

## RFGD10/20 SERIES

# Thermostatic Expansion Valve

RFGD10/20 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 commercial refrigerators and freezers, icemakers, dehumidifiers as well as air conditioners at various evaporation temperatures.

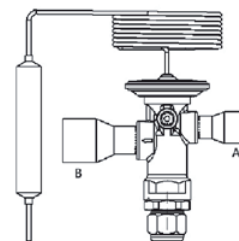


### FEATURES

- VALVES WITH MOP FUNCTION CAN BE PROVIDED TO ASSURE RELIABLE COMPRESSOR OPERATION
- BALANCED PORT-SUITABLE FOR REVERSIBLE CYCLES
- THERMAL BULB UTILIZES CROSS CHANGE TECHNOLOGY, PROVIDING CONSISTENT SUPERHEAT DEGREE OVER THE WHOLE EVAPORATION TEMPERATURE RANGE
- DOUBLE DIAPHRAGM DESIGN FOR HIGH STRENGTH
- COMPACT DESIGN, SMALL SIZE, REDUCING INSTALLATION SPACE
- THE POWER HEAD ADOPTS LASER WELDING

### GENERAL SPECIFICATION

- Applicable for all common HCFC, HFC, refrigerants such as: R22, R134a, R404A, R407C, R410A, R507
- Ambient temperature min./max.: -35/+55°C
- Max. operating pressure PS: 4,8 MPa
- Installation position: - Preferably valve head upwards  
- Main flow direction from inlet A to outlet B



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### TECHNICAL PARAMETERS

- RFGD10/20 valves are available in straight shape with adjustable superheat on site
- Capillary tube length 1500mm as standard.
- Different length customizable on request.
- Standard MOP values:
  - T. range -40°C to +10°C, MOP: +15°C

### MODEL DESIGNATION LEGEND

Position Number	Model Designation Legend	
1	Product Code	Product Series
	RFGD	Thermostatic expansion valve with build-in orifice
2	Refrigerant	Description
	1	R22
	2	R407C
	3	R404A / R507
	4	R134a
	5	R410A
3	Pressure Equalization	Description
	E	External pressure equalization
	(Omitted)	Internal pressure equalization
4	Nominal capacity	Unit
	xx	Digits for USRT
5	Other information	Description
	xx	Digits for additional information

### POWER HEAD PRINTING INSTRUCTIONS

Code	Description
GD02E-15.0-547	Model
-40/+10°C	Evaporating temperature (Celsius)
-40/+50°F	Evaporating temperature (Fahrenheit)
R407C	Medium
MWP 4.8Mpa	MOP (Units: MPa)
MWP 695psig	MOP (Units: Psig)



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### MODEL DESIGNATION EXAMPLE

Position Number					According to Model Designation Legend
1	2	3	4	5	
RFGD	04	E	3.6	71	Thermostatic expansion valve with build-in orifice
RFGD	<b>04</b>	E	3.6	71	Refrigerant: R134a
RFGD	04	<b>E</b>	3.6	71	With connection for external pressure equalization
RFGD	04	E	<b>3.6</b>	71	Nominal capacity :3.6USRT
RFGD	04	E	3.6	<b>71</b>	Digits for additional information

### TECHNICAL PARAMETER:

RFGD10 -40°C~+10°C (without MOP)

Ref.	Size	Capacity		Connections Inlet/Outlet	Pressure Equal.	Model	Connections Inlet/Outlet	Pressure Equal.	Model
		USRT	kW	[mm]	[mm]		[Inch]	[Inch]	
R22	01	3.0	10.6	10 x 16	6	RFGD01E-3.0-1003	3/8 x 5/8	1/4	RFGD01E-3.0-1001
	02	4.0	14.1	12 x 22	6	RFGD01E-4.0-1007	1/2 x 7/8	1/4	RFGD01E-4.0-1006
	03	6.0	21.1	12 x 22	6	RFGD01E-6.0-1013	1/2 x 7/8	1/4	RFGD01E-6.0-1011
	04	7.5	26.4	16 x 22	6	RFGD01E-7.5-1023	5/8 x 7/8	1/4	RFGD01E-7.5-1021
	05	9.0	31.7	16 x 22	6	RFGD01E-9.0-1026	5/8 x 7/8	1/4	RFGD01E-9.0-1025
	06	11.0	38.7	16 x 22	6	RFGD01E-11.0-1031	5/8 x 7/8	1/4	RFGD01E-11.0-1028
R407C	01	2.5	8.8	10 x 16	6	RFGD02E-2.5-1202	3/8 x 5/8	1/4	RFGD02E-2.5-1200
	02	3.5	12.3	12 x 22	6	RFGD02E-3.5-1206	1/2 x 7/8	1/4	RFGD02E-3.5-1205
	03	5	17.6	12 x 22	6	RFGD02E-5.0-1212	1/2 x 7/8	1/4	RFGD02E-5.0-1209
	04	7	24.6	16 x 22	6	RFGD02E-7.0-1219	5/8 x 7/8	1/4	RFGD02E-7.0-1217
	05	8.5	29.9	16 x 22	6	RFGD02E-8.5-1221	5/8 x 7/8	1/4	RFGD02E-8.5-1220
	06	10	35.2	16 x 22	6	RFGD02E-10.0-1224	5/8 x 7/8	1/4	RFGD02E-10.0-1222
R404A/ R507	01	2.0	7.0	10 x 16	6	RFGD03E-2.0-1402	3/8 x 5/8	1/4	RFGD03E-2.0-1401
	02	2.5	8.8	12 x 22	6	RFGD03E-2.5-1404	1/2 x 7/8	1/4	RFGD03E-2.5-1403
	03	4	14.1	12 x 22	6	RFGD03E-4.0-1408	1/2 x 7/8	1/4	RFGD03E-4.0-1407
	04	5	17.6	16 x 22	6	RFGD03E-5.0-1411	5/8 x 7/8	1/4	RFGD03E-5.0-1410
	05	6	21.1	16 x 22	6	RFGD03E-6.0-1414	5/8 x 7/8	1/4	RFGD03E-6.0-1413
	06	7.5	26.4	16 x 22	6	RFGD03E-7.5-1417	5/8 x 7/8	1/4	RFGD03E-7.5-1416
R134a	01	1.5	5.3	10 x 16	6	RFGD04E-1.5-1601	3/8 x 5/8	1/4	RFGD04E-1.5-1600
	02	2.5	8.8	12 x 22	6	RFGD04E-2.5-1604	1/2 x 7/8	1/4	RFGD04E-2.5-1603
	03	3.5	12.3	12 x 22	6	RFGD04E-3.5-1609	1/2 x 7/8	1/4	RFGD04E-3.5-1607
	04	4.5	15.8	16 x 22	6	RFGD04E-4.5-1613	5/8 x 7/8	1/4	RFGD04E-4.5-1612
	05	5.5	19.3	16 x 22	6	RFGD04E-5.5-1616	5/8 x 7/8	1/4	RFGD04E-5.5-1615
	06	7	24.6	16 x 22	6	RFGD04E-7.0-1618	5/8 x 7/8	1/4	RFGD04E-7.0-1617
R410A	01	3.5	12.3	10 x 16	6	RFGD05E-3.5-1802	3/8 x 5/8	1/4	RFGD05E-3.5-1800
	02	4.5	15.8	12 x 22	6	RFGD05E-4.5-1806	1/2 x 7/8	1/4	RFGD05E-4.5-1805
	03	6.5	22.9	12 x 22	6	RFGD05E-6.5-1812	1/2 x 7/8	1/4	RFGD05E-6.5-1809
	04	9	31.7	16 x 22	6	RFGD05E-9.0-1816	5/8 x 7/8	1/4	RFGD05E-9.0-1815
	05	11	38.7	16 x 22	6	RFGD05E-11.0-1819	5/8 x 7/8	1/4	RFGD05E-11.0-1818
	06	13	45.7	16 x 22	6	RFGD05E-13.0-1824	5/8 x 7/8	1/4	RFGD05E-13.0-1822

**Note:**

- 1) Nominal capacities referred at the following working conditions: Condensing temperature 38°C; Evaporating temperature +4.4°C; Liquid temperature 37°C; Static Super Heading 5k
- 2) Optional industrial package

## RFGD10/20 SERIES

### Thermostatic Expansion Valve



RFGD20 -40°C ~ +10°C (Without MOP)

Ref.	Size	Capacity		Inlet connections	Outlet Connections	Pressure Equal.	Product Model
		USRT	kW	[Inch]	[Inch]	[Inch]	
R22	07	12.0	42.2	5/8	7/8	1/4	RFGD01E-12.0-506
	07	12.0	42.2	5/8	1-1/8	1/4	RFGD01E-12.0-513
	08	15.0	52.8	5/8	1-1/8	1/4	RFGD01E-15.0-514
	08	15.0	52.8	7/8	1-1/8	1/4	RFGD01E-15.0-516
	09	18.0	63.3	7/8	1-1/8	1/4	RFGD01E-18.0-518
	09	18.0	63.3	7/8	1-3/8	1/4	RFGD01E-18.0-519
R407C	07	12.0	42.2	5/8	7/8	1/4	RFGD02E-12.0-542
	07	12.0	42.2	5/8	1-1/8	1/4	RFGD02E-12.0-543
	08	15.0	52.8	5/8	1-1/8	1/4	RFGD02E-15.0-545
	08	15.0	52.8	7/8	1-1/8	1/4	RFGD02E-15.0-547
	09	18.0	63.3	7/8	1-1/8	1/4	RFGD02E-18.0-549
	09	18.0	63.3	7/8	1-3/8	1/4	RFGD02E-18.0-551
R404A / R507	07	9	31.7	5/8	7/8	1/4	RFGD03E-9.0-532
	07	9	31.7	5/8	1-1/8	1/4	RFGD03E-9.0-533
	08	11	38.7	5/8	1-1/8	1/4	RFGD03E-11.0-535
	08	11	38.7	7/8	1-1/8	1/4	RFGD03E-11.0-537
	09	13	45.7	7/8	1-1/8	1/4	RFGD03E-13.0-539
	09	13	45.7	7/8	1-3/8	1/4	RFGD03E-13.0-541
R134a	07	8.0	28.1	5/8	7/8	1/4	RFGD04E-8.0-501
	07	8.0	28.1	5/8	1-1/8	1/4	RFGD04E-8.0-502
	08	10.0	35.2	5/8	1-1/8	1/4	RFGD04E-10.0-504
	08	10.0	35.2	7/8	1-1/8	1/4	RFGD04E-10.0-520
	09	12.0	42.2	7/8	1-1/8	1/4	RFGD04E-12.0-522
	09	12.0	42.2	7/8	1-3/8	1/4	RFGD04E-12.0-524
R410A	07	15.0	52.8	5/8	7/8	1/4	RFGD05E-15.0-510
	07	15.0	52.8	5/8	1-1/8	1/4	RFGD05E-15.0-511
	08	19.0	66.8	5/8	1-1/8	1/4	RFGD05E-19.0-512
	08	19.0	66.8	7/8	1-1/8	1/4	RFGD05E-19.0-517
	09	23.0	80.9	7/8	1-1/8	1/4	RFGD05E-23.0-555
	09	23.0	80.9	7/8	1-3/8	1/4	RFGD05E-23.0-557

**Note:**

- 1) Nominal capacities referred at the following working conditions: Condensing temperature 38°C; Evaporating temperature +4.4°C; Liquid temperature 37°C; Static Super Heading 4.0K
- 2) Optional industrial package

# RFGD10/20 SERIES

## Thermostatic Expansion Valve



RFGD20 -25°C ~ +10°C (With MOP +15°C)

Ref.	Size	Capacity		Inlet connections	Outlet Connections	Pressure Equal.	Product Model
		USRT	kW	[Inch]	[Inch]	[Inch]	
R22	07	12.0	42.2	5/8	7/8	1/4	RFGD01E-12.0-617
	07	12.0	42.2	5/8	1-1/8	1/4	RFGD01E-12.0-618
	08	15.0	52.8	5/8	1-1/8	1/4	RFGD01E-15.0-620
	08	15.0	52.8	7/8	1-1/8	1/4	RFGD01E-15.0-622
	09	18.0	63.3	7/8	1-1/8	1/4	RFGD01E-18.0-624
	09	18.0	63.3	7/8	1-3/8	1/4	RFGD01E-18.0-626
R407C	07	12.0	42.2	5/8	7/8	1/4	RFGD02E-12.0-637
	07	12.0	42.2	5/8	1-1/8	1/4	RFGD02E-12.0-638
	08	15.0	52.8	5/8	1-1/8	1/4	RFGD02E-15.0-640
	08	15.0	52.8	7/8	1-1/8	1/4	RFGD02E-15.0-642
	09	18.0	63.3	7/8	1-1/8	1/4	RFGD02E-18.0-644
	09	18.0	63.3	7/8	1-3/8	1/4	RFGD02E-18.0-646
R404A / R507	07	9	31.7	5/8	7/8	1/4	RFGD03E-9.0-627
	07	9	31.7	5/8	1-1/8	1/4	RFGD03E-9.0-628
	08	11	38.7	5/8	1-1/8	1/4	RFGD03E-11.0-630
	08	11	38.7	7/8	1-1/8	1/4	RFGD03E-11.0-632
	09	13	45.7	7/8	1-1/8	1/4	RFGD03E-13.0-634
	09	13	45.7	7/8	1-3/8	1/4	RFGD03E-13.0-636
R134a	07	8.0	28.1	5/8	7/8	1/4	RFGD04E-8.0-601
	07	8.0	28.1	5/8	1-1/8	1/4	RFGD04E-8.0-602
	08	10.0	35.2	5/8	1-1/8	1/4	RFGD04E-10.0-604
	08	10.0	35.2	7/8	1-1/8	1/4	RFGD04E-10.0-606
	09	12.0	42.2	7/8	1-1/8	1/4	RFGD04E-12.0-608
	09	12.0	42.2	7/8	1-3/8	1/4	RFGD04E-12.0-610
R410A	07	15.0	52.8	5/8	7/8	1/4	RFGD05E-15.0-647
	07	15.0	52.8	5/8	1-1/8	1/4	RFGD05E-15.0-648
	08	19.0	66.8	5/8	1-1/8	1/4	RFGD05E-19.0-650
	08	19.0	66.8	7/8	1-1/8	1/4	RFGD05E-19.0-652
	09	23.0	80.9	7/8	1-1/8	1/4	RFGD05E-23.0-654
	09	23.0	80.9	7/8	1-3/8	1/4	RFGD05E-23.0-656

**Note:**

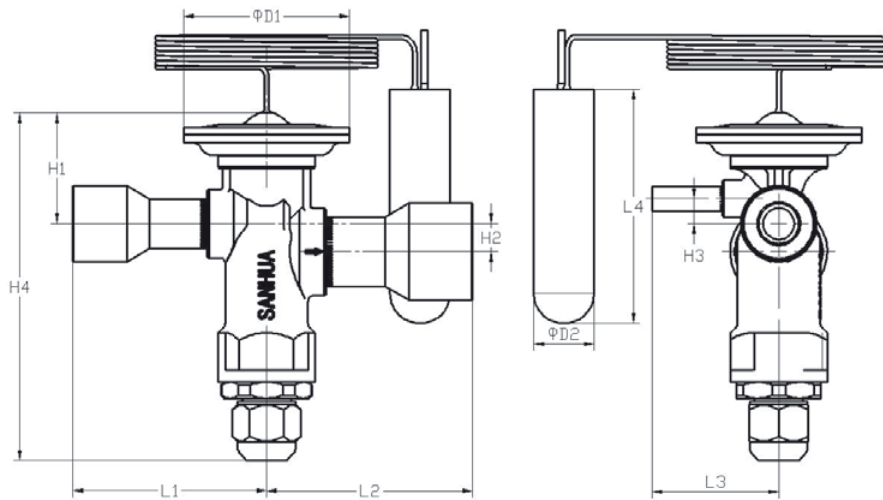
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- 2) Optional industrial package

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## Thermostatic Expansion Valve



### DIMENSIONS



Series	Connections Inlet/Outlet		Capillary length [m]										
	Imperial [inch]	Metric [mm]		H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	ΦD1 [mm]	ΦD2 [mm]
RFGD10	3/8×5/8	10×16	1.5	30	7.5	5	97	41.5	45.5	37.5	67	45	14.5
	1/2×7/8	12×22						41.5	59.5				
	5/8×7/8	16×22						45.5	59.5				
RFGD20	5/8×7/8	16×22	1.5	32	9	8	111	48	62	40.5	75	53	19.2
	5/8×1-1/8	16×28						48	66				
	7/8×1-1/8	22×28						62	66				
	7/8×1-3/8	22×35						62	66				