



WHERE:

- A = Supply line in (15mm, de-greased, copper tube)
- B = Line isolation valve (quarter-turn)
- C = Non-return valve
- D = Outlet pressure gauge
- E = Outlet pressure regulator (nickel plated)

With reference to photograph above, it may be seen that:

1. The incoming gas supply may be quickly, easily and safely turned off.
2. The 'System' is protected against back-feeding by virtue of the non-return valve.
3. Gas pressure in the pipe line, may be safely and easily adjusted for the instrument of experiment at the Outlet pressure regulator and,
4. Although it can't be seen, the outlet of this fixed regulator is 3/8" BSP cone-recessed - a flow-meter, hose barb, EasiDaptor, etc. may be fitted.

According to installation Codes, as laboratory gas pipe lines reach the 'bench' there are certain components that SHOULD be included at each outlet point.

However, when it comes to style and aesthetics, maybe the nickel-plated variety wouldn't win any prizes. If you do want something that looks and performs then we can usually turn to our European colleagues for that touch of chic or elan...(see below)



Here, believe it or not, all of the required components plus a flow adjuster are present. The outlet fitting is for compression onto 6mm O.D. metallic tubing.

So, style & substance may be possible. Whichever route your installer's taken, please ensure that you do have these 'key' components fitted (in some cases you'll also find a flashback arrestor fitted

upstream of the non-return valve) and, in so far as it is reasonable and practicable, that they actually do work. A quick guide to outlet point checking is given on the following page.

The photograph below, was submitted for information by our 'Heart of England' correspondent - well done!
As I write, a bumper bag of spanners (this month's top prize) is on its way to you - congratulations!



In all seriousness, this shows what can happen when [high pressure] gas, in this case it was hydrogen, seep through the inner wall of a manifold tail-pipe. If such hoses are, in truth, going to be used for hydrogen or helium then leakage is almost inevitable and, consequently, the outer plastic layer of the hose should be pricked with tiny little holes. This precaution allows the gas to dissipate without distortion to the outer cover. Mechanical protection is afforded by the anti-whip cable (you can see that this is still attached and, apparently, un-ruffled by the whole thing) but this is small comfort to the operator who watched, in some disbelief, as his cylinders blew a 200+ barg balloon of hydrogen for him - very jolly!

In this instance, cupro-nickel pigtailed couldn't be retro-fitted (the client needed several meters of H.P. hose), so we suggested that they could specify a proper PTFE (cf. elastomer) lined hose with a stainless steel outer braid and, of course, the anti-whip cable in accordance with the BS EN ISO standard.

The pictures opposite, if you can imagine this, are the two ends of one [single] component.



To adapt or not to adapt? That's the question. Aye & here's the rub...



I submitted these two pictures myself and won second prize; a weekend of adventure welding in Gdansk.

The 'end' on the left accepts the BS No 8 outlet fitting from a carbon dioxide cylinder and the 'end' on the right accepts the 'bullnose' inlet to an oxygen, nitrogen, argon-type of regulator! Some of you will know that I don't like cylinder adaptors - bought or homemade (this was bought one) but I bought this one to have a look at it. The worrying thing, amongst more sinister matters, is that it should be a 50 barg fitting - in consultation with my [grown-up] engineer colleagues, we don't really see how this could be the case. IT'S NOT BIG AND IT'S NOT CLEVER!

Outlet Point Checks

1. Periodically, with the regulator open, confirm that the isolation valve closes easily and that the gas supply cuts off completely.
2. Unwind the regulator valve with the isolation valve open and make sure that it also shuts down properly.

3. Check occasionally to ensure that there are no signs of outlet pressure creep (i.e. in continuous use that the outlet pressure indicator is stable and that it doesn't creep up the scale) if so, it should be condemned!

