

## P300 Series Electronic Precision Metering Pumps

Maximum Flow Rate: 242.1 lph

Maximum Pressure: 172 bar for Metallic Pump Heads



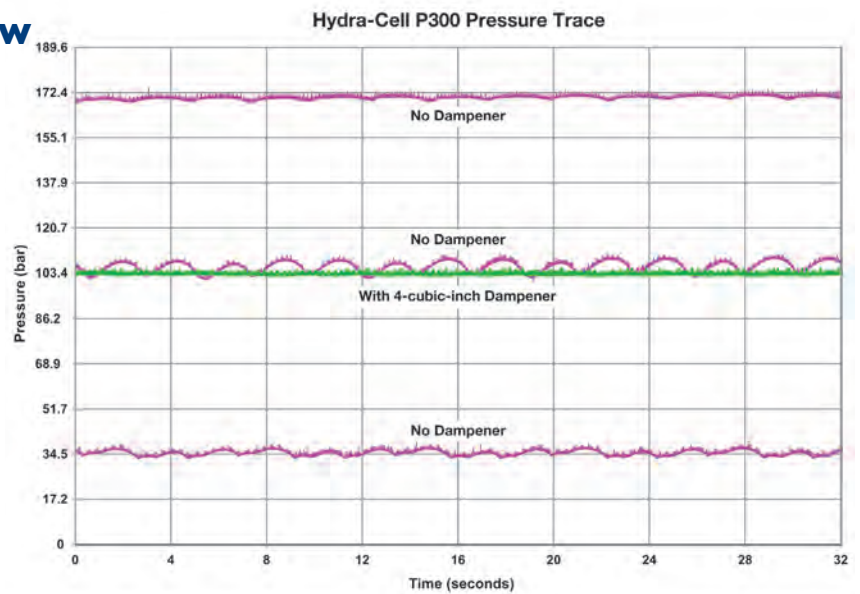
Hydra-Cell Metering Solutions pumps meet or exceed API 675 performance standards for Steady-State Accuracy ( $\pm 1\%$ ), Linearity ( $\pm 3\%$ ), and Repeatability ( $\pm 3\%$ ).

### Unique Multiple Diaphragm Design for Linear, Pulse-free Flow

Hydra-Cell Metering Solutions P300 pumps feature three diaphragms in one pump head. This unique design enables Hydra-Cell to provide virtually “pulse-free” flow without the need to buy expensive pulsation dampeners.

- Minimises pipe strain and other maintenance; enhances operator safety
- Reduces acceleration/friction losses in the suction line
- Provides accurate metering with linear, constant flow

*Hydra-Cell can eliminate the need for expensive pulsation dampeners because, as the graph shows, it provides virtually pulse-less flow.*



# P300 Series

## Performance - Maximum Flow at Designated Pressure\*

Metallic Pump Heads Only (lph)				Pump rpm	Gear- box Ratio	Motor rpm
7 bar	34 bar	103 bar	172 bar			
6.05	5.52	4.24	3.02	14.5	100:1	1450
7.62	7.07	5.72	4.40	18.13	80:1	
10.24	9.65	8.18	6.71	24.17	60:1	
12.33	11.71	10.14	8.56	29	50:1	
15.46	14.80	13.09	11.33	36.25	40:1	
20.69	19.95	18.00	15.94	48.33	30:1	
24.88	24.07	21.94	19.63	58	25:1	
31.15	30.25	27.83	25.17	72.5	20:1	
41.61	40.55	37.66	34.41	96.67	15:1	
62.53	61.16	57.32	52.87	145	10:1	
83.44	81.76	76.97	71.33	193.33	7.5:1	
125.3	123.0	116.3	108.3	290	5:1	
161.3	158.5	150.2	140.1	373.3	7.5:1	
242.1	238.1	226.1	211.4	560	5:1	

### Required Motor kW

0.18	0.37	0.55	0.75	1.1	1.5
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\* Capacity data is shown for pumps with elastomeric diaphragms.  
Consult factory for performance characteristics with PTFE diaphragms.

### Mechanical Adjustment Controller

- ATEX Zone I
- Linear fine adjustment scale on hand-wheel
- High reliability due to frictionless design



### Electronic Adjustment Controller

- ATEX Dust Zone 2I (Ex tb III CT I25c Db)
- IP55 Standard
- Flow adjustment scale via hand-wheel



### Mechanical Adjustment Controller - all flow rates in litres/hour

7 bar		34 bar		103 bar		172 bar		Pump rpm	Gearbox Ratio	Model Number	Required Motor Size
Min	Max	Min	Max	Min	Max	Min	Max				
4.10	17.08	3.60	16.40	2.40	14.60	1.30	12.76	10 - 40	15:1	MR3-80B14	0.75kW 4-Pole (1450 rpm)
	25.74		24.92		22.73		20.40	10 - 60	10:1		
	34.40		33.45		30.86		28.05	10 - 80	7.5:1		
	51.70		50.50		47.12		43.34	10 - 120	5:1	MR5-80B14	1.1kW 4-Pole (1450 rpm) 1.1kW 2-Pole (2800 rpm)
	69.02		67.55		63.38		58.62	10 - 160	7.5:1		
	103.64		101.66		95.90		89.20	10 - 240	5:1		

### Electronic Adjustment Controller - all flow rates in litres/hour

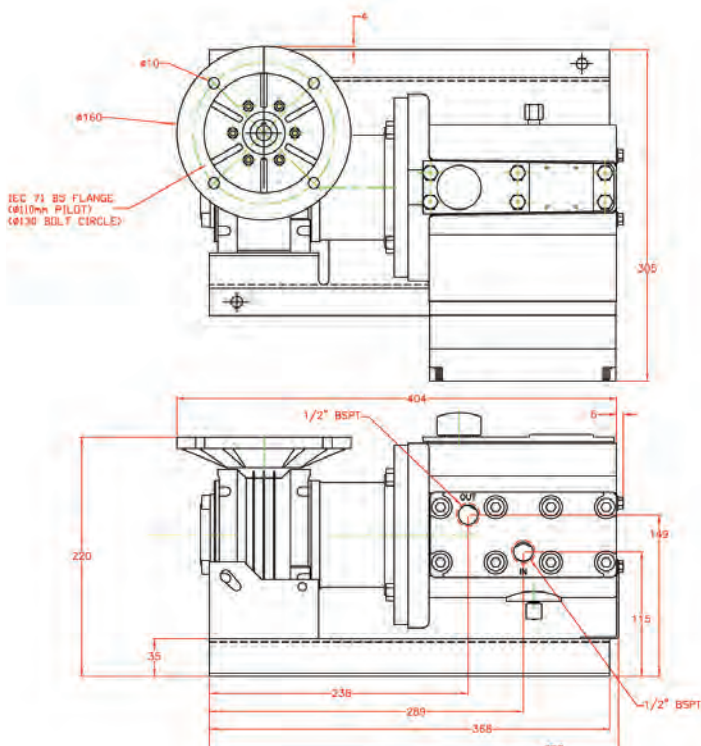
7 bar		34 bar		103 bar		172 bar		Pump rpm	Gearbox Ratio	Model Number	Motor Size (Included)
Min	Max	Min	Max	Min	Max	Min	Max				
4.10	23.14	3.60	22.36	2.40	20.30	1.30	18.11	10-54	40:1	LS90 - 1.5	1.5kW 4-Pole (1450 rpm)
	30.93		30.04		27.60		25.00	10-72	30:1		
	37.43		36.43		33.70		30.73	10-87	25:1		
	46.95		45.81		42.65		39.13	10 - 109	20:1		
	62.53		61.16		57.28		52.90	10 - 145	15:1		
	93.69		91.85		86.55		80.41	10 - 217	10:1		
	125.28		122.97		116.22		108.30	10 - 290	7.5:1		
	188.03		184.80		175.16		163.72	10 - 435	5:1		

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## Specifications

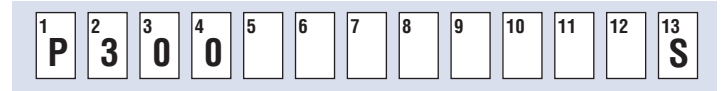
<b>Diaphragms per Liquid End</b>	3
<b>Flow Control</b>	Electronic variable speed drive
<b>Maximum Discharge Pressure</b>	
Metallic Heads:	172 bar
<b>Maximum Inlet Pressure</b>	34 bar
<b>Maximum Liquid Operating Temperature</b>	
Metallic Heads:	121 °C - Consult factory for correct component selection for temperatures greater 71 °C.
<b>Maximum Solids Size</b>	500 microns
<b>Inlet Port</b>	1/2 inch BSPT
<b>Discharge Port</b>	1/2 inch BSPT
<b>Shaft Rotation</b>	Reverse (bi-directional)
<b>Oil Capacity</b>	1.05 liters
<b>Weight (less motor)</b>	
Metallic Heads:	23.2 kg
<b>Dimensions (less motor)</b>	
Metallic Heads:	407 mm W x 311 mm D x 244 mm H
<b>Controllers</b>	
Mechanical Adjustment:	220 mm D x 155 mm H for <b>MR3</b> (7.2 kg) 245 mm D x 200 mm H for <b>MR5</b> (13.8 kg)
Electronic Controller:	200 mm W x 300 mm D x 370 mm H (19 kg)

## Representative Drawings (in mm)



## Pump Ordering Information

A complete pump order number contains 13 digits based on the specified pump materials listed below. Contact your Hydra-Cell sales representative for accompanying motor drive options.



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

**P300** For all P300 Pumps

### Pump Version (Digit 5)

**M** BSPT Ports  
**A** ATEX Zone 1 (BSPT Ports)

### Pump Head Material (Digit 6)

**R** 304 Stainless Steel with ANSI Flanges  
**S** 316L Stainless Steel

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

**E** EPDM (EPDM-compatible oil)  
**G** FKM (Mineral oil)  
**S** FKM (Food-contact oil)  
**X** FKM (Synthetic oil)  
**J** PTFE (Food-contact oil)  
**W** PTFE (Synthetic oil)  
*(Note: PTFE diaphragms require a minimum suction pressure of 1 bar.)*  
**T** Buna-N (Mineral oil)  
**F** Buna-N (Food-contact oil)  
**Y** Buna-N (Synthetic oil)

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

(Valve Spring / Valve & Seat)

**SS** 316L SST / 316L SST

### Gearbox Ratio (Digits 10-12)

<b>100</b>	100:1	(63 B5 Motor Frame)
<b>080</b>	80:1	(63 B5 Motor Frame)
<b>060</b>	60:1	(63 B5 Motor Frame)
<b>050</b>	50:1	(63 B5 Motor Frame)
<b>040</b>	40:1	(63 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>B10</b>	10:1	(80 B5 Motor Frame)
<b>A07</b>	7.5:1	(71 B5 Motor Frame)
<b>B07</b>	7.5:1	(80 B5 Motor Frame)
<b>B05</b>	5:1	(80 B5 Motor Frame)
<b>C05</b>	5:1	(90 B5 Motor Frame)

### Base Plate (Digit 13)

**S** 316L Stainless Steel

## Calibration Cylinders

Port Size	Cylinder Size (mL)	Cylinder Capacity (lph)	Maximum Shaft (rpm)	Part Number BSPT Ports	Dimensions - mm	
					Height	Diameter
PVC Cylinders						
1/2"	200	24	75	111-001-B	482.6	38.1
3/4"	1000	120	300	111-003-B	558.8	63.5
1"	2000	240	600	111-004-B	508.0	94.0
2"	10000	1200	1750	111-006-B	660.4	184.2
Glass Cylinders						
1/2"	200	24	75	111-011-B	533.4	63.5
3/4"	1000	120	300	111-013-B	685.8	88.9
1"	2000	240	600	111-014-B	685.8	127.0



## Back Pressure & Pressure Relief Valves

Port Size	Maximum Flow (lph)	Wetted* Materials	Pressure Adjustment Range (bar)	Maximum Temp. (°C)	Part Number	
					Back Pressure Valves (BSPT Ports)	Pressure Relief Valves (BSPT Ports)
1/2"	450	Polypropylene	0.7 - 10.3	60	111-121-B	111-421-B
1/2"	450	PVDF	0.7 - 10.3	60	111-123-B	111-423-B
1/2"	450	316 SST	0.7 - 10.3	149	111-126-B	111-426-B
1/2"	450	Hastelloy C	0.7 - 10.3	149	111-130-B	111-430-B
1/2"	450	316 SST	3.5 - 24	149	111-127-B	111-427-B
1/2"	450	Hastelloy C	3.5 - 24	149	111-131-B	111-431-B
1/2"	2650	316 SST	13.8 - 138	149		111-726-B
High Pressure	2650	Hastelloy C	13.8 - 138	149		111-730-B



\* Diaphragm material is PTFE on all models. Other materials available on request.

Hastelloy® C is a registered trademark of Haynes International, Inc.

## Standards Compliance



- API 675 performance testing, both witnessed and non-witnessed available (consult your local Wanner office for further details)

**Hydra-Cell® Seal-less Pumps from Wanner: Partners in more than 70 Countries Worldwide.**

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