

nXDS
DRY SCROLL PUMP



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nX

Applications

Mass Spectrometry

- GCMS, LCMS, ICPMS, MALDI, RGA, Surface Science

Electron Microscopy

- TEM, SEM, Sample Coaters

Sample Preparation

- Gel Dryers, Glove boxes, Rotary Evaporators

Research and Development

- Chamber evacuation, Sample Preparation, Coaters, Turbo-Pump backing

High Energy Physics

- Beam Lines, Accelerators, Mobile Pump Carts

Industrial

- Gas recovery and Recirculation, Glove boxes, Brake Line & Air Conditioning Evacuation

Semiconductor

- Load locks, Laser Evacuation, Backing Turbo-Pumps





nXDS
SCROLL



Edwards nXDS... the great new shape of dry vacuum pumping

Edwards, a leading innovator in vacuum pump technology, is proud to present the new nXDS dry scroll pump range. With exceptional pumping capability, ultimate vacuum performance and state-of-the-art design features, Edwards nXDS is the best performing pump in its class.

The nXDS is up to 20 times quieter than other pumps. Its intelligent control functions and up to five year service interval offer low cost of ownership, making it the small dry pump of choice for today's most advanced technologies.

- Advanced scroll-form and tip-seal technologies deliver best-in-class vacuum performance
- Quiet operation <52 dB(A) for minimal environmental impact
- Intelligent and easy to use control functions with simple operation
- Up to five year service interval for low cost of ownership
- Hermetically sealed for a lubricant-free vacuum environment
- Pump range includes 6, 10, 15 and 20 m³h⁻¹



nXDS sectional view showing key features

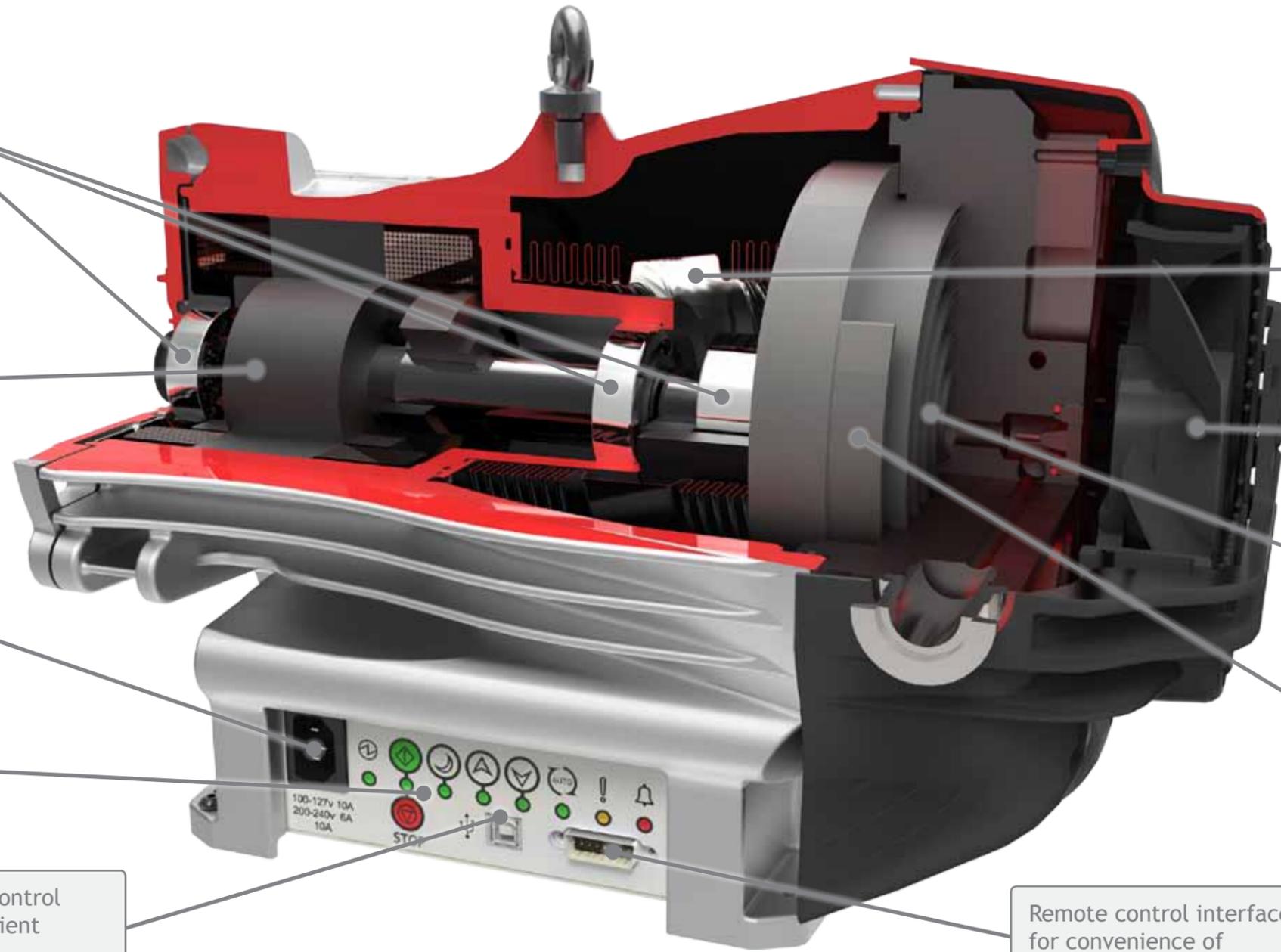
Optimum bearing placement for long lifetime and easy replacement

High efficiency radial air-gap motor for low power consumption

Wide range voltage input with automatic selection for simple operation

Easy to use manual control buttons

Standby speed control buttons for efficient process tuning



Hermetic bellows sealing for contamination free vacuum

Thermally controlled fan for reduced noise

Advanced tip-seal technology for long service lifetime

Optimised scroll profiles for each model to maximise performance

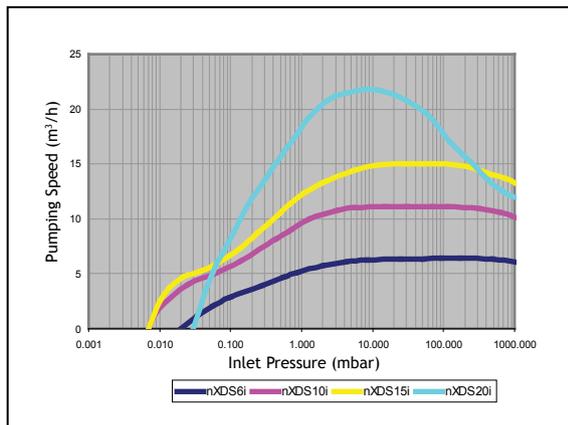
Remote control interface for convenience of operation

Performance

nXDS has been designed to combine the latest advances in Scroll technology with an intelligent inverter drive coupled with the long established truly dry hermetically sealed mechanism of the XDS series.

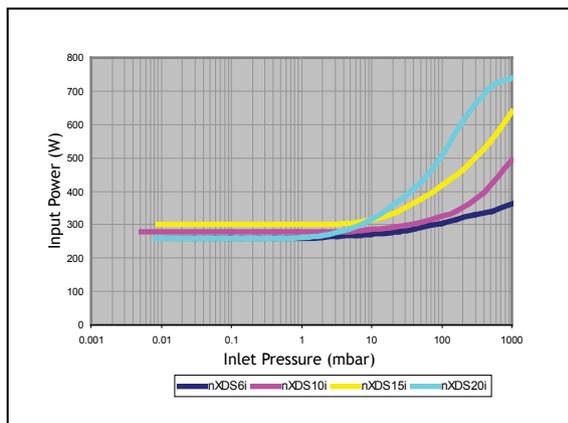
nXDS is available in 4 sizes:

- *nXDS6i*
- *nXDS10i*
- *nXDS15i*
- *nXDS20i*



Class leading pumping speeds are an improvement over existing XDS models and, with the inverter drive, are of course consistent worldwide. Likewise, ultimate vacuum pressures which are below 10^{-2} mbar are now comparable with those of oil-sealed rotary vane pumps - without the inconvenience of oil.

Hermetic sealing ensures that the vacuum environment is not contaminated by bearing lubricant and conversely, the bearings are not contaminated by any process gas being pumped.



Quiet Running

The modern laboratory is often a busy place with many other appliances running, all contributing to the noise background. With its low noise power level of 52 dB(A), the nXDS pump makes only a very small contribution to the total. This level is up to twenty times less than those of competitor products.

Pump Controller

The advanced controller allows for several modes of control:

Manual - Push button START, STOP and STANDBY. Accurate speed control of 1% of maximum running speed.

Parallel Remote - from your own control system via the 15 way d-sub connector giving the same START, STOP and STANDBY with the option of analogue speed control.

Serial Communication Remote - option of either RS232 or RS485 with a choice of Edwards' proprietary 'DX' protocol or industry standard Modbus protocol. A USB connector has been included for added convenience of simple connectivity.

The pump controller is able to accept voltages from 100-127 and 200-240V (+/- 10%) without the need for intervention.

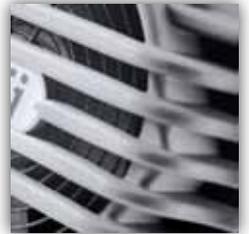


Service

nXDS has been designed specifically with End User serviceability in mind.

Technological improvements in tip-seal design have significantly extended the in-service lifetime of the nXDS product, which could be as long as five years. The pump will advise the user to check the performance of the pump via a flashing LED on the control panel and via the status word in serial comms. If it is required, tip-seal exchange can be accomplished in under 10 minutes with only a simple Allen Key (hex wrench).

Beyond this, a bearing service can now be performed by an end user with standard workshop tools in approximately 2 hours. Alternatively, the nXDS can now be returned to a wider choice of service hubs for Edwards own personnel to perform the task.



Technical Data

	nXDS6i	nXDS10i	nXDS15i	nXDS20i
Nominal rotational speed	1800 rpm			
Displacement	6.8 m ³ h ⁻¹ / 4.0 ft ³ min ⁻¹	12.7 m ³ h ⁻¹ / 7.5 ft ³ min ⁻¹	17.1 m ³ h ⁻¹ / 10.1 ft ³ min ⁻¹	28.0 m ³ h ⁻¹ / 16.5 ft ³ min ⁻¹
Peak pumping speed	6.2 m ³ h ⁻¹ / 3.6 ft ³ min ⁻¹	11.4 m ³ h ⁻¹ / 6.7 ft ³ min ⁻¹	15.1 m ³ h ⁻¹ / 8.9 ft ³ min ⁻¹	22.0 m ³ h ⁻¹ / 13.0 ft ³ min ⁻¹
Ultimate vacuum (total pressure)	0.020 mbar/0.015 Torr	0.007 mbar/0.005 Torr	0.007 mbar/0.005 Torr	0.030 mbar/0.022 Torr
Minimum standby rotational speed	1200 rpm			
Speed control resolution (percentage of full rotation speed)	1%			
Max inlet pressure for water vapour	35 mbar	35 mbar	35 mbar	20 mbar
Max water vapour pumping rate	110 gh ⁻¹	145 gh ⁻¹	280 gh ⁻¹	220 gh ⁻¹
Maximum continuous inlet pressure	200 mbar	200 mbar	200 mbar	50 mbar
Voltage input	100-127, 200-240 (+/-10%)			
Voltage frequency	50/60Hz			
Motor power 1-ph*	260 W	280 W	300 W	260 W
Power connector 1-ph	IEC EN60320 C13			
Recommended fuse	10A, 250Vac rms			
Weight	26.2 kg / 58 lb	25.8 kg / 57 lb	25.2 kg / 56 lb	26.6 kg / 56 lb
Inlet flange	NW25			
Exhaust flange	NW25			
Noise level**	52 dB(A)			
Vibration at inlet flange	< 4.5 mms ⁻¹ (rms)			
Leak tightness (static)	< 1x10 ⁻⁶ mbar ls ⁻¹			
Operating temperature range	+10 C to +40 C / +41 to +104 F			

* Typical. See graphs on page 6.

** For low fan speed, typical at ultimate end when load/ambient conditions allow.

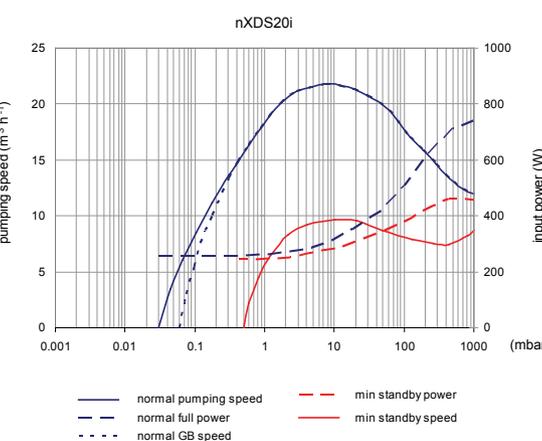
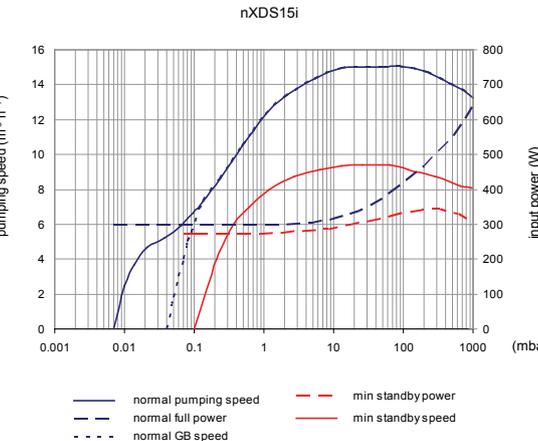
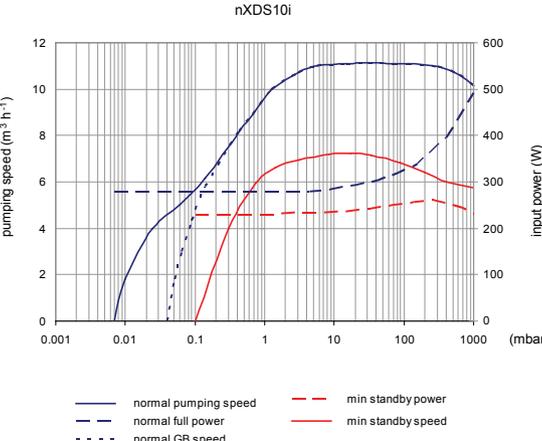
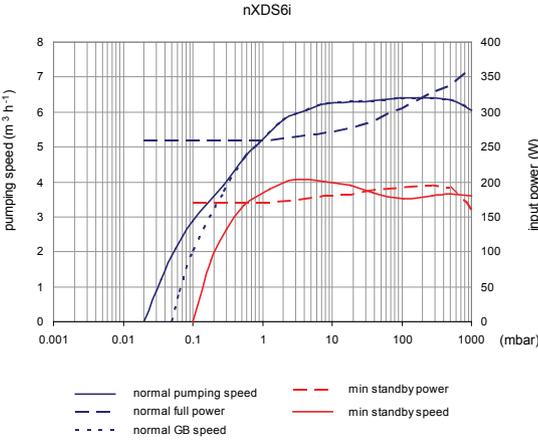
Other Variants

For more aggressive applications, 'C' Variants are available which feature Chemraz® internal valves and stainless steel fittings for extra protection from the pumped media.

R variants are available for specialist applications such as gas recirculation, rare gas pumping and recovery or other applications where the dilution of the pumped gas is undesirable, or where sealing is integral to minimising potential gas loss.

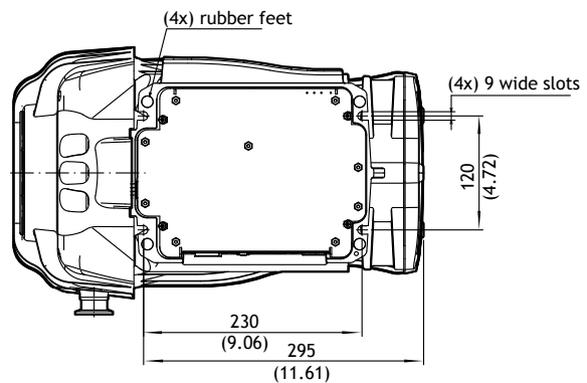
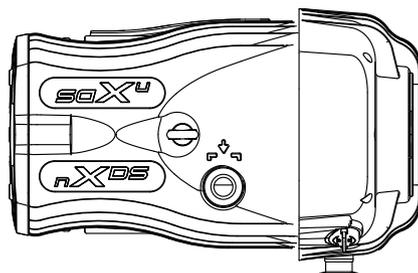
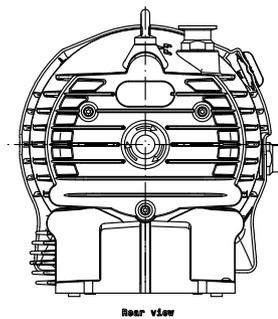
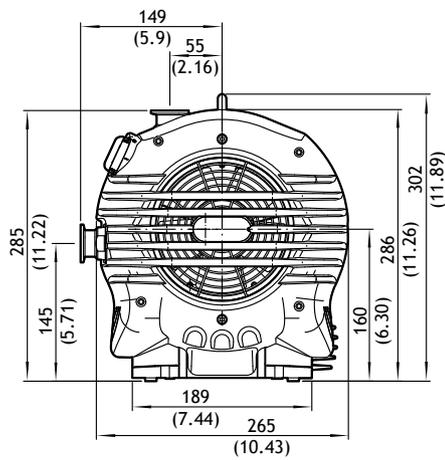
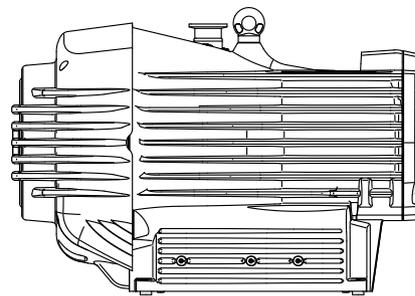
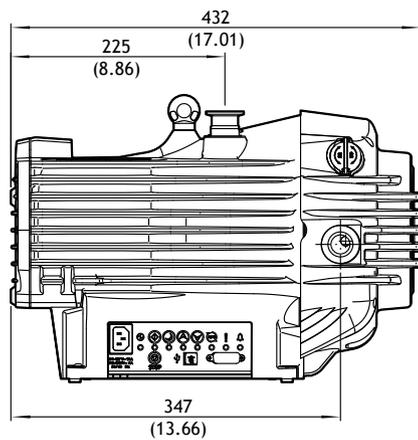


Pumping Speed & Power Curves



Dimensions - mm (in)

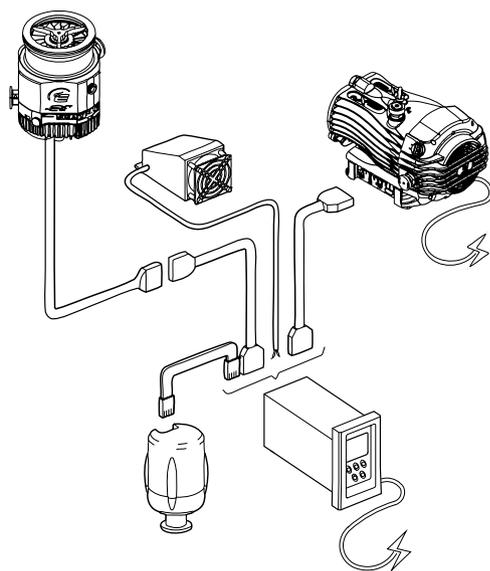
Note: All variants are the same size



nXDS Part Numbers

Standard Product		Corrosion Resistant (C) Variants		(R) Variants without Gas Ballast	
nXDS6i	A735 01 983	nXDS6iC	A735 02 983	nXDS6iR	A735 03 983
nXDS10i	A736 01 983	nXDS10iC	A736 02 983	nXDS10iR	A736 03 983
nXDS15i	A737 01 983	nXDS15iC	A737 02 983	nXDS15iR	A737 03 983
nXDS20i	A738 01 983	nXDS20iC	A738 02 983	nXDS20iR	A738 03 983

Controllers and Accessories



The TIC Turbo and Instrument Controller automatically recognises the nXDS pump when connected to the backing pump connector as the controller adopts serial communications mode when connected to the nXDS. There is no need to use a relay box to interface to nXDS.

Speed control and pump run hours etc can be readily accessed from the display. The TIC can also control an nEXT turbo pump plus as an option, up to three gauges at the same time as a nXDS pump.

Customers already owning a TIC can upgrade their software to enable interfacing to nXDS.

Spares and Accessories

TIC (Turbo) 200W	D397 22 000	Electrical Supply Cable 2m, UK	A505 05 000
TIC (Turbo and Instruments) 200W	D397 12 000	Electrical Supply Cable 2m, North Europe	A505 06 000
Gas Ballast Adaptor Kit	A735 01 809	Electrical Supply Cable 2m, North America/Japan	A505 07 000
Silencer (NW25)	A505 97 000	Electrical Supply Cable 2m, No plug	A505 08 000
Inlet/Outlet Filter 5um (NW25/NW25)	A505 97 805	Interface cable 1.0m	D397 00 835
Tip Seal Service Kit	A735 01 801	Interface cable 2.0m	D397 00 836
Bearing Service Kit	A735 01 802	Interface cable 5.0m	D397 00 837

Edwards is in the business of vacuum science: we create the pure manufacturing environments that deliver real-world product solutions. So much depends on vacuum technology: from the microchips that drive smartphones, computers and cars, through LED displays to aircraft turbine blades, UK - based Edwards makes their existence possible through the cutting-edge innovation and technology leadership that our business is founded upon. Edwards' systems are at the heart of important work such as drug discovery, and with inventions such as the industry-changing dry pump, ours is a continuing commitment to explore the possibilities of vacuum processes.

Edwards takes a leading environmental role through abatement systems for industry that prevent the emission of harmful greenhouse gases, and which give us an overall negative carbon footprint*. Around 3000 employees worldwide share the Edwards vision: that of dedication, invention, and the highest standards of manufacturing and service.

*Greenhouse Gas Protocol - Scope 3 Indirect Emissions

PRODUCTS:

- Dry Vacuum Pumps
- Oil-sealed Vacuum Pumps
- Turbomolecular Pumps
- Exhaust Management
- Integrated Vacuum and Abatement
- Liquid Abatement
- Vacuum System Components

SERVICES:

- Equipment Service and Repair
- Product Exchange
- Certified Products
- Field and On-site Services
- Remote e-Diagnostics
- Product Training

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