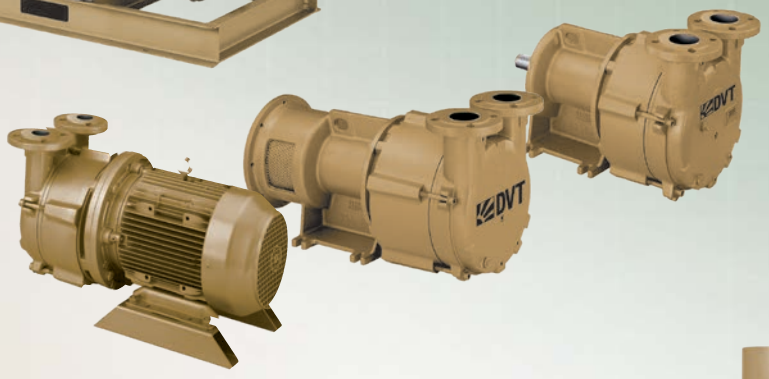
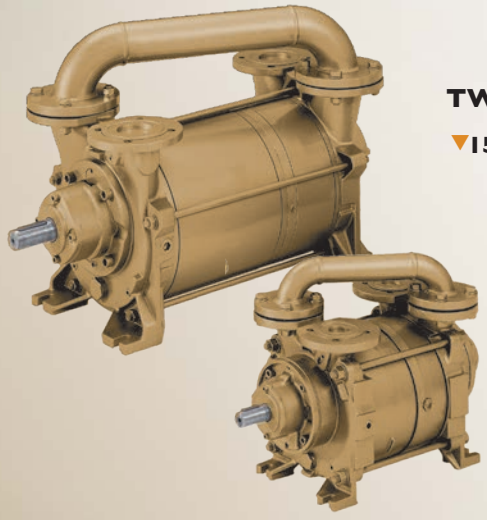
HIGH-EFFICIENCY SINGLE AND TWO-STAGE LIQUID RING VACUUM PUMPS

TiTAN™ series

SINGLE-STAGE

▼ 6-1200 CFM





TWO-STAGE

▼ 15-2000 CFM

DEKKER™
VACUUM TECHNOLOGIES, INC.

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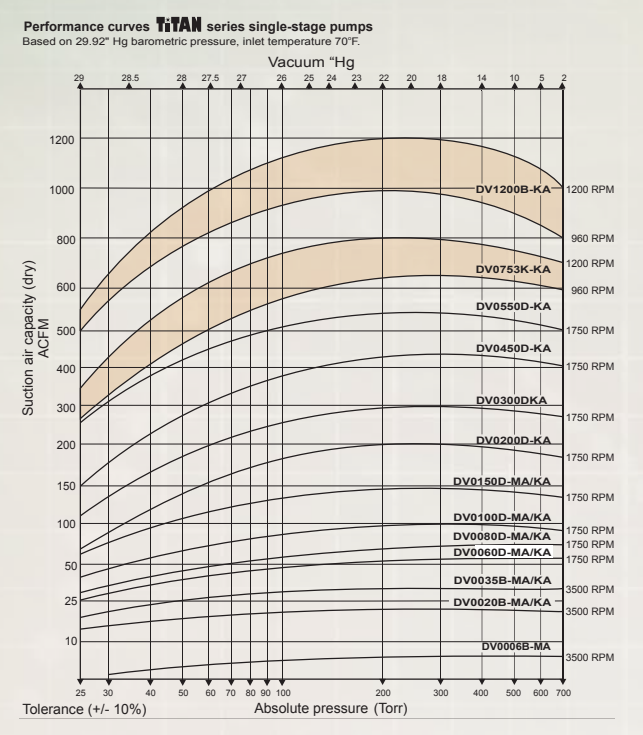
TiTAN series

Single-stage, high efficiency liquid ring vacuum pumps

Titan pumps offer operation throughout the vacuum range, from 0 - 29" HgV. Available in a capacity range from 6 - 1,200 CFM, these pumps can be utilized for most applications.

TiTAN Single-Stage



Single-Stage Pumps Performance Characteristics

Performance characteristics single-stage liquid ring vacuum pumps									
Single-stage design	Nominal capacity (ACFM)	Motor Size (HP) 60Hz	Material of Construction Code***	Max Vacuum Level ("HgV)	Pump Speed (RPM)	Cooling Water Flow Rate (GPM)	Noise (at 3ft) (dBA)	Weight bare-shaft (Lbs)	Standard Seal Code
Single-stage motor-mounted design = -MA									
DV0006B-MA	6	0.75	5	28.5	3500	1	68	24*	A**
DV0020DB-MA	20	1.5	3, 4	29	3500	0.75	68	35*	A**
DV0035DB-MA	35	3	3, 4	29	3500	1.5	70	55*	A**
DV0060D-MA	60	5.5	3, 4	29	1750	3.5	73	210*	A**
DV0080D-MA	75	5.5	3, 4	29	1750	4	73	232*	A**
DV0100D-MA	100	7.5	3, 4	29	1750	4	74	275*	A**
DV0150D-MA	150	10	3, 4	29	1750	4.5	74	310*	A**
Single-stage monoblock design = -KA									
DV0020B-KA	20	1.5	3, 4	29	3500	0.75	68	48	A**
DV0035B-KA	35	3	3, 4	29	3500	1.5	70	62	A**
DV0060D-KA	60	5	3, 4	29	1750	3.5	73	176	A**
DV0080D-KA	75	5	3, 4	29	1750	4	73	180	A**
DV0100D-KA	100	7.5	3, 4	29	1750	4	74	183	A**
DV0150D-KA	150	10	3, 4	29	1750	4.5	74	262	A**
DV0200D-KA	200	15	3, 4	29	1750	6	75	282	A**
DV0300D-KA	300	20	3, 4	29	1750	6	75	297	A**
Single-stage bare-shaft pedestal design = -PA - Single-stage bare-shaft design = -KA									
DV0020B-PA	20	1.5	3, 4	29	3500	0.75	68	40	A**
DV0035B-PA	35	3	3, 4	29	3500	1.5	70	52	A**
DV0060D-PA	60	5	3, 4	29	1750	3.5	73	160	A**
DV0080D-PA	75	5	3, 4	29	1750	4	73	165	A**
DV0100D-PA	100	7.5	3, 4	29	1750	4	74	167	A**
DV0150D-PA	150	10	3, 4	29	1750	4.5	74	231	A**
DV0200D-PA	200	15	3, 4	29	1750	6	75	251	A**
DV0300D-PA	300	20	3, 4	29	1750	6	75	266	A**
DV0450D-KA	410	25	1, 2, 3, 4	29	1750	11	76	455	A**
DV0550D-KA	550	40	1, 2, 3, 4	29	1750	13	78	517	A**
DV0750D-KA	750	40-50	1, 2, 3, 4	29	1170	25	79	880	A**
DV1200D-KA	1000	60	1, 2, 3, 4	29	960	25	80	1023	A**
	1100	75	1, 2, 3, 4	29	1100	25	80	1023	A**
	1200	100	1, 2, 3, 4	29	1200	25	80	1023	A**

* weight includes motor.
**Standard seals are mechanical seal with Viton elastomer, other seals available upon request.
***Special materials, such as ductile iron, Hastelloy, etc., are available upon request.

Materials of construction/Seal code					
Mat.code	1	2	3	4	5
Casing	cast iron	cast iron	cast iron	316 SS	bronze
Portplate	cast iron	cast iron	cast iron	316 SS	316 SS
Impeller	DI	bronze	316 SS	316 SS	bronze
Shaft	420 SS	420 SS	420 SS	316 SS	420 SS
Seal code	A*	A*	A*	B*	A*

A= standard mechanical seal with Viton elastomer
B= standard mechanical seal with Teflon elastomer
* = other seal materials available upon request

Detailed Features & Benefits:

Maximum efficiency single-stage design:
DEKKER offers the TiTAN single-stage high-efficiency liquid ring vacuum pumps, capable of vacuum levels up to 29" HgV. The pump features a variable discharge port design, which adjusts automatically to the internal compression ratio of the vacuum pump resulting in maximum efficiency throughout the vacuum range. Advanced fluid dynamics result in high volumetric efficiency with 50% less seal-liquid requirement.

Maximum efficiency two-stage design:
The DEKKER TiTAN two-stage liquid ring vacuum pumps offer excellent efficiency when pumping saturated vapors at vacuum levels from 25" up to 29" HgV. The two-stage pump operates more efficiently than the single-stage design when pumping mixtures of air and condensable vapors above 25" HgV.

No internal bearings:
Bearings are located external to the pumping chamber and are grease lubricated. This is a major benefit compared to oil lubricated vacuum pumps with internal bearings, because of the effect that contaminated lubricants have on the life of bearings and internal pump parts.

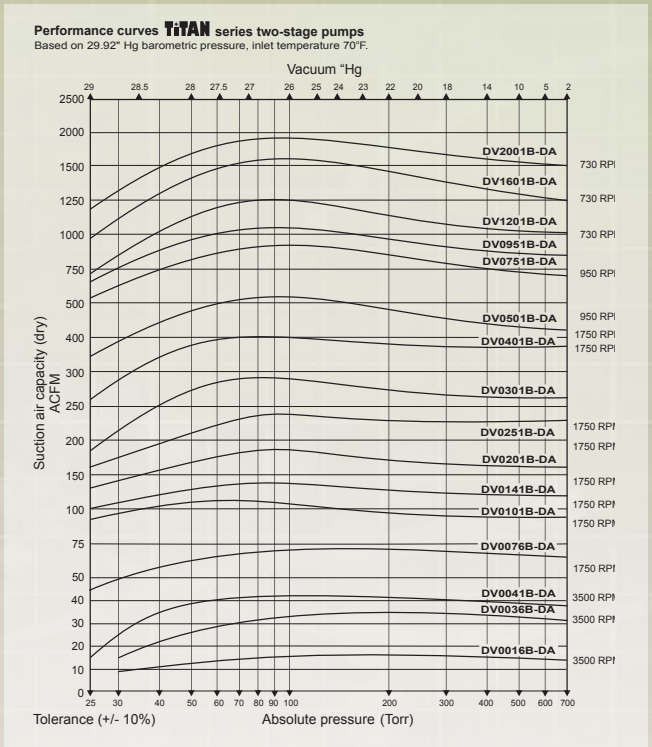
DEKKER offers a complete range of accessories and carries a comprehensive inventory of pumps and parts. For emergency repairs, DEKKER takes pride in offering same-day shipping of most standard parts. DEKKER maintains an extensive domestic and global network of authorized service centers.

The Workhorse in the Industry

Two-stage, high-efficiency liquid ring vacuum pumps

Vacuum pumps are designed for operating in the higher vacuum range, from 25 - 29" HgV. Available in a capacity range from 15 - 2,000 CFM, these pumps are utilized for applications operating in the higher vacuum range.

Titan Two-Stage



Two-Stage Pumps Performance Characteristics

Performance characteristics two-stage pumps

TiTAN-series Two-stage design	Nominal Capacity (ACFM)	Motor Size (HP) 60Hz	Material of Construction Code*	Max Vacuum Level ("HgV)	Pump Speed (RPM)	Cooling Water Flow Rate (GPM)	Noise (at 3ft) (dBA)	Weight bare-shaft (Lbs)	Standard Seal Code
DV0016B-DA	15	2	2	28.7	3500	1.5	66	50	A**
DV0036B-DA	35	3	2	28.7	3500	1.5	66	55	A**
DV0041B-DA	40	5	2	29	3500	3.75	66	66	A**
DV0076B-DA	75	5	3,4	29	1750	4	68	148	A**
DV0101B-DA	100	7.5	3,4	29	1750	4	68	154	A**
DV0141B-DA	140	10	3,4	29	1750	4	68	172	A**
DV0201B-DA	200	15	3,4	29	1750	10	73	290	A**
DV0251B-DA	250	20	3,4	29	1750	12	73	315	A**
DV0301B-DA	300	25	3,4	29	1750	16	74	330	A**
DV0401B-DA	400	25-40	3,4	29	1750	14	79	495	A**
DV0501B-DA	500	40-50	3,4	29	1750	15	79	539	A**
DV0751B-DA	800	50-75	3,4	29	1150	35	82	1345	A**
DV0951B-DA	1000	60-100	3,4	29	1150	40	82	1532	A**

*Special materials, such as ductile iron, Hastelloy, etc., are available upon request.
**Standard seals are mechanical seals with Viton elastomer, other seals available upon request.

No metal-to-metal contact:
The design of the liquid ring vacuum pump is most noted for its ability to handle soft solids and entrained liquids or vapors without causing damage to the pump. This is because there is no metal-to-metal contact between the rotating parts and the casing, eliminating the need for internal lubrication. Liquid ring pumps may be sealed with a variety of liquids such as water, solvents, oil or other process compatible fluids.

Low operating noise level:
Most liquid ring pumps operate at speeds of 1800 RPM or less. For this reason and because the pump has no metal-to-metal contact, liquid ring pumps are among the quietest pumps in the industry with noise levels in the 68 - 80 dBA range.

Reliable, heavy-duty design:
DEKKER liquid ring vacuum pumps are built to ISO9001 quality standards. Rigid impellers fitted on a heavy-duty shaft, supported by oversized radial bearings offer reliable operation under the most adverse conditions. Mechanical shaft seals are standard on DEKKER liquid ring vacuum pumps.

Choice of materials:
DEKKER liquid ring vacuum pumps are offered in a variety of materials to meet most process conditions. Mechanical shaft seals can be selected to fit each application. Double mechanical seals are available upon request. Integrated casing design provides easy assembly and disassembly, with fewer gasket surfaces.

Liquid Ring Vacuum Pump Principle of Operation

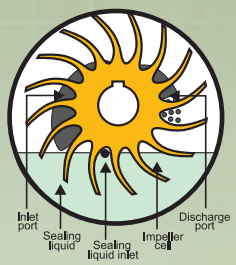


Figure 1:
In a cylindrical housing, partially filled with sealing liquid, a multi-blade impeller on a shaft is positioned eccentrically. Port plates with inlet and discharge openings are positioned on either side of the impeller.

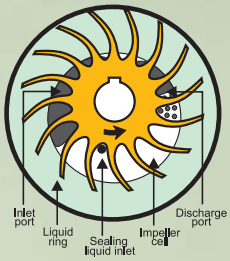


Figure 2:
A liquid ring is created by the centrifugal force generated by the rotating impeller. This force holds the liquid ring against the inner wall of the pumping chamber. Since the impeller is located eccentric to the pumping chamber, the depth of entry of the blades into the liquid ring decreases and increases as the impeller rotates. This creates increasing impeller cell volume on the inlet port side, creating a vacuum. On the discharge port side, the impeller cell volume decreases as the blades move further into the liquid ring increasing the pressure until discharge takes place through the discharge port. A continuous flow of fresh sealing liquid is supplied to the pump via the sealing liquid inlet.

Data is subject to change without notice.

Process Savings

Energy Savings

Environmental Sustainability

Optimized Performance

Knowledge Base

TiTAN™

Single and Two Stage Liquid Ring Vacuum Pumps
6-2,000 CFM

MAXIMA-C™

Large Capacity Conical Liquid Ring Vacuum Pumps
1,000 to 22,000 CFM

MAXIMA-K™

Large Capacity Liquid Ring Vacuum Pumps
1,500 to 39,000 CFM

Vmax™

Oil Sealed Liquid Ring Vacuum Pump Systems
35-5,400 CFM

DuraVane™

Lubricated and Dry Rotary Vane Vacuum Pumps
2-710 CFM

HullVac™

Rotary Piston Vacuum Pumps
17-1,280 CFM

ChemSeal™

Vacuum Pump Systems
15-10,000 CFM

AquaSeal™

Water Sealed Vacuum Pump Systems
15-39,000 CFM

POWERGEN AquaSeal™

Vacuum Pump Systems
15-5,000 CFM

Collaborative Engineering from Start-To-Finish

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GOLD STANDARD SUPPORT

Your Knowledge-Backed Guarantee. Need help sizing a vacuum pump? Having application problems? With over 100 years of combined experience, we've made it our business to know your needs as well as our systems capabilities. With DEKKER, you get a team of vacuum experts dedicated to helping you resolve system challenges, streamline processes, and optimize results.

Maintenance, service and repair so you keep operating at maximum efficiency.

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