

Engineered for life

## ROTARY LOBE PUMPS - ULTRA HYGIENIC



## **Design Features**

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 02-10 and utilising materials which meet the requirements of the FDA title 21, section 177.1550.

• 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.

#### Certification

3.1B Material Certification package.

3A Variants with Nitrile or EPDM elastomers and port options - Tri-clamp, IDF, 3A, DIN11851

#### 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 177.1550.

#### Other options

Aseptic barrier end cover joints to maintain sterility of product during long cycle times. Electropolish or high polish internal surfaces to  $0.5\mu m$  Ra (20 micro-inc Ra) for minimised cell damage and maximised cleanability.





(mm) (inch)	55210 12.5	<b>55320</b>	55420	LU42	11144				
(inch)	-	19			LU44	LU52	LU54	LU62	LU64
-4 (0)	,-	3/4	25 1	25 or 38 1 or 1 <sup>1</sup> / <sub>2</sub>	38 or 50 1 <sup>1</sup> / <sub>2</sub> or 2	38 or 50 1 <sup>1</sup> / <sub>2</sub> or 2	50 or 76 2 or 3	63 or 76 2, 2 <sup>1</sup> / <sub>2</sub> or 3	76 or 100 3 or 4
nt (litre) (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
(litre) (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
(bar) (psi)	14 203	20 290	20 290	15 217	8 116	15 217	8 116	15 217	8 116
(RPM)	1500	1500	1000	1000	1000	1000	1000	720	720
(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
(kg) (lbs)	8 18	19 42	26 57	23 51	25 55	38 84	41 90	70 154	75 165
(°C)	-30 to 140 -22 to 284								
(	(bar) (psi)  (RPM)  (mm) (inch)  (kg) (lbs)	(bar) 14 (psi) 203 (RPM) 1500 (mm) 191x114x135 (inch) 7.5x4.5x5.25 (kg) 8 (lbs) 18	(bar) 4.2 11.6 (bar) 14 20 (psi) 203 290 (RPM) 1500 1500 (mm) 191x114x135 264x145x168 (inch) 7.5x4.5x5.25 10.5x5.75x6.5 (kg) 8 19 (lbs) 18 42	(bar) (psi)         4.2         11.6         17.7           (bar) (psi)         14 20 290 290         290           (RPM)         1500         1500         1000           (mm) 191x114x135 (10.5x5.75x6.5)         264x145x168 11.75x6.5x7.5         302x168x191 11.75x6.5x7.5           (kg) 8 19 26 (lbs) 18 42 57         26         57	(bar) (psi)         14 20 20 20 15 217           (spi)         203 290 290 217           (RPM)         1500 1500 1000 1000           (mm) 191x114x135 264x145x168 (inch) 7.5x4.5x5.25 10.5x5.75x6.5 11.75x6.5x7.5         302x168x191 285x223x182 10.75x8.75x7.75           (kg) 8 19 26 23 (lbs) 18 42 57 51           (°C)	(bar) (psi)         14 20 20 20 15 8 116           (psi)         203 290 290 217           (RPM)         1500 1500 1000 1000 1000           (mm) 191x114x135 (inch) 7.5x4.5x5.25 (lbs)         264x145x168 10.5x5.75x6.5 11.75x6.5x7.5 10.75x8.75x7.75           (kg) 8 19 26 23 25 (lbs) 18 42 57 51 55           (°C)         -30 to 140	(bar) (psi)     14 20 20 20 15 8 15 217       (psi)     203 290 290 217 116       (RPM)     1500 1500 1000 1000 1000 1000 1000       (mm) 191x114x135 264x145x168 (inch) 7.5x4.5x5.25 10.5x5.7x6.5 11.75x6.5x7.5 (lbs) 18 42 57 51 55 84       (%C)     -30 to 140	(bar) (psi)         4.2         11.6         17.7         32.5         53.9         70.0         120.2           (bar) (psi)         14 20 20 20 290         15 8 15 8 15 8 116         217 116         217 116           (RPM)         1500         1500         100	(bar) (psi)         14 20 290 290 290         15 8 15 217         8 15 217         8 15 217         116 217           (RPM)         1500         1500         1000         1000         1000         1000         1000         1000         720           (mm) (inch)         191x114x135 264x145x168 (inch)         302x168x191 7.5x6.5x7.5         285x223x182 10.75x8.75x7.75         301x223x182 11.75x8.75x7.75         301x223x182 11.75x8.75x7.75         301x223x182 15.25x9.75x8.25         414x259x213 463x328x249 16.25x10.25x8.25         18.25x13x9.75           (kg) 8 19 26 23 25 38 44 90         25 38 44 90         70 154           (°C)         -30 to 140

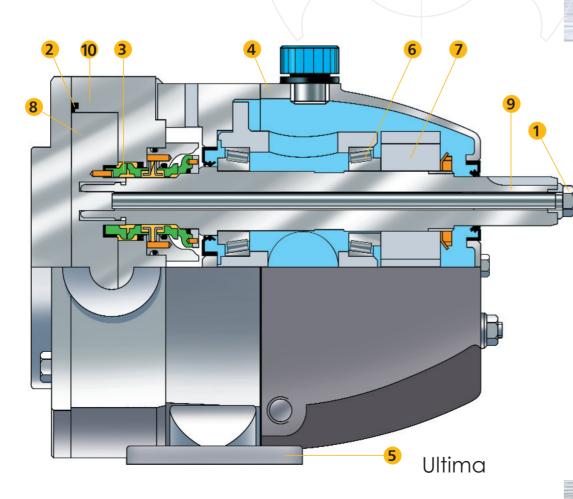
1 to 1 million

55 Series



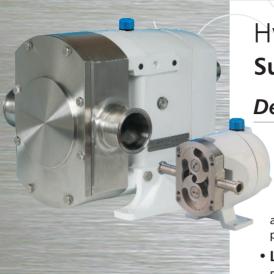
(cP)

Viscosity



- 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 cleanability.
- 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'.

## ROTARY LOBE PUMPS - SUPER HYGIENIC



Jabsco's latest rotary positive displacement pump incorporates the very latest

in order to fulfil the ever increasing customer demands for improved cleanability, hygiene and sterilisability.

in hygienic design concepts

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 Flexible Impeller and 24 Series rotary lobe pumps to the world's most demanding markets.



# 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 02-10 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 and USDA, 3A certification.

## • 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-, quadand 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.

#### Certification

3.1B Material Certification package. 3A Variants with Nitrile or EPDM elastomers and port options - Tri-clamp, IDF, 3A, DIN11851

#### 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

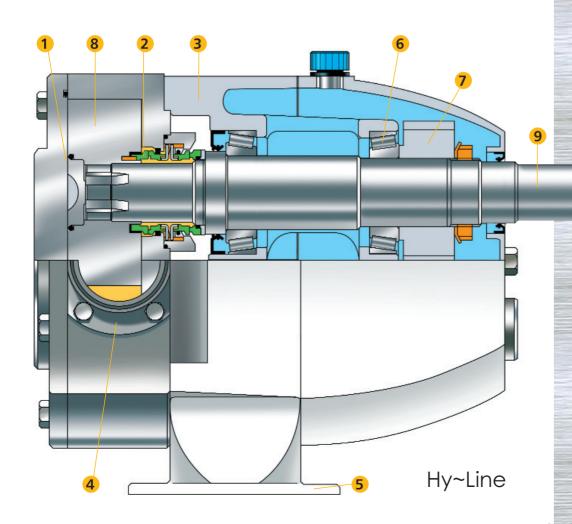
Nitrile, Viton, EPDM and PTFE product contact joints available in compounds conforming to 3A Sanitary Standard 18-03 and FDA title 21 section 177.2600.

## 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.

		Hy~Line										
Pump Mo	odel	LH32	LH34	LH42	LH44	LH52	LH54	LH62	LH64	LH72	LH74	LH76
Port Size	(mm)	19 or 25	25 or 38	25 or 38	38 or 50	38 or 50	50 or 76	63 or 76	76 or 100	76 or 100	100 or 152	127 or 152
	(inch)	³/₄ or 1	1 or1 <sup>1</sup> / <sub>2</sub>	1 or 1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub> or 2	1 <sup>1</sup> / <sub>2</sub> or 2	2 or 3	2, 2 ½ or 3	3 or 4	3 or 4	4 or 6	5 or 6
Displaceme		3.5	7	12.3	20.4	26.5	45.5	64	95	123	205	301.5
(100 revs)		0.92	1.85	3.25	5.39	7.00	12.02	16.90	25.10	32.50	54.15	79.65
Max Flow	(litre)	52	105	123	204	265	455	461	684	836	1230	1809
(per min)	(US gal)	13.7	27.7	32.5	53.9	70.0	120.2	121.8	180.7	220.8	324.9	477.9
Max	(bar)	15	8	15	8	15	8	15	8	15	8	5
Pressure	(psi)	217	116	217	116	217	116	217	116	217	116	72
Max Speed	(RPM)	1500	1500	1000	1000	1000	1000	720	720	680	600	600
Size	(mm)	213x192x166	229x192x166	274x223x196	290x223x196	386x249x208	414x259x213	460x270x311	464x302x311	486x380x363	526x386x363	573x412x363
LxBxH	(inch)	8.25x7.5x6.5	9x7.5x6.5	10.75x8.75x7.75	11.5x8.75x7.75	15.25x9.75x8.25	16.25x10.25x8.25	18.25x10.75x12.25	18.25x11.75x12.25	19.25x15x14.25	20.75x15.25x14.25	22.5x16.25x14.25
Bareshaft	(kg)	8	10	18	20	32	35	61	65	125	145	165
Weight	(lbs)	18	22	40	44	70	77	134	143	275	319	363
Тетр	(°C) (°F)	-30 to 140 -22 to 284										
Viscosity	(cP)		1 to 1 million									

## **Construction Details**



- 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**Hygienic 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

## **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.

### Certification

3A Variants with Nitrile or EPDM elastomers and port options - Tri-clamp, IDF, 3A, DIN11851.

#### • 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. Enlarged suction ports for highly viscous product.

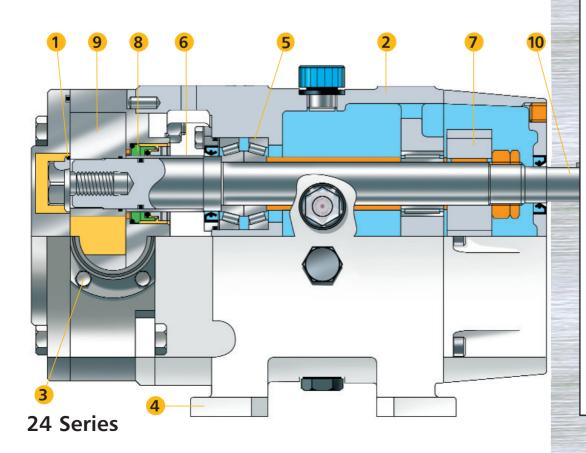
The 24 Series range of positive displacement rotary lobe pumps is a proven design spanning over 20 years. With thousands of pumps in use around the world users agree that it is one of the best designed hygienic pumps on the market today. The 316 Stainless Steel 24 Series pump range incorporates improved 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 Mo	del	<b>S2</b>	A1	A2	В1	B2	C1	C2	D1	D2	E2
Port Size	(mm)	25	25 or 38	25 or 38	38 or 50	38 or 50	50 or 76	50 or 76	76 or 100	76 or 100	152
	(inch)	1	1 or1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub> or 2	1½ or 2	2 or 3	2 or 3	3 or 4	3 or 4	4	6
Displaceme		3.6	10.4	18.6	24.5	37.7	62.3	93.6	122	161	350
(100 revs)		0.92	2.75	4.91	6.47	9.96	16.46	24.72	32.23	42.53	92.46
Max Flow	(litre)	36	100	177	237	362	448	655	793	1000	2100
(per min)	(US gal)	9.2	27.5	49.1	64.7	99.6	118	173	209.5	264.2	554.8
Max	(bar)	7	15	10	15	10	14	10	12	9	12
Pressure	(psi)	101	217	145	217	145	203	145	174	130	174
Max Speed	(RPM)	1000	960	960	960	960	720	700	650	620	600
Size	(mm)	261x146x106	335x204x188	355x204x188	408x226x227	428x236x227	538x288x319	564x296x319	623x322x355	647x346x355	770x425x438
LxBxH	(inch)	10.25x5.75x4.25	13.25x8x7.5	14x8x7.5	16x9x9	16.75x9.25x9	21.25x11.25x12.5	22.25x11.75x12.5	24.5x12.75x14	25.5x13.75x14	30.25x16.75x17.2
Bareshaft	(kg)	10	14	18	29	33	70	75	112	119	300
Weight	(lbs)	22	31	40	64	73	154	165	246	262	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**



- 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.

## FLEXIBLE IMPELLER PUMPS - HYGIENIC

Jabsco Hygienic Flexible Impeller Pumps handle low and high-viscosity liquids, gels and pastes and can pass suspended soft and hard solids with minimal damage. The output flow is smooth, steady and totally pulsationfree and their gentle pumping action will not break down shear-sensitive or fragile liquids. Designed to be cleaned in place or easily strip-cleaned, Jabsco flexible impeller pumps frequently offer a more suitable and cost-effective alternative to many other pump types.

# FLEXIBLE IMPELLER Hygienic Positive Displacement Pump



## **Options**

# **Pedestal Pumps**

- Foot-mounted to couple to gearbox or belt-drive
- Hygienic rubber impeller
- Long-life mechanical shaft seal
- All 316 grade Stainless Steel parts with high surface finish
- Used in Food, Dairy, Beverage, Healthcare & Cosmetics sectors

## **Motor Mount Pumps**

- Used in Food, Dairy, Beverage, Healthcare & Cosmetics sectors
- · Close-coupled to motor (unibloc); compact and economical
- Suitable for mounting onto standard IEC or NEMA motors
- Hygienic rubber impeller
- · Long-life mechanical shaft seal
- · All 316 grade Stainless Steel parts with high surface finish

## Milk Tanker Pumps

- Specialised pumps for Milk Tanker loading at dairy farms
- · Bulkhead mounted for hydraulic drive
- Quick-release end-cover for winter drain-down and inspection
- By-pass option for effective CIP without the need to run the pump
- Hygienic rubber impeller



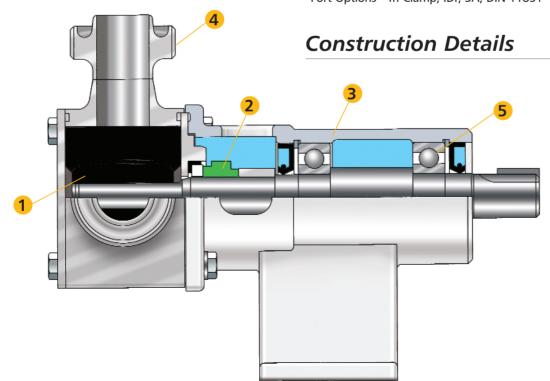
				ı	lexible	Impel	ler				
Pump Model (US)		282x0 (	(30550)	283x0 (30560)		284x0 (30570)		285x0 (30580)		286x0 (N/A)	
Size		40		80		200		370		500	
Mounting		Pedestal	Head Kit	Pedestal	Head Kit	Pedestal	Head Kit	Pedestal	Head Kit	Pedestal	Head Kit
Port Size	(mm)	25	25	25	25	38	38	50	50	63	63
	(inch)	1	1	1	1	1¹/₂	1¹/₂	2	2	2 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>
Max Flow	(litre)	58	58	128	128	225	225	365	365	500	500
(per min)*	(US gal)	15.3	15.3	33.8	33.8	59.5	59.5	96	96	132	132
Max	(bar)	3	3	4.5	4.5	4.5	4.5	3	3	4	4
Pressure*	(psi)	43	43	65	6.5	65	65	43	43	58	58
Max Speed	(RPM)	2500	2500	2500	2500	1800	1800	1500	1500	1500	1500
Size LxBxH	(mm)	169x115x147	115x115x115	214x130x160	136x130x130	260x162x180	167x162x162	331x186x218	193x186x186	475x192x224	230x192.5x19
(inc ports)	(inch)	6.5x4.5x5.75	4.5x4.5x4.5	8.5x5x6.25	5.25x5x5	10.25x6.25x7	6.5x6.25x6.25	13x7.25x8.5	7.5x7.25x8.5	18.75x7.5x8.75	9x7.5x7.5
Bareshaft	(kg)	2.9	2.5	4.4	3.5	9.1	6.6	14.7	10	22	15
Weight	(lbs)	6.4	5.5	9.7	7.7	20	14.5	32	22	48.5	33
Temp Neopre	ene°C (°F)	65 (149)	65 (149)	65 (149)	65 (149)	65 (149)	65 (149)	65 (149)	65 (149)	65 (149)	65 (149)
	°C (°F)	120 (248)	120 (248)	120 (248)	120 (248)	120 (248)	120 (248)	120 (248)	120 (248)	120 (248)	120 (248)
Viscosity	(cP)		1 to 50,000								

<sup>\*</sup> Data Dependant on duty

## Design Features

- · Dry self priming
- All 316 Stainless Steel parts with high surface finish
- Hygienic rubber impeller leaves no taste or odour
- Elastomers Certified to US 3A Standard 18-03
- Pump certified to US 3A Standard 02-10
- · Long-life mechanical shaft seal
- Easy strip-to-clean
- USDA Approved

- Variety of port and impeller material options
- Chemical-resistant 316 Stainless Steel parts
- Rugged heavy-duty construction
- Replaceable wearplates
- Passes even hard metal particles without stalling
- · Long-life mechanical shaft seal
- Variety of shaft seal options
- 3A Variants Must be specified with HYG Neoprene or EPDM.
- Port Options Tri-Clamp, IDF, 3A, DIN 11851

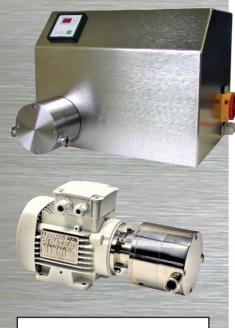




## Model 28320

- Food grade rubber impeller available in Neoprene, EPDM and Nitrile options which fully conform to today's stringent hygienic standards.
- Wide variety of long-life interchangeable seal types to suit many applications makes service & maintenance easy.
- 3 Choice of head kit or pedestal bearing housing satisfies the individual's requirement for unitisation. On larger models, bulkhead mounted pumps are available if the option of fitting to hydraulic drive is required.
- 4 Range of port options for maximum flexibility.
- 5 Long life, high specification bearings give over 1 million hours life on a typical duty.

## DIAPHRAGM PUMPS - SUPER HYGIENIC



Jabsco's Pureflo 4-piston diaphragm pump is designed to be used in pharmaceutical, biotech, food or cosmetic applications. The design complies with the stringent requirements of these industries. The pump and controls are mounted in a stainless steel cabinet. The system can be cleaned easily and the simple construction allows safe and easy use.

- 1 Low carbon 316L pump head for reduced carbide precipitation, increased corrosion resistance and minimal carbon pullout.
- 2 Chemical resistant Polypropylene valve chamber and piston guarantees long-life of the system.
- 3 Hygienic Santoprene® diaphragm conforms to FDA requirements.
- 4 Non-contact cam assembly ensures super hvaienic standards are maintained.
- Valves in EPDM for optimum chemical resistance capability.

# **PUREFLO® 21** Super Hygienic Diaphragm Pump **Design Features**

- Bench top complete unit
- · Fixed or variable speed AC unit
- Easy to clean, no shaft seals
- · Can run dry, dry self priming
- · Low noise, constant flow
- Compact and small
- Adjustable flow up to 1,380 l/h (365 US gal/h)
- Pressure up to 6.0 bar (87psi), in constant use 5.0 bar (72 psi) should not be exceeded
- Temperature up to 60° C (140° F) in constant use, CIP up to 90° C (194°F) and SIP 135° C (275° F) is possible
- Viscosity up to 250 Centipoise
- Unit supplied with 3.1B material certificates
- SIP Capabilities

## **Pump Specifications**

#### Drive

• Motor: 24 V DC IP 54 • Motor protection: • Variable speed: 0 - 3,000 rpm

• Torque: 0.42 Nm at 3,000 rpm · Motor power: 132 Watt, 8.7 Amp

#### **Electrical Details**

· Power supply: Intelligent controls enable operation at most single phase supplies, 115-240

V AC, 50 or 60 Hz

· Controls voltage: 24 V DC

 Programmable Touch Pad 1 - 100 %

of speed

## Materials / Surfaces

- · Parts in contact with fluid are manufactured from FDA conforming materials only.
- Surface finish Ra  $< 0.8 \mu$  standard (32 micro inch), 0.5  $\mu$  (20 micro inch) and electro polish is available on request.

#### Parts in Contact with Fluid

Stainless Steel 316L Head.

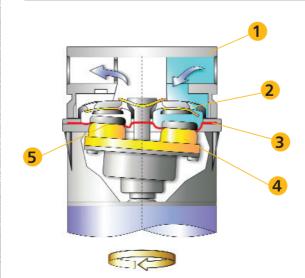
Diaphragm: Santoprene Valves / O-Ring: EPDM / Buna

Valve chamber & pistons:

Polypropylene

Ports: Tri-Clamp 3/4"

## **Technical and Construction Details**



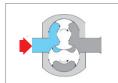
Pump Mo	del	Pureflo 21				
Port Size	(mm) (inch)	19 Tri-Clamp ³/₄				
Max Flow (per min)	(litre) (US gal)	23 6				
Max Pressure	(bar) (psi)	6 87				
Max Speed	(RPM)	3000				
Size LxBxH	(mm) (inch)	380x385x300 15x15x11.75				
Weight	(kg) (lbs)	19.5 43				
Max Opera Temperatu		+60 (CIP 90) +140 (CIP 194)				
Viscosity	(cP)	250				

## PRINCIPLES OF OPERATION

## Rotary Lobe Pumps

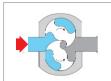
## **Bi-wing Rotor**

(1) Inlet



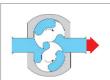
Every Jabsco Lobe Pump is a true positive displacement rotary lobe pump. During operation, fluid is smoothly drawn into the pump.

(2) Displacement



Fluid is carried around the outside of the rotors to be positively discharged rubbing contact between at a steady flow rate by two centre-rotating rotors. capable of handling fluid

(3) Discharge



This action, combined with the absence of the rotors or casing, is reliably, cleanly and without degradation.

# Flexible Impeller Pumps

(1) Inlet



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

(2) Displacement



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

(3) Discharge



This action combines gentle pumping with true dry priming capability.

## **Diaphragm Pumps**

#### **Motor Driven**

(1) Inlet



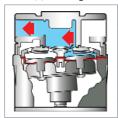
Self-priming design allows pumps to create suction to draw fluid into pump without manual priming.

(2) Displacement



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

(3) Discharge



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



## Jabsco

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The Jabsco web-site, www.jabsco.com, is a source of detailed product and application information. You can also download technical data sheets from the site.

We are also famous for our global distribution network offering local advice and knowledge, pump selection and installation guidance, pump and spares stockholding, system design and components, complementary products and full service facilities.

## Discover Jabsco at www.jabsco.com

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