

# DWM COPELAND

## S-Series Semi-Hermetic Compressors with Discharge Temperature Control (DTC) *For R22 Low Temperature Refrigeration Applications*

### **Low Temperature Applications with R22**

R22 refrigerant may exhibit unacceptably high compressor discharge temperatures when used in low temperature applications, leading to a limitation of the compressor operating envelope. This can be efficiently overcome by injecting liquid into the compressor suction line.

The Discharge Temperature Control system (DTC) is a mechanical liquid injection method that has been successfully applied to DWM Copeland compressors. A temperature bulb senses compressor discharge temperature and allows the injection valve to open.



The subsequent liquid injection into the compressor suction line widens the operating envelope to allow for evaporating temperatures from  $-5^{\circ}\text{C}$  down to  $-45^{\circ}\text{C}$ . Due to its simple design and no need for an external power supply, DTC is an economical and reliable addition to DWM Copeland's Semi-Hermetic compressor range.

### **S-Series Compressors with DTC**

Already applied to D3S, DTC can now be used on D4S and D6S Series compressors, spanning a range from 15 to 40 hp. DWM Copeland S-Series compressors for R22 are available with mineral or ester oil. Using ester oil models has advantages for later conversion to CFC-free refrigerants.



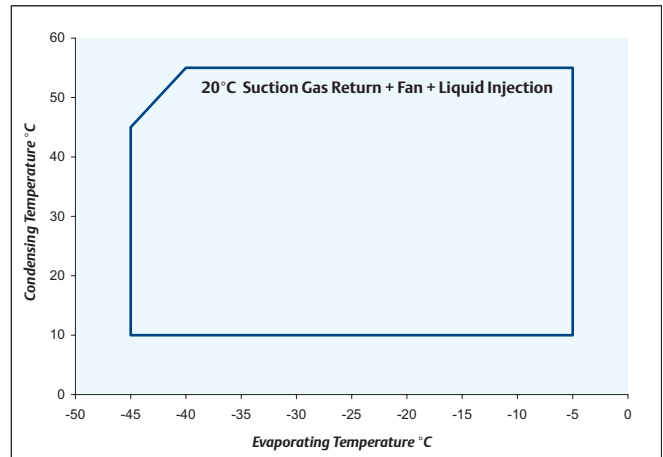


D6S Compressor with DTC Valve

### Benefits

- Injection with DTC valve enables low evaporating temperatures for DWM Copeland D3S, D4S and D6S R22 compressors
- Low condensing capabilities down to 10°C for optimum seasonal energy efficiency
- Self-contained mechanical injection system
- Economical and reliable solution
- Easy to mount

### Low Temperature R22 Operating Envelope for D3S, D4S and D6S Compressors



### S-Series D3S, D4S and D6S Compressors with DTC for Low Temperature Applications

Model	Nominal hp	Cooling Capacity kW <sup>(1)</sup>	Displacement m <sup>3</sup> /h	Oil Quantity Liters	Gross Weight kg	Motor Versions
D3SC-750/-75X	7.5	4.9	38.0	3.6	174	AMW AWD EWK
D3SS-1000/-100X	10.0	6.7	49.9	3.6	178	
D4SL-1500/-150X	15.0	9.7	70.8	3.6	202	
D4ST-2000/-200X	20.0	11.1	84.7	4.0	214	
D6SL-2500/-250X	25.0	13.7	106.0	4.3	232	
D6ST-3200/-320X	32.0	16.0	127.0	7.4	268	
D6SU-4000/-400X	40.0	21.2	151.8	7.4	281	

<sup>(1)</sup>R22 Low temperature (LT): -35°C evaporating/40°C, suction gas return 20 °C, subcooling 0K

For more details, see [www.eCopeland.com](http://www.eCopeland.com)



Emerson Climate Technologies - European Headquarters - Pascalstrasse 65 - 52076 Aachen, Germany  
Phone: +49 (0) 2408 929 0 - Fax: +49 (0) 2408 929 570 - Internet: [www.eCopeland.com](http://www.eCopeland.com)

The Emerson Climate Technologies logo is a trademark and service mark of Emerson Electric Co. Copeland Corporation is a subsidiary of Emerson Electric Co. Copeland is a registered trademark and Copeland Scroll is a trademark of Copeland Corporation. All other trademarks are property of their respective owners. Information contained in this brochure is subject to change without notification.

© 2006 Copeland

