

Product specification

Technical data

Max. temperature on thermostatic element:

MAH: 150 °C / 302 °F

K: 150 °C / 302 °F

N: 100 °C / 210 °F

Max. temperature on valve body: 110 °C / 230 °F

Max. working pressure: 49 bar / 711 psig.

Max. test pressure: 54 bar / 783 psig.

Table 1: Standard evaporating temperature ranges

Charge	Temperature range
MAH	-30 – 15 °C / -22 – 60 °F
N	-40 – 10 °C / -40 – 50 °F without MOP
K	-25 – 10 °C, MOP 15 °C / -15 – 50 °F, MOP 60 °F

Table 2: Max. operating pressure

Refrigerant	Range K: -25 – 10 °C / -15 – 50 °F, MOP +15 °C / +60 °F
	MOP point in evaporating pressure pe
R410A	11.4 bar / 165 psig
R22	6.9 bar / 100 psig
R134a	3.8 bar / 55 psig
R407C	6.6 bar / 95 psig
R404A/ R507	8.3 bar / 120 psig

i NOTE:

MOP for R32, R452B, R454B, R1234ze, R407F, R407A and R290, please contact Danfoss for more info.

Table 3: Connections

Type	Inlet solder ODF [inch]	Inlet solder ODF [mm]	Outlet solder ODF [inch]	Outlet solder ODF [mm]
TGE 10	3/8, 1/2, 5/8, 7/8	10, 12, 16, 22	5/8, 7/8, 1 1/8	16, 22, 28
TGE 20	5/8, 7/8, 1 1/8	16, 22, 28	5/8, 7/8, 1 1/8, 1 3/8	16, 22, 28, 35
TGE 40	7/8, 1 1/8	22, 28	7/8, 1 1/8, 1 3/8	22, 28, 35

Table 4: Capillary tube length

Type	Capillary tube length	
TGE 10 / TGE 20	1.5 m	59 inch
TGE 40	3 m	118 inch

Valve options

In addition to the standard programme, variants of following options may be available:

- Refrigerants
- Evaporating temperature range
- MOP point
- Static superheat setting (0K – 8K / 0 – 14.4 °F)
- Mechanical connections
- Bleed function (15% or 30%)

i NOTE:

Please contact your nearest Danfoss sales office to discuss valve options.

Refrigerants

Refrigerants: R410A, R32, R452B, R454B, R22, R134a, R1234ze, R407F, R407A, R404A, R507, R407C and R290.

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For other refrigerants, please contact Danfoss.

i NOTE:

This product is approved for R290, R32, R452B, R454B by ignition source assessment in accordance to standard EN ISO80079-36 .

Capacity table

Table 5: Rated capacity²⁾

Valve type	Orifice no.	Range N, K, MAH																							
		R410A		R32		R452B ⁴⁾		R454B ⁴⁾		R22		R134a		R1234ze		R407F		R407A		R404A / R507		R407C		R290	
		KW	TR	KW	TR	KW	TR	KW	TR	KW	TR	KW	TR	KW	TR	KW	TR	KW	TR	KW	TR	KW	TR	KW	TR
TGE 10	3	12	3.5	18	5	12	3.5	12	3.5	10	3	6	1.5	5	1.5	10	3	9	2.5	7	2	9	2.5	10	3
	4	16	4.5	24	7	16	4.5	18	5.0	14	4	8	2.5	7	2	14	4	12	3.5	9	2.5	13	3.5	14	4
	6	24	6.5	35	10	24	6.5	26	7.5	20	6	12	3.5	10	3	20	6	17	5	14	4	19	5	19	5
	8	32	9	47	13	32	9	35	10	27	7.5	17	4.5	14	4	27	7.5	23	6.5	18	5	25	7	25	7
	9	37	11	54	15	38	11	42	12	32	9	20	5.5	16	4.5	32	9	28	8	21	6	30	8.5	32	9
	11	45	13	68	19	46	13	49	14	38	11	24	7	20	5.5	40	11	34	10	26	7.5	36	10	36	10
	12.5	50	14	74	21	50	14	56	16	43	12	29	8	22	6	43	12	39	11	31	9	39	11	44	12
	16	60	17	87	25	60	17	67	19	50	14	35	9.5	27	7.5	50	14	46	13	35	10	49	14	50	14
TGE 20	12.5	54	15	81	23	55	15	56	16	43	12	29	8	22	6	46	13	39	11	31	9	42	12	44	12
	16	68	19	102	29	68	19	74	21	54	15	37	10	27	7.5	57	16	50	14	39	11	53	15	54	15
	20	79	23	120	34	81	23	88	25	63	18	44	12	31	8.5	67	19	59	17	45	13	62	18	63	18
	21 ³⁾	91	26	135	38	98	28	102	29	75	21	51	15	39	11	82	23	72	21	53	15	77	22	75	21
TGE 40	26	110	31	165	47	117	33	120	34	92	26	61	17	49	14	95	27	80	23	64	18	84	24	92	26
	30	125	35	187	53	134	38	137	39	104	30	70	20	57	16	108	31	91	26	72	21	95	27	106	30
	40	161	46	236	67	172	49	179	51	134	38	87	25	72	20	138	39	116	33	92	26	121	34	133	38
	42	182	52	273	78	208	59	208	59	148	42	102	29	81	23	165	47	140	40	105	30	148	42	152	43

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²⁾ The rated capacity is based on:

Evaporating temperature t_e : 4.4 °C / 40 °F

Condensing temperature t_c : 38 °C / 100 °F

Refrigerant temperature ahead of valve t_1 : 37 °C / 98 °F

³⁾ Contact Danfoss for more information

⁴⁾ New sales code numbers are on request.

Valve selection based on capacity calculation

As for extended capacity calculations and valve selection based on capacities and refrigerants, please refer to Coolselector^{®2}. Rated and extended capacities are calculated with the Coolselector^{®2} calculation engine to ARI standards with the ASEREP equations based on laboratory measurements of selected valves.

Dimensions and weights

Figure 6: Type TGE 10, TGE 20 and TGE 40

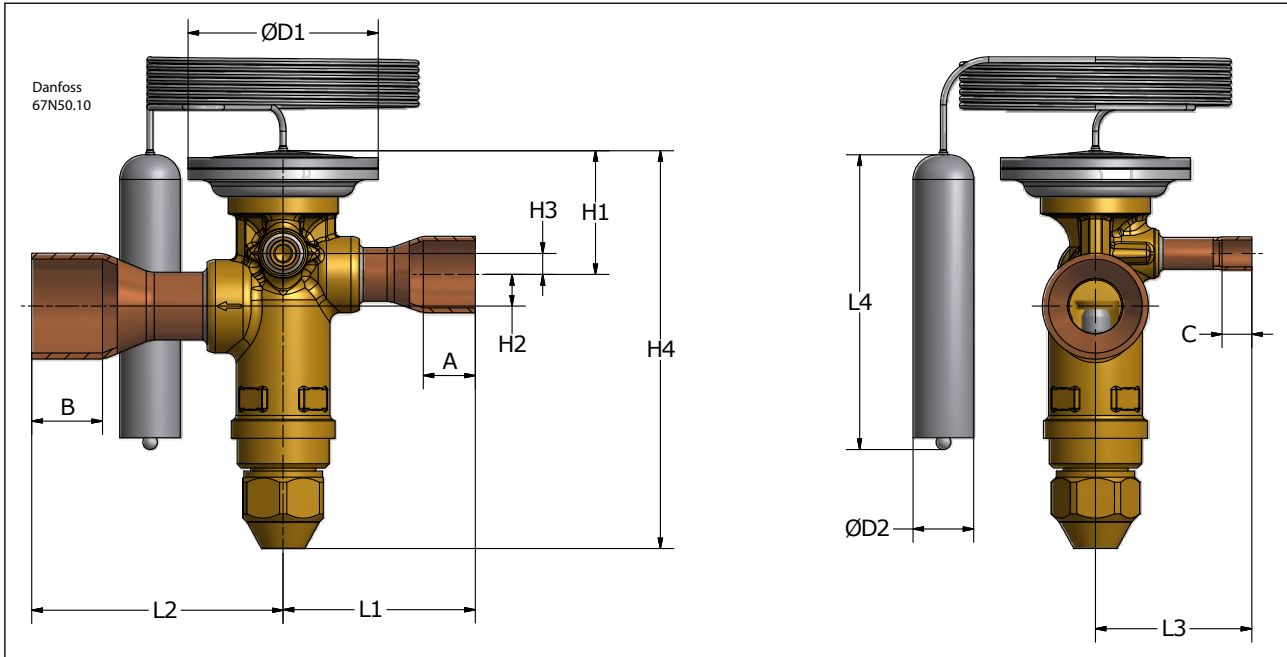


Table 6: Dimensions and weight in SI units

Type	Connections. ODF solder inlet x outlet x equalization		Capillary tube length [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	ØD1 [mm]	ØD2 [mm]	A [mm]	B [mm]	C [mm]	Weight [kg]
	[in.]	[mm]															
TGE 10	3/8 x 5/8 x 1/4	10 x 16 x 6	1.5	28.5	7.5	5.0	95.0	41.5	45.5	37.0	70	45	14.35	9.0	12	7	0.37
	1/2 x 5/8 x 1/4	12 x 16 x 6	1.5	28.5	7.5	5.0	95.0	41.5	45.5	37.0	70	45	14.35	10	12	7	0.37
	1/2 x 7/8 x 1/4	12 x 22 x 6	1.5	28.5	7.5	5.0	95.0	41.5	59.5	37.0	70	45	14.35	10	17	7	0.37
	5/8 x 5/8 x 1/4	16 x 16 x 6	1.5	28.5	7.5	5.0	95.0	45.5	45.5	37.0	70	45	14.35	12	12	7	0.37
	5/8 x 7/8 x 1/4	16 x 22 x 6	1.5	28.5	7.5	5.0	95.0	45.5	59.5	37.0	70	45	14.35	12	17	7	0.37
	5/8 x 1 1/8 x 1/4	16 x 28 x 6	1.5	28.5	7.5	5.0	95.0	45.5	59.5	37.0	70	45	14.35	12	20	7	0.37
	7/8 x 7/8 x 1/4	22 x 22 x 6	1.5	28.5	7.5	5.0	95.0	45.5	59.5	37.0	70	45	14.35	12	17	7	0.37
	7/8 x 1 1/8 x 1/4	22 x 28 x 6	1.5	28.5	7.5	5.0	95.0	45.5	59.5	37.0	70	45	14.35	12	20	7	0.37
TGE 20	5/8 x 5/8 x 1/4	16 x 16 x 6	1.5	32.0	9.0	8.0	121	48.0	62.0	40.5	78	53	19.20	12	12	7	0.57
	5/8 x 7/8 x 1/4	16 x 22 x 6	1.5	32.0	9.0	8.0	121	48.0	62.0	40.5	78	53	19.20	12	17	7	0.57
	5/8 x 1 1/8 x 1/4	16 x 28 x 6	1.5	32.0	9.0	8.0	121	48.0	66.0	40.5	78	53	19.20	12	20	7	0.57
	7/8 x 7/8 x 1/4	22 x 22 x 6	1.5	32.0	9.0	8.0	121	62.0	62.0	40.5	78	53	19.20	17	17	7	0.57
	7/8 x 1 1/8 x 1/4	22 x 28 x 6	1.5	32.0	9.0	8.0	121	62.0	66.0	40.5	78	53	19.20	17	20	7	0.57
	7/8 x 1 3/8 x 1/4	22 x 35 x 6	1.5	32.0	9.0	8.0	121	62.0	66.0	40.5	78	53	19.20	17	24	7	0.57
	1 1/8 x 1 1/8 x 1/4	28 x 28 x 6	1.5	32.0	9.0	8.0	121	62.0	66.0	40.5	78	53	19.20	20	20	7	0.57
	1 1/8 x 1 3/8 x 1/4	28 x 35 x 6	1.5	32.0	9.0	8.0	121	62.0	66.0	40.5	78	53	19.20	20	24	7	0.57
TGE 40	7/8 x 7/8 x 1/4	22 x 22 x 6	3	39.0	15	11	148	65.5	69.5	43.5	78	60	19.20	17	20	7	0.93
	7/8 x 1 1/8 x 1/4	22 x 28 x 6	3	39.0	15	11	148	65.5	69.5	43.5	78	60	19.20	17	20	7	0.93
	7/8 x 1 3/8 x 1/4	22 x 35 x 6	3	39.0	15	11	148	65.5	74.5	43.5	78	60	19.20	17	25	7	0.93
	1 1/8 x 1 1/8 x 1/4	28 x 28 x 6	3	39.0	15	11	148	69.5	69.5	43.5	78	60	19.20	20	20	7	0.93
	1 1/8 x 1 3/8 x 1/4	28 x 35 x 6	3	39.0	15	11	148	69.5	74.5	43.5	78	60	19.20	20	25	7	0.93

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Thermostatic expansion valves, Type TGE

Table 12: R22/R407C¹⁾, Range N -40 – 10 °C / -40 –50 °F, OS = 4 K / 7.2 °F"

Valve type	Orifice no.	Rated capacity		Connections solder ODF Inlet x Outlet		Pressure equalization		Code no. Multi pack
		[KW]	[TR]	[inch]	[mm]	[inch]	[mm]	
TGE 10	3	10	3	3/8 x 5/8	–	1/4	–	067N2150
TGE 10	3	10	3	1/2 x 5/8	–	1/4	–	067N2151
TGE 10	4	14	4	1/2 x 7/8	–	1/4	–	067N2152
TGE 10	6	20	6	1/2 x 5/8	–	1/4	–	067N2153
TGE 10	6	20	6	1/2 x 7/8	–	1/4	–	067N2154
TGE 10	6	20	6	–	12 x 22	–	6	067N2194
TGE 10	6	20	6	–	16 x 16	–	6	067N2263
TGE 10	6	20	6	5/8 x 7/8	–	1/4	–	067N2155
TGE 10	8	27	7.5	5/8 x 7/8	–	1/4	–	067N2156
TGE 10	8	27	7.5	–	16 x 22	–	6	067N2196
TGE 10	9	32	9	5/8 x 7/8	–	1/4	–	067N2460
TGE 10	9	32	9	–	16 x 22	–	6	067N2281
TGE 10	11	38	11	5/8 x 7/8	–	1/4	–	067N2157
TGE 10	11	38	11	–	16 x 22	–	6	067N2197
TGE 10	11	38	11	5/8 x 1 1/8	–	1/4	–	067N2158
TGE 10	11	38	11	–	16 x 28	–	6	067N2198
TGE 10	12.5	43	12	5/8 x 7/8	–	1/4	–	067N2720
TGE 10	16	50	14	5/8 x 1 1/8	–	1/4	–	067N2721
TGE 10	16	50	14	7/8 x 1 1/8	–	1/4	–	067N2722
TGE 20	12.5	43	12	5/8 x 7/8	–	1/4	–	067N2159
TGE 20	12.5	43	12	5/8 x 1 1/8	–	1/4	–	067N2160
TGE 20	12.5	43	12	–	16 x 28	–	6	067N2200
TGE 20	16	54	15	5/8 x 7/8	–	1/4	–	067N2255
TGE 20	16	54	15	5/8 x 1 1/8	–	1/4	–	067N2161
TGE 20	16	54	15	7/8 x 1 1/8	–	1/4	–	067N2162
TGE 20	20	63	18	7/8 x 1 1/8	–	1/4	–	067N2163
TGE 20	20	63	18	7/8 x 1 3/8	–	1/4	–	067N2164
TGE 40	26	92	26	7/8 x 1 1/8	–	1/4	–	067N2251
TGE 40	26	92	26	7/8 x 1 3/8	–	1/4	–	067N2165
TGE 40	30	104	30	7/8 x 1 3/8	–	1/4	–	067N2167
TGE 40	30	104	30	1 1/8 x 1 3/8	–	1/4	–	067N2168
TGE 40	40	134	38	1 1/8 x 1 3/8	–	1/4	–	067N2169
TGE 40	42	148	42	1 1/8 x 1 3/8	–	1/4	–	067N2283

The rated capacity is based on:

Evaporating temperature t_e : 4.4 °C / 40 °F

Condensing temperature t_c : 38 °C / 100 °F

Refrigerant temperature ahead of valve t_1 : 37 °C / 98 °F

¹⁾ For R407C plants, please select valves from the dedicated R407C program.

Table 13: R22/R407C¹⁾, Range K -25 – 10 °C / -15 – 50 °F with MOP 15 °C / 60 °F, OS = 4 K / 7.2 °F

Valve type	Orifice no.	Rated capacity		Connections solder ODF		Code no. Multi pack
		[KW]	[TR]	Inlet x Outlet [inch]	Pressure equalization [inch]	
TGE 10	3	10	3	3/8 x 5/8	1/4	067N2000
TGE 10	3	10	3	1/2 x 5/8	1/4	067N2001
TGE 10	4	14	4	1/2 x 7/8	1/4	067N2002
TGE 10	6	20	6	1/2 x 5/8	1/4	067N2003
TGE 10	6	20	6	5/8 x 7/8	1/4	067N2005
TGE 10	8	27	7.5	5/8 x 7/8	1/4	067N2006
TGE 10	9	32	9	5/8 x 7/8	1/4	067N2415
TGE 10	11	38	11	5/8 x 7/8	1/4	067N2007
TGE 10	11	38	11	5/8 x 1 1/8	1/4	067N2008
TGE 10	12.5	43	12	5/8 x 7/8	1/4	067N2700
TGE 10	16	50	14	7/8 x 1 1/8	1/4	067N2701

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Valve type	Orifice no.	Rated capacity		Connections solder ODF		Code no. Multi pack
		[KW]	[TR]	Inlet x Outlet [inch]	Pressure equalization [inch]	
TGE 20	12.5	43	12	5/8 x 7/8	1/4	067N2009
TGE 20	12.5	43	12	5/8 x 1 1/8	1/4	067N2010
TGE 20	16	54	15	5/8 x 1 1/8	1/4	067N2011
TGE 20	16	54	15	7/8 x 1 1/8	1/4	067N2012
TGE 20	20	63	18	7/8 x 1 1/8	1/4	067N2013
TGE 20	20	63	18	7/8 x 1 3/8	1/4	067N2014
TGE 40	26	92	26	7/8 x 1 3/8	1/4	067N2015
TGE 40	26	92	26	1 1/8 x 1 3/8	1/4	067N2016
TGE 40	30	104	30	7/8 x 1 3/8	1/4	067N2017
TGE 40	30	104	30	1 1/8 x 1 3/8	1/4	067N2018
TGE 40	40	134	38	1 1/8 x 1 3/8	1/4	067N2019

The rated capacity is based on:

Evaporating temperature t_e : 4.4 °C / 40 °F

Condensing temperature t_c : 38 °C / 100 °F

Refrigerant temperature ahead of valve t_1 37 °C / 98 °F

1) For R407C plants, please select valves from the dedicated R407C program.

Table 14: R22/R407C 1), Range MAH -30 – 15 °C / -22 – 60 °F with anti hunting charge, OS = 4 K / 7.2 °F

Valve type	Orifice no.	Rated capacity		Connections solder ODF		Code no. Multi pack
		[KW]	[TR]	Inlet x Outlet [inch]	Pressure equalization [inch]	
TGE 10	6	20	6	1/2 x 7/8	1/4	067N9404
TGE 10	8	27	7.5	5/8 x 7/8	1/4	067N9406
TGE 10	11	38	11	5/8 x 7/8	1/4	067N9407
TGE 20	12.5	43	12	5/8 x 7/8	1/4	067N9409
TGE 20	16	54	15	7/8 x 1 1/8	1/4	067N9412
TGE 20	20	63	18	7/8 x 1 1/8	1/4	067N9413
TGE 40	26	92	26	7/8 x 1 3/8	1/4	067N9415
TGE 40	30	104	30	1 1/8 x 1 3/8	1/4	067N9418
TGE 40	40	134	38	1 1/8 x 1 3/8	1/4	067N9419

The rated capacity is based on:

Evaporating temperature t_e : 4.4 °C / 40 °F

Condensing temperature t_c : 38 °C / 100 °F

Refrigerant temperature ahead of valve t_1 37 °C / 98 °F

1) For R407C plants, please select valves from the dedicated R407C program.

Table 15: R134a, Range N -40 – 10 °C / -40 – 50 °F, OS = 4 K / 7.2 °F

Valve type	Orifice no.	Rated capacity		Connections solder ODF				Code no. Multi pack
		[KW]	[TR]	Inlet x Outlet		Pressure equalization		
				[inch]	[mm]	[inch]	[mm]	
TGE 10	3	6	1.5	3/8 x 5/8	–	1/4	–	067N5150
TGE 10	3	6	1.5	–	12 x 16	–	6	067N5191
TGE 10	4	8	2.5	1/2 x 7/8	–	1/4	–	067N5152
TGE 10	4	8	2.5	–	12 x 22	–	6	067N5192
TGE 10	6	12	3.5	1/2 x 5/8	–	1/4	–	067N5153
TGE 10	6	12	3.5	1/2 x 7/8	–	1/4	–	067N5154
TGE 10	6	12	3.5	–	16 x 22	–	6	067N5195
TGE 10	8	17	4.5	5/8 x 7/8	–	1/4	–	067N5156
TGE 10	8	17	4.5	–	16 x 22	–	6	067N5196
TGE 10	9	20	5.5	5/8 x 7/8	–	1/4	–	067N5260
TGE 10	11	24	7	5/8 x 7/8	–	1/4	–	067N5157
TGE 10	12.5	29	8	5/8 x 7/8	–	1/4	–	067N5720
TGE 10	16	35	9.5	7/8 x 1 1/8	–	1/4	–	067N5721
TGE 20	12.5	29	8	5/8 x 7/8	–	1/4	–	067N5159
TGE 20	16	37	10	5/8 x 1 1/8	–	1/4	–	067N5161