

Gas management

Carrier gas of GC or gas chromatography mass spectrometry (GC-MS) should contain less than 1 ppm of oxygen, moisture, or other trace contaminants, to prevent column degradation, increase column lifetime, and decrease stationary phase bleed.

Detector gases also should be free of water, contaminant, or hydrocarbons to avoid baseline fluctuations and ghost peaks. Gas filters can remove moisture, oxygen and hydrocarbons from gas sources, thereby improving sensitivity and accuracy and reducing instrument maintenance.

Gas filter selection guide

Technique	Used for	Filter	Number of connector (Click-On inline filter) or baseplate (Super Clean filter)	Benefit
GCMS	Carrier	1× triple-moisture/oxygen/hydrocarbons (Helium preconditioned for fast replacement when using helium as carrier gas)	1	<ul style="list-style-type: none"> • Increase lifetime of column and liner • Higher sensitivity and data accuracy • Less maintenance
GC-FID	Carrier	1× triple-moisture/oxygen/hydrocarbons	3 (Option A) 4 (Option B)	
	Detector	Option A: 2× hydrocarbon or 2× combi-hydrocarbon/moisture Option B: 3× hydrocarbon or 3× combi-hydrocarbon/moisture		
GC-ECD	Carrier	1× triple or 1 x combi moisture/oxygen	2	
	Detector	1× combi moisture/oxygen		
GC-TCD	Carrier	1× triple for both carrier gas and detector	1	
	Detector			
GC-NPD	Carrier	1× triple or 1× combi moisture/oxygen	3	
	Detector	2× hydrocarbon or 2× combi-hydrocarbon/moisture		
GC-FPD (PFPD)	Carrier	1× triple or 1× combi moisture/oxygen	3	
	Detector	2× hydrocarbon or 2× combi-hydrocarbon/moisture		

Filters	For gas	Indicator change	Filter capacity		
			Click-On inline	Click-On inline Big Trap	Super Clean
Moisture	Inert carrier, He, H ₂ , N ₂ , AR, Air	–	21 g H ₂ O	–	7.2 g H ₂ O
Oxygen	Inert carrier, He, H ₂ , N ₂ , AR	–	450 mL O ₂	–	150 mL O ₂
Hydrocarbon	Inert carrier, He, H ₂ , N ₂ , AR, Air	–	36 g (as n-butane)	–	12 g (as n-butane)
Combi – moisture, oxygen	Inert carrier, He, H ₂ , N ₂ , AR	–	10 g H ₂ O, 225 mL O ₂	–	–
Combi – moisture, hydrocarbons	Inert carrier, He, H ₂ , N ₂ , AR, Air	–	10 g H ₂ O, 18 g HCs (as n-butane)	–	3.5 g H ₂ O, 6 g HCs (as n-butane)
Triple – moisture, oxygen, hydrocarbons	Inert carrier, He, H ₂ , N ₂ , AR	–	6 g H ₂ O, 150 mL O ₂ , 12 g HCs (as n-butane)	35 g H ₂ O, 1000 mL O ₂ , 60 g HCs (as n-butane)	1.8 g H ₂ O, 75 mL O ₂ , 4 g HCs (as n-butane)
Triple – moisture, oxygen, hydrocarbons – He preconditioned for GC/MS	He	–	6 g H ₂ O, 150 mL O ₂ , 12 g HCs (as n-butane)	–	1.8 g H ₂ O, 75 mL O ₂ , 4 g HCs (as n-butane)
Indicating triple – moisture, oxygen, hydrocarbons – He preconditioned for GC/MS	He	Moisture: yellow to clear Oxygen: green to gray	0.1 g H ₂ O, 100 mL O ₂ , 0.07 g HCs (as n-butane)	–	–

Thermo Scientific™ Click-On™ Inline Gas Filters

Easy-to-use format eliminates contamination

- Pure gas output 99.9999% or 6.0 grade
- No carrier gas line contamination during filter change
- Easy and fast replacement without the need for tools
- TUEV approved
- Maximum pressure 11 bar (160 psi)
- Maximum flow 25 L/min



Click-On inline gas filters continued



Click-On inline gas filters

Type	Quantity	Cat. no.
Moisture filter	1 each	60180-801
Oxygen filter	1 each	60180-802
Hydrocarbon filter	1 each	60180-803
Combi – moisture, oxygen	1 each	60180-804
Combi – moisture, hydrocarbons	1 each	60180-843
Triple – moisture, oxygen, hydrocarbons	1 each	60180-805
Triple – moisture, oxygen, hydrocarbons – He preconditioned for GC/MS	1 each	60180-806
Indicating triple – moisture, oxygen, hydrocarbons – He preconditioned for GC/MS	1 each	60180-808
Big triple – moisture, oxygen, hydrocarbons	1 each	60180-895
Big triple – moisture, oxygen, hydrocarbons – N ₂ preconditioned	1 each	60180-895N
Big triple kit – moisture, oxygen, hydrocarbons (including steel end fitting, 0.25 in.)	1 each	60180-895-S4

Thermo Scientific™ Click-On™ Inline Gas Filter Connectors



Click-On inline gas filter connectors

Description	Quantity	Cat. no.
Brass end fitting, 0.125 in.	2 pack	60180-809
Steel end fitting, 0.125 in.	2 pack	60180-810
Brass end fitting, 0.25 in.	2 pack	60180-811
Steel end fitting, 0.25 in.	2 pack	60180-812
Double ended connector to connect filter to indicator	1 each	60180-813
Replacement O-rings	1 each	60180-833
Wall mounting clamp	4 pack	60180-834

Thermo Scientific™ Super Clean™ Gas Cartridge Filters

Replace easily without tools

- 99.9999% pure gas (or 6.0 grade) output
- No carrier gas line contamination during cartridge change
- Cost effective
- TUEV approved
- Max. pressure 15 bar (217 psi)
- Max. flow 7 L/min



Super Clean gas cartridge filters

Type	Description	Base included	Quantity	Cat. no.
Indicating cartridge filter	Moisture	No	1 each	60180-819
	Oxygen	No	1 each	60180-820
	Hydrocarbons	No	1 each	60180-821
Indicating combi filter	Moisture, hydrocarbons	No	1 each	60180-826
Indicating triple filter	Moisture, oxygen, hydrocarbons	No	1 each	60180-824
		Yes	1 each	60180-830
	Moisture, oxygen, hydrocarbons, He preconditioned for GC-MS	No	1 each	60180-825
		Yes	1 each	60180-829
3 cartridge filter pack	1 x triple filter and 2 x combi filter (moisture, hydrocarbons)	No	1 each	60180-822
		Yes	1 each	60180-828
4 cartridge filter pack	1 x moisture filter, 1 x O ₂ filter, 2 x hydrocarbon filter	Yes	1 each	60180-827

Thermo Scientific™ Super Clean™ Gas Cartridge Filter Baseplates

One-time installation procedure

- Can be configured to the individual user requirements
- Needle valves ensure gas line is not contaminated during cartridge change
- Filters are not included



Specifications

Type	For use with	Technique
Single base	1x triple filter for carrier	GC-MS, GC-TCD
Dual base	1x triple filter for carrier, 1x combi filter for detector	GC-ECD
Triple base	1x triple and 2x combi filter	GC-FPD, GC-FID, GC-NPD
Four-position base	1x triple, 3x hydrocarbon	GC-FID

Super Clean gas cartridge filter baseplates

Type	Quantity	Cat. no.
Single base	1 each	60180-814
Dual base	1 each	60180-815
Triple base	1 each	60180-817
Four-position base	1 each	60180-818
O-rings for base plates	20 pack	60180-837
Flush cap	2 pack	60180-838
Universal ring nut for SuperClean filter	1 each	60180-845
Connector Set - 1/8" brass, 3 sets of two connectors (in- and outlet) for base plate	3 pack	60180-852
Connector Set - 1/4" brass, 3 sets of two connectors (in- and outlet) for base plate	3 pack	60180-851
Connector Set - 1/4" SS, 3 sets of two connectors (in- and outlet) for base plate	3 pack	60180-853
Connector Set - 1/8" SS, 3 sets of two connectors (in- and outlet) for base plate	3 pack	60180-854