



A COMPLETE LINE OF INDUSTRIAL REFRIGERATION COMPRESSORS AND CHILLERS

# Refrigeration Equipment for Food and Beverage



## SCREW COMPRESSORS

**Johnson Controls Industrial Refrigeration Systems**  
Leading the way with industrial refrigeration solutions in every corner of the world

So much of our lives rely on refrigeration, from the food that we eat to the transportation and processing of vital resources. Even our personal comfort requires effective industrial refrigeration systems. That's why we are dedicated to providing the world with the refrigeration and gas compression technology required for today and tomorrow.

Our industrial refrigeration systems bring food to your favorite supermarket by providing essential industrial cooling equipment to the food processing industry. We also build the unique industrial refrigeration systems required to move gas through pipelines, produce energy, manufacture chemicals and nearly all of the items we use in our daily lives.

### Frick® RWF II and RXF rotary screw compressors

Quiet, reliable and efficient

Frick® RWF II and RXF Rotary screw Compressors are leading the food and beverage industry with the most innovative and broadest product range available for industrial applications.

- Variable volume ratio
- Infinite capacity control to match changing loads exactly
- Smart Series™ Motors
- Flange mounting
- Factory-mounted starter
- Cold-start valve
- Lower leakage potential
- Oil Cooling by eZ-Cool™



### YORK® RWK II-CM rotary screw compressors

Completely assembled in factory including piping and wiring works

YORK® RWK II-CM rotary screw compressors can be widely used in many process cooling applications such as food and beverage processing, petrochemical, chemical, pharmaceutical, mining, irrigation and artificial snowmaking, etc.

- Continuous capacity control
- Smart View II Controller
- Flange-Mounted Motors
- Cold Start™ Valve
- Super Filter™ II
- Antifriction Bearings
- Easy to Service
- External Oil Cooling
- Super Coalescer



### Sabroe® SAB screw compressor units

Small single-stage compressors with swept volumes of 200–10 900 m<sup>3</sup>/h

Sabroe® SAB screw compressors are designed and configured to tackle small to large scale industrial refrigeration requirements where a combination of exceptional reliability, high performance and low operating costs is essential.

- Variable-speed drive and stepless capacity control
- Unisab III systems controller
- Cold Start™ valve
- SuperFilter II™ oil filter
- Small footprint



### Sabroe® SAB 157 HR high-pressure screw compressor units

Variable-speed high-pressure screw compressor units with swept volumes of 100–600 m<sup>3</sup>/hour, for use with CO<sub>2</sub> as refrigerant

These unique high-pressure compressor units are ideal for low-temperature two-stage freezer installations, such as carbon dioxide-ammonia (R744–R717) cascade refrigeration systems. The 52 bar configuration makes it possible to undertake freezing and defrosting in one single stage with condensing temperatures up to 15°C.

- Stepless, skip-free capacity control
- Consistently high performance at both full and part load
- Unique 52 bar unit
- Small footprint
- Supports Condition Based Service



## RECIPROCATING COMPRESSORS

### Sabroe® CMO reciprocating compressor units

Small single-stage compressors with swept volumes of 100–270 m<sup>3</sup>/h

CMO compressor units are small units specially designed for use in smaller-scale refrigeration installations where reliability is a particular concern, and uninterrupted service a big priority.

- High coefficient of performance (COP)
- Low noise and vibration
- Variable-speed drive
- Repairs can be undertaken in situ
- Easy to access for service



### Sabroe® SMC reciprocating compressor units

Large single-stage compressors with swept volumes of 200–1350 m<sup>3</sup>/h

SMC compressor units are ideal for use in medium-sized refrigeration installations where reliable service is a major priority. They are particularly effective under part-load conditions.

- High coefficient of performance (COP)
- Variable-speed drive
- Repairs can be undertaken in situ
- Easy to access for service
- Special oil separator design



### Sabroe® HPO/HPC high-pressure reciprocating compressor units

High-pressure versions of CMO and SMC reciprocating compressors, with swept volumes of 100–450 m<sup>3</sup>/h

The blocks of the compressor units in the HPO/HPC range are cast in high-strength ductile iron, making them particularly strong and capable of operating under exceptionally high pressures. Max. discharge pressures: up to 40 bar for HPC units and 50 bar for HPO units. Max. suction pressure: 26 bar (for both HPC and HPO).

- High coefficient of performance (COP)
- Variable-speed drive
- High condensing temperatures – up to 70°C
- Designed for easy service access, and repairs can be undertaken in situ
- Special oil separator design



### Sabroe® TCMO/TSMC two-stage reciprocating compressor units

Two-stage versions of CMO and SMC reciprocating compressors, with swept volumes of 150–1000 m<sup>3</sup>/h

TCMO/TSMC compressor units are also ideal for medium-size industrial refrigeration installations that involve a big temperature range, such as freezer installations.

- Splitting the temperature lift into two separate stages
- Relatively small footprint
- High coefficient of performance (COP)
- Variable-speed drive



### A maintenance strategy to meet your needs

If you have our equipment, it is our responsibility to support it. Our goal of an optimized maintenance strategy is to develop a sustainable maintenance program for your equipment that helps extend asset life and reduce overall facility costs. We'll develop a service strategy around your requirements, the level of service and technology you want, and the goals you want to achieve. This strategy can combine reactive, planned and predictive service support, as well as advanced technology options for monitoring and analysis.

## CHILLERS

### YORK® Packaged Ammonia Chiller (PAC)

Complete, self-contained refrigeration systems that provide efficient solutions for industrial cooling applications

- Quality components
- Low refrigerant charge
- Compact footprint
- Reduced liability
- Easy portability
- Wide product line
- Lower leakage potential
- Oil cooling by eZ-Cool™



### Sabroe® PAC chillers

Packaged ammonia chillers based on reciprocating compressors, with a 50–6200 kW capacity range

The integrated design, with the plate evaporator/condenser, oil separator and control system all built in, means PAC units provide exceptional refrigeration capacity while only taking up a minimum of space. They are ideal for use in indirect cooling set-ups, and in installations where it is important to use future-compatible natural refrigerants, such as ammonia.

- Factory-assembled, pre-tested packaged units
- Comprehensive selection of compressor capacities
- Very easy access for service
- Indirect cooling and uncomplicated flooded evaporating system
- Plate evaporator/condenser are easy to open and service



### Sabroe® ChillPAC™ chillers

Extremely compact packaged ammonia chillers based on reciprocating compressors, with a 100–1400 kW capacity range

ChillPAC™ ammonia-based chillers feature an ultra-compact format so narrow that they can even pass through a normal doorway. This is achieved by having an extra-compact shell-and-plate evaporator/condenser, oil separator and control system all built in and fully integrated into a unique vibration-resistant design.

- Factory-assembled, pre-tested packaged units
- Exceptionally compact design and fully integrated configuration
- Indirect cooling and uncomplicated flooded evaporating system
- Exceptional COP and outstanding part-load performance
- Refrigerant charge 50% smaller than with conventional chillers



### Sabroe® CAFP CO<sub>2</sub>/ammonia freezers

Compact packaged freezer systems using reciprocating compressors, and CO<sub>2</sub>/ammonia as refrigerant, with a 100–800 kW capacity range

The highly customised Sabroe® CAFP freezer systems are based on a cascade system that combines the advantages of CO<sub>2</sub> on the low-temperature side and ammonia on the high-temperature side.

- Compact design that fits inside a standard 20-foot container
- High COP and extremely low power consumption
- Use of CO<sub>2</sub> reduces piping complexity and costs
- Very small ammonia charge
- CO<sub>2</sub> is a simple, inexpensive natural refrigerant



For more help finding the right industrial refrigeration systems, contact us at:

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