

ELECTRONIC EXPANSION VALVES

Type **UKV-S**

High Volume OEM Item



SAGInoMIYA

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Application : Wide range of air conditioning and refrigeration equipment

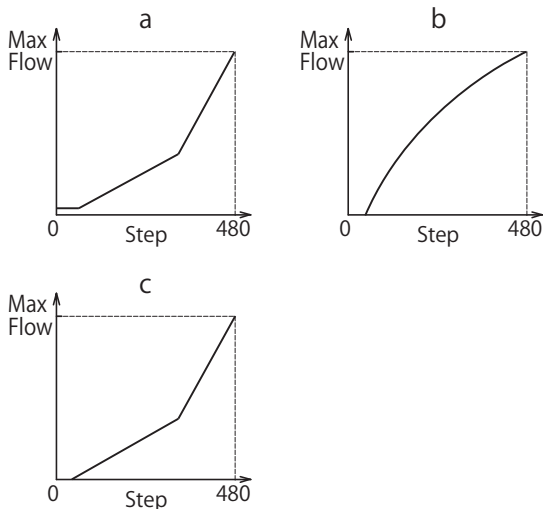
Refrigerant*: R134a, R404A, R407C, R410A, R32, R1234yf, R454B, R454C

*Other refrigerants may be available upon request.

- Bi-flow
- Low power consumption by stepper motor
- Compact & Lightweight
- High cool down capability
- Quick response
- UL Recognized

FLOW CHARACTERISTIC

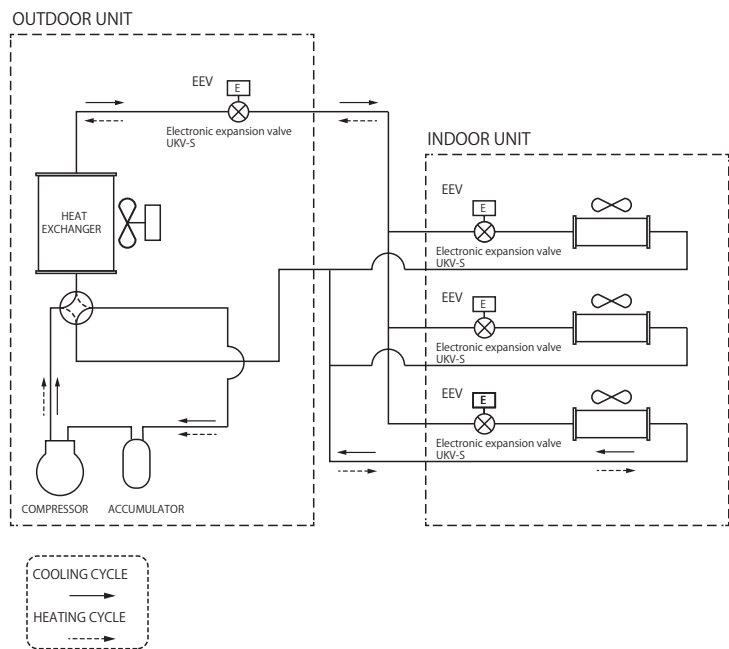
UKV have various flow characteristics, including high resolution at low load. In UKV that have an inflected flow characteristic as shown in (a) and (c), the flow per step has a slower rate for low flow and a faster rate for a higher flow. With these valves, a more precise control can be accomplished with a low load (low flow). Full closing UKV having a flow characteristic, such as (b) and (c) are available with inflected flow characteristic or continuous characteristic, with (c) having nearly the same change in flow rate per step.



	a	b	c
Flow Curve	Inflection	Linear	Inflection
Valve Full Close	None	Yes	Yes

APPLICATION EXAMPLE

Multi-split heat pump unit



SPECIFICATIONS

Max. working pressure: 609 psi [4.2 MPa]
 Ambient temperature: -22 to 140°F [-30 to 60°C]
 Fluid temperature: -22 to 158°F [-30 to 70°C]
 Ambient humidity: 95% RH or less

Motor and Drive Specifications

Modulation: Permanent magnet type direct operating stepper motor
 Excitation method: 1-2 phase
 Excitation speed: 31.3 pps
 Operating range: 0 to 480 steps

TYPE NUMBER SELECTION

Valve

Catalog No.	Port Size (ϕ inch [mm])	Capacity (U.S.R.T) {kW}				Connection (Solder) (ϕ inch[mm])		Operating Press. Differential B to A flow direction (psi[MPa])	Valve shut press. on A to B flow direction (psi[MPa])	Wt. (lb[kg])
		R134a	R404A	R407C	R410A	B side	A side			
UKV-S08DU	0.03[0.8]	0.3{1.2}	0.3{1.1}	0.4{1.6}	0.5{1.8}	ϕ 1/4[6.35] OD ϕ 5/16[7.94] OD		0 to 507[0 to 3.5]	507[3.5]	0.11 [0.05]
UKV-S10DU	0.04[1.0]	0.6{2.0}	0.5{1.8}	0.8{2.6}	0.9{3.0}					
UKV-S14DU	0.06[1.4]	1.3{4.5}	1.2{4.1}	1.7{5.9}	1.9{6.8}					
UKV-S18DU	0.07[1.8]	2.3{8.1}	2.1{7.3}	3.0{10.6}	3.4{12.1}					
UKV-S25DU	0.10[2.5]	4.4{15.3}	3.9{13.8}	5.7{20.1}	6.5{23.0}					
UKV-S30DU	0.12[3.0]	6.0{20.9}	5.4{18.9}	7.8{27.5}	9.0{31.5}					
UKV-S32DU	0.13[3.2]	6.4{22.5}	5.8{20.3}	8.4{29.6}	9.6{33.9}					
UKV-S40DU	0.16[4.0]	8.7{30.6}	7.8{27.6}	11.4{40.2}	13.1{46.0}					
UKV-SH40DU	0.16[4.0]	13.7{48.3}	12.4{43.6}	18.0{63.4}	20.6{72.6}					
UKV-SH45DU	0.18[4.5]	16.0{56.4}	14.4{50.8}	21.0{74.0}	24.1{84.8}					
UKV-SH50DU	0.20[5.0]	20.6{72.5}	18.6{65.4}	27.0{95.2}	30.9{109.0}	ϕ 3/8[9.52] OD ϕ 1/2[12.7] OD ϕ 0.504[12.8] ID	0 to 480[0 to 3.3]	507[3.5]	0.20 ^{*1} [0.09]	
UKV-SH53DU	0.21[5.3]	22.9{80.5}	20.6{72.6}	30.0{105.7}	34.4{121.1}					
UKV-SH61DU	0.24[6.1]	26.3{92.6}	23.7{83.5}	34.5{121.6}	39.5{139.2}					
										0 to 435[0 to 3.0]
							0 to 290[0 to 2.0]	333[2.3]		

* Capacity: Based on CT = 100°F, ET = 41°F, SC = 0 K and SH = 0 K

*Other capacity ranges may be available. Please contact sales.

*1 : At the connection : ϕ 1/2inch[ϕ 12.7mm] OD

Coil (UKV-S)

Rated Voltage	12V DC \pm 10%
Current	0.26A / Phase (at 68°F[20°C])
Insulation class	Class E Molded
Direct current resistance	46 \pm 3 Ω (at 68°F[20°C])
Enclosure	IP66
Max. coil temperature	239°F[115°C] or less by rated voltage, temperature - resistance method.
Wt.(lb[kg])	0.29[0.13]

Coil (UKV-SH)

Rated Voltage	12V DC \pm 10%
Current	0.375mA / Phase (at 68°F[20°C])
Insulation class	Class E Molded
Direct current resistance	32 \pm 3 Ω (at 68°F[20°C])
Enclosure	IP66
Max. coil temperature	239°F[115°C] or less by rated voltage, temperature - resistance method.
Wt.(lb[kg])	0.40[0.18]

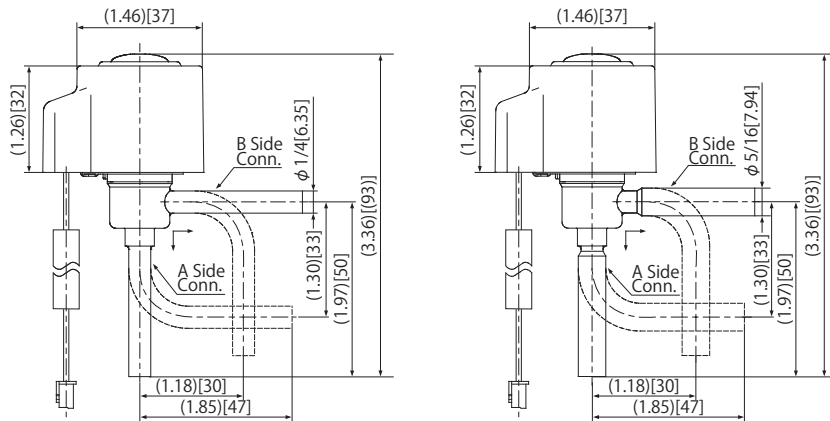
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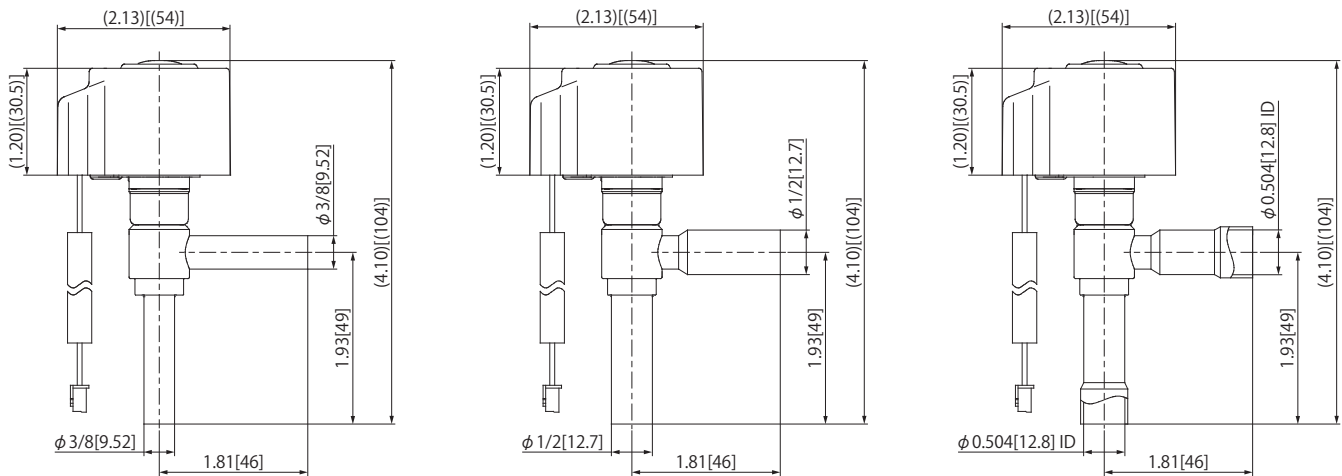
High Volume OEM Item

DIMENSIONS

UKV-S



UKV-SH



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.

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