Hydra-Cell®
METERING SOLUTIONS™

MT8 Pump

Maximum Flow Rate:	8.00 gph (30.28 lph)
Minimum Flow Rate:	0.06 gph (0.227 lph)
Maximum Pressure:	3500 psi (241 bar) for Metallic Pump Heads
	350 psi (24 bar) for Non-metallic Pump Heads

MT8 with Stainless Steel pump head

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

Hydra-Cell® MT8 Triplex Metering Pump with "Pulse-Free" Linear Flow

- Multiple-diaphragm design provides virtually pulse-free, linear flow without the need for expensive pulsation dampeners.
- Designed for low flow rates at high or low-to-medium pressures.
- Can run dry indefinitely without damage to the pump in the event of a blocked suction line or other conditions.
- Features simple-to-replace cartridge check valves with double-sealing surfaces.
- Electronic flow control increases accuracy and reliability.
- Available with manual flow adjustment that can be used in hazardous areas or for local flow control.
- The integral relief valve protects the pump from over pressurization on the discharge side.
- Handles a variety of processing fluids.
- 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 the entire pressure range.
- Seal-less design means no seals, cups, or packing to leak or replace.
- The patented overfill/underfill valve system ensures optimum actuating oil on every stroke for continuous accuracy and protects the pump and diaphragms.
- Rugged construction with sealing oil cap.
- Smaller footprint saves valuable space.

MT8 Pump

Hydra-Cell® METERING SOLUTIONS™

Performance

Maximum Flow at Designated Pressure for Pumps with Electronic Gearbox Reducers

All Pumps in Gallons per Hour (gph)					Pump	Gear	Motor
350 psi	500 psi	1500 psi	2500 psi	3500 psi	rpm	Ratio	rpm
0.479	0.473	0.429	0.387	0.349	18	100:1	
0.593	0.587	0.532	0.479	0.428	22.5	80:1	
0.784	0.776	0.703	0.635	0.567	30	60:1	
0.972	0.961	0.872	0.795	0.714	36	50:1	
1.189	1.177	1.089	0.985	0.888	45	40:1	
1.609	1.593	1.437	1.309	1.176	60	30:1	1800
2.336	2.312	2.105	1.924	1.727	90	20:1	
4.706	4.657	4.257	3.839	3.430	180	10:1	
6.218	6.156	5.556	5.064	4.464	240	7.5:1	
8.000*	8.000*	8.000*	7.320*	6.530*	360	5:1	

Required Motor hp

1/2

* *Flow rates above 8 gph are not guaranteed to meet API 675 Performance Standards; therefore, pump rpm should be limited to 315 at 350 psi and 352 at 1500 psi when using a 5:1 gear reducer and 1800 rpm motor. To reach 8 gph at pressures above 1700 psi with the same reducer and motor, the VFD will need to be programmed for operation above 60 Hz.*

All Pumps in Liters per Hour (lph)					Pump	Gear	Motor
24 bar	34 bar	103 bar	172 bar	241 bar	rpm	Ratio	rpm
1.567	1.492	1.353	1.221	1.101	15	100:1	
1.945	1.852	1.678	1.511	1.350	18.75	80:1	
2.570	2.448	2.218	2.003	1.789	25	60:1	
3.183	3.031	2.751	2.508	2.252	30	50:1	
3.899	3.713	3.435	3.107	2.801	37.5	40:1	
5.276	5.025	4.533	4.129	3.710	50	30:1	1500
7.658	7.293	6.640	6.069	5.448	75	20:1	
15.426	14.691	13.429	12.110	10.820	150	10:1	
20.390	19.419	17.526	15.974	14.082	200	7.5:1	
30.092*	28.659*	25.810*	23.091*	20.598*	300	5:1	

Required Motor kW

0.37

* *Flow rates above 30.28 lph are not guaranteed to meet API 675 Performance Standards. To reach a flow rate of 30.28 lph with a 5:1 gear box and 1500 rpm motor, the VFD will need to be programmed for operation above 50 Hz.*

Please Note:

Systems vary. The MT8 pump must be calibrated once installed to ensure optimum performance. The API 675 Performance Standard is achievable for flow rates as low as 0.06 gph (or 0.227 lph). Please contact the factory for assistance.

MT8 Pump

Hydra-Cell® METERING SOLUTIONS™

Performance

Maximum Flow at Designated Pressure for Pumps with Manual Variable Speed Gearbox

- Minimum flow rate of 0.06 gph (0.227 lph) can be achieved at a Manual Dial Setting of 0.1.
- Flow rates above 8 gph (30.28 lph) are not guaranteed to meet API 675 Performance Standards.
- Only use motors (1/2-hp or 0.37 kW) with turndown ratios to match the appropriate range of applications.

Flow Rates in Gallons per Hour (gph)

Manual Dial Setting	All Pumps 350 psi		Metalic Pump Heads Only 500 psi		1500 psi		2500 psi		3500 psi		Motor rpm
	Flow Rate	rpm	Flow Rate	rpm	Flow Rate	rpm	Flow Rate	rpm	Flow Rate	rpm	
1	1.85	70	1.85	71	1.62	70	1.44	70	1.28	70	
2	3.67	144	3.64	144	3.26	143	2.92	143	2.62	143	
3	5.56	213	5.51	214	4.90	213	4.40	212	3.93	211	1800
4	7.26	280	7.16	281	6.36	278	5.70	278	5.09	277	
5					7.75	343	6.94	342	6.17	341	
6									7.08	405	

Manual Dial Setting to achieve Maximum Flow Rate at pressures shown above											Motor rpm
4.45		4.50		5.17		5.87		6.90			
8.00	310	8.00	315	8.00	354	8.00	399	8.00	462	1800

Required Motor hp

1/2

Flow Rates in Liters per Hour (lph)

Manual Dial Setting	All Pumps 24 bar		Metalic Pump Heads Only 34 bar		103 bar		172 bar		241 bar		Motor rpm
	Flow Rate	rpm	Flow Rate	rpm	Flow Rate	rpm	Flow Rate	rpm	Flow Rate	rpm	
1	5.99	60	5.98	61	5.24	60	4.63	59	4.04	59	
2	11.53	121	11.39	121	10.21	120	9.24	120	8.11	120	
3	17.62	179	17.21	179	15.46	178	13.94	178	12.27	177	
4	23.04	234	22.64	235	20.31	233	18.28	232	16.12	231	1500
5	28.22	288	27.86	289	24.97	286	22.36	286	19.73	285	
6							26.09	339	23.23	338	
7							29.95	392	26.24	391	
8									29.59	444	

Manual Dial Setting to achieve Maximum Flow Rate at pressures shown above											Motor rpm
5.42		5.50		7.00		7.10		8.10			
30.28	310	30.28	315	30.28	355	30.28	397	30.28	448	1500

Required Motor kW

0.37

MT8 Pump

MT8 Triplex Metering Pump Applications






Designed for low flow rates at high pressures, the groundbreaking MT8 metering pump is ideal for a variety of applications:

- Chemical Metering and Injection
- Food and Beverage Processing
- High-pressure Chemical Reaction
- High-pressure Process Chromatography
- Oil and Gas (offshore and onshore)
- Personal Care Product Manufacturing
- Pharmaceutical Manufacturing
- Plastics Processing
- Polyurethane Foam Production
- Power Plant/Boiler Feed
- Water and Wastewater Treatment

MT8 with Manual Variable Speed Gearbox

The MT8 is optionally available with a manual adjustment controller to provide local control of the flow rate at the pump. It can be used in hazardous-duty locations and to expand the turndown ratio within the performance envelope of the pump.

MT8 Duplexing Option

Two MT8 pumps can be run with only one gearbox and one motor. This "duplexing" option doubles capacity with a smaller footprint and lower investment cost than conventional metering pumps.

MT8 Pump

Pump Data

Diaphragms per Liquid End	3
Flow Control	Electronic variable speed drive
Maximum Discharge Pressure	
Metallic Heads:	3500 psi (241 bar)
Non-metallic Heads:	350 psi (24 bar)
Maximum Inlet Pressure	
Metallic Heads:	500 psi (34 bar)
Non-metallic Heads:	300 psi (21 bar)
Operating Temperatures (min./max.)	
Metallic Heads:	40˚F (4.4˚C) to 250˚F (121˚C)
Non-metallic Heads:	40˚F (4.4˚C) to 140˚F (60˚C)
Consult factory for temperatures outside this range	
Inlet Port	1/4 inch NPT or BSPT
Discharge Port	1/4 inch NPT or BSPT
Maximum Solids Size	200 microns
Suction Lift Capability	20 feet (6.1 meters)
Shaft Rotation	Bi-directional
Oil Capacity	1.75 US quarts (1.7 liters)
Weight (less motor)	
Metallic Heads:	100 lbs. (45 kg)
Non-metallic Heads:	75 lbs. (34 kg)

Accessories, Options & Services

Consult Wanner Engineering for complete details about available accessories and options as well as special services.

- 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
- Testing Services
- System Components, Priming Kits and Plugs
- Replacement Part Kits and Tool Kits
- Pulsation Dampeners
- Customization Services

"Control Freak" Touch-screen Metering Controller for Sophisticated Local Control

Designed specifically for Hydra-Cell Metering Solutions pumps, Control Freak provides optimum motor speed control based on the desired flow and pressure ratings.

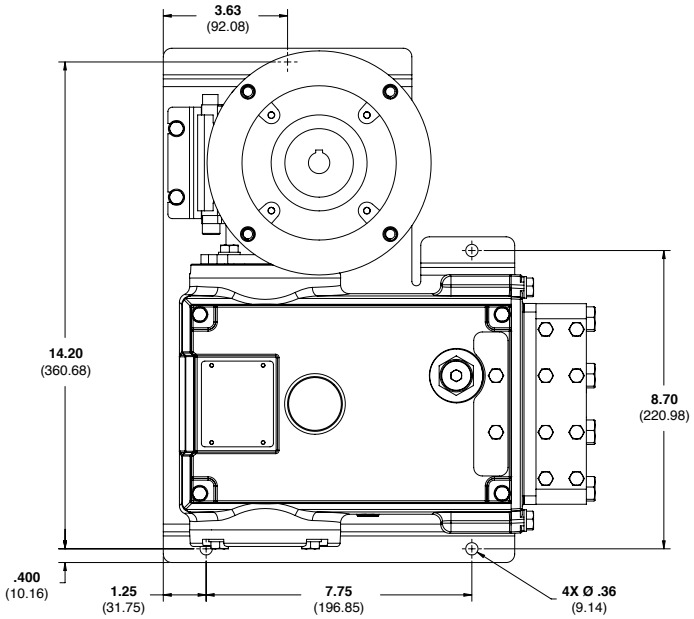
It features an easy-to-use touch-screen display that enables the user to enter the desired flow rate or volume (gallons or liters) and system pressure (psi or bar).

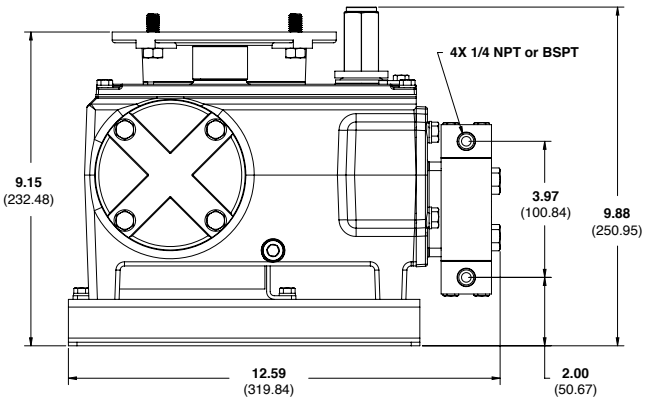
The controller automatically runs the pump manually at the desired flow rate, or volume total/time, or in pre-set batches.

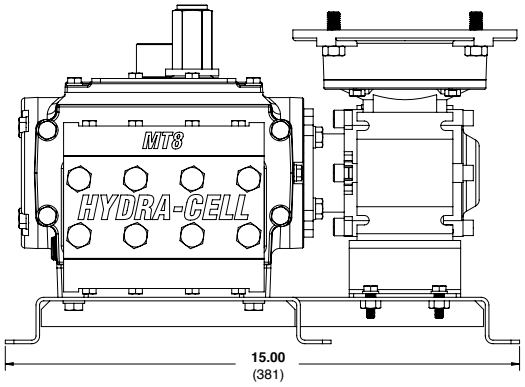
- Enables programming for the flow rate or for totalization of the recent process application as well as the life of the pump.
- Variable Frequency Drive (VFD) available in different hp or kW ratings.
- Option available to control up to six (6) pumps with one Hydra-Cell Control Freak screen.
- Allows up to 10 separate batch set-up screens.
- Built-in calibration mode.

Representative Drawings Inches (mm)

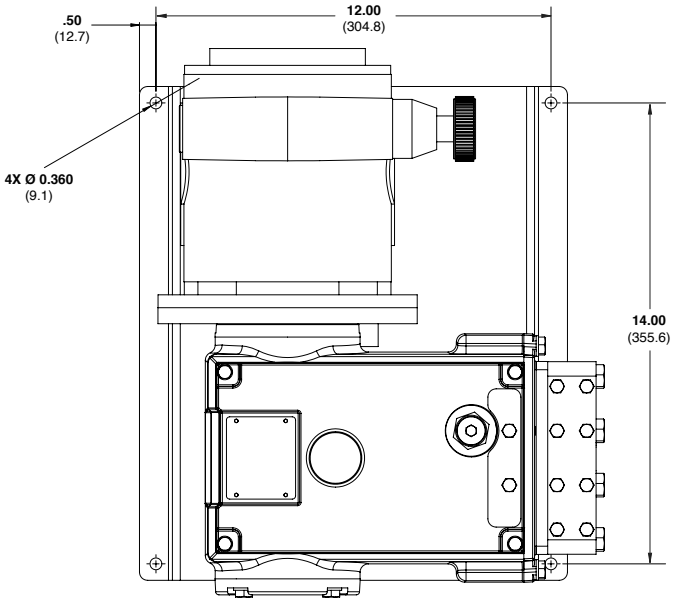
Metallic Pump Heads

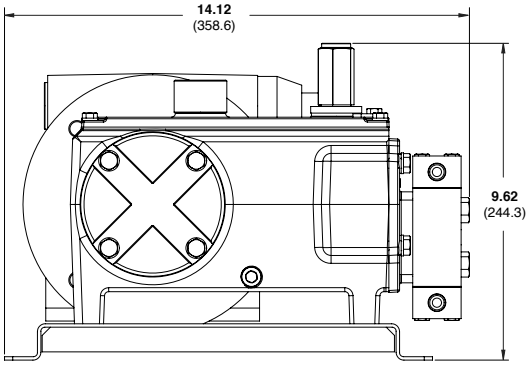


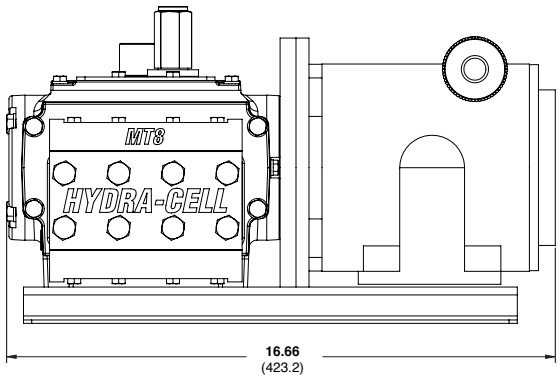




Metallic Heads with Manual Adjustment







Note: *Contact factory for additional drawings of specific models and configurations.*

How to Order

A complete pump order number contains 16 digits based on the specified pump materials listed below.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
M	T	0	8				J	N							

Pump Model Size (Digits 1-2)

MT	Metering Triplex Pumps

Pump Capacity (Digits 3-4)

08	0.06 - 8.00 gph (0.227 - 30.28 lph)

Pump Version (Digit 5)

N	NPT Ports
M	BSPT Ports

Pump Head (Digits 6-7)

SN	316 SST
TN	Hastelloy C
AN	Alloy 20
VN	PVC
MN	PVDF

Diaphragm (Digit 8)

J	PTFE

Leak Detection Style (Digit 9)

N	No leak detection

CV Ball/Seat (Digits 10-11)

SS	316 SST / 316 SST
TT	Hastelloy C / Hastelloy C
AA	Alloy 20 / Alloy 20

Hydraulic End Oil (Digit 12)

G	5W30 (Synthetic oil)
K	Food-contact oil

Motor Flange Size (Digit 13)

A	NEMA 56C
B	NEMA 143/145TC
C	IEC 63 B5
D	IEC 71 B5
E	IEC 80 B5
H	NEMA 56C (MA only)
L	IEC 71 B5 (MA or MX only)
M	IEC 80 B5 (MA or MX only)

Gearbox Ratio (Digits 14-15)

00	100:1
80	80:1
60	60:1
50	50:1
40	40:1
30	30:1
20	20:1
10	10:1
07	7.5:1
05	5:1
MA	Manual adjustment (specify H, L or M flange for this option)
MX	Manual adjustment ATEX (specify L or M flange for this option)

Baseplate (Digit 16)

C	Carbon Steel (Epoxy painted)
S	SST
M	Carbon Steel (Epoxy painted) Manual adjustment
T	SST Manual adjustment

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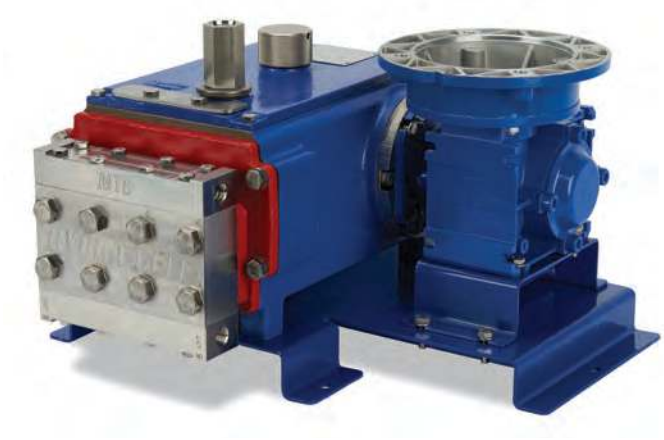

Stainless Steel pump head

PVDF pump head

PVC pump head