



# DRYVAC SERIES

A new idea for  
smart pumping



**NEW MODELS:  
DRYVAC DV 500 and DV 800**



# Smart engineering for today and tomorrow: our network-capable performance and efficiency, even when the going gets tough.

This series of dry compressing screw-type vacuum pumps is engineered for the new era of smart manufacturing. Packed with intelligent features and functions, all DRYVAC models offer seamless connectivity, networked control and superior efficiency.

DRYVAC pumps boost your productivity, minimize your carbon footprint, and lower your costs. Plus, thanks to an integrated smart service concept, they virtually look after themselves.

## **Connected, efficient, reliable – smarter with Leybold.**

Purge of shaft seals and adjustable gas ballast depending on duty  
Ready for harsh applications

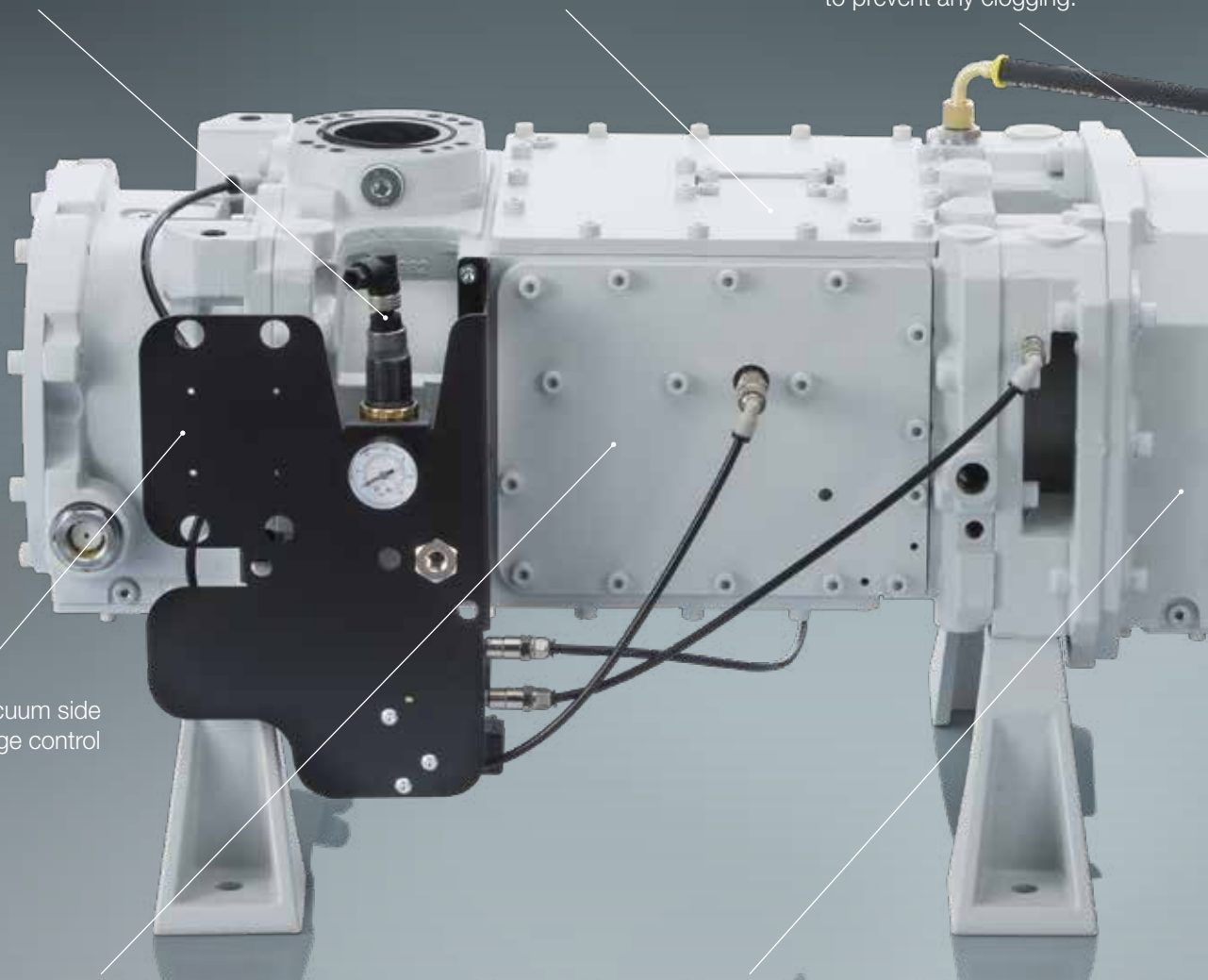
Integrated blow-off valve for faster pump-down

Integrated temperature sensors ensure a safe operation under harsh operating conditions. The water cooling lines are designed to prevent any clogging.

Automatic vacuum side shaft seal purge control

Optimized patented rotor design for highest energy efficiency and pumping performance  
Rotor material: ductile cast iron grade (GGG 40)

Hermetically sealed pump



# DRYVAC series delivers cutting-edge

Industrial standard variable frequency drive with indirect water cooling for highest reliability



## Built-in intelligence for industrial applications



### Seamless connectivity & networking

Fieldbus and PLC compatibility allow for connectivity to other devices in a network for real-time communications and control. Direct control is also possible via a computer or handheld device. Support for various fieldbus protocols ensures maximal flexibility. Protocol support for Profibus, Ethernet/IP, ProfiNet and EtherCAT as option.



### Intelligent energy consumption

Exceptionally low constant power consumption delivers world-class energy efficiency. The advanced self-regulating feature, only consumes the power the pump actually needs, saving costs and reducing your carbon footprint.

DRYVAC pumps are more cost-efficient and greener than similar models operating in the low-pressure range (<10 mbar).



### Smart service concept

Continuous performance monitoring made possible via an integrated frequency converter and three independent sensors. Should abnormal conditions such as overheating be detected, DRYVAC pumps can communicate them quickly and efficiently via fieldbus. Preset parameters enable plug-and-play operation, without additional installation.

DRYVAC pumps also feature minimal maintenance and easy cleaning of water cooling channels thanks to a non-jacketed design.

## World-class vacuum performance for diverse applications

The DRYVAC series is suitable for even the toughest industrial demands and applications – whenever and wherever a hermetically sealed pump is required. All versions of the DRYVAC family feature water cooling, a highly compact design, and simple, versatile mounting options.

**Discover some of the applications that rely on DRYVAC pumps.**



### **Coating systems**

Vacuum often plays an essential role in coating processes, which generally involve the modification of material surfaces – from metallization and glass coatings to solutions for high-tech products such as photovoltaic cells and ophthalmic lenses.

DRYVAC pumps offer a clean, compact and energy-efficient solution that is easy to install and requires minimal maintenance.

### **Drying**

Vacuum provides a gentle, energy-efficient drying solution, especially for heat-sensitive materials. But vacuum components also need to handle the large volumes of water vapor extracted in the process.

DRYVAC pumps can withstand high humidity levels without additional maintenance (no extra oil or exhaust filter changes). Their screw design avoids condensation and allows the pumps to keep performing at a high level over time.

### **Steam sterilization**

Steam sterilization processes rely on large quantities of high-temperature steam to destroy microbes. Vacuum is used to evacuate air from the sterilization chamber prior to sterilization. Like in drying processes, vacuum pumps employed in steam sterilization need to withstand high quantities of water vapor.

DRYVAC pumps stand up to these conditions without the need for premature maintenance or a general overhaul.





### Heat treatment

In brazing applications, vacuum pumps need to handle aggressive vapors. With the correct purge configuration, condensation of flux outgassing is effectively avoided and the pump operates reliably, even under the harshest conditions.

Our DRYVAC models support different purge setups for added flexibility.



### Electron-beam welding

Electron-beam welding, the basis for high-tech applications ranging from microelectronics to the semiconductor industry, often relies on vacuum conditions to concentrate the beam.

In this demanding environment, DRYVAC pumps offer unsurpassed energy efficiency, especially at low pressures. Their “fit-and-forget” design makes them especially convenient and they require minimal maintenance.



### Modified atmosphere packaging

Vacuum components are used in MAP systems to flush air from packaging and replace it with a modified gas mixture that is optimally suited to a specific foodstuff.

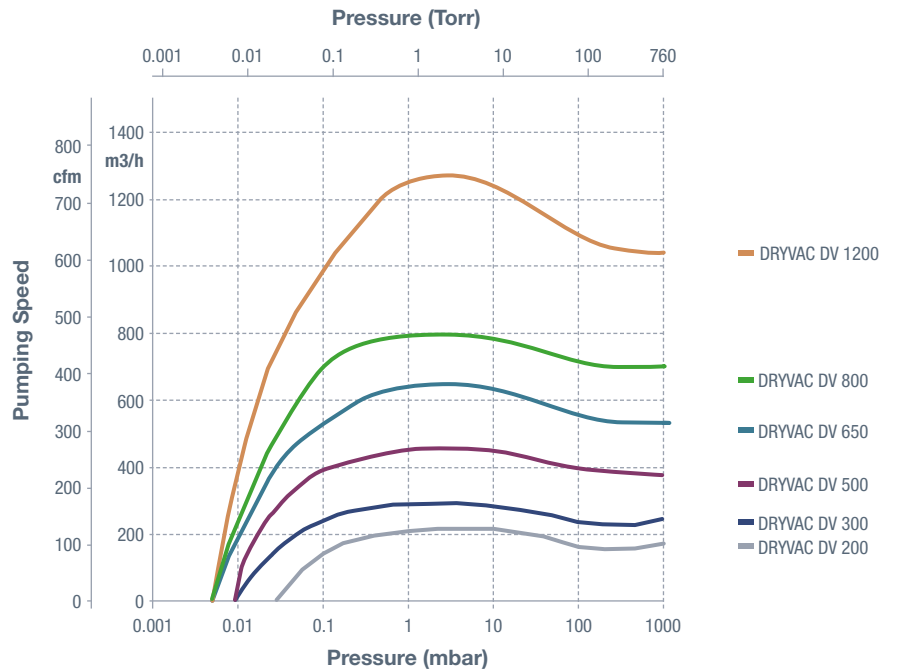
DRYVAC vacuum pumps offer a high pumping speed for a greater production yield coupled with a low ultimate pressure to eliminate the need for an additional roots blower. DRYVAC models are also engineered to handle the oxygen extracted during the process.



One smart concept, many variations: the DRYVAC series

Meet the models in our smart DRYVAC series. The ultimate test for an increasingly intelligent vacuum solution is whether it brings smart results. Enjoy best-in-class performance, reliability and efficiency.

**Pumping speed curves**





DRYVAC DV 1200

### Smart and connected with future-ready accessories

What makes top-performing pumps even more intelligent? Smart accessories.

All DRYVAC models are equipped with a frequency converter and offer compatibility with a intelligent range of fieldbus protocols for maximum flexibility.

### Industrial standard variable frequency drive

This built-in frequency converter operates in conjunction with three standard sensors to monitor all electrical, thermal and mechanical components. The sensors detect the exhaust pressure, motor temperature and water outlet temperature and issue

status updates and warnings when needed. Taking efficiency up a notch: with a frequency converter, DRYVAC 300 moves up a whole class, making it the most efficient pump available.

### Fieldbus interface cards

Fieldbus compatibility makes DRYVAC vacuum pumps ready for the demands of smart manufacturing. All pumps offer serial I/O solutions including a RS485 interface and support for various fieldbus protocols.

“Going dry with DRYVAC dry pump means for our customers to combine low maintenance needs, reliability in industrial environments, easy networking and control with future readiness. And future readiness involves for us solutions to minimize the energy consumption even more with features like the DRYVAC Energy Saver and solutions for Industry 4.0 readiness.”

Olaf Stahlschmidt, Product Manager

## TECHNICAL DATA

		DV 200	DV 300	DV 500	DV650	DV800	DV 1200
Max. pumping speed	m <sup>3</sup> /h	210	280	460	650	800	1250
	cfm	124	165	270	383	471	736
Ultimate pressure without gas ballast	mbar	< 0.05	< 0.01	< 0.01	< 5 x 10 <sup>-3</sup>	< 5 x 10 <sup>-3</sup>	< 5 x 10 <sup>-3</sup>
	Torr	< 0.04	< 0.08	< 0.08	< 4 x 10 <sup>-3</sup>	< 4 x 10 <sup>-3</sup>	< 4 x 10 <sup>-3</sup>
Permissible ambient temperature	°C	5 to 50	5 to 50	5 to 50	5 to 50	5 to 50	5 to 50
Noise level with silencer, at ultimate pressure (acc. to DIN EN ISO 2151)	dB(A)	65	65	65	65	65	65
Relative ambient atmospheric humidity		90%, non-condensing					
Max. installation height		Up to 2000 m above sea level					
Cooling		Water					
Cooling water temperature range	°C	5 to 35	5 to 35	5 to 35	5 to 35	5 to 35	5 to 35
Cooling water nominal flow	l/min	8	8	8	7.5	10	15
Mains voltage 50/60 Hz	V	380-460 or 200-240 ± 10%				380-460 ± 10%	
Rated power 50/60 Hz	kW	7.5	7.5	11	15	22	30
Power consumption at ultimate pressure	kW	4.1	4.5	4.4	6.6	7.0	13.2
Bearing lubricant		LVO 210 synthetic oil					
Protection class		IP54					
Intake connection		DN 63 ISO-K	DN 63 ISO-K	DN 63 ISO-K	DN 100 ISO-K <sup>1)</sup>	DN 100 ISO-K <sup>1)</sup>	DN 100 ISO-K
Discharge flange		DN 40 ISO-KF	DN 40 ISO-KF	DN 63 ISO-K	DN 63 ISO-K	DN 63 ISO-K	DN 100 ISO-K
Weight, approx.	kg	370	370	490	589	589	1400
Dimensions (W x H x D)	mm	1115 x 612 x 478		1225 x 612 x 478	1280 x 570 x 420		1339 x 705 x 985

<sup>1)</sup> One inlet on top, two at the side

Please contact us for more technical details on the entire DRYVAC series.

ORDERING INFORMATION *	DV 200	DV 300	DV 500	DV650	DV800	DV 1200
<b>DRYVAC 380 - 460 V</b>	<b>112020V15</b>	<b>112030V15</b>	<b>112050V15</b>	<b>112065V15-1</b>	<b>112080V15-1</b>	<b>112120V17-1</b>
<b>DRYVAC 200 - 240 V</b>	<b>112020V19</b>	<b>112030V19</b>	<b>112050V19</b>	<b>112065V19-1</b>	-	-
<b>Accessories:</b>						
<b>RUVAC adapter 501/700</b>	<b>112004A03</b>		<b>112003A03</b>	<b>112005A03</b>		-
<b>RUVAC adapter 1001</b>	<b>112004A04</b>		<b>112003A04</b>	<b>112005A04</b>		-
<b>RUVAC adapter 2001</b>	<b>112004A05</b>		<b>112003A05</b>	<b>112005A05</b>		-
<b>RUVAC adapter 2500</b>	<b>112004A07</b>		<b>112003A07</b>	<b>112005A07</b>		-
<b>RUVAC adapter 4400/7000</b>	-		<b>112003A10</b>	<b>112005A10</b>		-
<b>Check valves</b>						
Disc valve	<b>112004A14</b>		<b>112003A14</b>	<b>112005A14</b>		-
Ball valve	<b>115005A01</b>		-	-		-
Non-return valve (flap)	-		-	<b>112005A15</b>		-
<b>Silencer</b>		<b>115005A21</b>		<b>119002</b>		<b>119001</b>

\* Selection from the product range. Further model versions, motor voltages and accessories, like external frequency converters and communication cards on request. For detailed information on our full scope of DRYVAC pumps, please contact sales. Visit our webshop [www.leyboldproducts.com](http://www.leyboldproducts.com).

# Leybold

Pioneering products. Passionately applied.

