

## Ozgen Ozone Generators

### Process Controller Commissioning

The following functions are performed by the Process Controller and refer to the control/alarms shown on the face of the instrument. Pressing the PV/SV button on the front panel will switch between the Process Value (the actual reading obtained from the Residual Controller in percent) and the Set value (the point around which the instrument will attempt to control). To change the Set Point, ensure the SV light is on and press one of the arrow up keys (^). The digit under the key pressed will flash. This digit can be changed by pressing the arrow up (^) key several times until the desired value is shown. The same procedure applies for the other 4 digits. Once the desired set point has been changed press the ENT key.

**Note: The Set point Value shown on the display of the Process Controller is one tenth that shown on the display of the Residual Controller. Therefore if a Set Point of 900mV is required, then change the Set Value of the Process Controller to 90%.**

This instrument has an "auto tune" facility, which when pressed will cycle the ozonator up and down approximately 3 times to establish all of the necessary control parameters to maintain the desired ozone residual or redox potential.

Unless some process or ozone calibration conditions have changed, this "auto tune" function should not require operating after initial commissioning. If stable ozone residual control is not obtained, then the system should be "auto tuned" as follows.




Press the SEL button of this controller until the display shows "At". Press the DATA key and change the value to 1 by pressing the arrow up (^) key twice.

Press the ENT key once. The AT indicating light will flash, indicating that the unit is automatically tuning.

The ozonator output will now cycle up and down. The auto tuning function could take approximately 10 minutes to complete its necessary functions. Once the AT tuning indicator has stopped flashing, the unit will have established its necessary control parameters, and will then operate the ozonator at the necessary rate to maintain the correct residual.

**Note: The Auto Tune function will not always provide optimum PID settings. If residual control is not satisfactory, the P & D settings may need to be altered. Refer to the table below for typical settings, as observed from numerous installations.**

The following table gives typical settings for the main parameters. If further detail is required, please refer to the supplier's manual.

Parameter Symbol	Item	Meaning	Description	Typical value after commissioning
SV	SV	Set value_	Settable within the input range	90
	P	Proportional band	Setting range: 0.0 to 999.9% 2-position action* at '0' setting (TC should also be set to '0')	70.0
	I	Integral time	Setting range: 0 to 9999 sec. Integral action is OFF at '0'	See Note *
	D	Derivative time	Setting range: 0 to 3600 sec. Derivative action is OFF at '0'	0.0

*Note : The Integral time setting may be determined by using the auto tune function or by observing the time it takes for the PV reading to start increasing after commencement of dosing ozone. Enter this delay time in minutes.*