

Pressure drop in the HPLC system

Virtually any HPLC user knows the reasons for a pressure increase in the HPLC system, but what can be done if a pressure drop occurs?

1. **Damaged retainer or scratched piston:** disassemble the pump head and visually check its condition. If the seal is damaged or the piston is scratched, replace them.
2. **Air in the pump or solvent line:** “bleed” the pump for 30 seconds and then increase the flow so that the pressure is above 1000 psi (75 bar). Another valid option is to saturate the solvent with Helium, since this gas has a high diffusibility and “expels” the air from the system in about 30 minutes.
3. **Clogged solvent filter:** remove it and clean it in an ultrasonic bath with Methanol for HPLC. If it does not solve the problem, replace it with a new one.
4. **Clogged inlet non-return valve:** disassemble and clean it in an ultrasonic bath with Methanol for HPLC. Then, pass 50 ml of Methanol to HPLC with a syringe.
5. **Clogged outlet non-return valve:** if equipped with a filter (common on some models from some manufacturers), replace it with a new one. Otherwise, disassemble and clean it in an ultrasonic bath with Methanol for HPLC. Then, pass 50 ml of Methanol to HPLC with a syringe