

# T100 Series Medium Pressure Models T100K & T100M

Maximum Flow Rate: 170 l/min (45 gpm) 1543 BPD  
Maximum Pressure: 241 bar (3500 psi)



API 674



**WANNER**  
*Hydra-Cell*<sup>®</sup>  
Seal-less Pump Technology



T100 Series medium pressure model  
with Stainless Steel 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, and there is no need for a booster or charge pump.
- Patented Diaphragm Positioning Control (DPC) protects the diaphragms against a closed or blocked suction line.
- Can run dry indefinitely without damage, eliminating downtime and repair costs.  
(Note: Intentional dry running not permitted in ATEX zones.)
- 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.
- Significantly 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.
- Hydra-Cell T100 Series pumps can be configured to meet API 674 Standards - consult factory for details.

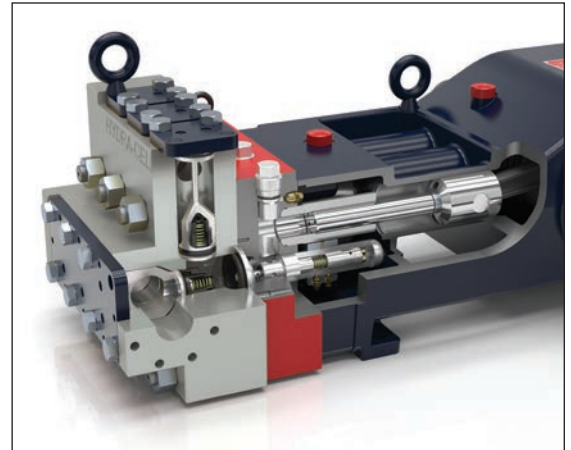
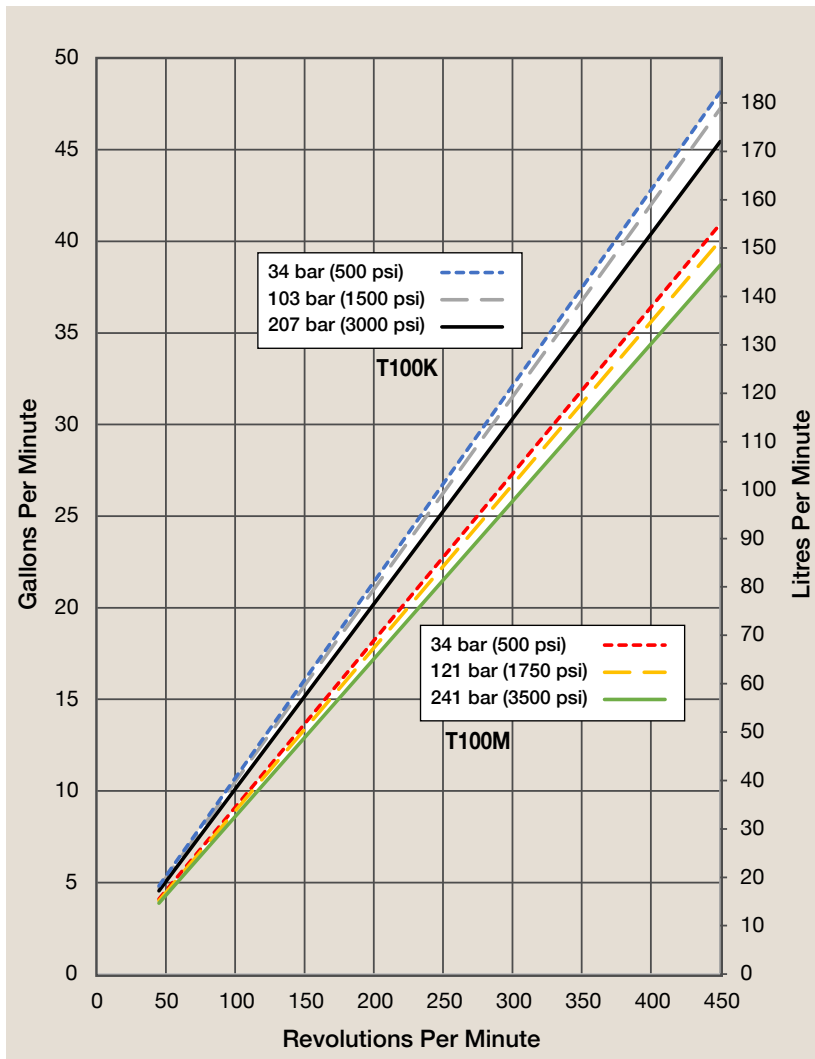
# T100 Series Medium Pressure Performance

## Capacities

Model	Max. Input rpm	Plunger Dia.		Max. Flow Capacities			Max. Pressure Ratings			
		Inches	mm	gpm	l/min	BPD	Discharge psi bar	Inlet psi bar		
T100K	450	1.750	44	45	170	1543	3000	207	500	34
T100M	450	1.625	41	38	144	1302	3500	241	500	34

Consult factory when operating below 45 rpm.

## 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 the Wanner Engineering Continuous Improvement Program, specifications and other data are subject to change.

# T100 Series Medium Pressure Specifications

## Flow Capacities

Model	Pressure bar (psi)	rpm	gpm	l/min	BPD
T100K	207 (3000)	450	45	170	1543
T100M	241 (3500)	450	38	144	1302

## Delivery

	Pressure bar (psi)	gal/rev	litres/rev
T100K	34 (500)	0.107	0.406
	103 (1500)	0.105	0.397
	207 (3000)	0.101	0.384
T100M	34 (500)	0.091	0.345
	121 (1750)	0.089	0.338
	241 (3500)	0.086	0.327

## rpm

Maximum:	450
Minimum:	45 (Consult factory for speeds less than 45 rpm.)

## Maximum Discharge Pressure

Metallic Heads:	T100K	207 bar (3000 psi)
	T100M	241 bar (3500 psi)

## Maximum Inlet Pressure 34 bar (500 psi)

## Operating Temperature Limits

Maximum Liquid Temperature:	82.2 °C (180 °F)
Diaphragm Material Minimum Service Temperature (Ambient & Liquid):	
Aflas	30 °C
EPDM	-20 °C
FKM	5 °C
Buna-N (HBNR)	-5 °C
Consult factory for temperatures outside of these ranges	

<b>Maximum Solids Size</b>	800 microns
<b>Input Shaft</b>	Left or Right Side
<b>Inlet Ports</b>	3-1/2 inch Class 300 RF ANSI Flange or 2-1/2 inch NPT
<b>Discharge Ports</b>	1-1/2 inch Class 2500 RTJ ANSI Flange or 1-1/2 inch NPT
<b>Plunger Stroke Length</b>	88.9 mm (3-1/2 inch)
<b>Shaft Diameter</b>	76.2 mm (3 inch)
<b>Shaft Rotation</b>	Uni-directional (See rotation arrow.)
<b>Oil Capacity</b>	19.4 litres (20.5 US quarts) See page 5 for oil selection and specification.

## Weight

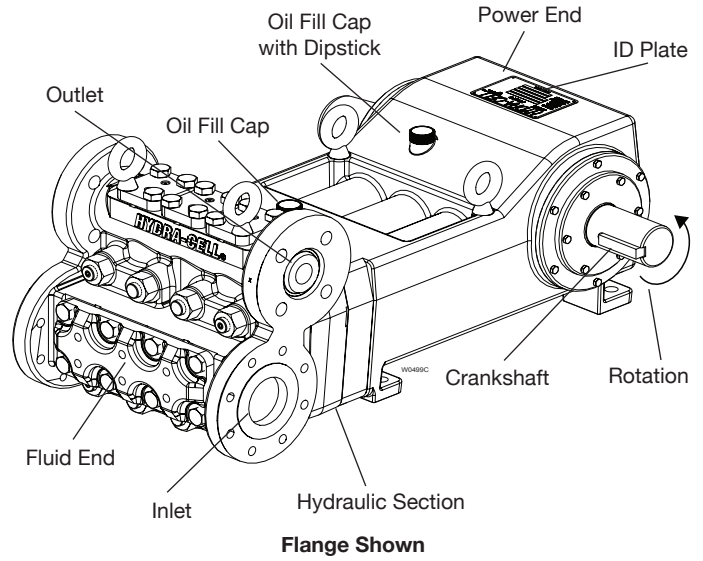
Metallic Heads:	499 kg (1100 lbs.)
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## Fluid End Materials

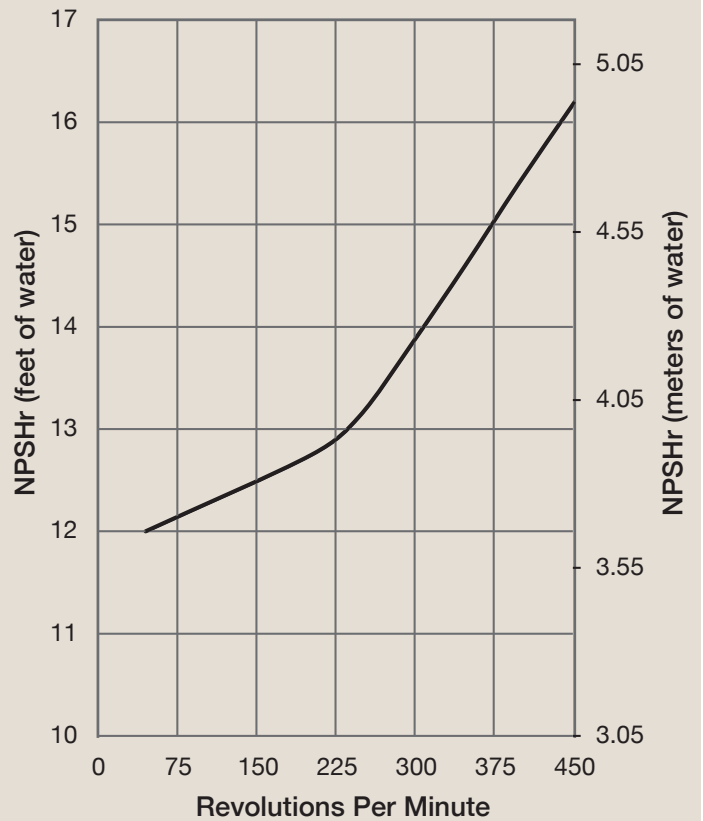
Diaphragm Follower Screw:	316 Stainless Steel
Outlet Valve Retainer:	316 Stainless Steel
Plug-Outlet Valve Port:	316 Stainless Steel
Inlet Valve Retainer:	316 Stainless Steel
See page 5 for customer-specified fluid end materials choices.	

## Power End Materials

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



## Net Positive Suction Head (NPSHr)



## Calculating Required Horsepower (kW)\*

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

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

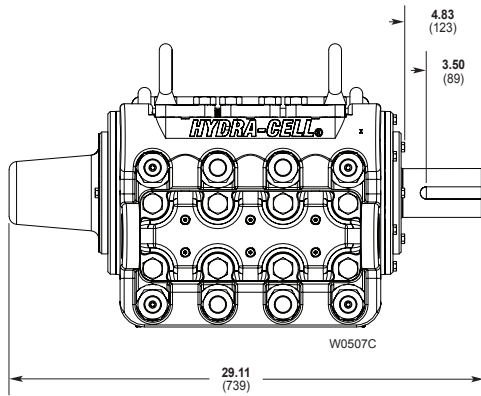
\* hp (kW) is required application power.

## Attention!

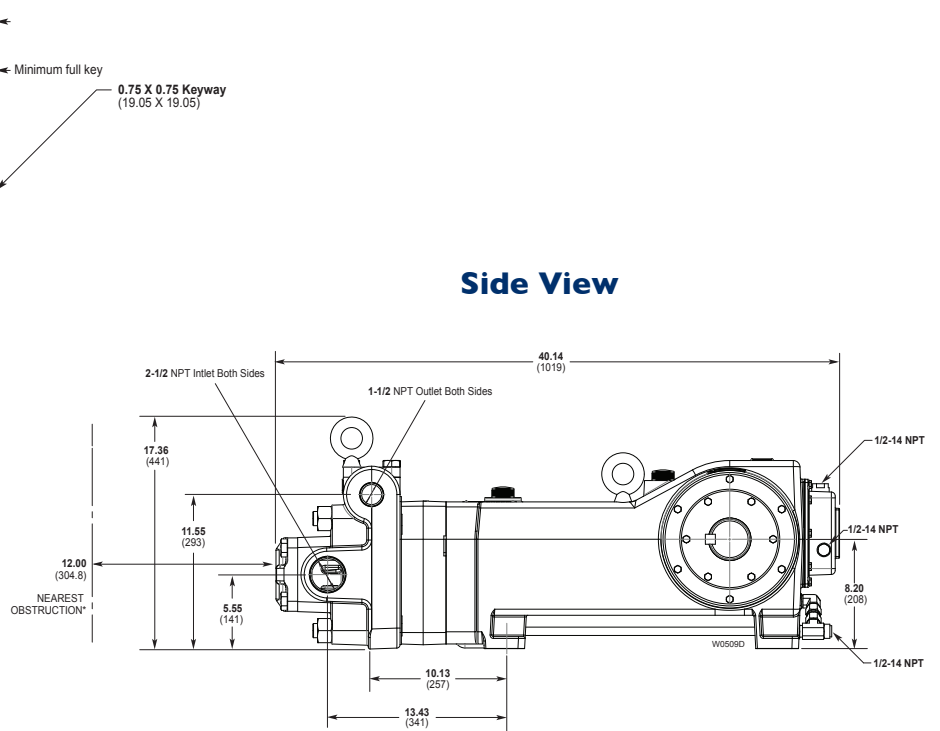
When sizing motors with variable speed drives (VFD): It is very important to select a motor and a VFD rated for constant torque inverter duty service and that the motor is rated to meet the torque requirements of the pump throughout desired speed range.

# T100 Series Medium Pressure Dimensions

## Threaded Version Inches (mm)



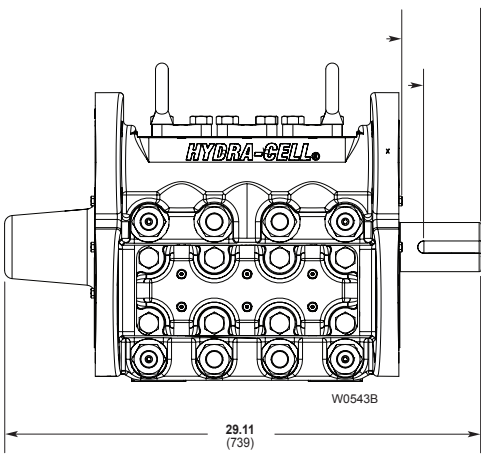
**Front View**



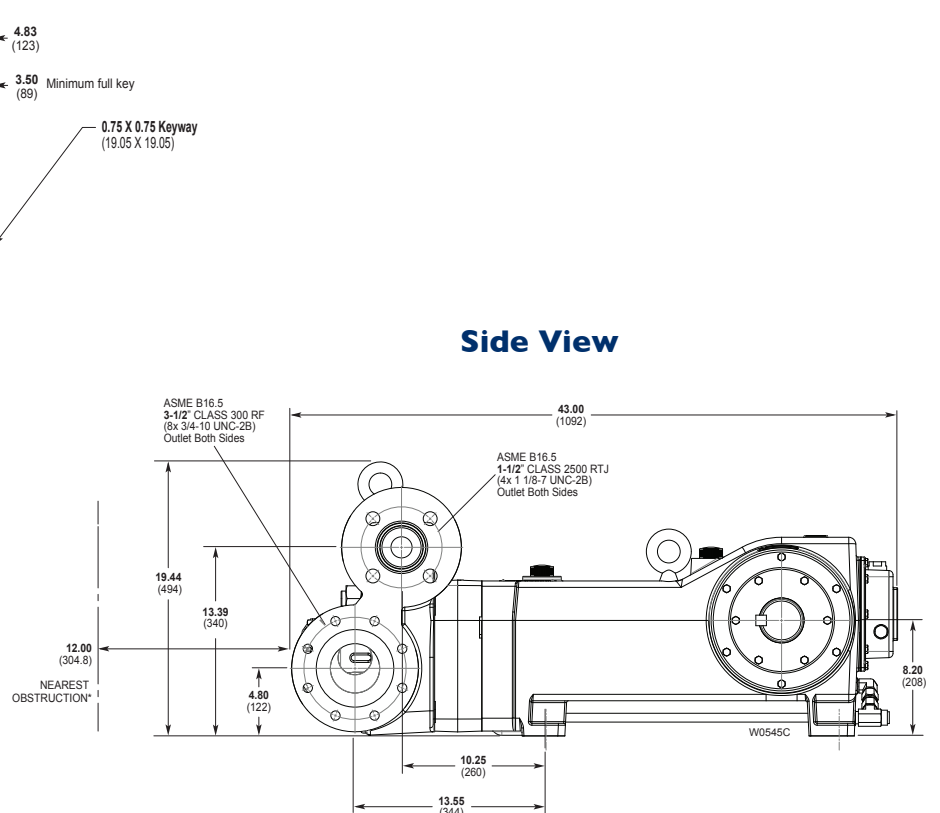
**Side View**

\*Contact factory for obstruction distances closer than 12 inches (304.8 mm).

## Flanged Version Inches (mm)



**Front View**



**Side View**

\*Contact factory for obstruction distances closer than 12 inches (304.8 mm).

**Note:** Dimensions are for reference only. Contact Wanner International for certified drawings.

# T100 Series Medium Pressure **How to Order**

## Ordering Information

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

A complete T100 Series Medium Pressure Model Number contains 14 digits including 10 customer-specified design and materials options, for example: T100KADGDDEPAO.

## Medium Pressure

Digit	Order Code	Description
<b>1-4</b>	T100	<b>Pump Configuration</b> Shaft-driven API 674 - Contact Wanner International
<b>5</b>	K M	<b>Performance</b> Max. 170 l/min (45 gpm) 1543 BPD @ 207 bar (3000 psi) Max. 144 l/min (38 gpm) 1302 BPD @ 241 bar (3500 psi)
<b>6</b>	A R	<b>Pump Head Version</b> NPT Ports (for NAB only) ANSI Flanged Ports (RF on Inlet / RTJ on Discharge)
<b>7</b>	D G S T	<b>Pump Head Material</b> Nickel Aluminium Bronze (NAB) Duplex Alloy 2205 Stainless Steel 316L Stainless Steel C3FM Hastelloy CX2M
<b>8</b>	A E G T	<b>Diaphragm &amp; O-ring Material</b> Aflas EPDM (requires EPDM-compatible oil - digit 13 code D) FKM Buna-N (HBNR)
<b>9</b>	D H N T	<b>Valve Seat Material</b> Tungsten Carbide* 17-4 Stainless Steel Nitronic 50 Hastelloy C
<b>10</b>	D F N T	<b>Valve Material</b> Tungsten Carbide* 17-4 Stainless Steel Nitronic 50 Hastelloy C
<b>11</b>	E T	<b>Valve Springs</b> Elgiloy Hastelloy C
<b>12</b>	M P S T	<b>Valve Spring Retainers</b> PVDF Polypropylene 316 SST Hastelloy C

Digit	Order Code	Description
<b>13</b>	A B D E H	<b>Hydra-Oil</b> 10W30 standard-duty oil 40-wt. oil EPDM-compatible oil Food-contact oil 15W50 high-temp severe-duty synthetic oil
<b>14</b>	C O W X	<b>Oil Level Monitor Cover</b> Float switch, normally closed (recommended) Float switch, normally open Level transmitter, ATEX, analog output** Float switch, ATEX, normally closed***

\*\*ATEX instrument only, pump as standard.

\*\*\*ATEX-compliant pump and float switch.

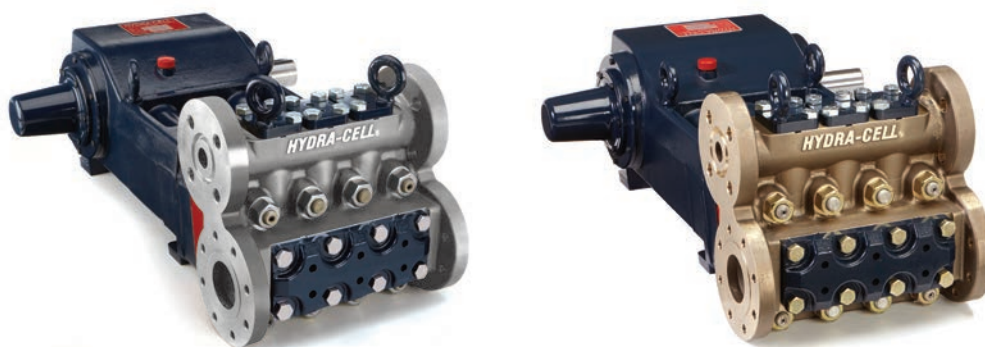
**Note:** The Oil Level Monitor Cover is an assembly that replaces the previous back cover on T100 Series pumps. It contains a float switch assembly that can trigger an alarm or shutdown when pre-defined levels of high or low oil are reached. It may also be ordered without a float switch cover.



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



# T100 Series Medium Pressure



**WANNER**

**Hydra-Cell**<sup>®</sup>

Partners in over 70 Countries

## Standards Compliance



 **Wanner International Ltd.**<sup>™</sup>

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