

Model No.	Actuation	Diameter	Model No.	Actuation	Diameter
HVB51	NC	8/12mm	HVB71	NC	12/15mm
HVB61	NC	8mm	HVB81	NC	12/15mm

Solenoid Vacuum Valves with High Flow Rate

•Easy Maintenance

Simple and Reliable Structure

•FKM Material for High Performance

•High Corrosion Resistance

Stainless Steel Material Used (SUS303)

•DC Coil

•High Holding Axial Force

Low Leakage

•Reverse Directional Vacuum Available

but not for HVB51-12F-5 and HVB71-15F-5.

Specifications

Model No.	HVB51-12F-3	HVB51-12F-5	HVB61-12F-3	HVB71-15F-3	HVB71-15F-5	HVB81-15F-3	HVB81-15F-5
Media	Vacuum and Inert Gases						
Pressure Range Pa (abs) {Torr·kgf/cm ² }	1.3 × 10 ⁻⁶ - 2 × 10 ⁵ { 10 ⁻⁸ -1 }	1.3 × 10 ⁻⁶ - 1 × 10 ⁵ { 10 ⁻⁸ -760Torr }	1.3 × 10 ⁻⁶ - 3 × 10 ⁵ { 10 ⁻⁸ -2 }	1.3 × 10 ⁻⁶ - 1.5 × 10 ⁵ { 10 ⁻⁸ -0.5 }	1.3 × 10 ⁻⁶ - 1 × 10 ⁵ { 10 ⁻⁸ -760Torr }	1.3 × 10 ⁻⁶ - 3 × 10 ⁵ { 10 ⁻⁸ -2 }	1.3 × 10 ⁻⁶ - 1 × 10 ⁵ { 10 ⁻⁸ -760Torr }
Differential Pressure MPa	0.2 { 2 }	0.1 { 1 }	0.3 { 3 }	0.15 { 1.5 }	0.1 { 1 }	0.3 { 3 }	0.1 { 1 }
Valve Seat Leakage Pa·m ³ / s He{Torrℓ / sHe}	1.0 × 10 ⁻⁹ { 7.5 × 10 ⁻⁹ }						
External Leakage Pa·m ³ / s He{Torrℓ / sHe}	1.3 × 10 ⁻⁹ { 1.0 × 10 ⁻⁸ }						
Proof Pressure MPa	0.5 { 5.0 }						
Back Pressure* MPa	0.1 { 1 }	0.02 { 0.2 }	0.1 { 1 }	0.1 { 1 }	0.02 { 0.2 }	0.1 { 1 }	0.1 { 1 }
Media Temperature °C	5 - 55						
Ambient Temperature °C	0 - 55						
Diameter mm	8	12	8	12	15	12	15
Cv Value	1.8 Axial 2.1 Radial	2.7 Axial 3.2 Radial	1.8 Axial 2.1 Radial	3.2 Axial 3.6 Radial	4.3 Axial 4.7 Radial	3.2 Axial 3.6 Radial	4.3Axial 4.7 Radial
Frequency Cycles/min	10						
Flange Size	48mm Diameter			52mm Diameter			
Position of Installation	Vertical Coil Installation						
Mass kg	1.15			1.9			
Electrical Specifications							
Rated Voltage	100 and 200 VAC (50 / 60Hz), 24 VDC						
Voltage Fluctuation	Rated Voltage: ±10%						
Power Consumption W	14.3		28		19		32.5
Insulation Class JIS C4003	B		H		B		H
Temperature Rise K	80		130		90		130

*Note : The maximum pressure applied to Port A, when atmospheric pressure at Port B.
(Reverse vacuum not available for HVB51-12F-5, HVB71-15F-5)



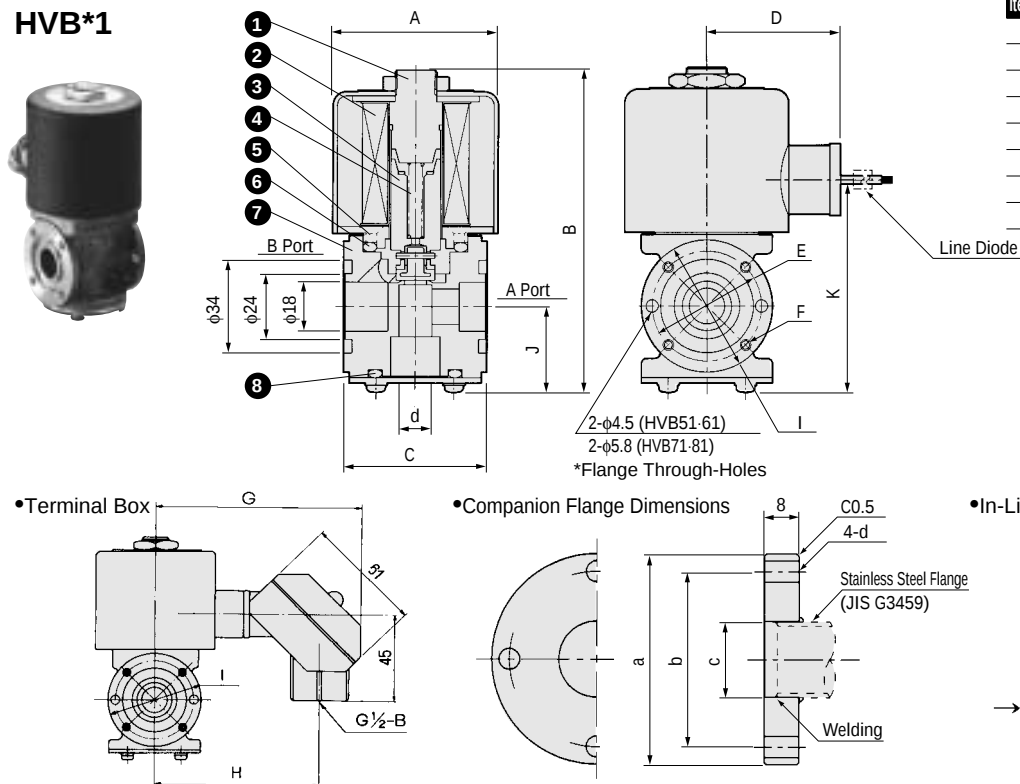
⚠ Use with Caution!

Read "Precautions" in the introduction 4 - 7 before selection and starting use.

- 1 Media
- 2 Follow flow path direction!
- 3 The solenoid valve coil heats up when energized and may reach high temperature.
- 4 Caution! Electric shock may occur upon contact with exposed electric wires in the solenoid valve.

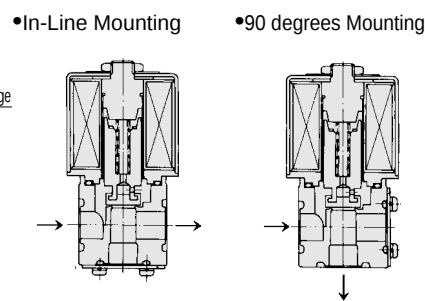
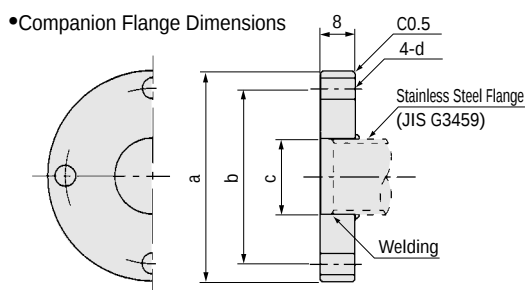
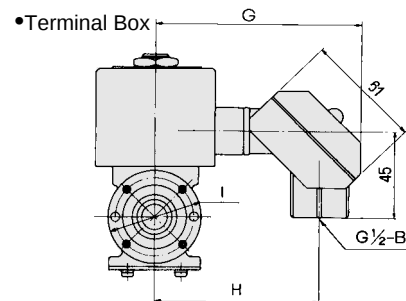
Dimensions

HVB*1



Parts List

Item No.	Description	Material
1	Core A	SUS405
2	Coil	
3	Plunger Assembly	SUS405, FKM
4	Spring	SUS304
5	Core B	SCS13
6	O-Ring	FKM
7	Body	SUS304
8	O-Ring	FKM

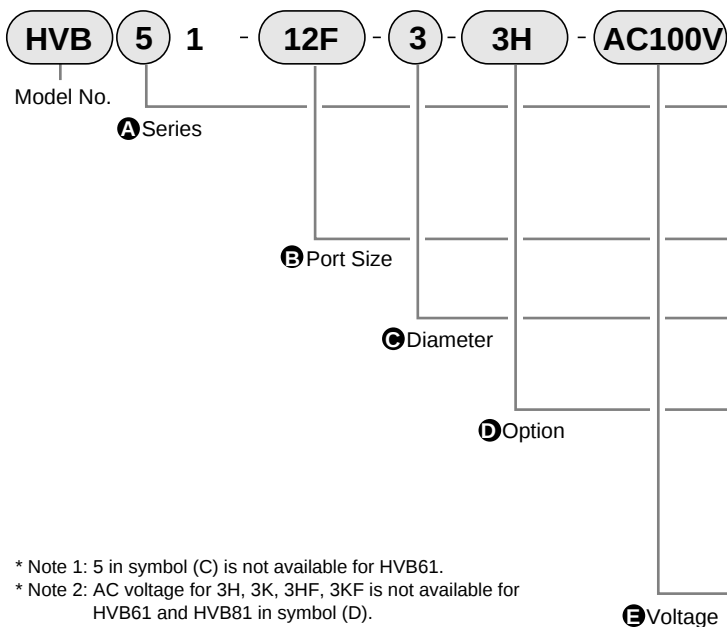


*Note: Line diode is available for HVB61 and HVB81. The terminal box is not available for this series.

Model No.	Actuation	A	B	C	D	E	F	G	H	I	d	J	K	a	b	c	d	Mounting Bolt	O-Ring
HVB51-12F-3	NC	60	118	52	49	40	4-M4	105	84	48	8	32	77	48	40 ±0.2	17.3 ^{+0.5} ₀	4.8	M4-14	JIS B2401 V-24
HVB51-12F-5	NC	60	118	52	49	40	4-M4	105	84	48	12	32							
HVB61-12F-3	NC	60	118	52	49	40	4-M4	105	84	48	8	32	100	52	42.4±0.2	21.7 ^{+0.5} ₀	5.8	M5-14	JIS B2401 V-24
HVB71-15F-3	NC	70	139	55	54	42.4	4-M5	110	89	52	12	33							
HVB71-15F-5	NC	70	139	55	54	42.4	4-M5	110	89	52	15	33							
HVB81-15F-3	NC	70	139	55	54	42.4	4-M5	110	89	52	12	33							
HVB81-15F-5	NC	70	139	55	54	42.4	4-M5	110	89	52	15	33							

How to order

When ordering companion flange, mounting bolt and O-Ring are included



Description		
A Series	5	Small
	6	↑
	7	↓
	8	Large
B Port Size	12F	48mm Flange : available only for HVB51 and HVB61
	15F	52mm Flange : available only for HVB71 and HVB81
C Diameter	3	8mm for HVB51 and HVB61 12 mm for HVB71 and HVB81
	5	12 mm for HVB51 and HVB61 15 mm for HVB71 and HVB81 (See Note 1)
D Option	None	None
	3H	G1/2 Square Terminal Box with Indicator Light (See Note 2)
	3K	G1/2 Square Terminal Box (See Note 2)
	F	Companion Flange
	3HF	G1/2 Square Terminal Box with Indicator Light + Companion Flange(See Note 2)
E Voltage	3KF	G1/2 Square Terminal Box + Companion Flange(See Note 2)
	AC100V	100 VAC 50/60Hz, 110 VAC 60Hz
	AC200V	200 VAC 50/60Hz, 220 VAC 60Hz
	DC 24V	24 VDC

* Note 1: 5 in symbol (C) is not available for HVB61.

* Note 2: AC voltage for 3H, 3K, 3HF, 3KF is not available for HVB61 and HVB81 in symbol (D).

* Note 3: Old style HV-12-2F is equivalent to HVB51-12F-5.

* Note 4: Old style HV-15-2F is equivalent to HVB71-15F-5.