

Hydra-Cell[®]

Seal-less Pumps



Hydra-Cell® Seal-less Pumps

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CERTIFIED**

“If the owner of a plant wants cost-effective pumps...he will buy pumps with the lowest Life Cycle Cost. Hydra-Cell is simple in construction, less elaborate in design and physically smaller for equivalent flow/pressure performance. These differences can substantially affect both purchase and operating costs.”

Dr. Ing Friedrich Wilhelm Hennecke
Chemical Engineering World

Hydra-Cell®
Seal-less Pumps

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Hydra-Cell® Provides Versatile, Reliable Performance



Seal-less Design Advantages

- Positive displacement pump with hydraulically balanced, unstressed diaphragms.
- Seal-less design can handle abrasive particulates (up to 800 microns in size depending on model) and solids in suspension.
- Wide range of flow capacities and pressure ratings to meet a variety of applications in many industries.
- Heavy-duty construction for long service life in harsh conditions.
- Flexible installation with a variety of mounting configurations.
- Repeatable, accurate output with smooth, linear, virtually pulse-free flow.
- High efficiency, low power consumption.
- Minimal maintenance, no mechanical seals, cups, or packing to leak, wear, or replace.
- Can run dry without damage to the pump.

Fluid Handling Capability

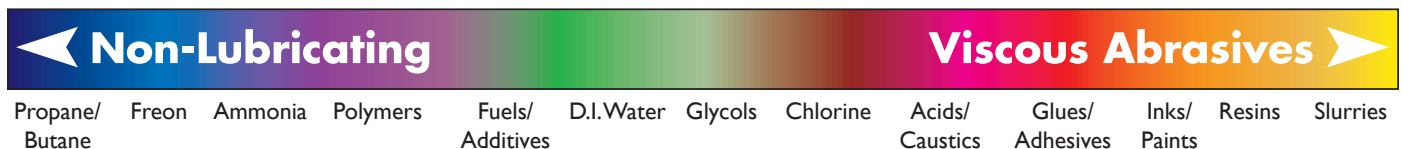
From thin liquids to highly viscous resins and slurries, Hydra-Cell pumps can handle the full spectrum of process fluids while maintaining high-efficiency operation. This includes non-lubricating fluids as well as fluids with abrasives that can damage or destroy other types of pumps.

Primary Pumping Applications

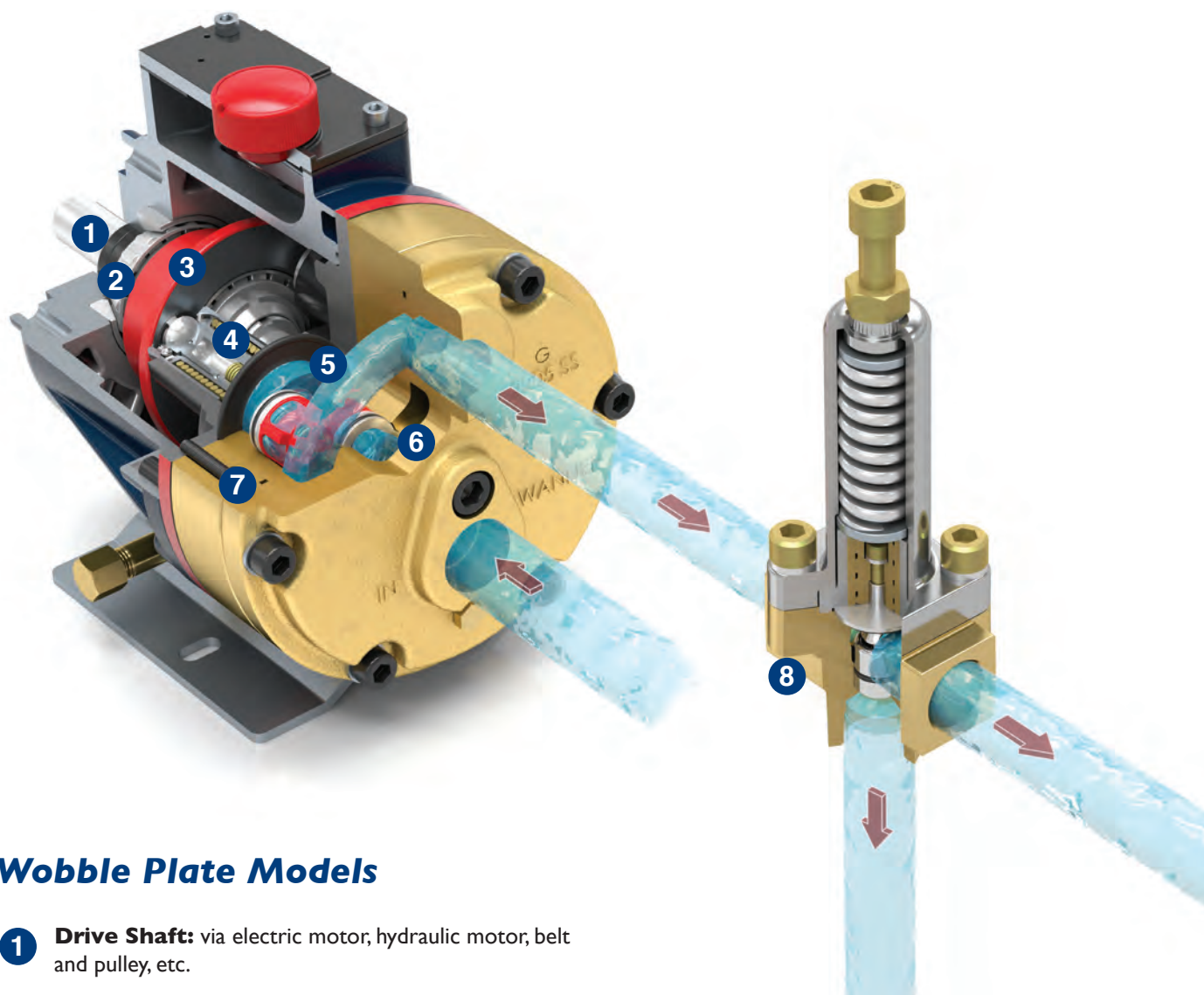
- Adding
- Blending
- Cleaning
- Cooling
- Coating
- Dosing
- Filling
- Filtering
- Injecting
- Metering
- Mixing
- Spraying
- Transferring

Materials of Construction Selection

- Metallic pump heads in several materials to handle higher pressures and to accommodate SAE, DIN, or ANSI flanges (where available).
- Non-metallic pump heads to process corrosive or aggressive fluids at lower pressures.
- Diaphragms and corresponding o-rings in various elastomeric materials.
- Valve assemblies in a wide range of metallic and non-metallic materials to suit specific process applications. Includes valve seats, valves, valve springs, and valve spring retainers.



Hydra-Cell® Principles of Operation



Wobble Plate Models

- 1 Drive Shaft:** via electric motor, hydraulic motor, belt and pulley, etc.
- 2 Tapered Roller Bearings:** rigid support, immersed in lubricating oil bath.
- 3 Fixed Angle Cam/Wobble Plate:** translates rotary motion into linear to the hydraulic cells.
- 4 Hydraulic Cells (patented):** displace diaphragms via pressurized oil.
- 5 Diaphragms:** hydraulic balanced, no stress during flexing.
- 6 Inlet Valve Assembly:** simple design, allows liquid into pump chamber.
- 7 Discharge Valve Assembly:** allows liquid to flow into pressure discharge line.
- 8 C62 Pressure Regulating Valve:** controls output pressure and prevents pump overload.

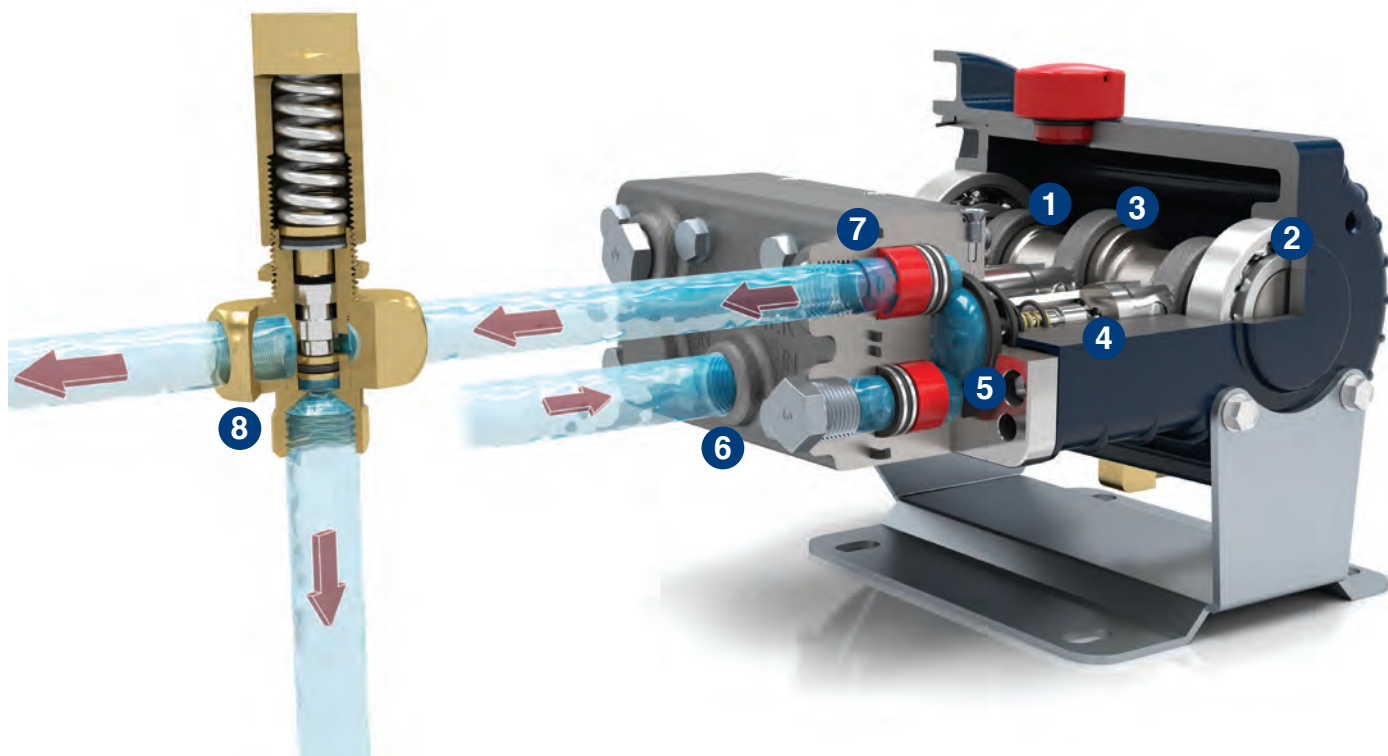
Patented Diaphragm Position Control

Diaphragm Position Control (DPC) technology protects Hydra-Cell Pumps by safeguarding the diaphragms against abnormal or adverse conditions (e.g. blocked pipe or filter; inadequate liquid supply or discharge pressure).

The positioning system stabilizes the diaphragms and virtually eliminates the possibility of incidental diaphragm failure.

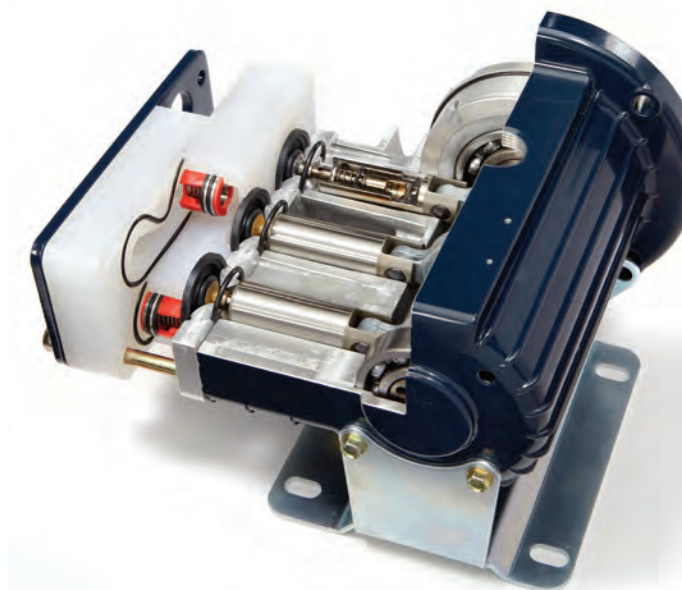


Hydra-Cell® Principles of Operation



Crank-shaft Models

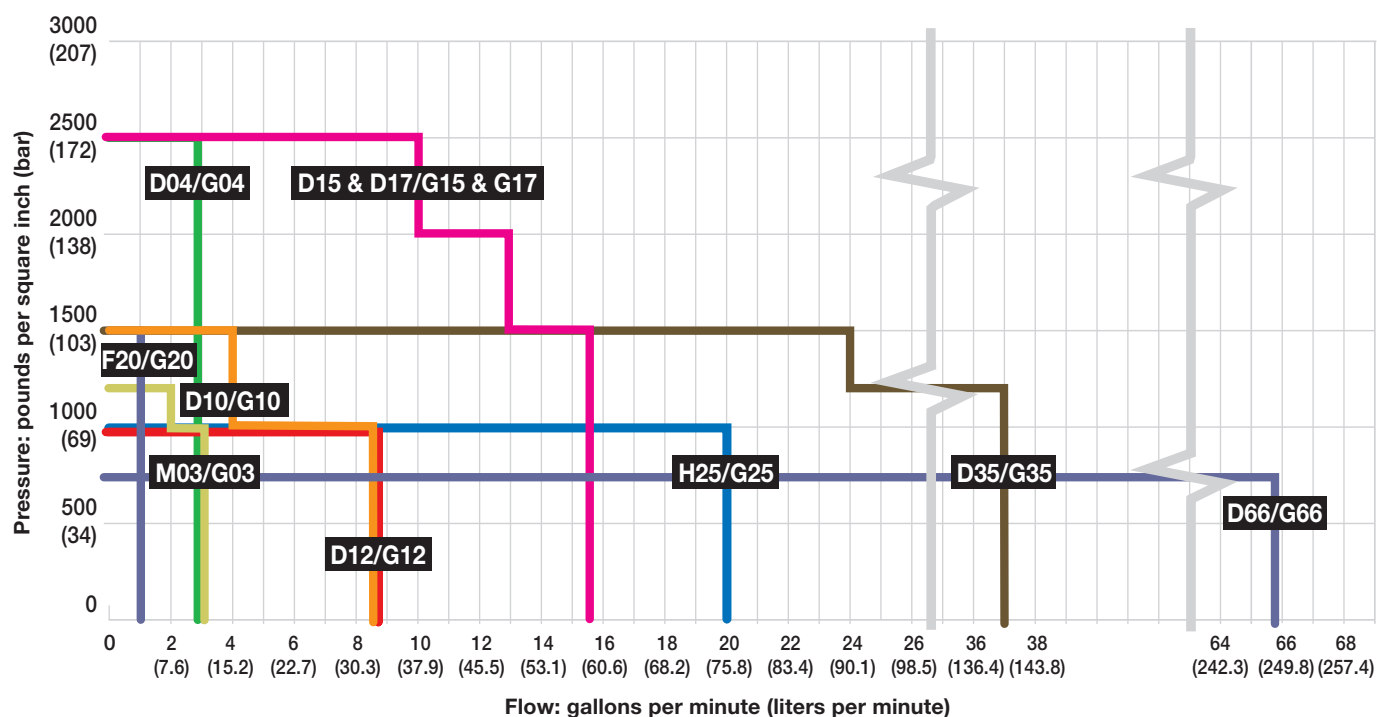
- 1 **Drive Shaft:** via electric motor, hydraulic motor, belt and pulley, etc.
- 2 **Precision Ball Bearings:** rigid support, immersed in lubricating oil bath.
- 3 **Connecting Rods:** hardened, precision ground, and polished.
- 4 **Hydraulic Cells (patented):** displace diaphragms via pressurized oil.
- 5 **Diaphragms:** hydraulically balanced, no stress during flexing.
- 6 **Inlet Valve Assembly:** simple design, allows liquid into pump chamber.
- 7 **Discharge Valve Assembly:** allows liquid to flow into discharge pressure line.
- 8 **C46 Pressure Regulating Valve (In-line):** controls output pressure and prevents pump overload.



“Cut-away” view of a Hydra-Cell crank-shaft model shows the patented hydraulic assembly, multiple-diaphragm design, and horizontal disk check valve inlet and discharge assemblies.

Hydra-Cell® Flow Capacities and Pressure Ratings

F/M/D/H Series and G Series Seal-less Pumps



The graph above displays the maximum flow capacity at a given pressure for each model series. The table below lists the maximum flow capacity and maximum pressure capability of each model series.

Please Note: Some models do not achieve maximum flow at maximum pressure. Refer to the individual model Performance graphs on subsequent pages for precise flow and pressure capabilities by specific pump configuration.

Note: G Series Hydra-Cell Seal-less Pumps are the metric versions of the pumps.

Model ¹	Maximum Capacity gpm (l/min)	Maximum Discharge Pressure psi (bar)		Maximum Operating Temperature F (C) ³		Maximum Inlet Pressure psi (bar)
		Non-metallic ²	Metallic	Non-metallic ²	Metallic	
F20/G20	1.0 (3.8)	350 (24)	1500 (103)	140° (60°)	250° (121°)	250 (17)
M03/G03	3.1 (11.7)	350 (24)	1200 (83)	140° (60°)	250° (121°)	250 (17)
D04/G04	2.9 (11.2)	N/A	2500 (172)	N/A	250° (121°)	500 (34)
D10⁴/G10⁴	4.3 (15.1)	N/A	1500 (103)	N/A	250° (121°)	250 (17)
D10/G10	8.8 (33.4)	350 (24)	1000 (69)	140° (60°)	250° (121°)	250 (17)
D12/G12	8.8 (33.4)	N/A	1000 (69)	N/A	250° (121°)	250 (17)
D15 & D17/ G15 & G17	15.5 (58.7)	N/A	2500 (172)	N/A	250° (121°)	500 (34)
H25/G25	20.0 (75.9)	350 (24)	1000 (69)	140° (60°)	250° (121°)	250 (17)
D35⁵/G35⁵	23.1 (87.5)	N/A	1500 (103)	N/A	250° (121°)	250 (17)
D35/G35	36.5 (138)	N/A	1200 (83)	N/A	250° (121°)	500 (34)
D66/G66	65.7 (248.7)	250 (17)	700 (48)	120° (49°)	200° (93.3°)	250 (17) ⁶

¹ Ratings are for cam design with the highest flow rate.

² 350 psi (24 bar) maximum with PVDF liquid end; 250 psi (17 bar) maximum with Polypropylene liquid end.

³ Consult factory for correct component selection for temperatures from 160°F (71°C) to 250°F (121°C).

⁴ D10/G10 @ 790 rpm maximum.

⁵ D35/G35 @ 700 rpm maximum; consult factory for pressures above 1200 psi (83 bar).

⁶ D66/G66 maximum inlet pressure 50 psi (3.4 bar) for non-metallic models.

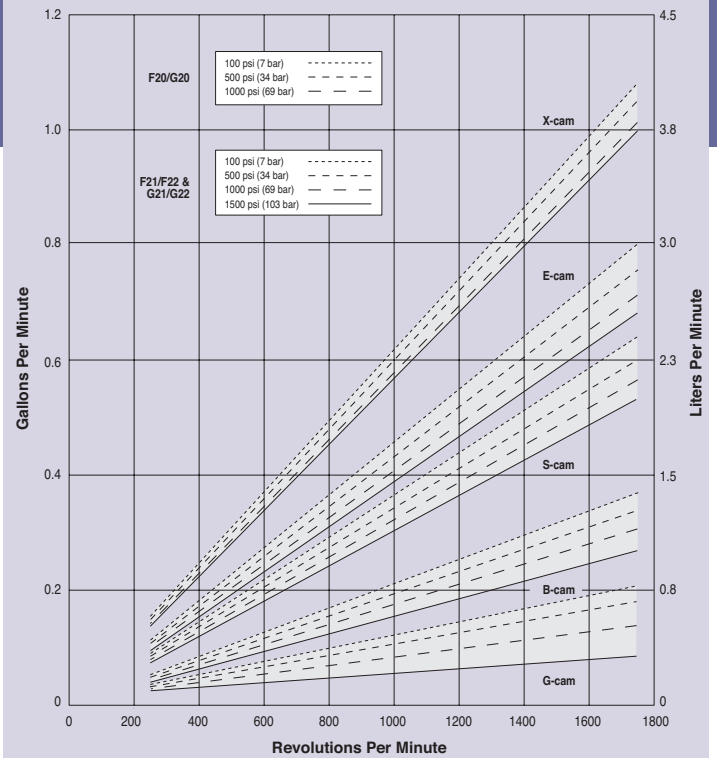
F20/G20 Series

Maximum Flow Rate: 1.0 gpm (3.8 l/min)
Maximum Pressure: 1500 psi (103 bar) for Metallic Pump Heads
350 psi (24 bar) for Non-metallic Pump Heads



F20/G20 close-coupled for 56C frame or IEC 80 footed motors shown. F21/G21 models are shaft driven. F22 models are flexible-coupled to 56C, 143TC and 145TC frame motors; G22 models to IEC 80 - 90 B5 frame motors. Pump head materials include (metallic) Brass, 316L Stainless Steel and Hastelloy C and (non-metallic) Polypropylene and PVDF.

Maximum Flow at Designated Pressure



S, B & G cam options based on 10 psi (0.7 bar) inlet pressure.

M03/G03 Series

Maximum Flow Rate: 3.1 gpm (11.7 l/min)
Maximum Pressure: 1200 psi (83 bar) for Metallic Pump Heads
350 psi (24 bar) for Non-metallic Pump Heads

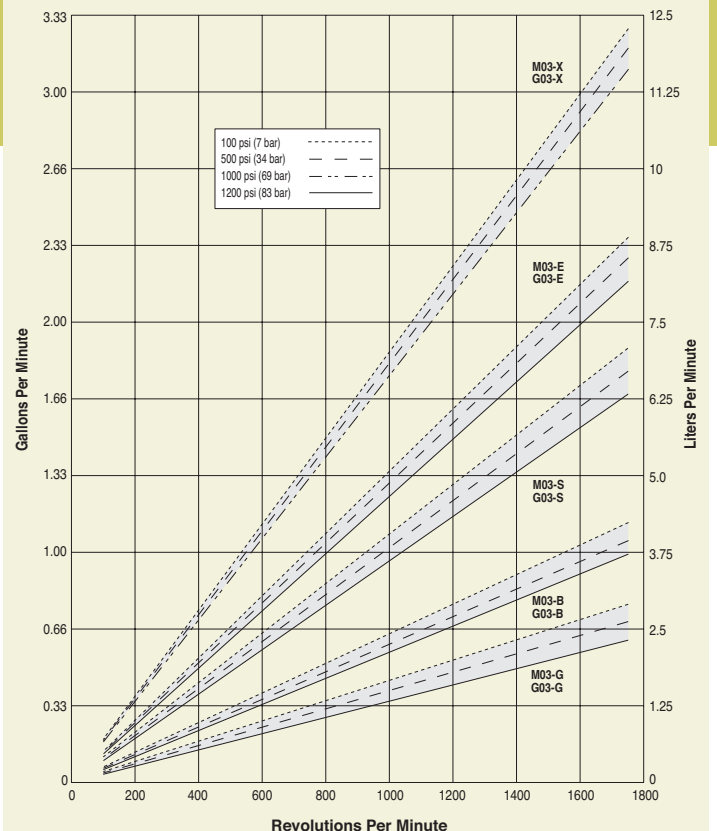


M03/G13 close-coupled with Polypropylene pump head. Also available in (metallic) Brass, 316L Stainless Steel, Hastelloy CW12MW and (non-metallic) PVDF pump heads.



D03/G03 shaft-driven with 316L Stainless Steel pump head.

Maximum Flow at Designated Pressure



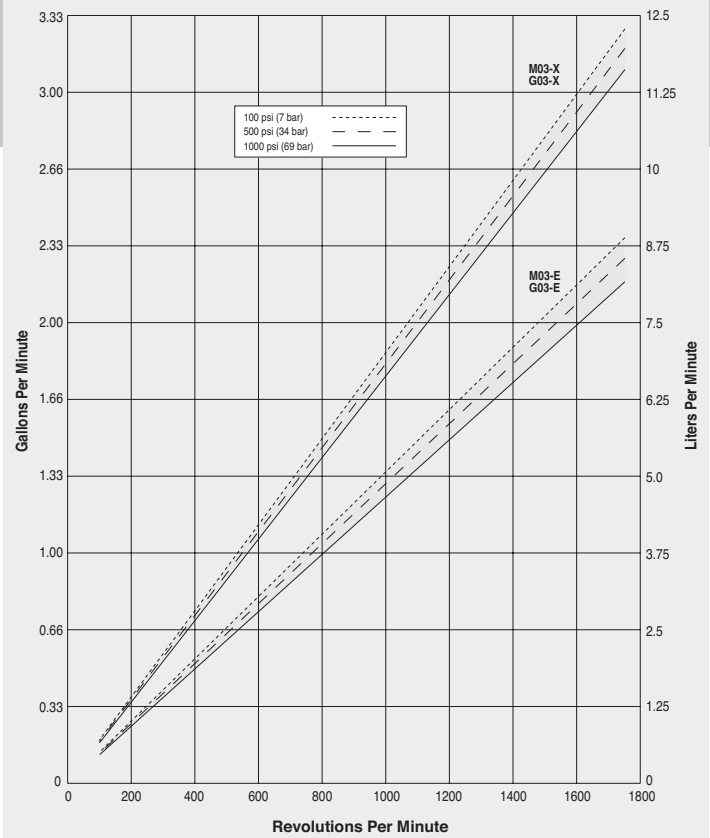
M03/G03 Mono-Block Series

Maximum Flow Rate: 3.1 gpm (11.7 l/min)
Maximum Pressure: 1000 psi (69 bar) for Metallic Pump Heads



Mono-Block (M03/G13) close-coupled 316L Stainless Steel pump head. Also available in Brass.

Maximum Flow at Designated Pressure



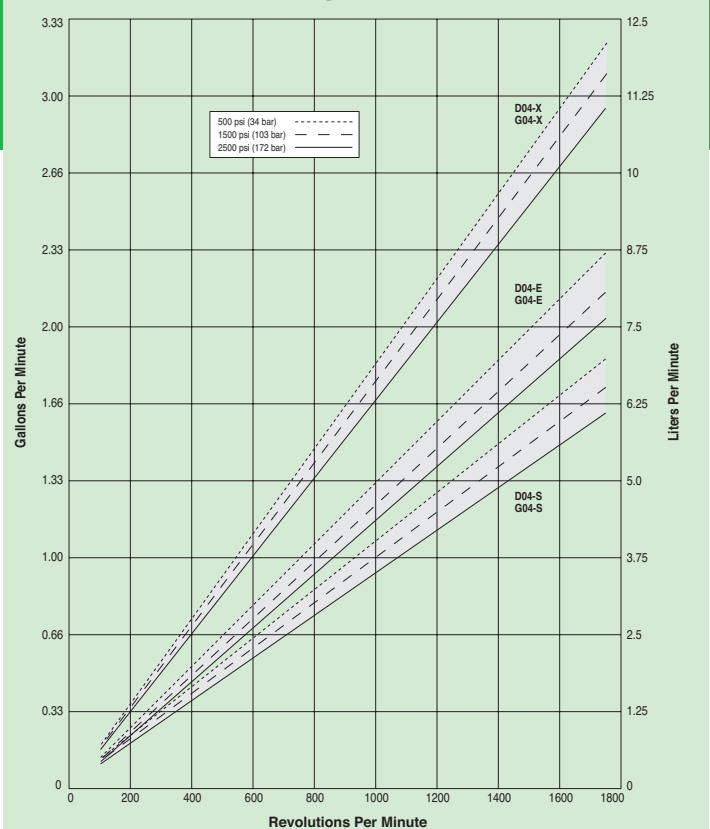
D04/G04 Series

Maximum Flow Rate: 2.9 gpm (11.2 l/min)
Maximum Pressure: 2500 psi (172 bar) for Metallic Pump Heads



D04/G04 shaft-driven with 316L Stainless Steel pump head. Also available in Brass and 304 Stainless Steel pump heads.

Maximum Flow at Designated Pressure

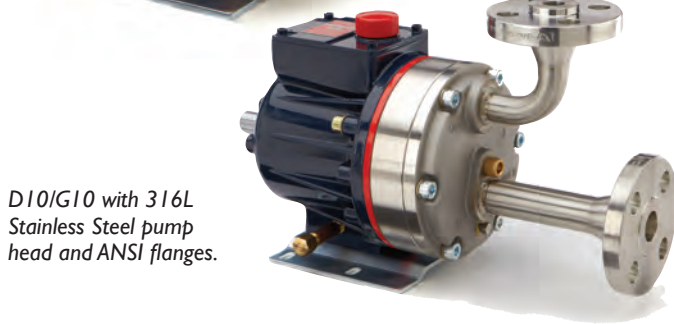


D10/G10 Series

Maximum Flow Rate: 8.8 gpm (33.4 l/min)
 Maximum Pressure: 1500 psi (103 bar) for Metallic Pump Heads
 350 psi (24 bar) for Non-metallic Pump Heads

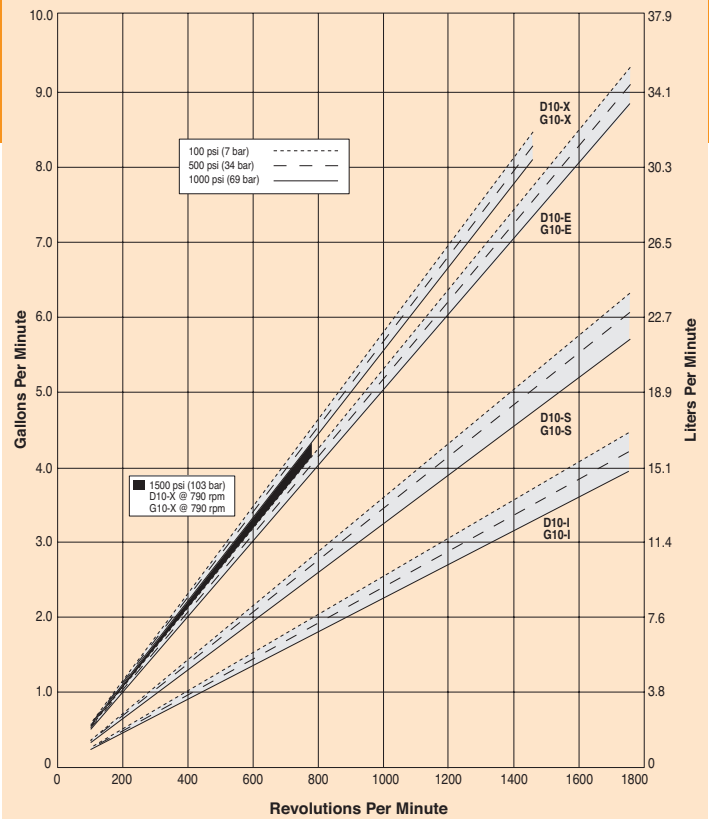


D10/G10 with Cast Iron pump head. Also available in (metallic) Brass, Duplex Alloy 2205 Stainless Steel, 316L Stainless Steel, Hastelloy CW12MW and (non-metallic) Polypropylene and PVDF pump heads.



D10/G10 with 316L Stainless Steel pump head and ANSI flanges.

Maximum Flow at Designated Pressure



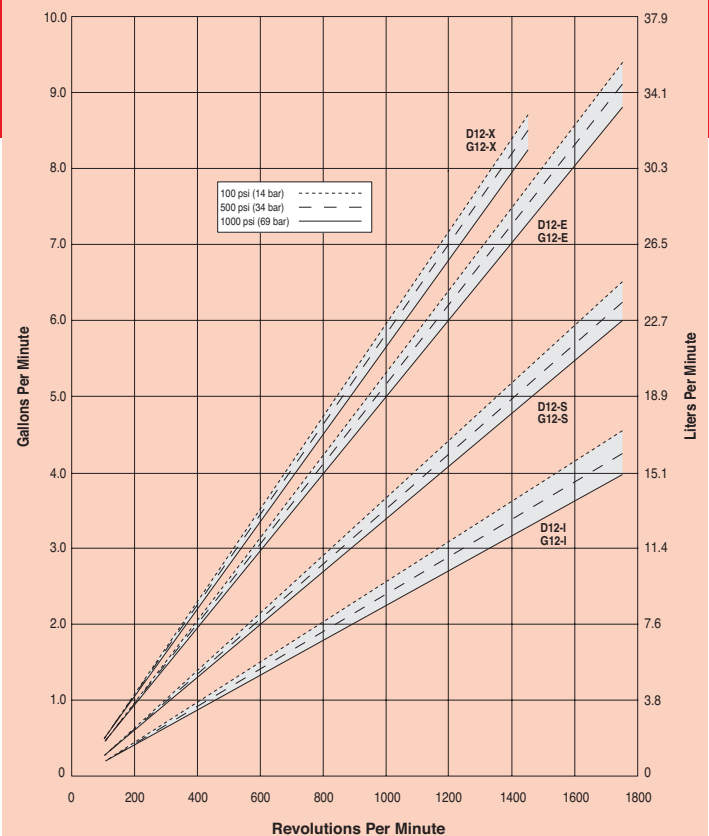
D12/G12 Series

Maximum Flow Rate: 8.8 gpm (33.4 l/min)
 Maximum Pressure: 1000 psi (69 bar) for Metallic Pump Heads



D12/G12 equipped with Model C62 Pressure Regulating Valve and Valve/Tube Accessory. Available in Brass, Cast Iron, and 316L Stainless Steel pump heads.

Maximum Flow at Designated Pressure



DI5/DI7 & GI5/GI7 Series

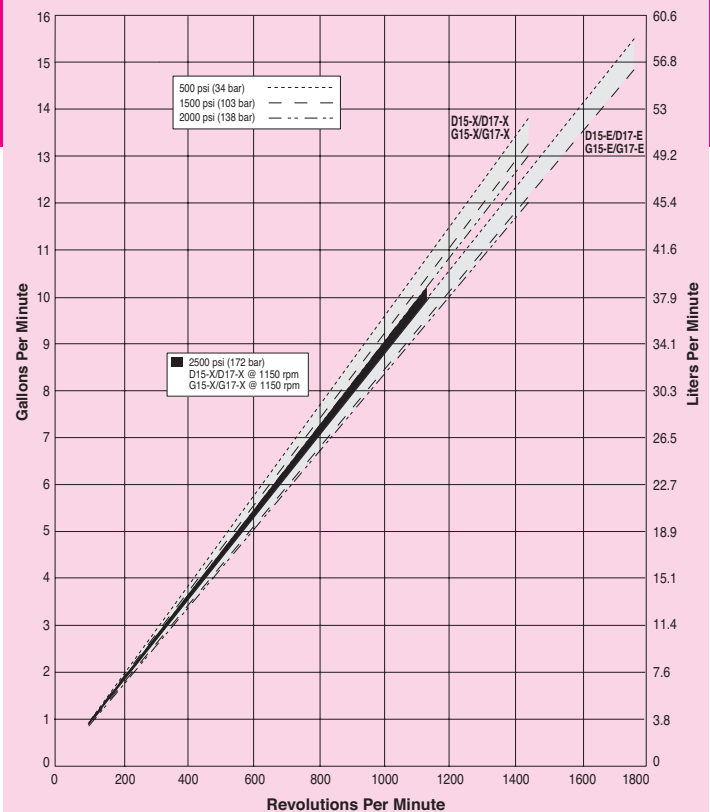
Maximum Flow Rate: 15.5 gpm (58.7 l/min)
Maximum Pressure: 2500 psi (172 bar) for Metallic Pump Heads



DI5/GI5 for horizontal installations shown with 316L Stainless Steel pump head.

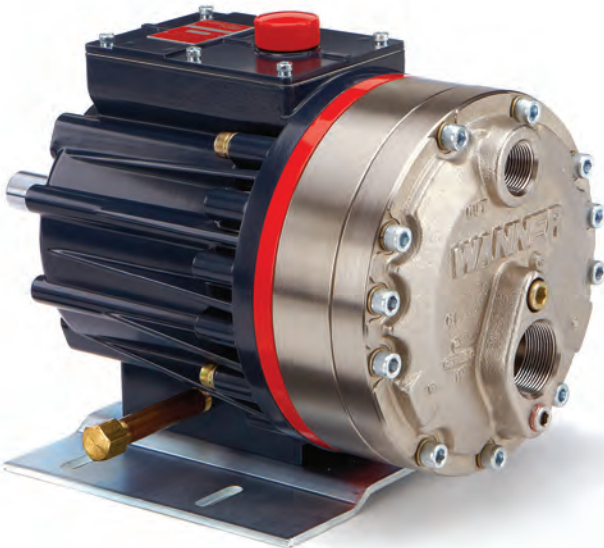
DI7/GI7 for vertical mounting (including motor adapter, base plate and oil reservoir) shown with Brass pump head.

Maximum Flow at Designated Pressure



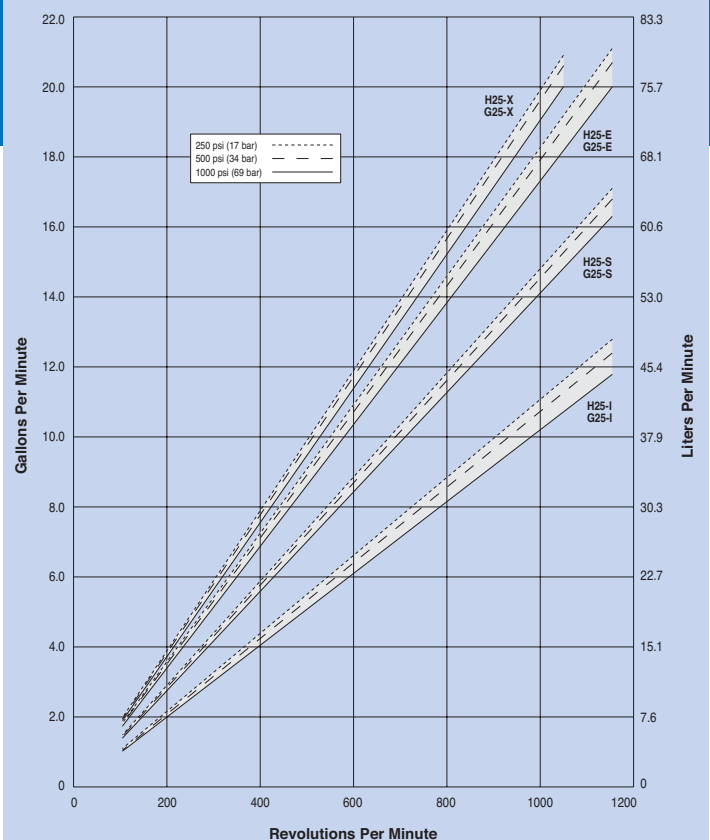
H25/G25 Series

Maximum Flow Rate: 20.0 gpm (75.9 l/min)
Maximum Pressure: 1000 psi (69 bar) for Metallic Pump Heads
350 psi (24 bar) for Non-metallic Pump Heads



H25/G25 with Cast Iron pump head. Also available in (metallic) Brass, Duplex Alloy 2205 Stainless Steel, 316L Stainless Steel (with ANSI flanges), 316L Stainless Steel, Hastelloy CWI 2MW and (non-metallic) Polypropylene and PVDF pump heads.

Maximum Flow at Designated Pressure



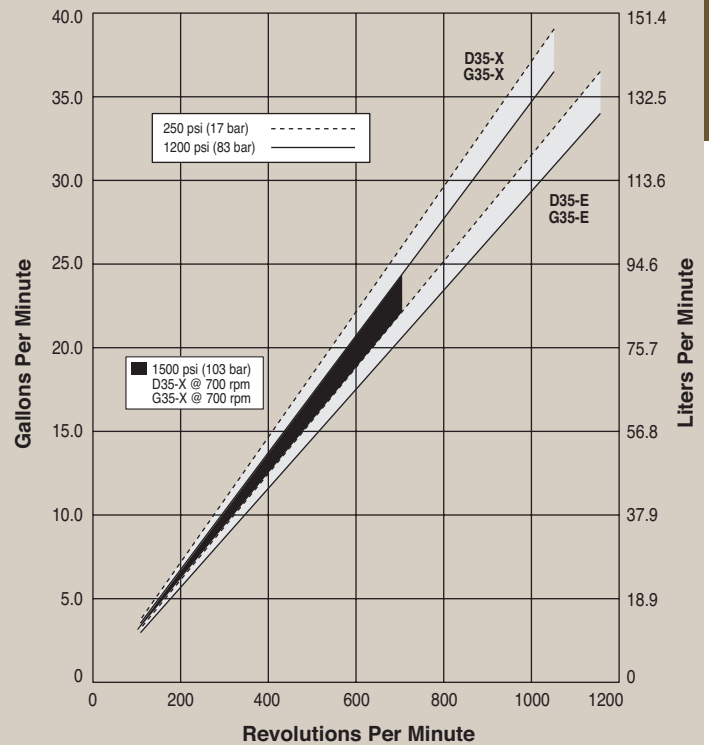
D35/G35 Series

Maximum Flow Rate: 36.5 gpm (138 l/min)
Maximum Pressure: 1500 psi (103 bar) for Metallic Pump Heads



D35/G35 with 316L Stainless Steel pump head. Also available in Brass, Ductile Iron, Duplex Alloy 2205 Stainless Steel, 316L Stainless Steel (with ANSI flanges or SAE ports) and Hastelloy CW12MW pump heads.

Maximum Flow at Designated Pressure



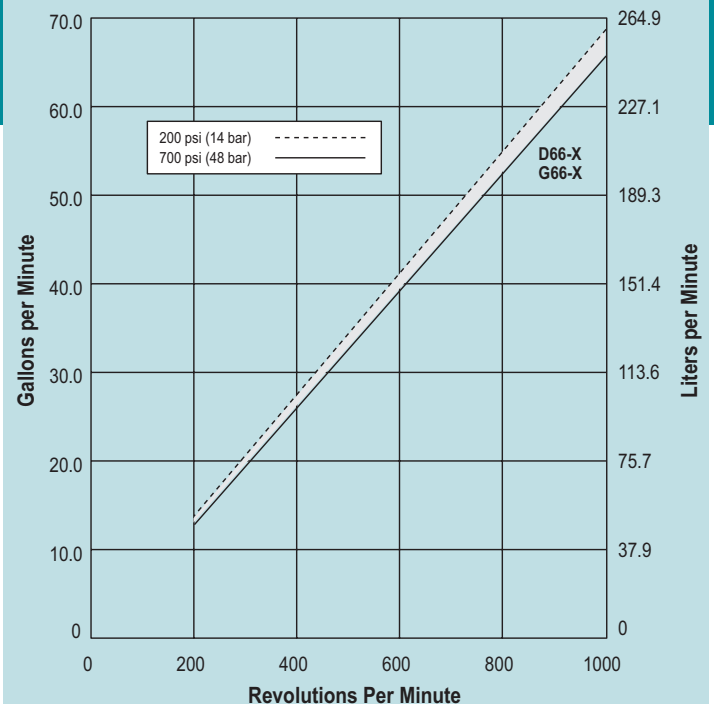
D66/G66 Series

Maximum Flow Rate: 65.7 gpm (248.7 l/min)
Maximum Pressure: 700 psi (48 bar) for Metallic Pump Heads
250 psi (17 bar) for Non-metallic Pump Heads



D66/G66 with 316L Stainless Steel pump head. Also available in (metallic) Brass, Ductile Iron, and Duplex Alloy 2205 Stainless Steel, and (non-metallic) Polypropylene pump heads.

Maximum Flow at Designated Pressure



C Series Pressure Regulating Valves

Designed for use with any positive displacement pump, Hydra-Cell C Series pressure regulating valves bypass system fluid to prevent excess system pressure. They can also be used as pressure relief valves.

Performance Advantages

- Accurate and repeatable.
- Adjustable.
- Immediate response.
- Smooth, chatter-free bypass.
- No external springs or moving parts.
- Flow-through design with minimal pressure surge.
- Heavy-duty construction.
- Easy to service in place.



Tapered design of the C20 Series valves plunger.



C60 Series valves feature a seal-less diaphragm with a tapered plunger, making the valves ideal for high-pressure requirements and handling dirty fluids.

C20 Series

For use with Hydra-Cell models D10/G10, D12/G12, H25/G25, D35/G35, and D66/G66.

C22 valve with Brass body (also available in 316L Stainless Steel and Hastelloy CW12MW).



C46 Series

For use with Hydra-Cell models F20/G20, F21/G21, F22/G22, M03/D03/G03/G13, and M03/G03 Mono-Block.

C46 In-line with Brass body.



C46 Off-line with Stainless Steel body (also available in Brass).



C60 Series

For use with Hydra-Cell models D04/G04, D10/G10, D12/G12, D15/D17 & G15/G17, H25/G25, and D35/G35.

C62 Seal-less valve with 316L Stainless Steel body (also available in Brass and Hastelloy C).



Hydra-Cell® Pumps Accessories and Options



C80 Series Air Bleed Valves.



Pulsation Dampeners.



HDD Series: Horizontal Direct Drive with Orange Coupling Guard, Motor, and Base.



HFD Series: Horizontal Flanged Adapter Drive with Flanged Adapter, Motor, and Base.



HBD Series: Horizontal Belt Drive with Belt Pulley Guard, Motor, and Base.



Controllers.



Control Freak™ Touch-screen Metering Controller. (Also available in a new Web-based version for operation from a phone/ mobile device, tablet, or computer.)



Hydra-Oil Lubricants, Motor Adapters, Oil Reservoir Sight Bottles, Tool Kits, and Couplings.



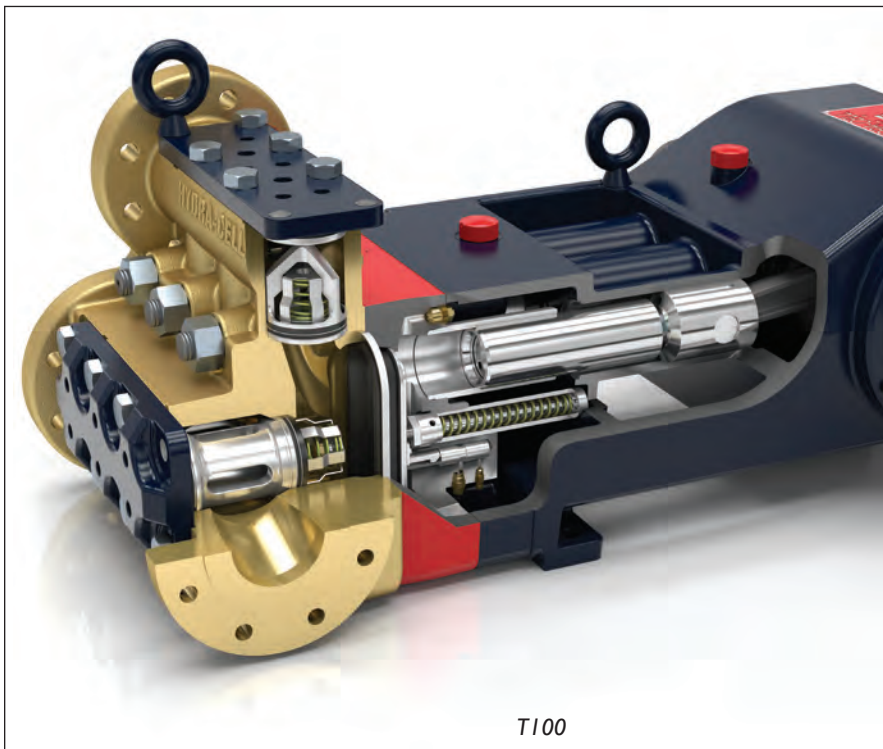
Replacement Parts Kits.

Hydra-Cell® T & Q Series Design Advantages

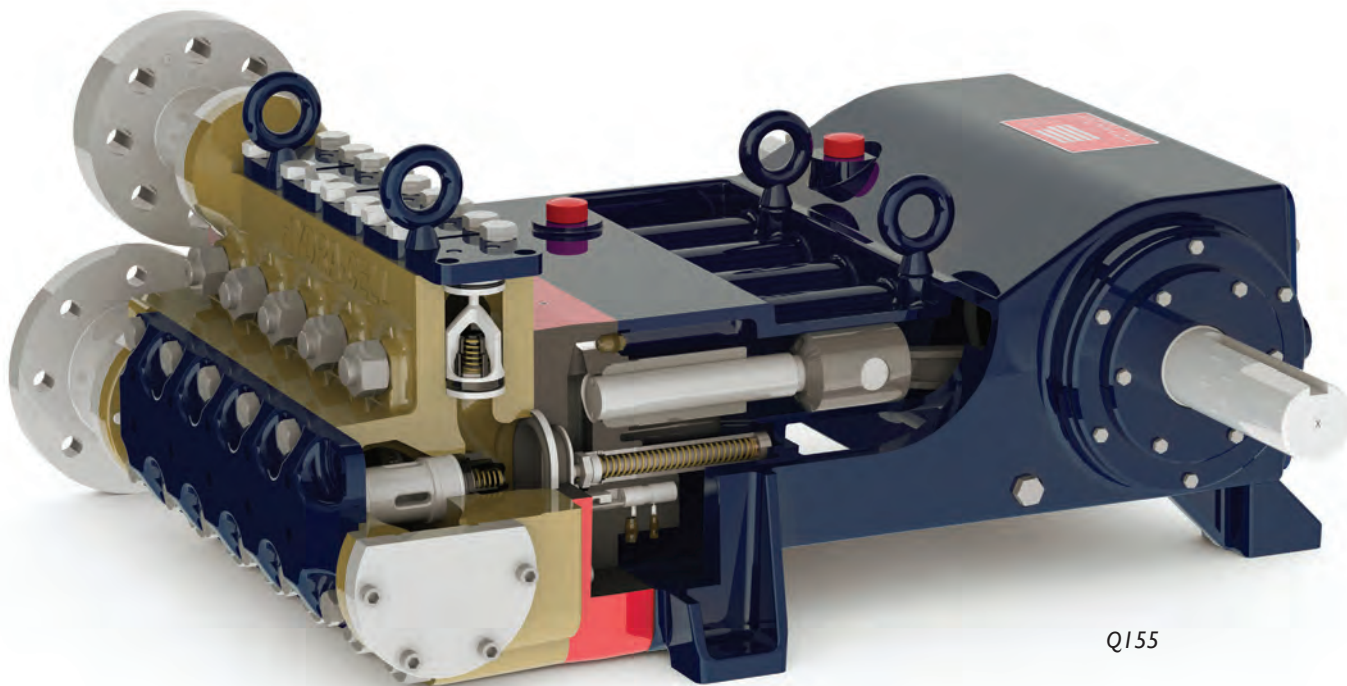
Exclusive Seal-less Diaphragm Design

- 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 inlet 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.
- Provides low-pulse, linear flow due to its multiple diaphragm design.
- Lower energy costs than centrifugal pumps and other pump technologies.
- Rugged construction for long life with minimal maintenance.
- Compact design provides a variety of installation options – T100 and Q155 models also feature a double-ended shaft for greater versatility.

**Available
to Meet
API 674!**



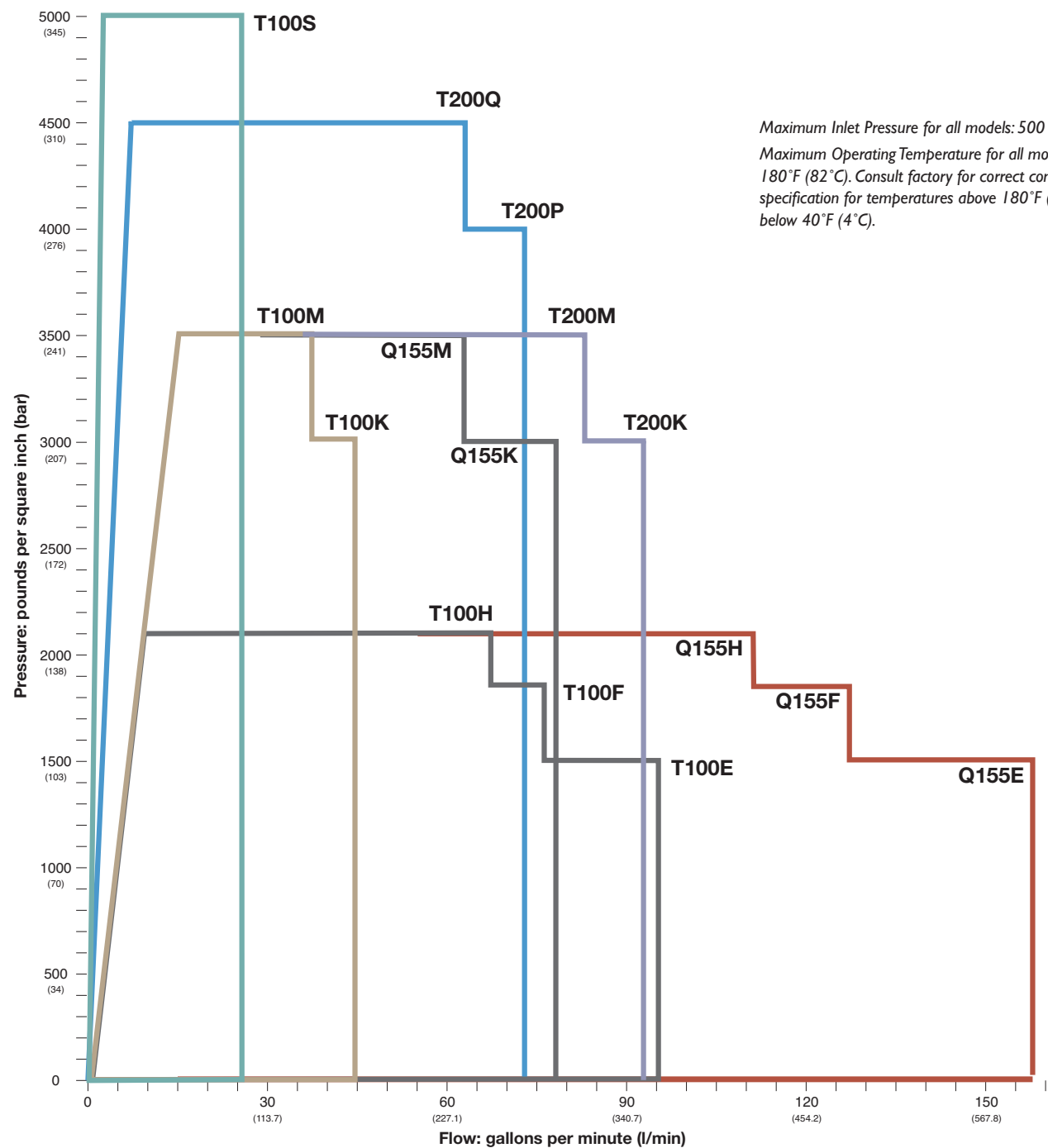
T100



Q155

Hydra-Cell® Flow Capacities and Pressure Ratings

T & Q Series Large Capacity Pumps



Model	Maximum Capacity			Max. Discharge Pressure psi (bar)	Model	Maximum Capacity			Max. Discharge Pressure psi (bar)	Model	Maximum Capacity			Max. Discharge Pressure psi (bar)
	BPD	gpm	l/min			BPD	gpm	l/min			BPD	gpm	l/min	
T100E	3292	96.0	366.1	1500 (103)	Q155E	5383	157	595	1500 (103)	T200K	3189	93	352	3000 (207)
T100F	2623	76.5	289.6	1850 (128)	Q155F	4354	127	490	1850 (128)	T200M	2846	83	314	3500 (241)
T100H	2332	68.0	257.8	2100 (145)	Q155H	3806	111	421	2100 (145)	T200P	2469	72	272	4000 (276)
T100K	1543	45.0	170.4	3000 (207)	Q155K	2674	78	295	3000 (207)	T200Q	2160	63	238	4500 (310)
T100M	1302	38.0	143.8	3500 (241)	Q155M	2160	63	238	3500 (241)					
T100S	891	26.0	98.4	5000 (345)										

T100 Series Pumps

Available
to Meet
API 674!

Low Pressure Models

Model T100E

Maximum Flow Rate: 96.0 gpm (366.1 l/min) 3292 BPD
Maximum Pressure: 1500 psi (103 bar) for Metallic Pump Heads

Model T100F

Maximum Flow Rate: 76.5 gpm (289.6 l/min) 2623 BPD
Maximum Pressure: 1850 psi (128 bar) for Metallic Pump Heads

Model T100H

Maximum Flow Rate: 68.0 gpm (257.8 l/min) 2332 BPD
Maximum Pressure: 2100 psi (145 bar) for Metallic Pump Heads

*Low-pressure model with Nickel Aluminum Bronze (NAB) pump head.
Also available in Duplex Alloy 2205 Stainless Steel, 316L Stainless Steel, and Hastelloy CX2M.*



Medium Pressure Models

Model T100K

Maximum Flow Rate: 45.0 gpm (170.4 l/min) 1543 BPD
Maximum Pressure: 3000 psi (207 bar) for Metallic Pump Heads

Model T100M

Maximum Flow Rate: 38.0 gpm (143.8 l/min) 1302 BPD
Maximum Pressure: 3500 psi (241 bar) for Metallic Pump Heads

*Medium-pressure model with Nickel Aluminum Bronze (NAB) pump head.
Also available in Duplex Alloy 2205 Stainless Steel, 316L Stainless Steel, and Hastelloy CX2M.*

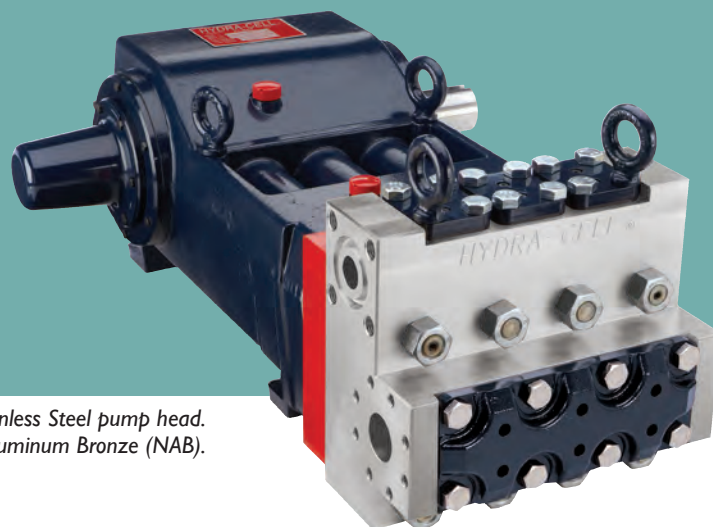


High Pressure Model

Model T100S

Maximum Flow Rate: 26.0 gpm (98.4 l/min) 891 BPD
Maximum Pressure: 5000 psi (345 bar) for Metallic Pump Heads

*High-pressure model with Stainless Steel pump head.
Also available in Nickel Aluminum Bronze (NAB).*



Q155 Series Pumps

**Available
to Meet
API 674!**

Low Pressure Models

Model Q155E

Maximum Flow Rate: 157 gpm (595 l/min) 5383 BPD
Maximum Pressure: 1500 psi (103 bar) for Metallic Pump Heads

Model Q155F

Maximum Flow Rate: 127 gpm (490 l/min) 4354 BPD
Maximum Pressure: 1850 psi (128 bar) for Metallic Pump Heads

Model Q155H

Maximum Flow Rate: 111 gpm (421 l/min) 3806 BPD
Maximum Pressure: 2100 psi (145 bar) for Metallic Pump Heads



*Low-pressure model with 316L Stainless Steel pump head.
Also available in Duplex Alloy 2205 Stainless Steel, 316L Stainless Steel, and Hastelloy CX2M.*

Medium Pressure Models

Model Q155K

Maximum Flow Rate: 78 gpm (295 l/min) 2674 BPD
Maximum Pressure: 3000 psi (207 bar) for Metallic Pump Heads

Model Q155M

Maximum Flow Rate: 63 gpm (238 l/min) 2160 BPD
Maximum Pressure: 3500 psi (241 bar) for Metallic Pump Heads



*Medium-pressure model with Nickel Aluminum Bronze (NAB) pump head.
Also available in Duplex Alloy 2205 Stainless Steel, 316L Stainless Steel, and Hastelloy CX2M.*

T200 Series Pumps

**Available
to Meet
API 674!**

Medium Pressure Models

Model T200K

Maximum Flow Rate: 93 gpm (352 l/min) 3189 BPD
Maximum Pressure: 3000 psi (207 bar) for Metallic Pump Heads

Model T200M

Maximum Flow Rate: 83 gpm (314 l/min) 2846 BPD
Maximum Pressure: 3500 psi (241 bar) for Metallic Pump Heads



*Medium-pressure model with Nickel Aluminum Bronze (NAB) pump head.
Also available in Duplex Alloy 2205 Stainless Steel, 316L Stainless Steel, and Hastelloy CX2M.*

High Pressure Models

Model T200P

Maximum Flow Rate: 72 gpm (272 l/min) 2469 BPD
Maximum Pressure: 4000 psi (276 bar)

Model T200Q

Maximum Flow Rate: 63 gpm (238 l/min) 2160 BPD
Maximum Pressure: 4500 psi (310 bar)



*High-pressure model with Nickel Aluminum Bronze (NAB) pump head.
Also available in Duplex Alloy 2205 Stainless Steel, 316L Stainless Steel, and Hastelloy CX2M.*

Hydra-Cell® P Series Metering Pumps



P100



P200



P300



P400

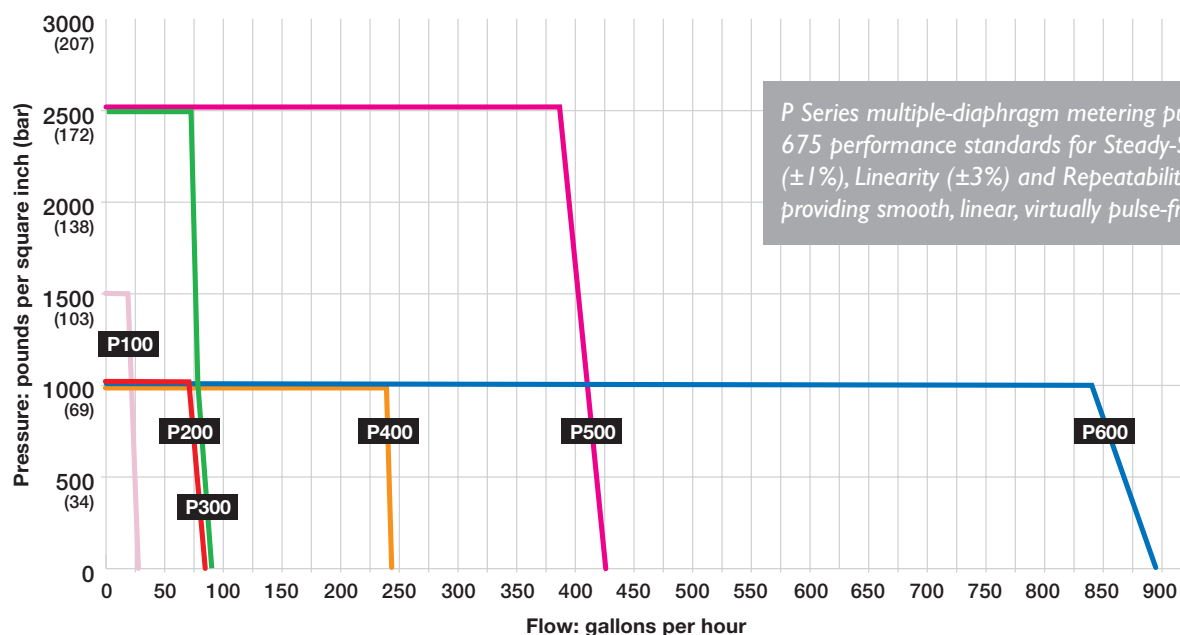


P500



P600

P Series Flow Capacities and Pressure Ratings



Model ¹	Maximum Capacity gph (lph) ²	Maximum Discharge Pressure psi (bar)		Maximum Operating Temperature F (C) ⁴		Maximum Inlet Pressure psi (bar)
		Non-metallic ³	Metallic	Non-metallic	Metallic	
P100	27.0 (85.0)	350 (24)	1500 (103)	140° (60°)	250° (121°)	250 (17)
P200	81.0 (255.4)	350 (24)	1000 (69)	140° (60°)	250° (121°)	250 (17)
P300	81.4 (256.8)	N/A	2500 (172)	N/A	250° (121°)	500 (34)
P400	242.8 (765.9)	350 (24)	1000 (69)	140° (60°)	250° (121°)	250 (17)
P500	425.9 (1343.5)	N/A	2500 (172)	N/A	250° (121°)	500 (34)
P600	890.3 (2808.0)	350 (24)	1000 (69)	140° (60°)	250° (121°)	250 (17)

¹ Ratings are for X-cam design.

² Flow capacities are based on pump speeds of 3600 rpm for gallons per hour (gph) and 3000 rpm for liters per hour (lph).

³ 350 psi (24 bar) maximum with PVDF liquid end; 250 psi (17 bar) maximum with Polypropylene liquid end.

⁴ Consult factory for correct component selection for temperatures from 160°F (71°C) to 250°F (121°C).

Hydra-Cell® MT8 Low-flow Triplex Metering Pump

This groundbreaking triplex metering pump is the latest addition to the Hydra-Cell Metering Solutions product line.

Ideal for low-flow requirements, at high pressures, it features a triplex-diaphragm design to provide smooth, linear, virtually pulse-free flow without the need for expensive pulsation dampeners.

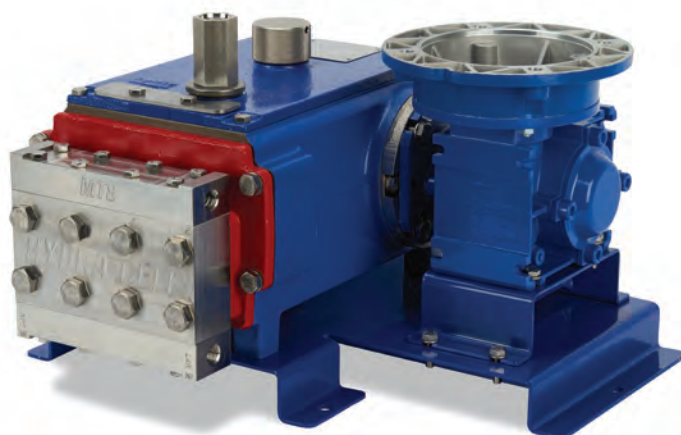
Hydraulically-balanced and actuated, the pump features an integral relief valve for added safety and cartridge check valves for ease of maintenance.

The MT8 is available with metallic (316 SST, Hastelloy C, Alloy 20) and non-metallic (PVC, PVDF) liquid ends plus PTFE diaphragms. Check valve materials include 316 SST, Hastelloy C, and Alloy 20.

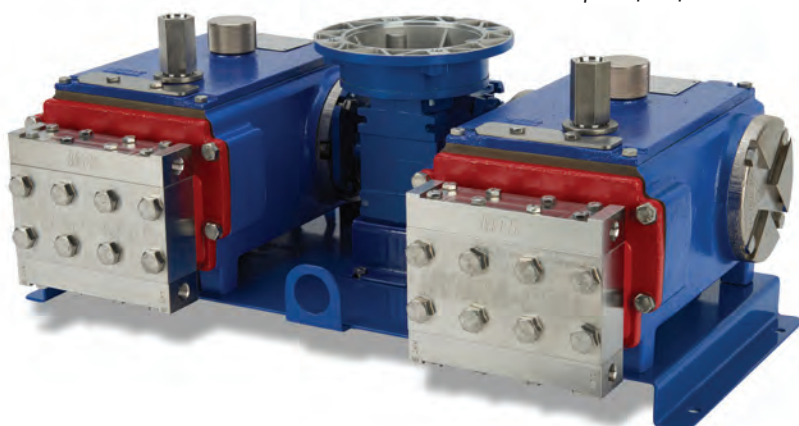
Exceeds API 675 Performance Standards

Hydra-Cell Metering Solutions model MT8 pumps exceed API 675 performance standards for Steady-State Accuracy ($\pm 1\%$), Linearity ($\pm 3\%$), and Repeatability ($\pm 3\%$).

Hydra-Cell®
METERING SOLUTIONS™



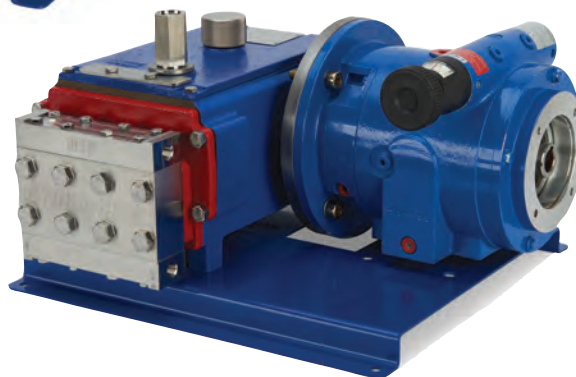
With its multiple-diaphragm design, the MT8 provides virtually pulse-free flow.



Duplexing capability doubles capacity and savings.



MT8 with PVDF pump head.



ATEX-compliant manual variable speed gearbox.

Flow Capacities and Pressure Ratings

Model	Minimum to Maximum Capacity gph (lph)	Maximum Discharge Pressure psi (bar)		Maximum Operating Temperature F (C) ²		Maximum Inlet Pressure psi (bar)
		Non-metallic ¹	Metallic	Non-metallic	Metallic	
MT8	0.06 to 8.00 (0.227 to 30.28)	350 (24)	3500 (241)	140° (60°)	250° (121°)	250 (17)

¹ 350 psi (24 bar) maximum with PVDF liquid end; 250 psi (17 bar) maximum with PVC liquid end.

² Consult factory for correct component selection for temperatures from 160°F (71°C) to 250°F (121°C).

Hydra-Cell® S Series Solenoid Metering Pumps

The S Series diaphragm pumps provide an economical choice for chemical injection in metering applications.

Solenoid driven, the S pumps feature a wide discharge-volume range, extensive choice of liquid end materials, various control functions, and a wide voltage range.

Materials of construction choices and versatile design options result in pumps perfected for specific applications including general chemicals, high-pressure boiler, high-viscosity fluids, outgassing and more.



SM030CAS manual control with stroke speed dial. Model shown features Acrylic pump head with automatic air release joint for outgassing fluids.



SP060HVS digital with pulse-input control. Model shown features PVC pump head for high-viscosity fluids.



ST03RPES digital with pulse-input control and timer. ST models offer control options by interval, day, and week.



SA03RPES digital with pulse-input and analog-input. Model shown features an integral relief valve to release abnormal pressure automatically.

SM Models Flow Capacities and Pressure Ratings

Model Number	Maximum Discharge Volume			Maximum Discharge Pressure	
	ml/min	gph	lph	psi	bar
SM030 High Pressure	28	0.44	1.68	217	15
SM030	30	0.48	1.80	145	10
SM060	60	0.95	3.60	116	8
SM100	100	1.59	6.00	58	4
SM03R* High Pressure	28	0.44	1.68	217	15
SM03R*	30	0.48	1.80	102	7
SM06R*	60	0.95	3.60	102	7
SM10R*	100	1.59	6.00	58	4

*Models equipped with internal relief valve.

Stroke Speed:

15 to 300 strokes/minute
(manual dial setting)

Stroke Length:

Fixed at 1.0 mm

Temperature Range:

32°F to 104°F (0°C to 40°C)

Ambient Humidity:

35% to 85%

SP/ST/SA Models Flow Capacities and Pressure Ratings

Model Number	Maximum Discharge Volume			Maximum Discharge Pressure	
	ml/min	gph	lph	psi	bar
SP, ST or SA030 High Pressure	25	0.40	1.50	290	20
SP, ST or SA030	30	0.48	1.80	145	10
SP, ST or SA060	60	0.95	3.60	145	10
SP, ST or SA100	100	1.59	6.00	58	4
SP, ST or SA200	220	3.49	13.20	29	2
SP, ST or SA03R* High Pressure	28	0.44	1.68	217	15
SP, ST or SA03R*	30	0.48	1.80	145	10
SP, ST or SA06R*	60	0.95	3.60	102	7
SP, ST or SA10R*	100	1.59	6.00	102	7

*Models equipped with internal relief valve.

Stroke Speed:

1 to 300 strokes/minute
(enables setting in 1-stroke units)

Stroke Length:

0.5 mm to 1.0 mm (enables adjustment using the dial)

Temperature Range:

32°F to 104°F (0°C to 40°C)

Ambient Humidity:

35% to 85%

Additional Wanner Engineering Pumps

Non-metallic ANSI Centrifugal Pumps

STAN-COR

- Solid PVDF pump head for chemical compatibility and excellent abrasion resistance.
- Operates with a smooth, full-curve performance.
- Concentric casing design for better flow patterns than other centrifugal pumps - less turbulence, longer seal life, and reduced shaft deflection.
- Handles high operating temperatures.
- Compact design features including heavy-duty drive shaft, adjustable bearing supports, and large-capacity oil bath ensure low maintenance as well as durable performance for the toughest fluid applications.
- Back pull-out design for easy servicing.
- Handles solid sizes up to 9/16" maximum.

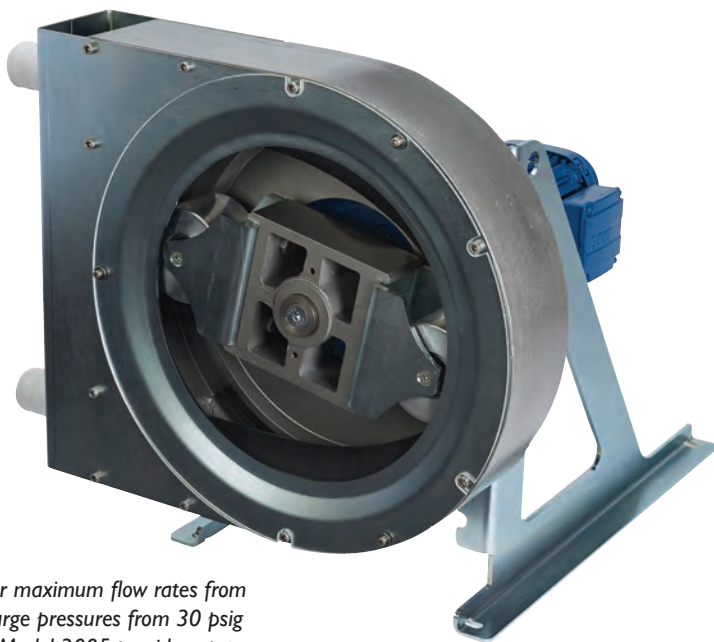


Designed to handle difficult process fluids, Stan-Cor pumps offer total dynamic head to 350 feet and flow rate capacities to 700 gpm (2650 l/min).

Peristaltic Pumps that Isolate the Pumped Fluid

VECTOR

- Dry pump cavity.
- Self-priming operation.
- Runs dry without damage to the pump.
- Complete isolation of the fluid being pumped from contact with mechanical parts for the fluid transport system.
- Heavy-duty roller bearings.
- Wide range of pump configurations and flow rates.
- No cups, packing, or dynamic seals to leak or replace or come in direct contact with the pumped fluid.
- Low maintenance.
- Reversible flow.



Nine 2000 Series Vector pump models (2006 shown) offer maximum flow rates from 0.3 gpm (1.1 l/min) to 211 gpm (798.7 l/min) and discharge pressures from 30 psig (2.1 bar) to 116 psig (8 bar) depending on pump model. Model 3005 provides up to 9.2 gpm (34.8 l/min) at 200 psig (13.8 bar).

Seven 4000 Series Vector pump models offer maximum flow rates from 0.79 gpm to 154.1 gpm and discharge pressures of 110 psig or 218 psig depending on pump model.

Hydra-Cell® Worldwide Sales and Service



Hydra-Cell pumps are sold and serviced worldwide by a comprehensive network of factory-trained pump distributors. As specialists in pump technologies, our distributor organizations offer you a vital local resource for technical expertise, product training, sales and service.

Hydra-Cell distributors are located in more than 70 countries worldwide. In North America specifically, there are more than 100 Hydra-Cell distributor locations to provide local availability for every major commercial, institutional, industrial, and municipal marketplace.

World Headquarters & Manufacturing

★ Minneapolis, Minnesota, USA

Business Units

- ☀ Wichita Falls, Texas, USA
- ☀ Hampshire, United Kingdom
- ☀ Kowloon, Hong Kong
- ☀ Shanghai, China
- ☀ São Paulo, Brazil

Contact us for the name and location of the authorized Hydra-Cell distributor nearest you:

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Argentina	Costa Rica	Indonesia	Morocco	Saudi Arabia	Tunisia
Australia	Czech Republic	Ireland	Netherlands	Serbia	Turkey
Austria	Denmark	Israel	New Zealand	Singapore	Ukraine
Azerbaijan	Ecuador	Italy	Norway	Slovakia	United Arab Emirates
Belarus	Egypt	Japan	Oman	Slovenia	United Kingdom
Belgium	Estonia	Kazakhstan	Panama	South Africa	United States
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Chile	Hong Kong	Malaysia	Qatar	Switzerland	
China	Hungary	Mexico	Romania	Taiwan	

Hydra-Cell®

Seal-less Pumps

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