

1. Flow restrictors after the pump

Flow restrictions:

18" dia. heater-coil, of 1/2" sch 80 pipe , shouldn't restrict more than 200-300 psi with 8gpm. (I believe)

Those steel fittings can close-up to hundreds of psi restriction,
Yeah, go stainless.. if you can afford a \$30 tee, ... otherwise, toss'em every 8 years or so,
and put new \$6 ones back in.

Hose-ends can be en aMAAZing flow restrictor..

starting at about 1/4" i.d. and rusting down to 1/8" i.d. = BIG restriction.

If you try to drill'em out.. be CAREful ! ..and wear safety-glasses !

drill bit shatter when trying that !

A downstream chemical injector is CraaZY flow restriction..

I've posted several times in here about that..

use the ST-52 variable-venturi injector, IF you "need" to leave one in-line..

opening the venturi relieves a lot of the restriction whilst yer not usin' it.

IF the ST-5 Flow-Switch has been overheated:

the plastic end-cap in the end of the magnetic slider.. can melt out, and go floating in to the coil.

It will usually NOT go all the way through, but will get stuck..

..THAT is a bad day. :{/

A slight overheat melts it just enough to release the little brass pegs that keep it from being a flow-restrictor in a bigger way.

OK here's 2 problems..

the little brass pegs get stuck in your trigger-gun,

and the magnetic slider in the flow switch butts-up-against the end of the flow-switch shell,

..allowing just a 3/16" opening to restrict closer to 1000 psi at your heater.

Remove the flow switch, check the magnetic slider for damage, or wear on those little brass pegs.

As the pegs are worn, as they bash-it-to the end of the flow-switch..

the end cap wears away, allowing the worn pegs to tunnel in enough to allow the slider to block the thoroughfare.