Rotary Positive Displacement Pumps
Universal Lobe Series
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.
The Universal Lobe Pump from Waukesha Cherry-Burrell

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.
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

- Bidirectional 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

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DISPLACEMENT PER REVOLUTION</th>
<th>NORMAL CAPACITY TO*</th>
<th>INLET/OUTLET</th>
<th>PRESSURE RANGE UP TO**</th>
<th>MAXIMUM RPM</th>
<th>TEMP. RANGE**</th>
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<td>018-UL</td>
<td>.033 GAL (.12 LITER)</td>
<td>33 GPM (7.5 m³/hr.)</td>
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**Contact application engineering for higher pressure and temperature 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

**Confectionary**  
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
Universal Lobe Series

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.
FIELD INTERCHANGEABLE
SEAL options for every service

316 stainless steel; design conforms to 3A, BISSC, ASME standards

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

Single Mechanical Seal*

Elastomer choices for “O” rings:
- Buna-N
- Fluoroelastomer (FKM)
- EPDM
- Silicone
- Perfluoroelastomer (FFKM)
- PTFE Encapsulated

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

Front bearing fixed; rear bearing floating. Better control of thermal expansion when handling hot products

Large, anti-cavitation port for greater flow capacity

Seal Options
Standards & Options

Ports

- Bevel Seat
- Optional Sanitary Clamp

Optional European Types: DIN, SMS, RJT

Type Variety of styles including S-Line, I-Line, Q-Line

Optional drain and/or vent connections

Rotors

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

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.
Contact application engineering for higher temperature applications.

O-Rings

- Elastomer choices for “O” rings:
  - Standard
    - Buna-N
  - Optional
    - Viton
    - EPDM
    - Silicone
    - Kalrez/PTFE Encapsulates

Cover & Gearcase

Shown with optional 3-wing cover nuts
Mechanical seal material options:
- Carbon
- Ceramic
- Silicon Carbide
- Tungsten Carbide

- Standard left hand shaft position shown (right hand optional)

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

- 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
### Universal Lobe Series

#### Dimensions

**INLET**
- 3/4"-14 NPT, MODELS 018UL-030UL
- 1"-11 1/2 NPT, MODELS 060UL-220UL

**PORT**
- 2X

**EYE BOLTS, MODELS 060UL-320UL**
- SIDE MOUNT MOUNTING PAD
- EYE BOLTS, MODELS 060UL-320UL
- VIEW A-A OF TOP & BOTTOM PUMP MOUNTING PADS

**CP STANDARD COVER**
- CP1 JACKETED COVER

**OPTIONAL MOUNTING PAD LOCATION**
- STANDARD UPPER SHAFT
- OPTIONAL LOWER SHAFT

**NOTE:** CP1 will not apply to Model 320.
**NOTE:** Dimensions “X” and “2X” apply for Bevel Seat, “S”-Clamp, “Q”-Clamp, 15I and 14I fittings on Models 018 through 220. Standard port is Bevel Seat.

**NOTE:** Dimensions “X” and “2X” apply for 6” 150 lb. RF Flange on Model 320.

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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.