

Pressure Controls Pressure Sensors Solenoid Valves Electronic Expansion Valves

Type **CCB,CKB**

Type **HSK**

Type **HPV**

Type **UKV-J,JKV**

High Volume OEM Item

- Recently, due to global warming more environmentally friendly systems using natural refrigerants are in demand.
- SAGINOMIYA has solidified their position as a major supplier of parts for CO₂ heat pump hot water systems, such as pressure controls, pressure sensors, solenoid valves, and electronic expansion valves.
- SAGINOMIYA offers CO₂ compatible components with their extensive lineup based on their high reliability products.



SAGINOMIYA CO₂ Technology

SAGInoMIYA

PRESSURE CONTROLS

Type **CKB**

High Volume OEM Item

FEATURES

- Suitable for Freezing and Refrigerating systems using ultra-high pressure CO2 refrigerant.
- Support a wide pressure setting range regardless of transcritical or subcritical region.
- High accuracy and high durability
- Narrow On-Off differential pressure enables quick unit recovery.
- Automatic reset and manual reset (2 types) are available.

COMMON SPECIFICATIONS

- Fluid Temperature: -40 to 302°F
- Ambient Temperature: -40 to 158°F
- Protection structure: IP65
- *When installing the DIN socket
- Applicable standard: CE, UL/cUL
- RoHS2 compliant

SPECIFICATIONS

Catalog No. *1	Contact Functions	Reset type	Range (psi[MPa])			Max. working pressure (psi[MPa])	Connection	Wt. (lb[kg])			
			OFF	ON	On-Off Differential pressure						
CKB-2UCLA1901	SPDT	PSH (Auto reset)	1740[12.0]	1595[11.0]	145[1.0]	2074[14.3]	1/4" Female flare Style L	0.40[0.18]			
CKB-2UCLA1902			1566[10.8]	1421[9.8]							
CKB-2UCLA1903			783[5.4]	638[4.4]							
CKB-2UCLM2901		PZH (Manual reset)	1740[12.0]	Manual reset *2	-						
CKB-2UCLM2902			1566[10.8]								
CKB-2UCLM2903			783[5.4]								
CKB-2UCLN3901		PZHH (Manual reset)	1740[12.0]	Manual reset *2	-						
CKB-2UCLN3902			1566[10.8]								
CKB-2UCLN3903			783[5.4]								
CKB-2UCBA4901		SPDT	PSH (Auto reset)	1740[12.0]	1595[11.0]		145[1.0]		2074[14.3]	1/4" Female flare Style B	0.46[0.21]
CKB-2UCBA4902				1566[10.8]	1421[9.8]						
CKB-2UCBA4903				783[5.4]	638[4.4]						
CKB-2UCBM5901			PZH (Manual reset)	1740[12.0]	Manual reset *2		-				
CKB-2UCBM5902				1566[10.8]							
CKB-2UCBM5903				783[5.4]							
CKB-2UCBN6901		PZHH (Manual reset)	1740[12.0]	Manual reset *2	-						
CKB-2UCBN6902			1566[10.8]								
CKB-2UCBN6903			783[5.4]								

*1 Please contact us if you would like a setting value other than the above. [Pressure Adjustment range : 580psi[4MPa] to 1885psi[13MPa] (Fixed set value)]
 *2 Off setting value is 580psi[4.0MPa] or more and 1015psi[7.0MPa] or less : Press the reset button after pressure decreases by approx. 189psi[1.3MPa] or more.
 Off setting value is greater than 1015psi[7.0MPa] and 1885psi[13MPa] or less : Press the reset button after pressure decreases by approx. 363psi[2.5MPa] or more.

ELECTRICAL RATINGS

Rated Voltage (V)		Power Factor (cosφ)	AC
Rated Current (A)			0.75
Inductive Current	Full Load	-	
	Inrush Current		MAX 36

CONTACT FUNCTIONS

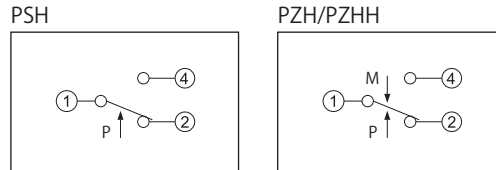
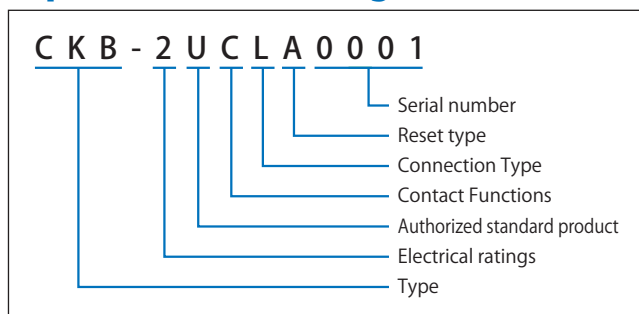


Diagram 1

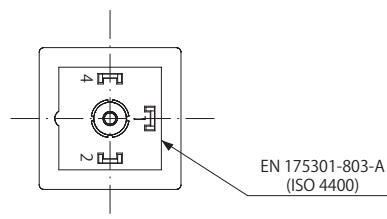
Diagram 2

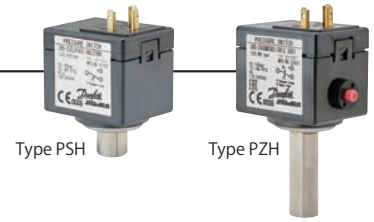
↑ P: Operating direction on press. increase at high press. side
 ↓ M: Operating direction on manual reset

Explanation for Catalog No.



WIRINGS

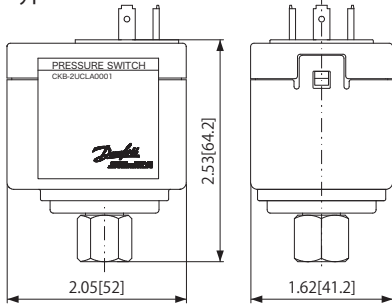




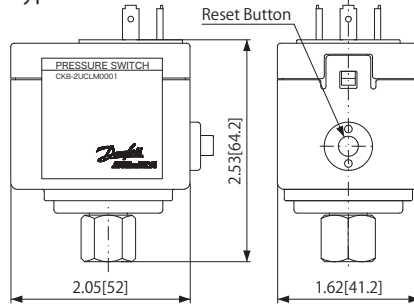
DIMENSIONS

Connection style L

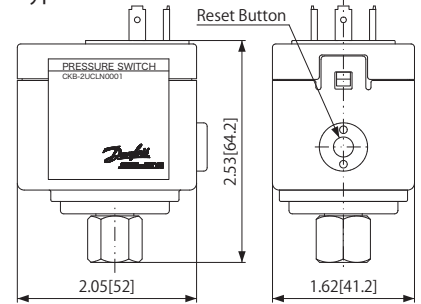
Type PSH



Type PZH

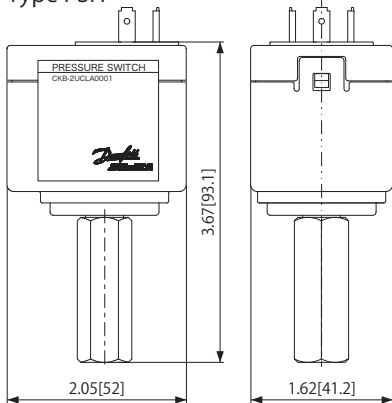


Type PZHH

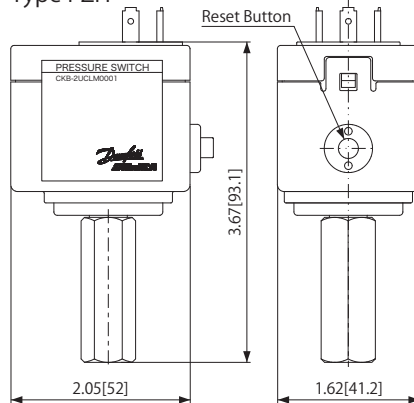


Connection style B

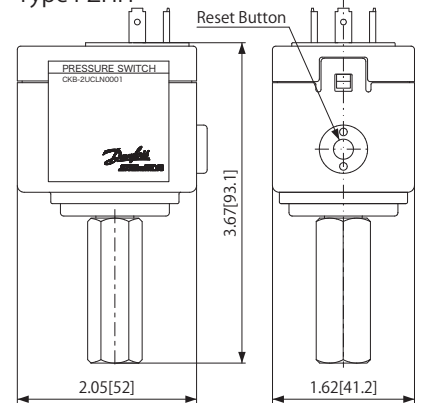
Type PSH



Type PZH

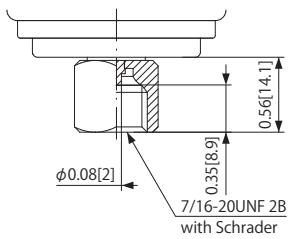


Type PZHH

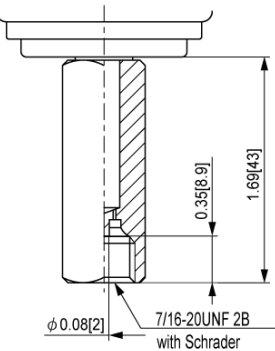


Pressure Connection (Details)

Connection style L



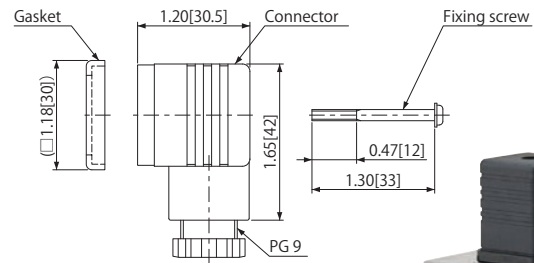
Connection style B



OPTIONAL PARTS (DIN socket for DIN plug)

Type: CKB-P09L000

*Please specify necessity of the parts when ordering.



Unit: Inch[mm]

PRESSURE CONTROLS



Type **CCB**

High Volume OEM Item

FEATURES

- Available for extreme high pressure
- Wide range for pressure setting
- Compact design and light weight

COMMON SPECIFICATIONS

- Applicable standard: UL

SPECIFICATIONS

Unit: psi[MPa]

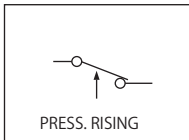
Catalog No.	Setting		Max. Pressure	Contact Function	Pressure Connection	Terminal Construction	Application	Wt. (lb[kg])
	on	off						
CCB-****	1450 [10]	2175 [15]	2175 [15]	SPST (High Cut)	1/4" Solder	Open	High Pressure Cut Out	0.15[0.07]

- Allowable fluid temperature: -22 to 212°F [-30 to 100°C]
- Water proof model: available upon request

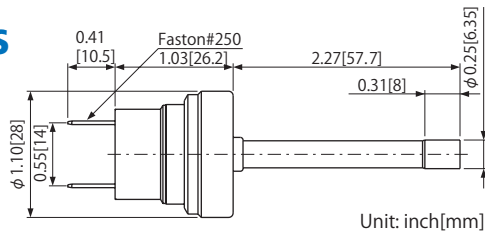
ELECTRICAL RATINGS

Category of Ratings			T Rating		M Rating	
Rated Voltage (V)	Rated Amps. (A)	Power Factor (cos φ)	24V. DC	12V. DC	125V. AC	250V. AC
			Non-Inductive Current	1	0.01 to 0.05	
Inductive Current	Full Load	0.75	-	-	1 to 6	1 to 4
	Inrush Current	-	-	-	1 to 24	1 to 16

CONTACT FUNCTION



DIMENSIONS



Unit: inch[mm]

PRESSURE SENSORS

Type **HSK**

High Volume OEM Item



FEATURES

- Available for extreme high pressure
- High reliability and accuracy
- Compact and light weight design

COMMON SPECIFICATIONS

- Pressure connection: 1/4" solder
- Applicable standard: CE

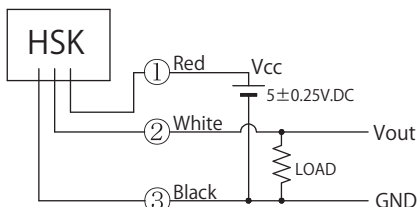
SPECIFICATIONS

Unit: psi[MPa]

Catalog No.	Pressure Range	Supply Voltage	Output	Accuracy	Current Consumption	Load Resistance	Airtight Pressure	Connector	Wt. (lb[kg])
HSK-BC150D-***	0 to 2175[0 to 15]	5±0.25V.DC	0.5 to 4.5V.DC	±2.5% F.S.	Max. 10mA	Min. 10kΩ	2175 [15]	Molex Connector	0.15 [0.07]
HSK-BC100D-***	0 to 1450[0 to 10]								
HSK-BC060D-***	0 to 870[0 to 6]								
HSK-BE150D-***	0 to 2175[0 to 15]	5±0.25V.DC	0.5 to 4.5V.DC	±2.5% F.S.	Max. 10mA	Min. 10kΩ	2175 [15]	Aptiv (Packard) Connector	0.15 [0.07]
HSK-BE100D-***	0 to 1450[0 to 10]								
HSK-BE060D-***	0 to 870[0 to 6]								

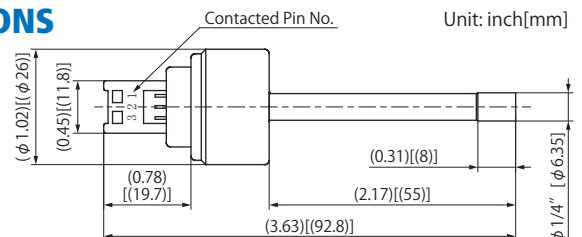
- Allowable fluid temperature: -22 to 248°F [-30 to 120°C]
- Ambient temperature: -22 to 212°F [-30 to 100°C]
- Protection structure: IP66

WIRING



DIMENSIONS

Type HSK-BC

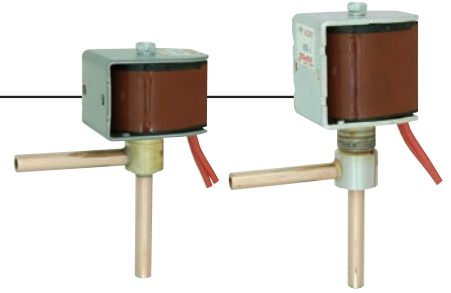


Unit: inch[mm]

SOLENOID VALVES

Type **HPV**

High Volume OEM Item



FEATURES

- Available for extreme high pressure
- Compact and light weight design
- High durability and reliability

SPECIFICATIONS

Unit: psi[MPa]

Catalog No.	Port Size (inch[mm])	Cv Value	Connection		O.P.D.		Max. Working Pressure	Operation	Wt. (lb[kg])
			Copper Tube O.D.	Style	Min.	Max.			
HPV-102DQ1	0.04[1.0]	0.028	1/4"	Solder	0	1450 [10.0]	1885[13.0]	Normal close	0.11[0.05]
HPV-122D	0.05[1.2]	0.038			0		2001[13.8]		0.20[0.09]
HPV-402DQ3	0.16[4.0]	0.32	1/4"		0		2030[14.0]		0.20[0.09]
HPV-825DS	0.31[7.8]	0.54	5/16"	14.5[0.1]	2175[15.0]	0.29[0.13]			

- O.P.D.: Operating Pressure Differential (by air pressure)
- Allowable fluid temperature: -22 to 248°F [-30 to 120°C]
- Ambient temperature: -4 to 122°F [-20 to 50°C]

ELECTRICAL RATING OF SOLENOID COILS

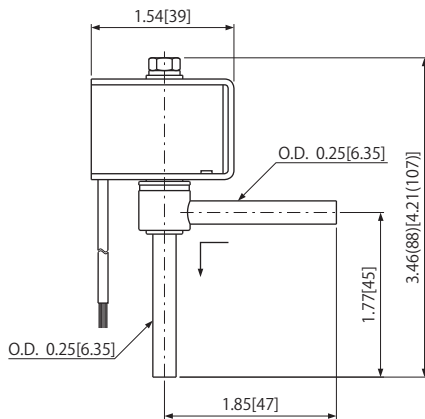
Valve Type	Rated Voltage		Tolerance (%)	Voltampere		Power Consumption (W)	Insulation Class	Protection Structure	Wt. (lb[kg])
				Running	Inrush				
HPV-102DQ1	100V. AC	50/60Hz	±10	11/8	32/27	6/4.5	Class B *1 Molded	IP56 *2	0.29[0.13]
HPV-122D	200V. AC			16/13	52/38	9/8		-	0.35[0.16]
HPV-402DQ3	200V. AC			10/8	32/26	5.5/4.5		IP56	0.35[0.16]
HPV-825DS				14/11	42/33	7/6		IP56	0.44[0.20]

*1 IEC compliance

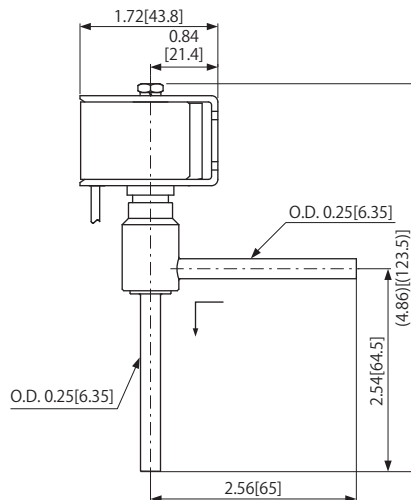
*2 However, limited to a molding coil type

DIMENSIONS

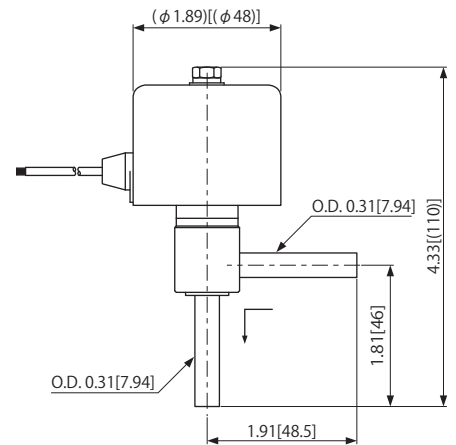
Type HPV-102DQ1 {HPV-122D}



Type HPV-402DQ3



Type HPV-825DS



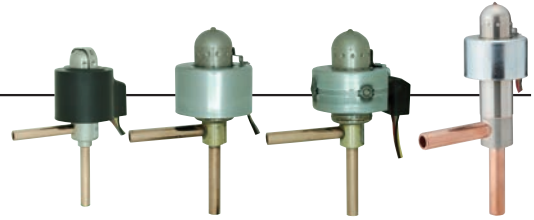
Please contact us if other connection are required.

Unit: inch[mm]

ELECTRONIC EXPANSION VALVES

Type **UKV-J,JKV**

High Volume OEM Item



FEATURES

- Available for extreme high pressure
- Compact and light weight design
- Contributing to energy saving

SPECIFICATIONS

Unit: psi[MPa]

Catalog No.	0 STEP FLOW	Port Size (ϕ inch [mm])	Cv Value	Capacity (U.S.R.T [kW])		Max. Working Pressure	Operating Pressure Differential	Connection (Solder) (inch[mm])		Wt. (lb[kg])	
				*1 R744(CO ₂)	*2 R744(CO ₂)			B side	A side		
UKV-J14D	OPEN TYPE	0.06[1.4]	0.067	3.5 [12.2]	4.6 [16.2]	2175 [15]	32 to 1450 [0 to 10]	ϕ 1/4[6.35] OD	ϕ 1/4[6.35] OD	0.11[0.05]	
	CLOSE TYPE			2.9 [10.3]	3.9 [13.6]						
JKV-20D	OPEN TYPE	0.08[2.0]	0.12	6.2 [21.9]	8.2 [29.0]			ϕ 5/16[7.94] OD	ϕ 5/16[7.94] OD		0.29[0.13]
	CLOSE TYPE										
JKV-24D	OPEN TYPE	0.09[2.4]	0.17	8.7 [30.7]	11.6 [40.7]			ϕ 1/2[12.7] OD	ϕ 1/2[12.7] OD		0.66[0.3]
	CLOSE TYPE										
JKV-40D	OPEN TYPE	0.16[4.0]	0.6	31.39 [110.4]	41.60 [146.3]						
	CLOSE TYPE										

*1 CT=23°F[-5°C], ET=-13°F[-25°C], SH=0 K, SC=0 K

*2 Gas cooler inlet temp.=248°F [70°C], Gas cooler outlet temp.=71.6°F [22°C], ET=42.8°F [6°C], SH=0 K

- Allowable fluid temperature: -22 to 248°F [-30 to 70°C]
- Ambient temperature: -22 to 248°F [-30 to 70°C]

SPECIFICATIONS OF COIL

Valve Type	Excitation method	Rated Voltage & Current	Insulation Class	Wt. *2 (lb[kg])
Type UKV-J	1-2 Phase excitation	12V. DC ... 260mA/Phase	Class E *1 Molded	0.26[0.12]
Type JKV-20D		24V. DC ... 130mA/Phase		0.37[0.17]
Type JKV-24D				
Type JKV-40D		12V. DC ... 380mA/Phase		0.40[0.18]

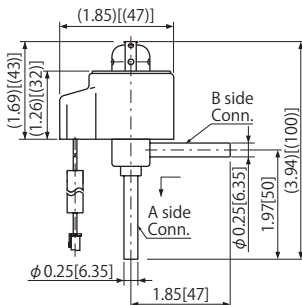
*1 Conform to IEC60085, 60335-2-40

*2 For lead wire length 1000mm

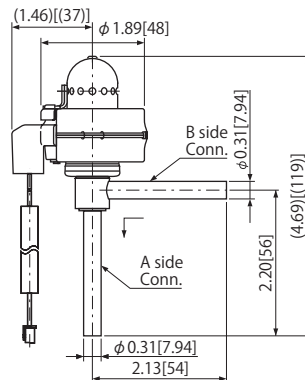
- Protection structure: IP66 (UKV-J), IP56 (JKV)

DIMENSIONS

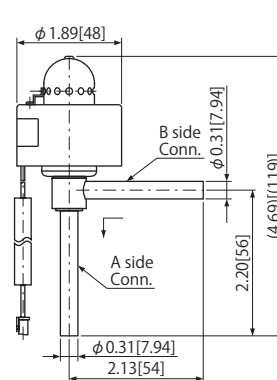
Type UKV-J



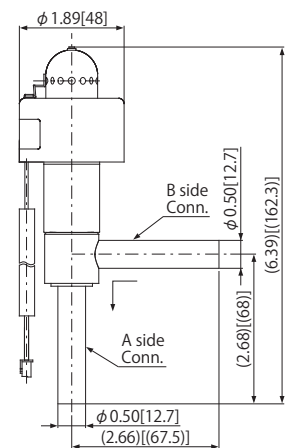
Type JKV-20D



Type JKV-24D



Type JKV-40D



Unit: inch[mm]



NOTES FOR SAFETY

Failure to read and follow all instruction carefully before installing or operating the product could cause personal injury and/or property damage.

Specifications are subject to change without notice.