

T100 Series Medium Pressure Models T100K & T100M

Maximum Flow Rate: 45 gpm (170.4 l/min) 1543 BPD
Maximum Pressure: 3500 psi (241 bar)

Hydra-Cell[®]
Seal-less Pumps



T100 Series medium-pressure model with
Nickel Aluminum Bronze pump head.

**Available
to Meet
API 674!**

- Seal-less design separates the power end from the process fluid end, eliminating 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 and other pump technologies.
- Rugged construction for long life with minimal maintenance.
- Compact design and double-ended shaft provide a variety of installation options.

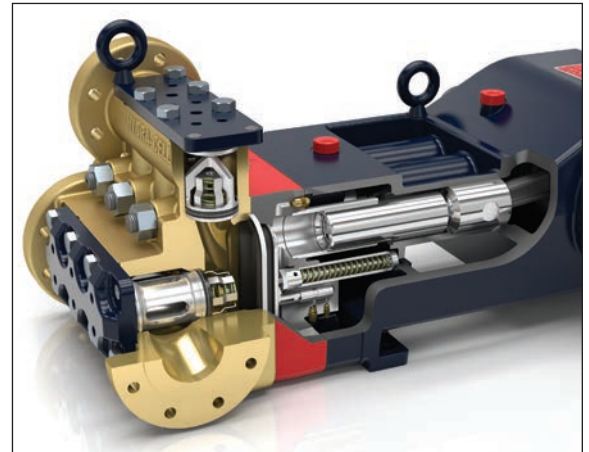
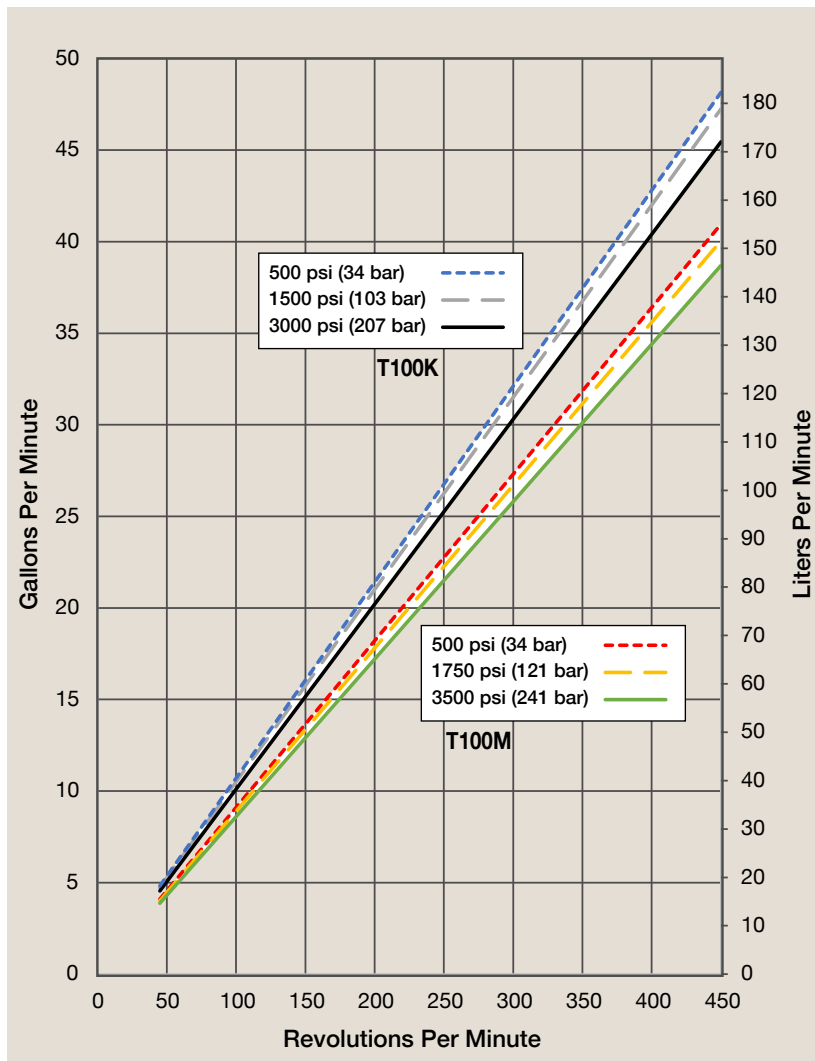
T100 Series Medium Pressure Performance

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
T100K	450	1.750	44	45.0	170.4	1543	3000	207	500	34
T100M	450	1.625	41	38.0	143.8	1302	3500	241	500	34

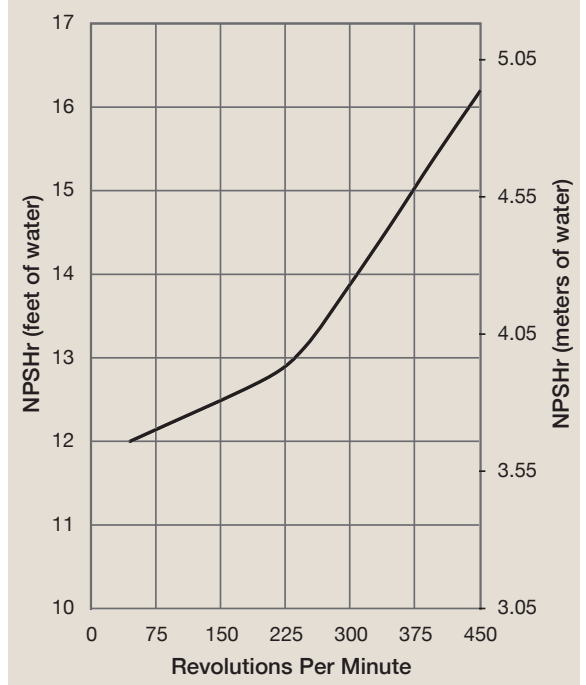
Consult factory when operating below 45 rpm.

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.

Net Positive Suction Head (NPSHr)



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 psi (bar)	rpm	gpm	l/min	BPD
T100K	3000 (207)	450	45.0	170.4	1543
T100M	3500 (241)	450	38.0	143.8	1302

Delivery

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

rpm

Maximum:	450
Maximum API 674:	375
Minimum:	45 (Consult factory for speeds less than 45 rpm.)

Maximum Discharge Pressure

Metallic Heads:	T100K	3000 psi (207 bar)
	T100M	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

Left or Right Side

Inlet Ports

3-1/2 inch Class 300 RF ANSI Flange or
2-1/2 inch NPT

Discharge Ports

1-1/2 inch Class 2500 RTJ ANSI Flange or
1-1/2 inch NPT

Plunger Stroke Length

3-1/2 inch (88.9 mm)

Shaft Diameter

3 inch (76.2 mm)

Shaft Rotation

Uni-directional (See rotation arrow.)

Oil Capacity

18 US quarts (17 liters) - blank back cover
20.5 US quarts (19.4 liters) - oil level back cover
See page 5 for oil selection and specification.

Weight

Metallic Heads:	1100 lbs. (499 kg)
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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!

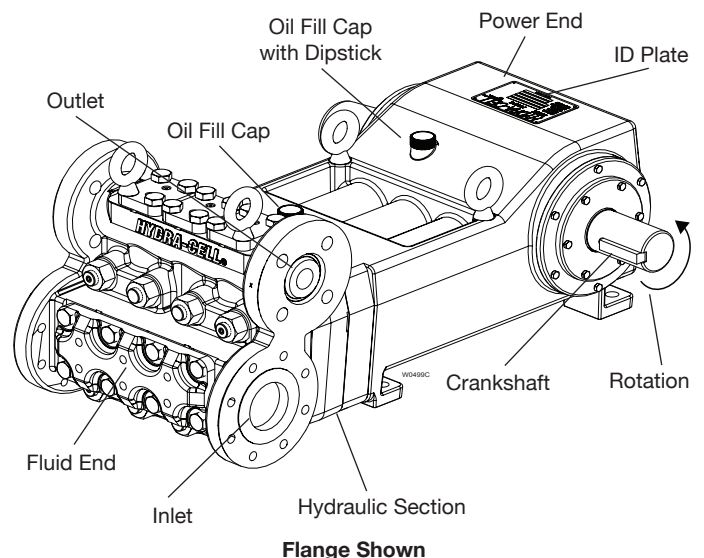
When sizing motors with variable speed drives (VFD): It is very important to select a motor and a VFD rated for constant torque inverter duty service and that the motor is rated to meet the torque requirements of the pump throughout desired speed range.

Fluid End Materials

Manifold:	Nickel Aluminum Bronze (NAB)
	Duplex Alloy 2205 Stainless Steel
	316L Stainless Steel CF3M
	Hastelloy CX2M
Diaphragm/Elastomers:	FKM
	Buna-N
	Aflas
	EPDM
Diaphragm Follower Screw:	316 Stainless Steel
Valve Spring Retainer:	PVDF
	Polypropylene
	316 SST
Check Valve Spring:	Hastelloy C
	Elgiloy
	Hastelloy C
Valve Disc/Seat:	Tungsten Carbide
	17-4 Stainless Steel
	Nitronic 50
Outlet Valve Retainer:	Hastelloy C
	316 Stainless Steel
Plug-Outlet Valve Port:	316 Stainless Steel
Inlet Valve Retainer:	316 Stainless Steel

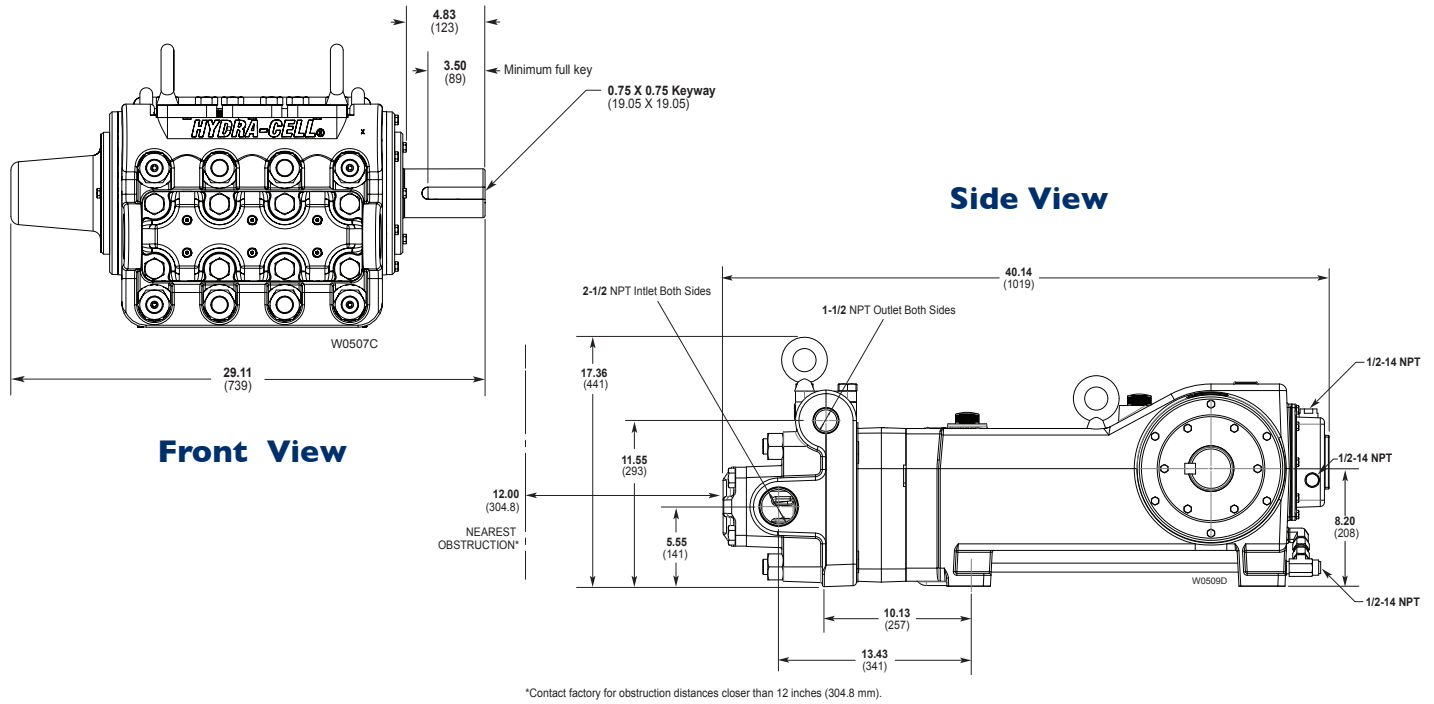
Power End Materials

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

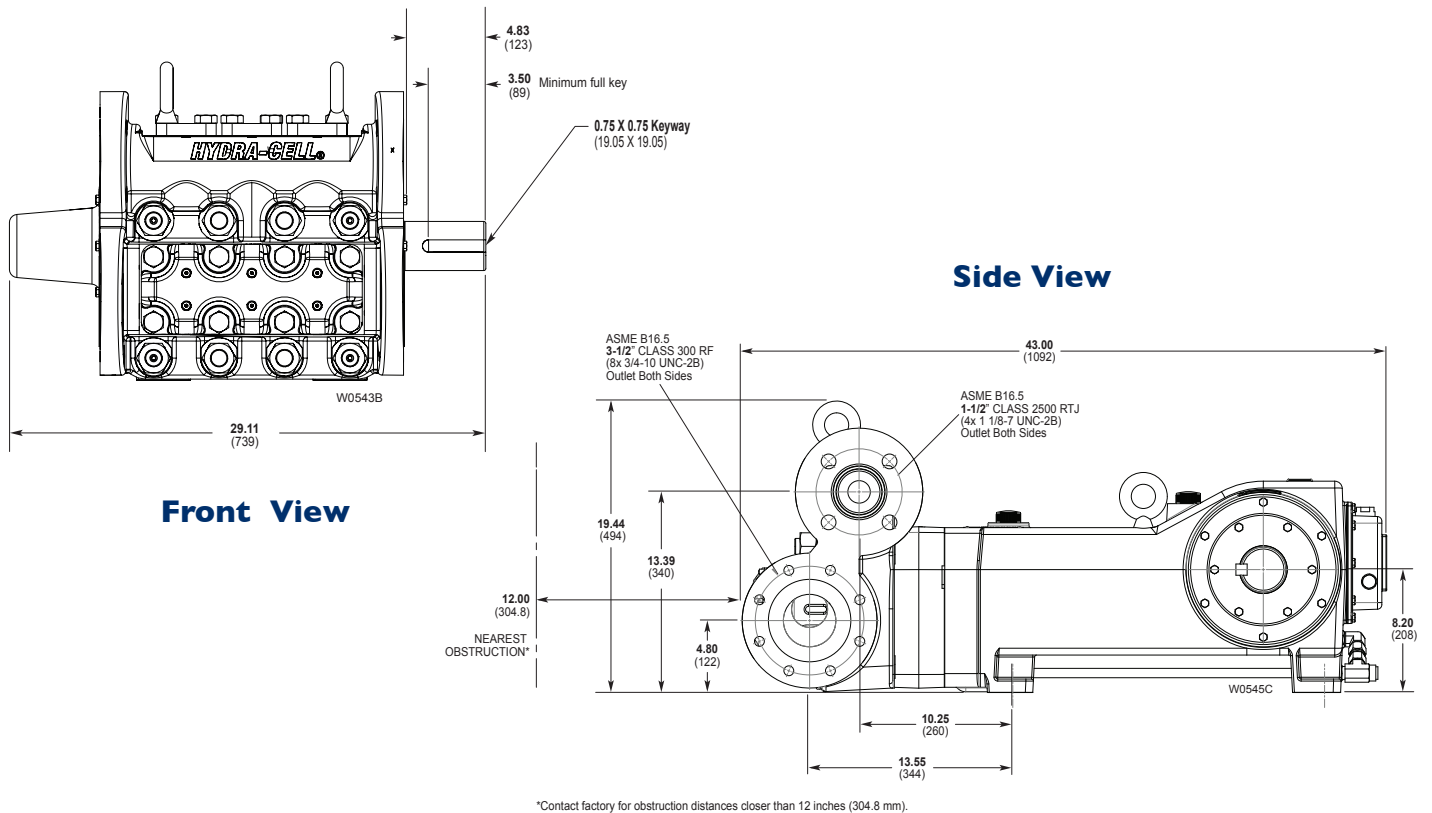


T100 Series Medium Pressure Drawings

Threaded Version Inches (mm)



Flanged Version Inches (mm)



Note: Dimensions are for reference only. Contact factory for certified drawings.

T100 Series Medium Pressure **How to Order**

Ordering Information

1	T	2	1	3	0	4	0	5		6		7		8		9		10		11		12		13		14	
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A complete T100 Series Medium Pressure Model Number contains 14 digits including 10 customer-specified design and materials options, for example: T100KADGDDEPAC.

Medium Pressure

Digit	Order Code	Description
1-4		Pump Configuration
	T100	Shaft-driven
5		Performance
	K	Max. 45.0 gpm (170.4 l/min) 1543 BPD @ 3000 psi (207 bar)
	M	Max. 38.0 gpm (143.8 l/min) 1302 BPD @ 3500 psi (241 bar)
6		Pump Head Version
	A	NPT Ports (for NAB only)
	R	ANSI Flanged Ports (RF on Inlet / RTJ on Discharge)
7		Pump Head Material
	D	Nickel Aluminum Bronze (NAB)
	G	Duplex Alloy 2205 Stainless Steel
	S	316L Stainless Steel CF3M
	T	Hastelloy CX2M
8		Diaphragm & O-ring Material
	A	Aflas
	E	EPDM (requires EPDM-compatible oil - Digit 13 oil code D)
	G	FKM
	T	Buna-N
9		Valve Seat Material
	D	Tungsten Carbide*
	H	17-4 Stainless Steel
	N	Nitronic 50
	T	Hastelloy C
10		Valve Material
	D	Tungsten Carbide*
	F	17-4 Stainless Steel
	N	Nitronic 50
	T	Hastelloy C
11		Valve Springs
	E	Elgiloy
	T	Hastelloy C

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

Digit	Order Code	Description
12		Valve Spring Retainers
	M	PVDF
	P	Polypropylene
	S	316 SST
	T	Hastelloy C
13		Hydra-Oil
	A	10W30 standard-duty oil
	B	40-wt. oil
	D	EPDM-compatible oil
	E	Food-contact oil
	H	15W50 high-temp severe-duty synthetic oil
14		Oil Level Monitor Cover
	C	Float switch, normally closed (recommended)
	O	Float switch, normally open
	S	Float switch, Class I, Div. 1, Groups C & D, normally closed
	T	Float switch, Class I, Div. 1, Groups C & D, normally open
	W	Float switch, ATEX/IECEX, 4-20 mA analog output (qualification required)
	X	Float switch, ATEX/IECEX, 4-20 mA discrete output (qualification required)
	Y	No switch, flat back cover

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.

Hydra-Cell®

Seal-less Pumps

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