

AyraCarb™



Air pollution control and odor treatment
Activated carbon filtration
Municipal and industrial facilities



John Cockerill Air & Gas



AyraCarb™: activated carbon adsorption, high-performance & proven solution for air and odor treatment

Sustainability and respect for the environment

Activated carbon adsorption has proven to be an adaptable and efficient process, offering a cost-effective and environmentally-friendly approach. Particularly effective in adsorbing sulfur, nitrogen and organic pollutants, as well as volatile organic compounds (VOCs), toxic gases and undesirable odors, the **AyraCarb™** solutions developed by John Cockerill are suitable for a wide range of industrial and municipal applications.



Activated carbon adsorption: recommended for installations with low flow rates and low pollutant loads, **AyraCarb™** solutions offer reliability and high efficiency.

AyraCarb™: reliability & performance

The **AyraCarb™** solutions developed by John Cockerill, based on the activated carbon adsorption process, rely on the ability of this media to selectively attract and retain certain molecules on its surface, depending on their chemical and physical properties. Activated carbon “adsorbs” certain contaminants while allowing other, non-polluting components to pass through.

The effluent to be treated passes through a layer of activated carbon, impregnated or not depending on the pollutant to be treated, and is uniformly distributed by a grating with calibrated openings. The purified air is then evacuated to a remote outlet or directly into the atmosphere.

Over time, the activated carbon becomes saturated with the adsorbed pollutants and must be replaced. The saturated carbon can be either regenerated or used as fuel for incinerators.

These solutions can be used as a finishing treatment, behind a physico-chemical or biofilter, to effectively eliminate residual concentrations of pollutants.

AyraCarb™ offers many advantages



Highly effective on a very broad spectrum of sulfur, nitrogen and organic pollutants (H₂S, NH₃, RSH, RNH, DMS, DMDS, VOCs, etc.)



High efficiency even during pollution peaks



Easy-to-operate solution: low installation and maintenance costs (no chemical reagents, low monitoring and instrumentation requirements -easy replacement of used media-, no waste or water discharges to treat).



Different configurations are possible, depending on flow rates, efficiency and space requirements.



Activated carbon certified to ISO 10124 and ASTM D6646 standards



Finishing step: complementing a pre-treatment solution (downstream of a physico-chemical scrubber and/or a biological solution)



4.0 facility management through connected equipment: **AyraSmart™** Steering, an innovative continuous remote monitoring system for data collection and analysis.

A complete range for every need

AyraCarb™ NAT

9 standardized sizes for flow rates up to 6,000 m³/h.



AyraCarb™ TCA

For flow rates up to 20,000 m³/h, in single- or double-stage cylindrical (reduced footprint) or rectangular configurations.



AyraCarb™ Annul'Air

For flow rates over 20,000 m³/h with space constraints.



AyraCarb™ SteamBuster

Double-wall design to prevent condensation in cold weather and/or with moisture saturated gases.



High-quality activated carbon: efficiency & longevity

John Cockerill carefully selects its activated carbon, the quality of which is assessed in accordance with **ISO 10121 and ASTM D6646**, to guarantee optimum performance. Extruded and calibrated, impregnated or not with potassium to limit acidification of treated gases, the mineral carbon-based activated carbon granules selected by John Cockerill contain less dust, reduce pressure drop in large filters and thus guarantee optimum performance compared with other forms of activated carbon. They are also easier to recycle or regenerate.

Supplied in the form of 4 mm pellets, activated carbon is certified and packaged in 1 m³ big-bags or 25 kg bags.

John Cockerill can test adsorption effectiveness on specific mixtures of pollutant molecules in its laboratory in order to simulate and characterize a filter's performance in real-life conditions.



Comprehensive, multi-brand after-sales service

John Cockerill's After Sales Service team can provide a full range of maintenance services (maintenance, repairs, load replacements) to ensure the longevity of your equipment, whatever the brand.

Flow Control

Filter saturation measurements

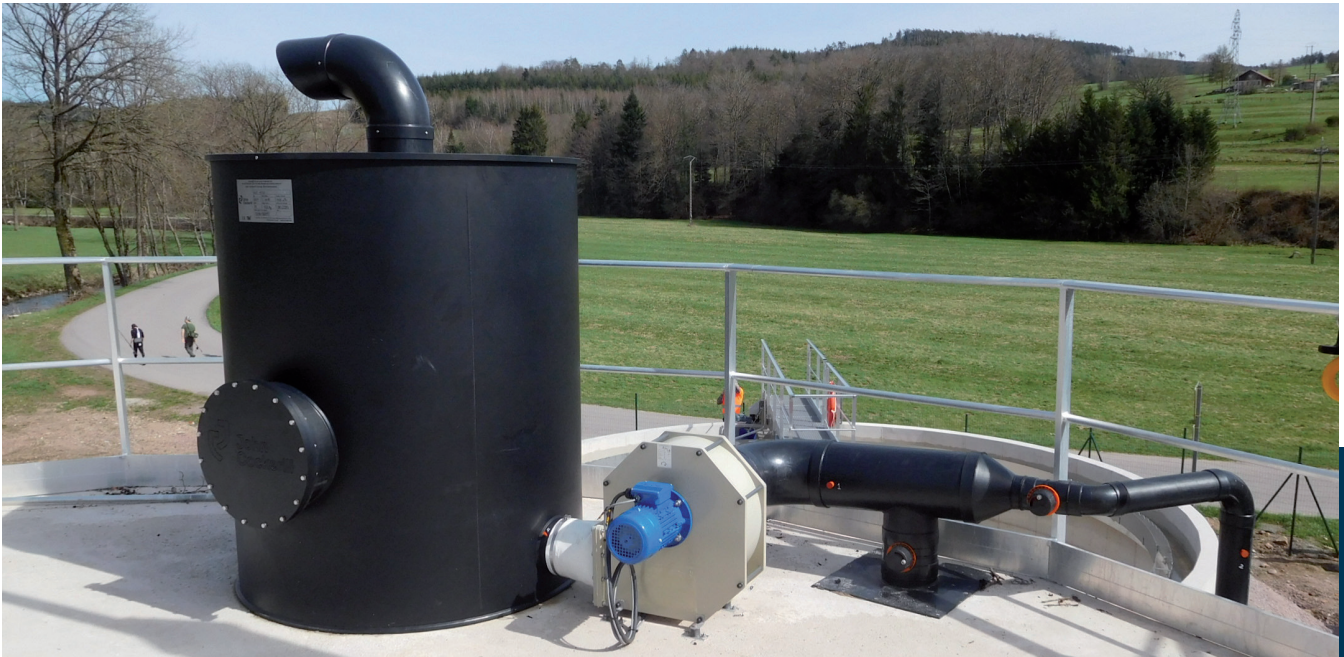
Draining

Tank cleaning

Activated carbon refills

Disposal of used activated carbon in accordance with regulations





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John Cockerill Environment solutions support the ecological transition and circular economy

Because protecting natural resources and developing green energy production is a vital concern for us and future generations, John Cockerill Environment is committed to contributing its long-established historical experience, solid technological expertise, and innovative boldness to water, air and waste treatment systems.

Its Air & Gas Business Line offers adapted and effective solutions for the treatment of corrosive, harmful and odorous gaseous effluents, as well as the recovery of valuable solvents and energy.

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