

NASH

by Gardner Denver

DRY SCREW VACUUM PUMPS & SYSTEMS

DRY-PRO[®] VSB



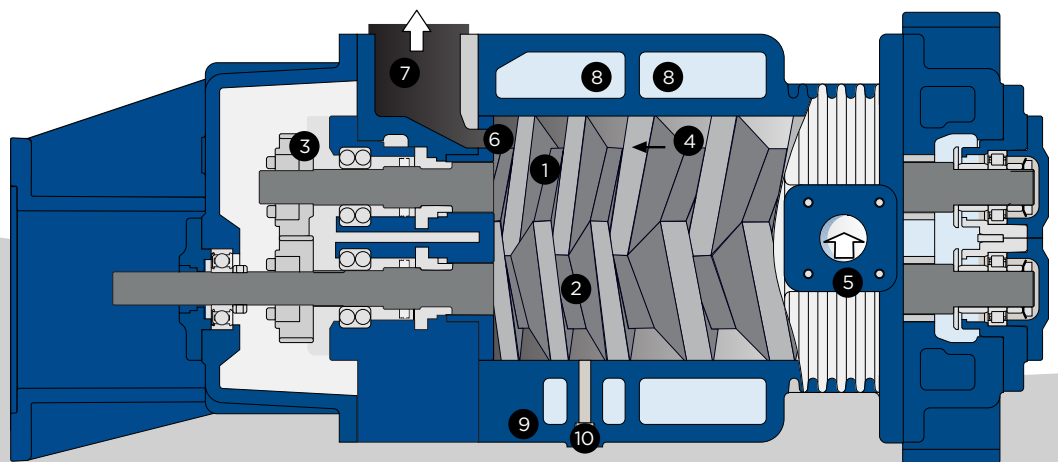
DRY-PRO

NASH® DRY-PRO®

Dry Screw Vacuum Pumps & Systems

For more than 110 years NASH Pumps have been known as tireless workhorses, designed to stand up to the rigorous, non-stop demands of even the most harsh industrial environments. NASH DRY-PRO dry vacuum pumps and systems continue this tradition, delivering proven NASH reliability, with the low maintenance requirements that industry demands.

Need safe and reliable vacuum solutions? You need NASH



How It Works

- A screw vacuum pump consists of two parallel, screw-shaped rotors (1 and 2), one with a right-hand thread and the other with a left-hand thread.
- Both screws turn in the compression housing (9) without friction and at very tight clearances. They are synchronized via a precision gear (3).
- The compression housing and the special shape of the screws form the compression chambers (4).
- Due to the opposite rotation of the screws the chamber connected with the suction port (5) is enlarged and the gas is transported into the compression chamber. Then the chamber moves axially from the suction side to the pressure side (arrow).
- Due to the variable pitch rotors, the gas is compressed at each pitch change and cooled before the next pitch change, resulting in greater efficiency.
- On the pressure side the chamber is moved against the axial housing wall and the volume is reduced until the front surface of the screw (1) opens the pressure channel (6) and the compressed gas is discharged through the pressure connection (7).
- Cooling is achieved using a water cooled outer chamber (8). Gas ballast port available for application-specific solutions (10).

Clean, oil-free vacuum for a variety of industrial applications.

The NASH® DRY-PRO® is a remarkably simple, yet sophisticated, reliable and highly efficient dry vacuum pump. The dry and contact free operation requires no lubrication in the pumping chamber. This translates into major advantages: no process contamination and no pollution caused by the pump operation. Because of its oil-free, non-contacting screw design, NASH DRY-PRO pumps can safely and reliably handle corrosives, organics, inorganics and solvents.

Wide Operating Range

- Ultimate Vacuum to 0.02 Torr (0,03 mbar)
- Operates at any pressure between blank off and atmospheric pressure
- Capacities are virtually limitless with various backing pump options and high vacuum boosters

Reliable Performance

- Low rotation speed ensures smooth and robust operation
- Higher discharge pressure than vertical designs means more on process time
- With high vapor and liquid tolerances, DRY-PRO pumps have a long service life

Low Life Cycle Costs

- High efficiency reduces energy cost over lifetime
- Optional coatings offer additional protection from corrosive process gas and extend service life

Industries & Applications

- Ideally suited for applications where clean, oil-free vacuum is needed

CHEMICAL & PHARMACEUTICAL

Cooling
Degassing
Distillation
Drying
Evaporation
Fractionation
Impregnation

INDUSTRIAL

Industrial applications
Cleaning
Coating
Drying
Dust extraction systems
Industrial furnaces
Vacuum metallurgy

PETROCHEMICAL

Vapor Recovery

FOOD PACKAGING & PROCESSING

Tray sealing
MAP packaging
Degassing
Drying

PACKAGING

Central vacuum systems

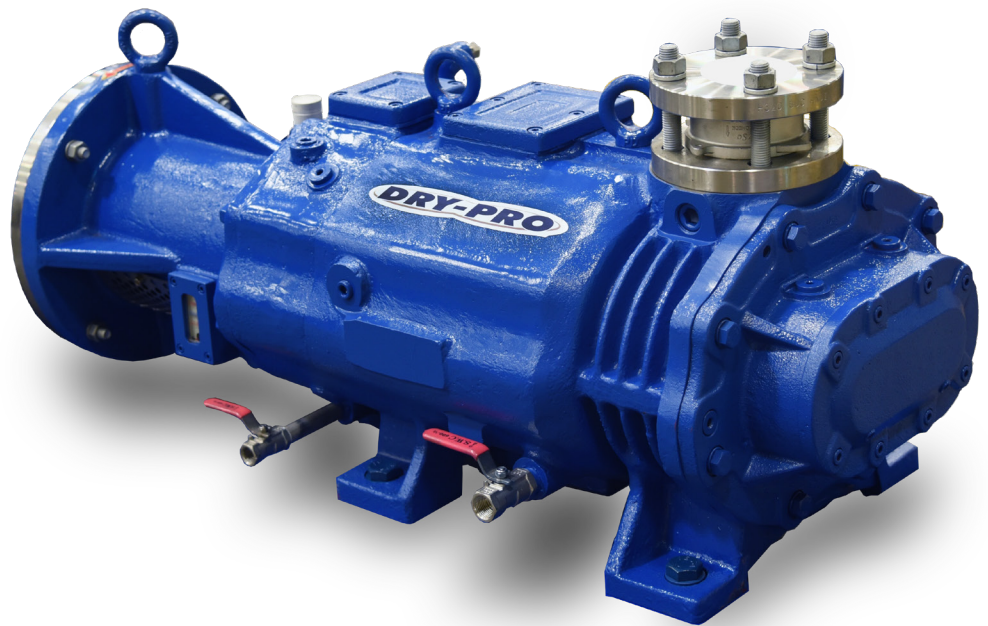
R&D / LABORATORIES



DRY-PRO® VSB

Dry Screw Vacuum Pumps

- Dry running, contact free operation
- Variable pitch screw rotors optimize efficiency and temperature rise
- High vacuum in one stage
- High water vapor tolerance
- Short evacuation time due to high suction capacities
- Low noise level
- Easy to service
- ATEX available
- Low life cycle costs
- Application specific options

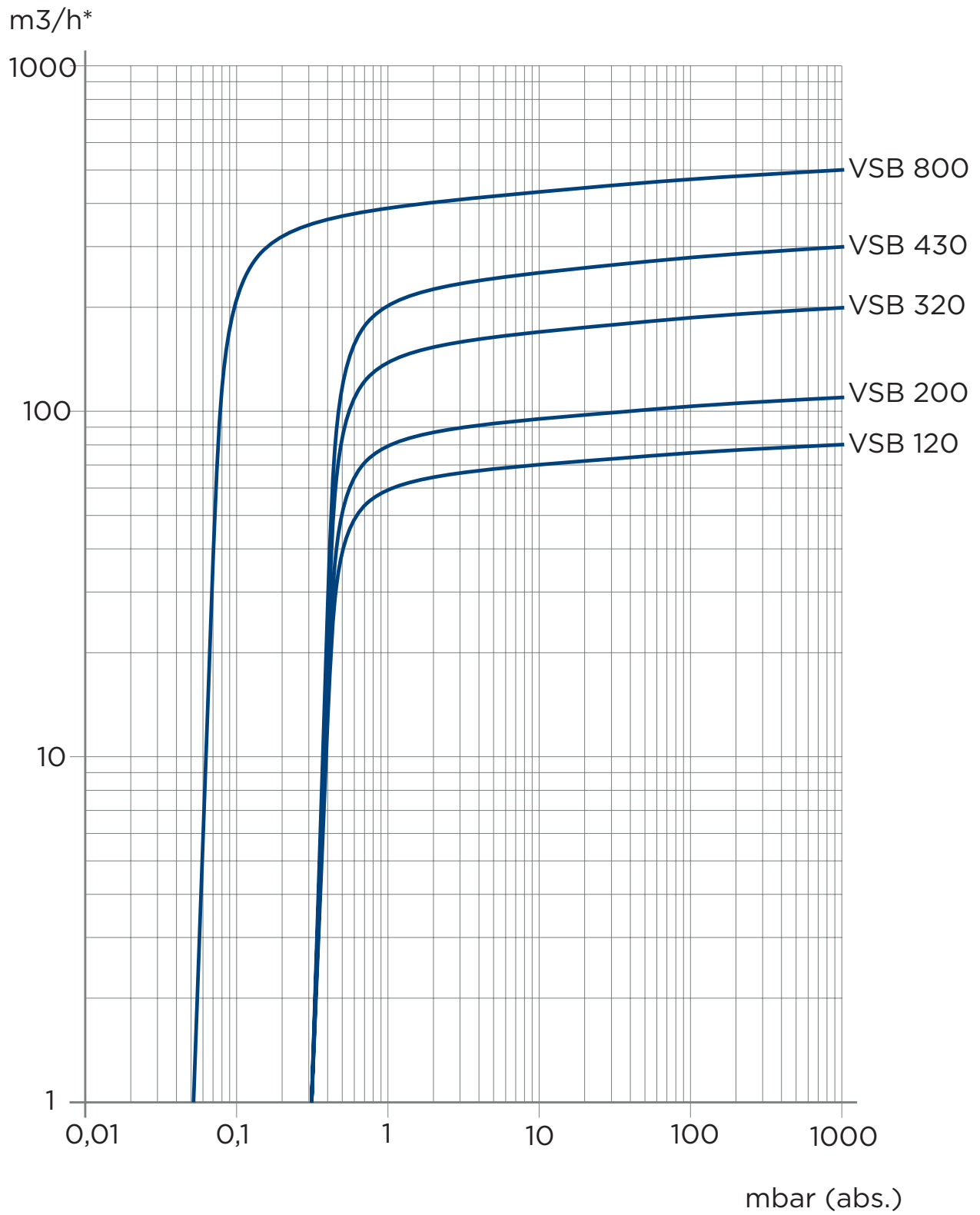


DRY-PRO VSB - 50 HZ

CAPACITY	up to 500 m ³ /h
VACUUM RANGE	to 0,03 mbar(a)
CERTIFICATION	ATEX KAT1, KAT2 & KAT 3 available
COATING OPTIONS	PTFE, PFA (Perfloro Alcoxy Polymer), PEEK

Additional capacity can be achieved through the use of high vacuum boosters.

DRY-PRO® VSB Performance*



*Indicative Performance. Additional capacity can be achieved through the use of high vacuum boosters.

DRY-PRO[®] SYSTEMS

Pre-Engineered & Engineered-to-Order Solutions

From pre-engineered packages to custom engineered-to-order systems we deliver a dry vacuum solution that is backed by over a century of NASH[®] engineering expertise, and NASH CERTIFIED[™] global service and support. All of our systems are fully assembled and tested at our packaging plants, which are located in key industrial areas around the globe.

Pre-Engineered Packages

Quick Shipment Available
Plug & Play Installation

Package Includes:

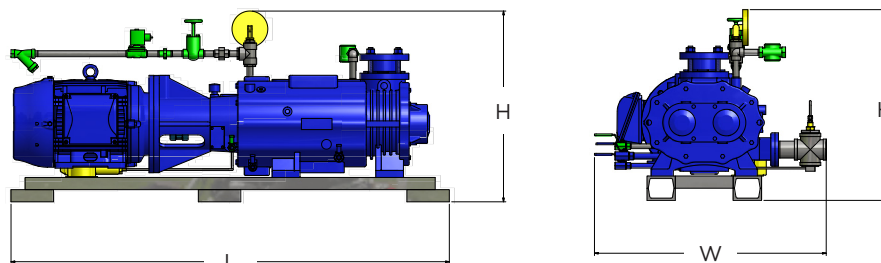
- DRY-PRO dry screw vacuum pump
- Motor and coupling
- Vibration monitoring of bearings
- Gas barrier
- Base frame
- Cooling water supply line
- Discharge temperature and pressure switch
- Atex compliance

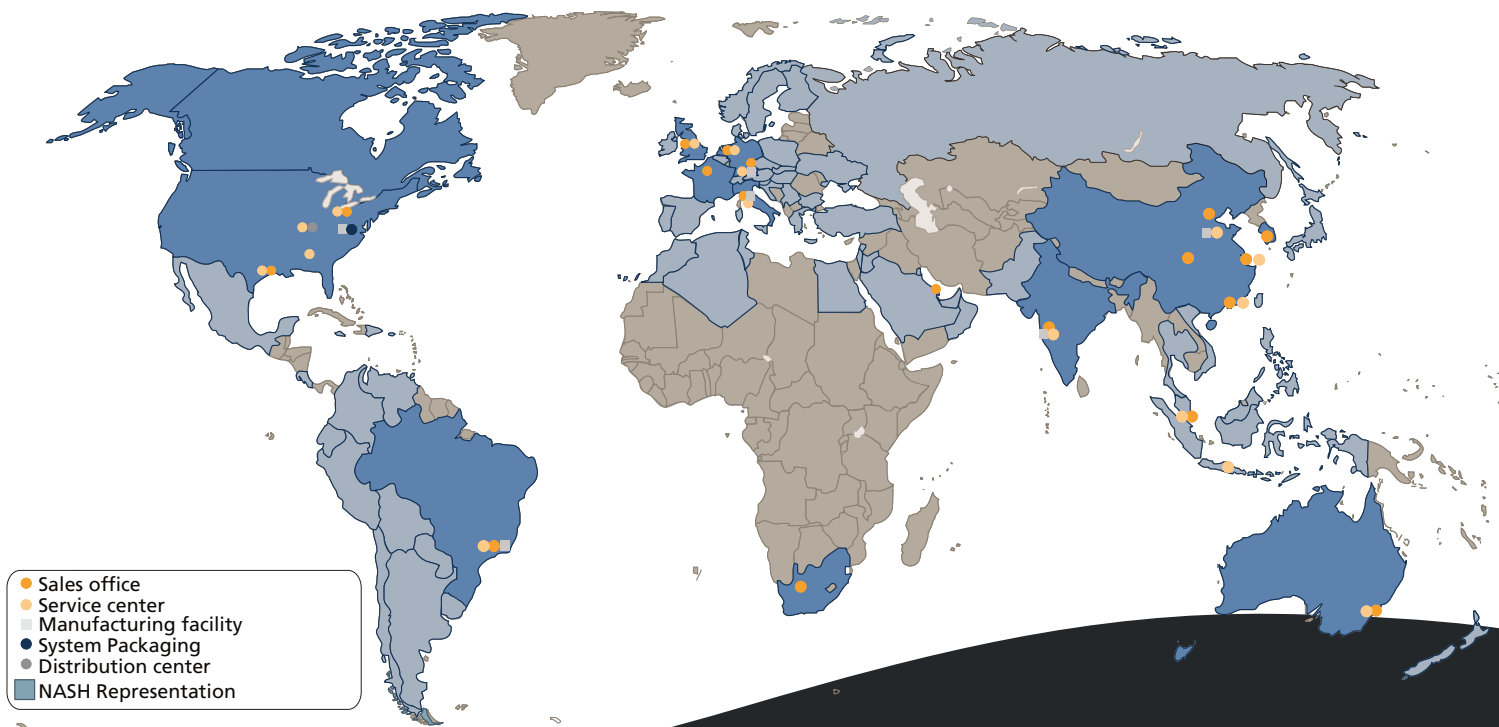
Optional Upgrades:

- Upgraded coating options
- Purge/vent
- Solvent flush tank
- Automatic inlet isolation valve
- Discharge silencer (cleanable & drainable)
- Inlet and outlet separator (CS or SS)
- Gas ballast
- Control panel with process control

DRY-PRO VSB Pre-Engineered Packages	L		W		H	
	in	(mm)	in	(mm)	in	(mm)
VSB 120 Mounted System	52	(1321)	19	(483)	24	(610)
VSB 200 Mounted System	52	(1321)	21	(533)	27	(686)
VSB 320 Mounted System	61	(1550)	22	(559)	30	(762)
VSB 430 Mounted System	62	(1575)	24	(610)	33	(838)
VSB 800 Mounted System	74	(1880)	25	(635)	34	(864)

Dimensions are approximated and based on standard system configurations, not including any add ons.





Global Service & Support

Every DRY-PRO Pump and System is backed by our global network of NASH CERTIFIED™ Support & Service. With certified service centers in key industrial regions, and field service technicians at the ready, we keep your vacuum equipment and processes running smoothly - wherever that happens to be.

What We Offer

- Engineering & Technical Support
- Inspections & System Analysis
- Repairs, Remanufacturing & Unit Upgrades
- Field Service
- Certified OEM Parts
- UX - Unit Exchange



Gardner Denver Nash Products & Systems



NASH® Liquid Ring Vacuum Pumps & Systems

The reliable and durable solution for demanding process applications. Through ongoing commitment to innovation Nash continues to introduce liquid ring vacuum pumps that meet the rigors of the most demanding applications while improving efficiency and lowering total cost of ownership.



NASH and GARO® Liquid Ring Compressors & Systems

The rugged, reliable solution for demanding process applications. Designed to handle toxic, explosive and corrosive gases, and backed by a reliable history of performance under the most demanding conditions.



NASH Hermetically Sealed Pumps & Compressors

Through a magnetic drive with static o-ring seals the NASH 2BM series of hermetically sealed liquid ring pumps & compressors reliable, leak free performance for applications requiring the highest levels of safety.



ENER-JET™ Ejectors & Systems

Whether on their own, or as part of a NASH ENER-JET Hybrid Vacuum System, NASH steam jet ejectors are engineered for optimum efficiency, reducing steam consumption and while maintaining their ability to handle large volumes at very high vacuum levels.



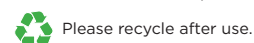
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