

Saginomiya CO₂ Technology

- In recent years, demand for environmentally friendly systems using clean natural refrigerant has been increasing.
- Saginomiya has been supplying various products for CO₂ refrigerant such as Pressure Controls, Pressure Sensor, Solenoid Valve, Electronic Expansion Valve etc. to customers, with trusted sales experience.



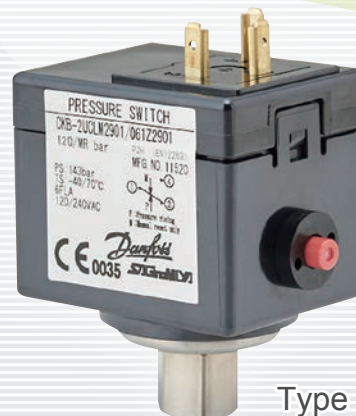
Type CCB



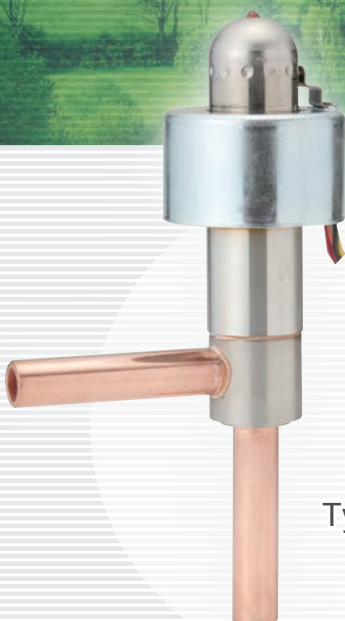
Type HSK



Type HPV



Type CKB



Type JKV

CO₂ Technology

● PRESSURE CONTROLS

Type CKB

FEATURES

- Suitable for Freezing and Refrigerating systems using ultra-high pressure CO₂ refrigerant.
- Support a wide setting pressure range regardless of transcritical or subcritical region.
- High accuracy and high durability
- 1.0MPa On-Off differential pressure enables quick unit recovery.
- Automatic reset and manual reset (2 types) are available.

COMMON SPECIFICATIONS

- Fluid Temperature: -40 to 150°C
- Ambient Temperature: -40 to 70°C
- Protection structure: IP65 *When installing the DIN socket
- Applicable standard: CE, UL/cUL
- RoHS2 compliant



Type PSH

Type PZH

Type PZHH

SPECIFICATIONS

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

* 1 Please contact us if you would like a setting value other than the above. [Pressure Adjustment range : 4 to 13MPa (Fixed set value)]

* 2 Off setting value is 4.0MPa or more and 7.0MPa or less : Press the reset button after pressure decreases by approx. 1.3MPa or more.

Off setting value is greater than 7.0MPa and 13MPa or less : Press the reset button after pressure decreases by approx. 2.5MPa or more.

ELECTRICAL RATINGS

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

CONTACT FUNCTIONS

PSH

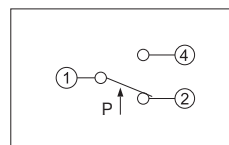


Diagram 1

PZH/PZHH

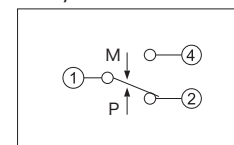


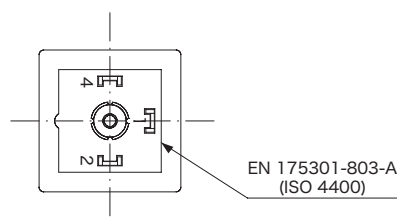
Diagram 2

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

Explanation for Catalog No.

CKB-2UCLA0001	
Serial number	0001
Reset type	A
Connection Type	U
Contact Functions	C
Authorized standard product	2
Electrical ratings	K
Type	B

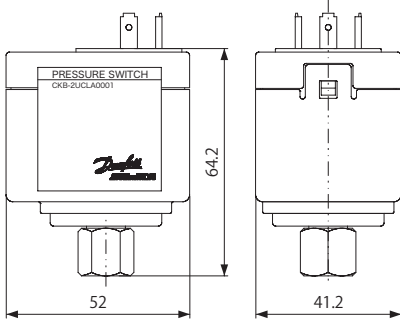
WIRINGS



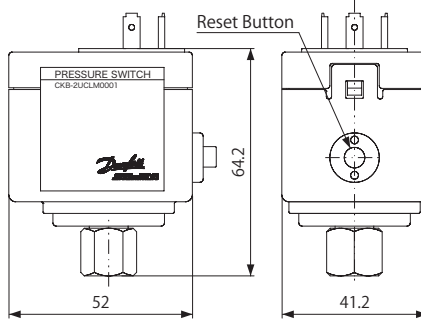
DIMENSIONS

Connection style L

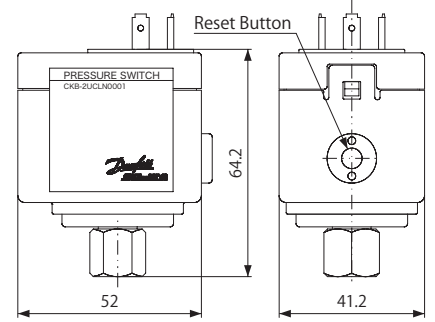
Type PSH



Type PZH

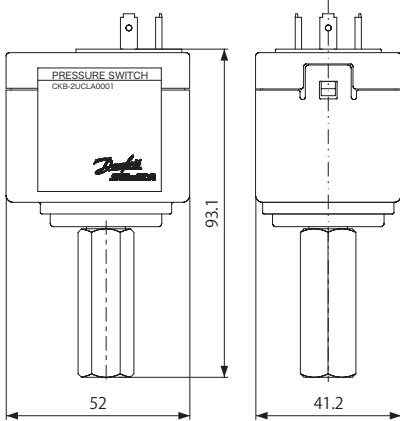


Type PZHH

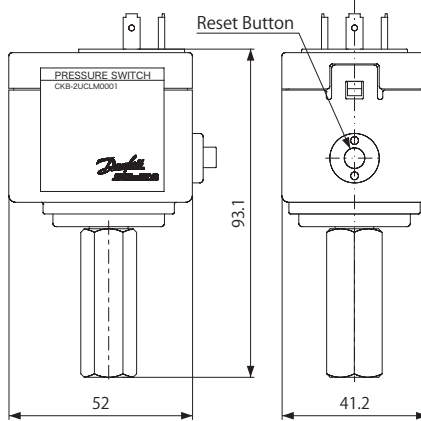


Connection style B

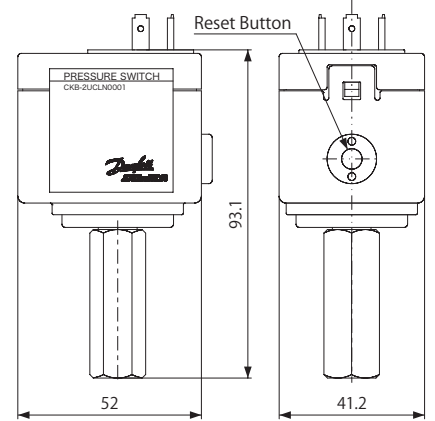
Type PSH



Type PZH

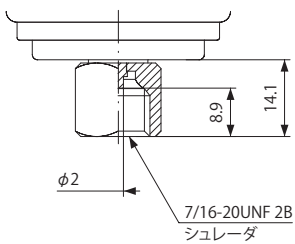


Type PZHH

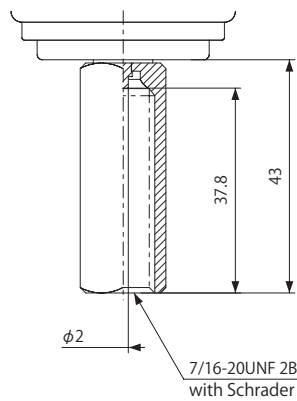


Pressure Connection (Details)

Connection style L



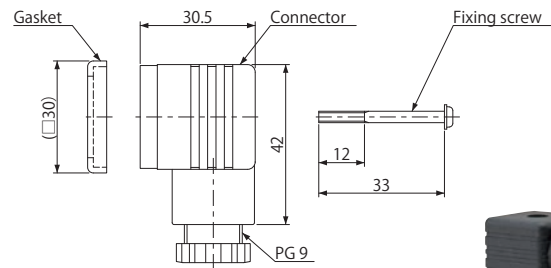
Connection style B



OPTIONAL PARTS (DIN socket for DIN plug)

Type:CKB-P09L000

*Please specify necessity of the parts when ordering.



Unit: mm

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PRESSURE CONTROLS

Type CCB

OEM



FEATURES

- High Reliability
- Various setting pressure is possible
- Solder connection type with high sealing capability

COMMON SPECIFICATIONS

- Allowable fluid temperature: -30 to 120°C
- Ambient temperature : -30 to 100°C
- Applicable standard : UL/cUL

SPECIFICATIONS

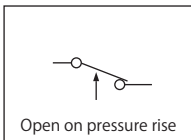
Catalog No.	Setting (MPa)		Max. Pressure (MPa)	Contact Function	Pressure Connection	Protection structure	Wt. (kg)
	OFF	ON					
CCB-****	15	10	16.5	SPST (Open on pressure rise)	1/4" Solder	Open type	0.07

• Drip proof type (IP66) and other setting pressure than above are available. Please contact us for details.

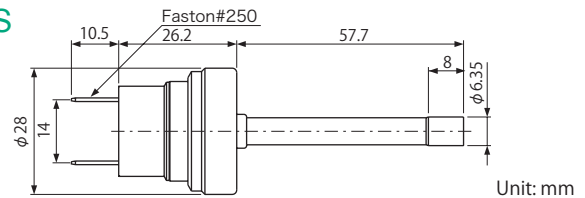
ELECTRICAL RATINGS

Category of Ratings			T Rating		L Rating				M Rating	
Rated Amps. (A)	Rated Voltage (V)	Power Factor (cos φ)	12V.DC	24V.DC	12V.DC	24V.DC	125V.AC	250V.AC	125V.AC	250V.AC
	Non-Inductive Current		1	0.01 to 0.05		0.05 to 1		0.05 to 2	0.05 to 1	1 to 6
Inductive Current	Full Load	0.75	-		-		0.05 to 2	0.05 to 1	1 to 6	1 to 4
	Inrush Current	-					0.05 to 8	0.05 to 4	1 to 24	1 to 16

CONTACT FUNCTION



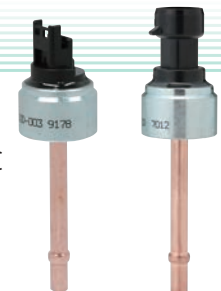
DIMENSIONS



PRESSURE SENSORS

Type HSK

OEM



FEATURES

- High Reliability, High Accuracy
- Wide pressure range (High, Medium, Low pressure)
- Compact and light weight design

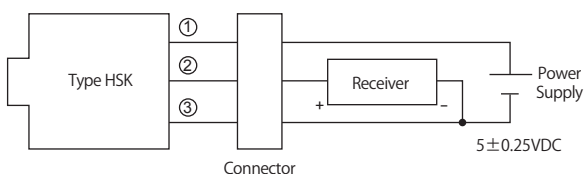
COMMON SPECIFICATIONS

- Allowable fluid temperature: -30 to 120°C
- Ambient temperature : -30 to 100°C
- Pressure connection : ① φ6mm solder
② 1/4" solder
- Applicable standard : CE

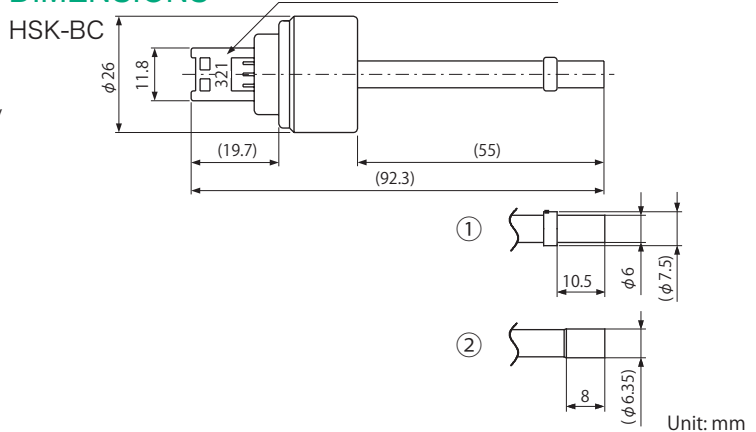
SPECIFICATIONS

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

WIRING



DIMENSIONS



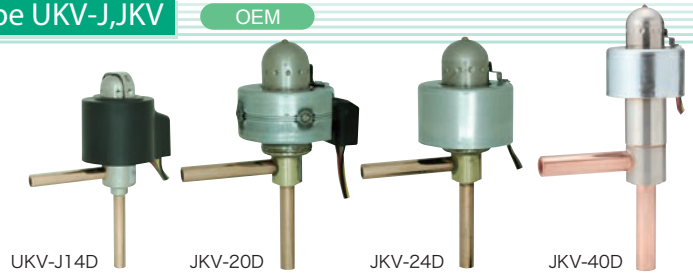
MOTOR OPERATED VALVE

Type UKV-J, JKV

OEM

FEATURES

- Max. Operating Pressure Differential 10MPa
- Compact and light weight design
- Contributing to energy saving
- Applicable standard : UL (UKV-J)



SPECIFICATIONS

Catalog No.	Port Size (φmm)	Cv Value	Capacity (kW (U.S.R.T.))		Max. Working Pressure (MPa)	Operating Pressure Differential (MPa)	Connection (Solder) (mm)		Wt. (kg)
			R744 (CO ₂) * ¹	R744 (CO ₂) * ²			B side	A side	
UKV-J08D	0.8	0.015	2.7 {0.8}	3.6 {1.0}	15	0~10	φ6.35 OD	φ6.35 OD	0.05
UKV-J10D	1.0	0.025	4.6 {1.3}	6.1 {1.7}			φ7.94 OD	φ7.94 OD	
UKV-J14D	1.4	0.056	10.3 {2.9}	13.6 {3.9}			φ12.7 OD	φ12.7 OD	
JKV-20D	2.0	0.12	21.9 {6.2}	29.0 {8.2}					
JKV-24D	2.4	0.17	30.7 {8.7}	40.7 {11.6}					
JKV-40D	4.0	0.49	90.1 {25.6}	119.5 {34.0}					

*1 CT=-5°C, ET=-25°C, SH=0°C, SC=0°C

*2 Gas cooler inlet temp.=70°C, Gas cooler outlet temp.=22°C, ET=6°C, SH=0°C

- Allowable fluid temperature: -30 to 70°C (Standard coil) Ambient temperature: -30 to 70°C (Standard coil) *Energization rate 50% or less
- 40 to 60°C (Coil for low temperature) -50 to 60°C (Coil for low temperature)

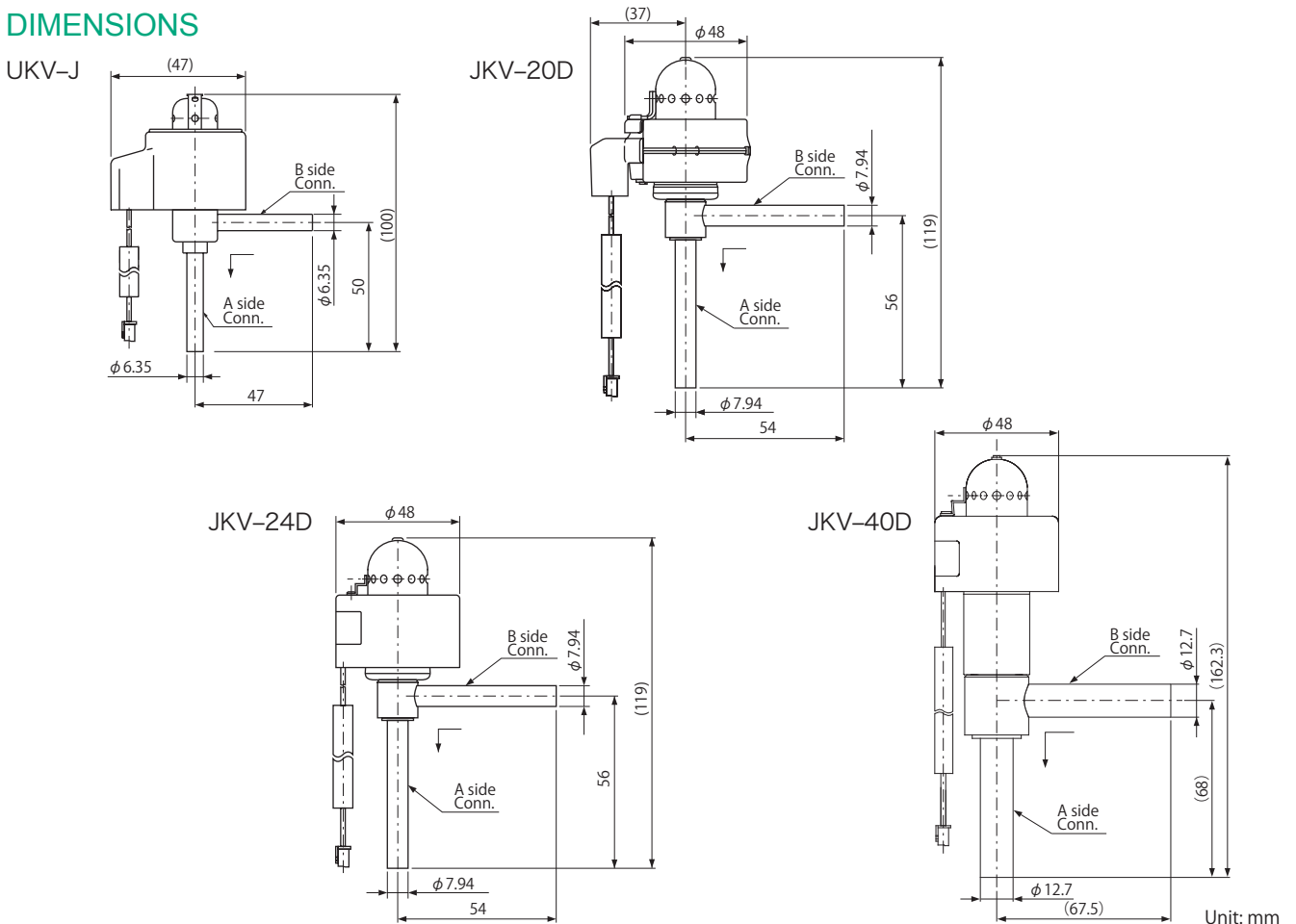
* Full open type is available. Please contact us for details.

SPECIFICATIONS OF COIL

Valve Type	Excitation method	Rated Voltage & Current	Insulation Class	Wt. (kg) * ²
Type UKV-J08D	1-2 Phase excitation	12V.DC ... 260mA/Phase	* ¹ Class E Molded	0.12
Type UKV-J10D		24V.DC ... 130mA/Phase		
Type UKV-J14D		12V.DC ... 380mA/Phase		
Type JKV-20D			0.17	
Type JKV-24D			0.18	

*¹ Conform to IEC60085, 60335-2-40 *² For lead wire length 1000mm

DIMENSIONS



CO₂ Technology

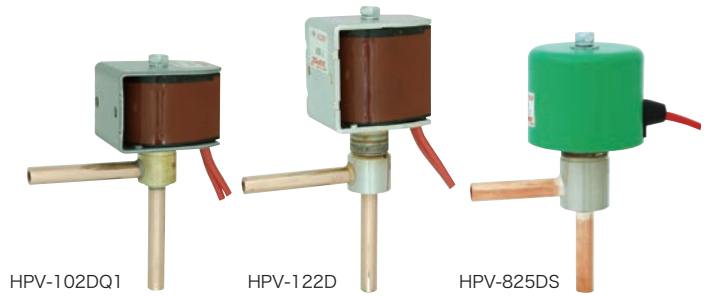
SOLENOID VALVES

Type HPV

OEM

FEATURES

- Max. Operating Pressure Differential 10MPa
- Compact and light weight design
- High durability



SPECIFICATIONS

Catalog No.	Port Size (mm)	Cv Value	Connection		O.P.D.(MPa)		Max. Working Pressure (MPa)	Wt. (kg)
			Copper Tube O.D.	Style	Min.	Max.		
HPV-102DQ1	1.0	0.028	1/4"	Solder	0	10.0	13.0	0.05
HPV-122D	1.2	0.038					13.8	
HPV-402DQ3	4.0	0.32					14.0	
HPV-825DS	7.8	0.54	5/16"		0.1		15.0	0.13

- Allowable fluid temperature: -30 to 120°C
- Ambient temperature: -20 to 50°C

ELECTRICAL RATING OF SOLENOID COILS

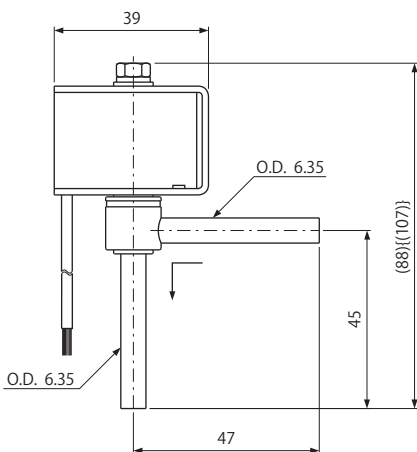
Valve Type	Rated Voltage		Tolerance (Voltage) (%)	Volt-ampere (VA)		Power Consumption (W)	Insulation Class	Wt. *2 (kg)
				Running	Inrush			
Type HPV - 102DQ1	100V.AC 200V.AC	50/60Hz	±10	11/8	32/27	6/4.5	Class B Molded *1	0.13
Type HPV - 122D				16/13	52/38	9/8		0.16
Type HPV - 402DQ3	200V.AC	10/8		32/26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

*1 Conform to IEC60085, 60335-2-40. *1 Some models are Class E coil. Please contact us for details.

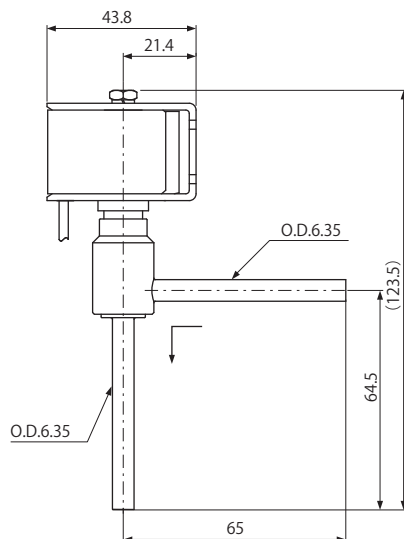
*2 HPV-102D, 122D, 402D for lead wire length 300mm
HPV-825D for lead wire length 280mm

DIMENSIONS

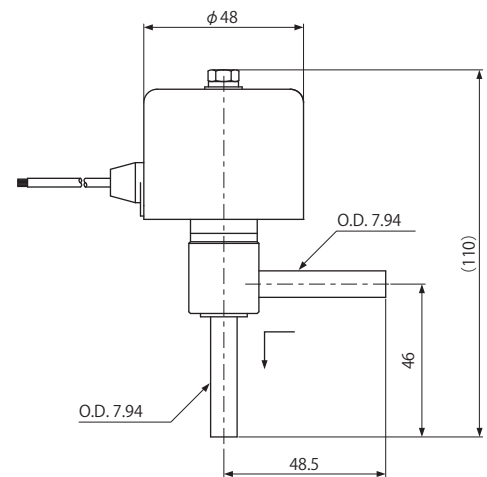
HPV-102DQ1 {HPV-122D}



HPV-402DQ3



HPV-825DS



Please contact us if other connection are required.

Unit: mm

ELECTRIC EXPANSION VALVE

Type HPV-E

OEM

FEATURES

- High Reliability
- High quietness
- No solenoid valve or backup power supply required



SPECIFICATIONS

Catalog No.	Orifice Size (mm)	Cv Value	Connection		O.P.D. (MPa)		Max. Working Pressure (MPa)	Wt. (kg)
			Copper Tube O.D.	Style	Min.	Max.		
HPV-E1120DQ1	0.5	0.01	1/4"	Solder	0	6.0	8.0	0.08
HPV-E1120DQ2	0.65	0.019						
HPV-E1120DQ3	0.8	0.03						
HPV-E1120DQ4	1.1	0.047						

▪ Allowable fluid temperature: -40 to 30°C ▪ Ambient temperature: -30 to 50°C
 *Straight connection type is also available. Please contact us for details.

ELECTRICAL RATING OF SOLENOID COILS

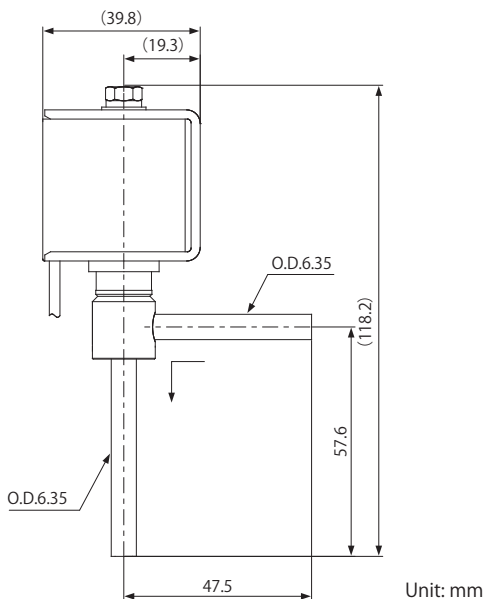
Valve Type	Rated Voltage		Tolerance (Voltage) (%)	Volt-ampere (VA)	Power Consumption (W)	Insulation Class	Wt. *2 (kg)
Type HPV-E1102D	100V.AC	50/60Hz	±10	37	12	Class B Molded *1	0.15
	200V.AC			58			

*1 Conform to IEC60085, 60335-2-40. *1 Some models are Class E coil. Please contact us for details.

*2 For lead wire length 600mm

DIMENSIONS

HPV-E1120DQ1 to 4



**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.

SAGINOMIYA
SEISAKUSHO,INC.

<Japan, Korea, Oceania>

E-mail : inter@saginomiya.co.jp

Tel : +81-3-6205-9120 Fax : +81-3-6205-9122

URL : <http://www.saginomiya-global.com/en/>

<Asia>

Saginomiya (Thailand) Co., Ltd. E-mail : info@saginomiya.co.th

Tel : +66-2260-8364 Fax : +66-2260-8366

<Europe, Middle East, Africa>

SAGINOMIYA EUROPE Sp. z o.o. E-mail : info@saginomiya.eu

Tel : +48-22-101-30-00 Fax : +48-22-101-30-01

<North America, Latin America>

SAGINOMIYA AMERICA, INC. E-mail : Sales@saginomiya-am.com

Tel : +1-614-766-7390 Fax : +1-614-766-7391

2023.12

