

# Copeland Scroll Digital™ compressors

High efficiency for modulated refrigeration applications



## The digital difference

For years, the patented axial and radial compliance of the Copeland Scroll™ compressor have provided a decisive reliability advantage by allowing the scroll elements to mechanically separate under the most extreme circumstances.

Now, digital technology actively manages axial compliance, achieving continuous capacity modulation from 10% to 100%. The result is precision temperature control, reduced compressor cycling, and lower energy consumption. For our customers, this means:

- Enhanced product integrity
- Longer lasting refrigeration equipment
- Lower energy bills

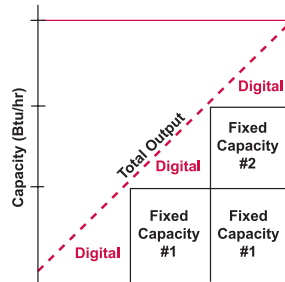
## Advantages

- Variable modulation for precise temperature control
- Highly flexible load matching, from 10-100%
- Less costly and more reliable than variable speed
- Simple control methods
- Significantly improved efficiency vs. hot gas bypass and other methods of modulation
- Linear power reduction relative to modulated capacity
- Based upon field-proven Copeland Scroll™ design

## Benefits

- Improved load matching capability
- Reduced compressor cycling
- Reduced power and energy consumption
- Decreased electrical load at startup
- Can be applied to multiple evaporator systems
- Efficient modulation of Copeland Scroll compressors for high, medium & low temperature applications
- Low temperature model equipped with vapor injection

Copeland Scroll Digital compressors can be used as the lead compressor and paired with fixed capacity scrolls on a parallel rack to provide superior load matching and reduce compressor cycling.



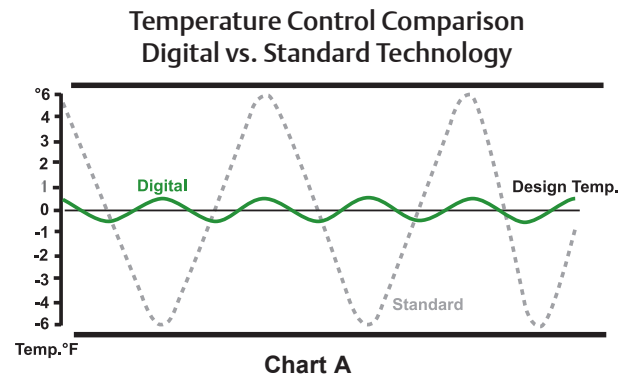
## A superior solution for food safety

When we say “... precision temperature control...”, we mean maintaining box temperatures within +/- 0.5 degrees F (see Chart A). This provides supermarkets and food service establishments with the security of knowing that their food is safe from harmful bacteria growth and other harmful micro-organisms.

## A superior solution for energy savings

Traditional modulation technologies consume close to full-load energy no matter what the required capacity. Digital Scroll compressor technology reduces power consumption linearly as it modulates capacity resulting in optimum system performance and control, as shown in Chart A.

With our simple electronic controller, digital can be integrated into your store network enabling web-based communications and remote monitoring.



## Copeland Scroll Digital model summary

Model	Refrigerant	Capacity (Btu/hr)	EER (Btu/w-hr)	Length (in)	Width (in)	Height (in)	Weight (lbs)
<b>Low Temperature</b>				<b>Data @ -25/105/90/0/90</b>			
ZFD13KVE	R-404A	20200	5.80	11.83	11.79	19.46	85.0
ZFD18KVE	R-404A	29200	5.90	9.67	9.67	18.94	95.0
ZFD25KVE	R-404A	35500	5.95	11.83	11.79	19.44	95.0
<b>Medium Temperature</b>				<b>Data @ 20/120/45/0/90</b>			
ZBD21KCE	R-404A	22400	7.20	9.57	9.57	17.03	66.5
ZBD30KCE	R-404A	30500	7.40	9.48	9.70	18.96	81.0
ZBD38KCE	R-404A	37400	7.30	9.67	9.67	18.94	84.0
ZBD45KCE	R-404A	44300	7.00	9.67	9.67	18.94	88.0
ZBD28KCB	R-134a	27600	8.00	9.48	9.70	19.46	88.0
ZBD38KCP	R-410A	37200	6.75	9.67	9.67	19.44	84.0
ZBD49KCP	R-410A	47700	7.15	9.39	9.64	18.99	89.9

Capacity with R-404A, 60Hz, 65°F Return Gas, 0°F Subcooling.  
Not including digital modulation