COHERENT
Service Department

PRIORITY

____	Mandatory	____	As Required
____	Next Visit	____	At Installation
x	Information		

FIELD SERVICE BULLETIN

DATE ISSUED: May 23, 2016 NUMBER: 800

New MRU Drying Filter

PRODUCT All Chameleon laser systems, Discovery, Compact OPO (all variants), and Azure.

PURPOSE To inform scientific sales, service, service order administration & Representatives that the Drierite and Molecular Sieve filters within the MRU X1 & X2 will be soon be replaced with a new Drying filter.

Note: Since the MRU X2 contains two Drierite filters, they will be replaced with two Drying filters.

DESCRIPTION

MRU X1 with Drierite & Molecular Sieve filters

MRU X1 with new Drying filter

Due to compliance restrictions we will be replacing the existing Drierite and Molecular Sieve filters with a new Drying filter. The new Drying filter will remove both moisture and molecular contaminants.

A FRU conversion KIT for the MRU X1 & X2 will be available for existing MRUs in the field. Conversion does not need to occur in advance of cartridge expiration.

ACTION **Performing the MRU filter conversion**

Content

1. Tooling requirement and PPE
2. Getting started
3. MRU X1 filter conversion
4. MRU X2 filter conversion

1. Tooling requirement and PPE

- Hex key, 2mm
- 13mm open end spanner
- Powder free Nitrile or Latex gloves
- Safety eyewear

2. Getting Started:

Ensure you are wearing powder free clean gloves and standard safety goggles.

- Key the laser to STANDBY
- Switch off the MRU and detach the power cable
- Detach the external air tubes from the rear of the MRU
- Place dust caps over the tube ends to prevent contamination
- Remove the screws from the MRU lid
- Lift the MRU lid clear of the top and store safely. (note: the earth strap is attached to the inner surface)

3. MRU X1 filter conversion

To replace the expired Agilent water trap and connected Drierite filter

- Detach the tube from the HEPA filter flow input by using the spanner to loosen the connection then unscrew by hand and keep the seals with the screwcap **(Figure 1**)

- Detach the tube from the filler end of the Drierite filter by pressing the release clip to free the connection as shown **(Figure 1**)

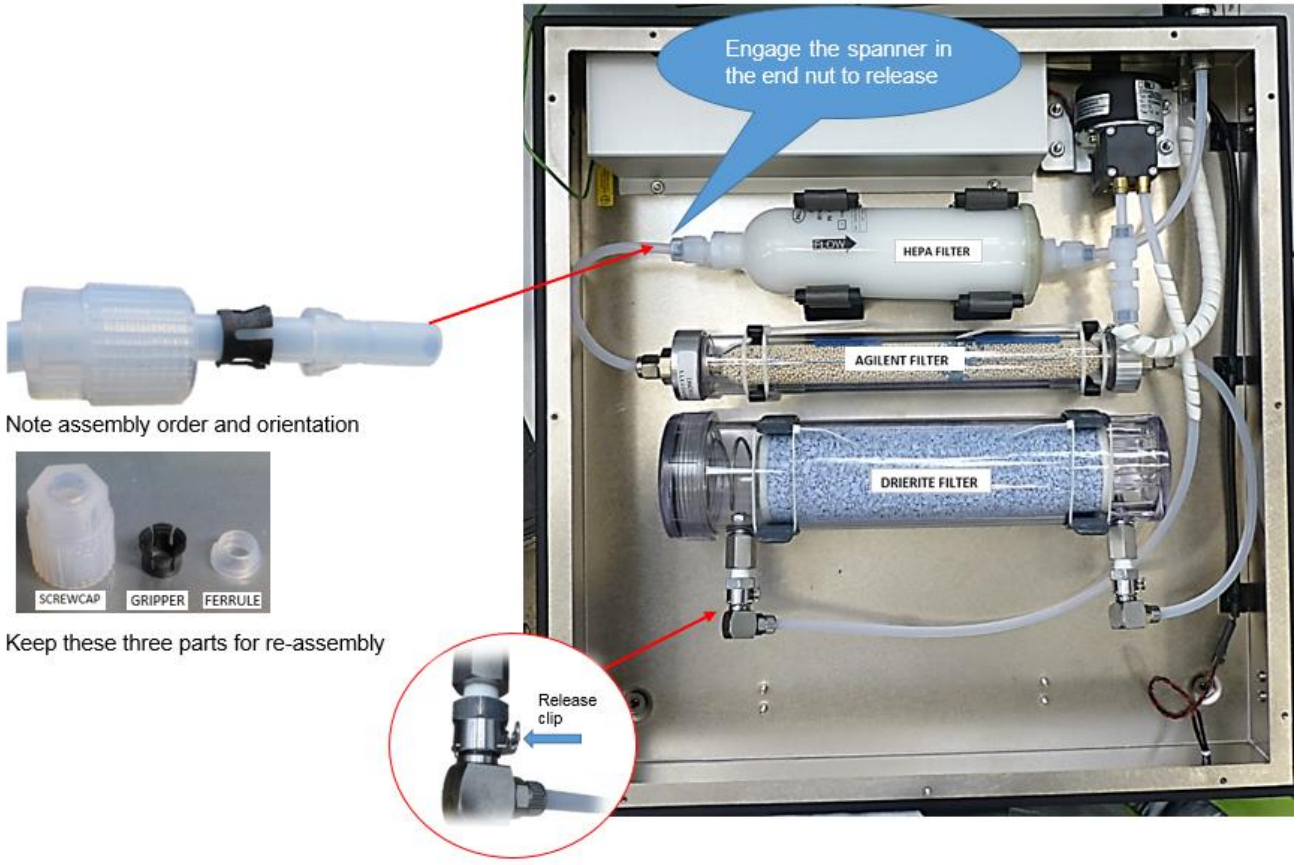

Figure 1

- Remove the tie-wraps holding the Agilent and Drierite filters in Position, if present.
- This will allow both these filters and connecting tubes to be removed from the MRU as illustrated in Figure 2.
- Remove the Agilent and expired Drierite filter from the clips as one unit, and place aside for disposal.
- Dispose of expired filters as recommended in MSDS

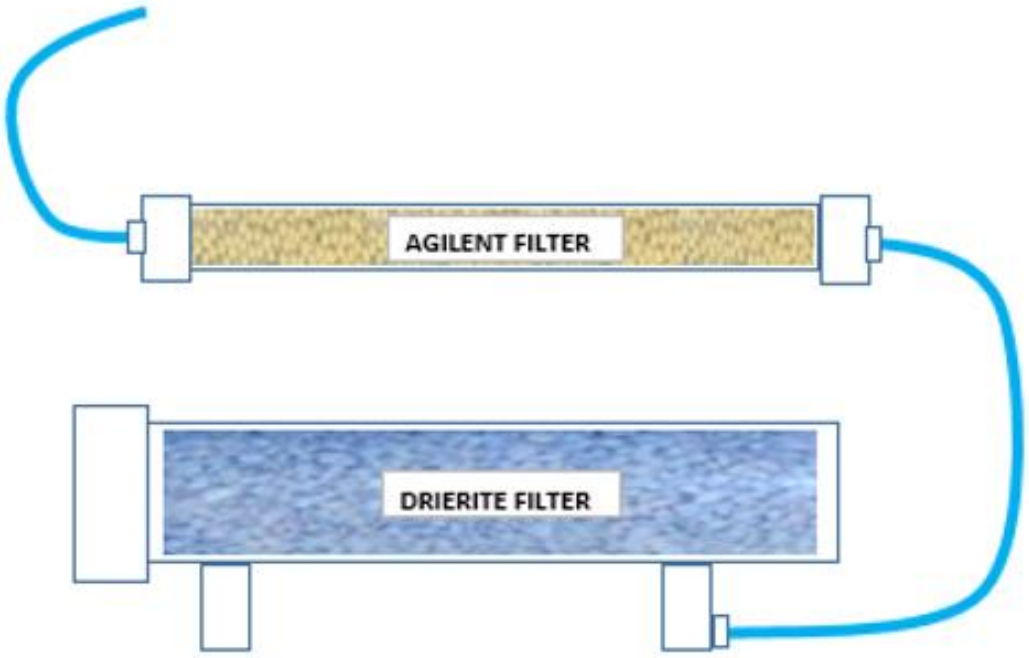

Figure 2

Installation of new Drying filter

- Unpack new Drying filter and position in the clips where Drierite was with connections pointing towards front of the unit.

- Attach the existing tube **1** with elbow fitting, from the pump directly into the connector routing the tubing over the top as shown in **Figure 3.**

- Push fit until and audible click is heard and the release clip moves out.

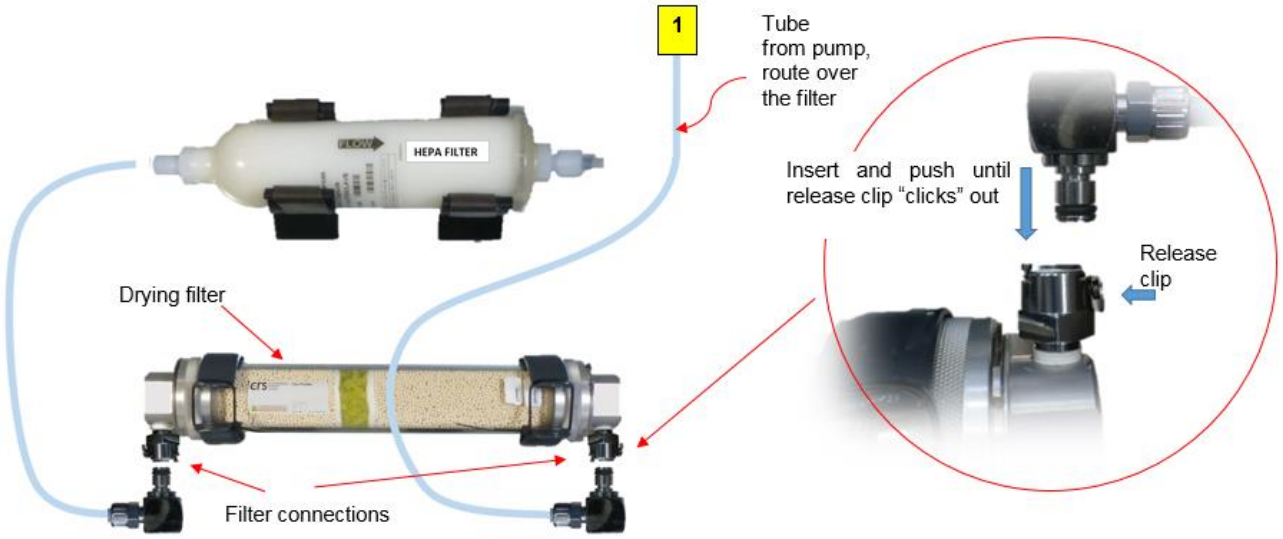

Figure 3

- Unpack 2 the 300mm tube supplied with elbow fitting and, on the left of the filter, push fit into the connector until and audible “click” is heard as the release clip moves out.
- Hold the spare end of tube 2 and load with the nut screw cap, followed by the gripper and lastly the ferrule. (Utilising the plastic fittings you kept from above in 6.1) Ensure the fittings are orientated as originally supplied. see **Figure 4**
- Push tube 2 into the end of the HEPA filter as far as it will go. See **Figure 5**
- Engage the seals and tighten screwcap firmly by hand, then using an adjustable wrench tighten the nut a further turn.

TYPICAL FITTING INSTALLATION:
TAPERED END OF FERRULE
FACES AWAY FROM GRIPPER

Figure 4

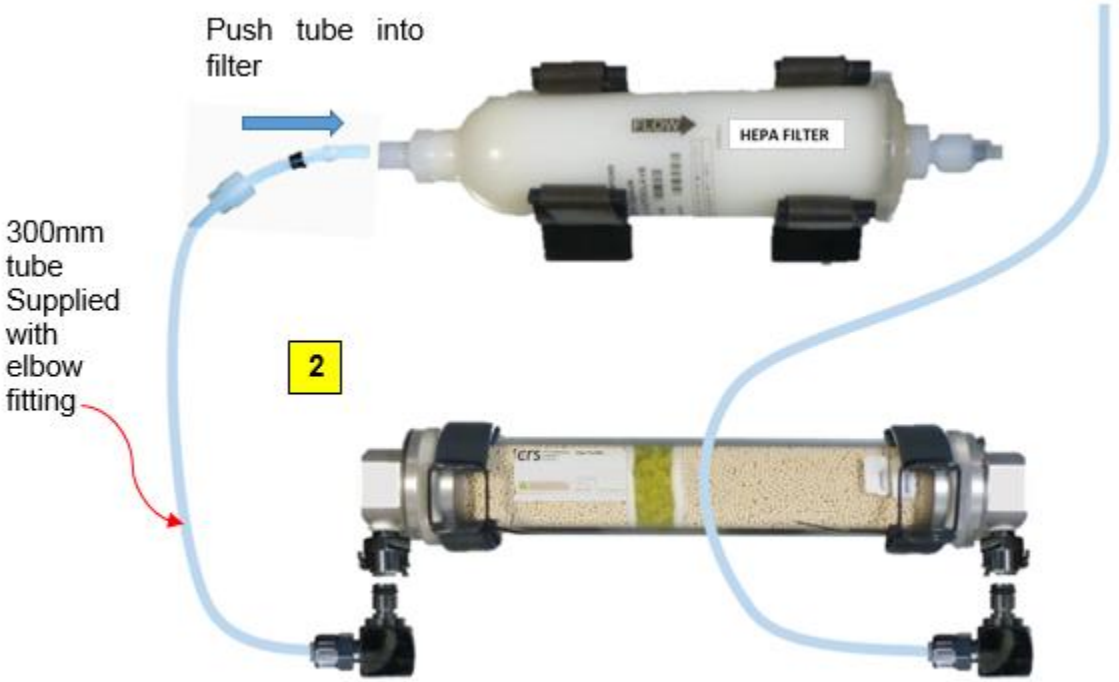

Figure 5

- Utilize tie-wraps provided to hold the new filter clips together at each end as shown in Figure 6.
- Ensure that the tubes are not fouling on any metal fittings
- Tighten the tie-wraps to secure the filter cylinder in position with colour key visible
- Fit Upgrade label (provided in the kit) to the base where it can be seen.

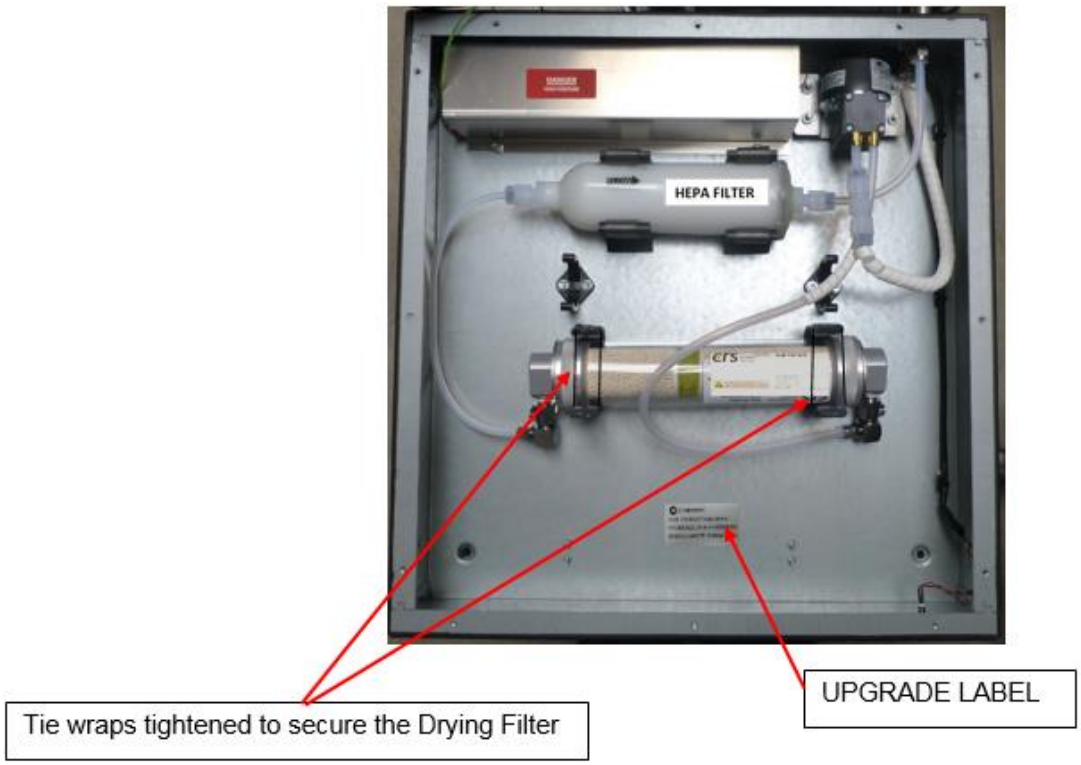

Figure 6

Final Checks

- Check the tubes are routed correctly, as shown in Figure 7.
- Ensure all connections are correctly fitted.
- Check upgrade label is visible.
- Replace the MRU X1 lid as originally orientated.
- Fit lid screws and tighten to close.
- Reconnect the hoses by removing dust covers and push fit in correct locations at the rear of the MRU.
- Reconnect the power cable and switch on the MRU.
- Check the green light in the front console is operational when switched on.

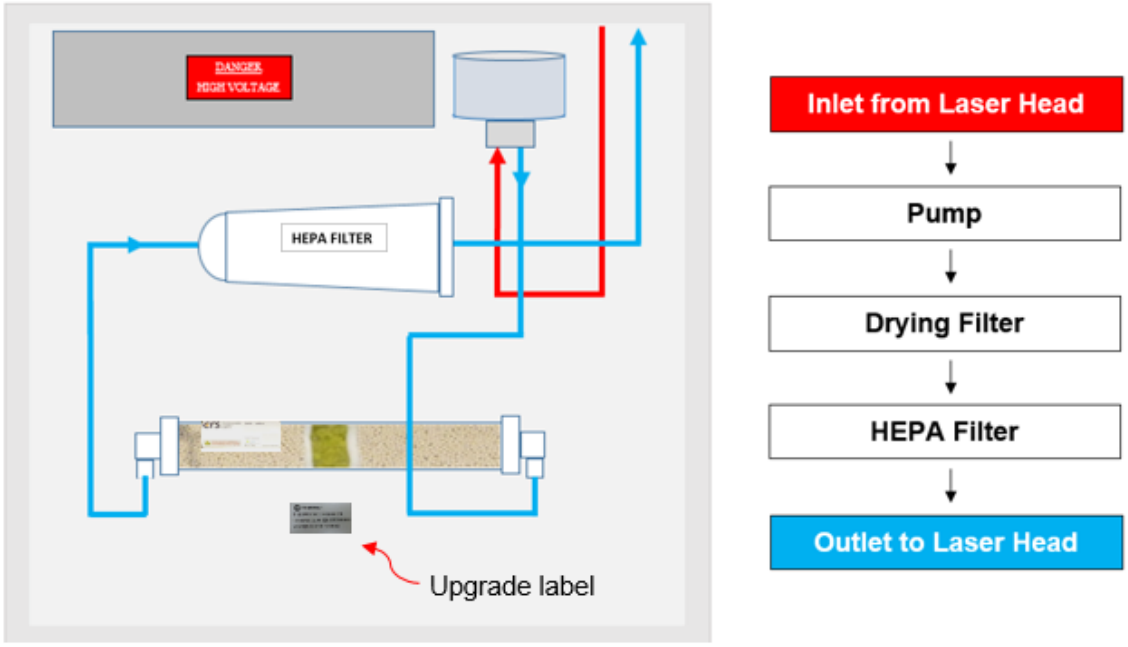

Figure 7

4. MRU X2 filter conversion

To replace the expired Agilent water trap and connected Drierite filter

- Use a spanner to loosen the nut / screwcap. Detach the tube from the HEPA filter flow input by unscrewing the connection, remove the seals and screwcap. Keep these for reuse later in process. **(Figure 1)**

- Detach one tube from Filter 2 by pressing the release clip to free the connection as shown in **Figure 1**

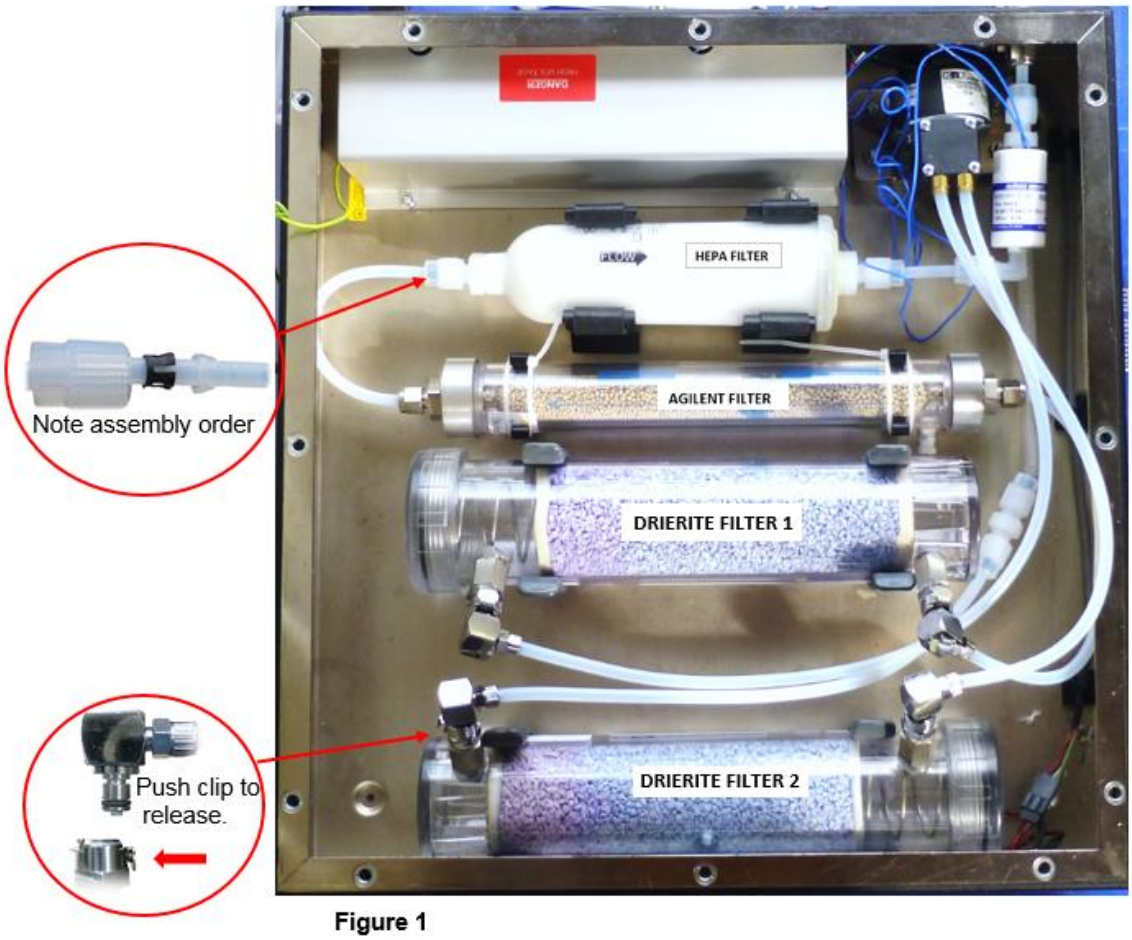

Figure 1

- Remove the tie-wraps holding the Agilent and Drierite filters in position, if present.
- This will allow both these filters and connecting tubes to be removed from the MRU as illustrated in **Figure 2.**
- Remove the Agilent and expired Drierite filter from the clips as one unit, and place aside for disposal.
- Dispose of expired filters as recommended in MSDS

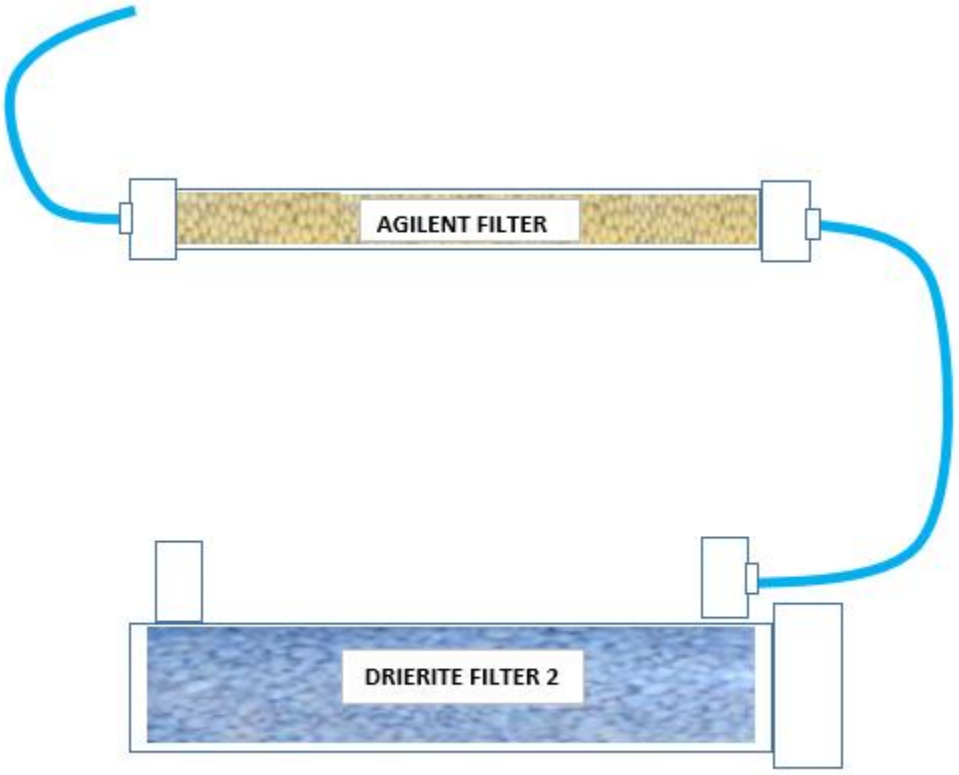

Figure 2

- Keep Drierite filter **1** attached in position during the installation of the new drying Filter **2**.

WARNING
Do not detach at this stage of the replacement process

Figure 3

Installation of new Drying filter

- Unpack new Drying filter and position in the clips where Drierite 2 was with connections pointing towards the HEPA filter.

- Attach the 530mm tube from the kit with elbow fitting, from the pump directly into the connector as shown in **Figure 4**

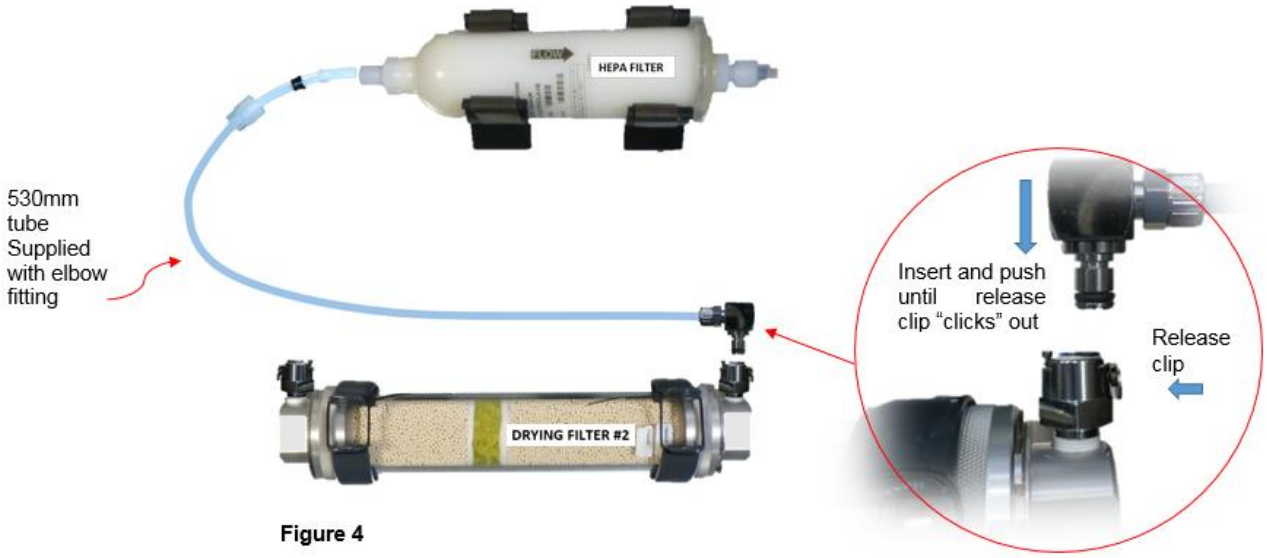

Figure 4

- Hold the spare end of tube and load with the nut screw cap, followed by the gripper and lastly the ferrule. (Utilising the plastic fittings you kept mentioned above) Ensure the fittings are orientated as originally supplied. see **Figure 5**

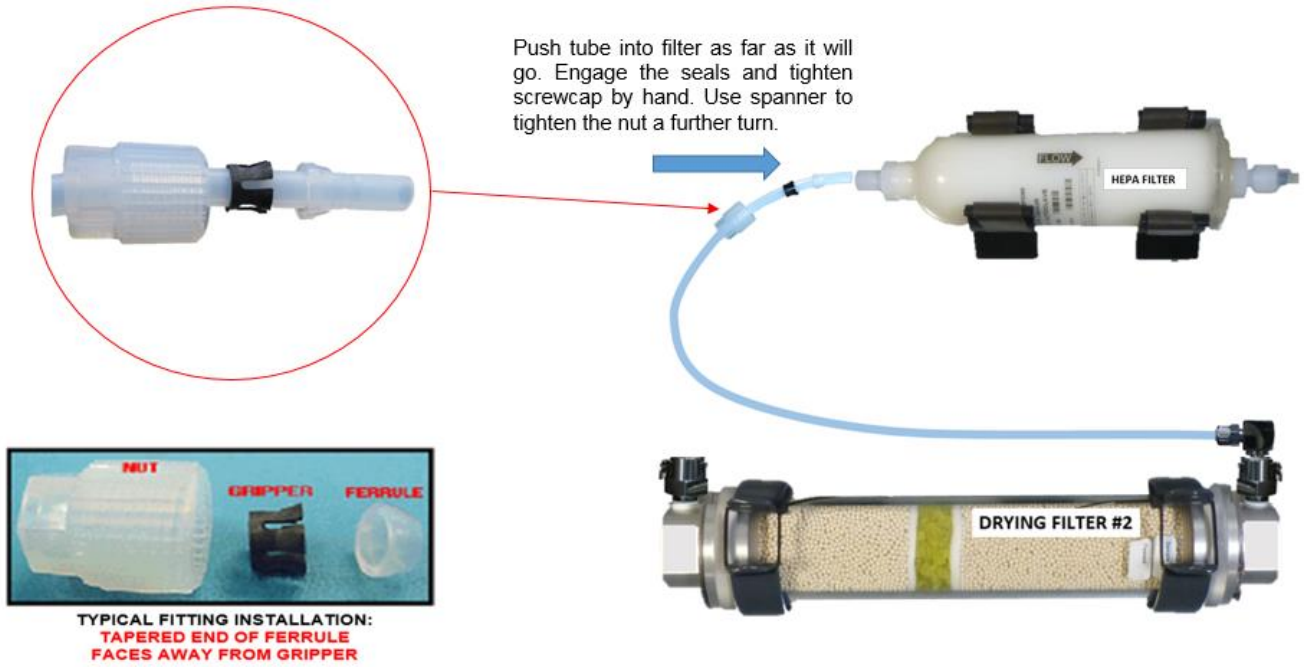

Figure 5

Filter replacement

- Drierite filter 1 can now be removed and replaced using the push release connectors attached to the elbows at each end.

- Attach the second drying filter in the central position clips and orientate as shown in **Figure 6**, connecting the elbow fittings at both ends using push and click method

- Ensure drying filter 2 nearest the viewing window is displaying the colour key through the window, adjust position to suit.

- Utilize (4) tie-wraps provided, to hold the new filter clips together, securing them in position. **Figure 6**

- Ensure that the tubes are not fouling on any metal fittings

- Affix the Upgrade Label where it can be seen. (Supplied with kit)

- Refit as the MRU lid, ensuring that the earth connection is re-connected if removed.

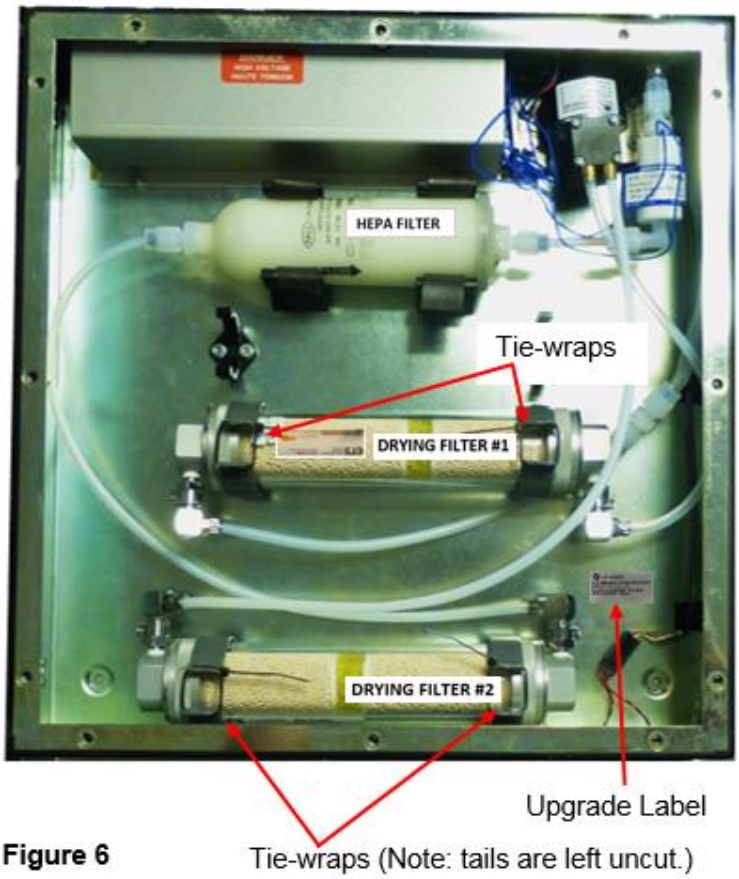

Figure 6

Final Checks

- Check the tubes are routed correctly, as shown in Figure 7.
- Ensure all connections are correctly fitted.
- Check upgrade label is visible.
- Replace the MRU X1 lid as originally orientated.
- Fit lid screws and tighten to close.
- Reconnect the hoses by removing dust covers and push fit in correct locations at the rear of the MRU.
- Reconnect the power cable and switch on the MRU.
- Check the green light in the front of the unit indicates it is operational.

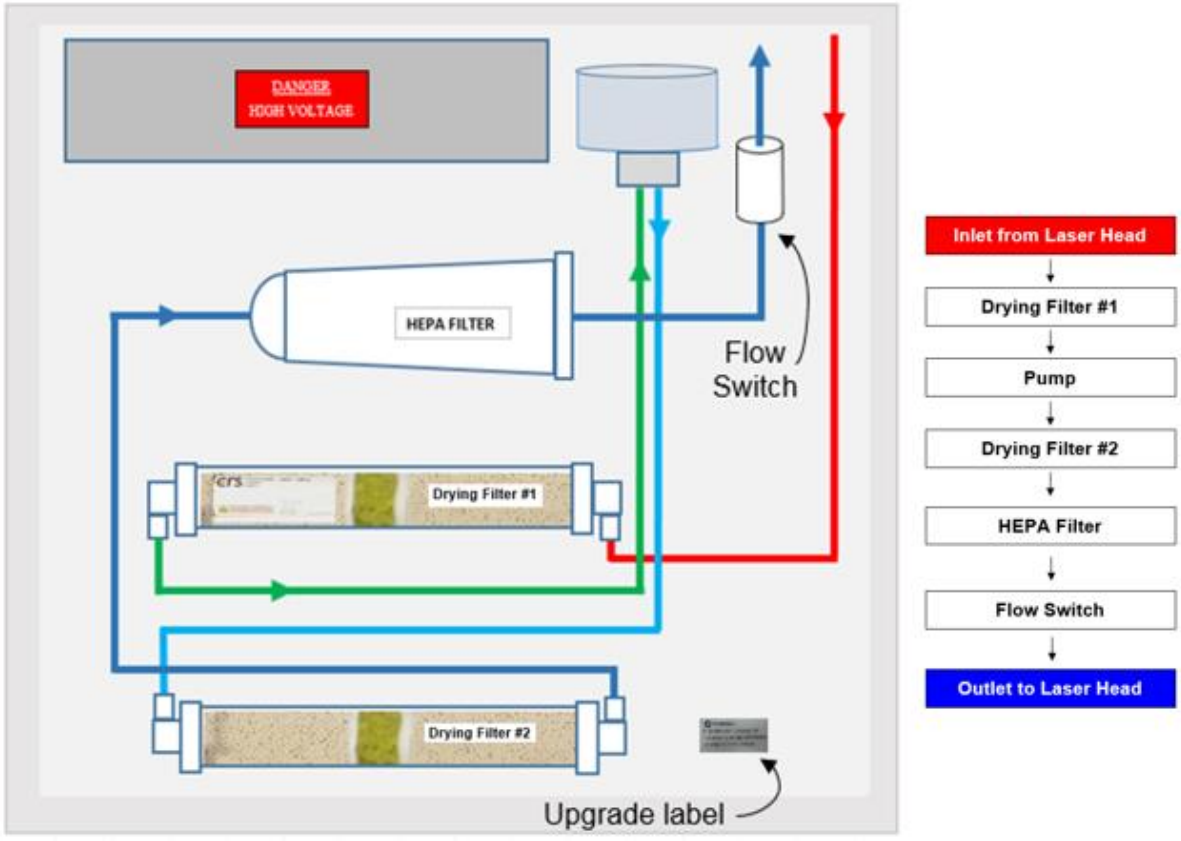

Figure 7

PARTS

MRU X1 – PN #1309014
MRU X2 – PN #1309015

Drying filter – FRU PN #1310643
(**Note: 2 x Drying filter required for MRU X2)**

MRU X1 Upgrade KIT – PN #1310670
MRU X2 Upgrade KIT – PN #1311597

PSE Initials OJM