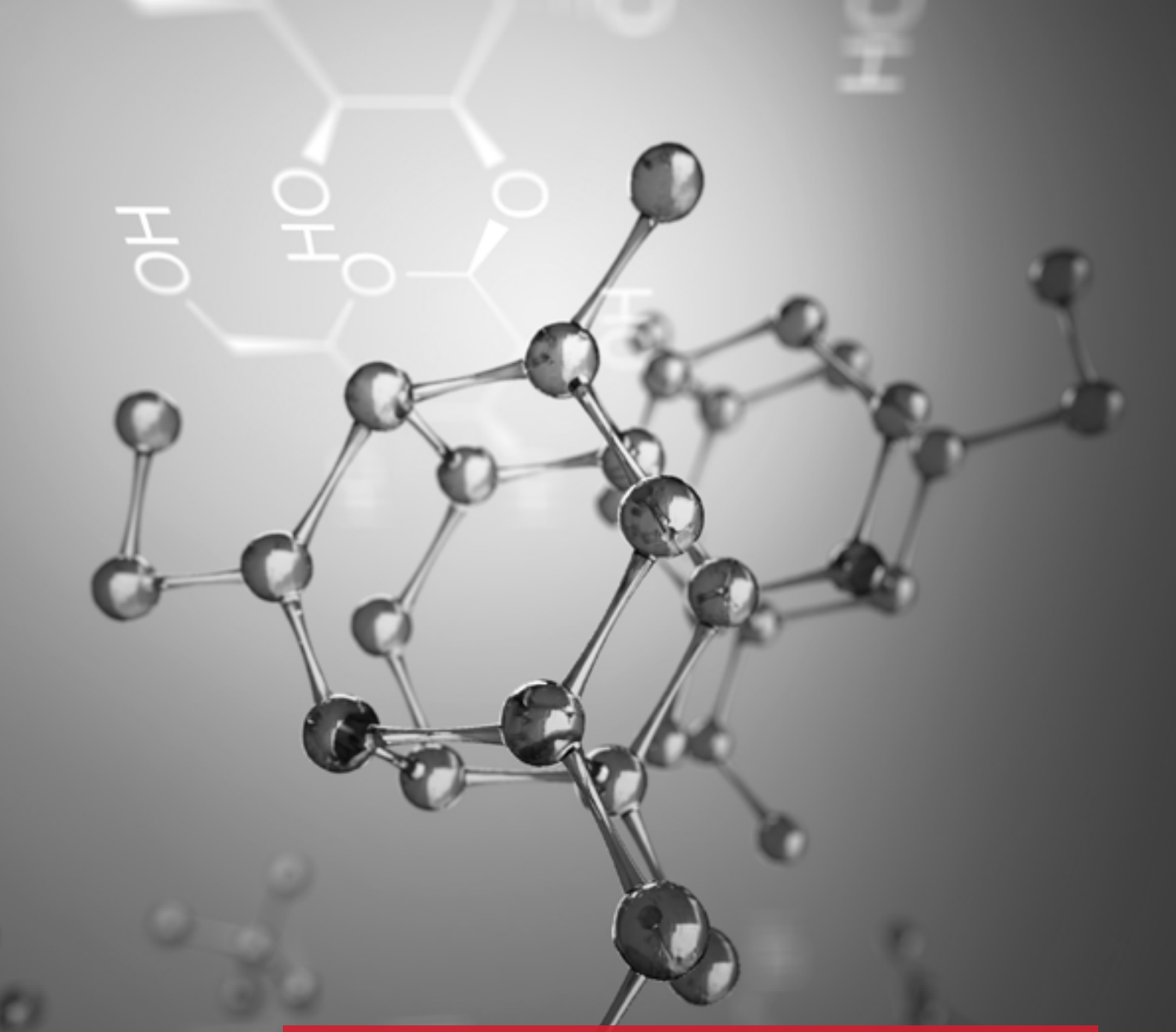
edwardsvacuum.com

EDS CHEMICAL 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 by using our breadth of industry experience to identify and apply solutions. 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.

CLEAN, ENERGY-EFFICIENT VACUUM SOLUTIONS FOR CHEMICAL PROCESS INDUSTRIES

Edwards installed its first dry pump for a pharmaceutical application in 1988. It is yet to be replaced. This is testament to the highest quality, safety and service standards. Our combination of applications expertise, diverse product portfolio, engineering strength and global presence puts us in a unique position to be able to design and maintain the best solution for Chemical Process Industries. Our latest offering, the EDS Dry Screw chemical vacuum pump offers the latest screw technology to provide a clean, effluent-free vacuum specifically for the chemical, pharmaceutical and petrochemical industries.

With rapid advances in technology, chemical processing industries place increasingly challenging demands on vacuum systems. Vacuum pumps need to handle increasingly complex chemicals, solvents and compounds in a reliable and safe, way while ensuring control and reduction of environmental pollution at a low cost of ownership.

It is crucial for systems to be “plug and play” with minimum setup or have configurable options available when required to suit specific chemical processes. The EDS Dry Screw chemical vacuum pump with its strong focus on the fine chemical and pharmaceutical markets serves a wide range of chemical applications.

PUMP TECHNOLOGY

SIMPLE

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

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

FASTER

Extra performance to meet modern day 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

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

Built for challenging chemical installations

- Installation options: Highly tolerant water-cooled standard products
- Protection: High IP ratings

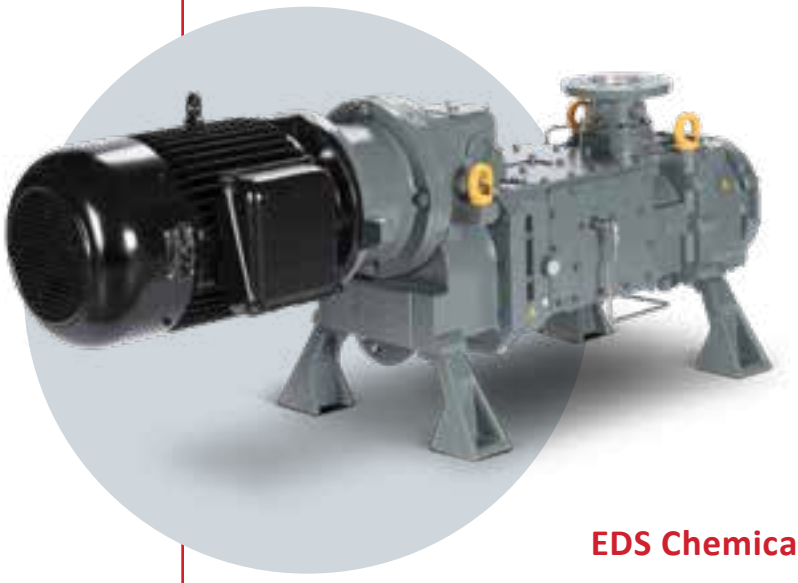
ATEX COMPLIANT

Safe for hazardous area installations

- Designed to be capable of handling gases: From a potentially explosive atmosphere
- Certified: Under the ATEX directive 2014/34/EU
- Global compliance: Flexible to adapt to all global explosion proof standards

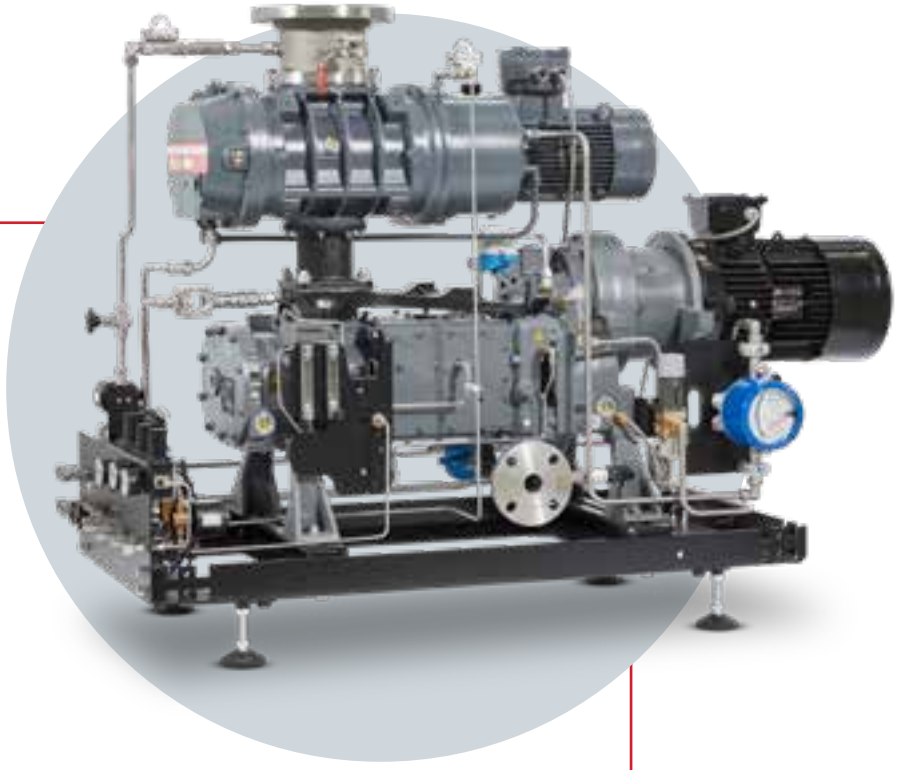
EDS CHEMICAL SYSTEM AT A GLANCE

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



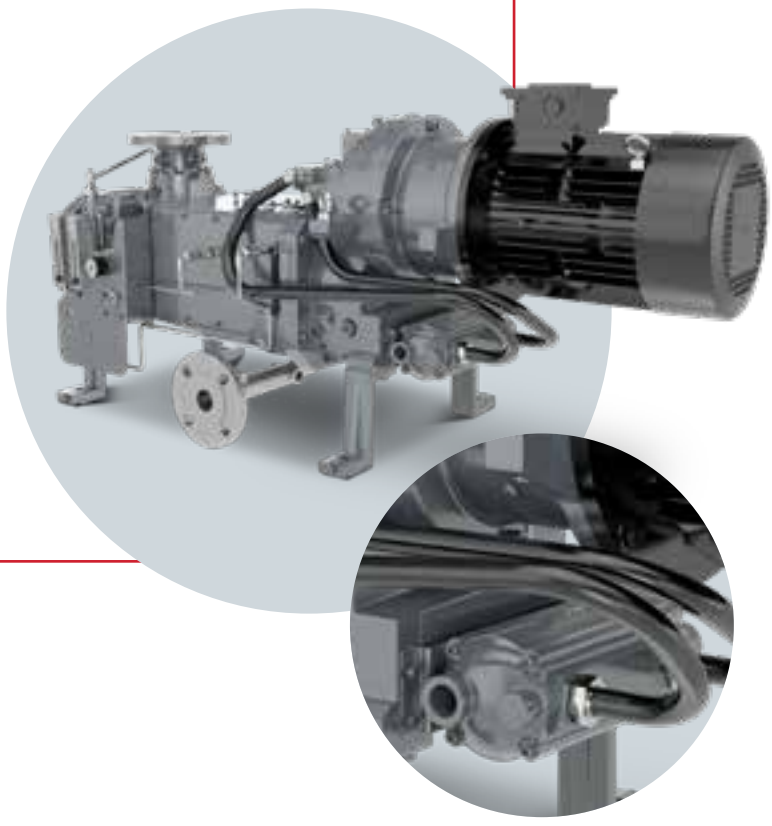
- Direct and Indirect shell and tube heat exchanger cooling options
- ATEX Cat 1 and Cat 2 standard variants to meet T3 and T4 temperature classes
- Bare-shaft variants available for flexibility to meet any global Ex Proof standards

EDS Chemical (ATEX)



- Wide range of standard accessories available
- Purge flow rotameters as standard
- Compressed air gas ballast

EDS Chemical System

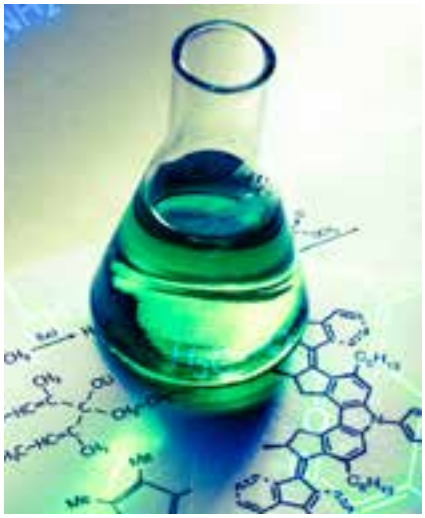


Compact Heat Exchanger for indirect cooling options

APPLICATIONS

The EDS range is suitable for a wide range of chemical applications including:

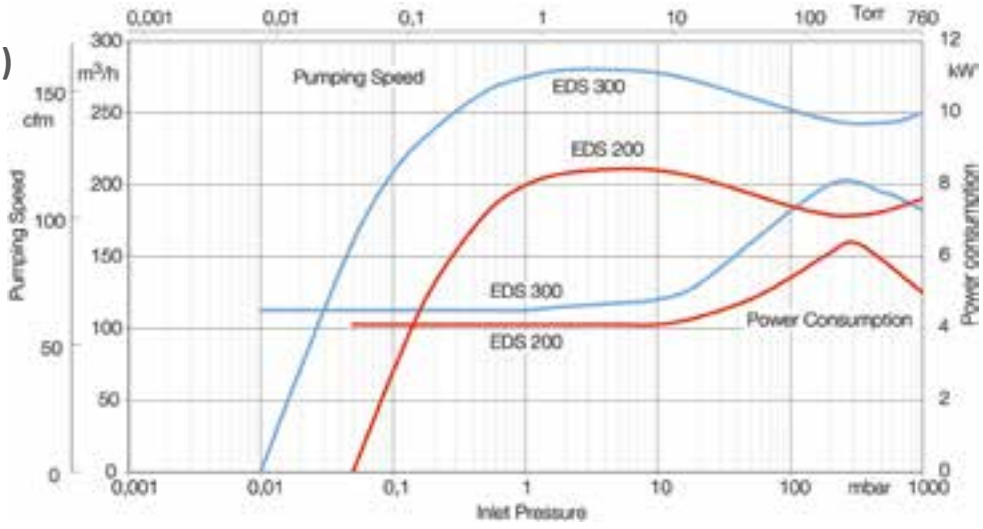
- Lithium Ion batteries
- Distillation applications
- Solar crystal pulling
- Fine Chemicals
- Oil treatment plants
- Pharmaceuticals
- Petrochemicals
- Flammable & corrosive gases
- Degassing
- Dewatering & Filtration
- Polymers & Plastics production



For a complete list of chemical applications and processes, please contact your local Edwards representative.

PERFORMANCE CURVES

EDS 200 and 300 (IMPERIAL AND METRIC)

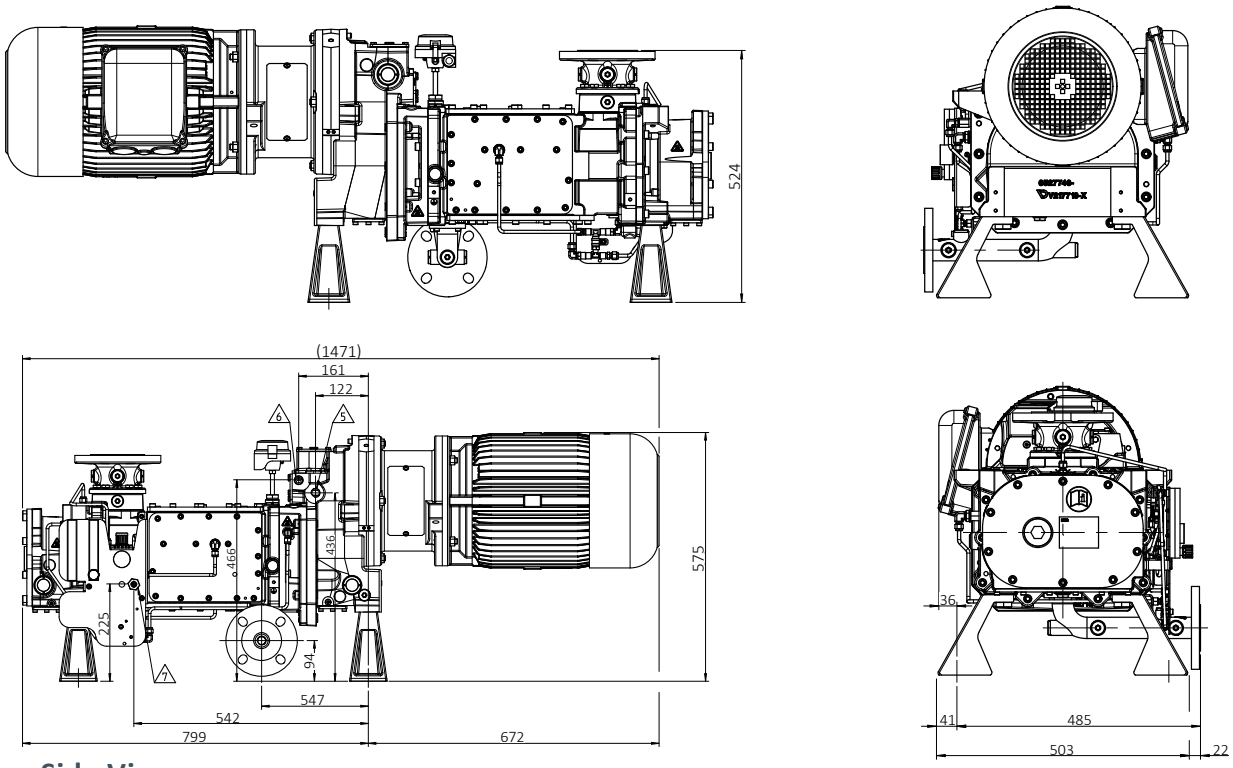


TECHNICAL SPECIFICATIONS

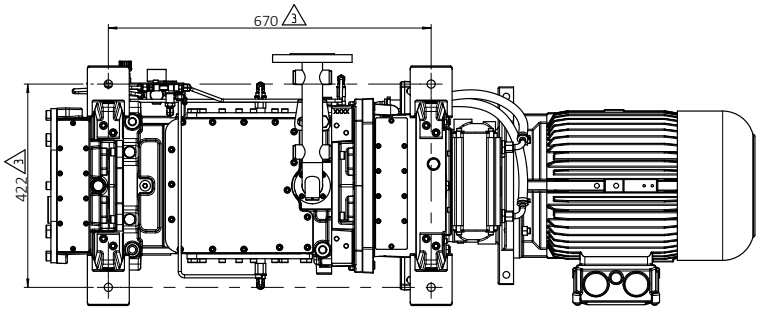
			Metric			Imperial		
			Chemical			Chemical		
			200	300		200	300
Performance	Peak Pumping Speed	m^3h^{-1}	210	>280	CFM	124	>165
	Ultimate Pressure	mbar	<0.05	<0.01	Torr	<0.04	<0.008
Full Load Power	@ ultimate pressure	kW	4.1	4.5	hp	5.5	6
	@ peak pumping load	kW	6.4	8.2	hp	8.6	11
Vacuum Connections	Inlet connection		DIN80/3"ANSI			DIN80/3"ANSI	
	Exhaust connection		DIN50/2"ANSI			DIN50/2"ANSI	
Cooling Water	Connection		G1/2" female			G1/2" female	
	Flow	L/min^{-1}	<8		Gal/min^{-1}	<2.1	
	Supply pressure (max)	bar	7		psig	100	
	DP across pump (min)	bar	0.5		psig	7.25	
	Temperature	°C	5-40		°F	41-104	
Purge Gas	Connection		G1/4" female threads			G1/4" female threads	
	Pressure	bar	2.5-6.9		psig	36-100	
	SSP flow	$lmin^{-1}$	<12		$lmin^{-1}$	<12	
	Gas Ballast flow*	$lmin^{-1}$	0-50		$lmin^{-1}$	0-50	
Operating data	Noise	dB(A)	<76		dB(A)	<76	
	Operating Temperature	°C	-20 to +40		°F	-4 to +104	
	Exhaust Back Pressure (Max)**	mbar	1200		psia	17.4	
	System IP rating		IP54			IP54	
	Lubrication (as supplied)		Extend 110			Extend 110	

DIMENSIONS

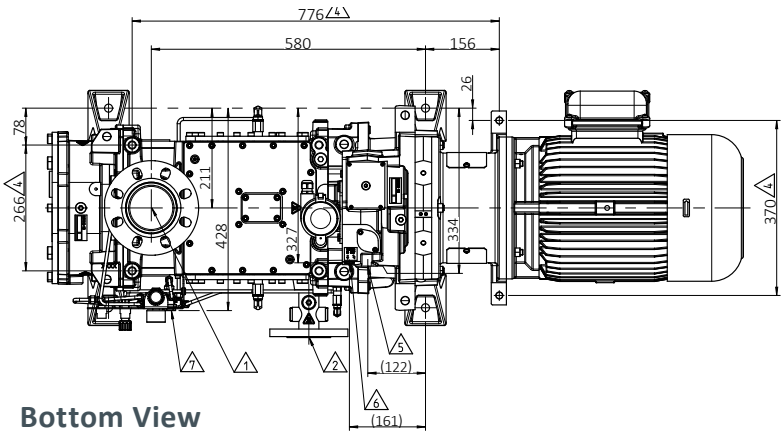
EDS Chemical Direct



Side View

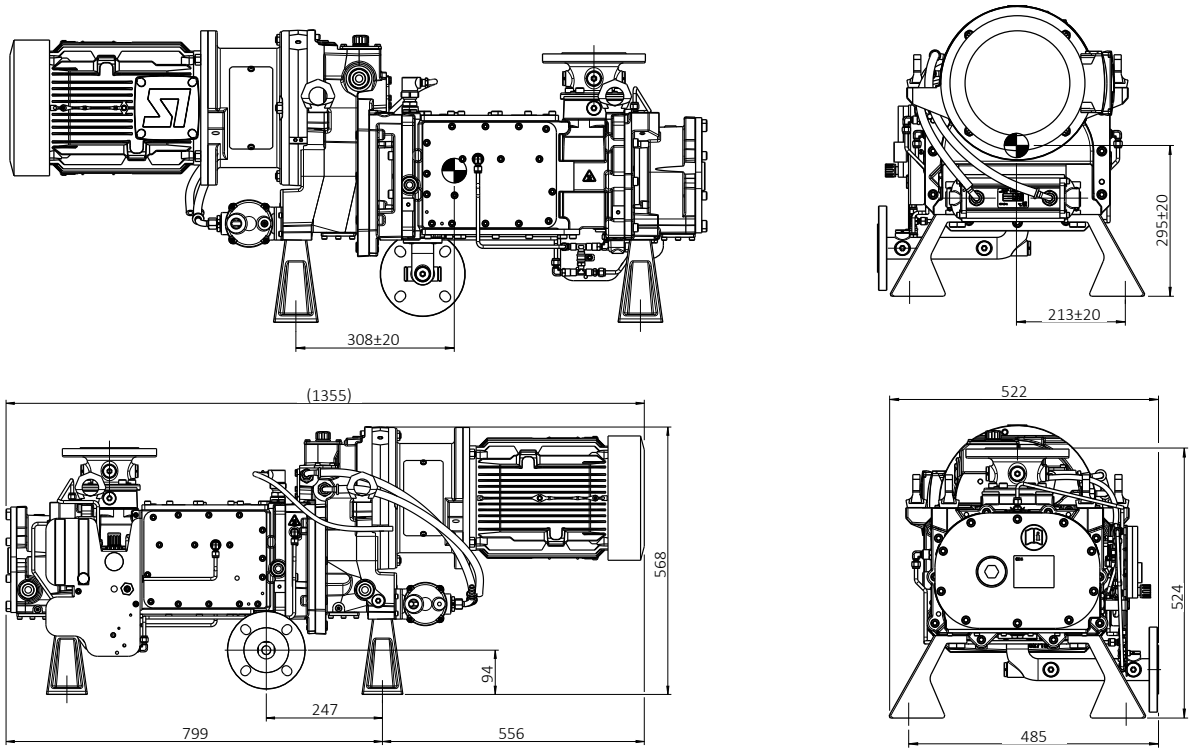


Top View



Bottom View

EDS Chemical Indirect



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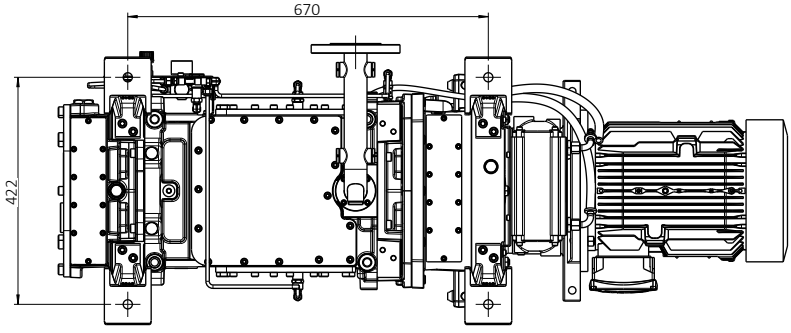
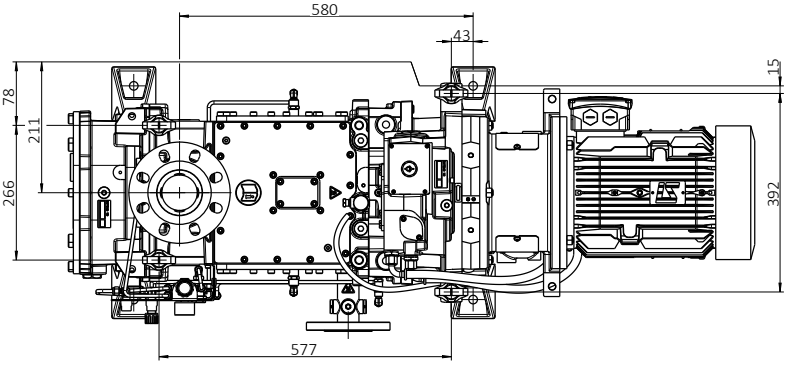


Top View



Bottom View

ORDERING INFORMATION

Part Number	Size	Cooling	Motor Voltage	Motor Desc.	Freq
A41822945	200	Direct Water	230/400V 50Hz	ATEX IIC T3	50Hz
A41824945	200	Indirect Water	230/400V 50Hz	ATEX IIC T3	50Hz
A41823945	200	Direct Water	230/400V 50Hz	ATEX IIC T4	50Hz
A41825945	200	Indirect Water	230/400V 50Hz	ATEX IIC T4	50Hz
A41826945	200	Direct Water	230/400V 50Hz	ATEX IC T3, T4	50Hz
A41827945	200	Indirect Water	230/400V 50Hz	ATEX IC T3, T4	50Hz
A41824985	200	Indirect Water	B/S	IEC ready	50Hz
A41824986	200	Indirect Water	B/S	NEMA ready	60Hz
A41832945	300	Direct Water	230/400V 50Hz	ATEX IIC T3	50Hz
A41834945	300	Indirect Water	230/400V 50Hz	ATEX IIC T3	50Hz
A41833945	300	Direct Water	230/400V 50Hz	ATEX IIC T4	50Hz
A41835945	300	Indirect Water	230/400V 50Hz	ATEX IIC T4	50Hz
A41836945	300	Direct Water	230/400V 50Hz	ATEX IC T3, T4	50Hz
A41837945	300	Indirect Water	230/400V 50Hz	ATEX IC T3, T4	50Hz
A41834985	300	Indirect Water	B/S	IEC ready	50Hz
A41832985	300	Direct Water	B/S	IEC ready	50Hz
A41834986	300	Indirect Water	B/S	NEMA ready	60Hz

ACCESSORIES

Part Number	Accessories	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	All EDS pumps
A41893001	EDS to EH500 Connection Kit	All EDS pumps
A41894000	Exhaust Pressure Transmitter	All EDS pumps
A41895000	Pt100 Stator Temperature Transmitter	All EDS pumps
A41895001	Pt100 Exhaust Temperature Transmitter	All EDS pumps
A41897000	BoV plug Kit	All EDS pumps

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. From 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 means that every critical part performs as it was intended. Our services engineers only fit 100% genuine parts to ensure you receive the best result from each service.

Our Preventative Maintenance service packages include:

- Health Check and Routine Service Check - Various flexible service to keep your pump running in an optimal condition for your application, including visual inspections, pump vitals checks and replacement/cleaning of components.
- 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 components tested 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 replacement pump module.
  - » Pump Exchange includes exchange of whole pump (including motor, gear box, gas and water systems) replaced with remanufactured pump.

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