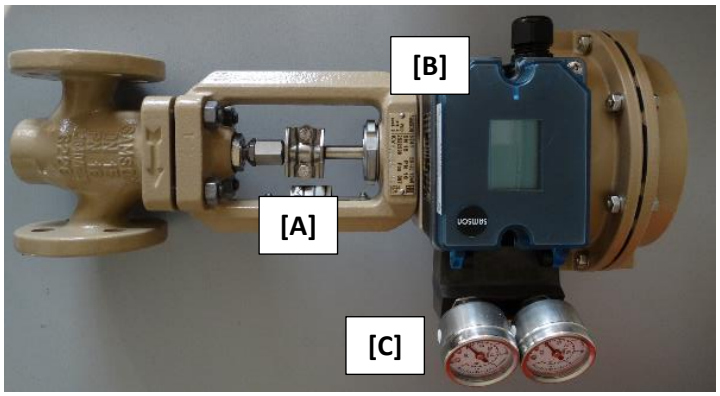
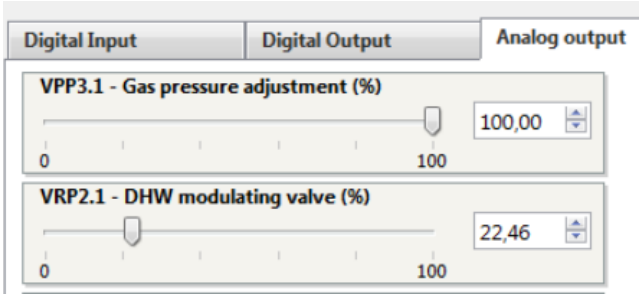
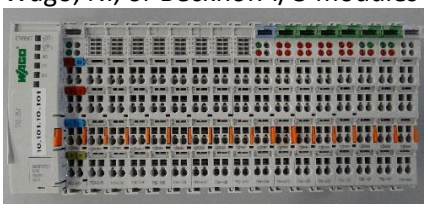
Samson proportional valves troubleshooting



Possible problem	Possible solution

Valve problem	
	• Enter the diagnostic application of the test bench, move the proportional valve cursor from 0 to 100% and:
	  ○ visually check that the stroke indicator [A] of the valve moves in accordance
	  ○ check that a change of the flowrate is produced in the same circuit

Fuse	• Check fuse (or thermal switch) on the electrical supply of the proportional valve or on the electrical supply of Microplan electronic V/I board (VPVM)
0-10V electronic interface	type: Wago, NI, or Beckhoff I/O modules  action: • Check led status on the designated I/O module • Read [Wago and Beckhoff electronic modules troubleshooting]
	type: Microplan electronic V/I board (VPVM)  action: • Check with a multimeter 0-10V input and 4-20 mA output • Check ANN board if 0-10V does not reach the V/I board

Possible problem	Possible solution
I/P converter [B] (separated or integrated into the proportional valve)	• Use a 4-20 mA signal generator to check 4-20 mA input. • Check air pressure on I/P converter output [C]
Compressed air supply	• Check compressed air [C] reaches the proportional valve
Valve leakage	• Read How can I clean a Samson proportional valve? • Proportional control valves are not positive (100%) shutoff devices. Depending on the rating of the valve, the allowable leakage rate can be more than 0.05% of the valve capacity (KVS). Therefore, if the test being performed requires positive shutoff (leak tightness), on/off valves must be included in the bench design.