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

ATEX

CE

WANNER Hydra-Cell® 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

WANNER INTERNATIONAL

T100 Series Medium Pressure Performance

Capacities

Flow

Model	Max. Input rpm	Max. Flow gpm	Max. Flow l/min	Max. Flow BPD	@ Pressure Rating psi	@ Pressure Rating bar
T100K	450	45.0	170.4	1543	3000	207
T100M	450	38.0	143.8	1302	3500	241

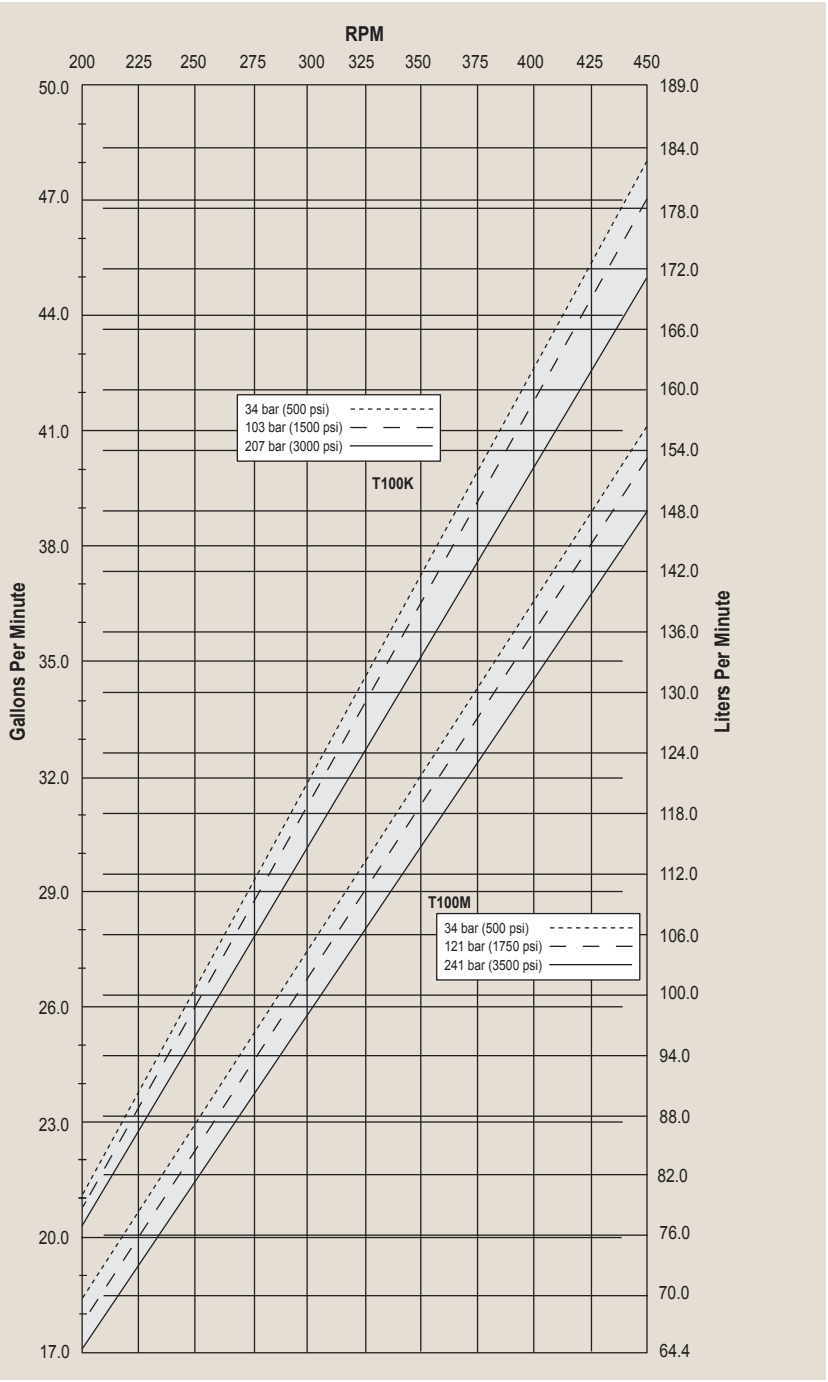
Consult factory when operating below 200 rpm.

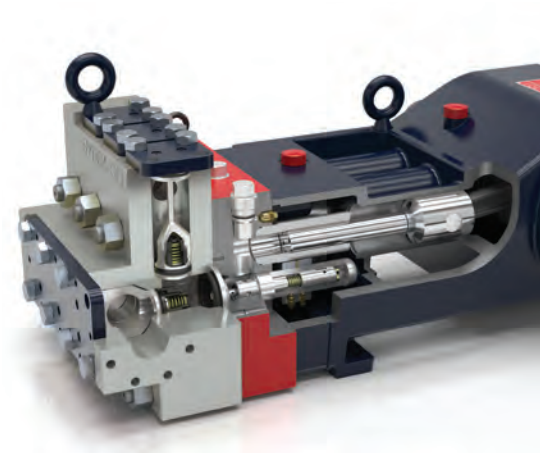
Pressure

Maximum Inlet Pressure
34 bar (500 psi)

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

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 @ 103 bar (1500 psi) gpm	l/min	BPD
T100K	450	Intermittent	45	170	1553
	375	Continuous	38	144	1296

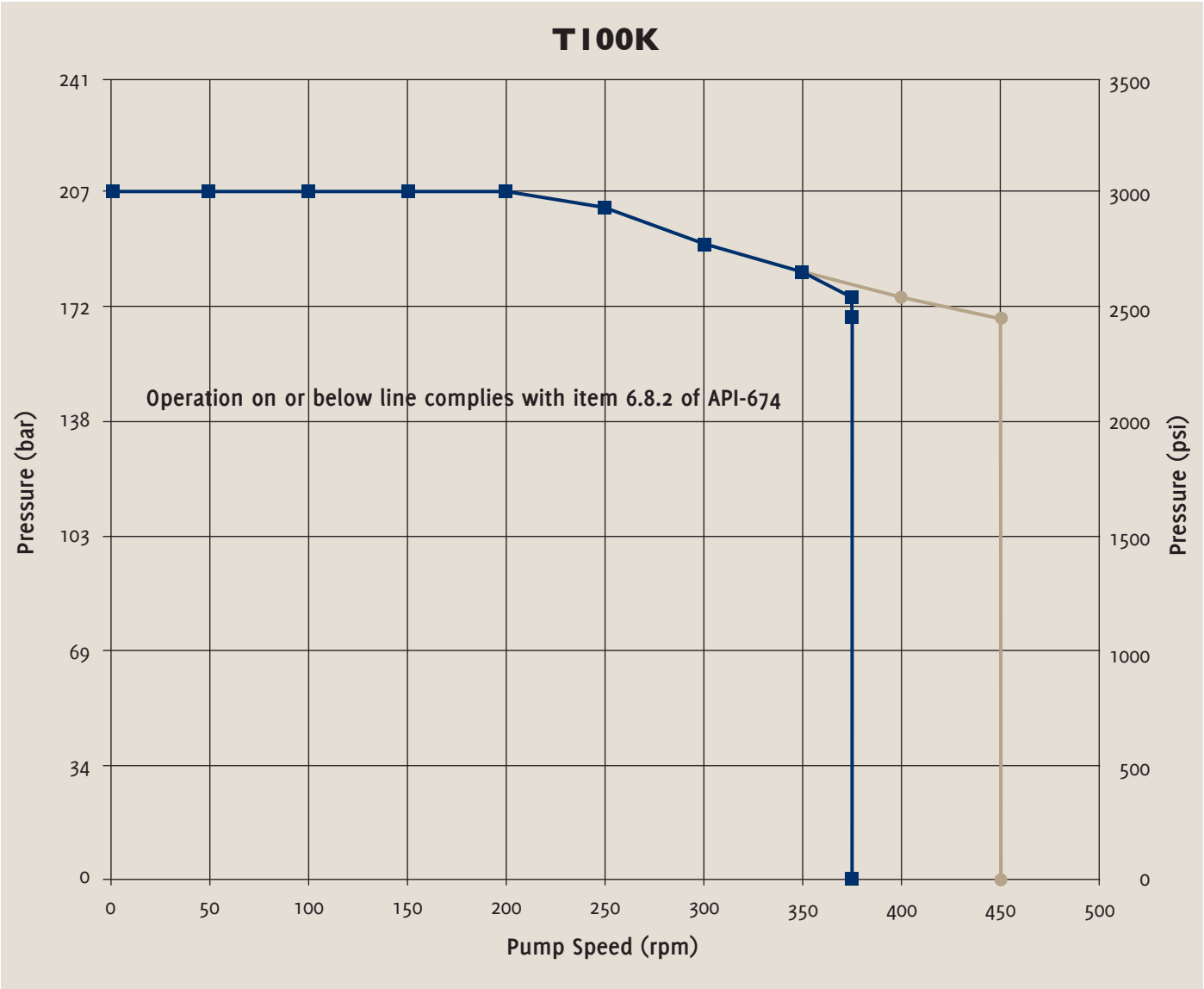
Consult factory when operating below 200 rpm.

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 @ 103 bar (1500 psi) gpm	l/min	BPD
T100M	450	Intermittent	39	144	1337
	375	Continuous	32	120	1097

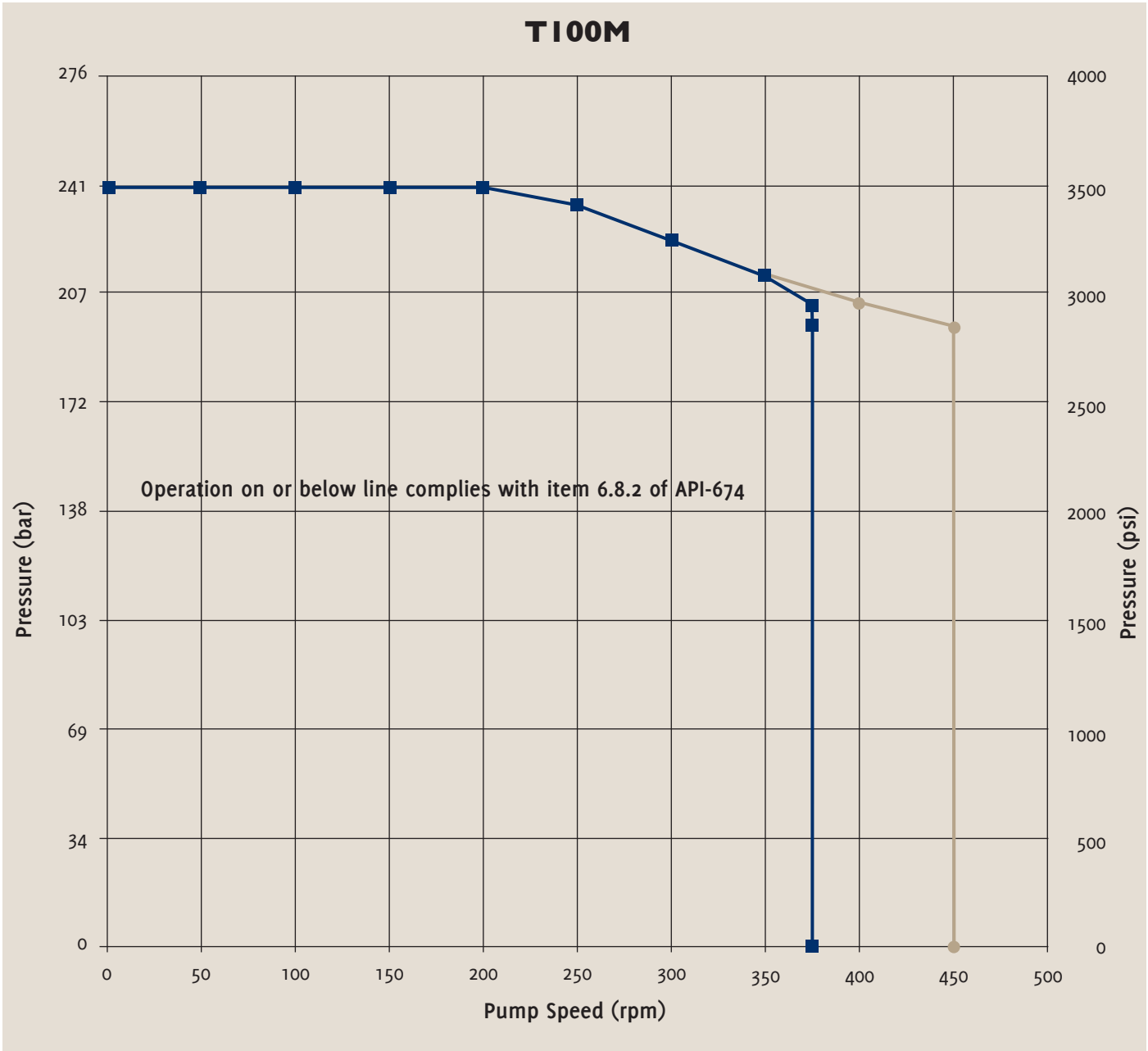
Consult factory when operating below 200 rpm.

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	BPD
T100K	207 (3000)	450	45	170	1543
T100M	241 (3500)	450	38	144	1302

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

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

Shaft Diameter 76.2 mm (3 inch)

Shaft Rotation Reverse (bi-directional)

Oil Capacity 19.4 liters (20.5 US quarts)
See page 6 for oil selection and specification.

Weight

Metallic Heads: 499 kg (1100 lbs.)

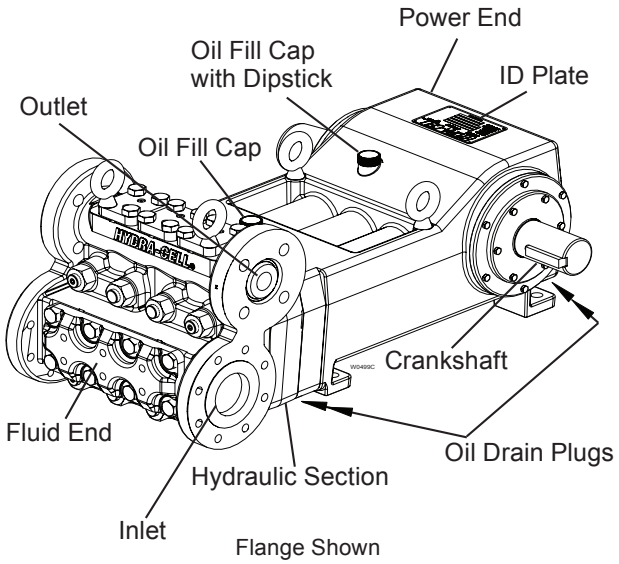
Fluid End Materials

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

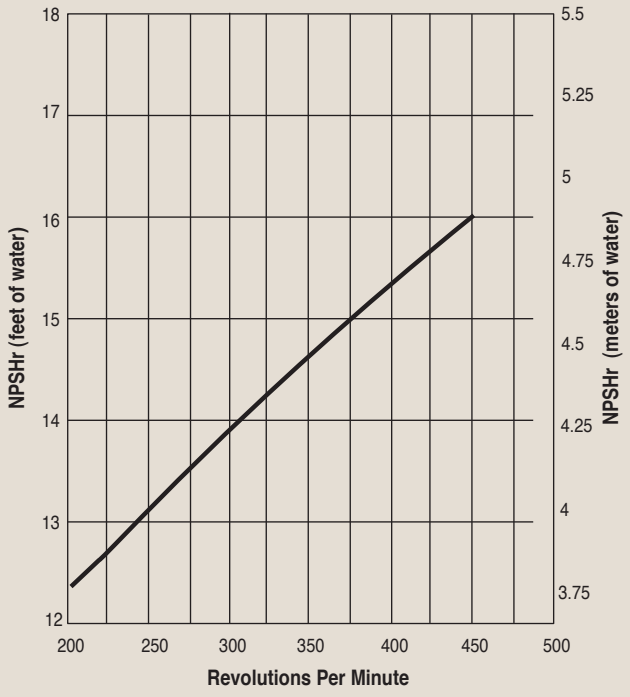
See page 6 for customer-specified fluid end materials choices.

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

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: T100KADGDDEPA0.

Medium Pressure

Digit	Order Code	Description
1-4		**Pump Configuration**
	T100	Shaft-driven API 674 - Contact Wanner International
5		**Performance**
	K	Max. 170 l/min (45 gpm) 1543 BPD @ 207 bar (3000 psi)
	M	Max. 144 l/min (38 gpm) 1302 BPD @ 241 bar (3500 psi)
	-	ATEX - Contact Wanner International *(Note: ATEX 2014/34/EU Certified, Category 2, Zone 1, Hazardous Liquids)*
6		**Pump Head Version**
	A	NPT Ports (for NAB only)
	R	ANSI Flange Ports (RF on Inlet / RTJ on Discharge)
7		**Pump Head Material**
	D	Nickel Aluminum Bronze (NAB)
	G	Duplex Alloy 2205
	S	316L Stainless Steel
	T	Hastelloy CX2M
8		**Diaphragm & O-ring Material**
	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

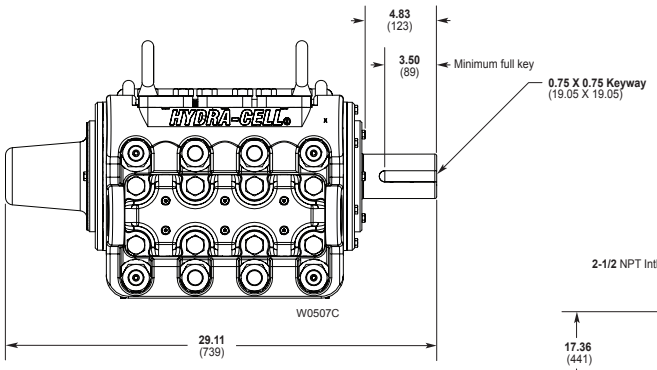
*Tungsten Carbide valve seat and disc are a matched set and must be purchased together.

Digit	Order Code	Description
12		**Valve Spring Retainers**
	H	17-7 Stainless Steel
	M	PVDF
	P	Polypropylene
	S	316 SST
	T	Hastelloy C
13		**Hydra-Oil**
	A	10W30 standard-duty oil
	B	40-wt.
	E	Food-contact oil
	H	15W50 high-temp severe-duty synthetic oil
14		**Oil Level Monitor Cover**
	C	Float switch, normally closed
	O	Float switch, normally open
	X	Float switch, explosion proof, normally closed
	Y	No 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.

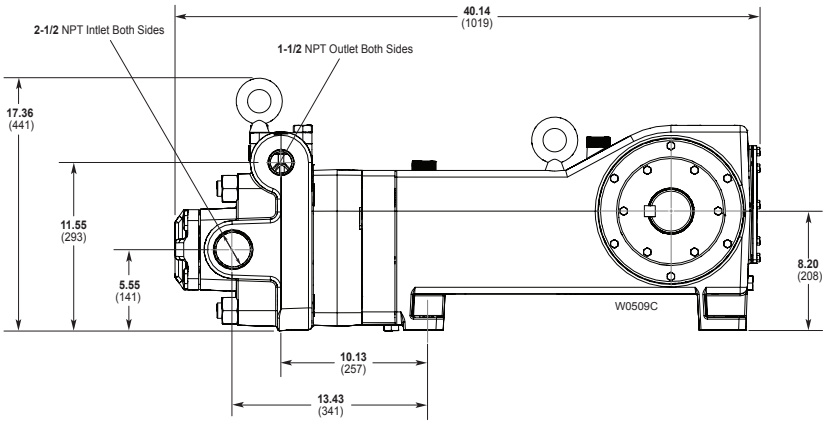
T100 Series Medium Pressure Dimensions

Threaded Version Inches (mm)

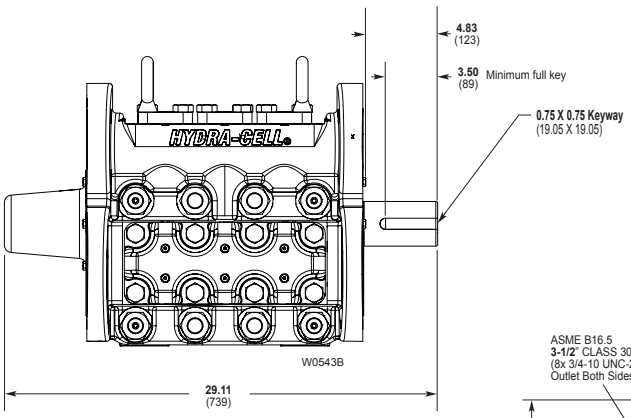


Front View

Side View

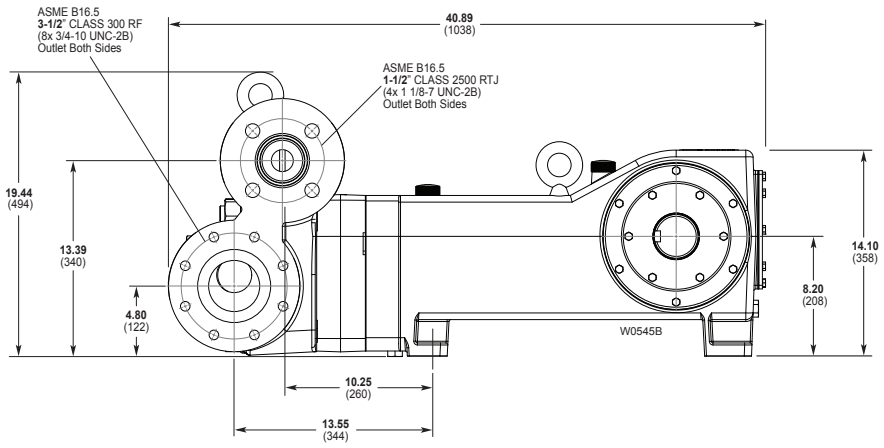


Flanged Version Inches (mm)



Front View

Side View



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T100 MP Version 4 4/17

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