

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

TITANTM series



DEKKERTM
VACUUM TECHNOLOGIES, INC.

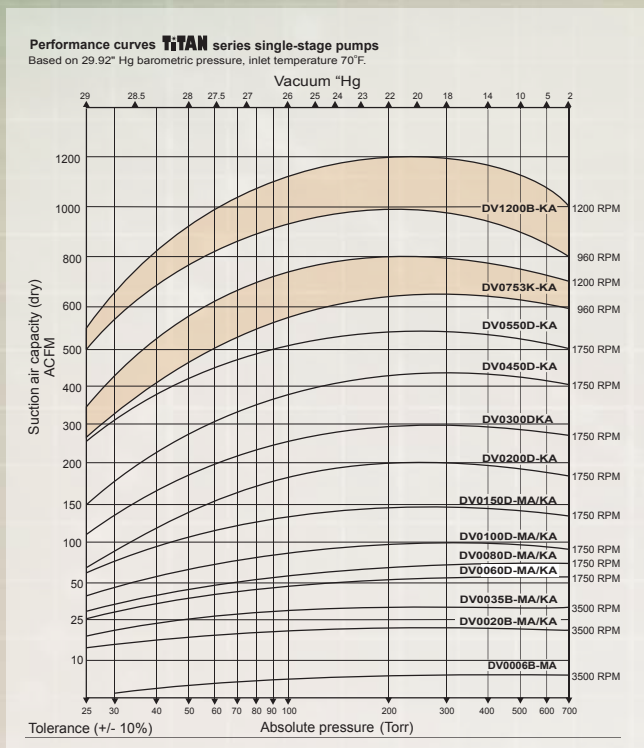
The Experts in Vacuum Solutions

ISO9001
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Single-stage, high efficiency liquid ring vacuum pumps

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

TiTAN Single-Stage



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" Hg. 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" Hg. The two-stage pump operates more efficiently than the single-stage design when pumping mixtures of air and condensable vapors above 25" Hg.

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.

Single-Stage Pumps Performance Characteristics

Performance characteristics single-stage liquid ring vacuum pumps

Pump model	Nom- inal capacity (CFM)	Maxi- mum vacuum ("Hg)	Average serv.liq. (USGPM)	Motor 60Hz (HP)	Speed (RPM)	Noise (at 3ft) (dBA)	Weight bare- shaft (Lbs)	Material of constr. code	Standard seal code
Single-stage motor-mounted design = -MA									
DV0006B-MA	6	28.5	1	0.75	3500	68	24*	5	A**
DV0020B-MA	20	29	0.75	1.5	3500	68	35*	3.4	A**
DV0035B-MA	35	29	1.5	3	3500	70	55*	3.4	A**
DV0060D-MA	60	29	3.5	5.5	1750	73	210*	3.4	A**
DV0080D-MA	75	29	4	5.5	1750	73	232*	3.4	A**
DV0100D-MA	100	29	4	7.5	1750	74	275*	3.4	A**
DV0150D-MA	150	29	4.5	10	1750	74	310*	3.4	A**
Single-stage monoblock design = -KA									
DV0020B-KA	20	29	0.75	1.5	3500	68	48	3.4	A**
DV0035B-KA	35	29	1.5	3	3500	70	62	3.4	A**
DV0060D-KA	60	29	3.5	5	1750	73	176	3.4	A**
DV0080D-KA	75	29	4	5	1750	73	180	3.4	A**
DV0100D-KA	100	29	4	7.5	1750	74	183	3.4	A**
DV0150D-KA	150	29	4.5	10	1750	74	262	3.4	A**
DV0200D-KA	200	29	6	15	1750	75	282	3.4	A**
DV0300D-KA	300	29	6	20	1750	75	297	3.4	A**
Single-stage bare-shaft pedestal design = -PA - Single-stage bare-shaft design = -KA									
DV0020B-PA	20	29	0.75	1.5	3500	68	40	3.4	A**
DV0035B-PA	35	29	1.5	3	3500	70	52	3.4	A**
DV0060D-PA	60	29	3.5	5	1750	73	160	3.4	A**
DV0080D-PA	75	29	4	5	1750	73	165	3.4	A**
DV0100D-PA	100	29	4	7.5	1750	74	167	3.4	A**
DV0150D-PA	150	29	4.5	10	1750	74	231	3.4	A**
DV0200D-PA	200	29	6	15	1750	75	251	3.4	A**
DV0300D-PA	300	29	6	20	1750	75	266	3.4	A**
DV0450D-KA	450	29	10	25	1750	76	455	1,2, 3,4	A**
DV0550D-KA	550	29	12	40	1750	78	517	1,2, 3,4	A**
DV1200B-KA	1000	29	25	60	960	80	1023	1,2, 3,4	A**
	1100	29	25	75	1100	80	1023	1,2, 3,4	A**
	1200	29	25	100	1200	80	1023	1,2, 3,4	A**

* weight includes motor.

**Standard seals are mechanical seal with Viton elastomer, other seals available upon request.
For larger capacity pumps, see DEKKER's MAXIMA-K series.

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.

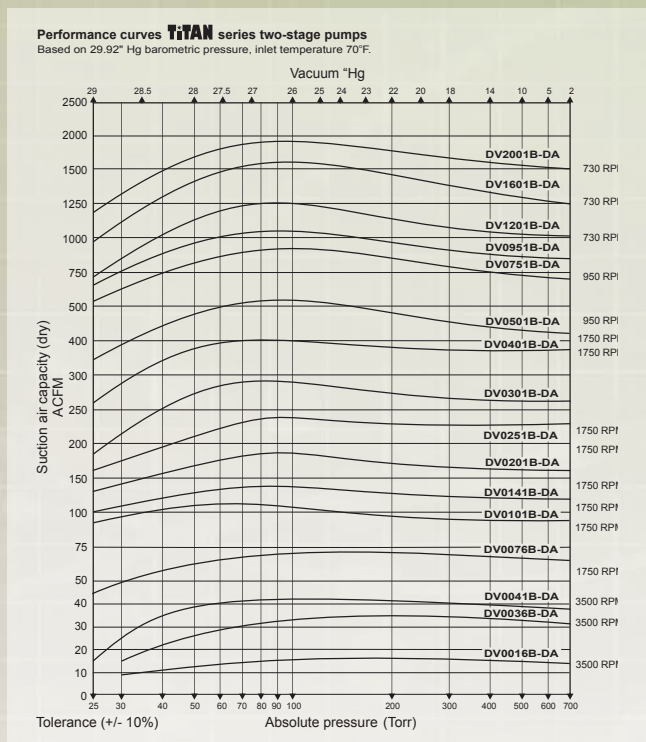
▶ DEKKER offers a complete range of accessories and carries a comprehensive inventory of pumps and parts. For emergency repairs, DEKKER takes pride in offering same-day shipping of most standard parts. DEKKER maintains an extensive domestic and global network of authorized service centers.

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" Hg. 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



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.

Ask about our **Maxima-C** conical design two-stage pumps, available from 700-3,000 CFM.

Two-Stage Pumps Performance Characteristics

Performance characteristics two-stage pumps							
TITAN -series Two-stage design	Nominal capacity (CFM)	Maximum vacuum ("Hg)	Average serv.liq. (USGPM)	Motor 60Hz (HP)	Speed (RPM)	Noise (at 3ft) (dBA)	Weight bare-shaft (Lbs)
DV0016B-DA	15	28.7	1.5	2	3500	66	50
DV0036B-DA	35	28.7	1.5	3	3500	66	50
DV0041B-DA	40	29	3.5	5	3500	66	66
DV0076B-DA	75	29	3.5	5	1750	68	148
DV0101B-DA	100	29	3.5	7.5	1750	68	154
DV0141B-DA	140	29	4	10	1750	68	172
DV0201B-DA	200	29	8.5	15	1750	73	290
DV0251B-DA	250	29	11	20	1750	73	315
DV0301B-DA	300	29	13.5	25	1750	74	330
DV0401B-DA	400	29	12.5	40	1750	79	495
DV0501B-DA	500	29	14	50	1750	79	539
DV0601B-DA	600	29	25	50	950	82	1146
DV0751B-DA	800	29	30	50	950	82	1345
DV0951B-DA	1000	29	33	60	950	82	1532
DV1201B-DA	1200	29	50	100	730	85	3476
DV1601B-DA	1600	29	60	125	730	85	3476
DV2001B-DA	2000	29	70	125	730	85	3740

*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.

Liquid Ring Vacuum Pump Principle of Operation

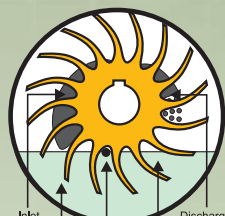


Figure 1:

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.

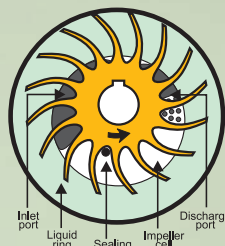


Figure 2:

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.

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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



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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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