PEERLESS TecSpec

The Peerless Compact II™

High Velocity Marine Moisture Separation System

Three-Stage System Protects Marine Turbine Air Intakes for Ships and Fast Ferries

MAXIMUM PROTECTION IN HALF THE SPACE!

The Peerless Mfg. Co., a leader in advanced separation technology, is committed to protecting maritime gas turbines from salt-laden mist. Intent on advancing traditional technology in these applications, Peerless applied state-of-the-art computational fluid dynamics (CFD) modeling to develop a high velocity inertial vane profile for the X-30 National Aerospace plane. Through the innovative engineering minds at Peerless, this vane was additionally tested as a system which, because of its very high operating velocity, successfully reduced the inlet face area of a salt/moisture removal system by 50%.

The result is an inlet air system which is less weight and eliminates the need for large intake plenum configurations typical on gas turbine driven ships.

Compact II™

The patented Compact II system remains the foremost answer to smaller, compact moisture separation systems for fast ferries and ocean-going ships. Space constraints on today's military and commercial ships become more intense with each new model design.

On military craft, limiting the space and weight of gas turbine propulsion and electric power equipment for the benefit of additional munitions and electronic systems is the norm. Commercial vessel designers are concerned about maximizing cargo/passenger hauling capacities.

In coordination with some of the world's largest naval institutions, Peerless addressed the size and weight parameters of air inlet systems to design a unit which did not sacrifice performance of either the moisture removal system or the gas turbine. We achieved the following results:

- Over 50% less inlet face area,
- More than 35% lighter,
- Exceeds gas turbine manufacturers' air inlet salt/moisture requirements,
- No more than 0.01 ppm salt in outlet air, **guaranteed,**
- Greater sea water handling capacity, and
- Maximum droplet separation efficiency and turndown characteristics.

PEERLESS MFG CO
DALLAS TEXAS

The Peerless Compact II™ Exceeds Gas Turbine Specifications with Less than Half the Traditional Inlet Face Area

In comparison to a traditional separation system such as the efficient and widely used standard Peerless Compact System, the Compact II, Salt/Moisture Removal System has achieved many maritime reduced space and performance requirements.

- Figures 1 and 2 show the relative size of the Compact II between two systems handling identical air flows.
- Figure 3 shows Pressure Drop comparisons of the two systems.
- Figure 4 shows salt in air at the outlet from a Compact II system.

Figure 1

Peerless Compact II
High Velocity Moisture/Filter Separation System

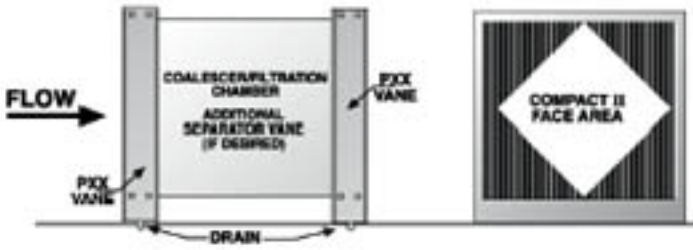


Figure 2

Standard Compact
Three-Stage System

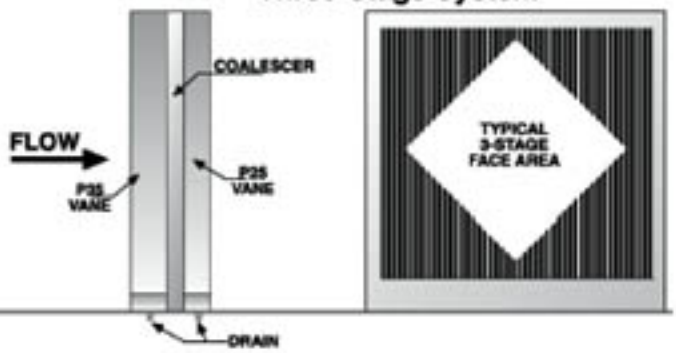


Figure 3

Peerless Three-Stage
Pressure Drop Envelope*
Standard Compact vs Compact II

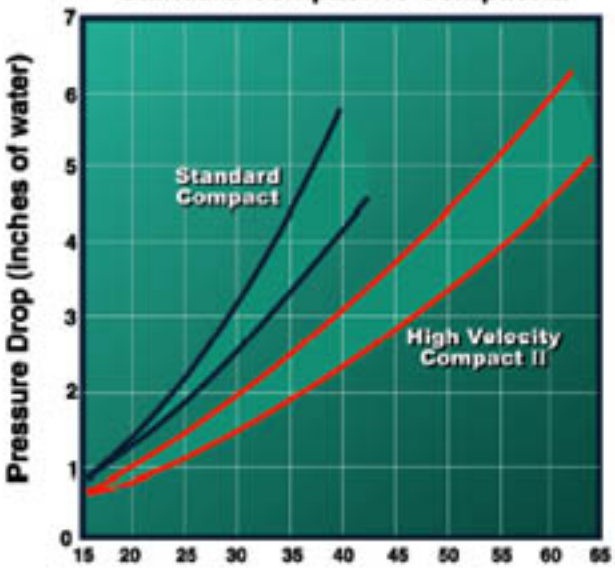
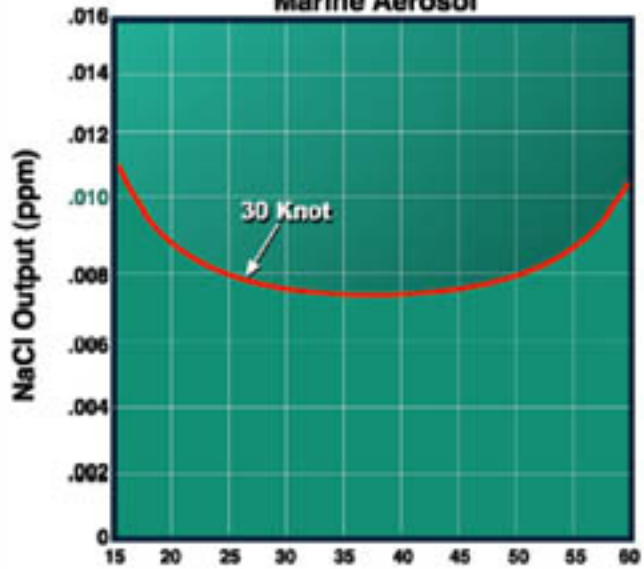


Figure 4

Peerless Compact II
Expected Salt Output Envelope*
For Input per NGTE
Marine Aerosol



* Data illustrates system characteristics for a normal operating envelope based on saturated to dry conditions. For accurate sizing, contact a Peerless Applications Engineer.

Consult a Peerless specialist for your separation, retrofit and spares requirements.

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