

Atlas Copco



# Performance-driven dry technology

DWS VSD+

Dry Screw Vacuum Pumps

## Clean technology. Robust design

At Atlas Copco, delivering value to our customers and clean technology for the planet drives our innovation. Adding to our customers' productivity through our customer-centric innovation range makes us the 'Home of Industrial Ideas.' We invest in technology that delivers benefits like higher productivity, minimized energy consumption, operator-friendly control, easy maintenance, and lower operation cost. The new DWS VSD<sup>+</sup> dry screw vacuum pump is an embodiment of solution-driven features.



## DWS VSD<sup>+</sup> dry screw vacuum pump

Atlas Copco's tradition of delivering industrial innovation has led to designing the DWS VSD<sup>+</sup> dry screw pump – a worthy addition to our innovative industrial dry pump range.

Intelligently engineered to last and designed to exhibit simplicity, the DWS VSD<sup>+</sup> series serves optimum performance, comprises simple control philosophy, and incurs low maintenance costs.



### Improved operational performance and stable vacuum

With increased roughing speeds and low ultimate pressure up to  $<10^{-2}$ , you gain increased productivity and quicker pump-down time.



### Robust design for harsh industrial applications

The DWS VSD<sup>+</sup> series comprises a robust design leading to uptime. You gain from longer intervals between service and low maintenance cost.



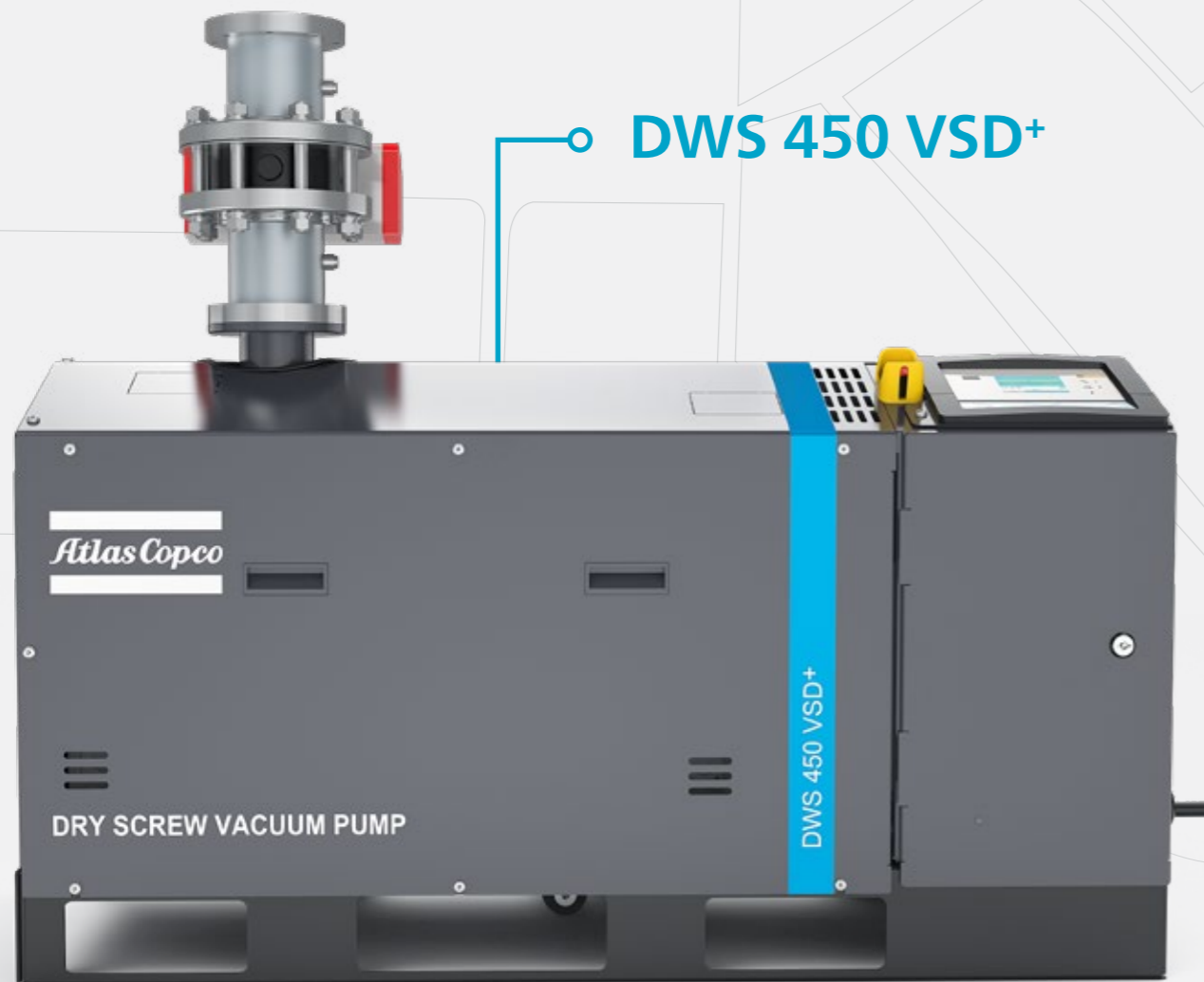
### Low cost of ownership

The Variable Speed Drive (VSD) technology optimizes energy consumption leading to substantial energy savings. Additionally, the economical footprint saves you space in your production floor or utility room.



### Friendly on the environment

The dry screw operations of the DWS VSD<sup>+</sup> mean there is no contaminated or dirty oil to dispose of. It's easy on the environment and reduces recurring maintenance costs.



DWS 450 VSD+



DWS 750 VSD+

Pneumatic inlet valve

## Innovative at heart. Intelligent in nature

Screw vacuum technology is an ideal solution for many applications in packaging, drying, electronics, plasma processes, LED manufacturing, and solar. Clean and efficient, the technology delivers with a host of conveniences.



### Pre-wired and systemized

- The robust space-saving canopy is designed according to IP54 requirements
- Electrical connections are connected, wired and assembled
- Plug and play, ease of installation



### Robust build and cleverly designed element

- Reliable constant flow cooling system
- Dependable new gas system with manual gas ballast control
- Non-contacting long-life seals for highly effective sealing



### Intelligent technology

- Equipped with Elektronikon® for advanced, remote pump monitoring such as status, running/stopped hours, programmable timers, set point control, etc
- Gearbox is protected from contamination, and the vacuum space is kept free of oil
- Advanced quality bearings and special-purpose oil with low vapor pressure
- Non-cantilever design provides secure rotor support resulting in quick starts and low vibrations
- A pneumatic inlet valve is as standard included in the scope of supply. The inlet valve is controlled by the MK5 Controller and enables warm-up and shutdown cycles as well as easy incorporation into central vacuum system installations

# DWS VSD+ pump features and innovative dry screw technology

## + Speed

- High pumping speed performance in the complete operating pressure range
- Better productivity with speedier processing and pump down times
- Low ultimate pressures

## + Sturdy

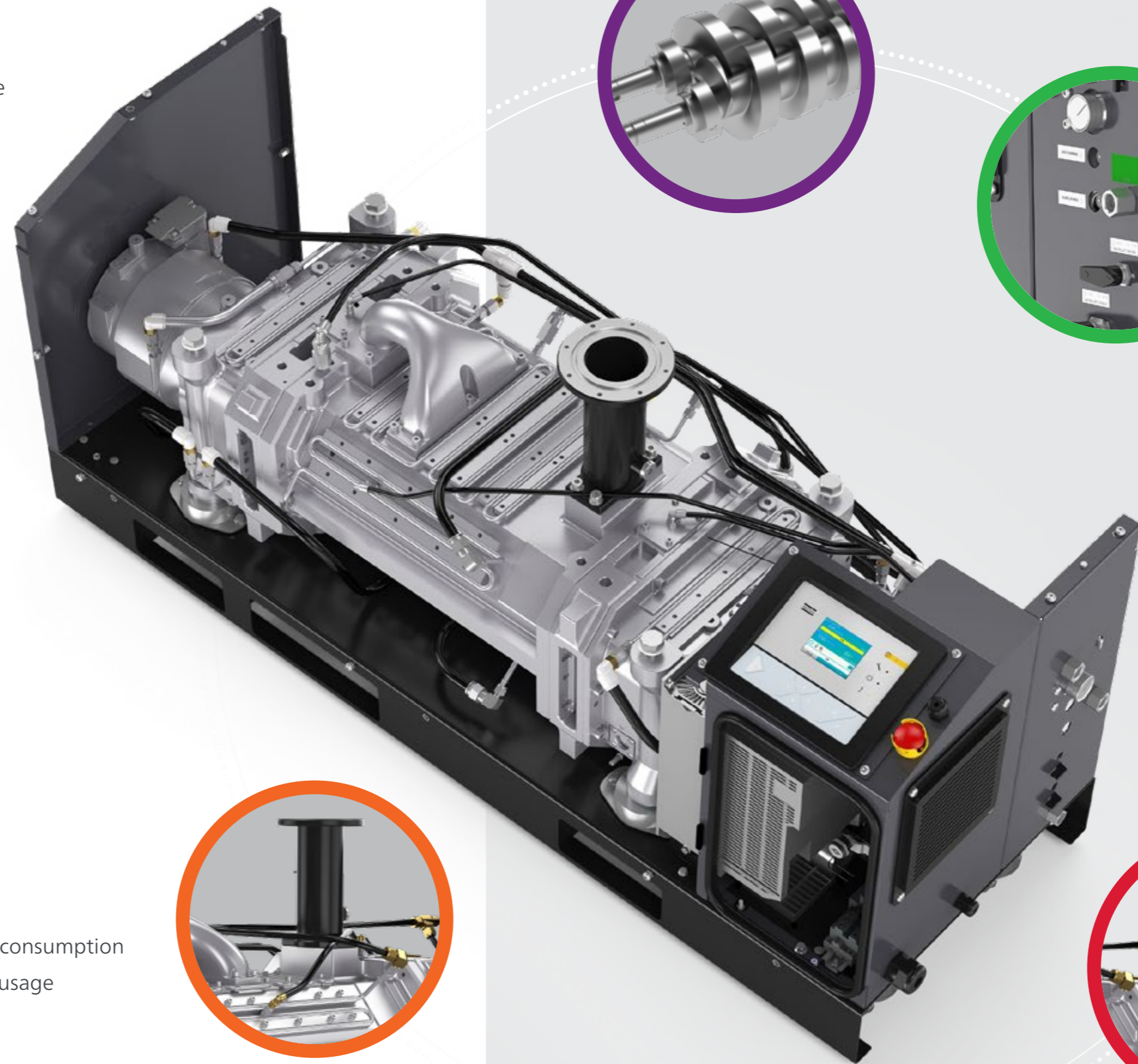
- More robust performance even in harsh industrial applications
- Zero unplanned downtime reduces maintenance cost
- Increased productivity: longer intervals between service

## + Substantial savings

- Affordable investment
- Low cost of ownership
- Low utilities and energy usage costs
- Small footprint saves your space

## + Environment-friendly

- Smooth, quiet running with low power and utility consumption
- Small carbon footprint with low power and utility usage
- Zero contamination



# Applications

The DWS VSD+ pump is suitable for a range of applications in various industries including:

## Drying (Freeze drying)

## Cooling

## Electronics

## Automotive

## Vacuum chamber evacuation

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

## Packaging

## Solar

- Silicon crystal-pullings
- PV lamination Load lock chambers

## LED manufacture

## Plasma processes

- Plasma welding
- Plasma nitriding

## Coating

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

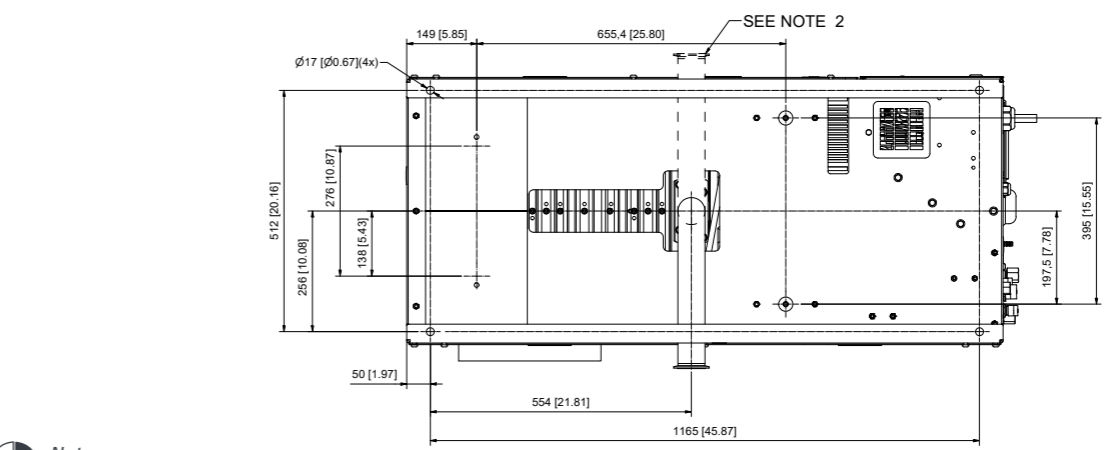
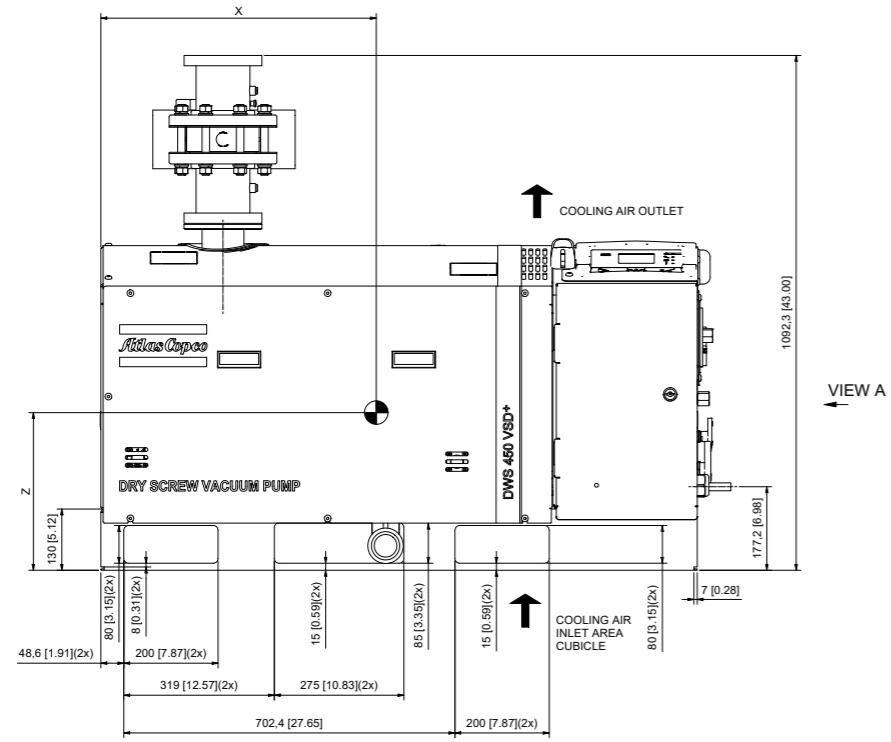
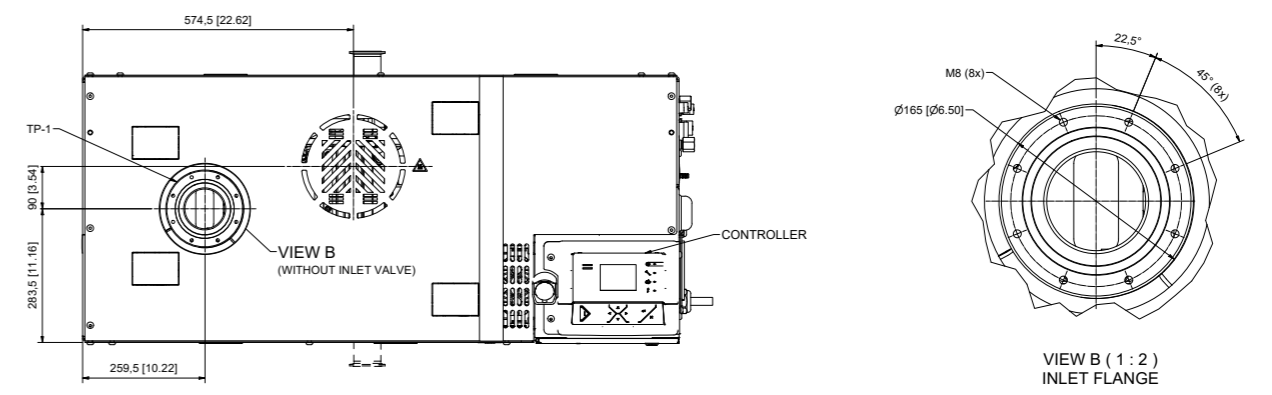
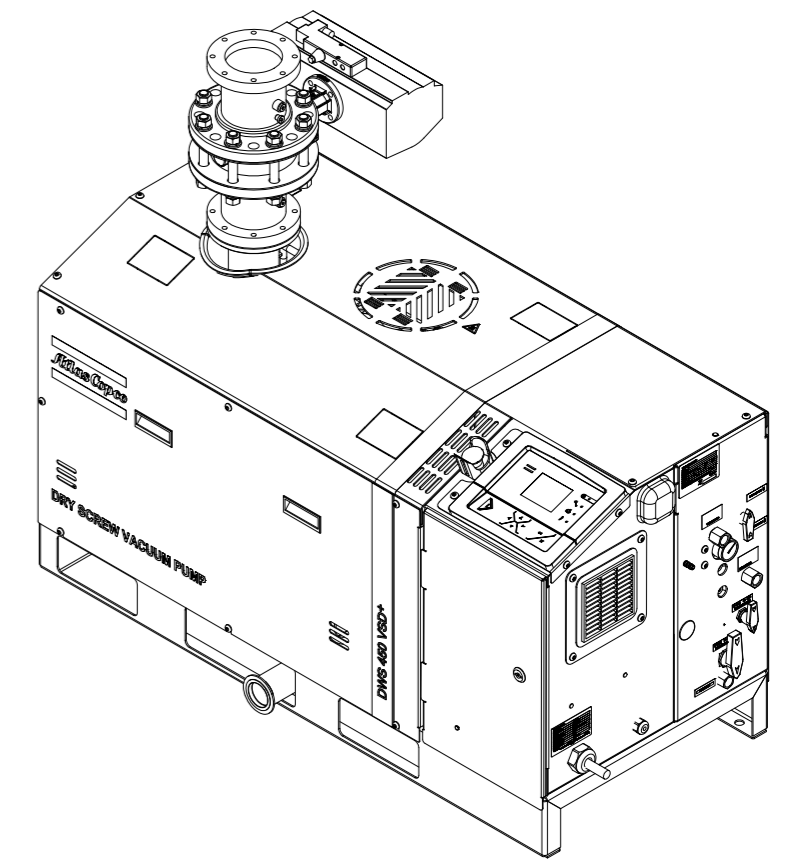
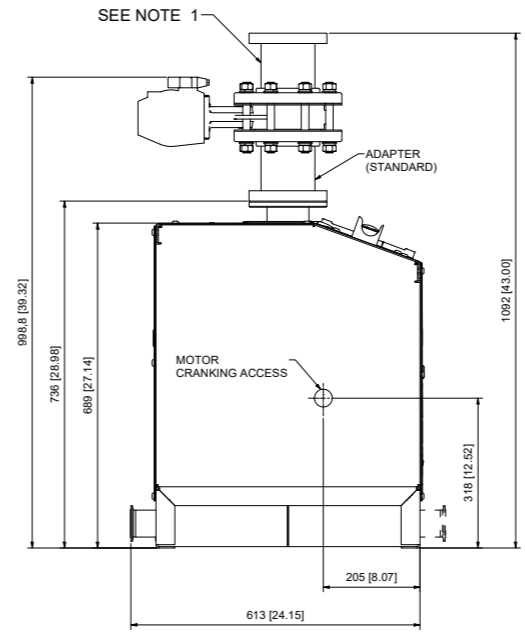
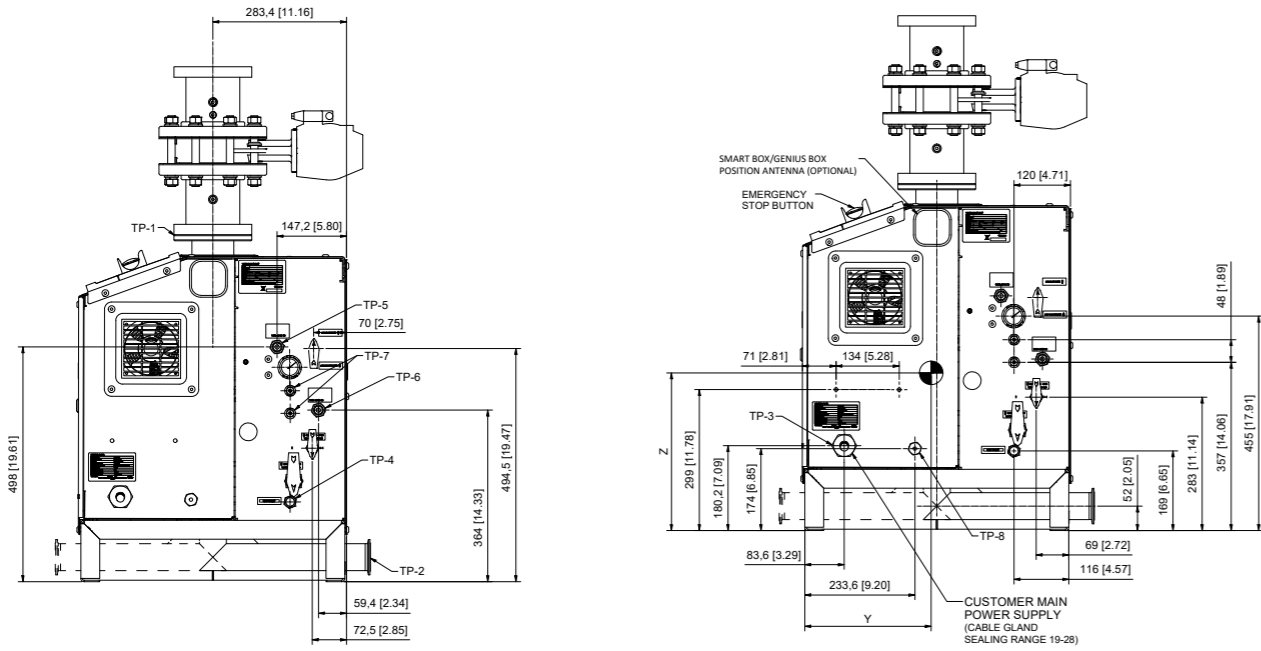


# Technical specifications

DWS 450 VSD+					
		Metric		Imperial	
<b>Performance</b>	Peak pumping Speed	m <sup>3</sup> h <sup>-1</sup>	450	CFM	265
	Ultimate pressure	mbar	<0.01	Torr	<0.008
<b>Full Load Power</b>	@ultimate pressure	KW	6	hp	8
	@peak pumping load	KW	12	hp	16
<b>Vacuum Connections</b>	Inlet connection		ISO100		ISO100
	Exhaust connection		NW50		NW50
<b>Cooling Water</b>	Connection		G3/8" female threads		G1/2" female threads
	Flow	l·min <sup>-1</sup>	10	gal·min <sup>-1</sup>	2.6
	Supply pressure (max)	bar	6.9	psig	100
	DP across pump (min)	bar	1	psig	14.5
<b>Purge Gas</b>	Temperature	°C	5-40	°F	41-104
	Connection		G1/2" female threads		G1/2" female threads
	Pressure	bar	2.5-6.9	psig	43.5-100
	SSP flow	l·min <sup>-1</sup>	12	l·min <sup>-1</sup>	12
<b>Operating data</b>	Gas ballast flow	l·min <sup>-1</sup>	0-128	l·min <sup>-1</sup>	0-128
	Noise	dB(A)	<64	dB(A)	<75
	Operating temperature	°C	5-40	°F	41-104
	Exhaust back pressure (max)	mbar	1200	psia	17.4
Lubrication (as supplied)			PFPE Drynert 25/6		PFPE Drynert 25/6

DWS 750 VSD+					
		Metric		Imperial	
<b>Performance</b>	Peak pumping Speed	m <sup>3</sup> h <sup>-1</sup>	740	CFM	435
	Ultimate pressure	mbar	<0.01	Torr	<0.008
<b>Full Load Power</b>	@ultimate pressure	KW	10.5	hp	14
	@peak pumping load	KW	22	hp	30
<b>Vacuum Connections</b>	Inlet connection		ISO100		ISO100
	Exhaust connection		NW50		NW50
<b>Cooling Water</b>	Connection		G3/8" female threads		G1/2" female threads
	Flow	l·min <sup>-1</sup>	12	gal·min <sup>-1</sup>	3.2
	Supply pressure (max)	bar	7	psig	100
	DP across pump (min)	bar	1	psig	14.5
<b>Purge Gas</b>	Temperature	°C	5-40	°F	41-104
	Connection		G1/2" female threads		G1/2" female threads
	Pressure	bar	3-6.9	psig	43.5-100
	SSP flow	l·min <sup>-1</sup>	12	l·min <sup>-1</sup>	12
<b>Operating data</b>	Gas ballast flow	l·min <sup>-1</sup>	0-130	l·min <sup>-1</sup>	0-130
	Noise	dB(A)	<70	dB(A)	<70
	Operating temperature	°C	5-40	°F	41-104
	Exhaust back pressure (max)	mbar	1200	psia	17.4
System IP rating			IP2X(electrical cabinet designed according to IP54)		
Lubrication (as supplied)			PFPE Drynert 25/6		PFPE Drynert 25/6

# Dimensions - DWS 450 VSD+

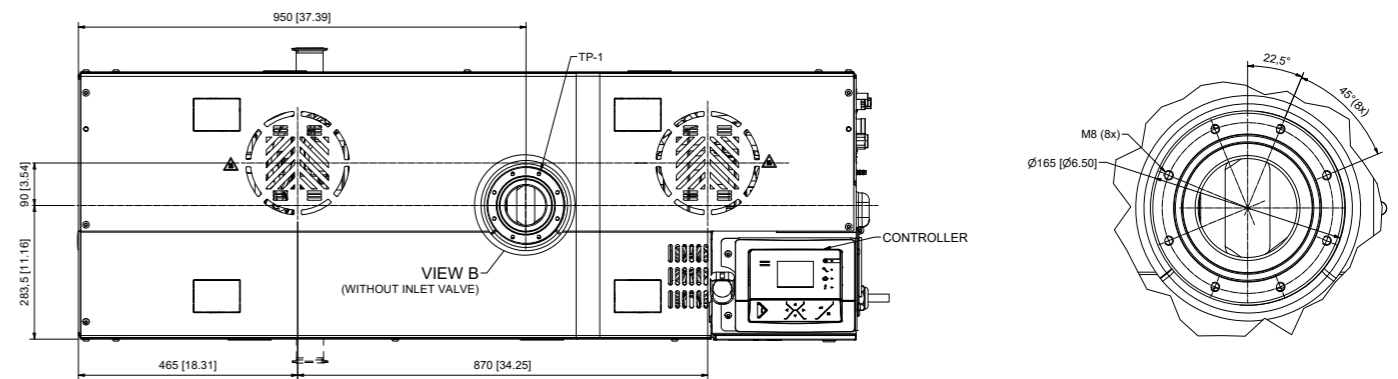
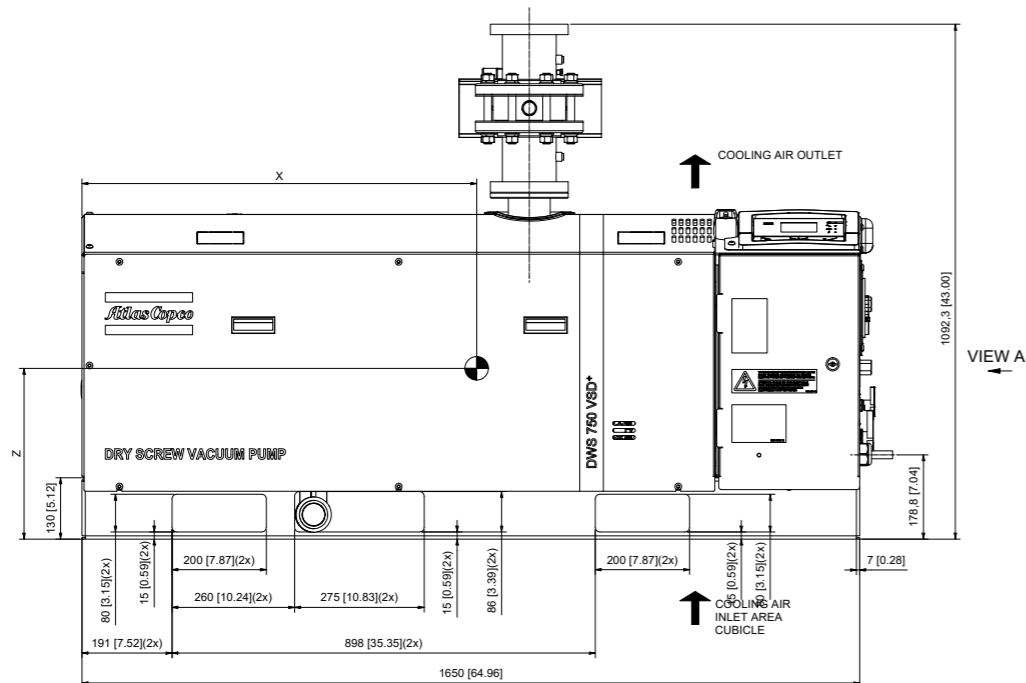
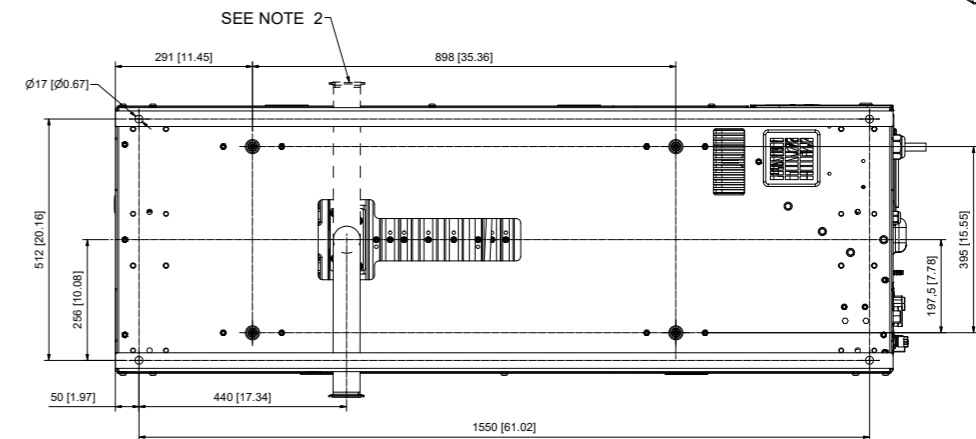
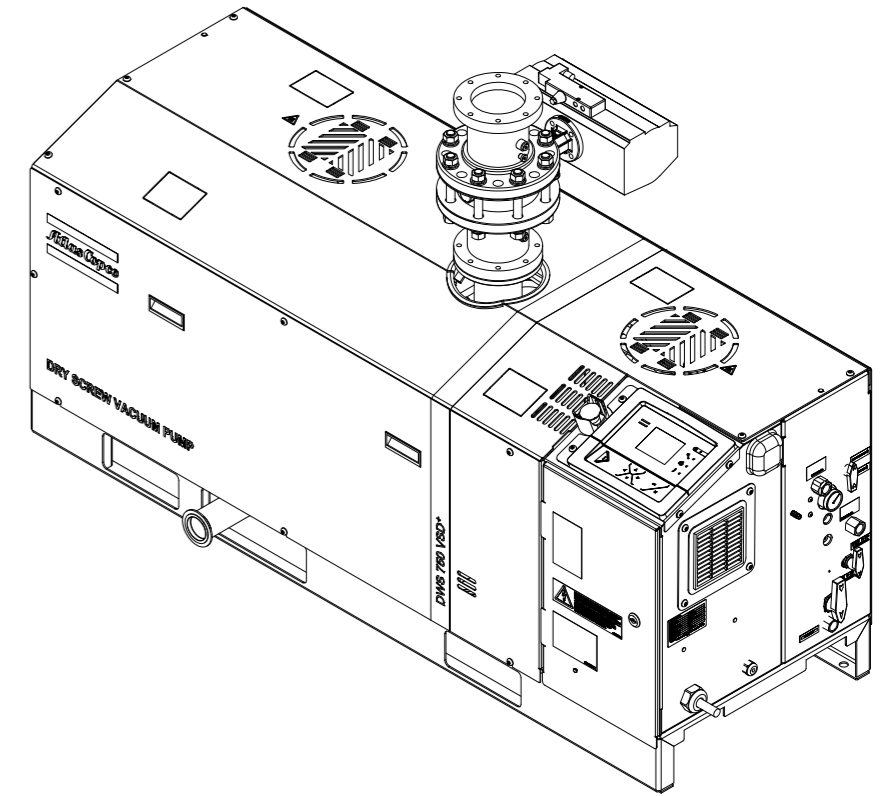
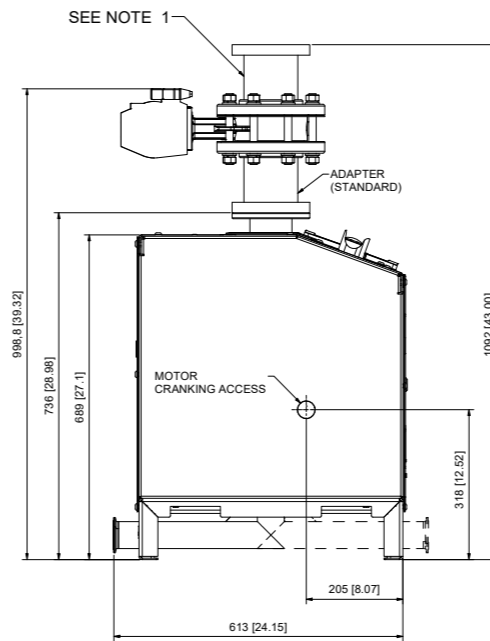
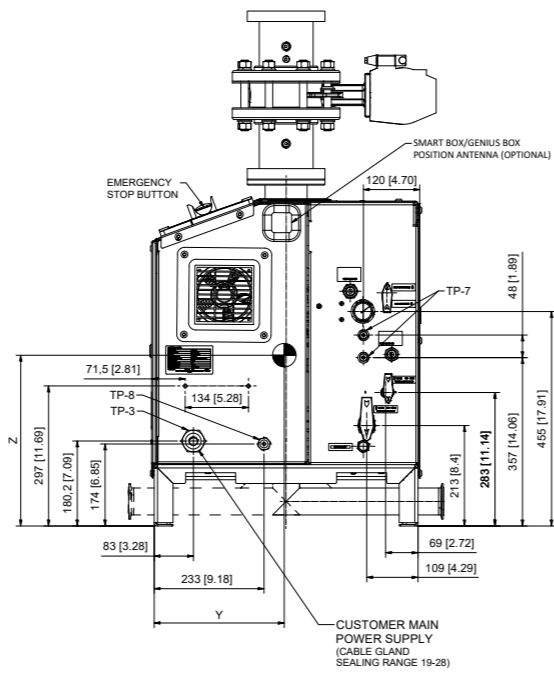
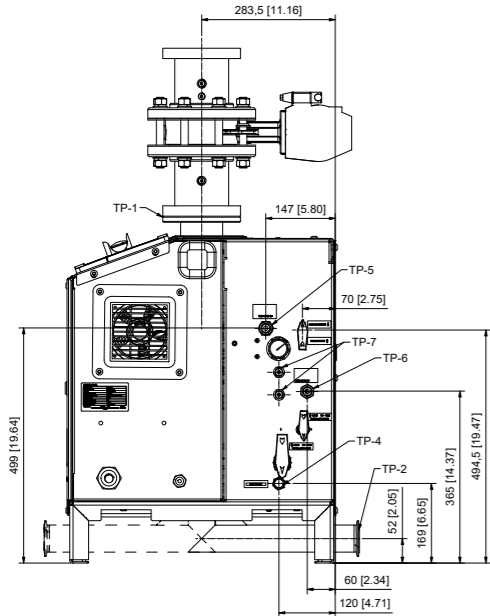


Note: Center of gravity

Weight and C.O.G. Details			
Weight kg [lbs]	X mm [inch]	Y mm [inch]	Z mm [inch]
532 [1172.8]	584 [23]	268 [10.5]	334 [13.1]

Note:  
 1. Adapter (standard) or adapter with bellow (optional)  
 2. Exhaust outlet can be install either side as per customer preference

# Dimensions - DWS 750 VSD+



Note:  
Center of gravity

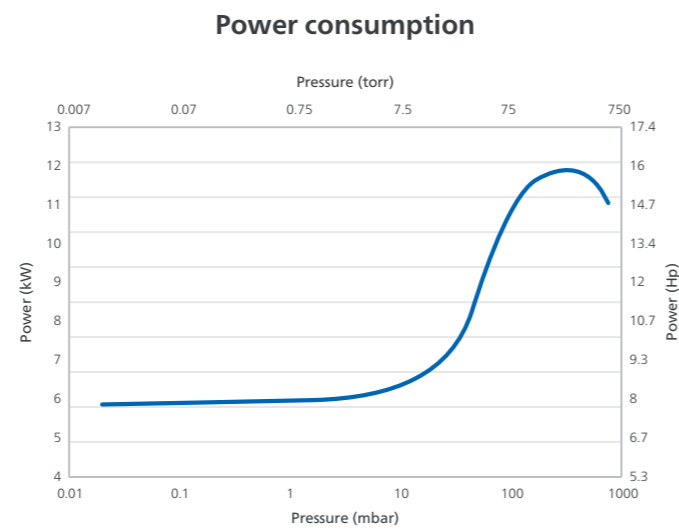
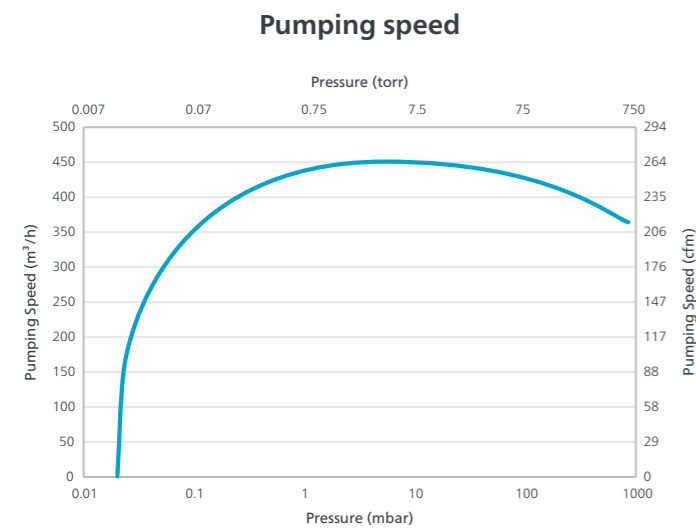
## Weight and C.O.G. Details

Weight kg [lbs]	X mm [inch]	Y mm [inch]	Z mm [inch]
575 [1267.66]	837 [32.9]	276 [10.8]	362 [14.2]

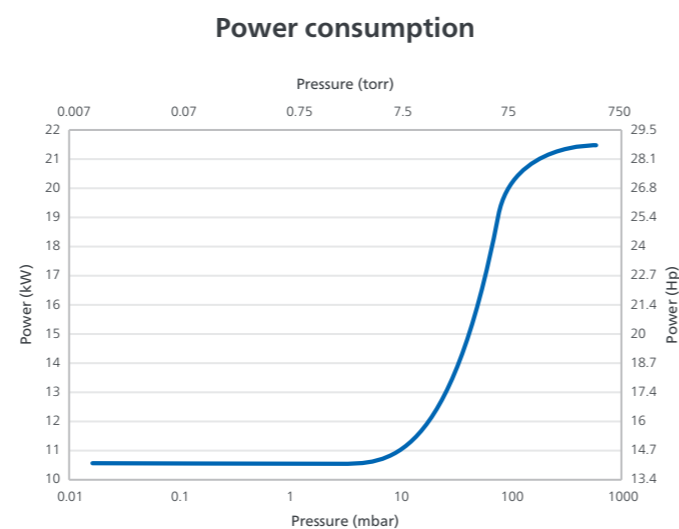
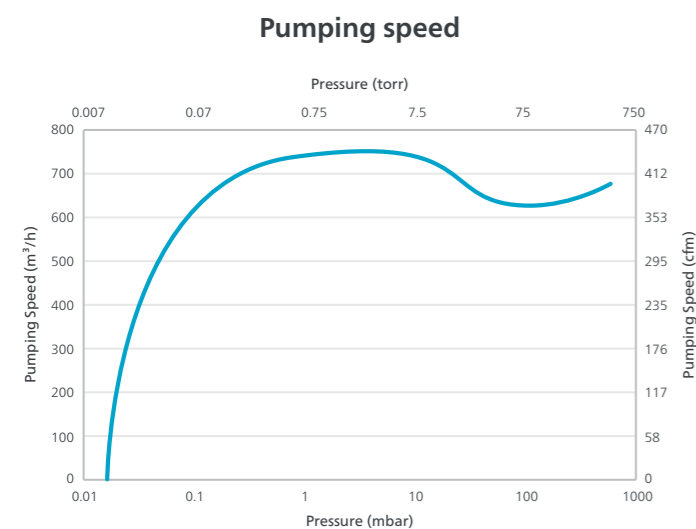
Note:  
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# Performance curves

DWS 450 VSD+



DWS 750 VSD+



# Accessories and systemization

There are a range of standard accessories available with the DWS VSD+ to suit a variety of applications. All accessories can be fully integrated with DWS VSD+ 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 DWS VSD+ range and optimize performance.

- Foreline spool adapters for mounting instrumentation
  - Booster adapter kits
  - Purge free kit
  - Inlet filter housing with polyester or stainless-steel elements
  - Exhaust silencers with cleanable drainable options
  - Exhaust check valves
- In addition to these standard accessories, full customer specific systems are also available on request.

# Preventive Care



## Complete service with our Preventive Care plan

We take over the maintenance planning and responsibility for servicing your vacuum pump on a regular basis. Our Preventive Care plan is tailored to your pump's needs. As your pump is serviced with the latest technology, high levels of energy efficiency are achieved. We will also optimize service events to reduce your total cost of ownership and increase your productivity. This allows you to focus fully on your production.



## Maximize lifetime of your vacuum pumps

Our vacuum specialists are well trained and experts in the field. They will help you to improve uptime and protect your processes. Regular maintenance conducted by one of our vacuum specialists reduces the risk of deterioration. Damaged or worn parts will be replaced with genuine Atlas Copco spare parts to protect your investment and increase the lifespan of your vacuum pumps.



## Cost-effective approach

Regular scheduled maintenance can identify potential problems before they occur and plans can be structured around your individual production situation. Preventive Care enables cost management as you can plan your maintenance costs in advance. In this way, expenses associated with unplanned downtime are minimized.



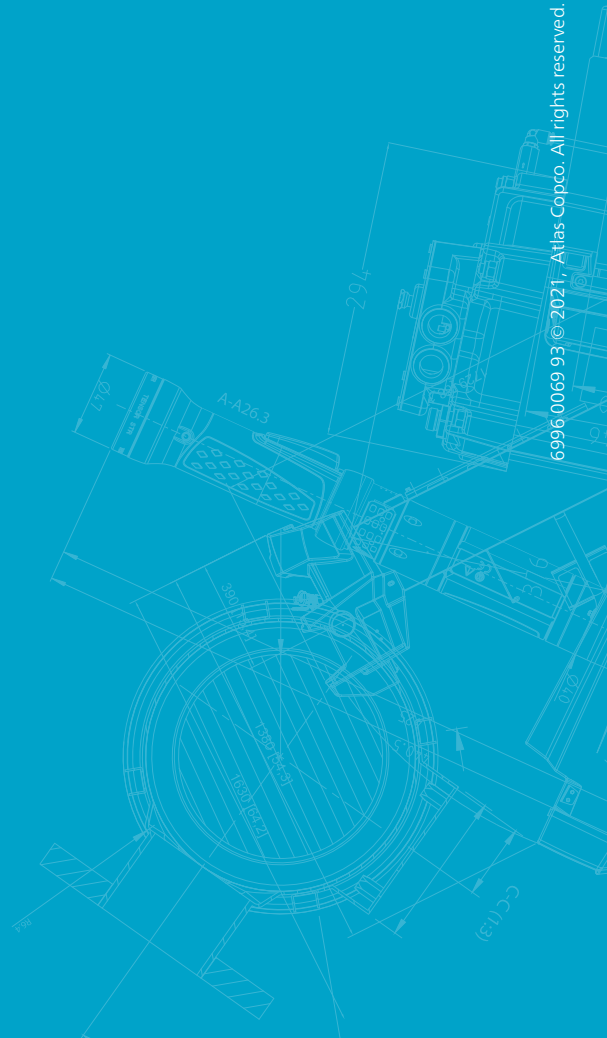
## Reliability meets non-stop productivity

We use genuine Atlas Copco spare parts and oil and our services are conducted by vacuum specialists according to manufacturer's recommendations. This enhances your vacuum pump performance, reducing the risk of downtime and enabling your production to run more smoothly.





Atlas Copco AB  
[www.atlascopco.com/vacuum](http://www.atlascopco.com/vacuum)



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