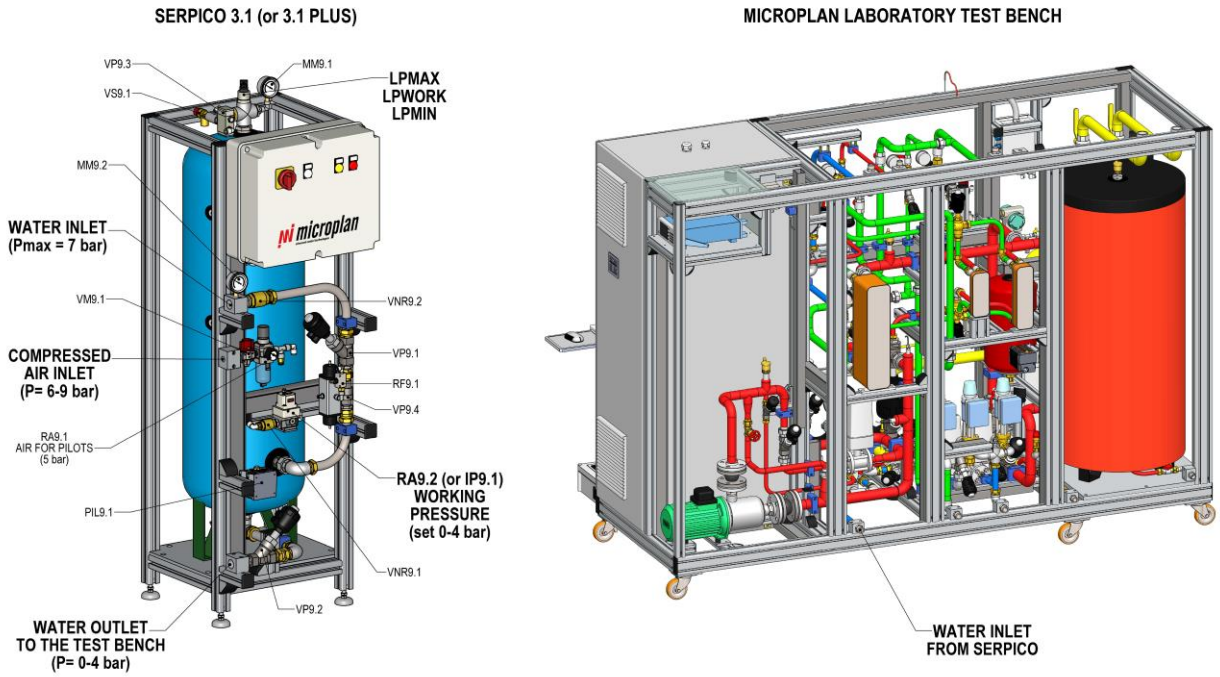
Serpico 3.1 and 3.1Plus problems troubleshooting

Serpico (water pressure stabilizer) is installed upstream a laboratory test bench as it feeds the same with stable water. For this reason, water pressure entering into Serpico, from the factory network, must have a pressure of **at least 1 bar higher** than the water pressure desired at the DHW inlet of the boiler under test. The upper limit for water supply pressure, for the Serpico 3.1 and 3.1 Plus, is 4 bars.



For other problems with Serpico please refer to the following troubleshooting list:

Possible problem	Possible solution

Yellow lamp (minimum level alarm) is activated	• Ensure water is supplied to Serpico water inlet (check MM9.2 pressure indicator)
	• Ensure compressed air is supplied to Serpico air inlet (check pressure indicator within RA9.1: pressure should be within the range 6-9 bar)
	• Ensure the inlet water pressure shown on MM9.2 pressure indicator is at least 1 bar higher than the working water pressure set on MM9.1 pressure indicator. The higher is this pressure difference, the higher will be the maximum flow rate obtainable from the Serpico.
	• Ensure that the inlet water valves VP9.1 and VP9.4 are both opened.
	  ○ If only VP9.1 is closed, that valve or its pilot on PIL9.1 could be broken and should be replaced.
	  ○ If both the valves are closed the problem should be on the level probe (See next point).
	• Remove the triple-level probe and check if any dirt has cumulated; if so, clean the level probe. If, despite this, with the probe in free air, VP9.1 and VP9.4 are still closed, the level electric control unit could be faulty.

Possible problem	Possible solution

	• Ensure that the inlet water valves VP9.1 and VP9.4 are both opened. If only VP9.4 is closed, that fault could be within:
	  ○ the valve VP9.4 (due for example to dirt)
	  ○ its pneumatic pilot (check that the corresponding green light on PIL9.1 is ON and that the pneumatic pipe of VP9.4 is pressurized)
	  ○ RF9.1 (dirt may have clogged the flow regulator: slowly open the knob until VP9.4 start to open. Set RF9.1 so that the valve opens/closes in about 10 sec.).
	• The water flow rate coming out of the Serpico is too high for the available network pressure.

Red lamp (maximum level alarm) is activated	• Ensure that the inlet water valve VP9.4 is closed. If the valve is opened the problem could be within:
	  ○ the level probe (see next point)
	  ○ the valve VP9.4 (due for example to dirt)
	  ○ its pneumatic pilot (check that the corresponding green light on PIL9.1 is OFF and that the pneumatic pipe of VP9.4 is not pressurized)
	  ○ RF9.1 (dirt may have clogged the flow regulator: slowly open the knob until VP9.4 start to close. Set RF9.1 so that the valve opens/closes in about 10 sec.).
	• Remove the triple-level probe and check if any dirt has cumulated; if so, clean the level probe. Connect the tip of LPWORK to the ground and check that VP9.4 closes. If not, the level electric control unit could be faulty.

Main electric switch is ON, but no electric power is present	• Check the main electric supply cable and electric source • Check the safety devices inside the electric box (only for qualified and authorized personnel)

No water provided to the test bench	• Ensure the minimum level alarm lamp is OFF. If it is ON see the paragraph ''Yellow lamp is activated'' above.
	• Ensure water is supplied to Serpico water inlet (check MM9.2 pressure indicator)
	• Ensure compressed air is supplied to Serpico air inlet (check pressure indicator within RA9.1: pressure should be within the range 6-9 bar)
	• Ensure the inlet water pressure shown on MM9.2 pressure indicator is at least 1 bar higher than the working water pressure set on MM9.1 pressure indicator. The higher is this pressure difference, the higher will be the maximum flow rate obtainable from the Serpico.
	• Ensure that the inlet water valves VP9.1 and VP9.4 are both opened.
	  ○ If only VP9.1 is closed, that valve or its pilot on PIL9.1 could be broken and should be replaced.
	  ○ If both the valves are closed the problem should be on the level probe (See next point).
	• Remove the triple level probe and check if any dirt has deposited; if so, clean the level probe and verify that the minimum level alarm lamp switches ON. If despite this, with the probe in free air, the yellow lamp is still OFF, the level electric control unit could be faulty.

Possible problem	Possible solution
	• Ensure working pressure set on MM9.1 pressure indicator is higher than zero. Increase the pressure acting on AR9.2 (Serpico 3.1) or on IP9.1 via synoptic program (Serpico 3.1 Plus). • Check that VP9.2 is opened. If not, check that the air pressure set on RA9.1 is higher than 5 bar. If the air pressure is ok, the valve VP9.2 or its pilot on PIL9.1 could be faulty.