TAK's CF Range of Odour Control Units

Carbon Filters for the wastewater industry

Technology for a sustainable future

Our standard range of water regenerable carbon filters has been specially designed for the Middle East wastewater treatment market. These systems are designed and built to the highest international standards and come with guaranteed odour removal performance.

This range unites European technology and quality assurance with local manufacture to provide cost-effective solutions to meet the Middle East's demanding standards for controlling sewage network odours.

Key benefits of the TAK'sCF range:

- Filter and ductwork constructed from GRP for strength, durability and economy
- Single extraction fan fabricated in polypropylene with tropicalised and explosion-proof motor suitable for use in a Middle East climate
- Water regenerable activated carbon selected for sewage odour control delivers:
  - Operating savings - minimum 3 months bed life between each regeneration, and 6-8 cycles before replacement
  - Simple water washing procedure regenerates the carbon in 2-4 hours
- Performance monitoring ports let the operator predict when regeneration is required
- Water washing connections and drain valves as standard for easy carbon regeneration.

Odour control performance and carbon bed life

- Effective on initial H_2S odour loadings from >250ppm to <0.25ppm
- The bed life - the time until the carbon is spent and stops capturing H_2S - depends on the average H_2S loading into the filter. For example, a CF9 filter treating 600m^3/hr air at average inlet 25ppm H_2S has a bed life of 28 weeks. If the average inlet H_2S doubles to 50ppm, the bed life is reduced to 14 weeks.[A]

Technical specification:

Filter vessel GCC supplier

- GRP construction with isophthalic resin, chemically resistant vinyl ester resin inner layer and UV stabilized gel coat external finish
- 2m standard discharge stack
- Water regeneration connections, drain valves and sample points
- Designed and fabricated to BS4994 and ISO9001, hydro-tested.

Carbon media European supplier

- Water regenerable activated carbon media from EU's framework supplier.

Fan European supplier

- Polypropylene impeller and casing
- Galvanized carbon steel frame
- IP55, ExN, tropicalised motor
- Fan break-out noise <85dB(A) at 1m.

Instrumentation European supplier

- Differential pressure switch for fan, IP55, ExN if required
- Differential pressure indicator.

Control panel GCC supplier

- Rittal type steel enclosure painted to BS4800, with IP55 protection
- Starter and controls for fan
- Fascia-mounted switches and indicator lamps, and E-stop
- Wall or frame mounted.

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Installation and Hook-up details:

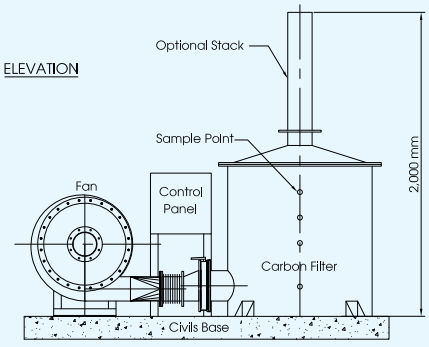
The space needed and the weight of each CF unit are shown in the table. In addition, the following utility connections are required:

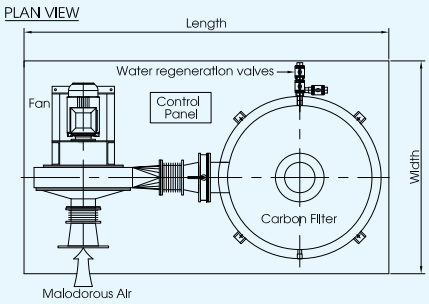
- **Power:** 400V 3 phase+N+E
- **Signal:** healthy/fault signal (VF) provided at ERG's control panel
- **Water:** min 0.2 barg (max 2.0 barg) clean water supply for water regeneration
- **Drainage:** effluent from water regeneration (NB initially effluent will be pH 2, rising to pH>6), and condensate drainage from fan and ductwork
- **Ductwork:** 0.5 to 0.7 kPa suction available at fan inlet.

Optional additional equipment:

The following upgrade features are available if required:

- Duty and standby fans with automatic change-over
- Larger filter - longer bed life
- Extraction ductwork from odour source (wet well, tank, screen room, etc) to odour control package
- Flow control dampers at take-off points
- H_2S performance monitoring equipment
- Washable pre-filter.





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Model	Air flowrate range	Package plan dimensions, length x width		Vessel weight		Mass of carbon	Fan rated motor power[B]	Water[C] per regeneration[D]	
		single duty fan	duty/standby fans	normal operation[E]	during water regeneration			volume	flowrate
	m^3/hr	m x m	m x m	kg	kg	kg	kW	m^3	litre/min
CF5	100 to 350	2.0 x 1.1	2.7 x 3.0	135	430	75	0.75	0.6	15
CF7	300 to 700	2.1 x 1.2	2.9 x 3.1	175	600	100	1.1	0.8	20
CF8	500 to 900	2.3 x 1.4	3.2 x 3.3	215	775	125	1.5	1.0	25
CF9	600 to 1,000	2.4 x 1.4	3.5 x 3.3	290	1,075	175	1.5	1.4	35
CF10	800 to 1,700	2.4 x 1.5	3.6 x 3.5	400	1,500	250	2.2	2.0	45
CF12	1,000 to 2,000	2.8 x 1.7	4.0 x 3.8	550	2,075	350	2.5	2.8	60
CF14	1,200 to 2,700	2.9 x 1.7	4.3 x 4.0	750	3,000	500	3.0	4.1	75
CF16	1,400 to 3,500	3.1 x 1.9	4.5 x 4.1	950	4,000	675	4.0	5.5	100
CF19	1,500 to 4,300	3.4 x 2.2	5.0 x 4.3	1,500	6,500	1,100	5.5	9.0	140
CF22	3,000 to 6,000	3.7 x 2.5	5.4 x 4.7	2,100	9,500	1,600	7.5	13.5	200
CF25	4,000 to 7,500	4.0 x 2.9	5.7 x 4.8	2,950	13,400	2,300	11.0	19.0	250

A. In both cases, the quoted times are to saturation - it is usual to wash the carbon before saturation occurs.

B. A smaller motor (next smallest standard size) may be suitable depending on the precise air flowrate required.

C. Clean water (not FFE) supplied at min 0.2 barg and max 2.0 barg.

D. Based on minimum volume required for regeneration. This amount could be up to 50% higher depending on water temperature and type of odour being washed from the carbon.

E. Based on fresh carbon.

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