



SIRCAL

# TECHNICAL BULLETIN 10.1

## ***“The Titanium and Copper Oxide Tubes should be replaced every 2 -3 years of use!”***

The MP-2000 Rare Gas Purifier is designed to purify rare gases which include helium, argon, xenon and krypton. The typical application is to purify argon for arc/spark 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.

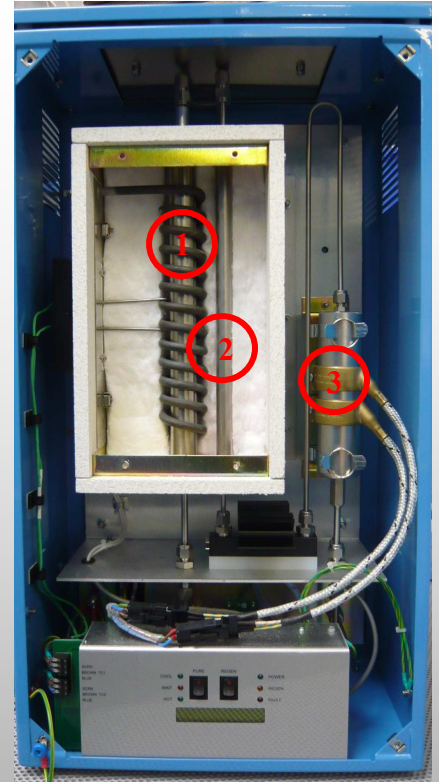
The purifier works by passing the argon gas through the titanium tube at 700°C which removes oxygen and nitrogen by chemical reaction. The gas then passes through the copper oxide tube which removes hydrogen and hydrocarbons by oxidation to carbon dioxide and water. Residual moisture and carbon dioxide 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. At this stage both tubes need to be replaced. Depending on the frequency of use and impurity level of the rare gases, the life span of the titanium and copper oxide tubes would vary. Abnormal peaks and elevated concentrations of nitrogen and carbon on your spectrums could be a sign of aging purifier tubes! However, you certainly do not want to wait until problems happen.

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.



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:

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