



Quantima™

Unique Innovation • Outstanding Efficiency

# Quantima™

high speed | oil-free | variable speed | centrifugal compressors

Quantima™—delivering a major breakthrough  
in oil-free compressor technology

- **Unmatched efficiency**
- **Premium reliability**
- **Lowest environmental impact**

“Simplicity. The ultimate sophistication”



Q-drive™

Quantima's™ patented Q-drive™ compression and motor assembly has just one moving part and operates with the rotor spinning in a magnetic field at up to 60,000 rpm.

Q-drive™ is special for what it doesn't have:

- **No gearbox**
- **No oil**
- **No contact**
- **No wear**



Quantima™ *the future is here*



## Magnetic Bearing

The motor and direct drive compression assembly incorporates magnetic bearings to provide stable control both axially and radially of the rotor shaft. The shaft is supported in a magnetic field which means that there is no contact and no wear ensuring reliable operation and long life.

## Q-drive™ High Speed Motor

The patented Q-drive™ motor incorporates an asynchronous induction design and operates at high speeds to avoid the need for a conventional gearbox.

This eliminates costly gearbox losses and means the compressor does not require any oil at all.

## Inlet Filters

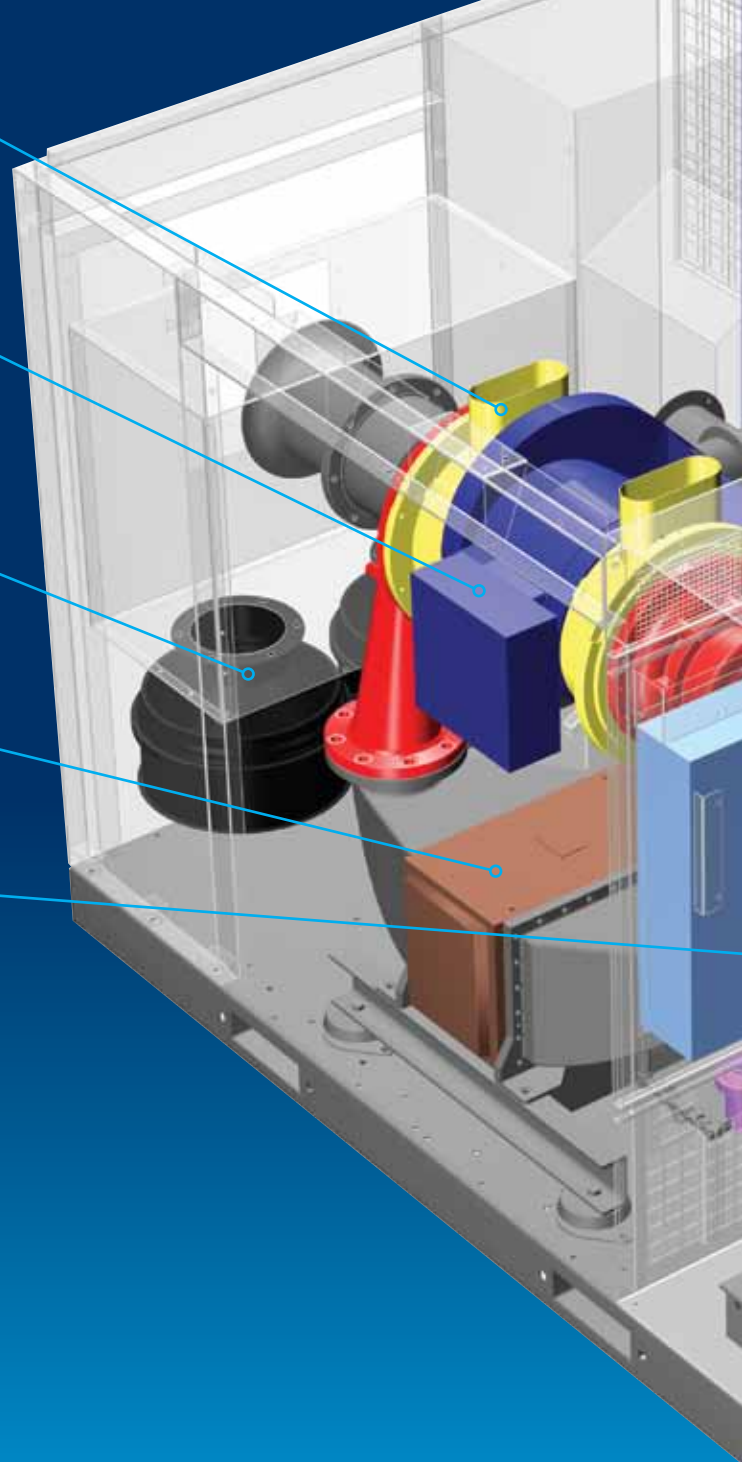
High efficiency inlet air filtration for effective protection of the compression assembly. The filters provide one micron, high capacity particle filtration resulting in lowest pressure drops and longest service life.

## Stainless Steel Coolers

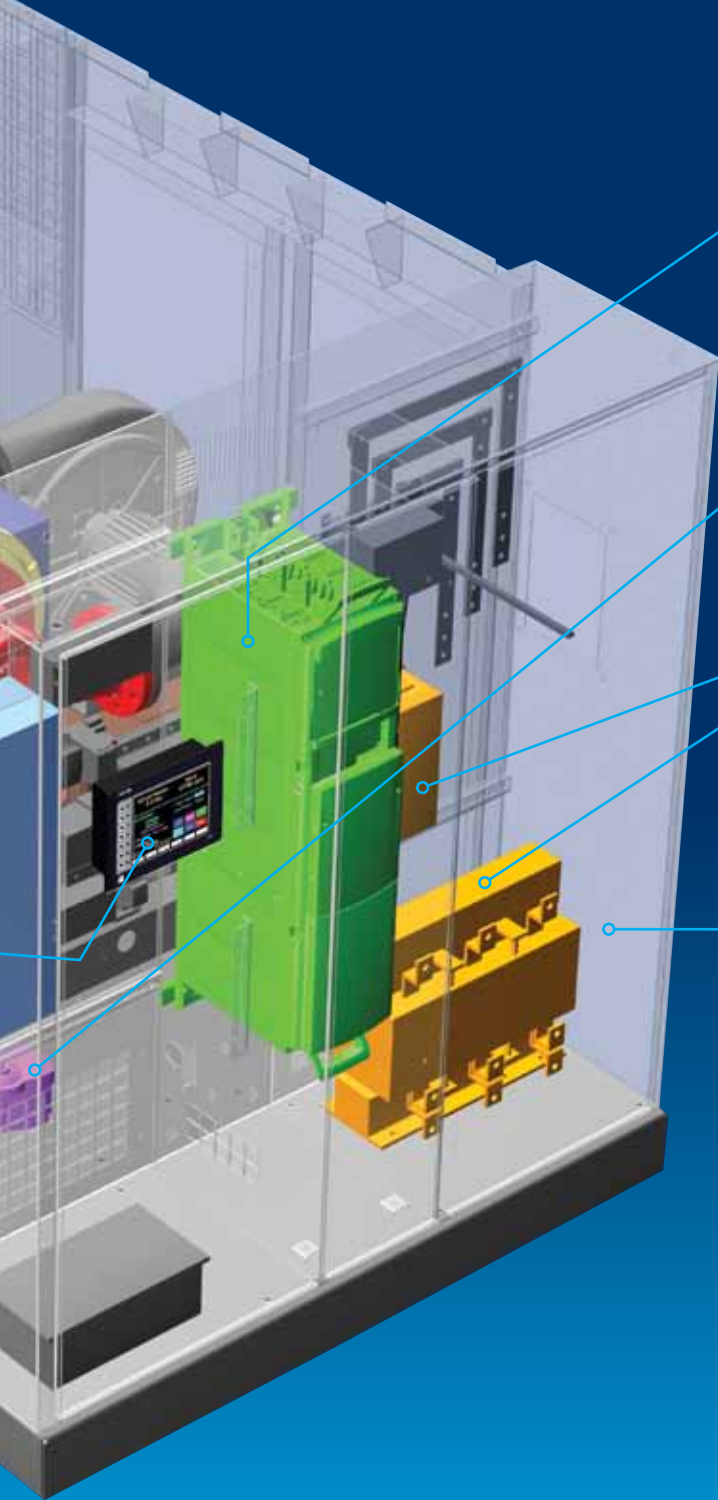
Contains water in a straight stainless steel tube design which is standard for long service life and simple maintenance.

## Q-master™ Controller

Provides for the comprehensive control and protection of the compressor's operation. It incorporates a touch screen panel as well as intuitive navigation and menu structure for easy-to-use operation. It also includes sophisticated control methodology and surge calibration designed to minimize energy consumption.



“To design something complex is easy. To design something this simple is difficult”



### Variable Speed Drive

The variable speed high frequency inverter drive acts as a gearbox. Not only does it allow for the required high speeds for compression, it also provides variable speed operation to match compressor flow to plant demand and hence minimize power consumption.

### Zero Loss Drains

The Quantima™ package is fitted with zero loss drains which automatically drain condensate from the package based on level sensors. These are fitted on both the intercooler and aftercooler and condensate strainers are also fitted on the inlet of the drains. Manual drains are also included.

### EMC Filter and Line Reactor

The Quantima™ package incorporates a Line Reactor on the incoming mains power to protect the compressor drive from abrupt changes to incoming power supply and also function as protection against harmonics back to the mains supply. An EMC filter is also fitted to attenuate any electromagnetic noise at higher frequencies that may cause harm to external equipment.

### Acoustic Canopy

The compressor is housed in a modular acoustic canopy with intelligent sound attenuation resulting in noise levels which are the lowest of any compressor in this class – just 69 dB(A).

### Simple Installation

The Quantima™ compressor is a fraction of the weight and size of conventional compressors, meaning it has a significantly smaller physical footprint. In addition, the compressor incorporates a VSD soft start drive, eliminating current spikes on start up.

Quantima™ is a truly unique innovation providing the ultimate in performance and efficiency, reducing your costs significantly



No gearbox and no contact, just a single moving part spinning in a magnetic field. Of course it's the ultimate compressor, offering unequalled efficiencies

**Quantima's™ fewer parts deliver unparalleled reliability and peace of mind**

Component	Quantima™	Standard Screw Technology
Gears	0	7
Bearings	4	19
Seals	2	17
Oil system	0	1

**Lowest energy consumption—  
lowest cost of ownership**

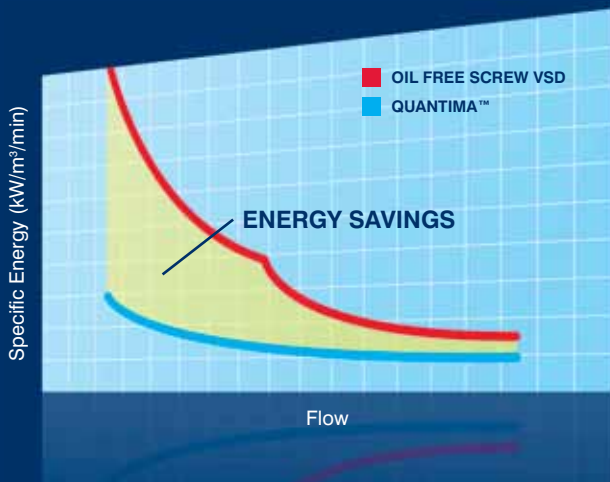
Energy costs account for over 80% of the outlay over the life of the compressor, making energy efficiency our number one priority.

**With energy savings of up to 25%  
and more, Quantima™ delivers.**

Efficiency

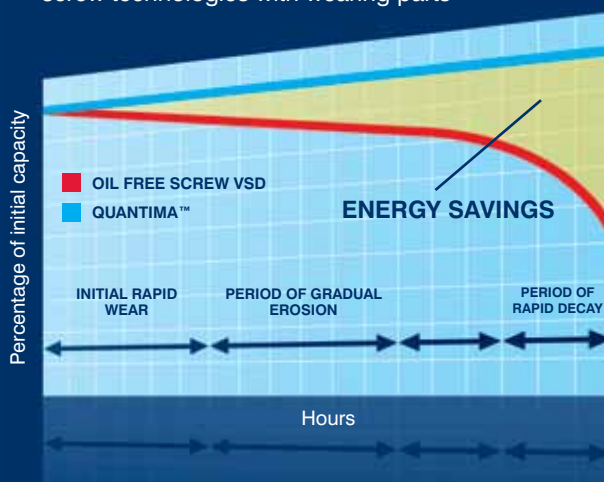


**Lowest energy** across the entire flow range



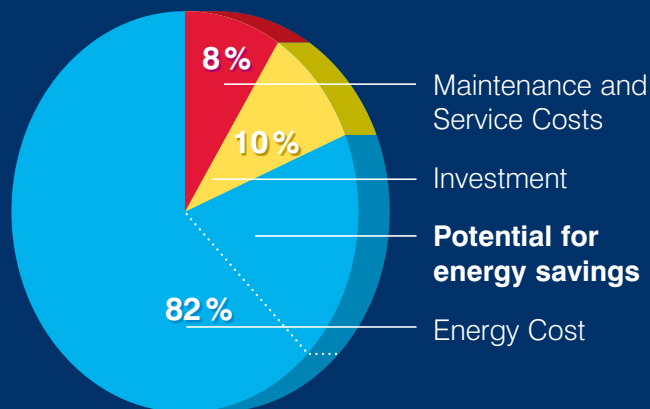
- Industry leading efficiency due to no gearbox and no contact parts
- Energy savings of up to 25% and more are easily achievable
- **Lowest off-load power consumption** – just 2.5% of full load power equal to 7kW for a 300kW compressor

**No performance degradation** over life of compressor unlike standard screw technologies with wearing parts



- Variable speed technology matches output to requirement minimizing off-load running
- Sophisticated compressor controls to maximize flexibility and provide additional power savings

“ The greatest efficiency is that which can utilize technology to the best advantage ”



Quantima™ offers the lowest environmental footprint of any compressor on the market today, cutting tons of CO<sub>2</sub> during manufacture, use and disposal, increasing your 'green' credentials and market appeal

“We make the world we live in and shape our own environment”



Quantima™ saves on power, which means lower carbon loading. We use less physical resources to build and maintain Quantima™ and don't use a drop of oil anywhere in the compressor, so there is no oil or oil-laden parts to dispose.

When it comes to delivering an environmentally friendly air compressor solution, Quantima™ leads the way with energy savings, waste savings and with reduced CO<sub>2</sub> emissions.

Quantima's commitment to providing the purest, highest quality compressed air, through the development of innovative products, delivers market-leading solutions.

Dedicated to improving performance and efficiency for our customers, at the same time lowering the impact on our environment, Quantima is clearly focussed on developing unique innovation to benefit all markets.



- **Lowest carbon emissions through lowest energy use**
- **Lowest physical resources in manufacture and maintenance**
- **Lowest physical foot print and 40-50% of the size and weight of an equivalent machine**
- **Lowest noise levels of just 69 dB(A)**

Over a ten-year period compared to traditional screw technologies, a 400HP Quantima™ unit reduces the amount of CO<sub>2</sub> produced by 1,920 tons.

**That offsets the total emissions from 75 family cars or is equal to planting 16,000 trees.\***

### Total CO<sub>2</sub> reduction of 1,920 tons in 10 years

% Reduction	Energy	Waste	CO <sub>2</sub>
In Manufacture	67% less	78% less	60% less
In Use	10% less	65% less	12% less
In Disposal	29% less	66% less	30% less

\* European Commission EuP EcoReport Version 3a

\* [www.smmco2.co.uk](http://www.smmco2.co.uk) The Society of Motor Manufacturers and Traders Ltd  
[www.unep.org](http://www.unep.org) United Nations Environment Programme



Quantima™ was selected as a winner in Plant Engineering magazine's 2008 Product of the Year Awards, an annual US-industry award that recognizes the best in new product achievement.

## Standard Pressure

Model	Cooling Method	Motor Rating (hp)	Working Pressure min / max (psig)	FAD @ 100 psig (cfm)*	Dimensions L x W x H (inches)	Noise Level dB(A)**	Weight (lbs)
Q-34	Water	260	72-116	up to 1130	95 x 63 x 73	69	5400
Q-43	Water	320	72-116	up to 1520	95 x 63 x 73	69	5732
Q-52	Water	400	72-116	up to 1840	95 x 63 x 73	69	5732

## Low Pressure

Model	Cooling Method	Motor Rating (hp)	Working Pressure min / max (psig)	FAD @ 43 psig (cfm)*	Dimensions L x W x H (inches)	Noise Level dB(A)**	Weight (lbs)
Q70L	Water	400	43-72	up to 2504	116 x 78 x 76	69	8360

\* Data measured and stated in accordance with ISO1217 Annex C at the following conditions: Air Intake Pressure: 1 bar a / 14.5 psia; Air Intake Temperature: 20°C / 68°F; Humidity: 0% (dry)

\*\* Measured in free field conditions in accordance with the ISO2151 test code, tolerance ± 3dB(A)

Quantima policy is one of continuous improvement and we therefore reserve the right to alter specifications and prices without prior notice. All products are sold subject to the Company's conditions of sale.

“Out of intense complexities,  
powerful simplicities emerge”



Q-master™ controller performs an integral part of the Quantima™ performance and efficiencies



no exceptions *no surprises*

- Delivers the ultimate performance and reliability
- Predictive maintenance via remote monitoring
- Peace of mind and zero risk
- Single fixed cost

Quantima™ – the most advanced compression technology delivering the most efficient and highest quality, quiet oil-free compressed air





## DO YOU WANT TO KNOW EXACTLY HOW MUCH YOU COULD SAVE?

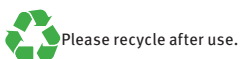
You know that energy is by far the biggest cost associated with your compressed air system. Quantima™ can deliver significant power savings in your compressed air generation, but so too can improvements in your compressed air distribution and use. Comprehensive measurement and analysis

of your compressed air systems can tell you exactly what compressed air is costing you, highlight areas for improvements and realistically quantify the potential for savings. Contact your local Quantima™ representative to get some assistance is assessing the potential for savings at your site.

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[www.Quantima.com](http://www.Quantima.com)

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