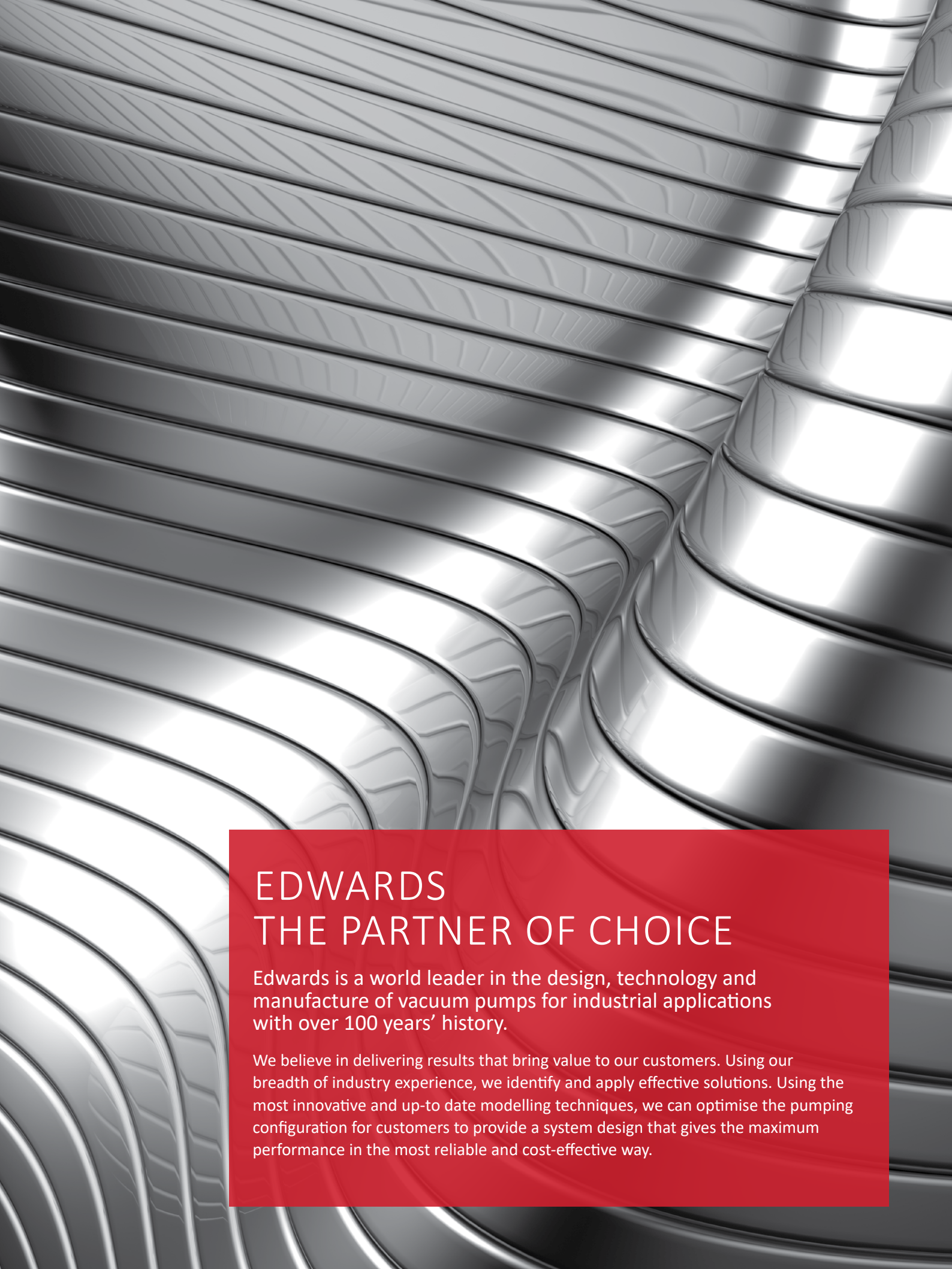
edwardsvacuum.com

EDS INDUSTRIAL DRY SCREW VACUUM PUMPS

EDWARDS



EDWARDS
THE PARTNER OF CHOICE

Edwards is a world leader in the design, technology and manufacture of vacuum pumps for industrial applications with over 100 years' history.

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

STATE-OF-THE-ART TECHNOLOGY MADE SIMPLE

We are known for providing our customers with robust vacuum solutions that include superior products with application and process expertise comprised of decades of real-world, real-scenario experience. Edwards' new range of EDS Industrial Dry Screw pumps continues that tradition.

The EDS range is developed in the UK and designed for a global market, it creates a new benchmark in the screw pump market with its innovative design. Featuring tapered variable pitch dry screws, the EDS is an intricate piece of engineering built to the exacting standards and quality that Edwards is recognised for.

Available in water-cooled and air-blasted variants, the EDS range - EDS 200, EDS 300 and EDS 480 - has second-to-none contaminant handling capabilities in the harshest industrial conditions and dirtiest industrial installations. Housed in a modern outer enclosure, the EDS offers robust performance standards that most production processes demand. The EDS vacuum pumps offer all the extra performance you need for the harshest and toughest industrial applications.

PUMP TECHNOLOGY

SIMPLE

Industry-leading, simply packaged, state-of-the art screw vacuum technology

- Trouble-free peace of mind: Ease of installation, systemisation, support and service
- Pumping: Designed to be simply reliable

FASTER

Extra performance to meet modern technologies

- Quick pump down times: Higher roughing speeds get the job done quicker
- High pumping speeds: Gives more throughput where it matters

FLEXIBLE

Designed for a changing global market

- Safe and compliant: Easily configured for hazardous area installations
- Engineer To Order: Basic modular building blocks for special pumping systems

INNOVATIVE AND STURDY DESIGN

A plug and play system with a high tolerance for particulates

- Tapered variable pitch dry screws
- Robust water cooling system

PROCESS CAPABLE

Mechanism proven in the most demanding applications

- Extended MTBS: Purge protection options to prolong life on harsh processes
- Increased process uptime: Survives process mishaps and contaminant ingestion

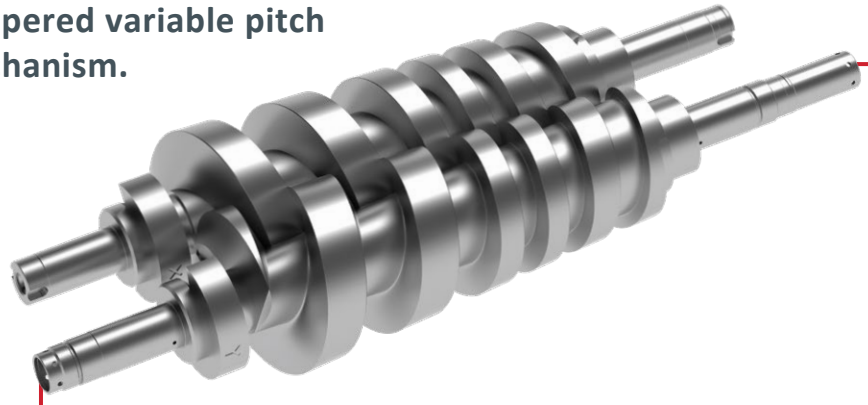
ROBUST

A truly industrial machine for the most challenging installations

- Installation options: Highly tolerant water-cooled and air blast–cooled standard products
- Protection: High IP ratings and easily cleanable protective canopies

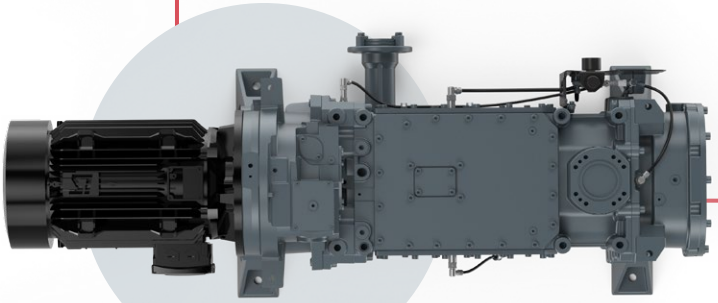
EDS SERIES AT A GLANCE

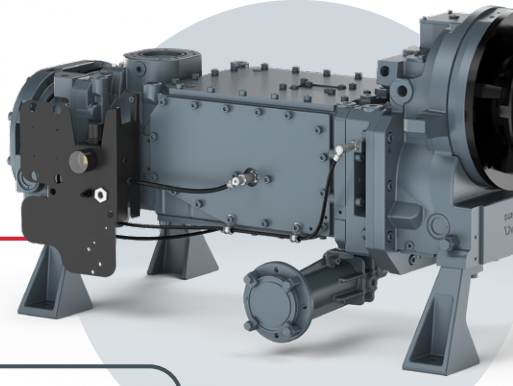
At the heart of the EDS Dry Screw pump is the tapered variable pitch dry screw mechanism.



- Direct and Indirect air blast heat exchanger cooling options *(Air blast version available for EDS 200 and EDS 300)*
- Direct mount motor options for any region
- Modern enclosure design *(Enclosure available as optional)*
- Simple thermal protection

EDS Water Cooled





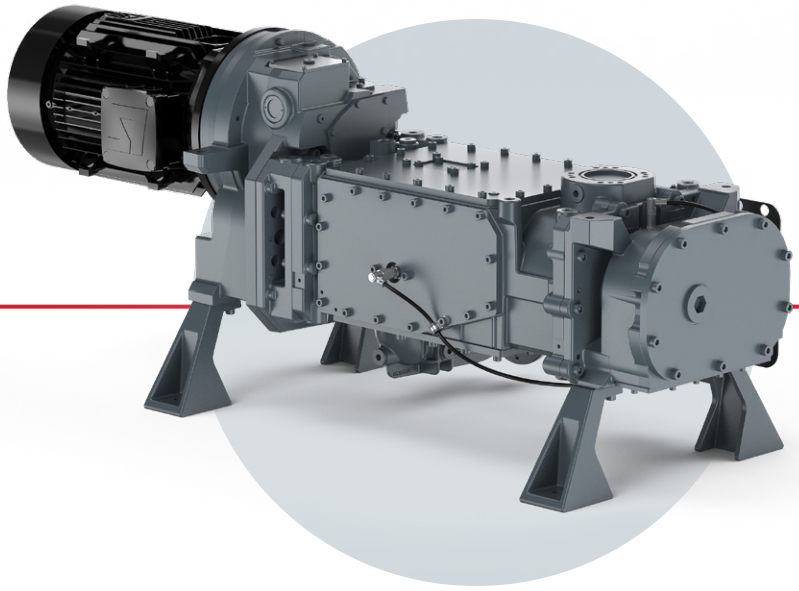
EDS 480

The cutting-edge hybrid rotor design uses a combination of parallel and tapered rotor profiles. This optimises performance while limiting the footprint and power consumption to a market-leading minimum.

EDS Air Cooled

- Wide range of standard accessories available
- Simple, robust seal purge system
- Atmospheric air gas ballast

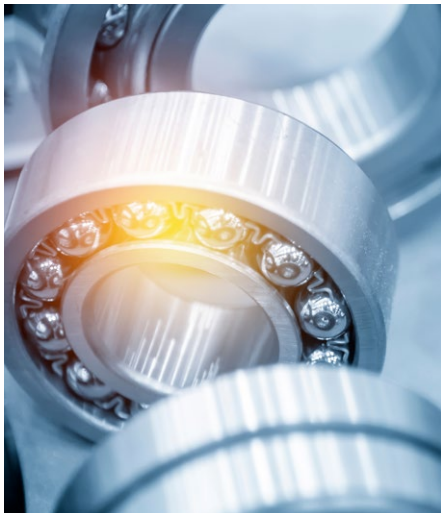
EDS System

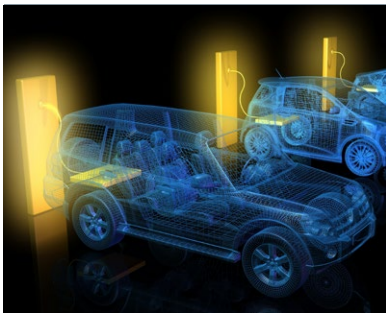


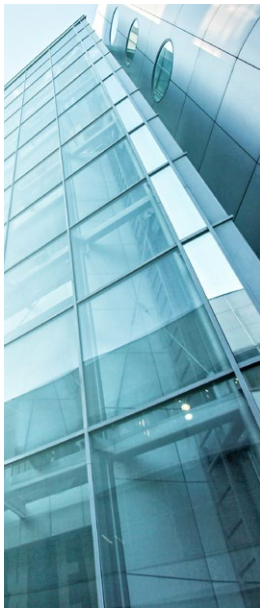
APPLICATIONS

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

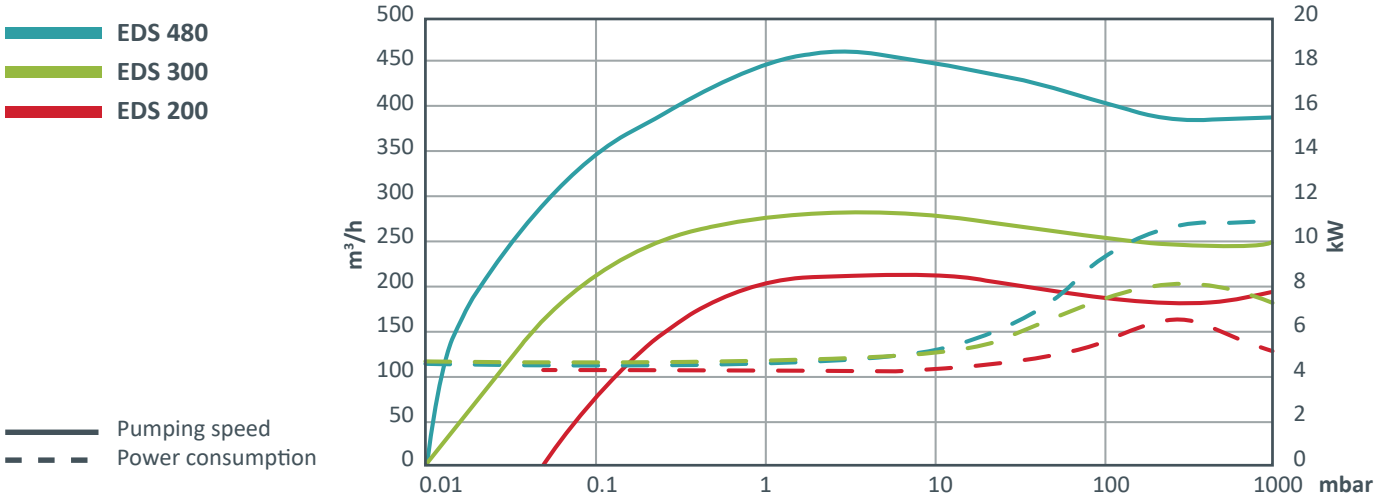
- Lithium-ion batteries
- Automotive coating
- Freeze drying
- Industrial glass coating
- Solar cell manufacturing
- Heat treatment
- Brazing
- Thin film deposition
- Plastic extrusion
- Pharmaceuticals
- Renewable energy







PERFORMANCE CURVES

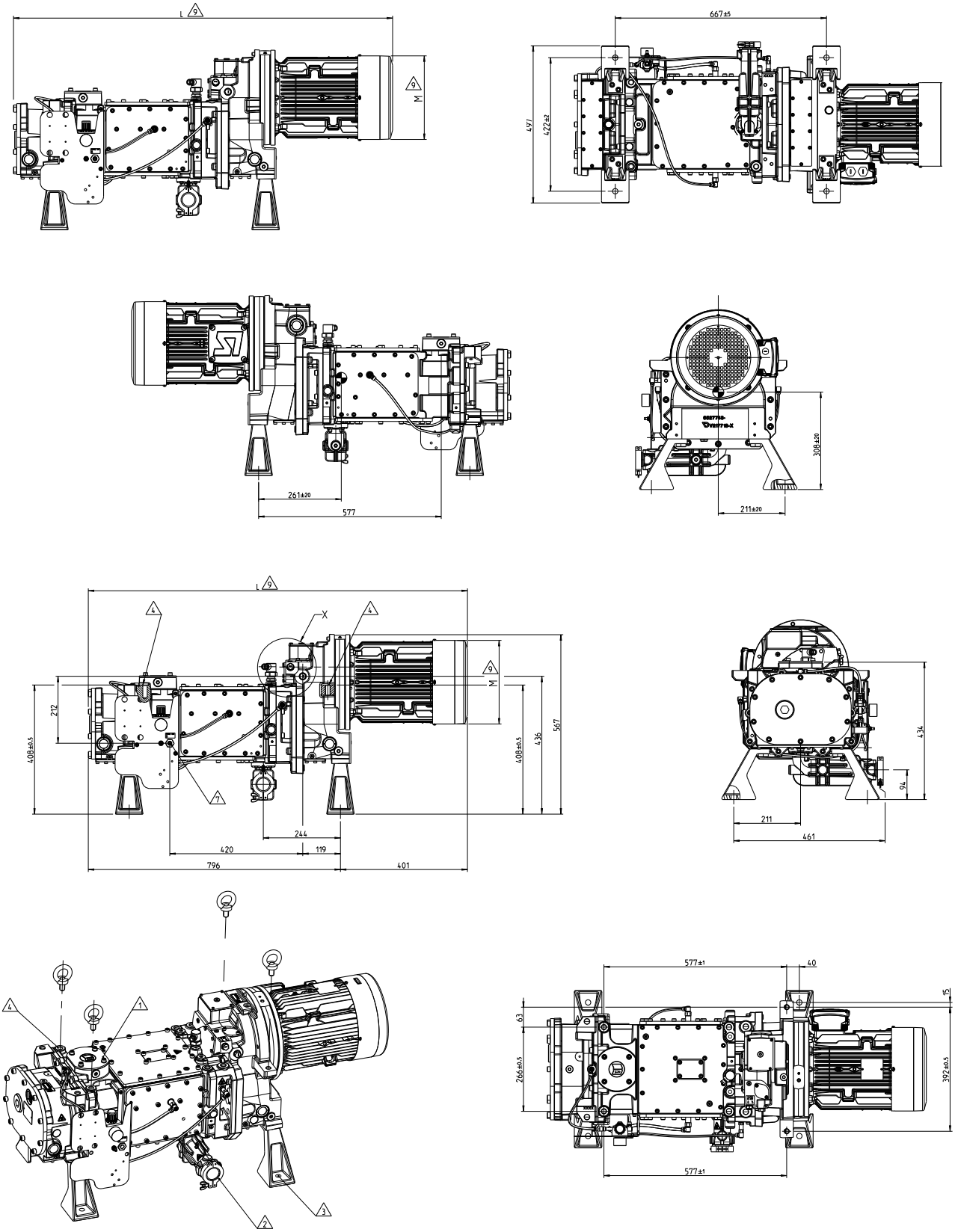


TECHNICAL SPECIFICATIONS

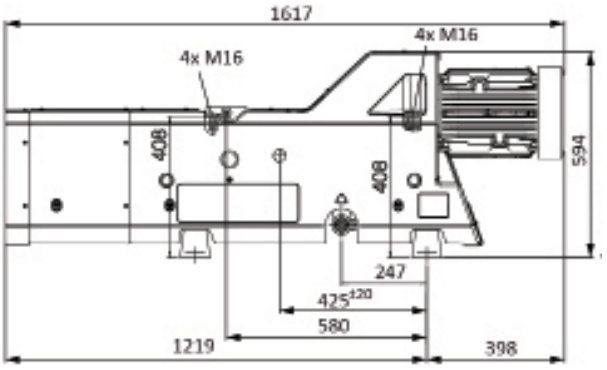
			Water Cooled and Air Cooled		
		Units	EDS 200	EDS 300	EDS 480
Performance	Peak pumping speed	m^3h^{-1} / CFM	210 / 124	>280 / >165	>460 / 271
	Ultimate pressure	mbar / Torr	<0.05 / <0.04	<0.01 / <0.008	<0.01 / <0.008
Full Load Power	@ ultimate pressure	kW / hp	4.1 / 5.5	4.5 / 6	4.6 / 6.5
	@ peak pumping load	kW/hp	6.4 / 8.6	8.2 / 11	11 / 15
Vacuum Connections	Inlet connection		ISO63		
	Exhaust connection		NW40		ISO 63
Cooling Water	Connection		G1/2" female threads		
	Flow	L/min^{-1} / Gal/min^{-1}	<8 / <2.1		
	Supply pressure (max)	bar / psig	7 / 100		
	DP across pump (min)	bar / psig	0.2 / 2.9		
	Temperature	°C / °F	5-35 / 41-95		
	Primary cooling circuit volume (Glycol water mixture volume in case of variant with indirect cooling)	l / gal	6 / 1.6		NA
Purge Gas	Connection		G1/4" female threads		
	Pressure	bar / psig	2.5-6.9 / 36-100		
	SSP flow	$lmin^{-1}$	<12		
	Gas ballast flow*	$lmin^{-1}$	0-50		
Operating data	Noise	dB(A)	<76		
	Operating temperature	°C / °F	5-40 / 41-104		
	Exhaust back pressure (max)**	mbar / psia	1200 / 17.4		
	System IP rating		IP54		
	Lubrication (as supplied)		Extend 110		

DIMENSIONS

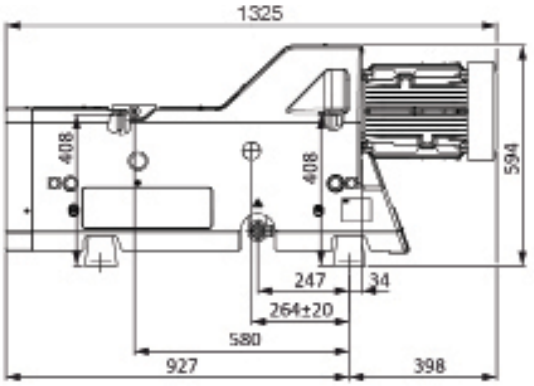
EDS 200/300



EDS 200/300 with Enclosure (Available as optional)

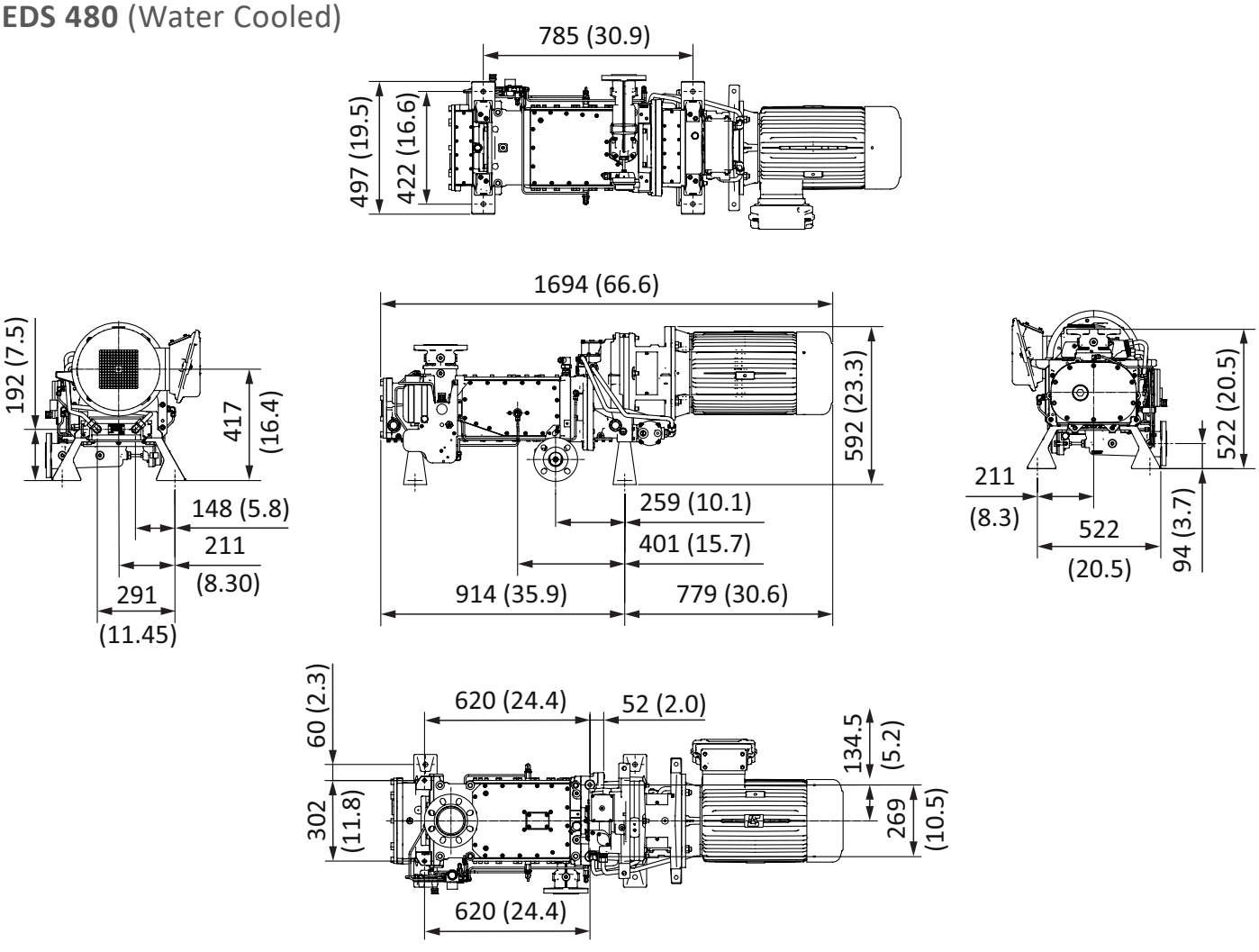


(Air Cooled)



(Water Cooled)

EDS 480 (Water Cooled)



ORDERING INFORMATION

Part Number	Size	Cooling	Motor Voltage	Motor Desc.	Freq
A41820945	200	Direct Water	380-400V 50 Hz, 230/460V 60 Hz	EU/US/CN	50 Hz
A41820946	200	Direct Water	380-400V 50 Hz, 230/460V 60 Hz	EU/US/CN	60 Hz
A41820934	200	Direct Water	200V 50 Hz, 200/380V 60 Hz	Asia	50 Hz
A41820936	200	Direct Water	200V 50 Hz, 200/380V 60 Hz	Asia	60 Hz
A41820957	200	Direct Water	575V	Canada	60 Hz
A41821945	200	Air Blast	380-400V 50 Hz, 230/460V 60 Hz	EU/US/CN	50 Hz
A41821946	200	Air Blast	380-400V 50 Hz, 230/460V 60 Hz	EU/US/CN	60 Hz
A41821934	200	Air Blast	200V 50 Hz, 200/380V 60 Hz	Asia	50 Hz
A41821936	200	Air Blast	200V 50 Hz, 200/380V 60 Hz	Asia	60 Hz
A41821957	200	Air Blast	575V	Canada	60 Hz
A41830945	300	Direct Water	380-400V 50 Hz, 230/460V 60 Hz	EU/US/CN	50 Hz
A41830946	300	Direct Water	380-400V 50 Hz, 230/460V 60 Hz	EU/US/CN	60 Hz
A41830934	300	Direct Water	200V 50 Hz, 200/380V 60 Hz	Asia	50 Hz
A41830936	300	Direct Water	200V 50 Hz, 200/380V 60 Hz	Asia	60 Hz
A41830957	300	Direct Water	575V	Canada	60 Hz
A41831945	300	Air Blast	380-400V 50 Hz, 230/460V 60 Hz	EU/US/CN	50 Hz
A41831946	300	Air Blast	380-400V 50 Hz, 230/460V 60 Hz	EU/US/CN	60 Hz
A41831934	300	Air Blast	200V 50 Hz, 200/380V 60 Hz	Asia	50 Hz
A41831936	300	Air Blast	200V 50 Hz, 200/380V 60 Hz	Asia	60 Hz
A41831957	300	Air Blast	575V	Canada	60 Hz
A41840945	480	Direct Water	200/400V 50 Hz, 230/460 V 60 Hz	EU/US/CN	50 Hz
A41840946	480	Direct Water	200/400V 50 Hz, 230/460 V 60 Hz	EU/US/CN	60 Hz
A41840934	480	Direct Water	200/380V 50/60 Hz	Asia	50 Hz
A41840936	480	Direct Water	200/380V 50/60 Hz	Asia	60 Hz
A41840957	480	Direct Water	575V 60 Hz	Canada	60 Hz

ACCESSORIES

Part Number	Description	Pump Compatibility
A41890000	TCV Kit Direct Cooled	All direct cooled EDS pumps
A41890001	TCV Kit Indirect Cooled	All indirect cooled EDS pumps
A41891001	Solenoid Valve Accessory	All EDS pumps
A41893000	EDS to EH 1200/2600/4200 Connection Kit	EDS 200/300
A41893001	EDS to EH500 Connection Kit	EDS 200/300
A41894000	Exhaust Pressure Transmitter	All EDS pumps
A41895000	Pt100 Stator Temperature Transmitter	All EDS pumps
A41895001	Pt100 Exhaust Temperature Transmitter	All EDS pumps
A41896009	EDS Dry Silencer	EDS 200/300
A41897000	BoV Plug Kit	All EDS pumps
A41896005	Industrial Enclosure	EDS 200/300
A41893002	Roots Adapter	EDS 480

SERVICE AND SUPPORT

To ensure your EDS Dry Screw vacuum pump maintains optimal performance and reliability, we offer a wide range of service solutions, tailored to meet your needs. Through Field Service intervention, Managed Maintenance agreements and Overhaul service in our Service Technology Centres (STC), we will take care of your pump to ensure that it continues to deliver clean, consistent, efficient performance, with lower running costs and optimum total cost of ownership for its operating life.

Selecting original spare parts, maintenance kits and oil ensures that every critical part performs as it was intended. Our services engineers only fit 100% genuine parts to ensure that you receive the best result from each service.

Our Preventative Maintenance service packages include:

- Health Check and Routine Service Check - Various flexible services – including visual inspections, pump vitals checks and replacement/cleaning of components – to keep your pump running in an optimal condition for your application.
- Overhaul - The overhaul service includes multiple service options to ensure high performance and minimal downtime.
  - » Complete Remanufacturing, including full decontamination of the pump, replacement of consumables and testing of components to factory specifications.
  - » Clean and Overhaul, including cleaning of pump interior, repair/replacement of pipework, replacement of consumables and reassembly.
  - » Module Exchange, including removal and assembly of motor, gearbox, gas and water systems onto the replacement pump module.
  - » Pump Exchange, including exchange of the whole pump (including motor, gear box, gas and water systems) with a remanufactured pump.

edwardsvacuum.com

GLOBAL CONTACTS

EMEA	
UK	+44 1444 253 000 (local rate) 08459 212223
Belgium	+44 1293 60 3350
France	+33 1 4121 1256
Germany	0800 000 1456
Italy	+ 39 02 48 4471
Israel	+ 972 8 681 0633
Russia	+7 495 933 55 50 Ext. 1800/1803 +8 800 775 80 99

ASIA PACIFIC	
China	+86 400 111 9618
India	+91 20 4075 2222
Japan	+81 47 458 8836
Korea	+82 31 716 7070
Singapore	+65 6546 8408
Taiwan	+886 3758 1000

AMERICAS	
USA	+1 800 848 9800
Brazil	+55 11 3952 5000

Publication Number: 3602 113 9 01
© Edwards Limited 2020. All rights reserved.
Edwards and the Edwards logo are trademarks of Edwards Limited.

Whilst we make every effort to ensure that we accurately describe our products and services, we give no guarantee as to the accuracy or completeness of any information provided in this brochure.

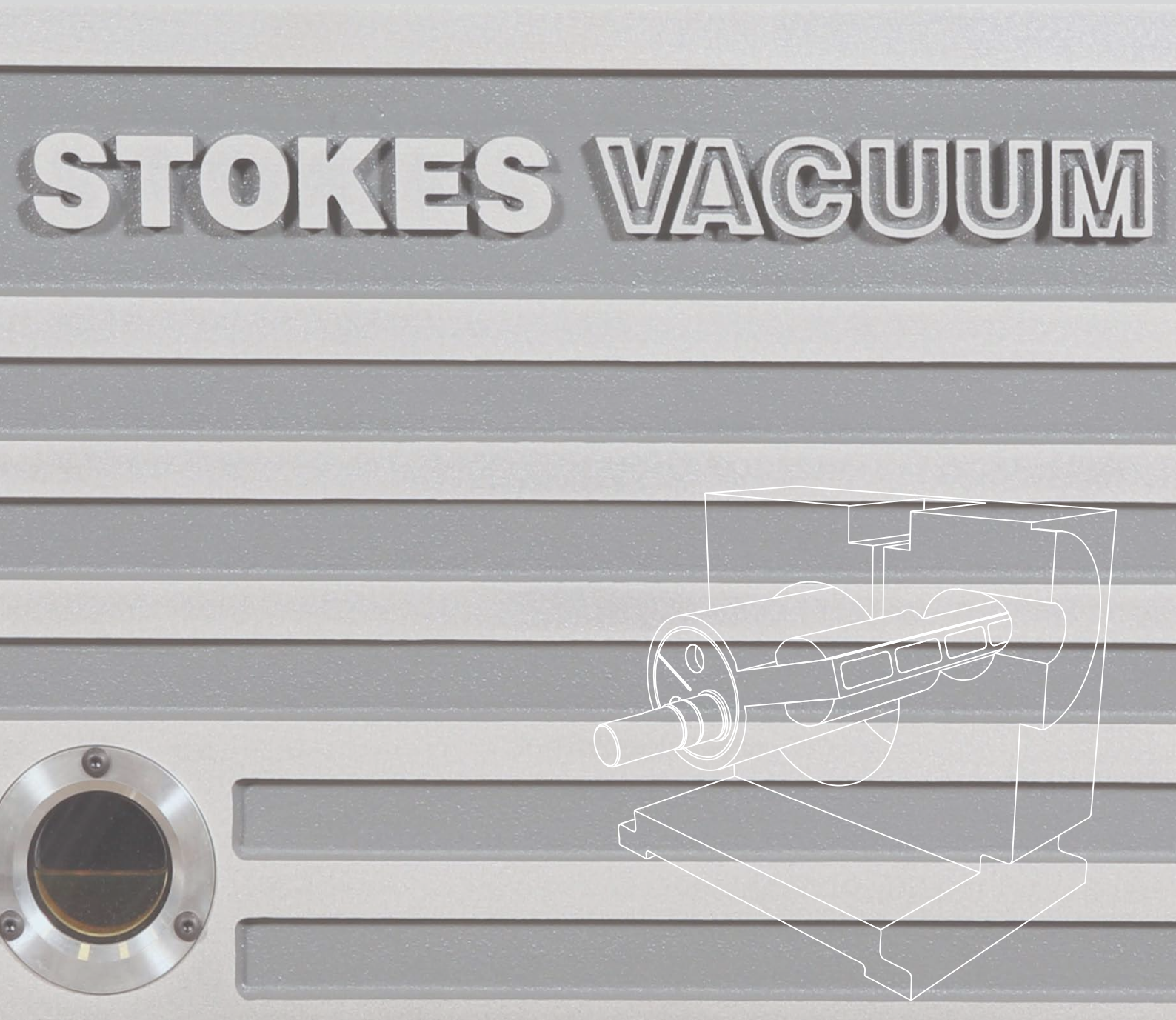
Edwards Ltd., registered in England and Wales No. 6124750, registered office: Innovation Drive, Burgess Hill, West Sussex, RH15 9TW, UK.

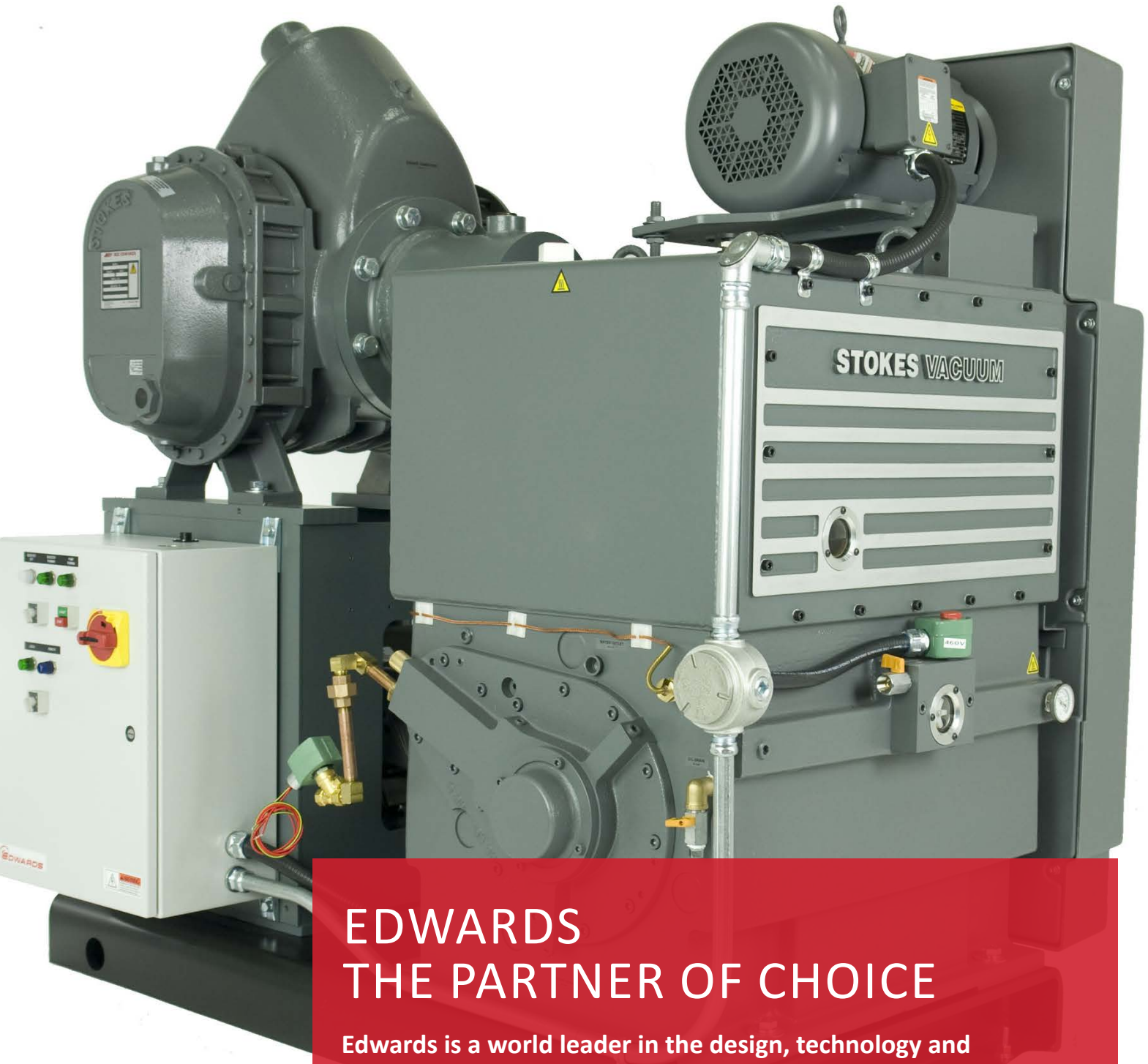
Part of the Atlas Copco Group

edwardsvacuum.com

STOKES MICROVAC ROTARY PISTON PUMPS

EDWARDS





EDWARDS
THE PARTNER OF CHOICE

Edwards is a world leader in the design, technology and manufacture of vacuum pumps with nearly 100 years' history supplying reliable vacuum solutions.

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 optimize the pumping configuration for customers to provide a system design giving the maximum performance in the most reliable and cost-effective way.

PROVEN PERFORMANCE

With over 80 years of experience, the Stokes Microvac has set the standard for performance, efficiency and reliability. The Stokes line has been improved, upgraded and fine-tuned and delivers even better dependability and productivity combined with minimal maintenance and process downtime.

Proven reliability

Over 80 years of time-tested, proven performance

Value for investment

Low rotational speed enables longest pump life cycle

Easy on-site maintenance

Robust, simple mechanism for high reliability and ease of rebuild

Configured for your application

Choice of pumping combinations available to provide a wide range of vacuum pumping solutions

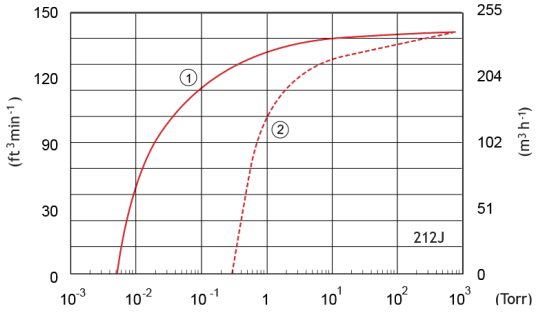
Features and benefits

- Robust cast and ductile iron construction provides rugged, reliable operation
- Efficient design provides maximum uptime with minimal moving parts and large clearance
- Low ultimate blank-off with maximum speed down to 1 Torr and continuous high pressure pumping up to 600 Torr
- Latest valve design virtually eliminates valve maintenance and reduces noise, while requiring lower power
- Space-saving design which saves up to 50% of valuable floor space
- Complete and self-contained unit delivered ready to install
- Controlled balancing reduces vibration to a practical minimum
- Automatic lubrication system provides proper flow of oil to bearings and sealing surfaces and prevents back-flow into system
- Gas ballast as standard
- Total capability includes the manufacturing and service capabilities to keep your equipment in top operation with a broad range of vacuum system accessories

SPECIFICATIONS

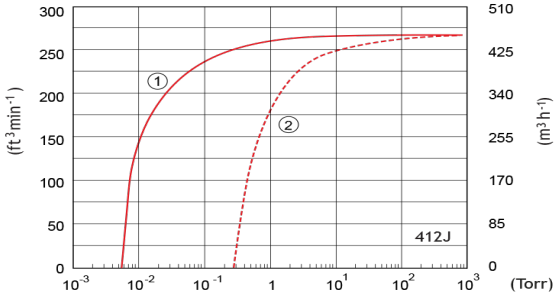
Pump Type	Maximum pumping speed		Ultimate vacuum		Motor power				Overall dimensions			Noise level 50/60 Hz
					50 Hz		60 Hz		L	W	H	
	m^3/hr (50 Hz)	cfm (60 Hz)	mbar	Torr	kW	Hp	kW	Hp	in	in	in	dB(A)
212 J	234	138	$<3.3x10^{-2}$	$<2.5x10^{-2}$	5.5	7.5	5.5	7.5	26.25	24	43.5	<77
412 J	442	260	$<3.3x10^{-2}$	$<2.5x10^{-2}$	11	15	7.7	10	40.25	25.63	1314	<85
612 J	884	520	$<3.3x10^{-2}$	$<2.5x10^{-2}$	11	15	7.7	10	43.75	70	56.63	<85

Stokes Microvac Model 212J Performance Curve



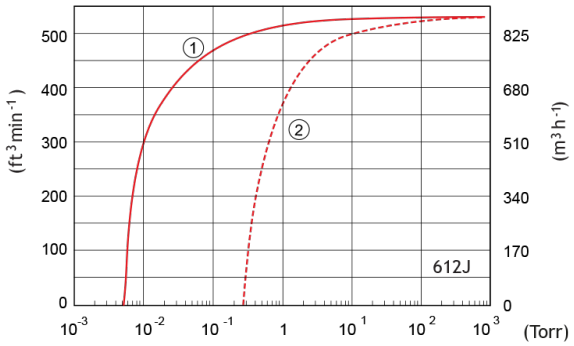
1 - Without gas ballast
2 - With gas ballast

Stokes Microvac Model 412J Performance Curve



1 - Without gas ballast
2 - With gas ballast

Stokes Microvac Model 612J Performance Curve



1 - Without gas ballast
2 - With gas ballast

Applications

Automotive
General Applications
Metallurgy
Vacuum Coating
Vacuum Melting
Chemical Processing
Heat Treatment
Leak Detection
PET Processing
Pharmaceuticals
Transformer drying

STOKES BOOSTER COMBINATIONS

Higher capacities and deeper vacuum levels are available by combining mechanical boosters with Stokes pumps.

STOKES 6” MECHANICAL BOOSTER PUMPS

Stokes 6” series mechanical boosters are designed to be used in conjunction with Stokes rotary pumps and a wide range of other roughing or backing vacuum pumps to create a compact, integrated package.

When coupled with one of these pumps, the Stokes 6” mechanical boosters increase pumping speed at working pressures and significantly reduce pumpdown time.

Stokes booster pump options include:

- direct drive (1800 RPM, or 3600 RPM) Variable Frequency (VFD) compatible
- bare shaft
- vertical or horizontal gas flow
- by-pass (designed to pumpdown from atmospheric pressure)
- process isolation variant (five seal design for tough, high particulate applications)

Industry Staple

Over 80 years of time-tested, proven performance with experienced service and technical support

Easy to maintain

Single mechanical seal can be replaced easily without need to access pump internal mechanism

Increased productivity

Five seal design for optimal process protection

6” BOOSTER DIMENSIONS

	Length		Width		Height		Inlet connection size	Outlet connection size
	mm	in	mm	in	mm	in		
607	1087	42.8	502	19.76	543	21.38	6” ASA/ANSI	6” ASA/ANSI
615	1369	53.9	502	19.76	543	21.38	8” ASA/ANSI	8” ASA/ANSI
622	1613	63.5	501	19.72	543	21.38	8” ASA/ANSI	8” ASA/ANSI

EH BOOSTERS

Edwards EH mechanical booster pumps feature a unique hydrokinetic drive which provides efficient power transmission with benefits in economy, performance and compactness. These booster pumps are suitable for use with high differential pressures, allowing the booster pump to be started at the same time as the backing pump, reducing total pumpdown times.

Increased productivity

Faster pumpdown time

Simple installation

No need for pressure switches, bypass lines or variable frequency drives

Reliable operation even for harsh duties

Proven shaft seal design

EH BOOSTER DIMENSIONS

	Length		Width		Height		Inlet connection size	Outlet connection size
	mm	in	mm	in	mm	in		
EH250	705	27.8	305	12	272	10.7	ISO63	ISO40
EH500	791	31.1	305	12	265	10.4	ISO100	ISO63
EH1200	953	37.5	380	15	334	13.1	ISO160	ISO100
EH2600	1156	45.5	522	20.6	479	18.9	ISO160	ISO100
EH4200	1336	52.6	522	20.6	479	18.9	ISO250	ISO100

APPLICATION ENGINEERING, DESIGN AND SYSTEMIZATION

Our application expertise will ensure we can offer a comprehensive package of design and integrated system solutions.

Our highly focused applications team, central applications group and regional networks of application specialists are on hand to offer expert support throughout your selection and installation process.

Acessories include -

- water miser
- oil mist separators
- gas ballast silencers
- auto gas ballast
- external oil purifiers
- inlet filters
- closed loop external cooling system (min/max)

Stokes 1700 Series Mechanical Booster Combinations maximize your productivity and performance. Models range from 1721 to 1754HC.

OIL SEALED PISTON PUMPS & MECHANICAL BOOSTER COMBINATIONS

M	Y										

CE Marking

0 No CE mark required
1 CE marked system

Microvac Pump

1 212J No CE Marked System
2 212J CE Marked System
3 412J No CE Marked System
4 412J CE Marked System
5 212J with base No CE Marked System
6 212J with base CE Marked System
7 412J with base No CE Marked System
8 412J with base CE Marked System

Booster

0 No Booster
1 EH250
2 EH500
3 EH1200
4 EH2600
5 EH4200
6 EH250 with 3" ASA inlet (for EH250)
7 EH500 with 4" ASA inlet (for EH500)
8 EH1200 with 6" ASA inlet
9 EH2600 with 8" ASA inlet
A 607 low speed low power
B 607 low speed high power
B 607 low speed high power
C 615 low speed
D 615 high speed
E 61B low speed
F 61B high speed
G 622 high speed
H 607 high speed (EU and Asia)

Oil Mist Filter

0 No mist filter
1 MF 291-150J
2 MF 291-300J

Cooling Options

0 No cooling options
1 Water miser (TCV)
2 Min max cooler 115 V 1-ph 60 Hz
3 Min max cooler 230 V 1-ph 60 Hz

Motor Control Module

0 No Motor Control / No Pressure Switch
1 Motor starter control box pedestal mount without pressure
2 Motor starter control box wall mount without pressure
3 Motor starter control box pedestal mount with pressure
4 Pressure switch only
5 Motor starter control box wall mount with pressure

Coil Voltage

1 Coil Voltage 24 V AC 50 Hz
2 Coil Voltage 24 V AC 60 Hz
3 Coil Voltage 120 V 60 Hz / 110 V 50 Hz
4 Coil Voltage 240 V 60 Hz / 220 V 50 Hz
5 Coil Voltage 380 V 50 Hz (CE)
6 Coil Voltage 415 V 50 Hz (CE)
7 Coil Voltage 480 V 60 Hz / 440 V 50 Hz
8 Coil Voltage 380 V 60 Hz

Motor Voltage

1 230V 3-ph 60 Hz
2 460V 3-ph 60 Hz (for Non CE marked systems)
3 400V 3-ph 50 Hz (only for CE Marked systems)
4 220V 3-ph 50 Hz (for Non CE marked systems)
5 380V 3-ph 50 Hz (for Non CE marked systems)
6 440V 3-ph 50 Hz (for Non CE marked systems)
7 380V 3-ph 60 Hz (for Non CE marked systems)
8 200V 3-ph 60Hz (for Non CE marked systems)
9 200V 3-ph 50Hz (for Non CE marked systems)

Gas Ballast Silencer & Vacuum Break

0 No Gas ballast, No Silencer
1 Gas Ballast Silencer (212J / 412J)
2 Auto gas ballast 24 V AC 60 Hz
3 Auto gas ballast 24 V DC DIN
4 Auto gas ballast 120 V 60 Hz / 110 V 50 Hz

Oil Purifier and Connection Kit

0 No oil purifier
1 OP 339-030 115 V 1-ph 60 Hz
2 OP 339-030CE 230 V 1-ph 50 Hz
3 OP 339-030CE 200/400 V 3-ph 50 Hz
4 OP 339-215 115 V 1-ph 60 Hz

Note* Above booster combinations are direct mount vertical flow.
Note** Oil mist filters and min max coolers will ship separately unless ordered with base frame.
Note*** Oxygen service pumps are available, please contact your local Edwards representative to discuss your requirements.
Note**** Not applicable in CE versions.
For other possible combinations, please contact your local Edwards representative to discuss your requirements.

edwardsvacuum.com

EDWARDS

US Headquarters:

6416 Inducon Drive West

Sanborn, NY 14132

Other NA/SA Locations:

City of Industry, CA

Nogales, Mexico

Cleveland, OH

Sao Paulo, Brazil

Global contacts

AMERICAS	
USA	+1 800 848 9800
Brazil	+55 11 3952 5000
	info@edwardsvacuum.com

EMEA	
UK	+44 1444 253 000 (local rate) 08459 212223
Belgium	+32 2 300 0730
France	+33 1 4121 1256
Germany	0800 000 1456
Italy	+ 39 02 48 4471
Israel	+ 972 8 681 0633

ASIA PACIFIC	
China	+86 400 111 9618
India	+91 20 4075 2222
Japan	+81 47 458 8836
Korea	+82 31 716 7070
Singapore	+65 6546 8408
Taiwan	+886 3758 1000

EMEA	
UK	+44 1444 253 000 (local rate) 08459 212223
Belgium	+32 2 300 0730
France	+33 1 4121 1256
Germany	0800 000 1456
Italy	+ 39 02 48 4471
Israel	+ 972 8 681 0633

Publication Number: 3602 090 7 01
© Edwards Limited 2017. All rights reserved
Edwards and the Edwards logo are trademarks of Edwards Limited

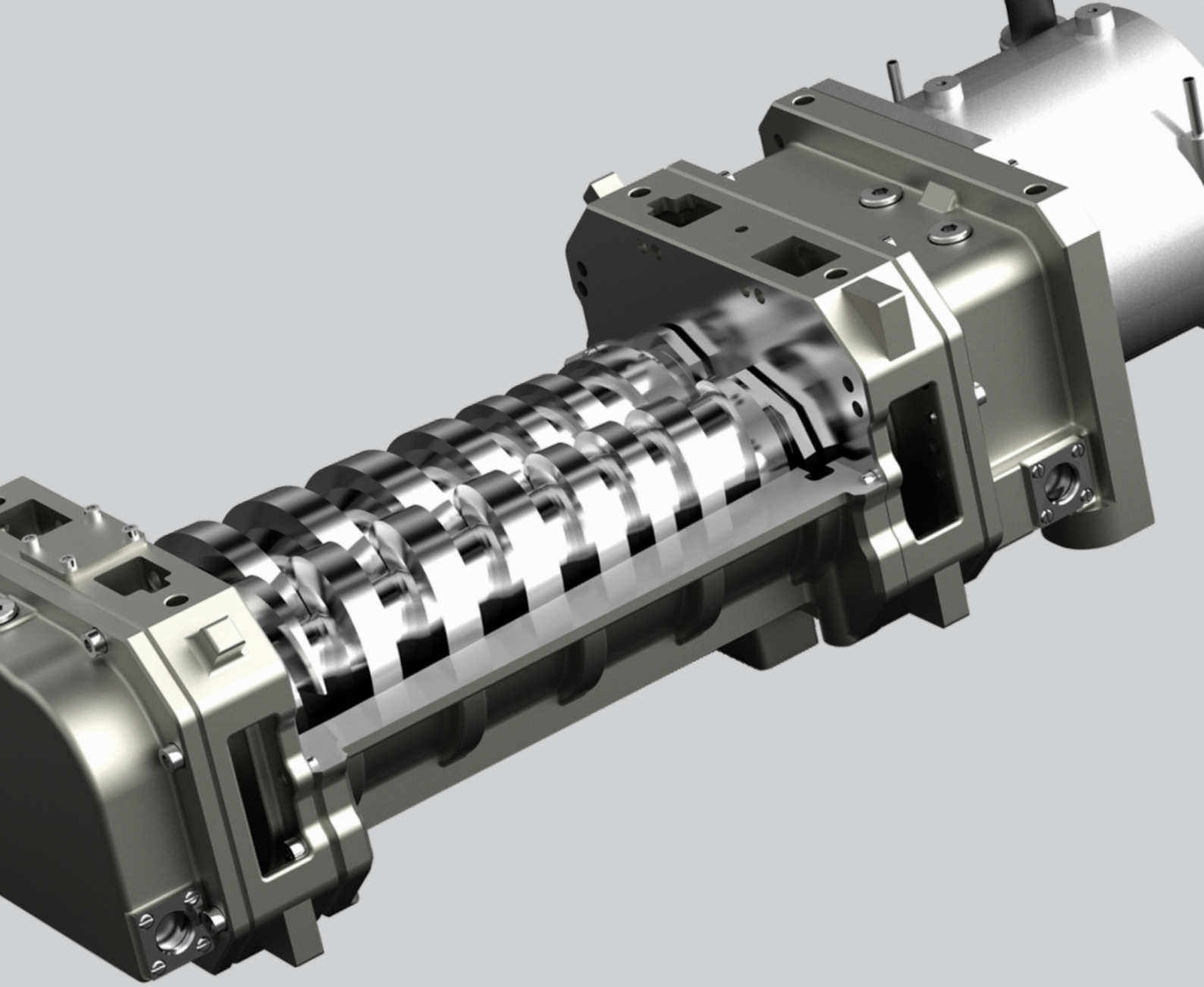
While we make every effort to ensure that we accurately describe our products and services, we give no guarantee as to the accuracy or completeness of any information provided in this brochure.

Edwards Ltd, registered in England and Wales No. 6124750, registered office: Innovation Drive, Burgess Hill, West Sussex, RH15 9TW, UK.

edwardsvacuum.com

GXS DRY 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.

GXS DRY SCREW PUMPS AND COMBINATIONS

Our new GXS dry pumps take vacuum performance to the next level. With unique screw technology and world leading high efficiency drives, enabling advanced temperature control and long service intervals, you are guaranteed best-in-class pumping speeds and low running costs for many years to come.

Fast – *Reduced pump down times with ultimate vacuum of 5 X 10-4 mbar*

- **Increased productivity:** faster process
- **Improved product quality:** better ultimate vacuum

Robust – *Reliable operation even in harsh industrial applications*

- **Low maintenance cost:** no unplanned down-time
- **Increased productivity:** longer intervals between service

Intelligent – *On-board controller with extensive communication and automated control capabilities*

- **Reduced installation costs:** easy integration with other systems
- **Safe operation, consistent output:** automated control of your process

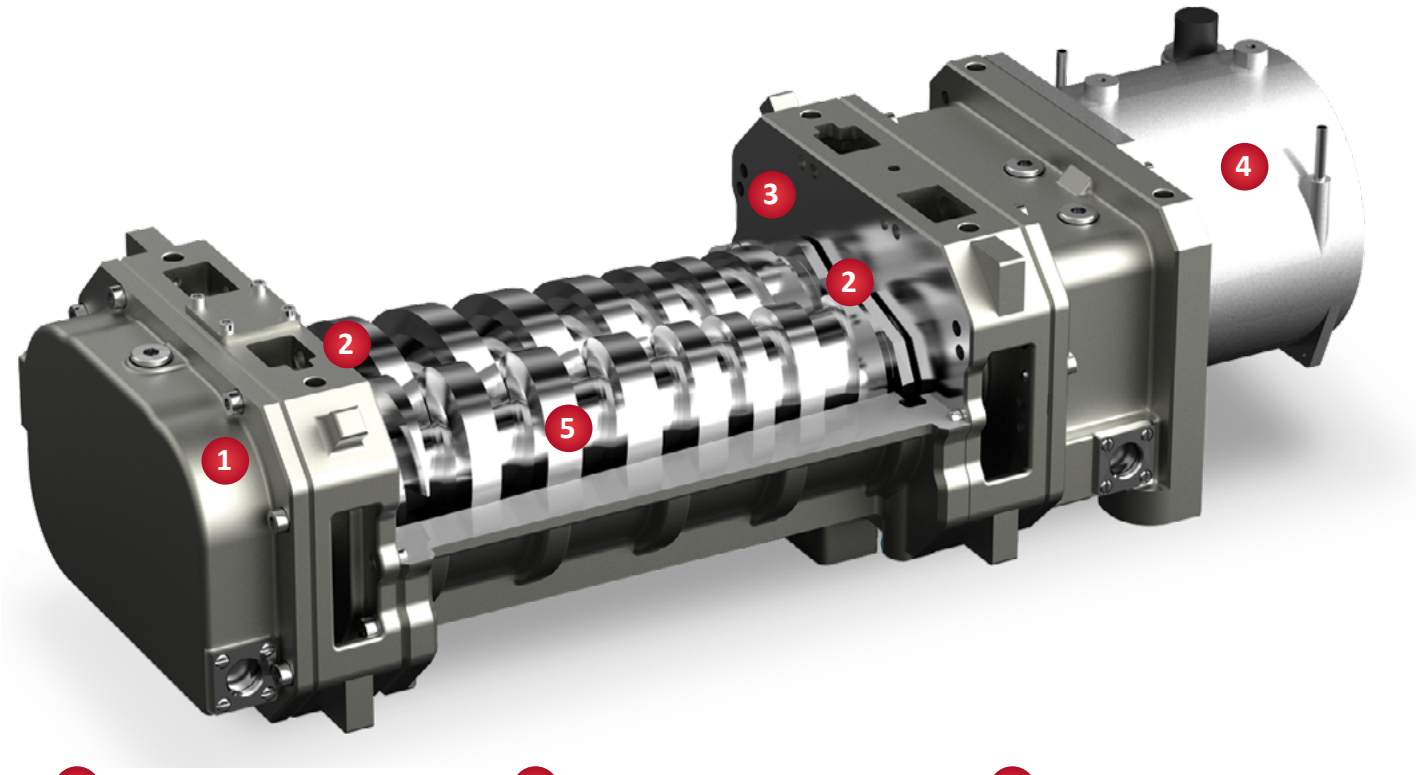
Economical – *Affordable capital investment and low cost of ownership*

- **Substantial savings:** low utilities and energy usage costs
- **Save on space:** small footprint

Environmental – *Smooth, quiet running with low power and utilities consumption*

- **Small carbon footprint:** low power and utilities usage
- **Easy on environment:** no contaminated or dirty disposable oil

GXS innovative screw technology



1

Double ended shaft support

- Non-cantilever design provides secure rotor support for extremely low vibration and superior starting reliability, especially on harsh processes
- Superior liquid and powder handling. Tests demonstrate a five litre water slug and one kilogram fine powder slug handling capability

2

Bearing and lubrication

- Oil lubricated gears eliminate grease and the need for periodic maintenance
- Uses advanced quality bearings and special purpose oil with low vapour pressure for application compatibility and greatly improved life

3

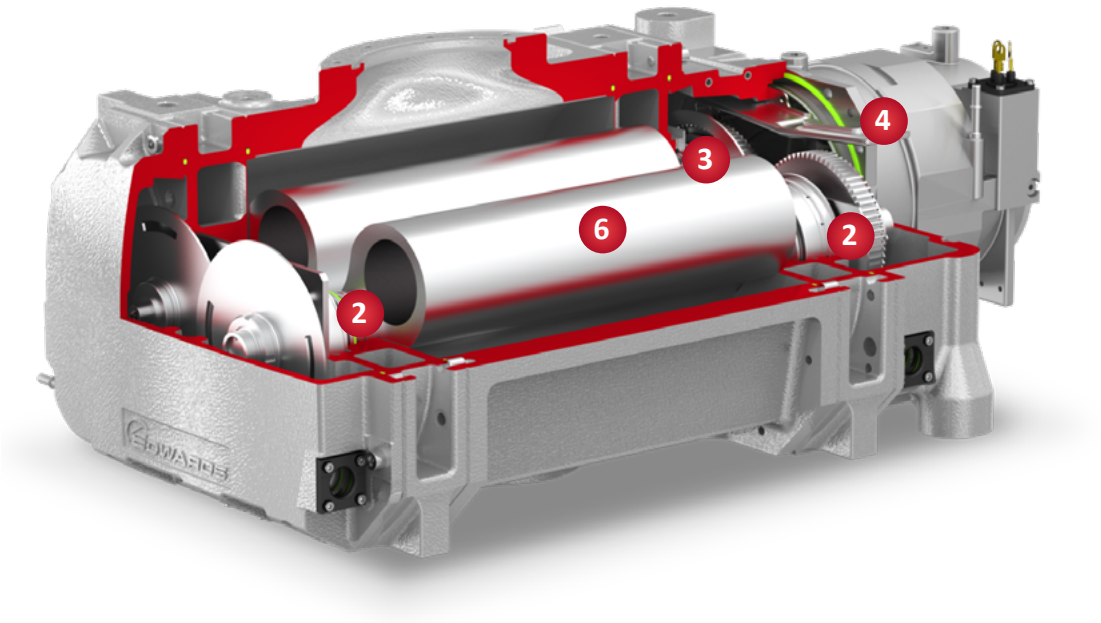
Advanced shaft sealing technology

- Non-contacting long-life seals with integral oil blocking labyrinth seal provides for highly effective sealing
- Combined with a six litre per minute seal purge the gearbox is protected from contamination and the vacuum space is kept free of oil

Fully enabled intelligent on-board control panel

- Running mode and fault status indicator with soft button control
- True “plug and pump” capability for immediate operation
- Intelligently programmed with automatic start/stop routines, power saving, green mode AUC and self cleaning options
- Remote control and monitoring functionality through Ethernet and serial connectors (including Profibus, simple text control protocol, and discrete hard-wired I/O options)
- Optional Pump Display Terminal (PDT) for improved diagnostic and configuration capacity

GXS booster



4

World leading motor and drive technology

- Extremely high efficiency motors with electronic drives deliver maximum torque performance for difficult processes
- Hermetically sealed motor eliminates oil leaks and improves pump reliability
- Water-cooled motors and drives provide for improved reliability and long life to reduce service costs

5

Advanced pumping mechanism design

- Enhanced screw-type rotor design results in smooth, gradual compression along the length of the rotor for improved thermal control and optimised pumping at all inlet pressures
- Integrated heat management and unique rotor and stator design features provide argon gas pumping capability at full concentration
- Advanced machining techniques and design features eliminate the need for rotor coatings while maintaining superb ultimate vacuum performance
- Improved manufacturing technology and design contributes to low vibration and extremely quiet running without a silencer

6

Roots booster mechanism

- High efficiency vacuum booster design
- Optimised for maximum performance with automatic thermal management

Applications

Metallurgy

- Vacuum Brazing
- E-beam welding
- Nitro carburising
- Low pressure nitriding
- Low pressure carburising
- Carbon vapour impregnation
- Sintering
- Metal injection moulding
- Precision investment casting
- Electroslag remelting
- Vacuum induction melting
- Vacuum arc refining
- Steel degassing

Coating

- Roll web coating
- Hard coating (CVD/DLC)
- Surface activation
- Plasma spray
- Glass coating

Drying

- Freeze drying
- Bushing filling
- Transformer drying
- Pipeline drying
- Capacitor drying
- Lithium-Ion battery drying

Plasma processes

- Plasma welding
- Plasma nitriding

Solar

- Silicon crystal-pulling
- PV lamination

LED manufacture

Vacuum chamber evacuation

- Space simulation chambers
- Gas recovery/circulation
- Load lock chambers

Customised solutions for your application

Whether you require a single pump, pump and booster combination or complete vacuum system, we have a range of pumps designed to provide optimal performance in a wide range of applications.

Following are some typical applications where GXS is used. There are several other applications where GXS is suitable. For detailed advice and availability, please consult one of our application engineers.

	GXS Pump type					Recommended Accessories	
Application	**LIGHT DUTY** Shaft Seal Purge only	**MEDIUM DUTY** Shaft Seal Purge plus adjustable Gas Ballast. Inlet purge on start up and shut down	**MEDIUM DUTY** 450 / 750 As standard Medium duty + option of additional Gas Ballast	**MEDIUM DUTY** + As Medium Duty plus HIGH FLOW PURGE ONLY at shutdown	**MEDIUM DUTY** + High Flow Purge AND SOLVENT FLUSH at shutdown	**INLET FILTER** Metal mesh type	**SILENCER** Cleanable and drainable type
Annealing	✓						
CVI carbon vapour impregnation		✓	✓		✓	✓	✓
EB welding		✓				✓	
Gas quenching	✓						
LPC low pressure carburising		✓	✓		✓*	✓	✓
LPN low press. Nitriding	✓						
Sintering (Metal Injection Molding) & debinding		✓	✓		✓**		
Oil quenching		✓				✓	
PIC precision investment casting & fast cycling		✓		✓		✓	
Plasma nitriding (PN)	✓						
Tempering	✓						
Vacuum brazing		✓			✓	✓	
VAR		✓	✓	✓		✓	
VIM		✓	✓	✓		✓	

** use MD+ for LPC with propane*
*** use MD+ for waxy binders*

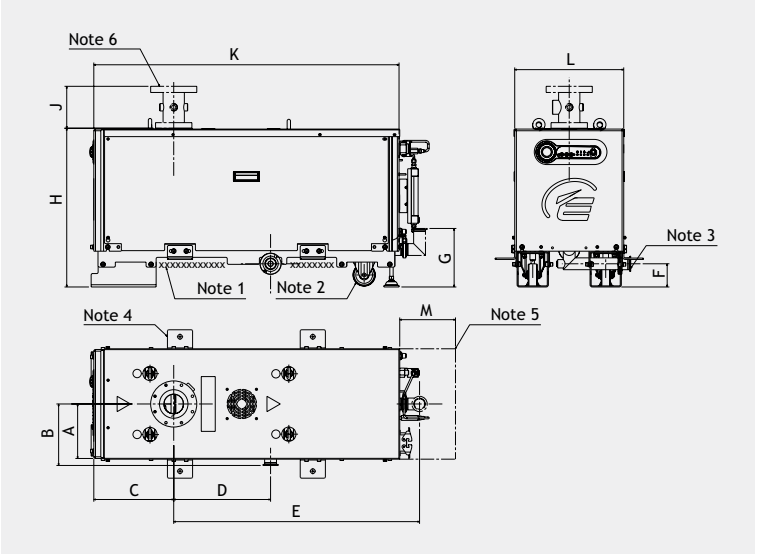
Technical data

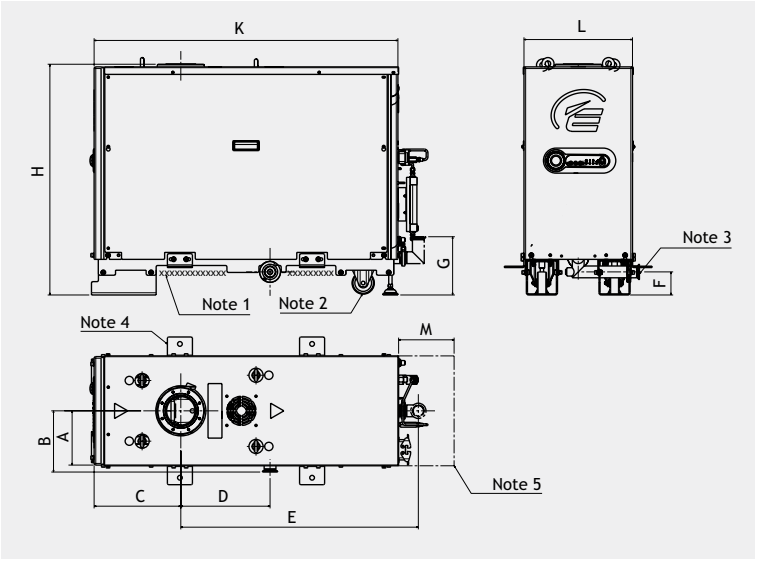
		Unit	GXS160	GXS160/1750	GXS250	GXS250/2600
Peak Pumping Speed		m^3/hr (cfm)	160 (94)	1200 (706)	250 (147)	1900 (1118)
Ultimate Pressure (without purge)		mbar (Torr)	$7x10^{-3}$ ($5.3x10^{-3}$)	$7x10^{-4}$ ($5.3x10^{-4}$)	$4x10^{-3}$ ($3.0x10^{-3}$)	$5x10^{-4}$ ($3.8x10^{-4}$)
Full Load Power	@ ultimate pressure	kW (hp)	3.8 (5.1)	5.1 (6.8)	4.0 (5.4)	5.3 (7.1)
	@ peak pumping load	kW (hp)	5.0 (6.7)	7.4 (9.9)	9.0 (12.1)	9.7 (13.0)
Electrical	Supply options	High volt	380-460V 3Ø 50/60Hz		380-460V 3Ø 50/60Hz	
		Low volt	200-230V 3Ø 50/60Hz		200-230V 3Ø 50/60Hz	
	Connection	High volt	Harting Han K 4/4-F		Harting Han K 4/4-F	
		Low volt				
Vacuum Couplings	Inlet		ISO63	ISO100	ISO63	ISO160
	Exhaust		NW40		NW40	
Cooling Water	Supply pressure (max)	bar (psig)	6.9 (100)		6.9 (100)	
	DP across pump (min)	bar (psig)	1.0 (14.7)		1.0 (14.7)	
	Flow @ min DP	l/min (gal/min)	4.0 (1.1)	7.0 (1.9)	4.0 (1.1)	7.0 (1.9)
	Temperature	°C (°F)	5-40 (41-104) All variants		5-40 (41-104) All variants	
	Connection		3/8" BSP Male (G 3/8")		3/8" BSP Male (G 3/8")	
Purge Gas*	Pressure	bar (psig)	2.5-6.9 (36-100)		2.5-6.9 (36-100)	
	Light Duty	sl/min	12		12	
	Medium Duty	sl/min	18-52		18-52	
	Connection		Swagelok® Ø ¼" tube with olive		Swagelok® Ø ¼" tube with olive	
High Flow Purge/ Solvent Flush	Supply pressure	bar (psig)	2.5-6.9 (36-100)		2.5-6.9 (36-100)	
	Control valve connection		Swagelok® Ø 3/8" tube with olive		Swagelok® Ø 3/8" tube with olive	
	Filter connection		½" NPT Male		½" NPT Male	
	Solvent connection		3/8" BSP Male (G 3/8")		3/8" BSP Male (G 3/8")	
Mass		Kg (lbs)	305 (672)	475 (1047)	305 (672)	515 (1035)
Noise (with suitable exhaust pipe)		dB(A)	<64		<64	
Operating Temperature		°C (°F)	5-40 (41-104)		5-40 (41-104)	
Exhaust Back Pressure (MAX)		mbar (psia)	1400 (20)		1400 (20)	
System IP rating	Standard		21D		21D	
Lubrication	Type		PFPE Drynert® 25/6		PFPE Drynert® 25/6	
	Volume	l (gal)	0.7 (0.2)	1.4 (0.4)	0.7 (0.2)	1.4 (0.4)
Monitoring & Control	Standard	Control	Front panel "Dashboard" Serial - RS232		Front panel "Dashboard" Serial - RS232	
		Monitoring	Ethernet Webserver		Ethernet Webserver	
	Option	Control	Parallel - MCM MicroTIM		Parallel - MCM MicroTIM	
		Control & Monitoring	Profibus DP Pump Display Terminal (PDT)		Profibus DP Pump Display Terminal (PDT)	
		Monitoring	FabWorks®		FabWorks®	
*Pump combinations		Light duty	Shaft Seal Purge only		Shaft Seal Purge only	
		Medium duty	Shaft Seal Purge, High Vac Purge, Inlet Purge, variable Gas Ballast & Exhaust Purge (with Exhaust Pressure Sensor)		Shaft Seal Purge, High Vac Purge, Inlet Purge, variable Gas Ballast & Exhaust Purge (with Exhaust Pressure Sensor)	
		Medium duty +	As Medium duty, plus High Flow Purge / Solvent Flush		As Medium duty, plus High Flow Purge / Solvent Flush	

** Purge Gas information, Light duty: shaft seal purge only, Medium duty: Shaft seal purge, inlet purge, variable gas ballast & exhaust purge (with exhaust pressure sensor), Medium duty plus: As Medium duty, plus High Flow Purge/Solvent Flush*

GXS450	GXS450/2600	GXS450/4200	GXS750	GXS750/2600	GXS750/4200
450 (265)	2200 (1295)	3026 (1781)	740 (436)	2300 (1354)	3450 (2031)
$5x10^{-3}$ ($3.8x10^{-3}$)	$5x10^{-4}$ ($3.8x10^{-4}$)		$3x10^{-3}$ ($2.3x10^{-3}$)	$5x10^{-4}$ ($3.8x10^{-4}$)	
7.2 (9.6)	8.8 (11.8)	9.4 (12.6)	10.0 (13.4)	11.1 (14.9)	11.5 (15.4)
17.3 (23.2)	20.0 (26.8)	21.1 (28.3)	37.0 (49.6)	40.0 (53.6)	40.0 (53.6)
380-460V 3Ø 50/60Hz			380-460V 3Ø 50/60Hz		
200-230V 3Ø 50/60Hz			200-230V 3Ø 50/60Hz		
Harting Han K 4/4-F	Harting Han 100A-F		Harting Han 100A-F		
			Harting Han 200A-F		
ISO100	ISO160		ISO100	ISO160	
NW50			NW50		
6.9 (100)			6.9 (100)		
1 (15)	1 (15)		1 (15)	0.75 (11)	
10 (2.6)	12 (3.2)		12 (3.2)	15 (4)	
5-40 (41-104) All variants			5-40 (41-104) High Volt variants		
			5-30 (41-86) Low Volt variants		
1/2” BSP Male (G 1/2”)			1/2” BSP Male (G 1/2”)		
2.5-6.9 (36-100)			2.5-6.9 (36-100)		
12			12		
18-146			18-146		
Swagelok® Ø ¼” tube with olive			Swagelok® Ø ¼” tube with olive		
2.5-6.9 (36-100)			2.5-6.9 (36-100)		
Swagelok® Ø 3/8" tube with olive			Swagelok® Ø 3/8" tube with olive		
½" NPT Female			½" NPT Female		
3/8" BSP Male (G 3/8")			3/8" BSP Male (G 3/8")		
640 (1411)	860 (1996)	868 (1914)	640 (1411)	908 (2002)	953 (2101)
<64			<70		
5-40 (41-104)			5-40 (41-104)		
1400 (20)			1400 (20)		
21D			21D		
PFPE Drynert® 25/6			PFPE Drynert® 25/6		
1.8 (0.5)	2.5 (0.7)	3.6 (1.0)	2.4 (0.6)	3.1 (0.8)	4.2 (1.1)
Front panel "Dashboard" Serial - RS232			Front panel "Dashboard" Serial - RS232		
Ethernet Webserver			Ethernet Webserver		
Parallel - MCM MicroTIM			Parallel - MCM MicroTIM		
Profibus DP Pump Display Terminal (PDT)			Profibus DP Pump Display Terminal (PDT)		
FabWorks®			FabWorks®		
Shaft Seal Purge & High Vac Purge only			Shaft Seal Purge & High Vac Purge only		
Shaft Seal Purge, High Vac Purge, Inlet Purge, variable Gas Ballast & Exhaust Purge (with Exhaust Pressure Sensor)			Shaft Seal Purge, High Vac Purge, Inlet Purge, variable Gas Ballast & Exhaust Purge (with Exhaust Pressure Sensor)		
As Medium duty, plus High Flow Purge / Solvent Flush			As Medium duty, plus High Flow Purge / Solvent Flush		

Dimensions





Notes:

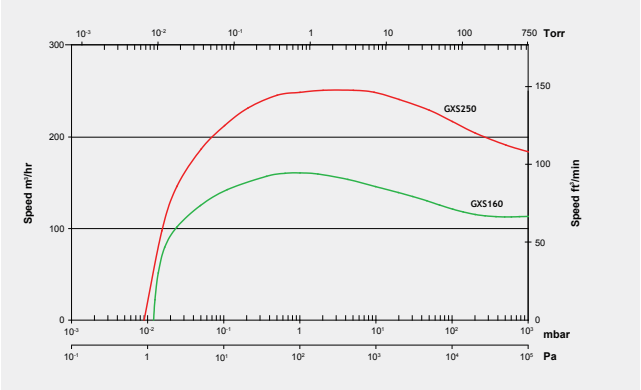
1. xxxxxx indicate forklift/pallet truck access points.
2. Pumps are available either with skids (side-exit exhaust) or castors (rear-exit exhaust). Both options are shown for clarity.
3. Pumps supplied with side or rear exhaust only; both options shown in views. The side exhaust outlet direction is customer adjustable.
4. Earthquake restraints are provided only for pumps with castors.
5. Minimum required service area for access to the rear panel connections.
6. The High-Flow Purge / Solvent Flush accessory is located outside of the pump enclosure for dry pump only. It is inside the enclosure for pump/booster combinations.

	A	B	C	D	E	F	G	H	J	K	L	M
GXS160	195 (7.68)	220 (8.66)	285.9 (11.26)	346.5 (13.64)	879.5 (34.63)	83 (3.27)	209.4 (8.24)	568 (22.36)	150 (5.9)	1092 (42.99)	390 (15.35)	250 (9.84)
GXS250												
GXS160/1750			311.6 (12.27)	320.8 (12.63)	853.8 (33.61)			829.5 (32.66)	-			
GXS250/2600												
GXS450	258.5 (10.18)	283.5 (11.16)	394 (15.51)	300 (11.81)	871.6 (34.31)		261.4 (10.29)	717 (28.23)	150 (5.9)	1186 (46.69)	517 (20.35)	250 (9.84)
GXS750			576.4 (22.69)	413 (16.23)	1133.6 (44.63)					1622 (63.86)		
GXS450/2600			361.8 (14.24)	332.3 (13.08)	903.8 (33.58)			1030.5 (40.57)	-	1186 (46.69)		
GXS450/4200												
GXS750/2600			657.2 (25.87)		1052.8 (41.45)					1622 (63.86)		
GXS750/4200												

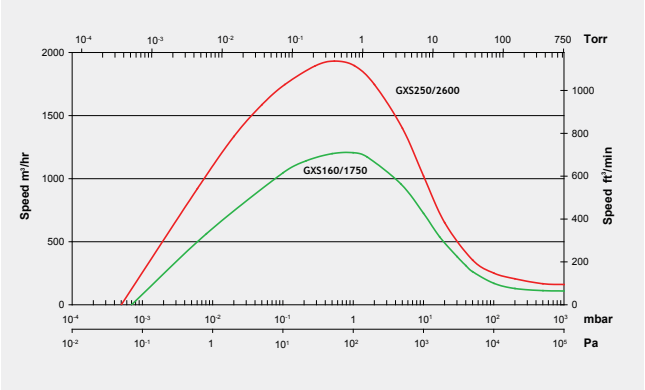
Key pump dimensions: mm (ins)

Performance curves

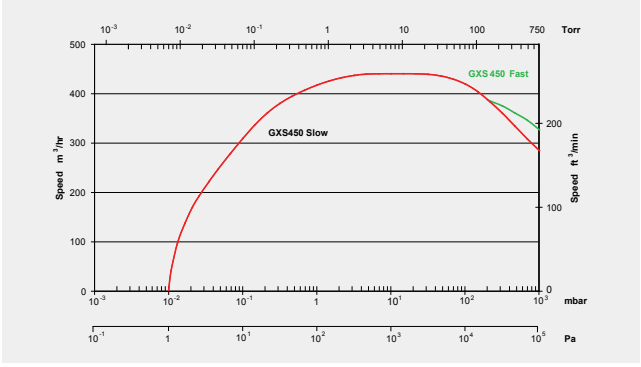
Pumping speed curves for GXS160 & GXS250



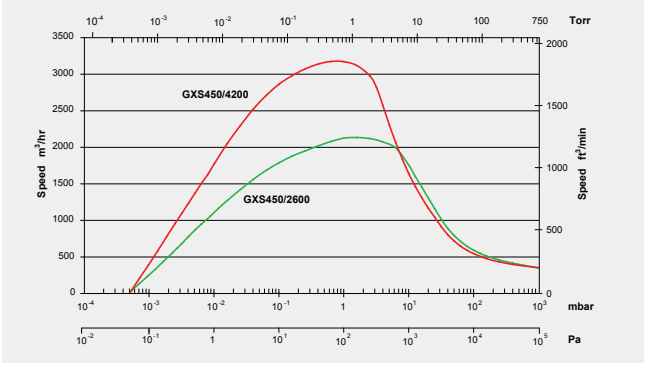
Pumping speed curves for GXS160/1750 & GXS250/2600



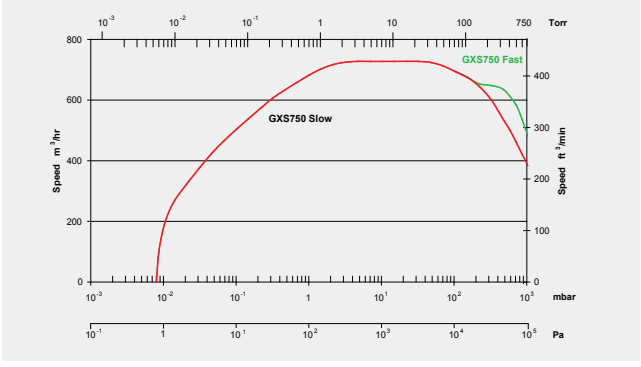
Pumping speed curves for GXS450



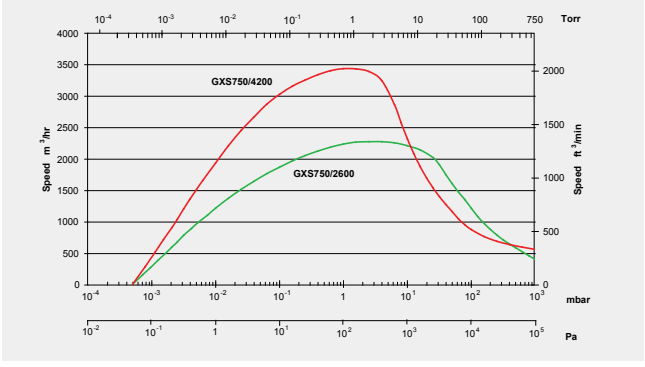
Pumping speed curves for GXS450/2600 & GXS450/4200



Pumping speed curves for GXS750



Pumping speed curves for GXS750/2600 & GXS750/4200



NOTE: Performance curves displayed are with purge.

Accessories

There are a range of accessories available with the GXS to suit a variety of applications. These provide reduced engineering and systemisation resulting in low cost of ownership. All accessories are fully integrated with GXS to provide an efficient and safe system.

Inlet and exhaust accessories

Inlet and exhaust accessories have been especially designed to match the pumping capacities of the GXS range and optimise performance.

- Foreline spool adapters for mounting instrumentation
- Fully integrated Inlet isolation valves
- Inlet filter housing with polyester or stainless steel elements
- Exhaust silencers with cleanable drainable options
- Exhaust check valves

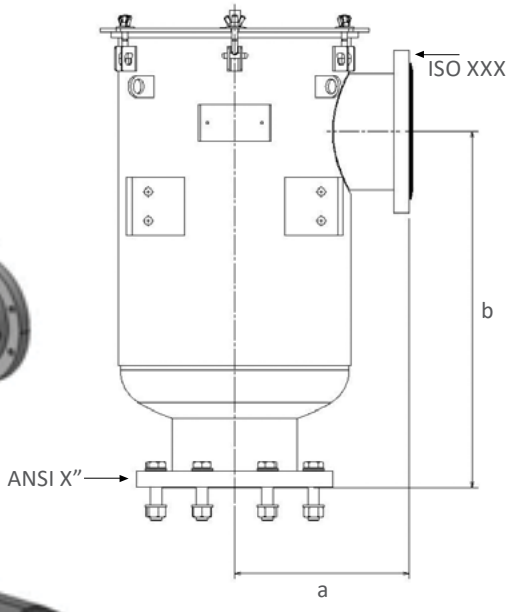
Control and monitoring accessories

We have designed a range of control and monitoring accessories specifically for the GXS range to enable complete integration into your control systems.

- Hand held terminals
- Profibus / Digital interface modules
- Water / N_2 flow monitoring kits
- Pressure and temperature transmitters
- Visual pressure and temperature gauges

Inlet Vacuum Filters

The GXS range of pumps all have excellent powder handling capabilities and under fault conditions they will succeed where other dry pumps fail. However dry vacuum pumps aren't designed to continuously pump solid material so on certain applications an inlet filter would dramatically extend the time between services.



Specifications

Helium leak tested to $1x10^{-6}$ mbar/l/sec

- Polyester Elements: >99% efficient to 5µm
- Rugged carbon steel construction
- Large dirt holding capacity

Options

- Stainless steel housing construction
- Stainless steel mesh filter elements

Pump Type	Recommended Inlet Filter			Inlet Connection ISO Flange	Outlet Connection ANSI Flange	Dimensions	
	Size	CS Part No.	SS Part No.			a	b
All Pump only and 1750 booster combination	4"	M58808005	M58808137	100	4"	254 (10.0)	251 (9.9)
All 2600 booster combinations	6"	M5882805	M58828137	160	6"	305 (12.0)	521 (20.5)
All 4200 booster combinations	8"	M59848005	M59848137	200	8"	305 (12.0)	622 (24.5)

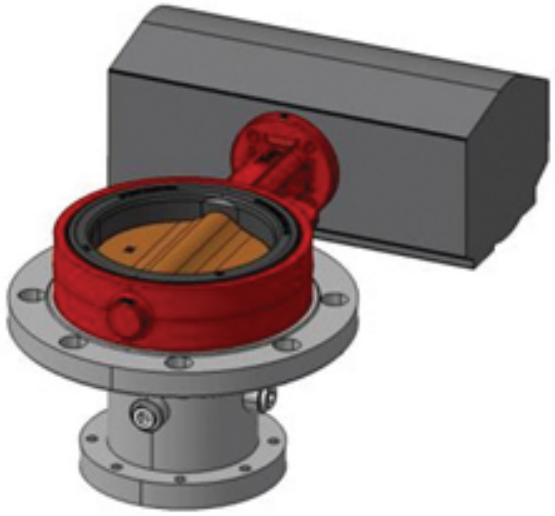
Element Construction	Replacement Filter Element			Particle Size	Efficiency
	4" Part Number	6" Part Number	8" Part Number		
Polyester / Galvanised	A22304363	A22304367	A22304371	5 micron	>99%
Polyester / Stainless Steel	A22304365	A22304369	A22304373	5 micron	>99%
Stainless Mesh	A22304366	A22304370	A22304374	300 micron	90%

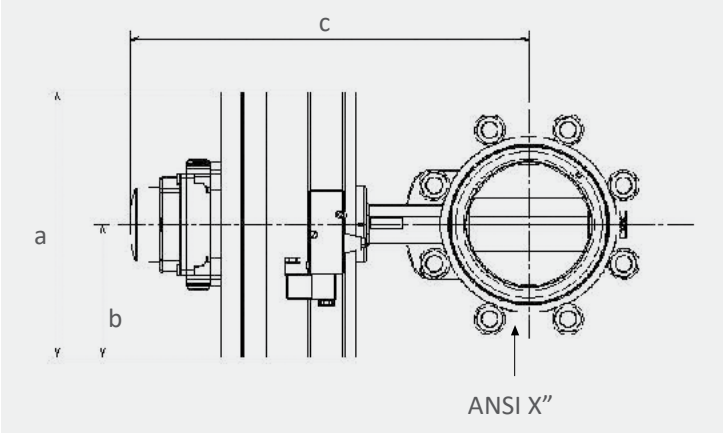
Automatic Inlet Isolation Valves

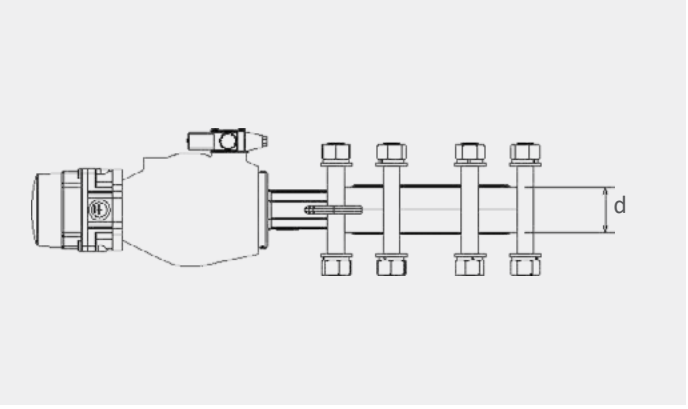
The automatic GXS isolation valve is designed to fully integrate into the GXS control system to protect the pump and your process.
The valve will close in the event of an alarm or power failure and will isolate the process when in green mode for energy saving between production batches.

Specifications

- Stainless steel and EPDM construction for corrosion resistance
- High CV, low pressure drop
- Pneumatic actuation with spring return
- Fully integrated to enable ‘green’ energy saving mode
- Protects pump by not allowing it to go online until it is up to operating temperature







Pump Type	Recommended Silencer		Connection ANSI Flange Pattern	Dimensions mm (inches)			
	Size	Part No.		a	b	c	d
All Pump only and 1750 booster combination	4"	M58808004	4"	302 (11.9)	152.5 (6.0)	424.4 (16.7)	51.2 (2.0)
All 2600 booster combinations	6”	M58828004	6”	313 (12.3)	156.5 (6.2)	470 (18.5)	55.3 (2.2)
All 4200 booster combinations	8”	M59848004	8”	452 (17.8)	228 (8.9)	595 (23.4)	59.3 (2.3)

Harsh Duty Exhaust Silencers

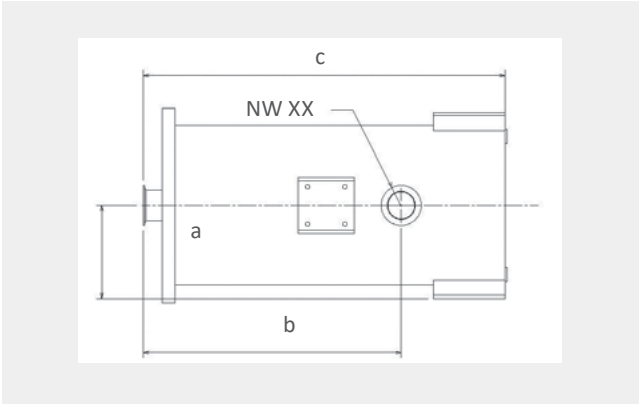
The GXS already has ‘best in class’ decibel ratings but in some tricky installations noise attenuation is essential. A range of silencers have a bespoke design tailored to the pumping capacity of the GXS high speed screw pumps.

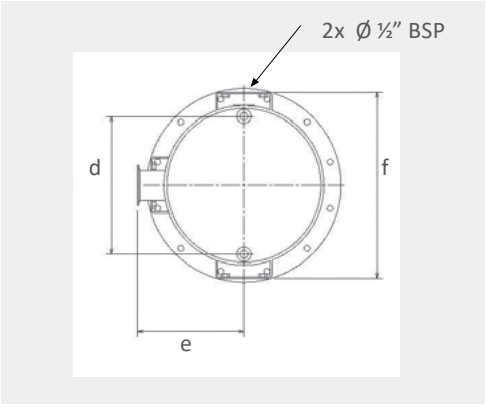
Specifications

- Painted carbon steel or stainless steel construction
- Drainable and cleanable design for condensable / harsh processes
- Greater than 15 dBA noise reduction on some installations

Options

- Drain valve assembly
- Mounting kits





Pump Type	Recommended Silencer		Inlet and exhaust connection type	Dimensions mm (inches)					
	Carbon Steel	Stainless Steel		a	b	c	d	e	f
All GXS 160 and GXS 250	M58808161	M58808162	NW40	105 (4.1)	333 (13.1)	525 (20.7)	132 (5.2)	105 (4.1)	210 (8.3)
All GXS 450 and GXS 750	M59838161	M59838162	NW50	175 (6.9)	485 (19.1)	680 (26.8)	259 (10.2)	200 (7.9)	350 (13.8)

Silencer Mounting Kits

Rear Exhaust (RE)	
GXS 160 / 250 & booster combinations	M58808151
GXS 450 / 750 & booster combinations	M59808151

Side Exhaust (SE)	
GXS 160 / 250 & booster combinations	M58808009
GXS 450 / 750 & booster combinations	M59838009

** SE mounting kit raises pump to accommodate silencer.*

Inlet Spools

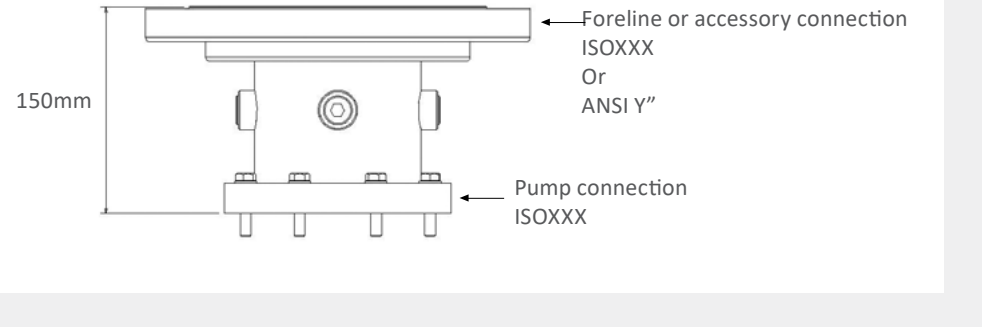
As every installation is different, a range of inlet spools are available for the GXS pumps. These are designed to mount our inlet valves and filters but also have instrumentation ports and the number of options ensure ease of connection to customers pipework.

Specifications

- Painted carbon steel or stainless steel construction
- ½" BSP ports to connect GXS accessories or other ancillary devices
- Sizes available for complete range of GXS pumps and accessories

Options

- Pressure gauge assembly
- Pressure transducer assembly (For PID control)
- Temperature transmitter assembly



Description	Part Number						
	Carbon Steel	Stainless Steel	Mass / Kg	Pump Connection	Foreline / Accessory Connection	Height /mm	Accessory Ports
Inlet spool ISO63 - ANSI 4 inch	M58808002	M58808134	10	ISO63	4 inch ANSI	150	1 x 1 inch BSP female 3 x ¾ inch BSP female
Inlet spool ISO100 - ANSI 4 inch	M59808002	M59808134	12	ISO100	4 inch ANSI	150	1 x 1 inch BSP female 3 x ¾ inch BSP female
Inlet spool ISO100 - ANSI 6 inch	M58938002	M58938134	16	ISO100	6 inch ANSI	150	4 x ¾ inch BSP female
Inlet spool ISO160 - ANSI 6 inch	M58858002	M58828134	20	ISO160	6 inch ANSI	150	4 x ¾ inch BSP female
Inlet spool ISO160 - ANSI 8 inch	M59848002	M59848134	25	ISO160	8 inch ANSi	150	4 x ¾ inch BSP female
Inlet spool ISO163 - ISO100	M58808138	M58808135	9	ISO63	ISO100	150	1 x 1 inch BSP female 3 x ¾ inch BSP female
Inlet spool ISO100 - ISO100	M59808138	M59808135	10	ISO100	ISO100		1 x 1 inch BSP female 3 x ¾ inch BSP female
Inlet spool ISO100 - ISO160	M58828003	M58828135	13	ISO100	ISO160	150	4 x ¾ inch BSP female
Inlet spool ISO160 - ISO160	M58938003	M58938135	15	ISO160	ISO160	150	4 x ¾ inch BSP female
Inlet spool ISO160 - ISO200	M59848003	M59848135	19	ISO160	ISO160	150	4 x ¾ inch BSP female

GXS ordering information

G	S		1		0			0	0	0	0

Application

G Industrial

Pump Mechanism

S Screw

Pumps/Boosters

2 160 (7.5 kW)
5 160 (7.5 kW) / 1750 (5.5 kW)
7 250 (7.5 kW)
A 250 (7.5 kW) / 2600 (5.5 kW)
D 450 (11 kW)
F 450 (11 kW) / 2600 (7.5 kW)
G 450 (11 kW) / 4200 (7.5 kW)
L 750 (22 kW)
N 750 (22 kW) / 2600 (7.5 kW)
P 750 (22 kW) / 4200 (7.5 kW)

Lubrication

1 PFPE (Drynert 25/6)

Electrical

2 Low volt 200-230 V 3Ø 50/60 Hz
5 High volt 380-460 V 3Ø 50/60 Hz

Installation

0 Side exhaust & skids
5 Rear exhaust & castors

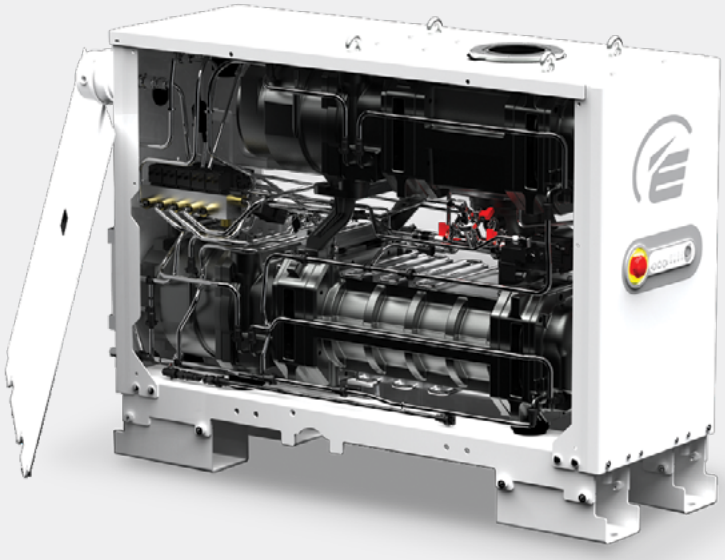
Pump Purges

0 Light Duty (SSP+HVP)
3 Medium Duty (SSP+HVP+Inlet+GB+Exh PM)
4 Medium Duty + High Flow Purge/Solvent Flush

SSP = Shaft seal purge,
HVP = High vacuum gearbox purge
Inlet = Inlet purge,
GB = Gas ballast,
Exh PM = Exhaust pressure monitor & purge
GXS450 & GXS750 Medium Duty (MD) variants require optional PDT for operation
All pump variants configured for Medium Duty + High Flow Purge / Solvent Flush (MD+) require optional PDT for operation

Cooling

0 TMS Standard (GXS160 and GXS250)
2 TMS+ (GXS450 and GXS750)



Complementary accessories

Control & Communication	
Pump Display Terminal (PDT)*	D37280700
Virtual Pump Display Terminal (VPDT)	D37488500
MCM MicroTIM	D37360320
Connector kit for MCM MicroTIM	D37422802
Profibus® Module	D39753000
Equipment support toolkit	D37217090

Instrumentation	
Water flow monitoring	A50783000
N2 Flow Switch	
Standard - Up to and including GXS450 LD	A50633000
High Flow - GXS450 MD pumps and higher	A50634000
Pressure Indicator Assembly	M58808141
Pressure Transducer Assembly (ASG)	M58808152
Temp Trans Assy	
Pump only	M58808160
Combinations	M58828160

Ancillary Equipment	
3/8" SS quick connector for water	A50721000
3/8” BSPF to 3/8” NPTM Brass Adaptor	U30011199
3/8” BSPM to 3/8” NPTM Brass Adaptor	U30011200
Connector plug 06 IL CM XLR	D37207061
Holster pump display module	D37209800
GXS Auxiliary gauge cable (0-10V)	D37241017
GXS Pressure input cable (4-20mA)	D37241019
GXS Pressure input connector (4-20mA)	D37241023
Drynert 25/6 fluid 1 kg (528 ml)	H11312021
Drynert 25/6 fluid 5 kg (2646 ml)	H11312025

Service and Support

Your business success depends on maximum equipment uptime and minimum total cost of ownership, and we constantly strive to support those objectives. As a global leader in vacuum technology and processes, we understand how vacuum pumps and systems perform in real life. Our wide portfolio of services is designed with you in mind: to help keep your processes and equipment running in the most economical and environmentally efficient manner.

Services include:

- Overhaul and repair using genuine Edwards OEM parts
- OEM spares and kits available for immediate despatch
- ReManufactured products available for cost-effective expansion and backups
- Global network of expert field service engineers available to respond quickly to unexpected equipment failures
- Extended warranty, to help manage the cost of the unexpected

Our Expert Advantage Service Plans provide you with the on-going support necessary to continuously improve your operational efficiency and meet your business objectives. As service offerings may vary slightly from product to product, please contact your Edwards representative to discuss your specific requirements.

edwardsvacuum.com

EDWARDS

GLOBAL CONTACTS

EMEA	
UK	+44 1444 253 000 (local rate) 08459 212223
Belgium	+44 1293 60 3350
France	+33 1 4121 1256
Germany	0800 000 1456
Italy	+ 39 02 48 4471
Israel	+ 972 8 681 0633
Russia	+7 495 933 55 50 Ext. 1800/1803 +8 800 775 80 99

ASIA PACIFIC	
China	+86 400 111 9618
India	+91 20 4075 2222
Japan	+81 47 458 8836
Korea	+82 31 716 7070
Singapore	+65 6546 8408
Taiwan	+886 3758 1000

AMERICAS	
USA	+1 800 848 9800
Brazil	+55 11 3952 5000

Publication Number: 3602 100 6 01
© Edwards Limited 2020. All rights reserved.
Edwards and the Edwards logo are trademarks of Edwards Limited.

Whilst we make every effort to ensure that we accurately describe our products and services, we give no guarantee as to the accuracy or completeness of any information provided in this brochure.

Edwards Ltd., registered in England and Wales No. 6124750, registered office: Innovation Drive, Burgess Hill, West Sussex, RH15 9TW, UK.

Part of the Atlas Copco Group