

# T200 Series Medium Pressure Models T200K & T200M

Maximum Flow Rate: 93 gpm (352 l/min) 3189 BPD

Maximum Pressure: 3500 psi (241 bar)

*Hydra-Cell*<sup>®</sup>  
Seal-less Pumps



T200 Series medium-pressure model with  
Nickel Aluminum Bronze pump head.

**Available  
to Meet  
API 674!**

- Seal-less design eliminates leaks, hazards and the expense associated with seals and packing.
- Low NPSH requirements allow for operation with a vacuum condition on the suction - positive suction pressure is not necessary.
- Can operate with a closed or blocked suction line and run dry indefinitely without damage, eliminating downtime and repair costs.
- Unique diaphragm design handles more abrasives with less wear than gear, screw or plunger pumps.
- Hydraulically balanced diaphragms to handle high pressures with low stress.
- Lower energy costs than centrifugal pumps.
- Rugged construction for long life with minimal maintenance.
- Compact design offers a variety of installation options.

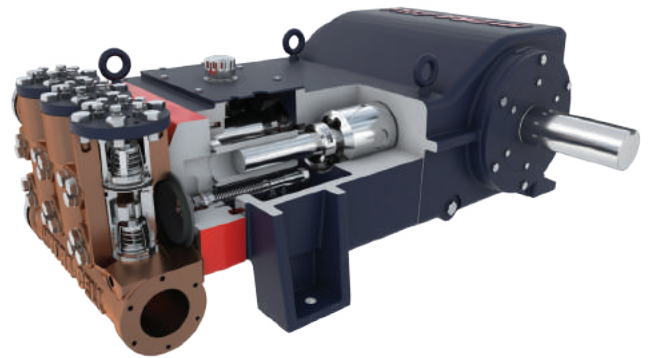
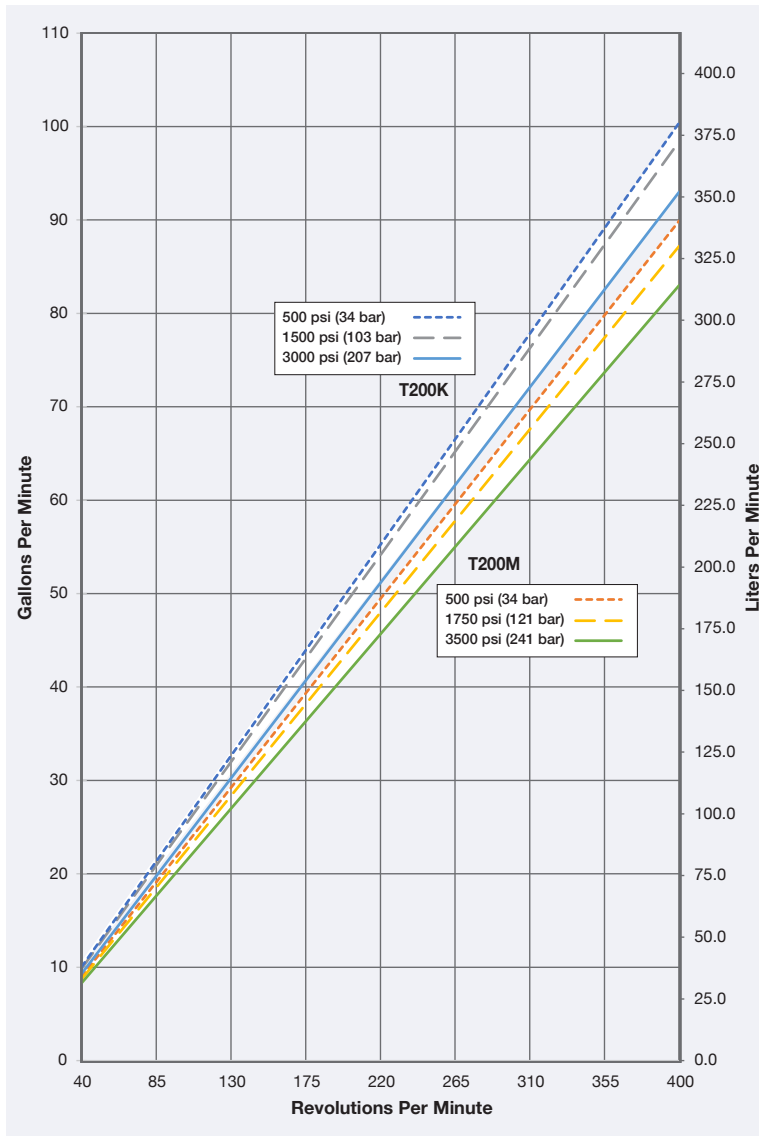
# T200 Series Medium Pressure Performance

## Capacities

| Model | Max. Input rpm | Plunger Dia. |    | Max. Flow Capacities |       |      | Max. Pressure Ratings Discharge |     | Max. Pressure Ratings Inlet |     |
|-------|----------------|--------------|----|----------------------|-------|------|---------------------------------|-----|-----------------------------|-----|
|       |                | Inches       | mm | gpm                  | l/min | BPD  | psi                             | bar | psi                         | bar |
| T200K | 400            | 2.250        | 57 | 93                   | 352   | 3189 | 3000                            | 207 | 500                         | 34  |
| T200M | 400            | 2.125        | 54 | 83                   | 314   | 2846 | 3500                            | 241 | 500                         | 34  |

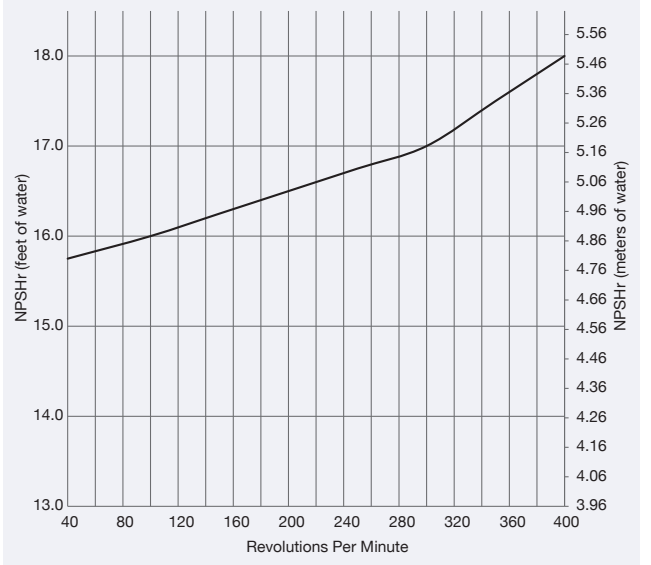
Consult factory when operating below 40 rpm.

## Maximum Flow at Designated Pressure



T200 Series pumps feature the Hydra-Cell seal-less design, eliminating clean-up costs from leaking seals or packing and protecting operators from dangerous fluids such as those containing hydrogen sulfide.

## Net Positive Suction Head (NPSHr)



Due to the Wanner Engineering Continuous Improvement Program, specifications and other data may change without notice.

# T200 Series Medium Pressure Specifications

## Flow Capacities

| Model | Pressure psi (bar) | rpm | gpm | l/min | BPD  |
|-------|--------------------|-----|-----|-------|------|
| T200K | 3000 (207)         | 400 | 93  | 352   | 3189 |
| T200M | 3500 (241)         | 400 | 83  | 314   | 2846 |

## Delivery

|       | Pressure psi (bar) | gal/rev | liters/rev |
|-------|--------------------|---------|------------|
| T200K | 500 (34)           | 0.251   | 0.950      |
|       | 1500 (103)         | 0.246   | 0.931      |
|       | 3000 (207)         | 0.233   | 0.880      |
| T200M | 500 (34)           | 0.225   | 0.851      |
|       | 1750 (121)         | 0.218   | 0.825      |
|       | 3500 (241)         | 0.208   | 0.785      |

## rpm

|                  |   |
|------------------|---|
| Maximum:         | 400   |
| Maximum API 674: | 310   |
| Minimum:         | 40 (Consult factory for speeds less than 40 rpm.) |

## Maximum Discharge Pressure

|                 |       |                    |
|-----------------|-------|--------------------|
| Metallic Heads: | T200K | 3000 psi (207 bar) |
|                 | T200M | 3500 psi (241 bar) |

## Maximum Inlet Pressure

500 psi (34 bar)

## Operating Temperature

|          |                  |
|----------|------------------|
| Maximum: | 180 °F (82.2 °C) |
| Minimum: | 40 °F (4.4 °C)   |

Consult factory for temperatures outside this range.

## Maximum Solids Size

800 microns

## Input Shaft

Right Side

## Inlet Ports

Weld-On: 4" / SCH. 40  
4" NPT, 4" Class 300 RF ANSI

## Discharge Ports

Weld-On: 2" / SCH. 160  
2" NPT, 2" Class 2500 RTJ ANSI

## Plunger Stroke Length

5 Inches (127 mm)

## Shaft Diameter

4 inch (101.6 mm)

## Shaft Rotation

Uni-directional (See rotation arrow.)

## Oil Capacity

80 US quarts (75.7 liters) - blank back cover  
See page 5 for oil selection and specification.

## Weight

|                 |                     |
|-----------------|---------------------|
| Metallic Heads: | 3000 lbs. (1361 kg) |
|-----------------|---------------------|

## Calculating Required Horsepower (kW)\*

$$\frac{\text{gpm} \times \text{psi}}{1,460} = \text{electric motor hp}^*$$

$$\frac{\text{lpm} \times \text{bar}}{511} = \text{electric motor kW}^*$$

\* hp (kW) is required application power.

## Attention!

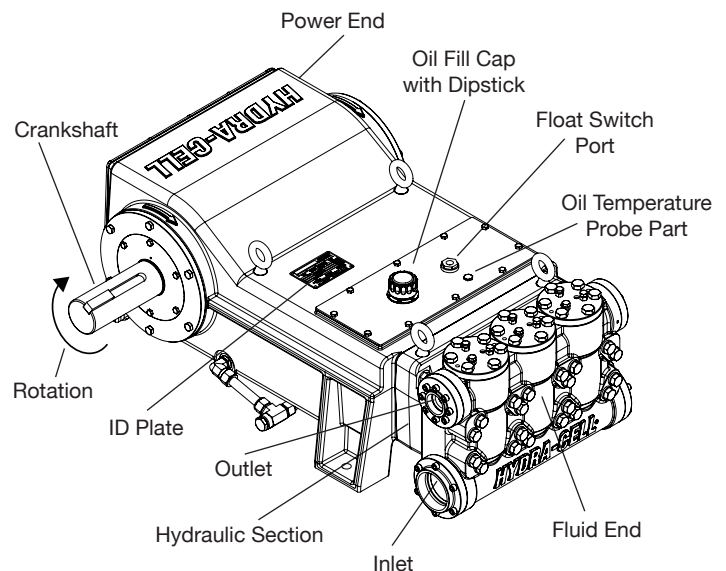
When sizing motors with variable speed drives (VFD): It is very important to select a motor and a VFD rated for constant torque inverter duty service and that the motor is rated to meet the torque requirements of the pump throughout desired speed range.

## Fluid End Materials

|                              |  |
|------------------------------|--|
| Manifold:                    | Nickel Aluminum Bronze (NAB)<br>Duplex Alloy 2205 Stainless Steel<br>316L Stainless Steel CF3M<br>Hastelloy CX2M |
| Diaphragm/Elastomers:        | FKM<br>Buna-N  |
| Diaphragm Follower Screw:    | 316 Stainless Steel<br>Duplex Alloy 2205 Stainless Steel<br>Hastelloy C  |
| Valve Spring Retainer:       | Hastelloy C / PVDF   |
| Check Valve Spring:          | Elgiloy<br>Hastelloy C   |
| Valve Disc/Seat:             | 17-4 Stainless Steel<br>Nitronic 50<br>Hastelloy C   |
| Inlet/Outlet Valve Retainer: | 316 Stainless Steel<br>Duplex Alloy 2205 Stainless Steel<br>Hastelloy C  |

## Power End Materials

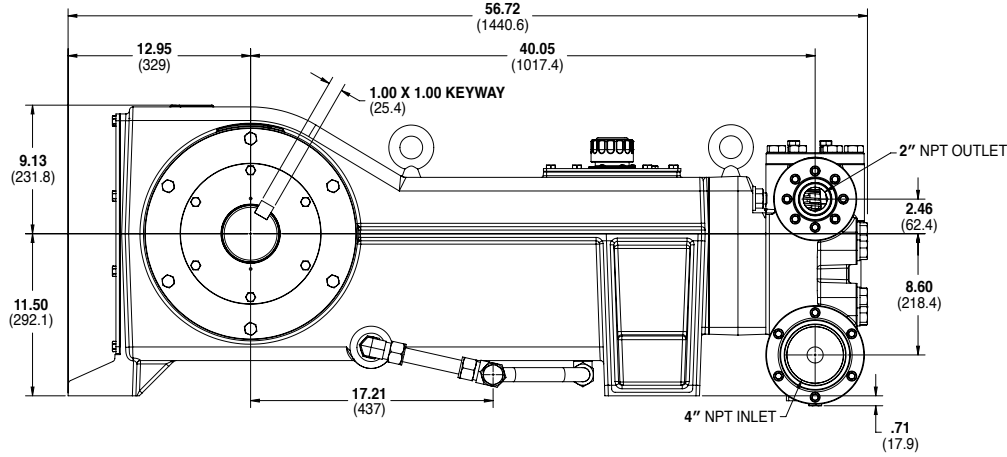
|                  |   |
|------------------|---|
| Crankshaft:      | Ductile Iron  |
| Connecting Rods: | Ductile Iron  |
| Crossheads:      | Ductile Iron  |
| Crankcase:       | Ductile Iron  |
| Bearings:        | Spherical Roller (main)<br>Steel-backed Tri-metal (crankpin)<br>Bronze (wristpin) |



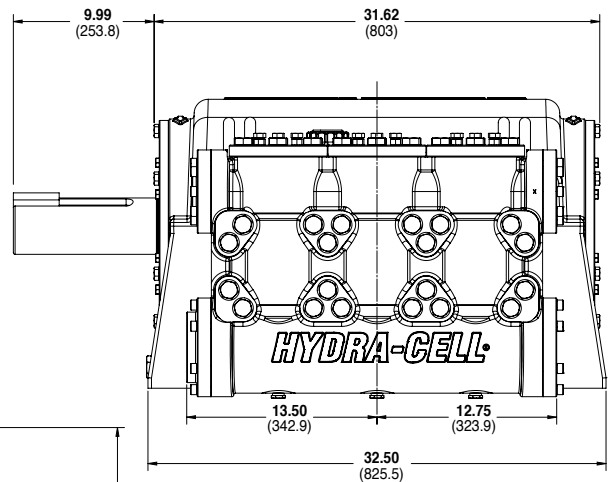
# T200 Series Medium Pressure Representative Drawings

Threaded Version Inches (mm)

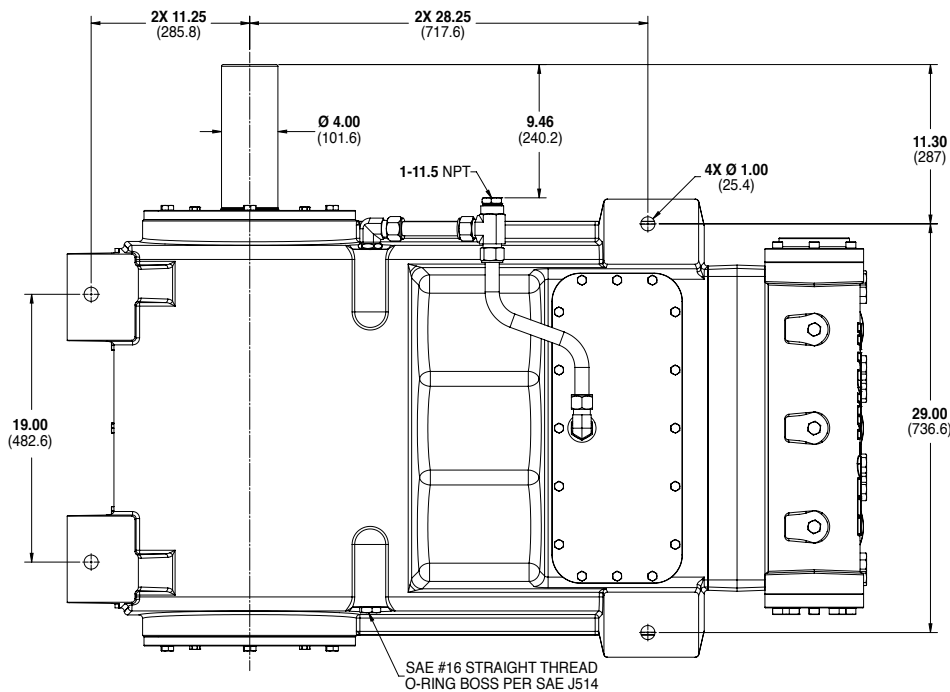
## Side View



## Front View



## Bottom View



**Note:** Representative drawings only. Contact factory for additional drawings of specific models and configurations.

# T200 Series Medium Pressure How to Order

## Ordering Information

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| T | 2 | 0 | 0 |   |   |   |   |   |    |    | T  |    |    |

A complete T200 Series Medium Pressure Model Number contains 14 digits including 9 customer-specified design and materials options, for example: T200KADGHFETAC.

## Medium Pressure

| Digit      | Order Code | Description   |
|------------|------------|---|
| <b>1-4</b> |            | <b>Pump Configuration</b>                             |
|            | T200       | Shaft-driven  |
| <b>5</b>   |            | <b>Performance</b>                                    |
|            | K          | Max. 93 gpm (352 l/min) 3189 BPD @ 3000 psi (207 bar) |
|            | M          | Max. 83 gpm (314 l/min) 2846 BPD @ 3500 psi (241 bar) |
| <b>6</b>   |            | <b>Pump Head Version</b>                              |
|            | A          | NPT Threaded Ports (Steel)                            |
|            | C          | Weld Neck (Steel)                                     |
|            | D          | Weld Neck (316L Stainless Steel)                      |
|            | E          | Weld Neck (Hastelloy C)                               |
|            | F          | Weld Neck (Duplex Alloy 2205 Stainless Steel)         |
|            | G          | ANSI Flange Ports (Duplex Alloy 2205 Stainless Steel) |
|            | R          | ANSI Flange Ports (Steel)                             |
|            | S          | ANSI Flange Ports (316L Stainless Steel)              |
|            | T          | ANSI Flange Ports (Hastelloy C)                       |
| <b>7</b>   |            | <b>Pump Head Material</b>                             |
|            | D          | Nickel Aluminum Bronze (NAB)                          |
|            | G          | Duplex Alloy 2205 Stainless Steel                     |
|            | S          | 316L Stainless Steel CF3M                             |
|            | T          | Hastelloy CX2M  |
| <b>8</b>   |            | <b>Diaphragm &amp; O-ring Material</b>                |
|            | G          | FKM   |
|            | T          | Buna-N  |
| <b>9</b>   |            | <b>Valve Seat Material</b>                            |
|            | H          | 17-4 Stainless Steel                                  |
|            | N          | Nitronic 50   |
|            | T          | Hastelloy C   |

| Digit     | Order Code | Description                                 |
|-----------|------------|---|
| <b>10</b> |            | <b>Valve Material</b>                       |
|           | F          | 17-4 Stainless Steel                        |
|           | N          | Nitronic 50                                 |
|           | T          | Hastelloy C                                 |
| <b>11</b> |            | <b>Valve Springs</b>                        |
|           | E          | Elgiloy                                     |
|           | T          | Hastelloy C                                 |
| <b>12</b> |            | <b>Valve Spring Retainers</b>               |
|           | T          | Hastelloy C / PVDF                          |
| <b>13</b> |            | <b>Hydra-Oil</b>                            |
|           | A          | 10W30 standard-duty oil                     |
|           | B          | 40-wt. oil                                  |
|           | H          | 15W50 high-temp severe-duty synthetic oil   |
| <b>14</b> |            | <b>Oil Level Monitoring</b>                 |
|           | C          | Float switch, normally closed (recommended) |
|           | O          | Float Switch, normally open                 |
|           | Y          | No switch, flat back cover                  |



# Hydra-Cell®

## Seal-less Pumps

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