

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.



General disclosure

Technical data are verified at the time of printing. Updates may occur, and should you need confirmation of a specific value, please contact Copeland clearly stating the information required. Copeland cannot be held responsible for errors in capacities, dimensions, etc., stated herein. Products, specifications and data in this literature are subject to change without notice. The information given herein is based on data and tests which Copeland believes to be reliable and which are in accordance with today's technical knowledge. It is intended for use by persons having the appropriate technical knowledge and skill, at their own discretion and risk.

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

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	• 48grams

Stator Parameter

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, interested with stator
Electrical Connection	• JST XHP-5
Protection Level	• IP67
Weight	• 129 grams



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SUSTAINABILITY**

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