# Q155 Series Medium Pressure
# Models Q155K & Q155M

Maximum Flow Rate: 78 gpm (295 l/min) 2674 BPD
Maximum Pressure: 3500 psi (241 bar)

Hydra-Cell® Seal-less Pumps


**Available to Meet API 674!**

*Q155 Series medium-pressure model with Nickel Aluminum Bronze (NAB) pump head.*

- 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.

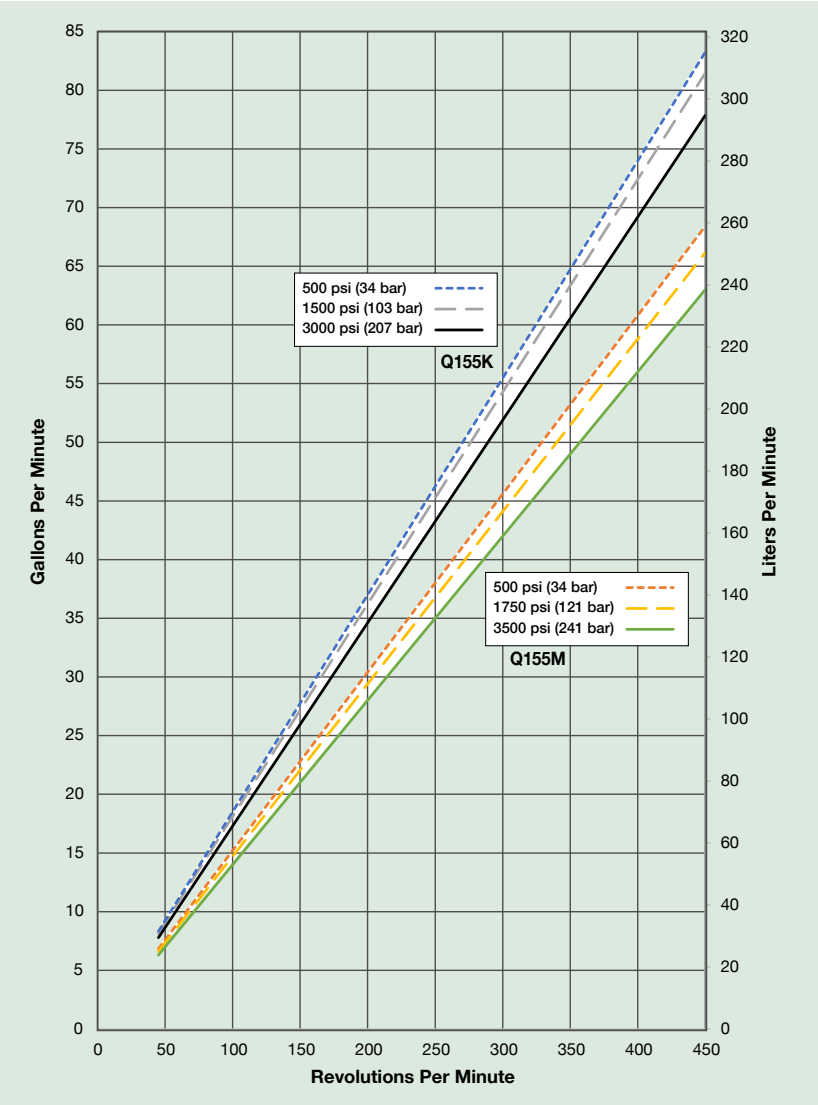
# Q155 Medium Pressure Performance

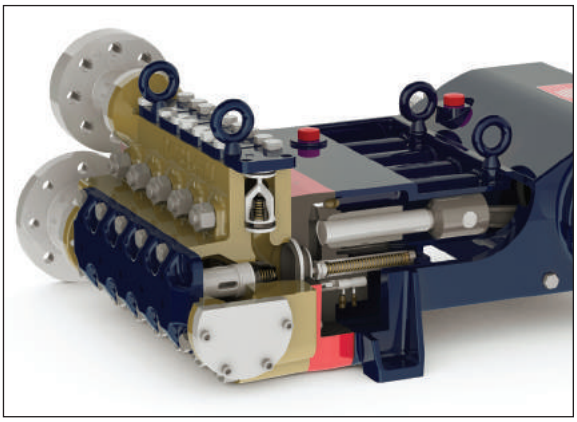
## Capacities

| Model | Max. Input rpm | Plunger Dia. Inches | Plunger Dia. mm | Max. Flow Capacities gpm | Max. Flow Capacities l/min | Max. Flow Capacities BPD | Max. Pressure Ratings Discharge psi | Discharge bar | Inlet psi | Inlet bar |
|---|---|---|---|---|---|---|---|---|---|---|
| Q155K | 450 | 1.750 | 44 | 78 | 295 | 2674 | 3000 | 207 | 500 | 34 |
| Q155M | 450 | 1.625 | 41 | 63 | 238 | 2160 | 3500 | 241 | 500 | 34 |

**Consult factory when operating below 45 rpm.**

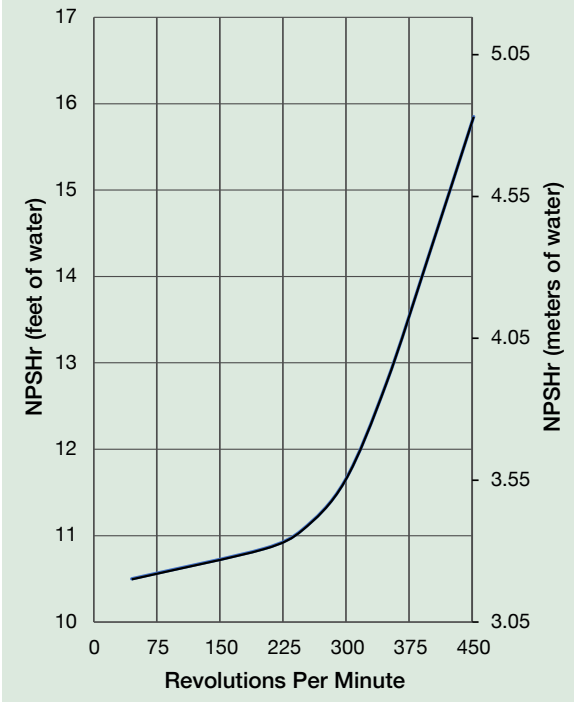
## Maximum Flow at Designated Pressure



*Hydra-Cell 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.*

## Net Positive Suction Head (NPSHr)




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

# Q155 Medium Pressure Specifications

**Flow Capacities**

| Model | Pressure psi (bar) | rpm | gpm | l/min | BPD |
|---|---|---|---|---|---|
| Q155K | 3000 (207) | 450 | 78 | 295 | 2674 |
| Q155M | 3500 (241) | 450 | 63 | 238 | 2160 |

**Delivery**

| | Pressure psi (bar) | gal/rev | liters/rev |
|---|---|---|---|
| Q155K | 500 (34) | 0.185 | 0.700 |
| | 1500 (103) | 0.181 | 0.685 |
| | 3000 (207) | 0.173 | 0.654 |
| Q155M | 500 (34) | 0.152 | 0.575 |
| | 1750 (121) | 0.147 | 0.556 |
| | 3500 (241) | 0.140 | 0.530 |

**rpm**

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

**Maximum Discharge Pressure**

Metallic Heads: Q155K 3000 psi (207 bar)
Q155M 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** Weld-On: 4" / SCH. 40
4" NPT, 4" Class 300 RF ANSI

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

**Plunger Stroke Length** 3.5 Inches (88.9 mm)

**Shaft Diameter** 3 inch (76.2 mm)

**Shaft Rotation** Uni-directional (See rotation arrow.)

**Oil Capacity** 32 US quarts (30.3 liters) - blank back cover
34 US quarts (32.2 liters) - oil level back cover
See page 5 for oil selection and specification.

**Weight**

Metallic Heads: 1700 lbs. (771 kg)

**Calculating Required Horsepower (kW)***

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

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

** hp (kW) is required application power.*

**Attention!**

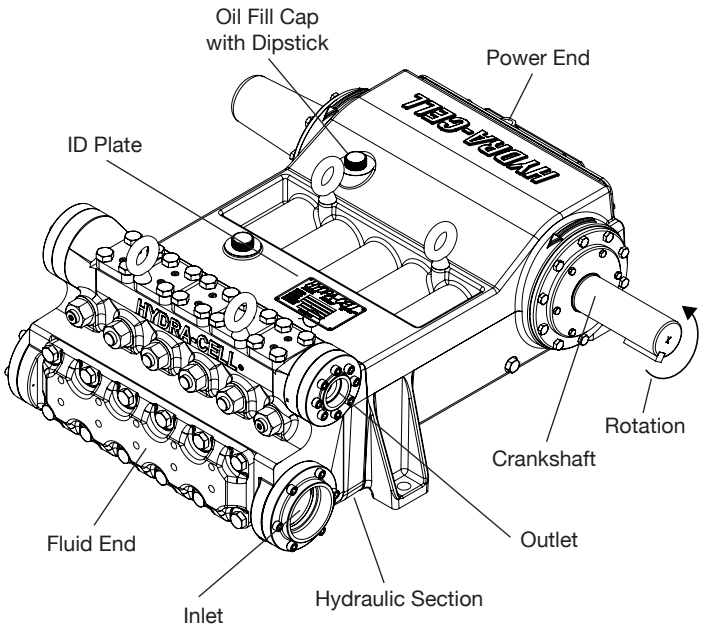
When sizing motors with variable speed drives (VFD): It is very important to select a motor and a VFD rated for constant torque inverter duty service and that the motor is rated to meet the torque requirements of the pump throughout desired speed range.

**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: | Polypropylene |
| | PVDF |
| | 316 SST |
| | Hastelloy C |
| Check Valve Spring: | Elgiloy |
| | Hastelloy C |
| Valve Disc/Seat: | Tungsten Carbide |
| | 17-4 Stainless Steel |
| | Nitronic 50 |
| | Hastelloy C |
| Outlet Valve Retainer: | 316 Stainless Steel |
| Plug-Outlet Valve Port: | 316 Stainless Steel |
| Inlet Valve Retainer: | 316 Stainless Steel |

**Power End Materials**

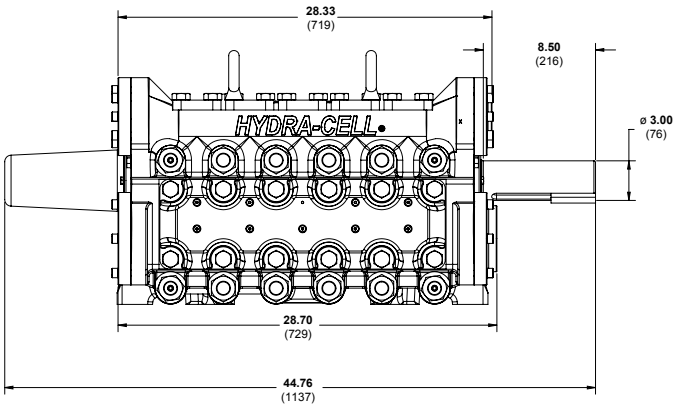
| | |
|---|---|
| Crankshaft: | Forged Q&T Alloy Steel |
| Connecting Rods: | Ductile Iron |
| Crossheads: | 12L14 Steel |
| Crankcase: | Ductile Iron |
| Bearings: | Spherical Roller/Bronze Journal (outer mains) |
| | Steel Backed Babbitt (crankpin) |
| | Bronze (wristpin, center mains) |



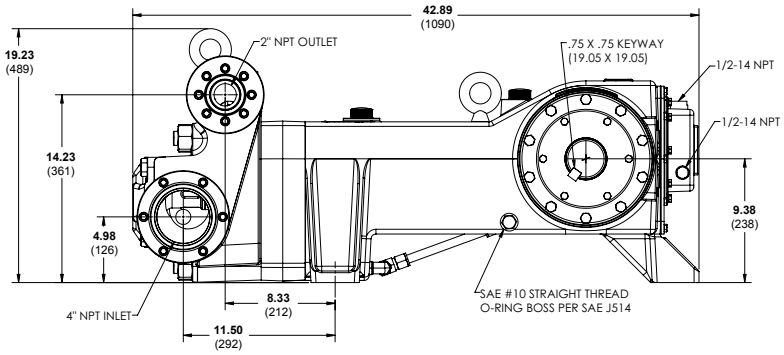
# Q155 Medium Pressure Drawings

## Threaded Version Inches (mm)

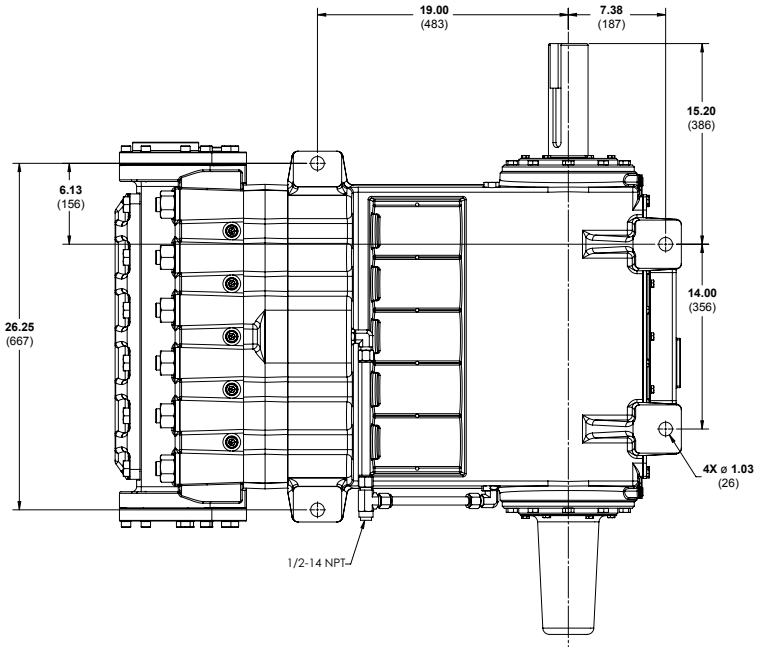
### Front View




### Side View




### Bottom View




***Note:*** *Representative drawings only. Contact factory for additional drawings of specific models and configurations.*

# Q155 Medium Pressure How to Order

## Ordering Information

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

A complete Q155 Series Medium Pressure Model contains 14 digits including 10 customer-specified design and materials options, for example: Q155MRSTDDESEC.

## Medium Pressure

| Digit | Order Code | Description |
|---|---|---|
| **1-4** | | **Pump Configuration** |
| | Q155 | Shaft-driven |
| **5** | | **Performance** |
| | K | Max. 78 gpm (295 l/min) 2674 BPD @ 3000 psi (207 bar) |
| | M | Max. 63 gpm (238 l/min) 2160 BPD @ 3500 psi (241 bar) |
| **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) |
| | G | ANSI Flange Ports (Duplex Alloy 2205) |
| | R | ANSI Flange Ports (Steel) |
| | S | ANSI Flange Ports (316L Stainless Steel) |
| | T | ANSI Flange Ports (Hastelloy) |
| **7** | | **Pump Head Material** |
| | D | Nickel Aluminum Bronze (NAB) |
| | G | Duplex Alloy 2205 Stainless Steel |
| | S | 316 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 |

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

| Digit | Order Code | Description |
|---|---|---|
| **11** | | **Valve Springs** |
| | E | Elgiloy |
| | T | Hastelloy C |
| **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 |
| | X | Float switch, ATEX/IECEx, discrete output, normally closed |
| | Y | No switch, flat back cover |

**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.

# Hydra-Cell®
## Seal-less Pumps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