



Emerson Climate Technologies at a Glance

Emerson Climate Technologies is the world's leading provider of heating, ventilation, air conditioning, and refrigeration solutions for residential, industrial, and commercial applications. We combine technically superior products and services from our industry-leading

divisions and brands with our global engineering, design and distribution capabilities to create reliable, energy efficient climate systems that improve human comfort, safeguard food, and protect the environment.



Copeland Digital Scroll™ Advanced Technology for Stepless Capacity Modulation



For more details, see www.emersonclimate.eu

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Capacity Modulation in Air Conditioning Applications: Flexible Solutions for R407C & R410A

Application

In many cooling and heating systems the load varies over a wide range, thus requiring the use of capacity modulation. Copeland Scroll Digital™ is the only compressor solution able to assure stepless modulation down to 10% of the nominal capacity, enabling precised temperature control, superior comfort and energy saving.

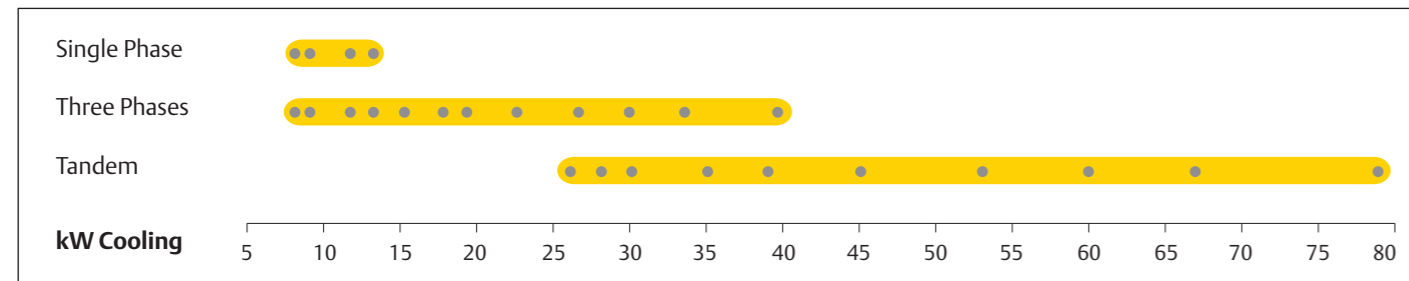
A Digital Scroll™ compressor is the preferred choice in process cooling, refrigeration racks, condensing units, VRF systems, rooftop and air handling units. In particular air handling and rooftop units with Digital Scroll™ benefit from a close control of the leaving air temperature. It gives the possibility to reduce to a minimum the supply air flow and maximize the energy saving on the fan.

Features and Benefits

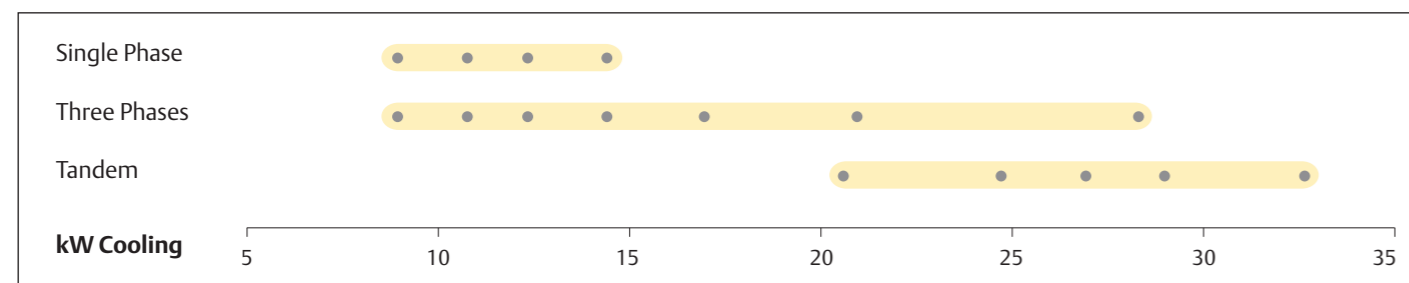
Copeland Scroll Digital™ compressor solutions up to 78 kW of cooling capacity.

- Widest modulation range: from 10% to 100%
 - Immediate load adjustment
 - Stepless modulation
 - Close temperature control: $\pm 0.5K$
 - Optimal comfort
 - Low condensing capability
- No complex electronics & no need for additional components
 - Simple system architecture
 - Easy installation, commissioning and maintenance
 - No EMI/EMC issues
- No impact on system mechanical balance
 - No vibration and resonance phenomenon
 - No frame / piping redesign work necessary
- Constant speed operation = easy oil return management
- High reliability due to less compressor starts and stops
- Reduced number of outdoor units for multiple evaporator systems
- Copeland Scroll™ axial and radial compliance for high reliability
- Low sound and low vibration level
- Multiple tandem compressor combinations for superior seasonal efficiency

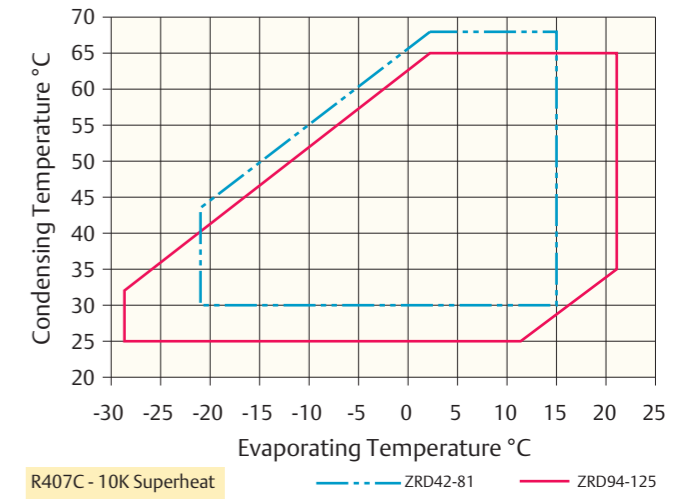
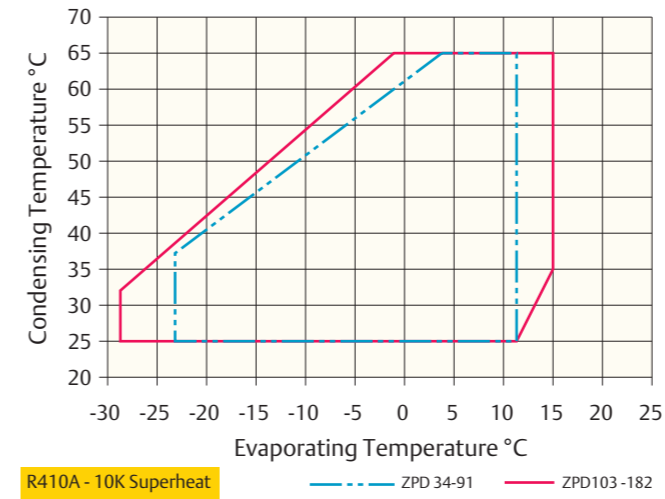
R410A Digital Scroll™ Line-up



R407C Digital Scroll™ Line-up



Operating Envelopes



Technical Overview

R410A	Model	kW	COP	Net Weight	1 Ph 230V	3 Ph 400V	Tandem Ready	Shell Diameter	Sound Power	W/L	H			
Single	ZPD34KSE	8.0	3.2	31	PFZ	TFM	✓	167	66	242/242	422			
	ZPD42KSE	9.0	3.0	31										
	ZPD54KSE	11.6	3.1	34										
	ZPD61KCE	13.1	3.0	40										
	ZPD72KCE	15.2	3.0	40										
	ZPD83KCE	17.7	3.1	40										
	ZPD91KCE	19.3	3.1	41	TFD	✓ (1)	185	71	264/284	533				
	ZPD103KCE	22.5	3.2	59										
	ZPD120KCE	26.6	3.2	61										
	ZPD137KCE	29.9	3.2	61										
	ZPD154KCE	33.5	3.2	65										
	ZPD182KCE	39.6	3.2	66										
Tandem (2)	ZPDT12MCE	26	3.2	92		TFD	✓	185	74	293/625	517			
	ZPDU13MCE	28	3.1											
	ZPDT14MCE	30	3.0											
	ZPDT16MCE	35	3.1	131								75	403/746	577
	ZPDT18MCE	39	3.0											
	ZPDT21MCE	45	3.0											
	ZPDT24MCE	53	3.1	133								77	440/746	595
	ZPDT27MCE	60	3.1											
	ZPDT31MCE	67	3.2											
	ZPDT36MCE	79	3.2									TWD	77	80

Conditions EN12900 Evaporating 5°C, Condensing 50°C, Superheat 10K, Subcooling 0K

(1) Only TFD model

(2) Tandem Assembly By Customers, Emerson Climated Technologies to Provide Design Layout

R407C	Model	kW	COP	Net Weight	1 Ph 230V	3 Ph 400V	Tandem Ready	Shell Diameter	Sound Power	W/L	H					
Single	ZRD42KCE	8.9	3.2	31	PFJ	TFD	✓	167	71	242/242	417					
	ZRD48K3E	10.7	3.2	31	PFZ							✓	185	72	264/284	533
	ZRD61KCE	12.4	3.1	30												
	ZRD72KCE	14.2	2.9	39												
	ZRD81KCE	17.0	3.0	39												
	ZRD94KCE	21.0	3.3	57												
	ZRD125KCE	27.6	3.3	61												
Tandem (2)	ZRDT96KCE	20.8	3.1	84		TFD	✓	185	78	293/625	517					
	ZRDT12MCE	24.8	3.1	84												
	ZRDU13MCE	26.6	3.0	84												
	ZRDT14MCE	28.5	2.9	84												
	ZRDT16MCE	31.8	3.1	84												

Conditions EN12900 Evaporating 5°C, Condensing 50°C, Superheat 10K, Subcooling 0K

(2) Tandem Assembly By Customers, Emerson Climated Technologies to Provide Design Layout