

Quick Setup Guide TS8100-M Series Progressive Cavity PC Pump

The TS8100-M series Progressive Cavity (PC) Pump is a continuously volumetric dispense pump based on progressive cavity technology. The pump is designed to dispense a wide range of fluids, from low viscosity coatings to high viscosity greases. The many advantages of PC technology will simplify your dispense process and improve reliability and quality in the long run.



This quick start up guide will help you setup the TS8100-M Series PC Pump properly.

1.0 SPECIFICATIONS:

Size (100/200/300)	261 mm L x 34 mm W (10" L x 1.3" W)				
Size (400)	275 mm L x 34 mm W (11" L x 1.3" W)				
Size (500)	301 mm L x 34 mm W (11.8" L x 1.3" W)				
Weight (100-500)	640 g / 1.41 lb				
Wetted Parts	Delrin (Acetal). PFE, stainless steel, UHMWPE				
Fluid Viscosity	1-300K cps or m.Pa.s				
Precision ±, Absolute (1)	±1%				
Self-sealing (2)	2 bar				
Material Inlet Port	1/8" NPT				
Material Outlet Port	Male Luer lock				
Direct Mount Material Reservoir	3 to 55 cc				
	TS8100-100M	TS8100-200M	TS8100-300M	TS8100-400M	TS8100-500M
Dispense Volume per Rotation (average)	0.012 ml	0.047 ml	0.080 ml	0.12 ml	0.31 ml
Flow Rate (ml/min.)	0.132 – 1.32	0.517 – 5.17	0.88 – 8.8	1.32 – 13.2	3.41 – 34.1
Max. Flow Rate Recommended (3)	0.65 ml/min	3.38 ml/min	5.06 ml/min	8.0 ml/min	21 ml/min
Minimum Dispense Amount	0.0012 ml	0.0047 ml	0.0080 ml	0.012 ml	0.031 ml

- (1) Volumetric dispensing as absolute deviation per complete revolution and depends on dispensing fluid.
- (2) For fluid with viscosity of 1000 cps or lower. The pump can handle up to 5.5 bar for 300K cps viscosity fluid.
- (3) This is the maximum flow rate that does not shorten the stator work life.

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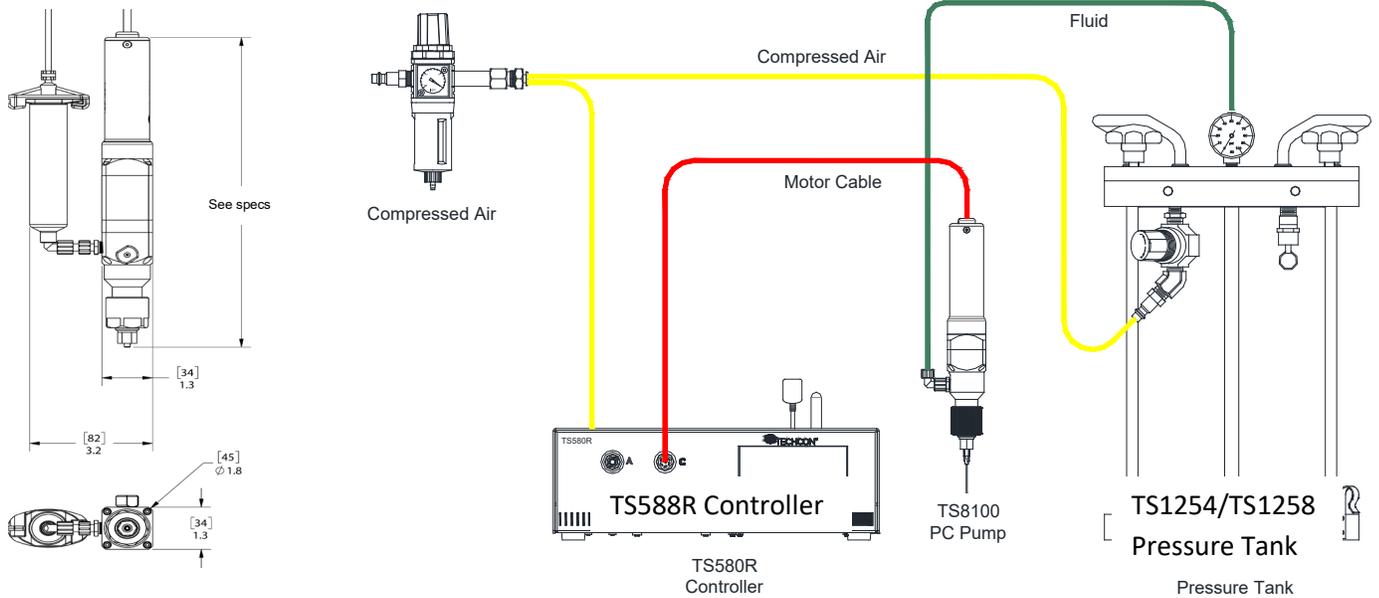


TS8100-M Series

High Performance PC Pump Quick Setup Guide



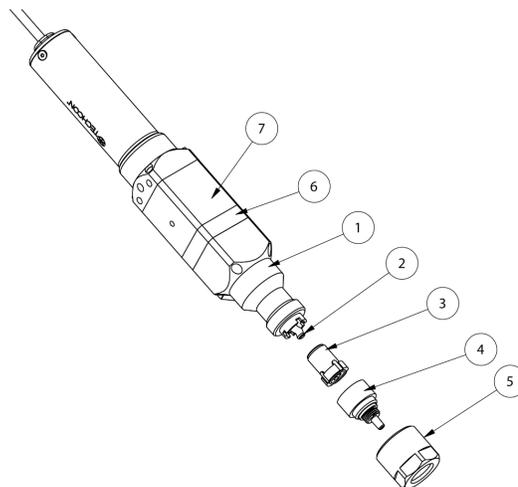
2.0 DIMENSIONS AND SETUP DIAGRAM



3.0 INSTALL THE STATOR:

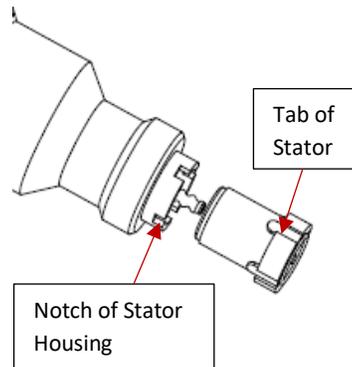
To prevent permanent set of the stator, the pump is shipped without the stator attached to the motor/rotor assembly.

Follow instructions below to install the stator:

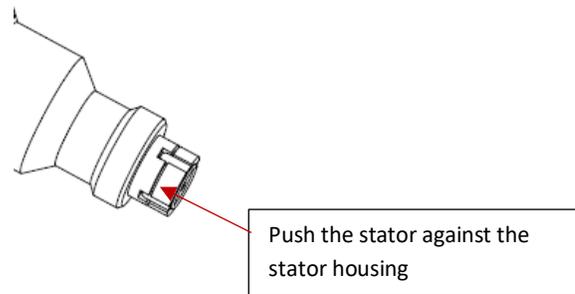


1. Wet the rotor (2) by applying the dispensing fluid (or any appropriate lube that is compatible with the dispensing fluid) to the exposed portion of the rotor surface.
2. Wet the stator (3) by squeezing a small amount of the dispensing fluid (or any appropriate lube that is compatible with the dispensing fluid) into the stator opening.
3. Screw the stator (3) onto the rotor in the clockwise direction (2) until the four (4) tabs of the stator align with the four (4) notches of the stator housing (see figure below).





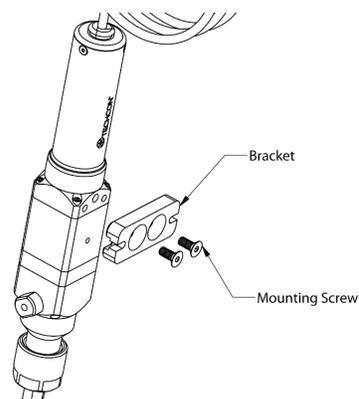
4. Apply some pressure on the stator by pushing it against the stator housing to make sure it fully seats into the notches. Check to make sure the rotor tip is flush with the stator.



5. Place the stator cap (4) into the retaining cap (5).
6. Install the retaining cap (5) (with the stator cap in place) by screwing it onto the stator housing (1) in the clockwise direction.

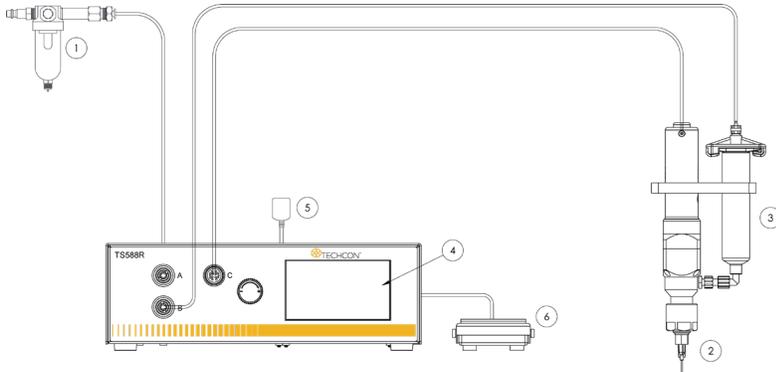
4.0 INSTALL THE BRACET TO THE PUMP:

Install the bracket to the pump as show below:



5.0 CONNECT THE PUMP TO THE CONTROLLER:

The recommended controller for the TS8100-M Series PC Pump is the TS588R.



Items	Description
1	Air Filter
2	Valve
3	Syringe
4	Display
5	Power Adapter
6	Foot Switch

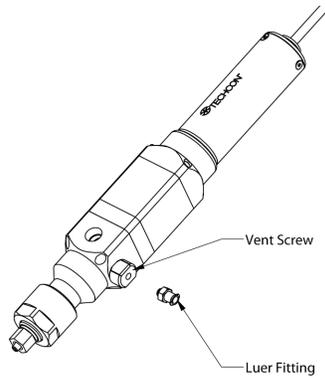
1. Connect the power adapter to the TS588R controller.
2. Connect the air hose to the TS588R controller.
3. Connect the motor cable to Port C. Note: Make sure the controller is turned off when connecting the motor cable to port C.
4. Connect syringe air hose to port B.
5. Set the air pressure to feed the material to the pump.
6. Note: For low viscosity material, the pressure setting should be 1 – 9 psi; for medium viscosity material, the pressure range should be 10-19 psi; for high viscosity material, the pressure range should be 20-80 psi.
7. Do not set air pressure more than 30 psi (1 bar).
8. Follow instructions in the TS588R User Guide for the controller setup.

6.0 PRIME THE PUMP:

1. Set the TS588R controller to “Purge Mode.”
2. Press and hold the Foot Switch until a steady stream of material is flowing out the pump outlet without air bubbles.
3. Attach a dispense needle to the pump outlet.
4. Repeat step #2.
5. If air bubbles still appear in the material, open the vent hole by turning the vent screw counterclockwise to allow air bubbles to escape.

TS8100-M Series

High Performance PC Pump Quick Setup Guide



7.0 PUMP CALIBRATION:

The volume-per-revolution listed in the specs table is a nominal value. Each stator/rotor assembly has slight variations in volume from part to part, due to manufacturing tolerances. Performing pump calibration will help determine the correct volume-per-revolution of your pump.

1. Touch the Pump Series icon to select the pump that is being connected to the unit (Note: Default setting is for pump series 100)



2. Enter desired flow rate (Note: Do not exceed recommended flow rate listed in the specification table).

3. Touch the Setup icon to enter the setup screen.



TS8100-M Series

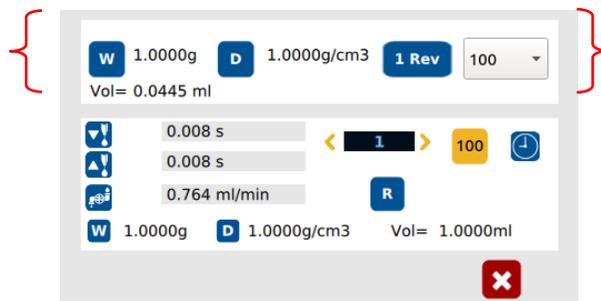
High Performance PC Pump Quick Setup Guide



4. Touch the CAL icon to enter the calibration screen.



(Note: For pump calibration, data must be entered by activating icons in the top section only)



5. Touch the Density icon to enter the density of the dispense material.

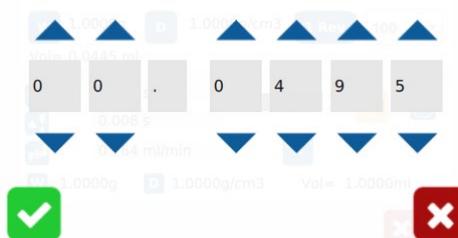


6. Touch the 1 Rev icon to run the pump for one full revolution.



7. Weigh the dispensed material.

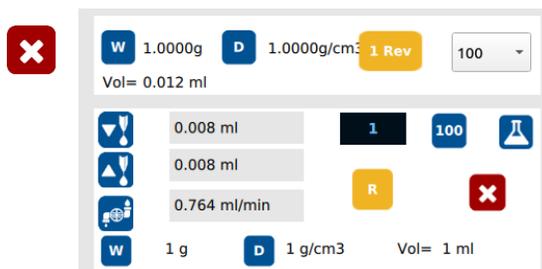
8. Touch the W icon and enter the weight of the dispensed material in grams.



Touch the Check Mark icon to save and exit.



9. The calibration screen will look similar to the screen shown below (Note: The dispensed volume per one revolution is automatically calculated).



10. Touch the X icon to save and exit.

The pump is now ready for use.