREWS	4	STAINLESS STEEL	52 NUT (No.52)	1	STAINLESS STEEL
3 DIAPHRAGM	1	EPDM, PTFE, Others	39n NUT (No.39)	4	STAINLESS STEEL	53 INSERTED METAL OF CYLINDER BODY	2	STAINLESS STEEL
3a INSERTED METAL OF DIAPHRAGM	1	STAINLESS STEEL	40 BOLT (No.40)	4	STAINLESS STEEL	54 CAP FOR HEXAGON SOCKET HEAD CAP SCREWS	4	PVC
4 CUSHION	1	EPDM	40w WASHER (No.40)	8	STAINLESS STEEL	55 CAP	4	EPDM
6 COMPRESSOR	1	PVDF	40n NUT (No.40)	4	STAINLESS STEEL	56 NIPPLE	1	COPPER ALLOY
7 JOINT	1	STAINLESS STEEL	41 SPRING WASHER	1	STAINLESS STEEL	25r RING FOR END CONNECTOR (THREADED END)	2	STAINLESS STEEL
11 GAUGE COVER	1	PC	42 NUT (No.42)	1	STAINLESS STEEL			Used for C-PVC Body. Threaded End : 15mm-25mm
14 O-RING (No.14)	1	EPDM	43 O-RING (No.43)	1	NBR			
27 O-RING (No.27)	2	EPDM, Others	44 O-RING (No.44)	1	NBR			
31 INDICATOR ROD	1	STAINLESS STEEL	45 O-RING (No.45)	1	NBR			
34 CYLINDER BODY	1	PPG	46 O-RING (No.46)	1	NBR			
35 CYLINDER COVER	1	PPG	47 O-RING (No.47)	1	NBR			

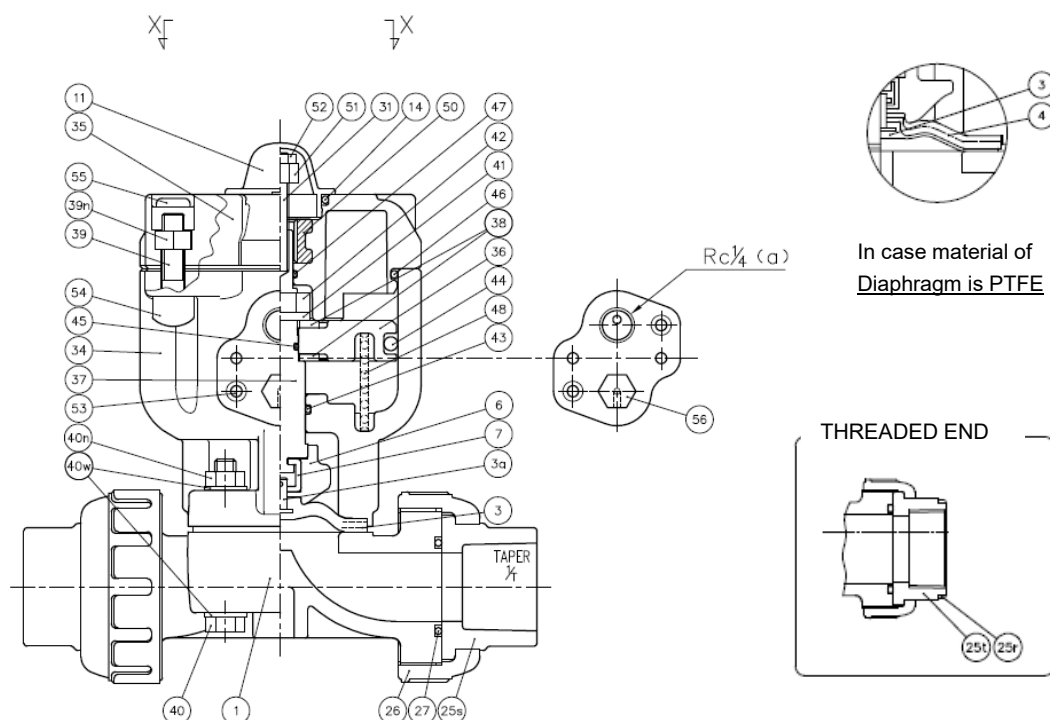
AUTOMATIC [PNEUMATIC] AIR TO OPEN: SIZE 40,50 mm [PN0.7, PN1.0]



DATASHEET

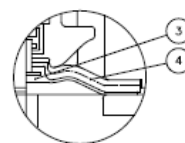
PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL
1 BODY	1	PVC, C-PVC, PP, PVDF	34 CYLINDER BODY	1	PPG	45 O-RING (No.45)	1	NBR
25s END CONNECTOR (SOCKET END)	2		35 CYLINDER COVER	1	PPG	46 O-RING (No.46)	1	NBR
25t END CONNECTOR (THREADED END)	2		36 PISTON	1	PPG	47 O-RING (No.47)	1	NBR
26 UNION NUT	2		37 STEM FOR PNEUMATIC ACTUATOR	1	COPPER ALLOY	49 SPRING UNIT	-	SWOSC-V etc. 2" (PN1.0):SWOSC-B etc.
3 DIAPHRAGM	1	EPDM, PTFE, Others	38 WASHER (No.38)	2	STAINLESS STEEL	50 INSERTED METAL OF CYLINDER COVER	1	STAINLESS STEEL
3a INSERTED METAL OF DIAPHRAGM	1	STAINLESS STEEL	39 BOLT (No.39)	6	STAINLESS STEEL	51 STOPPER FOR PNEUMATIC ACTUATOR	1	STAINLESS STEEL
4 CUSHION	1	EPDM Used for PTFE Diaphragm	39n NUT (No.39)	6	STAINLESS STEEL	52 NUT (No.52)	1	STAINLESS STEEL
6 COMPRESSOR	1	PVDF	40 BOLT (No.40)	4	STAINLESS STEEL	53 INSERTED METAL OF CYLINDER BODY	2	STAINLESS STEEL
7 JOINT	1	STAINLESS STEEL	40w WASHER (No.40)	8	STAINLESS STEEL	54 CAP FOR HEXAGON SOCKET	6	PVC
11 GAUGE COVER	1	PC	40n NUT (No.40)	4	STAINLESS STEEL	HEAD CAP SCREWS		
14 O-RING (No.14)	1	EPDM	41 SPRING WASHER	1	STAINLESS STEEL	55 CAP	6	EPDM PN0.7:Red PN1.0:Blue
27 O-RING (No.27)	2	EPDM, Others	42 NUT (No.42)	1	STAINLESS STEEL	56 NIPPLE	1	COPPER ALLOY
31 INDICATOR ROD	1	STAINLESS STEEL	43 O-RING (No.43)	1	NBR			
			44 O-RING (No.44)	1	NBR			

AUTOMATIC [PNEUMATIC] AIR TO CLOSE: SIZE 15 - 32 mm

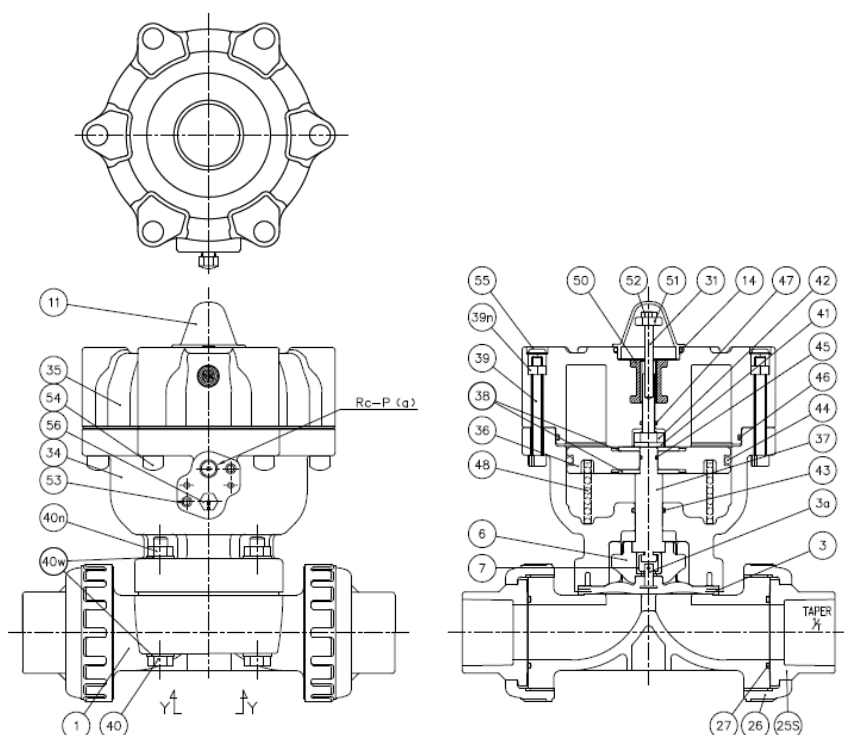
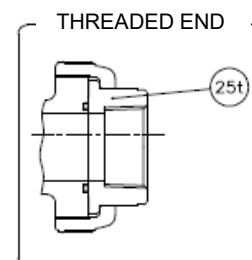


PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL
1 BODY	1	PVC, C-PVC, PP, PVDF	31 INDICATOR ROD	1	STAINLESS STEEL	45 O-RING (No.45)	1	NBR
25s END CONNECTOR (SOCKET END)	2		34 CYLINDER BODY	1	PPG	46 O-RING (No.46)	1	NBR
25t END CONNECTOR (THREADED END)	2		35 CYLINDER COVER	1	PPG	47 O-RING (No.47)	1	NBR
26 UNION NUT	2		36 PISTON	1	PPG	48 SPRING	1	SPRING STEEL (SWOSM-
3 DIAPHRAGM	1	EPDM, PTFE, Others	37 STEM FOR PNEUMATIC ACTUATOR	1	COPPER ALLOY	50 INSERTED METAL OF CYLINDER COVER	1	STAINLESS STEEL
3a INSERTED METAL OF DIAPHRAGM	1	STAINLESS STEEL	38 WASHER (No.38)	2	STAINLESS STEEL	51 STOPPER FOR PNEUMATIC ACTUATOR	1	STAINLESS STEEL
4 CUSHION	1	EPDM Used for PTFE Diaphragm	39 HEXAGON SOCKET	4	STAINLESS STEEL	52 NUT (No.52)	1	STAINLESS STEEL
6 COMPRESSOR	1	PVDF	HEAD CAP SCREWS			53 INSERTED METAL OF CYLINDER BOD	2	STAINLESS STEEL
7 JOINT	1	STAINLESS STEEL	39n NUT (No.39)	4	STAINLESS STEEL	54 CAP FOR HEXAGON SOCKET	4	PVC
11 GAUGE COVER	1	PC	40 BOLT (No.40)	4	STAINLESS STEEL	HEAD CAP SCREWS		
14 O-RING (No.14)	1	EPDM	40w WASHER (No.40)	8	STAINLESS STEEL	55 CAP	4	EPDM PN0.7:Red PN1.0:Blue
27 O-RING (No.27)	2	EPDM, Others	40n NUT (No.40)	4	STAINLESS STEEL	56 NIPPLE	1	COPPER ALLOY
			41 SPRING WASHER	1	STAINLESS STEEL	25r RING FOR END CONNECTOR (THREADED END)	2	STAINLESS STEEL Used for C-PVC Body. Threaded End : 15mm-25mm
			42 NUT (No.42)	1	STAINLESS STEEL			
			43 O-RING (No.43)	1	NBR			
			44 O-RING (No.44)	1	NBR			

AUTOMATIC [PNEUMATIC] AIR TO CLOSE: SIZE 40,50 mm



In case material of
Diaphragm is PTFE



PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL
1 BODY	1	PVC, C-PVC, PP, PVDF	34 CYLINDER BODY	1	PPG	44 O-RING (No.44)	1	NBR
25s END CONNECTOR (SOCKET END)	2		35 CYLINDER COVER	1	PPG	45 O-RING (No.45)	1	NBR
25t END CONNECTOR (THREADED END)	2		36 PISTON	1	PPG	46 O-RING (No.46)	1	NBR
26 UNION NUT	2		37 STEM FOR PNEUMATIC ACTUATOR	1	COPPER ALLOY	47 O-RING (No.47)	1	NBR
3 DIAPHRAGM	1	EPDM, PTFE, Others	38 WASHER (No.38)	2	STAINLESS STEEL	48 SPRING	1	SPRING STEEL (SWOSM-B)
3a INSERTED METAL OF DIAPHRAGM	1	STAINLESS STEEL	39 BOLT (No.39)	6	STAINLESS STEEL	50 INSERTED METAL OF CYLINDER COVE	1	STAINLESS STEEL
4 CUSHION	1	EPDM Used for PTFE Diaphragm	39n NUT (No.39)	6	STAINLESS STEEL	51 STOPPER FOR PNEUMATIC ACTUATOR	1	STAINLESS STEEL
6 COMPRESSOR	1	PVDF	40 BOLT (No.40)	4	STAINLESS STEEL	52 NUT (No.52)	1	STAINLESS STEEL
7 JOINT	1	STAINLESS STEEL	40w WASHER (No.40)	8	STAINLESS STEEL	53 INSERTED METAL OF CYLINDER BODY	2	STAINLESS STEEL
11 GAUGE COVER	1	PC	40n NUT (No.40)	4	STAINLESS STEEL	54 CAP FOR HEXAGON SOCKET	6	PVC
14 O-RING (No.14)	1	EPDM	41 SPRING WASHER	1	STAINLESS STEEL	HEAD CAP SCREWS		
27 O-RING (No.27)	2	EPDM, Others	42 NUT (No.42)	1	STAINLESS STEEL	55 CAP	6	EPDM Blue
31 INDICATOR ROD	1	STAINLESS STEEL	43 O-RING (No.43)	1	NBR	56 NIPPLE	1	COPPER ALLOY

Diaphragms except EPDM and PTFE are available in FKM, VIFLON®C (FKM-C), VIFLON®F (FKM-F), CPE, CSM, NBR and IIR when required.
The shape and appearance of assembly differ a little with nominal size compared to this drawing.

Compatible Actuator

Has sufficient durability to withstand 500,000 cycles of opening/closing.
Can be used in limited piping space.
All-plastic body ensures excellent corrosion resistance.



BASIC SPECIFICATIONS

DOUBLE ACTING	ACTUATOR TYPE					UNIT
	AV-1DA	AV-2DA	AV-3DA	AV-4DA	AV-5DA	
OPERATING PRESSURE	0.4 - 0.6					MPa
AIR CONSUMPTION	0.89		1.29	4.35	4.80	NL ⁽¹⁾ / OPEN & CLOSE (at 0.4MPa)
	1.07		1.55	5.22	5.76	NL ⁽¹⁾ / OPEN & CLOSE (at 0.5MPa)
	1.25		1.80	6.09	6.72	NL ⁽¹⁾ / OPEN & CLOSE (at 0.6MPa)
AIR SUPPLY BORE	Rc1/4					

AIR TO OPEN (0.7MPa SPEC.)	ACTUATOR TYPE					UNIT
	AV-1AO	AV-2AO	AV-3AO	AV-4AO	AV-5AO	
OPERATING PRESSURE	0.4 - 0.6					MPa
AIR CONSUMPTION	0.35		0.49	1.73	1.98	NL ⁽¹⁾ / OPEN & CLOSE (at 0.4MPa)
	0.42		0.59	2.08	2.37	NL ⁽¹⁾ / OPEN & CLOSE (at 0.5MPa)
	0.49		0.69	2.52	2.77	NL ⁽¹⁾ / OPEN & CLOSE (at 0.6MPa)
AIR SUPPLY BORE	Rc1/4					

AIR TO OPEN (1.0MPa SPEC.)	ACTUATOR TYPE					UNIT
	AV-1AO-P/E ^{*2)}	AV-2AO-P/E ^{*2)}	AV-3AO-P/E ^{*2)}	AV-4AO-P/E ^{*2)}	AV-5AO-P/E ^{*2)}	
OPERATING PRESSURE	0.5 - 0.6					MPa
AIR CONSUMPTION	0.42		0.59	2.08	2.37	NL ⁽¹⁾ / OPEN & CLOSE (at 0.5MPa)
	0.49		0.69	2.43	2.76	NL ⁽¹⁾ / OPEN & CLOSE (at 0.6MPa)
AIR SUPPLY BORE	Rc1/4					

AIR TO CLOSE	ACTUATOR TYPE					UNIT
	AV-1AS	AV-2AS	AV-3AS	AV-4AS	AV-5AS	
OPERATING PRESSURE	0.4 - 0.6					MPa
AIR CONSUMPTION	0.54		0.79	2.63	2.82	NL ⁽¹⁾ / OPEN & CLOSE (at 0.4MPa)
	0.65		0.95	3.15	3.38	NL ⁽¹⁾ / OPEN & CLOSE (at 0.5MPa)
	0.76		1.11	3.68	3.95	NL ⁽¹⁾ / OPEN & CLOSE (at 0.6MPa)
AIR SUPPLY BORE	Rc1/4					

*1) NL = Normal Liters

*2) P : PTFE Diaphragm E : EPDM Diaphragm

OPTION COMBINATION

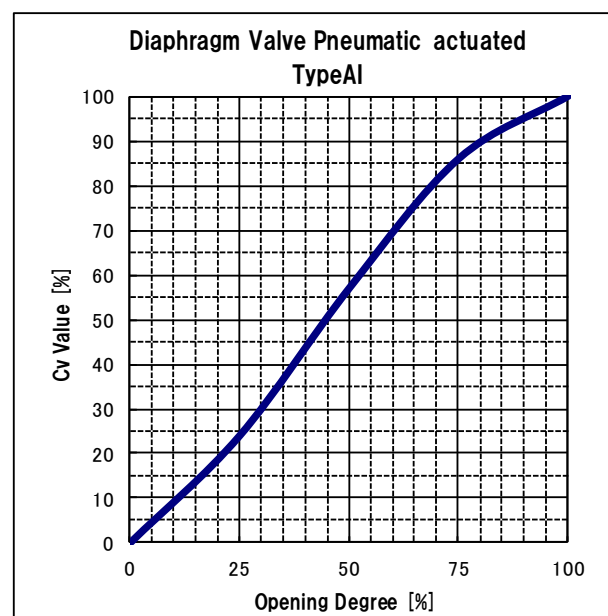
COMBINATION NO.	1	2	3	4	5	6	7	8	9
SOLENOID VALVE	○	—	—	○	○	—	○	—	—
FILTER REGULATOR	—	—	—	○	—	—	○	—	○
SPEED CONTROLLER ^{*1}	◎	○	—	◎	◎	○	◎	—	—
LIMIT SWITCH ^{*2}	—	—	○	—	○	○	○	—	—
POSITIONER (E/P,P/P)	—	—	—	—	—	—	—	○	○

*1 ◎ indicated solenoid valve-dedicated type.

*2 When using the limit switch at 1 to 100mA or 5 to 30V, contact our sales office in your area.

OPTION LIST	MANUFACTURER	BASIC SPECIFICATIONS
SOLENOID VALVE NAMUR	KONAN	▪ WATER PROOF, EXPLOSION PROOF ▪ POWER SOURCE AC100V, AC110V, AC200V, AC220V, DC24V
FILTER REGULATOR	KONAN	
SPEED CONTROLLER	KONAN	* Since a solenoid valve has a built-in exhaust valve, when a solenoid valve is mounted, no speed controller is necessary.
BYPASS VALVE (SPEED CONTROLLER)	KONAN	
LIMIT SWITCH BOX	Rotech	▪ WATER PROOF
LIMIT SWITCH	AZBIL (formerly YAMATAKE)	▪ WATER PROOF, EXPLOSION PROOF ▪ OPEN: 1pc, CLOSE: 1pc, OPEN/CLOSE: 2pcs
POSITIONER	YTC	▪ E/P: INPUT SIGNAL CURRENT DC 4-20 mA ▪ P/P: INPUT SIGNAL AIR PRESSURE 0.02 - 0.1 MPa
MANUAL OVERRIDE	ASAHI YUKIZAI	
FULL OPENING ADJUSTMENT	ASAHI YUKIZAI	

Cv value for each opening degree



FULL-OPEN Cv VALUE

mm	15	20	25	32	40	50
inch	1/2	3/4	1	1 1/4	1 1/2	2
FULL-OPEN Cv VALUE	4.8	7.2	10	11	26	48

DATASHEET

Product weight

TRUE UNION TYPE AI [AUTOMATIC PNEUMATIC TYPE AI]

Unit : kg

mm	inch	DOUBLE ACTING				AIR TO OPEN (0.7MPa TYPE)				AIR TO OPEN (1.0MPa TYPE)				AIR TO CLOSE			
		U-PVC	C-PVC	PP	PVDF	U-PVC	C-PVC	PP	PVDF	U-PVC	C-PVC	PP	PVDF	U-PVC	C-PVC	PP	PVDF
15	1/2	0.9	0.9	0.8	0.9	1.1	1.1	0.9	1.1	1.1	1.2	1.0	1.2	1.0	1.0	0.9	1.0
20	3/4	1.1	1.2	1.0	1.2	1.3	1.4	1.2	1.4	1.4	1.4	1.2	1.4	1.2	1.3	1.1	1.3
25	1	1.4	1.4	1.2	1.5	1.6	1.7	1.5	1.7	1.7	1.7	1.5	1.8	1.4	1.5	1.3	1.6
32	1 1/4	1.6	1.7	1.4	1.8	1.8	1.9	1.6	2.0	1.9	2.0	1.7	2.0	1.7	1.8	1.5	1.8
40	1 1/2	3.7	3.8	3.4	3.9	4.6	4.7	4.3	4.8	4.7	4.9	4.4	4.9	4.1	4.3	3.8	4.4
50	2	4.5	4.6	3.9	4.7	5.4	5.5	4.8	5.6	6.4	6.5	5.8	6.6	5.0	5.0	4.3	5.1

Product model code list

ACTUATION	TYPE	ACTUATOR TYPE	ACTION /POWER SOURCE	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE
A	TA	I	*	*	*	*	*	***
A AUTOMATIC VALVE	TA TYPE 14	I TYPE AI	F DOUBLE ACTING(1.0MPa TYPE) G AIR TO OPEN (0.7MPa TYPE) H AIR TO OPEN (1.0MPa TYPE) S AIR TO CLOSE (1.0MPa TYPE)	U U-PVC C C-PVC P PP F PVDF	E EPDM 1 PTFE+EPDM 2 PTFE+FKM	S SOCKET N THREADED P SPIGOT	J JIS10K D DIN A ANSI	015 15mm ? 050 50mm

Installation, Operation and Maintenance Manual

For details of Installation, Operation and Maintenance, please contact our nearest distribution agent or sales office.