REFERENCE

From the field: Viledon® filters operating in a large coastal power station

T 60

This 400 MW combined-cycle power station is located at a harbor on the south coast of England and supplies electricity to the national grid. The 300 million Euro facility comprises a 260 MW advanced technology gas turbine and a 140 MW steam turbine, and was commissioned in December 2000.

MX 95

The air intake system was constructed by a partner company, which has worked in cooperation with Freudenberg for 30 years.

Due to the coastal location, several key environmental aspects had to be considered: the seawater effect, airborne emmissions, visual impact and noise.

- The complete air intake housing and filter frame matrix was manufactured from stainless steel to avoid salt corrosion.
- A weather hood was fitted to handle heavy rain and a high-efficiency mist eliminator was installed to remove fine water droplets that can carry salt particles.
- The two separate filter stages were built with maximized filter wall distance to allow coalesced water droplets to fall out under gravity. Mesh flooring was used to allow drainage to occur at all filter levels.

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- Viledon® air filters were chosen because they met the stringent OEM specifications and the arduous climatic and site conditions. In the 1st stage, T 60 pocket filters (Class M 6) are used to arrest the main airborne particles and coalesce any remaining droplets not removed by the mist eliminator. In the 2nd stage, MX 95 cassette filters (Class F 8) give excellent service thanks to their high-efficiency filter media with water-resistant coating.
- Filter lifetime of 20,000 h / 33 months was achieved, which exceeded the operator's and the OEM's expectations of 17,000 h or 24 months. The pressure drop slowly increased at a comparatively low level over the total filter lifetime. It was noted that other plants with similar climatic conditions required filter changes every 12–18 months.

energy efficiency
performance

* Measured at 3,400 m³/h

Key data	
Location	UK, south coast, harbor
Gas turbine	Alstom GT26 / 1 unit
Power output	400 MW
Intake air flow rate	1,700,000 m³/h
Intake air system / filters fitted	2-stage filter system, with weather hood, mist eliminator: 1st stage: 384 Viledon® T 60 pocket filters, Class M 6 2nd stage: 384 Viledon® MX 95 cassette filters, Class F 8

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