

# 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.

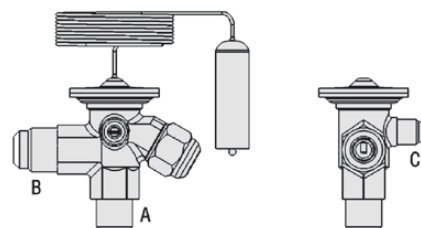


## FEATURES

- 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°C ~ -25°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°C / +55°C
- Max. operating pressure PS: 4.8 MPa (48 bar)
- Installation position:
  - Preferably valve head upwards
  - Flow direction from inlet A to outlet B
- Certifications: UL/CSA and PED declaration





**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
	xxxxA	Digits for additional information

# RFKH SERIES

## Thermostatic Expansion Valve



### POWER HEAD PRINTING INSTRUCTIONS

Code	Description
KH01-6.0-26A	Model
-40/+10° C	Evaporating temperature (Celsius)
-40/+50°F	Evaporating temperature (Fahrenheit)
R22/R407C	Medium
MWP 4.6MPa	MOP (unit: MPa)
MWP 665psig	MOP (unit: 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.	-



**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 01-6.0-22A	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH01E-6.0-13A	
	Flare / Solder		-	12	-	-	-	-	RFKH01-6.0-26A	
	Flare / Solder / Solder		-	12	-	-	6	-	RFKH01E-6.0-06A	
	Flare / Solder		-	-	1/2	-	-	-	-	RFKH01-6.0-07A
	Flare / Solder / Solder		-	-	1/2	-	-	-	1/4	RFKH01E-6.0-08A
R407C	Flare / Flare	3/8	1/2	-	-	-	-	-	RFKH02-6.3-24A	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH02E-6.3-20A	
	Flare / Solder		-	12	-	-	-	-	RFKH02-6.3-27A	
	Flare / Solder / Solder		-	12	-	-	6	-	RFKH02E-6.3-28A	
	Flare / Solder		-	-	1/2	-	-	-	-	RFKH02-6.3-32A
	Flare / Solder / Solder		-	-	1/2	-	-	-	1/4	RFKH02E-6.3-18A
R404A/ R507	Flare / Flare	3/8	1/2	-	-	-	-	-	RFKH03-4.8-21A	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH03E-4.8-15A	
	Flare / Solder		-	12	-	-	-	-	RFKH03-4.8-03A	
	Flare / Solder / Solder		-	12	-	-	6	-	RFKH03E-4.8-02A	
	Flare / Solder		-	-	1/2	-	-	-	-	RFKH03-4.8-09A
	Flare / Solder / Solder		-	-	1/2	-	-	-	1/4	RFKH03E-4.8-10A
R134a	Flare / Flare	3/8	1/2	-	-	-	-	-	RFKH04-2.9-23A	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH04E-2.9-19A	
	Flare / Solder		-	12	-	-	-	-	RFKH04-2.9-29A	
	Flare / Solder / Solder		-	12	-	-	6	-	RFKH04E-2.9-17A	
	Flare / Solder		-	-	1/2	-	-	-	-	RFKH04-2.9-30A
	Flare / Solder / Solder		-	-	1/2	-	-	-	1/4	RFKH04E-2.9-31A
R410A	Flare / Flare	3/8	1/2	-	-	-	-	-	RFKH05-7.6-66A	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH05E-7.6-33A	
	Flare / Solder		-	12	-	-	-	-	RFKH05-7.6-37A	
	Flare / Solder / Solder		-	12	-	-	6	-	RFKH05E-7.6-36A	
	Flare / Solder		-	-	1/2	-	-	-	-	RFKH05-7.6-35A
	Flare / Solder / Solder		-	-	1/2	-	-	-	1/4	RFKH05E-7.6-34A

**Thermostatic Expansion Valve**



**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	-	-	-	-	-	RFKH03-4.8-218A	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH03E-4.8-217A	
	Flare / Solder		-	12	-	-	-	-	RFKH03-4.8-214A	
	Flare / Solder / Solder		-	12	-	-	6	-	RFKH03E-4.8-213A	
	Flare / Solder		-	-	1/2	-	-	-	-	RFKH03-4.8-215A
	Flare / Solder / Solder		-	-	1/2	-	-	-	1/4	RFKH03E-4.8-216A
R134a	Flare / Flare	3/8	1/2	-	-	-	-	-	RFKH04-2.9-221A	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH04E-2.9-220A	
	Flare / Solder		-	12	-	-	-	-	RFKH04-2.9-222A	
	Flare / Solder / Solder		-	12	-	-	6	-	RFKH04E-2.9-219A	
	Flare / Solder		-	-	1/2	-	-	-	-	RFKH04-2.9-223A
	Flare / Solder / Solder		-	-	1/2	-	-	-	1/4	RFKH04E-2.9-224A

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	-	-	-	-	-	RFKH03-4.8-312A	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH03E-4.8-311A	
	Flare / Solder		-	12	-	-	-	-	RFKH03-4.8-308A	
	Flare / Solder / Solder		-	12	-	-	6	-	RFKH03E-4.8-307A	
	Flare / Solder		-	-	1/2	-	-	-	-	RFKH03-4.8-309A
	Flare / Solder / Solder		-	-	1/2	-	-	-	1/4	RFKH03E-4.8-310A

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

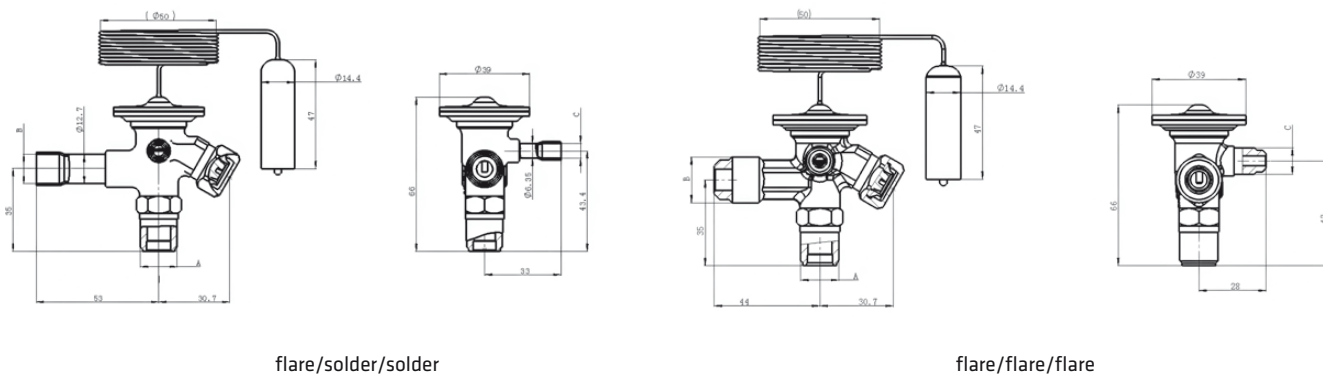
Ref.	Connection Type	Inlet ØA	Outlet ØB			Ext. ØC			Model Valve Body	
	In/Out/Ext. Pressure Equal.	Flare	Flare	Solder		Flare	Solder			
		[inch]	[inch]	[ mm ]	[inch]	[inch]	[ mm ]	[inch]		
R404A/ R507	Flare / Flare	3/8	1/2	-	-	-	-	-	RFKH03-4.8-406A	
	Flare / Flare / Flare		1/2	-	-	1/4	-	-	RFKH03E-4.8-405A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

# RFKH SERIES

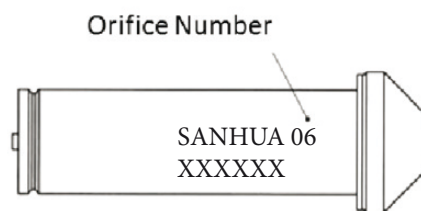
## Thermostatic Expansion Valve



### 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

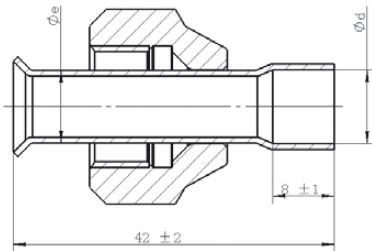
2) Optional industrial package

# RFKH SERIES

## Thermostatic Expansion Valve

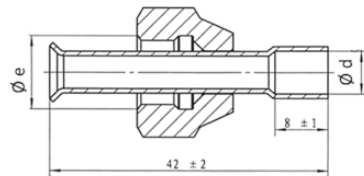


### SOLDER ADAPTERS FOR RFKH INLET



Model	SAE Flare $\phi E$	Solder Connection $\phi D$
RFK-A04-038-01	3/8"	3/8"
RFK-A04-038-02		10mm
RFK-A04-038-05		1/4"
RFK-A04-038-06		6mm

### SOLDER ADAPTERS FOR RFKH EXTERNAL PRESSURE EQUALIZATION C



Model <sup>1)</sup>	SAE Flare $\phi e$	Solder Connection $\phi d$
RFKA-038-03	1/4"	6mm
RFKA-038-04		1/4"

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

# RFKH SERIES

## Thermostatic Expansion Valve



### COOLING CAPACITY EXTENSION TABLE

Table 1: R22

Model	Orifice	Tc [°C]	Cooling Capacity [kW]										
			Te [°C]										
			-40	-35	-30	-25	-20	-15	-10	-5	0	5	10
RFKH	0X	25	0.75	0.78	0.81	0.84	0.86	0.87	0.89	0.87	0.84	0.80	0.75
	00		0.96	1.06	1.17	1.28	1.39	1.49	1.58	1.60	1.62	1.57	1.52
	01		1.33	1.52	1.71	1.95	2.19	2.46	2.72	2.89	3.05	3.07	3.10
	02		1.52	1.75	1.99	2.30	2.61	3.00	3.39	3.71	4.04	4.20	4.37
	03		2.58	2.99	3.39	3.93	4.47	5.13	5.79	6.34	6.90	7.22	7.54
	04		3.64	4.21	4.78	5.59	6.41	7.45	8.49	9.35	10.21	10.65	11.08
	05		4.68	5.41	6.14	7.20	8.25	9.65	11.06	12.31	13.56	14.23	14.91
06	5.78	6.68	7.58	8.86	10.14	11.91	13.67	15.23	16.79	17.55	18.32		
RFKH	0X	35	0.78	0.82	0.85	0.88	0.91	0.94	0.96	0.96	0.96	0.95	0.94
	00		1.00	1.11	1.22	1.35	1.47	1.60	1.72	1.78	1.84	1.87	1.91
	01		1.38	1.59	1.79	2.06	2.32	2.64	2.96	3.22	3.49	3.69	3.90
	02		1.59	1.84	2.09	2.43	2.78	3.24	3.70	4.17	4.63	5.08	5.54
	03		2.72	3.15	3.59	4.18	4.78	5.56	6.35	7.16	7.96	8.77	9.58
	04		3.90	4.51	5.11	6.00	6.89	8.11	9.34	10.55	11.77	13.01	14.25
	05		5.02	5.79	6.57	7.72	8.87	10.53	12.19	14.01	15.83	17.58	19.33
06	6.15	7.10	8.05	9.45	10.84	12.90	14.96	17.24	19.51	21.61	23.70		
RFKH	0X	45	0.80	0.84	0.87	0.91	0.94	0.97	1.00	1.01	1.02	1.04	1.05
	00		1.02	1.13	1.25	1.38	1.52	1.66	1.81	1.89	1.98	2.06	2.15
	01		1.42	1.63	1.84	2.12	2.40	2.76	3.11	3.43	3.76	4.08	4.41
	02		1.64	1.89	2.15	2.51	2.88	3.39	3.89	4.45	5.01	5.66	6.31
	03		2.81	3.27	3.72	4.35	4.98	5.86	6.74	7.72	8.71	9.88	11.05
	04		4.12	4.74	5.36	6.28	7.20	8.53	9.85	11.33	12.82	14.54	16.27
	05		5.29	6.09	6.89	8.10	9.31	11.11	12.91	15.09	17.28	19.85	22.42
06	6.47	7.45	8.42	9.89	11.36	13.59	15.82	18.54	21.26	24.37	27.48		
RFKH	0X	55	0.79	0.83	0.87	0.91	0.94	0.98	1.01	1.03	1.04	1.07	1.10
	00		1.02	1.13	1.25	1.39	1.53	1.68	1.83	1.93	2.03	2.15	2.26
	01		1.43	1.65	1.86	2.15	2.43	2.80	3.17	3.53	3.88	4.27	4.67
	02		1.66	1.92	2.19	2.56	2.93	3.46	3.98	4.59	5.20	5.95	6.70
	03		2.86	3.32	3.78	4.44	5.10	6.02	6.94	8.03	9.12	10.47	11.82
	04		4.29	4.90	5.52	6.45	7.38	8.73	10.07	11.60	13.13	15.15	17.16
	05		5.51	6.31	7.12	8.35	9.58	11.45	13.32	15.61	17.90	20.94	23.97
06	6.71	7.69	8.68	10.18	11.67	13.96	16.25	19.19	22.13	25.84	29.54		

### Correction factor for supercooling 'fsub'

Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.98	1.00	1.05	1.10	1.14	1.19	1.23	1.28	1.32	1.36	1.41

### Pressure drop correction factor 'fp' \*

Pressure Drop [bar]	Te [°C]											
	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1	0.96	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.93	0.92	0.91	0.89
1.5	0.93	0.93	0.93	0.93	0.92	0.92	0.91	0.91	0.90	0.88	0.86	0.82
2	0.91	0.91	0.90	0.90	0.90	0.89	0.88	0.87	0.86	0.84	0.81	0.76

\*The condensing temperature is calculated at 32°C



Table 2: R407C

Model	Orifice	Tc [°C]	Cooling Capacity [kW]										
			Te [°C]										
			-40	-35	-30	-25	-20	-15	-10	-5	0	5	10
RFKH	0X	25	0.76	0.79	0.82	0.85	0.88	0.90	0.93	0.92	0.92	0.91	0.90
	00		1.00	1.10	1.20	1.31	1.42	1.54	1.65	1.71	1.76	1.78	1.81
	01		1.42	1.61	1.79	2.04	2.28	2.58	2.87	3.10	3.34	3.51	3.69
	02		1.62	1.84	2.07	2.39	2.71	3.13	3.56	3.99	4.42	4.82	5.23
	03		2.75	3.13	3.52	4.06	4.61	5.36	6.11	6.86	7.62	8.31	9.01
	04		3.91	4.44	4.97	5.73	6.50	7.59	8.68	9.91	11.14	12.58	14.02
	05		5.03	5.72	6.41	7.41	8.41	9.84	11.27	12.88	14.49	16.25	18.00
	06	6.21	7.07	7.94	9.23	10.53	12.37	14.21	16.26	18.31	20.47	22.62	
RFKH	0X	35	0.76	0.80	0.83	0.87	0.90	0.94	0.97	0.98	0.99	1.00	1.02
	00		1.00	1.10	1.21	1.33	1.45	1.59	1.72	1.80	1.89	1.97	2.05
	01		1.41	1.61	1.80	2.07	2.33	2.66	2.98	3.29	3.59	3.89	4.19
	02		1.62	1.85	2.09	2.42	2.76	3.23	3.70	4.22	4.73	5.34	5.95
	03		2.76	3.16	3.56	4.14	4.72	5.55	6.37	7.29	8.21	9.26	10.31
	04		3.98	4.54	5.09	5.90	6.71	7.90	9.09	10.53	11.98	13.95	15.93
	05		5.12	5.83	6.55	7.61	8.67	10.23	11.78	13.70	15.63	18.08	20.54
	06	6.28	7.18	8.08	9.46	10.84	12.85	14.86	17.29	19.73	22.81	25.88	
RFKH	0X	45	0.73	0.77	0.81	0.85	0.89	0.93	0.97	0.99	1.01	1.04	1.07
	00		0.96	1.07	1.18	1.31	1.43	1.58	1.72	1.83	1.93	2.04	2.15
	01		1.37	1.57	1.76	2.03	2.29	2.64	2.98	3.32	3.66	4.04	4.42
	02		1.58	1.81	2.05	2.39	2.73	3.22	3.70	4.27	4.84	5.56	6.28
	03		2.70	3.10	3.50	4.09	4.68	5.54	6.41	7.42	8.43	9.68	10.93
	04		3.94	4.50	5.06	5.89	6.72	7.95	9.18	10.74	12.29	14.56	16.83
	05		5.05	5.78	6.51	7.59	8.67	10.33	11.98	14.06	16.14	19.01	21.87
	06	6.16	7.08	7.99	9.36	10.74	12.85	14.96	17.67	20.39	23.95	27.51	
RFKH	0X	55	0.68	0.72	0.76	0.81	0.85	0.89	0.94	0.96	0.99	1.03	1.06
	00		0.89	1.00	1.11	1.24	1.37	1.52	1.66	1.77	1.89	2.01	2.14
	01		1.28	1.47	1.66	1.93	2.19	2.54	2.88	3.23	3.59	4.00	4.41
	02		1.49	1.71	1.94	2.27	2.61	3.09	3.58	4.16	4.74	5.51	6.28
	03		2.55	2.95	3.34	3.92	4.51	5.37	6.22	7.27	8.31	9.66	11.02
	04		3.79	4.34	4.89	5.71	6.54	7.77	9.00	10.59	12.19	14.56	16.94
	05		4.84	5.56	6.28	7.36	8.44	10.06	11.68	13.81	15.94	19.01	22.09
	06	5.86	6.77	7.67	9.04	10.41	12.53	14.64	17.40	20.17	24.07	27.98	

Correction factor for supercooling 'fsub'

Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.98	1.00	1.07	1.12	1.18	1.23	1.28	1.34	1.39	1.45	1.50

Pressure drop correction factor 'fp' \*

Pressure Drop [bar]	Te [°C]											
	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1	0.96	0.96	0.96	0.96	0.96	0.96	0.95	0.95	0.95	0.94	0.93	0.92
1.5	0.94	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.92	0.91	0.90	0.88
2	0.92	0.92	0.92	0.92	0.91	0.91	0.91	0.90	0.89	0.88	0.86	0.84

\*The condensing temperature is calculated at 32°C

# RFKH SERIES

## Thermostatic Expansion Valve



Table 3: R404A

Model	Orifice	Tc [°C]	Cooling Capacity [kW]										
			Te [°C]										
			-40	-35	-30	-25	-20	-15	-10	-5	0	5	10
RFKH	0X	25	0.54	0.57	0.61	0.63	0.65	0.67	0.69	0.68	0.66	0.62	0.59
	00		0.70	0.81	0.92	1.01	1.10	1.20	1.29	1.29	1.29	1.23	1.17
	01		0.98	1.18	1.38	1.61	1.84	2.10	2.36	2.46	2.56	2.51	2.46
	02		1.11	1.35	1.60	1.91	2.22	2.62	3.02	3.26	3.50	3.53	3.56
	03		1.88	2.30	2.73	3.27	3.81	4.51	5.21	5.62	6.02	6.06	6.10
	04		2.64	3.25	3.85	4.66	5.46	6.57	7.68	8.40	9.13	9.35	9.56
	05		3.41	4.20	5.00	6.04	7.08	8.52	9.96	10.88	11.81	12.02	12.24
06	4.22	5.22	6.22	7.55	8.87	10.69	12.50	13.69	14.89	15.04	15.19		
RFKH	0X	35	0.51	0.55	0.59	0.62	0.65	0.68	0.72	0.72	0.72	0.71	0.70
	00		0.66	0.77	0.88	0.98	1.09	1.21	1.33	1.38	1.42	1.41	1.40
	01		0.93	1.13	1.33	1.57	1.82	2.13	2.45	2.63	2.81	2.88	2.95
	02		1.06	1.30	1.55	1.87	2.20	2.67	3.14	3.50	3.86	4.08	4.30
	03		1.80	2.22	2.65	3.22	3.80	4.62	5.44	6.07	6.70	7.05	7.40
	04		2.56	3.17	3.77	4.62	5.47	6.75	8.03	9.12	10.20	10.93	11.66
	05		3.30	4.09	4.89	5.99	7.09	8.76	10.42	11.80	13.18	14.01	14.84
06	4.06	5.06	6.06	7.45	8.84	10.95	13.06	14.81	16.55	17.59	18.62		
RFKH	0X	45	0.45	0.49	0.54	0.57	0.61	0.65	0.69	0.71	0.72	0.73	0.73
	00		0.60	0.70	0.81	0.91	1.02	1.15	1.28	1.35	1.42	1.46	1.50
	01		0.84	1.03	1.22	1.46	1.70	2.03	2.35	2.59	2.83	2.99	3.14
	02		0.96	1.19	1.43	1.75	2.07	2.56	3.04	3.48	3.92	4.26	4.60
	03		1.64	2.05	2.45	3.02	3.58	4.44	5.30	6.07	6.84	7.39	7.95
	04		2.39	2.96	3.52	4.35	5.17	6.50	7.83	9.13	10.43	11.48	12.54
	05		3.08	3.82	4.56	5.63	6.71	8.44	10.17	11.89	13.60	14.87	16.14
06	3.77	4.69	5.62	6.98	8.33	10.53	12.73	14.92	17.11	18.66	20.22		
RFKH	0X	55	0.38	0.43	0.47	0.51	0.55	0.59	0.63	0.64	0.66	0.68	0.70
	00		0.51	0.60	0.70	0.80	0.90	1.02	1.14	1.22	1.30	1.36	1.41
	01		0.73	0.89	1.06	1.28	1.49	1.80	2.10	2.35	2.60	2.79	2.98
	02		0.84	1.04	1.24	1.53	1.82	2.28	2.73	3.17	3.61	3.99	4.38
	03		1.44	1.80	2.15	2.66	3.16	3.96	4.77	5.56	6.34	6.98	7.61
	04		2.14	2.63	3.12	3.85	4.58	5.80	7.02	8.32	9.61	10.80	11.99
	05		2.75	3.39	4.03	4.98	5.94	7.54	9.14	10.84	12.55	14.07	15.60
06	3.34	4.15	4.95	6.15	7.35	9.43	11.50	13.69	15.89	17.77	19.65		

Correction factor for supercooling 'fsub'

Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.97	1.00	1.09	1.16	1.23	1.30	1.38	1.45	1.52	1.59	1.65

Pressure drop correction factor 'fp' \*

Pressure Drop [bar]	Te [°C]											
	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1	0.96	0.96	0.96	0.96	0.96	0.96	0.95	0.95	0.94	0.94	0.92	0.91
1.5	0.94	0.94	0.94	0.94	0.94	0.93	0.93	0.92	0.91	0.90	0.88	0.86
2	0.92	0.92	0.92	0.92	0.91	0.91	0.90	0.89	0.88	0.87	0.84	0.80

\*The condensing temperature is calculated at 32°C

# RFKH SERIES

## Thermostatic Expansion Valve



Table 4: R134a

Model	Orifice	Tc [°C]	Cooling Capacity [kW]										
			Te [°C]										
			-40	-35	-30	-25	-20	-15	-10	-5	0	5	10
RFKH	0X	25	0.49	0.51	0.54	0.57	0.60	0.61	0.62	0.62	0.61	0.59	0.56
	00		0.53	0.60	0.67	0.75	0.83	0.89	0.95	0.99	1.04	1.02	1.01
	01		0.71	0.82	0.92	1.06	1.21	1.35	1.49	1.61	1.74	1.79	1.83
	02		0.80	0.92	1.04	1.21	1.38	1.57	1.75	1.94	2.12	2.23	2.34
	03		1.37	1.57	1.77	2.07	2.37	2.67	2.98	3.30	3.62	3.82	4.01
	04		1.93	2.22	2.50	2.92	3.34	3.79	4.24	4.73	5.22	5.57	5.92
	05		2.52	2.88	3.25	3.79	4.34	4.93	5.52	6.15	6.78	7.22	7.66
	06	3.13	3.60	4.07	4.76	5.46	6.21	6.96	7.75	8.55	9.10	9.66	
RFKH	0X	35	0.50	0.53	0.57	0.60	0.64	0.65	0.67	0.68	0.69	0.69	0.68
	00		0.55	0.62	0.69	0.78	0.87	0.95	1.03	1.10	1.18	1.22	1.26
	01		0.73	0.85	0.96	1.11	1.27	1.44	1.61	1.79	1.97	2.12	2.28
	02		0.83	0.96	1.08	1.27	1.46	1.68	1.89	2.15	2.40	2.66	2.92
	03		1.42	1.64	1.85	2.18	2.50	2.87	3.24	3.68	4.11	4.56	5.00
	04		2.06	2.36	2.65	3.11	3.58	4.10	4.63	5.28	5.93	6.64	7.35
	05		2.68	3.06	3.44	4.04	4.63	5.32	6.01	6.86	7.70	8.62	9.53
	06	3.31	3.80	4.28	5.04	5.79	6.66	7.53	8.60	9.68	10.82	11.96	
RFKH	0X	45	0.50	0.53	0.57	0.61	0.65	0.67	0.69	0.71	0.73	0.75	0.76
	00		0.55	0.62	0.70	0.79	0.89	0.98	1.07	1.16	1.26	1.33	1.40
	01		0.74	0.86	0.97	1.13	1.30	1.48	1.67	1.88	2.10	2.32	2.55
	02		0.84	0.97	1.10	1.30	1.50	1.72	1.95	2.26	2.56	2.91	3.25
	03		1.44	1.66	1.88	2.22	2.55	2.95	3.35	3.87	4.38	4.98	5.59
	04		2.15	2.44	2.74	3.22	3.70	4.27	4.83	5.58	6.32	7.26	8.20
	05		2.78	3.16	3.55	4.16	4.78	5.52	6.26	7.24	8.21	9.43	10.65
	06	3.42	3.90	4.39	5.16	5.92	6.87	7.81	9.05	10.29	11.83	13.37	
RFKH	0X	55	0.48	0.52	0.56	0.60	0.64	0.66	0.69	0.72	0.74	0.76	0.78
	00		0.54	0.61	0.69	0.78	0.88	0.97	1.07	1.17	1.28	1.38	1.48
	01		0.73	0.84	0.95	1.11	1.28	1.47	1.66	1.89	2.13	2.40	2.66
	02		0.83	0.96	1.09	1.29	1.48	1.72	1.96	2.28	2.60	2.99	3.39
	03		1.44	1.66	1.87	2.21	2.54	2.96	3.37	3.92	4.47	5.16	5.86
	04		2.19	2.49	2.78	3.26	3.73	4.31	4.88	5.67	6.46	7.52	8.58
	05		2.83	3.21	3.59	4.20	4.82	5.57	6.32	7.35	8.38	9.77	11.16
	06	3.47	3.94	4.41	5.17	5.93	6.89	7.84	9.16	10.48	12.24	14.01	

### Correction factor for supercooling 'fsub'

Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.98	1.00	1.07	1.12	1.18	1.23	1.29	1.34	1.40	1.45	1.50

### Pressure drop correction factor 'fp' \*

Pressure Drop [bar]	Te [°C]											
	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1	0.93	0.93	0.93	0.93	0.92	0.92	0.92	0.91	0.90	0.89	0.87	0.83
1.5	0.90	0.89	0.89	0.89	0.88	0.88	0.87	0.86	0.84	0.82	0.79	0.74
2	0.86	0.86	0.85	0.85	0.84	0.83	0.82	0.81	0.79	0.76	0.71	0.62

\*The condensing temperature is calculated at 32°C



Table 5: R410A

Model	Orifice	Tc [°C]	Cooling Capacity [kW]										
			Te [°C]										
			-40	-35	-30	-25	-20	-15	-10	-5	0	5	10
RFKH	0X	25	0.60	0.69	0.79	0.85	0.92	0.96	1.00	1.02	1.05	0.94	0.84
	00		0.75	0.93	1.12	1.29	1.46	1.61	1.76	1.87	1.98	1.83	1.68
	01		1.06	1.35	1.65	1.98	2.31	2.67	3.02	3.37	3.72	3.55	3.39
	02		1.29	1.65	2.01	2.42	2.83	3.27	3.70	4.14	4.58	4.38	4.18
	03		2.33	2.99	3.64	4.38	5.13	5.91	6.70	7.49	8.27	7.91	7.55
	04		3.45	4.42	5.40	6.52	7.64	8.84	10.04	11.26	12.48	11.96	11.43
	05		4.35	5.58	6.81	8.22	9.63	11.13	12.63	14.15	15.67	15.01	14.34
06	5.43	6.96	8.50	10.27	12.03	13.92	15.81	17.73	19.65	18.83	18.01		
RFKH	0X	35	0.60	0.71	0.81	0.88	0.96	1.01	1.07	1.11	1.16	1.09	1.02
	00		0.76	0.95	1.15	1.33	1.52	1.70	1.88	2.04	2.20	2.12	2.04
	01		1.07	1.38	1.69	2.05	2.41	2.82	3.22	3.68	4.14	4.12	4.10
	02		1.30	1.68	2.06	2.50	2.95	3.45	3.95	4.53	5.10	5.08	5.07
	03		2.37	3.05	3.73	4.54	5.34	6.25	7.15	8.18	9.20	9.18	9.15
	04		3.50	4.52	5.54	6.75	7.97	9.34	10.72	12.30	13.88	13.87	13.86
	05		4.42	5.70	6.99	8.51	10.04	11.76	13.48	15.46	17.43	17.41	17.38
06	5.50	7.11	8.72	10.63	12.54	14.71	16.87	19.36	21.85	21.84	21.82		
RFKH	0X	45	0.59	0.69	0.80	0.88	0.96	1.02	1.08	1.15	1.21	1.16	1.11
	00		0.74	0.94	1.13	1.33	1.52	1.72	1.91	2.10	2.29	2.25	2.22
	01		1.05	1.36	1.67	2.04	2.41	2.84	3.28	3.79	4.31	4.38	4.46
	02		1.27	1.65	2.03	2.49	2.95	3.48	4.02	4.66	5.31	5.41	5.51
	03		2.31	3.00	3.69	4.51	5.34	6.30	7.27	8.43	9.59	9.76	9.93
	04		3.42	4.44	5.47	6.71	7.96	9.43	10.89	12.67	14.46	14.75	15.05
	05		4.32	5.61	6.90	8.47	10.03	11.87	13.70	15.93	18.16	18.52	18.88
06	5.38	7.00	8.61	10.57	12.53	14.84	17.15	19.96	22.77	23.23	23.70		
RFKH	0X	55	0.55	0.65	0.75	0.83	0.91	0.98	1.04	1.12	1.19	1.15	1.11
	00		0.69	0.88	1.07	1.25	1.44	1.64	1.84	2.05	2.25	2.24	2.23
	01		0.98	1.27	1.57	1.93	2.29	2.72	3.16	3.69	4.23	4.35	4.48
	02		1.19	1.55	1.91	2.36	2.80	3.34	3.87	4.54	5.21	5.37	5.54
	03		2.15	2.81	3.47	4.27	5.08	6.04	7.00	8.20	9.40	9.69	9.99
	04		3.18	4.16	5.14	6.35	7.57	9.03	10.49	12.33	14.17	14.65	15.13
	05		4.02	5.25	6.49	8.01	9.54	11.37	13.20	15.50	17.80	18.39	18.98
06	5.01	6.55	8.09	10.01	11.92	14.22	16.52	19.42	22.32	23.08	23.83		

Correction factor for supercooling 'fsub'

Subcooling [K]	1	4	10	15	20	25	30	35	40	45	50
Correction factor	0.98	1.00	1.08	1.15	1.21	1.27	1.33	1.39	1.45	1.50	1.56

Pressure drop correction factor 'fp' \*

Pressure Drop [bar]	Te [°C]											
	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1	0.97	0.97	0.97	0.97	0.97	0.97	0.96	0.96	0.96	0.95	0.94	0.93
1.5	0.96	0.96	0.96	0.95	0.95	0.95	0.95	0.94	0.93	0.93	0.91	0.89
2	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.92	0.91	0.90	0.88	0.85

\*The condensing temperature is calculated at 32°C