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Turbomolecular Pumps TURBOVAC SL

The New Premium Line.

175.60.02

High Vacuum.
Experience, Performance, Innovation.

Oerlikon Leybold Vacuum has been a world leader in vacuum technology for over 150 years, helping our customers reach their big-picture goals by attending to the smallest details.

Our broad range of advanced vacuum solutions is built on real-world experience and engineering expertise for use in manufacturing, analytical and research situations. The shape of our rotor blades, our unique ceramic ball bearings and our pumps' ability to be mounted at any angle are all reasons why Oerlikon Leybold Vacuum provides the best performance in application- and customer-specific systems.

We bring real-world expertise to technology development, so our customers get unsurpassed performance and unsurpassed value in the toughest applications.

Oerlikon Leybold Vacuum Turbomolecular pumps are designed to meet the needs of the semiconductor and coating industries, as well as for industrial, analytical and research applications. We have an installed base of more than 300,000 units in the field, and thousands of users making repeat purchases.

No Detail Is Too Small.

TURBOVAC SL - The Smart Line

Our attention to detail ensures your success.

The TURBOVAC SL

This new generation of TURBOVAC turbomolecular pumps with mechanical rotor suspension and compound stage excels through a new compact design, improved vacuum performance and a standardized accessories program.

The TURBOVAC SL turbomolecular pumps are highly flexible regarding the controller-mounting position, which can be placed onboard, as a bench-top unit or in a rack. In addition, the pumps can be mounted in virtually any position and at any angle.

Additional features include:

- Ceramic ball bearings that provide extreme durability under a wide range of operating conditions
- Oerlikon Leybold Vacuum's unique rotor design, incorporating the industry's most precise blade configuration
- A novel sealing system that offers the highest resistance to mechanical and thermal shock
- A newly designed space-saving housing

The TURBOVAC SL family is comprised of:

- TURBOVAC SL 80
- TURBOVAC SL 300
- TURBOVAC SL 700

Typical Applications

The turbomolecular pumps from the TURBOVAC SL product family are designed to handle the most advanced and demanding applications and requirements in research and industry, including:

- Analytical instruments
- Leak detectors
- Mass spectrometers
- Gas chromatography (GC-MS)
- Liquid chromatography (LC-MS)
- Quadrupol time of flight (Q-TOF)
- Matrix-assisted laser desorption time-of-flight (MALDI-TOF)
- Inductively coupled plasma mass spectrometry (ICP-MS)
- Electron beam microscopy
- Coating technologies
- Surface analysis
- UHV/XHV systems
- Transfer chambers

Features at a Glance

- High flexibility in installation and communication
- Improved vacuum performance
- Excellent resistance to vibration due to proven mechanical bearings
- Installation in any orientation
- Oil-free for clean high and ultra-high vacuum
- Small footprint
- Compatible with low corrosive gases
- Standardized accessories program
- Purge/Vent connection port
- Interface options selectable among RS 232 C, RS 485 C, ProfiBus
- Self-monitoring and diagnostics
- Robust and suited for industrial operation (MTBF > 200.000 h)
- Outstanding price-performance ratio

The value of attention to detail.

We Are the Experts in High Vacuum Technology

Oerlikon Leybold Vacuum is one of the largest vendors of turbomolecular pumps worldwide.

Our highly qualified scientists and engineers have hands-on experience in advanced vacuum applications and are dedicated to solving our customers' vacuum challenges. We are constantly innovating and improving our entire range of solutions for industrial and research applications.

With high manufacturing capacity and world-class production and quality assurance programs, as well as the best-trained sales and support engineers in the industry, Oerlikon Leybold Vacuum consistently provides our customers with leading performance, and the best ROI.

Our list of accomplishments includes:

- First grease-lubricated mechanical turbomolecular pump with independent installation orientation in 1974
- First launch of the MAGLEV pump in 1975
- First turbomolecular pump with integrated temperature management system (TMS) in 1989
- Patented KEPLA coating for corrosion protection in etch processes
- First single axis permanent controlled turbomolecular pump without battery and no tuning in 1990
- First controller with integrated overspeed protection developed together with TÜV Rhineland
- More than 150 patents

Outstanding flexibility:
Up to 9 different on-board converter mounting positions are possible.

Enhanced Services of Oerlikon Leybold Vacuum

- Broad product portfolio of components, accessories and services - all from a single source
- Customized vacuum engineering and design for even the most challenging vacuum systems
- Worldwide application support from engineers with hands-on experience
- Customer consulting and training at strategic centers of competence in Europe, USA and Asia
- Coordination of customer inquiries through our worldwide sales and service network
- Customer-care packages for global customers
- Worldwide service network
- On-site support by our field service team
- 24-hour/7-day availability
- Exchange program with back-up pool management

Get the Details!

High Flexibility in Installation and Communication.

The standardized accessories program

TURBOVAC	SL 80	SL 300	SL 700
Turbomolecular pump with mechnical rotor suspension and compound stage	■	■	■
Frequency converter TURBO.DRIVE with selectable interface types	■	■	■
Control unit TURBO.CONTROL	■	■	■
Power supply TURBO.POWER	■	■	–
Mounting kit for TURBO.DRIVE	❑	❑	❑
Purge gas valve	❑	❑	❑
Venting valve	❑	❑	❑
Mounting kit for purge/vent options	❑	❑	❑
Air-cooling device	❑	❑	●
Water-cooling device	❑	❑	●
Splinter guard ISO-KF	❑	❑	❑
Splinter guard CF	❑	❑	❑
Power failure venting valve	❑	❑	❑
Fine filter	❑	❑	❑
Flange heaters CF	❑	❑	❑
Vibration absorbers ISO-K	❑	❑	❑
Vibration absorbers CF	❑	❑	❑
Top hat rail adapter (mounting aid for converter/power supply)	❑	❑	❑

■ necessary ● selective necessity ❑ optional

Ordering Information

TURBOVAC	SL 80	SL 300	SL 700
Turbomolecular pump TURBOVAC SL with compound stage			
with ISO-KF inlet connection	800002V3001	800170V3005	800051V3001
with CF inlet connection	800002V3002	800170V3006	800051V3002
Frequency converter TURBO.DRIVE (RS 232 C)	800073V0002	800073V0002	800074V0001
Mounting kit TD, TURBOVAC - TURBO.DRIVE,			
including connection cable 0.2 m			
for connection of the converter beside the TURBOVAC	800110V0005	800110V0006	800110V0007
for connection of the converter below the TURBOVAC	800110V0008	800110V0009	800110V0010
Control unit TURBO.CONTROL	800100V0001		800101V0001
Connection cable TURBO.CONTROL, 1 m	800091V0100		800093V0100
Mains cable TURBO.CONTROL, 3 m, EURO plug	800102V0002		800102V0002
Power supply TURBO.POWER	800100V0002		–
Connection cable TURBO.POWER, 1 m	800094V0100		–
Air cooling device	-	-	800136V003
Water cooling device	-	-	800135V004

This ordering information represents just a small selection of our TURBOVAC SL program. For further detailed information on variations and the complete accessories range, please refer to our main Oerlikon Leybold Vacuum catalog, chapter turbomolecular pumps.

TURBOVAC SL

A New Generation of Turbomolecular Pumps.

Technical Data

Turbomolecular Pump	**TURBOVAC**	**SL 80**	**SL 300**	**SL 700**
Inlet flange	DN	63 ISO-K 63 CF	100 ISO-K 100 CF	160 ISO-K 160 CF
Pumping speed				
N_2	l/s	65	270	690
Ar	l/s	60	260	630
H_2	l/s	49	190	360
He	l/s	55	255	580
Max. gas throughput with water cooling device				
N_2	mbar l/s	2.0	2.9	5.6
Ultimate pressure*				
with dual-stage oil-sealed rotary vane pump	mbar	$< 2 \times 10^{-10}$	$< 1 \times 10^{-10}$	$< 10^{-9}$
Max. foreline pressure for N_2, water-cooled version	mbar	< 20	< 8	< 15
Recommended fore vacuum pump				
dual-stage oil-sealed rotary vane pump		TRIVAC 2.5 E TRIVAC NT 5	TRIVAC NT 5 TRIVAC NT 10	TRIVAC NT 10 TRIVAC NT 16
scroll vacuum pump		SCROLLVAC SC 5 D	SCROLLVAC SC 5 D SCROLLVAC SC 15 D	SCROLLVAC SC 15 D SCROLLVAC SC 30 D
diaphragm pump		DIVAC 2.5 VT	DIVAC 2.5 VT	–
Run-up time	min	1.5	4	5
Power consumption at ultimate pressure	W	17	18	60
Noise level	dB(A)	< 46	< 49	< 47
Weight with TURBO.DRIVE	kg	2.5 3.7	5.8 8.0	14.8 18.1

* CF flange configuration

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