

DPF-TS/S SERIES

Electronic Expansion Valve

DPF-TS/S series electronic expansion valves are designed for use in air conditioning and refrigeration systems or in heat pumps. The valve controls the automatic adjustment of refrigerant flow rate and makes the system work under optimized conditions for the purpose of fast cooling or heating, precise temperature control and energy saving. The valve can also be used for suction Line pressure controls.



FEATURES

- APPLICABLE FOR REVERSIBLE SYSTEMS: BIDIRECTIONAL FLOW
- SMALLER INSTALLATION SPACE: LOW HEIGHT, SMALL VOLUME, LIGHT WEIGHT
- OPTIMIZED FLOW PATH DESIGN FOR NOISE REDUCTION
- FAST OPERATION, ENERGY SAVING
- COMPATIBLE WITH SANHUA CONTROLLER SEC SERIES

GENERAL SPECIFICATIONS

- Applicable for all common HFC, HFO refrigerants such as: R22, R134a, R404A, R407C, R410A, R507, R32, etc.
- Cooling capacity: 3.5~105kW (for R22)
- 500 steps (full stroke); 32 ± 20 opening steps
- Medium temperature TS min./max.: -40°C / +85°C (duty cycle rate below 50%)
- Ambient temperature min./max.: -30°C / +60°C (duty cycle rate below 50%)
- Relative humidity: 0 to 95% RH
- Certifications: UL/CSA and declaration according to LVD or PED
- Installation position:
 - Coil installed in the upwards position, valve rotor central axis within ±15° versus vertical axis
 - Inlet connection preferably sidewise, outlet preferably downwards

ELECTRICAL PARAMETERS

- Rated voltage: 12V DC(± 10%), rectangular wave
- Actuating mode: 4-phase 8-step permanent magnet stepping motor of direct-acting type
- Excitation mode: 1 ~ 2 phase excitation, unipolar actuation
- Excitation rate: 30pps-40pps
- Activation of self-holding mechanism: Maintain excitation in stop position min. 0.1~1.0sec.
- Min. motion time from completely open to completely closed: 13s (40pps)
- Coil current: -DPF (TS1) 1.3~3.2, 260mA/phase (20°C)
-DPF (S03) 4.0~6.5: 375mA/ phase (20°C)
- Coil resistance: -DPF (TS1) 1.3~3.2, 46±3.7Ω/ phase (20°C)
-DPF (S03) 4.0~6.5: 32±3.2Ω/ phase (20°C)
- Insulation class of coil: E
- Protection class: IP67

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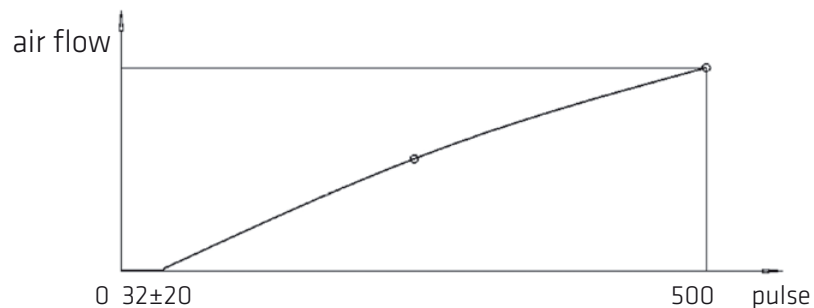


DPF-TS/S SERIES TECHNICAL PARAMETERS

Series	Nominal Cooling Capacity* [kW]							Kv	MOP MAX. Oper. Press.	MOPD Direct	MOPD Rev.	Model
	R22	R134a	R407C	R404A/ R507	R410A	R32	R290	[m ³ /h]	[MPa]	[MPa]	[MPa]	
DPF1.0	3.8	3.0	4.0	2.7	4.4	6.5	3.9	0.03	4.9	3.5	≥2.5	DPF(TS1)1.0C-15
DPF1.3	5.2	4.1	5.4	3.6	6.1	9.2	5.6	0.05	4.9	3.5	≥2.5	DPF(TS1)1.3C-21
DPF1.65	8.9	6.9	9.2	6.2	10.4	15.5	9.4	0.08	4.9	3.5	≥2.5	DPF(TS1)1.65C-36
DPF1.8	10.6	8.3	10.9	7.4	12.4	18.4	11.1	0.1	4.9	3.5	≥2.5	DPF(TS1)1.8C-69
DPF2.0	13.1	10.2	13.5	9.2	15.3	22.8	13.7	0.16	4.9	3.5	≥2.5	DPF(TS1)2.0C-33
DPF2.2	14.1	11.0	14.5	9.9	16.5	24.5	14.8	0.2	4.9	3.5	≥2.5	DPF(TS1)2.2C-24
DPF2.4	16.6	12.9	17.1	11.6	19.4	28.8	17.4	0.23	4.9	3.5	≥2.5	DPF(TS1)2.4C-40
DPF3.0	27.8	21.7	28.6	19.4	32.5	47.7	28.8	0.39	4.9	3.5	≥1.5	DPF(TS1)3.0C-29
DPF3.2	30.3	23.7	31.3	21.2	35.5	52.6	31.7	0.43	4.9	3.5	≥1.5	DPF(TS1)3.2C-30
DPF4.0	50.4	39.3	51.9	35.3	59.0	87.5	52.8	0.5	4.9	3.5	≥0.7	DPF(S03)4.0C-01
DPF4.5	67.9	53.0	70.0	47.6	79.5	117.0	70.6	0.7	4.9	3.5	≥0.7	DPF(S03)4.5C-01
DPF5.5	78.2	61.0	80.6	54.7	91.5	135.5	81.7	0.9	4.9	3.5	≥0.7	DPF(S03)5.5C-01
DPF6.5	95.6	74.5	98.4	66.9	111.8	164.8	99.4	1.1	4.9	3.0	≥0.7	DPF(S03)6.5C-02

(*) Rated condition: Condensing temperature Tc=38°C; Evaporating temperature Te=5°C; Supercooling SC=0°C; Superheat SH=0°C

FLOW CHARACTERISTIC

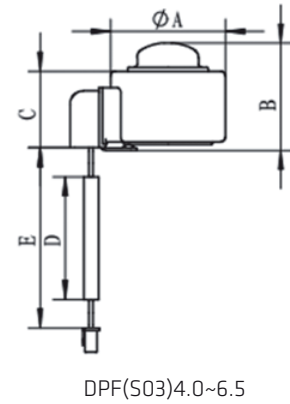
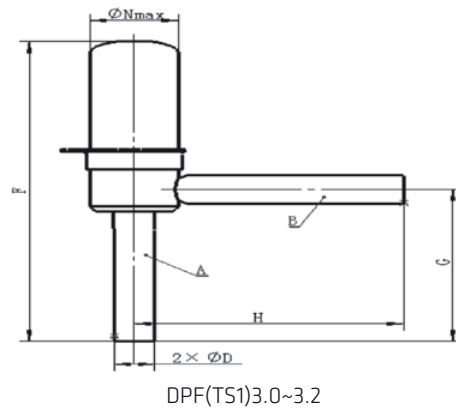
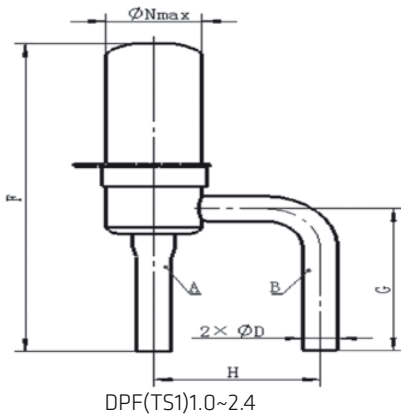


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DIMENSIONS



Series	Coil Series	Dimensions [mm]				
		F	G	H	ØD	ØN
DPF 1.0~2.4	PQ M10	78	36	30	6.35	17.35
DPF 3.0~3.2	PQ M10	85	43	53	7.94	17.35
DPF(S03) 4.0~6.5	PQ M03	148	64.7	63.4	15.88	35.3

Valve Series	Dimensions [mm]					Terminal	Coil Model
	ØA	B	C	lead length	E		
DPF(TS1) 1.0~3.2	38.5	35.8	25.6	700	600	XHP-5	PQ-M10012-001059
DPF(TS1) 1.0~3.2	38.5	35.8	25.6	1500	1400	XHP-5	PQ-M10012-001016
DPF(TS1) 1.0~3.2	38.5	35.8	25.6	2000	1800	XHP-5	PQ-M10012-001002
DPF(S03) 4.0~6.5	67.5	74.4	33.3	2000	1900	XHP-5	PQ-M03012-001004