

# T100 Series Low Pressure Models T100E, T100F & T100H

Maximum Flow Rate: 96 gpm (366.1 l/min)

Maximum Pressure: 2100 psi (145 bar)

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



T100 Series low-pressure model with Nickel Aluminum Bronze (NAB) 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 and double-ended shaft provide a variety of installation options

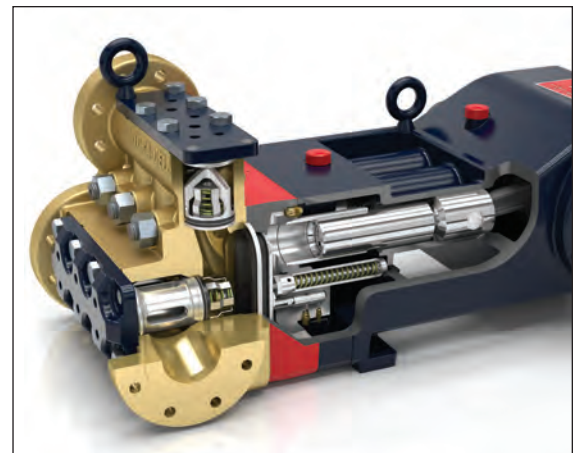
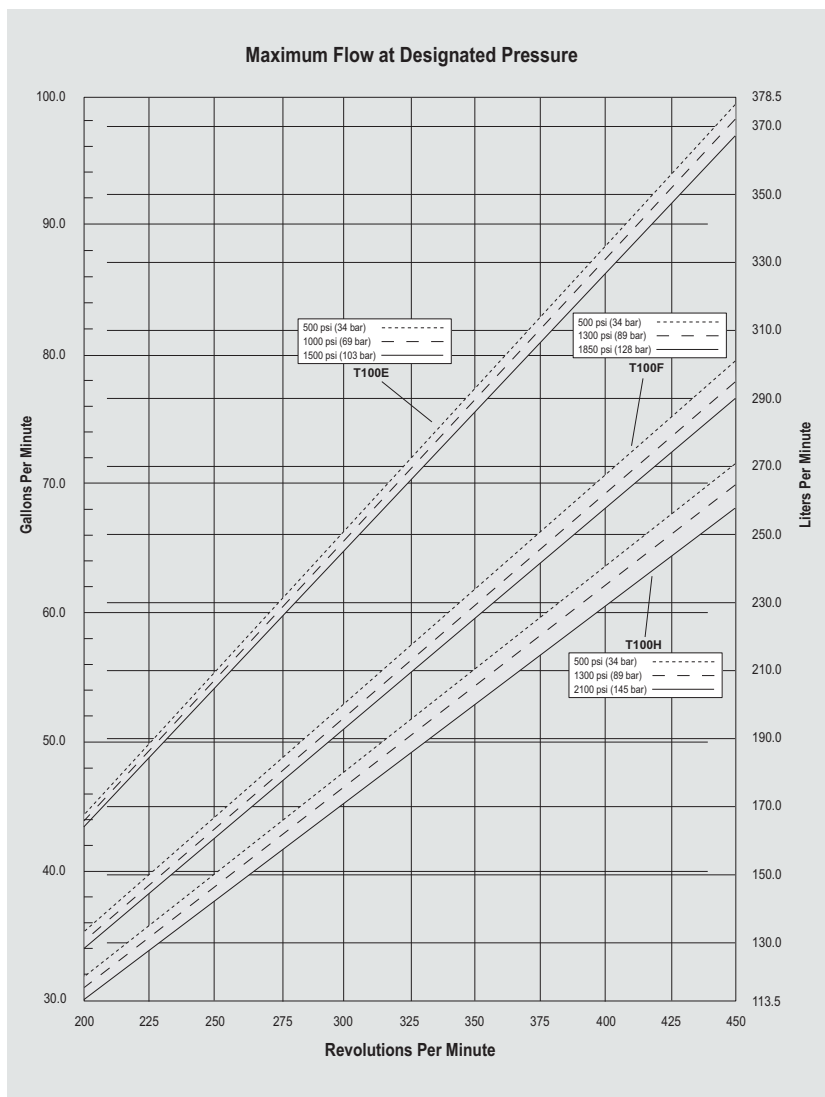
# T100 Series Low Pressure Performance

## Capacities

| Flow  |                |                             |       | Pressure                          |                    |
|-------|----------------|-----------------------------|-------|-----------------------------------|--------------------|
| Model | Max. Input rpm | Max. Flow                   |       | Maximum Inlet Pressure            |                    |
|       |                | gpm                         | l/min | 500 psi (34 bar)                  |                    |
|       |                | <b>@ 1500 psi (103 bar)</b> |       | <b>Maximum Discharge Pressure</b> |                    |
| T100E | 450            | 96.0                        | 366.4 | T100E:                            | 1500 psi (103 bar) |
|       |                | <b>@ 1850 psi (128 bar)</b> |       | T100F:                            | 1850 psi (128 bar) |
| T100F | 450            | 76.5                        | 289.6 | T100H:                            | 2100 psi (145 bar) |
|       |                | <b>@ 2100 psi (145 bar)</b> |       |                                   |                    |
| T100H | 450            | 68.0                        | 257.8 |                                   |                    |

Consult factory when operating below 44 gpm (166.6 l/min).

## Maximum Flow at Designated Pressure



T100 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.

Due to Wanner Engineering continuous improvement practices, performance data and specifications may change without notice.

# T100 Series Low Pressure Specifications

## Flow Capacities

| Model | Pressure bar (psi) | rpm | gpm  | l/min |
|-------|--------------------|-----|------|-------|
| T100E | 103 (1500)         | 450 | 96.0 | 366.4 |
| T100F | 128 (1850)         | 450 | 76.5 | 289.6 |
| T100H | 145 (2100)         | 450 | 68.0 | 257.8 |

## Delivery

| Pressure psi (bar) | gal/rev | liters/rev |
|--------------------|---------|------------|
| 500 (34)           | 0.221   | 0.835      |
| 1000 (69)          | 0.218   | 0.825      |
| 1500 (103)         | 0.215   | 0.814      |

## rpm

|          |  |
|----------|--|
| Maximum: | 450  |
| Minimum: | 200 Consult factory for speeds less than 200 rpm |

## Maximum Discharge Pressure

|                 |       |                    |
|-----------------|-------|--------------------|
| Metallic Heads: | T100E | 1500 psi (103 bar) |
|                 | T100F | 1850 psi (128 bar) |
|                 | T100H | 2100 psi (145 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

Left or Right Side

## Inlet Ports

3-1/2 inch Class 300 RF ANSI Flange

## Discharge Ports

2 inch Class 900 RF ANSI Flange

## Shaft Diameter

3 inch (76.2 mm)

## Shaft Rotation

Reverse (bi-directional)

## Oil Capacity

18 US quarts (17 liters)

10W30 standard-duty oil

## Weight

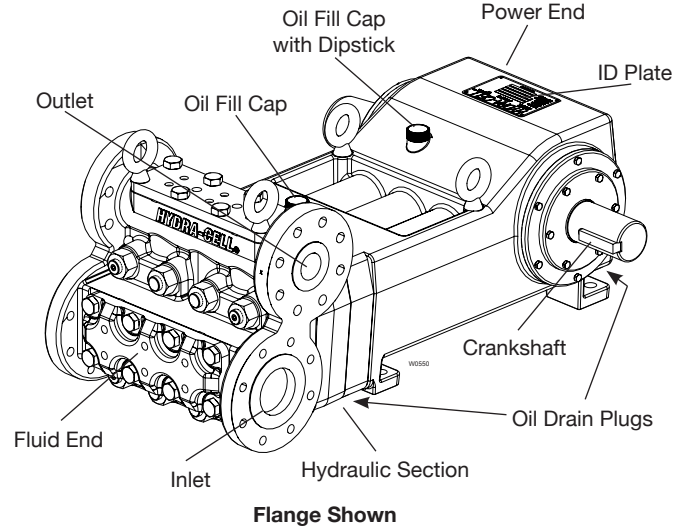
Metallic Heads: 1100 lbs. (499 kg)

## Fluid End Materials

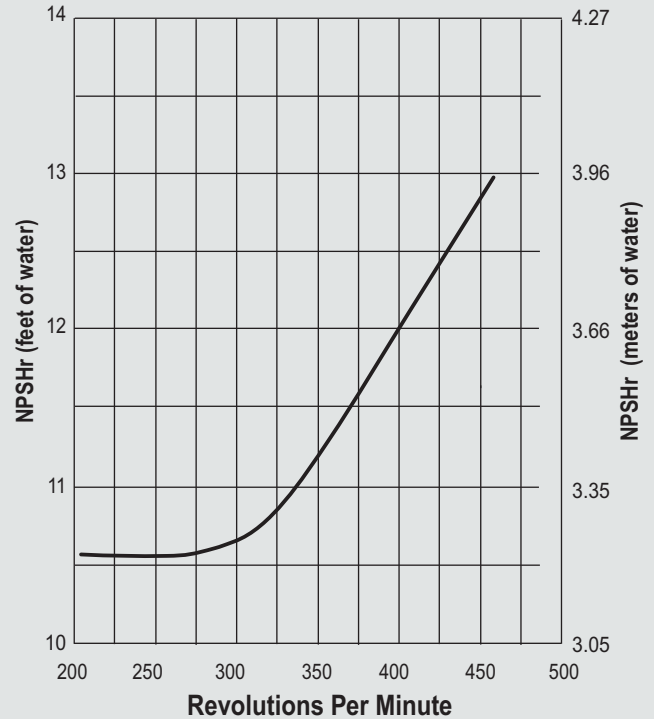
|                           |  |
|---------------------------|--|
| Manifold:                 | Nickel Aluminum Bronze (NAB)<br>316L Stainless Steel       |
| Diaphragm/Elastomers:     | FKM<br>Buna-N  |
| Diaphragm Follower Screw: | 316 Stainless Steel  |
| Valve Spring Retainer:    | 17-4 Stainless Steel<br>316 SST<br>Hastelloy C             |
| Check Valve Spring:       | Elgiloy  |
| Valve Disc/Seat:          | Tungsten Carbide<br>17-4 PH Stainless Steel<br>Hastelloy C |
| Outlet Valve Retainer:    | 316 Stainless Steel  |
| Plug-Outlet Valve Port:   | 316 Stainless Steel  |
| Inlet Valve Retainer:     | 316 Stainless Steel  |

## Power End Materials

|                  |   |
|------------------|---|
| Crankshaft:      | Forged Q&T Alloy Steel  |
| Connecting Rods: | Ductile Iron  |
| Crossheads:      | 12L14 Steel   |
| Crankcase:       | Ductile Iron  |
| Bearings:        | Spherical Roller/Journal (main)<br>Steel Backed Babbitt (crankpin)<br>Bronze (wristpin) |



## Net Positive Suction Head (NPSHr)



## Calculating Required Horsepower (kW)\*

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

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

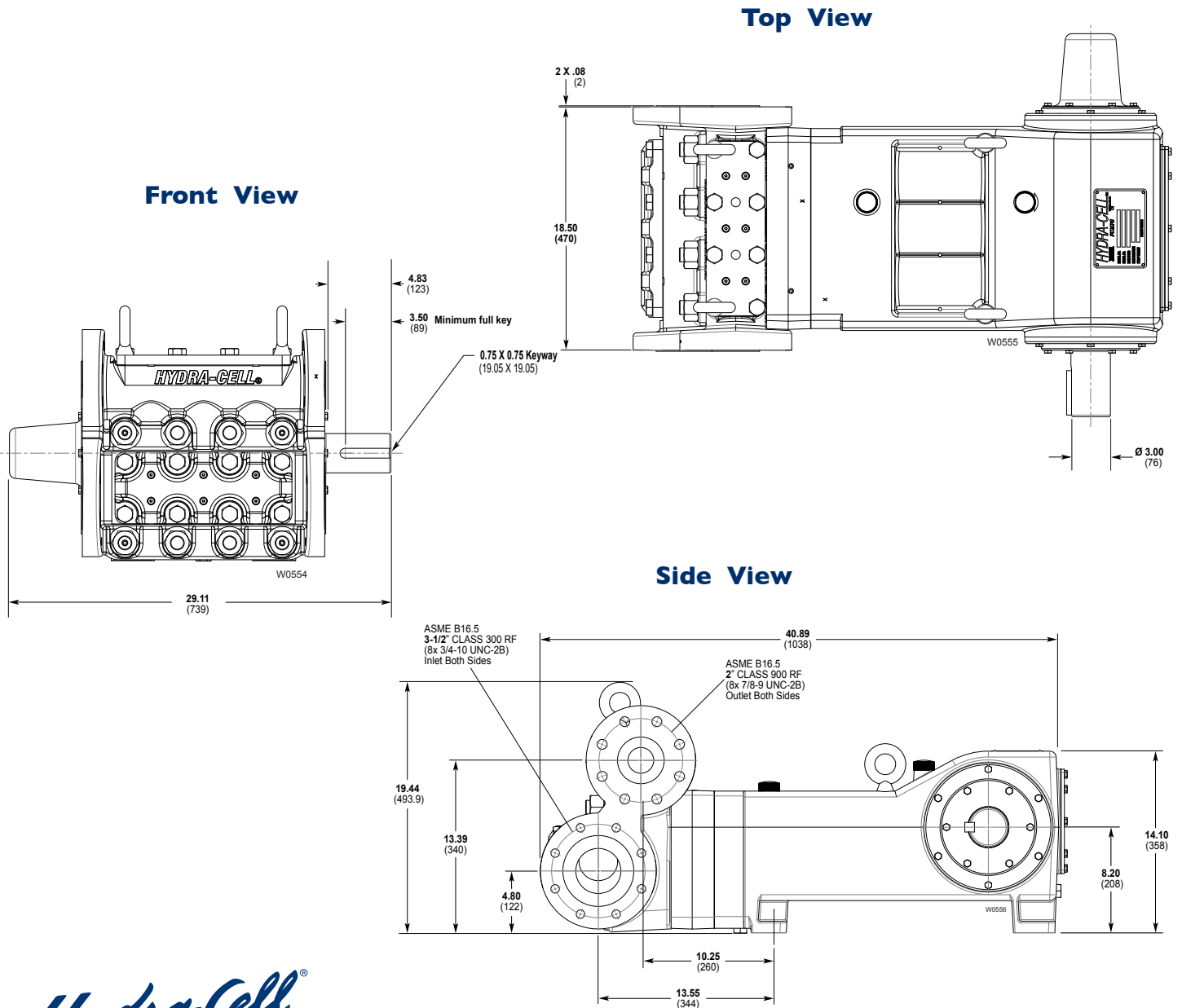
\* hp (kW) is required application power.

## 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.

# TI00 Series Low Pressure Dimensions

Flanged Version inches (mm)



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# T100 Series Low Pressure How to Order

## Ordering Information

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

A complete T100 Series Low Pressure Model Number contains 13 digits including 9 customer-specified design and materials options, for example: T100ERDGHFEHA.

## Low Pressure

| Digit      | Order Code                       | Description  |
|------------|----------------------------------|--|
| <b>1-4</b> | <b>T100</b>                      | <b>Pump Configuration</b><br>Shaft-driven  |
| <b>5</b>   | <b>E</b><br><b>F</b><br><b>H</b> | <b>Performance</b><br>Max. 96.0 gpm (366.1 l/min) @ 1500 psi (103 bar)<br>Max. 76.5 gpm (289.6 l/min) @ 1850 psi (128 bar)<br>Max. 68.0 gpm (257.8 l/min) @ 2100 psi (145 bar) |
| <b>6</b>   | <b>R</b>                         | <b>Pump Head Version</b><br>ANSI Flange Ports (RF)   |
| <b>7</b>   | <b>D</b><br><b>S</b>             | <b>Pump Head Material</b><br>Nickel Aluminum Bronze (NAB)<br>316L Stainless Steel  |
| <b>8</b>   | <b>G</b><br><b>T</b>             | <b>Diaphragm &amp; O-ring Material</b><br>FKM<br>Buna-N  |
| <b>9</b>   | <b>D</b><br><b>H</b><br><b>T</b> | <b>Valve Seat Material</b><br>Tungsten Carbide*<br>17-4 PH Stainless Steel<br>Hastelloy C  |
| <b>10</b>  | <b>D</b><br><b>F</b><br><b>T</b> | <b>Valve Material</b><br>Tungsten Carbide*<br>17-4 PH Stainless Steel<br>Hastelloy C   |
| <b>11</b>  | <b>E</b>                         | <b>Valve Springs</b><br>Elgiloy  |
| <b>12</b>  | <b>H</b><br><b>S</b><br><b>T</b> | <b>Valve Spring Retainers</b><br>17-4 Stainless Steel<br>316 SST<br>Hastelloy C  |
| <b>13</b>  | <b>A</b>                         | <b>Hydra-Oil</b><br>10W30 standard-duty oil  |

\*Tungsten Carbide valve seat and disc are a matched set and must be purchased together.