

# Hydra·Cell<sup>®</sup>

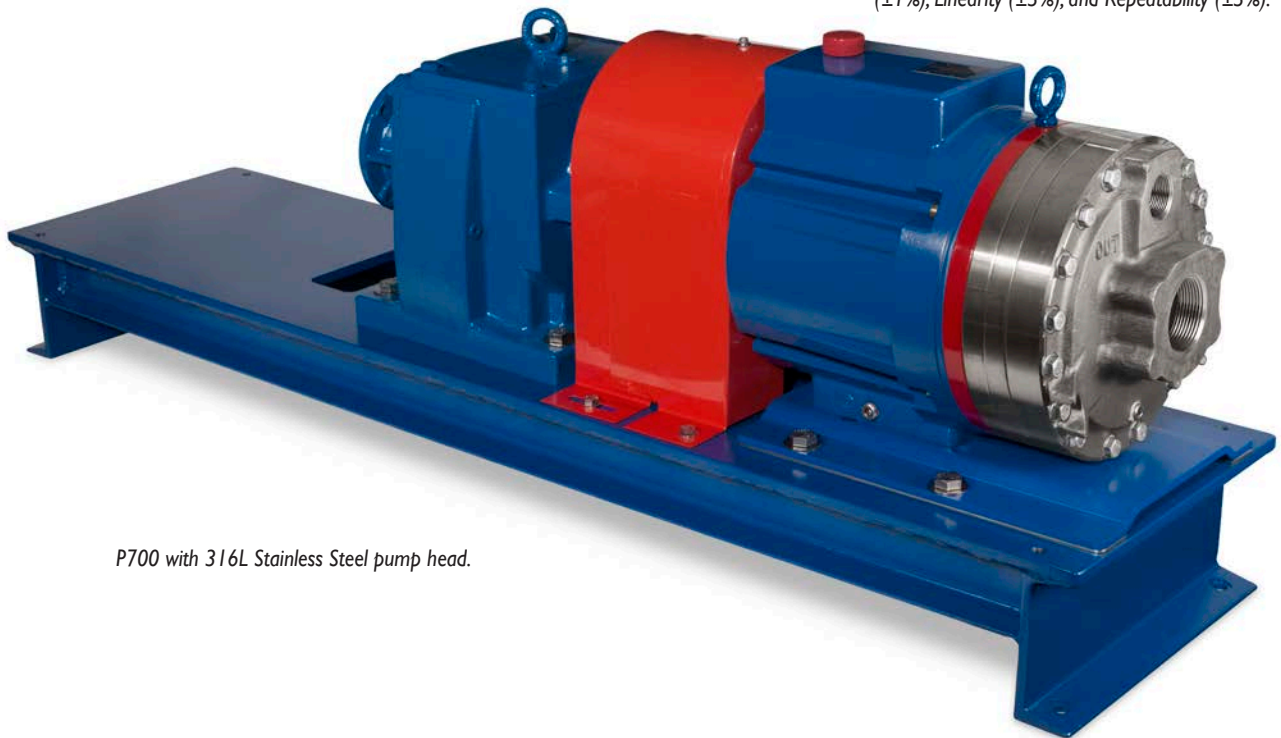
## METERING SOLUTIONS™

### P700 Series

Maximum Flow Rate: 1394 gph (4396 lph)

Maximum Pressure: 1200 psi (83 bar) for Metallic Pump Heads

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



*P700 with 316L Stainless Steel pump head.*

### Metering Pumps with “Pulse-Free” Linear Flow

- Handles a wide range of fluids from clear water to thick slurries.
- Electronic flow control increases accuracy and reliability.
- Smaller footprint saves valuable space.
- One pump covers a wide range of flows and pressures - reducing inventory requirements with fast, simple field conversion.
- Duplexing option doubles capacity without doubling equipment cost.
- Hydraulically-actuated, balanced diaphragms provide superior performance across entire pressure range.
- Rugged construction with a variety of affordable choices for liquid end, diaphragm, and check valve materials.
- Seal-less design means no seals, cups, or packing to leak or replace.
- A replenishment valve in every piston assembly ensures optimum actuating oil on every stroke for continuous accuracy.

## Performance

Flows shown are for pumps with elastomeric diaphragms (consult factory for performance characteristics of pumps with PTFE diaphragms) and are based upon lab testing of multiple pumps. However, flows listed are approximate values and pumps must be calibrated once installed into any system. Flow variations will occur, but calibration will ensure proper pump performance.

### Maximum Flow (gph) at Designated Pressure (psi)

100 psi	Metallic Pump Heads Only (gph)			Pump rpm	Gear Ratio	Motor rpm
	500 psi	1000 psi	1200 psi			
208	195	183	173	96	18.67:1	1800
254	242	222	214	119	15.18:1	
370	356	336	324	172	10.44:1	
706	676	648	636	318	5.66:1	
416	402	386	378	193	18.67:1	3600
514	500	478	472	237	15.18:1	
754	732	708	700	345	10.44:1	
1394	1366	1332	1314	636	5.66:1	

### Required Motor hp

2	3	5	7-1/2	10	15	20
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### Maximum Flow (lph) at Designated Pressure (bar)

7 bar	Metallic Pump Heads Only (gph)			Pump rpm	Gear Ratio	Motor rpm
	34 bar	69 bar	83 bar			
656	615	577	546	80	18.67:1	1500
801	763	700	675	99	15.18:1	
1167	1123	1060	1021	143	10.44:1	
2227	2132	2043	2006	265	5.66:1	
1312	1268	1217	1192	161	18.67:1	3000
1621	1576	1507	1489	197	15.18:1	
2377	2308	2241	2207	287	10.44:1	
4396	4307	4200	4143	530	5.66:1	

### Required Motor kW

3	4	6	8	12	15
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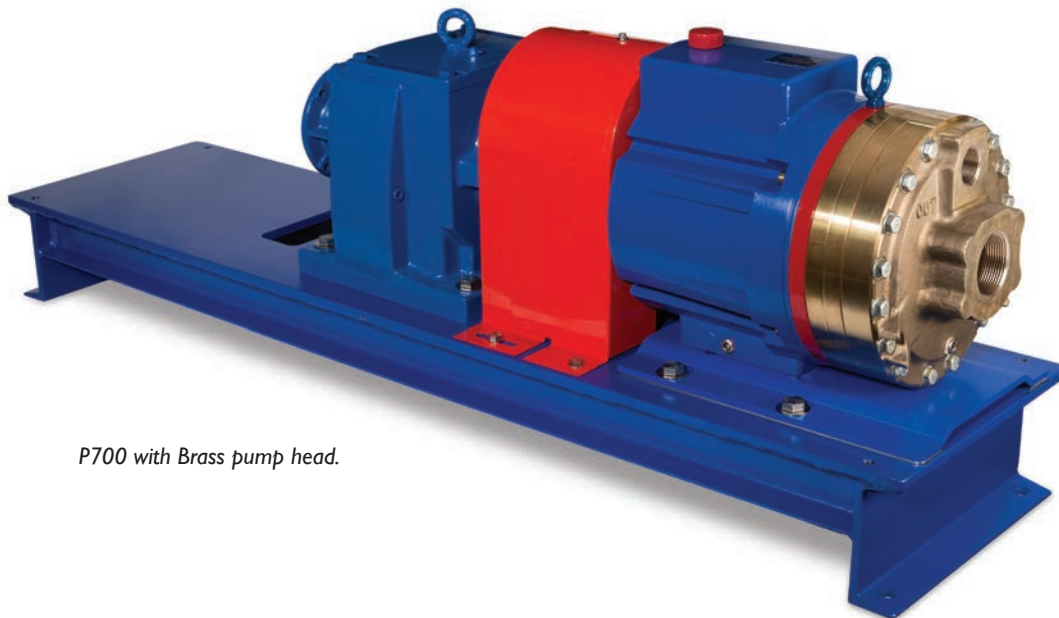
## Pump Data

Diaphragms per Liquid End	5 with Advanced Diaphragm Position Control (ADPC)
Flow Control	Electronic variable speed drive
Maximum Discharge Pressure	
Metallic Heads:	1200 psi (83 bar)
Maximum Inlet Pressure	250 psi (17 bar)
Maximum Operating Temperature	
<i>Consult factory for correct metallic head component selection for temperatures from 160°F (71°C) to 250°F (121°C).</i>	
Metallic Heads:	250°F (121°C)
Maximum Solids Size	800 microns
Inlet Port	2-1/2 inch NPT/BSPT or 3 inch SAE J518 flange
Discharge Port	1-1/4 inch NPT/BSPT or 1-1/4 inch SAE J518 flange
Shaft Rotation	Bi-directional
Oil Capacity	7.75 US quarts (7.4 liters)
Weight (less motor)	
Metallic Heads:	638 to 685 lbs (289 to 311 kg)
Dimensions (less motor)	
<i>For NEMA 143/145TC motor frames only; see page 6 for other motor frame sizes.</i>	
Metallic Heads:	11.53" W x 39.51" D x 15.11" H (292.9 mm W x 1003 mm D x 383.8 mm H)

## Accessories, Options and Services

Consult Wanner Engineering for complete details about available accessories and options as well as special services.

- Manifolds and Flanges
- Multiplexing Capability
- Different Gearbox Ratios
- Oil Cooler Systems
- Actuating Oils
- Magnetic Drain Plug
- Motors (Standard/Hazardous-duty)
- Controllers
- Control Freak™ Touch-screen Metering Controller
- SmartDrive Motor-Controller
- Calibration Cylinders
- Back Pressure Valves
- Pressure Relief Valves
- Pulsation Dampeners
- Demonstration (Cutaway) Units
- Testing Services
- System Components, Priming Kits and Plugs
- Replacement Part Kits and Tool Kits
- Customization Services

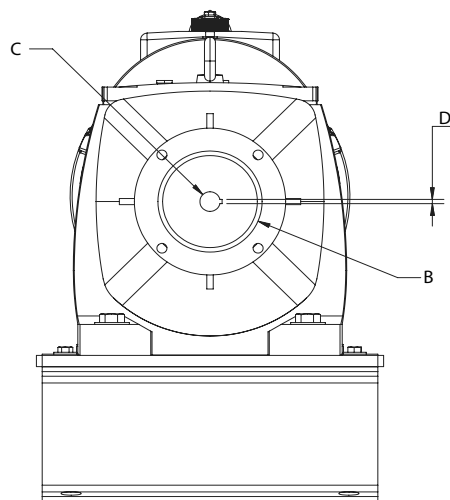
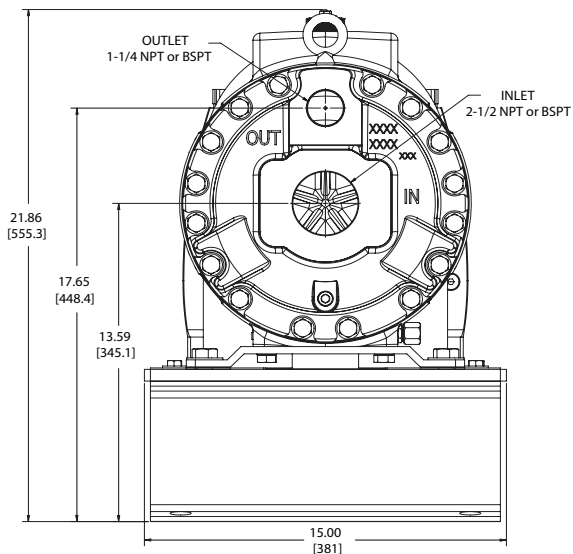


P700 with Brass pump head.

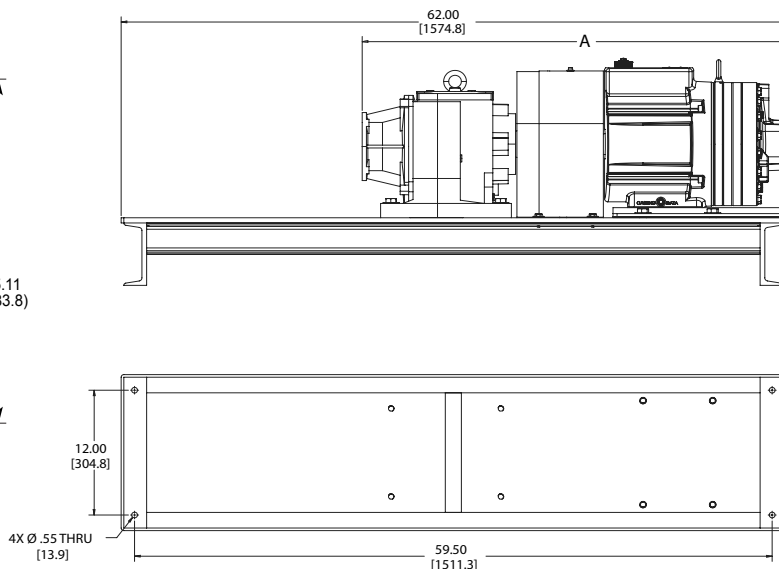
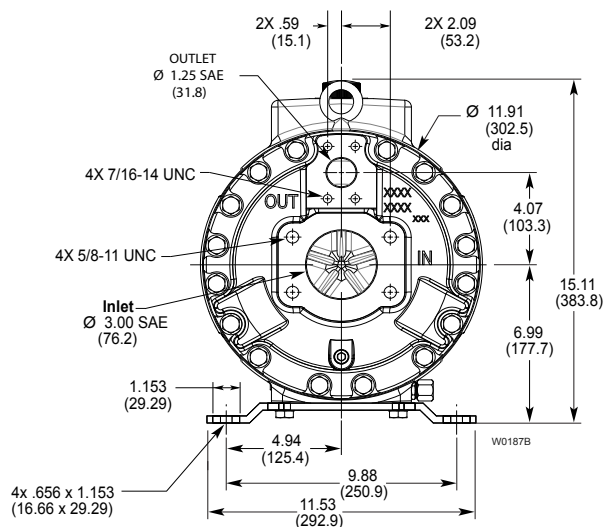
## Representative Drawings

### Metallic Pump Heads Inches (mm)

#### NPT/BSPT Manifold



#### SAE Manifold



### Dimensions: Inches (mm)

Input Frame Size	A	B	C	D
143/145 TC	39.51 (1003.4)	4.50 (114.3)	0.88 (22.2)	0.19 (4.8)
182/184 TC	40.82 (1036.7)	8.50 (215.9)	1.13 (28.6)	0.25 (6.4)
213/215 TC	43.10 (1094.7)	8.50 (215.9)	1.38 (34.9)	0.31 (7.9)
254/256 TC	43.10 (1094.7)	8.50 (215.9)	1.63 (41.3)	0.38 (9.5)
IEC 90 B5	39.46 (1002.2)	5.12 (130)	0.94 (24)	.31 (8)
IEC 100/112 B5	40.42 (1026.7)	7.09 (180)	1.10 (28)	.31 (8)
IEC 132 B5	42.65 (1083.4)	9.06 (230)	1.50 (38)	.39 (10)
IEC 160 B5	42.81 (1087.4)	9.84 (250)	1.65 (42)	.47 (12)

# P700 Series

## How to Order

A complete pump order number contains 13 digits based on the specified pump materials listed below.

1	2	3	4	5	6	7	8	9	10	11	12	13
P	7	0	0									

### Pump Configuration (Digits 1-4)

**P700** For all P700 Pumps (Advanced Diaphragm Position Control)

### Pump Version (Digit 5)

**N** NPT Ports or SAE Flanges (NEMA motors only)  
**M** BSPT Ports or SAE Flanges (IEC motors only)  
**X** ATEX BSPT Ports (IEC motors only)

### Pump Head / Retainer Material (Digit 6)

**B** Brass / PVDF  
**C** Ductile Iron (Nickel-plated) / PVDF  
**G** Duplex Alloy 2205 Stainless Steel (with Hastelloy C followers & follower screws) / Hastelloy C  
**A** 316 Stainless Steel ANSI flange class 600 x 1500 / Hastelloy C  
**D** 316 Stainless Steel ANSI flange class 150 x 600 / Hastelloy C  
**S** 316L Stainless Steel Threaded or SAE Ports / Hastelloy C  
**T** Hastelloy C / Hastelloy C

### Diaphragm & O-ring Material / Oil (Digit 7)

**A** Aflas / PTFE O-rings (Synthetic oil)  
**E** EPDM (EPDM-compatible oil)  
**X** FKM (Synthetic oil)  
**J** PTFE (Food-contact oil)  
**W** PTFE (Synthetic oil)  
**Z** Neoprene (Synthetic oil)  
**Y** Buna-N (Synthetic oil)

### Check Valve Material (Digits 8-9)

#### (Valve Spring / Valve Seat / Valve)

**SS** Elgiloy / Nitronic 50 / Nitronic 50  
**TT** Hastelloy C / Hastelloy C / Hastelloy C  
**SC** Elgiloy / Ceramic / Ceramic  
**TC** Hastelloy C / Ceramic / Ceramic  
**TD** Hastelloy C / Tungsten Carbide / Tungsten Carbide

### Gearbox Ratio (Digits 10-12) NEMA Motors

**A18** 18.67:1 (143/145TC Motor Frame)  
**B18** 18.67:1 (182/184TC Motor Frame)  
**C18** 18.67:1 (213/215TC Motor Frame)  
**A15** 15.18:1 (143/145TC Motor Frame)  
**B15** 15.18:1 (182/184TC Motor Frame)  
**C15** 15.18:1 (213/215TC Motor Frame)  
**D15** 15.18:1 (254/256TC Motor Frame)

**B10** 10.44:1 (182/184TC Motor Frame)  
**C10** 10.44:1 (213/215TC Motor Frame)  
**D10** 10.44:1 (254/256TC Motor Frame)  
**B05** 5.66:1 (182/184TC Motor Frame)  
**C05** 5.66:1 (213/215TC Motor Frame)  
**D05** 5.66:1 (254/256TC Motor Frame)

### Base Plate (Digit 13) NEMA Motors

**C** Carbon Steel (Epoxy painted)

### Gearbox Ratio (Digits 10-12) IEC Motors

**A18** 18.67:1 (90 B5 Motor Frame)  
**B18** 18.67:1 (110/112 B5 Motor Frame)  
**C18** 18.67:1 (132 B5 Motor Frame)  
**A15** 15.18:1 (90 B5 Motor Frame)  
**B15** 15.18:1 (110/112 B5 Motor Frame)  
**C15** 15.18:1 (132 B5 Motor Frame)  
**D15** 15.18:1 (160 B5 Motor Frame)  
**B10** 10.44:1 (110/112 B5 Motor Frame)  
**C10** 10.44:1 (132 B5 Motor Frame)  
**D10** 10.44:1 (160 B5 Motor Frame)  
**B05** 5.66:1 (110/112 B5 Motor Frame)  
**C05** 5.66:1 (132 B5 Motor Frame)  
**D05** 5.66:1 (160 B5 Motor Frame)

### Base Plate (Digit 13) IEC Motors

**C** Carbon Steel (Epoxy painted)

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## METERING SOLUTIONS™

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