

ENGINEERING  
TOMORROW

*Danfoss*

Foodservice Solutions

Refrigeration solutions to **lower energy costs**  
and **reduce environmental impact**

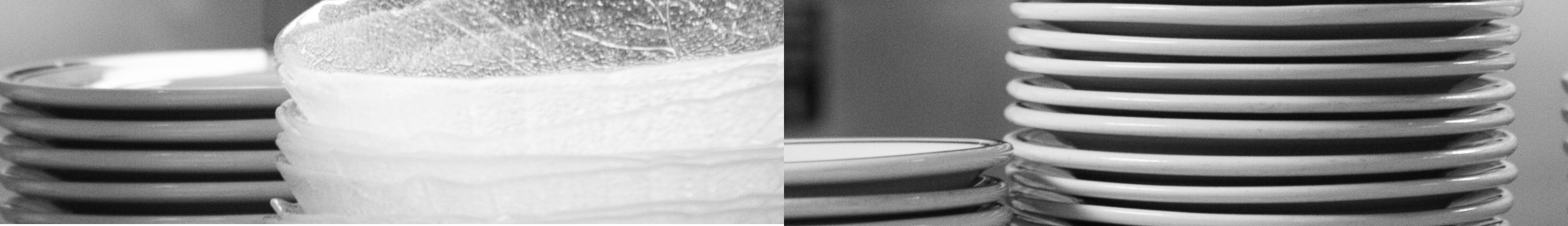
Up to

**50%**

energy savings;  
direct benefit to the  
bottom line

[www.danfoss.com](http://www.danfoss.com)





# Elevating Your Offering

## Energy Efficiency

Electronic or mechanical expansion valves regulate with greater speed and precision than capillary tubes, ensuring your system always runs at peak performance and efficiency independent of operating conditions.

## Reliability

The largest transport refrigeration OEMs count on Danfoss in the harshest conditions to keep systems running and food safe. You can count on us to deliver product consistency and customer satisfaction.

## Natural Refrigerants

Danfoss has a portfolio of products designed for natural refrigerants R290 and CO<sub>2</sub>, including “energy optimized” R290 compressors. And we have experience working with OEMs to design systems that meet hydrocarbon charge limits.

## Longer System Lifetimes

Quality is designed into our products, from laser welding for extended TXV diaphragm life to superior chemistry for high moisture capacity, small volume filter drier to meet charge limit requirements.

## Smarter Systems

Electronic sensors and controls have revolutionized system design options including connectivity-compatible solutions enabling remote data access. Our components can direct the power of system intelligence to achieving your objectives.

## Simplification

Your dedicated Danfoss field service engineers have years of experience saving OEMs money by simplifying designs and optimizing components. Danfoss offers a full range of components to work in harmony to maximize system performance.

# Energy Cost and the Environment

## Critical factors that squeeze a restaurant’s bottom line

Danfoss refrigeration controls are designed to deliver the most efficient equipment operation possible. That means that energy waste is minimized. Our electronic cold control maintains the temperature you set, and energy usage is reduced to absolute minimum. And Danfoss compressors and condensing units are engineered to ensure energy efficiency.

As environmental laws and regulations become more stringent, they are an increasing concern to equipment operators. Danfoss addresses these by providing components and controls for environmentally-friendly refrigerants, and by making leaks less likely.



### Danfoss Components for Foodservice

	Compressors	MCHE Condenser Coils	Electronic Controls	Filter Driers	Cartridge Controls	Thermostatic Expansion Valves	Mechanical Thermostats	Solenoid Valves
Walk-in Cooler/Freezer	•	•	•	•	•	•	•	•
Prep Table	•	•	•	•	•	•	•	
Refrigerators/Freezer/Merchandisers	•	•	•	•	•	•	•	
Ice Machine	•	•	•	•	•	•		•
Beverage Dispenser	•	•	•	•	•	•	•	•
Ice Cream Machine	•	•	•	•	•	•	•	•

	Sight Glasses	Condensing Units	Pressure Regulators	Water Regulating Valves	Pressure & Temperature Controls	Shut-off Valve / Ball Valves	Check Valves
Walk-in Cooler/Freezer	•	•	•	•	•	•	
Prep Table	•	•					
Refrigerators/Freezer/Merchandisers		•					
Ice Machine			•	•			•
Beverage Dispenser	•						
Ice Cream Machine	•		•	•	•		



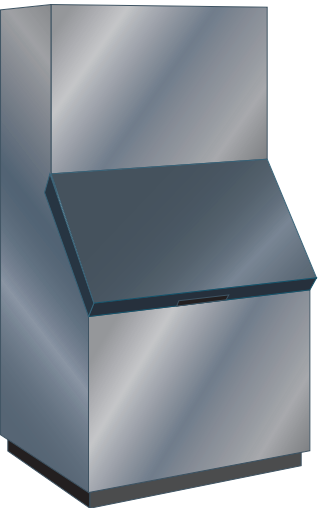
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**Danfoss components for  
Prep Tables**

- Condensing units
- Compressors
- Mechanical thermostats
- Filter driers
- Cartridge controls
- Electronic controls
- Thermostatic expansion valves
- Sight glasses
- MCHE condenser coils

# Danfoss

## A Complete Solutions Provider







## 1 Danfoss components for Walk-In Coolers/Freezers

- Compressors
- Condensing units
- Mechanical thermostats
- Electronic controls
- Filter driers
- Cartridge controls
- Pressure & temperature controls
- Solenoid valves
- Sight glasses
- Pressure regulators
- Shut-off valve / ball valves
- Water regulating valves
- Thermostatic expansion valves
- MCHE condenser coils

### Condensing Units

- Variable capacity always matches load resulting in less energy consumption
  - Most applications do not require full compressor capacity the majority of their running time
  - Precision temperature control to ensure lowest possible energy cost
- High Energy Efficiency Ratio (EER)
- Quiet operation



### Filter Driers

- Best-in-class adsorption capacities
- Models for all common refrigerants
- Solid copper connections



### Compressors

- High energy efficiency
- Models for freezers and refrigerators
- Wide range of capacities
- Designed for dependability
- Variable capacity models add to energy savings
- Designed for use with R290 refrigerant



## 3

### Danfoss components for Refrigerators, Freezers or Merchandisers

- Compressors
- Condensing units
- Mechanical thermostats
- Electronic controls
- Filter driers
- Cartridge controls
- Thermostatic expansion valves
- MCHE condenser coils



### MCHE Condenser Coils

- Compact – 60% lower weight vs FT coil
- Reduced refrigerant charge – 70% less charge than FT coils
- All aluminum construction – resists galvanic and formicary corrosion
- Hydrocarbon ready (Propane/Iso-butane)



### Electronic/Defrost Controllers

- Direct control of compressors up to 16A
- Precise temperature control ensures maximum efficiency
- Controls based on direct measurement of cabinet temperature
- Multiple defrost options include demand defrost
- Compressor protection against brown-outs extends compressor life
- Optional remote display
- Temperature alarm capability



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### Danfoss components for Ice Machines

- Compressors
- Filter driers
- Cartridge controls
- Electronic controls
- Thermostatic expansion valves
- Pressure regulators
- Solenoid valves
- Water regulating and solenoid valves
- Check valves
- MCHE condenser coils

### Compact Solenoid Valves

- Saves energy:
  - Low internal leakage rate
  - Reduces compressor work load
  - Lower coil wattage
- Fast and easy installation:
  - Bi-metal connections: quick brazing



### Stainless Steel Thermostatic Expansion Valves

- For most commonly used refrigerants
- Capacities from 0.15 to 4.5 TR
- Optional replaceable orifice and strainer
- Deep drawn stainless steel
- Stronger, more flexible capillary tube
- Bi-metal connections; quick brazing
- Laser welded power element - more reliable, longer life
- Free-floating, self-aligning pushrod - ensures precise control
- Laser engraved label lasts for the valve's lifetime
- Bulb charges developed for specific applications to improve efficiency across the range (ice machines, supermarket cases)



### Compressors

- Refrigeration scroll and reciprocating models
- Wide range of capacities
- High EER provides energy savings
- Designed for dependability



## 6

### Danfoss components for Ice Cream Machines

- Compressors
- Mechanical thermostats
- Filter driers
- Cartridge controls
- Electronic controls
- Thermostatic expansion valves
- Pressure regulators
- Solenoid valves
- Sight glasses
- Water regulating valves
- MCHE condenser coils
- Electronic expansion valves



### Pressure & Temperature Controls

- Easy wiring - no bending required
- Visible snap-action contacts
- Test with a fingertip - no tools required
- Maximum serviceability
- Designed by service technicians



### Electronic expansion valves ETS 6

- Minimum Stable Superheat algorithm maximizes system efficiency
- Individually calibrated for all OEM solutions
- Works with all common refrigerants
- Easy to install, and controller works with Modbus interface or as a standalone
- High reliability (less than 200 ppm) and long lifetime of more than 150k cycles



## Experience

Since 1933, Danfoss has produced innovative products for refrigeration. Our scientists and engineers, cooperating around the world, strive to bring to market refrigeration controls and components that lead the world in efficiency, ease of installation, economical operation, and reliability. Since our beginnings, we have set the standard for dependability.

## Innovation

Since the establishment of the AHR Expo Innovation Awards Program, Danfoss has been repeatedly recognized for outstanding achievement in design.

## Service

Danfoss application engineers are experts in tailoring solutions to fit your application needs. And the finest customer service and logistics team in the world will expedite, track, and deliver your order.

## What's in it for You?

- Superior temperature control
- Stainless steel products for aggressive environments and the food & beverage industry
- Reliable solutions enabling low operation and maintenance costs
- Products suitable for use with all common refrigerants, including natural refrigerants
- Long service life



## Engineering Tomorrow

Danfoss engineers technologies that enable the world of tomorrow to do more with less. We meet the growing need for infrastructure, food supply, energy efficiency and climate-friendly solutions. Our products and services are used in areas such as refrigeration, air conditioning, heating, motor control and mobile machinery. We are also active in the field of renewable energy as well as district heating infrastructure for cities and urban communities. Our innovative engineering dates back to 1933 and today Danfoss is a world-leader, employing 22,500 employees and serving customers in more than 100 countries. We are still privately held by the founding family.

All Danfoss production facilities are ISO 14001:2004 certified and TS16949 certified or compliant.

For information on Danfoss food-service solutions, e-mail us at: [chill@danfoss.com](mailto:chill@danfoss.com)

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