



KS A 9001 / ISO 9001 / EN ISO 9001 / QS-9000 / ISO-14001
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PJ KODIVAC VACUUM PRODUCTS

Cumulative High Technology Your Technological Partner For
The New Millennium



 (주)PJ KODIVAC



VACTECH SDN. BHD.
(Company No. 389978-P)

VALVE

밸브의 이용은 대기와 진공과의 격리, 고진공과 저진공간의 격리를 목적으로 설치 이용하며 각 진공 영역에 따라 특성에 맞추어 적용하여야 합니다. 또한 Gate 밸브의 경우 In-line 등의 제품 이송에 알맞게 제작 되어야 하며 잘못 설계, 제작된 밸브의 경우 Leak, 표면적의 증가에 따른 탈가스, 재료의 부적절한 사용으로 인한 문제점들을 야기시킬 수 있습니다.

It is used for the purpose of separating the air and vacuum, and high vacuum and low vacuum range, It should be adapted for the special characteristic in each vacuum range. For Gate valve, it should be manufactured so it is applicable for the Specimen transport of In-line, if desinged and manufactured coarsely, the valve may bring about problems from wrong using and Out gassing from increasing surface area.

Introduction

PJ KODIVAC의 밸브들은 다양한 시스템의 요구 조건에 따라 규격화된 여러 형태의 모양, 크기의 밸브들을 중진공, 고진공, 초고진공 등의 넓은 범위에서 사용될 수 있도록 각각 설계되어 있으며, 컴퓨터에 의해 정밀 가공 되어 신뢰성, 내구성, 간단한 작동 시스템, 저가격화, 정확한 동작, 규격화, 넓은 호환성을 위해 철저한 품질관리 시스템에 따라 생산되고 있습니다. 각 밸브들은 고품질의 진공용 재료를 사용하여 제작되고 있습니다. 현재 PJ KODIVAC에서 생산되고 있는 밸브의 종류는

- | | |
|----------------|----------------|
| • Gate 밸브 | • Butterfly 밸브 |
| • Angle 밸브 | • Throttle 밸브 |
| • 3 Way 밸브 | • In Line 밸브 |
| • Auto Vent 밸브 | |

등의 규격품을 생산하고 있으며, 고객여러분의 요구에 따라 주문제작도 가능합니다.

PJ KODIVAC Valves are designed to be used in wide range of medium, high, and ultra high vacuum standardized by various requirements. And our products follow the rigid quality control system to get interchangeability, standardization, precise movement, low price, simple movement mechanism, durability, and reliability by using CNC controlled computers. we manufacture various valves and followed types of port flange using high quality vacuum materials.

- | | |
|-------------------|-------------------|
| • Gate Valve | • Butterfly Valve |
| • Angle Valve | • Throttle Valve |
| • 3 Way Valve | • In Line Valve |
| • Auto Vent Valve | |

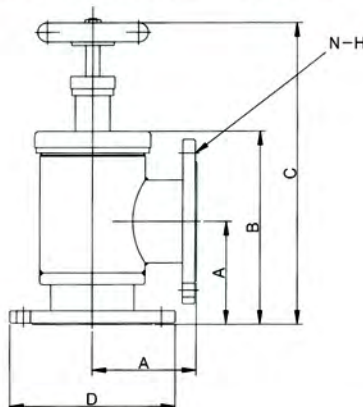
in addition, special valves are possible meet the customer requirements.



ANGLE VALVE (LV, LAV TYPE)

Design / Outline Drawing(mm)

• Viton O-Ring Sealed Bonnets for High Vacuum Application • Manual Operated • Flange Type(VG/VF Type)

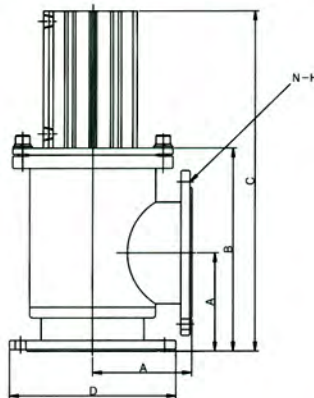


Technical Specification LV TYPE

Reference	A	B	C	φD	φH	N
LV-3/4	50	95	167.3	80	10	4
LV-1	55	105	196.7	90	10	4
LV-2	75	141	262	120	10	4
LV-3	95	195	338	160	12	4
LV-4	110	228	390	185	12	8
LV-6	130	282	519	235	12	8
LV-8	175	305	639	300	15	8
LV-10	200	355	759	350	15	12

Design / Outline Drawing(mm)

• Viton O-Ring Sealed Bonnets for High Vacuum Application • Pneumatically Operated • Flange Type(VG/VF Type)



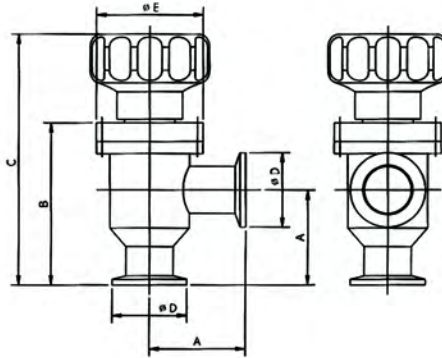
Technical Specification LAV TYPE

Reference	A	B	C	φD	φH	N	Fitting
LAV-1	55	102	195	90	10	4	1/8
LAV-2	75	139	258	120	10	4	1/14
LAV-3	95	187	321	160	12	4	1/14
LAV-4	110	220	381.5	185	12	8	3/8
LAV-6	130	270	488.5	235	12	8	3/8
LAV-8	175	295	628.5	300	15	8	3/8
LAV-10	200	400	709.5	350	15	12	3/8
LAV-14	260	510	918.5	450	15	12	1/2
LAV-16	310	657	1098	520	19	12	3/4
LAV-22	450	854	1410	680	19	16	3/4
LAV-26	470	945	1766	840	23	20	3/4

▶ ANGLE VALVE (LCV, LCAV TYPE)

Design / Outline Drawing(mm)

• Viton O-Ring Sealed Bonnets for High Vacuum Application • Manual Operated

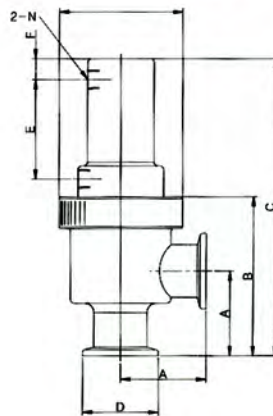


Technical Specification LCV TYPE

Reference	LCV 25	LCV 40	LCV 50	Max. Baking Temperature (°C)			
Flange Size	NW 25	NW 40	NW 50			60	
Conductance (l/s)	15	45	85	Weight (kg)	1.2	1.9	2.6
Leak Rate (Pa · l/s)	Max. 2×10^{-10}			A (mm)	45	55	65
Differential Pressure on Valve Seat	1.1			B (mm)	82.7	101.2	131
A : Body B : Sealing Material	A : SUS 304 B : VITON			C (mm)	125.7	151.7	185.7
Life Cycle	50,000 (Room Temperature)			φD (mm)	40	55	75
				φE (mm)	65	80	90

Design / Outline Drawing(mm)

• Viton Sealed for High Vacuum Application • Pneumatically Operated

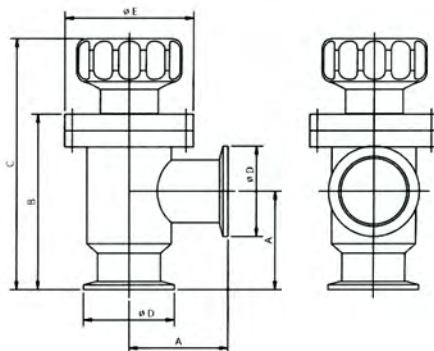


Reference	LCAV 25	LCAV 40	LCAV 50	A (mm)	45	55	65
Flange Size	NW 25	NW 40	NW 50	B (mm)	84.5	103	131
Conductance (l/s)	15	45	85	C (mm)	158	179	215
Leak Rate (Pa · l/s)	Max. 2×10^{-10}			φD (mm)	40	55	75
Differential Pressure on Valve Seat	1.1			E (mm)	53	60	68.5
A : Body B : Sealing Material	A : SUS 304 B : VITON			F (mm)	11	8	8
Life Cycle	100,000 (Room Temperature)			φG (mm)	65	80	90
				N (mm)	1/8	1/8	1/8
Max. Baking Temperature (°C)	70			Sensor Voltage (Current)	DC 24V (5-50mA)	AC 100V (5-25mA)	AC 200V (5-12.5mA)
Air Cylinder (ml)	15	30	40	Protecting Circuit	Installed		
Weight (kg)	1.2	2.0	2.5	Extension	0.5m		

▶ ANGLE VALVE (LCVB, LCAVB TYPE)

Design / Outline Drawing(mm)

• Bellows Sealed Bonnets for High Vacuum Application • Manual Operated

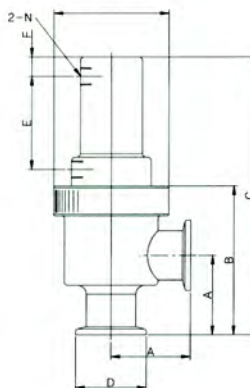


Technical Specification LCVB TYPE

Reference	LCVB 25	LCVB 40	Max. Baking Temperature (°C)	120,70(Operating Part)	
Flange Size	NW 25	NW 40		Weight (kg)	1,3
Conductance (l/s)	13	42	A (mm)	45	55
Leak Rate (Pa · l/s)	Max. 2×10^{-10}		B (mm)	82,7	101,2
Differential Pressure on Valve Seat	1,3		C (mm)	125,7	151,7
A : Body B : Sealing Material	A : SUS 304 B : VITON		φ D (mm)	40	55
Life Cycle	50,000 (Room Temperature)		φ E (mm)	65	80

Design / Outline Drawing(mm)

• Bellows Sealed Bonnets for High Vacuum Application • Pneumatically Operated



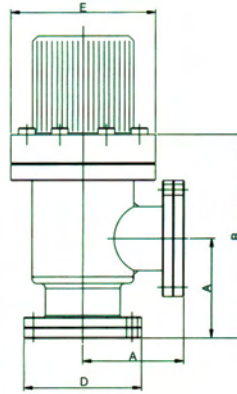
Technical Specification LCAVB TYPE

Reference	LCAVB 25	LCAVB 40	LCAVB 50	A (mm)	45	55	65
Flange Size	NW 25	NW 40	NW 50	B (mm)	84,5	103	131
Conductance (l/s)	13	53	85	C (mm)	158	179	215
Leak Rate (Pa · l/s)	Max. 2×10^{-10}			φ D (mm)	40	55	75
Differential Pressure on Valve Seat	1,3			E (mm)	53	60	68,5
A : Body B : Sealing Material	A : SUS 304 B : VITON			F (mm)	11	8	8
Life Cycle	300,000 (Room Temperature)			φ G (mm)	65	80	90
				N (mm)	1/8	1/8	1/8
Max.Baking Temperature (°C)	120, 70 (Operating Part)			Sensor Voltage (Current)	DC 24V (5-50mA)	AC 100V (5-25mA)	AC 200V (5-12,5mA)
Air Cylinder (ml)	10	20	25	Protecting Circuit	Installed		
Weight (kg)	1,2	2,0	2,6	Extension	0,5m		

▶ ANGLE VALVE (LUVB, LUAVB TYPE)

Design / Outline Drawing(mm)

• Metal Sealed Bonnets for Ultra-High Vacuum Application • Manual Operated

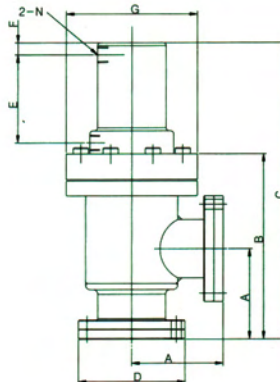


Technical Specification LUVB TYPE

Reference	LUVB 25	LUVB 40	Baking Temperature (°C)	Open 150, Close 125	
Flange Size	CF 35	CF 63	Air Cylinder (ml)	-	
Conductance (l/s)	30	65	Weight (kg)	2.6	6.4
Leak Rate (Torr l/s)	Below 1.0×10^{-10}		A (mm)	60	85
Differential Pressure on Valve Seat	1.3		B (mm)	132	157
A : Body B : Sealing Material	A : SUS 304 B : VITON		C (mm)	78	114
Air Pressure (kgf/cm ²)	-		φD (mm)	70	114
Life Cycle	100,000 (Room Temperature)		φE (mm)	86	114

Design / Outline Drawing(mm)

• Metal Sealed Bonnets for Ultra-High Vacuum Application • Pneumatically Operated



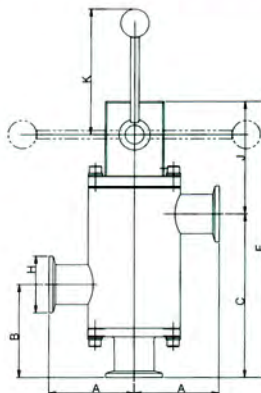
Technical Specification LUAVB TYPE

Reference	LUAVB 25	LUAVB 40	Baking Temperature (°C)	OPEN 150, CLOSE 125	
Flange Size	CF 35	CF 63	Air Cylinder (ml)	20	25
Conductance (l/s)	30	65	Weight (kg)	2.7	6.4
Leak Rate (Pa · l/s)	Below 1.0×10^{-11}		A (mm)	60	85
Differential Pressure on Valve Seat	1.3		B (mm)	132	157
A : Body B : Sealing Material	A : SUS 304 B : VITON		C (mm)	193	237
Life Cycle	300,000 (ROOM TEMPERATURE)		φD (mm)	70	114
Air Pressure (kgf/cm ²)	3 ~ 5		E (mm)	55	63
			F (mm)	8	8
			φG (mm)	86	114
			N (mm)	1/8	1/8

▶ 3 WAY VALVE (3 W, 3 AW TYPE)

Design / Outline Drawing(mm)

• Viton O-Ring Sealed Bonnets for High Vacuum Application • Manual Operated

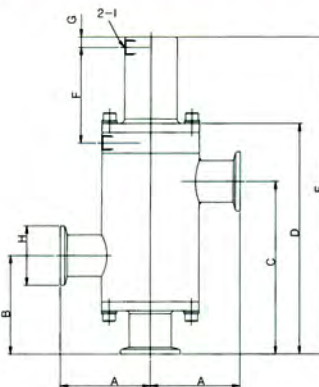


Technical Specification 3 W TYPE

Reference	3W-25	3W-40	Weight (kg)	2.5	4.8
Flange Size	NW 25	NW 40	A (mm)	60	65
Conductance (C-RU/s)	13	40	B (mm)	66	80
Conductance (C-FU/s)	7	23	C (mm)	116	150
Leak Rate (Torr l/s)	1.0 × 10 ⁻⁹		E (mm)	208	264
Differential Pressure on Valve Seat	1.1		φH (mm)	40	55
A : Body B : Sealing Material	A : SUS 304 B : Viton		J (mm)	92	114
Life Cycle	30,000 (Room Temperature)		K (mm)	90	90

Design / Outline Drawing(mm)

• Viton O-Ring Sealed Bonnets for High Vacuum Application • pneumatical Operated



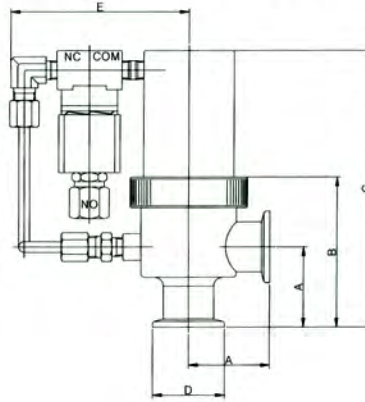
Technical Specification 3 AW TYPE

Reference	3AW-25	3AW-40	Air Cylinder (ml)	20	40	Voltage	AC 24V	AC 100V	AC 200V
Flange Size	NW 25	NW 40	Weight (kg)	2.7	5.1	Current	10~20mA	25mA	12.5mA
Conductance (C-RU/s)	13	40	A (mm)	60	65	Protecting Circuit	Installed		
Conductance (C-FU/s)	7	23	B (mm)	66	80	Short Circuit	None		
Leak Rate (Torr l/s)	1.0 × 10 ⁻⁹		C (mm)	116	150	Response Time	1.2msec		
Differential Pressure on Valve Seat	1.1		D (mm)	154.7	201	Extension	0.5m, Heat Proof, Oil Proof		
A : Body B : Sealing Material	A : SUS 304 B : VITON		E (mm)	213	270				
			F (When lead exist+8) (mm)	64	75				
Life Cycle	30,000 (Room Temperature)		G (mm)	7	8				
			φH (mm)	40	55				
Air Pressure (kgf/cm ²)	3 ~ 5		I (mm)	1/8	1/8				

AUTO VANT VALVE (LCLV TYPE)

Design / Outline Drawing(mm)

• Viton O-Ring Sealed Bonnets for High Vacuum Application • Electro Operated



Technical Specification LCLV TYPE

Reference	LCLV 25	LCLV 40	LCLV 50
Flange Size	NW 25	NW 40	NW50
Conductance (l/s)	15	45	85
Leak Rate (Torr l/s)	Max. 1.0×10^{-9}		
A : Body B : Sealing Material	A : SUS 304 B : VITON		
Life Cycle	10,000 (Room Temperature)		
Weight (kg)	1.8	2.8	3.7
A (mm)	45	55	65
B (mm)	84	103	125.5
C (mm)	155	180.5	205
φ D (mm)	40	55	75
E (mm)	98	99	104
Voltage	AC 220V(AC100V, DC24V)	AC 220V(AC100V, DC24V)	AC 220V(AC100V, DC24V)
Connector	1/8 inch	1/8 inch	1/8 inch

Feature

■ 특징

- 일반적으로 진공 System에서는 안정성을 위해서 Vent valve의 구성이 필요하게 됩니다.
Rotary Pump의 동작이 중단 되었을 때 Roughing line 또는 Foreline 내의 진공도에 따라 Pump의 Oil이 역류가 될 수 있습니다.
Auto Vent Valve는 Pump의 흡기구에 가까이 부착되어 Rotary Pump의 On/Off시 자동적으로 작동되며 Pump의 정지와 동시에 피폐기계를 순간적으로 차단하고, 그후에 펌프 축을 Vent 합니다. 따라서, Pump로부터의 오일 역류를 방지하고 사용자의 오동작이나 정전시 Oil 역류사고를 방지 할 수 있습니다.

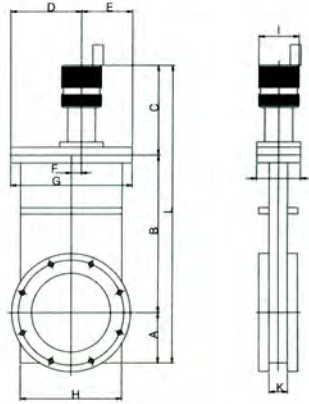
■ Features

- For the stability of the system, Leak Valve is necessary.
When rotary pump stops, there may be back flow of oil by the vacuum condition within Foreline and Roughing line.
Automatic Leak Valve work automatically when Rotary Pump is on/off.
As placed near aspirator, it cuts off a non-exhaust valve at the same time with Pump stop. So,
it can prevent oil from flowing backwards from pump to protect from power failure and wrong handling.

GATE VALVE (TV, TAV TYPE)

Design / Outline Drawing(mm)

• Viton O-ring sealed bonnets at 150°C • Metal sealed bonnets at 250°C • Manual operated

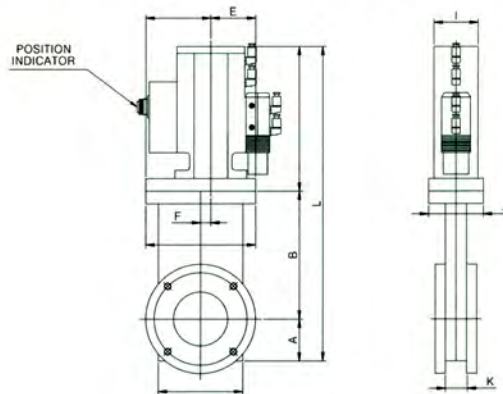


Technical Specification TV TYPE

Reference	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)	I (mm)	L (mm)
TV-2.5	52.5	142	86	89	43	23	132	99.5	φ57	64	32.5	280.5
TV-4	75	223	170	123	61	31	184	140	φ73	73	40	477
TV-6	97	277	170	162	68	47	230	190	φ73	83	42	554.5
TV-8	121.5	353.5	153	211	68	71.5	279	239	φ80	83	42	669.5
TV-10	150.5	438.5	172.8	248	82	83	330	290	φ95	89	48	803.3

Design / Outline Drawing(mm)

• Viton O-ring sealed bonnets at 150°C • Metal sealed bonnets at 250°C • Pneumatic operated

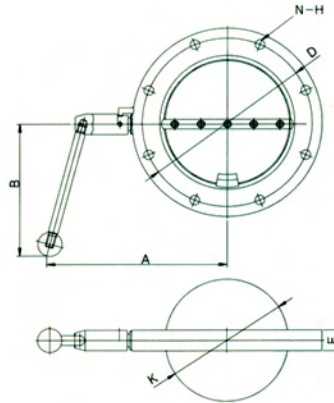
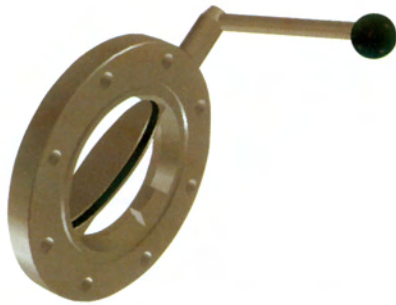


Technical Specification TAV TYPE

Reference	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)	I (mm)	L (mm)
TAV-2.5	52.5	142	117.5	89	43	23	132	99.5	φ52	64	32.5	312
TAV-4	73.5	223	157.5	123	61	31	184	140	φ64	83	40	454
TAV-6	97	277	157.5	162	68	47	230	190	φ64	83	42	531.5
TAV-8	121.5	353.5	176	211	68	71.5	279	239	φ77	83	42	651
TAV-10	150.5	438.5	208.5	248	82	83	330	290	φ98	89	48	797.5

BUTTERFLY VALVE (MANUAL, AIR)

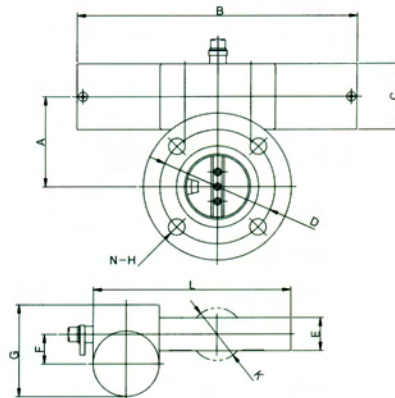
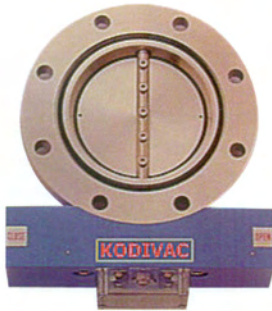
Design / Outline Drawing(mm) • Viton O-ring sealed bonnets at 150°C • Manual operated



Technical Specification MANUAL

	A(mm)	B(mm)	φ D(mm)	E(mm)	φ H(mm)	φ K(mm)	N(mm)
BV-4	177	121.3	160	20	12	100	8
BV-6	218.3	150.2	210	26	12	155	8

Design / Outline Drawing(mm) • Compact size and light Weight • Inexpensive in comparison to any other valves
• Space-saving type • High conductance • Auto-control

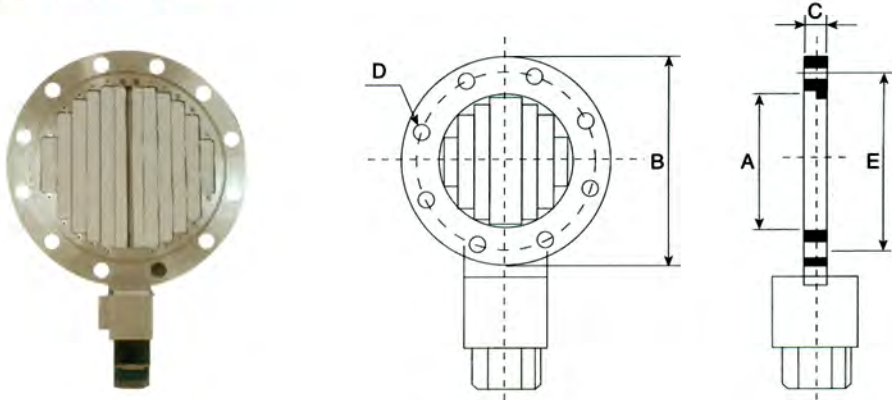


Technical Specification AIR

	A(mm)	B(mm)	φ C(mm)	φ D(mm)	E(mm)	F(mm)	G(mm)	φ H(mm)	φ I(mm)	K(mm)	L(mm)
BAV-1	55	170	40	70	20	18	16	10	33	4	135
BAV-4	103	200	47	160	20	18	61	12	100	8	220
BAV-6	128	270	70	210	26	21	80	12	155	8	300.5

▶ THROTTLE VALVE (BLIND TYPE)

Design / Outline Drawing(mm)



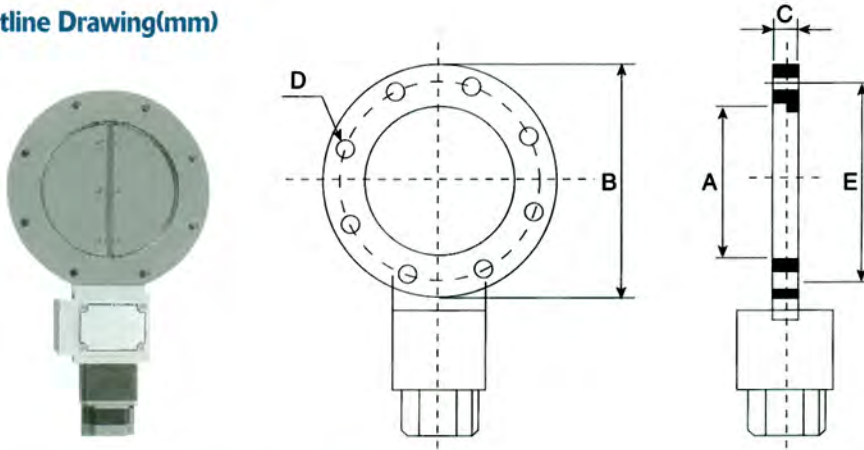
Technical Specification BLIND TYPE

SIZE	A (Inch)	B (Inch)	C (Inch)	D (Inch)	No of Hole (ea)	E (Inch)	Remarks
ISO NW200	8	11.22	0.87	0.43	12	10.24	
ISO NW250	10	13.19	0.87	0.43	12	12.20	
ISO NW320	12	16.73	0.87	0.54	12	15.55	
ISO NW350	14	17.71	0.87	0.54	12	16.53	
ISO NW400	16	20.07	0.87	0.54	16	18.90	
ISO NW500	20	24.01	0.87	0.54	16	22.83	
ISO NW630	25	-	-	-	-	-	Customer Order Made
ISO NW800	31.5	-	-	-	-	-	Customer Order Made
ISO NW1000	40	-	-	-	-	-	Customer Order Made
ANSI ASA8	8	11.00	0.87	0.75	8	9.50	
ANSI ASA10	10	16.00	0.87	0.08	12	14.25	
ANSI ASA12	12	19.00	0.87	1	12	17.00	
ANSI ASA14	14	-	-	-	-	-	Customer Order Made
ANSI ASA16	16	-	-	-	-	-	Customer Order Made
ANSI ASA20	20	-	-	-	-	-	Customer Order Made
ANSI ASA25	25	-	-	-	-	-	Customer Order Made
ANSI ASA31	31.5	-	-	-	-	-	Customer Order Made
ANSI ASA40	40	-	-	-	-	-	Customer Order Made
JIS 200	8	11.81	0.87	0.59	8	10.63	
JIS 250	10	13.77	0.87	0.59	12	12.60	
JIS 300	12	15.74	0.87	0.59	12	14.56	
CF 10"	8	9.97	0.87	0.33	24	9.12	
CF 13.25"	10	13.25	0.87	0.39	30	12.06	
CF 14	12	14.00	0.87	0.03	30	12.81	
CF 16	16	-	-	-	-	-	Customer Order Made

* 주문제작 사양으로 사전에 문의 바랍니다.

THROTTLE VALVE (COMBINATION TYPE)

Design / Outline Drawing(mm)



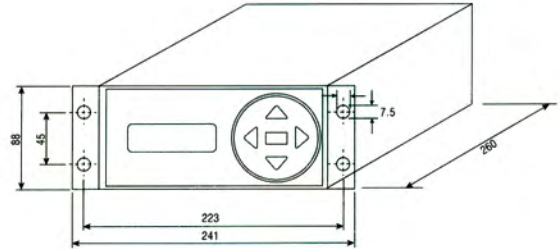
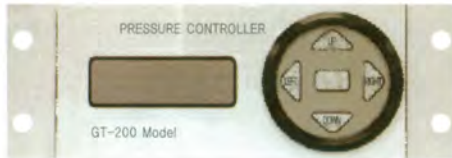
Technical Specification COMBINATION TYPE

SIZE	A (Inch)	B (Inch)	C (Inch)	D (Inch)	No of Hole (ea)	E (Inch)	Remarks
ISO NW40	1.5	2.16	0.87	-	-	-	Round
ISO NW50	2.0	2.95	0.87	-	-	-	Round
ISO NW63	2.5	5.12	0.87	0.35	4	4.33	Round
ISO NW80	3.0	5.71	0.87	0.35	8	4.92	Round
ISO NW100	4.0	6.50	0.87	0.35	8	5.71	Round & Combination
ISO NW160	6.0	8.86	0.87	0.43	8	7.87	Combination
ISO NW200	8.0	11.22	0.87	0.43	12	10.24	Combination
ANSI ASA2	2.5	6	0.87	0.75	4	4.75	Round
ANSI ASA3	3	7.5	0.87	0.75	4	6.00	Round
ANSI ASA4	4	9	0.87	0.75	8	7.50	Round & Combination
ANSI ASA5	5	9	0.87	0.75	8	7.50	Combination
ANSI ASA6	6	11	0.87	0.75	8	9.50	Combination
ANSI ASA8	8	11	0.87	0.75	8	9.50	Combination
JIS 50	2	4.72	0.87	0.39	4	3.94	Round
JIS 100	4	7.28	0.87	0.47	8	6.30	Round & Combination
JIS 150	6	9.25	0.87	0.47	8	8.27	Combination
JIS 150	8	11.81	0.87	0.59	8	10.63	Combination
CF 2-3/4"	1.5	2.73	0.87	0.26	6	2.31	Round
CF 2-3/8"	2	3.37	0.87	0.33	8	2.85	Round
CF 4-1/2"	2.5	4.47	0.87	0.33	8	3.63	Round
CF 4-5/8"	3	4.62	0.87	0.33	10	4.03	Round
CF 6"	4	5.97	0.87	0.33	16	5.13	Round & Combination
CF 6-3/4"	5	6.75	0.87	0.33	18	5.97	Combination
CF 8"	6	7.97	0.87	0.33	20	7.13	Combination
CF 10"	8	9.97	0.87	0.33	24	9.13	Combination

* 주문제작 사양으로 사전에 문의 바랍니다.

THROTTLE VALVE CONTROLLER

Design / Outline Drawing(mm)



Technical Specification CONTROLLER

Description	Model GT-200
Speed-Open to Close	Less than 2sec
Resolution	1/10,000
Pressure Input Signal	0-10VDC, 0-5V Selectable
Input Power Requirement	100-110V, 180-220V, 50/60Hz
Set Point Position(Channel)	6 Total Position adjustable from front Pannel, RS-232C
Controller Repeatability	±0.1% of Full Scale
Ambient Operating Temperature	15°C~45°C
Output Volage	Standard±15VDC @ 0.5Amp Max
Valve Operated	All Throttle Valve
Zeroing	Local / Remote transducer
Valve Position	Standard
Self-Tuning Control	Standard
PID Control	Standard
Size	Standard 1/2 Rack Packing, 88*241*260
Display	20 Character by 4- Line LCD(Backlight)
Display Vacuum	mTorr, Torr, mBar, Pascal
Interface	Front Pannel, RS-232C,TTL
Controller Methode	Pressure
MFC Set Point Function	3 Point, 0-5V
Speed of Response Time	Less than 0.1Sec
Software Methode	PID Auto Tuning
Valve Heater Loclaion	Inside of Valve Body

It's customers and we will take a big step forward to becoming the first specialized company in the vacuum industry.

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