

Diaphragm Valve Type 16 (Automatic Type)

Features

- Near-Linear flow characteristics
- Compact body allows for installation in limited piping space.
- Excellent open/close durability to withstand more than 1,000,000 cycles of opening and closing.
- All-plastic body ensures excellent corrosion resistance.



Basic specifications

- Valve Type : Diaphragm Valve Type 16
- Size : 15 mm - 50 mm (1/2 inch – 2 inch)
- Body Material : U-PVC (Conforming to ASTM D1784 Cell Classification 12454A)
- Seal Material / Diaphragm : EPDM, PTFE
O-RING : EPDM, FKM
- Connection / Flanged : JIS B2220 10K, DIN/EN1092-1 PN10, ANSI B16.5 CLASS150
Socket : JIS B2220, DIN/EN1092-1, ANSI B16.5
Threaded : Rc, Rp, NPT

Body Material	FLUID TEMPERATURE °C {°F}	Max. working pressure (Normal temperature) MPa {psi}		Connection method		
		15mm-25mm	40mm, 50mm	Flanged	Socket	Threaded
U-PVC	0 ~ 50 { 30~120 }	0.5 { 70 }	0.4 { 55 }	○	○	○

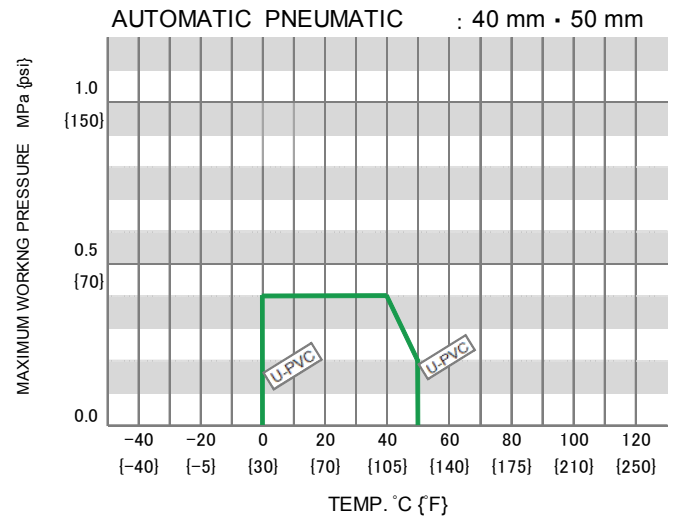
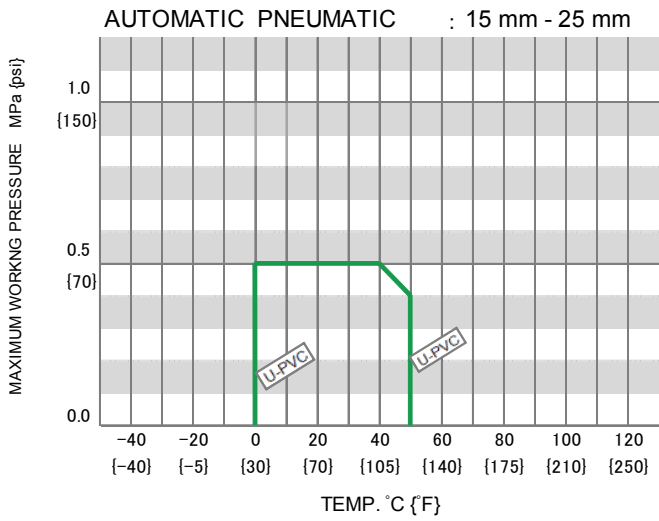
Note: The maximum working pressure is the value including the water hammer pressure. Be careful that the maximum working pressure is not exceeded during use.

* Concerning the allowable pressure for each temperature, material and actuator type, see the technical documents at the next page of this sheet.

Certificate / Approval

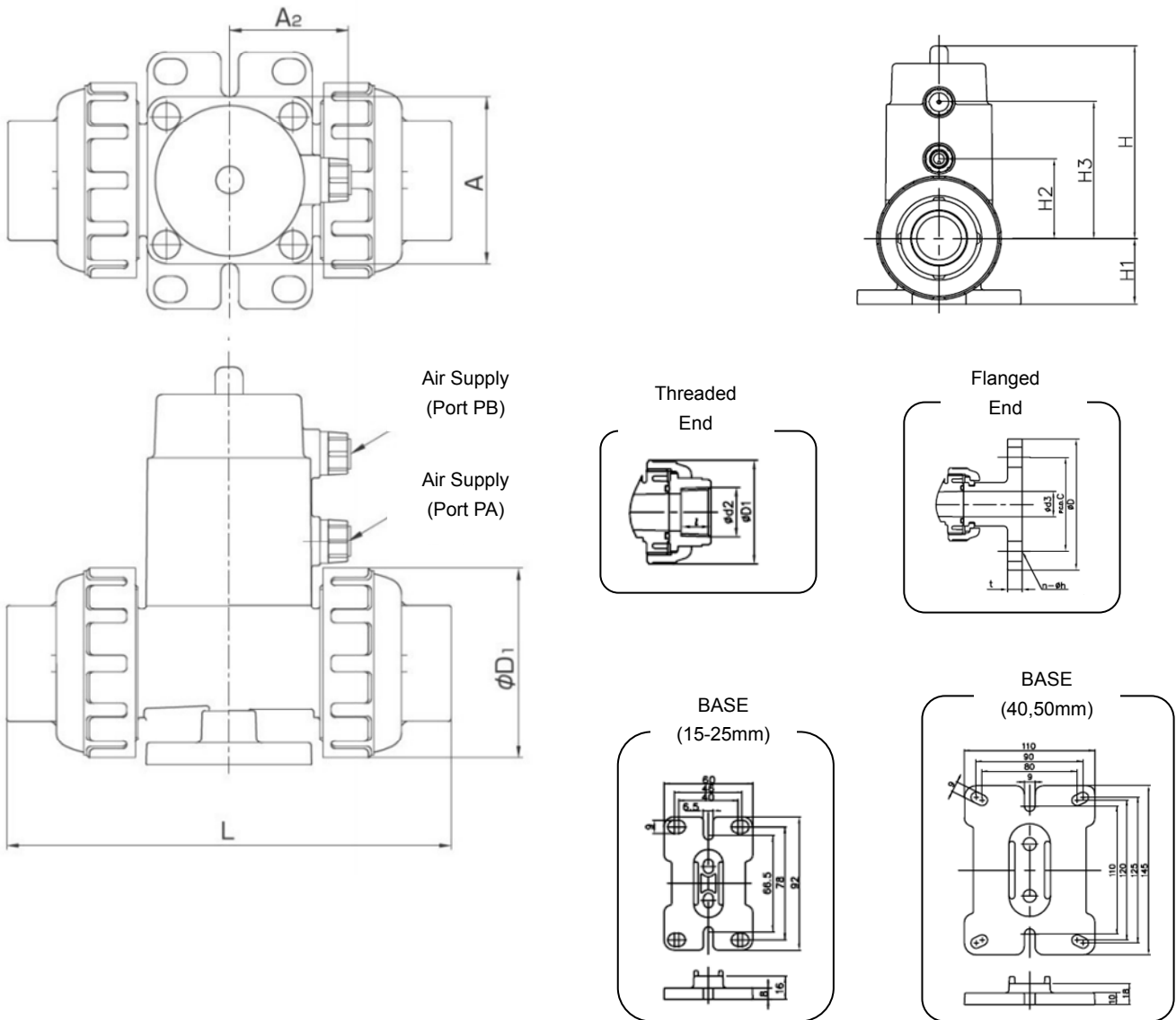
PED “For details of applicable products, please consult us.”

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



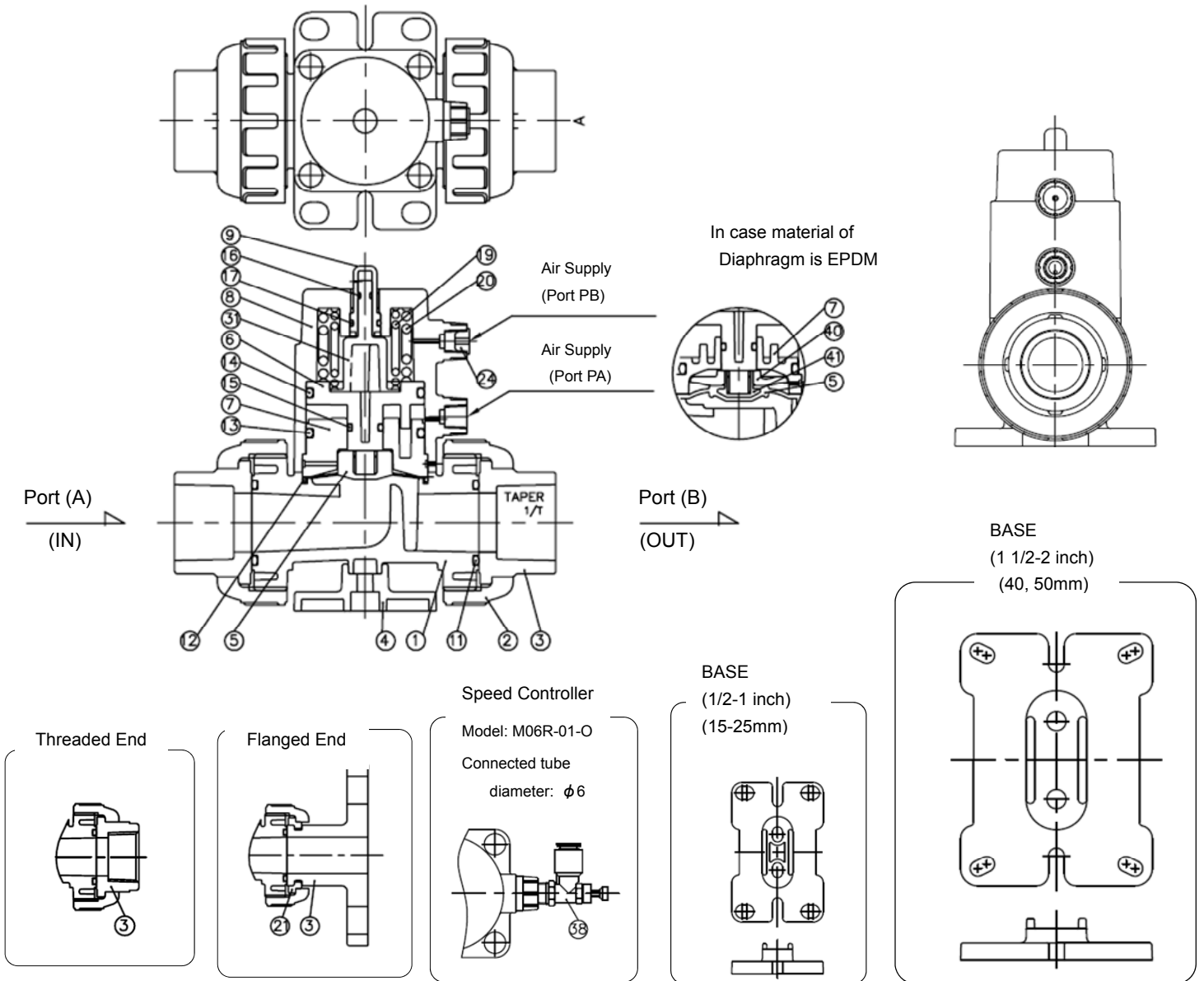
■ JIS, DIN (Unit: mm)

mm	D ₁	H	H ₁	H ₂	H ₃	A	A ₂	JIS			DIN				
								FLANGED JIS10K		SOCKET	THREADED	FLANGED PN10		SOCKET	THREADED
								L	t	L	L	L	t	L	L
15	48	79.0	33.0	33	60	□50	38	158	12	124.4	117.0	145	12	117	117
20	60	108.0	36.5	44	76	□60	43	191	14	147.0	139.0	169	14	138	139
25	70	109.0	37.5	45	77	□60	43	205.5	14	163.5	149.5	178.5	14	149.5	149.5
40	100	161.5	53.0	68	115	□95	60	264	16	241.0	215.0	252	16	216	215
50	126	188.5	66.0	83	137	□115	70.5	297	16	283.0	260.0	293	16	260	260

■ ANSI (Unit: inch)

inch	mm	D ₁	H	H ₁	H ₂	H ₃	A	A ₂	ANSI			
									FLANGED		SOCKET	THREADED
									L	t	L	L
1/2	15	1.89	3.11	1.30	1.30	2.36	1.97	1.49	6.22	0.47	5.04	4.61
3/4	20	2.36	4.25	1.44	1.73	2.99	2.36	1.69	7.52	0.55	5.83	5.47
1	25	2.76	4.29	1.48	1.77	3.03	2.36	1.69	8.09	0.55	6.44	5.89
1 1/2	40	3.94	6.36	2.09	2.68	4.53	3.74	2.36	10.39	0.63	9.29	8.46
2	50	4.96	7.42	2.60	3.27	5.39	4.53	2.77	11.69	0.63	10.71	10.24

Parts list



PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL		
1 BODY	1	PVC	17 O-RING (G)	1	EPDM, FKM, FKM-F used for size : 15-25mm	25 BOLT (A)	4	STAINLESS STEEL Does Not Figure		
2 UNION NUT	2		19 SPRING (A)	1	STAINLESS STEEL Used For Air To Open	26 BOLT (B)	2			
3 END CONNECTOR	2		20 SPRING (B)	1	STAINLESS STEEL Used For Air To Open used for size : 20-50mm	28 WASHER	4			
4 BASE	1	21 STOP RING	2	PVDF Used For Flanged End	29 SPRING WASHER	4				
5 DIAPHRAGM	1	PTFE, EPDM	22 CAP (A)	8	EPDM Used For Air To Open Does Not Figure	30 NUT	4	31 INDICATOR (A)	1	15mm thru. 25mm : ABS 40mm and 50mm : PP
6 PISTON	1	PPSG	24 PLUG	1	EPDM Used For Air To Open Does Not Figure	38 SPEED CONTROLLER	1	Air To Open POM/ COPPER ALLOY		
7 BUSH	1		13 O-RING (C)	1	EPDM, FKM, FKM-F	40 COMPRESSOR	1	PVDF Used For EPDM Diaphragm		
8 CYLINDER BODY	1	14 O-RING (D)	1	41 INSERTED METAL OF DIAPHRAGM		1	STAINLESS STEEL Used For EPDM Diaphragm			
9 GAUGE COVER (A)	1	PC								
11 O-RING (A)	2	EPDM, FKM, FKM-F								
12 O-RING (B)	1	EPDM, FKM, FKM-F Used For PTFE diaphragm								

The shape and appearance of assembly differ a little with nominal size compared to this drawing.
The diaphragm material of 40mm and 50mm is only PTFE.

Compatible Actuator

Compact body allows for use in limited piping space.
 Excellent open/close durability to with stand more than 1,000,000 cycles of opening and closing.
 All-plastic body ensures excellent corrosion resistance.



BASIC SPECIFICATIONS

DOUBLE ACTING	SIZE					UNIT
	15mm(1/2inch)	20mm(3/4inch)	25mm(1inch)	40mm(1 1/2inch)	50mm(2inch)	
OPERATING PRESSURE	0.3-0.4					MPa
AIR CONSUMPTION	0.14	0.32		1.24	2.19	NI/OPEN & CLOSE (0.4MPa)
AIR SUPPLY BORE	Rc1/8					

AIR TO OPEN	SIZE					UNIT
	15mm(1/2inch)	20mm(3/4inch)	25mm(1inch)	40mm(1 1/2inch)	50mm(2inch)	
OPERATING PRESSURE	0.4-0.5					MPa
AIR CONSUMPTION	0.12	0.26		1.02	1.78	NI/OPEN & CLOSE (0.4MPa)
AIR SUPPLY BORE	Rc1/8					

OPTION COMBINATION

COMBINATION NO.	1	2	3	4	5	6
SPEED CONTROLLER *1	—	○	—	○	—	○
FULL OPENING ADJUSTMENT	—	—	○	○	○	○
INDICATOR	●	●	—	—	◎	◎

● indicates that the feature is provided as standard.

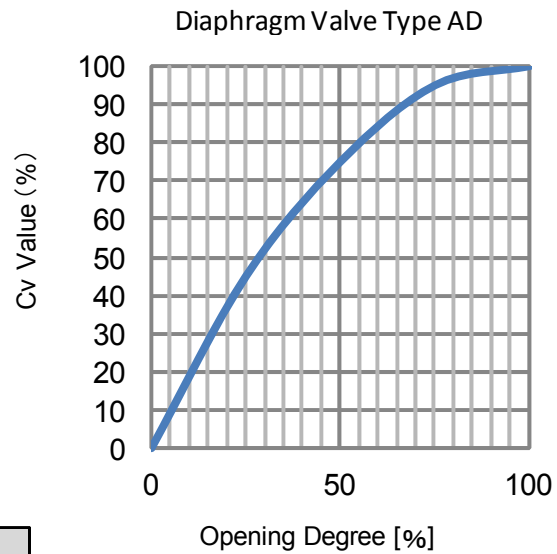
◎ represents an indicator for full opening adjustment.

*1 Only applicable to the sizes of 15 to 25 mm.

OPTION LIST

OPTION LIST	MANUFACTURER	BASIC SPECIFICATIONS
SPEED CONTROLLER	KONAN	—
WITH FULL OPENING ADJUSTMENT	ASAHI YUKIZAI	—
FULL OPENING ADJUSTMENT (WITH INDICATOR)	ASAHI YUKIZAI	—

Cv value for each opening degree



FULL-OPEN Cv VALUE

mm	15	20	25	40	50
inch	1/2	3/4	1	1 1/2	2
FULL-OPEN Cv VALUE	4.8	8.0	9.5	26	44

Product weight

TYPE 16 AUTOMATIC, PNEUMATIC, TYPE AD

Unit : kg

mm	inch	DOUBLE ACTING			AIR TO OPEN		
		FLANGED	THREADED	SOCKET	FLANGED	THREADED	SOCKET
15	1/2	0.6	0.4	0.4	0.7	0.5	0.4
20	3/4	1.0	0.7	0.7	1.0	0.7	0.7
25	1	1.2	0.8	0.8	1.3	0.8	0.8
40	1 1/2	3.4	2.8	2.7	3.8	3.1	3.1
50	2	5.7	4.9	4.9	6.4	5.6	5.6

Product model code list

ACTUATION	TYPE	ACTION		BODY MATERIAL	SEAL MATERIAL	CONNECTION	SIZE	LUB. FREE	OPERATION PORT DIRECTION	OPTION																		
A	16	**		U	*	**	***	1	*	*																		
A AUTOMATIC VALVE	16 TYPE 16	DF DOUBLE ACTING	DG AIR TO OPEN	U U-PVC	1 PTFE/EPDM 2 PTFE/FKM E EPDM/EPDM		015 15mm ? 050 50mm	1																				
										<table border="1"> <tr><td>1</td><td>NONE</td></tr> <tr><td>2</td><td>SPEED CONTROLLER</td></tr> <tr><td>3</td><td>FULL OPENING ADJUSTMENT</td></tr> <tr><td>4</td><td>FULL OPENING ADJUSTMENT / SPEED CONTROLLER</td></tr> <tr><td>5*</td><td>FULL OPENING ADJUSTMENT / INDICATOR</td></tr> <tr><td>6*</td><td>FULL OPENING ADJUSTMENT/ INDICATOR/ SPEED CONTROLLER</td></tr> </table> <p>* Only applicable for sizes of 15mm to 25mm.</p>	1	NONE	2	SPEED CONTROLLER	3	FULL OPENING ADJUSTMENT	4	FULL OPENING ADJUSTMENT / SPEED CONTROLLER	5*	FULL OPENING ADJUSTMENT / INDICATOR	6*	FULL OPENING ADJUSTMENT/ INDICATOR/ SPEED CONTROLLER						
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						<p>1 (STANDARD)</p> <p>FLUID DIRECTION</p> <p>OPERATION PORT DIRECTION</p>																						

Installation, Operation and Maintenance Manual

For details of Installation, Operation and Maintenance, please refer IOM at below link.

http://www.asahi-yukizai.co.jp/en/product/mt_pdf/a_automatic_valve_1_04.pdf