



HYGIENIC PRODUCT RANGE



Jabsco

ROTARY LOBE PUMPS – SUPER HYGIENIC

Hy~Line

Super Hygienic Positive Displacement Pump

Design Features

- **Most Stringent Hygienic Standards**

Flush rotor fixing screws are sealed to prevent product ingress. Contoured rotor case internals for full drainability during SIP and shaft seals set up front where the pumping action is! Fully conforming to 3A 18-03 Hygienic Standards and utilising materials which meet FDA requirements. Versions are available that have been tested and approved to the EHEDG (European Hygienic Equipment Design Group), CIP and SIP protocols.

- **Low Maintenance Costs**

Front loaded single shaft seals are fully accessible from the front of the pump without disturbing the process pipework. Simple bearing assemblies easily pre-set using automotive technology. Bi-wing rotors require no timing adjustments. Even the pump casing is removable, a feature not normally associated with other bi-wing rotor pumps.

- **High Volumetric Efficiency**

The bi-wing rotors incorporate the low viscosity efficiency associated with circumferential piston pumps with the viscous product handling capability of tri-, quad- and bi-lobe rotor pumps..... at an affordable price!

- **Rugged Design**

Hy~Line design utilises extremely large shaft diameters mounted in high specification taper roller bearings, fitted into an extremely rigid central pillar made from a high grade alloy. This is all enclosed in an oil filled housing made from the same alloy. These, together with wide tipped rotor wings, which adds another dimension to security, avoid premature pump failure due to overpressure or other abuse.

Options

- **Seals**

Front loaded single mechanical face type seals of hygienic design. Materials include carbon, stainless steel 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.

Front loaded single O-Ring seals - a low cost seal option used primarily for self lubricating products and products which contain little or no abrasives.

Front loaded double O-Ring seals - suitable for pressurised grease or flushing with a suitable liquid to enable low cost sealing of high sugar confectionery and bakery products.

Multiple PTFE lip seal - complete with controlled release food grade grease injection system, the ideal sealing system for chocolate and other products sensitive to water flush.

- **Connections**

All US and European standards including DIN, SMS, RJT, IDF, Tri-Clamp & BSP. Most pumps available with 2 different sizes, all fully interchangeable. (Not on 3 & 7 size)

- **Elastomers**

Nitrile, Viton, EPDM and PTFE product contact joints available in compounds conforming to 3A Sanitary Standard 02-09 and FDA title 21 section 177.2600.

- **Other options**

Pump Head temperature control jackets.
Integral pressure relief valve.
Enlarged suction port for viscous products.
All stainless steel bearing pedestal and cover.
Low carbon 316L pump head.
Tanker pump version for direct hydraulic drive.

Jabsco's latest rotary positive displacement pump incorporates the very latest in hygienic design concepts in order to fulfil the ever increasing customer demands for improved cleanability, hygiene and sterilisability.

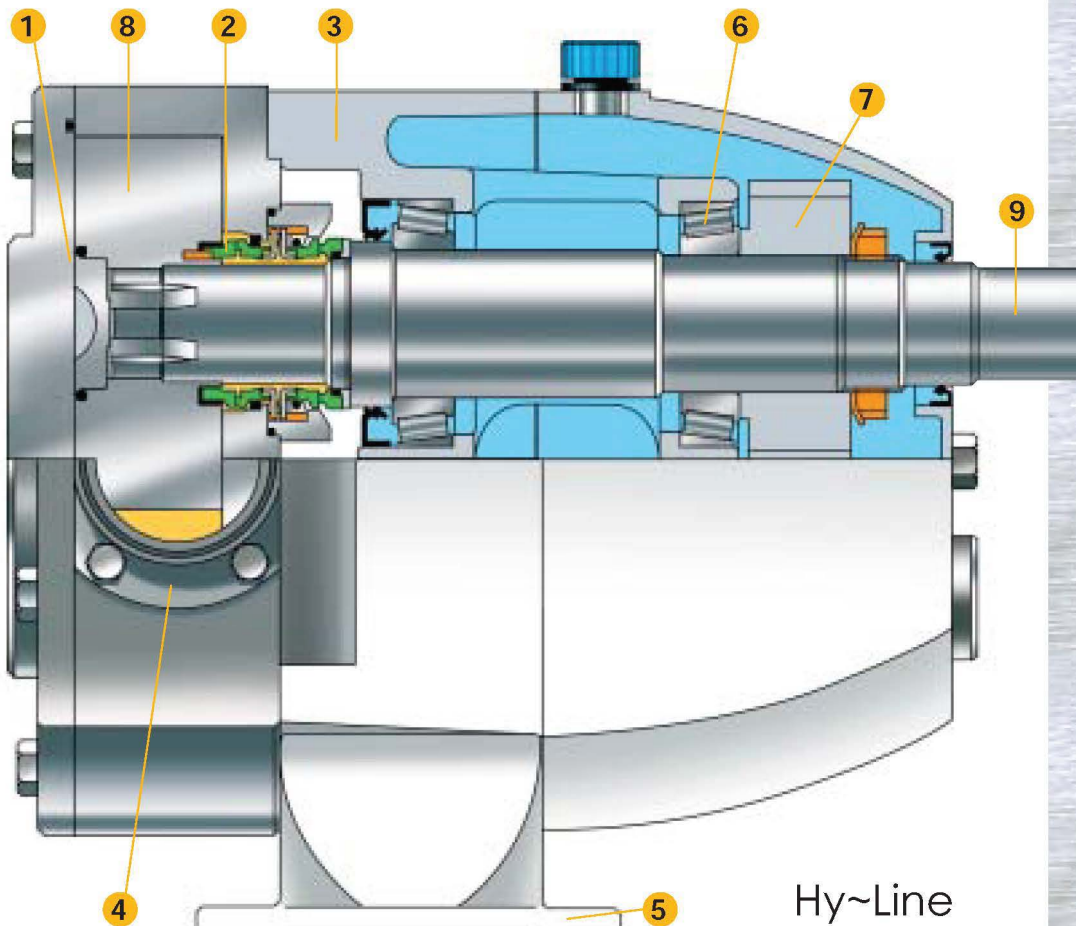
This 316 stainless steel design uses a bi-wing rotor, which encompasses the very best features of tri-lobe rotor pumps and circumferential piston pumps.

The pump is built upon Jabsco's 40 year experience of producing and supplying their Pureflo flexible impeller and 24 Series rotary lobe pumps to the world's most demanding markets.



	Hy~Line										
Pump Model	LH32	LH34	LH42	LH44	LH52	LH54	LH62	LH64	LH72	LH74	LH76
Port Size (mm) (inch)	19 or 25 ¾ or 1	25 or 38 1 or 1½	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	76 or 100 3 or 4	100 or 152 4 or 6	127 or 152 5 or 6
Displacement (litre) (100 revs) (US gal)	3.5 0.92	7 1.85	12.3 3.25	20.4 5.39	26.5 7.00	45.5 12.02	64 16.90	95 25.10	123 32.50	205 54.15	301.5 79.65
Max Flow (litre) (per min) (US gal)	52 13.7	105 27.7	123 32.5	204 53.9	265 70.0	455 120.2	461 121.8	684 180.7	836 220.8	1230 324.9	1809 477.9
Max Pressure (bar) (psi)	15 217	8 116	15 217	8 116	15 217	8 116	15 217	8 116	15 217	8 116	5 72
Max Speed (RPM)	1500	1500	1000	1000	1000	1000	720	720	680	600	600
Size LxBxH (mm) (inch)	213x192x166 8.25x7.5x6.5	229x192x166 9x7.5x6.5	274x223x196 10.75x8.75x7.75	290x223x196 11.5x8.75x7.75	386x249x208 15.25x9.75x8.25	414x259x213 16.25x10.25x8.25	460x270x311 18.25x10.75x12.25	464x302x311 18.25x11.75x12.25	486x380x363 19.25x15x14.25	526x386x363 20.75x15.25x14.25	573x412x363 22.5x16.25x14.25
Bareshaft Weight (kg) (lbs)	8 18	10 22	18 40	20 44	32 70	35 77	61 134	65 143	125 275	145 319	165 363
Temp (°C) (°F)	-30 to 140 -22 to 284										
Viscosity (cP)	1 to 1 million										

Construction Details



Hy~Line

- 1 Flush fitting, sealed rotor retaining screws avoid build up of stagnant product as no end cover recesses are required and no product can get into the rotor drive.
- 2 Front mounted shaft seals for **easy replacement** and full accessibility of CIP liquids.
- 3 **Rugged, high grade alloy** bearing pedestal and housing for low weight and high strength, completely encased in epoxy coating.
- 4 Detachable ports for **maximum flexibility** in connection type and size. (Not on 3 & 7 size).
- 5 Removable feet allow **quick change** for pump mounting in the ideal orientation. (Not on 3 & 7 size).
- 6 High specification taper roller bearings give **over one million hours** life on a typical duty.
- 7 Precision cut spur gears for high load capability and **ease of maintenance**.
- 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.
- 9 **Heavy duty shafts** for high pressure capability.

ROTARY LOBE PUMPS - HYGIENIC

24 SERIES Positive Displacement Pump

Design Features

- **Adaptability**

This is the key design concept. The pump utilises 'bolt on' features which allow quick and easy interchange of parts to enable exact specification of the pump to suit any application.....from stock!

- **Rugged Design**

The bearing frame design utilises large shaft diameters mounted in high specification taper roller bearings, fitted into rigid pillars which form an integral part of the high grade alloy housing. These ensure maximum shaft stiffness in order to avoid premature pump failure due to overpressure or other abuse.

- **Low Maintenance**

The shaft, bearing and gear assemblies are fully immersed in an oil bath to give maximum life even at extremes of operating conditions. The timing gears are easily accessible at the rear of the pump in the unlikely event that re-timing should become necessary. Rotors are all fully interchangeable avoiding the need to re-time which is a problem associated with so many other rotary lobe and circumferential piston pumps.

- **Improved Hygienic Technology**

Fully swept pump chamber together with sealed rotor spline, accessible seals, and approved sealing components ensure that the pump meets the stringent requirements of major international customers.

- **Certified to US 3A Standards**

Options

- **Seals**

Single mechanical seals are of hygienic design. Materials include carbon, stainless steel, tungsten carbide 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 utilise all the components from single seals. For hazardous, toxic, highly abrasive or sterile products.

Gland packing - a cost effective general purpose seal for non-hazardous liquids. Used on either a stainless steel or hard chrome plated anti-wear sleeve.

O-Ring seals - another low cost seal option used primarily for self lubricating products such as dairy products.

- **Rotors**

Tri-lobe rotors in stainless steel handle 90% of all applications. The traditional rotor shape gives an excellent combination of efficiency,

solids handling, low and high viscous product capability.

Bi-lobe rotor in stainless steel for exceptional handling of delicate, soft solids such as fruit pieces and vegetables.

Rubber covered tri-lobe rotor to cope with small hard solids such as small bone fragments or ice crystals.

- **Connections**

All US and European standards including DIN, SMS, RJT, IDF, Tri-Clamp & BSP. Most pumps available with 2 different sizes, all fully interchangeable.

- **Elastomers**

Nitrile, Viton, EPDM, PTFE or Kalrez product contact joints are available.

- **Other options**

Pump head temperature control jackets.
Integral pressure relief valve.
Integral speed reduction unit.
Enlarged suction ports for highly viscous product.

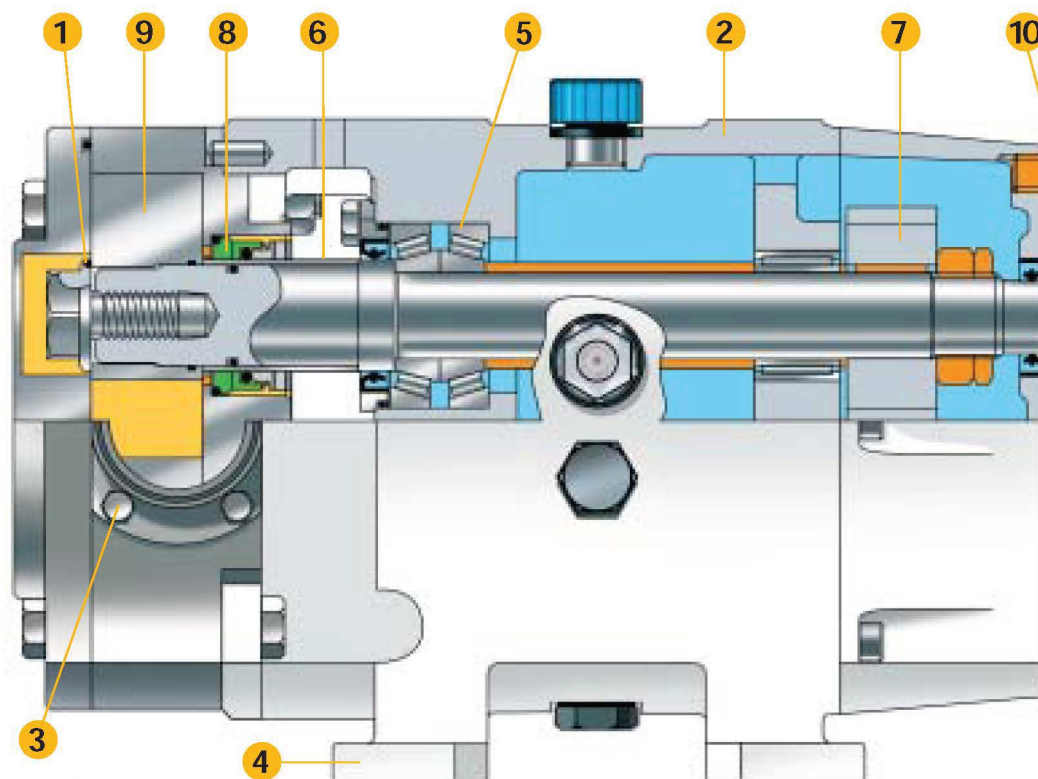
The 24 Series range of positive displacement rotary lobe pumps is a proven design spanning over 20 years. With thousands of pumps in use around the world users agree that it is one of the best designed hygienic pumps on the market today. The 316 stainless steel 24 Series pump range incorporates improved technology in hygienic pump design and manufacturing techniques, yet utilises the traditional tri-lobe rotor concept which is so well accepted by the world's leading suppliers of Food, Personal Care and Chemical products.



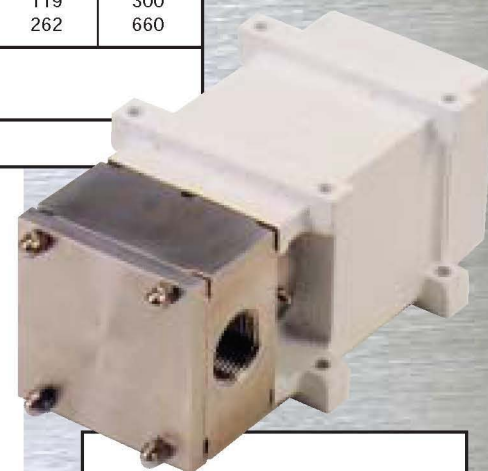
	24 Series									
Pump Model	S2	A1	A2	B1	B2	C1	C2	D1	D2	E2
Port Size (mm) (inch)	25 1	25 or 38 1 or 1½	25 or 38 1 or 1½	38 or 50 1½ or 2	38 or 50 1½ or 2	50 or 76 2 or 3	50 or 76 2 or 3	76 or 100 3 or 4	76 or 100 3 or 4	152 6
Displacement (litre) (100 revs) (US gal)	3.6 0.92	10.4 2.75	18.6 4.91	24.5 6.47	37.7 9.96	62.3 16.46	93.6 24.72	122 32.23	161 42.53	350 92.46
Max Flow (litre) (per min) (US gal)	36 9.2	100 27.5	177 49.1	237 64.7	362 99.6	448 118	655 173	793 209.5	1000 264.2	2100 554.8
Max Pressure (bar) (psi)	7 101	15 217	10 145	15 217	10 145	14 203	10 145	12 174	9 130	12 174
Max Speed (RPM)	1000	960	960	960	960	720	700	650	620	600
Size LxBxH (mm) (inch)	261x146x106 10.25x5.75x4.25	335x204x188 13.25x8x7.5	355x204x188 14x8x7.5	408x226x227 16x9x9	428x236x227 16.75x9.25x9	538x288x319 21.25x11.25x12.5	564x296x319 22.25x11.75x12.5	623x322x355 24.5x12.75x14	647x346x355 25.5x13.75x14	770x425x438 30.25x16.75x17.25
Bareshaft Weight (kg) (lbs)	10 22	14 31	18 40	29 64	33 73	70 154	75 165	112 246	119 262	300 660
Temp (°C) (°F)	-30 to +150 -22 to 302	-40 to +200 -40 to 392								
Viscosity (cP)	1 to 1 million									

Model S2

Construction Details



24 Series



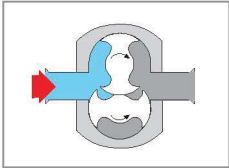
- 1 Sealed rotor splines ensure improved cleanability.
- 2 Rugged, high grade alloy bearing frame for low weight and high strength.
- 3 Detachable ports for maximum flexibility in connection type and size.
- 4 Removable feet allow **quick change** for pump mounting in the ideal orientation.
- 5 High specification tapered roller bearings give **over one million hours** life on a typical duty.
- 6 Shaft sleeves under seals ensure **minimised maintenance costs**.
- 7 Precision cut helical timing gears for **reduced noise and ease of maintenance**.
- 8 Wide variety of **interchangeable seal types** to suit many applications.
- 9 Fully interchangeable rotor options can be fitted without the need of re-timing thus **reducing downtime**.
- 10 **Heavy duty shafts** for high pressure capability and minimum deflection.

PRINCIPLES OF OPERATION

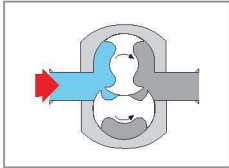
Rotary Lobe Pumps

3 Bi-wing Rotor

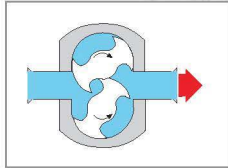
(1) Inlet



(2) Displacement



(3) Discharge



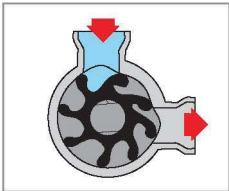
Every Jabsco Lobe Pump is a true positive displacement rotary lobe pump. During operation, fluid is smoothly drawn into the pump.

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

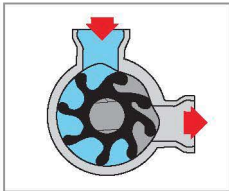
This action, combined with the absence of rubbing contact between the rotors or casing, is capable of handling fluid reliably, cleanly and without degradation.

Flexible Impeller Pumps

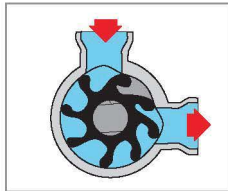
(1) Inlet



(2) Displacement



(3) Discharge



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

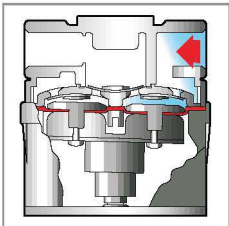
The liquid is then carried through to be discharged at a steady flow rate.

This action combines gentle pumping with true dry priming capability.

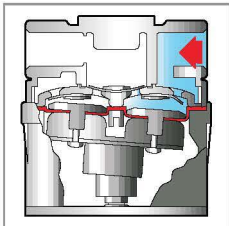
Diaphragm Pumps

Motor Driven

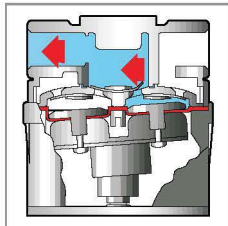
(1) Inlet



(2) Displacement



(3) Discharge



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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