



SIRCAL

# TECHNICAL BULLETIN 14.1

*“Make use of the information available to you!”*

The MP-2000 Rare Gas Purifier is designed to purify rare gases which include argon, helium, xenon and krypton. The typical application is to purify argon for arc/spark and ICP spectrometric analysis and the purifier is shipped after being run on argon, so is ready for immediate use with this gas.

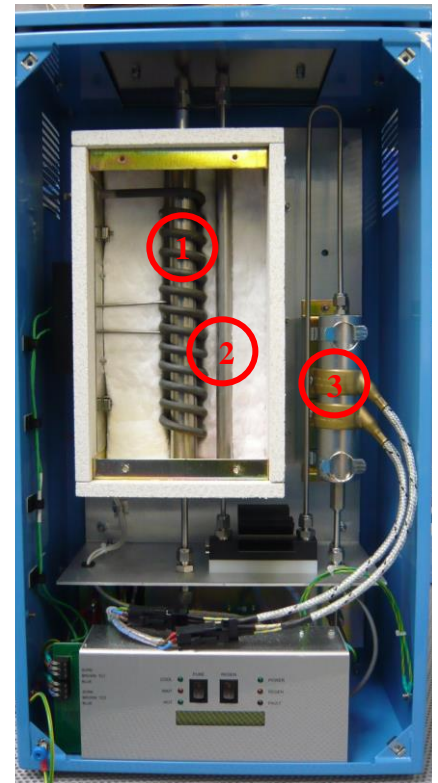
The MP-2000 purifier will remove the common impurities found in argon, i.e. oxygen, nitrogen, hydrogen, moisture, carbon monoxide, carbon dioxide and hydrocarbons. The purifier works by passing the argon gas through the titanium tube at 700°C which removes oxygen and nitrogen by chemical reaction. The gas then passes through the copper oxide tube which removes hydrogen and hydrocarbons by oxidation to carbon dioxide and water. Residual moisture and carbon dioxide is then removed by passing the gas through the molecular sieve tube.

Over a period of time the titanium and copper oxide material will be consumed and the purification process will become inefficient. The rate at which the titanium and copper oxide are used up will depend on impurity level and flow rate. As an aid to you the LCD display on the front panel indicates the number of hours the furnace has run. **This time, in conjunction with knowledge of the impurity level and flow rate can be used to estimate the number of hours remaining before the tubes should be changed.**

***As a rule of thumb the Titanium and Copper Oxide Tubes should be replaced every 2 -3 years of use!***

The replacement procedure is very simple and you can manage it easily. Please refer to the MP-2000 instruction manual for a detailed procedure for replacement of your purifier tubes.

The molecular sieve tube can be regenerated many times by a simple regeneration process although it still needs to be changed as this regeneration becomes less effective over time. Instructions on how to change these tubes can also be found in the instruction manual.



*Image of MP-2000 Interior*

1. Titanium Tube (part no. P4003)
2. Copper Oxide Tube (part no. P4004)
3. Molecular Sieve Tube (part no. P4005)

***All purifier tubes are available on an ex-stock basis from Sircal!***

For further information, please contact us now:

Sircal Instruments (UK) Limited  
Tel: +44 (0) 1342 335 309  
Fax: +44 (0) 1342 323 608  
Email: [sales@sircal.co.uk](mailto:sales@sircal.co.uk)  
Website: [www.sircal.co.uk](http://www.sircal.co.uk)