RUVC®
Roots Pumps
Improved Vacuum

Technical information 173.23.02
Proven Technology
Fully Optimized

RUVAC roots pumps have been manufactured by Oerlikon Leybold Vacuum for many decades. The dry compressor roots principle has proven itself in many areas of vacuum technology. Combined with oil-sealed fore-vacuum pumps such as the TRIVAC® or SOGEVAC®, 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.

Additionally, RUVAC roots pumps may be combined with dry-compression fore-vacuum pumps such as SCREWLINE® pumps where a total dry vacuum solution is desired.

RUVAC roots pumps are manufactured 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).

- 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 (by frequency modulation).

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

Pumping speed for fore-vacuum pump combined with RUVAC roots pump with and without integrated pressure bypass valve (example: WA/WAU1001 with SOGEVAC SV300):
1. Fore-vacuum pumping speed
2. RUVAC pumping speed without pressure bypass valve
3. RUVAC pumping speed with integrated bypass valve

Range of RUVAC WAU pumps: WAU 2001, WAU 1001, WAU 501, WAU 251
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 SCREWLINE® family.

A special offer from Oerlikon Leybold Vacuum is our application support for customers. We would be pleased to put the know-how of our well experienced application experts to your service.

RUVAC roots pumps are used in many applications to achieve the shortest possible cycle times. Wherever fast evacuations are important, for example at load lock chambers or for food packaging, they will be applicable.

RUVAC roots pumps quickly reach a pressure of less than 10^-3 mbar or Torr 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.

ATEX (94/9/EG) Compliant RUVAC Roots Pumps

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

They comply with ATEX Category 3 (inside), as well as Category 3 (inside) and (outside) and are equipped with motors which comply with temperature classes T3 or T4.

The RUVAC Roots pumps WA/WAU can optionally be equipped with a temperature monitoring facility (Pt 100 temperature sensor).

Oerlikon Leybold Vacuum 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 SCREWLINE® pumps they guarantee a dry, realiable and trouble-free vacuum at the process chambers.
- 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 SCREWLINE® family.
# Technical Data

## Ordering Information

<table>
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<th>RUVAC</th>
<th>WA/WAU</th>
<th>251</th>
<th>501</th>
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<td>Nominal pumping speed</td>
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</table>

1) Integrated bypass valve adjusts for any intake pressure
2) Air-cooled motor/N62 oil
3) Water cooled motor/PFPE oil (or prepared for PFPE oil)
4) WS 2001 FC with frequency controlled motor and Anderol 555 oil offers up to 4100 m³/h nominal pumping speed. PFPE oil filling is possible.

For additional information please contact us.

You can obtain further technical details on our full series of RUVAC roots pumps by contacting your nearest Oerlikon Leybold Vacuum sales office.