

3. Maintenance

3.1 Replacement of a Filter Cartridge

A filter cartridge needs to be exchanged when the visual indicators start changing color.

3.2 Baseplate Maintenance

Regularly check both the big and small O-rings on the baseplate for hair cracks. The slightest leak may allow moisture, oxygen, and hydrocarbons to enter the system and contaminate the gas.

Connectors at the baseplate may never be replaced by unauthorized personnel.

4. Disposal



Saturated filter cartridges should not be placed in household waste bins. Please check local regulations for information about the disposal of chemical waste in your area.

Never recondition any filter cartridge: for recycling, please contact your local supplier.

5. Overview

Super Clean® gas filter cartridges are suited for the purification of noncorrosive gases with low contamination concentrations to a better as 6.0 grade (99.99990%) purity.

Super Clean® gas filter cartridges are connected to an appropriate genuine baseplate, which is installed into the gas line.

6. Specifications

Filter Type	H ₂ O (g)	O ₂ (ml)	THC (g)	CO ₂ (g)	Usable for (Gas Type)
Moisture	7.2	-	-	-	C, A, H ₂
Oxygen	-	150	-	-	C
Hydrocarbon	-	-	12	-	C, A, H ₂
Carbon dioxide	-	-	-	12	
Combi. (Moisture + Hydrocarbons)	3.5	-	6	-	C, A, H ₂
Combi. (Moisture + Oxygen)	3.5	75	-	-	C, He, H ₂
Combi. (Moisture + Carbon dioxide)	3.5	-	-	6	
Triple (Moisture + Oxygen + Hydrocarbons)	1.8	75	4	-	C, He, H ₂

C = Inert Carrier Gas; He = Helium; H₂ = Hydrogen; A = Air

All filter cartridges are packed under argon, except for the special He-specific and H₂-specific filter.

Maximum pressure: 11 bar

Maximum flow: 7 L/min

Gas quality at outlet: > 6.0 grade purity

7. Safety Information

- The maximum concentration of oxygen allowed in the gas is 0.5%. (Valid only for each filter packed with O₂-adsorbent and O₂-indicator.)
- Maximum gas-system pressure should never exceed 11 bar (160 psi).
- Do not install a filter kit near or in a hot area (i.e., the hot-air exhaust at the rear of the GC).

8. Ordering Information

Baseplates for Super Clean® Gas Filters

22025	Single-Position Baseplate - 1/8" Brass
22344	Single-Position Baseplate - 1/8" Stainless Steel
22026	2-Position Baseplate - 1/8" Brass
22345	2-Position Baseplate - 1/8" Stainless Steel
22027	3-Position Baseplate - 1/8" Brass
22346	3-Position Baseplate - 1/8" Stainless Steel

Ultra-High Capacity Filters

22028	Ultra-High Capacity Moisture Filter
22029	Ultra-High Capacity Oxygen Filter
22030	Ultra-High Capacity Hydrocarbon Filter

Replacement Filters

22020	Replacement Triple (O ₂ /Moisture/Hydrocarbon) Filter
22022	Replacement Fuel Gas (Moisture/Hydrocarbon) Filter

Filter and Baseplate Kits

22019	Carrier Gas Cleaning Kit (Baseplate and Triple Filter)
22021	Fuel Gas Purification Kit (Baseplate and 1 Fuel Gas Filter)

Filter Bundle Kit

22031	Filter Bundle Kit (1 Triple Filter and 2 Fuel Gas Filters)
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Helium-Specific Super Clean® Filter & Kit

21983	Helium-Specific Carrier Gas Cleaning Kit
21982	Replacement Helium-Specific Filter

Parts

21833	1/8" to 1/4" Tube-End Unions Brass (5 pk.)
21984	Wall Mounting Bracket for Super Clean® Baseplates
22023	Replacement O-rings for Cartridge Baseplates (10+10 pieces)

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#204-08-019 Rev. date: 02/16

RESTEK®
Pure Chromatography

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Super Clean® Gas Filter Kit

Instructions for Use



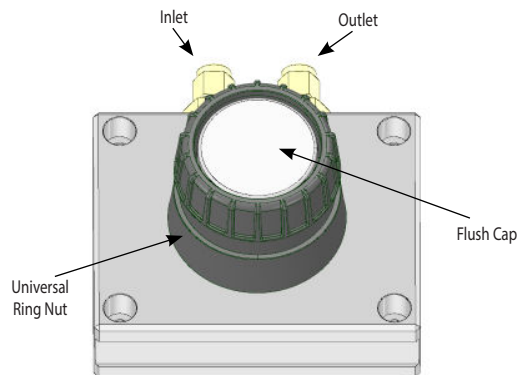
Patent pending: PCT/NL2012/050477



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1. Installation of a Baseplate

A baseplate can have 1, 2, 3, or 4 positions, depending upon the number of gas purification applications. These instructions are valid for each individual position/rear end fitting connection on the baseplate.



1.1 Important information Before You Start

- To avoid leakage, never install brass connectors on stainless steel tubing.
- Installation of the baseplate should always be performed by certified personnel.
- After installation, do not forget to perform a reliable leak test.

1.2 Installation Instructions

1. Switch off the incoming gas.
2. Cut the gas line using an appropriate metal tubing cutter.
3. Hand tighten the incoming gas line tubing to the rear end fitting marked "IN" at the baseplate; keep the connection loose!
4. Switch on the incoming gas and flush the gas line for 10 min with pure carrier gas; min. pressure: 8 psi.
5. Make sure that the flush cap and universal screw ring are well mounted on the baseplate.
6. Fixate the baseplate with screws using the mounting holes, or use an optional wall mounting bracket.
7. Now mount the outgoing carrier gas line to the rear end fitting marked "OUT" at the baseplate, and your analytical system is ready to go.

1.3 After Baseplate Installation

After connection of a new baseplate to the inlet gas line of the analytical system, it is recommended to flush the total system for 1/2 hour at min. 90 psi.

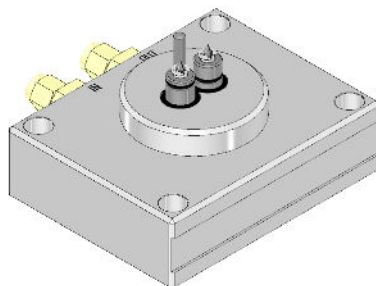
2. Installation of a Filter

2.1 Important Information before You Start

- Install filter cartridge only under low pressure (1 bar).
- After installation, do not forget to perform a reliable leak test.
- The white, small, plastic mounting plugs on the outside housing should never be removed; if these plugs are missing, the cartridge should not be installed, and should be returned to the supplier.
- Never install an oxygen filter in a baseplate position suited for air. It will result in instant saturation!

2.2 Remove the Flush Cap and Universal Screw Ring

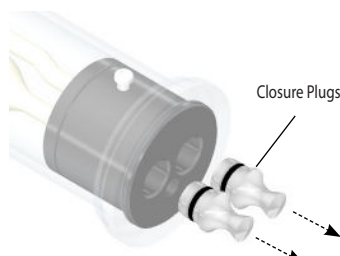
Before installing a filter, make sure the baseplate is properly connected to the gas line and that the system has been flushed. Remove the universal screw ring and flush cap.



As long as there is no filter cartridge connected, the baseplate will automatically block the gas stream.

2.3 Remove the Closure Plugs

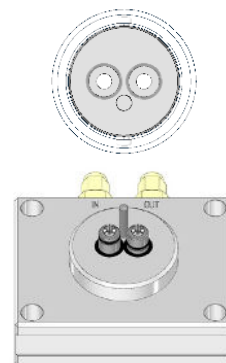
Remove the two metal diffusion-proof plugs from the filter cartridge inlet and outlet (positioned at the bottom of the filter cartridge).



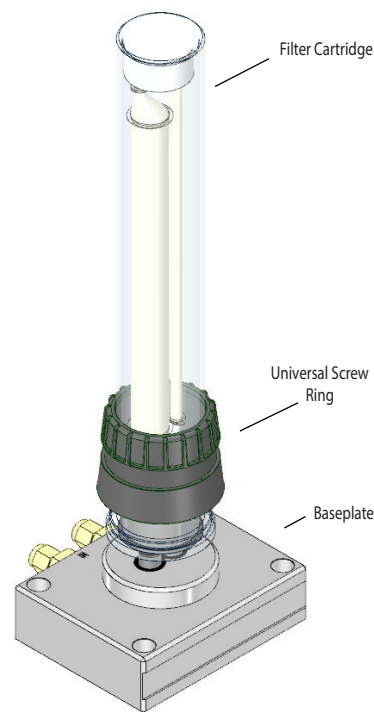
2.4 Align the Filter with the Baseplate

Unscrew the universal screw ring from the baseplate, and place it around the filter cartridge.

Align the filter cartridge with the baseplate, making sure all three holes align with the two valves and positioning pin.



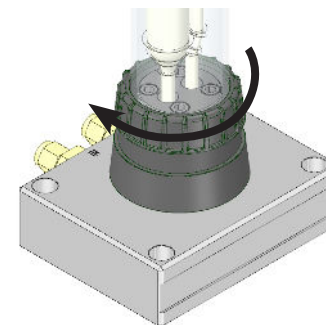
2.5 Position the Filter on the Baseplate



2.6 Install the Filter onto the Baseplate

While pushing the filter down on the baseplate, hand tighten the universal screw ring until the filter is firmly connected to the baseplate.

- During installation of a new cartridge, torsion on the plastic outer protection tube should be avoided at all times; put your hand on top of the filter housing during installation and keep the cartridge 90 degrees upright.
- Once the filter is positioned on the baseplate, the PTFE seals inside the filter foot will be punctured, and it is necessary to keep the filter in position by hand to prevent air entering the system.
- After installing the filter cartridge to the baseplate, highly pure gas will automatically stream from the filter into the analytical system.



2.7 After Filter Installation

Watch out for cracks in the inside glass tube after installation.

Flush the cartridge/whole system for 15 min with pure carrier gas; advised pressure: 90 psi.

Readjust the system pressure to the required pressure needed for your analytical application.