

## RFKH SERIES

# Thermostatic Expansion Valve

RFKH series thermostatic expansion valves are used to adjust mass flow of refrigerant into the evaporator while controlling the refrigerant's superheat at the outlet of the evaporator. They can be used for various refrigerants under all working conditions. Typical applications are refrigeration systems like freezers, ice makers, dehumidifiers as well as air conditioners and heat pumps at various evaporation temperature ranges.

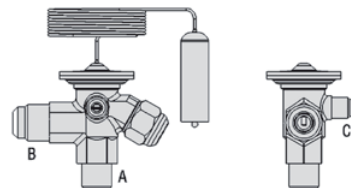


### FEATURES

- STAINLESS STEEL CAPILLARY AND SENSING BULB
- EXCHANGEABLE VALVE ORIFICE, EASY TO STOCK HOLDING, CONVENIENT FOR CAPACITY MATCH AND REPAIR
- THERMAL BULB UTILIZES CROSS CHARGE TECHNOLOGY, PROVIDING CONSISTENT SUPERHEAT DEGREE OVER THE WHOLE EVAPORATION TEMPERATURE RANGE
- VALVES WITH MOP FUNCTION CAN BE PROVIDED TO ASSURE RELIABLE COMPRESSOR OPERATION
- APPLICABLE IN LOW TEMPERATURE FREEZING AND REFRIGERATION
- PRODUCTS UNDER ULTRA-LOW TEMPERATURE  $-60^{\circ}\text{C}$  ~  $-25^{\circ}\text{C}$  ARE AVAILABLE

### GENERAL SPECIFICATIONS

- Applicable for all common HCFC and HFC refrigerants such R22, R407C, R134a, R404A, R507, R410A
- Ambient temperature min./max.:  $-35^{\circ}\text{C}$  /  $+55^{\circ}\text{C}$
- Max. operating pressure PS: 4,6 MPa (46 bar)
- Installation position:
  - Preferably valve head upwards
  - Flow direction from inlet A to outlet B
- Certifications: UL/CSA and PED declaration



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### TECHNICAL PARAMETERS

- RFKH series angle shape valve
- Inlet 3/8" flare connection
- Capillary tube length 1,5m
- Equalization port:
  - Metric: 6mm ODF (suitable for metric solder connection models)
  - Imperial: 1/4" ODF (suitable for imperial solder connection models)

### MODEL DESIGNATION LEGEND

Position Number	Model Designation Legend	
1	Product Code	Product Series
	RFKH	Thermostatic expansion valve: The valve orifice is exchangeable!
2	Refrigerant	Description
	01	R22
	02	R407C
	03	R404A / R507
	04	R134a
	05	R410A
	11	R452A
3	Pressure Equalization	Description
	E	External pressure equalization
	(Omitted)	Internal pressure equalization
4	Miscellaneous	Description
	xxxx	Digits for additional information

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**POWER HEAD PRINTING INSTRUCTIONS**

Code	Description
KH11E-4.5-323	Model
MOP 45/-10° C	Models with MOP Function
-40/-15° C	Evaporating temperature (Celsius)
-40/+5°F	Evaporating temperature (Fahrenheit)
R452A	Medium
MWP 4.6Mpa	MOP (Units: MPa)
MWP 665psig	MOP (Units: Psig)



**MODELS WITH MOP FUNCTION**

Refrigerants	-40°C to +10°C	-40°C to -5°C	-40°C to -15°C	-60°C to -25°C
	MOP = +15°C	MOP = 0°C	MOP = -10°C	MOP = -20°C
R404A/R507	8.6 bar (g) -STD	5.2 bar (g)-O.R..	3.4 bar (g) -STD	2.0 bar (g) -STD
R134a	3.8 bar (g) -STD	2.1 bar (g)-O.R.	1.0 bar (g) -O.R.	-

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**TECHNICAL PARAMETERS**

Table A : Models with Evaporating Temperature Range from -40°C to +10°C [ without MOP ]

Refrigerants	Connection Type	Inlet	Outlet ØB				Ext. ØC			Model Valve Body
	In/Out/Ext. Pressure Equal.	Flare	Flare	Solder		Flare	Solder			
		[inch]	[inch]	[mm]	[inch]	[inch]	[mm]	[inch]		
R22	Flare / Flare	3/8	1/2	-	-	-	-	-	RFKH 01-6.0-22	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH01E-6.0-13	
	Flare / Solder		-	12	-	-	-	-	RFKH01-6.0-26	
	Flare / Solder / Solder		-	12	-	-	6	-	RFKH01E-6.0-06	
	Flare / Solder		-	-	1/2	-	-	-	-	RFKH01-6.0-07
	Flare / Solder / Solder		-	-	1/2	-	-	-	1/4	RFKH01E-6.0-08
R407C	Flare / Flare	3/8	1/2	-	-	-	-	-	RFKH02-6.3-24	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH02E-6.3-20	
	Flare / Solder		-	12	-	-	-	-	RFKH02-6.3-27	
	Flare / Solder / Solder		-	12	-	-	6	-	RFKH02E-6.3-28	
	Flare / Solder		-	-	1/2	-	-	-	-	RFKH02-6.3-32
	Flare / Solder / Solder		-	-	1/2	-	-	-	1/4	RFKH02E-6.3-18
R404A/ R507	Flare / Flare	3/8	1/2	-	-	-	-	-	RFKH03-4.8-21	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH03E-4.8-15	
	Flare / Solder		-	12	-	-	-	-	RFKH03-4.8-03	
	Flare / Solder / Solder		-	12	-	-	6	-	RFKH03E-4.8-02	
	Flare / Solder		-	-	1/2	-	-	-	-	RFKH03-4.8-09
	Flare / Solder / Solder		-	-	1/2	-	-	-	1/4	RFKH03E-4.8-10
R134a	Flare / Flare	3/8	1/2	-	-	-	-	-	RFKH04-2.9-23	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH04E-2.9-19	
	Flare / Solder		-	12	-	-	-	-	RFKH04-2.9-29	
	Flare / Solder / Solder		-	12	-	-	6	-	RFKH04E-2.9-17	
	Flare / Solder		-	-	1/2	-	-	-	-	RFKH04-2.9-30
	Flare / Solder / Solder		-	-	1/2	-	-	-	1/4	RFKH04E-2.9-31
R410A	Flare / Flare	3/8	1/2	-	-	-	-	-	RFKH05-7.6-66	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH05E-7.6-33	
	Flare / Solder		-	12	-	-	-	-	RFKH05-7.6-37	
	Flare / Solder / Solder		-	12	-	-	6	-	RFKH05E-7.6-36	
	Flare / Solder		-	-	1/2	-	-	-	-	RFKH05-7.6-35
	Flare / Solder / Solder		-	-	1/2	-	-	-	1/4	RFKH05E-7.6-34

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**TECHNICAL PARAMETERS**

*Tab. B: Models with Evaporating Temperature Range from -40°C to +10°C [with MOP +15°C]*

Ref.	Connection Type	Inlet ØA	Outlet ØB			Ext. ØC			Model Valve Body	
	In/Out/Ext. Pressure Equal.	Flare	Flare	Solder		Flare	Solder			
		[inch]	[inch]	[mm]	[inch]	[inch]	[mm]	[inch]		
R404A/ R507	Flare / Flare	3/8	1/2	-	-	-	-	-	RFKH03-4.8-218	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH03E-4.8-217	
	Flare / Solder		-	12	-	-	-	-	RFKH03-4.8-214	
	Flare / Solder / Solder		-	12	-	-	6	-	RFKH03E-4.8-213	
	Flare / Solder		-	-	1/2	-	-	-	-	RFKH03-4.8-215
	Flare / Solder / Solder		-	-	1/2	-	-	-	1/4	RFKH03E-4.8-216
R134a	Flare / Flare	3/8	1/2	-	-	-	-	-	RFKH04-2.9-221	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH04E-2.9-220	
	Flare / Solder		-	12	-	-	-	-	-	RFKH04-2.9-222
	Flare / Solder / Solder		-	12	-	-	6	-	-	RFKH04E-2.9-219
	Flare / Solder		-	-	1/2	-	-	-	-	RFKH04-2.9-223
	Flare / Solder / Solder		-	-	1/2	-	-	-	1/4	RFKH04E-2.9-224

*Tab. C: Models with Evaporating Temperature Range from -40°C to -15°C [with MOP -10°C]*

Ref.	Connection Type	Inlet ØA	Outlet ØB			Ext. ØC			Model Valve Body	
	In/Out/Ext. Pressure Equal.	Flare	Flare	Solder		Flare	Solder			
		[inch]	[inch]	[mm]	[inch]	[inch]	[mm]	[inch]		
R404A/ R507	Flare / Flare	3/8	1/2	-	-	-	-	-	RFKH03-4.8-312	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH03E-4.8-311	
	Flare / Solder		-	12	-	-	-	-	-	RFKH03-4.8-308
	Flare / Solder / Solder		-	12	-	-	6	-	-	RFKH03E-4.8-307
	Flare / Solder		-	-	1/2	-	-	-	-	RFKH03-4.8-309
	Flare / Solder / Solder		-	-	1/2	-	-	-	1/4	RFKH03E-4.8-310

*Tab. D: Models with Evaporating Temperature Range from -60°C to -25°C [with MOP -20°C]*

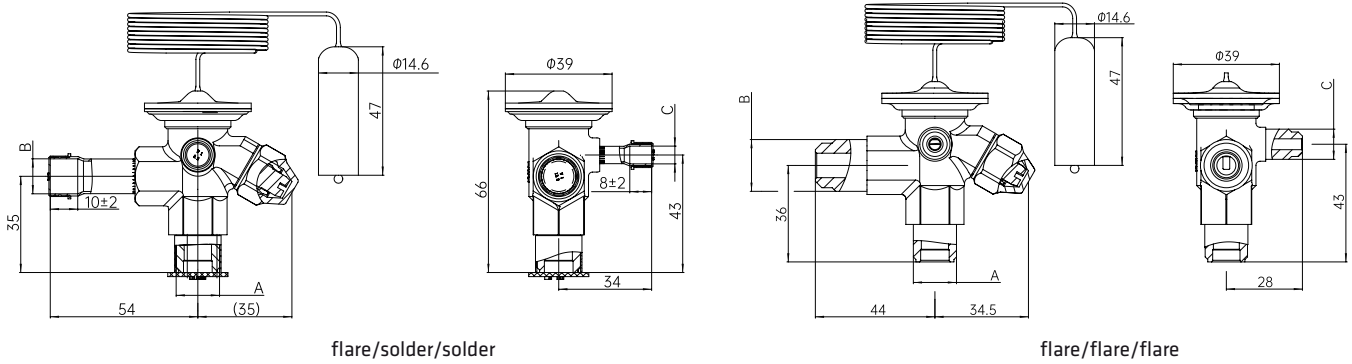
Ref.	Connection Type	Inlet ØA	Outlet ØB			Ext. ØC			Model Valve Body	
	In/Out/Ext. Pressure Equal.	Flare	Flare	Solder		Flare	Solder			
		[inch]	[inch]	[mm]	[inch]	[inch]	[mm]	[inch]		
R404A/ R507	Flare / Flare	3/8	1/2	-	-	-	-	-	RFKH03-4.8-406	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH03E-4.8-405	
	Flare / Solder		-	12	-	-	-	-	-	RFKH03-4.8-402
	Flare / Solder / Solder		-	12	-	-	6	-	-	RFKH03E-4.8-401
	Flare / Solder		-	-	1/2	-	-	-	-	RFKH03-4.8-403
	Flare / Solder / Solder		-	-	1/2	-	-	-	1/4	RFKH03E-4.8-404

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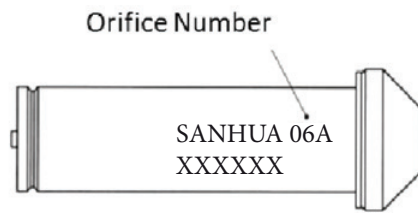
## Thermostatic Expansion Valve



### DIMENSIONS



### ACCESSORIES



### ORIFICE

Orifice Number	Valve Orifice Model	Nominal Capacity <sup>1)</sup> [ kW ]				
		R22	R407C	R404A/R507	R134a	R410A
0X	RFKH-023-0X	1	1	0,7	0,69	1.1
0	RFKH-023-00	1,9	2,1	1,4	1,2	2.2
1	RFKH-023-01	3,8	4	2,8	2,1	4.3
2	RFKH-023-02	5,1	5,4	4	2,7	5.2
3	RFKH-023-03	8,6	9,2	6,8	4,4	9.5
4	RFKH-023-04	13,2	13,9	10,8	6,5	14.3
5	RFKH-023-05	18,1	18,5	14,1	8,6	17.9
6	RFKH-023-06	21,3	22,1	16,8	10,3	22.5

**Note:** 1) Nominal working conditions: Condensing temperature: 38°C;  
 Evaporating temperature: 4,4°C;  
 Liquid temperature: 34°C;;  
 Static superheat: 4K

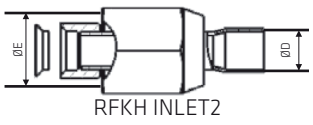
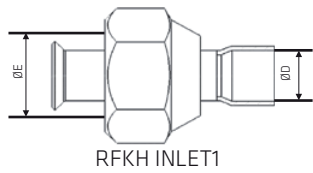
2) Optional industrial package

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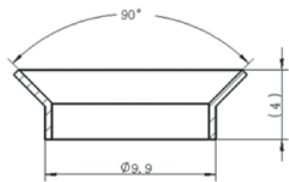


### SOLDER ADAPTERS FOR RFKH INLET



Inlet	Model	SAE Flare ØE	Solder Connection ØD
Inlet 1	RFK-A04-038001	3/8"	3/8"
	RFK-A04-038002		10mm
	RFK-A04-038005		1/4"
	RFK-A04-038006		6mm
Inlet 2 (copper gasket)	RFK-A04-038010		3/8"
	RFK-A04-038011		10mm
	RFK-A04-038012		1/4"
	RFK-A04-038013		6mm

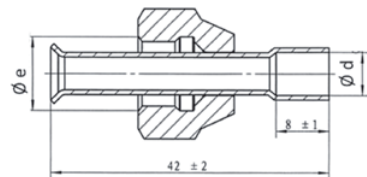
### INLET COPPER GASKET



Model
SYJ-A02-027003

**Note:** It is recommended to replace the copper gasket after replacing the valve core

### SOLDER ADAPTERS FOR RFKH EXTERNAL PRESSURE EQUALIZATION C



Model <sup>1)</sup>	SAE Flare Øe	Solder Connection Ød
RFKA-038-03	1/4"	6mm
RFKA-038-04		1/4"

**Note:** Copper tube and nut sold together, using one product number