



TITAN-C



AquaSeal-C

Liquid Ring Compressors and Systems

Design Benefits

Maximum efficiency single-stage design:

DEKKER offers the Titan single-stage high-efficiency liquid ring compressor, with a maximum capacity of up to 1100 CFM. The compressor features a variable discharge port design, which adjusts automatically to the internal compressor ratio of the compressor, resulting in maximum efficiency throughout the pressure range. Advanced fluid dynamics result in high volumetric efficiency with 50% less seal-liquid requirement.

No metal-to-metal contact:

The design of the liquid ring compressor 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 compressors may be sealed with a variety of liquids such as water, solvents, oil, or other process compatible fluids.

No internal bearings:

Bearings are located external to the pumping chamber and are grease-lubricated. This is a major benefit compared to oil-lubricated compressors with internal bearings, because of the effect that contaminated lubricants have on the life of bearings and internal compressor parts.

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 compressors are among the quietest pumps in the industry, with noise levels in the 68 - 80 dBA range.

Reliable, heavy-duty design:

DEKKER liquid ring compressors are built to ISO 9001:2008 quality standards. Rigid impellers fitted on heavy-duty shafts, supported by oversized radial bearings, offer reliable operation under the most adverse conditions. Mechanical shaft seals are standard on DEKKER liquid ring compressors.

Choice of materials:

DEKKER liquid ring compressors 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.

DEKKER Gold Standard Support:

DEKKER liquid ring compressors carry a 2-year warranty on materials and workmanship. Backed by an extensive domestic and global network of service centers, DEKKER offers the support your company needs.

Spare Parts & Accessories:

DEKKER offers a complete range of accessories, carries a comprehensive inventory of pumps and parts and for emergency repairs takes pride in offering same day shipping of most standard parts.

Engineered Systems:

DEKKER offers a wealth of experience in the design of custom built compressor systems for applications such as methane digester and landfill gas.





Single-Stage Liquid Ring Compressors
 Offer operation throughout the pressure range, from 0 - 29 psig. Available in a capacity range from 15 - 1100 CFM, these pumps can be utilized for many applications.

LIQUID RING COMPRESSOR PRINCIPLE OF OPERATION

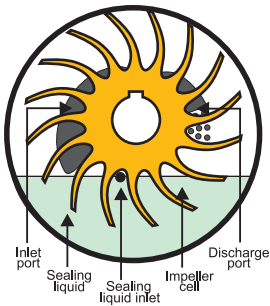


Figure 1: In a cylindrical housing, partially filled with sealing liquid, a multi-blade impeller on a shaft is positioned eccentrically. Port plates with inlet and discharge openings are positioned on either side of the impeller.

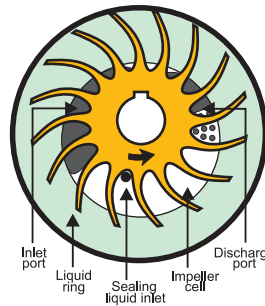
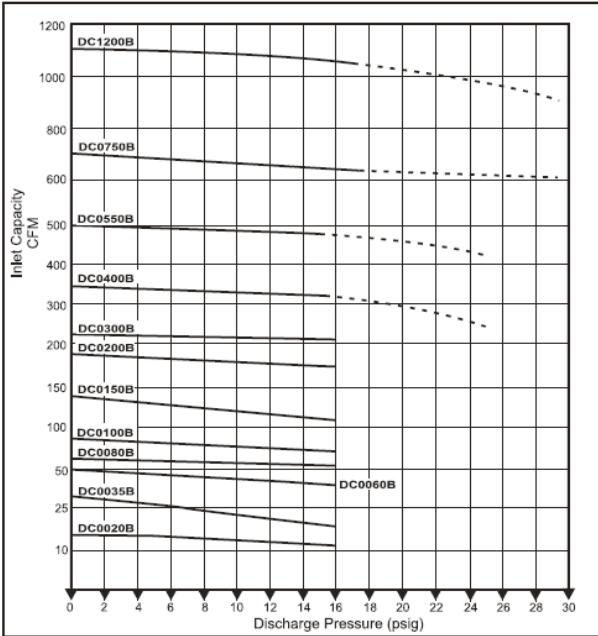


Figure 2: A liquid ring is created by the centrifugal force generated by the rotating impeller. This force holds the liquid ring against the inner wall of the pumping chamber. Since the impeller is located eccentric to the pumping chamber, the depth of entry of the blades into the liquid ring decreases 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.

Performance curves (+/- 10%) single-stage compressors at 60Hz



Performance characteristics single-stage liquid ring compressors

Liquid ring compressors	Max. Cap. (CFM)	Maximum pressure (psig)		Motor (kW/HP)				Speed (RPM)		Service liquid (GPM)	Weight bare-shaft		Material of constr code ^a	Standard seal code
		50 Hz	60 Hz	50 Hz		60 Hz		50Hz	60Hz		Kg	LBS		
				kW	HP	kW	HP							
DC0020B-PA	15	18	18	-	-	2.2	3	-	3500	1	18	40	3, 4	A**
DC0020B-KA	15	18	18	-	-	2.2	3	-	3500	1	22	48	3, 4	A**
DC0035B-PA	30	16	16	2.2	3	4	5.5	2900	3500	2	24	52	3, 4	A**
DC0035B-KA	30	16	16	2.2	3	4	5.5	2900	3500	2	28	62	3, 4	A**
DC0060B-PA	50	16	16	4	5.5	5.5	7.5	1450	1750	3	73	160	3, 4	A**
DC0060B-KA	50	16	16	4	5.5	5.5	7.5	1450	1750	3	80	176	3, 4	A**
DC0080B-PA	60	16	16	4	5.5	5.5	7.5	1450	1750	3.2	75	165	3, 4	A**
DC0080B-KA	60	16	16	4	5.5	5.5	7.5	1450	1750	3.2	82	180	3, 4	A**
DC0100B-PA	90	16	16	5.5	7.5	7.5	10	1450	1750	3.2	76	167	3, 4	A**
DC0100B-KA	90	16	16	5.5	7.5	7.5	10	1450	1750	3.2	83	183	3, 4	A**
DC0150B-PA	140	16	16	7.5	10	11	15	1450	1750	4	105	231	3, 4	A**
DC0150B-KA	140	16	16	7.5	10	11	15	1450	1750	4	119	262	3, 4	A**
DC0200B-PA	190	16	16	11	15	15	20	1450	1750	4	114	251	3, 4	A**
DC0200B-KA	190	16	16	11	15	15	20	1450	1750	4	128	282	3, 4	A**
DC0300B-PA	225	16	16	15	20	18.5	25	1450	1750	4.5	121	266	3, 4	A**
DC0400B-KA	350	29	26	30	40	37	50	1450	1750	7.5	185	455	1, 2, 3, 4	A**
DC0550B-KA	500	29	26	37	50	55	75	1450	1750	11	205	517	1, 2, 3, 4	A**
DC0750B-KA	700	29	26	55	75	75	100	980	1170	16	400	880	1, 2, 3, 4	A**
DC1200B-KA	1100	29	26	95	125	110	150	980	1170	24	465	1023	1, 2, 3, 4	A**

