Architen ETFE Cushion System

Air Handling Unit (AHU)

Architen Landrell ETFE Air Handling Unit with Remote 3G Monitoring

Technical Details

Architen ETFE AHU

- Constant monitoring/control
- Energy efficient design & operation
- Low Maintenance

Architen Landrell ETFE Cushion Systems are supplied with a state of the art Air Handling Unit (AHU) to maintain and monitor air pressure. Each unit is completely customisable to allow a great number of optional features to be integrated into the system.

Handling up to 2500m², an Architen AHU contains two independent fans which are constantly monitored and controlled. This ensures that the ETFE cushions maintain pressure under all conditions and there is minimal wear on the motors, reducing maintenance costs and the need for replacement parts.

The system monitors the overall pressure of the cushions utilising a series of digital pressure sensors, allowing the AHU to diagnose any issues early on. AHU fans run alternately during normal operation; only one fan running at any given time. In the event of a drop in cushion pressure, both fans will run simultaneously if required to maintain steady pressure.

Architen AHUs can be networked together to provide a comprehensive multi-point inflation system. This allows a single AHU to ‘take over’ from adjacent AHUs if a failure is detected.

With the Remote 3G Monitoring options, Architen ETFE Cushion systems can be monitored remotely via an integrated 3G modem, allowing full diagnostics & control from any web browser and alerting (e-mail/SMS) for alarm conditions.

Installation

A typical AHU has a footprint of only 1m x 0.5m and is ideally located near to the ETFE cushion system (internally or externally). ETFE cushion systems require the pressure to be continually maintained and are therefore permanently connected to the AHU.

The AHU requires a dedicated and secure 240V 6A power supply to ensure there are no interruptions in operation. At maximum inflation power, an AHU will consume a maximum of 100W, in normal operation this is less than 60W.

Key Features

- LCD panel & traffic light indicators for local status
- Dual fans for load-sharing & redundancy
- Non-return valves to reduce air loss
- Inverter-driven fans to optimise efficiency
- Stock parts for quick replacement

Optional Features

- Weather station for reactive pressure control
- Dehumidifier for high-humidity areas
- Remote 3G monitoring via web interface
- UPS battery backup for control system
- BMS interface to replicate traffic light system status
- Remote traffic light panel to replicate TLP LEDs

Data

- Power consumption: 60W (typical) / 100W (peak)
- Fan output (each): 20-1000 m³/h
- Max pressure (each): 5-1800 Pa
- Dehumidifier capacity: 120 m³/h