

# Hydra•Cell<sup>®</sup>

## METERING SOLUTIONS™

### PI00 Series

Maximum Flow Rate: 85.0 lph  
Maximum Pressure: 1500 psi (103 bar) for Metallic Pump Heads  
350 psi (24 bar) for Non-metallic Pump Heads

PI00 with Brass pump head



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

### 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

\*See Note on Page 3



PI00 with Polypropylene pump head



PI00 with Stainless Steel pump head

## Performance\* Maximum Estimated Flow at Designated Pressure

All Pumps (lph)		Metallic Pump Heads Only (lph)			Pump rpm	Gear Ratio	Motor rpm
7 bar	17 bar	34 bar	69 bar	103 bar			
3.425	3.396	3.337	3.203	3.095	23.33	60:1	1500
4.150	4.102	4.016	3.850	3.735	28.00	50:1	
5.140	5.135	5.068	4.841	4.708	35.00	40:1	
6.916	6.884	6.777	6.486	6.307	46.67	30:1	
8.336	8.283	8.145	7.801	7.587	56.00	25:1	
10.47	10.38	10.20	9.774	9.507	70.00	20:1	
14.02	13.88	13.61	13.06	12.71	93.33	15:1	
21.12	20.88	20.45	19.64	19.11	140.0	10:1	
28.22	27.87	27.29	26.22	25.50	186.7	7.5:1	
42.43	41.87	40.96	39.37	38.30	280.0	5:1	
56.63	55.86	54.64	52.53	51.10	373.3	7.5:1	3000
85.04	83.85	81.98	78.84	76.70	560.0	5:1	

\* Capacity data is shown for pumps with elastomeric diaphragms. Consult factory for performance characteristics of pumps with PTFE diaphragms.

## Required Motor kW

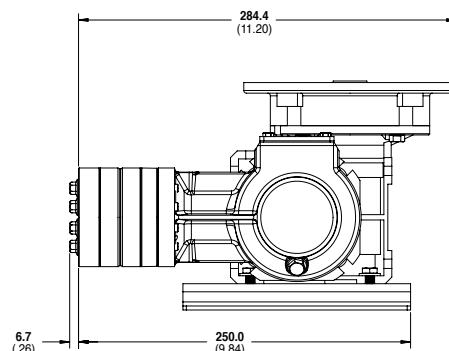
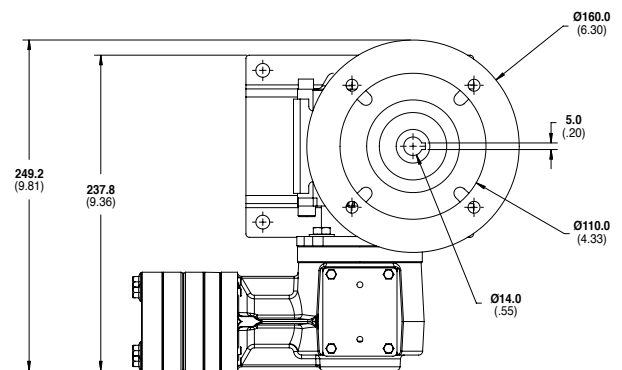
0.18    0.37    0.55

## Pump Data

Diaphragms per Liquid End	1
Flow Control	Electronic variable speed drive
Maximum Discharge Pressure	
Metallic Heads:	1500 psi (103 bar)
Non-metallic Heads:	PVDF- 350 psi (24 bar) Polypropylene- 250 psi (17 bar)
Maximum Inlet Pressure	250 psi (17 bar)
Maximum Operating Temperature	
Metallic Heads:	250 °F (121 °C)*
Non-metallic Heads:	140 °F (60 °C)
Inlet Port	1/2 inch NPT or BSPT
Discharge Port	3/8 inch NPT or BSPT
Weight (less motor)	
Metallic Heads:	21.3 lbs (9.7 kg)
Non-metallic Heads:	19.2 lbs (8.7 kg)
Dimensions (less motor)	
Metallic Heads:	9.93" W x 11.58" D x 6.92" H (252.2 mm W x 297.1 mm D x 175.8 mm H)
Non-metallic Heads:	9.93" W x 11.87" D x 6.92" H (252.2 mm W x 301.5 mm D x 175.8 mm H)

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

## Representative Drawings mm (Inches)



**Metallic Pump Heads**

## 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	1	0	0									

### Pump Model Size (Digits 1-4)

**P100** For all P100 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  
**M** PVDF / PVDF  
**P** Polypropylene / Polypropylene  
**S** 316L Stainless Steel / Hastelloy C  
**T** Hastelloy C / Hastelloy C

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

**A** Atlas / PTFE O-rings (Synthetic oil)  
**E** EPDM (EPDM-compatible oil)  
**X** FKM (Synthetic oil)  
**J** PTFE (Food-contact oil)  
**P** Neoprene (Synthetic oil)  
**T** Buna-N (Synthetic 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 / 316L SST / Nitronic 50  
**TT** Hastelloy C / Hastelloy C / Hastelloy C  
**SC** Elgiloy / Ceramic / Ceramic  
**TC** Hastelloy C / Ceramic / Ceramic

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

<b>060</b>	60:1	(63 B5 Motor Frame)
<b>050</b>	50:1	(63 B5 Motor Frame)
<b>A40</b>	40:1	(71 B5 Motor Frame)
<b>A30</b>	30:1	(71 B5 Motor Frame)
<b>A25</b>	25:1	(71 B5 Motor Frame)
<b>A20</b>	20:1	(71 B5 Motor Frame)
<b>A15</b>	15:1	(71 B5 Motor Frame)
<b>A10</b>	10:1	(71 B5 Motor Frame)
<b>A07</b>	7.5:1	(71 B5 Motor Frame)
<b>A05</b>	5:1	(71 B5 Motor Frame)

### Base Plate (Digit 13)

**C** Carbon Steel (Epoxy painted)  
**S** 316L Stainless Steel

## Accessories, Options & Services

Consult the Hydra-Cell Metering Solutions catalog for complete details about available accessories and options as well as special services.

- Manifolds and Flanges
- Multiplexing Capability
- Different Gearbox Ratios
- Oil Systems and Kits
- Actuating Oils
- Motors (Standard/Explosion-proof)
- 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

**\*Note:** Since the P100 is the only single-diaphragm pump model in the Hydra-Cell Metering Solutions line, it is recommended that pulsation dampeners be used to achieve virtually pulse-free flow.



Hydra-Cell Metering Solutions demonstration unit complete with the Control Freak™ touch-screen metering controller.

# Hydra•Cell<sup>®</sup>

## METERING SOLUTIONS™

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