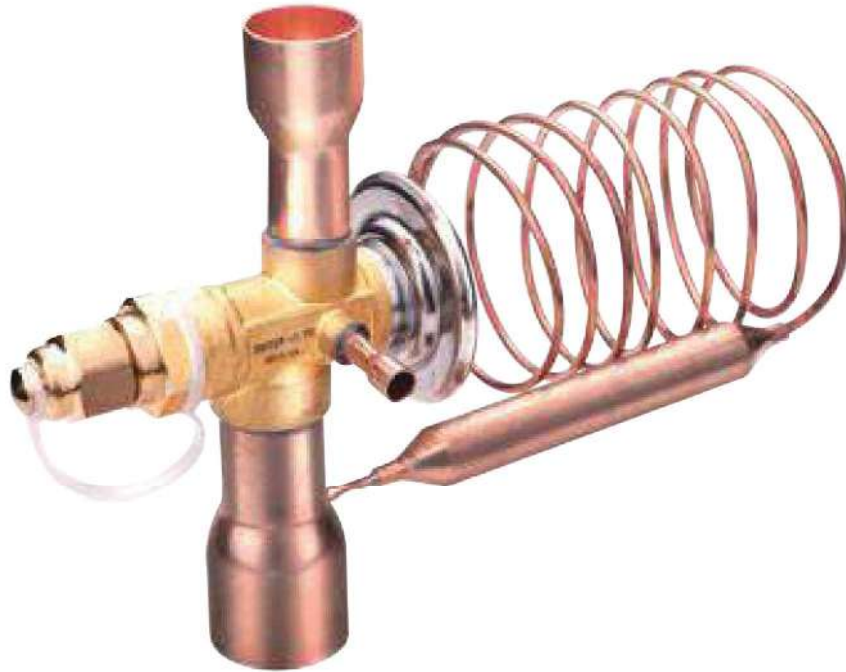


FRF 型热力膨胀阀

FRF Thermostatic Expansion Valve



FRF型 (英制焊口)
Model FRF (inch ODF)

安装使用要求 Installation and usage requirements

1) 焊管式膨胀阀在与系统管子焊接时，必须注意以下几点;

- 1.1、首先用湿布或湿棉纱包在阀体上保护阀体，以防在焊接时温度过高烧坏阀内零件。
- 1.2、焊接时请注意焊枪火焰方向为朝阀体外向。
- 1.3、选用低温银焊条焊接。

2) 膨胀阀维修保养应指定专业人员进行。

1) welded pipe expansion valve with the system pipe welding, we must pay attention to the following points;

- 1.1、use a damp cloth or a wet cotton bag to protect bodyon the body, To avoid high that temperature burn in the valve parts in welding. Please note that the
- 1.2、welding torch flame direction toward the body outward. 1.3 low temperature silverelec trode welding.

2) expansion valve maintenance should be designated professional staff.

技术参数 Technical Parameters

适用制冷剂 Applicable Refrigerants	R22、R134a、R404A冷媒等介质
适用介质温度 Applicable Medium	R22: -40°C~+10°C; R134a:-30°C~+10°C;R404A:-40°C~+10°C
过热度调节范围 Adjustable Range of Superheat	2°C~8°C
最大工作压力 Maximum Working Pressure	2.8MPa
最大测试压力 Maximum Testing Pressure	3.2MPa

选型表 Model Selection

制冷剂 Refrigerant	冷凝温度 (°C) Condensing Temp	型号 Model	制冷量(KW)/(TR)									
			蒸发温度(°C) Evaporation temperature									
			-35	-30	-25	-20	-15	-10	-5	0	5	
R22/R407C	40	FRF22W-3-3-5	4.99/1.43	5.69/1.63	6.43/1.84	7.2/2.06	7.98/2.28	8.75/2.5	9.49/2.71	10.17/2.91	10.72/3.06	
		FRF22W-3-4-5	4.99/1.43	5.69/1.63	6.43/1.84	7.2/2.06	7.98/2.28	8.75/2.5	9.49/2.71	10.17/2.91	10.72/3.06	
		FRF22W-4-4-7	6.68/1.91	7.63/2.18	8.63/2.47	9.68/2.77	10.75/3.07	11.81/3.37	12.83/3.67	13.76/3.93	14.52/4.15	
		FRF22W-6-4-5	9.69/2.77	11.1/3.17	12.58/3.59	14.12/4.03	15.7/4.49	17.26/4.93	18.77/5.36	20.12/5.75	21.24/6.07	
		FRF22W-6-4-7	9.69/2.77	11.1/3.17	12.58/3.59	14.12/4.03	15.7/4.49	17.26/4.93	18.77/5.36	20.12/5.75	21.24/6.07	
		FRF22W-7.5-5-7	12.00/3.43	13.86/3.96	15.84/4.53	17.89/5.11	19.97/5.71	21.03/6.01	22.98/6.57	25.72/7.35	27.1/7.74	
		FRF22W-11-5-7	19.44/5.55	22.45/6.41	25.58/7.31	28.73/8.21	31.98/9.14	34.6/9.89	37.07/10.59	38.85/11.1	39.95/11.41	
		FRF22W-11-5-9	19.44/5.55	22.45/6.41	25.58/7.31	28.73/8.21	31.98/9.14	34.6/9.89	37.07/10.59	38.85/11.1	39.95/11.41	
		FRF22W-12-5-7	19.86/5.67	22.01/6.29	25.07/7.16	28.26/8.07	31.51/9	34.25/9.79	37.91/10.83	40.11/11.46	42.61/12.17	
		FRF22W-12-5-9	19.86/5.67	22.01/6.29	25.07/7.16	28.26/8.07	31.51/9	34.25/9.79	37.91/10.83	40.11/11.46	42.61/12.17	
		FRF22W-15-5-9	22.47/6.42	25.11/7.17	28.3/8.09	31.96/9.13	35.69/10.2	38.86/11.1	41.85/11.96	51.13/14.61	54.25/15.5	
		FRF22W-15-7-9	22.47/6.42	25.11/7.17	28.3/8.09	31.96/9.13	35.69/10.2	38.86/11.1	41.85/11.96	51.13/14.61	54.25/15.5	
		FRF22W-18-7-9	25.31/7.23	28.72/8.21	33.17/9.48	38.98/11.14	45.08/12.88	49.37/14.11	53.68/15.34	58.76/16.79	63.22/18.06	
		FRF22W-18-7-11	25.31/7.23	28.72/8.21	33.17/9.48	38.98/11.14	45.08/12.88	49.37/14.11	53.68/15.34	58.76/16.79	63.22/18.06	
		FRF22W-26-7-11	36.48/10.42	42.31/12.09	48.76/13.93	55.84/15.95	63.49/18.14	71.61/20.46	79.99/22.85	88.29/25.23	92.02/26.29	
		FRF22W-26-9-11	36.48/10.42	42.31/12.09	48.76/13.93	55.84/15.95	63.49/18.14	71.61/20.46	79.99/22.85	88.29/25.23	92.02/26.29	
FRF22W-30-7-11	41.30/11.80	47.93/13.69	55.26/15.79	63.29/18.08	71.98/20.57	81.2/23.2	90.69/25.91	100.1/28.6	104.8/29.94			
FRF22W-30-9-11	41.30/11.80	47.93/13.69	55.26/15.79	63.29/18.08	71.98/20.57	81.2/23.2	90.69/25.91	100.1/28.6	104.8/29.94			
FRF22W-38-9-11	48.63/13.89	55.75/15.93	64.95/18.56	75.29/21.51	86.78/24.79	99.3/28.37	111.5/31.86	123.7/35.34	134.7/38.49			
R404A/R507	40	FRF404W-4-4-5	4.1/1.17	4.71/1.35	5.38/1.54	6.09/1.74	6.84/1.95	7.62/2.18	8.39/2.4	9.11/2.6	9.73/2.78	
		FRF404W-5-5-7	5.1/1.46	5.71/1.63	6.48/1.85	7.59/2.17	8.84/2.53	9.52/2.72	10.39/2.97	11.36/3.25	12.28/3.51	
		FRF404W-7.5-5-7	7.55/2.16	8.71/2.49	10.1/2.89	11/3.14	12.94/3.7	14/4	15.55/4.44	16.5/4.71	17.97/5.13	
		FRF404W-9-5-7	9.57/2.73	10.98/3.14	12.51/3.57	14.14/4.04	15.83/4.52	17.53/5.01	19.18/5.48	20.7/5.91	21.98/6.28	
		FRF404W-11-5-9	12.07/3.45	13.93/3.98	15.92/4.55	18.02/5.15	20.16/5.76	22.29/6.37	24.28/6.94	25.98/7.42	27.21/7.77	
		FRF404W-13-7-9	12.93/3.69	15.1/4.31	17.1/4.89	19/5.43	22.1/6.31	25.05/7.16	27.1/7.74	30.55/8.73	32.17/9.19	
		FRF404W-18-7-11	16.59/4.74	19.54/5.58	22.27/6.36	25.13/7.18	29.03/8.29	32.94/9.41	36.69/10.48	40.27/11.51	43.57/12.45	
		FRF404W-21-7-11	26.03/7.44	29.79/8.51	33.77/9.65	37.87/10.82	41.93/11.98	45.77/13.08	49.21/14.06	52.06/14.87	54.14/15.47	
FRF404W-26-9-11	24.64/7.04	28.59/8.17	33.03/9.44	37.91/10.83	43.18/12.34	48.69/13.91	54.28/15.51	59.71/17.06	64.74/18.5			
R410A	40	FRF410W-3.5-3-5	5.93/1.69	6.73/1.91	7.57/2.15	8.45/2.40	9.35/2.66	10.25/2.92	11.12/3.16	11.91/3.39	12.56/3.57	
		FRF410W-4.5-4-7	7.92/2.25	9.0/2.56	10.15/2.89	11.35/3.23	12.58/3.58	13.81/3.93	15.01/4.27	16.10/4.58	17.00/4.84	
		FRF410W-6.5-4-7	11.48/3.27	13.07/3.72	14.76/4.20	16.51/4.70	18.32/5.21	20.13/5.73	21.88/6.22	23.48/6.68	24.80/7.05	
		FRF410W-9-5-7	15.36/4.37	17.49/4.97	19.73/5.61	22.06/6.27	24.44/6.95	26.81/7.63	29.08/8.27	31.13/8.85	32.77/9.32	
		FRF410W-13-5-7	23.1/6.57	26.50/7.54	30.02/8.54	33.57/9.55	37.07/10.54	40.36/11.48	43.27/12.31	45.56/12.96	46.97/13.36	
		FRF410W-15-5-7	23.01/6.54	26.51/7.54	30.31/8.62	34.40/9.78	38.74/11.02	43.25/12.30	47.80/13.59	52.15/14.83	55.98/15.92	
		FRF410W-19-5-9	28.36/8.07	32.73/9.31	37.49/10.66	42.64/12.13	48.14/13.69	53.89/15.33	59.72/16.99	65.36/18.59	70.41/20.03	
		FRF410W-23-7-9	34.74/9.88	39.94/11.36	45.52/12.95	51.47/14.64	57.75/16.42	64.27/18.28	70.84/20.15	77.13/21.94	82.66/23.51	
		FRF410W-31-7-11	44.23/12.58	51.02/14.51	58.50/16.64	66.71/18.97	75.60/21.50	85.08/24.20	94.91/26.99	104.70/29.78	113.70/32.34	
		FRF410W-35-7-11	50.06/14.24	57.76/16.43	66.26/18.85	75.58/21.50	85.67/24.37	96.41/27.42	107.50/30.57	118.60/33.73	128.80/36.63	
FRF410W-46-9-11	61.44/17.47	71.40/20.31	82.66/23.51	95.18/27.07	108.80/30.94	123.00/34.98	137.40/39.08	151.10/42.97	163.10/46.39			
R134A	40	FRF134W-3.5-4-5	5.42/1.54	6.16/1.75	6.97/1.98	7.86/2.24	8.81/2.51	9.82/2.79	10.86/3.09	11.89/3.38	12.84/3.65	
		FRF134W-4.5-5-7	7.39/2.10	8.40/2.39	9.50/2.70	10.70/3.04	11.99/3.41	13.35/3.80	14.74/4.19	16.11/4.58	17.37/4.94	
		FRF134W-7-5-7	10.85/3.09	12.39/3.52	14.08/4.00	15.91/4.53	17.85/5.08	19.86/5.65	21.85/6.21	23.71/6.74	25.28/7.19	

选型表 Model Selection

制冷剂 Refrigerant	冷凝温度 (°C) Condensing Temp	型号 Model	制冷量(KW)/(TR)								
			蒸发温度(°C) Evaporation temperature								
			-35	-30	-25	-20	-15	-10	-5	0	5
R134A	40	FRF134W-8-5-9	11.50/3.27	13.21/3.76	15.14/4.31	17.29/4.92	19.67/5.59	22.26/6.33	25.00/7.11	27.79/7.90	30.49/8.67
		FRF134W-10-7-9	14.34/4.08	16.50/4.69	18.93/5.38	21.66/6.16	24.69/7.02	27.99/7.96	31.50/8.96	35.10/9.98	38.61/10.98
		FRF134W-12-7-11	17.69/5.03	20.34/5.78	23.27/6.62	26.51/7.54	30.04/8.54	33.85/9.63	37.85/10.77	41.91/11.92	45.79/13.02
		FRF134W-17-7-11	23.02/6.55	26.54/7.55	30.53/8.68	35.01/9.96	40.01/11.38	45.50/12.94	51.39/14.62	57.50/16.35	63.54/18.07
		FRF134W-20-9-11	26.17/7.44	30.19/8.59	34.74/9.88	39.85/11.33	45.55/12.96	51.80/14.73	58.51/16.64	65.47/18.62	72.32/20.57

- 膨胀阀按照蒸发器容量选型
- 如蒸发器有分液头, 建议选择外平衡热力膨胀阀
- 注意制冷剂型号, 选择对应的热力膨胀阀
- 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.

产品参数 Product Parameters

制冷剂 Refrigerant	型号 Model	压力平衡 Pressure Equalisation	接口螺纹 (接口尺寸) Thread(Connec-tion Size)		
			进口端 Inlet 英制 inch	出口端 Outlet 英制 inch	外平衡口 External Equaliser
R22	FRF22W-3-3-5	外平衡 External Equalisation	3/8"ODF	5/8"ODF	1/4" ODF
	FRF22W-3-4-5		1/2"ODF	5/8"ODF	
	FRF22W-4-4-7		1/2"ODF	7/8"ODF	
	FRF22W-6-4-5		1/2"ODF	5/8"ODF	
	FRF22W-6-4-7		1/2"ODF	7/8"ODF	
	FRF22W-7.5-5-7		5/8"ODF	7/8"ODF	
	FRF22W-11-5-7		5/8"ODF	7/8"ODF	
	FRF22W-11-5-9		5/8"ODF	1-1/8"ODF	
	FRF22W-12-5-7		5/8"ODF	7/8"ODF	
	FRF22W-12-5-9		5/8"ODF	1-1/8"ODF	
	FRF22W-15-5-9		5/8"ODF	1-1/8"ODF	
	FRF22W-15-7-9		7/8"ODF	1-1/8"ODF	
	FRF22W-18-7-9		7/8"ODF	1-1/8"ODF	
	FRF22W-18-7-11		7/8"ODF	1-3/8"ODF	
	FRF22W-26-7-11		7/8"ODF	1-3/8"ODF	
	FRF22W-26-9-11		1-1/8"ODF	1-3/8"ODF	
	FRF22W-30-7-11		7/8"ODF	1-3/8"ODF	
	FRF22W-30-9-11		1-1/8"ODF	1-3/8"ODF	
FRF22W-38-9-11	1-1/8"ODF	1-3/8"ODF			
R134a	FRF134W-3.5-4-5	外平衡 External Equalisation	1/2" ODF	5/8" ODF	1/4" ODF
	FRF134W-4.5-5-7		5/8" ODF	7/8" ODF	
	FRF134W-7-5-7		5/8" ODF	7/8" ODF	
	FRF134W-8-5-9		5/8" ODF	1-1/8" ODF	
	FRF134W-10-7-9		7/8" ODF	1-1/8" ODF	
	FRF134W-12-7-11		7/8" ODF	1-3/8" ODF	
	FRF134W-17-7-11		7/8" ODF	1-3/8" ODF	
	FRF134W-20-9-11		1-1/8" ODF	1-3/8" ODF	

产品参数 Product Parameters

制冷剂 Refrigerant	型号 Model	压力平衡 Pressure Equalisation	接口螺纹 (接口尺寸) Thread Connection Size		
			进口端 Inlet 英制 inch	出口端 Outlet 英制 inch	外平衡口 External Equaliser
R404A	FRF404W-4-4-5	外平衡 External Equalisation	1/2" ODF	5/8" ODF	1/4" ODF
	FRF404W-5-5-7		5/8" ODF	7/8" ODF	
	FRF404W-7.5-5-7		5/8" ODF	7/8" ODF	
	FRF404W-9-5-7		5/8" ODF	7/8" ODF	
	FRF404W-11-5-9		5/8" ODF	1-1/8" ODF	
	FRF404W-13-7-9		7/8" ODF	1-1/8" ODF	
	FRF404W-18-7-11		7/8" ODF	1-3/8" ODF	
	FRF404W-21-7-11		7/8" ODF	1-3/8" ODF	
	FRF404W-26-9-11		1-1/8" ODF	1-3/8" ODF	
R410A	FRF410W-3.5-3-5		3/8" ODF	5/8" ODF	
	FRF410W-4.5-4-7		1/2" ODF	7/8" ODF	
	FRF410W-6.5-4-7		1/2" ODF	7/8" ODF	
	FRF410W-9-5-7		5/8" ODF	7/8" ODF	
	FRF410W-13-5-7		5/8" ODF	7/8" ODF	
	FRF410W-15-5-7		5/8" ODF	7/8" ODF	
	FRF410W-19-5-9		5/8" ODF	1-1/8" ODF	
	FRF410W-23-7-9		7/8" ODF	1-1/8" ODF	
	FRF410W-31-7-11		7/8" ODF	1-3/8" ODF	
	FRF410W-35-7-11	7/8" ODF	1-3/8" ODF		
R407C	FRF407C-3.5-4-7	1/2" ODF	7/8" ODF		
	FRF407C-5-4-7	1/2" ODF	7/8" ODF		
	FRF407C-7-5-7	5/8" ODF	7/8" ODF		
	FRF407C-10-5-7	5/8" ODF	7/8" ODF		
	FRF407C-12-5-9	5/8" ODF	1-1/8" ODF		
	FRF407C-15-7-9	7/8" ODF	1-1/8" ODF		
	FRF407C-18-7-11	7/8" ODF	1-3/8" ODF		

- 名义制冷量的工况条件为: 蒸发温度 $t_e = +5^\circ\text{C}$ 冷凝温度 $t_k = +40^\circ\text{C}$ 过冷度 2°C
- Working Condition of Nominal Refrigerating Capacity: Evaporation Temperature: $+5^\circ\text{C}$; Condensation Temperature: $+40^\circ\text{C}$; Superheat: 3.5°C ; Subcooling: 2°C .

结构 Structure

