

# Installation Manual

## Humidifier for CIA Advantage

Version 1.1

March 2013

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# 1. Preface

This manual provides instructions on the use of the Humidifier system. It is suitable for users with little or no prior experience of the system. This document details the installation steps required.

## I. Warnings

- MAX Pressure input is 20psi / 1 Bar / 150 KPa, this must not be exceeded.
- DO NOT remove the protective Sleeving fitted to the Humidifier bottle.
- Ensure the correct amount of Water is present in the Humidifier before use (i.e. between 200ml & 400ml)
- Only high purity water should be used in the Glass Bottle, we recommend using High Purity Liquid Chromatograph (HPLC) water.
- Ensure that no water can come in contact with any electricity sources.

## II. Technical support contact details

In the first instance please contact your supplier. If they are unable to resolve your query, please contact Markes International on the details below.

Address: Markes International  
Gwaun Elai Medi Science Campus  
LLANTRISANT  
RCT  
United Kingdom CF72 8XL

Website: [www.markes.com](http://www.markes.com)  
E-Mail: [enquiries@markes.com](mailto:enquiries@markes.com)  
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P/N: U-HUMID

## 2.0 System Installation and Set-up

### 2.1 Unpacking the Humidifier

Take care when unpacking the Humidifier as the Bottle is made of glass.

### 2.2 Installation

#### 2.2.1 Gas supply

The Humidifier requires a Supply of Nitrogen at a maximum pressure of 20psi, use a GAS01 or similar to regulate supply.

#### 2.2.2 Installation - tools required

To complete the installation you will need the following tools:  
7/16 inch Spanner.

#### 2.2.3 Connecting the Filter Bubbler to the Humidifier

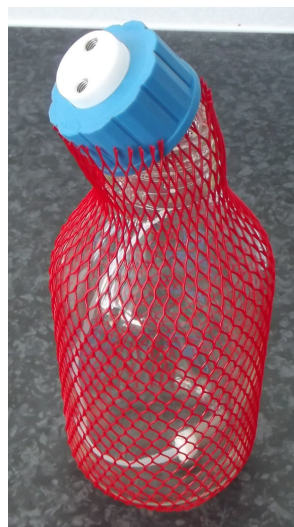
Remove the Blue Cap from the Humidifier Bottle.

The Bubbler can be fitted to either position on the underside of the Cap.

Once fitted, fill the Bottle with water (Pure) between 200ml & 400ml and refit blue cap to the Humidifier Bottle.



**Figure 1a: Filter Bubbler fitted to Blue Cap.**



**Figure 1b: Blue Cap fitted with Filter Bubbler inserted into Glass Bottle.**

#### 2.2.4 Connecting the Input Assy to the Humidifier.

Connect the Input Assy to the position on the Blue Cap that has the 'Bubbler' fitted onto the other side.

**NB** – The Check Valve must be fitted in-line with the Bubbler to ensure correct operation.  
Connect the Second end to the Gas Supply

**NB** – This Tubing is supplied at a length of 1.00m, the ferrules supplied with the Tubing are not fitted to it hence the length of the Tubing can be reduced if required.



**Figure 2: Connecting the Input Assy to the Humidifier Bottle.**  
(NB – length of Tube is shortened to 200mm here.)

#### 2.2.5 Fitting the Sintered Disc.

Fit a 5.1mm diameter Sintered Disc 'Frit' into the remaining position using a rounded edge (such as a Trap Alignment Tool)



**Figure 3: Sintered Disc fitted to Humidifier Cap.**

## 2.2.6 Connecting the Humidifier to CIA Advantage.

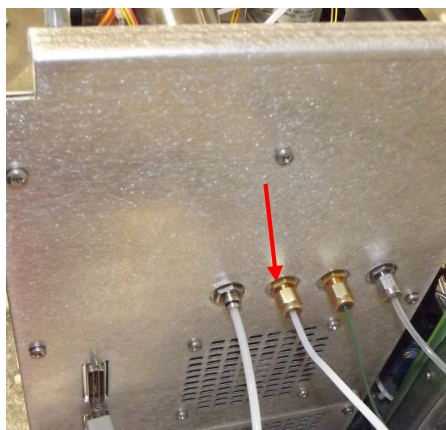
Connect the Output Assy to the Humidifier Cap.

Connect the Brass Union Nut fitted to the Output Assy of the Humidifier to the rear of the CIA Advantage at the 'Humid Purge Gas' position.

**NB** – Although the CIA Advantage can accept a pressure up to 60psi, the Humidifier can not be used above 20psi.



**Figure 4a: Connecting Output Assy to Humidifier.**



**Figure 4b: Connecting to the Rear of the CIA Advantage.**

## 2.3 Leak Testing the Humidifier Set-up

Once the Humidifier is set-up, it will be connected to the Purge position on the Position Selector Valve of the Valve Enclosure, as a default this port on the Valve is not open. Therefore if the system is leak tight the Filter bubbler will not Bubble.

## 3.0 Maintenance

It is recommended that the Sintered Disc in the Cap and the Water (HPLC) in the Humidifier is changed every 4-6 weeks to minimise contaminants.