

SCREW COMPRESSORS



Screw compressors are engineered for continuous-duty industrial refrigeration and large-scale commercial cooling systems. Designed for high-capacity operation, these compressors deliver superior volumetric efficiency, smooth performance, and long service life in demanding environments.

Built for industrial refrigeration plants, cold storage facilities, food processing operations, and HVAC systems, our screw compressors support a wide operating temperature range and multiple refrigerants including R-507, R-404A, R-134a, and R-717.

Product Line Overview

Compressor Type: Rotary Screw

Cooling Method: Water-Cooled

Capacity Range: 1,800W – 5,000W

Voltage: 460V

Phase: Three-Phase

Frequency: 60Hz

Motor Efficiency: IE3 & IE4 (Ammonia Models)

Applications: Industrial Refrigeration, Freezers, HVAC, Ammonia Systems

Core Features

Heavy-duty rotary screw compression mechanism

Designed for continuous 24/7 operation

High volumetric efficiency for large-capacity systems

Water-cooled design for thermal stability

IE3 / IE4 high-efficiency motor options

Optimized for industrial refrigeration plants

Smooth, low-vibration operation

Excellent part-load performance

Integrated oil management system

Electrical Characteristics

- Three-phase industrial power (460V)
- IE3 high-efficiency motors (standard models)
- IE4 premium-efficiency motor (Ammonia model)
- Designed for soft-start and VFD compatibility
- High starting torque
- Optimized for continuous-duty cycles

Application Guidelines

Industrial Refrigeration

- Cold storage warehouses
- Distribution centers
- Food processing facilities

Ammonia Systems (R-717)

- Industrial refrigeration plants
- Large-scale freezing tunnels
- Processing and packaging plants

HVAC & Process Cooling

- Industrial HVAC systems
- Manufacturing cooling processes
- Water chilling systems

Environmental & Compliance

- Compatible with:
 - R-134a
 - R-404A
 - R-507
 - R-717 (Ammonia)

Construction & Design

- Heavy-duty rotary screw compression mechanism
- High-precision rotors for maximum volumetric efficiency
- Water-cooled housing for thermal stability
- Integrated oil management system
- Flanged or stub suction and discharge connections
- Low vibration and smooth rotational operation
- Designed for 24/7 continuous operation

Installation requirements

- Proper oil level must be maintained
- Ensure adequate airflow for air-cooled operation
- Install vibration isolation mounts
- Follow refrigerant charging guidelines
- Electrical supply must match compressor rating

Advantages of Design

- High volumetric efficiency
- Continuous, non-pulsating compression
- Excellent part-load performance
- Lower vibration compared to reciprocating compressors
- Designed for high-capacity applications
- Longer operational lifecycle in industrial environments

Model Specification Summary

Refrigerant	Temp Range (°F)	Capacity Range	Typical Application
R-134a	25–55°F	1800W	Industrial Cooling
R-404A	-20–20°F	3200W	Large Commercial Freezers
R-507	0–70°F	2500W–3200W	Industrial Refrigeration
R-717 (NH ₃)	-30–50°F	5000W	Ammonia Refrigeration Plants
Refrigerant	Temp Range (°F)	Capacity Range	Typical Application
R-134a	25–55°F	1800W	Industrial Cooling