

VACUUBRAND®



VACUU·PURE® 10

100% oil-free vacuum pump for the vacuum range down to 10^{-3} mbar. Ideal for clean processes which require a dry and hydrocarbon-free vacuum.

www.vacuubrand.com

Pure vacuum. Nothing else.

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For non-corrosive applications

- 10^{-3} mbar vacuum range
- 100% oil-free
- No abrasion
- No wear parts

VACUU-PURE reliably delivers the benefits of oil-free vacuum technology in the pressure range down to 10^{-3} mbar. The new vacuum pump combines three important benefits for the user:

100% oil-free, no abrasion, and no wear parts.

We listened to you: you asked for contamination-free vacuum that lets your clean processes run efficiently. Our team of experts developed VACUU-PURE for precisely these applications. Our dry screw pumps meet challenges where other technologies fall short.

VACUU-PURE covers many applications. The vacuum pump is especially developed for processes down to 10^{-3} mbar, however, unlike other fine vacuum pump technologies it can be used across the entire pressure range from atmospheric pressure to its ultimate vacuum. With a pumping speed of up to $10 \text{ m}^3/\text{h}$, the vacuum pump is very capable. Easy installation, user friendliness, and the rugged air cooled design enable trouble-free operation. VACUU-PURE is not only a versatile pump for the laboratory, it is an ideal solution for demanding processes.

10⁻³ mbar vacuum range

100 % oil-free

For dry and hydrocarbon-free operation, VACUU·PURE takes the screw pump principle to the next level. The vacuum pump is 100% oil-free.

This enables clean processes and pure products and protects the laboratory and environment. Save both time and operating costs, since there is no need to dispose of waste oil or to interrupt your work for oil changes.

No abrasion

The working principle of VACUU·PURE is based on gap sealing. The unique operating principle enables contact-free rotation of the spindles.

The vacuum pump operates abrasion-free. This ensures an ultrapure, permanently stable vacuum as well as contamination-free exhaust air. The risk of migration of particles in the direction of the recipient is eliminated and since there is no wear due to abrasion, it also allows for continuous operation.

No wear parts

A major benefit of VACUU·PURE is that it does not have any wear parts. The spindles rotate contact-free. Components are manufactured with the highest precision, down to the smallest detail.

The special design reduces operating costs, saves time and enables trouble-free operation: VACUU·PURE has no wear parts and therefore has no scheduled maintenance requirement. In UHV (ultra-high vacuum systems) systems, for example, this enables uninterrupted operation in parallel to the turbopump without intermediate aeration. Since there is no abrasion there is also no risk of contamination to the process vacuum.



„We were particularly impressed by the fact that VACUU·PURE has good flow rate even at higher pressures. For this reason, we can use VACUU·PURE as early as the initial evacuation of our UHV systems (ultrahigh vacuum systems). We avoid switching between different pump technologies for pumping out our systems and use as a backing pump.“



Technology

VACUU-PURE reliably delivers the benefits of oil-free vacuum technology in the pressure range of 10^{-3} mbar. The special design with two cantilevered spindles and a magnetic gear allows hydrocarbon-free operation. The spindles run contact-free and are thus free of abrasion.

Modbus RTU interface

Easy system integration and remote control via process control systems

Air cooled
Versatile use

Low vibration
 $v_{rms} < 1.5$ mm/s
at the inlet flange



Rotatable inlet

Vertical or horizontal orientation possible

Contact-free operating principle

No abrasion – no migration of particles in direction of the recipient

Cantilevered spindles

Dry running – flow path is free from hydrocarbons

“The VACUU-PURE 10 is performing flawlessly, so I continue to love it. In fact, I’m going to be ordering another one soon. That tells you all you need to know!”

Applications



Applications VACUU·PURE 10

- Fore vacuum generation for turbomolecular pumps
- Particle accelerators
- Analytical applications
- Scanning tunneling microscopy
- Mass spectrometry
- Regeneration of cryo pumps
- Coating
- PVD / CVD
- Degassing
- Drying

VACUU·PURE is ideal for clean processes and pure products in the vacuum range down to 10^{-3} mbar.

A dry and hydrocarbon-free vacuum is indispensable for many applications such as in ultrahigh vacuum systems. As a dry fore vacuum pump for turbomolecular pumps, VACUU·PURE offers a deep ultimate vacuum that was previously unreachable with oil-free technologies.

VACUU·PURE can operate continuously at higher pressures so that even larger systems can be evacuated from atmospheric pressure down to 10^{-3} mbar without the need for another pump technology. The good ultimate vacuum also improves the ultimate pressure of turbopumps.

Without wear parts to change or troublesome oil changes to perform, VACUU·PURE enables continuous operation without the need for regular maintenance.

VACUU·PURE is also available in a chemically resistant design for working with aggressive gases and vapors. This version (with integrated sealing gas supply) is also particularly suitable for applications requiring a high pumping speed for light gases below 1 mbar. Sealing gas conveys light gases from the outlet.

„With VACUU·PURE, we finally get a hydrocarbon- and abrasion-free vacuum down to 10^{-3} mbar.“

„VACUU·PURE has proven to be an excellent fore vacuum pump for the various turbomolecular pumps used. Due to the very good and reliable ultimate fore-vacuum we are able to achieve compared to other pump technologies, this results in a much improved ultimate vacuum of the turbomolecular pumps.“

Technical Data

Technical data	VACUU·PURE® 10
Max. pumping speed	10 m ³ /h
Ultimate vacuum (abs.)	5 × 10 ⁻³ mbar (at 1013 mbar ambient pressure)
Max. inlet pressure (abs.)	atmospheric pressure
Max. outlet pressure (abs.)	15 mbar above atmospheric pressure
Ambient temperature range (operation)	10 – 40 °C
Ambient temperature range (storage)	-10 – 60 °C
Inlet connection	small flange KF DN 25
Outlet connection	small flange KF DN 25
Rated motor power	0.7 kW
Protection class	IP 20
Dimensions (L x W x H), approx.	507 × 269 × 413 mm
Weight, approx.	21,1 kg
Noise (sound pressure level), uncertainty 3 dBA	52 dBA

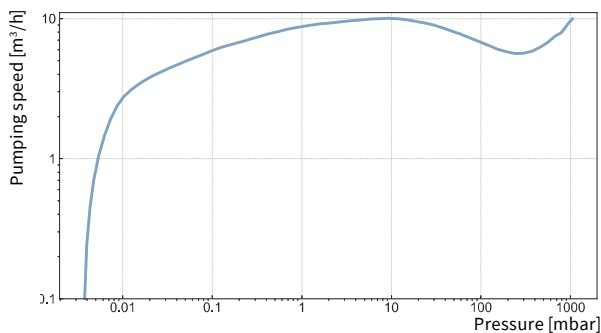
Product name	Ord. No.
VACUU·PURE 10 CEE	20750000
VACUU·PURE 10 CH	20750001
VACUU·PURE 10 UK	20750002
VACUU·PURE 10 US	20750003
VACUU·PURE 10 CN	20750006
VACUU·PURE 10 IN	20750007

Nominal mains voltage / mains frequency
100-230 V, 50/60 Hz

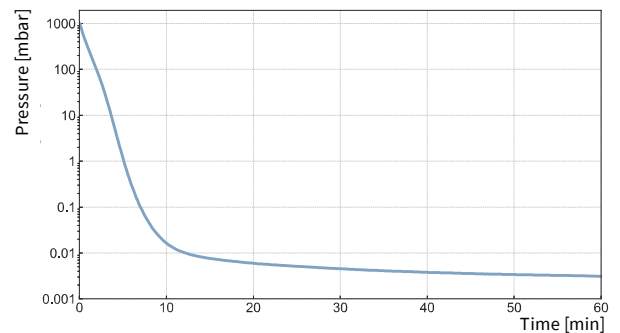
Items supplied

Pump completely mounted, ready for use, connection with small flange KF DN 25, with manual.

Pumping speed graph



Pump down graph (100 l volume)



Accessories

Accessories general		Ord. No.
VACUU·PURE shuttle, mobile underframe for VACUU·PURE		20751800
Silencer with 90° elbow, KF DN 25		20750801
Elbow, aluminum, KF DN 25		20669405
External centring ring, PBT, sealing ring FPM, KF DN 20/25		20660196
Clamping ring, aluminum, KF DN 20/25		20660001
Accessories measurement and control		Ord. No.
Vacuum gauge VACUU·VIEW extended, 1100 – 0.001 mbar		20683210
VACUU·SELECT package (stainless steel) for fine vacuum control with VACUU·VIEW extended for KF DN 25		20700110
Accessories VACUU·BUS® and communication		Ord. No.
In-line valve VV-B 15C, VACUU·BUS PVDF/PTFE, electromagnetic, DN 25, certification (NRTL): C/US		20674215
Communication Kit, USB VACUU·BUS converter for communication with VACUU·BUS capable devices		20683230



Silencer
(20750801)



VACUU·PURE shuttle
(20751800)



VACUUBRAND is part of the Brand group, a manufacturer of high-quality and innovative laboratory equipment and vacuum technology with a global team of approx. 1,000 employees.

With 280 highly motivated and qualified employees, we manufacture the world's most comprehensive product family for vacuum generation, measurement and control for the rough and fine vacuum range in the laboratory.

All with one goal:

Enabling our customers to run reliable, safe and efficient processes. This is why we commit ourselves to continuous innovation, first-class performance, and outstanding quality.

Engineering excellence is central to our ability to deliver products and solutions renowned for their quality, durability, and reliability. Innovative technology, high quality materials and extensive testing deliver unmatched performance - engineered and manufactured in Germany.

Together with you, our experts will find the best solution for your application and provide you with first-class service along the way: **+49 9342 808 5550**

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For more Information