



HYGIENIC PRODUCT RANGE

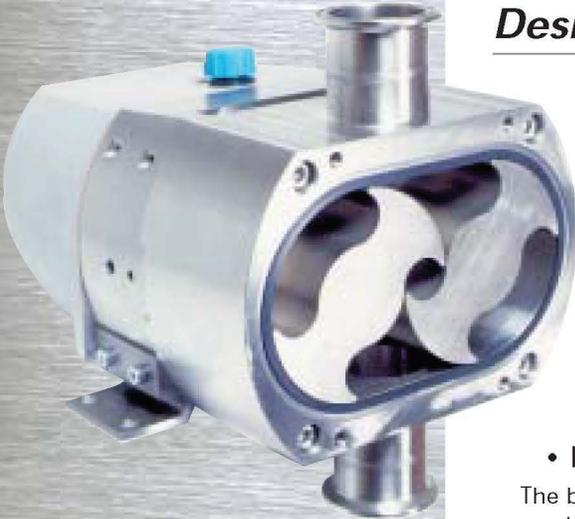


Jabsco

ROTARY LOBE PUMPS - ULTRA HYGIENIC

Ultima/55 SERIES Ultra Hygienic Positive Displacement Pump

Design Features



The ultimate hygienic rotary positive displacement pump designed without compromise to fulfil even the most critical customer demands in cleanability, steriliseability and bacterial tightness. This 316L stainless steel design uses bi-wing or 5-lobe rotor designs specifically utilised to achieve the very lowest shear rate and product degradation characteristics. The Ultima pump is an extension of Jabsco's world renowned 55 series pump which was the first pump of its kind and a virtual industry standard in the Bio-pharm arena.

- **Ultimate Hygienic Standards**

Tested and approved to the EHEDG (European Hygienic Equipment Design Group), CIP, SIP and Bacterial Tightness protocols. Full conformance to 3A Sanitary Standards 18-03 and 03-09 and utilising materials which meet the requirements of the FDA title 21, section 177.2600.

- **Cleaner by Design**

External rotor retention together with gasket type joints in place of O-rings reduce the number of potential product entrapment areas. In addition to this, the shaft seals are pulled forward fully in the product zone, all of which adds up to the ultimate in cleanability.....every time!

- **Low Product Shearing**

The bi-wing and 5 lobe rotor designs ensure high volumetric efficiency on low viscosity products resulting in low shear rates and low product damage.

- **Rugged Design**

This pump design utilises extremely large shaft diameters mounted in high specification taper roller bearings. These give maximum shaft stiffness to ensure no galling thus maintaining the pump's CIP and SIP capabilities.

Options

- **Seals**

Front loaded single mechanical face type seals of hygienic design. Materials include carbon and silicon carbide.

Low pressure flushed seals utilise the same single mechanical seal with an additional housing. A low pressure flush liquid washes away crystallising products or liquids which 'skin over'.

Double mechanical seals utilising all the components from single seals. Used for hazardous, toxic, highly abrasive or sterile products.

- **Connections**

US and European standards including Tri-Clamp. All pumps available with 2 different sizes.

- **Elastomers**

USP Class VI, EPDM, Viton and PTFE product contact joints all in compounds conforming to the FDA CFR title 21 section 177.2600.

- **Other options**

Aseptic barrier end cover joints to maintain sterility of product during long cycle times.

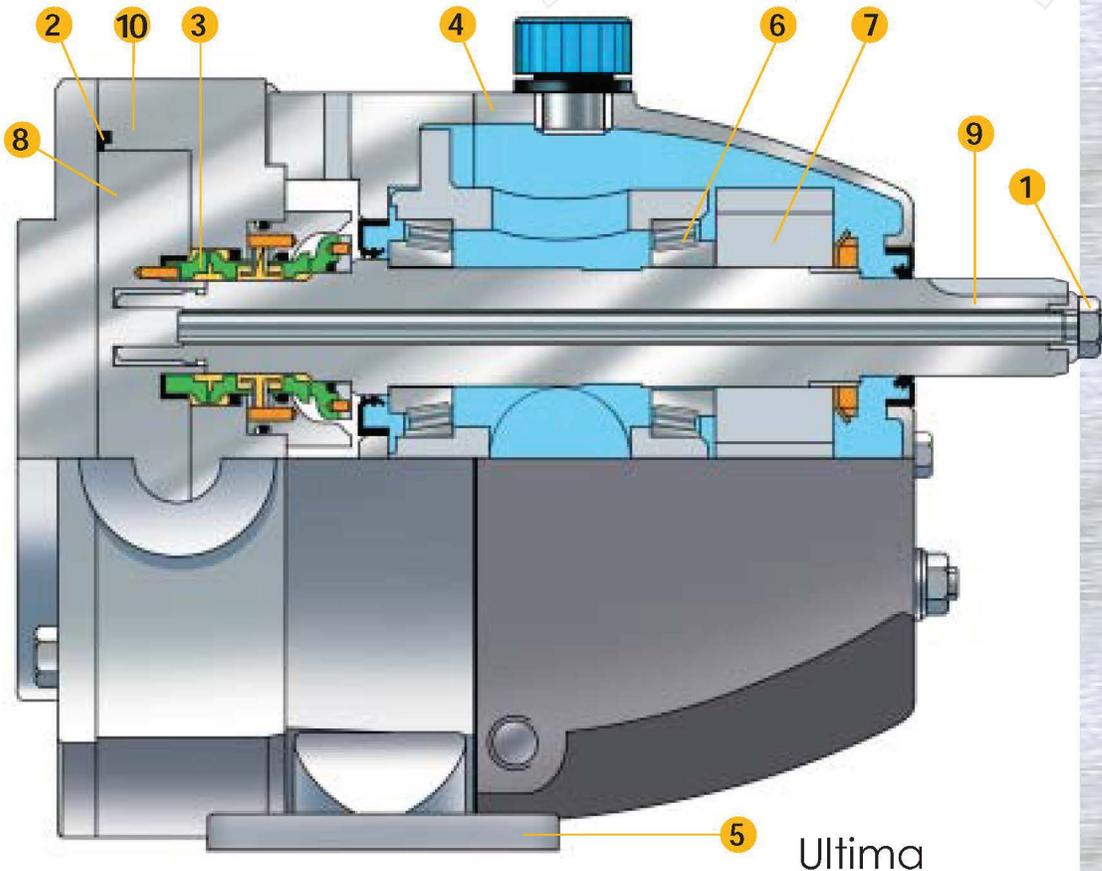
Electropolish or high polish internal surfaces to 0.5µm Ra (240grit) for minimised cell damage and maximised cleanability.



	55 Series			Ultima					
Pump Model	55210	55320	55420	LU42	LU44	LU52	LU54	LU62	LU64
Port Size (mm) (inch)	12.5 ½	19 ¾	25 1	25 or 38 1 or 1½	38 or 50 1½ or 2	38 or 50 1½ or 2	50 or 76 2 or 3	63 or 76 2, 2½ or 3	76 or 100 3 or 4
Displacement (litre) (100 revs) (US gal)	1 0.26	2.9 0.77	6.7 1.77	12.3 3.25	20.4 5.39	26.5 7.00	45.5 12.02	64 16.90	95 25.10
Max Flow (litre) (per min) (US gal)	16 4.2	44 11.6	67 17.7	123 32.5	204 53.9	254 70.0	437 120.2	461 121.8	684 180.7
Max Pressure (bar) (psi)	14 203	20 290	20 290	15 217	8 116	15 217	8 116	15 217	8 116
Max Speed (RPM)	1500	1500	1000	1000	1000	1000	1000	720	720
Size LxBxH (mm) (inch)	191x114x135 7.5x4.5x5.25	264x145x168 10.5x5.75x6.5	302x168x191 11.75x6.5x7.5	285x223x182 10.75x8.75x7.75	301x223x182 11.75x8.75x7.75	386x249x208 15.25x9.75x8.25	414x259x213 16.25x10.25x8.25	463x328x249 18.25x13x9.75	492x328x254 19.25x13x10
Bareshaft Weight (kg) (lbs)	8 18	19 42	26 57	23 51	25 55	38 84	41 90	70 154	75 165
Temp (°C) (°F)	-30 to 140 -22 to 284								
Viscosity (cP)	1 to 1 million								



55 Series Construction Details

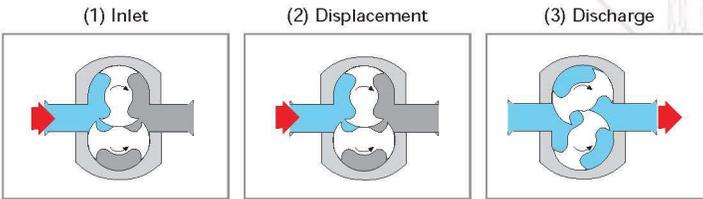


- 1 External rotor retainers prevent build up of stagnant product, by removing the need for end cover recesses and O-ring crevices entirely.
- 2 Gasket type joints eliminate the uncertainty of O-rings in terms of cleanliness.
- 3 Front mounted shaft seals allow for easy replacement and full accessibility of CIP liquids.
- 4 Rugged, stainless steel bearing pedestal and housing allow for maximum hygiene (epoxy coated cast iron with stainless steel option on 55 series).
- 5 Removable feet allow quick change for pump mounting in the ideal orientation.
- 6 High specification taper roller bearings give over one million hours life on a typical duty.
- 7 Precision cut gears yield high load capability and ease of maintenance or replacement.
- 8 Fully interchangeable bi-wing rotors can be fitted without the need to re-time thus reducing downtime and allows pump to cope with a higher level of abuse and larger solids.
- 9 Heavy duty shafts for maximum rigidity and minimum galling due to low deflections.
- 10 Low carbon 316L pump head with welded ports for reduced carbide precipitation, increased corrosion resistance and minimal carbon 'pull-out'.

PRINCIPLES OF OPERATION

Rotary Lobe Pumps

3 Bi-wing Rotor

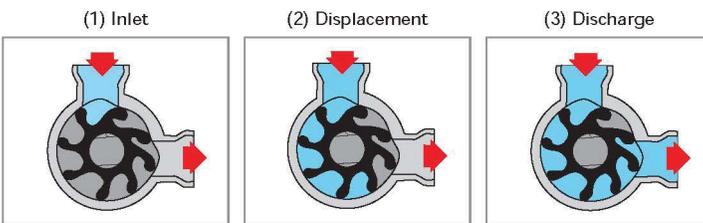


Every Jabsco Lobe Pump is a true positive displacement rotary lobe pump. During operation, fluid is smoothly drawn into the pump.

Fluid is carried around the outside of the rotors to be positively discharged at a steady flow rate by two centre-rotating rotors.

This action, combined with the absence of rubbing contact between the rotors or casing, is capable of handling fluid reliably, cleanly and without degradation.

Flexible Impeller Pumps



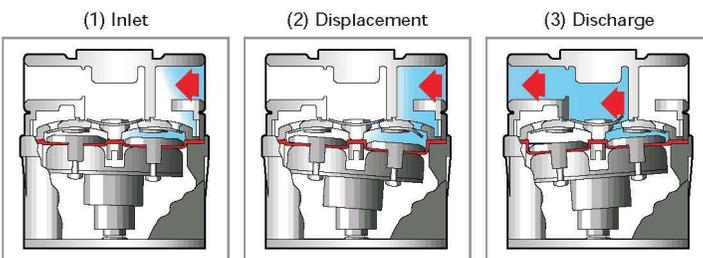
On start-up, air in the inlet pipe is displaced and liquid is drawn into pump.

The liquid is then carried through to be discharged at a steady flow rate.

This action combines gentle pumping with true dry priming capability.

Diaphragm Pumps

Motor Driven



Self-priming design allows pumps to create suction to draw fluid into pump without manual priming.

Fluid enters inlet port and is drawn through inlet check valve when piston moves away from the check valve.

As piston moves toward the check valve assembly, the fluid is forced through the outlet check valve and out of the pump.

APPLICATIONS



Pharmaceutical Industry

- Nutraceutical
- Cell slurries
- Buffer solutions
- Bio-products

Health Care Industry

- Cosmetics
- Creams
- Lotions
- Dietary products

Food Process Industry

- Bakery
- Beverage
- Brewery
- Dairy
- Meat
- Canning
- Confectionery

Chemical Industry

- Household products
- Strong acids
- Emulsions
- Polymers
- Paper coating
- Water treatment

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