



TURBO-AIR Compressors

Product Guide

ZERO TRUE OIL-FREE
ISO 8573-1
Class 0



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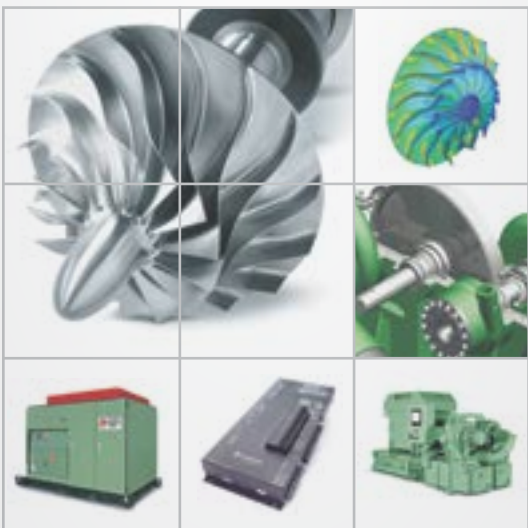
TURBO-AIR Centrifugal Compressors

The following pages highlight the TURBO-AIR series of compressors for plant air applications. These integrally geared centrifugal compressors offer top-notch performance and design flexibility for plant and process air applications.






The TURBO-AIR compressors are packaged on a common base for easy installation and are available in a number of capacities from 93 to 3355 kW (125 to 4500 hp).

Industries worldwide depend on TURBO-AIR compressors for efficient and reliable oil-free air. Common applications include, but are not limited to:

- Air separation
- Steel
- Mining
- Process air
- Textiles
- Food and beverage
- Automotive
- Pharmaceuticals
- Chemicals
- Electronics
- Aerospace
- Industrial gases
- Oil and gas refineries
- Snowmaking
- Power generation
- Instrument air
- Petrochemical refineries



Compare the innovative centrifugal compressor technology of the TURBO-AIR product line with other machines, such as rotary screw compressors, and the advantages are clear

TURBO-AIR COMPRESSORS	OTHER COMPRESSORS
 <p>LOW MAINTENANCE</p> <ul style="list-style-type: none"> • Compression elements do not wear or require periodic replacement • Oil filter elements are easily replaced • Bearings designed for extended life 	<ul style="list-style-type: none"> • Require regular maintenance and periodic replacement of air ends • Result in high operating expenses and significant machine downtime
 <p>OIL-FREE AIR</p> <ul style="list-style-type: none"> • 100% oil free per ISO 8573-1 certification • Prevent contamination of system 	<ul style="list-style-type: none"> • Oil filters must be installed at discharge • Potential for oil carryover that fouls the process • Oil-free claim is dependent on uninterrupted seal gas supply
 <p>HIGH RELIABILITY</p> <ul style="list-style-type: none"> • Centrifugal compressors are proven to have long mean time between failures (MTBF), and independent research has shown industry-leading availability of 99.7% • Conservative high-quality gear design 	<ul style="list-style-type: none"> • Contacting compression elements are subject to wear • Limited rotating element life • Designed-in wearing items to generate aftermarket revenues
 <p>OPTIMUM CONTROL</p> <ul style="list-style-type: none"> • Automatic operation for any operating condition • State-of-the-art MAESTRO™ suite of controls • PLC control available 	<ul style="list-style-type: none"> • Limited control capability • Costly, high-maintenance variable speed configurations
 <p>NO VIBRATION</p> <ul style="list-style-type: none"> • Essentially vibration-free • No special foundation is required 	<ul style="list-style-type: none"> • Special foundations needed to handle heavy weight • Precautions must be taken to prevent transmission of vibration to other equipment

TURBO-AIR 2000



Power

93 to 260 kW
(125 to 350 hp)



Flow

14.3 to 48.1 m³/min
(505 to 1700 CFM)

Pressure

3.5 to 10.3 barg
(50 to 150 psig)

Applications

- Air separation
- Steel
- Mining
- Automotive
- Process air
- Textiles
- Food and beverage
- Electronics
- Aerospace
- Industrial gases
- Oil and gas refineries
- Snowmaking
- Power generation
- Instrument air
- Petrochemical refineries
- Other

TURBO-AIR COOLED 2000



Power

93 to 260 kW
(125 to 350 hp)



Flow

15.6 to 48.1 m³/min
(550 to 1700 CFM)

Pressure

3.8 to 10.3 barg
(55 to 150 psig)

Applications

- Air separation
- Steel
- Mining
- Automotive
- Process air
- Textiles
- Food and beverage
- Electronics
- Aerospace
- Industrial gases
- Oil and gas refineries
- Snowmaking
- Power generation
- Instrument air
- Petrochemical refineries
- Other

TURBO-AIR 3000



Power

300 to 600 kW
(400 to 800 hp)



Flow

57 to 113 m³/min
(2000 to 4000 CFM)

Pressure

3.5 to 10.3 barg
(50 to 150 psig)

Applications

- Air separation
- Steel
- Mining
- Automotive
- Process air
- Textiles
- Food and beverage
- Electronics
- Aerospace
- Industrial gases
- Oil and gas refineries
- Snowmaking
- Power generation
- Instrument air
- Petrochemical refineries
- Other

TURBO-AIR 6000



Power

600 to 1305 kW
(800 to 1750 hp)



Flow

113 to 227 m³/min
(4000 to 8000 CFM)

Pressure

3.5 to 10.3 barg
(50 to 150 psig)

Applications

- Air separation
- Steel
- Mining
- Automotive
- Process air
- Textiles
- Food and beverage
- Electronics
- Aerospace
- Industrial gases
- Oil and gas refineries
- Snowmaking
- Power generation
- Instrument air
- Petrochemical refineries
- Other

TURBO-AIR NX 8000



Power

750 to 1700 kW
(1000 to 2250 hp)



Flow

135 to 305 m³/min
(4850 to 10,800 CFM)

Pressure

3.5 to 14.5 barg
(50 to 210 psig)

Applications

- Air separation
- Nitrogen boosting
- Steel
- Mining
- Automotive
- Process air
- Textiles
- Food and beverage
- Electronics
- Aerospace
- Industrial gases
- Oil and gas refineries
- Snowmaking
- Power generation
- Instrument air
- Petrochemical refineries
- Other

TURBO-AIR NX 12000



Power

1120 to 2237 kW
(1500 to 3000 hp)



Flow

212 to 430 m³/min
(7500 to 15,200 CFM)

Pressure

3.5 to 14.5 barg
(50 to 210 psig)

Applications

- Air separation
- Nitrogen boosting
- Steel
- Mining
- Automotive
- Process air
- Textiles
- Food and beverage
- Electronics
- Aerospace
- Industrial gases
- Oil and gas refineries
- Snowmaking
- Power generation
- Instrument air
- Petrochemical refineries
- Other

TURBO DryPak



Power

112 to 600 kW
(150 to 800 hp)

Flow

15.6 to 113 m³/min
(550 to 4000 CFM)

Pressure

3.8 to 10.3 barg
(55 to 150 psig)

Applications

- Air separation
- Steel
- Mining
- Automotive
- Process air
- Textiles
- Food and beverage
- Electronics
- Aerospace
- Industrial gases
- Oil and gas refineries
- Snowmaking
- Power generation
- Instrument air
- Petrochemical refineries
- Other



The complete system package delivers -40° F (-40° C) dew point compressed air with low operating costs

Twin-Turbo



Power

112 to 3355 kW
(150 to 4500 hp)



Flow

30 to 425 m³/min
(1065 to 15,000 CFM)

Pressure

3.8 to 5.9 barg
(55 to 85 psig)

Booster Pressure Ratio

Up to 2.0

Applications

- Dual process requirements
- Air and nitrogen boosting

TURBO-AIR 2040



Power

375 to 600 kW
(500 to 800 hp)



Flow

42 to 51 m³/min
(1500 to 1800 CFM)

Pressure

Up to 42 barg
(Up to 610 psig)

Applications

- Soot blowing
- Chemicals
- Bottle blowing
- Automotive
- Nitrogen boosting
- Aircraft testing
- Wind tunnel testing

For high-pressure applications

TURBO-AIR 6040



Power

Up to 1700 kW
(Up to 2250 hp)



Flow

127 to 167 m³/min
(4500 to 6000 CFM)

Pressure

Up to 42 barg
(Up to 610 psig)

Applications

- Soot blowing
- Chemicals
- Bottle blowing
- Automotive
- Nitrogen boosting
- Aircraft testing
- Wind tunnel testing

For high-pressure applications

TURBO-DRI

Refrigerated Air Dryers



TNC Non-cycling
ISO Dew Point
Air Quality Class: 4
1000 to 8000 CFM (28 to 227 m³/min)
Guaranteed to 35° F to 39° F (2° C to 5° C)
pressure dew points

*Reduces energy consumption while
maintaining a true and constant dew
point*



TCD Cycling
ISO Dew Point
Air Quality Class: 4
500 to 19,200 CFM (14 to 544 m³/min)
Guaranteed to 35° F to 39° F (2° C to 5° C)
pressure dew points

TURBO-DRI

Desiccant Air Dryers



A desiccant dryer that is reliable and easy to use

THL Heatless Desiccant
ISO Dew Point Air Quality Class: 1-2
500 to 5000 CFM (14 to 142 m³/min)
-40° F to -100° F (-40° C to -73° C)
pressure dew points



Energy conscious, reliable air

TEH Externally Heated
ISO Dew Point Air Quality Class: 1-2
500 to 8000 CFM (14 to 227 m³/min)
-40° F to -100° F (-40° C to -73° C)
pressure dew points



A full-featured desiccant dryer with added energy savings

THB Heated Blower
ISO Dew Point Air Quality Class: 2-3
500 to 12000 CFM (14 to 340 m³/min)
Nominal to -40° F (-40° C)
pressure dew points

Descriptive Specifications

Compressor Case: An exclusive two-piece main casting incorporates intercoolers and air passages, reducing the potential for leaks and minimizing pressure losses for increased efficiency. This arrangement reduces overall size without sacrificing accessibility.

Gearbox: The gearbox is split at the horizontal centerline of the shaft. The split casing allows for quick and easy inspection of the working parts without costly disruption of the major compressor piping assemblies.

Rotors: Standard TURBO-AIR compressors contain two rotors. Each impeller is cantilevered into the compressor case with the rotor shaft supported by two hydrostatic-squeeze film bearings mounted in the gear case. The two rotors are driven at different speeds by a bullgear typically driven by an electric motor. This arrangement allows each set of impellers to operate at its optimum speed, flow and efficiency.

Speed Increasing Gears: The speed increasing gears are the high-speed, precision-ground, single-helical type and designed in accordance with AGMA standards. The high quality of these precision-ground gears results in high efficiency, long life and low noise-level gear operation.

Bearings: Rotors are supported on our patented hydrostatic-squeeze film bearings with an oil film that varies little over a broad range of operation from unloaded to fully loaded. Axial alignment of rotating elements is maintained and thrust loads are absorbed by thrust collars, or by conservatively sized thrust bearings on each pinion shaft.

Seals: Non-contacting labyrinth seals are used. The accuracy of construction in conjunction with the atmospheric air space between the air and oil labyrinth seals results in a reliable and minimum leakage seal, and the non-contacting design does not wear or require instrument air for permissive starting.

Intercoolers: Removable, water-in-tube intercooler bundles cool the air stream between compression stages. The intercoolers are designed with aluminum or copper fins extending from the tube surface into the air stream to provide excellent heat transfer performance and no internal obstructions.

Oil-free Air by Design: TURBO-AIR products are certified to ISO 8573-1 Class Zero. This certification officially acknowledges the ability of our compressors to produce 100% oil-free air. For certain applications, such as PET bottle blowing, food packaging, air separation, pharmaceutical development and chemical manufacturing, even trace amounts of oil contamination can ruin production. Poor air quality can cause production downtime and may impact not only cost, but also reputation. Our customers can rest knowing that the use of the TURBO-AIR series of compressors reduces the risk of oil contamination by virtue of design itself. The most thorough testing methods, conducted in a controlled environment to meet the ISO and TÜV standards, were utilized for the ISO 8573-1 Class Zero certification. Under these test conditions, no traces of oil could be detected and the compressed air was categorized Class Zero in terms of oil content.



We Offer More

In addition to our TURBO-AIR series of products, we offer engineered air, industrial and process gas centrifugal compressors designed for specific applications with a wide range of capacities and power ranges. Our MSG[®] (Multi-Stage Geared) compressors are application engineered with a number of available configurations:

- Flows from 70 to 3800 m³/min (2500 to 135,000 CFM)
- Input capacity to over 18,650 kW (25,000 hp)
- Discharge pressures to 100 barg (1450 psig)



4MSG-16/15 Air Compressor



TAE-55 Air Compressor



Multi-Process CO Compressor



3R2MSG-5G/30 Gas Compressor



Fuel Gas Booster Skid

Compliances and Certifications

ISO 9001:2008 and ISO 14001:2004 certified quality systems.

API, CE Marking – Machinery directive 2006/42/ED, PED, ATEX, China code, GOST, KOSHA, ASME and Class Zero compliance.



Performance Testing

To guarantee performance to both customer and manufacturer specifications, every design is fully tested for aerodynamic and mechanical performance. Upon request, testing observation and complete testing documentation is available.

Compressor Controls

Each TURBO-AIR compressor comes standard with the new MAESTRO Universal control system, featuring advanced communication and control schemes. Custom PLC controls are available as an option.



Customer Support and Services

We have over 80 representatives and distributors worldwide to service your needs wherever your application is located. We keep life cycle records on every unit we manufacture, enabling us to better serve our customers now and in the future.



Replacement Parts

Genuine OEM parts have been produced in the same facility for over 60 years. Parts are cross checked against unit maintenance records to ensure correctness.

Repair Expertise

State-of-the-art equipment is available for turnkey repairs. There are several strategically placed repair center locations to serve a broad customer base including:

- Houston, TX
- Buffalo, NY
- Milan, Italy

Maintenance and Start-Up Services

Certified service technicians are available to help install and start up new compressor installations. preventative maintenance services are also available to help keep compressors running efficiently and reliably.

Technical Training

Training sessions are available at an installation site or at one of our facilities.



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THERMO KING



TRANE

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