



DRYVAC **Dry Screw Pumps**

The Benchmark in Industrial Vacuum



High reliability
Flexible

Excellent pumping performance

Energy efficient

The benchmark

for industrial

Oil free pump mechanism

minimizing the interaction with vapors and dust

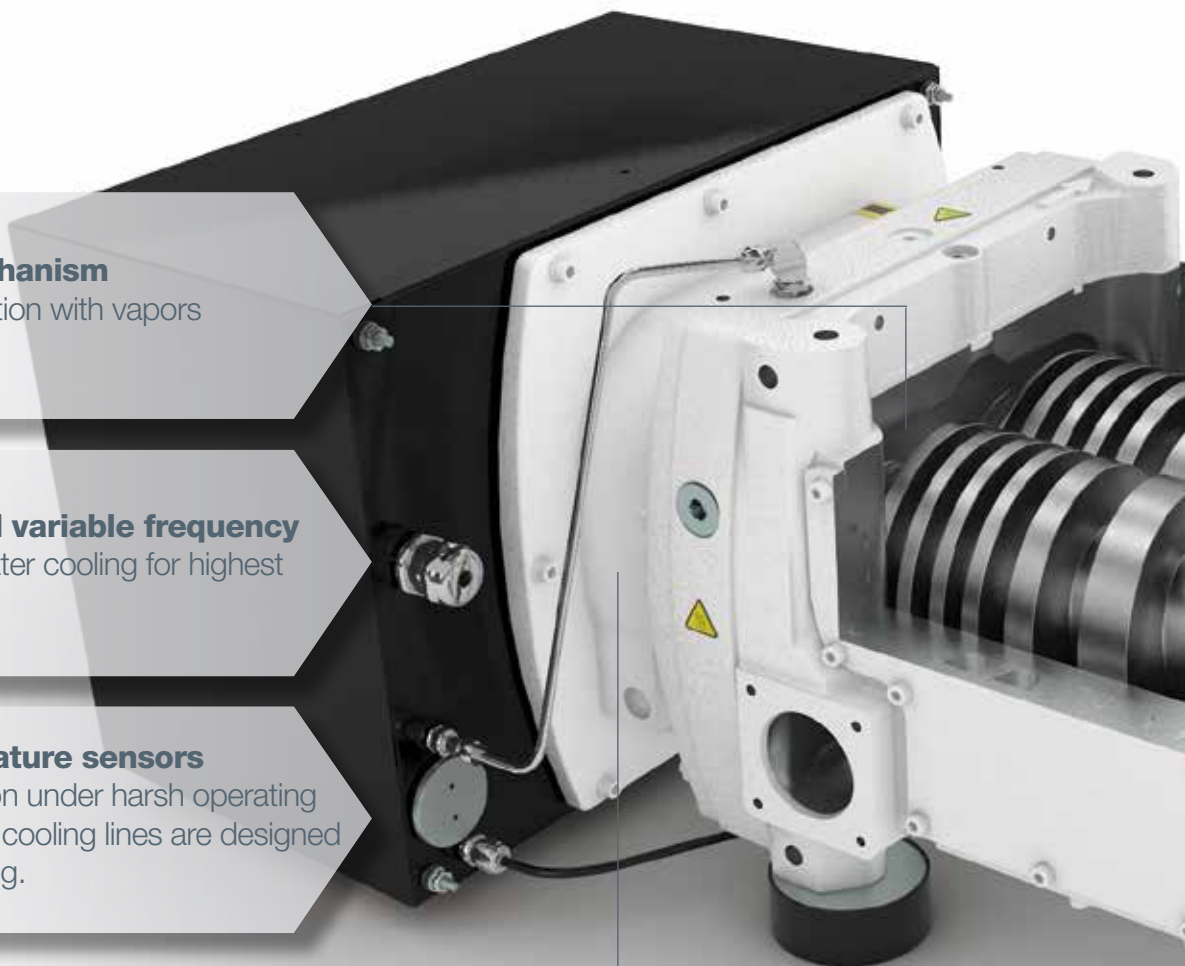
Industrial standard variable frequency drive with indirect water cooling for highest reliability

Integrated temperature sensors

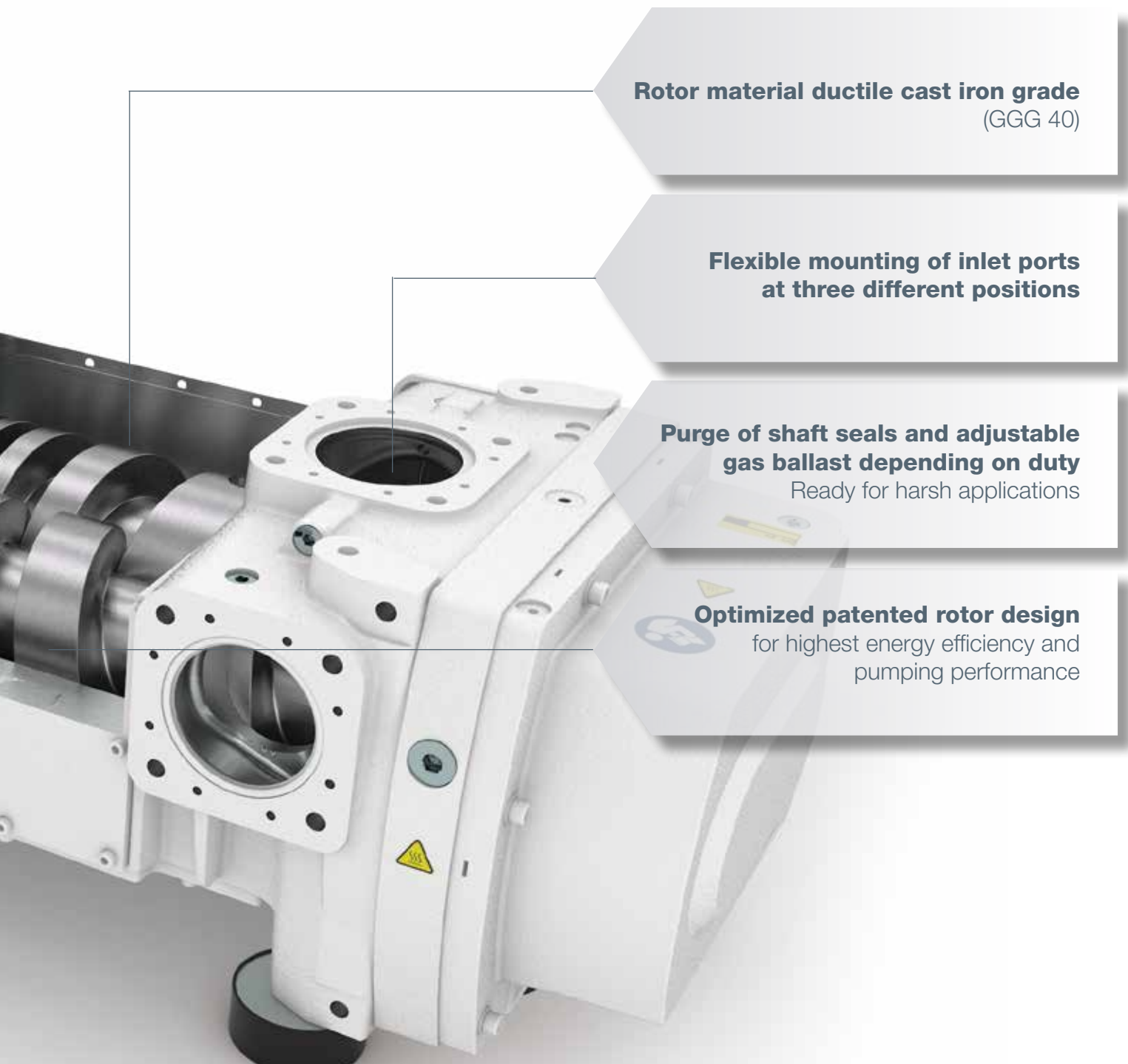
ensure a safe operation under harsh operating conditions. The water cooling lines are designed to prevent any clogging.

Integrated blow-off valve

for faster pump-down



process applications



Rotor material ductile cast iron grade
(GGG 40)

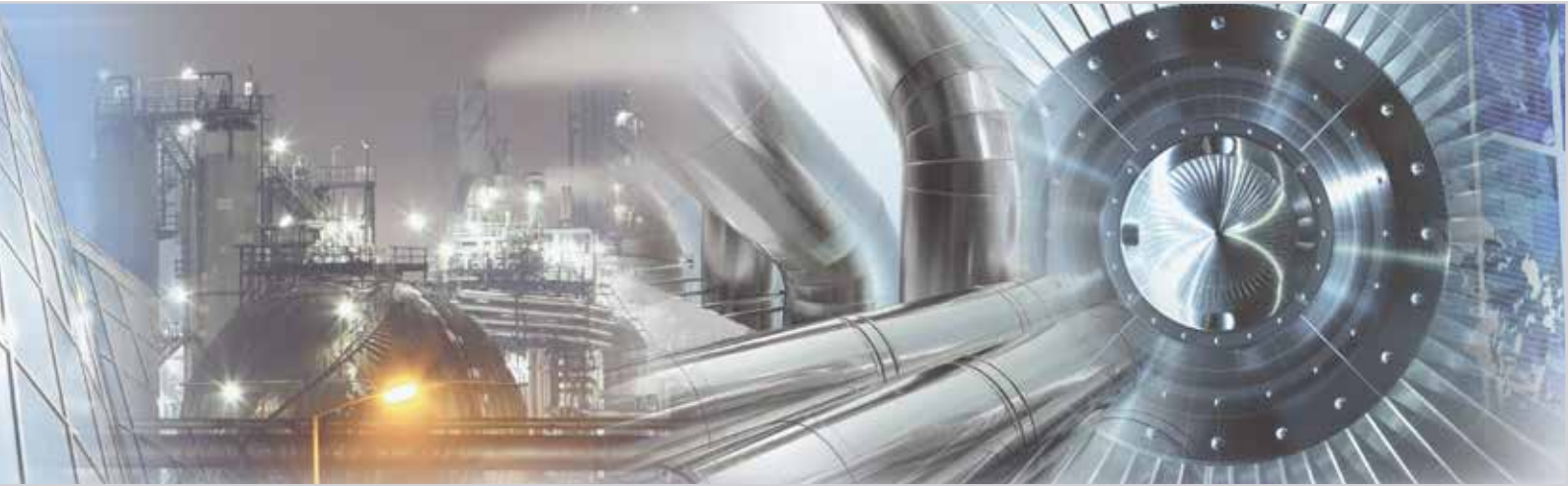
Flexible mounting of inlet ports
at three different positions

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

Optimized patented rotor design
for highest energy efficiency and
pumping performance

DRYVAC

Unique benefits



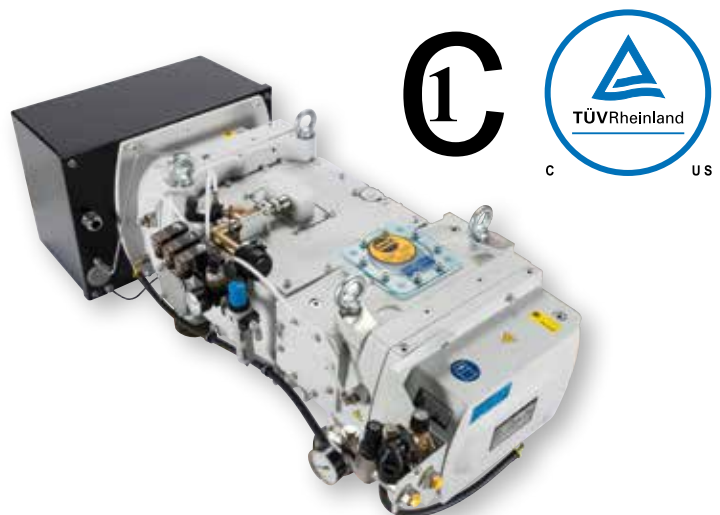
The Leybold DRYVAC dry screw pumps provide high pumping speeds with the lowest vacuum levels as required in industrial processes.

The pumps provide continuous production output in your stressful environment minimizing the risk of contamination thanks to modern oil-free technology.

If you already own a mechanical booster, consider that dry pumps have the same, low level of requirement in terms of maintenance and service.

Features & Benefits

- Superior and compact design
- Flexible to use
- High reliability and process stability
- Excellent pumping performance
- Insensitive to dust, vapors and process by-products
- Energy-efficient
- Low maintenance demands



 **Leybold**

DRYVAC vacuum pumps are certified to NRTL and CSA according to UL 61010-1

Highest performance in every application

From a single pump to a full featured system

Mix and Match - three Options:

- **Direct coupling of RUVAC boosters by adapters**
- **Standard “DRYVAC SYSTEMS”**
- **Customized system solutions**



Application example customized system solution: Steel degassing applications comprising 4x DRYVAC DV 1200 and 10x RUVAC WH roots blowers
Max pumping speed: 59,000 m³/h (34,760 cfm)



Application example customized system solution: Central Vacuum System comprising 12x DRYVAC DV 650, stacked.
Pumping speed: 7,500 m³/h (4,410 cfm)

Application Examples:

Drying

Self-draining design avoids condensation within the pump – high water vapor pumping capability as required for drying applications.

Load lock

The integrated blow-off valve enables fast frequent pumping from atmosphere. Optimized load lock pumping systems provide class-leading pump-down times for any application.

Aluminium casting

The pump can handle even high loads of dust occurring in applications like aluminium casting.

Heat treatment

In brazing applications aggressive vapors have to be handled by the pump. With the correct purge configuration, condensation of flux outgassing is effectively avoided and the pump operates reliably even under the harshest conditions.

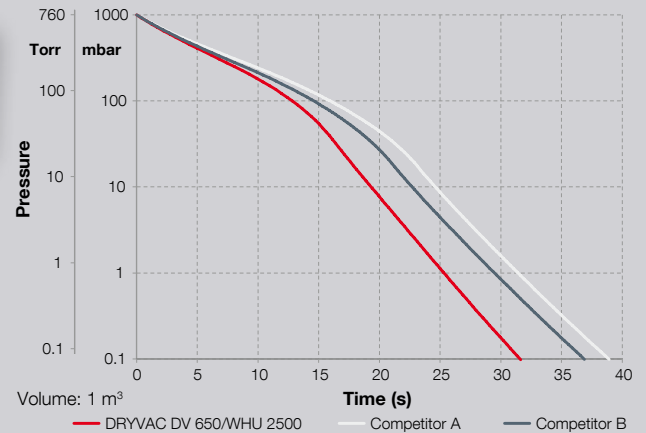


DRYVAC



DRYVAC SYSTEMS
Standard system solutions

Benchmark test
with load lock chamber:



RUVAC Roots Vacuum Boosters

Complete range of industrial Roots pumps:

RUVAC WAU / WSU as economical standard; RUVAC WH as most innovative, compact and robust alternative. RUVAC WH Roots pumps attain high pumping speed and best ultimate pressure with maximum safety in modern industrial applications.

Operation with frequency converter optimizes the power consumption and protects the Roots pump against thermal overloads.

Pumping speed: variable from 700 to 7000 m³/h (9800 m³/h with frequency converter).

System integration, made easy

The smart design of the pumps with their reduced exhaust flange permits the configuration of different pump combinations without an additional mounting frame. Since the pumps are connected only with an adapter, both investment costs as well as the system's footprint are reduced significantly.

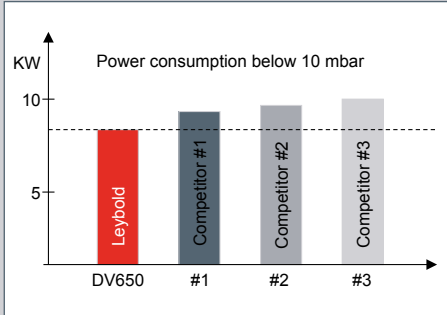
General Advantages

- Extremely robust, wear-free design
- Hermetically sealed, shaft-seal free implementation
- Excellent performance and consumption specifications
- Small footprint
- Innovative bypass valve
- WH 7000 certified according to ATEX RL 2014/34/EU Cat 2i, T2
- Direct connection of large forevacuum pumps via adapter

Special Features at a Glance

- Increased process gas throughput due to significantly enhanced rotational speed
- Reduced pumpdown time due to operation starting at atmospheric pressure in connection with increased pumping speed at low pressures
- Highest operational reliability through parameter matching to the thermal limit of the pump
- Pump protection in the event of a cooling water failure through processing the signal of a thermal sensor
- Energy saving by reducing the speed during standby operation
- Easy electrical integration through digital and analog interfaces; industrial bus systems are optionally available
- The frequency converter contributes significantly to increased reliability at a favourable price-to-performance ratio.

The perfect team: DRYVAC / RUVAC combinations



Low power consumption at ultimate vacuum
 DRYVAC DV 650 compared to competitor pumps:
 650 m³/h = 7.0 kW [competitors up to 10 kW]

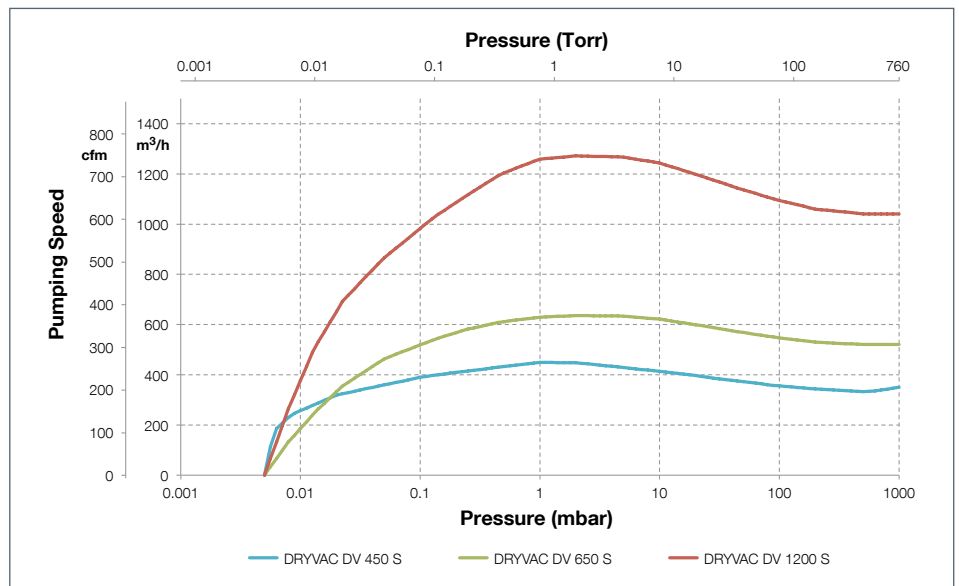
DRYVAC Unique Energy Consumption Concept

- Power consumption at ultimate vacuum is very low
- Up to 30% total savings in energy consumption to comparable pumps on the market (7.0 kW vs. 10 kW)
- Significant reduction of cost of ownership

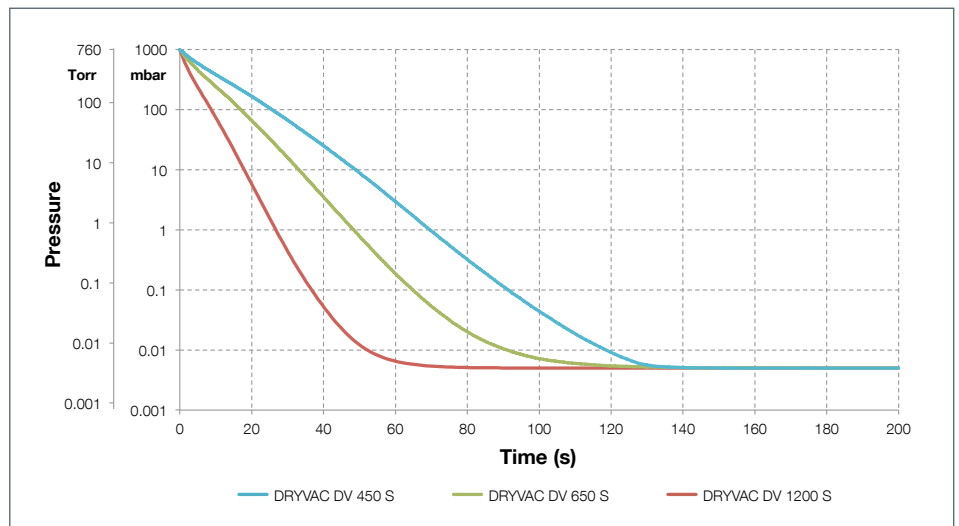


Excellent Performance

- Pumping speed 450 to 1,200 m³/h
- Highest reliability
- Maximum system availability
- Minimum footprint
- Self protection of the pump and easy communication
- Flexible modular system for compact vertical and horizontal installation
- Low operating costs
- Low life-cycle costs
- Very fast pumpdown
- Excellent process adaptation
- Optimum system integration
- Certified according to ATEX RL 2014/34/EU, Cat 2i, T2



Pumping speed characteristics (kW)



Pump-down time for 1 m³

Technical Data

Ordering information

DRYVAC		DV 450	DV 650	DV 1200
Max. pumping speed	m ³ /h cfm	450 265	650 383	1250 736
Ultimate pressure	mbar Torr	< 5 x 10 ⁻³ < 4 x 10 ⁻³	< 5 x 10 ⁻³ < 4 x 10 ⁻³	< 5 x 10 ⁻³ < 4 x 10 ⁻³
Nominal power at 400 V	kW	11	15	30
Mains voltage	V	380-460 V or 200-240 V ± 10 % 50/50 Hz	380-460 V or 200-240 V ± 10 % 50/50 Hz	380-460 V ± 10 % 50/50 Hz
Power consumption at ultimate pressure	kW	4.7	6.6	13.2
Protection class acc. to EN 60529 **	IP	54	54	54
Noise level ¹⁾	dB(A)	65	65	65
Cooling		Water	Water	Water
Cooling water throughput, nominal	l/min	6	7.5	15
Lubricant quantity	l	1.2	1.2	2.4
Intake flange		DN 100 ISO-K (1x on top, 2x on the sides)	DN 100 ISO-K (1x on top, 2x on the sides)	DN 100 ISO-K
Exhaust flange		DN 63 ISO-K	DN 63 ISO-K	DN 100 ISO-K
Weight, approx.	kg	620	590	1400
Dimensions (L x W x H)	mm	1280 x 570 x 420 mm	1280 x 570 x 420	1339 x 705 x 985

** IP 55 possible with external frequency converter

¹⁾ with rigid exhaust line (acc. to DIN EN ISO 2151)

Ordering Information*

DRYVAC	DV 450	DV 650	DV 1200
DRYVAC dry screw pump 400 V, with on-board frequency converter, double purge gas module, 24 V gas ballast module, LEYBONOL LVO 210 lubricant filling	112045V15-1	112065V15-1	112120V17-1
Accessories			
Roots pump adapter for			
RUVAC WH 700		112005A03	
RUVAC WS(U) 1001		112005A04	
RUVAC WS(U) 2001		112005A05	
RUVAC WH(U) 2500		112005A07	
RUVAC WH(U) 4400/7000		112005A10	
Silencer DN 63 ISO-K (DV 450/650) DN 100 ISO-K (DV 1200)	119002	119002	119001

* 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.

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

Leybold

Leybold GmbH
Bonner Str. 498 · D-50968 Köln
T +49 (0) 221-347-0
F +49 (0) 221-347-1250
info@leybold.com
www.leybold.com

