

# T100 Series Medium Pressure Models T100K & T100M

Maximum Flow Rate: 170 l/min (45 gpm)  
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
- 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
- Hydra-Cell T100 Series pumps can be configured to meet API 674 standards – consult factory for details

# T100 Series Medium Pressure Performance

## Capacities

### Flow

Model	Max. Input rpm	Max. Flow	
		gpm	l/min
T100K	450	<b>@ 207 bar (3000 psi)</b>	
		45	170
T100M	450	<b>@ 241 bar (3500 psi)</b>	
		38	144

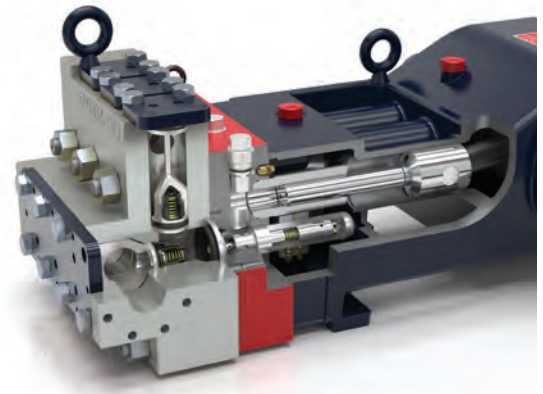
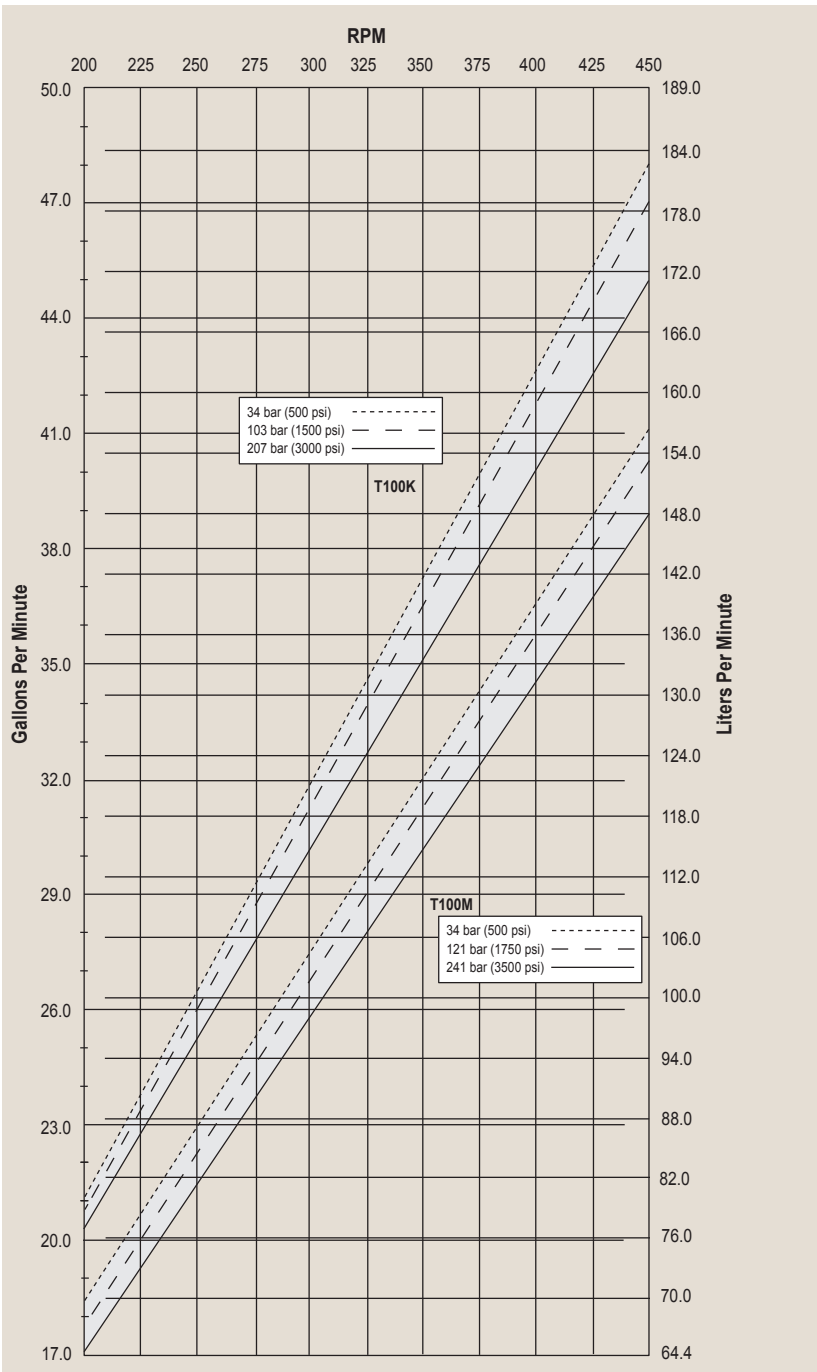
### Pressure

**Maximum Inlet Pressure**  
34 bar (500 psi)

**Maximum Discharge Pressure**  
T100K 207 bar (3000 psi)  
T100M 241 bar (3500 psi)

Consult factory when operating below 20 gpm (75.7 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 Model T100K API 674 Performance

## Capacities

### Flow

Model	Max. Input rpm	Duty	Max. Flow @ 207 bar (3000 psi)	
			gpm	l/min
T100K	450	Intermittent	45	170
	375	Continuous	38	144

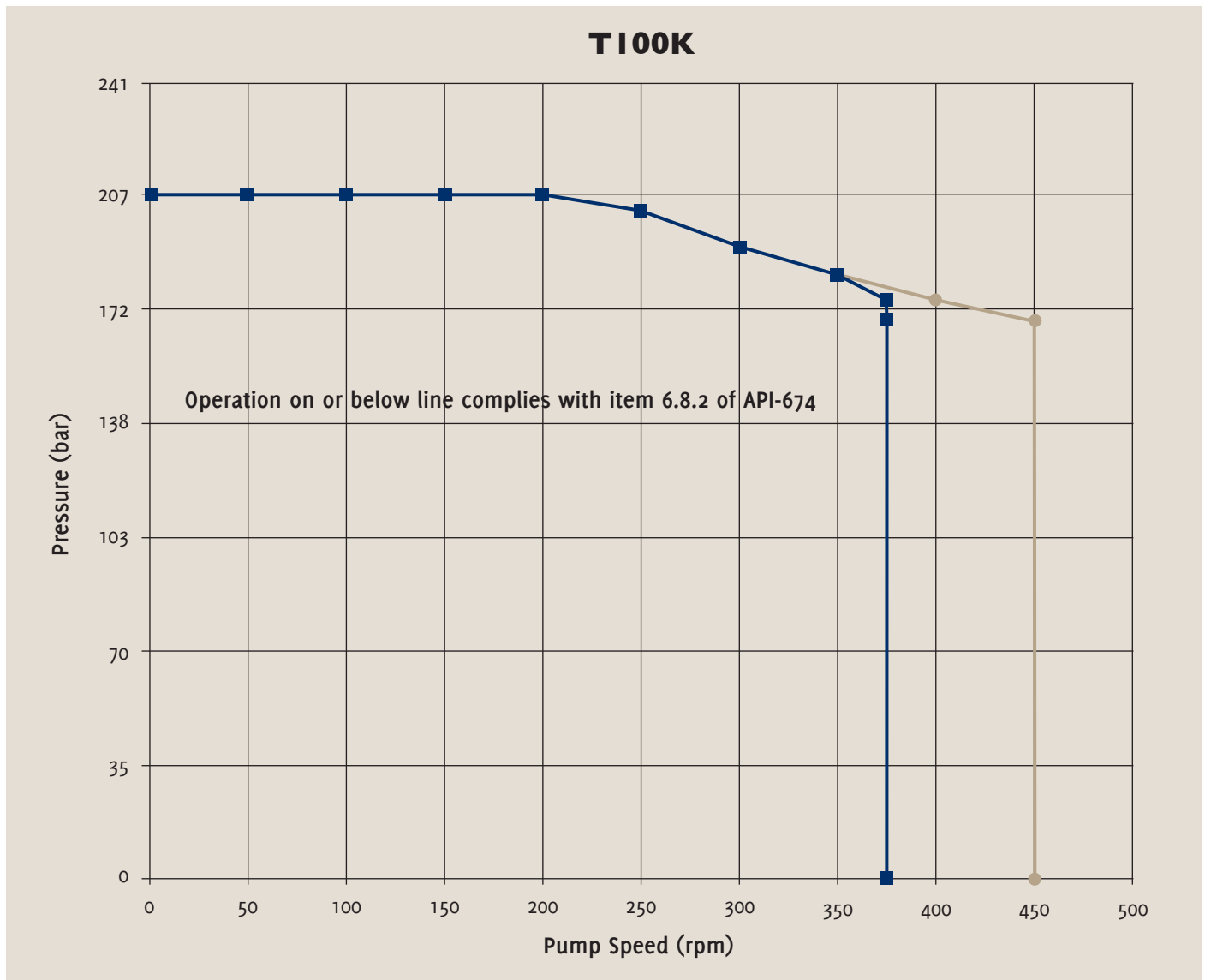
Consult factory when operating below 20 gpm (75.7 l/min).

### Pressure

**Maximum Inlet Pressure**  
34 bar (500 psi)

**Maximum Discharge Pressure**  
207 bar (3000 psi)

## Maximum RPM at Designated Pressure



—●— Intermittent duty 1.75" plunger  
Defined as up to 24/7 365 days pa

—■— Continuous duty 1.75" plunger  
Defined as 24/7 365 days pa

# T100 Series Model T100M API 674 Performance

## Capacities

### Flow

Model	Max. Input rpm	Duty	Max. Flow @ 241 bar (3500 psi)	
			gpm	l/min
T100M	450	Intermittent	39	144
	375	Continuous	32	120

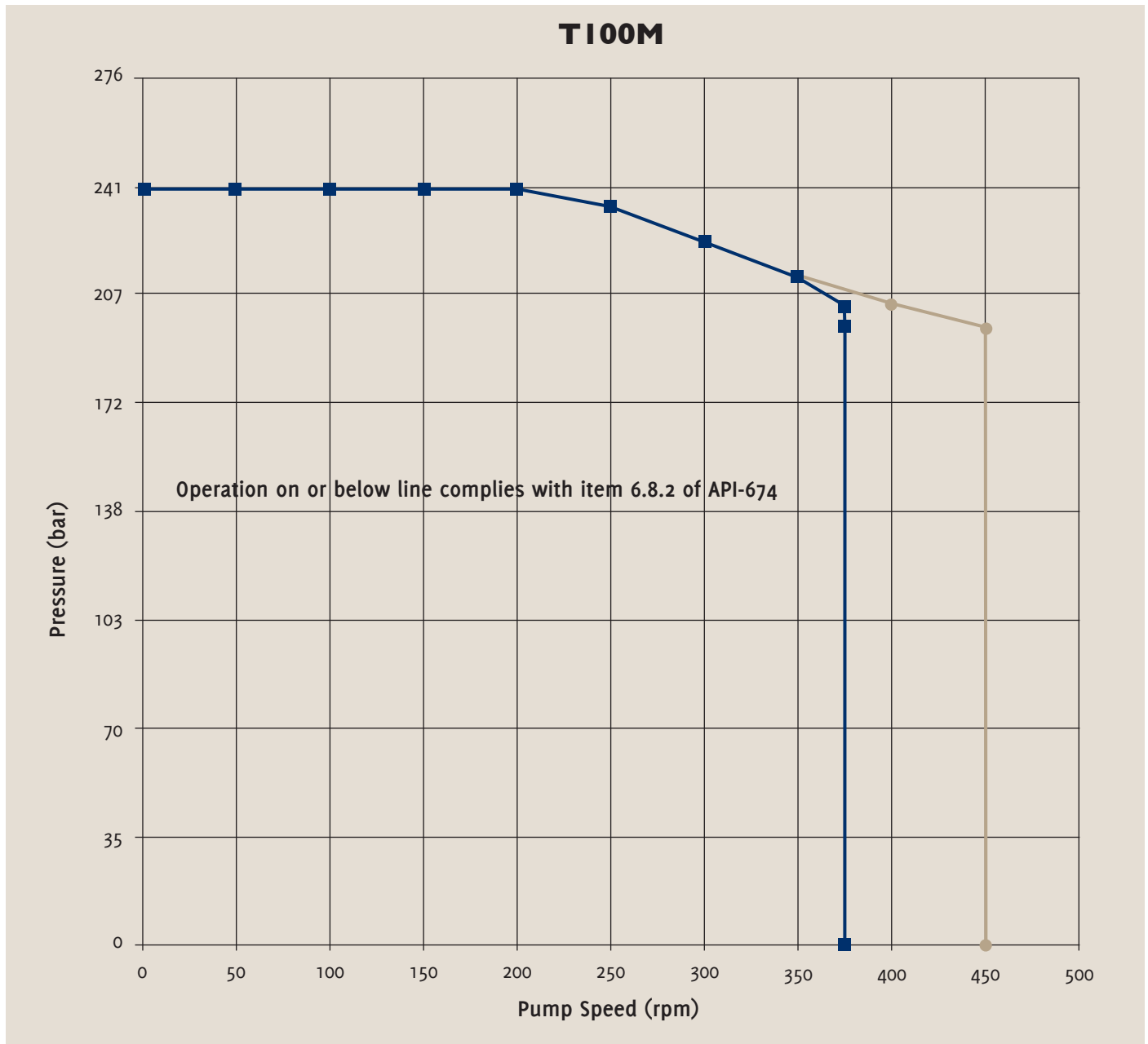
Consult factory when operating below 20 gpm (75.7 l/min).

### Pressure

**Maximum Inlet Pressure**  
34 bar (500 psi)

**Maximum Discharge Pressure**  
241 bar (3500 psi)

## Maximum RPM at Designated Pressure



—●— Intermittent duty 1.625" plunger  
Defined as up to 24/7 365 days pa

—■— Continuous duty 1.625" plunger  
Defined as 24/7 365 days pa

# T100 Series Medium Pressure Specifications

## Flow Capacities

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

## Delivery

	Pressure bar (psi)	gal/rev	liters/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:	200 (Consult factory for speeds less than 200 rpm)

## Maximum Discharge Pressure

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

## Maximum Inlet Pressure 34 bar (500 psi)

## Liquid Operating Temperature

Maximum:	82.2°C (180°F)
Minimum:	4.4°C (40°F)
Consult factory for temperatures outside this range	

<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>Shaft Diameter</b>	76.2 mm (3 inch)
<b>Shaft Rotation</b>	Reverse (bi-directional)
<b>Oil Capacity</b>	7.7 litres (18 US quarts) 10W30 standard-duty oil

## Weight

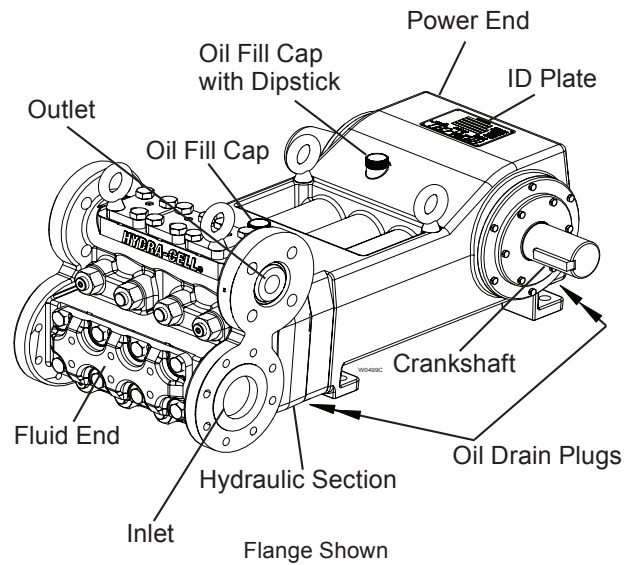
Metallic Heads:	499 kg (1100 lbs.)
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## Fluid End Materials

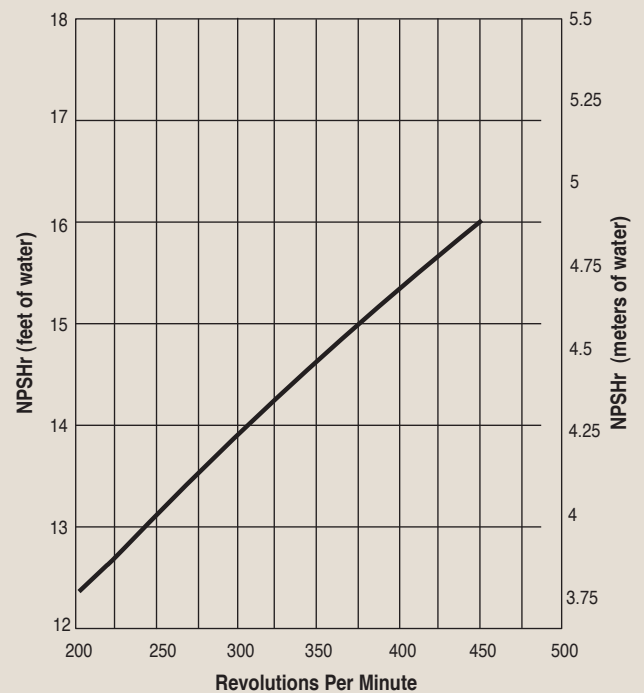
Manifold:	Nickel Aluminum Bronze (NAB)
	316L Stainless Steel
Diaphragm/Elastomers:	FKM
	Buna-N
Valve Spring Retainer:	17-7 Stainless Steel
	PVDF
	Polypropylene
	316 SST
Check Valve Spring:	Hastelloy C
	Elgiloy
Valve Disc/Seat:	Tungsten Carbide
	17-4 Stainless Steel
	Hastelloy C

## Power End Materials

Crankshaft:	Forged Q&T Alloy Steel
Crankcase:	Ductile Iron
Bearings:	Spherical Roller/Journal (main)



## 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 **How to Order**

## Ordering Information



A complete T100 Series Medium Pressure Model Number contains 13 digits including 9 customer-specified design and materials options, for example: T100KADGDDEPA.

## Medium Pressure

Digit	Order Code	Description
<b>1-4</b>	T100	<b>Pump Configuration</b> Shaft-driven
<b>5</b>	K M -	<b>Performance</b> Max. 170 l/min (45 gpm) @ 207 bar (3000 psi) Max. 144 l/min (38 gpm) @ 241 bar (3500 psi) ATEX - Contact Wanner International <i>(Note: ATEX 94/9/EC Certified, Category 2, Zone 1)</i>
<b>6</b>	A R	<b>Pump Head Version</b> NPT Ports (for NAB only) ANSI Flange Ports (RF on Inlet / RTJ on Discharge)
<b>7</b>	D S	<b>Pump Head Material</b> Nickel Aluminum Bronze (NAB) 316L Stainless Steel
<b>8</b>	G T	<b>Diaphragm &amp; O-ring Material</b> FKM Buna-N
<b>9</b>	D H T	<b>Valve Seat Material</b> Tungsten Carbide* 17-4 Stainless Steel Hastelloy C
<b>10</b>	D F T	<b>Valve Material</b> Tungsten Carbide* 17-4 Stainless Steel Hastelloy C
<b>11</b>	E	<b>Valve Springs</b> Elgiloy
<b>12</b>	H M P S T	<b>Valve Spring Retainers</b> 17-7 Stainless Steel PVDF Polypropylene 316 SST Hastelloy C
<b>13</b>	A	<b>Hydra-Oil</b> 10W30 standard-duty oil

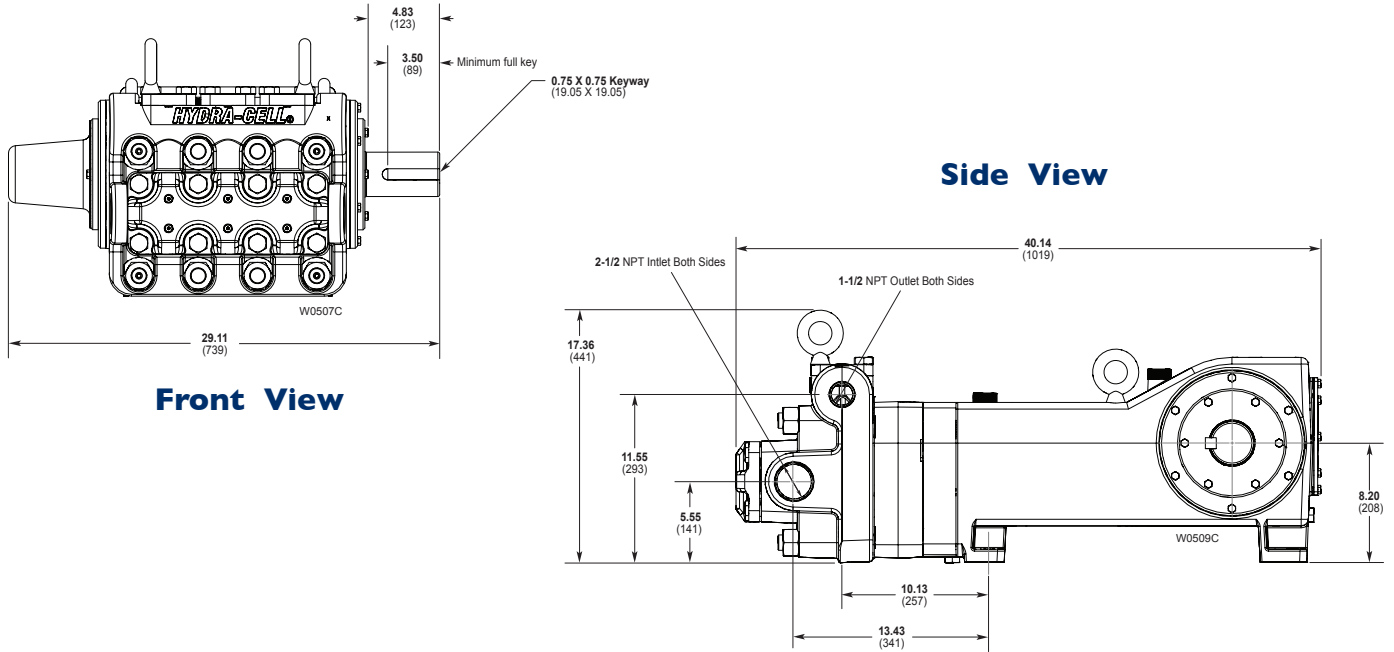
\*Tungsten Carbide valve seat and disc are a matched set and must be purchased together.



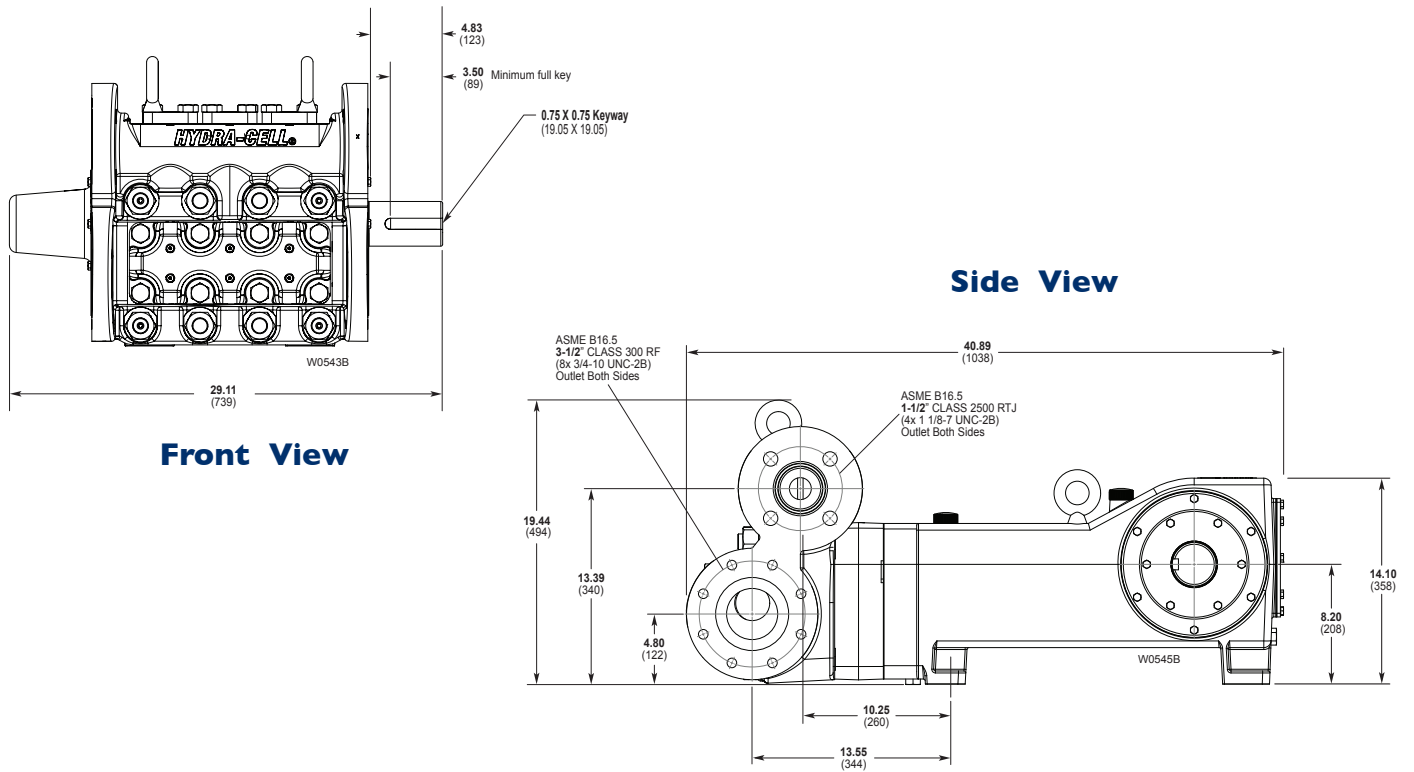


# T100 Series Medium Pressure Dimensions

## Threaded Version Inches (mm)



## Flanged Version Inches (mm)





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