



**Waukesha
Cherry-Burrell**

UNIVERSAL

LOBE

SERIES



ROTARY POSITIVE DISPLACEMENT PUMPS

HIGH VOLUME, LOWER COST, CIP

For more than half a century, Waukesha Cherry-Burrell has been a leader in the design, manufacturing and application of external circumferential piston, positive displacement pumps. Waukesha PD pumps are in service around the world in food, dairy, canning, bakery, beverage and pharmaceutical processing, as well as challenging chemical and industrial applications.

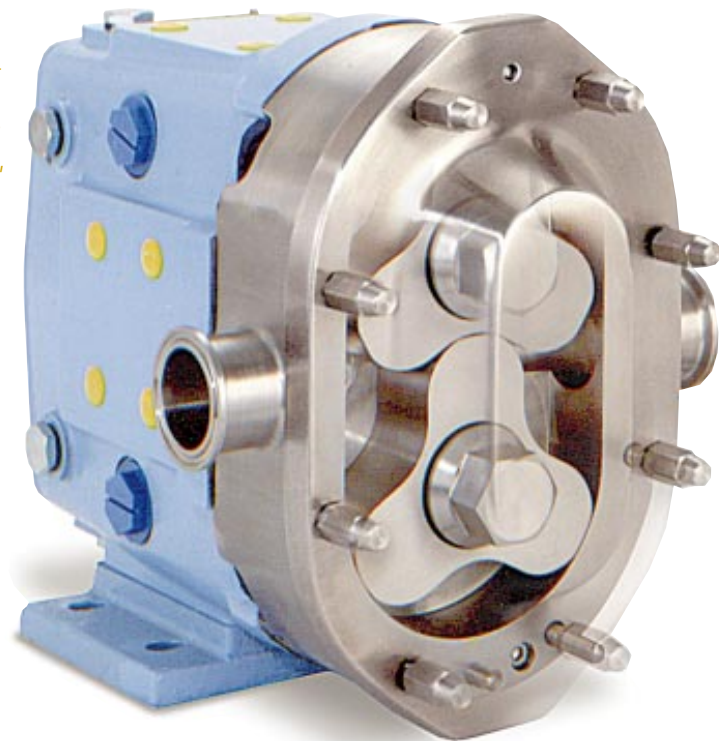
Users of Waukesha PDs benefit from decades of continuing product improvement. Steady advances in design, metallurgy and fabrication techniques have yielded progressively higher levels of performance and service life.

Most of the pumps that have carried the Waukesha Cherry-Burrell name over this time were designed for heavy-duty pumping challenges.

The new Universal Lobe Pumps were specifically designed for a different challenge: lower cost and CIP (clean in place) applications.

While intended for lower cost, Universal Lobe Pumps are not "light duty." They incorporate the advanced technology of the new Universal II PD that strengthens sanitary performance and extends pump life. They are capable of accommodating high temperatures and pressures up to 300 psi.

Universal Lobe Pump Series utilize the Universal II gear case with 3-way mounting flexibility. It offers the full range of seal and port options and has Integral Speed Reducer (ISR) mounting capabilities.



Sanitation Features

- *CIPable.* Pump body has an internal flat profile and is free draining with vertical ports.
- *Cover is free draining* in horizontal or vertical port positions.
- *Rotor/shaft connection sealed* from product zone.
- *Exclusive, non-galling Waukesha "88" alloy rotors standard;* permits running at tighter clearances and higher efficiencies; 316 stainless steel lobe rotors also available.
- *Mechanical seals standard.* Single or flushed double.
- Seal flush optional: seal areas interconnected to improve circulation and draining of seal flush fluid. *Steam-In-Place* also is optional.
- *Jacketed cover* optional.
- *316 stainless steel pump body and cover;* 316L optional.
- Electro-polish of product contact surfaces, optional.
- *Stainless steel bearing frame* optional.



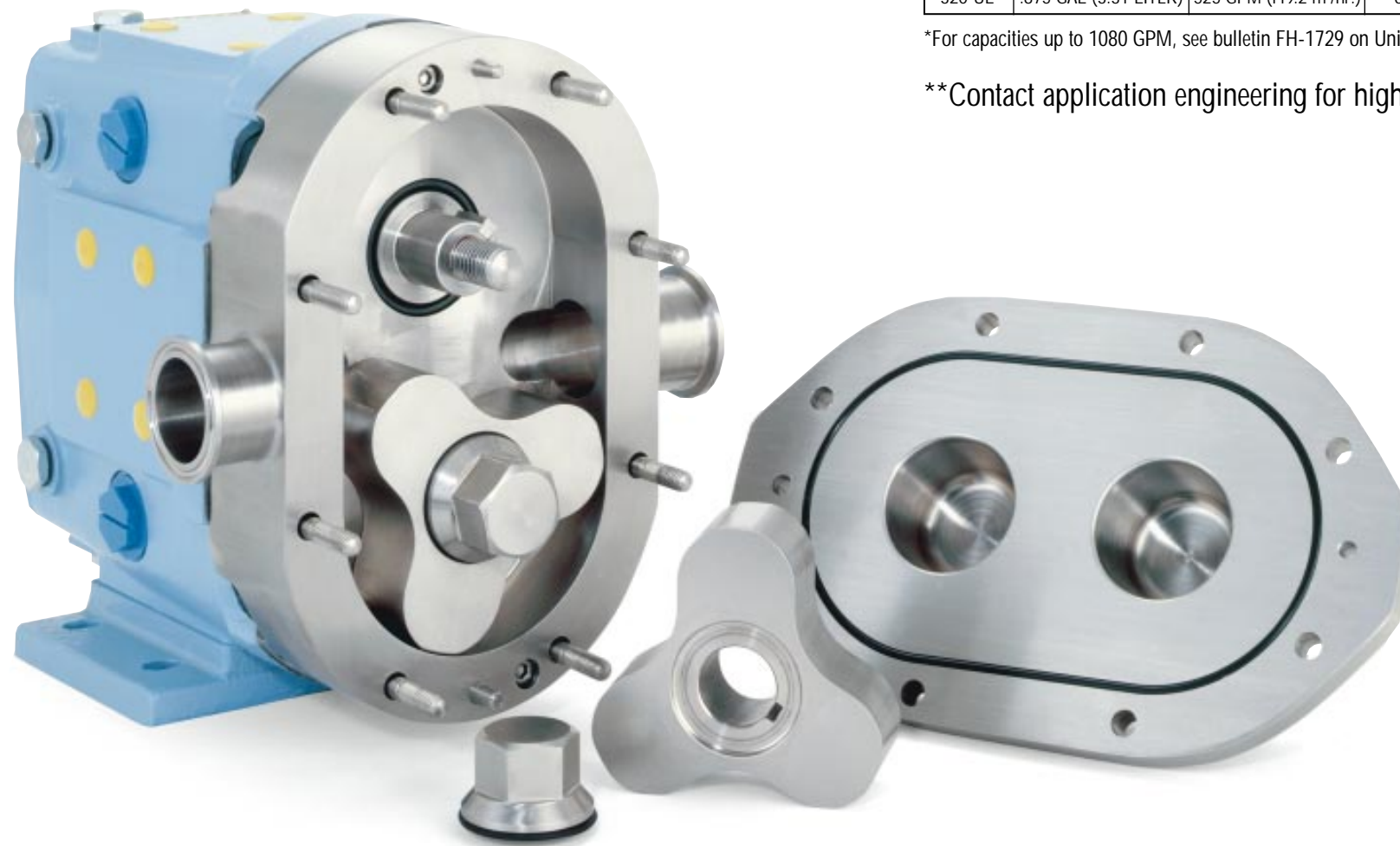
Shown with optional stainless steel gearcase



Long-life features

Precision rotor movement virtually eliminates vibration; extends seal life.

- *Rotor nut* designed for extended service without loosening.
- *No bearing in product zone.*
- *Larger diameter shafts* in seal area for greater strength and stiffness.
- *Heavy duty bearing frame* (stainless steel available as an option)
- *Double tapered roller bearings on all models.* Contribute further to precise rotor movement and longer seal life.
- *Greased lubed bearings* for positive lubrication to all bearings over entire speed, temperature and pressure range.
- *Body retaining screws* for maintaining mechanical seal contact during inspection.
- *Extended outer seal life.* A wave spring, instead of an O-ring, mechanically loads the seal.
- *O-Ring on inner seal,* seals on clean surface as seal moves due to wear.
- *3 full-radius drive pin grooves* reduce stress/increase durability of seals.



Installation flexibility

- *Bi-directional flow.* Rotors, locked with belleville washers and torqued nuts, rotate securely in either direction. No more flow direction/shaft position specification.
- *Interchangeable installation dimensions* with Universal and Universal II PD pumps.
- *Versatile 3-Way mounting* of gear case, including vertical alignment of ports.
- *Upper or lower shaft position.*

Specifications

MODEL	DISPLACEMENT PER REVOLUTION	NOMINAL CAPACITY* TO	INLET/OUTLET	PRESSURE RANGE UP TO**	MAXIMUM RPM	TEMP. RANGE
018-UL	.033 GAL. (.12 LITER)	33 GPM (7.5 m ³ /hr.)	1½"	200 PSI (13.8 bar)	1000	-40° F/C to 300° F (149° C)
030-UL	.07 GAL. (.26 LITER)	70 GPM (15.9 m ³ /hr.)	1½"	300 PSI (20.7 bar)	1000	
060-UL	.15 GAL. (.57 LITER)	120 GPM (27.2 m ³ /hr.)	2½"	300 PSI (20.7 bar)	800	
130-UL	.25 GAL. (.95 LITER)	175 GPM (39.7 m ³ /hr.)	3"	200 PSI (13.8 bar)	700	
220-UL	.50 GAL. (1.89 LITER)	300 GPM (68.1 m ³ /hr.)	4"	300 PSI (20.7 bar)	600	
320-UL	.875 GAL. (3.31 LITER)	525 GPM (119.2 m ³ /hr.)	6"	200 PSI (13.8 bar)	600	

*For capacities up to 1080 GPM, see bulletin FH-1729 on Universal 420/520 High-Capacity Lobe Pump.

**Contact application engineering for higher pressure applications

Typical product applications

Bakery
Batters
Flavorings
Frostings
Fats & Oils
Sweeteners
Yeast Slurry

Beverage
Beer, Wort, Yeast
Soft Drinks
Fruit Drinks
Juice Concentrate

Canning
Baby Foods, Soups
Fruit Puree
Puddings, Jellies
Salad Dressings, Mayonnaise

Confectionery
Syrups
Cream Fillings
Chocolate

Cosmetics
Face Creams & Lotions
Hair Styling Gels & Liquids
Essential Oils
Dyes & Alcohols

Dairy
Cream, Milk
Ice Cream Mix
Yogurt

Chemical/Industrial
Solvents
Fuels
Oils & Lubricants
Soaps

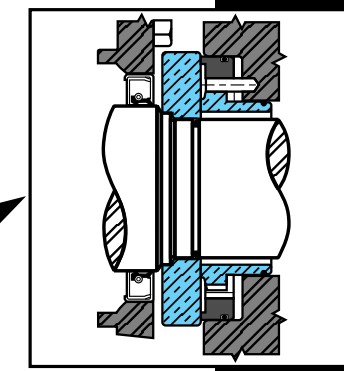
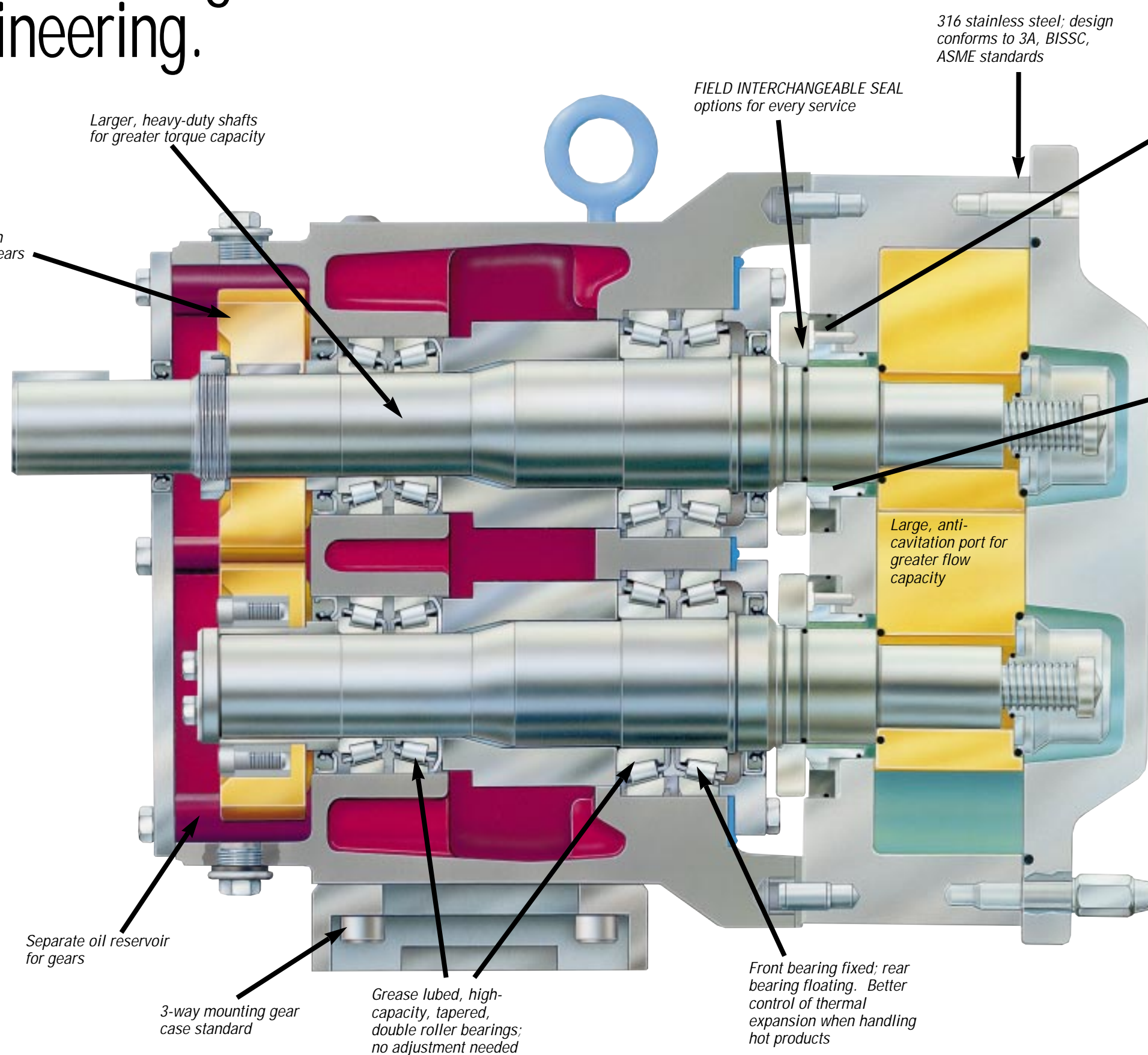
Performance and long life through engineering.

Higher pressure capability, up to 300 psi/20.7 bar.

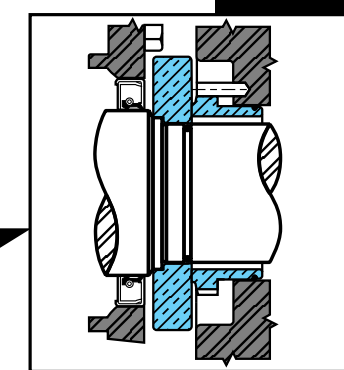
Longer service life resulting from fresh engineering approach and high capacity components.

The right seal for every application, plus interchangeability when needed.

Metal rotor: exclusive Waukesha 88 non-galling alloy rotors provide close clearance; 316 stainless lobe rotors available.



Double Concentric Mechanical Seal*
Used with flushing fluid to cool, lubricate, flush away residue. Best arrangement for severe service.



Single Mechanical Seal*
Longer life, wider pressure-temperature-speed range. Carbon-to-ceramic faces standard. Alternate materials available for abrasive service.

Elastomer choices for "O" rings:

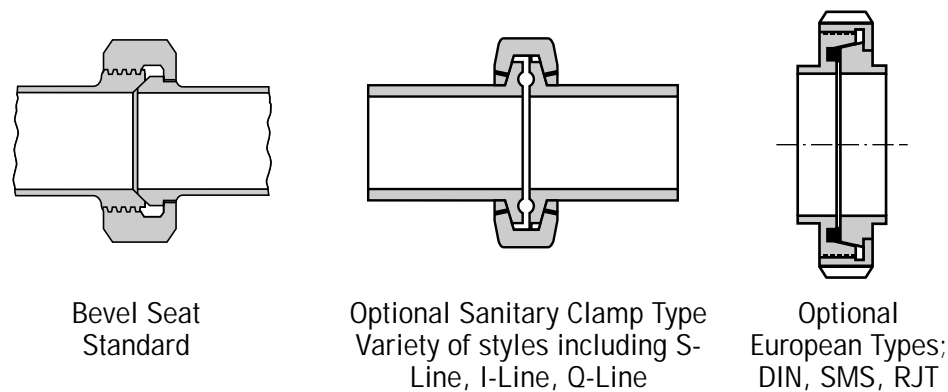
- Buna-N
- Viton
- EPDM
- Silicone
- Kalrez/PTFE Encapsulates

*Mechanical seal material options:

- Carbon
- Ceramic
- Silicon Carbide
- Tungsten Carbide

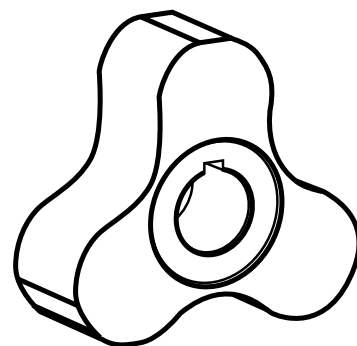
STANDARD OPTIONS

Ports



Male NPT and 150 lb. flanges optional on Models 018 through 220 size.
150 lb. flanges standard on Model 320.

Rotors



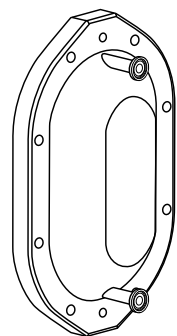
Alloy 88 Standard.
316SS Optional.
Rotor clearance standard for most applications up to 200° F.
Hot clearance rotor option for applications up to 300° F.

O-Rings

Elastomer choices for "O" rings:

- | | |
|----------|----------------------------|
| Standard | Optional |
| • Buna-N | • Viton |
| | • EPDM |
| | • Silicone |
| | • Kalrez/PTFE Encapsulates |

Cover & Gearcase

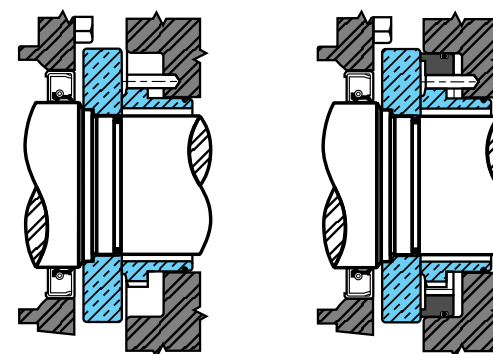


Optional drain and/or vent connections



Shown with optional 3-wing cover nuts

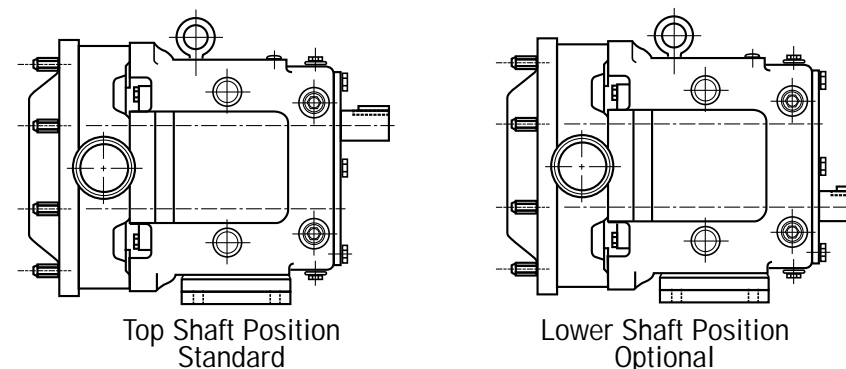
Seals



Single Mechanical Seal Double Concentric Mechanical Seal

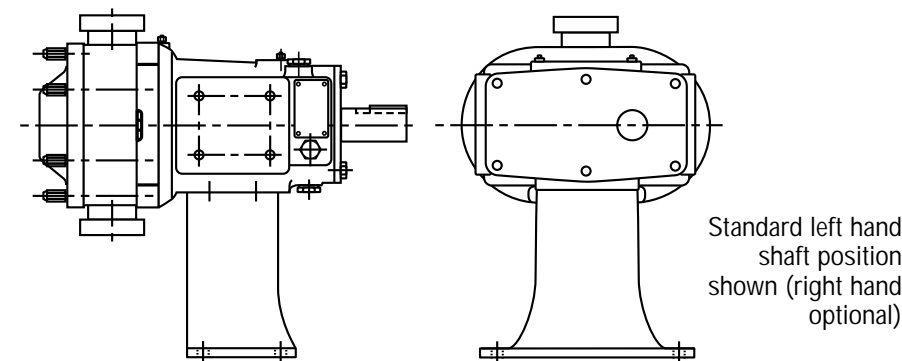
- Mechanical seal material options:
- Carbon
 - Ceramic
 - Silicon Carbide
 - Tungsten Carbide

Shaft Position



Top Shaft Position Standard Lower Shaft Position Optional

Mounting



Optional Side Mount Gear Case for vertical fluid entry and free draining of body

Standard left hand shaft position shown (right hand optional)

- Plate with adjustable feet or Channel Bases
- 304 SS Plate Bases
- Portable Bases with Rubber Wheels
- Direct connected Gear Motors
- Mechanical and Electronic Variable Speed Drives
- Hydraulic Motor Drives

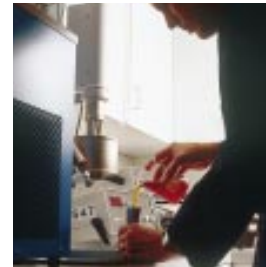
Bases and Drives

Engineering

Research, design and application engineers at Waukesha Cherry-Burrell possess extensive backgrounds in their respective fields. You can draw on this experience to solve pumping problems or to counsel on process systems design. The imagination and resourcefulness of our engineers have often helped improve our customers' profits through production efficiencies.

Testing

Ideas do not remain abstract long at Waukesha Cherry-Burrell. Application of our products to our customer's specific needs often requires practical testing using real-world parameters. We have a fully equipped and staffed facility for this purpose. For example, the Rheology Laboratory tests applications involving highly viscous fluids.



Sales & Service Network



Waukesha Cherry-Burrell's trained sales and application engineers are always available for personal consultation to help solve any installation or operational problem. A large number of fully trained Waukesha Cherry-Burrell stocking distributors throughout the country and around the world provide quality Waukesha Cherry-Burrell replacement parts and service.

Quality Control

To maintain the product line's reputation for quality and to assure that every unit is shipped "ready to install," each Waukesha pump is thoroughly inspected at every stage of manufacturing and assembly and then tested for design specification. Following the tests, it is disassembled and reinspected before shipment. *Waukesha Cherry-Burrell has received ISO 9001 certification.*

Metallurgical Control

Waukesha Cherry-Burrell's reputation for pump reliability under severe operating conditions is directly related to carefully controlled casting production and consistency of metallurgical properties. It is this control that assures castings of uniform analysis that will perform dependably under all operating conditions.

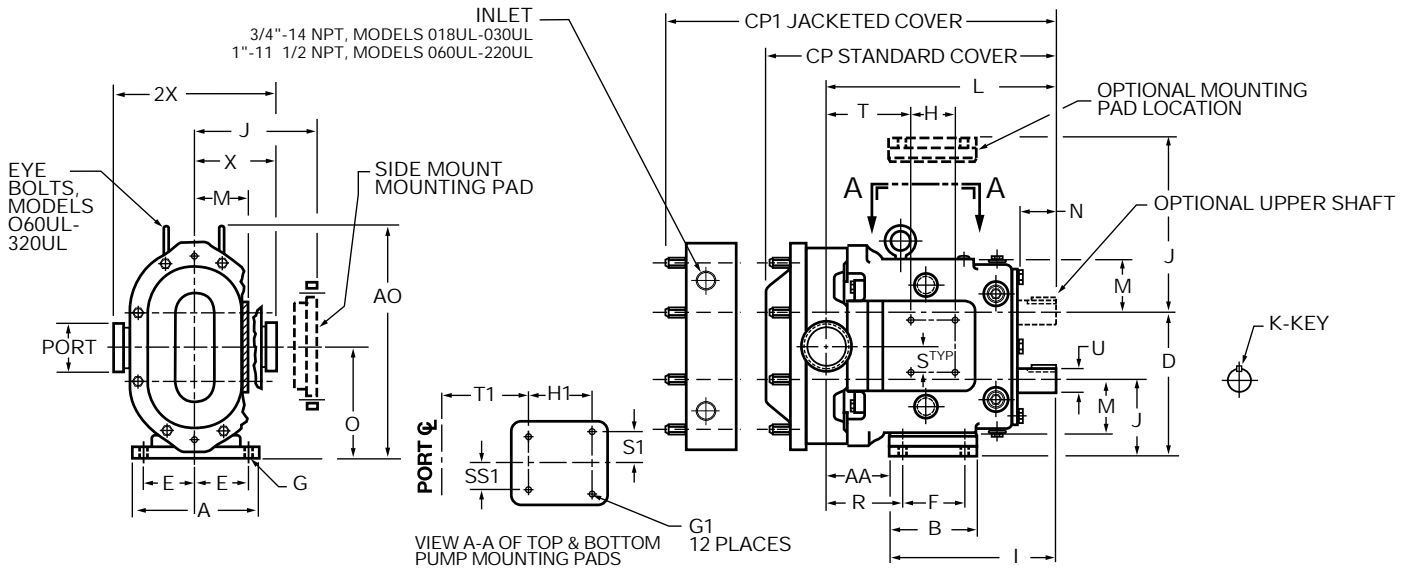


Waukesha Cherry-Burrell Warranty

Seller warrants its products to be free from defects in materials and workmanship for a period of one (1) year from the date of shipment. This warranty shall not apply to products which require repair or replacement due to normal wear and tear or to products which are subjected to accident, misuse or improper maintenance. This warranty extends only to the original Buyer. Products manufactured by others but furnished by Seller are exempted from this warranty and are limited to the original manufacturer's warranty.



DIMENSIONS



SIZE PUMP		A	AA	AO	B	CP	CP1*	D	E	F	G	G1	H	H1	I	J	K	L	M	N	O	PORT	R	S	S1	SS1	T	T1	U +0.000 -0.001	X**	2X**
018-UL	IN	4.75	2.82	8.30	3.75	12.37	14.53	5.50	1.94	2.31	.41, SLOT	5/16-18x.62	2.50	2.50	7.66	2.93	.19	10.48	2.12	2.00	4.21	1-1/2"	3.66	1.00	1.00	1.00	3.38	2.51	.875	3.49	6.97
	MM	121	72	211	95	314	369	140	49	59	10,SLOT	-	64	64	194	74	5	266	54	51	107	-	93	25	25	25	86	64	22.23	89	177
030-UL	IN	6.25	2.78	10.29	4.25	14.49	16.43	6.86	2.31	2.56	.41, SLOT	3/8-16x.62	1.81	2.75	8.83	3.56	.25	11.61	2.62	2.32	5.21	1-1/2"	3.84	1.12	1.12	1.12	4.00	3.59	1.250	4.25	8.50
	MM	159	71	261	108	368	417	174	59	65	10,SLOT	-	46	70	224	90	6	295	67	59	132	-	98	28	28	28	102	91	31.75	108	216
060-UL	IN	8.25	4.14	15.31	5.87	18.26	21.00	9.56	3.50	4.12	.53	1/2-13x.88	3.00	4.13	10.99	5.06	.38	15.14	3.50	2.25	7.31	2-1/2"	5.01	1.75	2.00	1.75	5.62	5.01	1.625	5.37	10.75
	MM	210	105	389	149	464	533	243	89	105	13	-	76	105	279	129	10	385	89	57	186	-	127	44	51	44	143	127	41.28	136	273
130-UL	IN	8.25	4.78	15.31	5.87	19.28	22.02	9.56	3.50	4.12	.53	1/2-13x.88	3.00	4.13	10.99	5.06	.38	15.77	3.50	2.25	7.31	3"	5.65	1.75	2.00	1.75	6.25	5.66	1.625	5.37	10.75
	MM	210	121	389	149	490	559	243	89	105	13	-	76	105	279	129	10	401	89	57	186	-	144	44	51	44	159	144	41.28	136	273
220-UL	IN	8.50	3.69	19.13	9.00	23.07	25.81	12.38	3.75	7.25	.53, SLOT	1/2-13x1.00	5.38	5.38	14.80	6.38	.50	18.49	4.50	2.75	9.38	4"	4.44	2.69	2.69	2.69	6.00	6.00	2.000	6.63	13.25
	MM	216	94	486	229	586	655	314	95	184	13, SLOT	-	137	137	376	162	13	470	114	70	238	-	113	68	68	68	152	152	50.80	168	337
320-UL	IN	12.00	4.12	22.38	11.63	26.65	NA	13.88	5.25	8.00	.66	1/2-13x1.00	5.38	5.38	17.80	6.88	.63	21.65	5.06	4.06	10.38	6" 150# FLANGE	5.09	2.69	2.69	2.69	8.37	8.37	2.375	8.00	16.00
	MM	305	105	568	295	677	NA	353	133	203	17	-	137	137	452	175	16	550	129	103	264	-	129	68	68	68	213	213	60.45	203	406

*NOTE: CP1 will not apply to Model 320.

**NOTE: Dimensions "X" and "2X" apply for Bevel Seat, "S"-Clamp, "Q"-Clamp, 151 and 141 fittings on Models 018 through 220. Standard port is Bevel Seat. Dimensions "X" and "2X" apply for 6" 150 lb. RF Flange on Model 320.

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FH-1727
 TA-5M-598GRI
 Printed in U.S.A.
 Effective 2/97