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EOSi ROTARY SCREW VACUUM PUMPS

EDWARDS

EDWARDS THE PARTNER OF CHOICE

Edwards is a world leader in the design, technology and manufacture of vacuum pumps with over 95 years' history and more than 75 years' manufacturing experience.

Edwards believes in delivering results that bring value to our customers by using our breadth of industry experience to identify and apply solutions to your problems. Using the most innovative and up-to-date modelling techniques, we can optimise the pumping configuration for customers to provide a system design giving the maximum performance in the most reliable and cost-effective way.

INNOVATION AND INTELLIGENCE

Edwards EOSi range is a new generation range of quiet, oil-sealed rotary screw vacuum pumps

With Variable Speed Drive (VSD) technology and intelligent control, the EOSi range delivers impressive on-demand performance capability and optimises energy consumption. The highly efficient patented oil separator design extends service intervals and reduces maintenance costs. Temperature management control enables unrivalled water handling capability to provide you with the versatility and flexibility you need for your application.

State-of-the-art screw technology, Variable Speed Drive (VSD) and innovative motor design
Increased efficiency

Class-leading pumping speed and fast chamber pumpdown performance capability
Improved productivity

Closed loop pressure control and active power management
Intelligent control

Automatic performance matched to vacuum demand
Low cost of ownership

Noise levels approximately half that of comparable technologies
Quiet operation

Ultra-high oil retention at all operating pressures
Reduced environmental impact

Applications

The EOSi range is suitable for a range of applications in various industries including:

- Food freeze drying
- Altitude simulation
- Drying
- Load lock
- Pipeline drying
- Central vacuum systems
- Pneumatic conveying
- General packaging
- Plastics
  (e.g. bath tubs, shower trays, white goods internals)
- Packaging materials (e.g. thermoformed parts)
- Lamination
- Meat packaging (flat, vacuum packs, controlled atmosphere packaging)
- Roof tile and brick manufacture
- Food cooling
- General evacuation duties
- Coating

EOSi: Optimised to match your application

The EOSi range is available in up to 4 variant options – Standard, Q, W, or WQ - to enable you to select the optimal choice for your application.

Standard

This pump is designed to deliver the exact performance to match your demand, at the minimum possible lifecycle cost. Intelligent control enables energy reduction of 50% or more compared with conventional solutions.

Q

The Q version is designed for cycling applications, where chamber pumpdown time is important. The responsive inverter control and special configuration enables even faster chamber pumpdown with optimal energy efficiency.

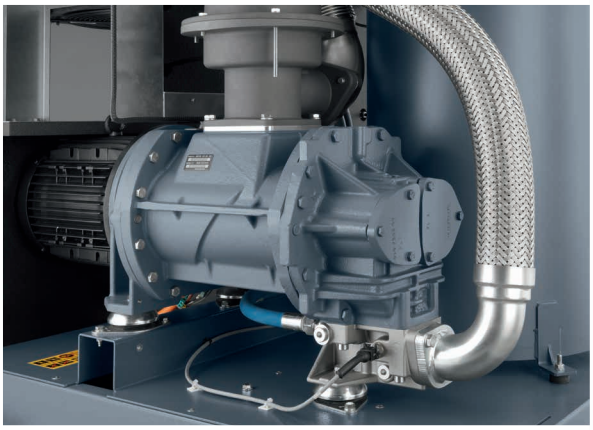
W

Whilst the standard EOSi pumps are able to reliably pump water vapour loads similar to equivalent rotary vane pumps, the W version is designed to pump significantly higher water vapour loads and can offer superior comparative performance where required on applications such as pipeline drying and freeze drying.

QW

The QW version combines the special design configuration of the Q version with the water vapour handling capabilities of the W version.

THE INNOVATIVE TECHNOLOGY AT THE HEART OF THE EOSi



1 Pump Module

- Highly efficient oil-sealed rotary screw
- Outstanding performance
- Robust design
- Element life is significantly longer than screw compressors and vane pumps

2 Inlet control valve

Provides modulating vacuum control in conjunction with the VSD drive to minimize energy consumption

3 Guaranteed oil retention

- Optimum design for maximum oil retention
- Longer life because of managed performance means the vacuum pump never overloads the separators
- Innovative and patented design retains oil at <3 mg/m^3 even when under the greatest load.
- In conventional fixed speed vacuum pumps overloaded oil separators lead to oil carryover

4 Enclosure with hot-cool zones

The EOSi range features an enclosure with a hot-cool design. It isolates all heat producing and temperature critical components (oil separator and element) from all other components. As cool running means higher reliability this feature extends the lifetime of electronic components and leads to a longer Mean Time Between Maintenance (MTBM).

5 Easy to use, simple to maintain

- The top cover of the oil separator has a unique hinge mechanism
- It slips the cover to the side allowing the oil separator filter to be changed easily and quickly
- A cleverly designed exhaust pipe enables the condensates to be collected in the discharge pipework at the outlet

6 Energy recovery options

- Available for larger motor sizes
- Helping you to fulfil your energy management and environmental commitments according to ISO 50001/14001

Airlogic® Monitoring System

Airlogic® is a state-of-the-art monitoring system for your vacuum pumps. It is simple and comprehensive and leads to energy savings. It can also integrate with your plant management system thanks to a remote monitoring option.

Easy to use

- 3.5-inch high-definition color display with clear pictograms, 32 language settings
- Additional LED indicator for service
- Graphical display of key parameters (day, week, month)

Plant management system

Airlogic® installed on different vacuum pumps can be monitored in
cascade. Remote monitoring can be added as an option (Modbus/Profibus/Ethernet protocols)

Comprehensive

You get all the information for the everyday management of your vacuum pump as well as the alarms, safety shutdowns and maintenance:

- Monitoring: Vacuum pump operating status, recording of running/stopped hours, programmable timers, temperature / pressure read-outs, set point control and other settings
- Safety: Warning indications, fault and shutdown indications
- Service: Service operations, remote control (optional)

Intelligent Monitoring System

Airlogic® is a flexible solution for data monitoring: easy to install and customize and user-friendly.

EOS 1300i

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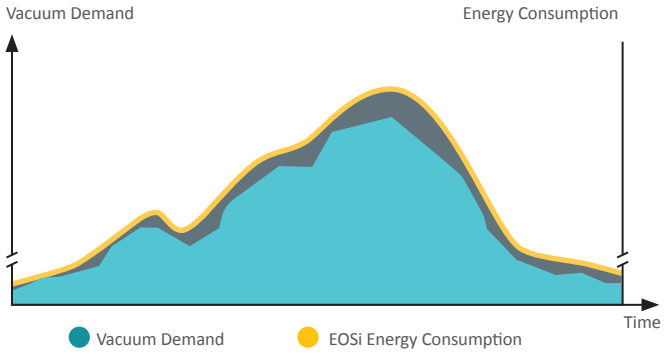
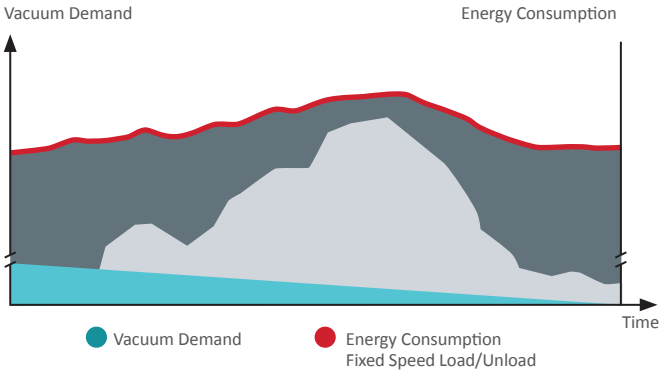
EOSi – Designed To Deliver Energy Savings

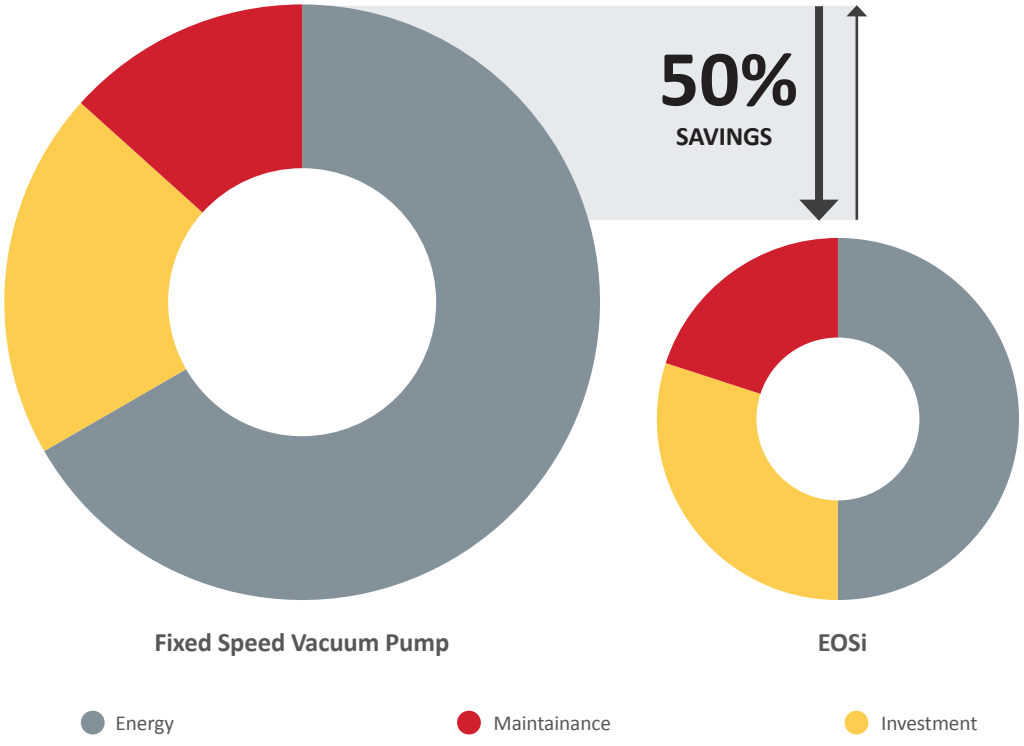
The EOSi can maintain a set point pressure during process and adjust its speed to match the demand at that pressure. In doing so, energy savings of 50% can be achieved using EOSi technology compared with conventional technology.

The EOSi can be configured to deliver its full performance capabilities only when required. For example, during the pumpdown on load locks it can also reduce its power consumption when full performance is not required which can reduce power consumption by over 40% compared to standard operation.

In almost every production environment, any vacuum system is not required to deliver its full performance for the entire time, whether that is during a process cycle, during a pumpdown cycle, or during machine idling time. The intelligent EOSi can deliver peak performance only when required enabling significant energy and maintenance cost reductions.







* Based on measurement performed with the Vbox energy audit tool.

Technical Specifications

		Units	EOS 350i	EOS 585i	EOS 730i	EOS 900i	EOS 1300i	EOS 1600i	EOS 1900i
Peak pumping speed		m3/h / cfm	400 / 240	560 / 330	730 / 430	900 / 530	1250 / 740	1590 / 940	1810 / 1070
Ultimate vacuum		mbar / Torr	0.35 / 0.26	0.35 / 0.26	0.35 / 0.26	0.35 / 0.26	0.35 / 0.26	0.35 / 0.26	0.35 / 0.26
Inlet connection		-	DN 80	DN 80	DN 80	DN 80	DN 150	DN 150	DN 150
Outlet connection		-	DN 60	DN 60	DN 60	DN 60	DN 100	DN 100	DN 100
Shaft power		kW	5.5	7.5	11	15	22	30	37
Permissible ambient temperature		C	0 - 46	0 - 46	0 - 46	0 - 46	0 - 46	0 - 46	0 - 46
Noise level range		dB(A)	51-65	51-65	51-73	51-76	65-75	65-79	65-80
Oil quantity		l	16	16	16	16	40	40	40
Dimensions	L	mm	1266 x	1266 x	1266 x	1266 x	1420 x	1420 x	1420 x
	W		934 x	934 x	934 x	934 x	1590 x	1590 x	1590 x
	H		1083	1083	1083	1083	1470	1470	1470
Weight		kg	500	500	510	520	1058	1058	1073
Electrical specification: 380/460V 50/60Hz IP54 enclosure CSA/UL.									

Service

Maintaining your EOSi vacuum pump is simplicity itself. Energy efficient control means that the time between major services is greatly extended. Should you forget, the intuitive integrated Airlogic interface will monitor performance and notify you when service is due. Intelligent design makes the EOSi range incredibly easy to access and work on, shortening the time taken to complete inspections and common tasks. Frequent attention to the service requirements of your system greatly increases the period between major overhauls and ensures clean efficient operation. In order to maintain the best possible performance of your EOSi system we recommend always using original Edwards parts. To support this, a comprehensive range of spares and lubricants are available.

NOTES

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