



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 ambient 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 m³/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

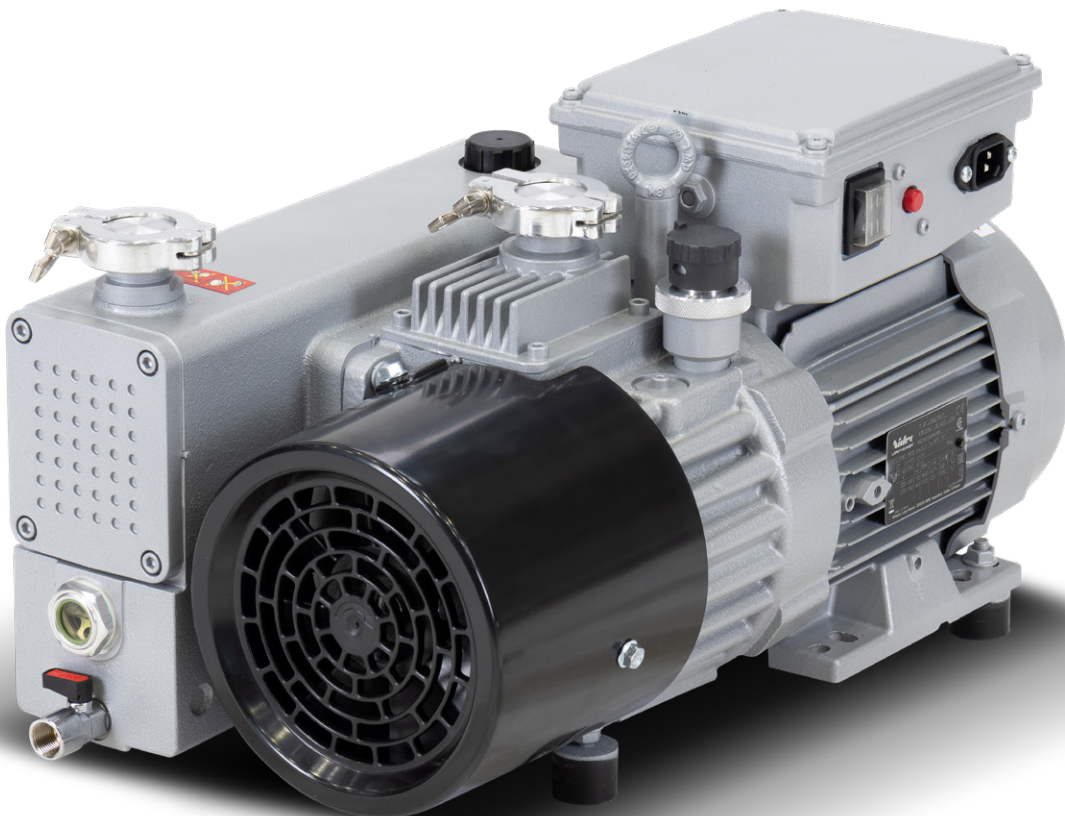
Our designers and engineers went to great lengths to improve the acoustic properties of the rotary vane vacuum pump. And they delivered: the **NEO (S)D** sets a new benchmark in perceived noise levels and sound quality.

- 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!



NEO (S)D

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 m³/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 H₂O₂.

NEO (S)D advantages:

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



NEO (S)D

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

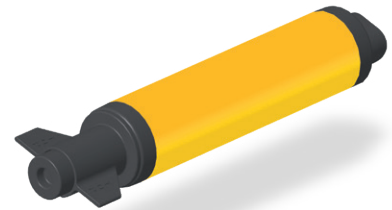
Indicates a low oil level

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 CO₂ 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	m³/h	19	23	19	23	28	34	47	56	74	89
Eff pumping speed	m³/h	16	19	16	19	24	29	40	48	63	76
Ult pressure w/o gas ballastopening	mbar	< 8 x 10 ⁻³									
Ult pressure with gas ballast	mbar	< 1 x 10 ⁻¹									
Water vapor tolerance	mbar	10									
Motor power											
3-phase motor	kW	0.55	0.7	0.55	0.7	0.9	1.1	1.15	1.5	2.0	2.0
1-phase motor	kW	0.75	0.9	0.75	0.9	0.9	1.1	1.3	1.5	-	-
Frequency converter	kW	0.75	0.9	0.75	0.9	0.9	1.1	1.5	1.5	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 m³/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	