ENGINEERING TOMORROW



Revolutionary ETS Colibri® valves Engineered to give you maximum flexibility and dependability

ETS Colibri® brings to the market one of a kind, uniquely designed electric expansion valve.





Re-engineered for the next level

ETS Colibri® is the most innovative and uniquely designed electric expansion valve in the market.

Danfoss has a proud heritage of over 30 years in designing and producing electric expansion valves. During this time, we've dedicated all our experience to perfecting our products – giving you the most reliable and innovative valves in the market.

Today, ETS Colibri® is a result of our dedication and passion for engineering, built around uncompromised quality and performance. Its focus on energy efficiency ensues from placing great attention to our customers' needs.





Compact, hermetic and in-line design M12 electrical connector Benefit: · Compatible with electric control solutions from Danfoss and other manufacturers Stainless steel valve body • Withstands higher working pressure resulting in increased Maximum Working Pressure (MWP), making the valve suitable for most A/C, heat pump, and refrigeration applications • Ensures resistance to internal and external corrosion Stepper motor Benefits: • Precise flow control • Design simplicity: fewer opportunities for **Bi-metal connectors**

(stainless steel outside with copper inside)

· Same brazing alloy as copper to copper,

just much faster installation time
• Eliminates the need to wet wrap the valve
• Significantly reduces the risk of valve damage due to

overheating during installation

Compact design: Easily fits anywhere in the system

Lightweight body: No extra support necessary in your system to

avoid tubing cracks caused by vibration

In-line design: Flexibility to install the valve in almost any plane

Hermetic: Uncompromised integrity of internal components and

fewer leak points in the system result in reduced refrigerant loss potential

and fewer service calls

† Sight glass with moisture indicator

Ronofits

- Easy confirmation of proper valve operation
- Fast trouble-shooting during system diagnostic
- Helps determine refrigerant flow direction in the system

† Balanced cage assembly

Benefits

- Ensures uniform and repeatable bi-flow performance capabilities
- Withstands higher Maximum Working Pressure Differential (MOPD) required for applications like reversible heat pumps using R410A

Solenoid tight closing

Benefit:

• Protects the compressor from liquid migration during stand-still

Direct driven slider

Benefit:

failures to occur resulting in higher reliability

Laser welded joints

• 100% leak tested – no risk of external leakage

• Ensures precise control of superheat in all operating conditions

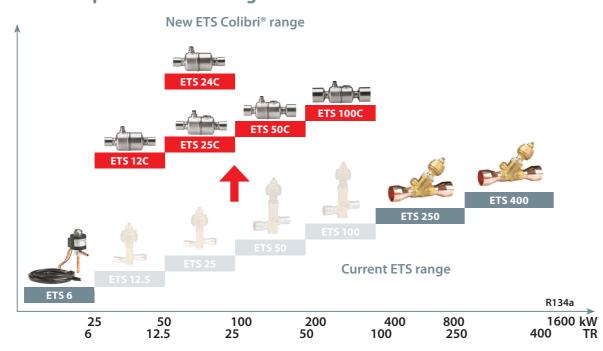
ETS Colibri® has been designed for precise liquid injection into evaporators for air-conditioning, heat pump and refrigeration applications. In addition, Colibri® valves are approved for oil-free operation, e.g. in systems with Danfoss Turbocor® oil-free compressors.

Thanks to its unique design, the Colibri® range can also be used as suction modulating valves in applications such as transportation and food retail.

The benefits of its linear opening and closing characteristics:

- Simpler control scheme allows for faster software development
- Faster reaction time at start-up leads to a low chance of starving the compressor

Electric expansion valves range



Technical data

Compatible refrigerants	R410A, R407C, R404A, R507, R134a, R290 (for other refrigerants, contact your Danfoss representative)
Refrigerant temperature range	–40 °C to 70 °C (−40 °F to 158 °F)
MOPD	40 bar (588 psi)
Max. working pressure (PS/MWP)	50 bar (735 psig)
Stepper motor type	Bi-polar - permanent magnet
Step mode	2 phase full step, micro-stepping (recommended)
Max. total power	7.2 W
Step rate	160 steps/sec. recommended (current control)
Total steps	600
Full travel time	3.75 sec. at recommended step rate







Innovative electric expansion valves for best in class air-conditioning, heat pump, and refrigeration systems.

Increased energy efficiency with uncompromised quality.



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