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.

**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.

**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.

**Single-Stage Pumps Performance Characteristics**

```
<table>
<thead>
<tr>
<th>Pump model</th>
<th>Nominal capacity (CFM)</th>
<th>Maximum vacuum (&quot;Hg)</th>
<th>Average vacuum (USGPM)</th>
<th>Motor speed (RPM)</th>
<th>Noise (at 3ft)</th>
<th>Weight (bare-shaft)</th>
<th>Material code</th>
<th>Standard seal code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DV0006D-MA</td>
<td>6</td>
<td>28.5</td>
<td>1</td>
<td>0.75</td>
<td>3500</td>
<td>68</td>
<td>48</td>
<td>5</td>
</tr>
<tr>
<td>DV0020B-MA</td>
<td>20</td>
<td>29</td>
<td>0.75</td>
<td>1.5</td>
<td>3500</td>
<td>68</td>
<td>35</td>
<td>3, 4</td>
</tr>
<tr>
<td>DV0035B-MA</td>
<td>35</td>
<td>29</td>
<td>1.5</td>
<td>3</td>
<td>3500</td>
<td>70</td>
<td>55</td>
<td>3, 4</td>
</tr>
<tr>
<td>DV0060D-MA</td>
<td>60</td>
<td>29</td>
<td>3.5</td>
<td>5</td>
<td>1750</td>
<td>73</td>
<td>210</td>
<td>3, 4</td>
</tr>
<tr>
<td>DV0080D-MA</td>
<td>75</td>
<td>29</td>
<td>4.5</td>
<td>5.5</td>
<td>1750</td>
<td>73</td>
<td>232</td>
<td>3, 4</td>
</tr>
<tr>
<td>DV0100D-MA</td>
<td>100</td>
<td>29</td>
<td>4</td>
<td>7.5</td>
<td>1750</td>
<td>74</td>
<td>275</td>
<td>3, 4</td>
</tr>
<tr>
<td>DV0150D-MA</td>
<td>150</td>
<td>29</td>
<td>4.5</td>
<td>10</td>
<td>1750</td>
<td>74</td>
<td>310</td>
<td>3, 4</td>
</tr>
<tr>
<td>DV0200D-MA</td>
<td>200</td>
<td>29</td>
<td>6</td>
<td>15</td>
<td>1750</td>
<td>75</td>
<td>282</td>
<td>3, 4</td>
</tr>
<tr>
<td>DV0300D-MA</td>
<td>300</td>
<td>29</td>
<td>6.4</td>
<td>20</td>
<td>1750</td>
<td>75</td>
<td>297</td>
<td>3, 4</td>
</tr>
<tr>
<td>DV0300D-PA</td>
<td>300</td>
<td>29</td>
<td>6.4</td>
<td>20</td>
<td>1750</td>
<td>75</td>
<td>297</td>
<td>3, 4</td>
</tr>
</tbody>
</table>
```

* 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.

**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.**
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

Two-Stage Pump Principle of Operation

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.

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.

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.

Data is subject to change without notice.

Call DEKKER: The Experts in Vacuum Solutions at 888-925-5444 for application expertise.
INCREASE YOUR INDUSTRIAL VACUUM KNOWLEDGE
dekkervacuum.com

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.