

# Dual Pump Set Up

## for PCD Tabletop Controller

### with PCD3, PCD4, or PCD6 Pumps

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## Purpose

This procedure is a guide to the process of enabling a PCD Tabletop Controller to control two identical pumps in tandem and then calibrating the pumps in preparation for operations. When the procedure is complete, the controller will be able to control two pumps together, not individually.

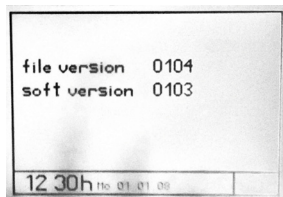
## 1 - Enable for Dual Pumps

**IMPORTANT:** Use an SD card programmed for the type of pumps being operated. For example, to operate PCD3 or PCD4 pumps, use SD card PN 22290040. To operate PCD6 pumps, use SD card PN 22290041.

**IMPORTANT:** Each SD card is programmed for a specific controller unit (serial number). One card will not work for multiple PCD Tabletop Controllers.

To enable the controller for dual pump control:

1. Power off the PCD Tabletop Controller.
2. Remove the existing SD card from the card reader located on the rear panel of the controller.
3. Insert the SD card programmed for dual pump operations into the controller card reader.
4. Power on the control system. Version information displays.



5. Power off the control system.
6. Remove SD card from the card reader and, if a card was present in [Step 2](#), reinsert that SD memory card.
7. Power on the control system again. The enable process is complete.

**NOTE:** The Teach In function does not operate with dual pumps.

## 2 - Replace Power Supply

**NOTE:** Only for PCD Tabletop Controllers enabled for dual PCD6 pumps.

Replace the existing power supply with the new power supply included with SD card PN 22290041.

### 3 - Calibrate for Dual Pumps

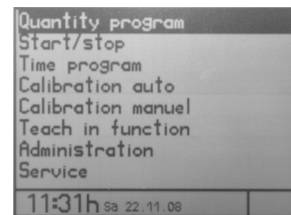
Pumps should be primed and ready for operation. The following procedure entails dispensing and weighing a sample of fluid.

1. Connect two identical pumps (of the appropriate model) to the PCD Tabletop Controller.
2. Power on the controller.
3. Position a suitable cup or tray to collect and measure the quantity of material required for calibration.
4. Calibrate the dual pumps using [Automatic Calibration](#) (pg 2).

#### Automatic Calibration

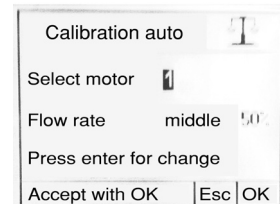
**NOTE:** During the calibration operation, the Control system cannot be operated by either the foot switch or an external control signal.

1. Press the *PRG* key. System selection menu, display 2 appears.



Display 2

2. Select and confirm *Calibration auto*. The menu *Calibration auto*, display 14 appears.
3. Select motor 1 or 2; this selects pump 1 or 2 for calibration.
4. Select ENTER and confirm the desired flow rate.
5. Select the OK button and confirm. The next input dialog appears (display 15).

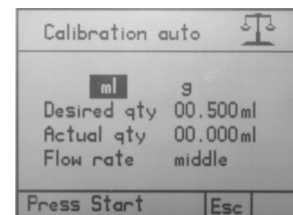


Display 14

The flow rate (output of the dispense pump) should correspond approximately to the flow speed at which the dispense is to be done. The value 25%, 50%, and 75% are offered for selection. This setting compensates for a reduction in the level of efficiency (depending on the medium) as the speed increases.

6. Select whether the calibration is to be done with quantity unit *ml* or *g*\* and confirm this, the set quantity can be set as desired.

\* If the saved density value corresponds to the value 1.000 g/cm<sup>3</sup> (default value), the input dialog for the material density appears when you select *g*. For details, refer to *Material Density* in the *PCD Tabletop Controller User Guide* PN 2200-0297M.



Display 15

7. Set and confirm the calibration quantity. The value of 0.5 ml preset in the Control system is to be regarded as the ideal value.
8. Position the cup underneath the dispense nozzle of the dispense pump.