

RUVACWA(U) / WS(U)

Roots Pumps
Improved Vacuum



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.

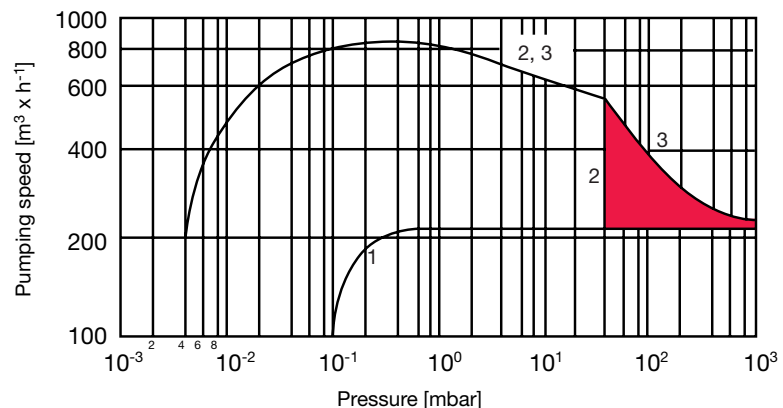
The canned (rotor) motors combined with the highly efficient lubrication system in the RUVAC WS series allow running speeds up to 6,000 RPM (with frequency converter).

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 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 · 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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