YOUR SOLUTION

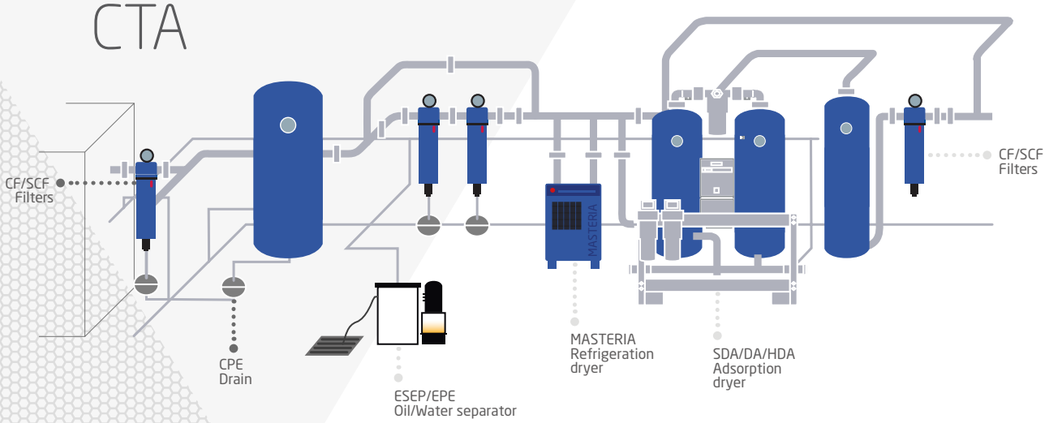
Low pressure compressed air filter

CF / SCF

60-3,000 m³/h

COMPRESSED AIR

About
CTA



Air treatment specialist for 35 years, the French manufacturer CTA draws on its experience to develop and design products appropriate for industrial applications in the compressed air field.
Always on the lookout for optimal performance, CTA possesses a number of patents ensuring a leading position in terms of innovation and its permanent quest for performance. Emboldened by this knowledge, and in partnership with the largest suppliers of components with proven cost mastery, CTA provides you with a range of the most efficient products on the market.

Our research unit and commercial team know how to support you across the world in your standard projects and on a custom-made basis. By dint of suggestions and at your behest, they determine the solution most suited to your needs by enabling you to react with expertise on a global scale to address challenges.
Engaged in a process of continuous enhancement since 2002 and upholding three strong values in the form of ecology, efficiency and economy, CTA offers thermal energy recovery systems at the cutting edge of technology. Indeed because client satisfaction is at the heart of the CTA mission, it is our greatest pleasure to define and design YOUR SOLUTION.

Our line of direct expansion refrigerated air dryers EXPANSIA for the purposes outlined below is a perfect addition to our entire range of compressed air solutions:

- **Refrigeration dryers** (Masteria range)
- **Adsorption dryers** (SDA, DA and HDA range)
- **Compressed air treatment unit** (UTAC range)
- **Filtration** (CF and SCF range)
- **Drains**
- **Oil/Water separators** (EPE and ESEP range)
- **After coolers** (RA and RW range)

FOOD INDUSTRY · PHARMACEUTICAL · LASER · PAPER INDUSTRY

CHEMICAL INDUSTRY · AUTOMOTIVE · WINE INDUSTRY · SAWMILL

Operating principle

Our CF filter range uses the available line pressure to effectively filter compressed air and remove dirt, water, and oil. The filter body and head form a sealed, pressurized chamber through which the compressed air flows. Between the two ports (filter inlet and outlet), the filter element acts as a barrier to impurities and removes different types of contaminants depending on the selected filtration grade and type (dust, solid particles, rust particles, microorganisms, condensed liquid water, water aerosols, acidic condensates, liquid oils, etc.).

During operation, the impurities upstream of the filtration line are captured and retained by the filter element within the CF filter, which contributes to an increase in pressure drop across the unit. This pressure drop serves as an indicator of the filter's clogging state and therefore its service life.

To this end, the differential pressure gauge mounted on the upper part of the filter continuously measures the pressure difference between the filter inlet and outlet, providing an accurate indication of the wear condition of the filter element inside the CF filter. Initially, the pressure drop is low and remains within the green zone, but it gradually increases until it reaches the red zone, which acts as a warning signal that the filter element must be replaced.

All dust and other contaminants entering your compressed air stream have harmful and costly effects on downstream equipment and final products. For this reason, appropriate and regularly renewed filtration is essential.

During filtration, water vapor contained in the compressed air partially condenses into a liquid mist, which, by gravity, settles at the bottom of the CF filter. These droplets flow along the outside of the filter element and accumulate at the bottom of the housing, forming condensate that must be discharged. The drain valve located at the bottom of the housing prevents excessive accumulation of liquid condensate. As the condensate level rises within the housing, the float inside the drain rises until it reaches the purge point, at which the liquid condensate is automatically discharged thanks to the pressure difference between the inside of the housing and the ambient air.

» Open filter

Ensure the best for your process

Untreated compressed air is often contaminated with dust, water, and oil. That's why filtration plays a critical role in ensuring the quality of your air network.
For decades, CTA has been developing advanced filtration solutions that protect your pneumatic tools, processes, and production lines. Our complete range of filters (CF, SCF, H-CF, CFB, and CCA) is designed to meet every application need while guaranteeing air purity in compliance with ISO 8573-1:2010.

The CF filter range is available in 11 models, covering compressed air flow rates from 60 m³/h up to 3,000 m³/h. Built with high-density filter bodies, the CF range offers exceptional resistance and long-lasting performance, even under demanding conditions such as pressure surges.

Thanks to their aluminum and bronze construction combined with a durable epoxy coating, CF filters deliver unmatched strength and durability, making them one of the most reliable solutions on the market.
Each CF filter model is available with five distinct filtration grades, tailored to the level of purity required in your compressed air network.

For easy maintenance, filters feature color-coded bases and engraved markings on the elements, ensuring quick and reliable identification over time. The inner and outer cylinders are built from stainless steel, delivering maximum robustness and durability.

P Grade (Dust) – Captures particles down to 25 µm with a pleated, felt-coated media. The pleated design maximizes surface area, improving dust retention, extending filter life, and keeping pressure drop to a minimum.

M, S, and X Grades (Micronic, Submicronic, Absolute Submicronic) – Advanced 4-layer filtration system: pleated polypropylene outer and inner layers combined with two central borosilicate microfiber layers. This technology achieves the highest filtration efficiency, ensuring air purity classes 1 and 2 as defined by ISO standards.

A Grade (Activated Carbon) – In addition to the above, this grade includes a macro-structured activated carbon layer. With a larger surface area than conventional carbon media, it provides superior adsorption capacity and long-lasting, stable performance.

With this range of solutions, you can select the perfect balance of purity, efficiency, and durability for your specific application.

FILTER GRADE	P	M	S	X	A
PARTICLE CLASS (ISO 8573-1)	Max. 2	1	1	1	-
RESIDUAL OIL CLASS (ISO 8573-1)	Max. 3	1	1	1	-
PARTICLE FILTRATION (µm)	25	1	0,01	0,01	0,01
OIL FILTRATION AT 20°C (mg/m³)	0,6	0,01	0,001	0,003	-
MAX. TEMPERATURE (°C)	85	85	85	85	85
MAX. OPERATING PRESSURE (bar(g) / psig)	16 / 232	16 / 232	16 / 232	16 / 232	16 / 232

FLEXIBILITY AT THE CORE

At CTA, flexibility is our priority. We adapt to customer needs by offering customization options on various components of the CF filter range, making it easier to highlight the installer's or integrator's identity. In addition, the CF filter range is available in two distinct colors: RAL 5012 and RAL 7042.

A solution for every application

Depending on the point of use and the specific application, different levels of compressed air purity are required. The table below outlines the air purity classes defined by ISO 8573-1:2010, along with the CTA filter and dryer combinations designed to meet each class.

	SOLID PARTICLES				WATER		OIL
	Solid particles (per m³)				Vapor	Liquid	Oil total
Quality class	0,1 - 0,5 micron	0,5 - 1 micron	1 - 5 micron	mg/m³	prsp	g/m³	mg/m³
0	Qualité meilleure que classe 1 selon les spécifications de l'installation						
1	≤ 20 000	≤ 400	≤ 10	-	≤ -70°C	-	≤ 0,01
2	≤ 400 000	≤ 6 000	≤ 100	-	≤ -40°C	-	≤ 0,1
3	-	≤ 90 000	≤ 1 000	-	≤ -20°C	-	≤ 1
4	-	-	≤ 10 000	-	≤ 3°C	-	≤ 5
5	-	-	≤ 100 000	-	≤ 7°C	-	-
6	-	-	-	≤ 5	≤ 10°C	-	-
7	-	-	-	5 - 10	-	≤ 0,5	-
8	-	-	-	-	-	0,5 - 5	-
9	-	-	-	-	-	5 - 10	-

ISO CLASS	SOLID PARTICLES	WATER	OIL
0	comme défini par CTA et le client		
1	SCF + CF^{M} + CF^{S}	SDA^{TM} | DA^{TM}	CF^{M} + CF^{X}
2	SCF + CF^{M}	SDA^{AA} | DA^{AA} | UTAC	CF^{M} + CF^{X}
3	SCF + CF^{M}	SDA^{AA} | DA^{AA} | UTAC	CF^{M}
4	SCF + CF^{M}	MPE-N | DXA | NG DX	CF^{M}
5	SCF + CF^{M}	MPE-N | DXA | NG DX	-
6	SCF + CF^{P}	MPE-N | DXA | NG DX	-
7	SCF + CF^{P}	CF^{M}	-
8	SCF + CF^{P}	CF^{M}	-
9	SCF + CF^{P}	CF^{M}	-

PERFORMANCE THAT SAVES ENERGY

Beyond offering the highest performance on the market and full compliance with international standards, CF filters also deliver significant cost savings thanks to their low initial pressure drop and the extended service life of their filter elements.

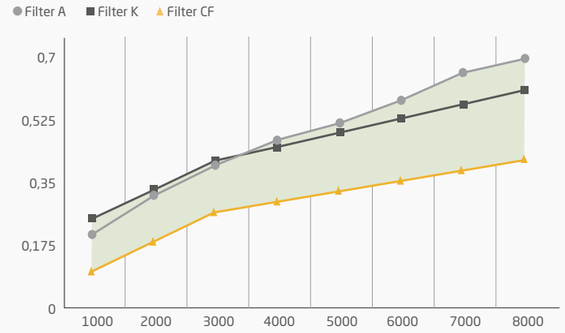
Producing compressed air remains highly energy-intensive despite technological advances by compressor manufacturers. As a specialist in air treatment, CTA is committed to preserving this valuable resource by minimizing waste and optimizing efficiency. In this respect, the pressure drop across the filter element is just as critical as the filtration performance itself.

Every 1 bar of pressure drop requires approximately 7% more compressor power. **Reducing pressure loss therefore has a direct impact on system efficiency and energy consumption.**

For example, based on a 90 kW compressor running continuously (8,760 hours per year, 24/7), and with an energy cost of €0.25/kWh, the low pressure drop of just 105 mbar achieved by the CF115 S submicronic filter — compared with the majority of competing filters — translates into annual energy savings of over €200.

With CF filters, you get top-level performance, optimized energy efficiency, and lower operating costs – year after year.

PRESSURE DROP OVER TIME



	1000	2000	3000	4000	5000	6000	7000	8000
Filter A	0,21	0,32	0,4	0,47	0,52	0,58	0,66	0,7
Filter K	0,25	0,33	0,41	0,45	0,49	0,53	0,57	0,61
Filter CF	0,105	0,19	0,27	0,3	0,33	0,36	0,39	0,42

Product features

TECHNICAL FEATURES

HIGH FILTRATION QUALITY

Pleated media elements deliver outstanding air quality and extended lifetime, with a larger surface for superior filtration.

HEAVY-DUTY CONSTRUCTION

Built from a durable aluminum–bronze alloy, our filter housings ensure maximum strength and long-term resistance. A baked epoxy finish in RAL 5012 or RAL 7042 provides extra protection and a premium look.

OPTIMIZED DESIGN

An optimized housing design ensures smooth airflow, while advanced filter element structure delivers maximum filtration efficiency with minimal pressure drop.

OPTIMIZED TOP COVER

The optimized top cover directs airflow smoothly to the outlet, minimizing pressure drop and reducing energy consumption.

SIMPLIFIED CONDENSATE DRAINAGE

Each filter features a visual condensate indicator and both automatic and manual drains, ensuring quick and easy condensate removal.

BUILT-IN DIFFERENTIAL PRESSURE GAUGE

Every CF filter comes standard with a differential pressure gauge, giving you real-time visibility of the pressure drop across the filter and element.

ADVANTAGES

ROBUST CONSTRUCTION

High-quality industrial cast housings deliver maximum strength and withstand pressure surges and flow peaks with ease.

LONG LASTING PERFORMANCE

Easily recognized by their distinctive colored collar, our filter elements are reinforced with inner and outer perforated steel supports. Their bakelite end caps offer outstanding resistance to chemicals, heat, and mechanical stress — ensuring a longer lifetime for both the filter and its elements.

COST EFFICIENT OPERATION

Thanks to their low pressure drop, CF filter elements keep operating costs low over their entire lifetime. This means significant energy savings and one of the fastest returns on investment, even compared to less efficient and more costly filters on the market.

ECONOMICAL MAINTENANCE, SUSTAINABLE IMPACT

CF filter elements are made with recyclable materials, providing cost stability while ensuring a responsible, eco-friendly footprint.

QUICK & EASY MAINTENANCE

Maintenance is quick and simple: filter elements can be replaced by hand, without tools. The built-in differential pressure gauge shows exactly when replacement is needed, ensuring optimal performance.

Technical specifications

MODEL	FITTINGS	AIRFLOW		FILTER DIMENSIONS (mm)						WEIGHT	ELEMENT REFERENCES	FILTER ELEMENT DIMENSIONS (mm)	
		m³/h	m³/min	A	B	C	D	E	F	kg		Height	Ø
CF 006	1/2"	60	1,0	89	80	238	-	80	80	1	CY 08051	80	51
CF 008	1/2"	78	1,3	89	80	272	-	114	80	1,2	CY 11451	114	51
CF 012	3/4"	120	2,0	89	80	272	-	114	80	1,2	CY 11451	114	51
CF 020	1"	198	3,3	120	110	378	-	155	110	3	CY 17475	171	75
CF 034	1 1/2"	336	5,6	120	110	378	-	155	110	3,2	CY 17475	171	75
CF 051	1 1/2"	510	8,5	120	110	378	-	255	110	3,5	CY 27475	274	75
CF 072	1 1/2"	720	12,0	162	130	678	125	333	130	6,3	CY 34694	335	90
CF 115	2"	1140	19,0	162	130	989	125	662	130	9	CY 67594	664	90
CF 155	2 1/2"	1548	25,8	200	130	802	125	383	130	9	CY 41125	400	125
CF 225	3"	2232	37,2	200	175	1059	125	660	175	16	CY 69125	690	125
CF 300	4"	3000	50,0	200	175	1059	125	660	175	18	CY 69125	690	125

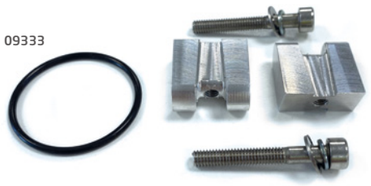
The technical data specified below refers to the following operating conditions: inlet air temperature +20 °C (68 °F), compressed air pressure 7 bar(g) (102 psi), in accordance with ISO 8573-1 quality class. The maximum operating pressure is 16 bar(g).

Operating pressure (barg)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Correction factor (K1)	0,38	0,53	0,65	0,76	0,85	0,93	1	1,07	1,13	1,19	1,23	1,31	1,36	1,41	1,46	1,51

Correction factors, as shown, shall be use as an indication.
For a more accurate selection, in relation with your installation, please contact our commercial team.

ARTICLE CODE	ACCESSORY	COMPATIBILITY
09333	Connection kit (gasket + 2 spacers and screws)	CF 006-012
09360	Connection kit (gasket + 2 spacers and screws)	CF 020-072
00004	Wall mounting bracket	CF 006-012
00005	Wall mounting bracket	CF 020-072
05697	Adapter for drain installation (DPE, SCE, EDC)	CF 006-051

09333



00004

09360

00005

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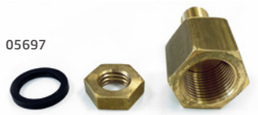

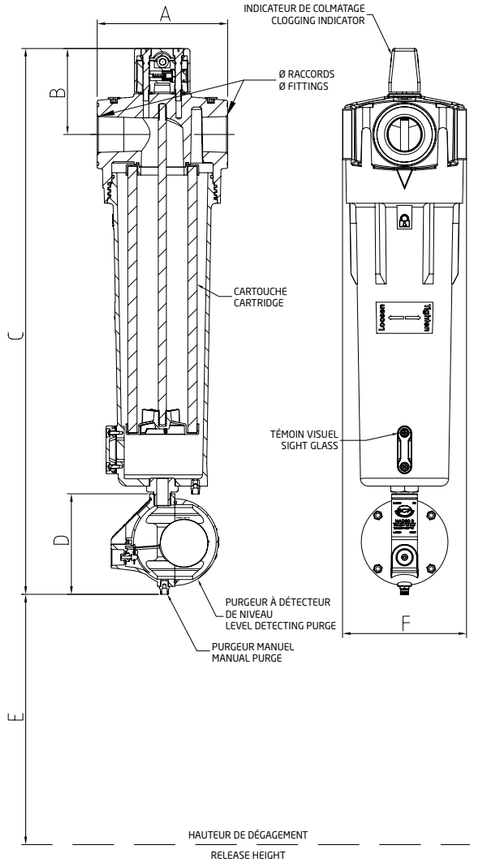

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