

Volumetric 2-Part Mixing Pump

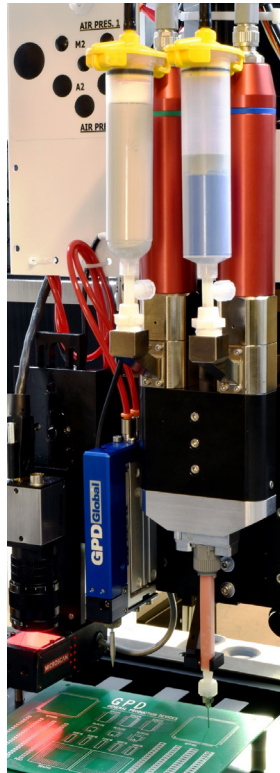
Disposable Static Mixer, No Recharge

The continuous volumetric PCD 2-part mixing pump (2K or Bi Component) is based on volumetric [Progressive Cavity Displacement](#) (PCD) technology.

The 2-component mixer is a volumetric pump that pushes parts A+B fluid through a static mixer. The mixing head functions valve-free. The components to be mixed are dispensed by volume with no dead space in the static mixer. Mixing is done in the disposable static mixer, the only part wetted by both fluids. Static mixers are available in different sizes and lengths depending on the mixing requirements of the fluid. Unlike piston based mixing systems, recharge is not required.

The volumetric drive system is available in highly polished alloy or ceramic for abrasive fluids. The pumps use a geared stepper motor for output up to 4.5 cc/min depending on configuration.

- The mix ratio is primarily controlled by adjusting the speed of the individual pumps. Standard ratios of 1:1 and 2:1, as well as 1.1:1 or 1.3:1, are achievable. Large ratios up to 20:1 are attainable with a specific configuration.
- Reverse flow is possible (no dripping or stringing of product).
- Processing of low-to-high viscosity materials.
- Compatible with 10-55 cc syringes or bulk fed to the pump



- Easy programming of quantity and output rate.
- Standard type luer dispense tip may be attached to static mixer for final placement of mixed fluid.
- Constant dispense volume - even with density or viscosity changes due to temperature fluctuation or batch change.

Applications

Following are applications and materials that may be used with the pumps for metering or transferring:

- Adhesives and sealants with or without spherical fillers
- Encapsulant and potting fluids
- Gasketing, dot, or bead applications
- Suitable for 2-component adhesive systems based on: epoxy resin (EP), polyurethane (PU), silicone (Si), methyl methacrylate (MMA), urethanes, UVs, sealants, etc.

Mixing Pump Technical Data

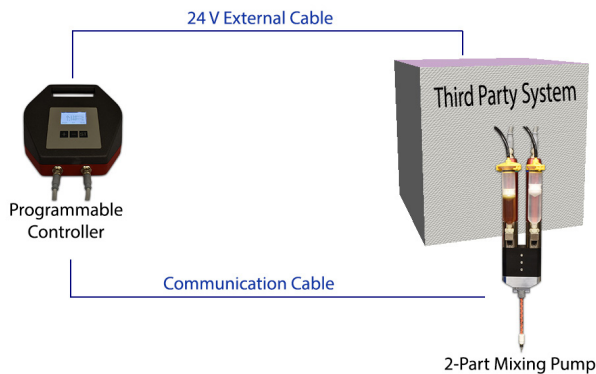
Dimensions (W x D x H) (static mixer will extend height)	93 x 45 x 295 mm
Mixing ratio	1:1 to 20:1
Maximum continuous output rate	up to 4.5 cc/min*
Smallest dispensing shot	4 µl - 10 µl *
Weight with drive	~ 1.6 kg*
Required supply pressure at dispenser	0.1 to 6 bar*
Connection for material feed	G1/4" standard
Mixer Type	B Outlet

* depending on medium and configuration.

Integration

PCD 2-Part mixing pump is compact for two part mixing and easily integrated into tabletop robots or fully automated platforms. The programmable controller allows you to calibrate the dispensing volume from each pump for accurate mix ratios. Interfacing to the controller requires a simple 24 V signal to initiate dispensing.

The pump is easily mounted to a motion system via three screws located in the center of the pump body. No special tooling is required.



Programmable Controller

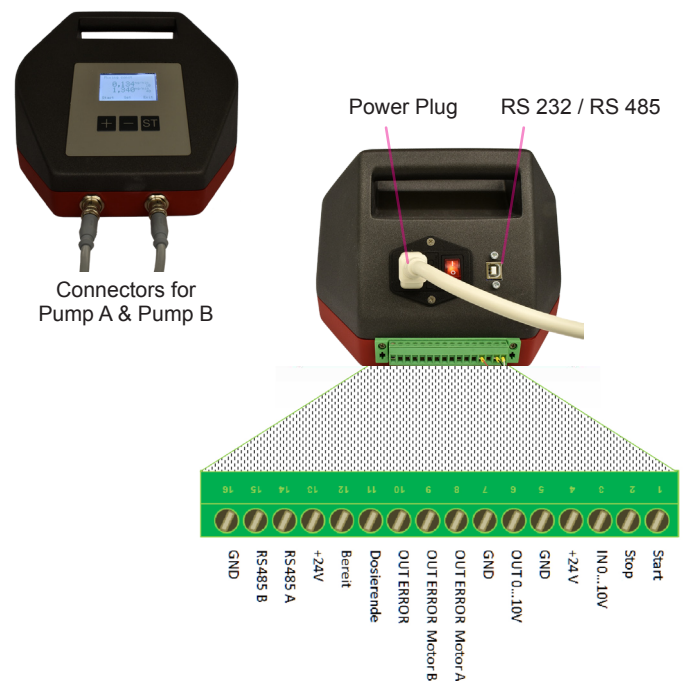
The controller allows you to (1) program the mix ratio of the pump and make final adjustments to the mix ratio, and (2) calibrate the pump for appropriate volumetric dispensing. Up to 10 programs can be saved to the controller for selection. You can change all the dispensing parameters via three display buttons: +, -, and SET.

The controller accepts an analog input 0-10 V to control the pump speed at a programmed ratio. With the analogue input, the pump speed can be proportional to any external device such as a robot, pressure and level sensors, flow meters, etc.

Integration is simple - easily interface controller with any robot via a 24 V external signal.

A reverse or suck back operation can be programmed to prevent dripping.

Programmable Controller Front & Back



Programmable Controller	
Dimensions (W x D x H)	235 mm x 245 mm x 162 mm (9.25" x 9.65" x 6.38")
Weight	< 1.8 KG
Power Supply Voltage	220/110V AC, 50 Hz connection with ON/OFF, output 24V DC
Communication Cable	RS 232 / RS 485
External Trigger Signal (basic)	24 V Signal
Operating Temperatures	+10° to +40° C
Input Voltage	0-10 V
Output Voltage	0-10 V (based on 2500 steps at 10 V)