



DRY SCREW VACUUM PUMPS & SYSTEMS

# DRY-PRO<sup>®</sup> VSB



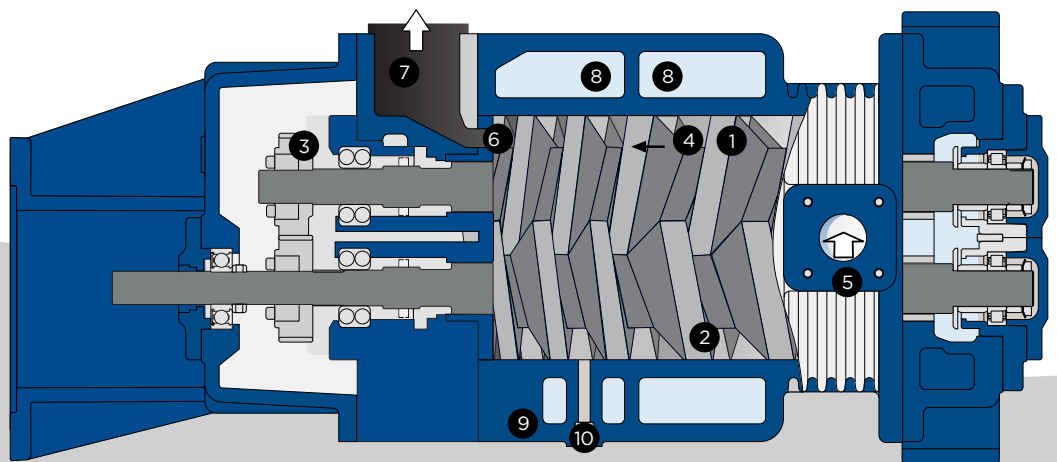
**DRY-PRO**

# 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).
- In variable pitch models, 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(a))
- 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

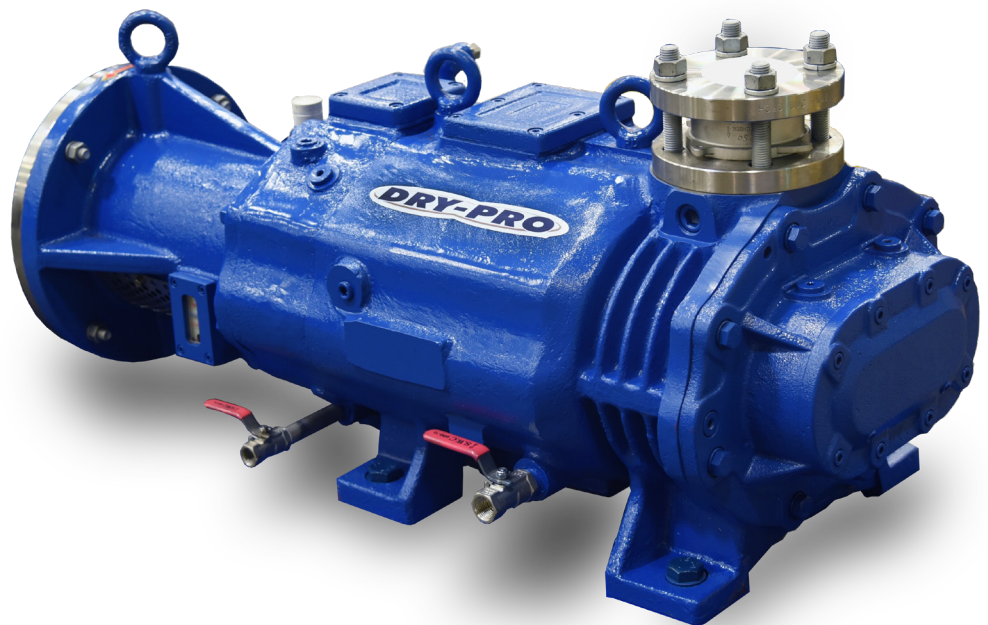
### R&D / LABORATORIES



# DRY-PRO<sup>®</sup> 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

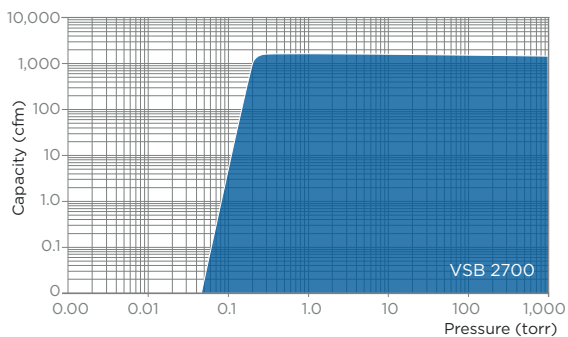
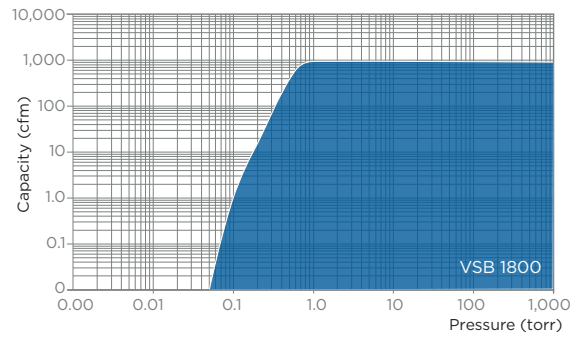
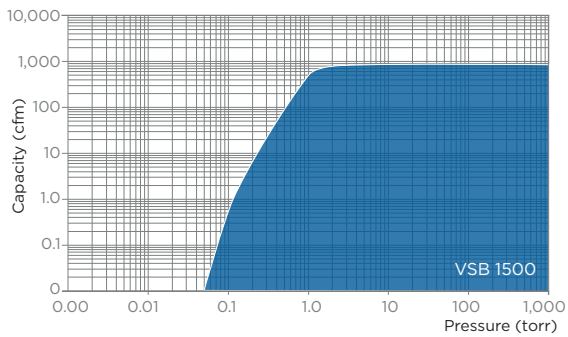
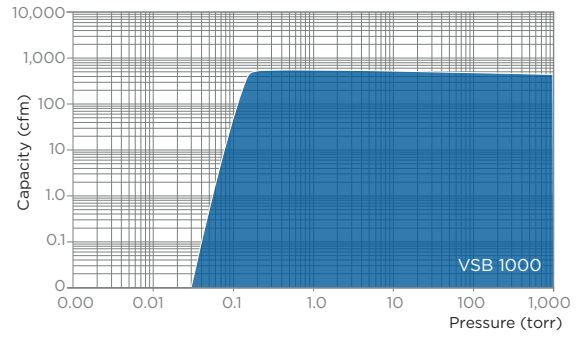
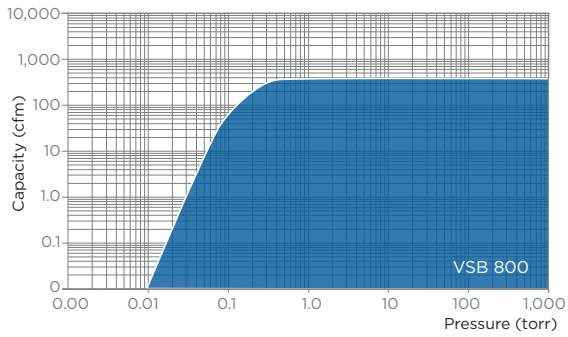
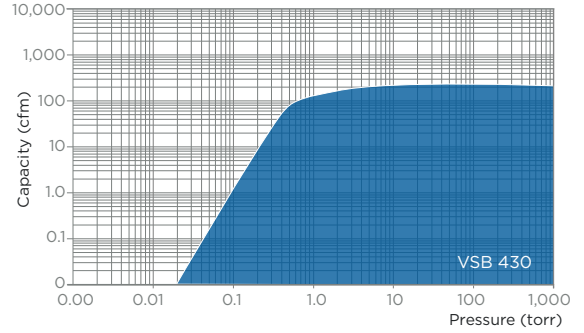
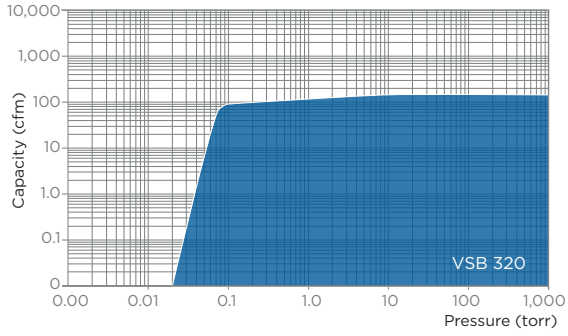
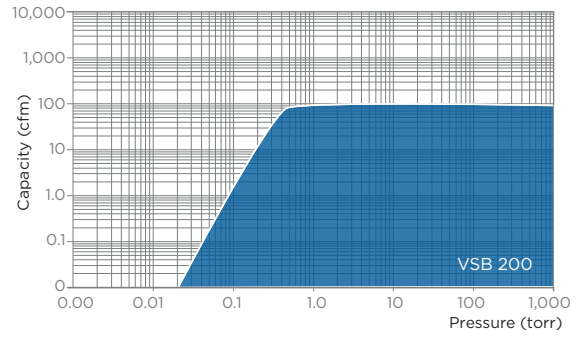
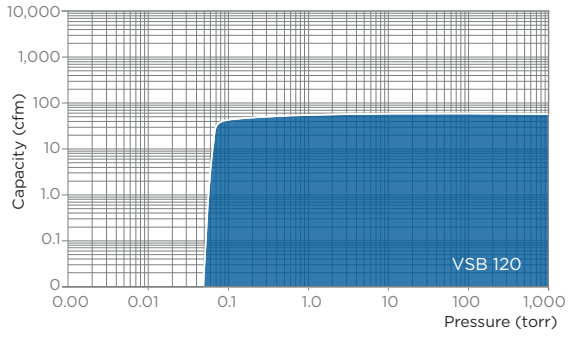


### DRY-PRO VSB - 60 HZ

CAPACITY	up to 1500 cfm	up to 2500 m <sup>3</sup> /h
VACUUM RANGE	to 0.02 Torr	to 0.03 mbar(a)
CERTIFICATION	ATEX Compliant Versions 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

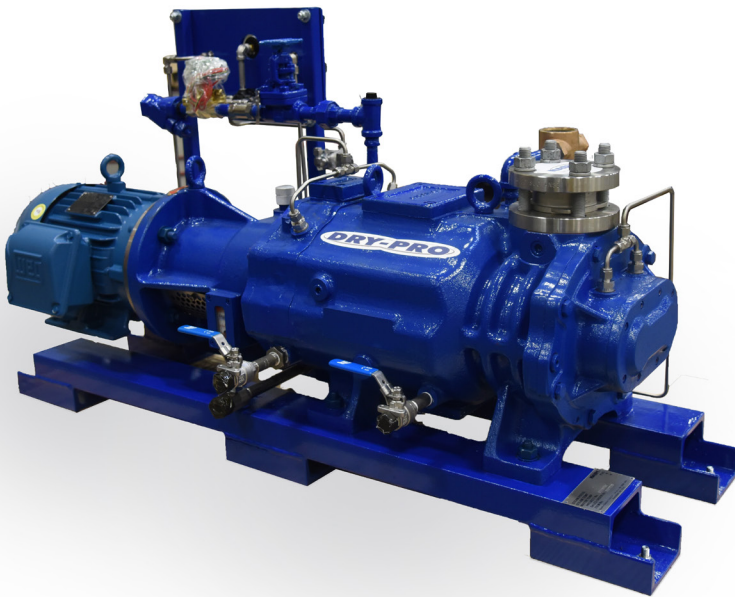
Quick Shipment Available  
Plug & Play Installation

### Package Includes:

- DRY-PRO dry screw vacuum pump
- TEFC motor and coupling
- Base frame
- Cooling water supply line
- Discharge temperature switch

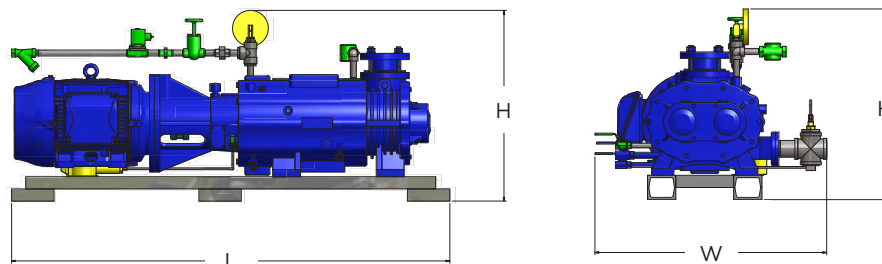
### Optional Upgrades:

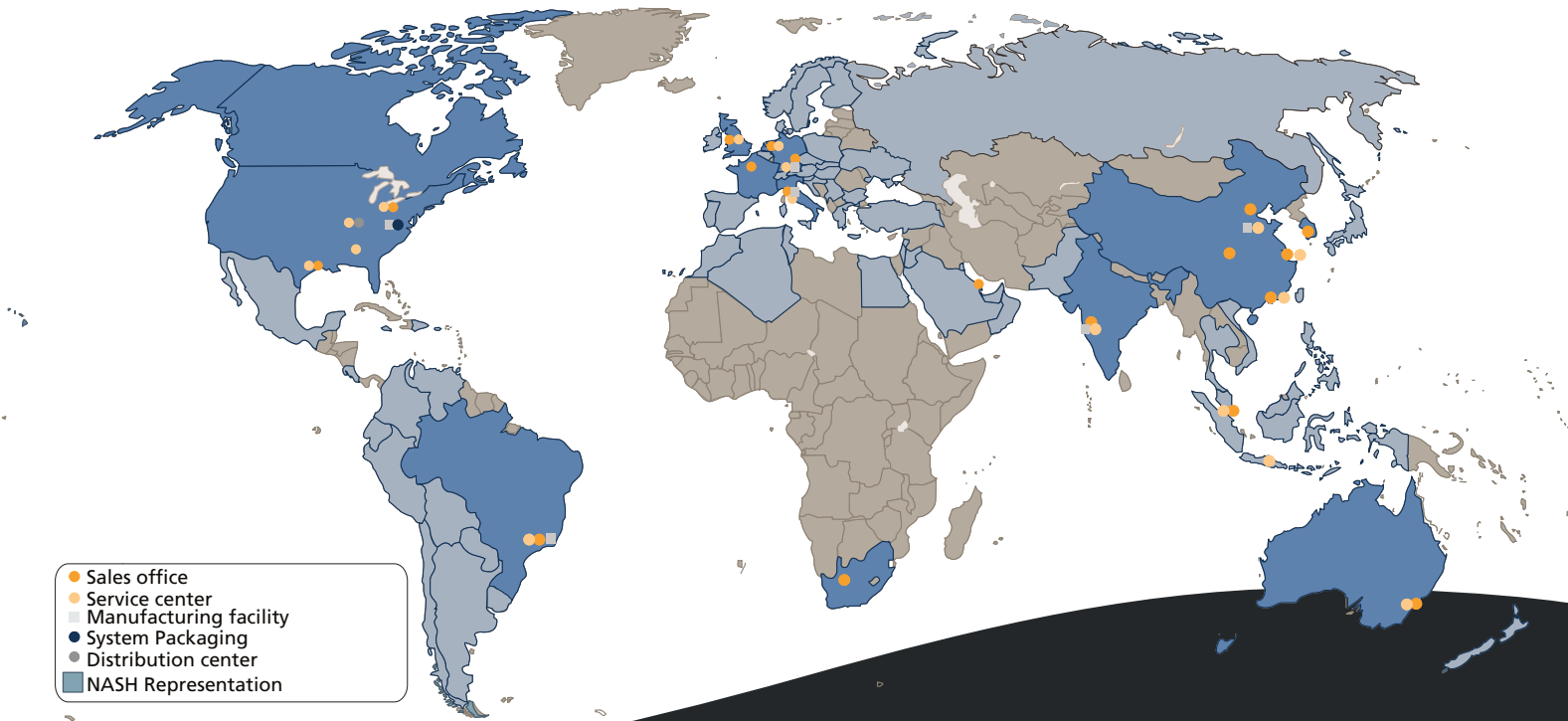
- Upgraded coating options
- Explosion proof execution
- Dual gas barrier
- Purge/vent
- Solvent flush tank
- Automatic inlet isolation valve
- Discharge silencer (cleanable & drainable)
- Inlet separator (CS or SS)
- Gas ballast



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)
VSB 1000 Mounted System	74	(1880)	25	(635)	36	(914)

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.



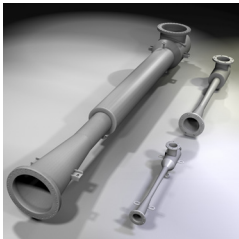
## NASH and GARO® Liquid Ring Compressors & Systems

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.



## WITTIG™ Rotary Vane Compressors & Vacuum Pumps

The NASH WITTIG line of rotary vane compressors and vacuum pumps offers safe, reliable and efficient solutions for transporting a variety of gases and air.



## 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.

# NASH


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# Gardner Denver

 Please recycle after use.