

Q155 PRO SERIES LOW PRESSURE

Maximum Flow Rate: 594 l/min (157 US gpm) 5383 BPD
Maximum Pressure: 145 bar (2100 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.

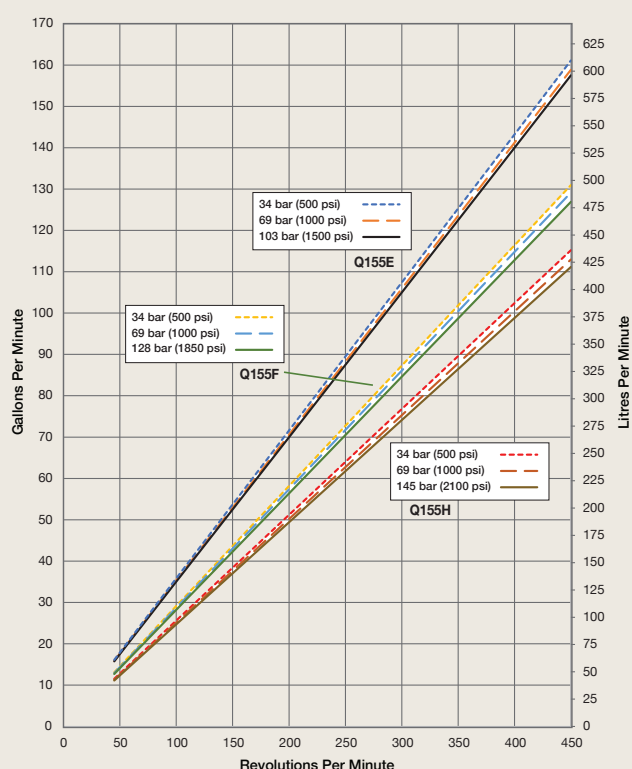
Q155 Pro Low Pressure | Performance

Capacities

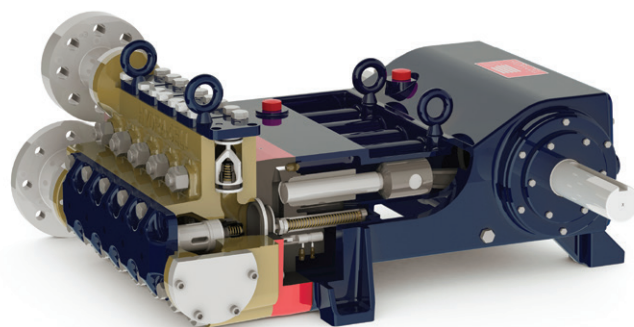
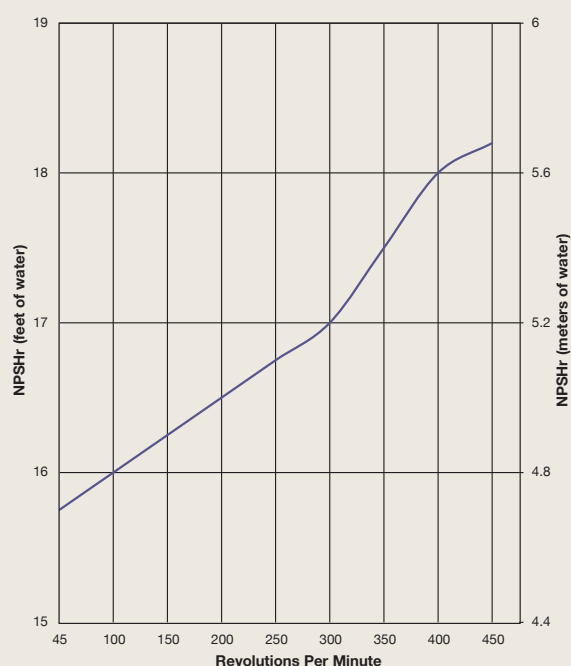
Model	Max. Input rpm	Plunger Dia. inches mm		Max. Flow Capacities US gpm l/min BPD			Max. Pressure Ratings			
							Discharge		Inlet	
							bar	psi	bar	psi
Q155E	450	2.500	64	157	594	5383	103	1500	34	500
Q155F	450	2.250	57	127	480	4354	128	1850	34	500
Q155H	450	2.125	54	111	420	3806	145	2100	34	500

Consult factory when operating below 45 rpm

Maximum Flow at Designated Pressure



Net Positive Suction Head (NPSHr)



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 Low Pressure | Specifications

Flow Capacities

Model	Pressure bar (psi)	rpm	US gpm	l/min	BPD
Q155E	103 (1500)	450	157	594	5383
Q155F	128 (1850)	450	127	480	4354
Q155H	145 (2100)	450	111	420	3806

Delivery

	Pressure bar (psi)	gal/rev	litres/rev
Q155E	34 (500)	0.358	1.354
	69 (1000)	0.353	1.338
	103 (1500)	0.350	1.323
Q155F	34 (500)	0.291	1.102
	69 (1000)	0.287	1.085
	128 (1850)	0.282	1.068
Q155H	34 (500)	0.256	0.967
	69 (1000)	0.251	0.951
	145 (2100)	0.247	0.936

rpm

Maximum:	450
Minimum:	45

Consult factory for speeds less than 45 rpm.

Maximum Discharge Pressure

Metallic Heads:	Q155E	103 bar (1500 psi)
	Q155F	128 bar (1850 psi)
	Q155H	145 bar (2100 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 this range.

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: 3" / SCH. 80 3" NPT, 3" Class 900 RF ANSI Flange

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

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.

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Shaft Diameter 76.2 mm (3 inch)

Shaft Rotation Uni-directional (See rotation arrow.)

Oil Capacity 30.3 litres (32 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.)

Fluid End Materials

Manifold: Nickel Aluminum Bronze (NAB)
Duplex Alloy 2205 Stainless Steel
316L Stainless Steel CF3M
Hastelloy CX2MW

Diaphragm/Elastomers:

FKM

Buna-N

Aflas

EPDM

Diaphragm Follower Screw: 316 Stainless Steel

Duplex Alloy 2205 Stainless Steel

Hastelloy C

Valve Spring Retainer:

316 SST

Hastelloy C

Check Valve Spring:

Elgiloy

Hastelloy C

Valve Disc/Seat:

Tungsten Carbide

17-4 Stainless Steel

Nitronic 50

Hastelloy C

Plug-Outlet Valve Port:

316 Stainless Steel

Duplex Alloy 2205 Stainless Steel

Hastelloy C

Inlet/Outlet Valve Retainer:

316 Stainless Steel

Duplex Alloy 2205 Stainless Steel

Hastelloy C

Power End Materials

Crankshaft: Forged Q&T Alloy Steel

Connecting Rods: Ductile Iron

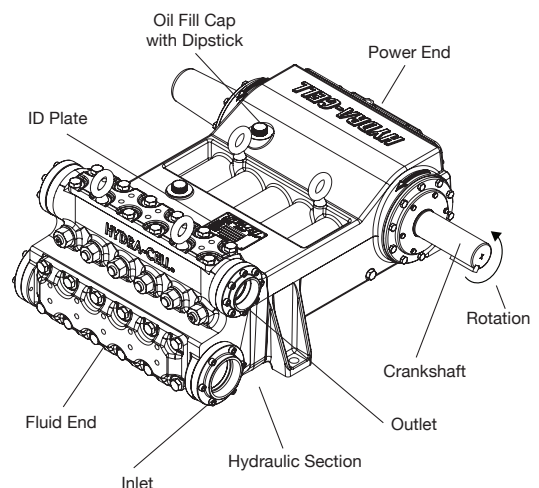
Crossheads: 12L14 Steel

Crankcase: Ductile Iron

Bearings: Spherical Roller (outer mains)

Steel Backed Babbitt (crankpin)

Bronze (wristpin, center mains)



Q155 Pro Low Pressure | How to Order

Ordering Information

A complete Q155 Pro Series Low Pressure Model contains 14 digits including 10 customer-specified design and materials options, for example: Q155EADTHFESAC.

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

Q155 Low Pressure

Digit	Order Code	Description
1-4	Q155	Pump Configuration Shaft-driven API 674 - Contact Wanner International
5		Performance
	E	Max. 594 l/min (157 US gpm) 5383 BPD @ 103 bar(1500 psi)
	F	Max. 480 l/min (127 US gpm) 4354 BPD @ 128 bar (1850 psi)
	H	Max. 420 l/min (111 US gpm) 3806 BPD @ 145 bar (2100 psi)
6		Pump Head Version
	A	NPT Threaded Ports (Steel)
	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		Pump Head Material
	D	Nickel Aluminium 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 code D)
	G	FKM
	T	Buna-N (HBNR)
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

Digit	Order Code	Description
11		Valve Springs
	D	Elgiloy for Tungsten Carbide valves*
	E	Elgiloy
	T	Hastelloy C
12		Valve Spring Retainers
	S	316 SST
	T	Hastelloy C
13		Hydra-Oil
	A	10W30 standard-duty oil
	B	40-wt. oil
	D	EPDM-compatible oil
	H	15W50 high-temp severe-duty synthetic oil
	M	Food-contact 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 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.

** 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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