

KINNEY®

Oil-Sealed Rotary Vane Vacuum Pumps

Kinney® KVO Vacuum Pumps



Kinney KVO Market Solutions

MD-Kinney proudly offers KVO Series oil-sealed rotary vane vacuum pumps in the Kinney vacuum portfolio. The KVO Series vane pumps are durable vacuum pumps with a heavy-duty construction, designed for 24-hour, 7-day a week, 365-day a year operation. These pumps are rugged and easy to service with our user-friendly layout which speeds up oil and filter changes. The KVO vane pumps have a highly efficient design for not only energy efficiency, but also efficiency for CFM per HP.

Kinney vane pumps have advanced cylinder and cover designs, which allow for some of the lowest sound levels in the industry. These features make the KVO a perfect fit for many applications.



KVO100 cutaway.

Markets

Food & Beverage

Food Processing

Medical

Pharmaceutical

R & D

Plastics

Applications

Freeze Drying

Vacuum Packaging

Filling & Sealing

Central Vacuum Systems

Thermoforming

Food Packaging

Injection Molding



Benefits That Optimize Your Process

The KVO vane series serves a variety of applications where high-volume air is required in applications up to 0.375 Torr (with gas ballast) for continuous operation. There are several model options across the Kinney vane pump product portfolio with capacity ranges from 7 to 903 CFM.

Compact Design and Easy Maintenance

Kinney KVO pump offers the most efficient use of installation space, saving time on inspection and service. Oil separator elements on the pump exterior provides easy access to internal components without having to disconnect piping or utilize any special tools. Bayonet or threaded designs are used to ensure filter changes are quick, easy, clean, and safe for operation.

Quiet Operation

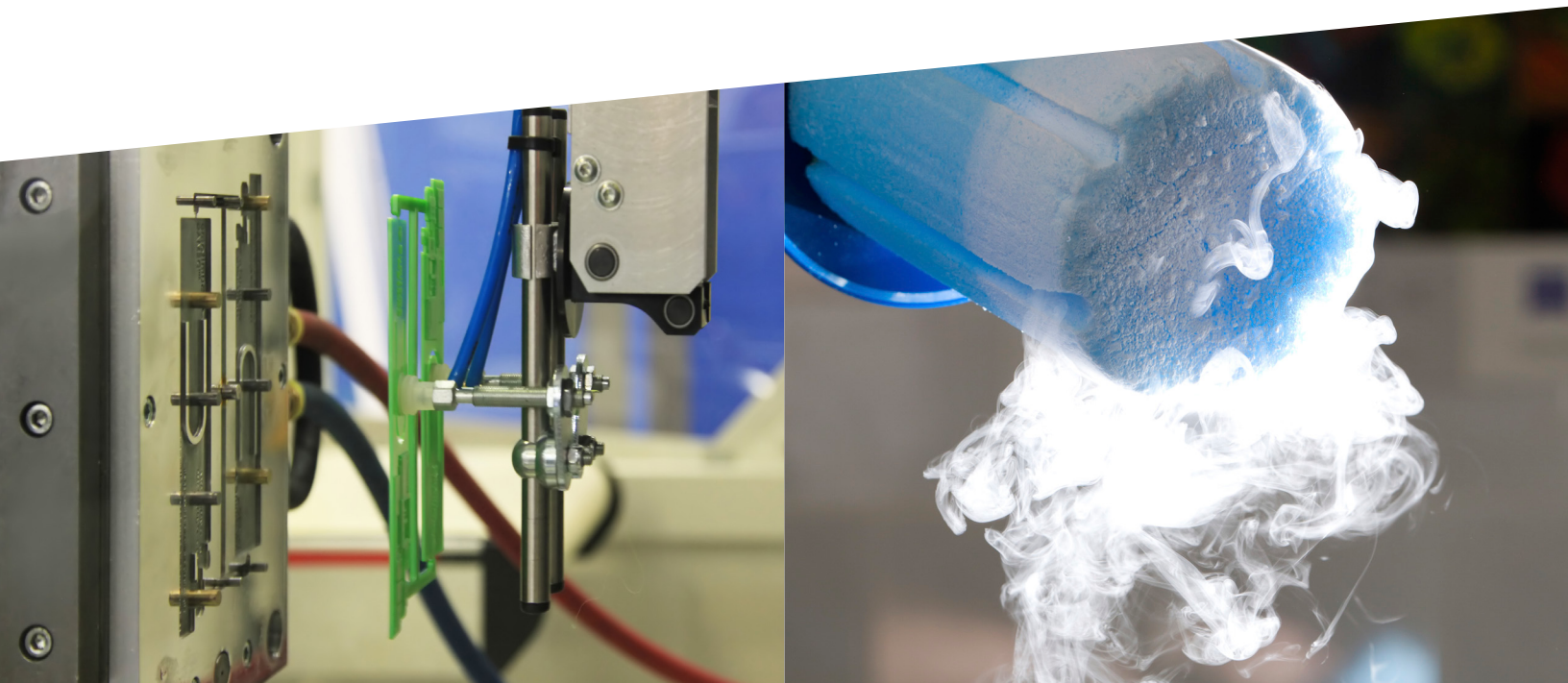
Advanced cylinder and cover designs not only benefit efficiency and cooling, but also sound levels. The KVO is capable of reaching sound levels as low as 67 dB(A).

Premium Components

Kinney long-life vanes consist of composite resin vanes (KVO50-KVO400) while KVO500 models and larger feature premium aluminum vanes. Standard units feature a flanged motor, bearings on both sides of the rotor, a fine mesh filter, vacuum non-return valve, gas ballast valve, protective cover, oil/air heat exchanger, and easy to access oil separator.



*KVO100 exterior
oil separator elements.*



KVO Vane Features

(KVO100 Models Shown)



1. **LOW NOISE**

Advanced cylinder and cover designs allow sound levels to be as low as 67 dB(A) for quiet operation.

2. **AIR COOLED**

Includes an over-sized pump cooling fan linked to the drive motor as well as vent cover openings to keep the unit cool and extend the life of the pump.

3. **STANDARD GAS BALLAST VALVE**

Equipped with gas ballast valve open to allow water vapor handling without needing to purchase added accessories.

4. **PREMIUM OIL SEPARATOR SYSTEM**

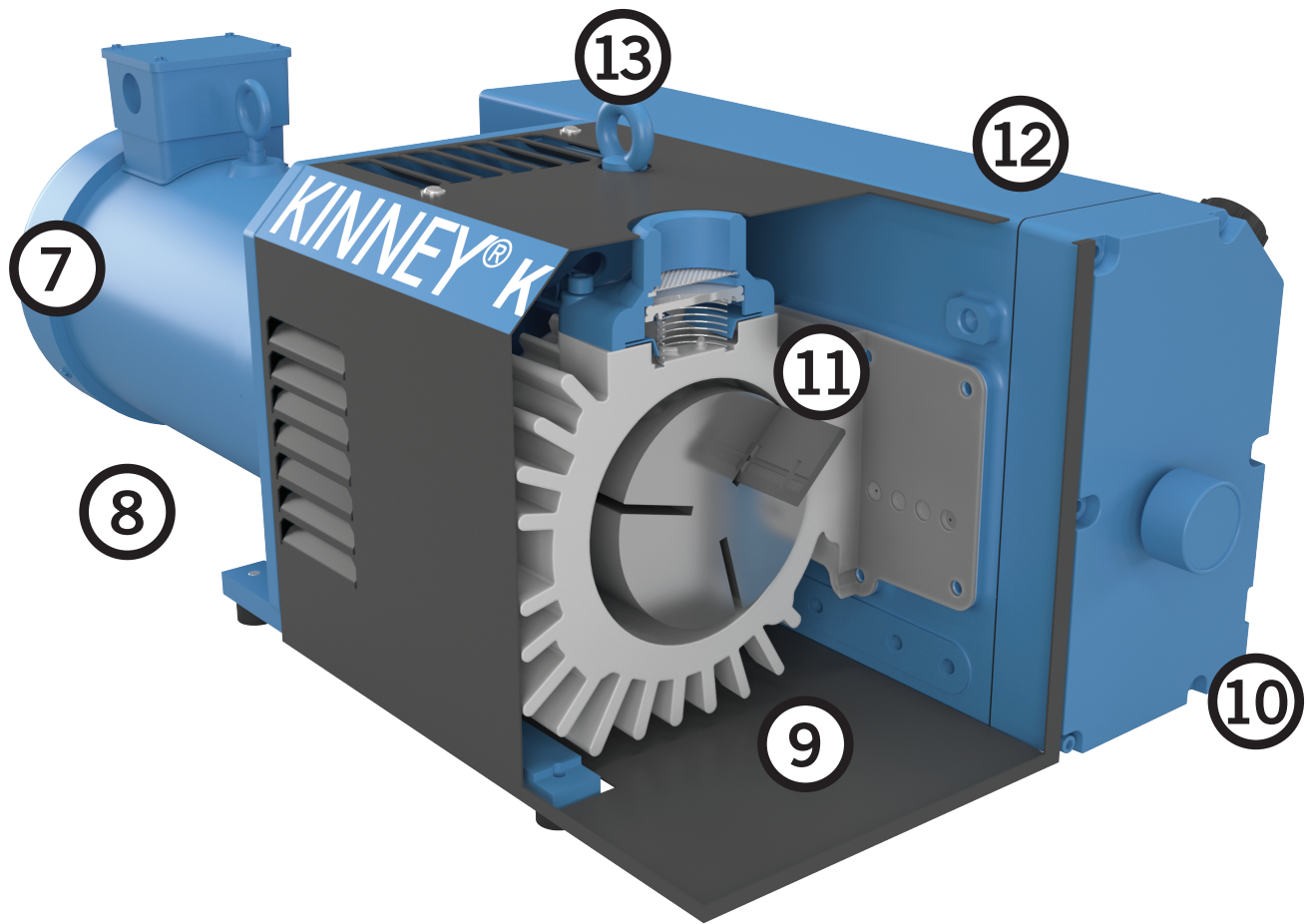
Ensures that the discharge air from the pump is virtually oil-free. This system removes 99.997% of oil from the air stream.

5. **HIGHLY EFFICIENT**

Low power consumption for optimal performance makes the KVO oil sealed rotary vane an energy efficient vacuum solution.

6. **ULTIMATE VACUUM DOWN TO .375 TORR**

Ultimate vacuum down to 0.375 Torr (with standard gas ballast) / 0.075 Torr (without gas ballast) to support your application.



7. NEMA PREMIUM MOTOR

High efficiency NEMA framed motors are compatible with variable speed drives.

8. XD VERSIONS AVAILABLE

Increased vapor tolerances and improved resistance to solvents.

9. CONTINUOUS DUTY OPERATION

Designed for continuous duty applications requiring 24/7/365 operation.

10. SMALL FOOTPRINT

Compact design to fit into nearly any space, reducing required floor space.

11. LONG LIFE VANES

Durable composite resin vanes on models KVO50 to KVO400. Models KVO500 and above utilize aluminum vanes.

12. EASY MAINTENANCE

Oil separator elements are easily replaced and are accessible from the pump exterior. No special tools are required making it quick and easy to service.

13. LIFTING EYEBOLT

Lifting eyebolt for easy transport and placement. The pumping unit can be lifted and removed from the pump assembly frame and easily repaired during service intervals.

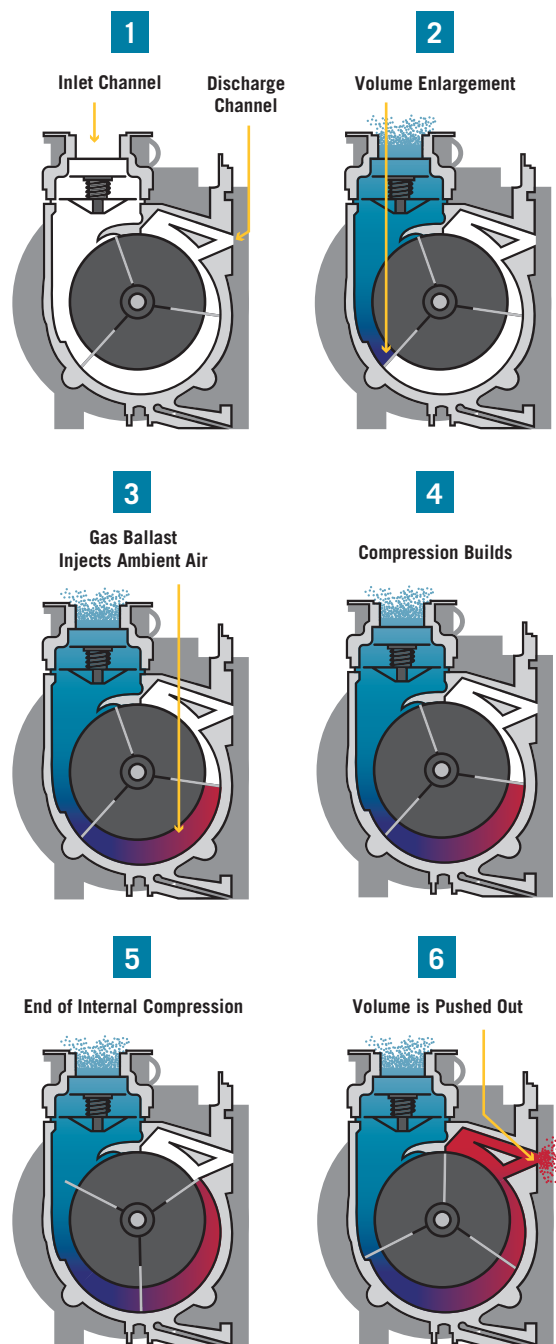
Rugged Efficiency & Trouble-Free Maintenance

The KVO Series is an oil sealed, multi-vane, single-stage, air cooled, and direct-driven vacuum pump. This design is rugged and durable with a heavy-duty construction for continuous duty applications. Oil sealed rotary vane vacuum pumps are simple, quiet, and efficient, offering a very attractive \$/CFM ratio when compared to other technologies.

Within the compression chamber, the KVO operates by expanding volume at the inlet and compressing the volume at exhaust. The rotor is placed eccentrically inside of the cylindrical housing with three vanes grooved into the rotor. As the rotor spins centrifugal force causes vanes, sitting within the rotor, to be slung out until they contact the cylinder wall.

As the vanes rotate three chambers are used to capture the gas coming from the inlet. During rotation the volume is reduced, allowing for compression until it is transported out the exhaust. Oil is used between these vanes and the cylinder wall to provide lubrication and aid in sealing. The oil also acts as a heat transfer away from the site of compression.

After exhaust, gas is transferred to the built-in oil separator. This separator removes virtually all of the oil from the air stream. The KVO was designed with the customer in mind, making the product easier to service and maintain. The oil separator elements are easy and quick to access from outside of the pump without the need to disconnect any piping.



Rotary vane vacuum pump compression chamber process.

Engineered to Order Systems

Kinney application engineers help you select the best system and combination of components for your specific needs. With the combination of Kinney vacuum boosters, used to “supercharge” vacuum pumps, this provides much faster pumping speeds that significantly reduce pump down time and deeper vacuum for your needs.



Custom engineered central vacuum system (CVP).



Kinney Vacuum KV Lubrication

Kinney boosters and vacuum pumps are known worldwide for superior quality and performance. KV100FG, KV100M, and KV100S are specifically formulated for use in Kinney KVO oil-sealed rotary vane vacuum pumps and are the only lubricant we recommend. KV100FG is ideal for operations where food-grade lubrication is required. KV100M is our standard oil for the KVO and is an ISO 100 mineral oil. KV100S is a synthetic oil for extreme applications where the KVO is operating in harsh conditions.

Service and Repair

MD-Kinney Springfield, Missouri, USA is here to help. Call 1-800-825-6937 or visit us online at www.md-kinney.com to be connected to a MD-Kinney application engineer.

MD-Kinney also has a network of Authorized Service Centers offering local support to our customers. All centers are staffed with factory-trained personnel to ensure your equipment performs to factory specifications. KVO Series repairs are only available via an Authorized Service Center.

To find your nearest Authorized Service Center call us directly at 1-800-825-6937.



KINNEY®

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