

# ***DZS mono-claw & DZM multi-claw vacuum & low pressure solutions***



*Atlas Copco*



The image shows two large industrial vacuum pumps in a factory or industrial setting. The pumps are dark grey or black with prominent circular cooling fans on their front. They are mounted on a metal base. In the background, there are concrete walls and a vertical pipe with a ring handle. The lighting is somewhat dim, highlighting the metallic textures of the equipment.

## ***There is always a better way***

For more than a century this guiding principle has driven Atlas Copco's engineers and designers to develop new technologies and revolutionize productivity in the compressed air and vacuum world. It is the driving force in everything we do. Many of the Group's products have become global success stories. The innovation of a rotary screw vacuum pump with Variable Speed Drive delivering on average 50% energy savings, is one of them.

Successful companies bring innovative products that contribute to the productivity of their customers. Premium products are technologically more advanced. On the other hand a brilliant design that offers simplicity is also innovation. You should be offered a solution with the lowest cost of ownership. To score better than competition, innovation is key. What we want to achieve for you are lower lifecycle costs, higher productivity, less energy consumption, simple operation and control and also easy maintenance.

That is also what we aimed for when designing our new dry claw vacuum solutions: they stand for sustainable productivity.



## **Connect and empower**

Thousands of applications – central systems in hospitals, CNC routing, pneumatic conveying, milking parlors – share a common need: vacuum. And that is what Atlas Copco provides – safely, reliably, cost-effectively and continuously. Connect with Atlas Copco to get the utility you need to empower your processes and operations, and drive your productivity.

## **Reliability you can trust**

From our manufacturing base in Antwerp, we have delivered tens of thousands of claw pumps. They are working quietly and efficiently in all corners of the world. They are characterized by a low failure rate over a long lifetime, even in the most challenging conditions.

## **Masters of innovation**

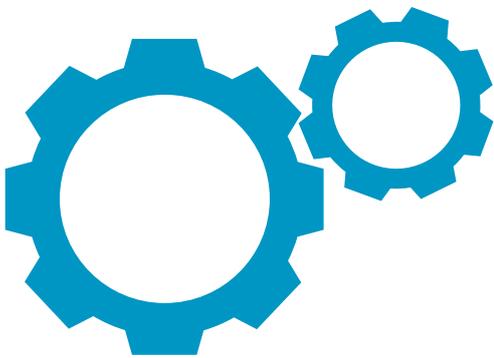
The durability of our claw pumps is rooted in our expertise. We acquired Edwards, the company that first introduced claw technology to vacuum applications in the high tech electronics industry. In addition Atlas Copco was the first to innovate multi-claw technology for compressors. The combined knowledge and experience of these two companies leads to low cost, efficient and reliable products.

## **Fully certified**

Our dry claw machines meet the demanding requirements of ISO 9001, ISO 14001 and OHSAS 18001, as verified by Lloyds of London. They are backed up a market-leading warranty and a service support network across 180 countries. The result? 24/7 assurance that your products and your processes are constantly kept in the best possible working order.

## *Efficient pumps with low lifecycle costs*

The new range based on Atlas Copco's dry claw technology features an innovative design which creates a new benchmark in the claw pump market. The simplicity, robustness, efficiency and contaminant handling capability of these pumps make them the smart choice for your application. Built to the exacting standards and quality demanded by our customers, the new dry claw pump provides you with a trouble-free and cost-effective solution to meet your needs.

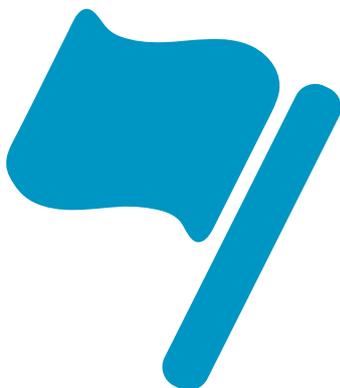
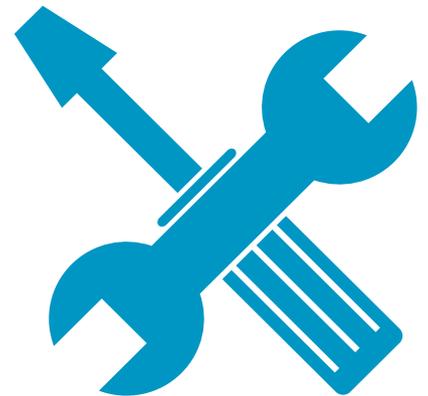


### **Built to last**

Manufactured on the fundamentals of Atlas Copco compressor design, these pumps feature some innovative construction materials and coatings for a lifetime of reliable operation even in harsh conditions.

### **Easy maintenance**

Long life bearings and seals, a separate and isolated pumping element, and the simplest of designs suited for quick access to the pumping chamber make for easy cleaning in the event of product carry-over.



### **Unrivalled performance**

- Extensive product range.
- Unrivalled ultimate vacuum level.
- Market leading performance.
- Best in class power consumption.
- Minimal machine lifecycle costs.
- Low noise levels.

# Designed for a long life of reliable, efficient operation

The dry claw machine boasts some fantastic design features including stainless steel corrosion resistant claws. The renowned Atlas Copco surface coating applied to the pumps process chambers has proven to be unrivalled in our compressors.

1

## Innovative features

- Dry (oil-free) pumping chamber.
- Efficient motor with variable speed option for complete controllability.
- Simple maintenance with contact-free internals eliminating wear.
- Cool running and simple air cooling.
- Compact design with a small footprint.

2

## Built-in corrosion resistance (standard)

- Corrosion resistant stainless steel claws.
- Durable coated pumping chamber.
- Suitable for many harsh applications.

3

## Cleverly designed element

- Easily accessible pumping chamber for cleaning without accessing the gearbox and disturbing the timing.
- Modular design allows flexibility and efficiency in terms of maintenance and life cycle costs.

4

## Upgraded bearings and seals

Based on proven compressor and screw vacuum pump design for long trouble free life even in the harshest applications.

5

## Compact machine with a small footprint

Ideally suited for replacement market, compressor house installations and OEM machinery.



6

## Variable Speed Drive compatible (VSD)

- Significant energy savings: up to 50% compared to fixed speed machines.
- Improved response to varying demand.
- Opportunity to replace multiple machines and centralize pumps in one location to optimize system performance.

7

## Set-point control option

- Allows you to optimize the energy you use to maintain your process duty point.
- The lowest possible flow will be delivered to match your required duty point or speed – nothing is wasted.

# Multi-claw vacuum system

A complete multi-claw vacuum pumping system in a box. A solution perfectly designed to meet your larger process demands with a central vacuum system based on the renowned Atlas Copco compressor philosophy. This vacuum pumping package offers a completely controllable system ranging from 44 to 1,230 m<sup>3</sup>/h integrated into one cabinet with a simple 'plug & play' concept.

At the heart of this system is the DZS 300 V claw pump providing efficiency, robustness and ultimate performance with best in class credentials.

With three sizes of system available plus the option to expand the central vacuum system with centrally controlled multiple packages, we can offer a complete turn-key solution regardless of your requirements.



## Low noise

Atlas Copco prides itself on offering environmentally friendly solutions and noise plays a big part. Our reputation for designing and building noise reducing canopies is renowned in the industry and comes from many years of experience in the world of compressors.

This concept of design greatly reduces complexity and installation costs compared to other central systems designs. The package not only consists of the pumps but also comprises the common inlet manifold and an exhaust manifold resulting in two simple pipe connections.

The control system including the Variable Speed Drive and all necessary process transmitters and safety devices are incorporated in a 'cool zone' adding to its simplicity and reliability.

## Plug & play

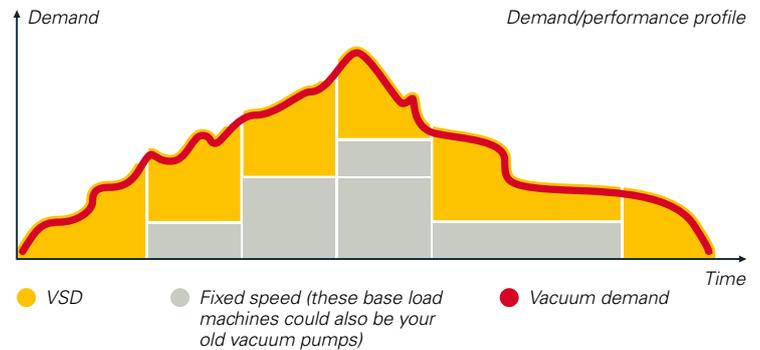


# Complete controllability

Atlas Copco's DZM-VSD multi-vacuum pump controllers allows the DZM package to start/stop and control multiple vacuum pumps simultaneously according to set working pressures. The controller comes with a built-in frequency inverter for the lead pump and the lag pumps are started with soft starters to lighten the load and lengthen the life of the pump.

## Save energy & cut costs

Thanks to smart algorithms, the controller delivers an optimal blend of product performance. It does this by measuring the working pressure and ensuring the collective pumps work together and deliver proportionately.



# Elektronikon® monitoring system

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

## Easy to use

- 3.5-inch high-definition color display with clear pictograms, 32 language settings.
- Additional LED indicator for service.
- Graphical display of key parameters (day, week, month).
- Elektronikon® installed on different vacuum pumps can be monitored in cascade.

## Comprehensive

- Monitoring: status, running/stopped hours, programmable timers, set point control and other settings.
- Safety: Elektronikon® provides warning, fault and shutdown indications.
- Service: service operations, remote control (optional).



## SMARTLINK: more than just a watchful eye

SMARTLINK is an optional solution for data monitoring: easy to install and customizable. It brings system relevant data to your smartphone, tablet and PC. Whenever you have access to the internet, you obtain the information you need to respond quickly to changing circumstances. Service calls can be efficiently planned and production losses minimized.



# Technical specifications - DZS mono-claw

## Vacuum

Type	Nominal displacement		Ultimate vacuum level 'V' version			Permissible ambient temperature range		Inlet connection size	Oulet connection size	Shaft power	
	m <sup>3</sup> /h	cfm	mbar(a)	"Hg Vac	Torr	°C	°F	BSP	BSP	kW	hp
DZS 065 V - 50 Hz	65	38	50	28.3	375	0 to 40	32 to 104	G 1 1/4"	G 1 1/4"	1.8	2.0
DZS 065 V - 60 Hz	78	47	50	28.3	375	0 to 40	32 to 104	G 1 1/4"	G 1 1/4"	2.2	3.0
DZS 150 V - 50 Hz	150	88	50	28.3	375	0 to 40	32 to 104	G 1 1/4"	G 1 1/4"	3.7	5.0
DZS 150 V - 60 Hz	180	104	50	28.3	375	0 to 40	32 to 104	G 1 1/4"	G 1 1/4"	3.7	5.0
DZS 300 V - 50 Hz	300	176	140	25.8	105	0 to 40	32 to 104	G 2"	G 1 1/4"	6.2	8.3
DZS 300 V - 60 Hz	360	208	140	25.8	105	0 to 40	32 to 104	G 2"	G 1 1/4"	7.5	10.0

Pumping speed based on air at 20°C. Tolerance +/-10%.  
60Hz Versions supplied with NPT adaptors

## Low Pressure

Type	Nominal displacement		Ultimate pressure 'P' version		Permissible ambient temperature range		Inlet connection size	Oulet connection size	Shaft power	
	m <sup>3</sup> /h	cfm	bar(g)	psi(g)	°C	°F	BSP	BSP	kW	hp
DZS 150 P - 50Hz	150	90	2.5	36	0 to 40	32 to 104	G 1 1/4"	G 1 1/4"	11.0	15.0
DZS 150 P - 60Hz	180	104	2.5	36	0 to 40	32 to 104	G 1 1/4"	G 1 1/4"	15.0	20.0
DZS 300 P - 50Hz	300	180	2.5	36	0 to 40	32 to 104	G 2"	G 1 1/4"	19.0	25.0
DZS 300 P - 60Hz	360	208	2.5	36	0 to 40	32 to 104	G 2"	G 1 1/4"	22.0	30.0

Dimensional tolerance +/-10mm/0.4"  
Weight tolerance (oil included) +/- 2kg/4.4lbs

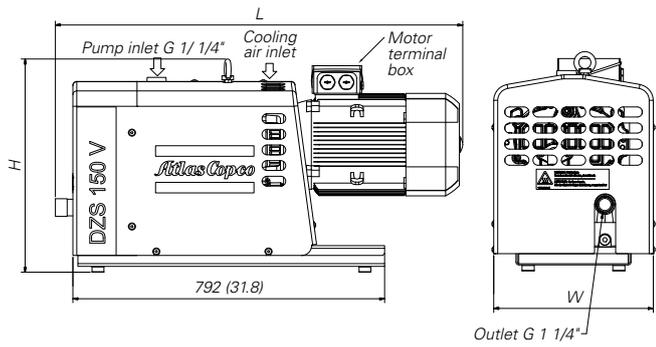
## Dimensions & weight

Type	Length		Width		Height		Weight	
	mm	in	mm	in	mm	in	kg	lbs
DZS 065 V	920	36.2	394	15.5	545	21.4	120	265
DZS 150 V	934	36.7	394	15.5	545	21.4	160	353
DZS 300 V	1110	43.7	500	19.6	688	27	252	555
DZS 150 P	1090	42.9	416	16.4	673	26.5	196	432
DZS 300 P	1360	53.5	500	19.8	802	31.5	300	661

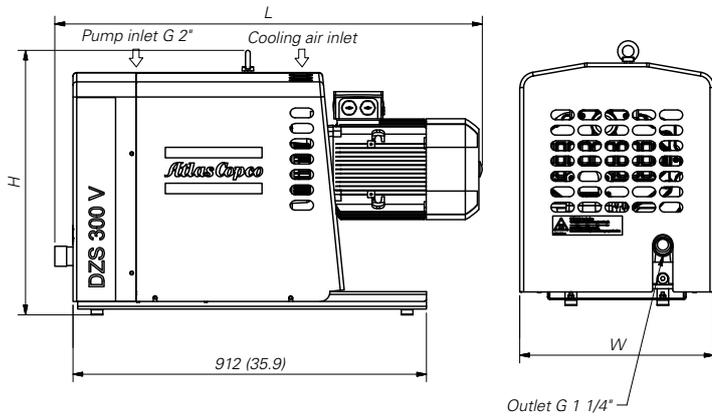
Pumping speed based on air at 20°C. Tolerance +/-10%.  
60Hz Versions supplied with NPT adaptors



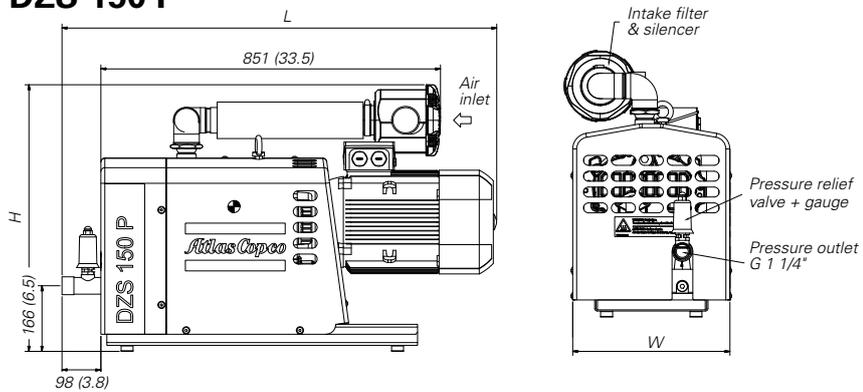
## DZS 065 V – DZS 150 V



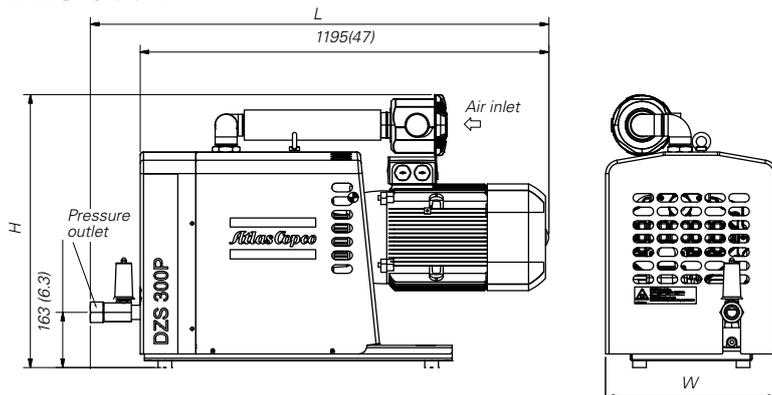
## DZS 300 V



## DZS 150 P



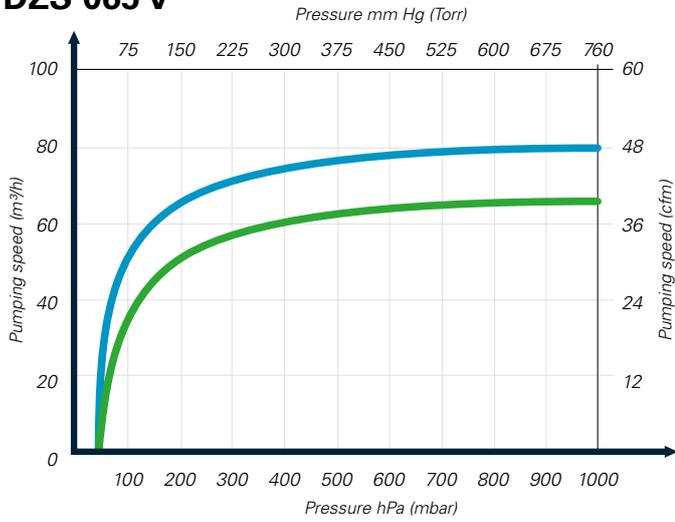
## DZS 300 P



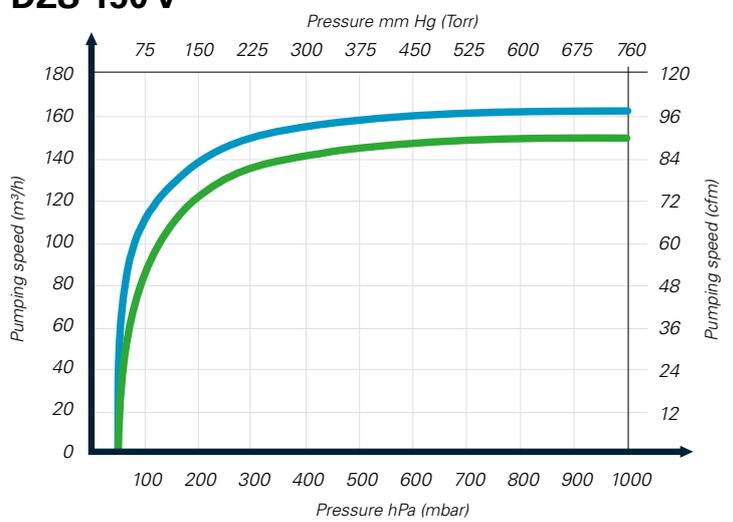
# Performance

## Vacuum

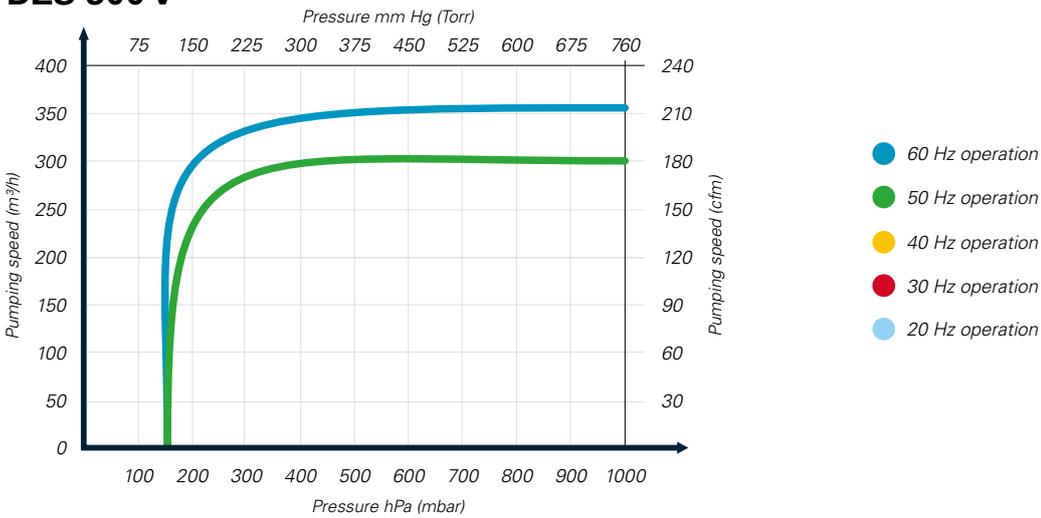
### DZS 065 V



### DZS 150 V

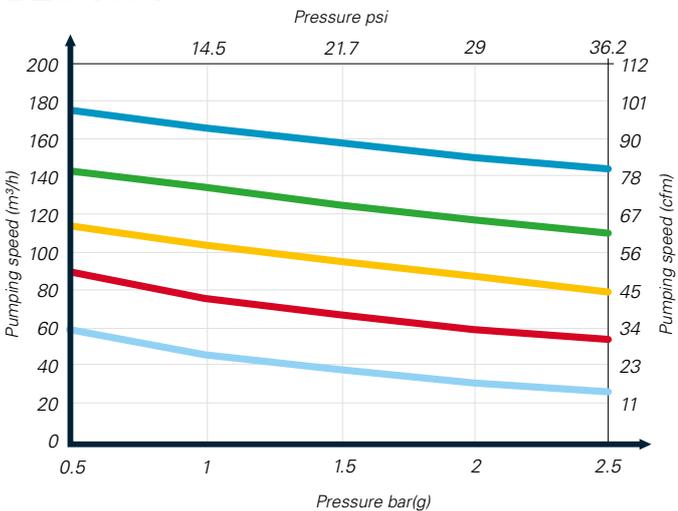


### DZS 300 V

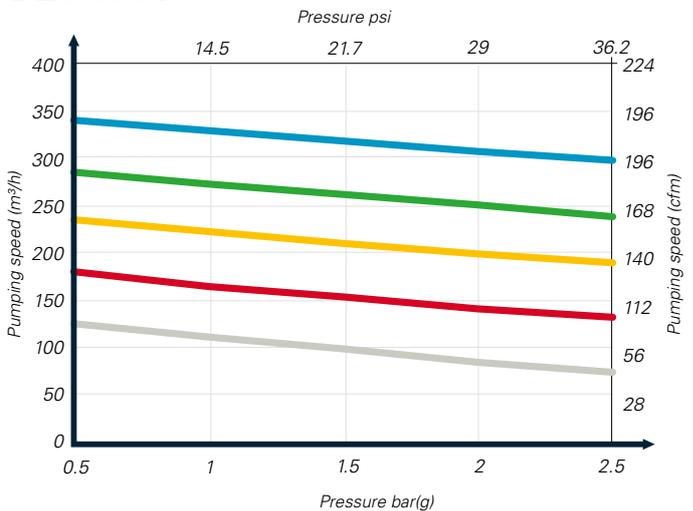


## Low Pressure

### DZS 150 P



### DZS 300 P



# Technical specifications DZM multi-claw

Type	Number of integrated pumps	Nominal displacement		Ultimate vacuum Level			Permissible ambient temperature range		Inlet connection size	Exhaust connection size	Shaft power minimum / maximum	
		m <sup>3</sup> /h	cfm	mbar(a)	"Hg Vac	Torr	°C	°F	Flange	Flange	kW	hp
DZM 600 VSD	2 x DZS 300	44 to 642	26 to 377	140	25.8	105	0 to 40	32 to 105	*DN 80	*DN 80	1.2 to 13	1.6 to 17
DZM 900 VSD	3 x DZS 300	44 to 937	26 to 550	140	25.8	105	0 to 40	32 to 105	*DN 100	*DN 100	1.2 to 19	1.6 to 25
DZM 1200 VSD	4 x DZS 300	44 to 1230	26 to 723	140	25.8	105	0 to 40	32 to 105	*DN 100	*DN 100	1.2 to 25	1.6 to 33

Figures based on 50Hz operation, 400 V.

Figures based on lead pump with 20 to 60Hz operation, subsequence pumps operating at 50Hz, 400 V.

Pumping speed based on air at 20°C. Tolerance +/-10%.

Shaft power based on one pump at minimum speed 1200rpm and maximum power achieved when lead pump is at 60Hz operation and lag pumps at 50Hz.

\*US 60Hz Versions supplied with ANSI adaptor flanges

## Dimensions & weight

Type	Length		Width		Height		Weight	
	mm	in	mm	in	mm	in	kg	lbs
DZM 600 VSD	1420	56	905	36	1980	78	800	1764
DZM 900 VSD	1420	56	1590	62	1980	78	1400	3086
DZM 1200 VSD	1420	56	1590	62	1980	78	1800	3968

Dimensional tolerances +/- 10mm / 0.4"

Weight tolerances (oil included) +/- 20kg/44lbs



## ***COMMITTED TO SUSTAINABLE PRODUCTIVITY***

We stand by our responsibilities towards our customers, towards the environment and the people around us. We make performance stand the test of time. This is what we call – Sustainable Productivity.



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

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