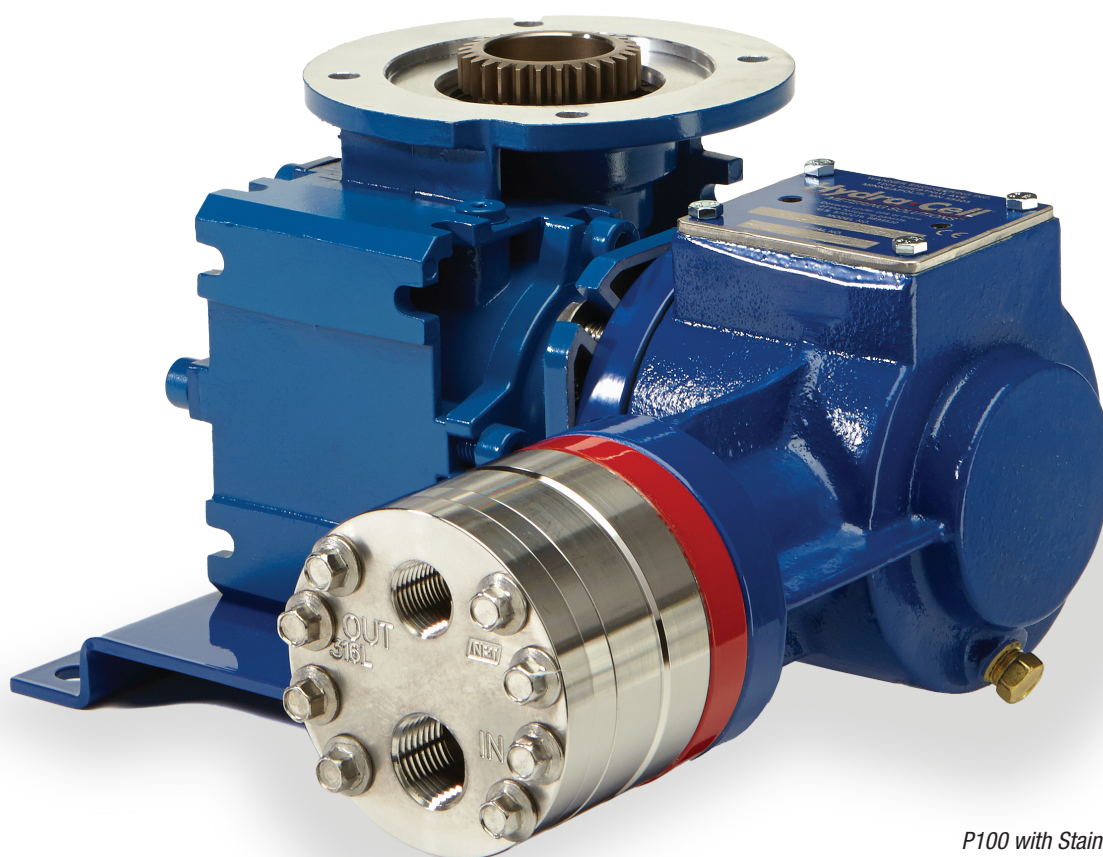


P100 PRO SERIES METERING PUMPS

Maximum Flow Rate: 85 L/hr (27 US gph)

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

WANNER™ HYDRA-CELL® PRO
METERING PUMP SOLUTIONS



P100 with Stainless Steel pump head

A higher standard of metering performance and energy efficiency.

- Integrates **Wanner Hydra-Cell® Pro** seal-less pump technologies for the highest levels of volumetric and energy efficiencies across the full turndown – 0 to max flow – for accurate metering performance.
- Seal-less design with no mechanical dynamic seals, packing, or cups to leak, wear or replace.
- Compact design, saving valuable plant space.
- Exceeds API 675 standards for steady-state accuracy ($\pm 1\%$), linearity ($\pm 3\%$), and repeatability ($\pm 3\%$) over a wide adjustable range.
- Hydraulic oil management system replenishes on every back stroke, for superior accuracy and reliable operation at low- and high-suction pressures.
- Unique valve design reliably handles a wide range of viscosities and shear sensitivities, plus corrosive liquids, abrasives, slurries and suspended solids.
- Pumped liquid is 100% contained, preventing degradation, contamination and emissions.
- Lower total cost of ownership in acquisition, operation, service, maintenance, and energy use.

Performance - Flow Capacities and Pressure Ratings

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

All Pumps (L/hr)		Metallic Pump Heads Only (L/hr)			Pump rpm	Gear ratio	Motor rpm
7 bar	17 bar	34 bar	69 bar	100 bar			
3.4	3.4	3.3	3.2	N/A	25	60:1	1500
4.1	4.1	4.0	3.9	N/A	30	50:1	
5.1	5.1	5.1	4.8	4.7	37.5	40:1	
6.9	6.9	6.8	6.5	6.3	50	30:1	
8.3	8.3	8.1	7.8	7.6	60	25:1	
10.5	10.4	10.2	9.8	9.5	75	20:1	
14.0	13.9	13.6	13.1	12.7	100	15:1	
21.1	20.9	20.4	19.6	19.1	150	10:1	
28.2	27.9	27.3	26.2	25.5	200	7.5:1	3000
42.4	41.9	41.0	39.4	38.3	300	5:1	
56.6	55.9	54.6	52.5	51.1	400	7.5:1	
85.0	83.8	82.0	78.8	76.7	600	5:1	

Notes:

1. The motor kW are based on ambient temperature conditions up to 40°C. For ambient temperatures above 40°C, please contact Wanner International.
2. Contact factory for performance specifications.
3. Based on using IE3 motors.
4. For intermittent or reduced pressure duties, please contact Wanner International.

Required Motor kW

0.18	0.25	0.37	0.55	0.75
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For 10:1 Turndown, Self-cooled Motors L/hr Maximum Flow at Designated Pressure

All Pumps (L/hr)		Metallic Pump Heads Only (L/hr)			Pump rpm	Gear ratio	Motor rpm
7 bar	17 bar	34 bar	69 bar	100 bar			
3.4	3.4	3.3	3.2	N/A	25	60:1	1500
4.1	4.1	4.0	3.8	N/A	30	50:1	
5.1	5.1	5.1	4.8	4.7	37.5	40:1	
6.9	6.9	6.8	6.5	6.2	50	30:1	
8.3	8.3	8.1	7.8	7.6	60	25:1	
10.5	10.4	10.2	9.8	9.5	75	20:1	
14.0	13.9	13.6	13.1	12.7	100	15:1	
21.1	20.9	20.4	19.6	19.1	150	10:1	
28.2	27.9	27.3	26.2	25.5	200	7.5:1	3000
42.4	41.9	41.0	39.4	38.3	300	5:1	
56.6	55.9	54.6	52.5	51.1	400	7.5:1	
85.0	83.8	82.0	78.8	76.7	600	5:1	

Notes:

1. 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.
2. Contact factory for performance specifications.
3. Based on using IE3 motors.
4. For intermittent or reduced pressure duties, please contact Wanner International.

Required Motor kW

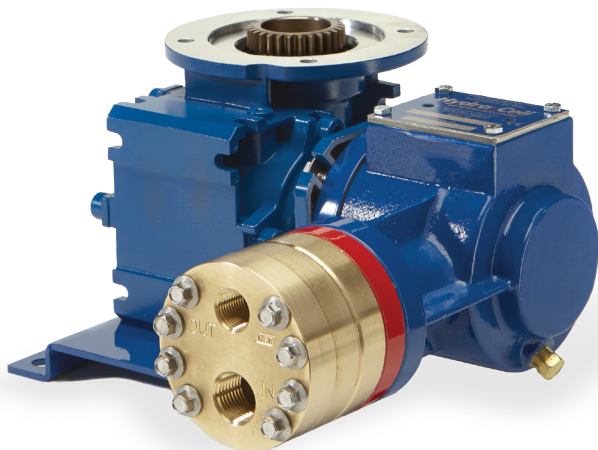
0.18	0.25	0.37	0.55	0.75	1.1
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Due to the Wanner Engineering Continuous Improvement Program, specifications and other data are subject to change.

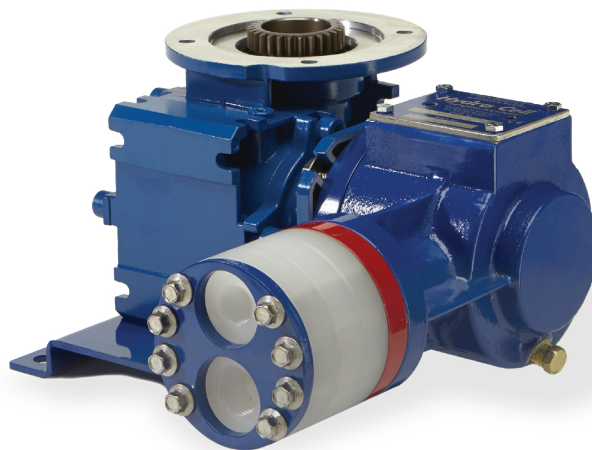
P100 Pro Series | Features & Specifications

Pump Data

Diaphragms per Liquid End	1
Flow Control	Electronic variable speed drive
Maximum Discharge Pressure	
Metallic Heads:	103 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 to 71°C.
Non-Metallic Heads:	PVDF to 80°C
	Polypropylene to 60°C
<i>Consult factory for temperatures outside this range</i>	
Maximum Solids Size	200 microns
Inlet Port	1/2 inch BSPT
Discharge Port	3/8 inch BSPT
Maximum Solids Size	200 microns
Shaft Rotation	Reverse (bi-directional)
Oil Capacity	0.12 litres
Suction Lift Capability	6.1 meters (20 feet)
Weight (less motor)	
Metallic Heads:	9.7 kg
Non-metallic Heads:	8.7kg
Dimensions (less motor)	
Metallic Heads:	252.2 mm W x 287.4 mm D x 175.8 mm H
Non-metallic Heads:	252.2 mm W x 294.9 mm D x 175.8 mm H



P100 with brass pump head



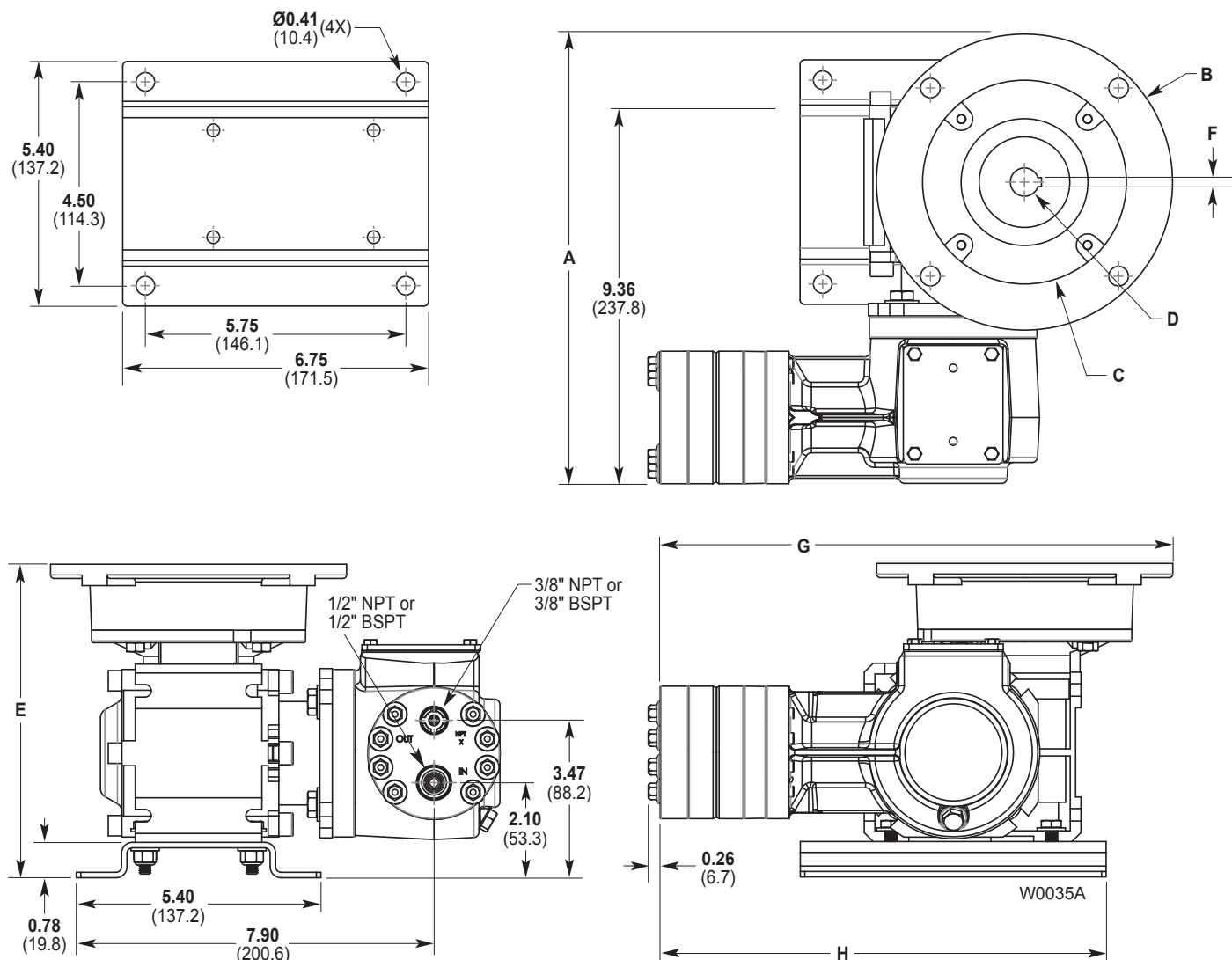
P100 with Polypropylene pump head

Due to the Wanner Engineering Continuous Improvement Program, specifications and other data are subject to change.

P100 Pro Series | Representative Drawings

Metallic Pump Heads Inches (mm)

Metallic Pump Heads (IEC 71 B5 Motor/Frame)



Dimensions: Inches (mm)

Input Frame Size	A	B	C	D	E	F (Square Key)	G		H	
							Metallic Pump Head	Plastic Pump Head	Metallic Pump Head	Plastic Pump Head
IEC 63 B5	9.42 (239)	Ø 5.51 (Ø 140)	Ø 3.74 (Ø 95)	Ø .43 (Ø 11)	6.74 (171.3)	0.157 (4)	10.80 (274.3)	11.09 (281.7)	9.84 (250)	10.09 (256.3)
IEC 71 B5	9.81 (249.2)	Ø 6.30 (Ø 160)	Ø 4.33 (Ø 110)	Ø .55 (Ø 14)	6.74 (171.3)	0.196 (5)	11.20 (284.5)	11.49 (291.8)	9.84 (250)	10.09 (256.3)
IEC 80 B5	10.59 (260)	Ø 7.87 (Ø 200)	Ø 5.12 (Ø 130)	Ø .75 (Ø 19)	6.74 (171.3)	0.237 (6)	11.98 (304.29)	12.27 (311.6)	9.84 (250)	10.09 (256.3)

Note: Dimensions are for reference only. Contact factory for certified drawings.

Metering and Dosing Control Options

Electronic Flow Rate Adjustment for Local Control

- Force-cooled Drives supplied as standard
- 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

Accessories, Options and Services

Consult Wanner International 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
- 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
- Customisation Services

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

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	180	111-001-B	482.6	38.1
3/4"	1000	120	1000	111-003-B	558.8	53.5
1"	2000	240	1750	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	30	111-010-B	355.6	35.6
1/2"	200	24	180	111-011-B	533.4	63.5
3/4"	1000	120	1000	111-013-B	685.8	88.9
1"	2000	240	1750	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 (BSPT Ports)	Part Number Back Pressure Valves (BSPT Ports)
3/8" (DN 10)	757	Polypropylene	0.7 - 10.3	90	111-101-B	111-401-B
LoFlo	757	PVDF	0.7 - 10.3	149	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
	757	Hastelloy C	0.7 - 10.3	149	111-111-B	111-411-B
3/8" (DN 10)	757	316 SST	3.5 - 24	149	111-107-B	111-407-B
LoFlo	757	Hastelloy C	3.5 - 24	149	111-111-B	111-411-B
3/8" (DN 10)	2650	316 SST	24 - 172	149		111-706-B
High Pressure	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.

Pulsation Dampeners Plastic Construction (4 cubic inch)

Bladder	Maximum Bar	Polypropylene Part No.	Min./Max. Temp Range	PVDF Part No.	Min./Max. Temp Range
Buna-N	10	110-999-B	0° to 79° C	110-020-B	-12° to 88° C
Neoprene	10	110-101-B	0° to 79° C	110-022-B	-12° to 93° C
EPDM	10	110-104-B	0° to 79° C	110-023-B	-12° to 121° C
FKM	10	110-106-B	0° to 79° C	110-026-B	-12° to 121° C
PTFE	10	110-109-B	5° to 79° C	110-028-B	-5° to 121° C



Metallic Construction (4 cubic inch)

Bladder	Maximum Bar	SST Part No.	Maximum Bar	Hastelloy C Part No.	Min./Max. Temp Range	Maximum Bar	SST Part No.
Buna-N	69	110-060-B	69	110-090-B	-12° to 88° C	275	110-370-B
Neoprene	69	110-062-B	69	110-092-B	-18° to 93° C		N/A
EPDM	69	110-063-B	69	110-093-B	-40° to 140° C	275	110-373-B
FKM	60	110-065-B	60	110-095-B	-23° to 177° C	275	110-375-B
PTFE	41.4	110-068-B	41.4	110-098-B	5° to 121° C	138	110-368-B

* Applies to 4-cu in. 12-cu-in. metallic models

Due to the Wanner Engineering Continuous Improvement Program, specifications and other data are subject to change.

P100 Pro Series | How to Order

Ordering Information

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									

Digit	Order Code	Description
1-4	P100	For all P100 Pumps (Non Kel-Cell)
5		Pump Version
	N	NPT Ports (NEMA motors only)
	M	BSPT Ports (IEC motors only)
6		Pump Head / Retainer Material
	B	Brass / Hastelloy C
	M	PVDF / PVDF
	P	Polypropylene / Polypropylene
	S	316L Stainless Steel / Hastelloy C
	T	Hastelloy C / Hastelloy C
7		Diaphragm & O-ring Material / Oil
	A	Aflas / PTFE o-ring (Synthetic oil)
	E	EPDM (EPDM-compatible oil)
	S	FKM (Food-contact oil)
	X	FKM (Synthetic oil)
	J	PTFE (Food-contact oil)
	W	PTFE (Synthetic oil)
		<i>Note: PTFE diaphragms require flooded suction.</i>
	P	Neoprene (Synthetic oil)
	R	Neoprene (Food-contact oil)
	T	Buna-N (Synthetic oil)
	F	Buna-N (Food-contact oil)
8-9		Check Valve Material (Valve Spring / Valve Seat / Valve)
	SS	Elgiloy / 316L SST / Nitronic 50
	TT	TT Hastelloy C / Hastelloy C / Hastelloy C
	SC	SC Elgiloy / Ceramic / Ceramic
	TC	TC Hastelloy C / Ceramic / Ceramic

Digit	Order Code	Description
10-12		Gearbox Ratio / IEC Motors
	060	60:1 (63 B5 Motor Frame)
	050	50:1 (63 B5 Motor Frame)
	A40	40:1 (71 B5 Motor Frame)
	030	30:1 (63 B5 Motor Frame)
	A30	30:1 (71 B5 Motor Frame)
	A25	25:1 (71 B5 Motor Frame)
	A20	20:1 (71 B5 Motor Frame)
	A15	15:1 (71 B5 Motor Frame)
	A10	10:1 (71 B5 Motor Frame)
	A07	7.5:1 (71 B5 Motor Frame)
	B07	7.5:1 (80 B5 Motor Frame)
	A05	5:1 (71 B5 Motor Frame)
	B05	5:1 (80 B5 Motor Frame)
13		Baseplate
	C	Carbon Steel (Epoxy painted)
	S	304 Stainless Steel

Notes:

1. Please consult factory for rpm below 6.
2. Constant torque drives are required to meet API 675 performance standards.
3. Ensure that the motor chosen is capable of delivering the torque and power required over the full range of adjustment. (Consult factory for values.)
4. IEC motor size has been calculated assuming IE3 performance as defined by IEC 60034-30.

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