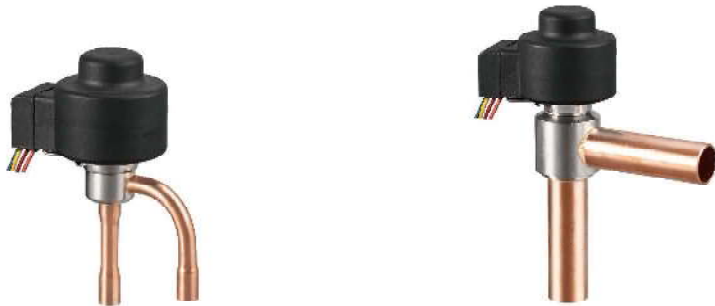


DPF/DPFS 系列电子膨胀阀

DPF/DPFS Series electronic expansion valve



DPF 系列
DPF series

DPFS 系列
DPFS series

产品描述 Product Description

DPF/DPFS 型电子膨胀阀适用于空调、商用冷柜、小型冷库和热泵制冷系统中。精确控制系统平衡制冷剂流量，使系统始终在最佳状态下运行，达到快速制冷，实现精准控制节能的目的。

DPF/DPFS electronic expansion valve is suitable for refrigeration systems such as air conditioners, commercial refrigerators, small refrigeration storage and heat pumps. It can accurately control the refrigerant flow in the system, so that the system can always run in the best state, achieve rapid cooling, and achieve the goal of precise control and energy saving.

特点 Features

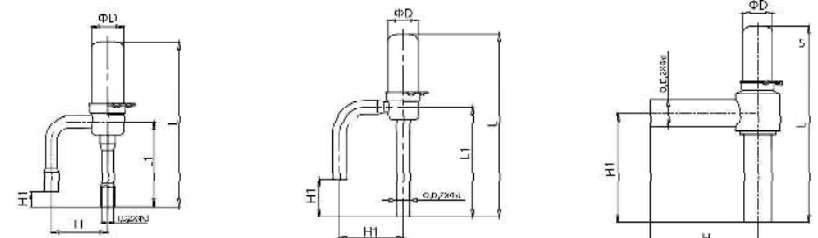
- 体积小、重量轻、性能稳定可靠；
- 反应和动作速度快；
- 独特的平衡结构设计，噪音低，故障率低；
- DPF 系列产品采用平衡口设计，逆向开阀压力高；
- 适用于少油或无油系统。

- Small size, light weight, stable and reliable performance;
- Fast response and action;
- New structure design of expansion valve, low noise and low failure rate;
- DPF series products apply design of balanced port, and the reverse valve opening pressure is high;
- Suitable for systems with little oil or no oil.

技术参数 Technical Parameters

适用制冷剂 Applicable refrigerant	R22, R134a, R404A, R407C, R410A
名义容量 Nominal capacity	2.5~126KW
介流温度 Medium temperature	-40~+70℃
环境温度 Environment temperature	-30~+60℃
环境湿度 Environment humidity	95%RH 以下
全开脉冲 Full open pulse	500PS
开阀脉冲 Valve opening pulse	32~20
额定电压 Rated voltage	12V/1X (+11%), 矩形波 rectangular wave
驱动方式 Excitation mode	1-2 相驱动, 单极驱动 1-2 phase excitation, single pole drive
驱动速度 Excitation speed	30~90pps
结束驱动模式保持 Finishing excitation mode keeps	0.1~1.0s
全行程时间 Time cost for whole course	6s (83pps)
驱动电流 Drive current	260mA
线圈电阻 Coil resistance	46±3.7Ω/相
线圈绝缘等级 Coil insulation grade	F 级
防护等级 Protect grade	IP65

结构 Structure



DPF1.3~2.4

DPF3.0~3.2

DPF54.0~6.5

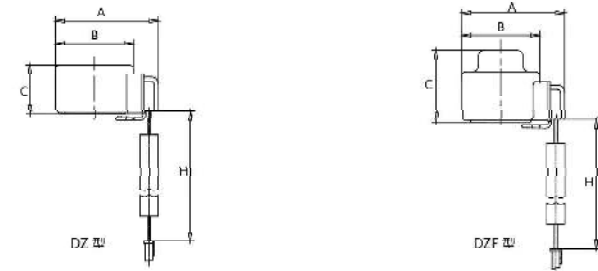
外型尺寸 Overall dimension

型号 Model	外型尺寸 Overall dimension					
	ΦD	L	L1	H	H1	Φd
DPF1.3~2.4	17.3	87	36.8	30	8	6.5
DPF3.0~3.2	17.3	105	41.5	37	21.5	7.94
DPF54.0~6.5	17.3	114	/	63	64	16

注：接管尺寸可以根据要求定制。

Note: dimension of connecting pipe can be customized according to requirements.

线圈 Coil

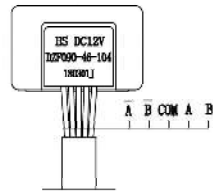
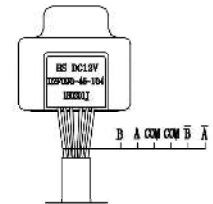
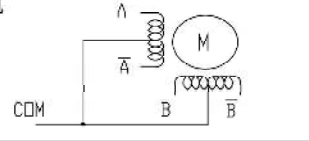
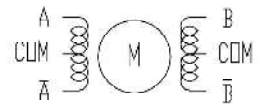


外型尺寸 Overall dimension

系列 Series	线圈型号 Coil model	A	B	C	H	连接型号 Connector model
DZ	DZ090-4612-0000	51	38.5	25	900	XHP-5 XHP-4 XAP-5 XAP-6
	DZ120-4612-0000	51	38.5	25	1200	
	DZ200-4612-0000	51	38.3	23	2000	
	DZ300-4612-0000	51	38.5	25	3000	
DZF	DZF090-4612-0000	51	38.5	35.5	900	XHP-5 XHP-4 XAP-5 XAP-6
	DZF120-4612-0000	51	38.3	35.5	1200	
	DZF200-4612-0000	51	38.5	35.5	2000	
	DZF300-4612-0000	51	38.5	35.5	3000	

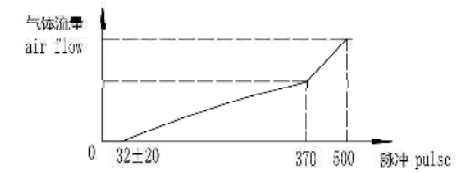
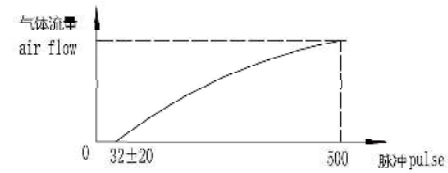
注：引线长度和连接器可根据客户要求定制。

Note: the lead wire length and connector can be customized according to customer's requirements.

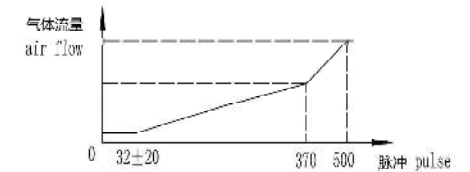
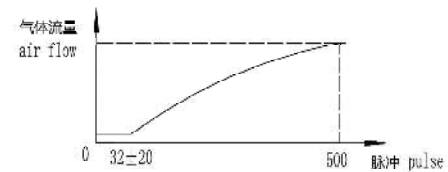
四相八拍电机
接线示意图四相八拍电机
接线示意图

相序	1	2	3	4	5	6	7	8
A								
B								
A								
B								

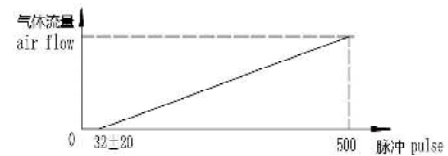
动作顺序: 1→2→3→4→5→6→7→8 关阀
8→7→6→5→4→3→2→1 开阀



DPF1.0~DPF3.2



DPFS4.5~DPFS6.5



注: 流量曲线要求可以根据要求定制。
Note: the flow curve can be customized according to requirement.

选型表 Model selection											
产品系列 Product series	全开步数 Full open steps	通径 Diameter [mm]	KV ² [m ³ /h]	名义容量 [KW] ¹ Nominal capacity					最大工作压力 Max working pressure [MPa]	最大工作压力 Max working pressure difference [MPa]	通径开阀压力 Bore valve opening pressure difference [MPa]
				R22	R134a	R407C ¹	R404A/R507	R410A ¹			
DPF1.3	500	1.30	0.06	3.5	2.7	3.50	2.50	4.20	4.2	4.2	≥2.1
DPF1.65	500	1.65	0.08	5.3	4.1	5.30	3.70	6.35	4.2	4.2	≥2.1
DPF1.8	500	1.80	0.10	7.0	5.4	7.00	4.90	8.40	4.2	4.2	≥2.1
DPF2.0	500	2.00	0.16	8.8	6.7	8.75	6.10	10.5	4.2	4.2	≥2.1
DPF2.2	500	2.20	0.20	10.5	8.1	10.5	7.40	12.6	4.2	4.2	≥2.1
DPF2.4	500	2.40	0.23	17.5	13.5	17.5	12.3	21.0	4.2	4.2	≥2.1
DPF3.0	500	3.00	0.39	21.0	16.2	21.0	14.7	25.2	4.2	4.2	≥1.47
DPF3.2	500	3.20	0.43	28.0	21.4	28.0	19.6	33.6	4.2	4.2	≥1.47
DPFS4.0	500	6.50	0.50	42.0	32.3	42.0	29.4	50.4	4.2	4.2	≥3.5
DPFS4.5	500	6.50	0.70	52.5	40.4	52.0	36.0	63.0	4.2	4.2	≥3.5
DPFS5.5	500	6.50	0.80	70.0	53.9	70.0	49.0	84.0	4.2	4.2	≥3.5
DPFS6.5	500	6.50	1.10	105	80.9	100	73.5	126	4.2	4.2	≥3.5

名义工况:
 • 额定能力基于: R407C冷凝温度: +38°C; 蒸发温度: +5°C;
 过冷度: 0 K; 过热度: 0 K;
 • Kv值: 基于阀径为1T/m³的水、阀门两端压差等于100kPa时的正向流动能力。

Nominal condition:
 • Rated capacity is based on: R407C condensing temperature: +38°C; evaporating temperature: +5°C; super cooling degree: 0 K; super heat degree: 0 K;
 • Kv value: the pressure difference based on the two sides between water with density 1T/m³ and the valve is equal to the positive flow capacity at 100kPa.

额定能力 (kW) Rated capacity

	冷凝温度 [°C] Condensing temperature	DPF1.3							DPF1.65						
		蒸发温度 [°C] Evaporating temperature							蒸发温度 [°C] Evaporating temperature						
		10	5	0	5	10	20	30	10	5	0	5	10	20	30
R410A	30	4.38	4.73	5.02	5.24	5.41	5.63	5.71	8.06	8.72	9.25	9.65	9.96	10.36	10.51
	35	4.72	5.00	5.22	5.41	5.54	5.70	5.73	8.68	9.21	9.63	9.95	10.20	10.49	10.56
	38	4.87	5.12	5.31	5.46	5.58	5.70	5.73	8.95	9.42	9.78	10.06	10.26	10.50	10.54
	40	4.93	5.17	5.36	5.49	5.59	5.70	5.70	9.10	9.53	9.86	10.11	10.29	10.48	10.50
	45	5.07	5.26	5.39	5.49	5.58	5.63	5.61	9.33	9.68	9.93	10.13	10.26	10.38	10.42
	50	5.10	5.24	5.36	5.42	5.48	5.49	5.42	9.39	9.65	9.85	9.99	10.07	10.11	10.00
R407C	30	3.74	4.06	4.28	4.44	4.55	4.66	4.66	6.96	7.47	7.86	8.15	8.46	8.57	8.60
	35	4.12	4.65	4.50	4.61	4.70	4.77	4.75	7.58	7.99	8.28	8.50	8.64	8.76	8.74
	38	4.28	4.46	4.60	4.70	4.77	4.80	4.77	7.86	8.22	8.47	8.65	8.76	8.85	8.78
	40	4.38	4.55	4.66	4.75	4.80	4.83	4.77	8.06	8.36	8.58	8.74	8.83	8.89	8.79
	45	4.56	4.68	4.77	4.83	4.85	4.85	4.77	8.39	8.63	8.79	8.89	8.95	8.92	8.76
	50	4.68	4.77	4.82	4.85	4.87	4.82	4.70	8.46	8.78	8.88	8.93	8.95	8.86	8.65
R22	30	3.63	3.92	4.14	4.31	4.44	4.61	4.68	6.68	7.21	7.63	7.95	8.18	8.49	8.61
	35	3.97	4.21	4.39	4.53	4.63	4.75	4.78	7.32	7.75	8.08	8.33	8.53	8.75	8.81
	38	4.14	4.36	4.51	4.63	4.72	4.82	4.83	7.64	8.01	8.31	8.53	8.70	8.88	8.90
	40	4.26	4.44	4.58	4.70	4.77	4.85	4.87	7.82	8.17	8.43	8.64	8.78	8.93	8.95
	45	4.46	4.61	4.73	4.82	4.87	4.92	4.90	8.22	8.50	8.71	8.86	8.97	9.06	9.03
	50	4.63	4.75	4.83	4.90	4.93	4.95	4.90	8.53	8.74	8.90	9.01	9.08	9.11	9.04
R134a	30	2.89	3.08	3.23	3.33	3.40	3.45	3.41	5.31	5.67	5.95	6.11	6.24	6.33	6.29
	35	3.14	3.30	3.40	3.46	3.52	3.53	3.46	5.79	6.07	6.26	6.39	6.46	6.49	6.39
	38	3.28	3.40	3.48	3.53	3.57	3.57	3.50	6.04	6.26	6.42	6.51	6.57	6.56	6.43
	40	3.35	3.46	3.53	3.58	3.60	3.58	3.50	6.18	6.38	6.51	6.58	6.63	6.58	6.45
	45	3.52	3.58	3.63	3.65	3.65	3.60	3.50	6.46	6.60	6.68	6.72	6.72	6.63	6.43
	50	3.62	3.67	3.68	3.68	3.67	3.58	3.46	6.65	6.74	6.78	6.78	6.75	6.60	6.38
R404A	30	2.70	2.89	3.04	3.13	3.19	3.24	3.21	4.97	5.33	5.58	5.76	5.89	5.97	5.90
	35	2.89	3.03	3.13	3.19	3.23	3.23	3.18	5.32	5.57	5.76	5.88	5.95	5.96	5.83
	38	2.96	3.06	3.14	3.19	3.21	3.19	3.11	5.43	5.65	5.79	5.88	5.92	5.89	5.74
	40	2.97	3.08	3.14	3.18	3.19	3.16	3.06	5.47	5.67	5.78	5.85	5.88	5.82	5.64
	45	3.01	3.06	3.11	3.13	3.11	3.04	2.92	5.53	5.65	5.72	5.74	5.72	5.61	5.39
	50	2.96	2.99	3.01	2.99	2.97	2.87	2.72	5.45	5.51	5.54	5.51	5.46	5.29	5.01

额定能力 (kW) Rated capacity

	冷凝温度 [°C] Condensing temperature	DPF1.8							DPF2.0						
		蒸发温度 [°C] Evaporating temperature							蒸发温度 [°C] Evaporating temperature						
		10	5	0	5	10	20	30	10	5	0	5	10	20	30
R410A	30	9.15	9.88	10.49	10.95	11.31	11.77	11.93	11.30	12.20	12.95	13.52	13.96	14.52	14.73
	35	9.86	10.45	10.91	11.31	11.58	11.91	11.87	12.18	12.90	13.47	13.96	14.29	14.71	14.70
	38	10.18	10.70	11.10	11.41	11.66	11.91	11.97	12.56	13.21	13.70	14.09	14.40	14.71	14.78
	40	10.30	10.80	11.20	11.47	11.60	11.91	11.91	12.72	13.34	13.83	14.16	14.42	14.71	14.71
	45	10.59	10.99	11.26	11.47	11.66	11.77	11.77	13.08	13.57	13.91	14.16	14.40	14.59	14.67
	50	10.66	10.95	11.20	11.33	11.45	11.47	11.33	13.16	13.52	13.83	13.98	14.14	14.16	13.98
R407C	30	7.92	8.48	8.94	9.26	9.51	9.74	9.74	9.79	10.47	11.04	11.43	11.74	12.02	12.02
	35	8.61	9.72	9.40	9.63	9.82	9.97	9.93	10.63	12.00	11.61	11.89	12.13	12.31	12.25
	38	8.94	9.32	9.61	9.82	9.97	10.03	9.97	11.04	11.51	11.87	12.13	12.31	12.38	12.31
	40	9.15	9.51	9.74	9.93	10.03	10.09	9.97	11.30	11.74	12.02	12.25	12.38	12.46	12.31
	45	9.53	9.78	9.97	10.09	10.14	10.14	9.97	11.76	12.07	12.31	12.46	12.51	12.51	12.31
	50	9.78	9.97	10.07	10.14	10.18	10.07	9.82	12.07	12.31	12.44	12.51	12.56	12.44	12.13
R22	30	7.59	8.19	8.65	9.01	9.28	9.63	9.76	9.36	10.11	10.68	11.12	11.45	11.89	12.07
	35	8.30	8.80	9.17	9.47	9.68	9.93	9.99	10.24	10.86	11.33	11.69	11.94	12.25	12.33
	38	8.65	9.11	9.42	9.68	9.86	10.07	10.09	10.68	11.25	11.64	11.94	12.18	12.44	12.46
	40	8.90	9.28	9.57	9.82	9.97	10.14	10.18	10.99	11.45	11.82	12.13	12.31	12.51	12.56
	45	9.32	9.63	9.88	10.07	10.18	10.28	10.24	11.51	11.89	12.20	12.44	12.56	12.69	12.64
	50	9.68	9.93	10.09	10.24	10.30	10.34	10.24	11.94	12.25	12.46	12.64	12.72	12.77	12.64
R134a	30	6.04	6.44	6.75	6.96	7.10	7.21	7.13	7.46	7.95	8.33	8.59	8.77	8.90	8.80
	35	6.56	6.90	7.10	7.23	7.36	7.38	7.23	8.10	8.51	8.77	8.93	9.08	9.11	8.93
	38	6.83	7.10	7.27	7.38	7.46	7.46	7.31	8.46	8.77	8.98	9.11	9.21	9.21	9.03
	40	7.00	7.23	7.38	7.48	7.52	7.48	7.31	8.64	8.93	9.11	9.24	9.29	9.24	9.03
	45	7.36	7.48	7.59	7.63	7.63	7.52	7.31	9.08	9.24	9.36	9.42	9.42	9.29	9.03
	50	7.56	7.67	7.69	7.69	7.67	7.48	7.23	9.34	9.47	9.49	9.49	9.47	9.24	8.93
R404A	30	5.64	6.04	6.35	6.54	6.67	6.77	6.71	6.97	7.46	7.84	8.08	8.23	8.36	8.28
	35	6.04	6.33	6.54	6.67	6.75	6.75	6.65	7.46	7.82	8.08	8.23	8.33	8.33	8.20
	38	6.19	6.44	6.56	6.67	6.71	6.67	6.50	7.64	7.95	8.10	8.23	8.20	8.23	8.02
	40	6.21	6.44	6.56	6.65	6.67	6.60	6.38	7.66	7.95	8.10	8.20	8.24	8.15	7.89
	45	6.29	6.44	6.50	6.54	6.50	6.35	6.10	7.77	7.95	8.02	8.00	8.02	7.04	7.53
	50	6.14	6.25	6.29	6.25	6.21	6.00	5.86	7.64	7.71	7.71	7.71	7.66	7.40	7.04

额定能力 (kW) Rated capacity															
	冷凝温度[℃] Condensing temperature	DPF2.2							DPF2.4						
		蒸发温度[℃] Evaporating temperature							蒸发温度[℃] Evaporating temperature						
		10	5	0	5	10	20	30	10	5	0	5	-10	20	30
R410A	30	13.67	14.77	15.67	16.36	16.89	17.57	17.82	16.27	17.57	18.65	19.47	20.10	20.92	21.21
	35	14.73	15.61	16.30	16.89	17.29	17.79	17.89	17.53	18.58	19.39	20.10	20.58	21.18	21.29
	38	15.20	15.98	16.58	17.04	17.42	17.79	17.89	18.09	19.02	19.73	20.28	20.73	21.18	21.29
	40	15.39	16.14	16.73	17.14	17.45	17.79	17.79	18.32	19.21	19.91	20.40	20.77	21.10	21.10
	45	15.84	16.47	16.84	17.14	17.47	17.57	17.51	18.84	19.54	20.02	20.40	20.74	20.92	20.84
	50	15.92	16.36	16.73	16.92	17.11	17.14	16.92	18.95	19.47	19.91	20.14	20.36	20.40	20.14
R407C	30	11.84	12.67	13.46	14.04	14.20	14.55	14.55	14.08	15.08	15.90	16.46	16.90	17.41	17.41
	35	12.06	14.52	14.05	14.39	14.67	14.89	14.83	15.31	17.27	16.72	17.13	17.46	17.72	17.65
	38	13.36	13.92	14.36	14.67	14.89	14.98	14.89	15.90	16.57	17.09	17.46	17.72	17.63	17.72
	40	13.67	14.20	14.55	14.83	14.98	15.08	14.89	16.27	16.90	17.31	17.65	17.83	17.94	17.72
	45	14.23	14.61	14.89	15.08	15.14	15.14	14.89	16.94	17.39	17.72	17.94	18.02	18.02	17.72
	50	14.61	14.89	15.05	15.14	15.20	15.05	14.67	17.39	17.72	17.91	18.02	18.09	17.91	17.46
R22	30	11.33	12.24	12.92	13.45	13.86	14.39	14.61	13.49	14.56	15.38	16.01	16.49	17.13	17.39
	35	12.39	13.14	13.70	14.14	14.45	14.83	14.92	14.75	15.64	16.31	16.83	17.20	17.65	17.76
	38	12.92	13.61	14.08	14.45	14.73	15.05	15.08	15.38	16.20	16.75	17.20	17.53	17.91	17.94
	40	13.30	13.86	14.30	14.67	14.89	15.14	15.20	15.83	16.49	17.01	17.46	17.72	18.02	18.09
	45	13.92	14.39	14.77	15.05	15.20	15.36	15.30	16.57	17.13	17.57	17.91	18.09	18.28	18.20
	50	14.45	14.83	15.08	15.30	15.39	15.45	15.30	17.20	17.65	17.94	18.20	18.32	18.39	18.20
R134a	30	9.02	9.61	10.08	10.40	10.61	10.77	10.64	10.74	11.44	12.00	12.57	12.65	12.82	12.67
	35	9.80	10.30	10.61	10.80	10.99	11.02	10.80	11.67	12.26	12.63	12.85	13.08	13.11	12.85
	38	10.24	10.61	10.86	11.02	11.14	11.14	10.93	12.19	12.63	12.95	13.11	13.26	13.26	13.00
	40	10.46	10.80	11.02	11.18	11.24	11.18	10.93	12.45	12.85	13.11	13.30	13.37	13.30	13.00
	45	10.99	11.18	11.33	11.39	11.39	11.24	10.93	13.08	13.30	13.49	13.56	13.56	13.37	13.00
	50	11.30	11.46	11.49	11.49	11.46	11.18	10.80	13.45	13.63	13.67	13.67	13.63	13.30	12.85
R404A	30	8.43	9.02	9.49	9.77	9.96	10.11	10.02	10.03	10.74	11.29	11.63	11.85	12.04	11.93
	35	9.02	9.46	9.77	9.96	10.08	10.08	9.93	10.74	11.26	11.63	11.85	12.00	12.00	11.81
	38	9.24	9.61	9.80	9.96	10.02	9.96	9.71	11.00	11.44	11.67	11.85	11.93	11.85	11.55
	40	9.27	9.61	9.80	9.93	9.96	9.86	9.55	11.03	11.44	11.67	11.81	11.85	11.74	11.37
	45	9.40	9.61	9.71	9.77	9.71	9.49	9.12	11.10	11.44	11.55	11.63	11.55	11.29	10.65
	50	9.46	9.44	9.40	9.44	9.47	9.46	9.49	11.00	11.11	11.14	11.11	11.04	10.66	10.10