Leybold

BOISWOOD
GAS AND LIQUID CONTROL TECHNOLOGIES
Pressure & Vacuum
Flow
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Custom Services

RUVAC WA(U) / WS(U)

Roots Pumps
Improved Vacuum

173.23.02

RUVAC
Roots Pumps – Reliable, Safe, Rugged

Proven Technology
Fully Optimized

RUVAC roots pumps have been manufactured by Leybold for many decades. The dry compressor roots principle has proven itself in many areas of vacuum technology.

Combined with dry or oil-sealed fore-vacuum pumps, RUVAC roots pumps are used very effectively to increase the pumping speed at low pressures, thus extending the operating pressure range of the fore-vacuum pumps.

RUVAC roots pumps are available in three series with different motor drives.

The RUVAC WA series uses air cooled, flange-mounted standard three phase motors. The RUVAC WS series are equipped with canned (rotor) motors in air-cooled or water-cooled versions.

Each series consists of various sizes to always provide an optimized pumping speed for each application. All three series are available with or without integrated bypass valve (also known as pressure compensation valve).

Range of RUVAC pumps: WAU 2001, WAU 1001, WSU 501, WAU 251

- RUVAC roots pumps can be used either in vertical or horizontal position, thus ensuring flexibility in achieving compact design within systems. Position selected may be changed later if required.
- RUVAC roots pumps have rugged bearings, which in combination with the highly efficient lubrication systems enhances quiet running properties.
- The rotor and stator coils in the drive motor of the RUVAC WS and RUVAC WSU are separated by a vacuum-sealed can.

As there is no drive shaft leadthrough, the requirement for reliability combined with a perfect seal is met in an ideal manner.

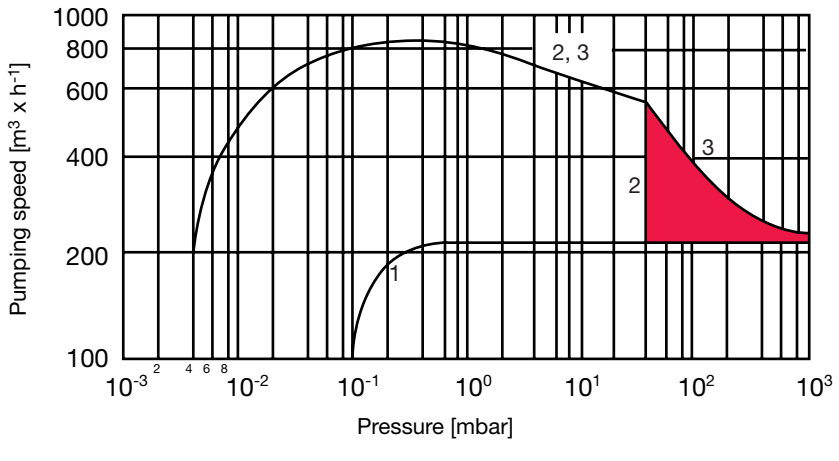
The canned (rotor) motors combined with the highly efficient lubrication system in the RUVAC WS series allow running speeds up to 6,000 RPM (with frequency converter).

This means increased pumping speed with the same size of pump.

The entire WA(U) range complies with the energy efficiency class IE3.

Pumping speed for fore-vacuum pump combined with RUVAC roots pump with and without integrated pressure bypass valve (example: WA/WAU1001 with SOGEVAC SV300 B):

1. **Fore-vacuum pumping speed**
2. **RUVAC pumping speed without pressure bypass valve**
3. **RUVAC pumping speed with integrated bypass valve**



Proven Technology for Your Applications

The Intelligent Series

RUVAC roots pumps are used in almost all areas of vacuum technology. They are a standard in combination with the established oil-sealed TRIVAC and SOGEVAC families. But they are also a standard as a complete dry combination with the DRYVAC and SCREWLINE family.

ATEX (214/34/EU) Compliant RUVAC Roots Pumps

ATEX Cat. 3 certified Roots pumps are available for the lines RUVAC WA/WAU 251/501/1001/2001.

DRYVAC SYSTEMS:
Modulare Standard-Vakuumsysteme für unterschiedlichste Anwendungen - kurzfristig lieferbar

Leybold has taken the well-proven roots principle further and applied it in the RUVAC series to meet the highest requirements demanded by modern vacuum-based production processes:

- The most frequent use of RUVAC roots pumps is to work as a booster stage for smaller forevacuum pumps to enable the compression of large volume flows of gases or vapors in the fine vacuum range.

  Typical applications are heat treatment, furnaces, metallurgy or large area coating.

- RUVAC roots pumps are standard equipment in the architectural glass coating industry. Combined with established oil sealed SOGEVAC pumps they realize the shortest pump down time at the loadlock chambers. Combined with the dry compressing DRYVAC and SCREWLINE pumps they guarantee a dry, reliable and trouble-free vacuum at the process chambers.
- RUVAC roots pumps are used in many applications to achieve the shortest possible cycle times. Wherever fast evacuations are important, for example in supporting load lock chambers or in high-speed food packaging.
- RUVAC roots pumps quickly reach a pressure of less than 10^{-3} mbar when evacuating lamps and insulating surfaces prior to the vapor deposition processes.
- RUVAC pumps are also used in monocrystal pulling equipment such as are used for the manufacture of silicon mono-crystal, the basic material for the manufacture of semiconductors and solar cells.

We would be pleased to offer you our extensive product and applications support and know-how.

Our vacuum technology experts are available to provide accurate, comprehensive and fast responses to all your vacuum related needs

Automotive industry | Display production | Decorative coatings | Wear protection coating | Electron beam melting

Technical Data
Ordering Information

RUVAC WA/WAU / WS/WSU		251	501	1001	2001
Nominal pumping speed (50 Hz)	$m^3 \cdot h^{-1}$	253	505	1000	2050
Rotational speed (50/60 Hz)	min^{-1}	3000/3600	3000/3600	3000/3600	3000/3600
Motor power	kW	≤ 1.1	≤ 2.2	≤ 4.0	7.5
Max. permissible pressure difference [1]	mbar	80	80	80	50
Connection flanges		DN 63 PN6	DN 63 PN6	DN 100 PN6	DN 160 PN6

[1] Integrated bypass valve adjusts for any intake pressure

Ordering information

RUVAC WA/WAU / WS/WSU	251	501	1001	2001
Model	**Cat. No.**	**Cat. No.**	**Cat. No.**	**Cat. No.**
WA/WAU, LVO 100	11720 / 11721	11730 / 11731	11740 / 11741	11750 / 11751
WA/WAU without motor, LVO 100	11724 / -	11734 /155008	11744 / 11217	11254 / 11322
WAU..H with ACE damper, LVO 100	–	11831	11841	11851
WS/WSU, LVO 100	11722 / 11723	11732 / 11733	11742 / 11743	11752 / 11753
WS/WSU, LVO 400	11727 / 11728	11737 / 11738	11747 / –	11757 / 20003123
WS, LVO 400, max. 100 Hz	–	–	–	15095
WS/WSU, LVO 210, max. 100 Hz	–	–	–	167007 / 15098
WSU..H with ACE damper, LVO 100	–	11833	11843	11853
WSU..H with ACE damper, LVO 400	–	–	15047	167129V
Accessories				
Frequency converter RUVATRONIC	RT 5/251 500001381	RT 5/501 500001382	RT 5/1001 500001383	RT 5/2001 500001384
Collar flange for connection to ISO-K flange	26747	26747	26750	26751

Oil fillings: LEYBONOL LVO 100 mineral oil, LEYBONOL LVO 400 PFPE

For detailed information on our full scope of RUVAC pumps, please refer to our general catalog.
Visit our webshop www.leyboldproducts.com.

Please contact us for more technical details on the entire RUVAC WA/WAU, WS/WSU series.

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