

# Hydra·Cell<sup>®</sup>

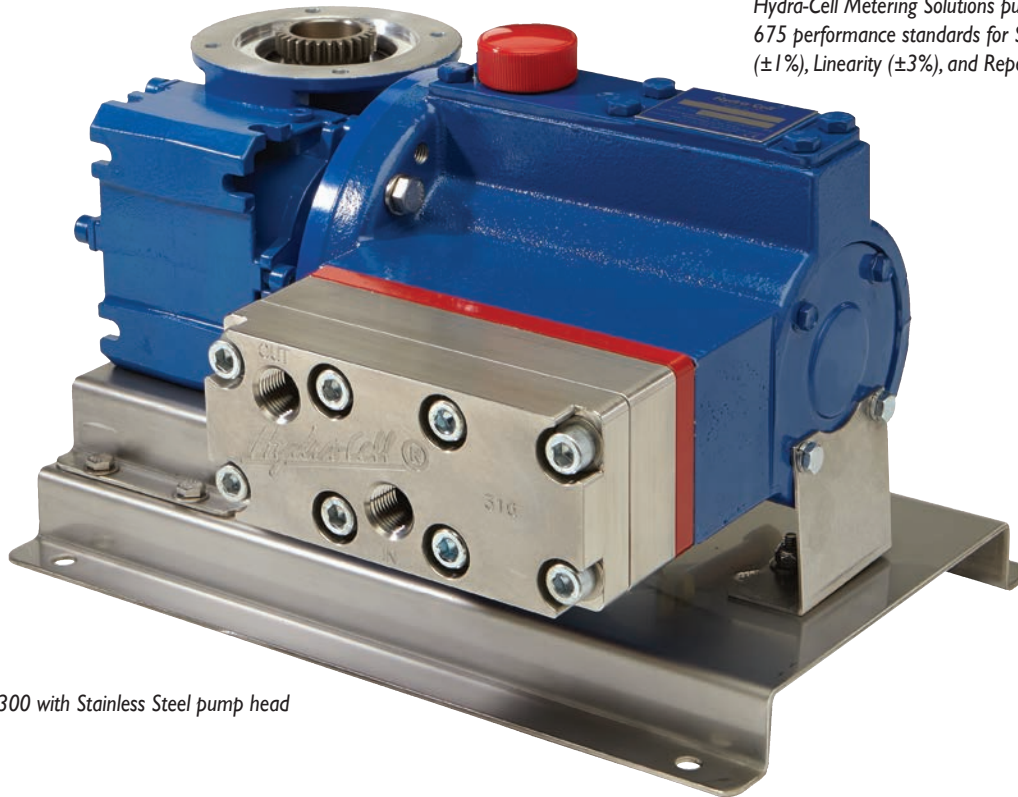
## METERING SOLUTIONS<sup>™</sup>

### P300 Series

Maximum Flow Rate: 81.4 gph (256.8 lph)

Maximum Pressure: 2500 psi (172 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 ( $\pm 3\%$ ).*



*P300 with 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 and equipment savings
- 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 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	1500 psi	2500 psi			
3.221	3.183	3.014	2.741	30	60:1	1800
3.895	3.849	3.655	3.350	36	50:1	
4.939	4.882	4.607	4.272	45	40:1	
6.639	6.548	6.194	5.786	60	30:1	
7.999	7.881	7.463	6.998	72	25:1	
10.04	9.880	9.368	8.815	90	20:1	
13.44	13.21	12.54	11.84	120	15:1	
20.24	19.88	18.89	17.90	180	10:1	
27.03	26.54	25.24	23.96	240	7.5:1	
40.63	39.87	37.93	36.08	360	5:1	
54.23	53.20	50.63	48.19	480	7.5:1	3600
81.42	79.85	76.02		720	5:1	

### Required Motor hp

1/4	1/2	3/4	1	1-1/2	2
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### Maximum Flow (lph) at Designated Pressure (bar)

7 bar	Metallic Pump Heads Only (lph)			Pump rpm	Gear Ratio	Motor rpm
	34 bar	103 bar	172 bar			
10.16	10.04	9.51	8.648	25	60:1	1500
12.29	12.14	11.53	10.57	30	50:1	
15.58	15.40	14.53	13.47	37.5	40:1	
20.94	20.66	19.54	18.25	50	30:1	
25.23	24.86	23.54	22.07	60	25:1	
31.66	31.17	29.55	27.81	75	20:1	
42.39	41.68	39.56	37.36	100	15:1	
63.83	62.70	59.59	56.47	150	10:1	
85.28	83.72	79.61	75.58	200	7.5:1	
128.2	125.8	119.7	113.8	300	5:1	
171.1	167.8	159.7	152.0	400	7.5:1	3000
256.8	251.9	239.8	228.5	600	5:1	

### Required Motor kW

0.18	0.25	0.37	0.55	0.75	1.1	1.5
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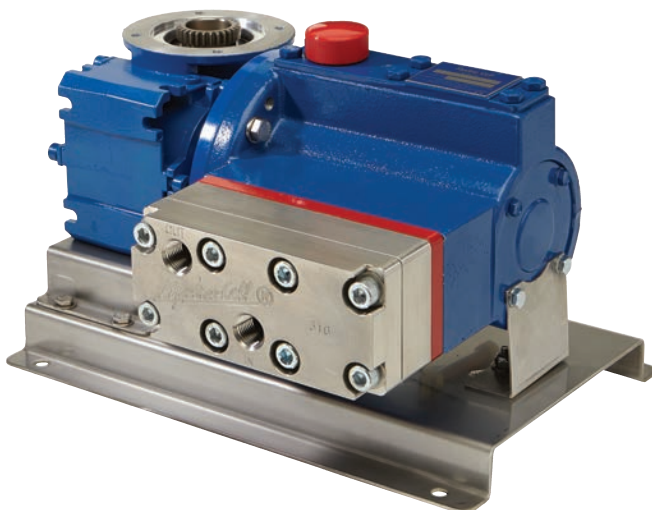
## Pump Data

Diaphragms per Liquid End	3
Flow Control	Electronic variable speed drive
Maximum Discharge Pressure	
Metallic Heads:	2500 psi (172 bar)
Maximum Inlet Pressure	500 psi (34 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	500 microns
Inlet Port	1/2 inch NPT or BSPT
Discharge Port	1/2 inch NPT or BSPT
Shaft Rotation	Bi-directional
Oil Capacity	1.1 US quarts (1.05 liters)
Weight (less motor)	
Metallic Heads:	54.5 lbs (24.7 kg)
Dimensions (less motor)	
<i>For NEMA 56 motor frames only; see page 6 for other motor frame sizes.</i>	
Metallic Heads:	15.79" W x 12.25" D x 9.46" H (401.2 mm W x 311.0 mm D x 240.2 mm H)

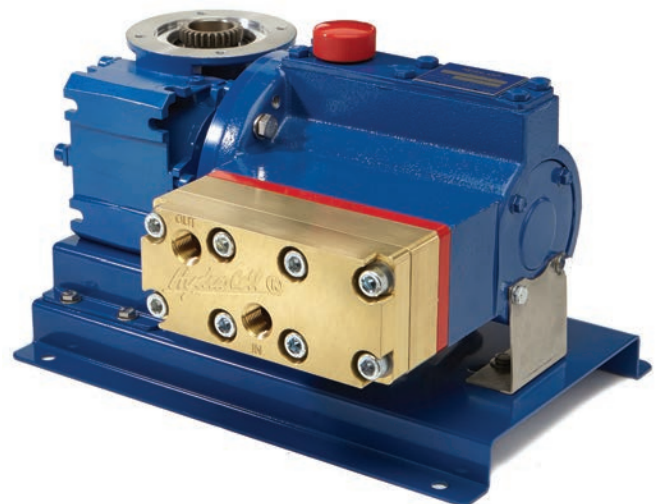
## Accessories, Options and Services

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



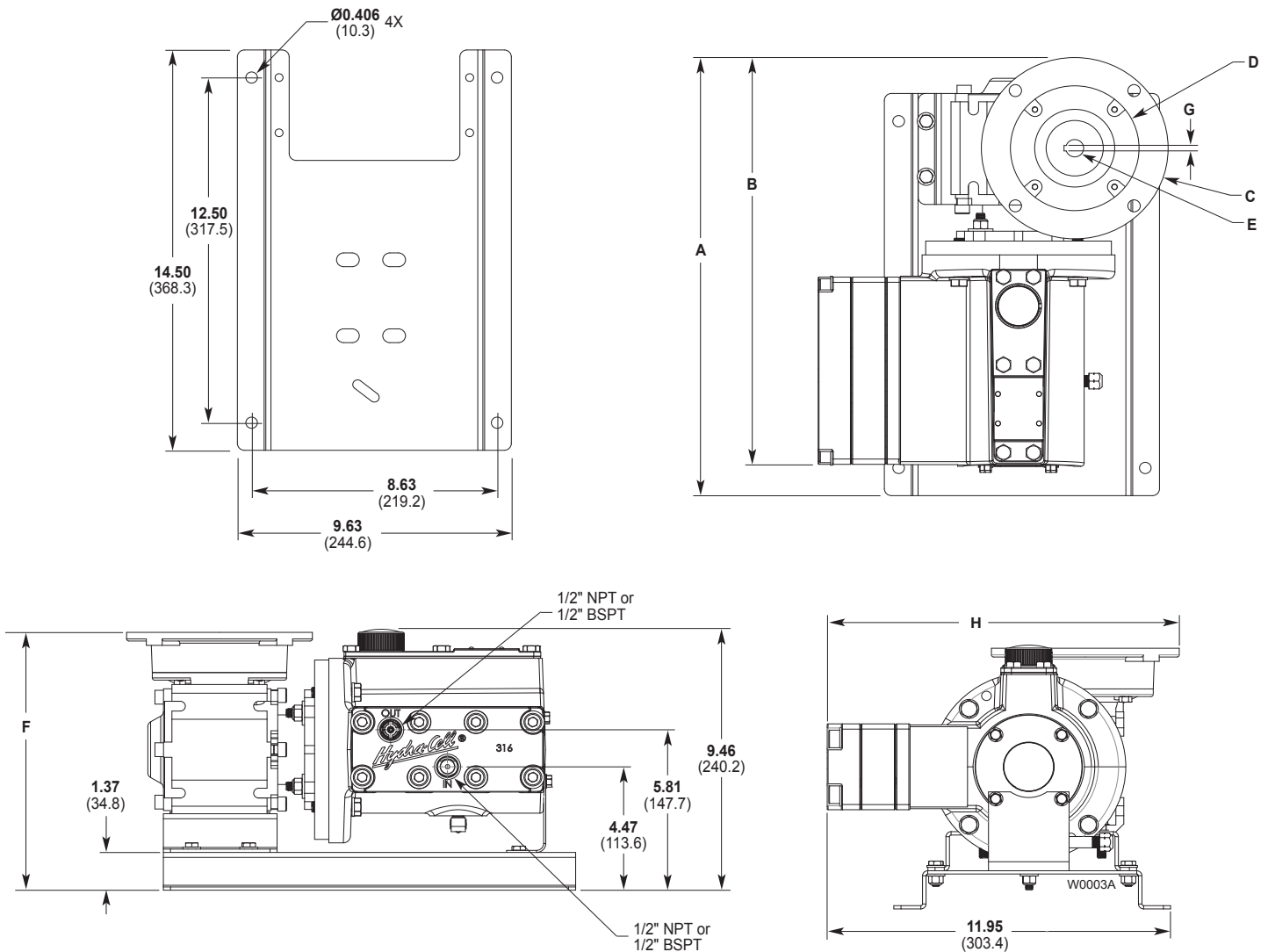
P300 with Hastelloy C pump head



P300 with Brass pump head

## Representative Drawings

### Metallic Pump Heads Inches (mm)



### Dimensions: Inches (mm)

Input Frame Size	A	B	C	D	E	F	G (Square Key)	H
NEMA 56C	15.79 (401.2)	14.70 (373.3)	Ø 6.54 (Ø 166)	Ø 4.50 (Ø 114.3)	Ø 0.62 (Ø 15.7)	9.35 (237.4)	0.187 (4.75)	12.25 (311)
NEMA 143/145TC	15.79 (401.2)	14.70 (373.3)	Ø 6.54 (Ø 166)	Ø 4.50 (Ø 114.3)	Ø 0.87 (Ø 22.2)	9.82 (249.4)	0.187 (4.75)	12.25 (311)
IEC 63 B5	15.28 (388.1)	14.19 (360.4)	Ø 5.51 (Ø 140)	Ø 3.74 (Ø 95)	Ø 0.43 (Ø 11)	9.17 (232.9)	0.157 (4)	11.73 (298.1)
IEC 71 B5	15.67 (398)	14.58 (370.3)	Ø 6.30 (Ø 160)	Ø 4.33 (Ø 110)	Ø 0.55 (Ø 14)	9.17 (232.9)	0.196 (5)	12.13 (308.1)
IEC 80 B5	16.46 (418.1)	15.37 (390.4)	Ø 7.87 (Ø 200)	Ø 5.12 (Ø 130)	Ø 0.75 (Ø 19)	9.17 (232.9)	0.236 (6)	12.91 (327.9)
IEC 90 B5	16.46 (418.1)	15.37 (390.4)	Ø 7.87 (Ø 200)	Ø 5.12 (Ø 130)	Ø 0.94 (Ø 24)	9.69 (246.9)	0.315 (8)	12.91 (327.9)

# P300 Series

## How to Order

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

<b>1</b>	<b>P</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>5</b>		<b>6</b>		<b>7</b>		<b>8</b>		<b>9</b>		<b>10</b>		<b>11</b>		<b>12</b>		<b>13</b>	
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### Pump Configuration (Digits 1-4)

**P300** For all P300 Pumps (Non Kel-Cell)

### Pump Version (Digit 5)

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

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

**B** Brass / Hastelloy C  
**R** 304 Stainless Steel / Hastelloy C  
**S** 316L Stainless Steel / Hastelloy C  
**T** Hastelloy C / Hastelloy C

### Diaphragm & O-ring Material / Oil (Digit 7)<sup>▲</sup>

**A** Aflas / PTFE O-rings (Synthetic oil)  
**M** Aflas / PTFE O-rings & FKM drive case elastomers (Mesamoll oil)  
**E** EPDM (EPDM-compatible oil)  
**X** FKM (Synthetic oil)  
**J** PTFE (Food-contact oil)  
**T** Buna-N (Standard oil)

<sup>▲</sup> See price list for different actuating oils available with these materials.

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

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

**SS** Elgiloy / Nitronic 50 / Nitronic 50  
**TT** Hastelloy C / Hastelloy C / Hastelloy C  
**SD** Elgiloy / Tungsten Carbide / Tungsten Carbide  
**TD** Hastelloy C / Tungsten Carbide / Tungsten Carbide

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

**060** 60:1 (56C Motor Frame)  
**050** 50:1 (56C Motor Frame)  
**040** 40:1 (56C Motor Frame)  
**030** 30:1 (56C Motor Frame)  
**025** 25:1 (56C Motor Frame)  
**020** 20:1 (56C Motor Frame)  
**015** 15:1 (56C Motor Frame)  
**010** 10:1 (56C Motor Frame)  
**007** 7.5:1 (56C Motor Frame)  
**A07** 7.5:1 (143/145TC Motor Frame)  
**005** 5:1 (56C Motor Frame)  
**A05** 5:1 (143/145TC Motor Frame)

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

**060** 60:1 (63 B5 Motor Frame)  
**050** 50:1 (63 B5 Motor Frame)  
**040** 40:1 (63 B5 Motor Frame)  
**C40** 40:1 (90 B5 Motor Frame)  
**A30** 30:1 (71 B5 Motor Frame)  
**C30** 30:1 (90 B5 Motor Frame)  
**A25** 25:1 (71 B5 Motor Frame)  
**A20** 20:1 (71 B5 Motor Frame)  
**C20** 20:1 (90 B5 Motor Frame)  
**A15** 15:1 (71 B5 Motor Frame)  
**C15** 15:1 (90 B5 Motor Frame)  
**A10** 10:1 (71 B5 Motor Frame)  
**B10** 10:1 (80 B5 Motor Frame)  
**C10** 10:1 (90 B5 Motor Frame)  
**A07** 7.5:1 (71 B5 Motor Frame)  
**B07** 7.5:1 (80 B5 Motor Frame)  
**C07** 7.5:1 (90 B5 Motor Frame)  
**A05** 5:1 (71 B5 Motor Frame)  
**B05** 5:1 (80 B5 Motor Frame)  
**C05** 5:1 (90 B5 Motor Frame)

### Base Plate (Digit 13)

**C** Carbon Steel (Epoxy painted)  
**S** 304 Stainless Steel

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## METERING SOLUTIONS™

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