

ENGINEERING
TOMORROW

Danfoss

Danfoss Inverter Scrolls VZH

Advanced efficiency, accurate cooling. Design an HVAC system like no other

Cooling IT equipment in data centers is an increasing challenge for operators and design engineers. Power management is the major concern, followed by energy consumption and heat loads. Meeting these challenges is essential for ensuring data safety and availability. Discover how Danfoss inverter scrolls can help you.

Over
30%
energy savings
significantly reduces
energy bill.



www.inverterscroll.danfoss.com

Danfoss inverter scroll solutions: the easiest way for you to build the best data center ever

VZH compressors features:

- Capacity range: 13-26TR (47-94kW) in a single unit; up to 52TR in tandem
- The most extended modulation capacity from 25 to 100 rps
- Operates with R410A
- Two ranges optimized for low and high pressure ratios

Power management is the major challenge, followed by energy consumption and heat loads in data centers.

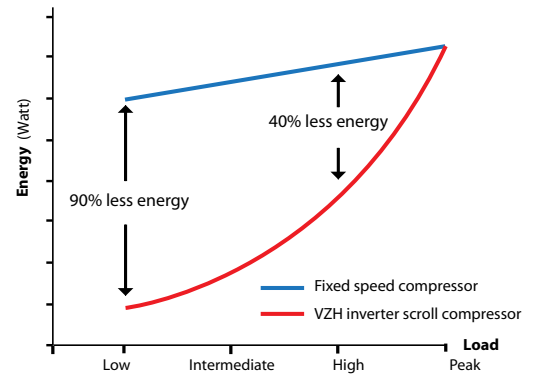
Other important factors are:

- Cost optimization: cooling can be up to 50% of the overall energy cost in a data center
- Accurate humidity and static electricity control
- Minimum start-up current for situations where the power grid is sensitive to load, reduced downtime, and increased lifetime of the overall system.



Energy savings

The Danfoss VZH inverter scroll can cycle from 25 to 100 RPS to effectively avoid energy waste. In part-load operation, it consumes 90% less energy than a fixed-speed compressor. In addition, the patented manifold technology enlarges the capacity range up to 183 kW (52TR) at full speed, provides more capacity modulation and enables the unit capacity to even better match the datacenter cooling demand.

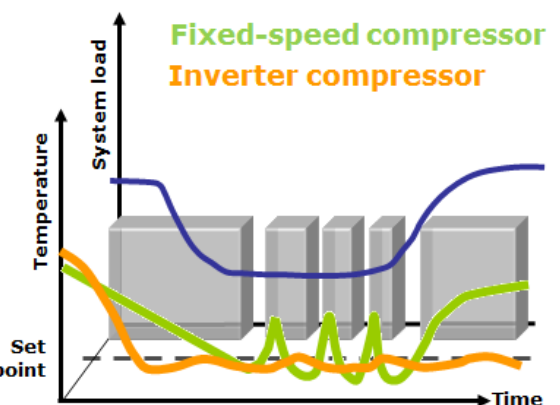


Energy consumption and load variation by compressor type



Accurate temperature and humidity control

1°C shift from the operating set point can mean a 0.5% change on your electricity bill. The VZH compressor speed control offers +/- 0.3°C temperature. It exactly matches your cooling requirements, ensures data availability, protects computer components, and keeps the right humidity level to increase computer lifetime and prevent Electro-Static Discharge (ESD).



Temperature settings by compressor type

Reduced applied costs

Danfoss inverter scroll solutions provide a prequalified compressor and drive package, which speeds up time to market and enhances reliability. Additionally, the drive replaces the soft starter device and reduces inrush current by about 70%. As a result investment for UPS (Unrettuptible Power Supply) are reduced.



Enhanced reliability

Inverter scroll compressors can modulate the cooling capacity according to the working load instead of frequent on-off cycles. The prequalified drive provides several compressor protection and benefits to the system such as reducing vibration issues with natural frequency skip. This ensures safe operation of the compressors increases uptime and prolongs the unit life time.

Contact your Danfoss sales offices and learn how your business can gain from working with the leader in variable speed technology.