

DX1 Electronic Expansion Valves



The DX1 series Electronic Expansion Valve is a highly reliable stepper motor driven expansion valve that offers precise control for a wide range of applications like condensing units, heat pumps, precision cooling, and transport air conditioning among others.

Key Features

- Compact and lightweight with hermetic valve body design
- Highly reliable under extreme applications, 100k full cycle qualified
- Precise expansion process control to enable stable system superheat
- Bi-directional flow characteristics, applicable for heat pump system
- Optimum wide modulation range enables higher integrated part load efficiency

General Specifications

- Applicable for all common HFC, HFO mixture refrigerants such as R404A, R134a, R22, R32, R448A, R449A, R410A and R407C.
- Cooling Capacity: 6.2 to 34.0 kW (R410A nominal capacity)
- Certification: UL

Valve Parameters

Flow Direction	• Bi-directional
Flow Characteristic	• Non-linear
MWP	• 47 Bar
MPOD	• Normal direction: 35 Bar Reverse direction: Up to 25 Bar (model specific)
Burst Pressure	• 188 Bar (1 minute without rupture)
Inlet Refrigerant Temperature	• -30 ~ 70 °C
Ambient Temperature	• -30 ~ 60 °C
Total Pulse	• 500 (560 ≤ for valve closing fully ≤ 600)
Opening Pulse	• 30 ± 20
Durability	• Tested for 100K times full opening and closing
Weight	• 48 grams

Stator Parameters

Type	• 5 wires uni-polar stepper motor
Excitation Speed	• 30 ~ 90 pps, 81.3 Hz recommended (1 pps = 1 pulse per second)
Supply Voltage	• 12 VDC (+/- 10%)
Nominal Opening Current @ 12 VDC	• 260 mA/phase
Resistance	• 46 Ω/phase (+/- 10%)
Insulation Class	• E
Cable Length	• 1.5m, integrated with stator
Electrical Connection	• JST XHP-5
Protection Level	• IP67
Weight	• 129 grams

Ordering information

	PCN	Model	Connection Solder Type		Direct MOPD (bar)	Reverse MOPD (bar)	Nominal Cooling Capacity* (kW)					
			A (mm)	B (mm)			R22	R410A	R134a	R407C	R32	R404A
Valve Body	098370	DX1-A13	6.35	6.35	35	25	5.3	6.2	4.1	5.6	9.1	3.8
	098371	DX1-A16					8.5	10.0	6.6	9.0	14.8	6.0
	098372	DX1-A18					10.3	12.1	8.0	11.0	17.8	7.3
	098373	DX1-A20					12.6	14.8	9.8	13.4	21.8	8.9
	098374	DX1-A22					15.2	17.8	11.9	16.2	26.3	10.8
	098375	DX1-A24					18.0	21.2	14.1	19.2	31.3	12.7
	098376	DX1-A28	8.00	8.00		15	24.6	28.9	19.2	26.2	42.6	17.4
	098377	DX1-A30					26.8	31.5	20.9	28.5	46.5	19.0
	098378	DX1-A32					28.9	34.0	22.6	30.7	50.0	20.5
Stator	098379	DX1-SU157J	IP67, Cable length 1.5M, XHP-5 terminal									

*The nominal capacity is based upon the following standard ASERCOM conditions:

Refrigerant	Evaporating Temperature	Condensing Temperature	Sub-cooling (K)
R404A, R134a, R22, R32, R448A, R449A, R410A	+4°C	+38°C	1
R407C	+4°C dew point	+38°C bubble /+43°C dew point	1

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