



# Y501 Backflush Kit



*HMJ's Y501 Backflush Kit eliminates the labor and safety hazards associated with the standard backflush procedure.*

When analyzing partially soluble samples, particles can plug Capillary 2 of the Y501 viscometer. The plug can be flushed out with a standard backflush procedure that requires partial disassembly of the Y501. However, this procedure is laborious and may expose the operator to solvent hazards. With the addition of the Backflush Kit to the Y501, a backflush can be performed by simply turning four valves to reverse the solvent flow through Capillary 2 and Transducer 2 to flush out the plug with the Y501's gear pump.

The backflush may be performed on a regular schedule or on an as-needed basis, depending on the frequency and predictability of plugging. The operator must know the correct P2 value and correct P2/P1 ratio when the plug-free system is running solvent. Subsequently, the operator can 1) detect the presence of a plug when the P2 value and P2/P1 ratio rise out of prescribed tolerances and 2) evaluate the success of the backflush procedure. The backflush procedure is as follows:

- Set the pump speed to operating flowrate.
- Note the P2 value and P2/P1 ratio, which both should be over specification.
- Turn the P2 Purge valve and Backflush valves 1, 2, and 3 from Run to Purge.
- Let the system flow for 10 minutes.
- Turn the P2 Purge valve and Backflush valves 1, 2, and 3 from Purge to Run.
- If the plug has been flushed, the P2 value and P2/P1 ratio should now be back to normal.

The Backflush Kit can be installed in any version of the Y501 viscometer (Y501A, B, C, and D). Please see the other side of the brochure for detailed drawings of the Backflush Kit. The information in this brochure can also be found in the Backflush Kit section of the Products menu at [www.hmjassociates.com](http://www.hmjassociates.com).

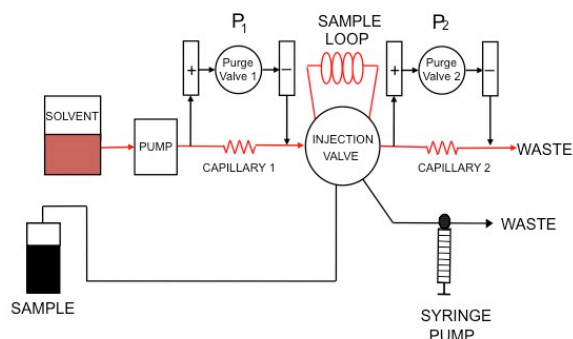


The top figure shows the normal Y501 plumbing with the red line/arrows indicating the solvent flow path in Run Mode.

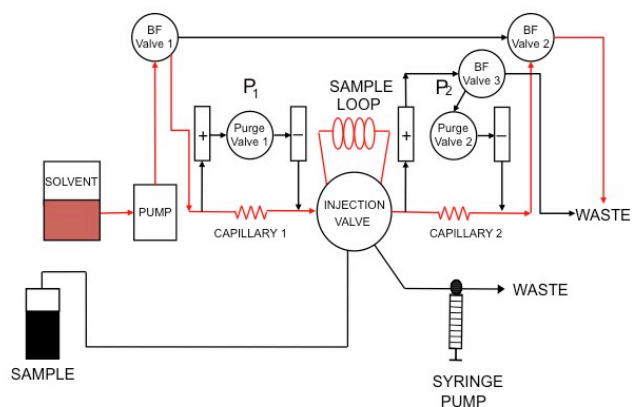
The middle figure shows the Y501 plumbing with the Backflush Kit added. Three Backflush valves, indicated in blue, are added, along with the requisite tubing. The red line/arrows show the flow of solvent in Run Mode.

The bottom figure shows the Y501 plumbing with the Backflush Kit added. Three Backflush valves, indicated in blue, are added, along with the requisite tubing. The red lines/arrow show the flow of solvent in Backflush Mode. The solvent flow from the gear pump is now routed backwards through Capillary 2 and Transducer 2 (P2) and out to Waste.

Default Y501 Plumbing – Run Mode



Y501 + Backflush Kit Plumbing – Run Mode



Y501 + Backflush Kit Plumbing – Backflush Mode

