Leybold

DRYVAC SERIES

A new idea for smart pumping

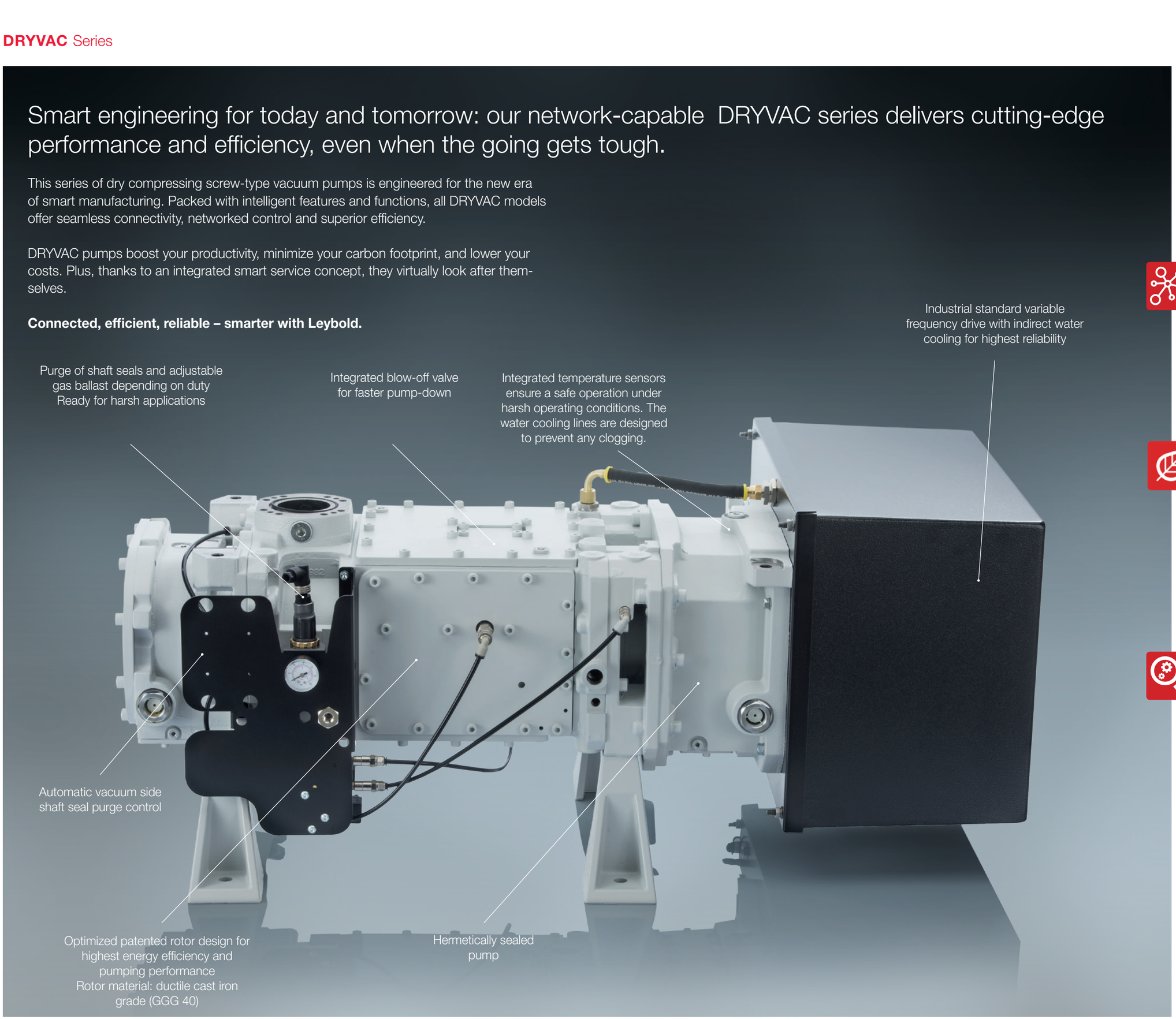
171.65.02

Smart engineering for today and tomorrow: our network-capable DRYVAC series delivers cutting-edge 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.



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).

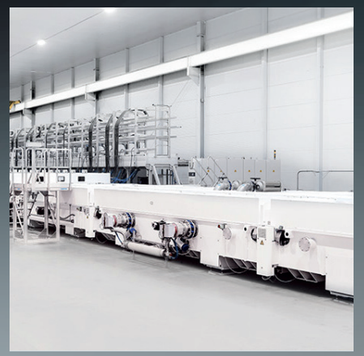
Smart service concept
Continuous performance monitoring made possible via an integrated frequency converter and three independent sensors. Should abnormal conditions such as overheating be detected, DRYVAC pumps can communicate them quickly and efficiently via fieldbus. Preset parameters enable plug-and-play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

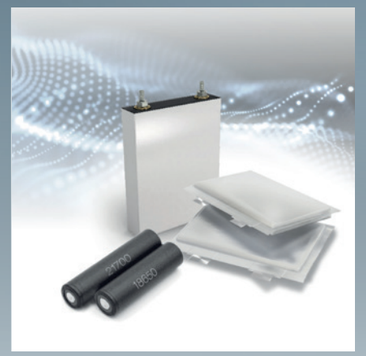
DRYVAC pumps also feature minimal maintenance and easy cleaning of water cooling channels thanks to a non-jacketed design.

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.

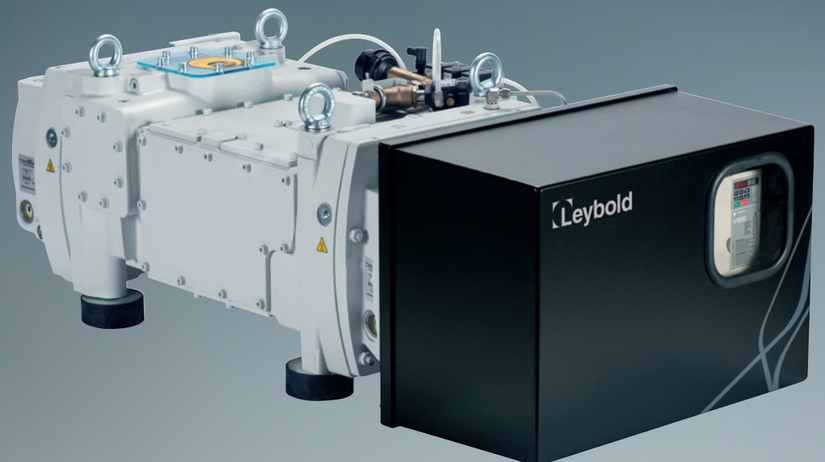
In this demanding environment, DRYVAC pumps offer unsurpassed energy efficiency, especially at low pressures. Their “fit-and-forget” design makes them especially convenient and they require minimal maintenance.

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.

DRYVAC DV 200 / DV 300



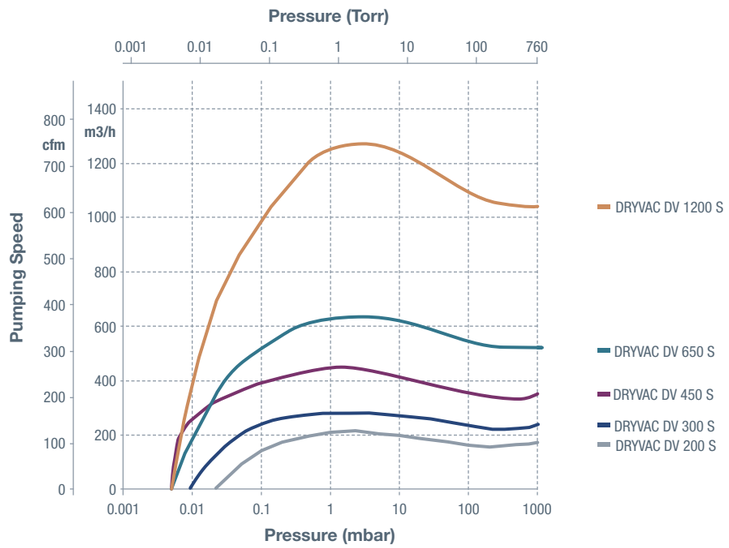
DRYVAC DV 450 / DV 650

DRYVAC DV 1200

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



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

Smart pumping, smart results: The DRYVAC series for efficient, connected, reliable performance.

TECHNICAL DATA						
		DV 200	**DV 300**	**DV 450**	**DV650**	**DV 1200**
Max. pumping speed	m^3/h	210	280	450	650	1250
	cfm	124	165	265	383	736
Ultimate pressure without gas ballast	mbar	< 0.05	0.01	$< 5 \times 10^{-3}$	$< 5 \times 10^{-3}$	$< 5 \times 10^{-3}$
	Torr	< 0.04	0.08	$< 4 \times 10^{-3}$	$< 4 \times 10^{-3}$	$< 4 \times 10^{-3}$
Permissible ambient temperature	°C	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
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
Cooling water nominal flow	l/min	8	8	6	7.5	15
Mains voltage 50/60 Hz	V	380-480 or 200-240 ± 10%				
Rated power 50/60 Hz	kW	7.5	7.5	11	15	30
Power consumption at ultimate pressure	kW	4.1	4.5	4.7	6.6	13.2
Bearing lubricant		LVO 210 synthetic oil				
Protection class		IP54				
Intake connection		DN 63 ISO-K	DN 63 ISO-K	DN 100 ISO-K	DN 100 ISO-K	DN 100 ISO-K
Discharge flange		DN 40 ISO-KF	DN 40 ISO-KF	DN 63 ISO-K	DN 63 ISO-K	DN 100 ISO-K
Weight, approx.	kg	370	370	620	590	1400
Dimensions (W x H x D)	mm	1110 x 613 x 478		1280 x 570 x 420		1339 x 705 x 985

ORDER INFORMATION						
DRYVAC 400 V		**112020V15**	**112030V15**	**112045V15-1**	**112065V15-1**	**112120V50-1**
DRYVAC 200 V		**112020V19**	**112030V19**	**112045V19-1**	**112065V19-1**	**–**

RUVAC Adapter 501/700	**112004A03**	**112005A03**		
RUVAC Adapter 1001	**112004A04**	**112005A04**		
RUVAC Adapter 2001	**112004A05**	**112005A05**		
RUVAC Adapter 2500	**112004A07**	**112005A07**		
RUVAC Adapter 4400/7000	**–**	**112005A10**		
Check Valve	**115005A01 (Ball)**	**112005A15**		
Silencer	**115005A21**	**119002**	**119001**	
Interface cable RS485/USB,1,8 m	**161820USB**			

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