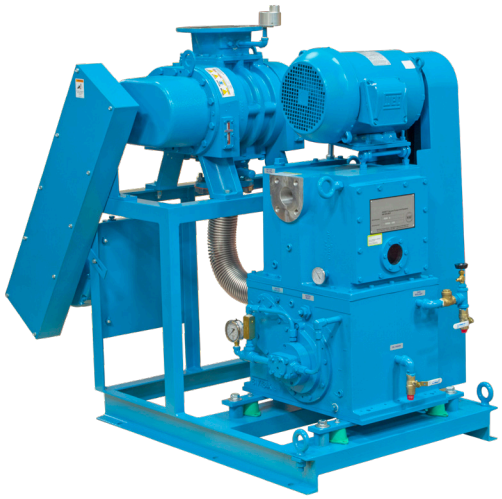
KINNEY®

Vacuum Pumps & Boosters

Kinney® Vacuum Solutions



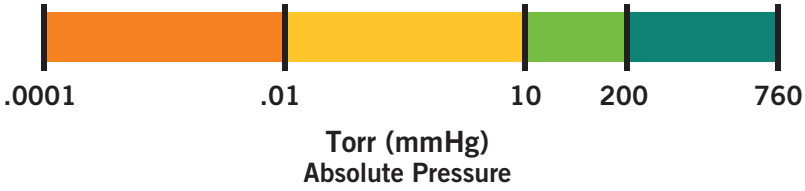


Kinney | www.kinneyvacuum.com | (800) 825-6937

Rotary Piston Pumps

Kinney rotary piston pumps are known for being some of the most rugged, reliable equipment capable of handling especially dirty processes. Kinney provides a 30-month warranty on all rotary piston pump models.

Vacuum Pumps Product Key



KT Single-Stage Rotary Piston Pump

- High pumping capacity at high and low pressures
- Triplex piston design: dynamically balanced and practically vibration free
- No metal-to-metal contact between pump piston and cylinder - clearances are filled with oil
- Quiet running

KT models include an integral, positive pressure lubrication system to insure reliable lubrication at all pressure levels. KT pumps are water-cooled. Optional air-cooling systems are available. Adjustable gas ballast valves are standard for handling water and other vapor loads. Optional factory-mounted oil filtration system lowers maintenance costs and increases uptime.



Model	CFM / m³/h	HP / kW
KT-150C	150 / 255	7.5 / 6
KT-300D	300 / 510	15 / 11
KT-500D	500 / 850	30 / 22
KT-850D	778 / 1322	40 / 30

Typical Applications
- Heat Treating
- Coating
- Transformer Drying
- Metallurgy

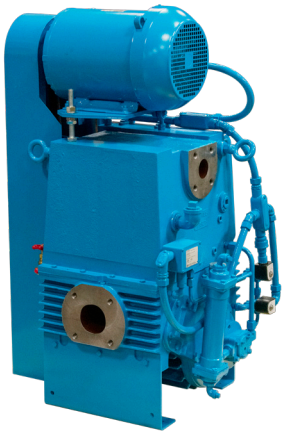
Single-Stage Oil-Sealed Rotary Piston

KC and KTC Two-Stage Rotary Piston Pumps

- Recommended for applications where operating pressure is below 0.1 Torr (0.13 mbar)
- Achieve lowest possible pressures from mechanical pumps
- No metal-to-metal contact between pump piston & cylinder - clearances are filled with oil
- Unequaled durability, even in dirty applications

KC & KTC pumps are air-cooled. KTC-112 is water-cooled with optional air-cooling systems. Adjustable gas ballast valves are standard for handling water and other vapor loads. KTC pumps feature triplex piston design: dynamically balanced and practically vibration free.





Model	CFM / m³/h	HP / kW
KC-5	5 / 8.5	0.33 / 0.25
KC-8	8 / 13.6	0.75 / 0.56
KC-15	15 / 25.5	1 / 0.75
KTC-21	21 / 36	1.5 / 1.1
KTC-60	60 / 102	3 / 2.2
KTC-112	107 / 182	7.5 / 5.6

Typical Applications
- Evacuating Refrigeration Systems
- Liquid Gas Storage
- Brake Fluid Filling
- Silicon Crystal Growing

Two-Stage Oil-Sealed Rotary Piston

KD and KDH Single-Stage Duplex Rotary Piston Pumps

- Absolute pressures down to the low micron range
- Belt-driven, low-speed rotary piston pumps
- No small orifices to plug up
- No metal-to-metal contact between pump piston and cylinder - clearances are filled with oil
- Adjustable gas ballast permits handling of condensible vapors

KD pumps are air-cooled. KDH pumps are water-cooled.



Model	CFM / m³/h	HP / kW
KD-30	33 / 56	1.5 / 1.11
KD-50	52 / 88	2 / 1.5
KDH-130	134 / 227	5 / 3.7
KDH-150	165 / 280	7.5 / 5.6

Typical Applications
- Drying Chambers
- De-gasifiers
- Filling Machinery
- Evacuation of Process Chambers

Single-Stage Duplex Oil-Sealed Rotary Piston

Liquid Ring Vacuum Pumps

KINNEY®

Customers can choose a custom or optimized liquid ring vacuum pump from Kinney and install with confidence it will do the job! Lean on our excellent service, support, and engineering expertise.

KLRC Two-Stage



- Can pull down as low as 4 Torr (5.3 mbar a)
- Low-pressure performance is limited by the vapor pressure of the sealing liquid: water, oil or process liquids
- Complete engineered system solutions available: instrumentation, controls, piping and valves
- Self-contained liquid recovery and recirculation are available
- Center-anchored tie rods allow access to either end of the pump without total disassembly
- Double mechanical seals available in models KLRC75 through KLRC525 to meet API Piping Plan Requirements

Available in standard, all iron construction (no yellow metals) and 316 stainless steel. Liquid ring pumps often require water-cooling, but air-cooling systems are available.

Model	CFM / m³/h	HP / kW
KLRC-75	71 / 99	5 / 3.7
KLRC-125	139/ 195	10 / 7.5
KLRC-200	170 / 244	15 / 11
KLRC-300	305 / 432	25 / 18.5
KLRC-525	550 / 779	50 / 37
KLRC-526	435 / 740	40 / 30
KLRC-950	875 / 1488	100 / 75
KLRC-951	790 / 1343	60 / 45

Typical Applications
- **Vapor Recovery**
- **Deaeration**
- **Extruders**
- **Crystallizers**
- **Chemical Processing**

Two-Stage Liquid Ring

A Series Single-Stage





- Simplistic in design, rugged in construction - handles even slugs of liquid
- Unique axial flow design allows pump to operate flooded without damage
- Built to run in the most severe of industrial conditions
- Flat power curve over entire vacuum range prevents motor overload
- No contact between operating components in the casing
- Pull down to 29" Hg - 25 Torr (33 mbar a)
- Increased water handling capability prevents heat build-up, extends life of single mechanical seal
- Reduced stress on motor shaft and bearings
- Compact, close-coupled design eliminates need for interstage manifold/motor alignment

A Series pumps are not as susceptible to cavitation compared to flat plate design because the flow path through the pump is an axial flow. This allows the velocity through the pump to be unchanged and carries the air out effortlessly. It is not unusual for these pumps to run 24/7 operation for years without maintenance. Material of construction options include all bronze, cast iron, and stainless steel.

Model	CFM / m³/h	HP / kW
A-5	10 / 17	1 / 0.75
A-10	15 / 26	1.5 / 1.1
A-15	22 / 37	2 / 1.5
A-20	35 / 59	3 / 2.2
A-75	75 / 128	5 / 3.7
A-100	105 / 178	7.5 / 5.5
A-130	140 / 238	10 / 7.5
A-200	220 / 374	15 / 11
A-300	300 / 510	20 / 15

Typical Applications
- **Gas Compression**
- **Sterilization**
- **Solvent Distillation**
- **Degasifiers**
- **Extruders**
- **Evaporators**

Single-Stage Liquid Ring

Rotary Vane Vacuum Pumps

The KVA's simple design ensures the reliability and the durability that is required in the vacuum industry. Customers choose Kinney for competitive pricing, local distribution and service, and superior customer service.

KVA Single Stage

- Most models can achieve ultimate pressure levels near 0.1 mbar (75 microns)
- Ideally suited for clean or moderately contaminated applications when suction filters are fitted to the pump
- Compact design for easy installation
- Carbon composite vane material for long life
- Oil-flooded, multi-vane vacuum pumps are single stage, air cooled and direct driven
- Oil level sight glass and vibration isolators
- TEFC high efficiency tri-voltage motor (208-230/460V 50/60)
- Models KVA 25-630 include spin-on oil filter and exhaust pressure gauge



Single-Stage Oil-Sealed Rotary Vane

Model	CFM / m³/h	HP / kW
KVA-12	7 / 12	.75 / 0.55
KVA-21	15 / 26	1.0 / 0.75
KVA-25	21 / 36	2.0 / 1.5
KVA-40	28 / 48	2.0 / 1.5
KVA-63	45 / 78	3.0 / 2.2

Model	CFM / m³/h	HP / kW
KVA-100	71 / 120	5.0 / 3.7
KVA-160	124 / 210	7.5 / 5.5
KVA-250	177 / 300	10 / 7.5
KVA-400	300 / 505	15 / 11
KVA-630	460 / 780	25 / 18.5

Typical Applications

- Vacuum Packaging
- Plastic Thermoforming
- Food Processing
- Central Vacuum Systems

Vacuum Boosters

Vacuum boosters are used to supercharge vacuum pumps to extend pump performance. This creates much faster pumping speeds and deeper vacuum levels. Kinney's vacuum boosters are designed to handle the world's toughest applications.

- High-capacity gas volumes at high vacuum (50 Torr to micron range)
- May be used in conjunction with all types of vacuum pumps
- Designed to operate at 82 dB(A) or less at blank-off (open field; motor and background noise excluded)
- Heavy-duty drive shaft for either direct coupled or belt-driven applications
- Standard construction materials: cast iron housing, end plates and port fitting with ductile iron rotors and shafts
- Special materials offered: stainless steel, carbon steel, ductile iron, Bi-Protec
- Special testing available: Hydrostatic testing to 150 PSIG (10.35 bar g), seal leakage testing, noise testing

Vacuum Boosters Product Key

*Process Gas

16	AIR	GAS*	15
Vacuum Level "Hg vac	Process Medium		Pressure Level PSI



Model	CFM / m³/h
150	50-150 / 85- 255
240	70-230 / 119-391
400	120-400 / 204-680
540	170-540 / 289-918
720	230-720 / 391-1223
850	270-850 / 459-1444
1200	400-1240 / 680-2107
1600	500-1600 / 850-2718
2000	650-2000 / 1104-3398
2700	850-2700 / 1444-4587

Model	CFM / m³/h
1800	680-1800 / 1155-3058
2200	860-2300 / 1461-3908
2900	1130-3000 / 1920-5097
3600	1400-3600 / 2379-6116
4500	1730-4500 / 2939-7646
3200	800-3200 / 1359-5437
4200	1000-4200 / 1699-7136
5400	1400-5700 / 2379-9684
7300	1800-7400 / 3058-12573

Model	CFM / m³/h
4000	890-4000 / 1512-6796
6500	1400-6400 / 2379-10874
7900	1800-8000 / 3058-13592
8000	2100-9500 / 3568-16141
10000	2800-10000 / 4757-16990

Typical Applications

- Supercharging Vacuum Systems
- Vacuum Drying
- Dehydration
- Packaging
- Distillation
- Vacuum Furnace

Dry Screw Vacuum Pumps

Dry screw vacuum pumps are environmentally friendly as there is less oil to dispose of and maintain within their design. These pumps are more efficient than a liquid sealed model and are well suited for industrial and process applications.



Variable Pitch, Dry Screw

KDP Screw-Type Dry Vacuum Pump

- Simple, robust design can handle process by-products – liquids, condensate, and even small particles
- No oil or water in contact with process
- No contact between operating components in the casing
- Full pumping speed from atmospheric pressure down to 1 Torr; ultimate pressure 0.1 Torr (.05 Torr on Model KDP-800)
- Quiet operation – less than 85 dB(A)
- Short gas path through the pump for quick discharge
- Extended shaft for either V-belt or direct drive
- Casing and rotors made of ductile iron, PFA coated

60 Hz, Direct Drive

Model	CFM / m³/h	HP / kW
KDP-150	88 / 180	7.5 / 5.5
KDP-330	194 / 330	15 / 11
KDP-400	235 / 400	20 / 15
KDP-800	459 / 780	30 / 22

50 Hz, Direct Drive

Model	CFM / m³/h	HP / kW
KDP-150	71 / 120	7.5 / 5.5
KDP-330	159 / 270	15 / 11
KDP-400	194 / 330	20 / 15
KDP-800	388 / 660	30 / 22

Typical Applications
- Solvent Recovery
- Vapor Recovery
- Vacuum Coating
- Freeze Drying

SDV Variable Pitch, Screw-Type Dry Vacuum Pump

- Patented variable pitch rotor design increases efficiency and lowers temperatures
- No oil or water in contact with process gases
- Can handle both condensible vapors and some solids without leaving residue
- Capable of full pumping speed from atmospheric pressure to 1 Torr (1.3 mbar a)
- Can achieve ultimate vacuum as low as 0.01 Torr (0.013 mbar a)
- No metal-to-metal contact between operating parts
- Quiet operation

The SDV's space saving C-face motor design eliminates the need for motor coupling and guard. It features a short gas path through the pump for quick discharge and Niflon coated internals to reduce damage from corrosive or condensate gases.



Complete model shown with motor, accessories, and base.

Variable Pitch, Dry Screw

60 Hz, Direct Drive

Model	CFM / m³/h	HP / kW
SDV-120	71 / 120	5 / 3.7
SDV-200	106 / 180	5 / 3.7
SDV-320	188 / 320	10 / 7.5
SDV-430	253 / 430	15 / 11
SDV-800	441 / 750	20 / 15

50 Hz, Direct Drive

Model	CFM / m³/h	HP / kW
SDV-120	59 / 100	5 / 3.7
SDV-200	88 / 150	5 / 3.7
SDV-320	157 / 267	10 / 7.5
SDV-430	211 / 358	15 / 11
SDV-800	368 / 625	20 / 15

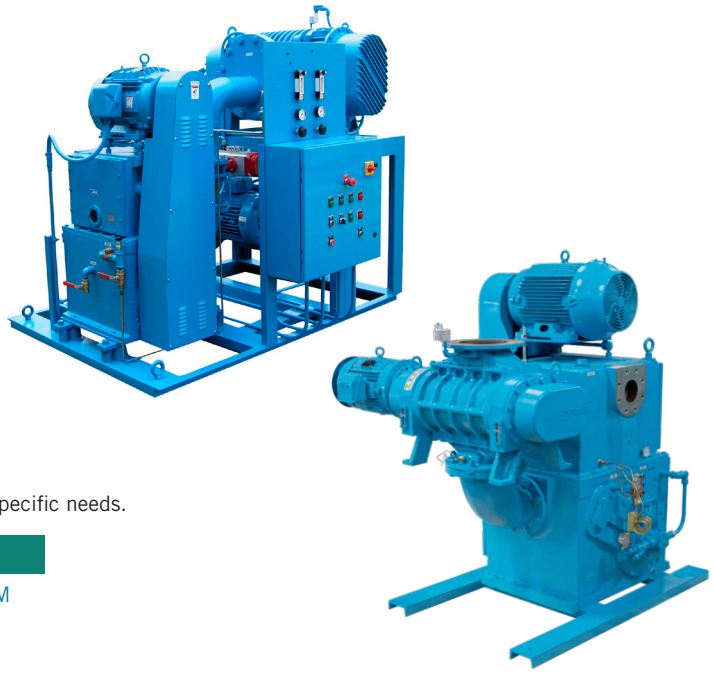
Typical Applications
- Chemical Processing
- Solvent Recovery
- Crystallization
- Distillation
- Vapor Recovery

Engineered Solutions

Kinney offers 100+ years of engineering experience and solid, hands-on care to every engineered project. Customers work directly with a project manager to develop custom solutions that efficiently meet the needs of the application. The engineering team manages the project start to finish at the Springfield, Missouri, USA facility.

Booster/Rotary Piston Vacuum Pumping Systems

- Pump high volumes at very low pressure
- High-capacity dry rotary lobe vacuum booster is matched to a smaller rotary piston vacuum pump
- For continuous operation below 1 Torr (1.3 mbar a), the vacuum booster can increase pumping speed by a factor of 10 or more
- For operation at higher pressure and for faster evacuations, the booster may be approximately twice the capacity of the piston pump
- Performance ranges 200-12,000 CFM (340-20,388 m^3/h) with ultimate vacuum levels as low as 0.2 microns
- Conventional systems with direct driven or V-belt driven boosters
- Compact systems with close-coupled boosters are available
- Creates a higher capacity system with economy of scale



Kinney application engineers can help you make the best selection for your specific needs.

Typical Applications
- **Transformer Oil Drying**
- **Vacuum Furnaces**
- **Vapor Coating**
- **Vacuum Packaging**

Custom Solutions to 12,000 CFM

Booster/Liquid Ring Vacuum Pumping Systems

- Ideal for pumping wet gas mixtures at low pressures
- Oil-filled systems avoid problems with corrosive contaminants and sealant liquid vapor pressures at higher temperatures
- Process liquid-filled systems prevent contamination of process gases with either water or oil



A variety of two and three-stage systems are available, complete with instrumentation, condensers, partial or complete sealant liquid recovery and recirculation, piping, and valves.

Typical Applications
- **Vapor Recovery**
- **Chemical Processing**
- **Dryers & Evaporators**

Liquid Ring & Booster/Piston

Booster/Dry Screw Vacuum Pumping Systems

- Combine high pumping speed with deep vacuum levels and operate free of oil, water or other sealing liquids
- Flows range to 4,500 CFM (7646 m^3/h) with vacuum levels to 10 microns and below

Complete engineered solutions are available and may include any combination of dry screw vacuum pumps, vacuum boosters, electric motors, direct or V-belt drive, coolant recirculation systems, instrumentation, controls, skid piping and valves.

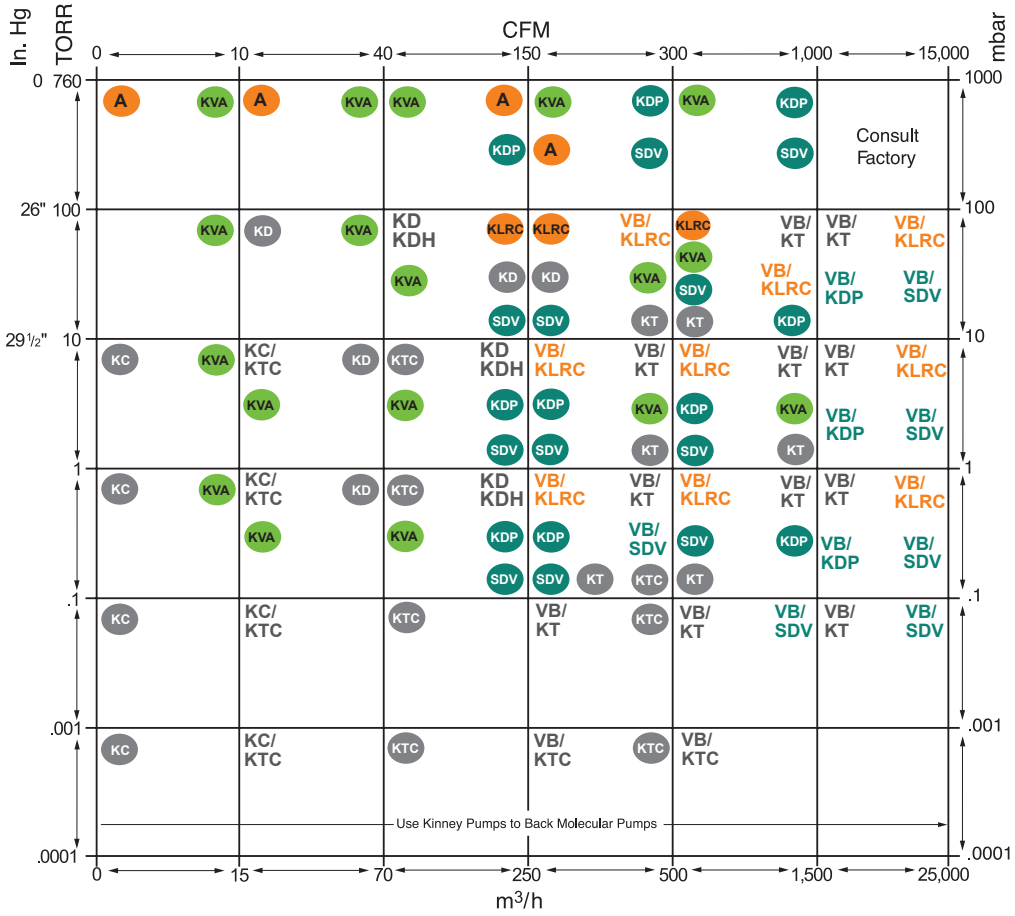
Typical Applications
- **Chemical & Pharmaceutical Processing**
- **Semiconductor Processing**
- **Solvent Recovery**
- **Crystallization**
- **Dry Etching**
- **Vapor Recovery**

Custom Engineered Solutions

Kinney application engineers are ready to help you select the best system and combinations of components for your specific needs. Custom engineered system solutions to 12,000 CFM are available with a combination of vacuum boosters/air ejectors and roughing pumps for any vacuum application. Contact your Kinney distributor or call 800-825-6937 for assistance.

Vacuum Pump Selector Guide

KINNEY®



Step 1

Vertical Scale: Locate the desired vacuum level in inches of mercury (Torr or mbar*).

Step 2

Horizontal Scale: Calculate and locate the required capacity in cubic feet per minute or cubic meters per hour based on system volume, pump down time, gas load, and leakage.

Step 3

Intersection of Scales: The box where the two lines intersect contains the possible pumps for selected pressure and capacity.

Example: For 50 CFM and 80 Torr, the selector guide indicates that KD, KDH, KVA, KLRC, KDP, and SDV pumps should be considered.

Example

***1 Torr = 1mm mercury absolute pressure**
To convert inches of mercury vacuum to Torr:
Torr = (30 - inches of vacuum) x 25.4 at sea level
e.g., 20 inches Hg = (30-20) x 25.4 = 254 Torr

Please consult your Kinney sales representative for assistance in making your final product selection.

VBXpert Vacuum & Blower Sizing Tool

Gain access to the most useful tool available for blower sizing and selection! This easy-to-use interface prompts you to plug in technical specifications for your application and quickly calculates the best Kinney product for you. Find out more at www.kinneyvacuum.com.

Service & Repair

The **Kinney CARE Center** in Springfield, Missouri, USA is here to help with start-up assistance, repair and warranty work, and remanufactured product sales. Call 1-800-825-6937 to be connected to a Kinney CARE technician. Kinney has a network of authorized CARE Centers offering local service to customers. All centers are staffed with factory-trained personnel to ensure that your equipment performs to factory specifications. A listing of authorized Kinney CARE Centers is available at www.kinneyvacuum.com.

AVEM
Association of Vacuum Equipment Manufacturers

MEMBER OF CAGI
Compressed Air & Gas Institute

USA MADE QUALITY



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