

Q155 PRO SERIES MEDIUM PRESSURE

Maximum Flow Rate: 284 l/min (75 US gpm) 2571 BPD

Maximum Pressure: 241 bar (3500 psi)

WANNER™ HYDRA-CELL® PRO
SEAL-LESS PUMP TECHNOLOGIES



UK
CA CE

Q155 Series with Stainless
Steel pump head.

A higher standard of pump performance and energy efficiency.

- Integrates **Wanner Hydra-Cell® Pro** seal-less pump technologies for the highest levels of volumetric and energy efficiencies across a full rpm range.
- Patented ADPC (Advanced Diaphragm Position Control) and hydraulic oil management systems protect diaphragms under closed or restricted inlet conditions.
- Can run dry indefinitely without damage to the pump, eliminating downtime and repair costs.
- Pumped liquid is 100% contained, eliminating environmental risks, ground contamination and volatile emissions.
- Seal-less design eliminates leaks, hazards and costs associated with seals and plunger packing.
- Exceeds API 675 standards for accuracy, linearity and repeatability.
- Wider range and higher inlet pressures to 34 barg.
- Self-priming – eliminates need for charge pumps.
- Unique diaphragm design reliably handles a wide range of viscosities and shear sensitivities, corrosive liquids, abrasives, slurries and suspended solids.
- Lower total cost of ownership in acquisition, operation, service, maintenance, and energy use.

WANNER™

WANNER INTERNATIONAL, LTD.

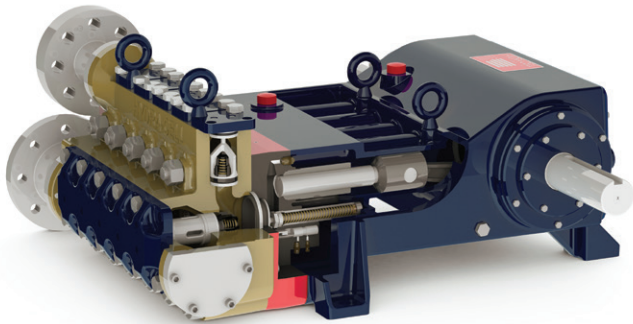
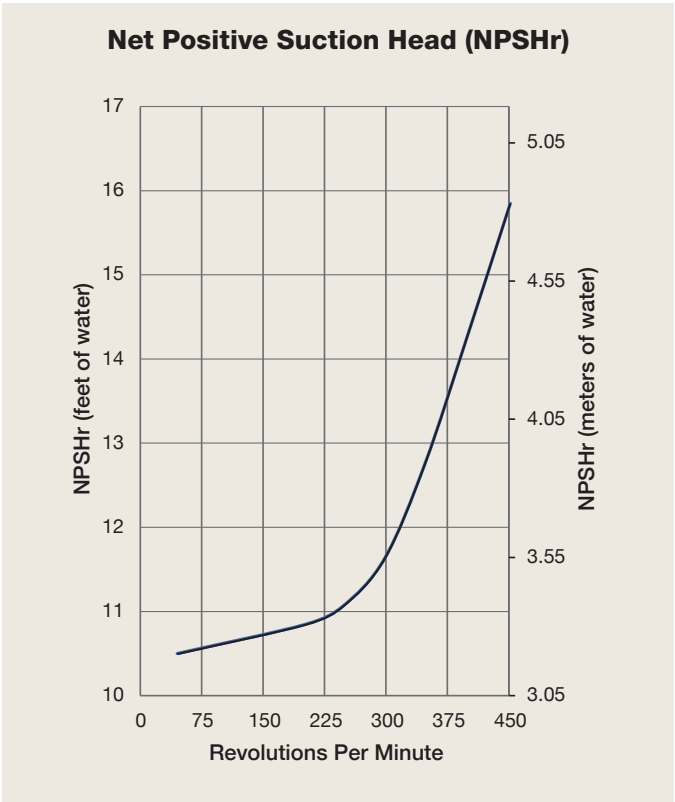
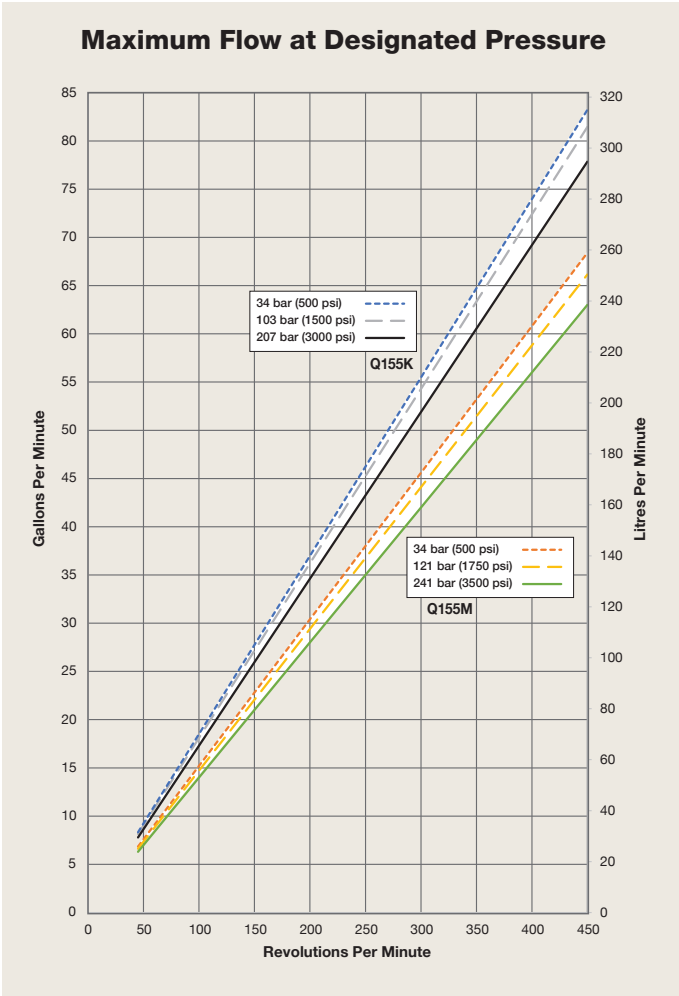
HYDRA-CELL.CO.UK

Q155 Pro Medium Pressure | Performance

Capacities

Model	Max. Input rpm	Plunger Dia. inches mm		Max. Flow Capacities US gpm l/min BPD			Max. Pressure Ratings			
							Discharge		Inlet	
							bar	psi	bar	psi
Q155K	450	1.750	44	75	284	2571	207	3000	34	500
Q155M	450	1.625	41	63	238	2160	241	3500	34	500

Consult factory when operating below 40 rpm



Hydra-Cell Pro Q155 is a positive displacement, multiple-diaphragm pump featuring a seal-less design that provides full containment of the pumping chamber. This means there are no VOC emissions when operating Hydra-Cell and no packing or dynamic seals that pose environmental issues from leakage.

Note: Each pump complies with item 6.8.2 of API 674 across the full performance range.

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

Q155 Pro Medium Pressure | Specifications

Flow Capacities

Model	Pressure bar (psi)	rpm	US gpm	l/min	BPD
Q155K	207 (3000)	450	75	284	2571
Q155M	241 (3500)	450	63	238	2160

Delivery

	Pressure bar (psi)	gal/rev	litres/rev
Q155K	34 (500)	0.178	0.674
	103 (1500)	0.174	0.658
	207 (3000)	0.167	0.634
Q155M	34 (500)	0.153	0.579
	121 (1750)	0.148	0.559
	241 (3500)	0.140	0.531

rpm

Maximum:	450
Minimum:	45

Consult factory for speeds less than 45 rpm.

Maximum Discharge Pressure

Metallic Heads:	Q155K 207 bar (3000 psi)
	Q155M 241 bar (3500 psi)

Maximum Inlet Pressure 34 bar (500 psi)

Operating Temperature

Maximum Liquid Temperature:	82.2°C (180°F)
Minimum:	4.4°C (40°F)

Consult factory for temperatures outside this range.

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

Maximum Solids Size 800 microns

Input Shaft Left or Right Side

Inlet Ports Weld-On: 4" / SCH. 40 4" NPT, 4" Class 300 RF ANSI Flange

Discharge Ports Weld-On 2" / SCH. 160 2" NPT, 2" Class 2500 RTJ ANSI Flange

Plunger Stroke Length 88.9 mm (3-1/2 inch)

Shaft Diameter 76.2 mm (3 inch)

Shaft Rotation Uni-directional (See rotation arrow.)

Calculating Required Horsepower (kW)*

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

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

* 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.

Oil Capacity

33.1 litres (35 US quarts)
- blank back cover
32.2 litres (34 US quarts)
- oil level back cover

See page 5 for oil selection and specification.

Weight

Metallic Heads:	771 kg (1700 lbs.)
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Fluid End Materials

Manifold:	Nickel Aluminum Bronze (NAB) Duplex Alloy 2205 Stainless Steel 316L Stainless Steel CF3M Hastelloy CX2MW
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Diaphragm/Elastomers:	FKM Buna-N Aflas EPDM
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Diaphragm Follower Screw:	316 Stainless Steel Duplex Alloy 2205 Stainless Steel Hastelloy C
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Valve Spring Retainer:	Polypropylene PVDF 316 SST
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Check Valve Spring:	Hastelloy C Elgiloy Hastelloy C
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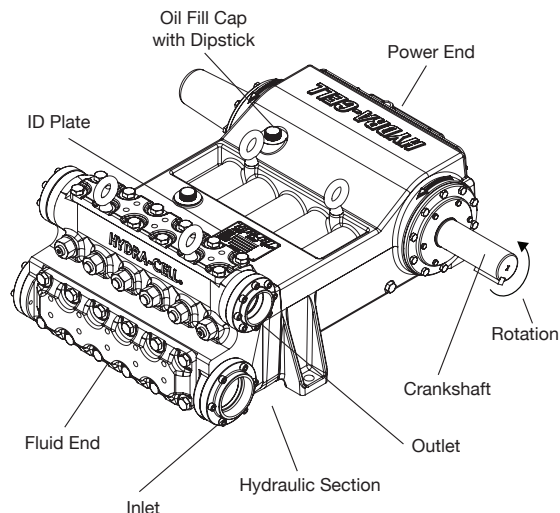
Valve Disc/Seat:	Tungsten Carbide 17-4 Stainless Steel Nitronic 50
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Plug-Outlet Valve Port:	Hastelloy C 316 Stainless Steel Duplex Alloy 2205 Stainless Steel
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Inlet/Outlet Valve Retainer:	Hastelloy C 316 Stainless Steel Duplex Alloy 2205 Stainless Steel
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Power End Materials

Crankshaft:	Forged Q&T Alloy Steel
Connecting Rods:	Ductile Iron
Crossheads:	12L14 Steel
Crankcase:	Ductile Iron
Bearings:	Spherical Roller (outer mains) Steel Backed Babbitt (crankpin) Bronze (wristpin, centre mains)

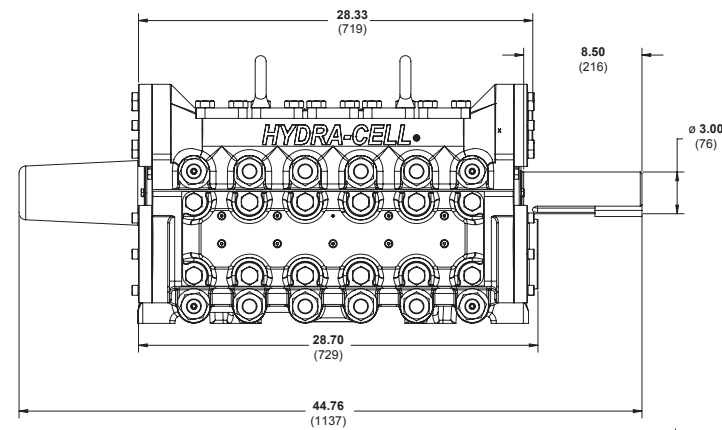


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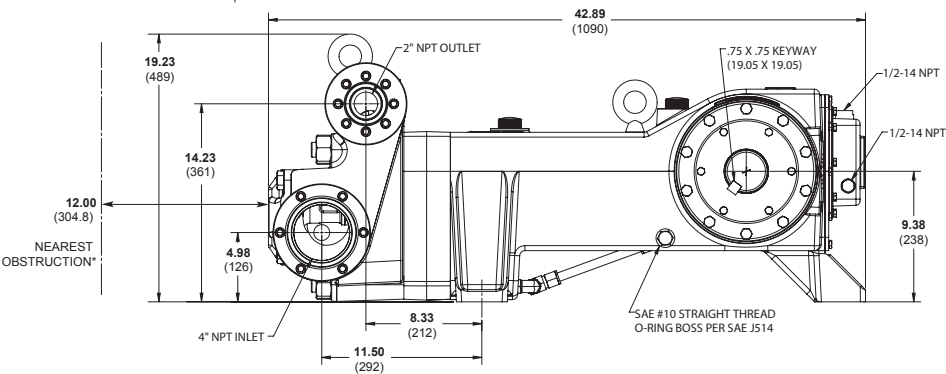
Q155 Pro Medium Pressure | Representative Drawings

Threaded Version inches (mm)

Front View

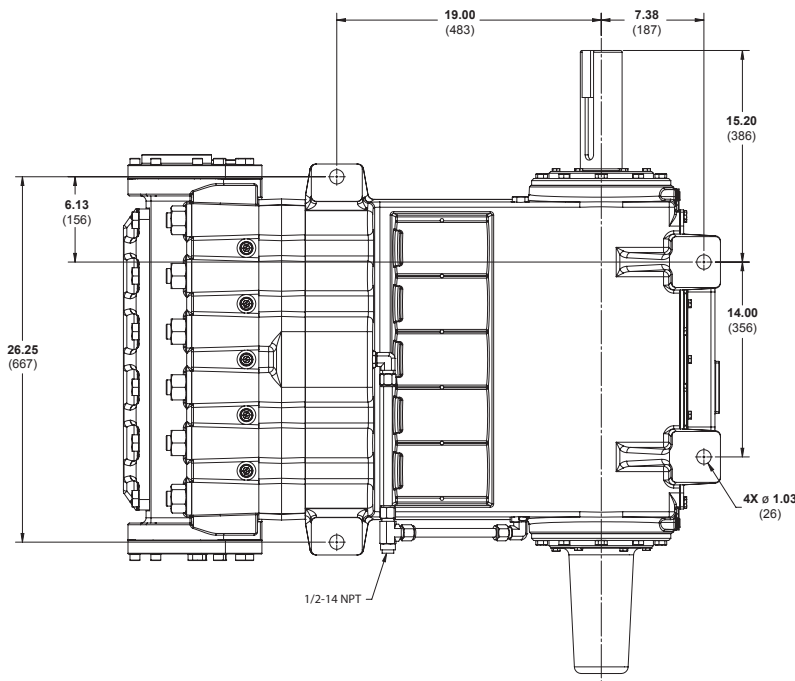


Side View



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

Bottom View



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

Q155 Pro Medium Pressure | How to Order

Ordering Information

A complete Q155 Pro Series Medium Pressure Model contains 14 digits including 10 customer-specified design and materials options, for example: Q155KADTHFEMAC.

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

Q155 Medium Presssure

Digit	Order Code	Description
1-4	Q155	Pump Configuration Shaft-driven API 674 - Contact Wanner International
5	K	Performance Max. 284 l/min (75 US gpm) 2571 BPD @ 207 bar (3000 psi)
	M	Max. 238 l/min (63 US gpm) 2160 BPD @ 241 bar (3500 psi)
6	A	Pump Head Version NPT Ports (for NAB only)
	C	Weld Neck (Steel)
	D	Weld Neck (316L Stainless Steel)
	E	Weld Neck (Hastelloy)
	F	Weld Neck (Duplex Alloy 2205 Stainless Steel)
	G	ANSI Flanged Ports (Duplex Alloy 2205 Stainless Steel)
	R	ANSI Flanged Ports (Steel)
	S	ANSI Flanged Ports (316L Stainless Steel)
	T	ANSI Flanged Ports (Hastelloy)
7	D	Pump Head Material Nickel Aluminium Bronze (NAB)
	G	Duplex Alloy 2205 Stainless Steel
	S	316L Stainless Steel CF3M
	T	Hastelloy CX2M
8	A	Diaphragm & O-ring Material Aflas
	E	EPDM (requires EPDM-compatible oil - digit 13 code D)
	G	FKM
	T	Buna-N (HBNR)
9	D	Valve Seat Material Tungsten Carbide*
	H	17-4 Stainless Steel
	N	Nitronic 50
	T	Hastelloy C
10	D	Valve Material Tungsten Carbide*
	F	17-4 Stainless Steel
	N	Nitronic 50
	T	Hastelloy C

Digit	Order Code	Description
11	D	Valve Springs Elgiloy for Tungsten Carbide valves*
	E	E Elgiloy
	H	Hastelloy C for Tungsten Carbide valves*
	T	Hastelloy C
12	M	Valve Spring Retainers* PVDF
	P	Polypropylene
	S	316 SST
	T	Hastelloy C
13	A	Hydra-Oil 10W30 standard-duty oil
	B	40-wt. oil
	D	EPDM-compatible oil
	M	Food-contact oil
	H	15W50 high-temp severe-duty synthetic oil
14	C	Oil Level Monitor Cover Float Switch, normally closed (recommended)
	O	Float Switch, normally open
	S	Float switch, Class I, Div. 1, Groups A, B, C, D, normally closed
	T	Float switch, Class I, Div. 1, Groups A, B, C, D, normally open
	W	Float switch, ATEX/IECEx, 4-20 mA analog output (qualification required***)
	X	Float switch, ATEX/IECEx, discrete output (qualification required**)

* Tungsten Carbide valve seat and disc are a matched set and must be purchased together - and only available with non-metallic retainers.

** 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 Q155 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.



ATEX Certification Kit Options

As a separate line on your order, please add the required ATEX Certification Kit Option.

- ATEX 2014/34/EU Certified, Category 2, Zone 1
- ATEX 2014/34/EU Certified, Category 3, Zone 2

- All options include Certificate, Oil Level Monitor or Sight Glass, Earth Stud & Secondary ATEX Label.
- Extra oil is required to fill the oil bowl during installation of ATEX pumps. This oil is not included and must be ordered separately.

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