ISO 8573-1 CERTIFIED OIL-FREE AIR

- Prevents oil contamination of your system
- Limits the potential for compressed air pipeline fires caused by oil carryover
- Eliminates costly waste disposal problems associated with oil-laden condensate
- Eliminates the expense and associated maintenance requirements of oil-removal filters, since no oil enters the compressed air stream of the compressor

SIMPLE INSTALLATION

- Complete package, including aftercooler, controls, motor and lubrication system
- Reduced number of external connections
- Compact design reduces required floor space
- Meets OSHA sound level requirements without sound enclosure

LOW-COST OPERATION

- True unloading capability helps to take advantage of opportunities for energy savings
- Increased system efficiency compared to alternative technologies translates into reduced operating life-cycle costs
- Excellent part-load efficiencies for any operating load
- No sliding or rubbing parts in the compression process causing wear or efficiency loss

EASY INSTALLATION

- The MAESTRO™ Universal control panel provides a built-in web server, allowing compressor monitoring using your local intranet
- Significant annual savings in operating costs by providing more precise control
- Easy-to-use, automatic operation

EASY MAINTENANCE

- Compression components do not need to require periodic replacement
- No oil-removal filters to clean or replace
- Accessible, meticulously pathed for quick inspection
- Intercooler and aftercooler bundles are easy to remove for inspection and cleaning
- Water-in-tube design, aftercooler and intercooler allow for simple mechanical cleaning
- Maintenance-free dry coupling

HIGH RELIABILITY

- Thrust loads absorbed at low speed
- Non-contacting air and oil seals
- Stainless steel compressor elements
- Consistent, high-quality gear design
- Bonded labyrinth bearing design
- Centrifugal compressors are proven to have a long service life between failures (MTBF), and independent research has shown an industry-leading availability of 99.7%

Benefits of MSG TURBO-AIR Compressors

**EASY OPERATION**

**EASY INSTALLATION**

**LOW-COST OPERATION**

**HIGH RELIABILITY**

Ingersoll Rand (NYSE:IR) advances the quality of life by creating comfortable, sustainable and efficient environments. Our people and our family of brands—including Club Car®, Ingersoll Rand®, Thermo King® and Trane®—work together to enhance the quality and comfort of air in homes and buildings, transport and protect food and perishables, and increase industrial productivity and efficiency. We are a $13 billion global business committed to a world of sustainable progress and enduring results.

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**MSG® TURBO-AIR® High Pressure Centrifugal Compressors**

**EFFICIENT PACKAGE**
MSG TURBO-AIR High Pressure centrifugal compressors utilize innovative three- and four-pinion designs to achieve discharge pressures up to 42 bar (610 psig). The ability to generate such high pressures makes these packages a great fit for applications like soot blowing, nitrogen boosting, and PET bottle blowing. These compact compressor packages include mounted control valves, a mounted intercooler, and the MAESTRO Universal compressor control system.

**MSG TURBO-AIR 2040**
Compressor Motor Sizes Available
- MSG TURBO-AIR 6040
- 6350 kg (14,000 lb)
- Universal compressor control system.
These compact compressor packages include mounted control valves, a mounted intercooler, and the MAESTRO great fit for applications like soot blowing, nitrogen boosting, and PET bottle blowing.

**MSG TURBO-AIR 6040**
Compressor Motor Sizes Available
- High Pressure Applications
- MSG TURBO-AIR High Pressure centrifugal compressors provide reliability, low maintenance, and a low total cost of ownership for many high pressure applications.

**LOW TOTAL COST OF OWNERSHIP**
Over time, the energy required to power a compressed air system is the largest cost associated with a compressor, particularly in today's fluctuating energy markets. That is why it is critically important to evaluate the return on your investment, it is important to consider the total life-cycle cost of operating the compressor, including the initial investment, energy consumption and maintenance costs. As the chart demonstrates, MSG TURBO-AIR compressors provide some of the lowest total life-cycle costs of any compressor, including dry screw, variable speed drive (VSD) screw and other centrifugal compressors.

**COMPRESSION PERFORMANCE**
- MSG TURBO-AIR High Pressure centrifugal compressors utilize innovative three- and four-pinion designs to achieve discharge pressures up to 42 bar (610 psig) at various flow rates.

**CONTROL SYSTEMS**
Ingersoll Rand can provide the right control system engineered for your applications.

**MAESTRO Suite of Controls**
- MAESTRO control systems offer optimal protection and control for your compressed air system. The MAESTRO suite contains a model that is sure to be in tune with your needs.

**MAESTRO Universal**
- Windows CE-driven system includes a built in web server and setup wizard for quick configuration.
- Able to handle multiple stages and designed for many makes and models of compressors.
- 10" color graphic display provides easy monitoring.
- Built-in USB port for system configuration and data logging.
- Capable of monitoring and controlling the total system across multiple units.

**MAESTRO PLC**
- Utilizes an Allen-Bradley CompactLogix platform with 16 digital inputs, 16 digital outputs, 16 analog inputs, 4 analog outputs and 12 RJ45 inputs.
- Comes standard with an Allen-Bradley PanelView Plus 1000 10" touchscreen.
- Networking software available for automation of multiple units and total system automation.
- Optional stainless steel enclosure available.

**ISO CERTIFIED CLASS ZERO**
The MSG TURBO-AIR centrifugal compressor product line has been engineered to produce oil-free air for over 60 years. This certification officially acknowledges the ability of our compressors to produce 100% oil-free air, providing our customers with enhanced quality assurance.

**High Pressure Applications**
- MSG TURBO-AIR High Pressure centrifugal compressors provide reliability, low maintenance, and a low total cost of ownership for many high pressure applications.

**Impellers**
Advanced design combines the best features of a semi-radial, backward-leaning impeller.

**Vaned Diffusers**
Matching vanes are used for increased efficiency.

**Superior Piston Bearing Design**
Enhanced the load carrying capacity of the bearing.

**Automotive Industry**
- Oil-Free Air

**Nitrogen Boosting**
- Life-Cycle Cost Comparison
  - MSG TURBO-AIR High Pressure centrifugal compressors provide a significant life-cycle cost savings compared to other compressors.
  - Over time, the energy required to power a compressed air system is the largest cost associated with a compressor, particularly in today’s fluctuating energy markets.

**Variable Inlet Guide Vanes**
Variable inlet guide vanes can offer power savings of up to 9% when operating in turndown. Inlet guide vanes impart a whirling motion to the inlet air flow in the same direction as the impeller operation, reducing the work input. Net power savings can be realized at reduced flow or on days colder than the design temperature. Inlet guide vanes are positioned in the inducer of the impeller to maximize performance.
ISO 8573-1 CERTIFIED OIL-FREE AIR

- Prevents oil contamination of your system
- Limits the potential for compressed air pipeline fires caused by oil carryover
- Eliminates costly waste disposal problems associated with oil-containing condensate
- Eliminates the expense and associated maintenance requirements of oil-removal filters, since no oil enters the compressed air stream of the compressor

S I M P L E   I N S T A L L A T I O N

- Complete package, including aftercooler, controls, motor and lubrication system
- Reduced number of external connections
- Compact design reduces required floor space
- Meets OSHA sound level requirements without sound enclosure

L O W - C O S T   O P E R A T I O N

- True unloading capability helps to take advantage of opportunities for energy savings
- Increased system control to alternative technologies translates into reduced operating life cycle costs
- Excellent part-load efficiencies for any operating load
- No sliding or rubbing parts in the compression process causing wear or efficiency loss

E A S Y   O P E R A T I O N

- The MAESTRO™ Universal control panel provides a built-in web server, allowing compressor monitoring using your local computer
- Significant annual savings in operating costs by providing precise control
- Easy to use, automatic operation

E A S Y   M A I T E N A N C E

- Compressors do not need to require periodic replacement
- No oil-removal filters to clean or replace
- Accessible, horizontally split gearbox for quick inspection
- Intercooler and aftercooler bundles are easy to remove for inspection and cleaning
- Water-in-tube design, intercooler and aftercooler allow for simple mechanical cleaning
- Maintenance-free dry coupling

H I G H   R E L I A B I L I T Y

- Thrust loads absorbed at low speed
- Non-contacting air and oil seals
- Stainless steel compressor elements
- Conservative, high-quality gear design
- Extended life piston bearing design
- Centrifugal compressors are proven to have a long service life between failures (MTBF), and independent research has shown an industry-leading availability of 96.7%

E A S Y   M A I T E N A N C E

- Compression elements do not wear or require periodic replacement
- No oil-removal filters to clean or replace
- Accessible, horizontally split gearbox for quick inspection
- Intercooler and aftercooler bundles are easy to remove for inspection and cleaning
- Water-in-tube design, intercooler and aftercooler allow for simple mechanical cleaning
- Maintenance-free dry coupling

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Benefits of MSG TURBO-AIR Compressors

MSG TURBO-AIR® High Pressure Centrifugal Compressors

100% oil-free air*
MSG® TURBO-AIR® High Pressure Centrifugal Compressors

**EFFICIENT PACKAGE**

MSG TURBO-AIR High Pressure centrifugal compressors utilize innovative three- and four-pinion designs to achieve discharge pressures up to 42 barg (610 psig). The ability to generate such high pressures make these packages a great fit for applications like soot blowing, nitrogen boosting, and PET bottle blowing. These compact compressor packages include mounted control valves, a mounted intercooler, and the MAESTRO Universal compressor control system.

**MSG TURBO-AIR 2040**

Compressor Motor Sizes Available

- MSG TURBO-AIR 6040
  - 6350 kg (14,000 lb)

- MSG TURBO-AIR 2040
  - 4500 kg (10,000 lb)

These compact compressor packages include mounted control valves, a mounted intercooler, and the MAESTRO Universal compressor control system.

**Compressor Motor Sizes Available**

- MSG TURBO-AIR 6040
  - Up to 1700 kW (2250 hp)
  - 127 to 167 m³/min
  - Discharge Pressure Ranges: Up to 42 barg (610 psig)

- MSG TURBO-AIR 2040
  - 42 to 51 m³/min
  - Discharge Pressure Ranges: Up to 42 barg (610 psig)

- MSG TURBO-AIR 6040
  - 375 to 600 kW (500 to 800 hp)
  - 42 to 51 m³/min
  - Discharge Pressure Ranges: Up to 42 barg (610 psig)

**High Pressure Applications**

MSG TURBO-AIR High Pressure centrifugal compressors provide reliability, low maintenance, and a low total cost of ownership for many high pressure applications.

**LOW TOTAL COST OF OWNERSHIP**

Over time, the energy required to power a compressed air system is the largest cost associated with a compressor, particularly in today’s fluctuating energy markets. That is why it is critically important to select a compressor that will provide the best return on your investment. It is important to consider the total life cycle cost of operating the compressors, including the initial investment, energy conservation and maintenance costs.

As the chart demonstrates, MSG TURBO-AIR compressors provide some of the lowest total life cycle costs of any compressor, including dry screw, variable speed drive (VSD) screw and other centrifugal compressors.

The power savings delivered can significantly speed up the payback on your initial investment, and the savings continue to build the more you use your MSG TURBO-AIR compressor.

**CONTROL SYSTEMS**

Ingersoll Rand can provide the right control system engineered for your applications.

**MAESTRO Suite of Controls**

MAESTRO control systems offer optimal protection and control for your compressed air system. The MAESTRO suite contains a model that is sure to be in line with your needs.

**MAESTRO Universal**

- Windows CE-driven system includes a built-in web server and setup wizard for quick configuration
- Able to handle multiple stages and designed for many makes and models of compressors
- 10” color graphic display provides easy monitoring
- Built-in USB port for system configuration and easy logging
- Capable of monitoring and controlling the total system across multiple units

**High Pressure Applications**

MSG TURBO-AIR High Pressure centrifugal compressors provide reliability, low maintenance, and a low total cost of ownership for many high pressure applications.

**ISO CERTIFIED CLASS ZERO**

The MSG TURBO-AIR centrifugal compressor product line has been engineered to produce oil-free air for over 60 years. This certification officially acknowledges the ability of our compressors to produce 100% oil-free air, providing our customers with enhanced quality assurance.

**Variable Inlet Guide Vanes**

Variable inlet guide vanes can offer power savings of up to 9% when operating in turndown. Inlet guide vanes impact a whirling motion to the inlet air flow in the same direction as the impeller rotation, reducing the work input. Net power savings can be realized at reduced flow or on days colder than the design temperature. Inlet guide vanes are positioned to be in line with the impeller to maximize performance.

**Net Power Savings**

- 9% power savings when operating in turndown

**Network Software**

- Available for automation of multiple stages of compressed air, reducing the work input.

**Superior Design**

- Advanced design combines the best features of a semi-radial, backward-leaning impeller.
- Inlet guide vanes are designed to maximize performance.
- Oil supply is designed to minimize wear and tear.
- Viscous dampers are used for increased efficiency.
- Lubrication system is designed to reduce wear and tear.
- Power savings of up to 9% when operating in turndown.

**ISO 15848**

- Proven oil-free air production for over 60 years.
- Certification officially acknowledges the ability of our compressors to produce 100% oil-free air.

**Net Power Savings**

- 9% power savings when operating in turndown.

**OIL-FREE AIR**

- MSG TURBO-AIR High Pressure centrifugal compressors are some of the most efficient oil-free compressors on the market.
- Compared to other machines of similar capacity, MSG TURBO-AIR compressors provide reliability, low maintenance, and a low total cost of ownership for many high pressure applications.

**INCOMPRESSIBLE MATERIALS**

- Glass-filled PBT and Delrin® are used to eliminate the need for oil or grease.
- Viscous dampers and pressure-compensated valves are used to eliminate the need for oil or grease.
- Inlet guide vanes are designed to maximize performance.
- Oil supply is designed to minimize wear and tear.
- Viscous dampers are used for increased efficiency.
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**MAESTRO Control Systems**

- Includes an Allen-Bradley CompactLogix platform with: 16 digital inputs, 16 digital outputs, 16 analog inputs, 4 analog outputs and 12 A/D inputs
- Comes standard with an Allen-Bradley PanelView Plus 1000 10” touchscreen
- Networking software available for automation of multiple units and total system automation
- Optional stainless steel enclosure available.

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**Net Power Savings**

- 9% power savings when operating in turndown.

**Superior Design**

- Advanced design combines the best features of a semi-radial, backward-leaning impeller.
- Inlet guide vanes are designed to maximize performance.
- Oil supply is designed to minimize wear and tear.
- Viscous dampers are used for increased efficiency.
- Lubrication system is designed to reduce wear and tear.
- Power savings of up to 9% when operating in turndown.

**ISO 15848**

- Proven oil-free air production for over 60 years.
- Certification officially acknowledges the ability of our compressors to produce 100% oil-free air.

**Net Power Savings**

- 9% power savings when operating in turndown.

**OIL-FREE AIR**

- MSG TURBO-AIR High Pressure centrifugal compressors are some of the most efficient oil-free compressors on the market.
- Compared to other machines of similar capacity, MSG TURBO-AIR compressors provide reliability, low maintenance, and a low total cost of ownership for many high pressure applications.
**MSG® TURBO-AIR® High Pressure Centrifugal Compressors**

**EFFICIENT PACKAGE**

MSG TURBO-AIR High-Pressure centrifugal compressors utilize innovative three- and four-pinion designs to achieve discharge pressures up to 42 barg (610 psig). The ability to generate such high pressures makes these packages a great fit for applications like soot blowing, nitrogen boosting, and PET bottle blowing. These compact compressor packages include remounted control valves, a mounted intercooler, and the MAESTRO Universal compressor control system.

**MSG TURBO-AIR 2040**

- **Compressor Motor Sizes Available**: MSG TURBO-AIR 6040
- **6350 kg (14,000 lb)**
- **Universal compressor control system.**

**MSG TURBO-AIR 6040**

- **Compressor Motor Sizes Available**: MSG TURBO-AIR 2040
- **42 to 51 m³/min**
- **Up to 42 barg (610 psig)**
- **375 to 600 kW (500 to 800 hp)**

**Compressor Flow Ranges**

- **Up to 42 barg (610 psig)**
- **Up to 1700 kW (2250 hp)**

**Superior Pinion Bearing Design**

- **Patented hydrostatic-squeeze-film design.**
- **For extended life and operation at any load.**

**Inlet Guide Vanes**

- **Variable Inlet Guide Vanes**
- **Variable inlet guide vanes can offer power savings of up to 9% when operating in turndown.**

**Horizontal Split Gearbox**

- **Horizontally Split Gearbox**
- **Can handle multiple stages**
- **Able to handle multiple stages and designed for many makes and models of compressors.**

**MAESTRO Universal**

- **Windows CE-driven system includes a build-to-web server and setup wizard for quick configuration.**
- **Able to handle multiple stages and designed for many makes and models of compressors.**

**ISO CERTIFIED CLASS ZERO**

The MSG TURBO-AIR centrifugal compressor product line has been engineered to produce oil-free air for over 60 years. This certification officially acknowledges the ability of our compressors to produce 100% oil-free air, providing our customers with enhanced quality assurance.

**CONTROL SYSTEMS**

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**MAESTRO Suite of Controls**

MAESTRO control systems offer optimal protection and control for your compressed air system. The MAESTRO suite contains a model that is sure to be in tune with your needs.

**LOW TOTAL COST OF OWNERSHIP**

Over time, the energy required to power a compressed air system is the largest cost associated with a compressor, particularly in today’s fluctuating energy markets. That is why it is critically important to consider the total life-cycle cost of operating the compressors, including the initial investment, energy consumption, and maintenance costs.

**High Pressure Applications**

MSG TURBO-AIR High Pressure centrifugal compressors provide reliability, low maintenance, and a low total cost of ownership for many high pressure applications.

**Chemicals**

- **Oil Supply Bearing**
- **Vulcan Damper**
- **Bearing Housing**

**Aircraft Testing**

- **Superior Pinion Bearing Design**
- **Patented hydrostatic-squeeze-film design.**

**Soot Blowing**

- **Automotive Industry**

**Nitrogen Boosting**

- **Oil-Free Air**

- **Class 0**

**Life-Cycle Cost Comparison**

- **Total life cycle cost (over 10 years of operation at 80% loaded)**

**Variable Inlet Guide Vanes**

- **Variable inlet guide vanes can offer power savings of up to 9% when operating in turndown.**

- **Inlet guide vanes impart a whirling motion to the inlet air flow in the same direction as the impeller rotation, reducing the work input.**

- **Net power savings can be realized at reduced flow or on days cooler than the design temperature.**

- **Inlet guide vanes are proportioned to minimize the inducer of the impeller to maximize performance.**
ISO 8573-1 CERTIFIED
OIL-FREE AIR

- Prevents oil contamination of your system
- Limits the potential for compressed air pipeline fires caused by oil particles
- Eliminates costly waste disposal problems associated with oil-laden condensate
- Eliminates the expensive and associated maintenance requirements of oil-removal filters, since no oil enters the compressed air stream in the compressor

SIMPLE INSTALLATION

- Complete package, including aftercooler, controls, motor and lubrication system
- Reduced number of external connections
- Compact design reduces required floor space
- Meets OSHA’s sound level requirements without sound enclosure

LOW-COST OPERATION

- True unloading capability helps to take advantage of opportunities for energy savings
- Increased system efficiency compared to alternative technologies translates into reduced operating lifecycle costs
- Excellent part load efficiencies for any operating load
- No sliding or rubbing parts in the compression process causing wear or efficiency loss

EASY OPERATION

- The MAESTRO™ universal control panel provides a built-in web server, allowing compressor monitoring using your local network
- Significant annual savings in operating costs by providing more precise control
- Simple to use, automatic operation

EASY MAINTENANCE

- Compression elements do not need to be replaced periodically
- No oil-removal filters to clean or replace
- Assembly-integrated oil filters provide quick inspection
- Intercooler and aftercooler bundles are easy to remove for inspection and cleaning
- Water-in-tube design intercooler and aftercooler allow for simple mechanical cleaning
- Maintenance-free coupling

HIGH RELIABILITY

- Thrust loads absorbed at low speed
- Non-contacting air and oil seals
- Stainless steel compression elements
- Conservative, high-quality gear design
- Extended life plain bearing design
- Centrifugal compressors are proven to have a long in service time between failures. MSG™, and independent research has shown an industry-leading availability of 96.7%