



ICB™ FILTERS

ION CHARGE BONDING FILTER UPGRADES

Overview

Ion Charge Bonding (ICB™) filters are specialized ion exchange products developed by EPT™ that not only remove acids, but more importantly remove the dissolved contamination responsible for servo valve sticking. The ability to remove this contamination is critical for phosphate ester based EHC fluid maintenance.

With 100s of installations operating since 1992, and over 1000 global installations to date, EPT's ICB™ filters have achieved over 50 million hours of operating performance history on some of the largest power stations and

turbine fleets in the world. ICB™ filters have a published ROI of 680%, saving one large turbine fleet an average of 1 million dollars per turbine.

EPT's ICB™ filter products are supported by a team of world class experts, who are specialists in the maintenance of phosphate ester fluids. ICB™ filters offers unmatched performance that will resolve servo valve problems and, when used as part of our phosphate ester fluid maintenance and testing program, will significantly reduce the related risk of production losses.



When Results Matter

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Key Benefits of ICB™ Filters

- Removes the dissolved breakdown products that are responsible for servo valve failures
- Dramatically increase fluid resistivity values which eliminates a common servo valve failure mode referred to as electrokinetic wear or valve erosion
- Unlike conventional products, ICB™ filters do not contribute fine particulate, or add dissolved metals that contribute to increased rates of fluid breakdown
- ICB™ filters are available in standard sized filter cartridges or as part of a complete EHC fluid treatment system (see SVR™ systems)
- Complete stainless steel construction featuring robotic, spiral welding which provides maximum filter integrity, adding a new fail-safe in the EHC fluid conditioning system

ICB™ Filters

ICB PART NUMBERS BY TURBINE TYPE	
600502	For small Alstom Steam Turbine EHC system
600503	Standard replacement for GE Steam Turbine EHC system
600504	Standard replacement for industry standard 6 in. x 18 in.
600508	Standard replacement for Westinghouse Steam Turbine EHC system
600511	Standard replacement for GE Frame 7B gas turbine
600524	Standard replacement for ABB/BBC Steam Turbine using Rotring Treatment System*

* Requires adapter component p/n 601245.
See individual product specification sheets for additional information.

Additional Resources

1. White Paper "Phosphate Ester Fluid Maintenance Challenges and Solutions in EHC Systems", EPT 2015
2. ICB™ Filter Specification Sheets p/n 600502-600524
3. Article "Thirty-Seven Years of Fleet Operating and Maintenance Experience Using Phosphate Ester Fluids for Bearing Lubrication in Gas-Turbine/ Turbo-Compressor Applications", ASTM STP1573, 2014
4. Article "Phosphate Ester-based Fluid Specific Resistance: Effects of Outside Contamination and Improvement using Novel Media", ASTM STP 1573, 2014
5. Article "Trouble-free EHC Fluid Operation, Modern Power Systems" Dec. 2011

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