



MIRACLE HILL
CHINA REFRIGERATION

THERMOSTATIC EXPANSION VALVES

REFRIGERATION
COOLING SYSTEM



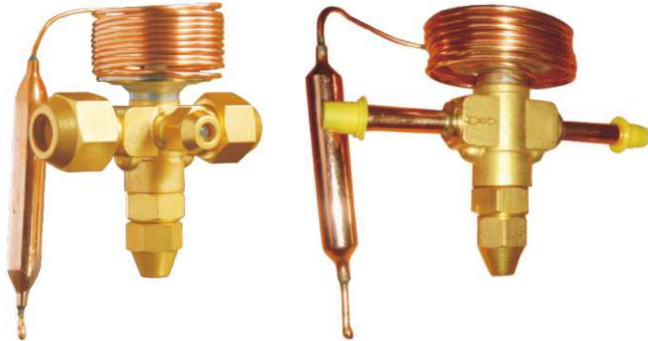
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THERMOSTATIC EXPANSION VALVE

RVA



**RVA
Integrated Valves**

λ Description

RVA Thermostatic Expansion Valves are integrated valves of freezing, air conditioning, commercial refrigeration and transportation A/C and refrigeration system.

λ Features

- a. Constant superheat adjusting performance.
- b. Evaporating temperature range:-40°C ~ +10°C
- c. Changeable inputing filter net.
- d. Suitable for R22, R407c, R134a, R410a, R404a, R507.

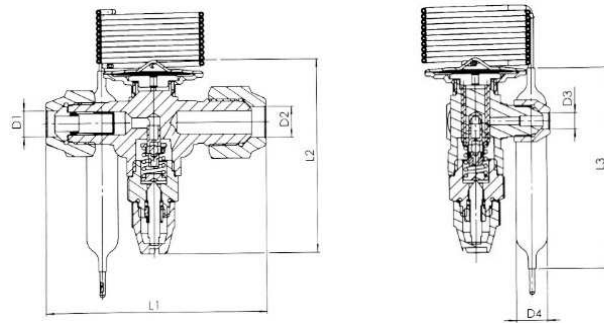
λ Certificates



λ Drawing

NO.: MDRVA
DATE:2016-5-20

Model	Dimension(mm)						
	L1	L2	L3	D1	D2	D3	D4
RVØ0.5-3A	86	75	75	Ø10	Ø12	Ø6	Ø12
RVØ4-5A	94	83	75	Ø10	Ø16	Ø6	Ø12
RVØ7-9A	110	100	95	Ø16	Ø16	Ø6	Ø14
RVØ11-13A	120	130	95	Ø19	Ø19	Ø6	Ø16



λ Technical Data

Model	Nominal Capacity							
	R22 (R407c)		R134a		R410a		R404a (R507)	
	KW	RT	KW	RT	KW	RT	KW	RT
RVØ0.5A	1.28	0.36	1.01	0.29	1.49	0.42	0.90	0.25
RVØ0.8A	1.86	0.53	1.45	0.41	2.16	0.61	1.31	0.37
RVØ1A	2.33	0.66	1.75	0.50	2.71	0.77	1.64	0.46
RVØ1.2A	2.83	0.80	2.18	0.62	3.29	0.93	1.99	0.56
RVØ1.5A	3.60	1.02	2.76	0.78	4.19	1.19	2.53	0.72
RVØ2A	4.77	1.36	3.64	1.04	4.55	1.57	3.35	0.95
RVØ3A	10.00	2.84	7.26	2.06	11.63	3.29	7.02	1.99
RVØ4A	17.44	4.96	13.09	3.72	20.28	5.75	12.24	3.47
RVØ5A	21.51	6.12	16.43	4.67	25.01	7.09	15.09	4.28
RVØ7A	30.23	8.60	22.96	6.35	35.15	9.96	21.21	6.01
RVØ9A	53.49	15.21	39.25	11.16	62.20	17.62	37.54	10.64
RVØ11A	69.77	19.80	57.20	16.25	81.13	22.99	48.98	13.87
RVØ13A	157.00	44.60	124.5	35.40	182.56	51.72	110.18	31.22

*Nominal capacity is based on evaporating temperature 5°C, condensing temperature 38°C.



THERMOSTATIC EXPANSION VALVE

RVH



**RVH
Changeable Orifices**

λ Description

RVH with interchangeable orifices, can be suitable for automatic supply and regulation of refrigerating agent of small and middle size dry evaporator.

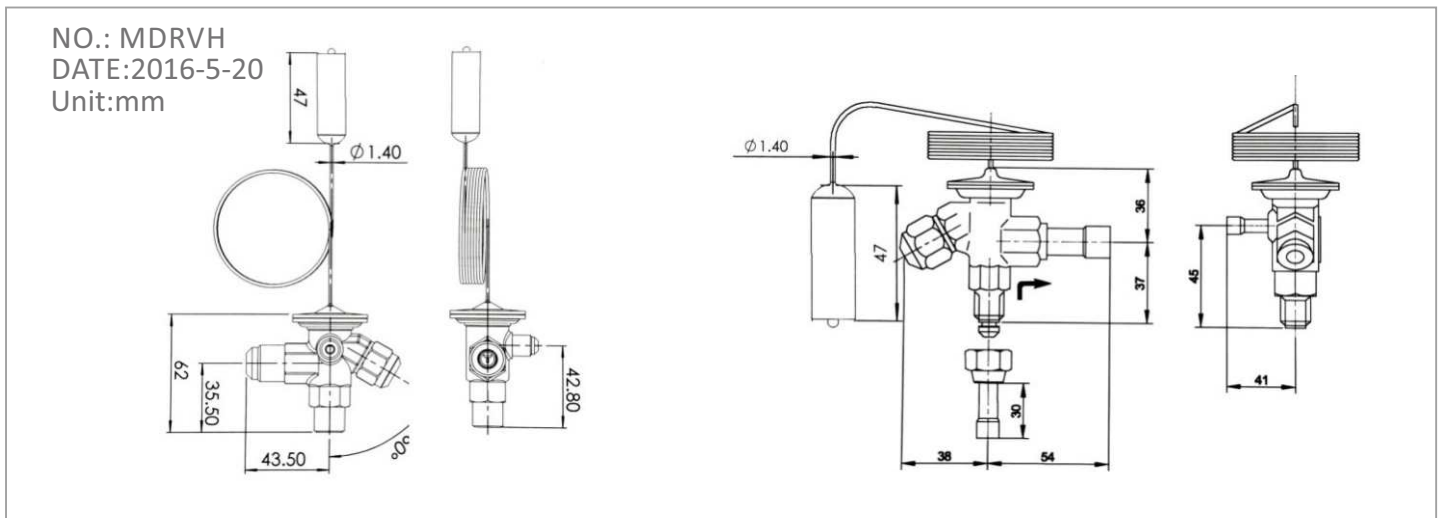
λ Features

- a. Constant superheat adjusting performance.
- b. Evaporating temperature range:-40°C ~ +10°C.
- c. Changeable orifices.
- d. Suitable for R22, R407c, R134a, R404a, R507.
- e. SAE or ODF connection.

λ Certificates



λ Drawing



λ Specification

Refrigerant	Model		Balanced Way	Capillary Vessel mm	Inlet inch/mm	Outlet inch/mm	Equalizing Port inch/mm
R22	R22N-H	TX2	INNER	1500	3/8" / 9.52	1/2" / 12.7	
	R22W-H	TEX2	OUTER	1500	3/8" / 9.52	1/2" / 12.7	1/4" / 6.35
R407c	R407CN-H	TZ2	INNER	1500	3/8" / 9.52	1/2" / 12.7	
	R407CW-H	TEZ2	OUTER	1500	3/8" / 9.52	1/2" / 12.7	1/4" / 6.35
R134a	R134AN-H	TN2	INNER	1500	3/8" / 9.52	1/2" / 12.7	
	R134AW-H	TEN2	OUTER	1500	3/8" / 9.52	1/2" / 12.7	1/4" / 6.35
R404a R507	R404A/R507N-H	TS2	INNER	1500	3/8" / 9.52	1/2" / 12.7	
	R404A/R507W-H	TES2	OUTER	1500	3/8" / 9.52	1/2" / 12.7	1/4" / 6.35



THERMOSTATIC EXPANSION VALVE

RVH

Technical Data

Model	Nominal Capacity							
	R22		R407c		R134a		R404a (R507)	
	KW	RT	KW	RT	KW	RT	KW	RT
0X	0.50	0.15	0.50	0.16	0.40	0.11	0.38	0.11
00	1.00	0.30	1.10	0.30	0.90	0.25	0.70	0.21
01	2.50	0.70	2.70	0.60	1.80	0.50	1.60	0.45
02	3.50	1.00	3.80	1.10	2.60	0.80	2.10	0.60
03	5.20	1.50	5.60	1.60	4.80	1.30	4.20	1.20
04	8.00	2.30	8.60	2.50	6.70	1.90	6.00	1.70
05	10.50	3.00	11.30	3.20	8.60	2.50	7.70	2.20
06	15.50	4.50	16.70	4.90	10.50	3.00	9.10	2.60

*Nominal capacity is based on evaporating temperature 5°C, condensing temperature 38°C.



THERMOSTATIC EXPANSION VALVE

RVTGE



**RVTGE
BP design**

λ Description

RVTGE Thermostatic Expansion Valves are combined with series of designs, suitable for air conditioning systems, heat pumps, water chillers, refrigerated containers and etc.

λ Features

- a. Adjustable superheat setting.
- b. Low hysteresis.
- c. Laser welded, stainless steel power element/capillary tube.
- d. Straightway flow design, balance port design(BP).
- e. Refrigerant: R22, R407c, R134a, R410a, R404a, R507.

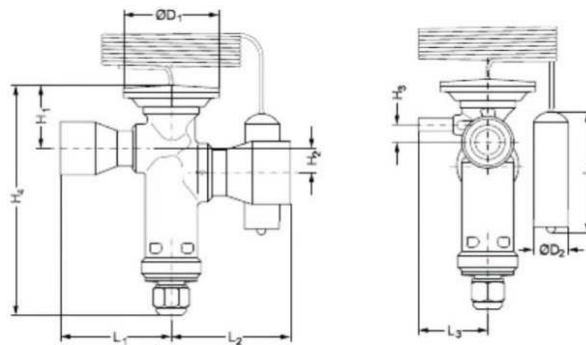
λ Certificates



λ Drawing

NO.: MDRV TGE
DATE:2016-5-20

Model	Capillary Vessel ft (mm)	H1 in (mm)	H2 in (mm)	H3 in (mm)	H4 in (mm)	L1 in (mm)	L2 in (mm)	L3 in (mm)	L4 in (mm)	D1 in (mm)	D2 in (mm)
TGE10	4.92 (1.5)	1.12 (28.5)	0.3 (7.5)	0.20 (5)	3.66 (93)	1.63 (41.5)	1.79 (45.5)	1.48 (37.5)	2.76 (70)	1.77 (45)	0.57 (14.5)
						1.79 (45.5)	2.34 (59.5)				
TGE20	4.92 (1.5)	1.26 (32)	0.35 (9)	0.31 (8)	4.61 (117)	1.89 (48)	2.44 (62)	1.57 (40)	3.07 (78)	2.09 (53)	0.76 (19.2)
						2.44 (62)	2.60 (66)				



λ Technical Data

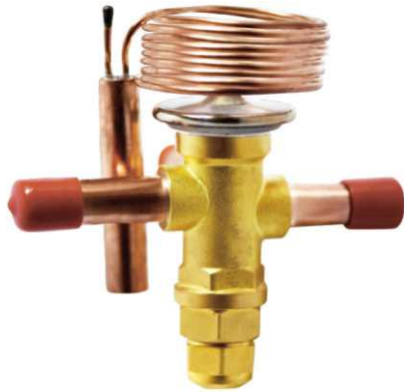
Model	Connection inlet x outlet in (mm)	TGEX/TGEZ R22/R407c			TGEN R134a			TGES R404a/R507			TGEL R410a		
		Capacity		Number	Capacity		Number	Capacity		Number	Capacity		Number
RT	KW	RT	KW		RT	KW		RT	KW		RT	KW	
TGE10	3/8 (9.52)x5/8 (16)	3	10	N2150 (4150)	1.5	6	N5150	2	7	N6170	3.5	12	N3150
	1/2 (12.7)x5/8 (16)	3	10	N2151 (4151)	1.5	6	N5151	2	7	N6171	3.5	12	N3151
	1/2 (12.7)x7/8 (22)	4	14	N2152 (4152)	2.5	8	N5152	2.5	8	N6172	4.5	17	N3152
	1/2 (12.7)x5/8 (16)	6	20	N2153 (4153)	3.5	12	N5153	4	14	N6173	6.5	23	N3153
	1/2 (12.7)x7/8 (22)	6	20	N2154 (4154)	3.5	12	N5154	4	14	N6151	6.5	23	N3154
	5/8 (16)x7/8 (22)	6	20	N2155 (4155)	3.5	12	N5155	4	14	N6174	6.5	23	N3155
	5/8 (16)x7/8 (22)	7.5	27	N2156 (4156)	4.5	17	N5156	5	18	N6175	9	31	N3156
	5/8 (16)x7/8 (22)	11	38	N2157 (4157)	7	24	N5157	7.5	27	N6154	13	45	N3157
TGE20	5/8 (16)x1-1/8 (29)	11	38	N2158 (4158)	7	24	N5158	7.5	27	N6178	13	45	N3158
	5/8 (16)x7/8 (22)	12	43	N2159 (4159)	8	29	N5159	9	31	N6158	15	54	N3159
	5/8 (16)x1-1/8 (29)	12	43	N2160 (4160)	8	29	N5160	9	31	N6180	15	54	N3160
	5/8 (16)x1-1/8 (29)	15	54	N2161 (4161)	10	37	N5161	11	38	N6155	19	68	N3161
	7/8 (22)x1-1/8 (29)	15	54	N2162 (4162)	10	37	N5162	11	38	N6181	19	68	N3162
	7/8 (22)x1-1/8 (29)	18	63	N2163 (4163)	12	43	N5163	13	45	N6162	23	79	N3163
7/8 (22)x1-3/8 (35)	18	63	N2164 (4164)	12	43	N5164	13	45	N6183	23	79	N3164	

*Nominal capacity is based on evaporating temperature 5°C, condensing temperature 38°C.



THERMOSTATIC EXPANSION VALVE

RVTRE



**RVTRE
Built-in Check Valves**

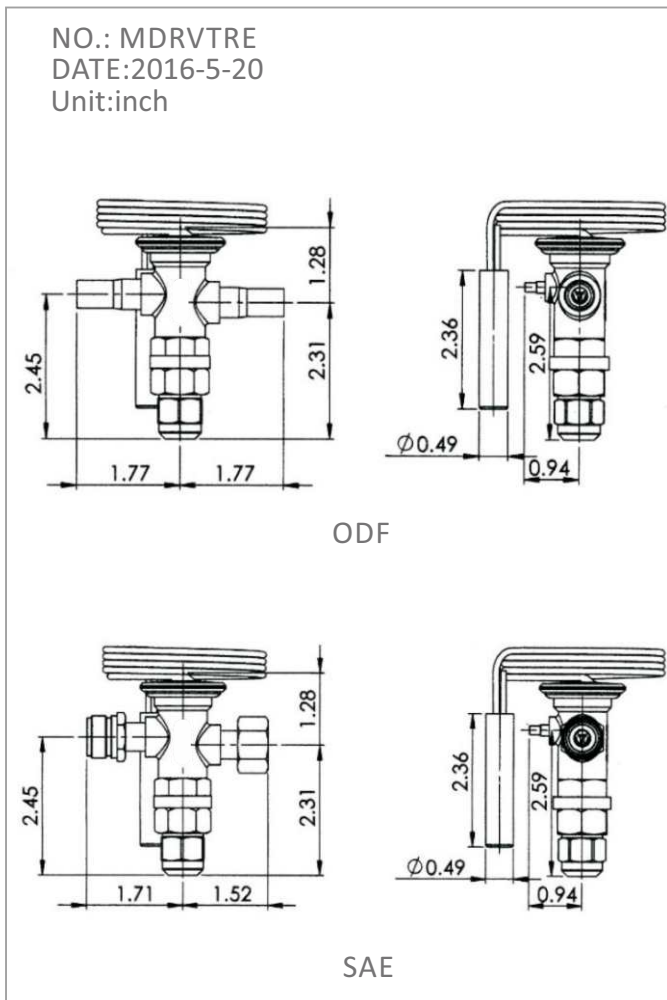
λ Description

RVTRE meet the demand of the environment at present or in the future, suitable for air conditioning systems, split systems, rooftop units, heat pump systems, samll commercial AC and water-cooled units.

Tr6 valves is suitable for R410a refrigerant, whose cooling capacity specification includes, 2, 3, 4, 5, 6 TR. TR Series expansion valve are made of hot pressed forging brass with a full set of execute components. Besides, the supply standard is straight through with external equalizers and external thermal regulation guides.

In addition, it is available on request with or without built-in check valve. All valves have their balance ports, for reducing the impact on the condensing pressure changes according to the requirements.

λ Drawing



λ Features

- Constant superheat adjusting performance.
- Evaporating temperature range:-40°C ~ +10°C
- Changeable inputing filter net.
- Suitable for R22, R407c, R134a, R410a, R404a, R507.

λ Certificates



λ Technical Data

Feature	Parameter	
	DOF (TRE410A-h)	SAE (TRE410A)
Check Valve	yes	yes
Capillary Length	31" (790mm)	31" (790mm)
Equilibrium Capillary Length	24" (610mm)	24" (610mm)
Equilibrium Capillary Type	DOF	7/16UNF
Equilibrium Capillary Dim.	1/4" (6.35)	1/4" (6.35)
Superheat Adjustment	yes	yes
Inlet Connection	3/8" (9.52mm)	3/4" -20UNF-2A
Outlet Connecton	3/8" (9.52mm)	3/4" -20UNF-2B
MWP	45.5bar (660psig)	45.5bar (660psig)
Cooling Capacity	2-6RT (7-21KW)	2-6RT (7-21KW)
Temperature Range	-10°C ~ +15°C	-10°C ~ +15°C



THERMOSTATIC EXPANSION VALVE

RVTF



**RVTF
Small Valves**

λ Description

RVTF Thermostatic Expansion Valves is for heat pump systems and small refrigeration systems, superheat is divided into adjustable and non adjustable. Besides those items above, more customized products are available.

λ Features

- a. Suitable for small heat pump & refrigeration system (<=3p).
- b. ODF copper tube welding.
- c. Suitable for R22, R407c, R134a, R404a.

λ Certificates



λ Drawing

NO.: MDRVTF
DATE:2016-5-20
Unit:mm

Type A inlet x outlet	Type B inlet x outlet
1/4"x3/8" (6mmx10mm)	3/8"x1/2" (10mmx12mm)

