

Turbo Air® 3000 Centrifugal Compressor

Oil-Free Air



Why Compression Systems?

OIL-FREE AIR

- Prevents oil contamination of your system
- Removes 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 in the compressor

SIMPLE INSTALLATION

- Complete package including aftercooler, controls, motor, and lubrication system
- Minimum number of external connections
- Compact design requires minimum floor space
- Meets OSHA's sound level requirements without sound enclosure

EASY OPERATION

- The new Maestro™ Suite of Controls offers three models, one of which is sure to be in tune with the needs of your application. Whichever model you choose, Maestro™ provides the compressor industry's most advanced control system to improve efficiency and save energy dollars
- Easy-to-use, totally automatic operation

HIGH RELIABILITY

- Thrust loads absorbed at low speed
- No wearing parts
- Non-contact air and oil seals
- Stainless steel compression elements
- Conservative high-quality gear design
- Unlimited life pinion bearing design

EASY MAINTENANCE

- No wearing parts requiring periodic changes or replacement in the compression elements

- No oil removal filters to clean
- Accessible horizontally-split gear box for quick inspection
- Intercooler and aftercooler bundles are easily removed for cleaning
- Water in the tube design intercooler and aftercooler allows for simple mechanical cleaning
- Maintenance free dry coupling

LOWEST COST OPERATION

- True unloading capability. Energy savings and increased uptime translate to minimum operating life cycle costs
- Excellent part-load efficiencies for any operating load
- No sliding or rubbing parts in the compression process causing wear and thereby efficiency loss

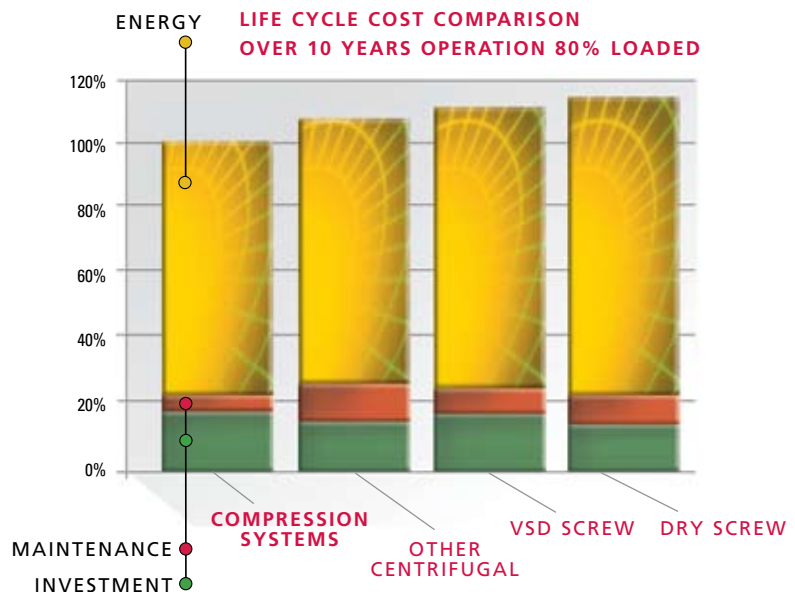
Lowest Compressor Operating Life Cycle Cost

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, to determine the best return on your investment over the life cycle of a compressor, it is important to consider the initial investment, energy consumption and maintenance.

As the chart demonstrates, the Turbo Air® 3000 provides the lowest total life cycle cost of any compressor, including dry screw, variable speed drive (VSD) screw, and other centrifugal compressors. Keep in mind, VSD manufacturers often tout energy savings with unrealistic turndowns, in excess of 50%. At this point, you would be better off purchasing a smaller compressor and reducing your initial investment. Also, as screw compressors wear out, energy consumption increases.

Compared to other machines of similar capacity, Turbo Air® 3000 compressors are the most efficient oil-free compressors at full load, part load, and no load.

The power savings delivered can significantly speed up the payback on your initial investment and the savings continue to build the more you use the Turbo Air® 3000.



Control Systems

Cameron's Compression Systems can provide the right control system engineered for your applications.

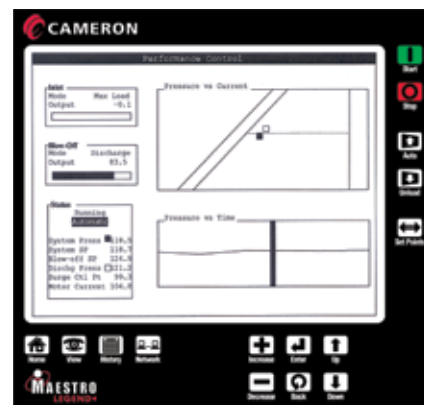
MAESTRO™ SUITE OF CONTROLS

Maestro is the new suite of control systems from Cameron. The Maestro suite contains a model that is sure to be in tune with your needs.



MAESTRO™ LEGEND

- Provides comprehensive control of your centrifugal compressor and can be configured to coordinate the operation of multiple compressors
- Maintain plant pressure to within 0.07–0.14 bar/1–2 PSI, which allows overall pressure reduction to improve efficiency and reduce air leakage losses, saving energy dollars



MAESTRO™ PLC

- Utilizes an open architecture Allen Bradley PLC, which enables you to use off-the-shelf components that match other panels in your plant
- Available in three control methods: Constant Pressure, Auto/Dual, and Mass Flow



MAESTRO™ EZ

- An economical control system for basic compressor operation
- A standardized PLC solution with broad built-in capabilities designed for simplified use



Turbo Air® 3000 Centrifugal Compressors

THE MOST EFFICIENT PACKAGE AVAILABLE –

Easy, low cost installation and operation. Includes control center, built-in aftercooler and packaged check valve.

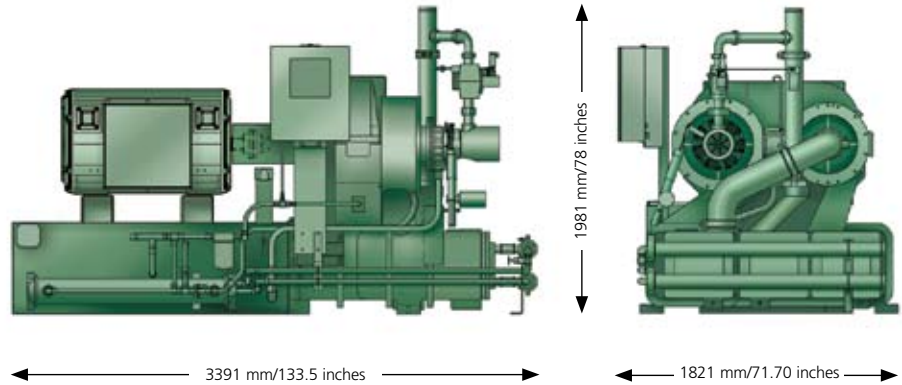
Compressor Motor Sizes Available:
300-600 kW / 400-800 HP

Compressor Discharge Pressure Ranges:
3.5-10 BAR, G / 50-150 psig

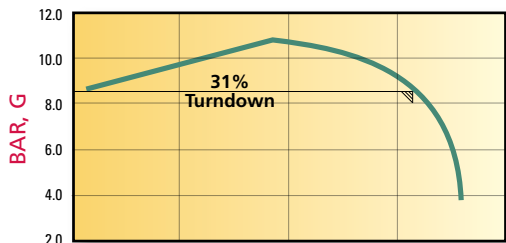
Compressor Flow Ranges:
57-113 m³/min / 2,000-4,000 CFM

Compressor Weight:
5,443 kg / 12,000 lbs Typical
(Motor Dependent)

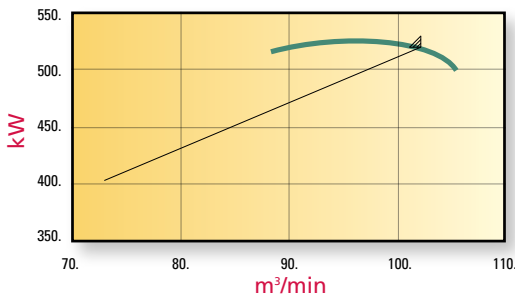
BASIC INSTALLATION ARRANGEMENT



TYPICAL PERFORMANCE CURVE FOR 522 KW/8.6 BAR, G – 700 HP/125 PSIG

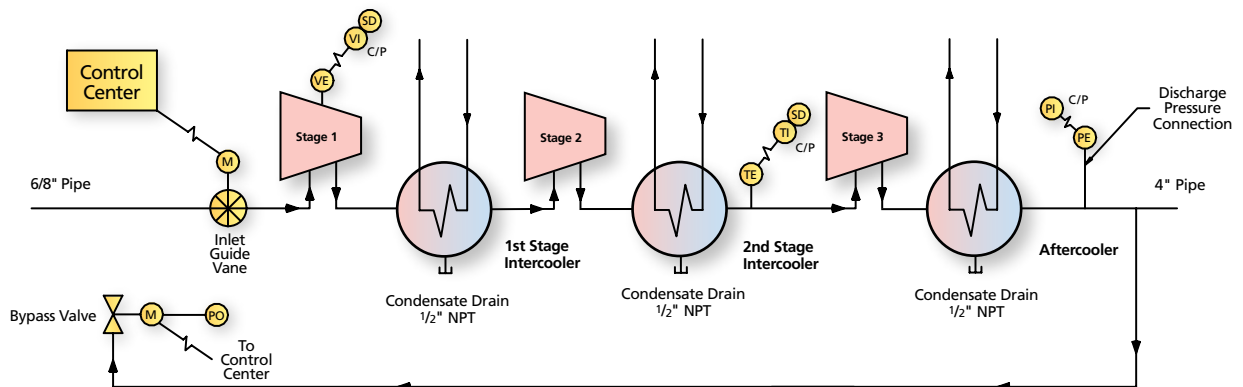


Impellers – Advanced design combines the best features of a semi-radial backward leaning impeller.



Vaned Diffusers – Matching diffusers for superior efficiency.

TYPICAL P & ID



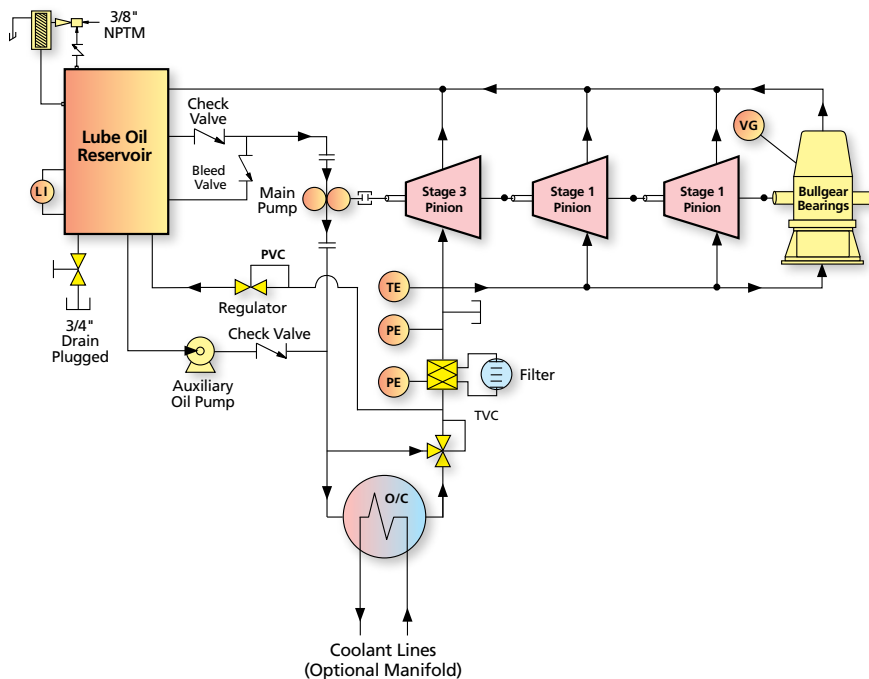
LUBRICATION SYSTEM



Self contained, low pressure lubrication system.



Intercoolers/Aftercoolers – Water-in-tube intercooler and aftercooler bundles slide out for easy inspection and cleaning.



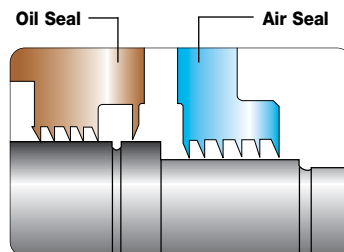
Maestro™ controls packaged as standard.



Horizontally Split Gear Box – Allows for easy access when the customer's maintenance policy requires periodic inspection.



Superior Pinion Bearing Design – For unlimited life and operation at any load.



Seals – Non-contact, non-wearing labyrinth air and oil seals. No buffer air required for oil-free air. Eliminates the need for periodic replacement of carbon seals.



Variable Inlet Guide Vanes – Variable inlet guide vanes can offer power savings of up to 9%. Inlet 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 at reduced flow or on days colder than the design temperature. Inlet vanes are positioned close to the impeller to achieve maximum benefit.

Locations to Serve You Worldwide

HEADQUARTERS

16250 Port Northwest Drive
Houston, TX 77041 USA
Tel 713.354.1900
Fax 713.354.1923

**MANUFACTURING & ENGINEERING
CENTER OF EXCELLENCE**

3101 Broadway
P.O. Box 209
Buffalo, New York
14225-0209 USA
Toll Free: 877.805.7911
Tel 716.896.6600
Fax 716.896.1233
www.c-a-m.com

SALES OFFICES**North America**

3070 Bristol Pike Suite 106
Bensalem, PA 19020 USA
Tel 215.245.9150
Fax 215.245.9170

Europe/Middle East/Africa

Via Cantu' 8/10
20092, Cinisello Balsamo (MI), Italy
Tel 39.02.6129.2010
Fax 39.02.6129.4240

Mexico

Homero 1804, Desp. 403
Col. Chapultepec Morales
Deleg Miguel Hidalgo
11510 Mexico, D.F.
Tel 5255.5395.1114
Fax 5255.5395.4162

United Arab Emirates

Dubai World Trade Center
P.O. Box 9213
Dubai
Tel 971.4.3313160
Fax 971.4.3314417

Asia Pacific

No. 2 Gul Circle
Jurong Industrial Town
Singapore 629560
Tel 656.863.3631
Fax 656.862.1662

Tower A, Room 1701-1703
Chengjian Plaza
No. 18 Beitapingzhuang
Haidian District
Beijing 100088, China
Tel 86.10.82255700
Fax 86.10.82255711

South America

Alameda Santos, 455
Conj. 212 – Paraiso
CEP 01419-0000
Sao Paulo, Brazil
Tel 55.11.3284.1164
Fax 55.11.3284.3872

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