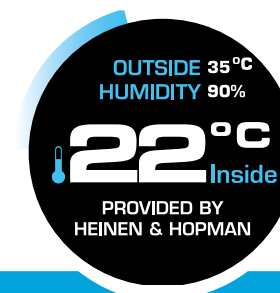




HEINEN & HOPMAN

PRODUCTS

> Turbocor HVAC compressor



Heating



Ventilation



Air Conditioning



Refrigeration

INTRODUCTION

The world's first totally oil-free, energy efficient and lightweight compressors.

Today, the world is looking for HVAC&R technology that makes a difference in efficiency, sustainability and

applicability. For mid-range sized HVAC systems, our Turbocor compressor makes that difference.

APPLICATION

As part of an on-going quest to optimize systems and services, Heinen & Hopman has introduced the Turbocor compressors to the maritime industry. With a focus on the environment and cost savings, this HVAC-R technique makes a world of difference in efficiency, sustainability and applicability.

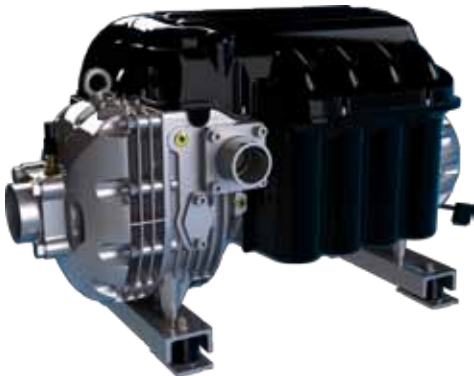
The Turbocor compressors benefit from aerospace and industrially proven technologies such as magnetic bearings, variable-speed centrifugal compression and digital electronic controls. Combined with Heinen & Hopman' exceptional knowledge of marine HVAC-R technology, this enables the Turbocor range of compressors to achieve the highest overall efficiencies for HVAC-R applications in the maritime sector.

Exceeding all expectations, the world's first totally oil-free compressors are a great improvement on traditional compressors. They are exceptionally sustainable, energy efficient and compact. And the absence of oil means there is no chance of efficiency reducing oil contamination or hassle with accessories such as oil heaters, pumps, separators and filters. No longer needing to be concerned with oil disposal is another major advantage.

Taking up half the space of conventional compressors and being about one fifth of their weight, Turbocor compressors reduce energy consumption by up to 50% and are around 60% more efficient than comparable compressors. They also have a long service life due to the absence of mechanical wear surfaces offered by frictionless magnetic bearing technology. This further enhances efficiency while adding value in terms of reliability, noise reduction and maintenance.

KEY FEATURES

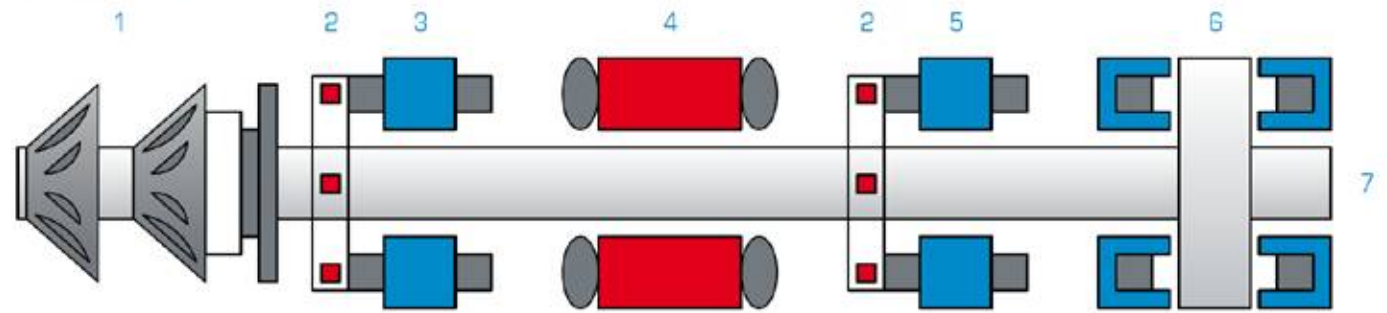
- HFC refrigerant for optimum environmental position;
- Outstanding part load efficiency;
- High full load efficiency;
- Intelligent, self-contained control;
- Light weight;
- Low vibration;
- Oil free operation reduces complexity and cost, improves heat exchange efficiency and eliminates disposal issues;
- Very low sound;
- Soft starting;
- Small footprint;
- Unique technology made ready for the maritime industry





FUNCTIONING

Magnetic Bearing System



Information

- | | | | | | | | |
|---|-------------|---|----------------------|---|---------------------|---|-------|
| 1 | Impellers | 3 | Front Radial Bearing | 5 | Rear Radial Bearing | 7 | Rotor |
| 2 | Sensor Ring | 4 | Motor | 6 | Axial Bearing | | |



Unprecedented Energy Efficiency

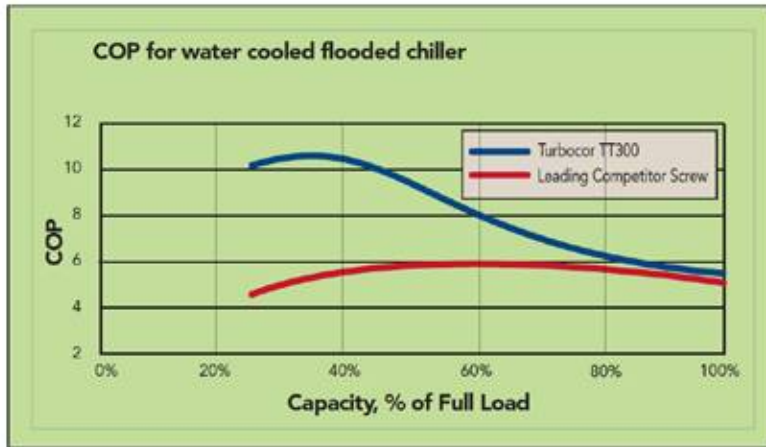
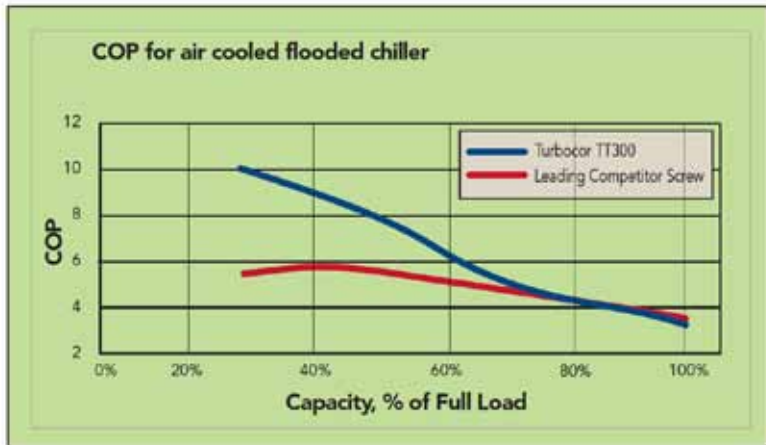


Chart 1



Outstanding energy savings from digitally controlled, frictionless two-stage centrifugal compression means significant reductions in operating cost and environmental emissions associated with energy production.

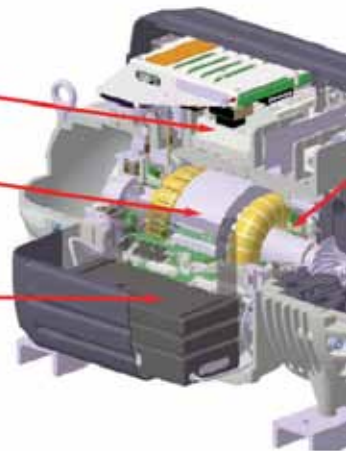
Chart 1 shows the full and part load performance curve of the Turbocor compressor compared with a typical screw compressor on a 265kWR (75-tonR) water cooled chiller. The integrated part load values (IPLV) yield a 60%+ improvement in many applications.

Chart 2 shows the full and part load performance curve of the Turbocor compressor compared with a typical screw compressor on a 265kWR (75-tonR) air cooled chiller. The integrated part load values (IPLV) yield a 30%+ improvement in many applications

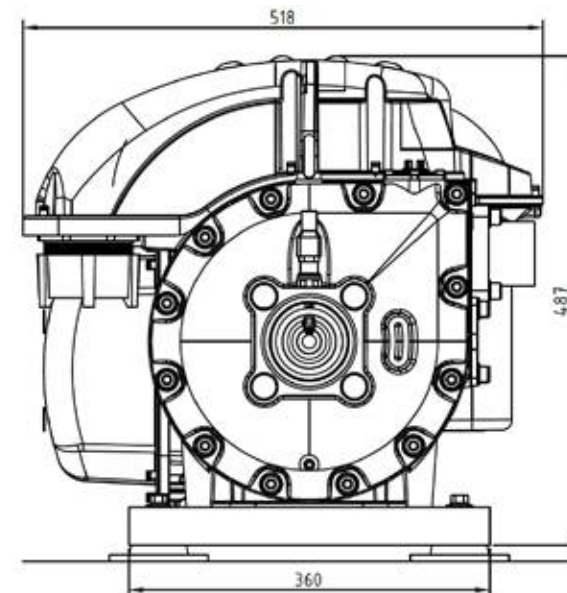
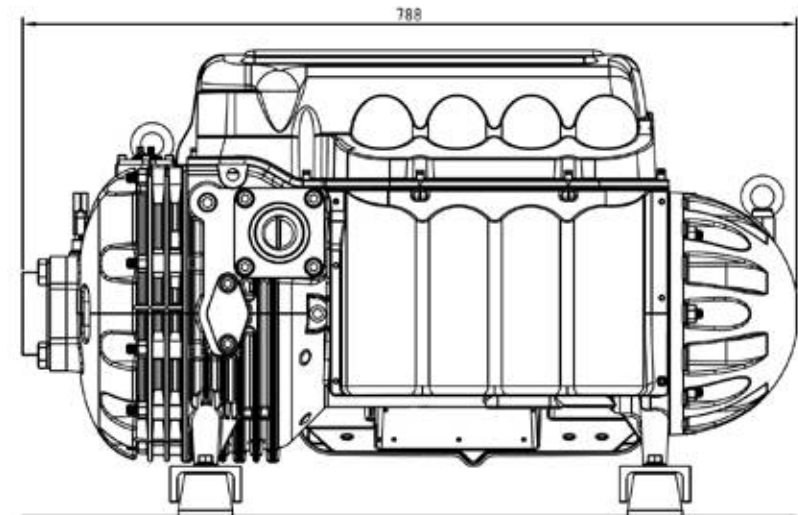
A VFD (Variable Frequency Drive) built in as a standard providing unmatched part-load efficiency.

A permanent magnet motor which cuts size and weight while increasing efficiency.

A fully functional computer to provide control plus high level monitoring and diagnostics.



TT300



Technical Data TT-300

Capacity range	250-320kW each
Cooling water	<37°C
Power supply fan	3x380V-50Hz / 3x440V-60Hz
Starting current	<2A
Voltage fluctuation	<10%
Noise level	70 dB(A) @ 1.5m
Weight	120kg

Oil-free magnetic bearings provide quiet and reliable operation. No need for oil, reduces maintenance and eliminates the complexity, cost and reliability issues of oil-based designs.

Two Stage, Direct Drive, Hermetic Centrifugal compressor with unshrouded impellers resulting in high efficiency at full load and extraordinarily high efficiency at part load conditions.

Alternatives available on request.

Owing to continued product development Heinen Hopman reserves the right to introduce alternations without prior notice.

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Heinen & Hopman encourages a more sustainable world. By providing eco-friendly solutions and services we offer our clients the option of reducing energy consumption and thus CO2 emissions. Visit greenmanifest.info for more information.



www.heinenhopman.com



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