

TH/ THW Thermostatic Expansion Valve



Product Description

- T-type expansion valve is a novel thermostatic expansion valve with replaceable valve element.
- T-type expansion valve is used for adjusting the supply quantity of liquid refrigerant in evaporator.

- T-type expansion valve is particularly suitable for supplying liquid refrigerant in dry-type evaporator.
- T-type expansion valve has autocontrol through regulating the superheating degree of refrigerant.

Features

- Large scope of evaporating temperature.
- be capable of providing MOP function so as not to damage the compressor motor due to overhigh evaporating pressure.
- Have two forms of internal and external equalizer; be capable of removing influence brought by loss of evaporator pressure effectively.
- Have the membrane structure with invention patent, greatly improve the working performance at low temperature.

- The bonnet adopts a secondary sealing structure to reduce the percentage of external leakage.
- With fitting orifice, convenient storage, matching and maintenance
- The temperature wrap has mixed charging technology so as to have the feature of superheating degree within the whole evaporating temperature range.

Technical Parameters

Applicable Refrigerants	R22/R407C, R134a, R404A	<ul style="list-style-type: none"> • Capillary length of T-type thermostatic expansion valve: 5m in standard; under special situation it can be customized based on clients' requirements.
Applicable Medium	R22/R407C: -40°C ~ +10°C; R134a: 30°C ~ +10°C; R404A: -40°C ~ +10°C	
Nominal Capacity	2.5KW ~ 15.5KW, 1.8KW ~ 10.5KW, 1.6KW ~ 9.1KW	
Adjustable Range of Superheat	2°C ~ 8°C	
Ex-Works Static Heat Adjustment	3.5°C	
Maximum Working Pressure	2.8MPa	
Maximum Testing Pressure	3.2MPa	

Model Selection		Spool	Condensing Temp (°C)	Cooling Capacity (KW)/(TR)												
Refrigerant	Model			Evaporation temperature (°C)												
				-40	-35	-30	-25	-20	-15	-10	-5	0	5	10		
R22/R407C	TH22/ TH22W	25	1F	1.3/0.37	1.48/0.42	1.69/0.48	1.91/0.55	2.14/0.61	2.36/0.67	2.58/0.74	2.75/0.79	2.86/0.82	2.86/0.82	2.72/0.78		
			2F	1.46/0.42	1.69/0.48	1.94/0.55	2.22/0.63	2.52/0.72	2.85/0.81	3.18/0.91	3.49/1	3.75/1.07	3.88/1.11	3.81/1.09		
			3F	2.44/0.7	2.83/0.81	3.26/0.93	3.73/1.07	4.24/1.21	4.78/1.37	5.33/1.52	5.85/1.67	6.29/1.8	6.65/1.87	6.46/1.85	6.17/1.77	
			4F	3.52/1.01	4.07/1.16	4.71/1.34	5.42/1.55	6.24/1.78	7.11/2.03	8.02/2.29	8.87/2.53	9.55/2.73	9.88/2.82	9.71/2.77	9.17/2.77	
			5F	4.6/1.31	5.31/1.52	6.14/1.75	7.08/2.02	8.15/2.33	9.34/2.67	10.62/3.03	11.86/3.39	12.91/3.69	13.48/3.85	13.29/3.8	12.39/3.8	
			6F	5.43/1.55	6.26/1.79	7.22/2.06	8.32/2.38	9.56/2.73	10.95/3.13	12.43/3.55	13.91/3.97	15.18/4.34	15.91/4.55	15.71/4.49	14.51/4.49	
	TH22/ TH22W	35	1F	1.34/0.38	1.54/0.44	1.76/0.5	2.0/57	2.26/0.65	2.53/0.72	2.8/0.8	3.06/0.87	3.27/0.93	3.4/0.97	3.43/0.98		
			2F	1.52/0.43	1.76/0.5	2.03/0.58	2.34/0.67	2.68/0.77	3.06/0.87	3.46/0.99	3.88/1.11	4.29/1.23	4.63/1.32	4.85/1.38		
			3F	2.56/0.73	2.97/0.85	3.44/0.98	3.95/1.13	4.52/1.29	5.16/1.47	5.84/1.67	6.55/1.87	7.24/2.07	7.83/2.24	8.2/2.34		
			4F	3.77/1.08	4.34/1.24	5.02/1.43	5.81/1.66	6.69/1.91	7.7/2.2	8.8/2.51	9.94/2.84	11.03/3.15	11.92/3.41	12.45/3.56		
			5F	4.92/1.41	5.67/1.62	6.54/1.87	7.57/2.16	8.76/2.5	10.13/2.89	11.68/3.34	13.35/3.81	15.4/4.29	16.4/4.69	17.19/4.91		
			6F	5.77/1.65	6.65/1.9	7.66/2.19	8.85/2.53	10.23/2.92	11.82/3.38	13.62/3.89	15.59/4.45	17.57/5.02	19.3/5.51	20.32/5.81		
	TH22/ TH22W	45	1F	1.37/0.39	1.58/0.45	1.81/0.52	2.06/0.59	2.33/0.67	2.63/0.75	2.93/0.84	3.24/0.93	3.57/1	3.74/1.07	3.87/1.11		
			2F	1.56/0.45	1.81/0.52	2.09/0.6	2.41/0.69	2.77/0.79	3.18/0.91	3.64/1.04	4.13/1.18	4.63/1.32	5.11/1.46	5.48/1.57		
			3F	2.64/0.75	3.07/0.88	3.55/1.01	4.09/1.17	4.71/1.35	5.41/1.55	6.18/1.77	7.03/2.01	7.91/2.26	8.75/2.5	9.42/2.69		
			4F	3.96/1.13	4.55/1.3	5.24/1.5	6.05/1.73	6.98/1.99	8.05/2.3	9.26/2.65	10.56/3.02	11.9/3.4	13.15/3.76	14.17/4.05		
			5F	5.17/1.48	5.94/1.7	6.84/1.95	7.91/2.26	9.16/2.62	10.64/3.04	12.53/3.58	14.28/4.08	16.35/4.67	18.32/5.23	19.87/5.68		
			6F	6.04/1.73	6.94/1.98	7.99/2.28	9.22/2.63	10.68/3.05	12.39/3.54	14.38/4.11	16.65/4.76	19.13/5.47	21.57/6.16	23.55/6.73		
		TH22/ TH22W	55	1F	1.38/0.39	1.59/0.45	1.82/0.52	2.07/0.59	2.35/0.67	2.66/0.76	2.98/0.85	3.3/0.94	3.61/1.03	3.88/1.11	4.08/1.17	
				2F	1.58/0.45	1.83/0.52	2.12/0.61	2.44/0.7	2.81/0.8	3.24/0.93	3.71/1.06	4.24/1.21	4.79/1.37	5.34/1.53	5.81/1.66	
				3F	2.68/0.77	3.11/0.89	3.61/1.03	4.16/1.19	4.81/1.37	5.52/1.58	6.34/1.81	7.26/2.07	8.25/2.36	9.24/2.64	10.09/2.88	
				4F	4.11/1.17	4.66/1.33	5.38/1.54	6.19/1.77	7.13/2.04	8.21/2.35	9.43/2.69	10.79/3.08	12.23/3.48	13.65/3.9	14.93/4.27	
				5F	5.36/1.53	6.14/1.75	7.05/2.01	8.12/2.32	9.38/2.68	10.89/3.11	12.65/3.61	14.67/4.19	16.94/4.83	19.17/5.44	21.13/6.04	
				6F	6.24/1.78	7.14/2.04	8.2/2.34	9.44/2.7	10.92/3.12	12.66/3.62	14.73/4.21	17.13/4.89	19.83/5.67	22.64/6.47	25.16/7.19	
TH134/ TH134W	25	1F	0.71/0.20	0.81/0.23	0.93/0.27	1.06/0.31	1.21/0.35	1.29/0.37	1.52/0.43	1.59/0.45	1.80/0.48	1.83/0.52	1.82/0.52			
		2F	0.79/0.23	0.89/0.25	1.02/0.29	1.19/0.34	1.43/0.41	1.52/0.43	1.72/0.49	1.82/0.55	2.12/0.61	2.21/0.63	2.19/0.63			
		3F	1.31/0.37	1.53/0.44	1.69/0.48	2.02/0.58	2.31/0.66	2.63/0.75	2.91/0.83	3.18/0.91	3.49/1.00	3.71/1.06	3.84/1.10			
		4F	1.88/0.54	2.21/0.63	2.52/0.72	2.91/0.83	3.31/0.95	3.69/1.05	4.19/1.20	4.69/1.34	5.58/1.59	5.56/1.59	5.73/1.64			
		5F	2.52/0.72	2.93/0.84	3.29/0.94	3.79/1.08	4.35/1.24	4.91/1.40	5.63/1.61	6.15/1.76	6.88/1.95	7.33/2.09	7.51/2.15			
		6F	2.99/0.85	3.38/0.97	3.91/1.12	4.51/1.29	5.23/1.49	5.88/1.68	6.72/1.92	7.56/2.16	8.25/2.36	8.76/2.50	8.99/2.57			
R134a	TH134/ TH134W	35	1F	0.71/0.20	0.82/0.23	0.98/0.28	1.12/0.32	1.16/0.33	1.39/0.40	1.30/0.37	1.80/0.51	2.02/0.58	2.02/0.58	2.13/0.61		
			2F	0.82/0.23	0.93/0.27	1.12/0.32	1.19/0.34	1.42/0.41	1.58/0.45	1.89/0.54	2.12/0.61	2.39/0.68	2.53/0.72	2.81/0.80		
			3F	1.39/0.40	1.62/0.46	1.82/0.52	2.13/0.61	2.37/0.68	2.83/0.81	3.09/0.88	3.45/0.99	4.07/1.15	4.51/1.29	4.75/1.36		
			4F	2.02/0.58	2.33/0.67	2.63/0.75	3.01/0.86	3.53/1.01	3.99/1.14	4.59/1.31	5.18/1.48	5.95/1.70	6.51/1.88	7.22/2.06		
			5F	2.73/0.78	3.01/0.86	3.52/1.01	4.02/1.15	4.62/1.32	5.33/1.52	6.08/1.74	6.91/1.97	7.76/2.22	8.69/2.48	9.41/2.69		
			6F	3.18/0.91	3.62/1.03	4.11/1.17	4.85/1.39	5.53/1.58	6.28/1.79	7.22/2.06	8.24/2.35	9.26/2.65	10.31/2.95	11.25/3.21		
	TH134/ TH134W	45	1F	0.77/0.22	0.83/0.24	0.96/0.27	1.06/0.31	1.34/0.38	1.46/0.42	1.73/0.49	1.92/0.55	2.11/0.66	2.25/0.64	2.53/0.72		
			2F	0.81/0.23	0.92/0.26	1.12/0.32	1.33/0.38	1.52/0.43	1.69/0.48	1.92/0.55	2.23/0.64	2.53/0.72	2.85/0.81	3.16/0.90		
			3F	1.42/0.41	1.66/0.47	1.83/0.52	2.16/0.62	2.49/0.71	2.75/0.79	3.34/0.95	3.71/1.06	4.23/1.21	4.69/1.34	5.32/1.52		
			4F	2.11/0.60	2.42/0.69	2.68/0.77	3.21/0.92	3.98/1.07	4.26/1.22	4.76/1.36	5.61/1.60	6.31/1.80	7.12/2.03	7.85/2.24		
			5F	2.83/0.81	3.15/0.90	3.63/1.05	4.15/1.19	4.86/1.39	5.55/1.59	6.25/1.79	7.28/2.08	8.15/2.33	9.25/2.64	10.29/2.94		
			6F	3.36/0.96	3.72/1.06	4.31/1.23	4.94/1.41	5.62/1.61	6.52/1.96	7.46/2.13	8.63/2.47	9.91/2.83	11/3.20	12.44/3.55		

Model Selection															
Refrigerant	Model	Spool	Condensing Temp (°C)	Cooling capacity (kW)/(TR)											
				Evaporation temperature (°C)											
				-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	
R134a	TH134/TH134w	5S	1F	0.75/0.21	0.82/0.23	0.96/0.27	1.13/0.32	1.32/0.38	1.56/0.45	1.75/0.50	1.93/0.55	2.14/0.61	2.33/0.67	2.54/0.73	
				2F	0.83/0.24	0.95/0.27	1.12/0.32	1.28/0.37	1.49/0.43	1.78/0.51	1.89/0.54	2.15/0.61	2.53/0.72	2.75/0.79	3.18/0.91
				3F	1.44/0.41	1.62/0.46	1.82/0.52	2.06/0.59	2.38/0.68	2.69/0.77	3.41/0.97	3.74/1.07	4.26/1.22	4.63/1.32	5.26/1.50
				4F	2.11/0.60	2.42/0.69	2.83/0.81	3.25/0.93	3.65/1.04	4.26/1.22	4.76/1.36	5.53/1.58	6.21/1.77	7.08/2.02	7.93/2.27
				5F	2.86/0.82	3.21/0.92	3.56/1.02	4.23/1.21	4.91/1.40	5.52/1.58	6.33/1.81	7.23/2.07	8.21/2.35	9.42/2.69	10.32/2.94
				6F	3.29/0.94	3.74/1.07	4.29/1.23	4.92/1.41	5.62/1.66	6.43/1.84	7.32/2.15	8.66/2.47	9.85/2.81	11.23/3.20	12.35/3.53
R410A	TH404/TH404W	2S	1F	0.99/0.28	1.18/0.34	1.39/0.4	1.65/0.47	1.83/0.52	1.93/0.55	2.13/0.61	2.23/0.64	2.41/0.69	2.43/0.69	2.36/0.67	
				2F	1.12/0.32	1.34/0.38	1.56/0.45	1.93/0.55	2.21/0.63	2.52/0.72	2.85/0.81	3.02/0.86	3.32/0.95	3.19/0.91	3.15/0.9
				3F	1.13/0.32	2.22/0.63	2.67/0.76	3.12/0.89	3.71/1.06	4.15/1.19	4.65/1.33	5.31/1.52	5.53/1.58	5.5/1.57	5.36/1.53
				4F	2.73/0.78	3.21/0.92	3.83/1.09	4.62/1.32	5.44/1.55	6.13/1.75	7.02/2.03	7.82/2.23	8.52/2.43	8.72/2.49	8.99/2.45
				5F	3.52/1.01	4.23/1.21	5.03/1.44	6.03/1.72	7.21/2.06	8.26/2.36	9.35/2.67	10.34/2.95	11.23/3.21	11.43/3.27	11.17/3.19
				6F	4.23/1.21	5.02/1.43	6.11/1.75	7.12/2.03	8.36/2.39	9.85/2.81	11.13/3.18	12.56/3.59	13.41/3.83	13.8/3.94	13.25/3.79
R404A/R507	TH404/TH404W	3S	1F	0.93/0.27	1.16/0.33	1.25/0.36	1.63/0.47	1.82/0.52	1.98/0.57	2.35/0.67	2.39/0.68	2.65/0.76	2.77/0.79	2.68/0.77	
				2F	1.21/0.35	1.25/0.36	1.53/0.44	1.82/0.52	2.13/0.61	2.61/0.75	2.91/0.83	3.41/0.97	3.49/1.0	3.65/1.04	3.95/1.13
				3F	1.69/0.48	2.11/0.56	2.67/0.76	3.15/0.9	3.65/1.04	4.29/1.23	4.92/1.41	5.63/1.61	6.03/1.72	6.62/1.89	6.63/1.89
				4F	2.54/0.73	3.06/0.87	3.85/1.1	4.61/1.32	5.51/1.57	6.51/1.86	7.46/2.13	8.62/2.46	9.38/2.68	10.31/2.95	10.62/3.03
				5F	3.46/0.99	3.99/1.14	4.91/1.4	5.81/1.66	7.12/2.03	8.22/2.34	9.75/2.79	11.21/3.12	12.53/3.58	13.52/3.86	13.99/3.88
				6F	4.12/1.18	4.76/1.36	5.86/1.67	7.12/2.03	8.33/2.38	10.1/2.89	11.8/3.37	13.52/3.86	14.92/4.26	16.03/4.58	16.25/4.64
R410A	TH404/TH404W	4S	1F	0.88/0.25	0.98/0.28	1.16/0.33	1.46/0.42	1.72/0.49	1.79/0.51	2.25/0.64	2.51/0.72	2.61/0.75	2.72/0.78	2.93/0.84	
				2F	0.96/0.27	1.22/0.35	1.42/0.41	1.75/0.5	2.03/0.58	2.45/0.77	2.71/0.77	3.22/0.92	3.53/1.01	3.95/1.13	4.22/1.21
				3F	1.55/0.44	2.05/0.59	2.51/0.72	2.93/0.84	3.51/1.0	4.23/1.21	4.92/1.41	5.61/1.6	6.13/1.75	6.68/1.91	7.15/2.04
				4F	2.36/0.67	2.92/0.83	3.66/1.05	4.21/1.2	5.23/1.49	6.21/1.77	7.35/2.1	8.38/2.39	9.65/2.76	10.92/3.12	11.29/3.23
				5F	3.25/0.93	3.82/1.09	4.53/1.29	5.49/1.57	6.61/1.89	8.12/2.31	9.48/2.71	11.13/3.17	13.13/3.74	14.25/4.07	15.02/4.29
				6F	3.78/1.08	4.56/1.3	5.51/1.57	6.63/1.89	7.85/2.24	9.27/2.71	11.52/3.29	13.63/3.89	15.33/4.38	16.8/4.8	17.85/5.1
R410A	TH404/TH404W	5S	1F	0.73/0.21	0.86/0.25	1.15/0.33	1.32/0.38	1.51/0.43	1.75/0.5	2.06/0.59	2.16/0.62	2.5/0.71	2.53/0.72	2.76/0.79	
				2F	0.86/0.25	0.98/0.28	1.23/0.35	1.49/0.43	1.82/0.52	2.1/0.6	2.43/0.69	2.99/0.85	3.23/0.92	3.75/1.07	4.03/1.15
				3F	1.35/0.39	1.69/0.48	2.21/0.63	2.53/0.72	3.01/0.86	3.63/1.04	4.36/1.25	5.03/1.44	5.76/1.65	6.31/1.8	6.85/1.96
				4F	2.23/0.64	2.65/0.76	3.12/0.89	3.69/1.05	4.52/1.29	5.51/1.57	6.55/1.87	7.61/2.17	9.1/2.6	10.01/2.86	10.92/3.12
				5F	2.91/0.83	3.43/0.98	4.06/1.16	4.85/1.39	5.93/1.69	7.25/2.07	8.69/2.48	10.44/2.97	11.75/3.36	13.63/3.89	14.3/4.09
				6F	3.29/0.94	4.01/1.15	4.75/1.36	5.82/1.66	7.11/2.03	8.39/2.4	10.38/2.97	12.26/3.5	14.44/4.11	16.2/4.63	17.35/4.96
R410A	TH410/TH410W	2S	1F	1.03/0.29	1.33/0.38	1.68/0.48	1.96/0.56	2.35/0.67	2.69/0.77	3.1/0.89	3.29/0.94	3.81/1.09	3.65/1.04	3.29/0.94	
				2F	1.32/0.38	1.68/0.48	2.05/0.59	2.45/0.77	2.86/0.82	3.25/0.93	3.65/1.04	4.24/1.21	4.62/1.32	4.29/1.23	4.28/1.22
				3F	2.35/0.67	3.03/0.87	3.62/1.03	4.39/1.25	5.19/1.48	5.93/1.69	6.92/2.15	7.53/2.15	8.35/2.39	7.86/2.25	7.63/2.18
				4F	3.49/1.0	4.5/1.29	5.51/1.57	6.51/1.86	7.95/2.27	8.79/2.51	9.99/2.85	11.35/3.24	12.54/3.58	12.03/3.44	11.53/3.29
				5F	4.36/1.25	5.56/1.59	6.79/1.94	8.31/2.37	9.68/2.77	11.25/3.21	12.58/3.59	14.23/4.07	16.73/4.78	14.98/4.28	14.44/4.11
				6F	5.39/1.54	6.93/1.98	8.55/2.44	10.32/2.95	12.13/3.46	14.00/3.98	15.92/4.55	17.68/5.05	19.58/5.59	18.78/5.37	17.95/5.11
R410A	TH410/TH410W	3S	1F	1.1/0.31	1.43/0.41	1.68/0.48	2.01/0.57	2.39/0.68	2.91/0.83	3.21/0.92	3.72/1.06	4.21/1.2	4.15/1.19	4.08/1.17	
				2F	1.32/0.38	1.69/0.48	2.12/0.61	2.5/0.71	2.96/0.85	3.52/1.01	3.96/1.13	4.56/1.3	5.15/1.47	5.1/1.46	5.06/1.45
				3F	2.25/0.64	3.12/0.89	3.68/1.05	4.51/1.29	5.36/1.53	6.31/1.8	7.22/2.06	8.15/2.33	9.22/2.63	9.08/2.59	9.08/2.59
				4F	3.39/0.97	4.39/1.25	5.62/1.61	6.67/1.91	8.01/2.29	9.42/2.69	10.81/3.09	13.38/3.82	14.01/4.1	13.91/3.97	13.88/3.97
				5F	4.59/1.25	5.68/1.62	7.03/2.01	8.46/2.42	10.12/2.89	11.68/3.34	13.4/3.83	15.51/4.43	17.24/4.91	17.25/4.93	17.42/4.98
				6F	5.61/1.6	7.05/2.01	8.82/2.52	10.59/3.03	15.61/4.46	14.69/4.2	16.65/4.76	19.43/5.55	21.75/6.21	21.77/6.22	21.68/6.2

Model Selection																
Refrigerant	Model	Spool	Condensing Temp (°C)	Cooling capacity (kW)/(TR)												
				Evaporation temperature (°C)												
				-40	-35	-30	-25	-20	-15	-10	-5	0	5	10		
R410A	TH410/TH410W	4S	1F	1.06/0.3	1.38/0.39	1.59/0.45	2.01/0.57	2.39/0.68	2.86/0.82	3.19/0.91	3.82/1.09	4.28/1.22	4.3/1.23	4.41/1.26		
				2F	1.23/0.38	1.66/0.47	2.06/0.59	2.39/0.68	3.01/0.86	3.51/1.01	4.06/1.16	4.71/1.35	5.29/1.51	5.29/1.51	5.46/1.56	
				3F	2.29/0.65	2.86/0.85	3.68/1.05	4.48/1.28	5.41/1.54	6.28/1.79	7.31/2.09	8.46/2.41	9.63/2.75	9.68/2.77	9.85/2.81	
				4F	3.35/0.96	4.38/1.25	5.39/1.54	6.65/1.9	7.89/2.25	9.42/2.69	10.9/3.11	12.58/3.59	14.55/4.16	14.69/4.2	15.02/4.29	
				5F	4.36/1.25	5.58/1.59	6.93/1.98	8.61/2.46	10.12/2.89	11.85/3.38	13.68/3.91	15.96/4.57	18.25/5.21	15.65/4.47	18.91/5.4	
				6F	5.44/1.55	6.92/1.98	8.65/2.47	10.49/3.02	12.56/3.59	14.94/4.26	17.22/4.92	20.01/5.72	22.69/6.48	23.3/6.66	23.75/6.79	
	TH410/TH410W	3F	5S	1F	0.96/0.27	1.31/0.37	1.62/0.46	1.95/0.56	2.26/0.65	2.75/0.79	3.15/0.9	3.69/1.05	4.31/1.23	4.28/1.22	4.42/1.26	
					2F	1.23/0.35	1.62/0.46	1.88/0.54	2.38/0.68	2.85/0.81	3.29/0.94	3.86/1.1	4.56/1.3	5.27/1.49	5.41/1.55	5.61/1.6
					3F	2.13/0.61	2.79/0.8	3.43/0.98	4.31/1.23	5.06/1.45	6.02/1.72	7.08/2.02	8.15/2.33	9.5/2.71	9.63/2.75	10.12/2.89
					4F	3.15/0.9	4.21/1.2	5.12/1.46	6.29/1.8	7.53/2.15	9.01/2.52	10.4/2.97	12.36/3.53	14.11/4.03	14.88/4.19	15.2/4.34
					5F	4.03/1.15	5.32/1.52	6.39/1.83	7.96/2.27	9.56/2.73	11.36/3.23	13.25/3.79	15.43/4.37	17.69/5.05	18.33/5.24	18.96/5.42
					6F	5.02/1.43	6.48/1.85	8.01/2.29	9.98/2.85	11.95/3.41	14.31/4.09	16.61/4.75	19.38/5.54	22.19/6.34	23.1/6.6	23.68/6.77

- Model of expansion valve should be selected by refrigerating capacity of evaporators.
- External equalisation thermostatic expansion valve should be chosen for evaporators with distributors.
- Pay attention to the refrigerant when choosing expansion valve.