



CryoService

 **CryoService**

Gases for Science, Leisure and Industry

CryoService Limited Warndon Business Park, Worcester, WR4 9RH Telephone: 01905 754500 Fax: 01905 754060 E-mail: info@cryoservice.co.uk

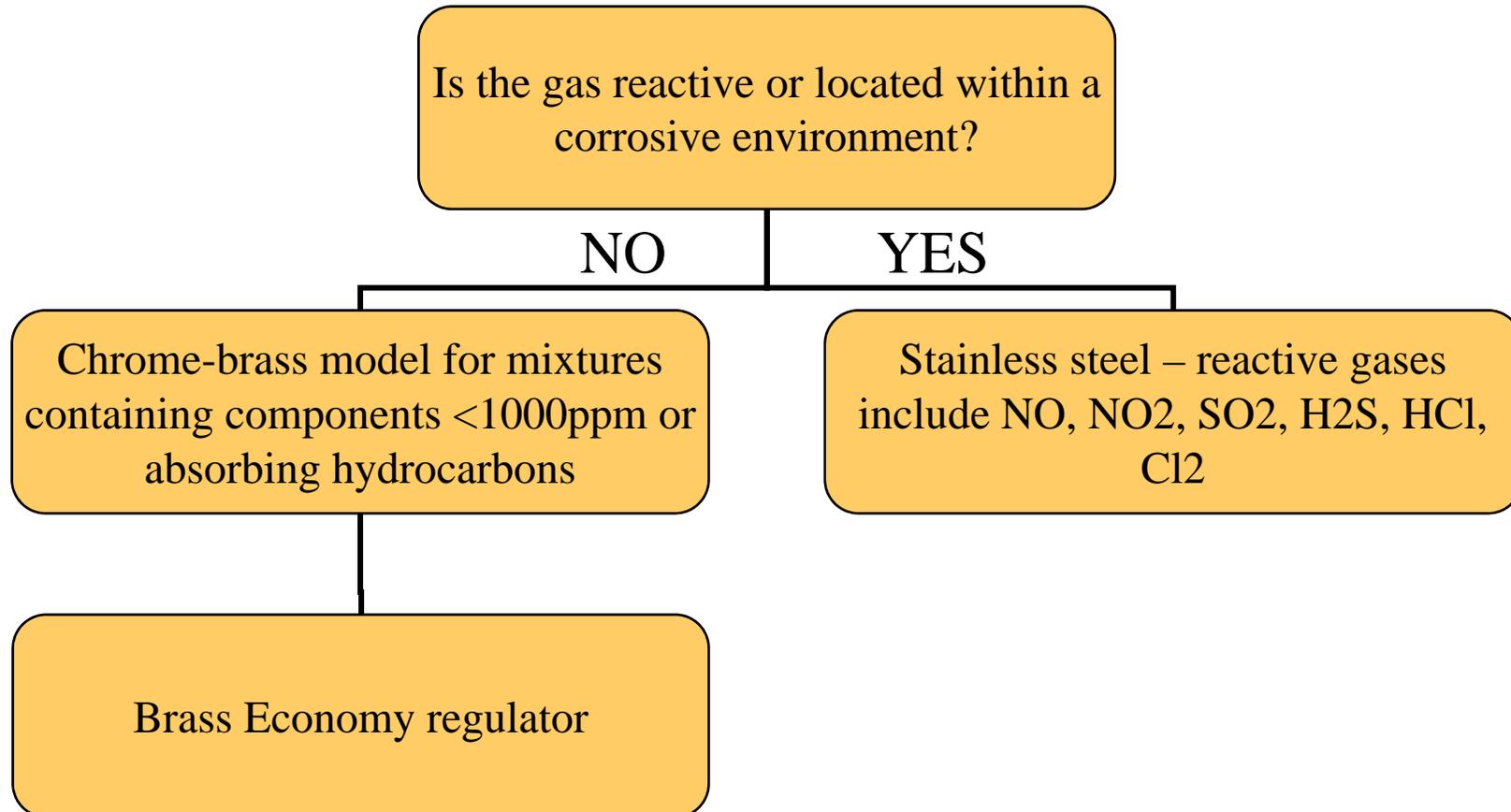
Regulator Selection Criteria & Recommendations for HCl Mixtures

Gas Regulators – Purpose & Features

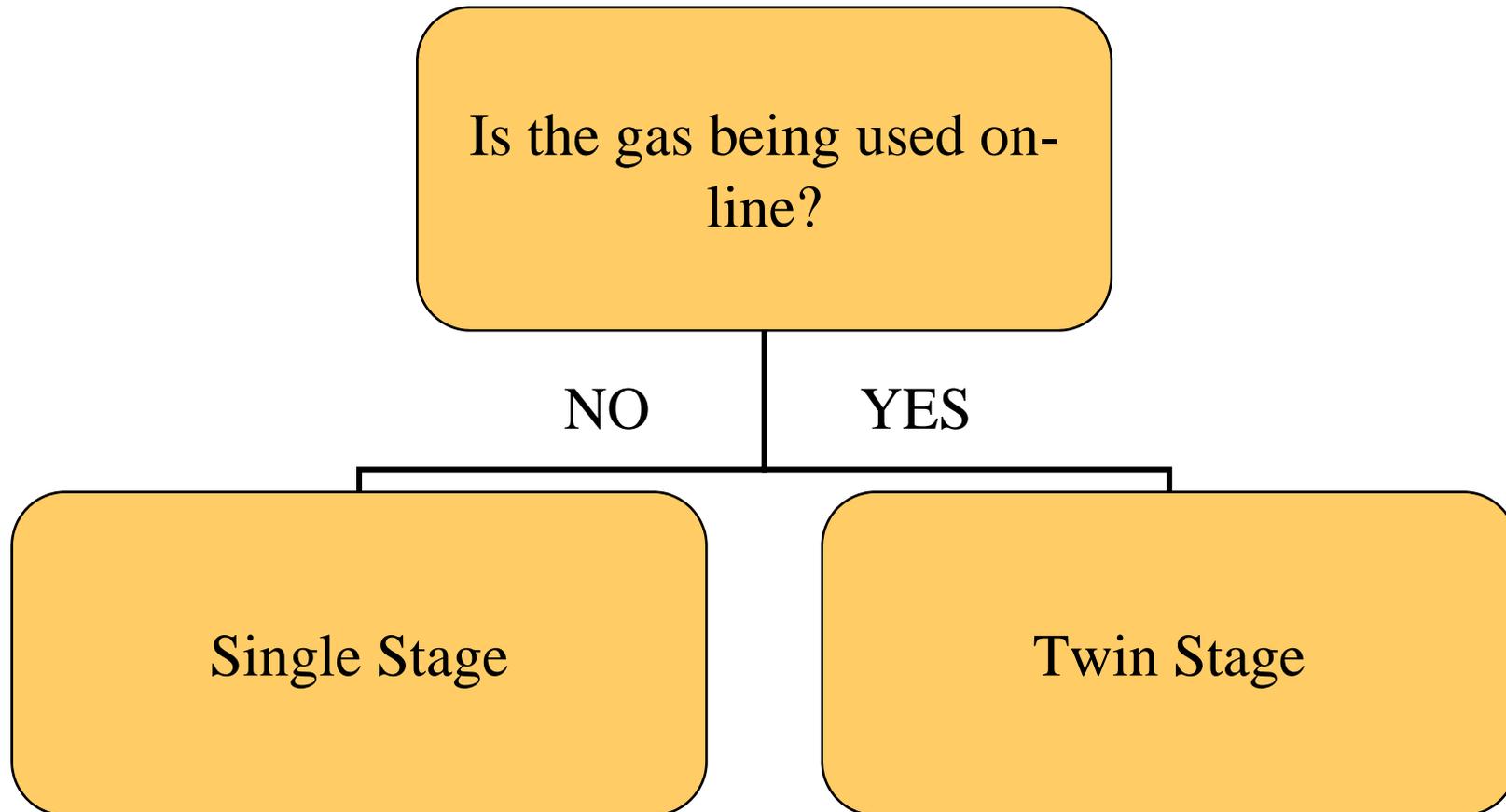
- To reduce the delivery pressure of the gas from the high pressure in the cylinder to a safe working one that doesn't damage the instrument.
- Regulators are manufactured from different materials to suit the gas/gas mixture they are being used with.
- 2 main regulator types according to whether or not the gas is being used on line.
- Inlet connection to match cylinder valve.
- Optional outlet connections to suit instrument line.



Regulator Selection



Regulator Selection



Regulator Selection



Single Stage



Twin Stage

Regulator Features

Inlet pressure gauge

Outlet pressure gauge



Pressure control dial



Back entry

Pressure relief valve

Bottom outlet

Inlet Connection Types

- CryoService follow BS341
 - BS3 – non-flammable, non-reactive gases, brass, right hand thread
 - BS4 – flammable, non-reactive gases, brass, left hand thread
 - BS14 – non-flammable, reactive gases, stainless steel, right hand thread
 - BS15 – flammable, reactive gases, stainless steel, left hand thread
- Other connections available on request – e.g. DIN, CGA

Special Precautions with HCl Mixtures

- Highly reactive gas mixtures and susceptible to moisture or air contamination.
- Slow response time.
- Regulators should be single stage to minimise the contact of HCl with the internal surfaces.
- Restrict prolonged contact of HCl with internals to reduce corrosion risk.
- Reduce the potential for oxygen/moisture ingress.

Recommended Regulator for HCl Mixtures



Features of Specialist HCl Regulator

- Single stage
- Electropolished 316L stainless steel body with enhanced internal body surface finish
- Additional nitrogen cross-purge system fitted
- Standard diaphragm with teflon facing & stainless steel backing material
- 20 micron filters



Recommendations for Calibrations

- Follow normal guidelines for reliable and repeatable calibrations – correct regulator selection, keep pipe-work lengths short.
- The additional cross-purge system recommended for use with the Specialist HCl regulator facilitates purging the regulator with nitrogen prior to use and serves to reduce the calibration time and gas consumption as well as preserving the regulator.
- In addition to allowing nitrogen to flow through the regulator for 2 minutes minimum CryoService recommend additional pulse purging (20 x 10 seconds each) to remove any residual HCl in the regulator.
- The cross-purge system also allows the regulator to be preserved containing a positive nitrogen pressure.

Accessories

- Automatic change-over manifolds – avoid interrupted supply, maximise gas usage
- Quick-Connect couplings – convenient and easy to use
- Dial-a-Flow regulator

