

Why do I have lower than normal back pressure with Cogent Diamond Hydride HPLC columns – FAQ

I have recently been using the Cogent Diamond Hydride™ HPLC column with a 400uL / minute flow rate with acetonitrile and an aqueous buffer (*Column Temperature = 30 °C*). I'm seeing a very low back pressure (*around 20 bar at the beginning of the gradient while acetonitrile level is high*) compared to other HPLC columns. Is that normal?

YES!

After the water percent composition increases over the gradient, it starts increasing to back pressures that are still low, but more on the usual side of things (40-50 bar, although I am still used to seeing things a bit higher). What kinds of back pressures should I expect for a typical ANP gradient?

The pressures you describe sound quite typical for these conditions which are ideal for Aqueous Normal Phase HPLC. You may be used to Reversed Phase methods that feature higher water content mobile phases. Water creates a higher back pressure than acetonitrile due to higher viscosity, so it is normal for the pressure to be lower than what you may have used in other methods.

Also temperature increases will decrease the pressure as well.

[See Information about Diamond Hydride Columns](#)

