altair® System2

Filtration System

altair®

Offshore/Coastal Protection

Parker

Introduction

The high performance altairSystem2 filtration unit is designed specifically for offshore and coastal environments. With in excess of 15 million trouble-free operating hours on over 1000 turbine inlets, the system has become the filtration unit of choice for operators and OEMs alike.

Proven technology

In offshore and coastal areas, protection against airborne salt ingress is vital to guard against turbine damage. The Parker Hannifin trusted SRS Technology™ provides outstanding salt removal performance for both wet and dry salt particulate.

The altairSystem2 range of filter elements is designed for requirements ranging from low pressure-loss applications requiring maximum turbine output, to very high efficiency filtration for environments with high levels of small particulate and applications requiring long intervals between compressor washes. All filter elements are available with an optional pre-filter to extend the life of the main filter in high dust environments.

Range of optional enhancements

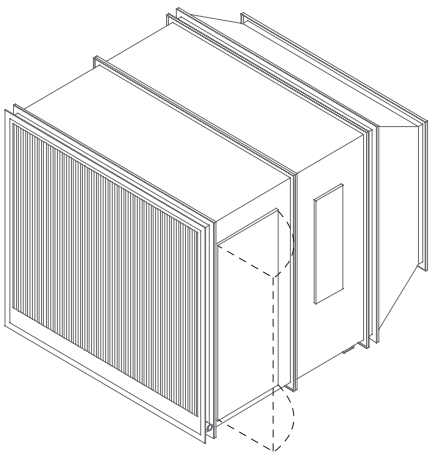
The system can be supplied in a number of corrosion-resistant materials, including stainless steel and marine-grade aluminum. Additional protection such as snow hoods, insect/trash screens, and anti-ice protection can be easily added to the system depending on specific environmental conditions.

Choice of designs

Ease of access to the filters is essential to minimize system downtime during maintenance and filter change-out. The system is available in a choice of Classic or Compact designs. Both layouts facilitate the removal of the pre-filters during turbine operation, should this be required.

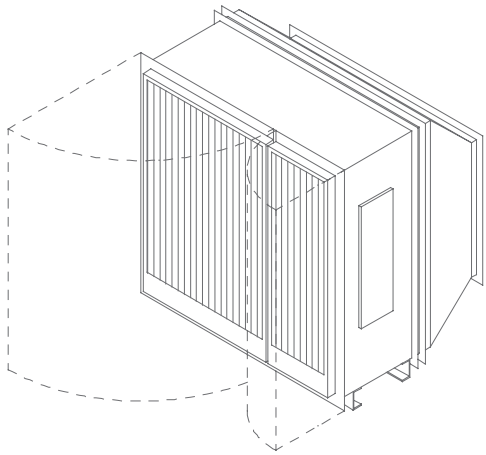
Classic

This layout has a dedicated walk-in section between the first-stage separator and the filters. A side door gives operators easy access to both pre-filters and high efficiency filters.



Compact

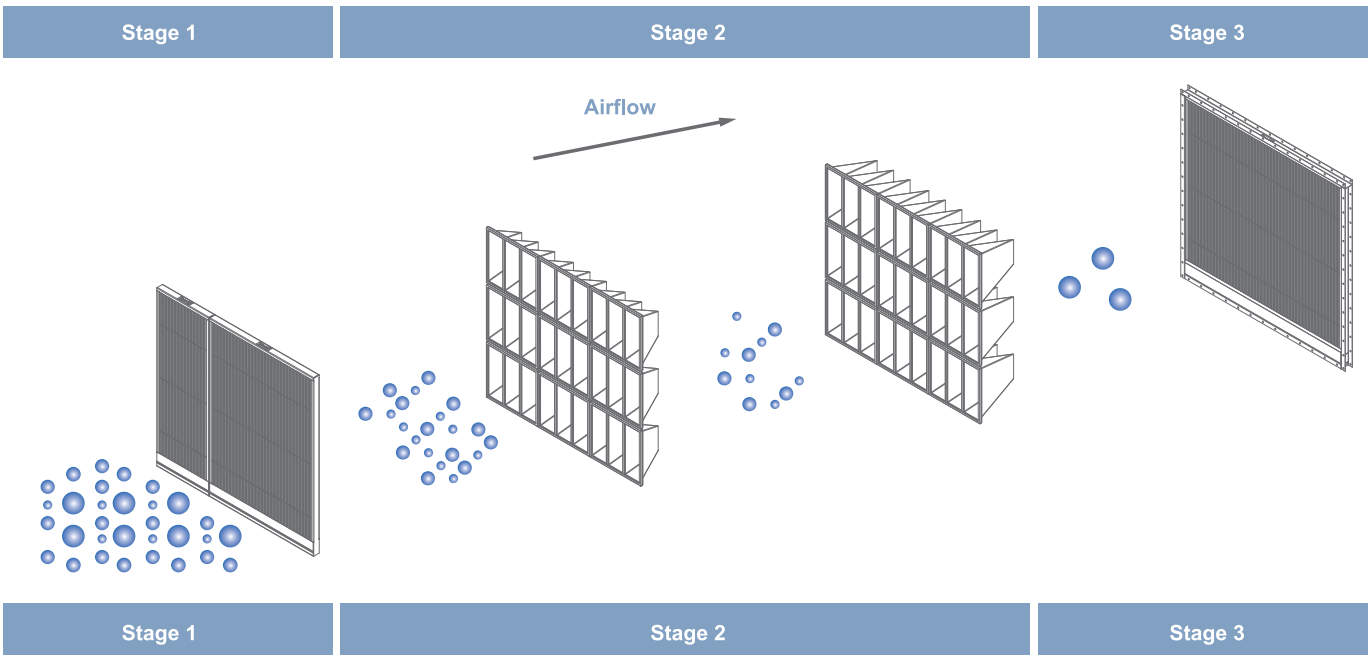
This space-saving layout allows for a slightly shorter filter house with the filter elements being accessed from the front of the unit.



Key Benefits

- High dust-removal efficiency helps increase time between compressor washes
- Outstanding salt removal efficiency minimizes turbine corrosion
- Flexible design allows for the easy addition of enhancements, e.g. snow-hoods, insect screens, anti-ice protection
- Extensive selection of filter elements to cover a wide range of applications
- Fully stainless steel housing provides for a long and low-maintenance life
- Available in ‘Classic’ or ‘Compact’ layout

SRS Technology



The ingestion of airborne salt has long been proven to be a major contributing factor in both decreased turbine performance and reduced engine lifetime. The AltairSystem2 unit utilizes the Parker Hannifin unique SRS Technology process to protect the turbine from damage. This process, which is the result of over 40 years’ experience in marine and offshore filtration, removes both solid and liquid contaminants in all weather conditions and at all levels of humidity. Salt removal performance is outstanding, with the capability to reduce the concentration of incoming marine air to less than 2 parts of salt per 100 billion parts of air.

SRS Technology is deceptively simple. Three key stages are employed:

Stage 1 is referred to as the ‘bulk water removal’ stage. The majority of the liquid (rain, sea spray, coarse aerosols) entering the inlet is removed and drained away using a vane separator.

Stage 2 is the coalescence stage. Fine aerosols that have penetrated Stage 1 are coalesced to form larger droplets that can be easily removed by the third stage. Dust and other solid particulate is also removed. As all marine and offshore pre-filters and high efficiency filters in the range are optimized for coalescence as well as dust filtration, this dual function can be carried out without compromise.

Stage 3 is typically a vane separator or similar, which removes concentrated saline solution that has passed through Stages 1 and 2. Not only is this entrained liquid captured, but it is removed from the inlet by a manometrically-sealed drainage system.

altairSystem2 Filter Elements

The altairSystem2 range of filter elements includes a cleanable pre-filter and three disposable high efficiency bag filters. The filter elements provide a range of efficiency levels to suit different applications.

Filter Type	Product Name	Performance
High efficiency filter (increasing efficiency)	HVY	Exceptional performance for very high levels of small particulate; ideal for operators needing to maximize the intervals between compressor washing shut-downs
	HVX	Enhanced level of small particulate efficiency with minimal premium in terms of pressure loss
	HVL	Low pressure loss filter helps optimize turbine output
Pre-filter	PBR	Cleanable pre-filter for high dust environments to increase dust-holding capacity and extend the life of the high efficiency filter

Performance Data

	MVS/**HVL**/MVS	MVS/**HVX**/MVS	MVS/**HVY**/MVS
System pressure loss at 1000 FPM (5 m/s) *	1.5 IN WG 38 mmH_2O	1.9 IN WG 47 mmH_2O	2.4 IN WG 61 mmH_2O
Gravimetric efficiency vs ASHRAE	98%	99%	99%
1 Micron fractional efficency	89%	97%	99%
Salt output vs NGTE 30 knot aerosol ** (efficiency)	0.0013 ppm (99.96%)	0.0011 ppm (99.97%)	0.0002 ppm (99.97%)

NOTES

* System includes front and rear stage Marine Vane Separator (MVS)

** 3.6 ppm input

All data are shown for indication purposes and are subject to change without notice.
Actual results may vary.

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