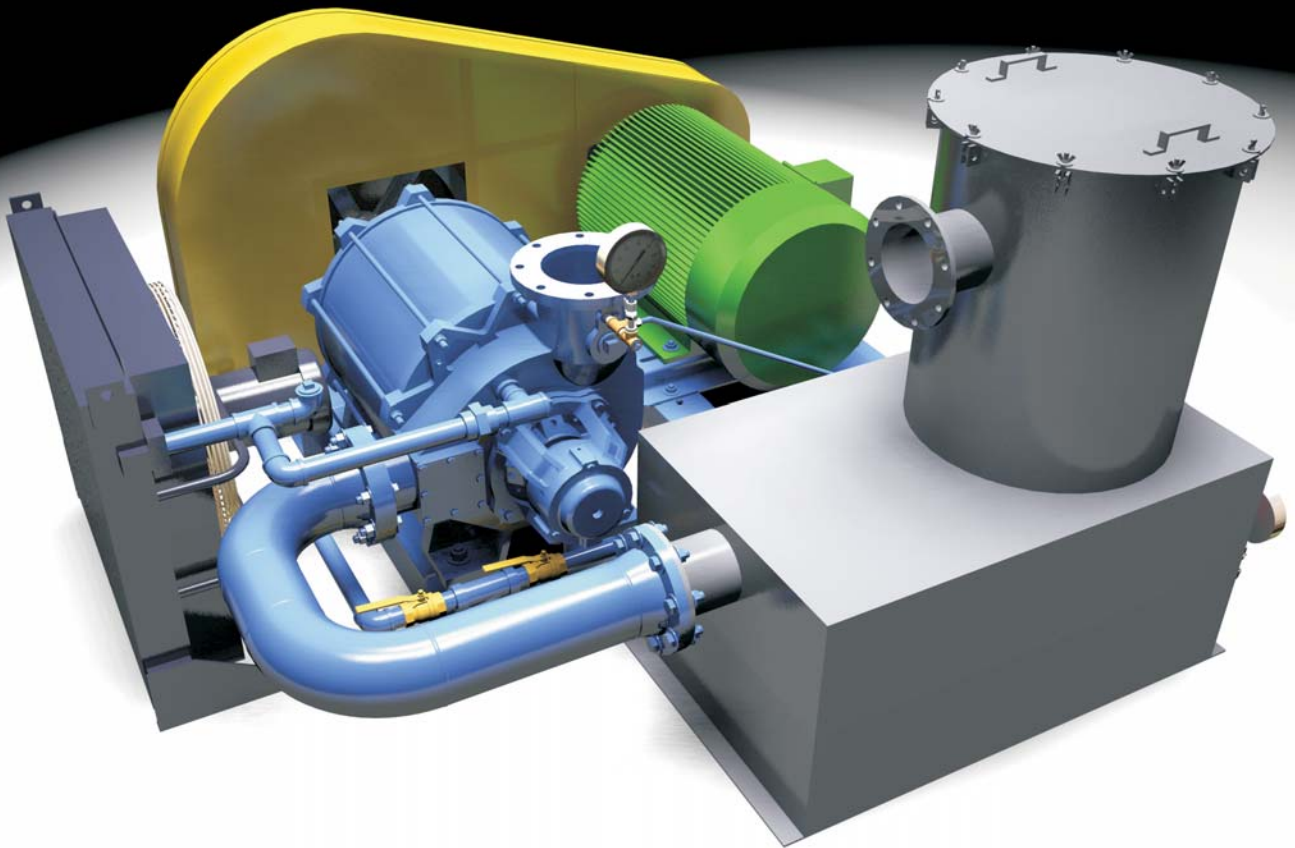


**Oil Sealed Packages  
Liquid Ring Vacuum Pumps and Compressors**



# NASH Oil Sealed Packages

## Versatile Design

Each self-contained system is complete with all of the components for your basic operating needs. We also offer a wide array of optional controls including alarm switches, control panels and completely explosion-proof packages. We can customize the system to meet your specific needs.

**Standard Components:** Pump, TEFC motor, coupling or V-belt drive, drive guard, separator with oil mist eliminator, air cooled heat exchanger, recirculated seal line controls, high temperature alarm switch

**Options:** Inlet isolation valve, inlet check valve, vacuum relief valve, inlet filter, control panel, system skid plate

## Simple Rugged Construction

At the heart of the oil sealed system is a durable NASH liquid ring pump, known to provide many years of reliable service, even in the most demanding processes. The pump has only one moving part and no tight clearances or metal-to-metal contact. This allows the oil sealed liquid ring package to provide the benefits of rotary vane or screw pumps without their disadvantages. An oil sealed liquid ring system is more tolerant of carryover and wear, and it provides quiet operation. The oil is not required for lubrication which means it can operate at extremely long intervals between oil changes, easily going more than 10,000 hours with no down time. Aside from a periodic oil and filter change, the system can run for years with no scheduled maintenance.

Features	Vectra Pumps	2AV2 Pumps	Benefits
Self-contained system	x	x	Simplified use and installation
Easily expanded		x	Able to meet your growing needs
Eliminates water usage and disposal costs	x	x	Saves money
Easy filter change without disconnecting piping	x		Quick and easy filter replacement
Low vapor pressure seal liquid	x	x	Higher vacuum levels
Higher operating temperature	x	x	Prevents corrosion due to condensing solvents of a process gas
Direct drive speeds for 50/60 Hz motors	x	x	For worldwide use
External mechanical seals	x		Flexibility & ease of maintenance
Extended pressure ratings	x		Ability to handle tough applications where backpressure is required
One moving part	x	x	Long term reliability
Variable port design	x	x	High efficiency
NASH patented Gas Scavenging	x		Increased performance at high vacuum levels
Global support	x	x	Service and sales in your area
100% performance tested	x	x	Trouble-free start-up and operation
Backed by 2 year warranty and over 100 years of vacuum and compressed gas experience	x	x	Peace of mind

# Vectra XL Systems for Rigorous Duty

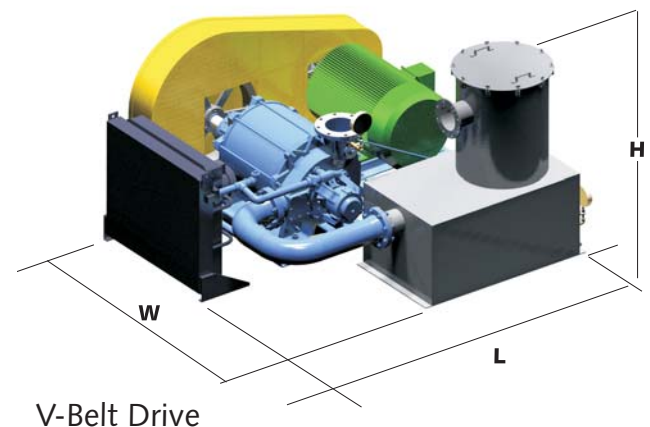
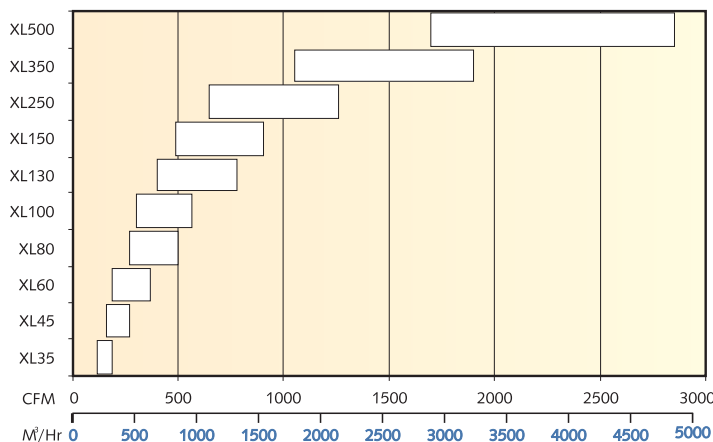
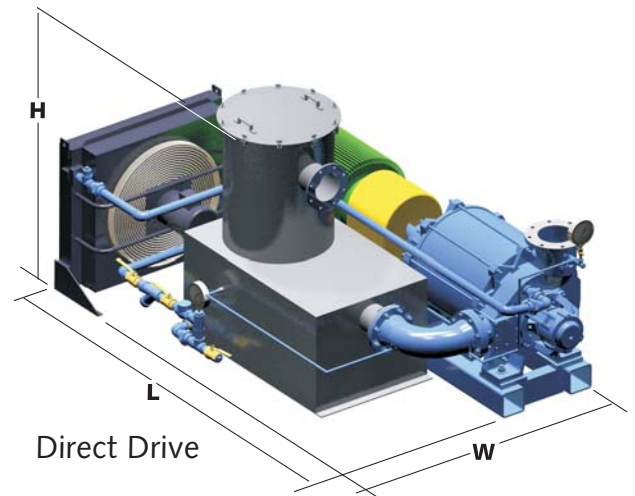
## Performance

Pump	Direct Drive (in/mm)			V-Belt Drive (in/mm)		
	length	width	height	length	width	height
XL 35/45	65 1651	60 1524	50 1270	76 1930	56 1422	50 1270
XL 60/80	75 1905	63 1600	48 1219	76 1930	62 1575	55 1397
XL 100/130	80 2032	62 1575	50 1270	82 2083	81 2057	50 1270
XL 150	86 2184	65 1651	50 1270	96 2438	78 1981	50 1270
XL 250	106 2692	82 2083	56 1422	110 2794	90 2286	56 1422
XL 350	115 2921	80 2032	60 1524	110 2794	93 2362	57 1448
XL 500	n/a	n/a	n/a	129 3277	102 2591	68 1727

## Vectra XL systems for heavy duty use

Vectra XL pumps are designed for both general and chemical process industry applications. Standard pump construction is ductile iron. Key elements of the design are the improved cone angles, which decrease the size of the pump, and NASH patented Gas Scavenging Technology, which dramatically improves pump performance at high vacuum levels.

Basic specifications	
Vacuum range	0-29 in Hg vac/ to 33 mbar abs.
Mechanical seals	Single
Construction material	Ductile iron



# 2AV2 Systems for General Industrial Applications

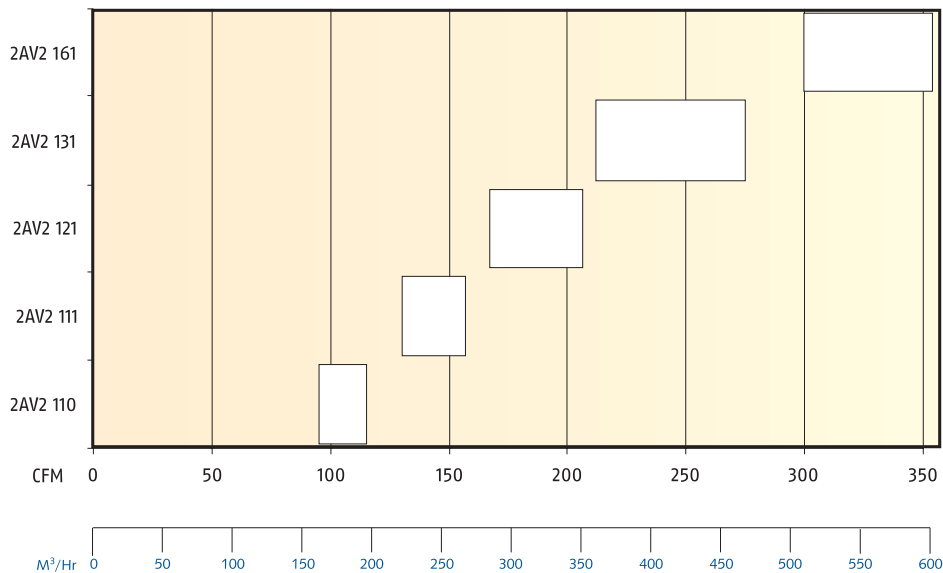
## Performance

Pump	length (in/mm)	width (in/mm)	height (in/mm)
2AV2 110	66 1676	22 559	62 1575
2AV2 111	72 1829	22 559	62 1575
2AV2 121	78 1981	24 610	76 1930
2AV2 131	84 2134	24 610	76 1930

## 2AV2 systems for general process industry

The 2AV2 systems are easily expandable to provide you with a multiplex central vacuum system, or to provide future expansion to meet your growing needs.

Basic specifications	
Vacuum range	0-29 in Hg vac/ to 33 mbar abs.
Mechanical seals	Single
Construction material	Cast iron



## Easy Installation

Installation is a snap with the self-contained Gardner Denver Nash oil sealed package. Simply connect the system to your process and provide an electrical connection and you are ready to go. No additional utilities or sound attenuating devices are required.

## Industry Expertise

For over 100 years, Gardner Denver Nash has been the market leader in the design, manufacture and application of liquid ring vacuum systems. No one can match the expertise that we provide. Our sales and applications engineers are ready to help you with your vacuum and compressed gas needs. Whether it's a standard turn-key oil sealed package or a complete custom design, Nash has the solution for you.

## Global Support

Gardner Denver Nash has a complete global network of sales, service, manufacturing and packaging facilities. It doesn't matter where you are, we have the resources to stand behind our product and exceed your needs.

## 2 Stage Models Available

If your process requires very deep vacuum, Gardner Denver Nash has the solution. Using a two-stage liquid ring pump in an oil sealed system, vacuum levels lower than 10 Torr (29.6" HgV) can be attained.

## Value

When you consider initial purchase price, return on investment, our worldwide service network and the support of experienced professionals...you can't beat Gardner Denver Nash for value.

## Why Oil Seal?

If you thought you couldn't afford the water costs associated with operating a liquid ring pump...think again. One of the wonderful features of the liquid ring pump is that it can be operated with a multitude of different fluids. A self-contained oil sealed system has a number of benefits over a traditional water sealed system.

- It eliminates water usage and disposal costs, saving you money.
- The self-contained design allows you to install it in remote locations where water may not be available.
- An oil sealed system allows you to attain higher vacuum levels than with water. In many cases, the limiting factor to the vacuum you can achieve is the vapor pressure of the seal water. A combination of vacuum level and operating temperature can conspire to vaporize the seal water. Our oil sealed packages utilize a seal oil with a very low vapor pressure, which means it will remain in a liquid state-even at high temperatures-thus maximizing the pump's capacity and ultimate vacuum level.
- An oil sealed system can prevent the condensing or dissolving of a process gas. The package can be operated at a much higher temperature with oil than it can with water, allowing the vapors to pass through the pump without condensing. Some process gases, such as CO<sub>2</sub>, are soluble in water and can rob the pump of capacity as the level builds up in the system. With oil sealed systems, many of these gases will remain inert, alleviating this problem.
- Using oil as the seal liquid permits anhydrous processing with a liquid ring pump. If you have a process that will not permit even trace amounts water to come into contact, an oil sealed system will provide the solution.

## Applications

- Vacuum holding (Chucking)
- Laboratory Vacuum
- Paper Converting
- Soil Remediation
- Central Vacuum
- Gas Venting
- Packaging
- Natural Gas Recovery/Boosting

## Other NASH Products

### TC/TCM

Integral 2 stage liquid ring pumps with improved performance at vacuum levels down to 0.8" HgA (27 mbar)  
Designed to handle large amounts of liquid carryover without difficulty  
Capacity of 100 to 2,240 CFM with vacuum to 0.8" HgA  
Capacity of 170 to 3,740 m<sup>3</sup>/h with vacuum to 27 mbar abs



### 2BV

Compact liquid ring vacuum pumps built for serious cost savings  
Use up to 50 percent less water than other liquid ring pumps  
Monoblock and pedestal designs available  
Capacity of 4 to 350 CFM with vacuum to 29+ " HgV  
Capacity of 7 to 595 m<sup>3</sup>/h with vacuum to 31 mbar abs



### 2BE4/P2620

Large liquid ring vacuum pumps with superior corrosion resistance  
Top discharge capability which saves space  
Self-recirculating seal water, reducing need for external seal water source  
Capacity of 4,000 to 23,000 CFM with vacuum to 24" HgV  
Capacity of 6,800 to 39,000 m<sup>3</sup>/h with vacuum to 200 mbar abs



### Vectra

Liquid ring vacuum pumps and compressors  
Available in feature rich budget designs (SX, XL or GL)  
Designed to handle high back pressure requirements  
Capacity of 20 to 4,000 CFM with vacuum to 29+ HgV  
Capacity of 34 to 6,796 m<sup>3</sup>/h with vacuum to 33 mbar abs



### Compressors

Wide range of liquid ring compressors designed for many applications. Rugged and reliable, they can handle highly toxic, explosive and corrosive gases  
Specifically developed for applications such as flare-gas, Chlorine and Vinyl Chloride Monomer (VCM) recovery  
Capacity of 60 to 2,200 SCFM with pressure to 200 PSIG  
Capacity of 100 to 3,740 m<sup>3</sup>/h with pressure to 15 bar abs  
Single and two stage models available



### NASH

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