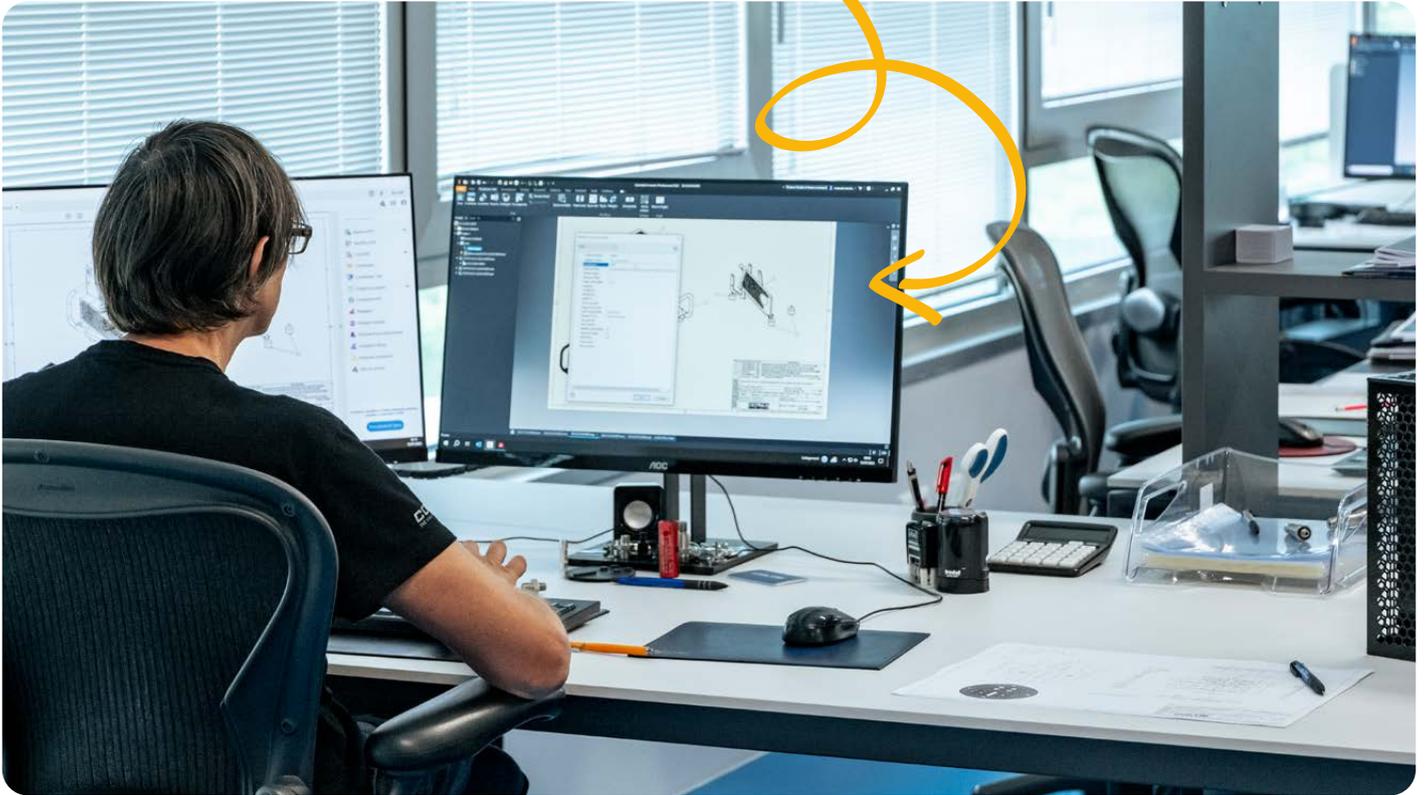


PURIFICATION SYSTEM CATALOGUE



Purification systems for breathing air.

Where do our ideas come from?



Quality comes as standard.

Coltri Compressors:
where experience and passion
merge to create excellence.

A profoundly Italian company, Coltri began building high-pressure scuba diving compressors in 1963.

The company soon expanded into other fields, including firefighting compressors and industrial gas compressors. Today we are once again looking in a new direction.

Ongoing advances in design and manufacture are at the very core of our identity: more than fifty years of continuous development have enabled us to engineer equipment that now sets the benchmark for the industry worldwide.

Our commitment to research and development has enabled us to shift from consuming the latest technology to becoming key players ourselves in advancing technology in the industry. We use all the latest tools, such as robots and digitally controlled machining centers, to manufacture increasingly reliable, efficient and durable products.

Every component in our pump units was designed and engineered in Coltri's workshops and is the result of careful research and extensive testing. We assemble all our compressors in their entirety within our company according to rigorous quality standards. Exceptionally high-precision machinery, such as ZEISS® tools, play a key role in dimensional metrology. This enables us to determine the geometric characteristics of our components and accurately gauge how they will

perform when used in more complex units.

Our focus and constant growth, steered by standards of excellence, have earned us internationally recognized certifications of quality that reflect our dedication and commitment.

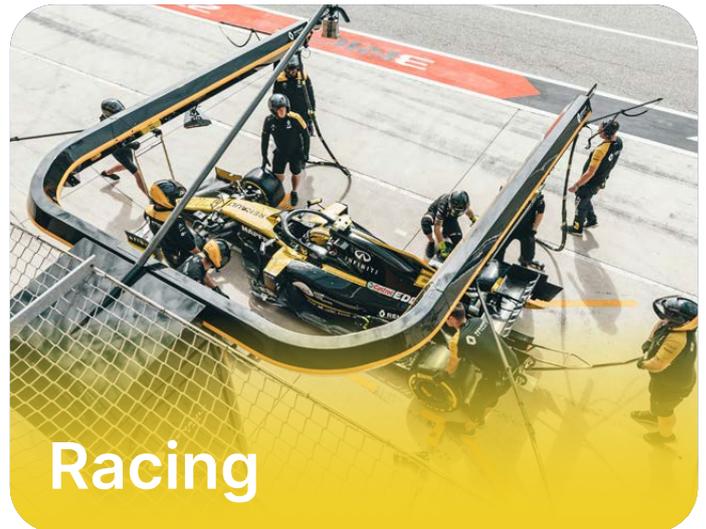
We like to think of ourselves as facilitators. We build our machines to make it simpler to take on challenges, overcome limits and imagine new possibilities. Whether it's for a hobby, an industrial application or an emergency response service, Coltri Compressors is there to raise the bar higher, to help you reach uncharted territory.



Discover our construction quality.

Scan the QR code to watch the video.

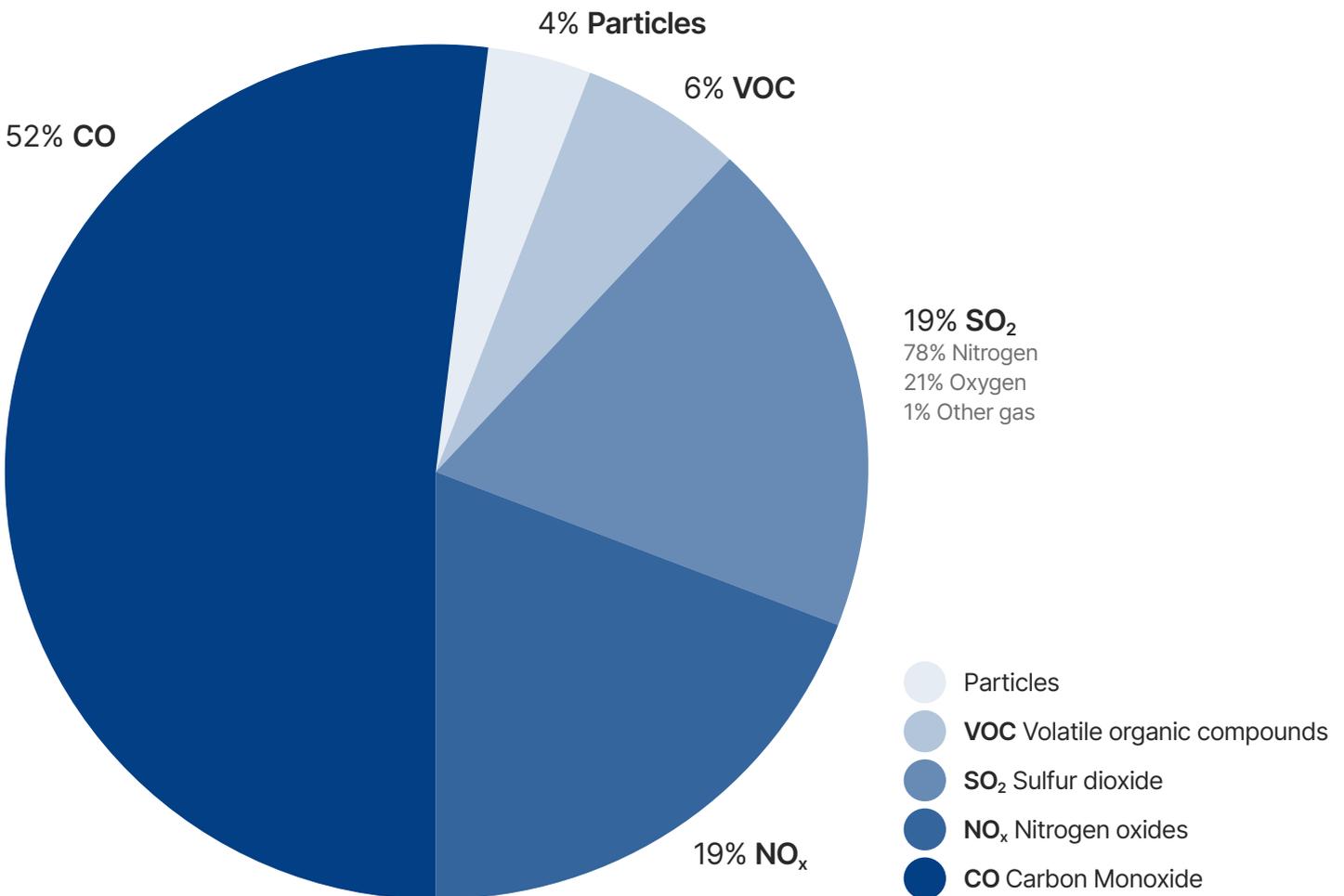
Application



International Standard for Breathing Air

Composed	BS EN 12021:2014	OSHA Grade D
	European Standards	American Standards
Oxygen	21 +/- 1%	19,5 - 23,5%
Carbon Dioxide	< 500 ppm	< 1000 ppm
Carbon Monoxide	< 5 ppm	< 10 ppm
Sulfur dioxide	-	-
Oil	< 0,5 mg/m ³	< 5 mg/m ³
Water / Humidity	< 25 mg/m ³	< 67 mg/m ³

Distribution of pollution in the air



Purification system

MAXIFILTER

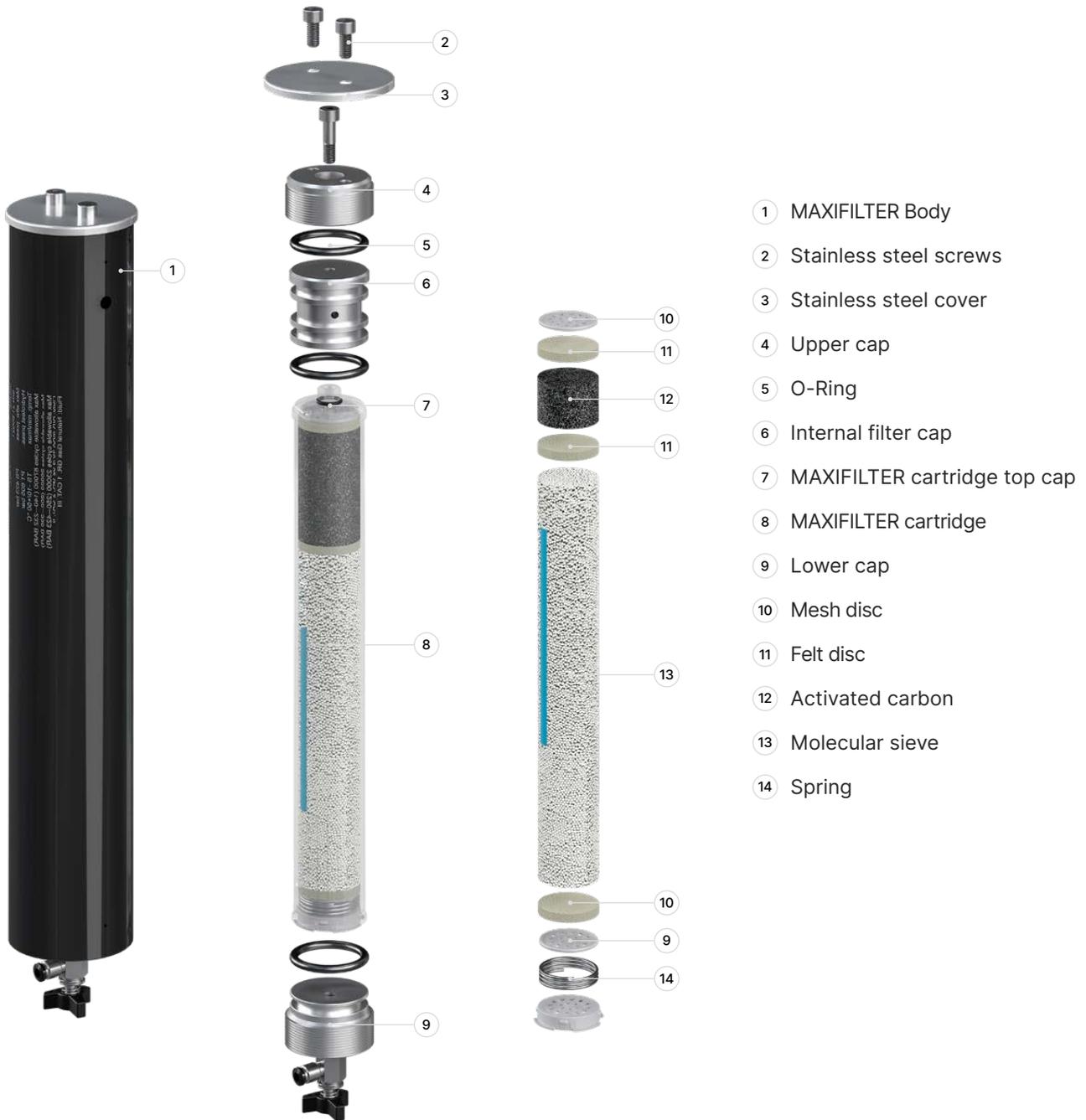


Purification system	Maxifilter
Operating pressure (Standard)	250 bar / 330 bar / 360 bar
Operating pressure max. (PS)	420 bar
Processable air capacity (air inlet temperature in the filter 20° C at 300 bar) ¹	890 m ³

¹ When using a filter cartridge without HOPCALITE CO CATALYST.

When using a cartridge with CO-removal, the processable air capacity is reduced by ca. 20%.

MAXIFILTER filter and cartridge composition



Contamination	Maximum content as per DIN EN 12021:2014	Air quality*
H ₂ O	25 mg/m ³	≤ 10 mg/m ³
CO	5 ppm(v)	≤ 4
CO ₂	500 ppm(v)	≤ 500
Oil	0,5 mg/m ³	≤ 0,5 mg/m ³

* Measured at our facility using ASCO HORA 160 ANALYZER.

1 Only with special filter cartridge with HOPCALITE CO CATALYST. and up to a maximum concentration of 25 ppm CO in intake air. The compressed clean breathing air then contains a maximum of 5 ppm CO.

2 The level of CO₂ in the intake air must not exceed the maximum level of CO₂ as per EN 12021:2014

3 Reported values exceed ISO 8573-1 standards.

MAXIFILTER Breathing air purification flow

The air from the condensate separators, dehumidify through the process of condensation/cooling and direct to the filter purifier.



Purification steps



The condensate separator directs air to the purification system.



Air is purified by passing through the components of the MAXIFILTER cartridge.



Purified air exits the MAXIFILTER purification system to be directed to the connector of the charging hoses.

Filter and HYPERFILTER cartridge composition



- 1 HYPERFILTER body
- 2 Upper cap
- 3 O-Ring
- 4 Cartridge spring
- 5 HYPERFILTER cartridge
- 6 Fitting
- 7 Lower cap
- 8 Stainless hook
- 9 Upper cap
- 10 Felt disc
- 11 Mesh disc

Contamination	Maximum content as per DIN EN 12021:2014	Air quality*
H ₂ O	25 mg/m ³	≤ 10 mg/m ³
CO	5 ppm(v)	≤ 4
CO ₂	500 ppm(v)	≤ 500
Oil	0,5 mg/m ³	≤ 0,5 mg/m ³

* Measured at our facility using ASCO HORA 160 ANALYZER.

1 Only with special filter cartridge with HOPCALITE CO CATALYST. and up to a maximum concentration of 25 ppm CO in intake air. The compressed clean breathing air then contains a maximum of 5 ppm CO.

2 The level of CO₂ in the intake air must not exceed the maximum level of CO₂ as per EN 12021:2014

3 Reported values exceed ISO 8573-1 standards.

HYPERFILTER breathable air purification flow

The air coming from the condensate separators, dehumidify through the process of condensation/cooling and direct to the filter purifier.



Purification steps



The condensate separator directs air to the purification system.



The condensate separator directs air to the purification system.



Purified air exits the HYPERFILTER purification system to be directed to the connector of the charging hoses.

Purification system

MEGAFILTER



Purification system	Megafilter x 2
Operating pressure (Standard)	250 bar / 330 bar / 360 bar
Operating pressure max. (PS)	420 bar
Processable air capacity (air inlet temperature in the filter 20° C at 300 bar)	8.780 m ³

Filter and MEGAFILTER cartridge composition



- ① MEGAFILTER body
 - ② Upper cap
 - ③ O-Ring
 - ④ MEGAFILTER cartridge
 - ⑤ Mesh disc
 - ⑥ Cartridge spring
 - ⑦ Lower cap
 - ⑧ Fitting
 - ⑨ Felt disc
 - ⑩ Presec*
- * Optional

Contamination	Maximum content as per DIN EN 12021:2014	Air quality*
H ₂ O	25 mg/m ³	≤ 10 mg/m ³
CO ₂	500 ppm(v)	≤ 500
Oil	0,5 mg/m ³	≤ 0,5 mg/m ³

* Measured at our facility using ASCO HORA 160 ANALYZER.

1 The level of CO₂ in the intake air must not exceed the maximum level of CO₂ as per EN 12021:2014

2 Reported values exceed ISO 8573-1 standards.

MEGAFILTER breathable air purification flow



Filter life in working hours

Ambient Temperature

Compressor	50° C	40° C	30° C	20° C	10° C	5° C
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MAXIFILTER

Available as standard on: Mini Silent, Smart, Mark III Silent, Ergo, Ergo Petro, Ergo Diesel, Super Silent

	Working hours					
GP 125 (MCH 8)	14	24	40	70	78	98
GP 210 (MCH 11)	11	19	31	55	66	77
GP 235 (MCH 13)	10	17	28	50	60	70
GP 270 (MCH 16)	8	14	23	40	48	56

HYPERFILTER

Available as standard on: Ergo TPS, Mark III Silent TPS, Super Silent TPS

	Working hours					
GP 235 (MCH 13 TPS)	30	53	87	152	184	213
GP 315 (MCH 16 TPS)	23	40	66	113	137	159
GP 345 (MCH 21 TPS)	21	36	60	106	126	145
GP 380 (MCH 23 TPS)	19	33	53	96	114	131
GP 450 (MCH 22)	17	29	47	83	100	116
GP 550 (MCH 30)	13	23	38	67	80	94
GP 650 (MCH 36)	11	19	31	55	66	77
GP 750 (MCH 45)	9	17	27	47	58	67

MEGAFILTER

Available as an optional only on the compressor: Mark III Silent TPS

	Working hours					
GP 235 (MCH 13 TPS)	45	79	130	228	276	319
GP 315 (MCH 16 TPS)	34	60	99	169	205	238
GP 345 (MCH 21 TPS)	31	54	90	159	189	217
GP 380 (MCH 23 TPS)	28	49	79	144	171	196

With TORNADO refrigerator (as optional) - Dryer and 2 HYPERFILTER

Available as optional on compressors: Super Silent TPS, Open HD, Silent HD

	Working hours					
GP 235 (MCH 13 TPS)	90	159	261	456	552	639
GP 315 (MCH 16 TPS)	69	120	198	339	411	477
GP 345 (MCH 21 TPS)	63	108	180	318	378	435
GP 380 (MCH 23 TPS)	57	99	159	288	342	393
GP 450 (MCH 22)	51	87	141	279	300	348
GP 550 (MCH 30)	39	69	114	201	240	282
GP 650 (MCH 36)	33	57	93	165	198	231
GP 750 (MCH 45)	27	51	81	141	174	201

Cost analysis¹ of managing the filter system with double Hyperfilter on Prime and Heavy Duty line compressors*

* Economic benefit with the use of the TORNADO refrigerator installed on 315 TPS or HD 650.

¹ Refers to the average cost of the components (molecular sieve and activated carbon) indicated in the 2024 accessories price list (EUR EXPORT).

HYPERFILTER PP cartridges with molecular sieve

HYPERFILTER PP cartridges with molecular sieve and activated carbon



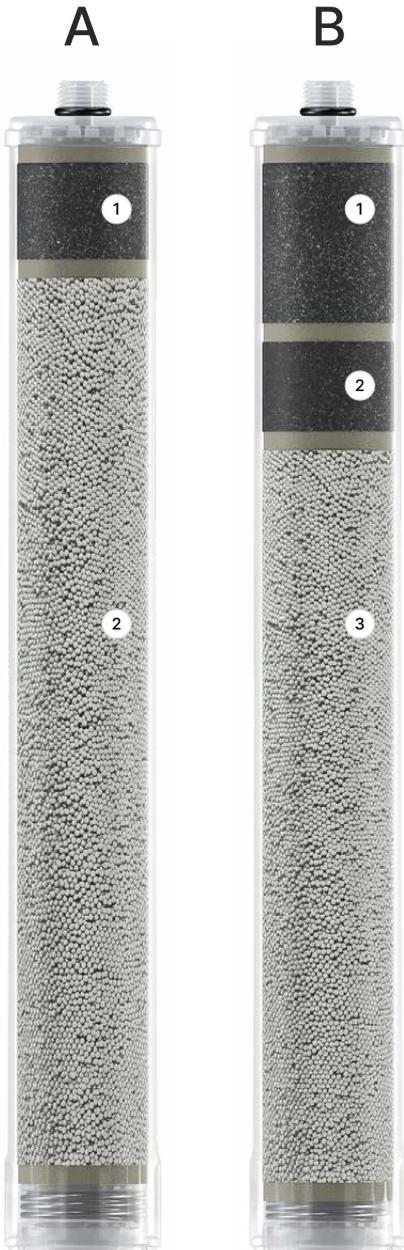
	Molecular sieve	Activated carbon
Grams	1.600 g	130 g
Liters	2,593 l	0,356 l
Cost	21,00 €/l	14,00 €/l
Filter set cost	128,00 €	

		315 TPS		650 HD	
Ambient at 35°C		Utilization: 160 hours/year	Utilization: 384 hours/year	Utilization: 375 hours/year	Utilization: 750 hours/year
Complete cartridge change	Negotiable volume	607 m ³	607 m ³	607 m ³	607 m ³
	Number of filter sets to use/replace	5	12	25	50
	Filter set duration (hours)	32	32	15	15
	Filter set annual costs (€/year)	640,00 €	1.536,00 €	3.200,00 €	6.400,00 €
Refurbished cartridge	Molecular sieve used (Liters)	13,0 l	31,1 l	64,8 l	129,6 l
	Molecular sieve annual cost (€/year)	273,00 €	653,10 €	1.360,80 €	2.721,60 €
	Activated carbon used (Liters)	1,8 l	4,3 l	8,9 l	17,8 l
	Annual cost of activated carbon (€/year)	25,20 €	60,20 €	124,60 €	249,20 €

With TORNADO refrigerator - Dryer

		315 TPS		650 HD	
Ambient at 35°C		Utilization: 160 hours/year	Utilization: 384 hours/year	Utilization: 375 hours/year	Utilization: 750 hours/year
Complete cartridge change	Negotiable volume	8.185 m ³	8.185 m ³	8.185 m ³	8.185 m ³
	Number of filter sets to use/replace	0	1	2	4
	Filter set duration (hours)	433	433	209	209
	Filter set annual costs (€/year)	47,30 €	128,00 €	256,00 €	512,00 €
Refurbished cartridge	Molecular sieve used (Liters)	1 l	2,6 l	5,2 l	10,4 l
	Molecular sieve annual cost (€/year)	21,00 €	54,60 €	109,20 €	218,40 €
	Activated carbon used (Liters)	0,1 l	0,4 l	0,7 l	1,4 l
	Annual cost of activated carbon (€/year)	1,40 €	5,60 €	9,80 €	19,60 €

MAXIFILTER cartridge



- A**
- ① Activated carbon
 - ② Molecular sieve
- (Standard equipment)**

- B**
- ① Activated carbon
 - ② CO-catalyst
 - ③ Molecular sieve
- (Suggested for applications with diesel/gasoline engines)**



Activated carbon

Activated carbon is a material containing mainly **amorphous carbon**. Due to its high specific area, activated carbon is able to hold many molecules of other substances within it, being able to accommodate these molecules on its large internal surface area.



Molecular sieve

Molecular sieves are materials that can separate molecules based on size. This capability is based on the presence in the material of tiny pores of exact and uniform size, ranging in diameter from **3 to 10 Å** depending on the material.



CO-catalyst

The trade name for a series of mixtures consisting primarily of copper and manganese oxides, used as catalysts for the conversion of carbon monoxide to carbon dioxide when exposed to oxygen in air at room temperature.

HYPERFILTER cartridge



A ① Activated carbon
② Molecular sieve
(Standard equipment)

B ① Molecular sieve
(Standard equipment)

C ① Activated carbon
② CO-catalyst
③ Molecular sieve
(Suggested for applications with diesel/gasoline engines)



Activated carbon

Activated carbon is a material containing mainly **amorphous carbon**. Due to its high specific area, activated carbon is able to hold many molecules of other substances within it, being able to accommodate these molecules on its large internal surface area.



Molecular sieve

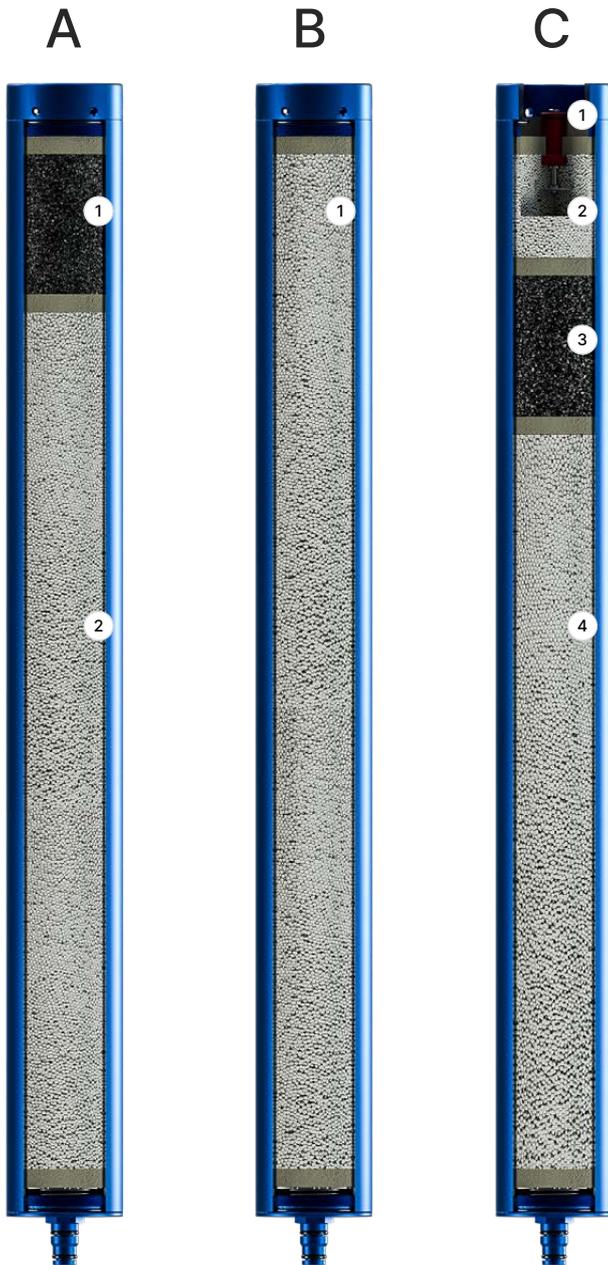
Molecular sieves are materials that can separate molecules based on size. This capability is based on the presence in the material of tiny pores of exact and uniform size, ranging in diameter from **3 to 10 Å** depending on the material.



CO-catalyst

The trade name for a series of mixtures consisting primarily of copper and manganese oxides, used as catalysts for the conversion of carbon monoxide to carbon dioxide when exposed to oxygen in air at room temperature.

MEGAFILTER cartridge



A ① Activated carbon
 ② Molecular sieve
(Standard equipment)

B ① Molecular sieve
(Standard equipment)

C ① Presec
 ② Molecular sieve
 ③ Activated carbon
 ④ Molecular sieve
(Optional)



Activated carbon

Activated carbon is a material containing mainly **amorphous carbon**. Due to its high specific area, activated carbon is able to hold many molecules of other substances within it, being able to accommodate these molecules on its large internal surface area.



Molecular sieve

Molecular sieves are materials that can separate molecules based on size. This capability is based on the presence in the material of tiny pores of exact and uniform size, ranging in diameter from **3 to 10 Å** depending on the material.

Optional

TORNADO refrigerator - Dryer

UP TO 3 TIMES LONGER FILTER SERVICE LIFE

Cooler, dryer for high pressure compressed air.

- Higher air quality
- Less corrosion of mechanical parts
- Refilling of cylinders with constant percentage of humidity

The TORNADO refrigerator is an accessory for our recharge stations dedicated to professional use that operates between the separators and the filtering system. **Available in 350 or 420 bar versions.**



How Tornado works

The incoming warm, moist air passes into the evaporator of this machine, inside which it cools. This allows the moisture to condense. Condensation is then easily removed from the separator, ensuring an overall improvement in the operation of the charging station over time and the longevity of its filters.

C-Monitor

Final filter monitoring system, oil change and technical interface.

The interface consists of an LCD display, a button (1) and two indicators (2, 3). The decimal points next to the digits are indicator lights to indicate alarms or warnings in progress. Each dot is associated with an explanatory icon (4, 5, 6). The icon (6) indicates an alarm condition while the symbol (7) indicates normal operation. Press the button (1) to scroll through the different functions of the menu. When pressed, the function is displayed and after two seconds the corresponding data is displayed.



- | | | |
|------------------------|------------------------|-----------------------|
| ① Display | ③ Service reporting | ⑤ Operation indicator |
| ② Cartridge saturation | ④ Battery charge level | |

Multi-Gas Analysis System (SAM)

If you choose the SAM Multigas Analysis System, you cannot also install the Presec system.

The Coltri Multi-Gas Analysis System is a measuring instrument capable of monitoring air quality. Its application includes continuous monitoring of environmental gases, hyperbaric chambers, safety, medical, air quality.

Available sensors:

- Oxygen O₂
- Carbon dioxide CO₂
- Carbon Monoxide CO
- Humidity H₂O
- Gas Temperature
- VOC (Volatile Organic Compound)
- Helium in Air



Presec. Filter control system

If you choose the Presec system, you cannot also install the the SAM Multigas Analysis System.

The Presec system is connected through a probe with the first filter cartridge and detects its saturation status transmitting to the indicator the relevant switching signals according to the status. If the filter cartridge is exhausted, the compressor is switched off and cannot be started until the cartridge is replaced.

The presec system displays 4 levels of cartridge saturation through 3 relays connected to 3 leds:

Stable green light (a):

The system is operational; OK cartridge

Yellow light button (b):

Pre-alarm; cartridge is running low and must be replaced soon.

Red light button (c):

Alarm; remove cartridge, replace immediately.

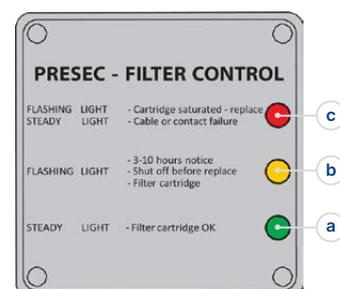
Red light button (c):

Alarm; filter cartridge is missing or filter system is interrupted; compressor shuts down and cannot be turned back on without inserting a new cartridge or discovering the source of the alarm.

While the yellow light is pulsing (b), the steady green light (a) will still be on because the filter cartridge will not be fully saturated. If no LED lights up, it means that the PRESEC lacks power or that the electrical system is faulty.

Filter saturation values

Light	Humidity (mg/m ³)
Green	15 - 20
Yellow	20 - 25
Red	> 25



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