



ENGINEERING GUIDE

Pumps | Motors | Accessories



Carpet, Tile & Grout

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Hydrostatic Testing

Pressure Cleaning

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Misting

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PUMP BASICS

PumpteC pumps are positive displacement, reciprocating, plunger pumps. They have high efficiency and can operate under a wide range of pressures (psi) without significantly changing the flow-rate (gpm = amount of fluid the pump moves). Because of this, plunger pumps are a good choice for many applications including high pressure cleaning, misting, spraying, fluid injection, dosing, and static-pressure testing.

PLUNGER AND CHECK VALVES

The main components in PumpteC pumps are the plunger and the check valves. The plunger's job is to reciprocate or move back and forth. Each time the plunger moves back, one check valve opens while fluid enters the pump. Each time it moves forth, a different check valve opens while fluid leaves the pump. The plunger diameter (bore), how far it moves (stroke), and speed (rpm) together determine the flow-rate.

Flow-rate estimate formula*:

$$[\text{gpm} = 24 \times (\text{plunger diameter})^2 \times \text{cam offset}]$$

**PumpteC pumps with 2 plungers and 1750rpm motors.*

PRESSURE REGULATOR AND UNLOADER

Since PumpteC pumps are positive displacement, the fluid that leaves the pump cannot be stopped (dead-headed) without damaging the pump, motor, and/or discharge plumbing. The fluid that leaves the pump must be directed to a pressure regulator that limits the system pressure by diverting some of the fluid (partial bypass) or all of the fluid back to the supply tank (full bypass).

A pressure regulating unloader is a special type of regulator. It not only limits the system pressure, it also shifts into low-pressure unrestricted flow when it is in full bypass. It is used to help reduce the load when the operator releases the trigger.

DISCHARGE PLUMBING

Any restrictions that the fluid must pass through in the discharge line such as small fittings, sharp turns, long discharge hoses, and small nozzles each increase the pressure at the pump and increase the load on the motor. Carefully eliminating unnecessary restrictions will help improve pump system performance. The impact that restrictions have on pump performance is even more significant in higher flow rate systems.

PRESSURE FROM PUMPING WATER THROUGH EACH 100FT OF HOSE

		HOSE SIZE				
		1/4"	3/8"	1/2"	5/8"	3/4"
GPM	1	54	7	2	-	-
	2	180	25	6	2	-
	3	380	50	13	4	2
	4	-	90	24	7	3
	5	-	130	34	10	4
	6	-	220	52	16	7

Example: Pumping 4gpm through 150ft of 1/2" hose.
 $24\text{psi} \times 1.5 = 36\text{psi}$

PRIMING

When fluid has been drained from the pump and supply lines, the pump must be primed or filled with fluid. Most Pumptec pumps are considered “self-priming” because they can pump the air out until it is all discharged. However, there must be a way to discharge the air without building pressure in the discharge line. A ball valve with a second discharge line directed back to the supply tank is used to open an unrestricted flow path so the pump can evacuate all the air.

SUPPLY LINES AND CAVITATION

Cavitation is the formation of bubbles in the pump developed in areas of relatively low pressure around the plunger and check valves. The imploding or collapsing of the bubbles cause significant damage to the plunger, check valves, and/or pump housing. Cavitation happens when the pump is moving more fluid than it is being fed.

Undersized inlet plumbing is normally the cause of cavitation, but inlet plumbing that is too large can make priming the pump difficult since there is more air to bleed from the system. A good rule of thumb is to have an inlet hose one size larger than the pump inlet port and 2 to 6 ft long. Avoid the use of too many fittings and reduce the amount of sharp turns. The inlet line should also be at least 2 ft long and flexible to help absorb water hammer and dampen pulsations.

USING CHEMICALS

Chemicals can be mixed into the fluid and it is necessary to understand whether these chemicals will damage the materials used in the pump. Each pump page lists the materials used in the pump.

Nitrile (Buna-N, NBR)

Nitrile rubbers have good mechanical properties and high wear resistance when compared to other elastomers. Nitrile works best at temperatures between -30 and 250°F and with fluids like propane, butane, petroleum oil, mineral oil and grease, diesel fuel, vegetable and mineral oil, and water. Do not use with aromatic or chlorinated hydrocarbons, polar solvents, strong acids, brake fluid with glycol base, or ozone.

Viton (Fluorocarbons, FKM)

FKM is highly resistant to high temperatures and chemicals when compared to other elastomers. FKM should be used in temperatures from -15 to 400°F. Fluids that are compatible include mineral oil and grease, non-flammable hydraulic fluids, silicone oil and grease, mineral and vegetable oil and grease, aliphatic hydrocarbons, aromatic hydrocarbons, chlorinated hydrocarbons, fuels, and ozone. Do not use FKM with glycol based brake fluids, ammonia, superheated steam, low molecular organic acids.

Special care and testing should be taken when new chemicals are used to ensure they will not damage the pump materials.

MOTOR RATINGS

Most of the ratings listed on a motor define its electrical requirements such as volts, amps, Hz, phase, service factor. However, the most important rating for a motor is the hp rating which is the amount of power that comes out of the motor or amount of work it is capable of doing. The power out of an electric motor must always exceed the hydraulic hp required to operate the pump defined as:

$$\text{hydraulic hp} = \frac{\text{gpm} \times \text{psi}}{1714 \times \text{pump efficiency}} \text{ where pump eff} = 93\%$$

This formula should be used to estimate the hp requirement when choosing a motor for a new pump application. Always choose a motor with a hp rating \geq the hydraulic hp

Motor hp is related to the amount of electrical power needed to run a motor, however they are not equal. The electrical power supplied into the motor will always be more than the power out of the motor. The ratio of power out to power in is the motor efficiency.

AC INDUCTION MOTORS

Connecting alternating current (AC) power to the windings fixed inside the motor shell of an AC induction motor creates pulsing magnetic fields and induces opposing magnetic fields in the rotor that make it spin at a speed slightly less than the pulsing frequency of the magnetic fields.

Pumptec pumps normally use 4-pole AC motors that operate at half the speed of the pulsing magnetic fields - about 1750 rpm or 1450 rpm when powered by 60Hz or 50Hz electricity.

Low voltage conditions draw more amps, higher voltage draws less amps. Voltage changes have little or no effect on motor speed.

Advantages: Brushless - only moving parts are bearings = long life
Powerful – up to 1-1/2 hp
Speed stays relatively constant with pump load.

Disadvantages: Fixed speed – not adjustable without a variable frequency drive
Higher cost compared to PMDC
Larger and heavier
Less start-up torque

PMDC MOTORS

Powering the brushes in a PMDC motor creates magnetic fields in a part of the rotor that gets attracted and spins toward permanent magnets fixed to the inside wall of the motor shell. Right before the magnetized area of the rotor reaches the magnet, the brushes disconnect that part of the rotor and magnetize to a different part of the rotor. The magnetized part of the rotor keeps trying to reach the magnets but never quite reaches it before the magnetism moves to the next part of the rotor right behind it.

Increasing DC voltage makes PMDC motors spin faster. When the motor spins faster, the pump flow rate increases. So, PMDC motors draw more amps when voltage is increased because of increased pump load (opposite of the AC induction motors).

Some PMDC motors are specially designed to run on 120V or 240V AC power from power outlets. However, they must use a small electronic part called a rectifier that converts the AC power to DC power. Some motors are equipped with an internal rectifier that takes care of the conversion but others require an external rectifier in the wire harness.

The speed and power of PMDC motors are determined by the windings, rotor size, and the magnets. Most PMDC motors used with PumpteC pumps are designed to run at about the same speed as the AC Induction motors (1750rpm) when they are powered with the voltage rating listed on the motor.

Advantages: Lower cost compared to AC Induction– especially in smaller sizes
High start-up torque
Smaller and lighter
Motor speed is easily adjusted by increasing/decreasing voltage.

Disadvantages: Brushes will wear down over time. However, they normally last a very long time in most applications.

Pump load has a larger impact on motor speed. Increased pressure will reduce rpm and pump gpm. Reduced pressure will increase speed and pump gpm.

UNIT CONVERSION

UNIT	DEFINITION	UNIT CONVERSION
lbs	force = mass x acceleration	4.448N
psi	pressure = force / area	.069Bar
gpm	volume of liquid	230.9cubic inches/128oz/3.785L
rpm	revolutions/minute	.0167Hz
hp	gpm x psi / 1714 x eff	746 watts

NOZZLE PERFORMANCE CHART

Nozzle sizes in the performance chart are additive. For example, 2 #2 nozzle equals the performance of 1 #4.

NOZZLE SIZE	ORIFICE DIA.	40	100	250	500	600	700	800	1000	1200	1500
		PSI	PSI	PSI	PSI	PSI	PSI	PSI	PSI	PSI	PSI
		THEORETICAL DISCHARGE VOLUME (GPM)									
2	.034	.20	.32	.50	.71	.77	.84	.89	1.00	1.10	1.22
2.5	.039	.25	.40	.63	.88	.97	1.05	1.12	1.25	1.37	1.53
3	.043	.30	.47	.75	1.06	1.16	1.25	1.34	1.50	1.64	1.84
3.5	.048	.35	.55	.88	1.24	1.36	1.46	1.57	1.75	1.92	2.14
4	.052	.40	.63	1.00	1.41	1.55	1.67	1.79	2.00	2.19	2.45
4.5	.055	.445	.71	1.13	1.59	1.74	1.88	2.01	2.25	2.46	2.76
5	.057	.50	.79	1.25	1.77	1.94	2.09	2.24	2.50	2.74	3.06
5.5	.060	.55	.87	1.38	1.94	2.13	2.30	2.46	2.75	3.01	3.37
6	.062	.60	.95	1.50	2.12	2.32	2.51	2.68	3.00	3.29	3.67
6.5	.064	.65	1.03	1.63	2.30	2.52	2.72	2.91	3.25	3.56	3.98
7	.067	.70	1.11	1.75	2.47	2.71	2.93	3.13	3.50	3.83	4.29
7.5	.070	.75	1.19	1.88	2.65	2.90	3.14	3.35	3.75	4.11	4.59
8	.072	.80	1.26	2.00	2.83	3.10	3.35	3.58	4.00	4.38	4.80
8.5	.074	.85	1.34	2.12	3.01	3.39	3.56	3.80	4.25	4.66	5.21
9	.076	.90	1.42	2.25	3.18	3.49	3.76	4.02	4.50	4.93	5.51
9.5	.078	.95	1.50	2.38	3.36	3.68	3.97	4.25	4.75	5.20	5.82
10	.080	1.00	1.58	2.50	3.54	3.87	4.18	4.47	5.00	5.48	6.12
11	.083	1.10	1.74	2.75	3.89	4.26	4.60	4.92	5.50	6.02	6.74
12	.087	1.20	1.90	3.00	4.24	4.65	5.02	5.37	6.00	6.57	7.35
12.5	.089	1.25	1.98	3.13	4.42	4.84	5.23	5.59	6.25	6.85	7.65
13	.091	1.30	2.06	3.25	4.60	5.03	5.44	5.81	6.50	7.12	7.96
14	.093	1.40	2.21	3.50	4.95	5.42	5.86	6.26	7.00	7.67	8.57
15	.096	1.50	2.37	3.75	5.30	5.81	6.27	6.71	7.50	8.22	9.19
20	.109	2.00	3.16	5.00	7.07	7.75	8.37	8.94	10.00	10.95	12.25

$$\text{GPM} = (\text{nozzle number}) \times \sqrt{\frac{\text{PSI}}{4000}}$$

$$\text{nozzle number} = \text{gpm} \times \sqrt{\frac{4000}{(\text{desired pressure})}}$$

PUMPTEC MODEL SELECTION CHART



	Series	Max Amps	Max PSI	Open Flow (GPM)	Pump Model No.	Page
120VDC PERMANENT MAGNET MOTOR	100	1.5	200	1.68	112T/M70	9
		1.5	300	1.18	112V/M70	12
		1.5	1200	0.42	113C/M70	17
		1.5	200	1.68	114T/M70	21
		1.5	1200	0.42	116C/M70	24
	200	3.1	800	2.1	207V/M9253F	27
		3.1	800	2.1	217V/M9253F	31
DUAL 120VAC/230VAC INDUCTION MOTOR	200	7.2	800	1.6	207V/M18	26
		5.2	800	1.6	207V/M58	28
		3.4	800	1.6	207V/M77	29
		3.4	800	2.21	217V/M77	32
	300	10.7	1000	3.17	350U/M74	33
		9	1000	3.17	350U/M81	34
		7.2	800	3.17	350U/M175	36
		15	1200	3.17	356U/M64	39
230VAC PMM	100	0.8	200	1.87	112T/M8285	11
		0.8	300	1.31	112V/M8285	14
		0.8	1200	0.47	113C/M8285	19
		0.8	200	1.87	114T/M8285	23
230VAC INDUCTION MOTOR	100	0.7	200	1.15	112T/M72	10
		0.7	300	0.78	112V/M72	13
		0.7	1200	0.28	113C/M72	18
		0.7	200	1.15	114T/M72	22

PUMPTEC MODEL SELECTION CHART



	Series	Max Amps	Max PSI	Open Flow (GPM)	Pump Model No.	Page
120VDC PERMANENT MAGNET MOTOR	100	15	200	1.68	112T/M8215	8
		15	1200	0.42	113C/M8215	15
		15	200	1.68	114T/M8215	20
		15	1200	0.42	116C/M8215	25
	200	22	200	2.94	212T/M8220	30
	300	43	800	3.3	350U/M950	35
		32	400	3.3	350U/M8230	37
		72	600	3.3	356U/M960	38
24VDC PMM	100	7.5	1200	0.42	113C/M8234	16
120VAC/230VAC INDUCTION MOTOR	X-PUMP	7.2	300	6.4	X-PUMP/M175	41
	X-PUMP	9.0	300	6.4	X-PUMP/M81	40
12VDC PERMANENT MAGNET MOTOR	X-PUMP	32	150	5.2	X-PUMP/M8230	43
	X-PUMP	43	300	6.4	X-PUMP/M950	42

PUMPTec SERIES EASY GUIDE

100 SERIES PLUNGER PUMPS - 100 Series plunger pumps include the 112T, 112V, 113C, 116C, and 114T models. 112T pumps are high-efficiency, multi-purpose pumps used for cleaning and spraying.

112V pumps power the Portable Carpet Extractor market with unmatched performance and size. This pump is popular in most top brand hot water carpet extractors. The 112V is a very popular carpet cleaning machine pump. 113C pumps are the smallest, high pressure misting and injection plunger pump available, offering unequalled performance and service.

114T pumps are comprised of the 114T plunger pumps only. These pumps deliver service and application flexibility in a small pump and can handle a variety of chemical uses.

116C pumps are our stainless steel version of the 113C.

200 SERIES, 3-PIECE PLUNGER PUMPS - 200 Series, 3-piece plunger pumps include the 212T and 217V models. 212T pumps are compact, high flow pumps for low pressure spraying. 217V pumps combine several design benefits to create a versatile pump for portable cleaning equipment.

200 SERIES, 5-PIECE PLUNGER PUMPS - The 207V pump dominates the portable carpet cleaning market with unmatched performance and durability, providing enhanced priming ability to power the most demanding applications.

300 SERIES PLUNGER PUMPS - 300 Series plunger pumps include the 350U, 356U and 360U models. 350U pumps offer the performance versatility of high flow and pressure for a variety of portable, commercial equipment applications. 356U pumps provide high pressure performance into a variety of industry applications. 350U pumps offer the same performance as the 356U in a more compact design.

X-SERIES PLUNGER PUMPS - Attain higher flows with this patent pending 4-plunger design. Ideal for portable sanitation, pest control, turf and agriculture.

100 SERIES PUMPS - 112T/M8215



SPECIFICATIONS

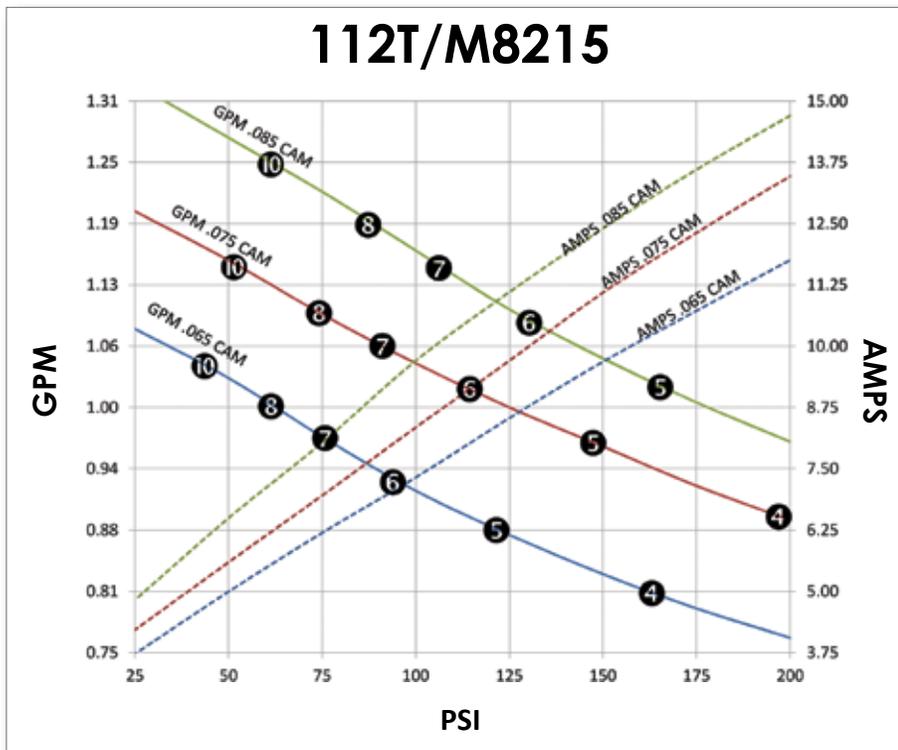
- Max Pressure (psi)** 200
- Open Flow (gpm)** 1.68
- Seals** T-Seal
- O-Rings** FKM
- Inlet Ports (2)** - 1/4" NPT (F)
- Discharge Ports (2)** - 1/4" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 12VDC

MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

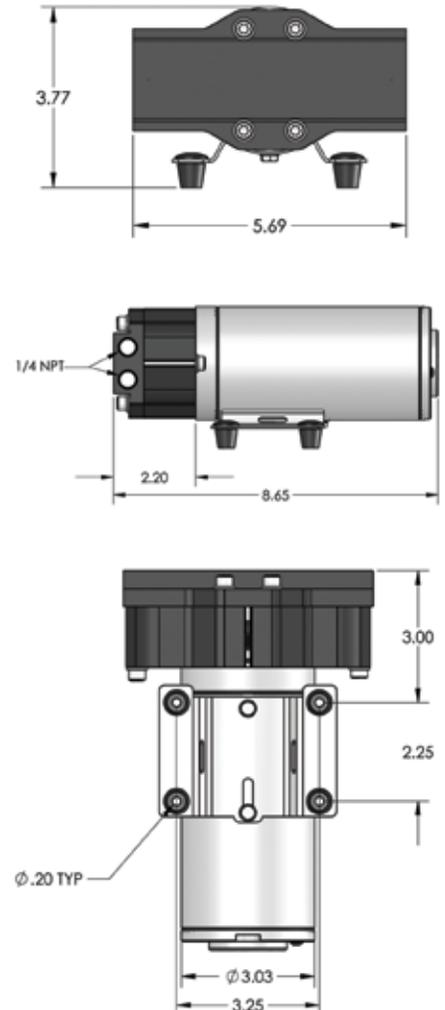
CAM	AMPS	PSI	GPM
.085	14.7	200	.97



Data recorded pumping water at room temperature and 12VDC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

● Spraying Systems Co. nozzle sizes

* Standard cams shown, more cams available upon request



100 SERIES PUMPS - 112T/M70



SPECIFICATIONS

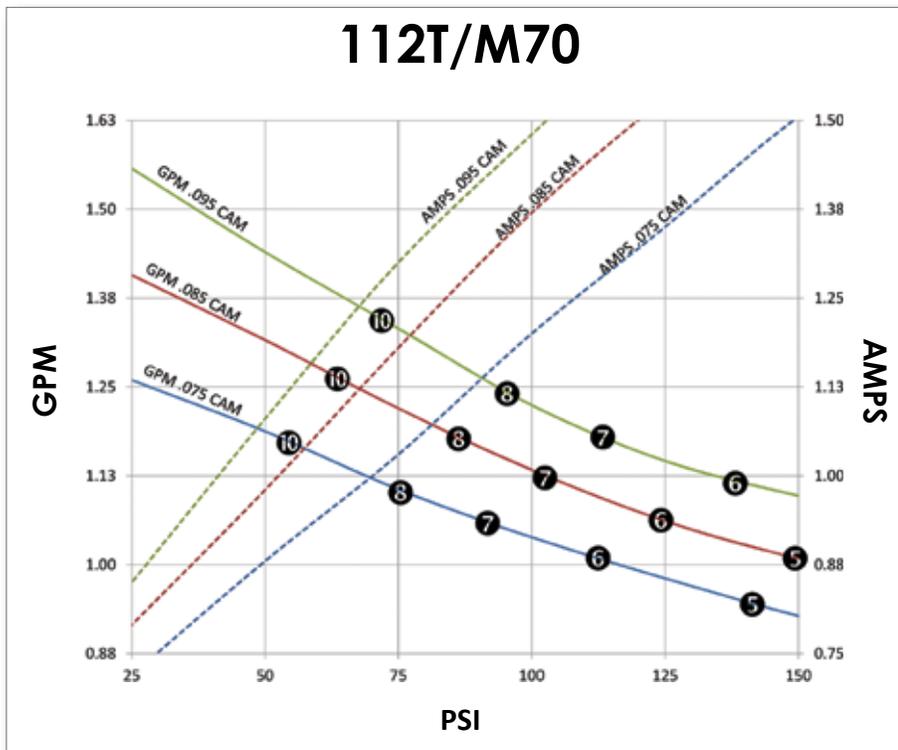
- Max Pressure (psi)** 200
- Open Flow (gpm)** 1.68
- Seals** T-Seal
- O-Rings** Buna
- Inlet Ports (2)** - 1/4" NPT (F)
- Discharge Ports (2)** - 1/4" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 120VAC

MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel
- Rectifier** Inline

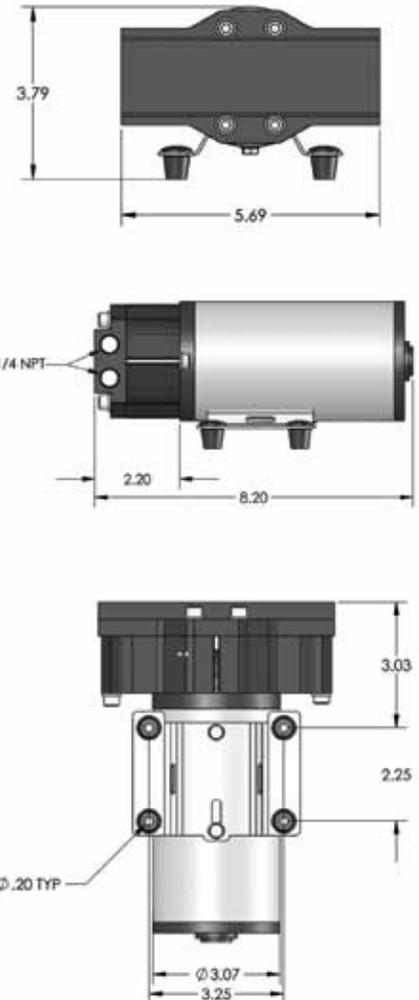
EXAMPLE

CAM	AMPS	PSI	GPM
.075	1.20	100	1.04



Data recorded pumping water at room temperature and 115V AC power.
Actual performance will vary with voltage, application, and mfg tolerances.
Copyright PumpTec, Inc. 2014

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request



100 SERIES PUMPS - 112T/M72



SPECIFICATIONS

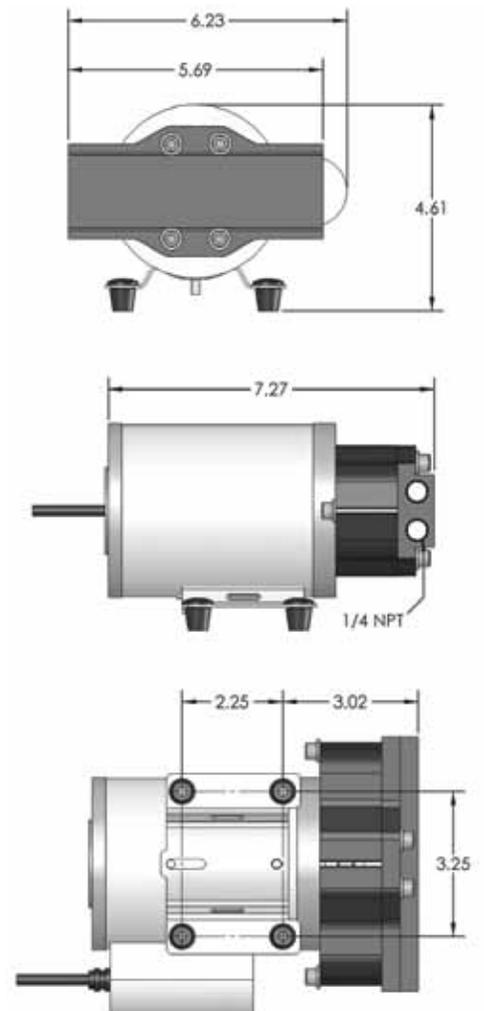
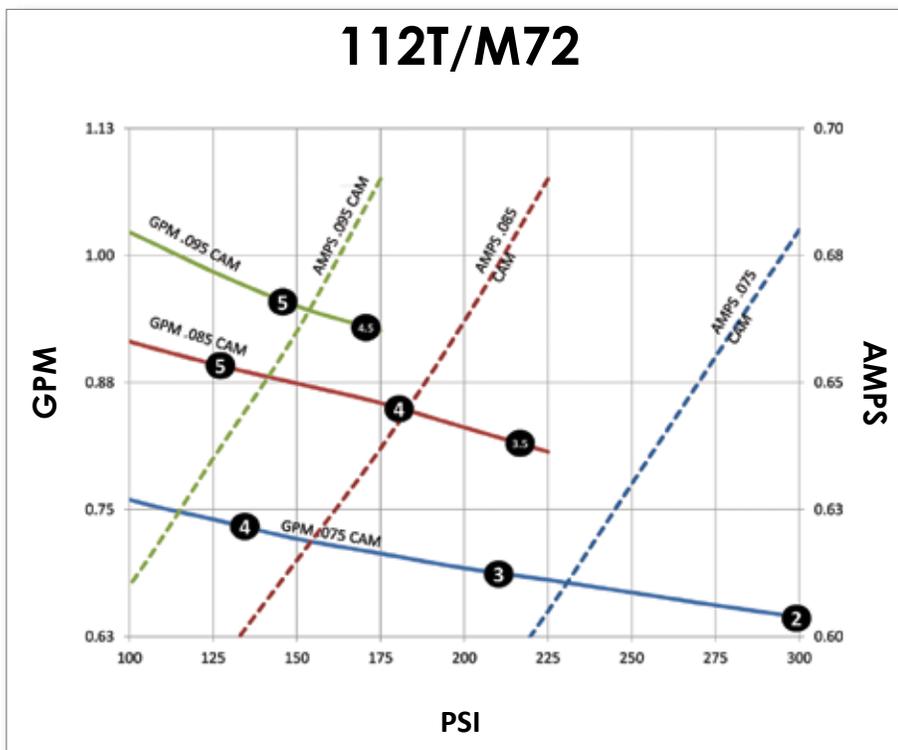
- Max Pressure (psi)** 200
- Open Flow (gpm)** 1.15
- Seals** T-Seal
- O-Rings** Buna
- Inlet Ports (2)** - 1/4" NPT (F)
- Discharge Ports (2)** - 1/4" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 230VAC 50Hz

MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

CAM	AMPS	PSI	GPM
.085	.66	200	.83



Data recorded pumping water at room temperature and 230VAC/50Hz power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request

100 SERIES PUMPS - 112T/M8285



SPECIFICATIONS

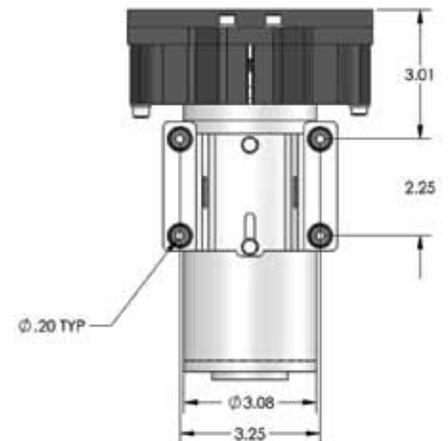
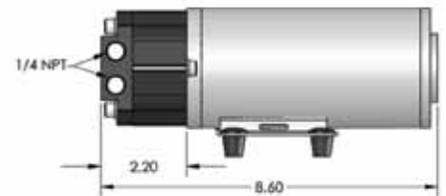
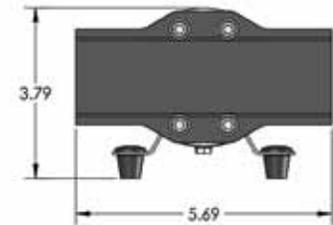
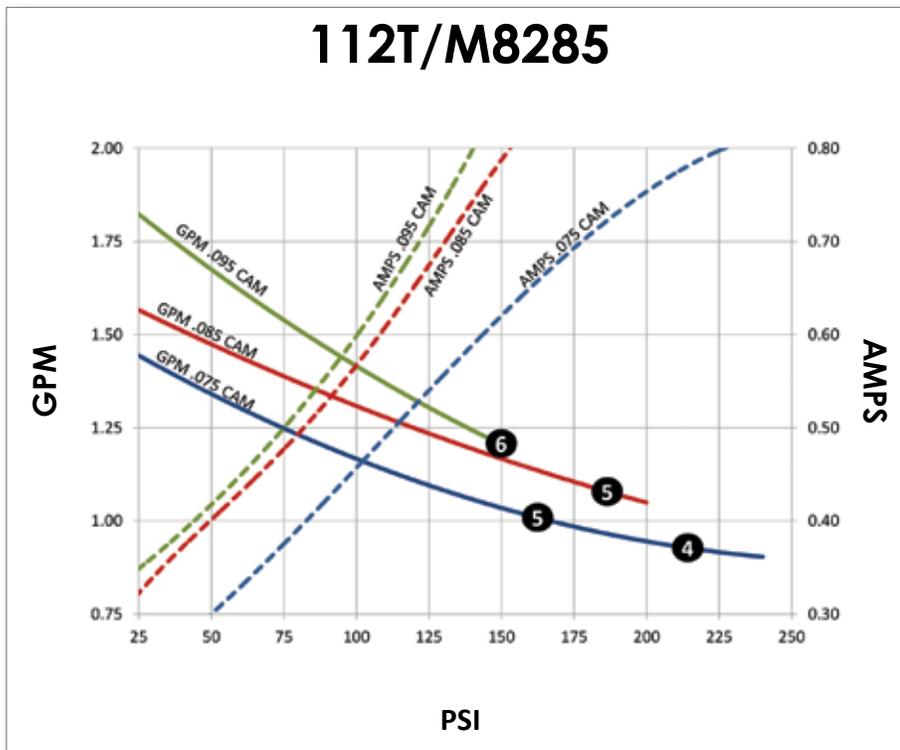
- Max Pressure (psi)** 200
- Open Flow (gpm)** 1.87
- Seals** T-Seal
- O-Rings** Buna
- Inlet Ports (2)** - 1/4" NPT (F)
- Discharge Ports (2)** - 1/4" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 230VAC 50/60 Hz

MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel
- Rectifier** Internal

EXAMPLE

CAM	AMPS	PSI	GPM
.075	.75	200	.90



Data recorded pumping water at room temperature and 230VAC 50/60Hz power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright Pumptec, Inc. 2014

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request

100 SERIES PUMPS - 112V/M70



SPECIFICATIONS

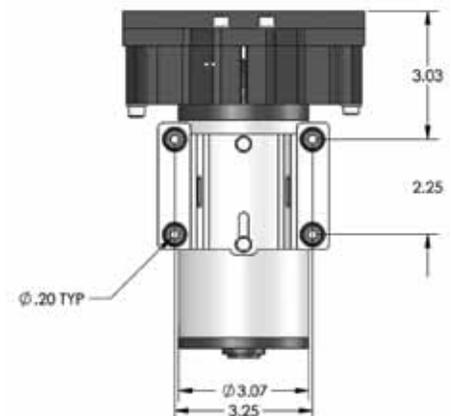
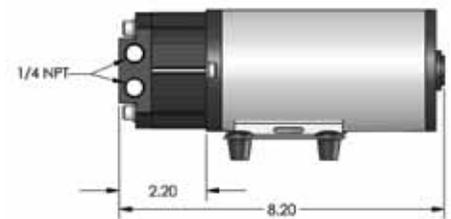
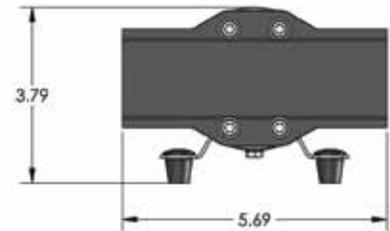
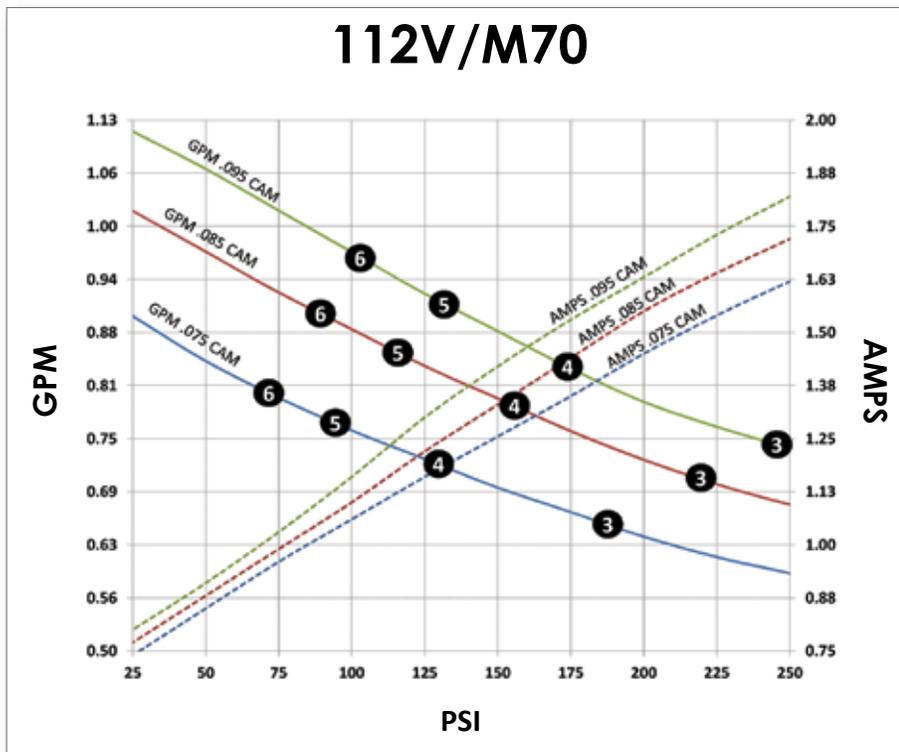
- Max Pressure (psi)** 300
- Open Flow (gpm)** 1.18
- Seals** V-Ring
- O-Rings** Buna
- Inlet Ports (2)** - 1/4" NPT (F)
- Discharge Ports (2)** - 1/4" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 120VAC

MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel
- Rectifier** Inline

EXAMPLE

CAM	AMPS	PSI	GPM
.075	1.06	100	.76



Data recorded pumping water at room temperature and 115V AC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright Pumptec, Inc. 2014

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request

100 SERIES PUMPS - 112V/M72



SPECIFICATIONS

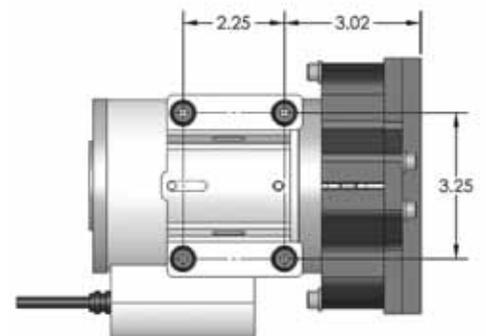
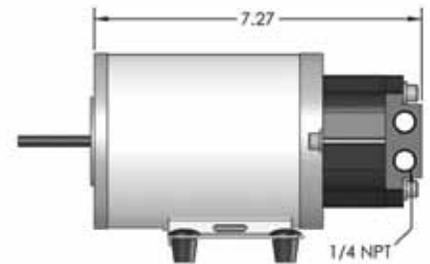
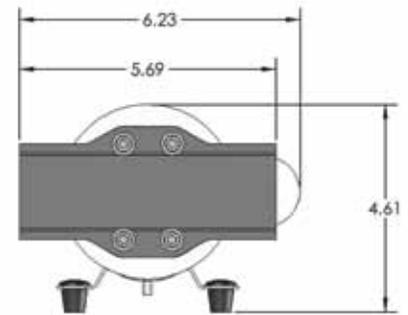
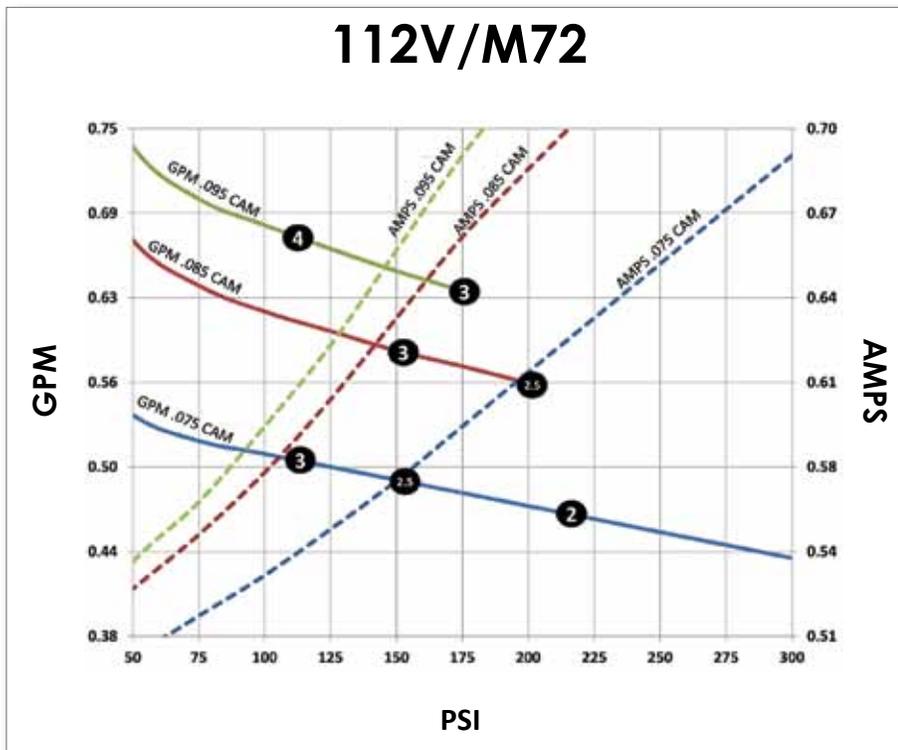
- Max Pressure (psi)** 300
- Open Flow (gpm)** 0.78
- Seals** V-Ring
- O-Rings** Buna
- Inlet Ports (2)** - 1/4" NPT (F)
- Discharge Ports (2)** - 1/4" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 230VAC 50Hz

MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

CAM	AMPS	PSI	GPM
.085	.69	200	.56



Data recorded pumping water at room temperature and 230VAC 50Hz power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request

100 SERIES PUMPS - 112V/M8285



SPECIFICATIONS

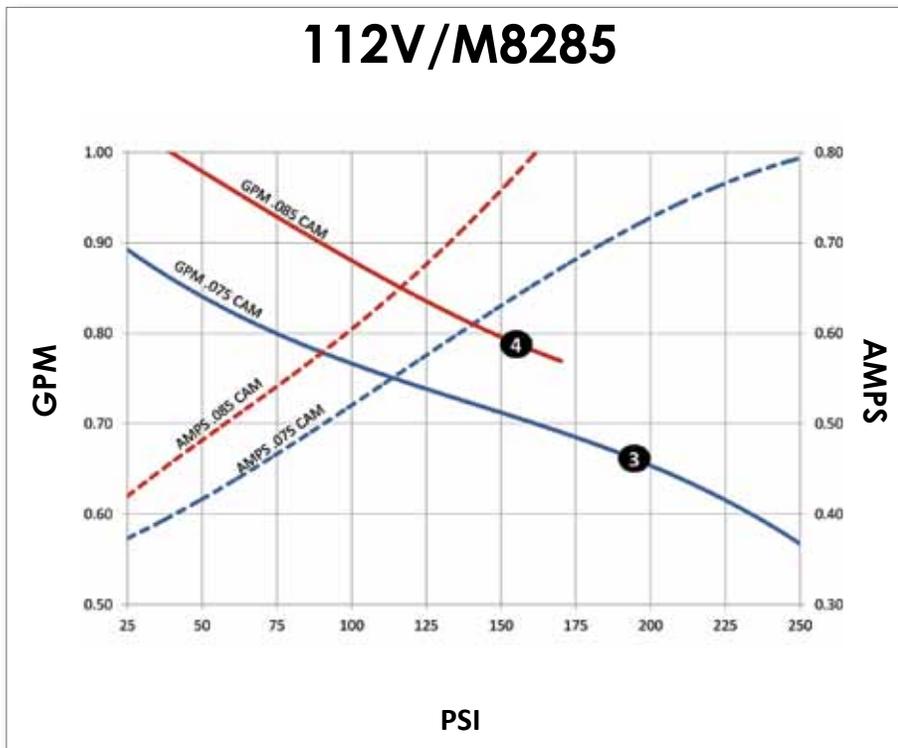
- Max Pressure (psi)** 300
- Open Flow (gpm)** 1.31
- Seals** V-Ring
- O-Rings** Buna
- Inlet Ports (2)** - 1/4" NPT (F)
- Discharge Ports (2)** - 1/4" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 230VAC 50/60Hz

MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel
- Rectifier** Internal

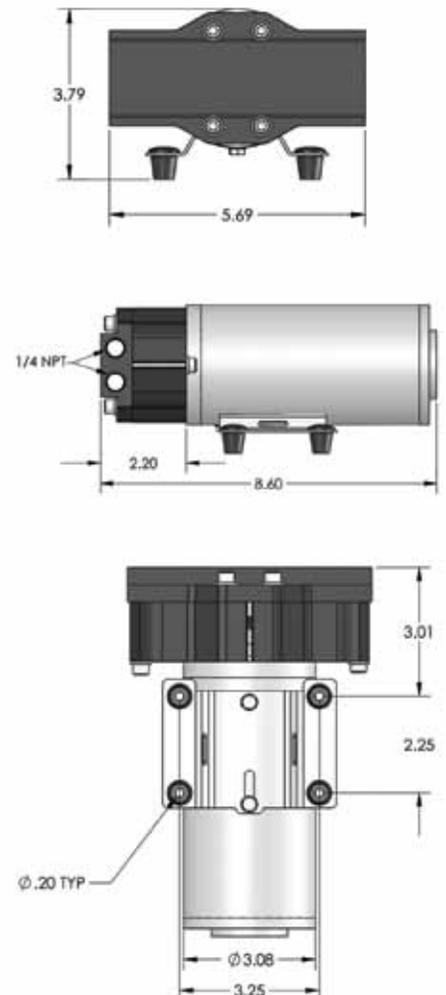
EXAMPLE

CAM	AMPS	PSI	GPM
.085	.76	150	.80



Data recorded pumping water at room temperature and 230VAC 50/60Hz power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request



100 SERIES PUMPS - 113C/M8215



SPECIFICATIONS

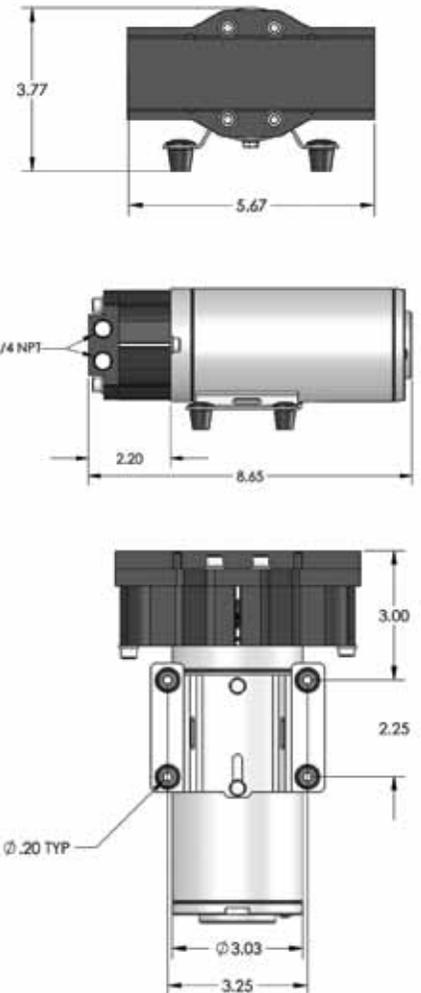
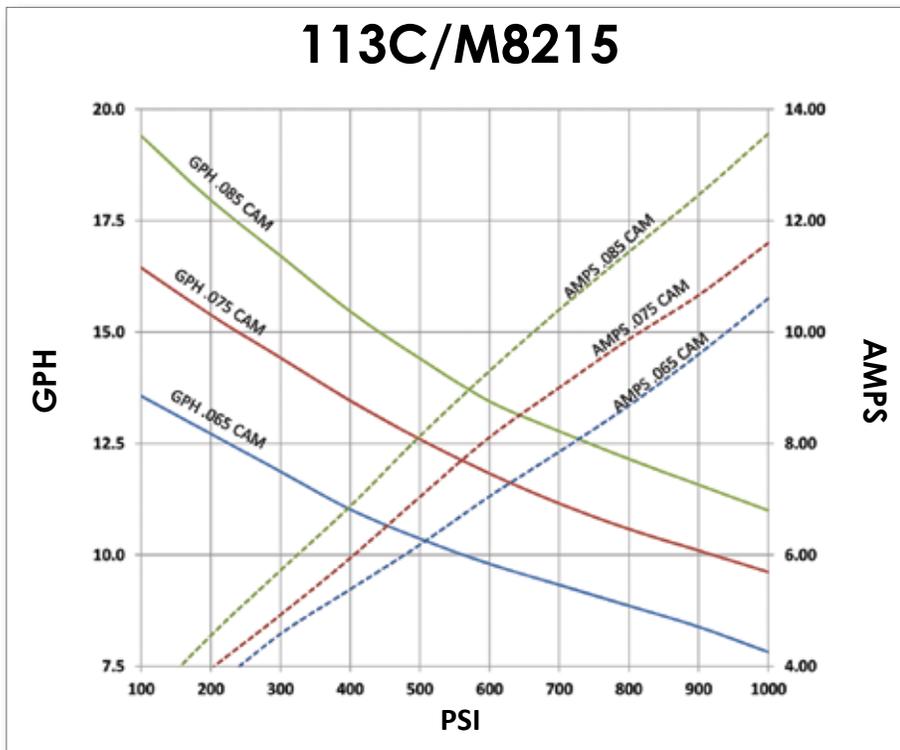
- Max Pressure (psi)** 1200
- Open Flow (gpm)** 0.42
- Seals** U-Cup
- O-Rings** Buna
- Inlet Ports (2)** - 1/4" NPT (F)
- Discharge Ports (2)** - 1/4" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 12VDC

MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Ceramic
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

CAM	AMPS	PSI	GPH
.075	9.0	700	11.2



Data recorded pumping water at room temperature and 12VDC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

* Standard cams shown, more cams available upon request

100 SERIES PUMPS - 113C/M8234



SPECIFICATIONS

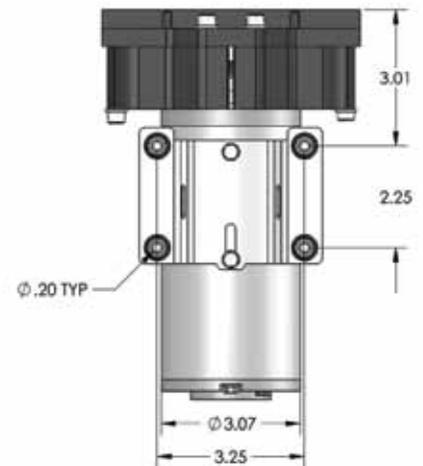
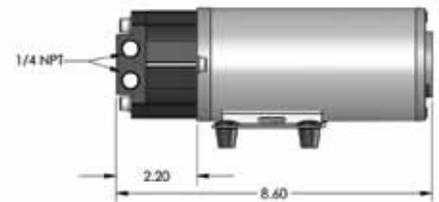
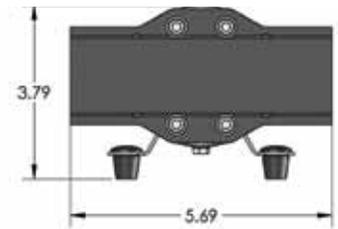
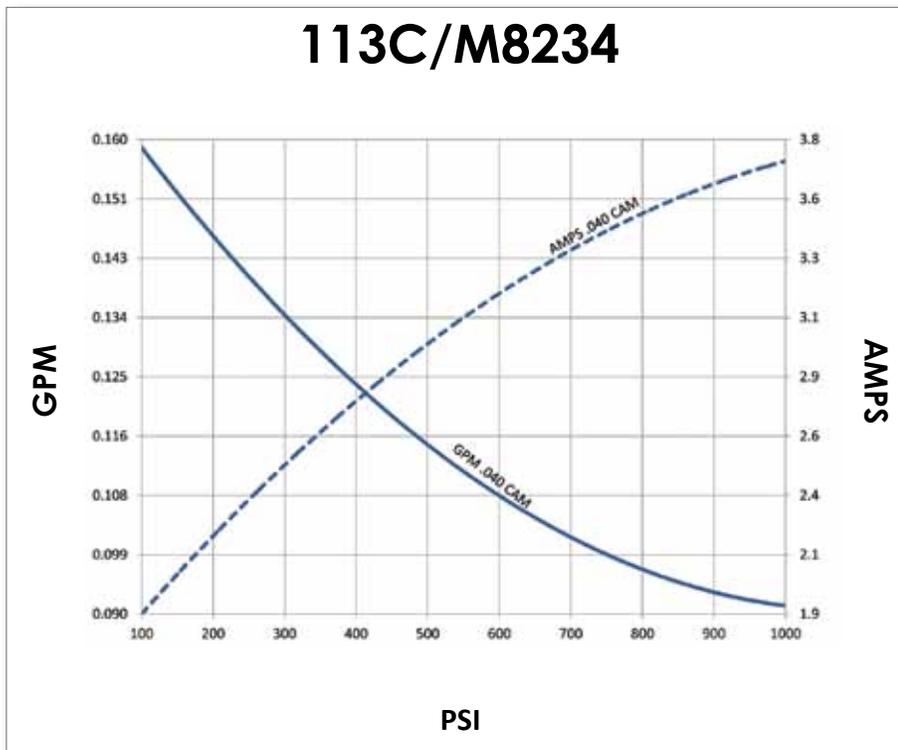
- Max Pressure (psi)** 1200
- Open Flow (gpm)** 0.42
- Seals** U-Cup
- O-Rings** Buna
- Inlet Ports (2)** - 1/4" NPT (F)
- Discharge Ports (2)** - 1/4" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 24VDC

MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Ceramic
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

CAM	AMPS	PSI	GPM
.040	3.7	1000	.09



Data recorded pumping water at room temperature and 24VDC power.
Actual performance will vary with fluctuations and mfg tolerances.
Copyright PumpTec, Inc. 2014

* Standard cams shown, more cams available upon request

100 SERIES PUMPS - 113C/M70



SPECIFICATIONS

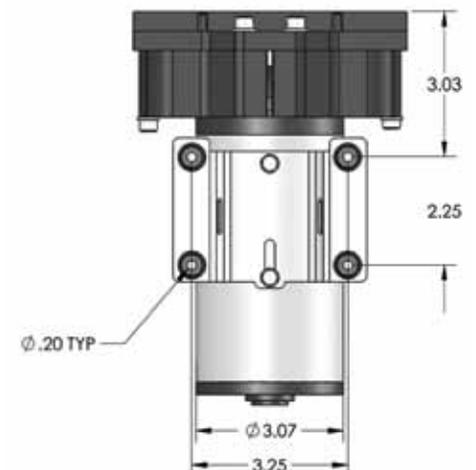
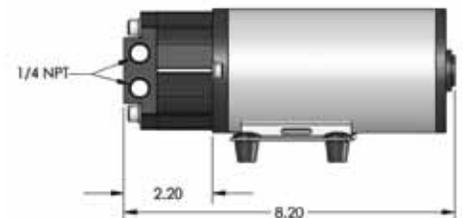
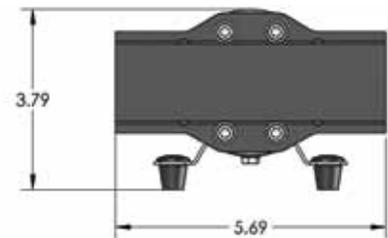
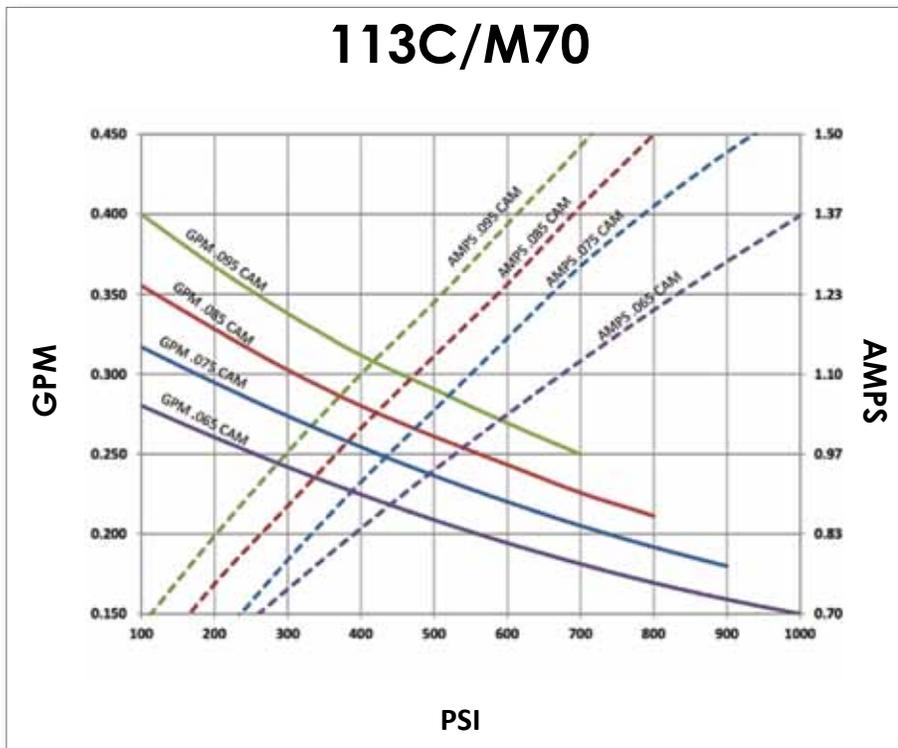
- Max Pressure (psi)** 1200
- Open Flow (gpm)** 0.42
- Seals** U-Cup
- O-Rings** Buna
- Inlet Ports (2)** - 1/4" NPT (F)
- Discharge Ports (2)** - 1/4" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 120VAC

MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Ceramic
- Valves** Stainless Steel
- Fasteners** Stainless Steel
- Rectifier** Inline

EXAMPLE

CAM	AMPS	PSI	GPM
.065	1.37	1000	.15



Data recorded pumping water at room temperature and 115V AC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

* Standard cams shown, more cams available upon request

100 SERIES PUMPS - 113C/M72



SPECIFICATIONS

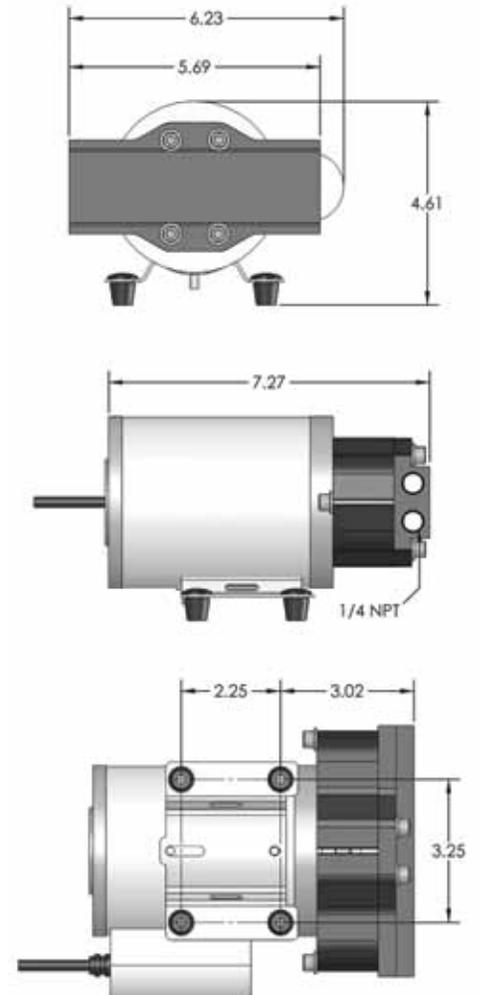
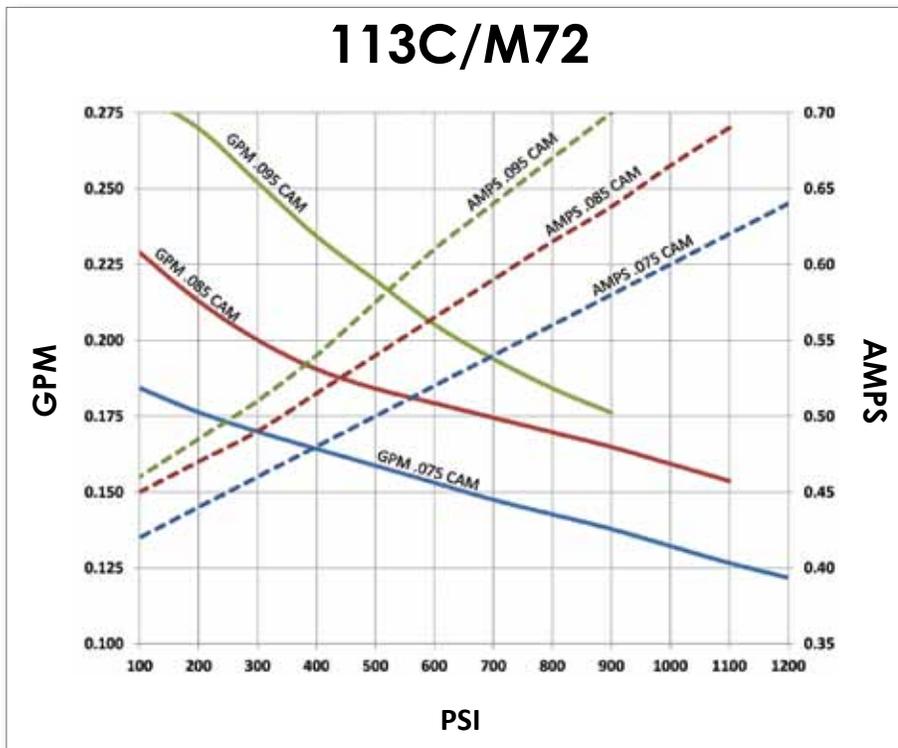
- Max Pressure (psi)** 1200
- Open Flow (gpm)** 0.28
- Seals** U-Cup
- O-Rings** Buna
- Inlet Ports (2)** - 1/4" NPT (F)
- Discharge Ports (2)** - 1/4" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 230VAC 50Hz

MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Ceramic
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

CAM	AMPS	PSI	GPM
.085	.67	1000	.16



Data recorded pumping water at room temperature and 230VAC 50Hz power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright Pumptec, Inc. 2014

* Standard cams shown, more cams available upon request

100 SERIES PUMPS - 114T/M8215



SPECIFICATIONS

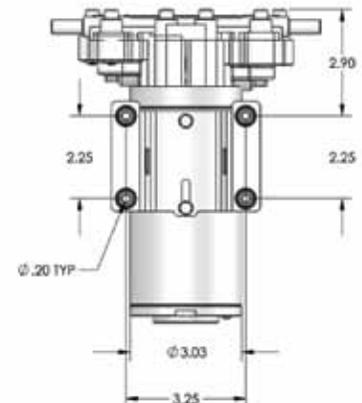
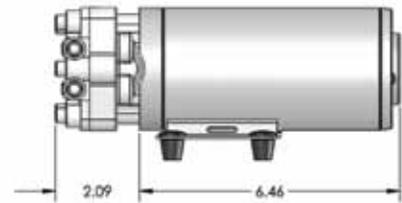
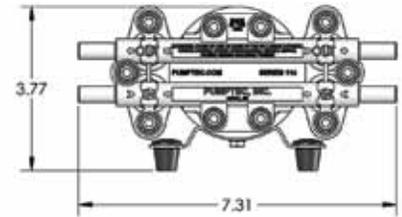
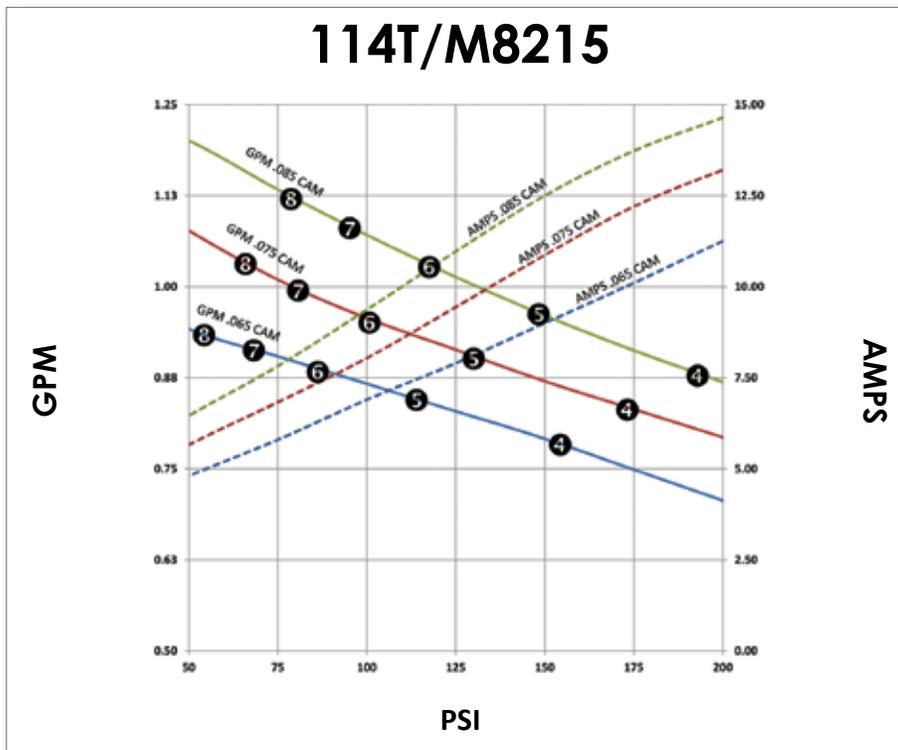
- Max Pressure (psi)** 200
- Open Flow (gpm)** 1.68
- Seals** T-Seal
- O-Rings** FKM
- Inlet Ports (2)** - 3/8" John Guest Fittings
- Discharge Ports (2)** - 3/8" John Guest Fittings
- Max Fluid Temp (°F)** 140
- Voltage** 12VDC

MATERIALS

- Body** Polypropylene
- Plunger** Ceramic
- Valves** Hastelloy
- Fasteners** Stainless Steel

EXAMPLE

CAM	AMPS	PSI	GPM
.075	13.2	200	.79



Data recorded pumping water at room temperature and 12VDC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request

100 SERIES PUMPS - 114T/M70



SPECIFICATIONS

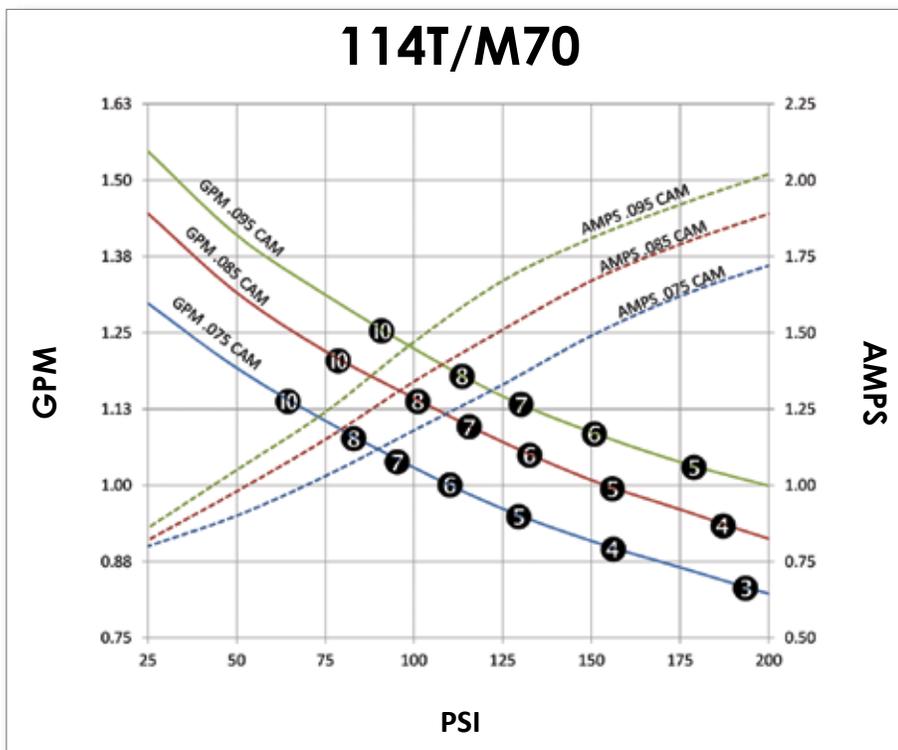
- Max Pressure (psi)** 200
- Open Flow (gpm)** 1.68
- Seals** T-Seal
- O-Rings** Buna
- Inlet Ports** (1) - 1/2" Hose Barb
(1) - 3/8" NPT (M)
- Discharge Ports** (2) - 1/4" NPT (M)
- Max Fluid Temp (°F)** 140
- Voltage** 120VAC

MATERIALS

- Body** Nylon
- Plunger** Stainless Steel
- Valves** Nylon
- Fasteners** Stainless Steel
- Rectifier** Inline

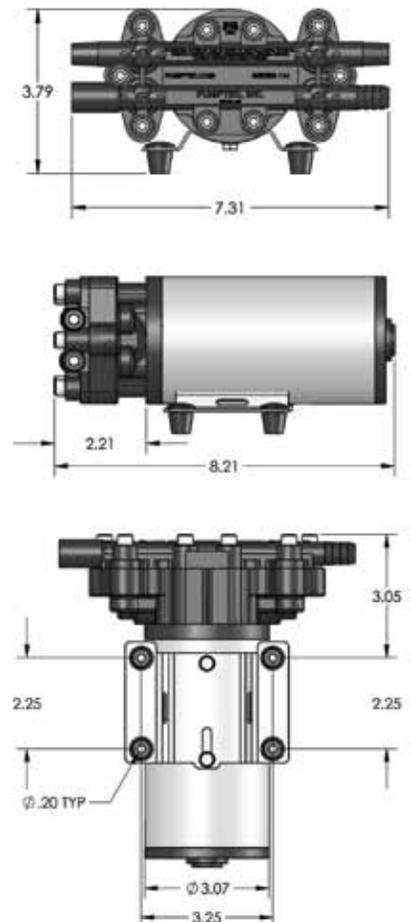
EXAMPLE

CAM	AMPS	PSI	GPM
.075	1.18	100	1.03



Data recorded pumping water at room temperature and 115V AC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request



100 SERIES PUMPS - 114T/M72



SPECIFICATIONS

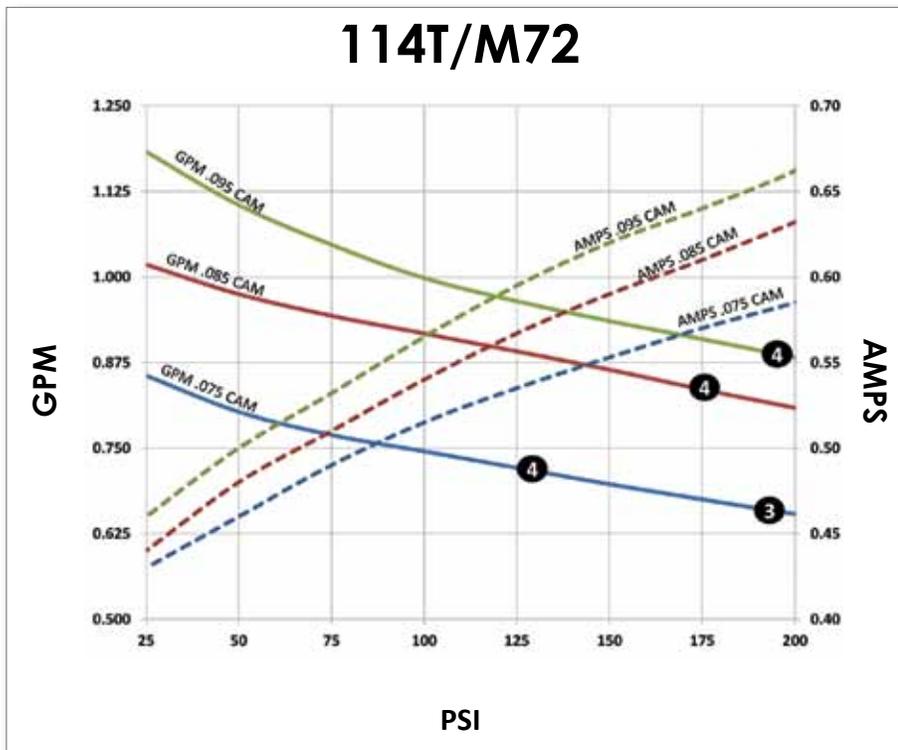
- Max Pressure (psi)** 200
- Open Flow (gpm)** 1.15
- Seals** T-Seal
- O-Rings** Buna
- Inlet Ports** (1) - 1/2" Hose Barb
(1) - 3/8" NPT (M)
- Discharge Ports** (2) - 1/4" NPT (M)
- Max Fluid Temp (°F)** 140
- Voltage** 230VAC 50HZ

MATERIALS

- Body** Nylon
- Plunger** Stainless Steel
- Valves** Nylon
- Fasteners** Stainless Steel

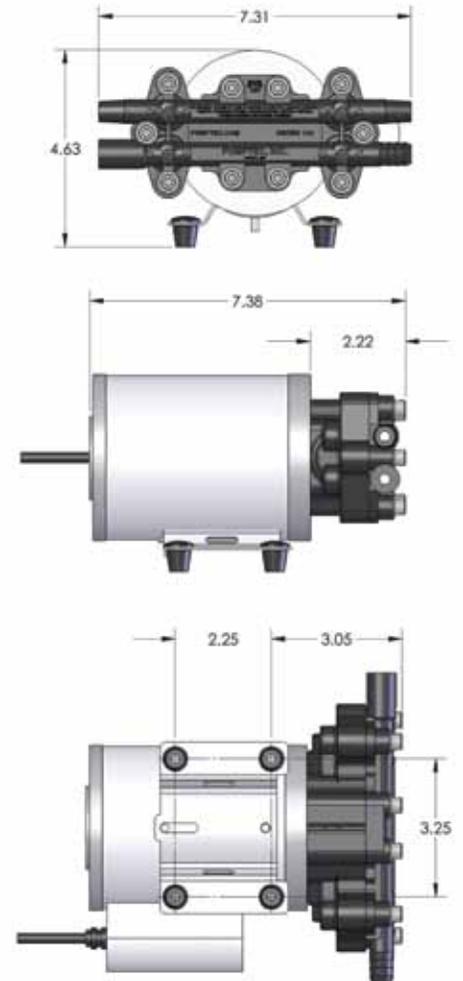
EXAMPLE

CAM	AMPS	PSI	GPM
.085	.63	200	.80



Data recorded pumping water at room temperature and 230VAC 50Hz power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request



100 SERIES PUMPS - 114T/M8285



SPECIFICATIONS

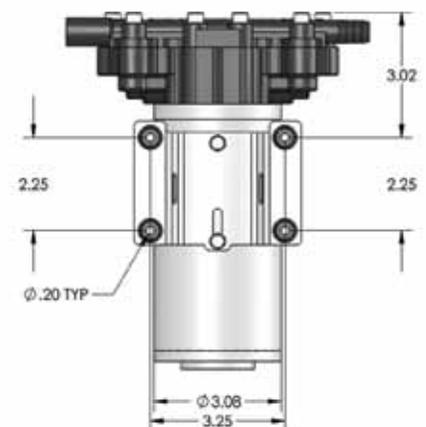
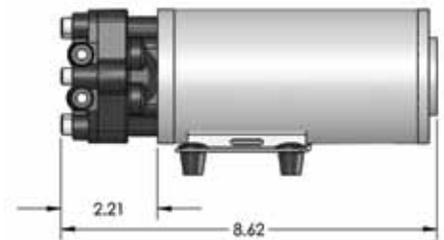
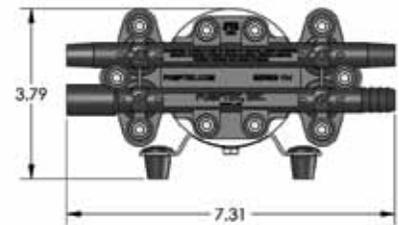
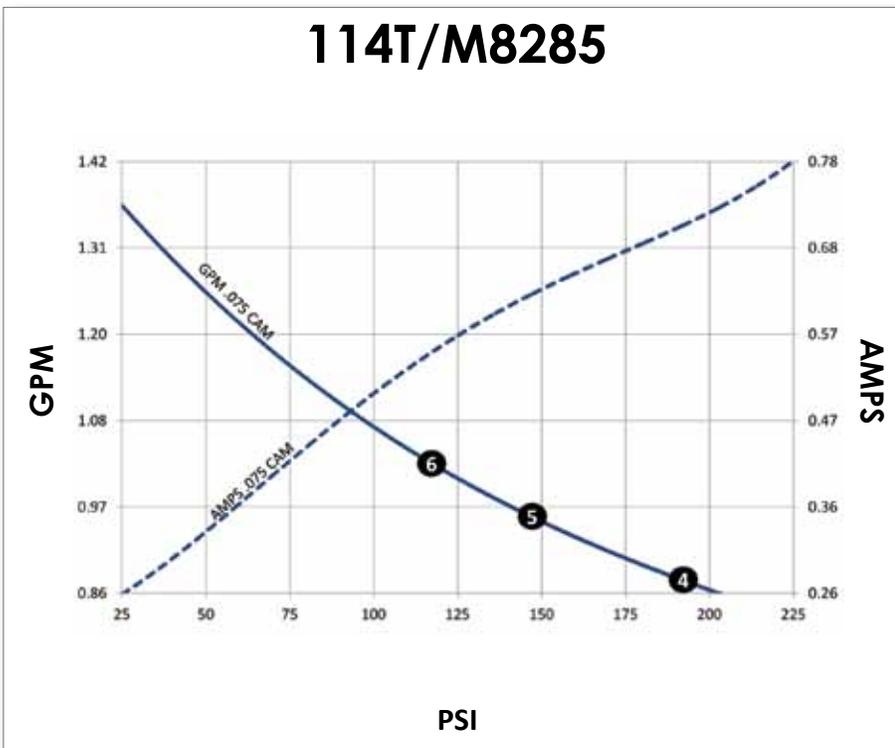
- Max Pressure (psi)** 200
- Open Flow (gpm)** 1.87
- Seals** T-Seal
- O-Rings** Buna
- Inlet Ports** (1) - 1/2" Hose Barb
(1) - 3/8" NPT (M)
- Discharge Ports** (2) - 1/4" NPT (M)
- Max Fluid Temp (°F)** 140
- Voltage** 230VAC 50/60HZ

MATERIALS

- Body** Nylon
- Plunger** Stainless Steel
- Valves** Nylon
- Fasteners** Stainless Steel
- Rectifier** Internal

EXAMPLE

CAM	AMPS	PSI	GPM
.075	.72	200	.87



Data recorded pumping water at room temperature and 230VAC 50/60Hz power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request

100 SERIES PUMPS - 116C/M70



SPECIFICATIONS

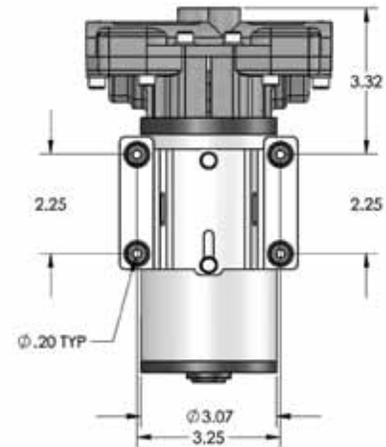
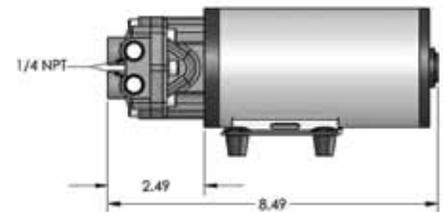
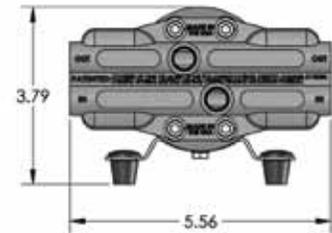
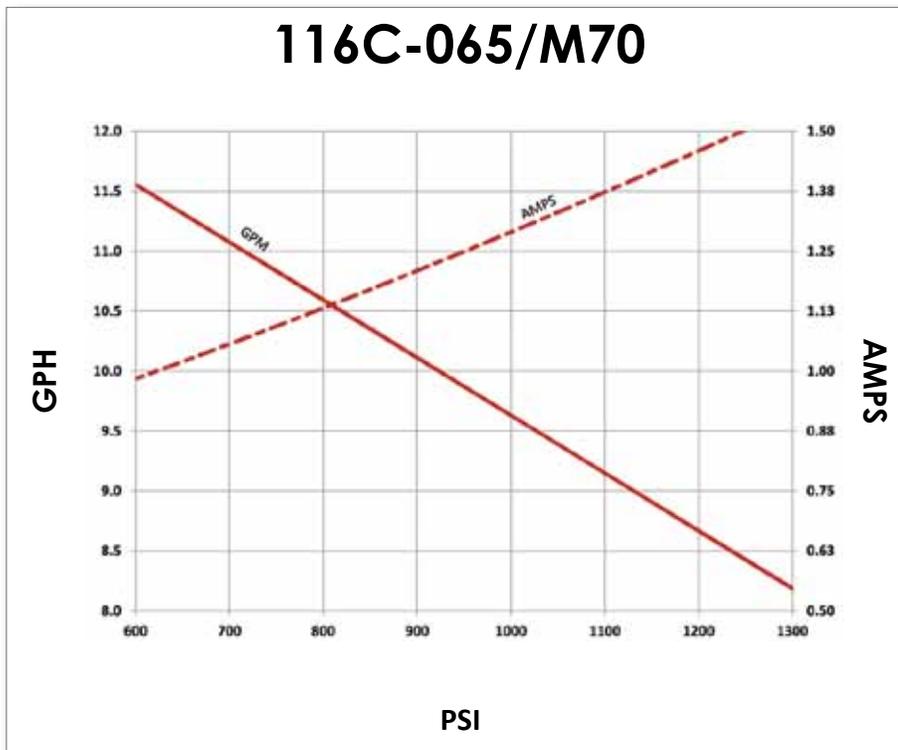
- Max Pressure (psi)** 1200
- Open Flow (gpm)** 0.42
- Seals** U-Cup
- O-Rings** Buna
- Inlet Ports (3)** - 1/4" NPT (F)
- Discharge Ports (3)** - 1/4" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 120VAC

MATERIALS

- Body** Stainless Steel
- Plunger** Ceramic
- Valves** Stainless Steel
- Fasteners** Stainless Steel
- Rectifier** Inline

EXAMPLE

CAM	AMPS	PSI	GPH
.065	1.38	1100	9.2



Data recorded at 115VAC.
Actual performance will vary with voltage, fluxuation, application, and mfg tolerances.
Copyright Pumptec, Inc. 2016

* Standard cams shown, more cams available upon request

100 SERIES PUMPS - 116C/M8215



SPECIFICATIONS

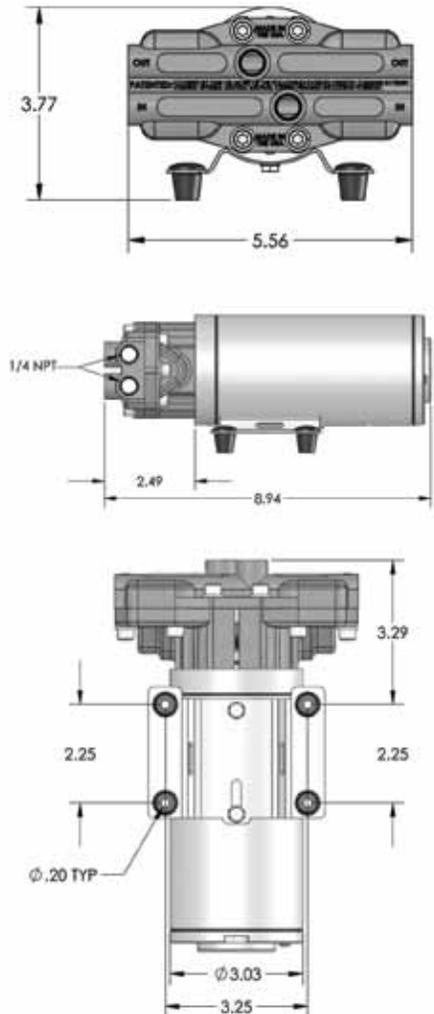
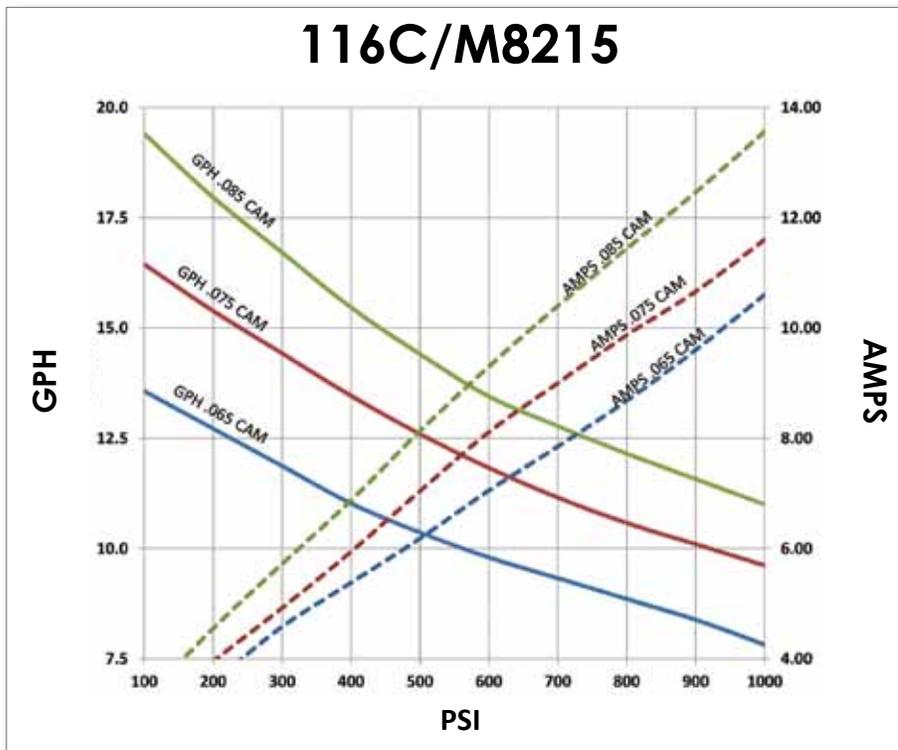
- Max Pressure (psi)** 1200
- Open Flow (gpm)** 0.42
- Seals** U-Cup
- O-Rings** Buna
- Inlet Ports (3)** - 1/4" NPT (F)
- Discharge Ports (3)** - 1/4" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 12VDC

MATERIALS

- Body** Stainless Steel
- Plunger** Ceramic
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

CAM	AMPS	PSI	GPH
.075	11.6	1000	9.6



Data recorded pumping water at room temperature and 12VDC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

* Standard cams shown, more cams available upon request



SPECIFICATIONS

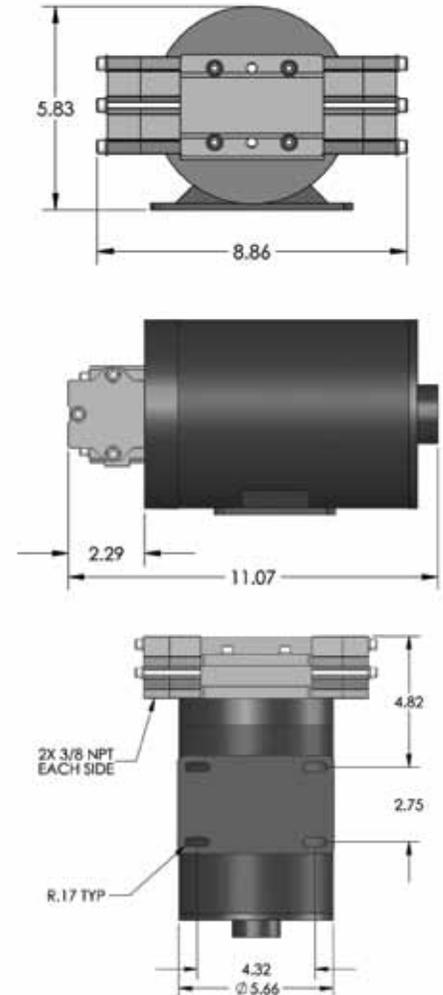
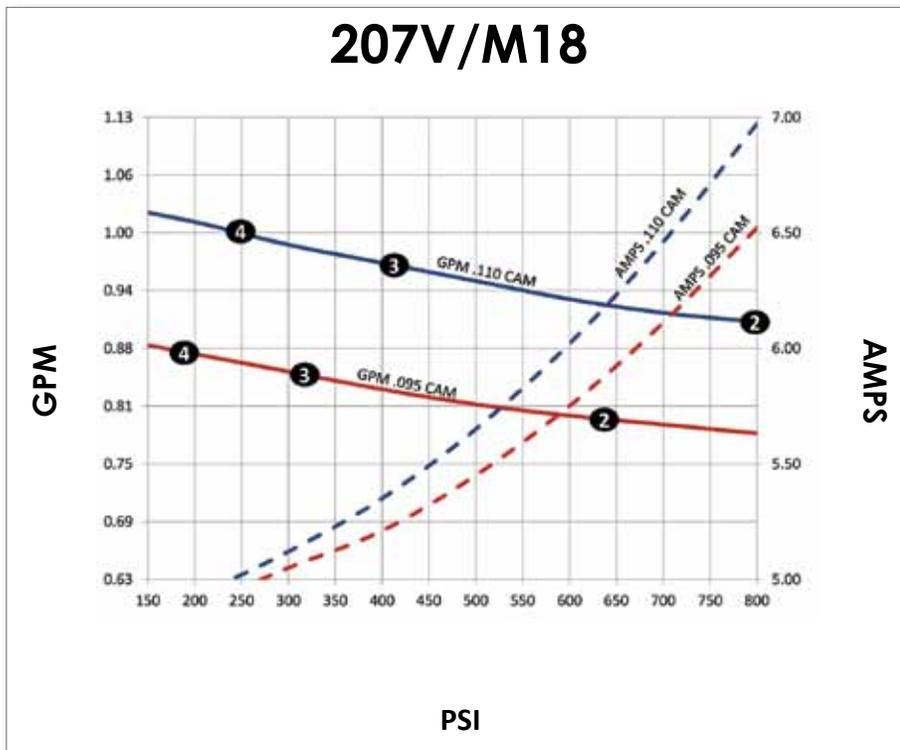
- Max Pressure (psi)** 800
- Open Flow (gpm)** 1.6
- Seals** V-Rings
- O-Rings** Buna
- Inlet Ports (2)** - 3/8" NPT (F)
- Discharge Ports (2)** - 3/8" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** Dual 120/230VAC 60/50Hz

MATERIALS

- Body** Anodized Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

CAM	AMPS	PSI	GPM
.110	5.65	500	.97



Data recorded pumping water at room temperature and 115V AC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright Pumptec, Inc. 2014

230V CHART CAN BE FOUND @ WWW.PUMPTEC.COM

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request

200 SERIES - 207V/M9253F



SPECIFICATIONS

- Max Pressure (psi)** 800
- Open Flow (gpm)** 2.1
- Seals** V-Rings
- O-Rings** Buna
- Inlet Ports (2)** - 3/8" NPT (F)
- Discharge Ports (2)** - 3/8" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 120VAC

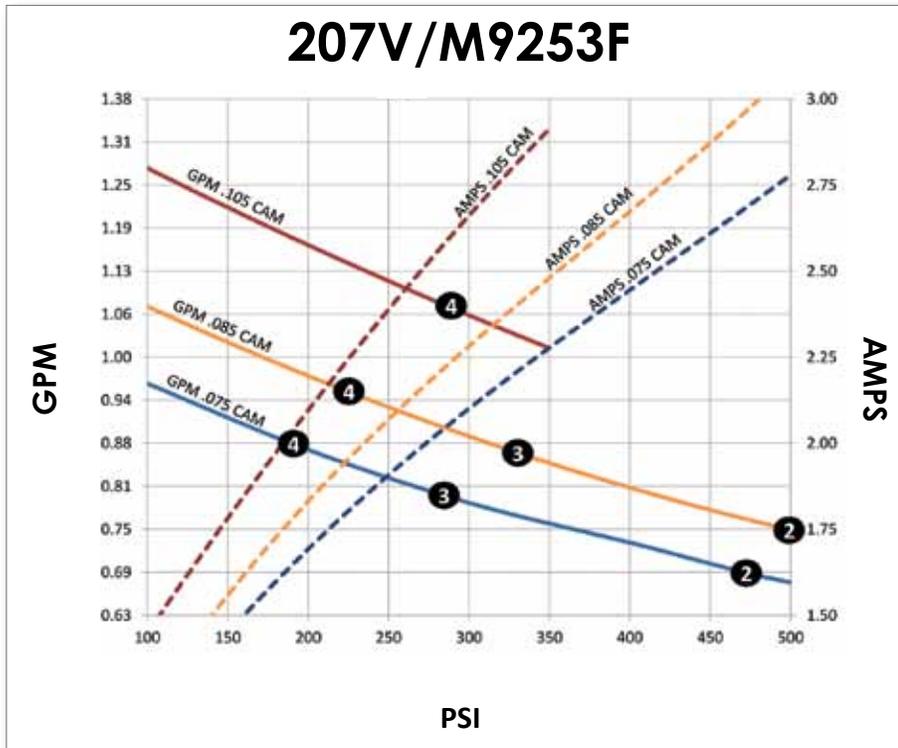
MATERIALS

- Body** Anodized Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel

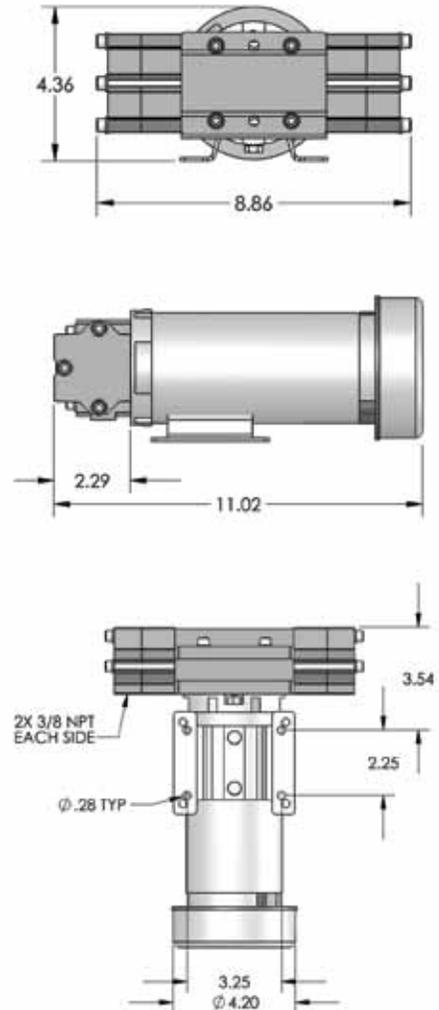
*External Rectifiers sold separately

EXAMPLE

CAM	AMPS	PSI	GPM
.085	1.31	450	.78



AVAILABLE IN 230VAC OPTION



Data recorded pumping water at room temperature and 115V AC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request

200 SERIES PUMPS - 207V/M58



SPECIFICATIONS

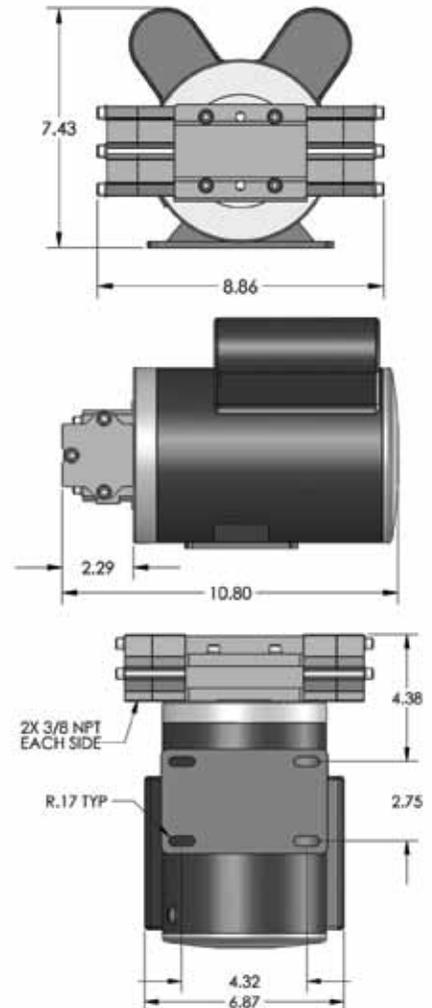
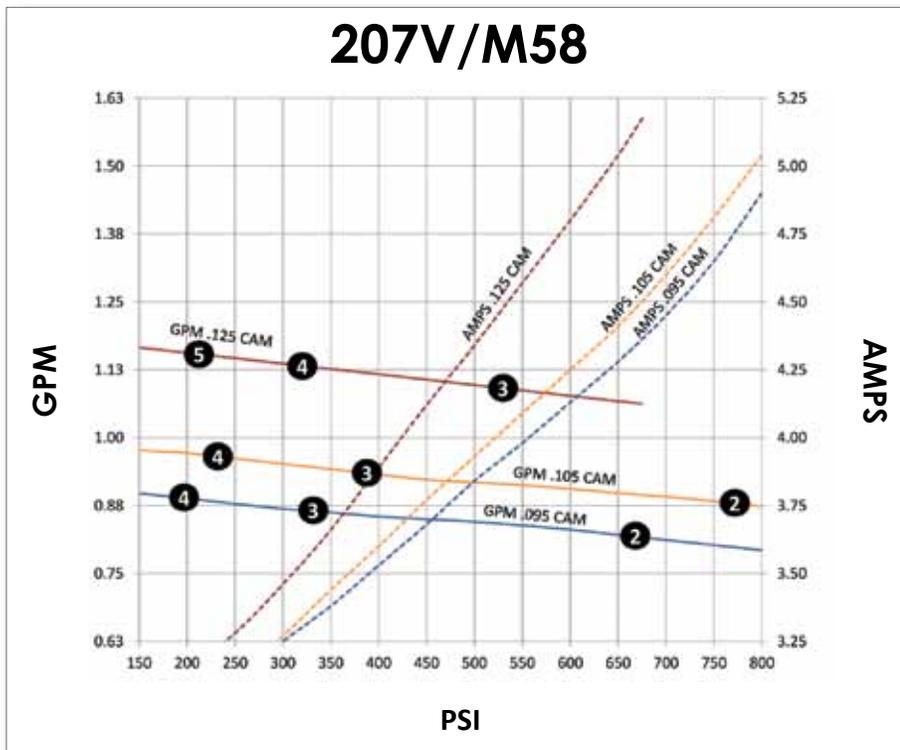
- Max Pressure (psi)** 800
- Open Flow (gpm)** 1.6
- Seals** V-Rings
- O-Rings** Buna
- Inlet Ports (2)** - 3/8" NPT (F)
- Discharge Ports (2)** - 3/8" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** Dual 120/230VAC 50/60Hz

MATERIALS

- Body** Anodized Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

CAM	AMPS	PSI	GPM
.125	4.34	500	1.10

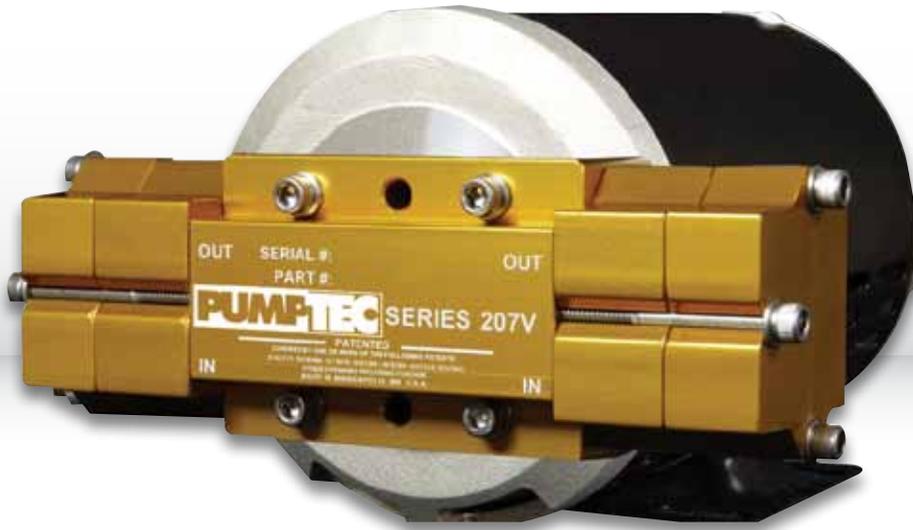


Data recorded pumping water at room temperature and 115V AC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

230V CHART CAN BE FOUND @ WWW.PUMPTec.COM

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request

200 SERIES PUMPS - 207V/M77



SPECIFICATIONS

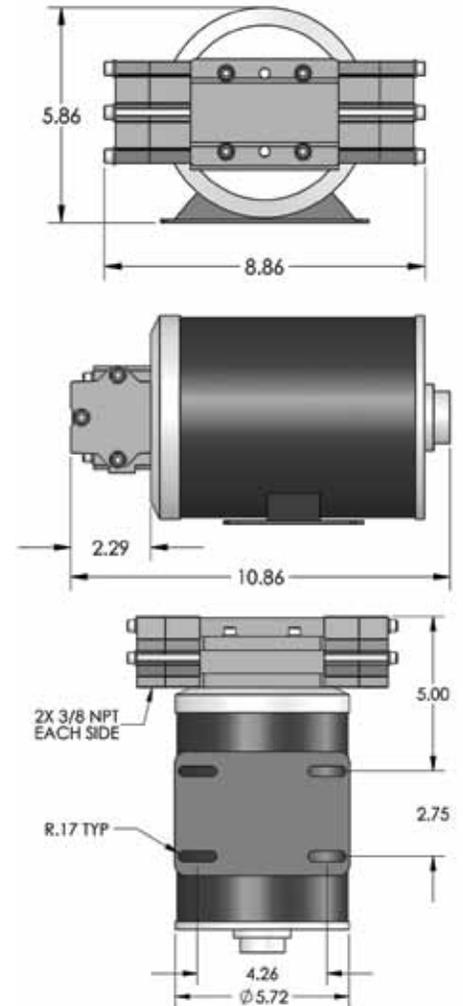
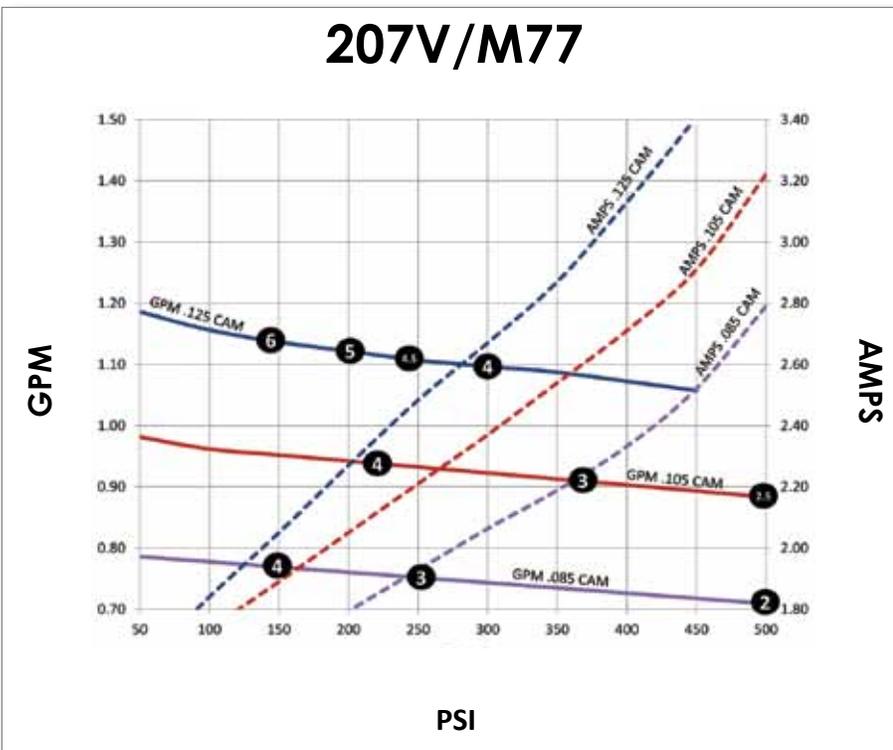
- Max Pressure (psi)** 800
- Open Flow (gpm)** 1.6
- Seals** V-Rings
- O-Rings** Buna
- Inlet Ports (2)** - 3/8" NPT (F)
- Discharge Ports (2)** - 3/8" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** Dual 120/230VAC 50/60Hz

MATERIALS

- Body** Anodized Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

CAM	AMPS	PSI	GPM
.125	2.65	300	1.10



Data recorded pumping water at room temperature and 115V AC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright Pumptec, Inc. 2014

230V CHART CAN BE FOUND @ WWW.PUMPTEC.COM

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request

200 SERIES PUMPS - 212T/M8220



SPECIFICATIONS

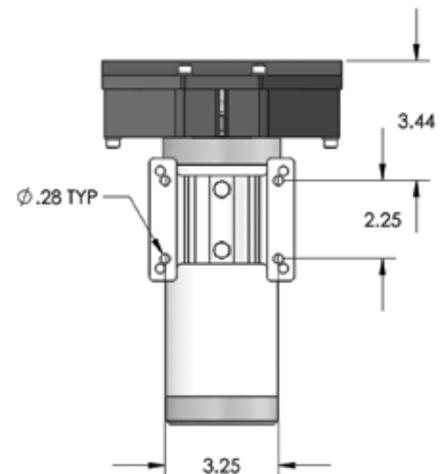
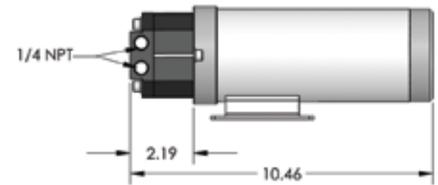
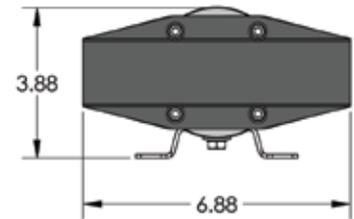
- Max Pressure (psi)** 200
- Open Flow (gpm)** 2.94
- Seals** T-Seal
- O-Rings** FKM
- Inlet Ports (2)** - 1/4" NPT (F)
- Discharge Ports (2)** - 1/4" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 12VDC

MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

CAM	AMPS	PSI	GPM
.170	19.5	100	2.2



Data recorded pumping water at room temperature and 12VDC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

200 SERIES PUMPS - 217V/M9253F



SPECIFICATIONS

- Max Pressure (psi)** 800
- Open Flow (gpm)** 2.1
- Seals** V-Rings
- O-Rings** Buna
- Inlet Ports (2)** - 1/4" NPT (F)
- Discharge Ports (2)** - 1/4" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 120VAC

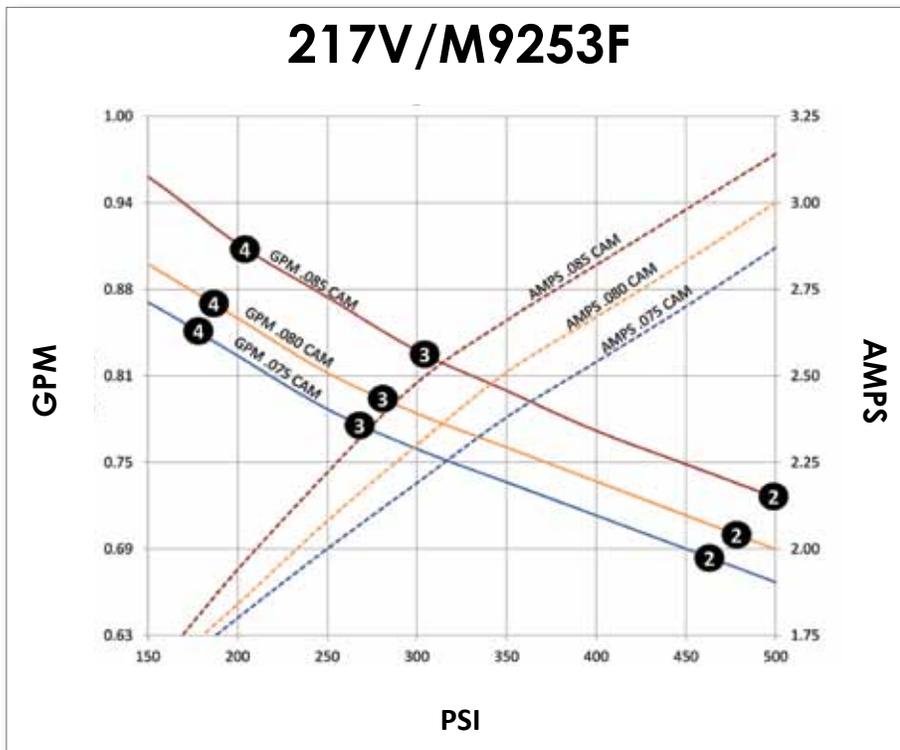
MATERIALS

- Body** Anodized Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel

*External Rectifiers sold separately

EXAMPLE

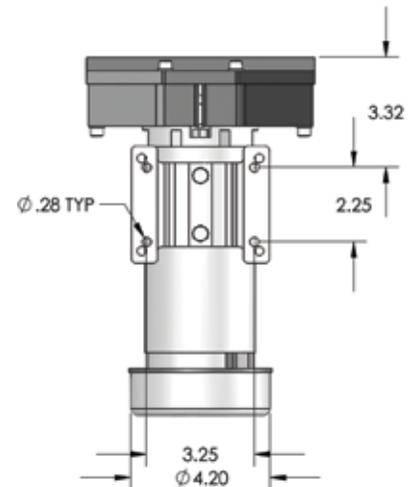
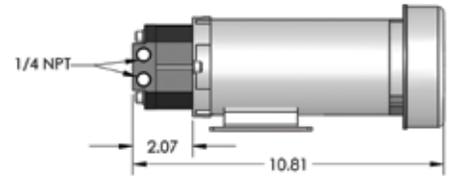
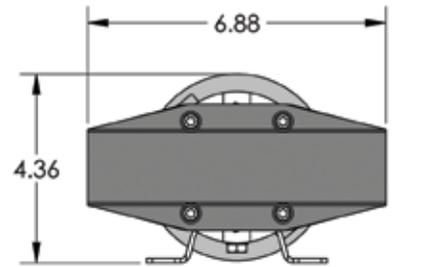
CAM	AMPS	PSI	GPM
.085	2.9	450	.75



AVAILABLE IN 230VAC OPTION

Data recorded pumping water at room temperature and 115V AC power with Full Wave Bridge Rectifier. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request



200 SERIES PUMPS - 217V/M77



SPECIFICATIONS

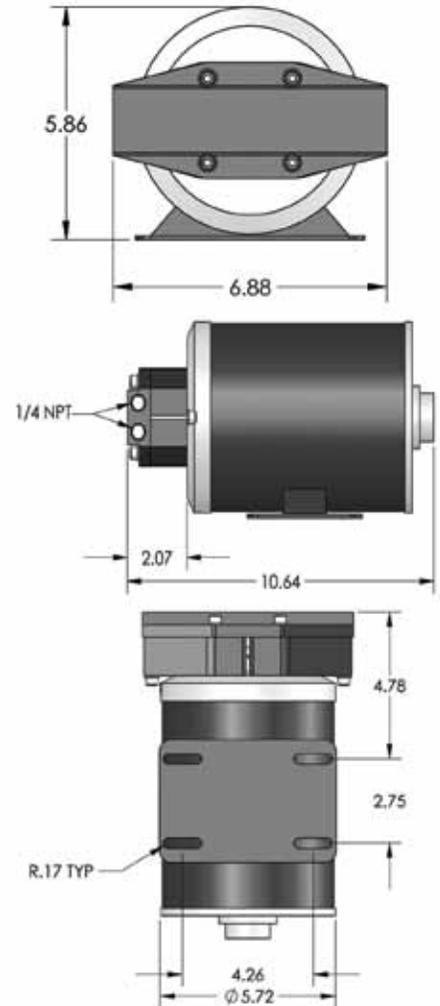
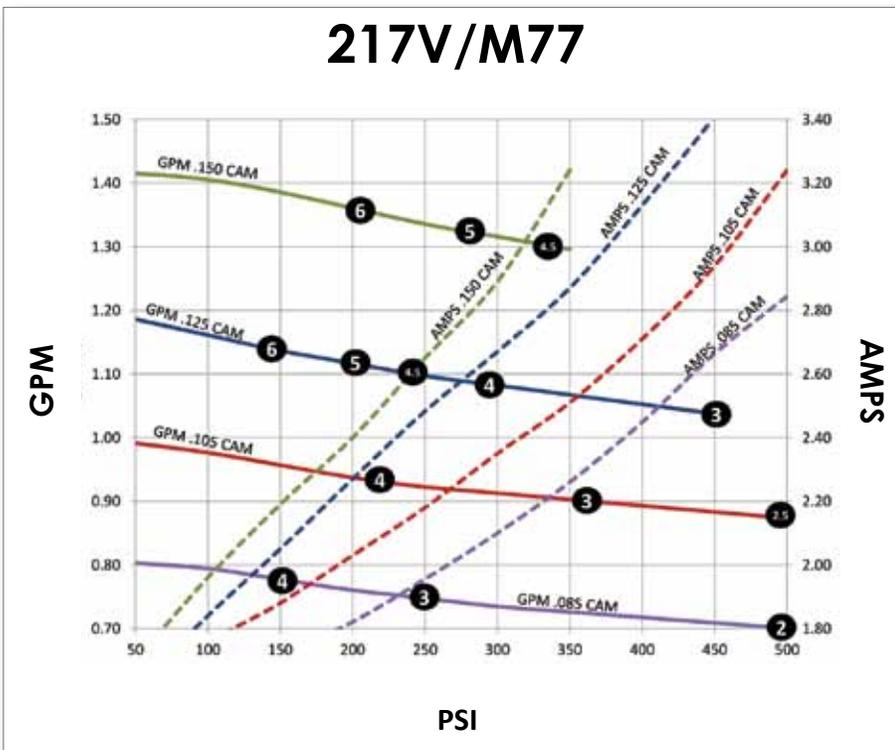
- Max Pressure (psi)** 800
- Open Flow (gpm)** 2.21
- Seals** V-Ring
- O-Rings** Buna
- Inlet Ports (2)** - 1/4" NPT (F)
- Discharge Ports (2)** - 1/4" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** Dual 120/230VAC 60/50Hz

MATERIALS

- Body** Anodized Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

CAM	AMPS	PSI	GPM
.105	3.22	500	.88



Data recorded pumping water at room temperature and 115V AC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

230V CHART CAN BE FOUND @ WWW.PUMPTec.COM

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request

300 SERIES PUMPS - 350U/M74



SPECIFICATIONS

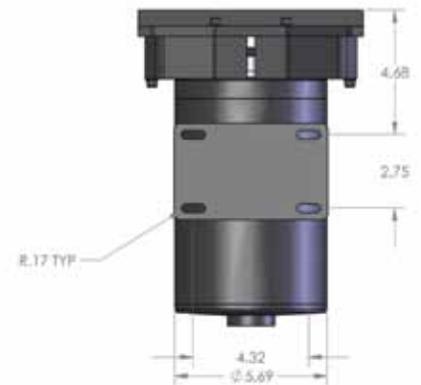
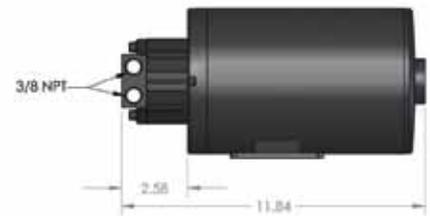
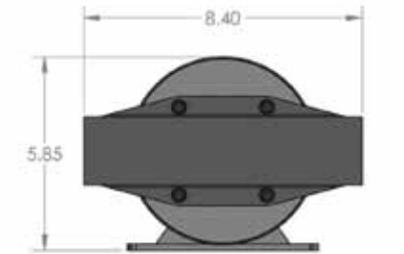
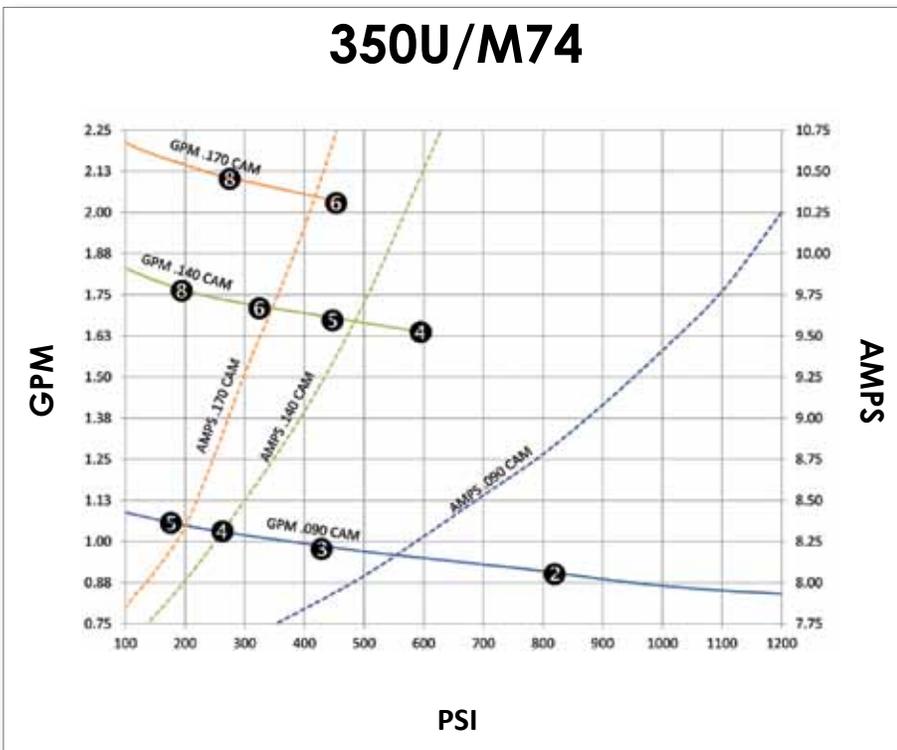
- Max Pressure (psi)** 1000
- Open Flow (gpm)** 3.17
- Seals** U-Cup
- O-Rings** Buna
- Inlet Ports (2)** - 3/8" NPT (F)
- Discharge Ports (2)** - 3/8" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** Dual 120/230VAC 60/50 Hz

MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

CAM	AMPS	PSI	GPM
.140	9.70	500	1.66



Data recorded pumping water at room temperature and 115V AC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

230V CHART CAN BE FOUND @ WWW.PUMPTec.COM

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request

300 SERIES PUMPS - 350U/M81



SPECIFICATIONS

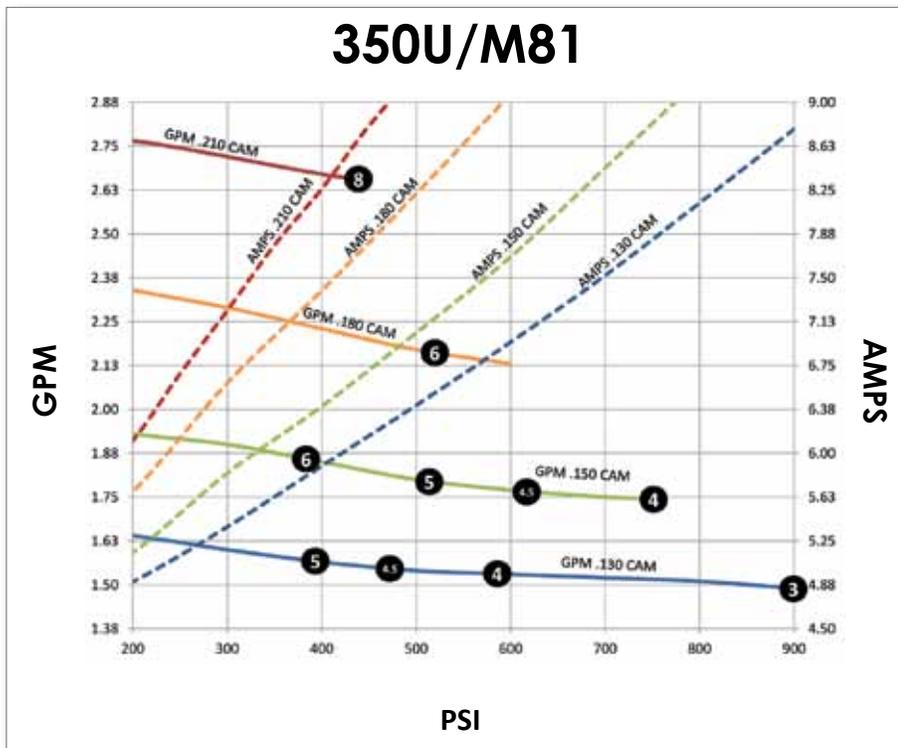
- Max Pressure (psi)** 1000
- Open Flow (gpm)** 3.17
- Seals** U-Cup
- O-Rings** Buna
- Inlet Ports (2)** - 3/8" NPT (F)
- Discharge Ports (2)** - 3/8" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** Dual 120/230VAC 60/50Hz

MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

CAM	AMPS	PSI	GPM
.130	7.52	700	1.52



Data recorded pumping water at room temperature and 120VAC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

230V CHART CAN BE FOUND @ WWW.PUMPTec.COM

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request

300 SERIES PUMPS - 350U/M950



SPECIFICATIONS

- Max Pressure (psi)** 800
- Open Flow (gpm)** 3.3
- Seals** U-Cup
- O-Rings** FKM
- Inlet Ports (2)** - 3/8" NPT (F)
- Discharge Ports (2)** - 3/8" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 12VDC

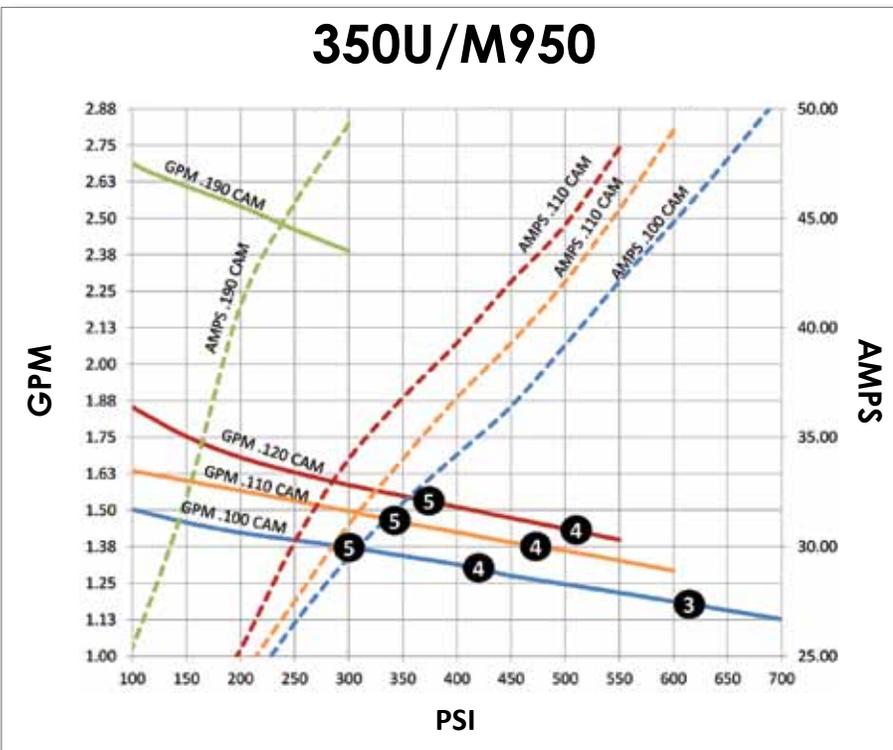
MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

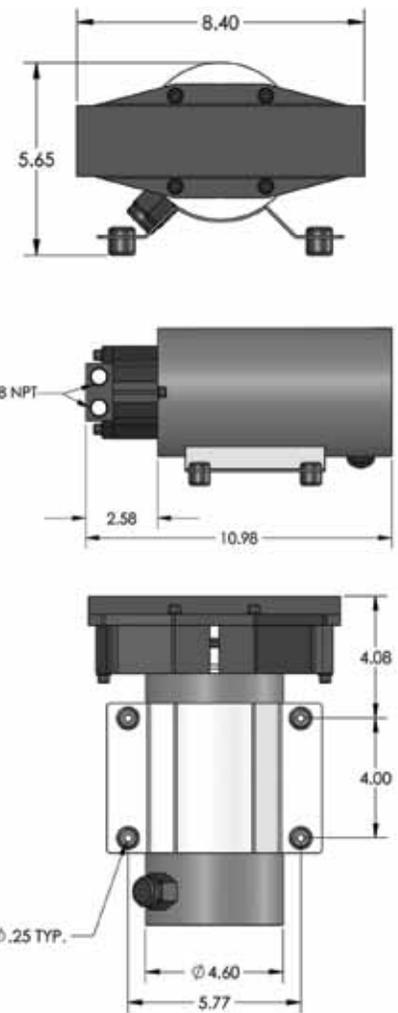
CAM	AMPS	PSI	GPM
.120	34.0	300	1.63

350U/M950



Data recorded pumping water at room temperature and 12VDC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request



300 SERIES PUMPS - 350U/M175



SPECIFICATIONS

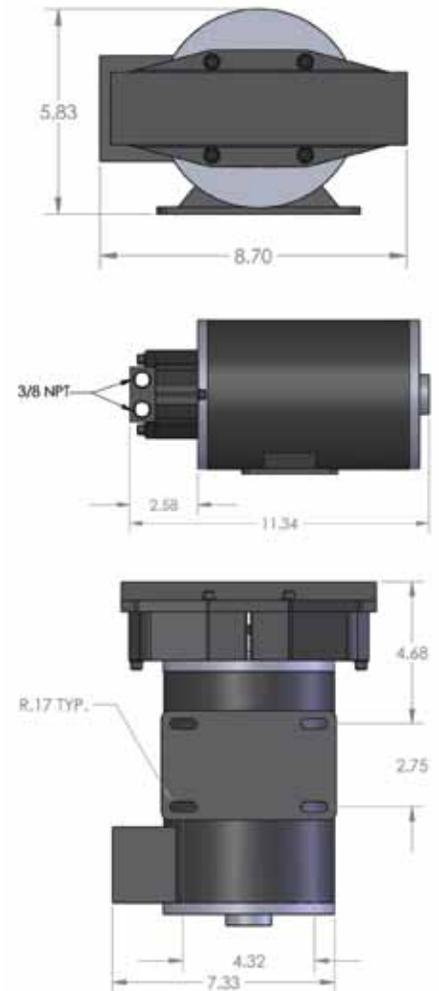
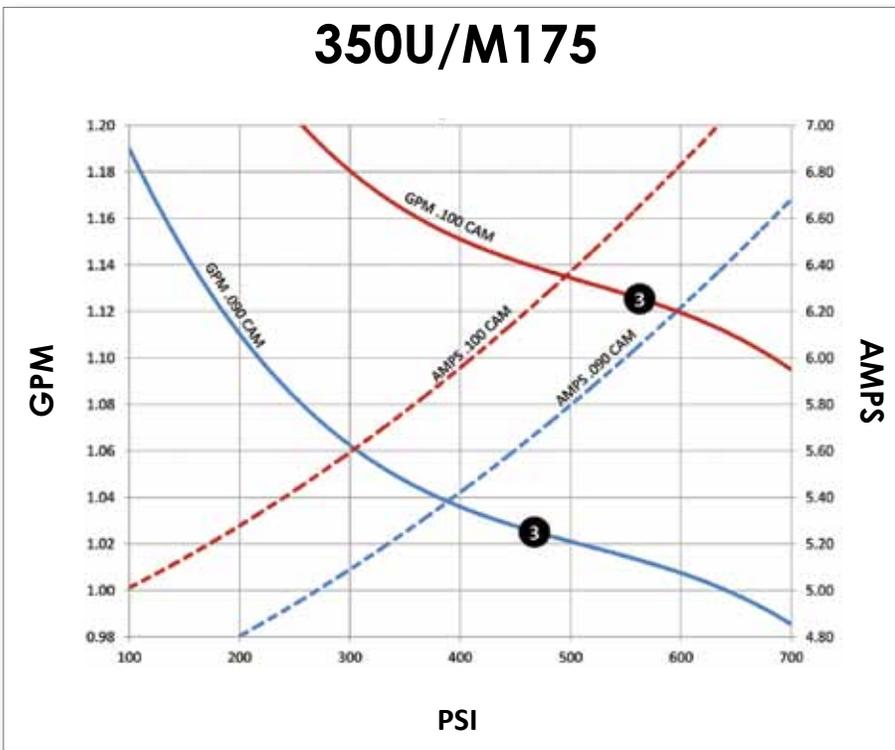
- Max Pressure (psi)** 1000
- Open Flow (gpm)** 3.17
- Seals** U-Cup
- O-Rings** FKM
- Inlet Ports (2)** - 3/8" NPT (F)
- Discharge Ports (2)** - 3/8" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** Dual 120/230VAC 60/50Hz

MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

CAM	AMPS	PSI	GPM
.100	6.41	500	1.14



Data recorded pumping water at room temperature and 115VAC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright Pumptec, Inc. 2014

230V CHART CAN BE FOUND @ WWW.PUMPTEC.COM

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request

300 SERIES PUMPS - 350U/M8230



SPECIFICATIONS

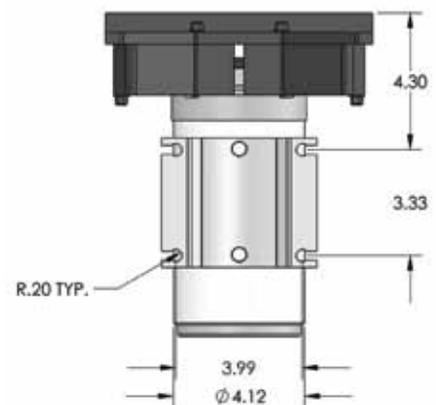
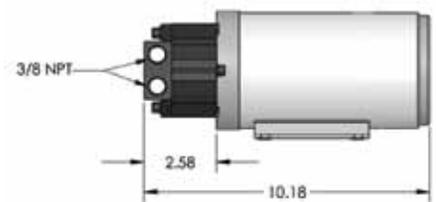
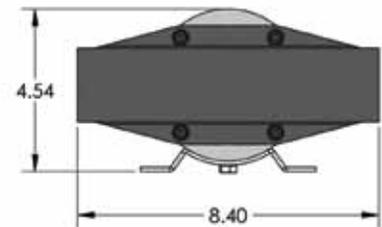
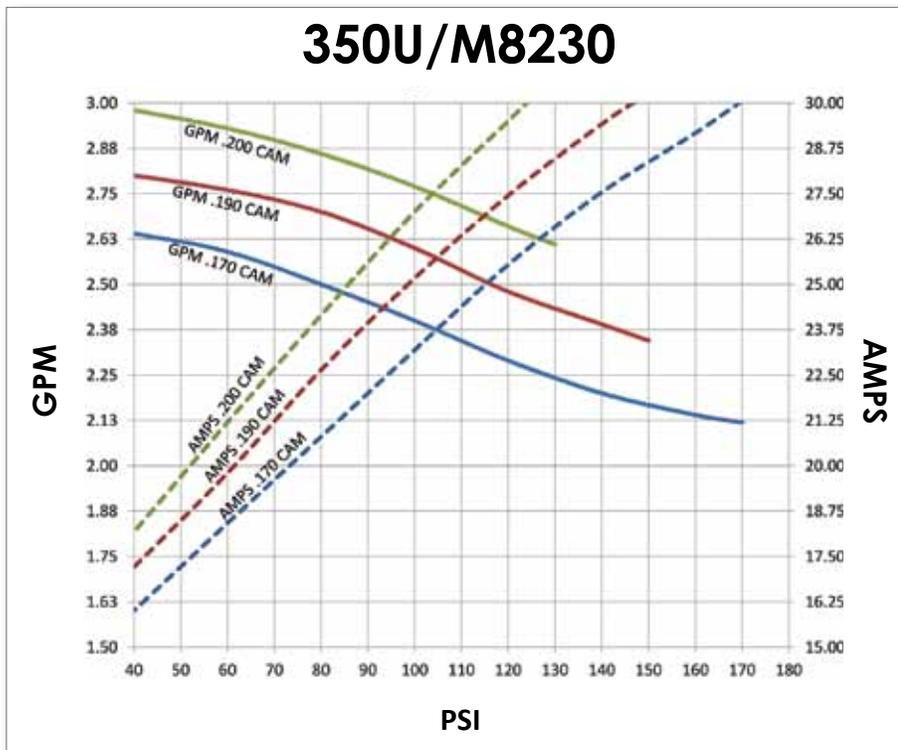
- Max Pressure (psi)** 400
- Open Flow (gpm)** 3.3
- Seals** U-Cup
- O-Rings** FKM
- Inlet Ports (2)** - 3/8" NPT (F)
- Discharge Ports (2)** - 3/8" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 12VDC

MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

CAM	AMPS	PSI	GPM
.190	25.5	100	2.6



Data recorded pumping water at room temperature and 12VDC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright Pumptec, Inc. 2014

* Standard cams shown, more cams available upon request

300 SERIES PUMPS - 356U/M960



SPECIFICATIONS

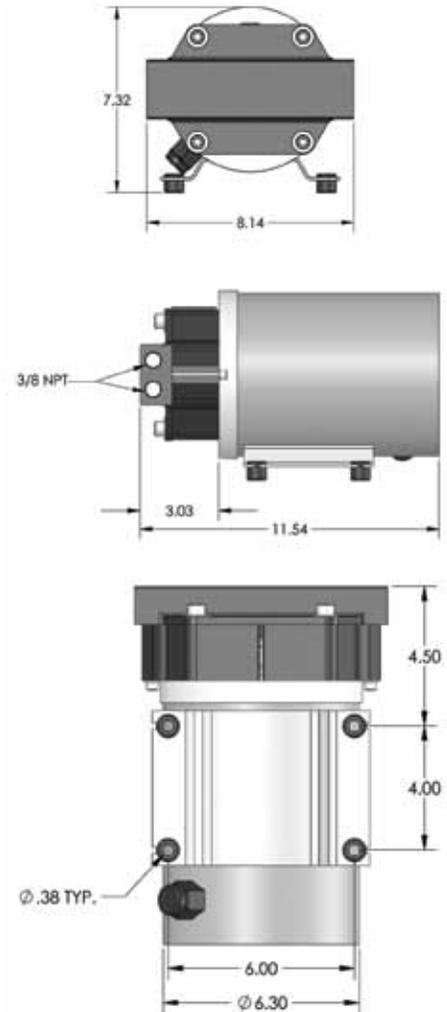
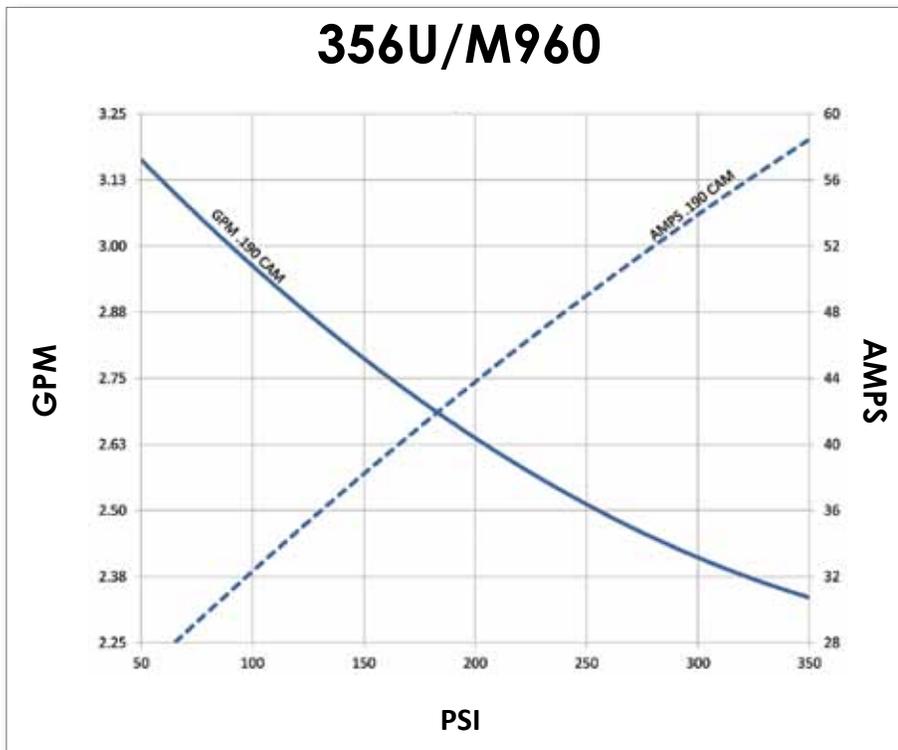
- Max Pressure (psi)** 600
- Open Flow (gpm)** 3.3
- Seals** U-Cup
- O-Rings** FKM
- Inlet Ports (2)** - 3/8" NPT (F)
- Discharge Ports (2)** - 3/8" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** 12VDC

MATERIALS

- Body** Anodized Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

CAM	AMPS	PSI	GPM
.190	54	300	2.4



Data recorded pumping water at room temperature and 12VDC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright Pumptec, Inc. 2014

* Standard cams shown, more cams available upon request

300 SERIES PUMPS - 356U/M64



SPECIFICATIONS

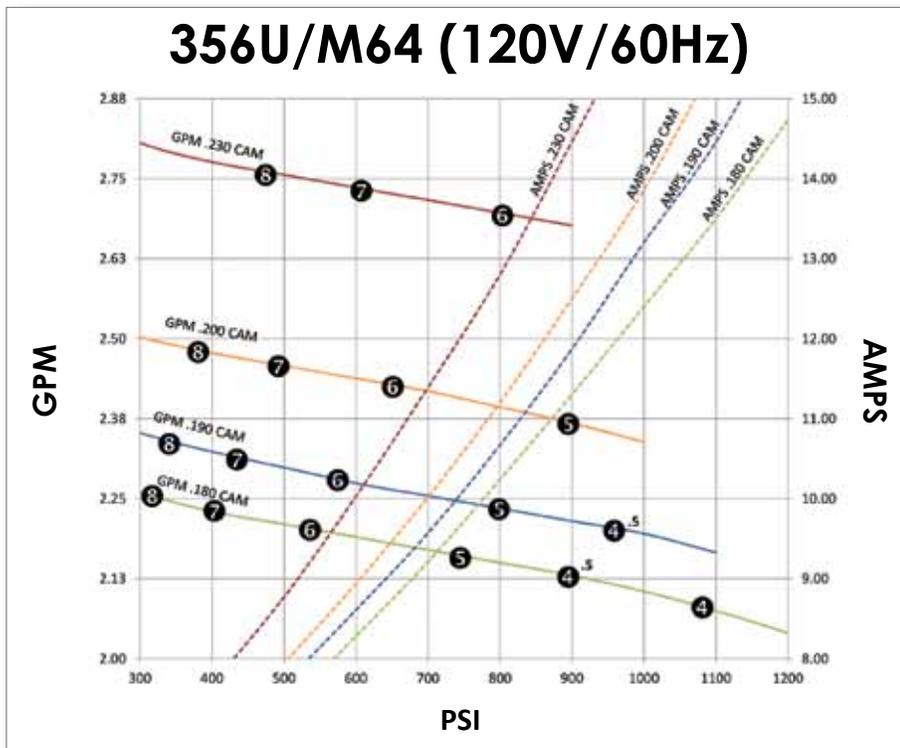
- Max Pressure (psi)** 1200
- Open Flow (gpm)** 3.17
- Seals** U-Cup
- O-Rings** FKM
- Inlet Ports (2)** - 3/8" NPT (F)
- Discharge Ports (2)** - 3/8" NPT (F)
- Max Fluid Temp (°F)** 140
- Voltage** Dual 120/230VAC 60/50Hz

MATERIALS

- Body** Anodized Aluminum
- Plunger** Stainless Steel
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

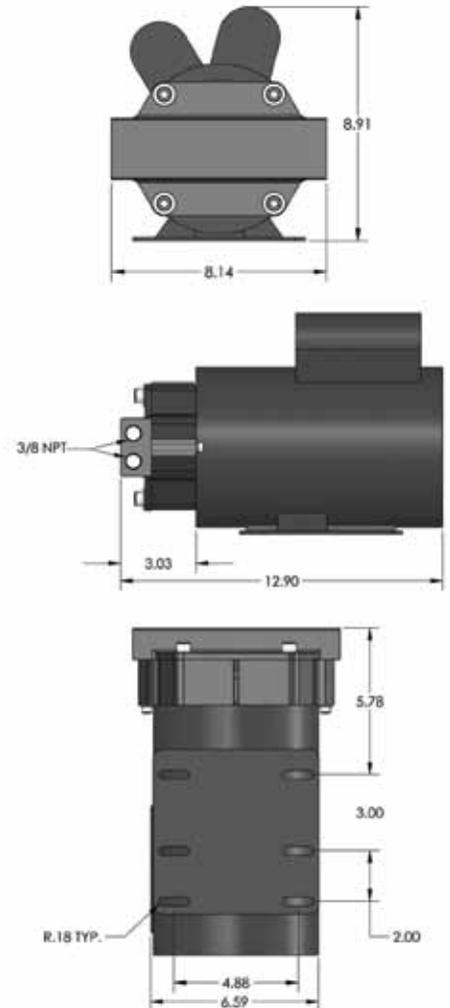
CAM	AMPS	PSI	GPM
.180	12.4	1000	2.11



Data recorded pumping water at room temperature and 120VAC AC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright Pumptec, Inc. 2014

230V CHART CAN BE FOUND @ WWW.PUMPTEC.COM

- Spraying Systems Co. nozzle sizes
- * Standard cams shown, more cams available upon request





SPECIFICATIONS

- Max Pressure (psi)** 300
- Open Flow (gpm)** 6.4
- Seals** T-Seal
- O-Rings** FKM
- Inlet Ports** (1) 1/2 NPT
- Discharge Ports** (1) 1/2 NPT
- Max Fluid Temp (°F)** 140
- Voltage** 120VAC

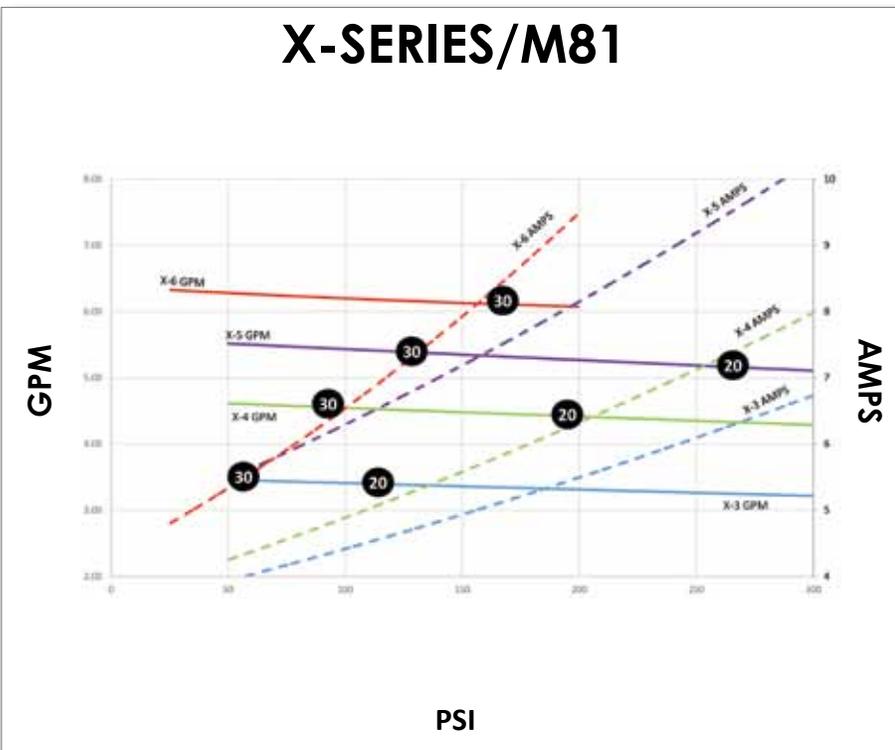
MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Ceramic
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

AMPS	PSI	GPM
8	150	6.1

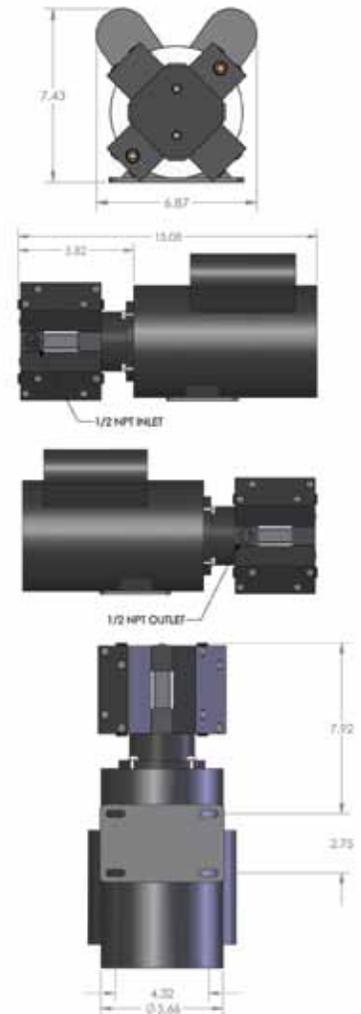
X-SERIES/M81



AVAILABLE IN 230VAC OPTION

Data recorded pumping water at room temperature and 120VAC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright Pumptec, Inc. 2014

● Spraying Systems Co. nozzle sizes





SPECIFICATIONS

- Max Pressure (psi)** 300
- Open Flow (gpm)** 6.4
- Seals** T-Seal
- O-Rings** FKM
- Inlet Ports** (1) 1/2 NPT
- Discharge Ports** (1) 1/2 NPT
- Max Fluid Temp (°F)** 140
- Voltage** 120VAC

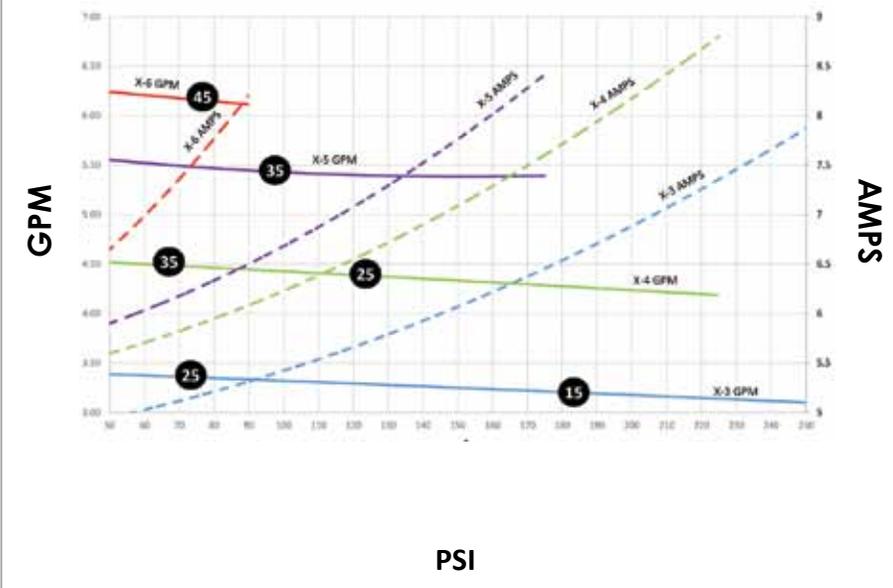
MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Ceramic
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

AMPS	PSI	GPM
6.2	150	4.4

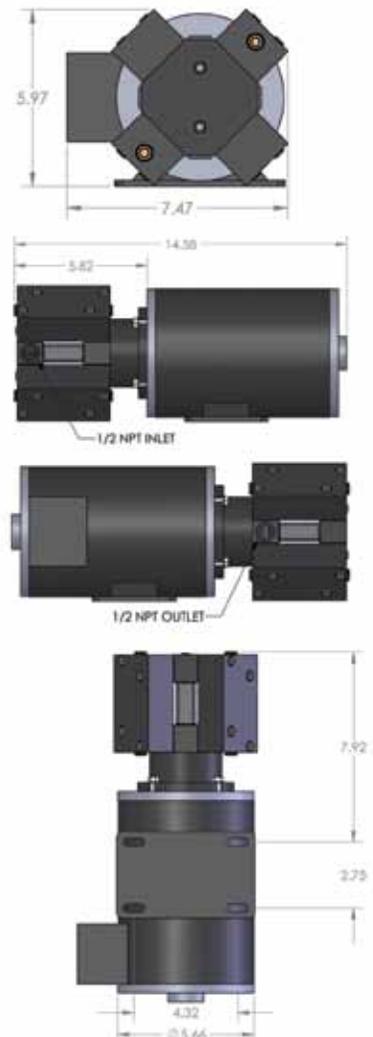
X-SERIES/M175



AVAILABLE IN 230VAC OPTION

Data recorded pumping water at room temperature and 115VAC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright PumpTec, Inc. 2014

● Spraying Systems Co. nozzle sizes





SPECIFICATIONS

- Max Pressure (psi)** 300
- Open Flow (gpm)** 6.4
- Seals** T-Seal
- O-Rings** FKM
- Inlet Ports** (1) 1/2 NPT
- Discharge Ports** (1) 1/2 NPT
- Max Fluid Temp (°F)** 140
- Voltage** 12VDC

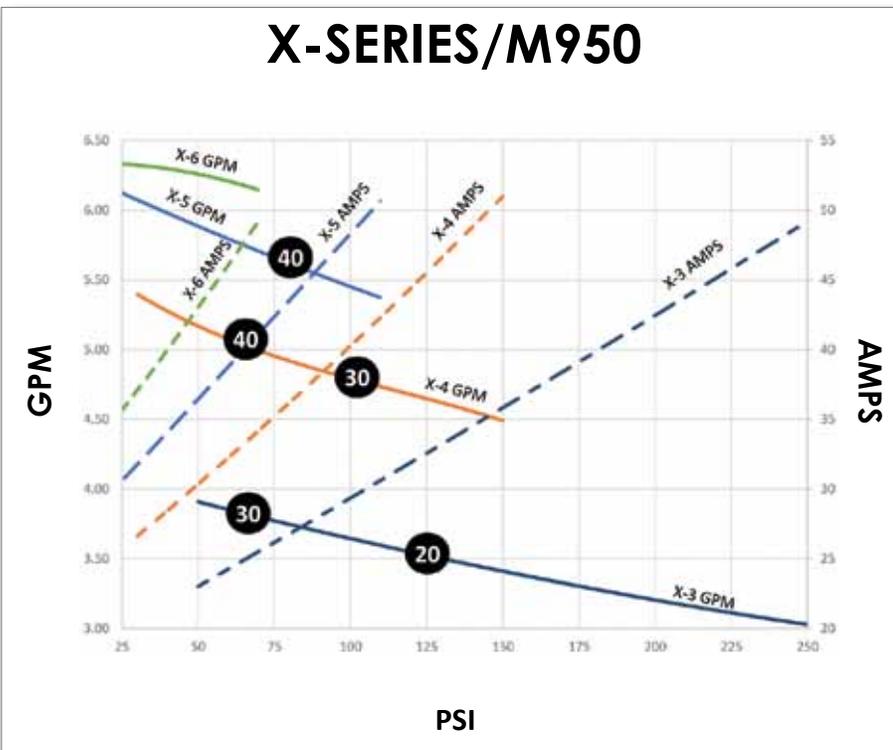
MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Ceramic
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

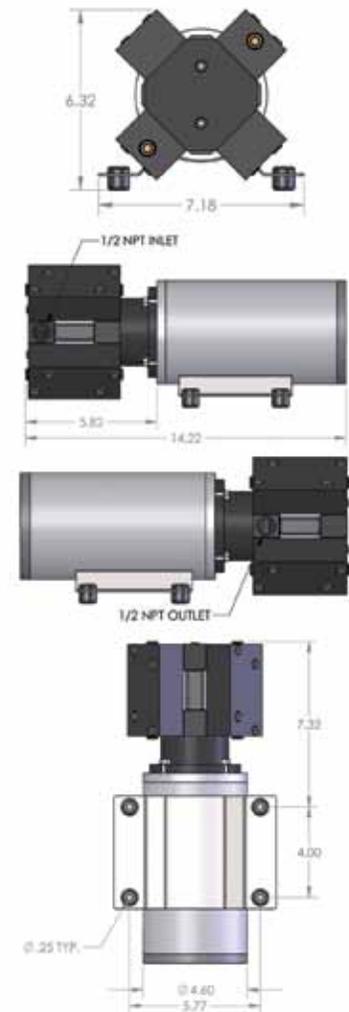
AMPS	PSI	GPM
39	175	3.3

X-SERIES/M950



Data recorded pumping water at room temperature and 12VDC. Actual performance will vary with voltage, application, and mfg tolerances. Copyright Pumptec, Inc. 2014

● Spraying Systems Co. nozzle sizes





SPECIFICATIONS

- Max Pressure (psi)** 150
- Open Flow (gpm)** 5.2
- Seals** T-Seal
- O-Rings** FKM
- Inlet Ports** (1) 1/2 NPT
- Discharge Ports** (1) 1/2 NPT
- Max Fluid Temp (°F)** 140
- Voltage** 12VDC

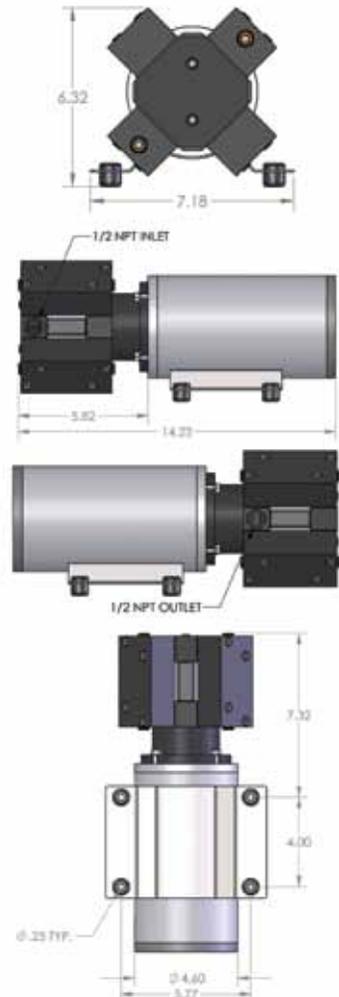
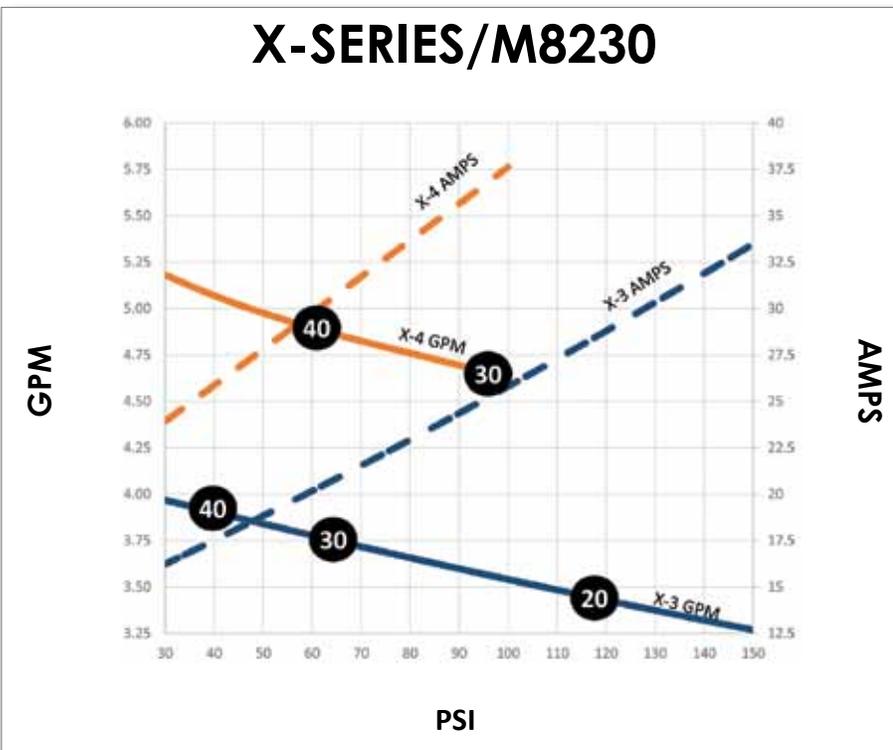
MATERIALS

- Body** Hardcoat Aluminum
- Plunger** Ceramic
- Valves** Stainless Steel
- Fasteners** Stainless Steel

EXAMPLE

AMPS	PSI	GPM
31	130	3.3

X-SERIES/M8230



Data recorded pumping water at room temperature and 12VDC power. Actual performance will vary with voltage, application, and mfg tolerances. Copyright Pumptec, Inc. 2014

● Spraying Systems Co. nozzle sizes

MAINTENANCE

Each system's maintenance cycle will be unique. If system performance decreases, check immediately. If no wear at 500 hours, check again at 1000 hours and each 500 hours until wear is observed. Valves typically require changing every seal change. Duty cycle, temperature, quality of pumped liquid and inlet feed conditions all effect the life of a pump's wear parts and service cycle. Remember to service the regulator/ unloader at each seal servicing and check all system accessories and connections before resuming operation.

LUBRICATION

Apply 1.5 oz of suppliers Super Lube® multi-purpose grease to the corners and center of plunger slot at the time of service.

STORING

For extended storing, or between use in cold climates, drain all pumped liquids from pump and flush with antifreeze solution to prevent freezing and damage to the pump. **DO NOT RUN PUMP WITH FROZEN LIQUID.**

NOTE:

For Plunger Pump disassembly and reassembly instructions, pump Specifications, and pump Motor Performance Tables, refer to Plunger Pumps Operating Instructions and Parts Manuals.

PREVENTIVE MAINTENANCE CHECKLIST

Check	daily	weekly	50 Hrs.	500 Hrs.	1500 Hrs.	3000 Hrs.
Clean Filters	X					
Water Leaks	X					
Descale Pump		X	X			
Cam & Bearing				X	X	
Seal Change				X	X	
Valve Change				X		X

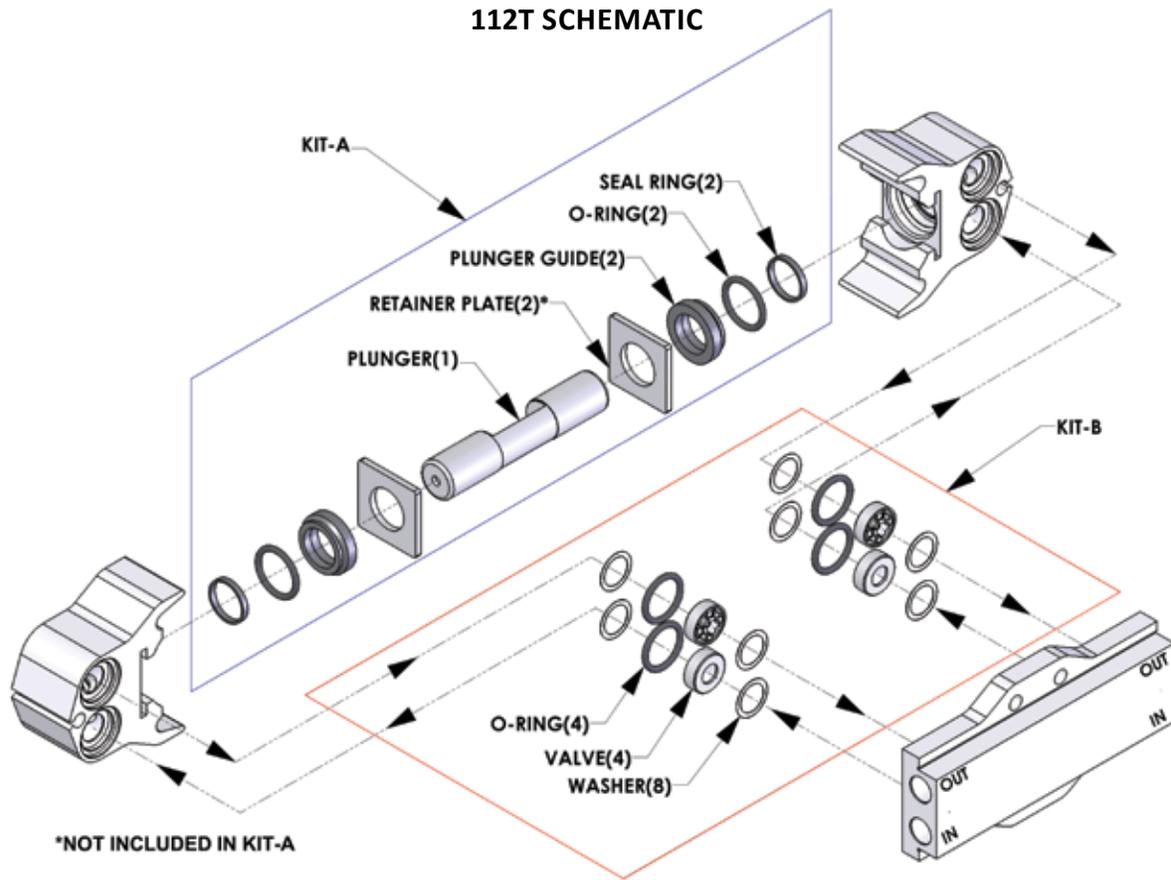
TROUBLESHOOTING CHART

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
No water flow	<ol style="list-style-type: none"> 1. Tank is empty or water is not turned on 2. Filter clogged 3. Pump valves clogged or damaged 4. Pump has lost prime 	<ol style="list-style-type: none"> 1. Fill tank or turn on water supply 2. Clean filter 3. Examine valves and clean or replace 4. Follow priming procedure
Low pressure	<ol style="list-style-type: none"> 1. Worn nozzle 2. Leak in high pressure hose or connections 3. Filter clogged 4. Pump valves clogged or damaged 	<ol style="list-style-type: none"> 1. Replace nozzle with new one of same size 2. Check hose and connections 3. Clean filter 4. Examine valves and clean or replace
Pump pulsates when spraying	<ol style="list-style-type: none"> 1. Filter clogged 2. Pump valves clogged or damaged 	<ol style="list-style-type: none"> 1. Clean filter 2. Examine valves and clean or replace
Motor does not operate	<ol style="list-style-type: none"> 1. Blown fuse or circuit breaker 	<ol style="list-style-type: none"> 1. Replace circuit breaker or fuse. Check circuit for wire damage or component damage
Leaks seen under pump	<ol style="list-style-type: none"> 1. Worn pump seals 2. Abrasives in solution have damaged pump seals 	<ol style="list-style-type: none"> 1. Replace with new plunger and seals 2. Mix chemical thoroughly and improve filter
Regulator leaks fluid from cap	<ol style="list-style-type: none"> 1. Pressure is set too low 	<ol style="list-style-type: none"> 1. Set pressure higher to keep internals from moving too much 2. Replace seal

For Repair Parts, call 763-433-0303

Please provide following information:

- Model number
- Serial number (if any)
- Part description and number as shown in parts list



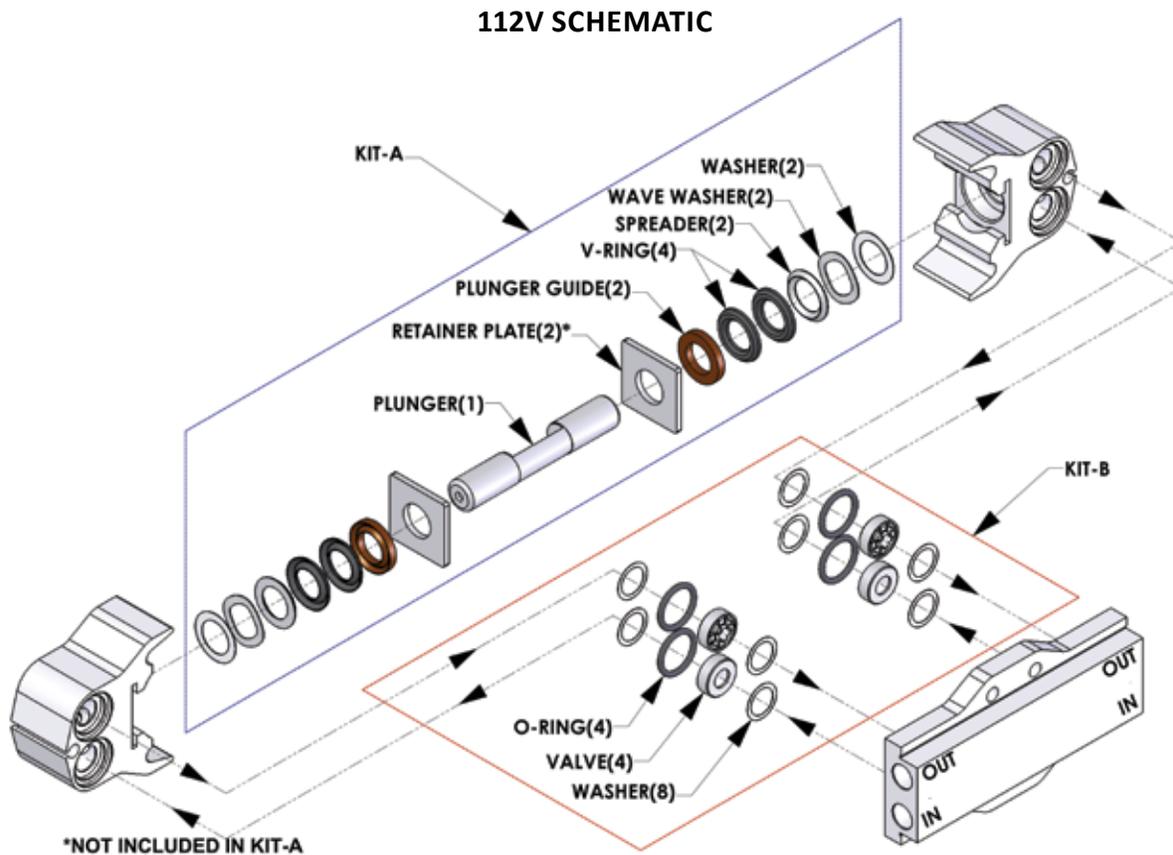
112T/212T

Repair Parts illustration for Plunger Pump

REPAIR PARTS LIST FOR PLUNGER PUMP

DESCRIPTION	PART NO.	QTY	DESCRIPTION	PART NO.	QTY
KIT A, 112T, BUNA	10001		KIT B, BUNA	10004	
KIT A, 112T, VITON	10005		KIT B, VITON	10008	
KIT A, 212T, BUNA	10017		O-Ring, 1-116	▲	4
KIT A, 212T, VITON	10021		Valve	▲	4
Plunger	▲	1	1/2" ID Washer	▲	8
O-Ring, 1-117	▲	2	Retainer Plate	*	2
Seal Ring	▲	2	Head	*	2
Plunger Guide	▲	2	Manifold	*	1

(▲) Sold only as part of a kit. | (*) Not part of a kit, for identification only.



112V/217V

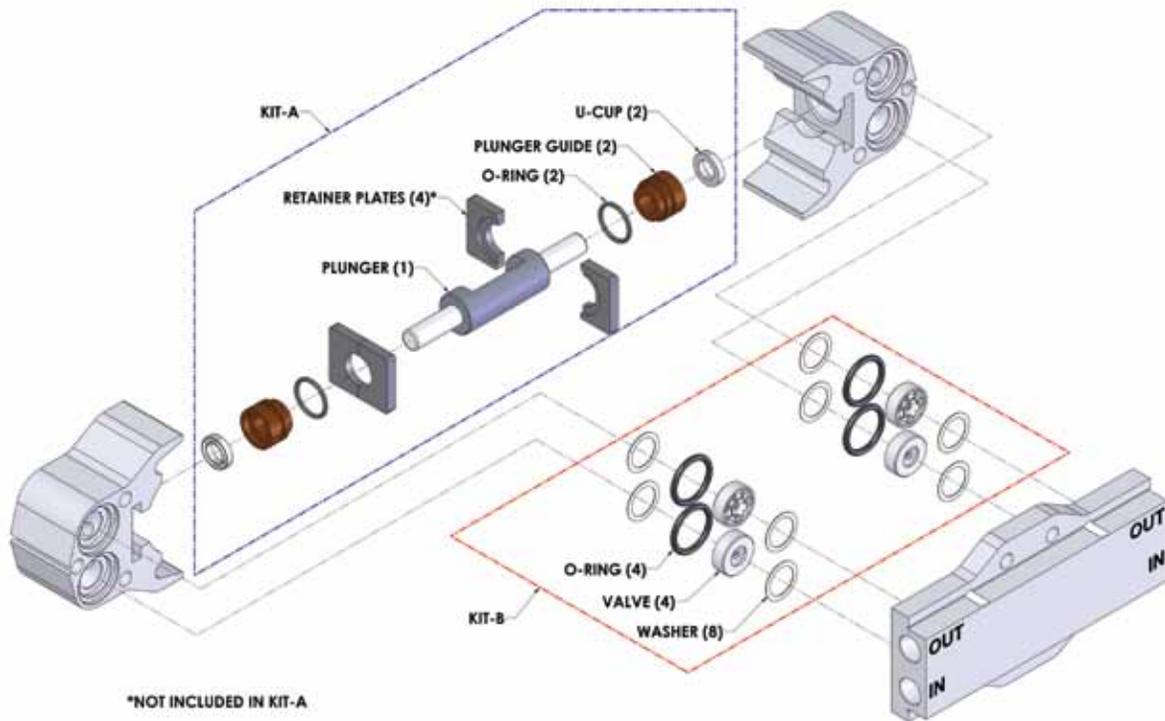
Repair Parts illustration for Plunger Pump

REPAIR PARTS LIST FOR PLUNGER PUMP

DESCRIPTION	PART NO.	QTY	DESCRIPTION	PART NO.	QTY
KIT A, 112V	10009		KIT B	10004	
KIT A, 217V	10031		White Washer, 1/2" ID	▲	8
Plunger	▲	1	Valve Assembly	▲	4
Backing Ring	▲	2	O-Ring, 1-116	▲	4
V-packing	▲	4	Retainer Plate	*	2
Spreader	▲	2	Pump Head	*	2
WaveWasher	▲	2	Pump Manifold	*	1
White Washer, 5/8" ID	▲	2			

(▲) Sold only as part of a kit. | (*) Not part of a kit, for identification only.

113C SCHEMATIC



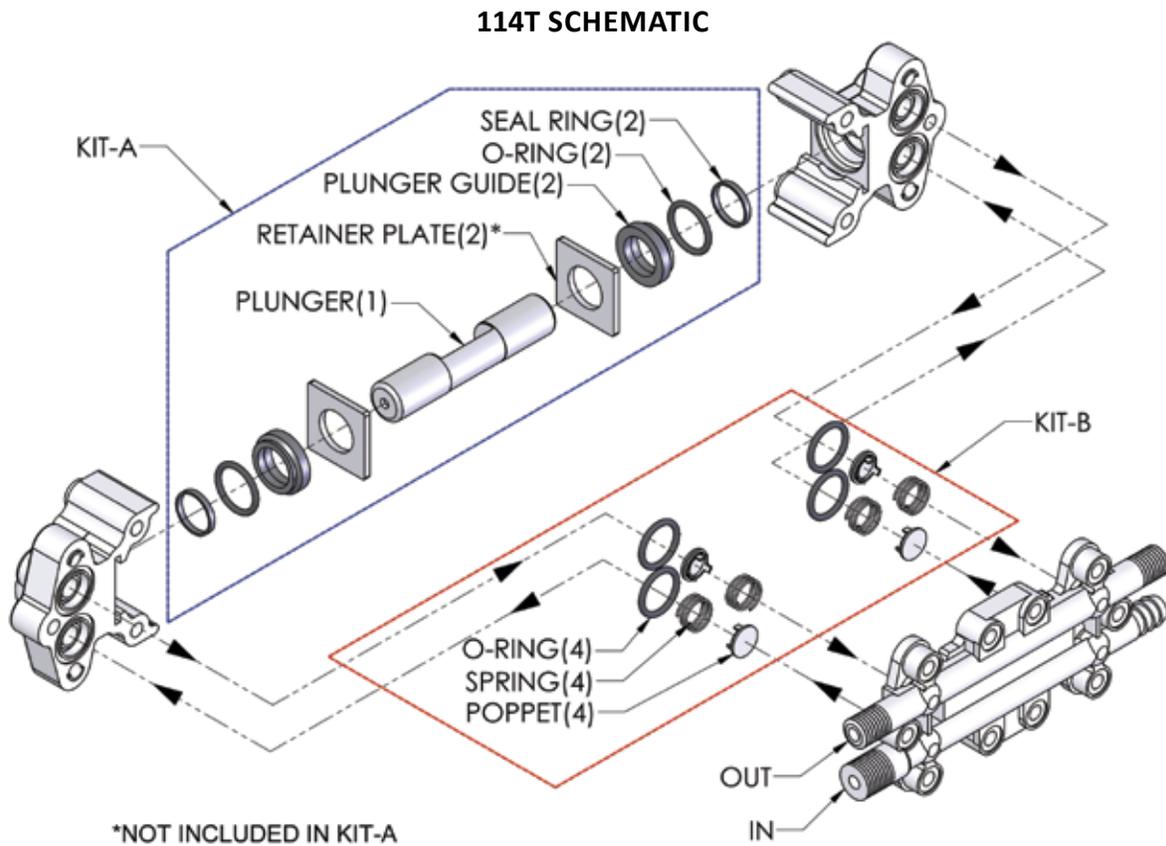
113C/116C

Repair Parts Illustration for Plunger Pump

REPAIR PARTS LIST FOR PLUNGER PUMP

DESCRIPTION	PART NO.	QTY	DESCRIPTION	PART NO.	QTY
KIT A, 113C/116C	10034		KIT B, 113C/116C	10004	
Plunger	▲	1	O-Ring, 1-116	▲	4
O-Ring, 1-016	▲	2	Valve	▲	4
Seal Ring	▲	2	1/2" ID Washer	▲	8
Plunger Guide	▲	2	Retainer Plate	*	2
			Head	*	2
			Manifold	*	1

(▲) Sold only as part of a kit. | (*) Not part of a kit, for identification only.



114T

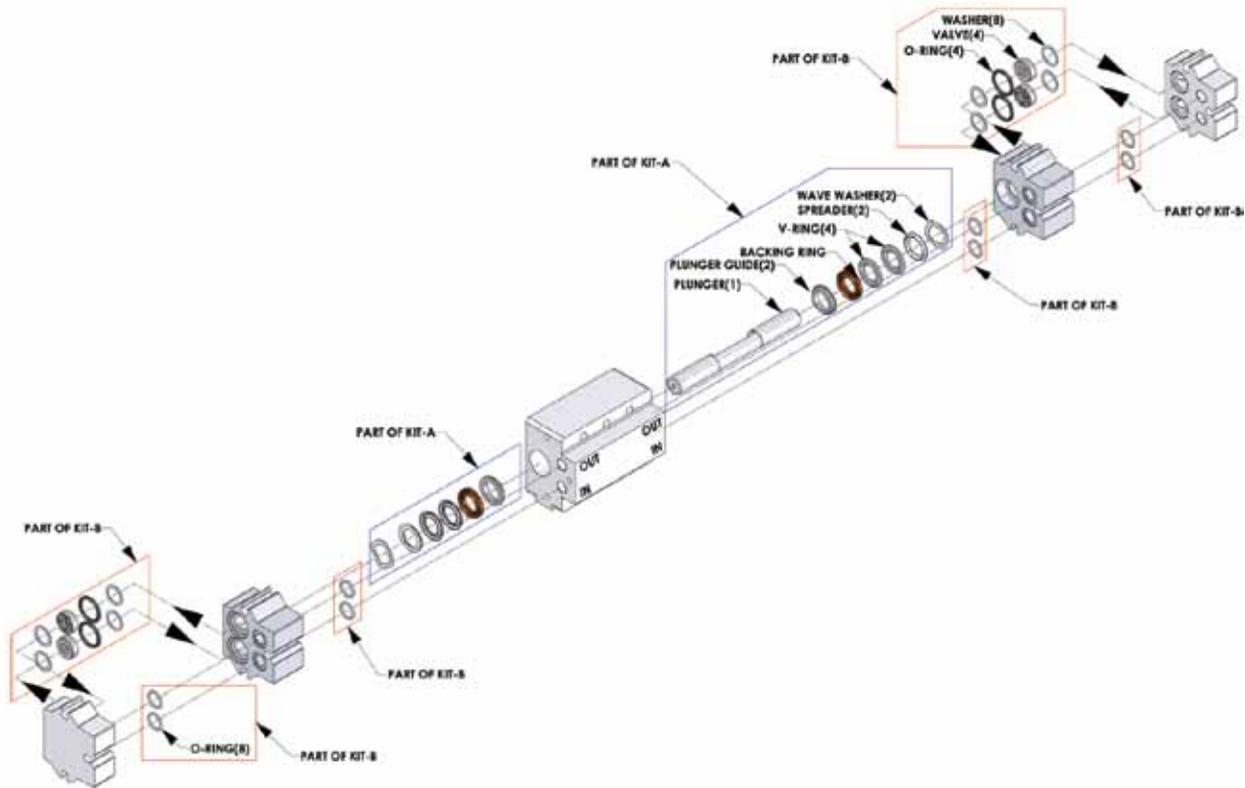
Repair Parts Illustration for Plunger Pump

REPAIR PARTS LIST FOR PLUNGER PUMP

DESCRIPTION	PART NO.	QTY	DESCRIPTION	PART NO.	QTY
KIT A, 114T, BUNA	10001		KIT B, BUNA 114T	10014	
KIT A, 114T, VITON	10005		KIT B, VITON 114T	10020	
Plunger	▲	1	Poppet Valve	▲	4
O-Ring, 1-117	▲	2	O-Ring, 1-116	▲	4
Seal Ring, 1-124	▲	2	Spring Valve	▲	4
Plunger Guide	▲	2	Head	*	2
			Manifold	*	1

(▲) Sold only as part of a kit. | (*) Not part of a kit, for identification only.

207V SCHEMATIC



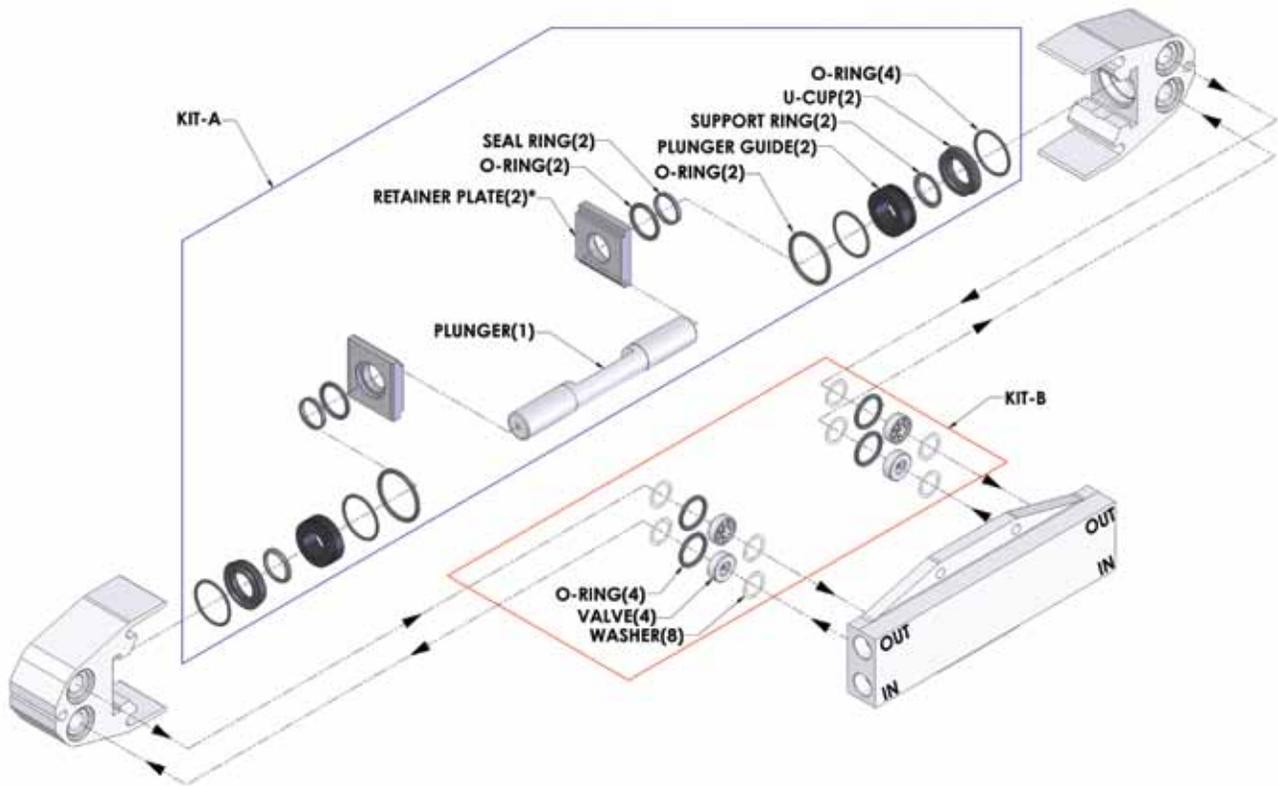
205V/207V

Repair Parts illustration for Plunger Pump

REPAIR PARTS LIST FOR PLUNGER PUMP

DESCRIPTION	PART NO.	QTY	DESCRIPTION	PART NO.	QTY
KIT A, 207V	10055		KIT B	10022	
Plunger	▲	1	O-Ring, 1-116	▲	1
Plunger Guide	▲	2	Valve	▲	4
Backing Ring	▲	2	White Washer, 1/2" ID	▲	8
V-Ring	▲	4	O-Ring, 1-014	▲	8
Spreader	▲	2	Head	*	2
Wave Washer	▲	2	Stuffing Box	*	2
			Manifold/Crankcase	*	1

(▲) Sold only as part of a kit. | (*) Not part of a kit, for identification only.



*NOT INCLUDED IN KIT-A

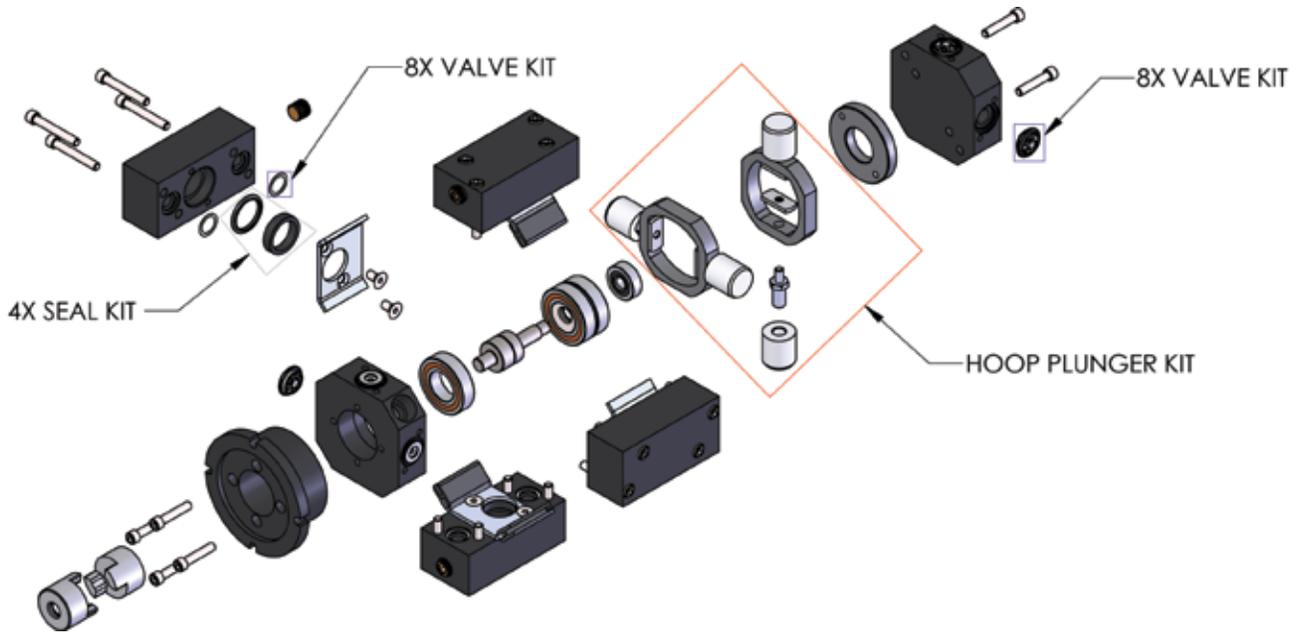
350U/356U/360U

Repair Parts Illustration for Plunger Pump

REPAIR PARTS LIST FOR PLUNGER PUMP

DESCRIPTION	PART NO.	QTY	DESCRIPTION	PART NO.	QTY
KIT A, 350U	10013		KIT B	10004	
KIT A, 356U, 360U	10007		White Washer, 1/2" ID	▲	8
Plunger	▲	1	Valve Assembly	▲	4
O-Ring, 1-117	▲	2	O-Ring, 1-116	▲	4
Seal Ring, 1-124	▲	2	Retainer Plate	*	2
Plunger Guide	▲	2	Pump Head	*	2
Support Ring, 1-116	▲	4	Pump Manifold	*	1
U-Cup	▲	2			
O-Ring, 1-024	▲	4			

(▲) Sold only as part of a kit. | (*) Not part of a kit, for identification only.



X-SERIES

Repair Parts Illustration for Plunger Pump

REPAIR PARTS LIST FOR PLUNGER PUMP

DESCRIPTION	PART NO.	QTY	DESCRIPTION	PART NO.	QTY
HOOP PLUNGER KIT	10056		VALVE KIT	10058	
Hoop	▲	2	O-ring, 1-116	▲	8
Stud	▲	4	Valve Assembly	▲	8
Weld Nut	▲	4	White Washer, 1/2" D	▲	8
Ceramic Tip	▲	4			
SEAL KIT	10057				
Plunger Guide	▲	4			
Seal Ring	▲	4			
O-Ring, 1-117	▲	4			

(▲) Sold only as part of a kit. | (*) Not part of a kit, for identification only.

PARTS AND ACCESSORIES - REGULATORS



PumpteC regulators offer quality in pressure regulating, relief and release. PumpteC regulators also serve as a flow proportionate valve assuring top performance. High flow or low flow, a PumpteC pressure regulator valve will offer the desired regulated flow and operation specifications. Whether it is for your carpet extractor/cleaner, high and low flow misting sprayer, lawn and pest sprayer, agricultural sprayer, chemical sprayer, pressure cleaner washer sprayer, or washing equipment, PumpteC can assist with your general catagory pump regulator needs.



Regulator, 9015, Locking, Nylon, Black

50 PSI	PN: 70027
125 PSI	PN: 70026
200 PSI	PN: 70015
250 PSI	PN: 70014



Regulator Assembly, 9025, w/By-Pass Assembly

40 PSI Regulator	PN: 80931
80 PSI Regulator	PN: 80907
150 PSI Regulator	PN: 80879
180 PSI Regulator	PN: 80932
210 PSI Regulator	PN: 80933
310 PSI Regulator	PN: 80934



Regulator, 9025, Nylon, Black

40 PSI	PN: 70101
80 PSI	PN: 70097
150 PSI	PN: 70095
180 PSI	PN: 70102
210 PSI	PN: 70096
310 PSI	PN: 70100



Regulator, 9019, SS SEAT, 1/4 NPT, Brass

125 PSI	PN: 70112
200 PSI	PN: 70105
300 PSI	PN: 70106
500 PSI	PN: 70107
1000 PSI	PN: 70114



Regulator, MV500, SS SEAT, (PRB-500-600), Brass

100 PSI	PN: 70001	LOCKING
100 PSI	PN: 70047	ADJUSTING
200 PSI	PN: 70043	LOCKING
200 PSI	PN: 70031	ADJUSTING
350 PSI	PN: 70046	ADJUSTING
400 PSI	PN: 70135	LOCKING
400 PSI	PN: 70088	ADJUSTING
500 PSI	PN: 70051	LOCKING
500 PSI	PN: 70103	ADJUSTING
600 PSI	PN: 70089	ADJUSTING
1000 PSI	PN: 70003	LOCKING
1000 PSI	PN: 70052	ADJUSTING
1200 PSI	PN: 70009	ADJUSTING
2000 PSI	PN: 70144	LOCKING



Regulator, MV510, 200 PSI, SS SEAT, (PRB-510-200), Brass

200 PSI	PN: 70044	LOCKING
200 PSI	PN: 70055	ADJUSTING
350 PSI	PN: 70054	LOCKING
350 PSI	PN: 70056	ADJUSTING
500 PSI	PN: 70057	LOCKING
800 PSI	PN: 70059	LOCKING
1000 PSI	PN: 70058	ADJUSTING
2000 PSI	PN: 70143	LOCKING



Regulator, MV510, 350 PSI, SS SEAT, (PRB-510-350), Brass
PN: 70029



Regulator, MV510, 600 PSI, SS SEAT, (PRB-510-600), Brass
PN: 70030

PARTS AND ACCESSORIES - UNLOADERS



Since Pumptec pumps are positive displacement, the fluid that leaves the pump cannot be stopped (dead-headed) without damaging the pump, motor, and/or discharge plumbing. The fluid that leaves the pump must be directed to a pressure regulator that limits the system pressure by diverting some of the fluid (partial bypass) or all of the fluid back to the supply tank (full bypass).

A pressure regulating unloader is a special type of regulator. It not only limits the system pressure, it also shifts into low-pressure unrestricted flow when it is in full bypass. It is used to help reduce the load when the operator releases the trigger.



**Unloader
UVK-520-450
450-500 PSI
PN: 70034**



**Unloader
UVK-520-1200
1000-1200 PSI
PN: 70035**



**Unloader
VRS3
Panel Mount W/KNOB
1200 PSI, EZ
PN: 70127**



**Unloader
W/ SWITCH, VRT3
Non-Panel Mount,
1200 PSI
PN: 70129**



**12V HD Push-Pull
Electrical Switch**
PN: PPS-75A-SCR



**12V Push-On Electrical
Toggle Switch**
PN: TS-20A-1/4P



Rubber Switch Boot
PN: TS-Boot



12V Switch Bracket
PN: BRACKET-M15



12V Switch Bracket
PN: BRACKET-M30



**12V Surface Mount
Circuit Breaker**
30 AMP PN: CBSM-MR30
40 AMP PN: CBSM-MR40
50 AMP PN: CBSM-MR50



**12V Panel Mount
Circuit Breaker**
PN: CBPM-MR30



12V Fuse Holder
PN: FHPM-20A



12V Fuse
15 AMP PN: FUSE-15A
20 AMP PN: FUSE-20A

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.

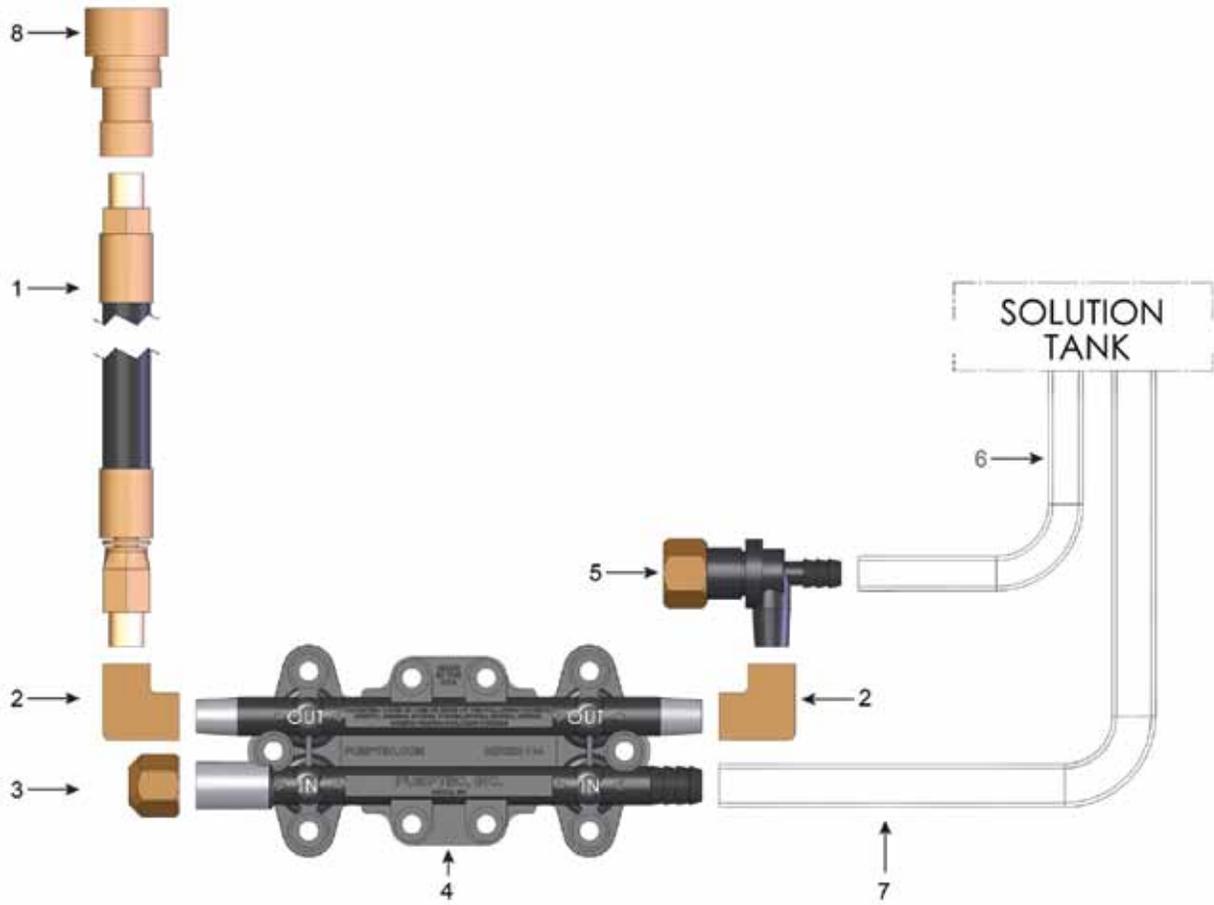
HIGH PERFORMANCE UPGRADE KITS FOR PLUNGER PUMPS

PERFORMANCE FEATURES

- Long Life
- High-Pressure
- High-Efficiency
- Serviceability
- Design Flexibility
- Chemical Compatibility
- Compact Design
- Enhanced Priming

Pumpteck High Performance Upgrade Kits allow professional cleaners to upgrade their low performance extractors to high pressure agitation without investing thousands of dollars in new extractors. The performance upgrade kits are complete with everything needed to convert to a high performance extractor in about an hour. High performance pumps provide the professional with less time on each job, more jobs per day, less down time, more heat from the internal heater, faster dry time, greater customer satisfaction and more profit.

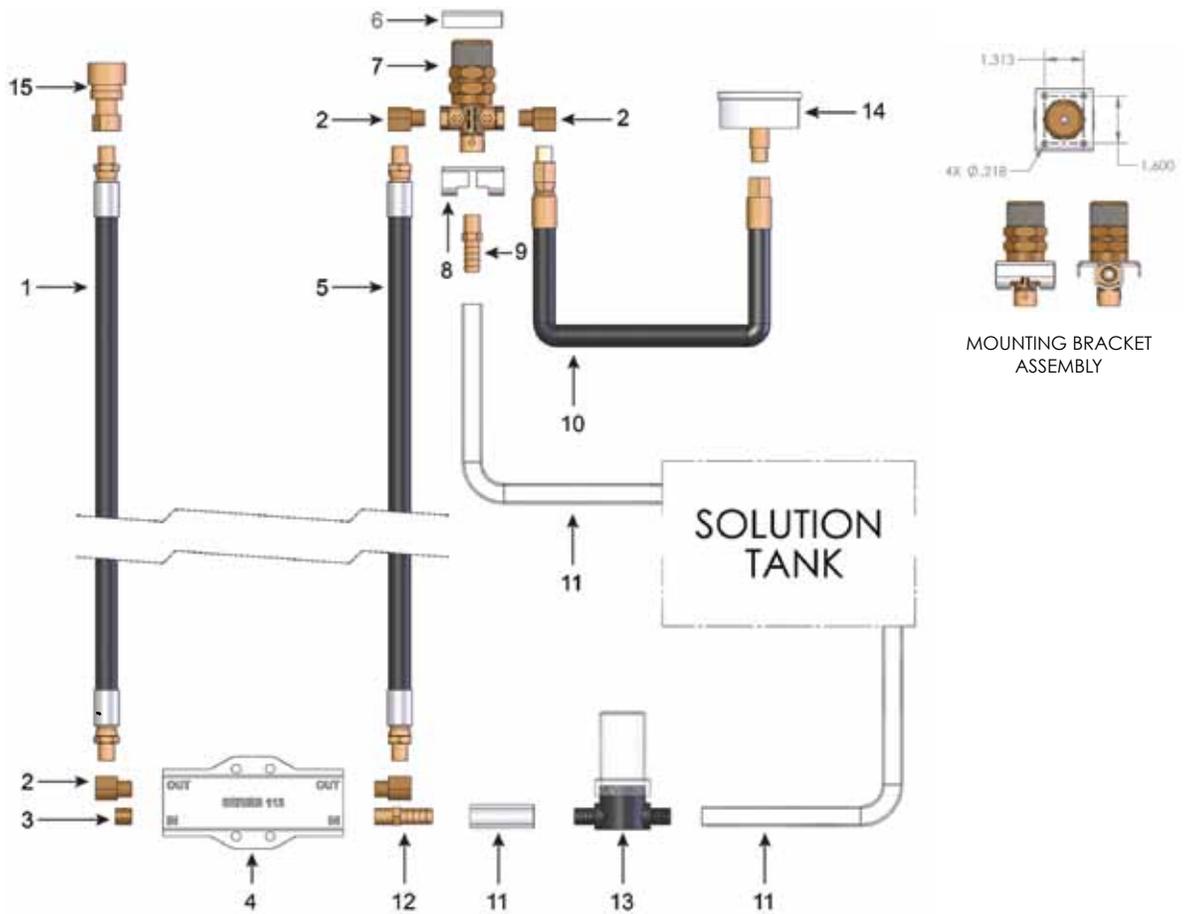




PARTS LIST FOR HIGH PERFORMANCE UPGRADE KIT

DESCRIPTION		QTY		DESCRIPTION		QTY	
REF	UPGRADE KIT 114, 200PSI	80655		REF			
1	Pulse Hose, 29"	▲	1	5	9015 Nylon 200 PSI Regulator	▲	1
2	Brass Elbow	▲	2	6	Hose, 3/8" ID, 3ft.	▲	1
3	Cap, 3/8", Poly, Black	▲	1	7	Hose 1/2" ID, 3ft	▲	1
4	Pump/Motor	†	1	8	Quick Connect	†	1

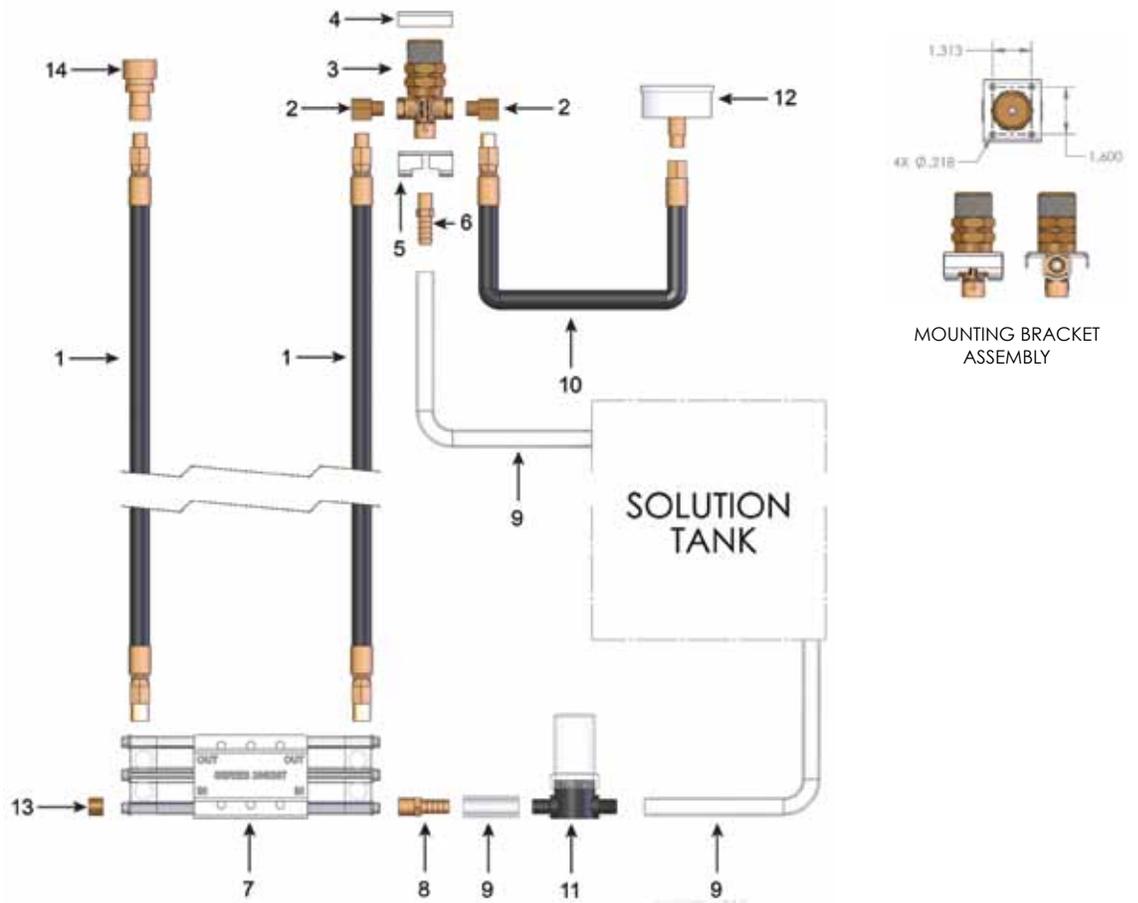
(▲) Sold as part of a kit | (Δ) Not Shown | (†) Not included in kit. For identification only.



PARTS LIST FOR HIGH PERFORMANCE UPGRADE KIT

REF	DESCRIPTION	PN	QTY	REF	DESCRIPTION	QTY
UPGRADE KIT 112, 200PSI		80656				
1	Pulse Hose, 45"	▲	1	9	Brass Hose Barb, 1/4" M, 1/2" B	▲ 1
2	Brass Elbow	▲	4	10	Pulse Hose, 32"	▲ 1
3	Brass Counter Sunk Plug	▲	1	11	Hose, 1/2" ID, 7ft.	▲ 1
4	Pump/Motor	†	1	12	Poly Hose Barb, 1/4" M, 1/2" B	▲ 1
5	Pulse Hose, 32"	▲	1	13	Clear Bowl Line Strainer, 1/2" B	▲ 1
6	Top Bracket	▲	1	14	600 PSI Pressure Gauge w/Bracket	▲ 6
7	Regulator	▲	1	Δ	Hose Clamp, 3/8" - 7/8"	▲ 6
8	Bottom Bracket	▲	1	15	Quick Connect	† 1

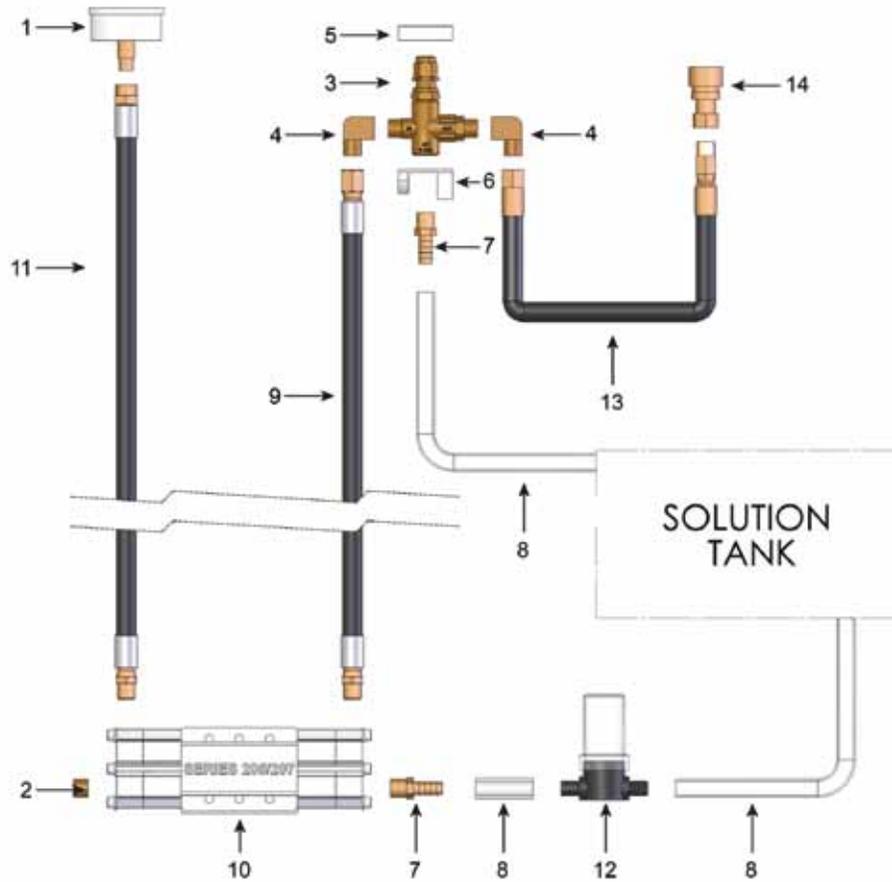
(▲) Sold as part of a kit | (Δ) Not Shown | (†) Not included in kit. For identification only.



PARTS LIST FOR HIGH PERFORMANCE UPGRADE KIT

REF	DESCRIPTION	PN	QTY	REF	DESCRIPTION	QTY
	UPGRADE KIT 205V/207 350PSI	80719		8	Brass Hose Barb, 3/8" M, 1/2" B	▲ 1
1	Pulse Hose, 45"	▲	2	9	Hose, 1/2" ID, 6ft.	▲ 1
2	Brass Elbow	▲	2	10	Pulse Hose, 36"	▲ 1
3	Regulator	▲	1	11	Clear Bowl Line Strainer, 1/2" B	▲ 1
4	Top Bracket	▲	1	12	600 PSI Pressure Gauge w/Bracket	▲ 1
5	Bottom Bracket	▲	1	13	Brass Counter Sunk Plug	▲ 1
6	Brass Hose Barb, 1/4" M, 1/2" B	▲	1	Δ	Hose Clamp, 3/8" - 7/8"	▲ 6
7	Pump/Motor	†	1	14	Quick Connect	† 1

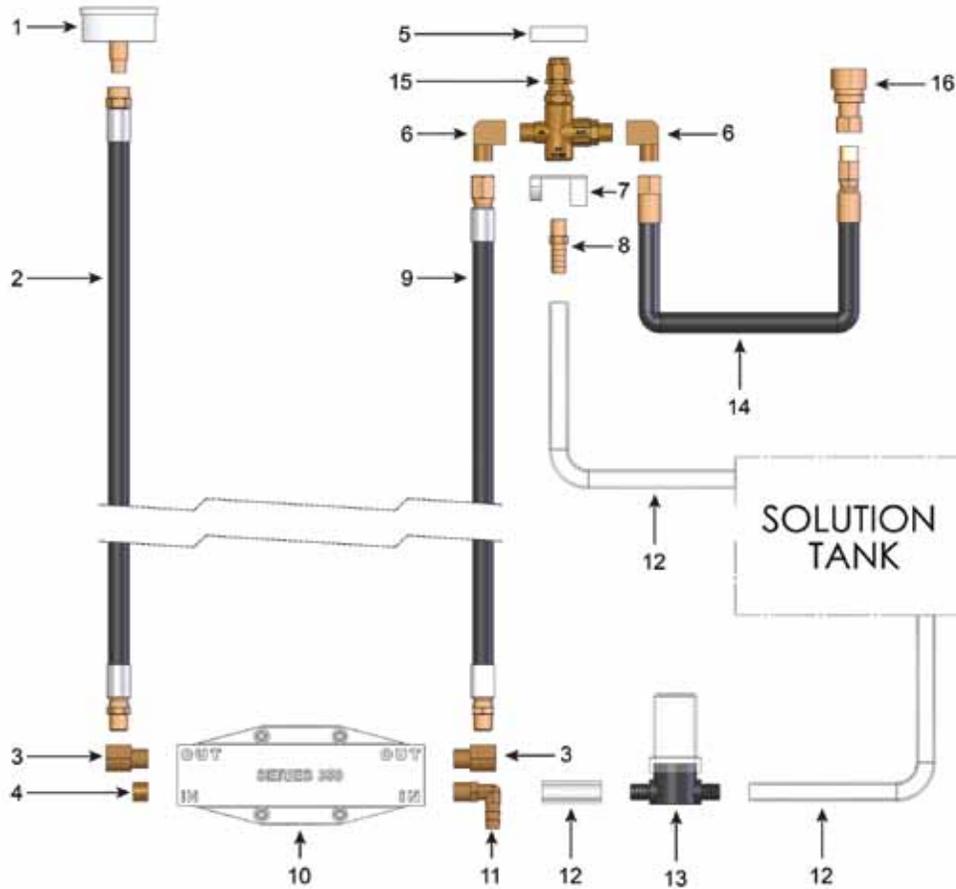
(▲) Sold as part of a kit | (Δ) Not Shown | (†) Not included in kit. For identification only.



PARTS LIST FOR HIGH PERFORMANCE UPGRADE KIT

REF	DESCRIPTION	PN	QTY	REF	DESCRIPTION	QTY
	UPGRADE KIT 205, 207 500PSI	80657		8	Hose, 1/2" ID	▲ 1
1	600 PSI Pressure Gauge w/Bracket	▲	1	9	Pulse Hose, 29.5, Brass Ends	▲ 1
2	Brass Counter Sunk Plug	▲	1	10	Pump/Motor	▲ 1
3	Unloader	▲	1	11	Pulse Hose, 45"	▲ 2
4	Brass Elbow	▲	2	12	Clear Bowl Line Strainer, 1/2" B	▲ 1
5	Top Bracket	▲	1	13	Pulse Hose, 36"	▲ 1
6	Bottom Bracket	▲	1	Δ	Hose Clamp, 3/8" - 7/8"	▲ 6
7	Brass Hose Barb, 1/4" M, 1/2" B	▲	1	14	Quick Connect	† 1

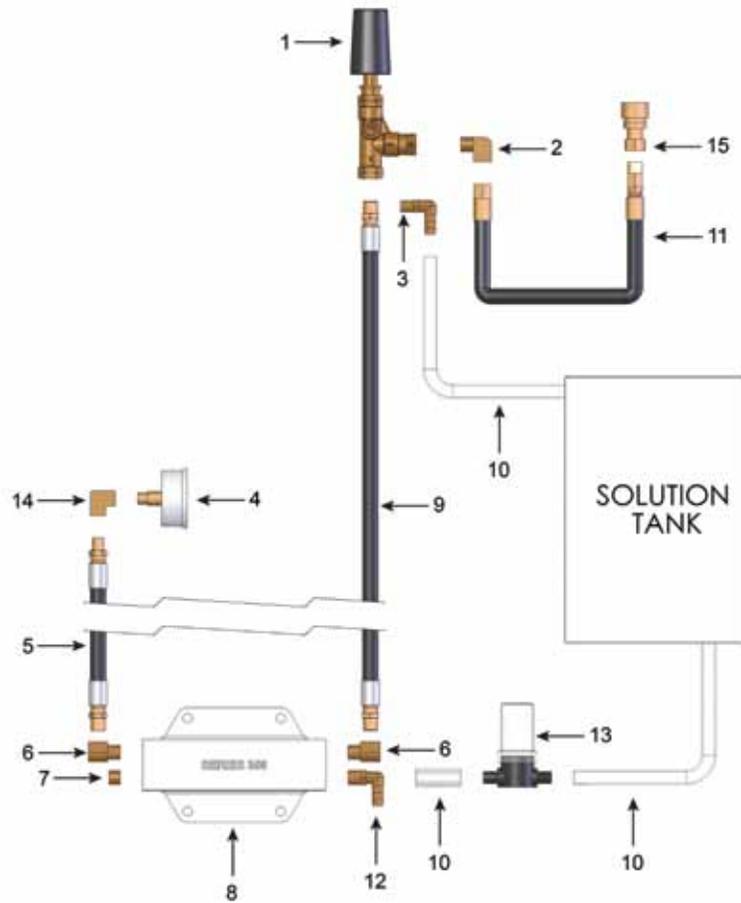
(▲) Sold as part of a kit | (Δ) Not Shown | (†) Not included in kit. For identification only.



PARTS LIST FOR HIGH PERFORMANCE UPGRADE KIT

REF	DESCRIPTION	PN	QTY	REF	DESCRIPTION	QTY
	UPGRADE KIT 350, 356, 360 1000PSI	80717		10	Pump/Motor	† 1
1	2000psi Pressure Gauge w/Bracket	▲	1	11	Brass Elbow Hose Barb	▲ 1
2	Pulse Hose, 32"	▲	1	12	Hose, 1/2" ID	▲ 1
3	Brass Elbow, Close	▲	2	13	Clear Bowl Line Strainer, 1/2" B	▲ 1
4	Brass Counter Sunk Plug	▲	1	14	Pulse Hose, 29"	▲ 1
5	Top Bracket	▲	1	15	Unloader	▲ 1
6	Brass Elbow, Long	▲	2	Δ	Reducing Adapter	▲ 1
7	Bottom Bracket	▲	1	Δ	Hose Clamp, 3/8"-7/8"	▲ 6
8	Brass Hose Barb	▲	1	16	Quick Connect	† 1
9	Pulse Hose, 29.5, Brass Ends	▲	1			

(▲) Sold as part of a kit | (Δ) Not Shown | (†) Not included in kit. For identification only.



PARTS LIST FOR HIGH PERFORMANCE UPGRADE KIT

REF	DESCRIPTION	PN	QTY	REF	DESCRIPTION	QTY
	UPGRADE KIT 350, 356,360 1200PSI	80718		9	Pulse Hose, 32"	▲ 1
1	Unloader	▲	1	10	Hose, 1/2" ID	▲ 1
2	Brass Elbow, Long	▲	1	11	Pulse Hose, 31"	▲ 1
3	Brass Elbow, Hose Barb, 1/4" M	▲	1	12	Brass Elbow Hose Barb, 3/8" M	▲ 1
4	2000 PSI Pressure Gauge w/Bracket	▲	1	13	Clear Bowl Line Strainer, 1/2"	▲ 1
5	Pulse Hose, 17"	▲	1	14	Brass Elbow	▲ 1
6	Brass Elbow, Close	▲	2	Δ	Reducing Adapter	▲ 1
7	Brass Counter Sunk Plug	▲	1	Δ	Hose Clamp, 3/8"-7/8"	▲ 6
8	Pump/Motor	†	1	15	Quick Connect	† 1

(▲) Sold as part of a kit | (Δ) Not Shown | (†) Not included in kit. For identification only.

GENERAL SAFETY INFORMATION

Please read this manual before installing or operating pump to provide safe operation and prevent equipment problems. Observe the following symbols and definitions.

NOTE: Indicates important instructions which are not related to hazards.

IMPORTANT: Indicates factors concerned with assembly, installation, operation, or maintenance which could result in damage to the machine or equipment if ignored.

CAUTION! Warns about hazards that *MAY* cause minor personal injury or property damage if ignored.

WARNING! Warns about hazards that *COULD* cause serious personal injury, death or major property damage if ignored.

DANGER! Warns about hazards that *WILL* cause serious person injury, death or major property damage if ignored.

PLEASE READ, SAVE AND REFER TO SAFETY INSTRUCTIONS BELOW:

CAUTION! Pumps and motors build up heat and pressure during operation. Allow time for pumps to cool before handling or servicing. Only qualified personnel should install, operate, and repair pump.

IMPORTANT: For pumping liquids other than water, contact your supplier.

DANGER! Do not pump hazardous materials (flammable, caustic, etc.), unless the pump is specifically designed and designated to handle them.

WARNING! To reduce risk of electric shock, always disconnect pump from power source before handling or servicing.

WARNING! Any wiring of pumps should be performed by a qualified electrician.

CAUTION! These pumps are not intended to be submersed.

PumpteC, Inc. is not responsible for losses, injury, or death resulting from a failure to observe these safety precautions, misuse or abuse of pumps or equipment.

PRE-OPERATION

INLET CONDITIONS

CAUTION! *DO NOT STARVE THE PUMP OR RUN DRY. Temperatures above 130°F will require pressurized inlet to avoid cavitation and seal damage.*

DISCHARGE CONDITIONS

Open all valves in system prior to operation to avoid excessive load on motor and system from a pressure spike. Follow the instructions of proper system design. Refer to supplier if assistance is needed.

PRESSURE REGULATION

Verify pressure regulation devices are operating correctly.

NOZZLES

Nozzles create pressure in most systems and they become larger with use. Larger nozzles decrease system pressure. Verify the quality of nozzles prior to operation.

MOTOR SHAFT ROTATION

CAUTION! *Motor shaft rotation must always be counterclockwise in order to assure proper function of pump or warranty may be void.*

PUMPED LIQUIDS

Some liquids may require a flush between operations or before storing. For pumping liquids other than water, contact your supplier.

CAUTION! *If the pump is used in extremely dirty or humid conditions, it is recommended pump be enclosed. Do not store or operate in excessively high temperature areas or without proper ventilation.*

ABOUT PUMPTEC



PumpTec is a U.S.A., Minnesota based company started in 1988 with a simple philosophy in mind: build durable, high-quality pumps that work as hard as our customers. PumpTec prides itself on working closely with our customers to support their unique needs. Armed with many industry patents, we are constantly striving for new innovations in design and performance. PumpTec specializes in custom assemblies that deliver results specific to our customer's application and industry. Our designs of high performance pumps make us a strong consideration for any existing or new applications.



DEDICATION TO QUALITY

From our very first pumps, PumpTec has been committed to product manufacturing and stable supply chain management to maintain the highest levels of quality. We learned from many years of experience that it is always better to manufacture pumps versus distribute pumps because, 'you don't want someone else to know more about your product than you do'. This commitment to manufacturing has resulted in consistent pump quality for our customers for over 20 years.

PumpTec's philosophy to source critical components for our products, has been a great strategy in supporting our customers. Supply chain concerns are handled quickly and do not involve airfare, time zones or passports to resolve them.

BENEFITS OF PUMPTEC PUMPS

PumpTec is a customer solution provider focused on providing engineering solutions to meet our customer's specific need. From the beginning, PumpTec's driving force has been to focus on our customer's desire to differentiate themselves within their specific industry and application.



Optimized Production Processes

Our customer focus guides the processes we use during manufacturing to ensure rapid and accurate order completion. Despite the custom nature of many of our products, we have a nearly 100% on-time shipping rate.

Talented Engineering Staff

Our industry experience and expertise in the area of high performance pumps is unrivalled and why our technologies have had a major impact on so many industry applications.

Customer Service Excellence

Customer satisfaction is our passion and we take pride in providing only the highest level of service and support to our customers. Our greatest reward is the satisfaction of our customers and their continued relationship.

PUMPTEC MISSION

Quality

PumpTec is a manufacturer committed to supplying the highest quality, highest efficiency plunger pumps available in the marketplace.

Value

PumpTec is a leader in innovation of high efficiency pump designs and custom pumping systems that offer true value to the marketplace.

Collaboration

PumpTec is committed to customer-driven solutions through ongoing communication and collaboration.

Honesty

PumpTec has earned the reputation of being honest in reporting and delivering on our performance promise and building business relationships through consistent execution



LIMITED WARRANTY

PUMPTEC ONE-YEAR LIMITED WARRANTY. PUMPTEC PLUNGER PUMPS, MODELS COVERED IN THIS MANUAL, ARE WARRANTED BY PUMPTEC, TO THE ORIGINAL USER AGAINST DEFECTS IN WORKMANSHIP OR MATERIALS UNDER NORMAL USE FOR ONE YEAR AFTER DATE OF PURCHASE. ANY PART WHICH IS DETERMINED TO BE DEFECTIVE IN MATERIAL OR WORKMANSHIP AND RETURNED AS PUMPTEC DESIGNATES, SHIPPING COSTS PREPAID, WILL BE THE EXCLUSIVE REMEDY, REPAIRED OR REPLACED AT PUMPTEC'S OPTION. FOR LIMITED WARRANTY CLAIM PROCEDURES, SEE "PROMPT DISPOSITION" BELOW. THIS LIMITED WARRANTY GIVES PURCHASERS SPECIFIC LEGAL RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION.

LIMITATION OF LIABILITY. TO THE EXTENT ALLOWABLE UNDER APPLICABLE LAW, PUMPTEC'S LIABILITY FOR CONSEQUENTIAL AND INCIDENTAL DAMAGES IS EXPRESSLY DISCLAIMED. PUMPTEC'S LIABILITY IN ALL EVENTS IS LIMITED TO AND SHALL NOT EXCEED THE PURCHASE PRICE PAID.

WARRANTY DISCLAIMER. A DILIGENT EFFORT HAS BEEN MADE TO PROVIDE PRODUCT INFORMATION AND ILLUSTRATE THE PRODUCTS IN THIS LITERATURE ACCURATELY; HOWEVER, SUCH INFORMATION AND ILLUSTRATIONS ARE FOR THE SOLE PURPOSE OF IDENTIFICATION, AND DO NOT EXPRESS OR IMPLY A WARRANTY THAT THE PRODUCTS ARE MERCHANTABLE, OR FIT FOR A PARTICULAR PURPOSE, OR THAT THE PRODUCTS WILL NECESSARILY CONFORM TO THE ILLUSTRATIONS OR DESCRIPTIONS. EXCEPT AS PROVIDED BELOW, NO WARRANTY OR AFFIRMATION OF FACT, EXPRESSED OR IMPLIED, OTHER THAN AS STATED IN THE "LIMITED WARRANTY" ABOVE IS MADE OR AUTHORIZED BY PUMPTEC.

Technical Advice and Recommendations, Disclaimer. Notwithstanding any past practice or dealings or trade custom, sales shall not include the furnishing of technical advice or assistance or system design. Pumptec assumes no obligations or liability on account of any unauthorized recommendations, opinions or advice as to the choice, installation or use of products.

Product Suitability. Many jurisdictions have codes and regulations governing sales, construction, installation, and/or use of products for certain purposes, which may vary from those in neighboring areas. While attempts are made to assure that Pumptec products comply with such codes, Pumptec cannot guarantee compliance, and cannot be responsible for how the product is installed or used. Before purchase and use of a product, review the product applications, and all applicable national and local codes and regulations, and be sure that the product, installation, and use will comply with them.

Certain aspects of disclaimers are not applicable to consumer products; e.g., (a) some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you; (b) also, some jurisdictions do not allow a limitation on how long an implied warranty lasts, consequently the above limitation may not apply to you; and (c) by law, during the period of this limited Warranty, any implied warranties of implied merchantability or fitness for a particular purpose applicable to consumer products purchased by consumers, may not be excluded or otherwise disclaimed.

Prompt Disposition. A good faith effort will be made for prompt correction or other adjustment with respect to any product which proves to be defective within limited warranty. For any product believed to be defective within limited warranty, first write or call Pumptec. Pumptec will give additional directions. If unable to resolve satisfactorily, write to Pumptec at address below, giving a serial number, invoice number and date, and describing the nature of the defect. Title and risk of loss pass to buyer on delivery to common carrier. If product was damaged in transit to you, file claim with carrier.

Manufactured by Pumptec, Inc. 700 McKinley St. NW, Anoka, Minnesota 55303 U.S.A.
763-433-0303

TERMS AND CONDITIONS

View and download pumptecs terms and conditions from the website at www.pumptec.com/customer-service/warranty or call 763.433.0303 to request a copy to be mailed to you.

"Pumptec's 114T pump has made applying cleaners and stains to outdoor wood effortless and profitable joy! Years ago we searched for a better pump than we were using. Pumptec helped solve all the problems we needed to overcome. The selection of sizes is also nice, From large to small, Pumptec has them all! It is nice to that they are quick and easy to repair when needed too. Support is excellent and we are pleased to offer our customers the high quality products that come from a high quality company."

~ T Handl, North American Pressure Wash Outlet

"I have been doing business with Pumptec for over 15 years and in that time I have been delighted with Pumptec products and their service. They fill my needs in a timely manner and are always willing to go the extra mile to ensure my complete satisfaction. Their professionalism is exceptional and always exceeds my expectations. I will happily recommend their products and service."

~ Jeff Taylor, Truck Mounts and Cleaning Solutions, Norcross, GA

"The customer service and sales team at Pumptec have been extremely helpful and very knowledgeable for all the carpet pumps, pumps, motors, repair kits and spare parts we order at Soli. Overall, the pump and motor assemblies have been durable and reliable for our customers. We continuously recommend your products to other repair shops."

~ Allan Pilossoph, President, SOLI, Inc

"I have been using Pumptec for over 10 years. I own a pest and lawncare company. With Pumptec pumps I have one pump that has been in service for 8 years without one failure or rebuild and another that is 3 years old that performs the same way. I also custom build sprayers and only use Pumptec pumps for my electric sprayers. I am going to rebuild/re-rig a 400 gallon gas spraying rig to a Pumptec 12 Volt that will save thousands in gas expenses over a short time. I was spending \$6 a day on gas. That will mean more money in my pocket."

~Mike McDaniel, AJ Southwest Pest Control

"Pumtpetec has always been a very reliable partner in the equipment field of pest control. They have excellent service, knowledgeable sales people, and an easy to use website for information and support."

~Michelle Nancock B.C.E, Sales Manager-Environmental Sciences, Univar

CHOOSING YOUR PUMP

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100 SERIES PUMPS - 112T, 112V, 113C, 114T, 116C



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300 SERIES PUMPS - 350U, 356U, 360U



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X SERIES PUMPS



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WARRANTY INFORMATION

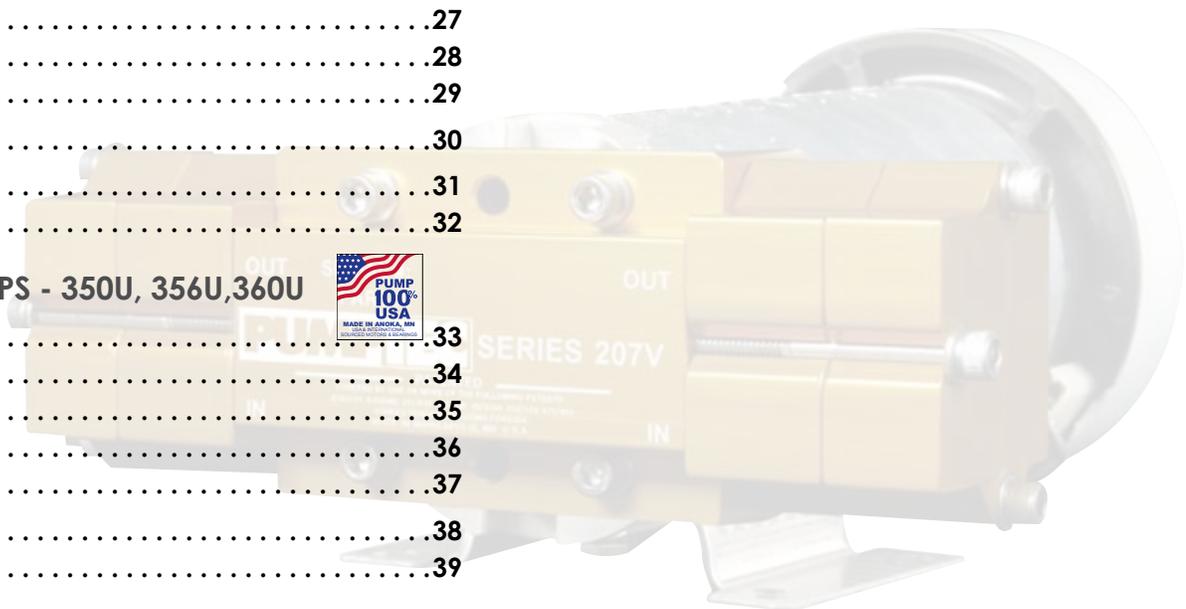
PUMPTEC'S LIMITED WARRANTY / TERMS AND CONDITIONS 61

View and download Pumptec's terms and conditions from the website at:

www.pumptec.com/customer-service/warranty or call **763.433.0303** to request a copy to be mailed to you.

*** NOTICE ***

It is the sole responsibility of the system designer and user to select products suitable for their specific application requirements and to ensure proper installation, operation, and maintenance of these products. Material compatibility, product ratings and application details should be considered in the selection. Improper selection or use of products described herein can cause void of warranty, product damage, or personal injury.



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