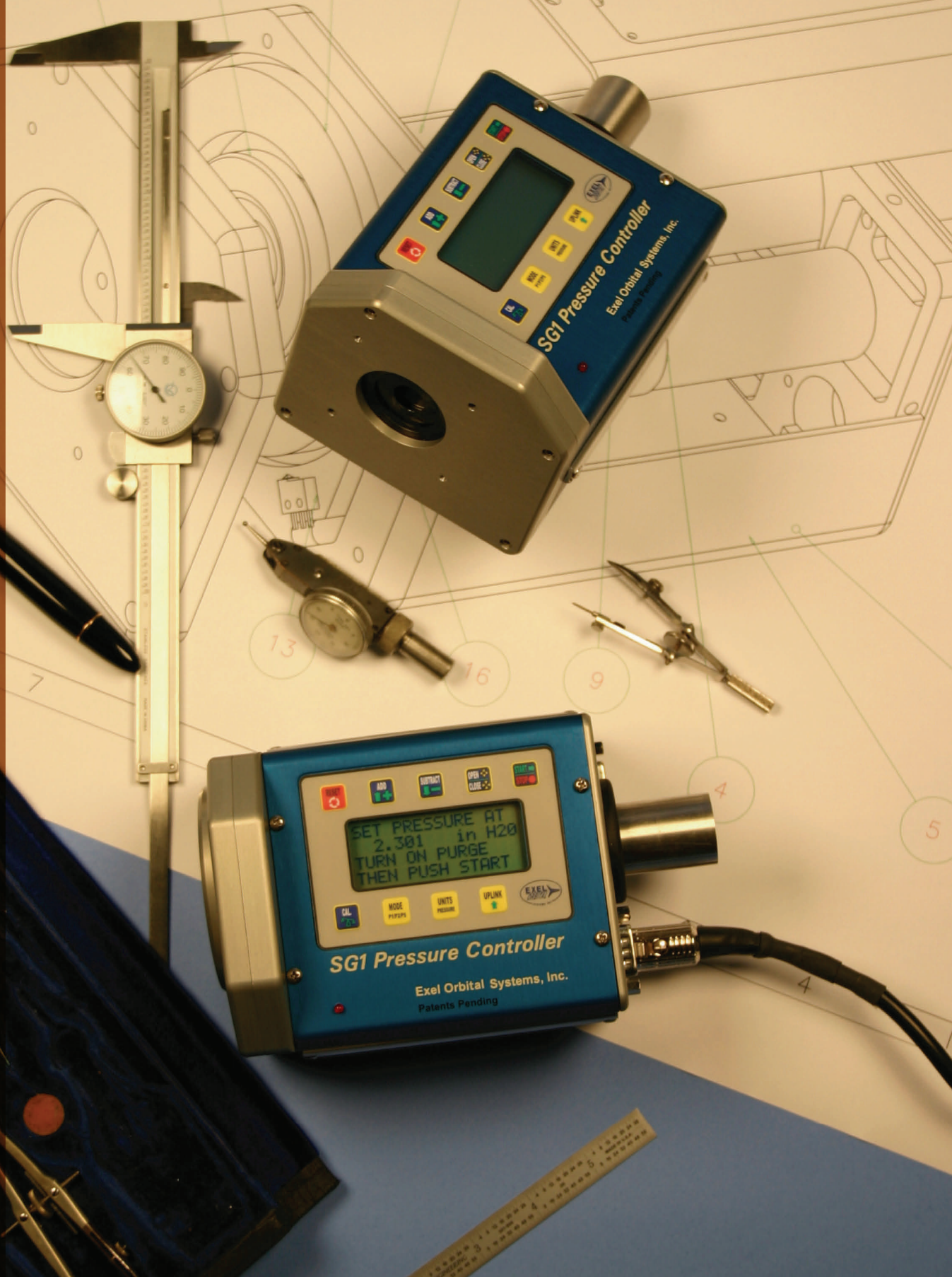
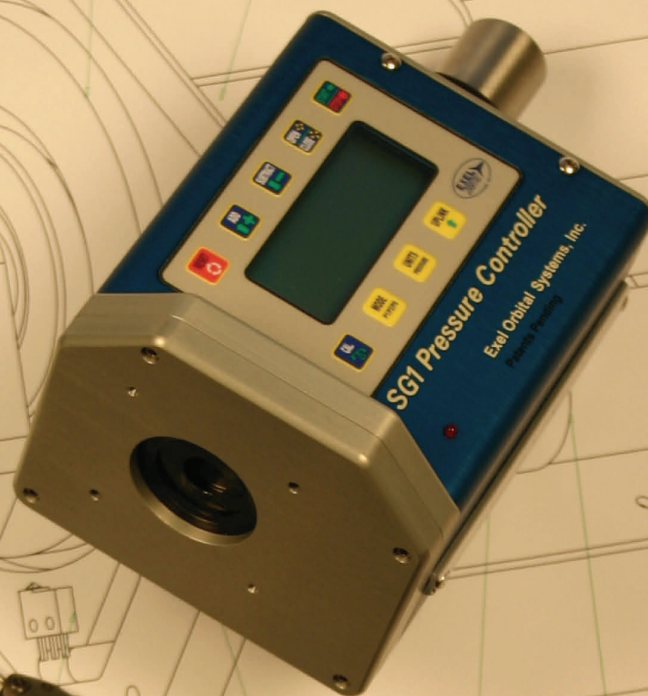


Pressure Controller

SG1 Pressure Controller



SG1 Pressure Controller

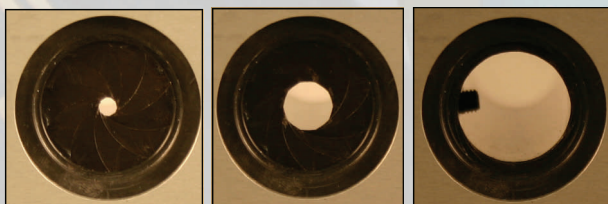
Internal Weld Pressure Controller



SG1 Pressure Controller

EXEL's new SG1 Pressure Controller** is the first automatic pressure controller for orbital tube welding of 1/8" to 6" diameter tube or pipe. Prior to the SG1, pressure calibration and control was accomplished manually. This manual interaction often occurs during the welding process. This presents many opportunities for errors to be made which often results in the failure of a weld, in many case destroying very expensive components. By tasking the orbital welder with the job of controlling pressure during the weld they are not available to monitor the welding process or even improve efficiency by preparing the next weld joint.

The SG1 Pressure operates on a closed loop controlled, high speed iris valve. This valve is tied to the on board micro-processor which constantly monitors the internal pressure of the weld using an extremely sensitive pressure transducer.



Iris Valve Adjusting From Small to Large Orifice

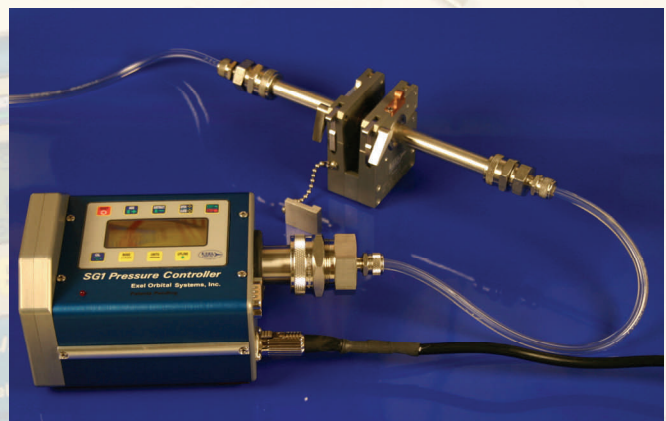
The SG1 Pressure Controller has several modes of operation:

1. P1 Mode
2. P2 Mode
3. PS Mode



SG1 Pressure Controller Mode Selection

These modes allow simple pressure control or calibration at the weld site. The SG1 Pressure Controller is a stand alone unit that can be used with any manufacturers welding equipment.

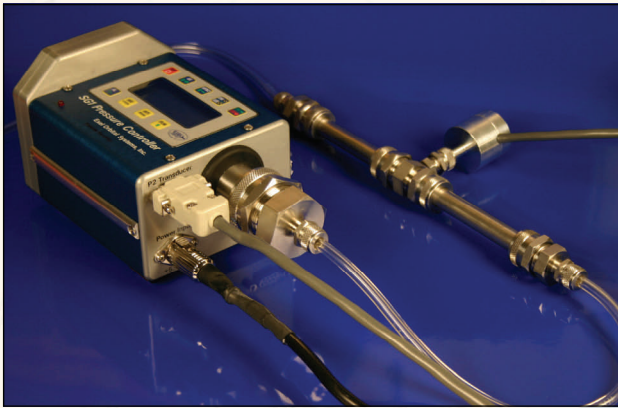


Controlling Pressure on 1/2" Weld

Because the SG1 Pressure Controller constantly monitors pressure, poorly fixture mounted or aligned weld joints can be identified.

** Patents Pending

Technical Information



Controller with P2 Transducer

In P2 Transducer Mode a calibration transducer is placed at the weld joint and the Pressure Controller measures the pressure change from the controller to the weld site. The P2 Transducer is removed and the weld is made using only the controller.

POWER INPUTS:

Power: 85 - 265 Volts, Single Phase

Frequency: 47 - 63 Hz

CONTROL RANGE:

Pressure: 0.2 in H₂O - 9 in H₂O (230 mm H₂O - 5 mm H₂O)

Flow Range: 3 SCFH - 1000 SCFH (1.5 lpm - 475 lpm)

Tube Size Range: 1/8" - 6" (3mm - 152 mm)