Leybold

NEO (S)D

A triple hit – Less noise. Fewer emissions. Less maintenance.

A triple hit vacuum technology for cleaner, quieter, longer-running performance.

Pairing health and safety with efficient processes is a critical need for any workplace, from research labs to industrial manufacturers. When processes rely on continuous vacuum, choosing the correct components becomes all the more essential. Reliable, high-performance vacuum technology not only gets the job done, but also contributes to a better work environment with less noise and fewer emissions. The result is greater well-being and peace of mind – for higher levels of employee productivity and precision in demanding applications. When it comes to these universal challenges, the **NEO (S)D** rotary vane vacuum pump offers numerous advantages, but most of all, it's cleaner, quieter and virtually maintenance free.

Thanks to its integrated exhaust filter, pumping vapors is easily done WITHOUT condensation. Other designs propose an external filter which is at ambiant temperature. Condensation is more likely to happen with a corrosion and performance loss risk!

Because good things come in threes.

Our benefits

Fully customized

A number of accessories allow to fine tune the pump to your needs:

- External frequency converter for single phase power supply, data acquisition & monitoring
- Roots adapters for closed coupled Roots mounting up to 500 m^3/h on Neo D 40 & 65
- Pump Service Indicator to monitor the pump temperature, oil level and filter back pressure visually & electrically

Cleaner technology

The **NEO (S)D** features a high-quality exhaust filter inside its oil casing. Built-in filtration reduces the the pump's required integration volume and ensures a clean environment with no oil smoke or loss while pumping down. The end result is significantly less oil loss with no external exhaust filtration – up to 1000 times less! This innovative design also makes the **NEO (S)D** incredibly compact. The integrated exhaust filter, at pump temperature, allows pumping vapors WITHOUT condensation

Quieter performance by design

Our designers and engineers went to great lengths to improve the acoustic properties of the rotary vane vacuum pump. And they delivered: the **NEO (S)D** sets a new benchmark in perceived noise levels and sound quality.

- NEO D 16 & 25 - 54 dB(A)
- NEO D 40 & 65 - 57 dB(A)
- NEO SD 16 - 52 dB(A)

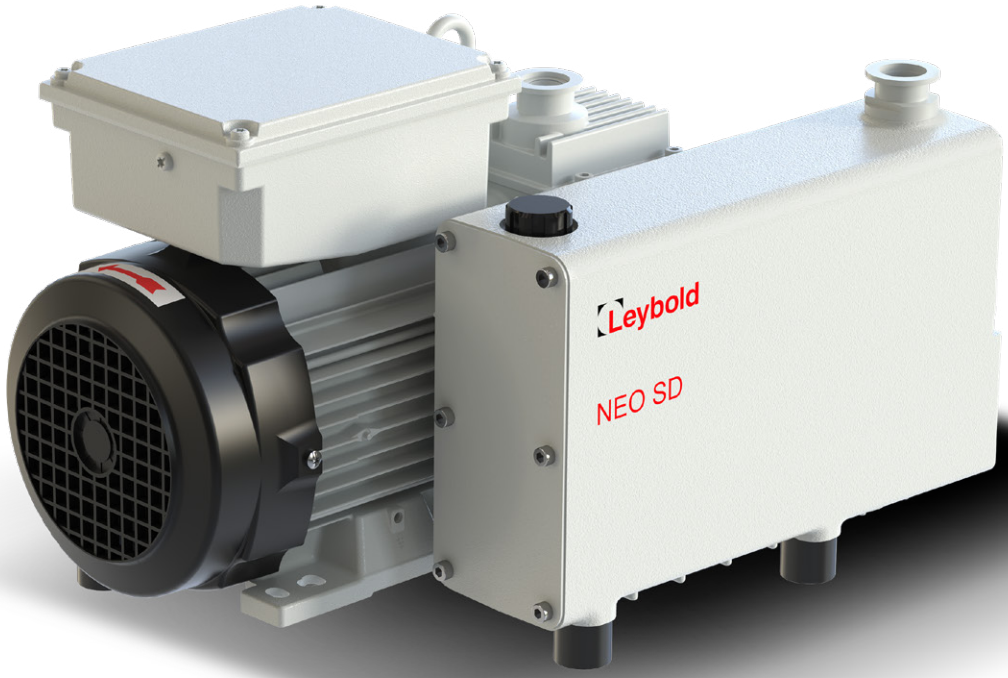
Longer running – maintenance-free for up to three years

Thanks to its cutting-edge shaft seal technology (designed exclusively for Leybold) and its long-lasting hydrocarbon oils, the **NEO (S)D** is designed to provide maximum uptime. This new generation of vacuum pumps allows for up to three years of maintenance-free operation in clean applications. "Fit it and Forget it" for a new level of performance and convenience!

Two stage medium vacuum pump – ideal for all medium vacuum applications.

Reliable vacuum is indispensable for numerous applications across a variety of industries. Unlike many other pumps, the **NEO (S)D** operates continuously at any inlet pressure from rough to fine vacuum. The **NEO (S)D** rotary vane vacuum pump is suitable for all dual-stage pump applications, and is best used in applications requiring full pumping speed between 0.01 and 1 mbar.

NEO SD 16 is a variant of the NEO D 16 having no cooling fan and a simplified design. This doubles its water vapor tolerance and further reduces its noise level. Its overall dimensions & weight remain the same.



Selected applications

Analytics and glove boxes

In analytical instruments such as mass spectrometers or electron microscopes, roughing pumps are essential components for reliable operation. **NEO (S)D** advantages:

- Reduces costs: no need for noise enclosures
- Flexible interfaces for remote control
- Pumping speeds from 16 to 80 m^3/h with 180...264 V; 50 & 60 Hz 1-phase power supply
- Reduced footprint: No external exhaust filter required
- Saves costs: Up to three years of maintenance-free operation!

Heat treatment & plasma processes

In heat treatment furnaces and plasma processes, vacuum pump technology must perform reliably while exposed to difficult processes. **NEO (S)D** advantages:

- Rugged industrial design with oil filter
- No external exhaust filter required
- Different oil types available depending on process!

R&D

Ultra-high vacuum (UHV) applications require reliable fore-vacuum generation for turbomolecular pumps. To avoid disturbing sensitive measurements, noise and vibrations must be kept to an absolute minimum. **NEO (S)D** advantages:

- Nice to work with: Extremely quiet and easy to operate
- Sufficient ultimate pressure for UHV performance
- Reduces footprint: No external exhaust filter required
- Saves costs: Up to three years of maintenance-free operation!

Sterilization

In sterilization, vacuum pumps are critical components that are exposed to harsh conditions including large quantities of H_2O_2. **NEO (S)D** advantages:

- Silent, user-friendly pump
- No external exhaust filter required

Performance-boosting accessories for pump monitoring and control

Would you like to enjoy multiple pump control options and receive access to predictive maintenance data? We offer a frequency converter (FC) driven version of the **NEO (S)D** for all four pump sizes.

Frequency converter drive (optional):

Black box FC drive enables

- Speed control
- Monitoring (RS485 interface)
- Constant pumping speeds independent of mains frequency
- Soft start with no inrush current
- Lower noise and vibration levels than a 1-phase motor
- 1-phase power supply 180…264 V at 50 & 60 Hz for all pump sizes

Pump service indicator (optional for NEO D):

Do you need to keep an eye on the status of your pump, even when you're not on site? Our pump failure indicator provides remote monitoring:

1. **Oil level**
   Indicates a low oil level
2. **Oil temp**
   Indicates overheating
3. **Exhaust filter condition (back-pressure)**
   Indicates when the exhaust filter needs to be changed

Integrated exhaust filter eliminates oil emissions and oil loss while pumping down

Reducing your energy bill and CO_2 footprint

NEO (S)D is engineered to optimize the use of energy with its innovative design. Our customers benefit with typically 20% lower energy consumption as compared to other competitive pumps. Reduced energy consumption leads to a lower carbon footprint which helps you to achieve your environmental targets.

NEO D 16 and **25** have been running 24/7 in the production of artificial diamonds in India, delivering a energy saving of 1600 kWh every year.

Technical data

The NEO (S)D rotary vane vacuum pump is available in four different sizes: 16, 25, 40 or 65 m3/h at 50 Hz. We also offer a variety of motors, oils and accessories, depending on your requirements.

NEO		SD 16		D 16		D 25		D 40		D 65	
Frequency	Hz	50	60	50	60	50	60	50	60	50	60
Rated pumping speed	m^3/h	19	23	19	23	28	34	47	56	74	89
Eff pumping speed	m^3/h	16	19	16	19	24	29	40	48	63	76
Ult pressure w/o gas ballastopening	mbar	$< 8 \times 10^{-3}$									
Ult pressure with gas ballast	mbar	$< 1 \times 10^{-1}$									
Water vapor tolerance	mbar	10									
Motor power 3-phase motor 1-phase motor Frequency converter	 kW kW kW	 0.55 0.75 0.75	 0.7 0.9 0.9	 0.55 0.75 0.75	 0.7 0.9 0.9	 0.9 0.9 0.9	 1.1 1.1 1.1	 1.15 1.3 1.5	 1.5 1.5 1.5	 2.0 - 2.0	 2.0 - 2.0
Noise level	dB(A)	52		54				57			
Oil volume	l	1.5						3			
Flanges		25 KF						40 KF			
Weight	kg	48						80		88	
Dimensions L x W x H	mm	516 x 288 x 294				518 x 288 x 294		632 x 356 x 320		669 x 359 x 320	

Ordering information

NEO	SD 16	D 16	D 25	D 40	D 65
3-phase world motor 180…264 / 342…457 V, 50 Hz & 180…264 / 342…506 V, 60 Hz	970102SD	970102V	970202V	970302V	970402V
1-phase 180 - 264V, 50 & 60 Hz with overload protection	970100SD	970100V	970200V	970300V	N/A
1-phase 115V +- 10 %, 60 Hz with overload protection	970103SD	N/A	N/A	N/A	N/A
Oil level switch	9700LS				
Exhaust filter over-pressure switch	971471210				
Exhaust filter pressure manometer	95193				
Thermal switch to protect the pump from overheating	9700TS				9700TS65
PT100 for pump temperature monitoring	N/A			971444320	
1-phase driven F/C 180 - 264V, 50 & 60 Hz with overload protection	Accessory P/N 970FC01 to be connected on the 3 phase world motor pump				
Roots adapter for close-coupled Roots mounting up to 500 m^3/h	N/A			970RA02	970RA01
Pump Service Indicator & cables Pump sensors (oil level, oil temperature and exhaust filter condition) not included	N/A		9700F1 & 9700F1C1	9700F1 & 9700F1C2	

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Pioneering products. Passionately applied.