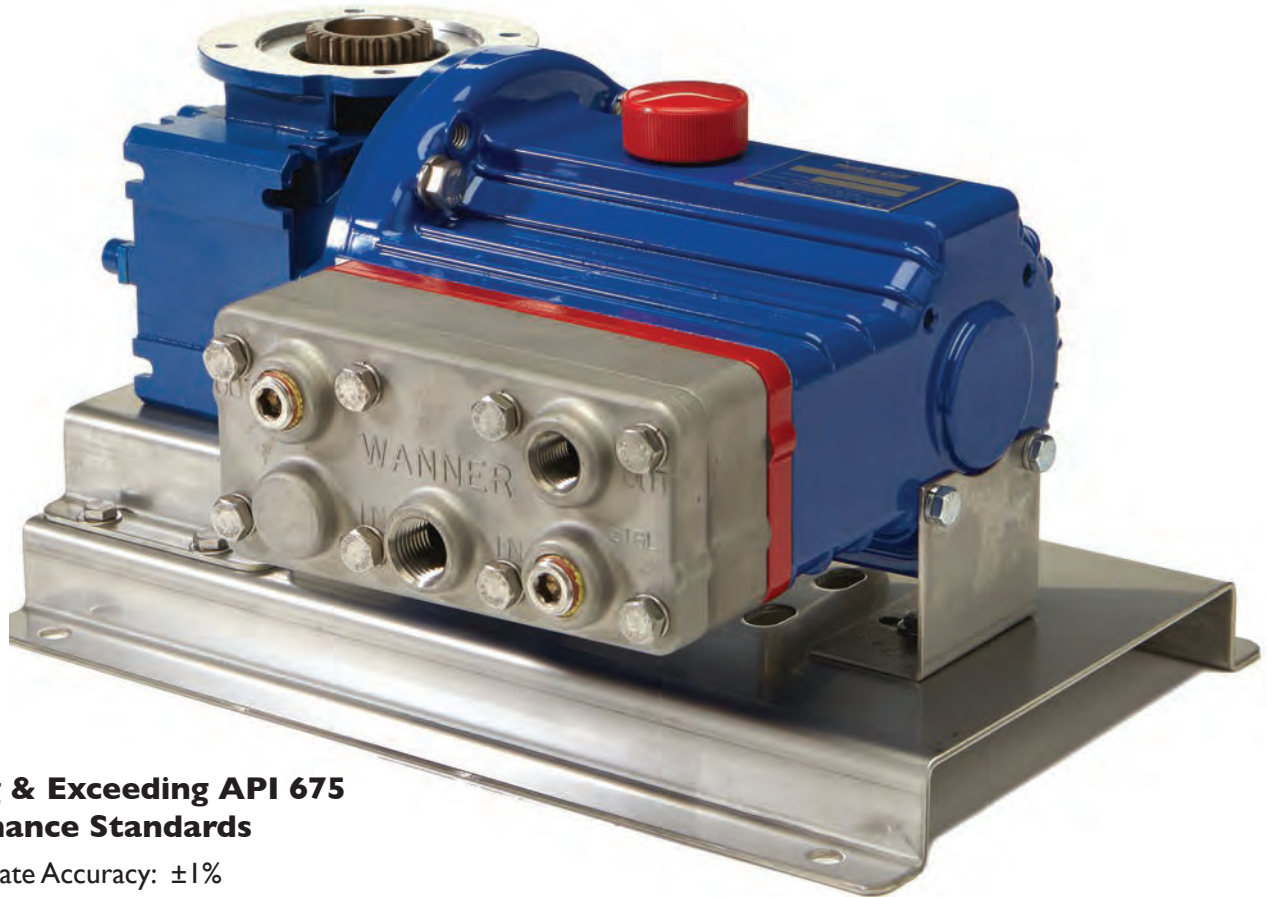


P200 Series Electronic Precision Metering Pumps

Maximum Flow Rate: 255 L/hr

Maximum Pressure: 69 bar for Metallic Pump Heads
24 bar for Non-metallic Pump Heads



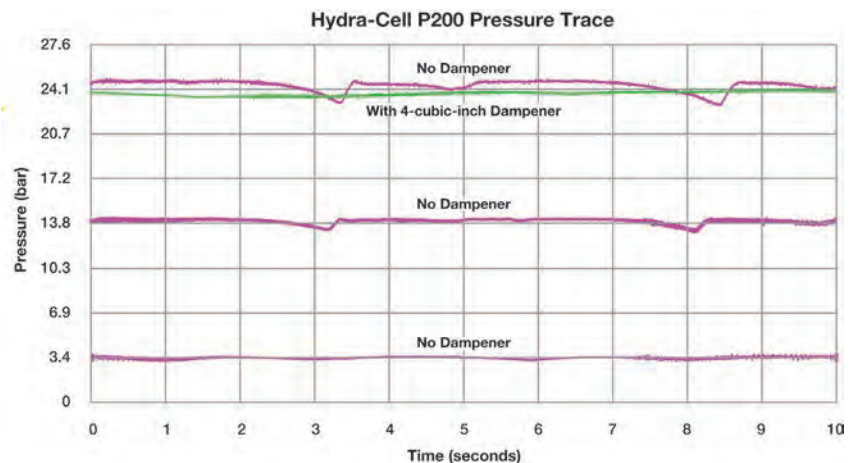
Meeting & Exceeding API 675 Performance Standards

- Steady State Accuracy: $\pm 1\%$
- Linearity: $\pm 3\%$ (over a 10 to 1 turn-down as per API 675)
- Repeatability: $\pm 3\%$
- Infinite turn-down achievable

Unique Multiple Diaphragm Design for Linear, Pulse-free Flow

Hydra-Cell Metering Solutions P200 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.

Performance - Flow Capacities and Pressure Ratings

For Synchronous Speed, Self-cooled Motors
L/hr Maximum Flow at Designated Pressure

L/hr All Pumps		L/hr Metallic Pump Heads Only		Pump RPM	Gear Ratio	Motor RPM
7 Bar	17 Bar	34 Bar	69 Bar			
10.6	10.5	10.2	9.9	25	60:1	1500
12.8	12.6	12.3	11.9	30	50:1	
16.0	15.8	15.5	15.0	37.5	40:1	
21.3	21.1	20.7	20.0	50	30:1	
25.6	25.3	24.8	24.1	60	25:1	
32.0	31.6	31.1	30.2	75	20:1	
42.6	42.2	41.5	40.3	100	15:1	
63.9	63.2	62.2	60.5	150	10:1	
85.1	84.3	83.0	80.8	200	7.5:1	
127.7	126.5	124.6	121.3	300	5:1	
170.3	168.7	166.1	161.8	400	7.5:1	3000
255.4	253.0	249.2	242.8	600	5:1	

Required Motor kW

0.18	0.37	0.75
------	------	------

Notes:

- The motor kW are based on ambient temperature conditions up to 40°C. For ambient temperatures above 40°C, please contact Wanner International.
- Contact factory for performance specifications.
- Based on using IE2 motors.
- Maximum continuous motor speed is 1800 rpm at full pressure.
- For intermittent or reduced pressure duties, please contact Wanner International.

For 10:1 Turndown, Self-cooled Motors
L/hr Maximum Flow at Designated Pressure

L/hr All Pumps		L/hr Metallic Pump Heads Only		Pump RPM	Gear Ratio	Motor RPM
7 Bar	17 Bar	34 Bar	69 Bar			
10.6	10.5	10.2	9.9	25	60:1	1500
12.8	12.6	12.3	11.9	30	50:1	
16.0	15.8	15.5	15.0	37.5	40:1	
21.3	21.1	20.7	20.0	50	30:1	
25.6	25.3	24.8	24.1	60	25:1	
32.0	31.6	31.1	30.2	75	20:1	
42.6	42.2	41.5	40.3	100	15:1	
63.9	63.3	62.2	60.5	150	10:1	
85.1	84.3	83.0	80.8	200	7.5:1	
127.7	126.5	124.6	121.3	300	5:1	
170.3	168.7	166.1	161.8	400	7.5:1	3000
255.4	253.0	249.2	242.8	600	5:1	

Required Motor kW

0.18	0.25	0.37	0.55	0.75	1.1
1.5					

Notes:

- The motor kW are based on ambient temperature conditions up to 25°C. For ambient temperatures above 25°C, Force-cooled Motors may be required. Please contact Wanner International.
 - Contact factory for performance specifications.
 - Based on using IE2 motors.
 - Maximum continuous motor speed is 1800 rpm at full pressure.
 - For intermittent or reduced pressure duties, please contact Wanner International.
- See Page 6 for **Electronic Flow Rate Controller**.

Mechanical Adjustment Controller for ATEX/Explosive Areas

All Min/Max flow rates in litres/hour

	7 bar		17 bar		34 bar		69 bar		Pump rpm	Gearbox Ratio	Model Number	Required Motor Size & Frame
	Min	Max	Min	Max	Min	Max	Min	Max				
2.0		10.2	1.9	10.0	1.9	9.8	1.6	9.4	5 - 24	25:1	MEC3 - 71B14	0.25kW / IEC 71 / 4-Pole
		12.8		12.6		12.3		11.8	5 - 30	20:1		
		17.1		16.9		16.5		16.0	5 - 40	15:1		
		25.6		25.3		24.8		24.1	5 - 60	10:1		
		34.1		33.7		33.1		32.2	5 - 80	7.5:1	MEC5 - 80B14	0.37kW / IEC 71 / 4-Pole
		51.1		50.6		49.8		48.4	5 - 120	5:1		
		68.1		67.5		66.4		64.6	5 - 160	7.5:1		
		102.2		101.2		99.6		97.0	5 - 240	5:1		

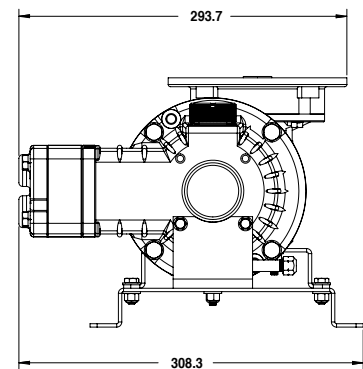
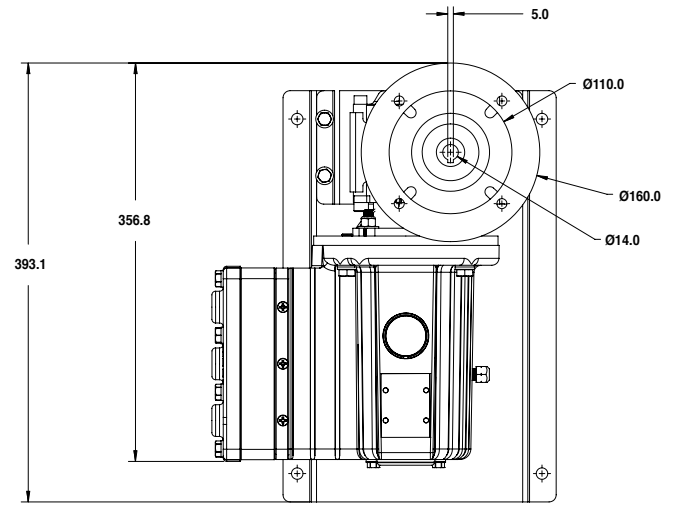
P200 Series

Specifications

Diaphragms per Liquid End	3
Flow Control	Electronic variable speed drive
Maximum Discharge Pressure	
Metallic Heads:	69 bar
Non-metallic Heads:	PVDF to 24 bar Polypropylene to 17 bar
Maximum Inlet Pressure	17 bar
Maximum Liquid Operating Temperature	
Metallic Heads:	121 °C - Consult factory for correct component selection for temperatures greater 71 °C.
Non-metallic Heads:	PVDF to 80 °C Polypropylene to 60 °C
Maximum Solids Size	200 microns
Inlet Port	1/2 inch BSPT
Discharge Port	3/8 inch BSPT
Shaft Rotation	Reverse (bi-directional)
Oil Capacity	0.95 litres
Weight (less motor)	
Metallic Heads:	19.0 kg
Non-metallic Heads:	14.9 kg
Dimensions (less motor)	
Metallic Heads:	396.1 mm W x 296.7 mm D x 227.8 mm H
Non-metallic Heads:	396.1 mm W x 306.3 mm D x 227.8 mm H
Controllers	
Mechanical Adjustment:	220 mm D x 155 mm H for MEC3 (7.2 kg)
Electronic Controller:	215 mm W x 280 mm D x 300 mm H (10 kg)

Representative Drawings (mm)

Metallic Pump Heads



P200 with Polypropylene pump head



P200 with Brass pump head

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.

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

Pump Model Size (Digits 1-4)

P200 For all P200 Pumps (Non Kel-Cell)

Pump Version (Digit 5)

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

ATEX reducer must be ordered in conjunction with one of the ATEX Certification Kit Options below.

Category 2, Zone 1

Part Number	Description
ATEX-Z1-G03/P200	Kit-ATEX Category 2, Zone 1 IIB T4 G03/P200

Category 3, Zone 2

Part Number	Description
ATEX-Z2-G03/P200	Kit-ATEX Category 3, Zone 2 IIC T4 G03/P200

Notes:

- All options include Certificate, Oil Level Monitor, Earth Stud & Secondary ATEX Label.
- Extra oil is required to fill the oil bowl during installation of ATEX pumps. This oil is not included and must be ordered separately.

Pump Head / Retainer Material (Digit 6)

B Brass / Hastelloy C
M PVDF / PVDF
P Polypropylene / Polypropylene
R 316L Stainless Steel with ANSI RF Flanges, Class 300lb x 600lb / Hastelloy C
- 316L Stainless Steel with DIN Flanges, Class PN40 DN20 x PN100 DN15♦
S 316L Stainless Steel / Hastelloy C
- 316L Stainless Steel with Tri-clamp (1" Inlet & 3/4" discharge) Flanges polished to 0.8 Ra♦
- 316L Stainless Steel with Tri-clamp (1" Inlet & 3/4" discharge) Flanges polished to 0.4 Ra♦
Tri-clamp options include polishing of Pump Head, Valve Plate, Valves, Valve Seats, Springs & Retainers to 0.8 Ra or 0.4 Ra per above, Sanitary Drain along with TSE, Passivation, Surface Finish & Weld Procedure Certificates
T Hastelloy CW12MW / Hastelloy C
♦ Selecting this option will result in a Wanner International generated Pump Code, stamped onto the pump.

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

A Alflas / PTFE o-ring (Synthetic oil)
M Atlas / PTFE o-ring & FKM drive case elastomers (Mesamoll oil)
E EPDM (EPDM-compatible oil)
G FKM (Standard oil)
S FKM (Food-contact oil)
X FKM (Synthetic oil)
J PTFE (Food-contact oil)
W PTFE (Synthetic oil)
Note: PTFE diaphragms require flooded suction.
P Neoprene (Standard oil)
R Neoprene (Food-contact oil)
Z Neoprene (Synthetic oil)
T Buna-N (Standard oil)
F Buna-N (Food-contact oil)
Y Buna-N (Synthetic oil)

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

060	60:1	(63 B5 Motor Frame)
050	50:1	(63 B5 Motor Frame)
040	40:1	(63 B5 Motor Frame)
B40	40:1	(80 B5 Motor Frame)
030	30:1	(63 B5 Motor Frame)
B30	30:1	(80 B5 Motor Frame)
025	25:1	(63 B5 Motor Frame)
020	20:1	(63 B5 Motor Frame)
B20	20:1	(80 B5 Motor Frame)
015	15:1	(63 B5 Motor Frame)
A15	15:1	(71 B5 Motor Frame)
010	10:1	(63 B5 Motor Frame)
A10	10:1	(71 B5 Motor Frame)
B10	10:1	(80 B5 Motor Frame)
007	7.5:1	(63 B5 Motor Frame)
A07	7.5:1	(71 B5 Motor Frame)
B07	7.5:1	(80 B5 Motor Frame)
005	5:1	(63 B5 Motor Frame)
A05	5:1	(71 B5 Motor Frame)
B05	5:1	(80 B5 Motor Frame)

Note: These are Wanner standard options. Other flange sizes are available upon request.

Base Plate (Digit 13)

C Carbon Steel (Epoxy painted)
S 304 Stainless Steel

Notes:

- Please consult factory for rpm below 6.
- Constant torque drives are required to meet API 675 performance standards.
- Ensure that the motor chosen is capable of delivering the torque and power required over the full range of adjustment. (Contact Wanner International for values.)
- IEC motor size has been calculated assuming IE2 performance as defined by IEC 60034-30.

Calibration Cylinders

Port Size	Cylinder Size (mL)	Cylinder Capacity (L/h)	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	--	111-006-B	635.0	176.5.0
Glass Cylinders						
1/4"	30	3.6	36	111-010-B	355.6	35.6
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 (L/h) Pulsating	Wetted* Materials	Pressure Adjustment Range (bar)	Maximum Temp. (°C)	Part Number	
					Back Pressure Valves (BSPT Ports)	Pressure Relief Valves (BSPT Ports)
3/8" (DN 10)	757	Polypropylene	0.7 - 10.3	90	111-101-B	111-401-B
	757	PVDF	0.7 - 10.3	90	111-103-B	111-403-B
	757	316 SST	0.7 - 10.3	149	111-106-B	111-406-B
	757	Hastelloy C	0.7 - 10.3	149	111-110-B	111-410-B
3/8" (DN 10)	757	316 SST	3.5 - 24	149	111-107-B	111-407-B
	757	Hastelloy C	3.5 - 24	149	111-111-B	111-411-B
3/8" High Pressure (DN 10)	2650	316 SST	24 - 172	149		111-706-B
	2650	Hastelloy C	24 - 172	149		111-710-B



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

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

Metering and Dosing Control Options

Electronic Flow Rate Adjustment for Local Control

- Force-cooled Drives supplied as standard
- ATEX Dust Zone 2I (Ex tb III CTI25c Db)
- IP66 Standard
- Various flow rate adjustments options including:
 1. On-board potentiometer(s)
 2. On-board key-pad controller with flow rate display
 3. Removable, hand-held key-pad controller for authorised personnel only
 4. Use the 10:1 Turndown table on Page 2 to select the correct motor kW for ambient temperatures up to 25°C

Maximum Flow at Designated Pressure (see table on Page 2)



On-board keypad control

Hand-held keypad control

Mechanical Flow Rate Adjustment for Local Control

- ATEX Zone I
- Linear fine adjustment scale on hand-wheel
- High reliability due to frictionless design
- Option to fit a mechanical lock to prevent unauthorised flow rate change



Control Freak™ for Sophisticated Local Control

- Option available to control up to 6 x Hydra-Cell pumps with one Hydra-Cell “Control Freak”
- Multiple Variable Frequency Drive (VFD) options
- Enables programming for flow rate or totalisation
- Allows up to 10 x separate batch sequences
- Built-in Calibration mode



P200 Series



WANNER

Hydra-Cell®

Partners in over 70 Countries

Standards Compliance



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

 **Wanner International Ltd.™**

**WANNER INTERNATIONAL
UNITED KINGDOM**

8 & 9 Fleet Business Park
Sandy Lane • Church Crookham
Hampshire UK GU52 8BF
t +44(0) 1252 816847
e: sales@wannerint.com

OFFICIAL UK DISTRIBUTOR:
Michael Smith Engineers Limited
www.michael-smith-engineers.co.uk
0800 316 7891

 **Wanner Engineering, Inc.™**

**WANNER ENGINEERING
WORLD HEADQUARTERS &
MANUFACTURING
Minneapolis USA**

t+1 612-332-5681
e: sales@wannereng.com

**REGIONAL OFFICE
Texas USA**

t+1 940-322-7111
e: sales@wannereng.com

**LATIN AMERICAN OFFICE
São Paulo, Brazil**

t +55 (11) 99582-1969
e: sales@wannereng.com

 **Wanner Pumps Ltd.™**

**WANNER PUMPS
Kowloon HONG KONG**

t +852 3428 6634
e: sales@wannerpumps.com

Shanghai CHINA

t +88 21 6876 3700
e: sales@wannerpumps.com

www.hydra-cell.co.uk