SANITARY POSITIVE DISPLACEMENT PUMPS
TRA® 20 Series

Capacity to 310 GPM/70 M³/hr
Pressure to 500 PSI/34 Bar
Viscosity to 910,000 SSU (200,000 cSt)
Temperature -40° to 300° F (-40° to 150° C)
The reliability of Wright Flow Technologies positive displacement circumferential piston pumping principle has been proven over many decades. Its robust design and easy cleanability make it applicable for all sanitary fluids.

Wright Flow Technologies gentle action on shear-sensitive liquids, or slurries with soft solids, makes them the preferred technology for all areas of food processing, beverage and cosmetic manufacturing, worldwide.

Pumps available with CE mark.

### Typical Applications
- **Dairy**: milk, cream, curds, butter, soft cheese, yogurt, butter, margarine, ice cream
- **Bakery**: yeast, dough, fruit filling, icing, fats and oils
- **Meats**: sausage filling, fats, broths, gelatins, pet food
- **Canned Foods**: potato salad, baby food, soups, stews, tomatoes, relishes, pudding, dressings, mayonnaise, jams and jellies
- **Beverages**: beer, mash, wort, fruit juices, fruit concentrate
- **Candy**: sugars, chocolate, cocoa butter, corn syrup, gelatin
- **Flavorings**: syrups and concentrates
- **Dressings**: Mayonnaise and other prepared sauces
- **Cosmetics**: creams, lotions, jellies, shampoos, emulsions, toothpaste
- **Pharmaceuticals**: fermentation broths, cell cultures, blood products, pill coatings and membrane separation processes
- **Industrial**: automotive paints, inks, latex, polymers

### Construction
- **Casing**: 316 Stainless Steel, interior finished to 3A standards.
- **Rotors**: “Wright 808™” non-galling, nickel-based alloy. Wright Flow Technologies manufactures the material in its own foundry for maximum quality control.
- **Shafts**: 17-4 PH High-Strength Steel Shafts on all sizes.
- **Bearing Retainers**: Stainless Steel.
- **Gear case**: Powder-coated iron gear case standard (FDA white, RAL 9003).
- **Timing Gears**: Helical gear design to minimize operating noise.
- **Cleaning Options**: Clean-In-Place design optional, including self-draining rotor case (in vertical orientation) with cover O-ring exposed to cleaning fluid, and hubs and rotors ported to ensure thorough flushing action.
TRA® 20 Pump Performance

<table>
<thead>
<tr>
<th>TRA®20 Model</th>
<th>Nominal Capacity</th>
<th>Displacement per Revolution</th>
<th>Maximum Pressure</th>
<th>Temperature Range</th>
<th>Viscosity Range</th>
<th>Standard Ports</th>
<th>Optional Ports</th>
<th>Maximum Speed (RPM)</th>
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</table>

* Hot clearances required for high temperature operation.

**Sanitary Clamp Bevel Seat (ACME)**

**Rectangular Flange Model**

<table>
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<tr>
<th>TRA®20 Model</th>
<th>Nominal Capacity</th>
<th>Displacement per Revolution</th>
<th>Maximum Pressure</th>
<th>Temperature Range</th>
<th>Inlet (W x L)</th>
<th>Outlet</th>
<th>Maximum Speed (RPM)</th>
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**TRAPA® 20 Pump Installation Positions 4-Way Mounting**

- Horizontal ports, bottom shaft position
- Horizontal ports, top shaft position
- Vertical ports, left-hand or right-hand shaft position (required for CIP design)

The mounting foot may be moved to any of four positions to allow horizontal or vertical porting and flexibility of driver connection.

**Port Configurations**

- Sanitary Clamp
- Bevel Seat (ACME)

**Other port configuration options include:**

- DIN 11851
- RJT
- NPT
- SMS
- 150# or 300# flange

**Performance Range**

- **Capacity Range:** 0.1 to 310 gpm (0.02 to 70.4 m3/hr)
- **Pressure Range:** to 500 PSI/34 Bar
- **Temperature Range:** -40°F to +300°F (-40°C to +150°C)
  
  *Note: Hot clearances required for high temp operation*

- **Viscosity Range:** 28 to 910,000 SSU (1 to 200,000 cSt)
  
  *Note: Consult factory for applications greater than 910,000 SSU/200,000 cSt. Chocolate clearances available.*
Wright Flow Technologies TRA®20 Features

► Time tested and proven circumferential piston design.
► Exceptional engineering and manufacturing quality.
► Parts are interchangeable with Waukesha® U2 series pump parts.
► Wright Flow Technologies TRA®20 pumps are drop-in replacements for equivalent sized Waukesha® U2 pumps.
► Wright Flow Technologies can remanufacture TRA®20 series or Waukesha® U2 series pumps up to three times.

Choosing between TRA®20 and TRA®10 series pumps

► The TRA®20 series allows optional Clean-In-Place design. CIP-ing can reduce cleaning time and labor between batches, for maximum productivity.
► Most TRA®20 models offer higher pressure capabilities than their equivalent TRA®10 model, all of which are rated to 200 PSI (14 Bar), except the model TRA®10 0450, which is rated to 400 PSI (27 Bar).

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Helical timing gears offer higher load carrying capabilities and reduce noise for quieter operation.

Intelligent oil plug positioning on back of pump helps keep washdown spray out of gearbox oil.

Threaded grease fittings (not push-in) prevent dislodging. Access on both sides of pump makes greasing easier.

Four-way gear case mounting allows horizontal or vertical porting, plus flexibility to position drive shaft to match reducer or gearmotor input.

Stainless steel bearing retainers standard. Prevents rusting common to carbon steel bearing retainers used by others.
Shaft Sealing Options
...for different liquids and conditions of service

Single Mechanical Seals
- Standard Seal Faces: SiC/SiC
- Standard O-rings and Cover Seals: Buna
- Optional Faces: Carbon, Ceramic or Chrome Oxide
- Optional O-rings and Cover Seals: FKM, EPDM, Silicone

Double Mechanical Seals with Flush
- Standard Seal Faces: SiC/SiC
- Standard O-rings and Cover Seals: Buna
- Optional Faces: Carbon, Ceramic or Chrome Oxide
- Optional O-rings and Cover Seals: FKM, EPDM, Silicone

Remanufacturing Value
We offer unrivaled value by remanufacturing worn Wright Flow Technologies® and Waukesha® circumferential piston pumps to like-new condition with increased efficiency and reduced slip for enhanced productivity.

Wright Flow Technologies will replace all parts except the cover, rotor case, and gear case in their remanufacturing process, and provide you with a one-year warranty on the work. Machined in 0.020” increments as required by wear, the rotor case and cover are outfitted with corresponding oversized rotors. The TRA®10 can be remanufactured up to 4 times, and the TRA®20 up to three times for unmatched savings and a better bottom-line. In just two weeks, Wright Flow Technologies remanufacture and complete factory bench tests to certify your pumps perform from day one and beyond. Best of all, having your Waukesha pumps remanufactured by Wright Flow Technologies gets you all of our improved features such as:
- 17-4 PH Material shafts
- Helical timing gears for higher load carrying and quieter operation
- Stainless steel bearing retainers for increased corrosion resistance

Rotors

- Twin Wing Rotors Standard.
  Suitable for all liquids, provides minimum pulsation.

- Single Wing Rotors Optional.
  Provides reduced shear on shear-sensitive fluids or large solids such as fruit pieces, nut kernels, cheese curds or meats.
Wright Flow Technologies rotor wings (pistons) rotate around the circumference of the channel in the pump casing. This continuously generates a partial vacuum at the suction port as the rotors unmesh, causing fluid to enter the pump. The fluid is transported around the channel by the rotor wings, and is displaced as the rotor wings converge, generating pressure at the discharge port. Pump output is directly proportional to speed, and direction of flow is reversible.

The deep channels in which the rotors travel provide large voids to minimize shear and bruising of solids.

The rotors are made of “Wright Flow Technologies 808®” non-galling alloy, allowing extremely tight clearances between rotating and stationary surfaces, which ensures high efficiency and metering accuracy, even on thin liquids.

The forward part of each non-galling rotor rotates in a recess in the pump head to minimize deflection even at high discharge pressures.

In this large void, solids are not bruised.
### TRA®20 Dimensions

| Model  | A   | B   | C   | D   | E   | F   | G   | H  | I   | J   | K   | L   | M   | N   | O   | P   | QØ  | R   | S   | Weight |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| 0060   | in. | 4.75 | 1.95 | 3.75 | 11.71 | 5.50 | 1.94 | 2.31 | 0.375 x 0.31 (slot) | 6.82 | 2.93 | 9.61 | 2.12 | 2.00 | 4.21 | 1.50 | 2.79 | 0.875 | 3.49 | 6.97 | 53 lb. |
| mm     | 121 | 50  | 95  | 287 | 140 | 49  | 59  | 9.5 x 8 (slot) | 173 | 74  | 244 | 54  | 51  | 107 | 38  | 71  | 22.23 | 89  | 177  | 24 kg  |
| 0150   | in. | 4.75 | 1.95 | 3.75 | 11.71 | 5.50 | 1.94 | 2.31 | 0.375 x 0.31 (slot) | 6.82 | 2.93 | 9.61 | 2.12 | 2.00 | 4.21 | 1.50 | 2.79 | 0.875 | 3.49 | 6.97 | 53 lb. |
| mm     | 121 | 50  | 95  | 287 | 140 | 49  | 59  | 9.5 x 8 (slot) | 173 | 74  | 244 | 54  | 51  | 107 | 38  | 71  | 22.23 | 89  | 177  | 24 kg  |
| 0180   | in. | 4.75 | 2.18 | 3.75 | 12.37 | 5.50 | 1.94 | 2.31 | 0.375 x 0.31 (slot) | 6.82 | 2.93 | 9.61 | 2.12 | 2.00 | 4.21 | 1.50 | 3.02 | 0.875 | 3.49 | 6.97 | 53 lb. |
| mm     | 121 | 55  | 95  | 314 | 140 | 49  | 59  | 9.5 x 8 (slot) | 173 | 74  | 250 | 54  | 51  | 107 | 38  | 71  | 22.23 | 89  | 177  | 24 kg  |
| 0300   | in. | 6.25 | 2.78 | 4.25 | 14.49 | 6.66 | 2.31 | 2.56 | 0.438 x 0.44 (slot) | 7.77 | 3.56 | 11.61 | 2.62 | 2.32 | 5.21 | 1.50 | 3.84 | 1.250 | 4.25 | 8.50 | 99 lb. |
| mm     | 159 | 71  | 108 | 368 | 174 | 65  | 9.5 x 11 (slot) | 197 | 90  | 295 | 67  | 59  | 132 | 38  | 98  | 22.23 | 89  | 177  | 24 kg  |
| 0450   | in. | 8.25 | 3.86 | 5.87 | 18.59 | 9.56 | 3.50 | 4.12 | 0.56 x 0.50 (slot) | 10.13 | 5.06 | 14.86 | 3.50 | 2.25 | 7.31 | 2.00 | 4.73 | 1.625 | 5.37 | 10.75 | 290 lb. |
| mm     | 210 | 98  | 149 | 472 | 243 | 89  | 105 | 14 x 13 (slot) | 257 | 129 | 377 | 89  | 57  | 186 | 51  | 120 | 41.28 | 136 | 273  | 132 kg |
| 0600   | in. | 8.25 | 4.14 | 5.87 | 19.14 | 9.56 | 3.50 | 4.12 | 0.56 x 0.50 (slot) | 10.13 | 5.06 | 15.14 | 3.50 | 2.25 | 7.31 | 2.50 | 5.01 | 1.625 | 5.37 | 10.75 | 290 lb. |
| mm     | 210 | 105 | 149 | 486 | 243 | 89  | 105 | 14 x 13 (slot) | 257 | 129 | 385 | 89  | 57  | 186 | 63  | 127 | 41.28 | 136 | 273  | 132 kg |
| 1300   | in. | 8.25 | 4.78 | 5.87 | 20.15 | 9.56 | 3.50 | 4.12 | 0.56 x 0.50 (slot) | 10.12 | 5.06 | 15.77 | 3.50 | 2.25 | 7.31 | 3.00 | 5.65 | 1.625 | 5.37 | 10.75 | 312 lb. |
| mm     | 210 | 121 | 149 | 512 | 243 | 89  | 105 | 14 x 13 (slot) | 257 | 129 | 401 | 89  | 57  | 186 | 76  | 144 | 41.28 | 136 | 273  | 132 kg |
| 1800   | in. | 8.50 | 3.45 | 9.00 | 23.26 | 12.38 | 3.75 | 7.25 | 0.56 x 0.50 (slot) | 14.05 | 6.38 | 17.75 | 4.50 | 2.75 | 9.38 | 3.00 | 4.20 | 2.000 | 6.53 | 13.06 | 528 lb. |
| mm     | 216 | 88  | 229 | 591 | 314 | 95  | 184 | 14 x 13 (slot) | 357 | 162 | 450 | 114 | 70  | 238 | 76  | 107 | 50.8  | 166 | 332  | 238 kg |
| 2100   | in. | 12.00 | 3.45 | 11.63 | 27.08 | 13.88 | 5.25 | 8.00 | 0.66 Ø | 16.54 | 6.88 | 21.24 | 5.06 | 4.06 | 10.38 | 4.00 | 4.70 | 2.375 | 7.37 | 14.73 | 870 lb. |
| mm     | 305 | 88  | 295 | 688 | 353 | 133 | 203 | 16 Ø | 420 | 175 | 539 | 129 | 103 | 264 | 102 | 119 | 60.33 | 187 | 374  | 395 kg |
| 2200   | in. | 8.50 | 3.69 | 9.00 | 24.00 | 12.38 | 3.75 | 7.25 | 0.56 x 0.19 (slot) | 14.05 | 6.38 | 18.49 | 4.50 | 2.75 | 9.38 | 4.00 | 4.44 | 2.000 | 6.63 | 13.25 | 555 lb. |
| mm     | 216 | 94  | 229 | 610 | 314 | 95  | 184 | 14 x 5 (slot) | 357 | 162 | 470 | 114 | 70  | 238 | 102 | 113 | 50.80 | 168 | 337  | 252 kg |

Disclaimer: Dimensions are for guidance only. Please refer to our technical office if a certified drawing is required.
Remanufacturing in Europe and North America

Wright Flow Technologies offers unique remanufacturing services in Europe and North America for Waukesha® Universal I and Universal II series pumps, as well as Wright TRA10 and TRA20 series pumps. Remanufacturing is a lower-cost alternative to buying a new replacement pump and it gets you all of Wright Flow Technologies improved features and benefits. Ask your distributor, or the factory for more details.