

Helium Depth Indicator and probes: The xG range of probes.*Introduction*

The four original series of Twickenham helium level gauge probes (namely the SS-, GF-, TF- and PF- series) make up one range which have a uniform characteristic no matter the design of probe chosen.

In view of the need of future continuity of supply, Twickenham now offers an alternative range of helium probes in parallel with the original range. In order to clarify matters, the original range will now be referred to as the xS range, with the letter 'S' replacing the letter 'F' as appropriate. The alternative range is the xG range.

xG range of probes

Twickenham have introduced the xG range of helium probes, most particularly for OEM systems. The SG-, GG- and PG- series are otherwise identical to the SS-, GS- (formerly GF-) and PS- (formerly PF-) series respectively. The TS- (formerly TF-) and TG- ranges are currently withdrawn due to declining quality of tube material.

These three series in the alternative range have different electrical characteristics to the original range, and an HDI unit set up for an xG range probe will need adjustment before use with an xS range probe. Their performance in 4.2K liquid helium is unaffected by the change.

The only difference that users will notice is that the part number of the helium probe is slightly different, for example "SG-1050-550-7M-21", and the G configuration option on the HDI.

The change to the HDI unit - the G configuration option.

Because of the change in the characteristics of an xG range probe, the HDI unit will need a scaling adjustment. The process of adjustment is given in appendix 3 of the manual. Factory configured HDI units will have the "G" option, so will be identified as, for example, HDI-AG. Should an HDI need to be configured for an xG probe, the procedure given in appendix 3 should be followed, but with the following differences.

In step 1, the parameter ℓ for xG probes is 465.

In step 6, the parameter 2000 - ℓ for xG probes is 1535.

Should an HDI-xG need to be configured with an xS range probe, then the same appendix 3 procedure is followed, with the parameters for the xS range as given in the appendix.