



# Chemical Injection Technologies

## Installation/Service Bulletin

### SUPERIOR AutoValve Series 2000

### Version 2.10 - Selecting The Number of Calibration Points

Beginning with firmware revision Version 2.10, the SUPERIOR AutoValve Series 2000 electronic controller has the capability of allowing users to choose the number of flowmeter/valve calibration points at four (4), five (5), or eleven (11), which includes the zero point.

Chemical Injection Technologies, Inc. believes that the standard (default) setting of four (4) calibration points - 0%, 25%, 50% and 100% of maximum flowmeter signal input - yields excellent valve plug linearity, and minimizes the time needed for calibrating the valve. However, there may be occasions when a regulatory authority or specification calls for additional calibration points. This is usually occasioned by the specifying authority's familiarity with some competitive electronic valves which require more calibration points in order to achieve adequate linearity and repeatability, due to inherent flaws in the valve plug design. Valves which must have larger numbers of valve calibration points do so because they cannot achieve linearity with only four (4) points.

#### TO SELECT (OR CHANGE) THE NUMBER OF CALIBRATION POINTS

- From the opening main menu [1] press the PRG key (F1)
- The "PASSWORD" menu [2] opens. Enter Password (See Section 5.1 of Bulletin 4005) . After the last password digit is entered, press the NXT key (F4), which will open the "PROGRAMMING" menu [3].
- From the "PROGRAMMING" menu [3] press the CAL key (F3).
- The "CALIBRATE" Menu [5] opens.
- Press and *HOLD* the VLV key (F1) to enter the "SELECT POINT MENU" [6]. *While still holding* what was the VLV key and is now the UP key (F1), press and hold DWN key (F2) also, and continue to press both keys for three (3) seconds. The "CAL POINTS" menu will appear. Release both keys. (If the "CAL POINTS" menu does not appear, exit to the "CAL" menu by pressing the ESC key (F4) and follow the instructions above to re-enter the "CAL POINTS" menu). Note that this is a "HIDDEN" menu which can only be accessed through this procedure.
- Set the desired number of calibration points by using the UP (F1) or DWN (F2) keys and then press the SET key (F4) to accept the number of calibration points, and exit to the "SELECT POINT" Menu [6].
- Calibrate the valve as instructed in Bulletin 4005. The only difference will be in the number of points which may be calibrated. Please note that at least the 0% and 100% calibration points **MUST** be set in order for the valve to accept new linearity adjustments. If these two points are not set, then the valve calibration will be set at Factory Defaults.
- Exit and save the new calibration.

①

FLOW	CONTROL
PRG	ALM MAN RUN
F1	F2 F3 F4

②

PASSWORD	0 * * *
UP↓	DWN↑ ESC NXT
F1	F2 F3 F4

③

PROGRAMMING
PRM CAL MODE ESC
F1 F2 F3 F4

⑤

CALIBRATE
VLV OUT IN ESC
F1 F2 F3 F4

⑥

SELECT PNT	0%
UP↓	DWN↑ ADJ ESC
F1	F2 F3 F4

CAL. POINTS:	4
UP↓	DWN↑ SET
F1	F2 F3 F4

⑧

SELECT PNT	0%
UP↓	DWN↑ ADJ ESC
F1	F2 F3 F4