

FSA

Phosphate Ester Conditioning Systems

A complete solution for trouble-free EHC operation using phosphate ester fluids. Avoid premature fluid replacement, bleed and feed, and eliminate expensive flushes. FSAPE is the new standard for maintenance of water, acid, ISO Code, resistivity, and removal of gels and deposits that cause servo valve failure.

Ideal for steam turbine EHC fire resistant fluid maintenance.



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Resolve servo valve issues.

FSA skids featuring ICB™ technology will maintain ideal fluid chemistry and cleanliness. Systems will reduce elevated Acid Number and water, increase resistivity and eliminate the cause of fluid gelling and servo valve sticking.

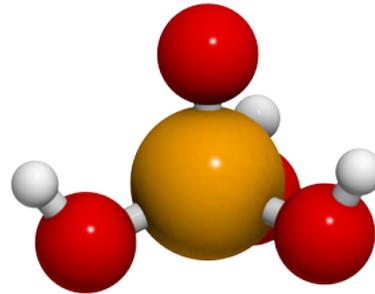


Clean, dry, healthy oil.

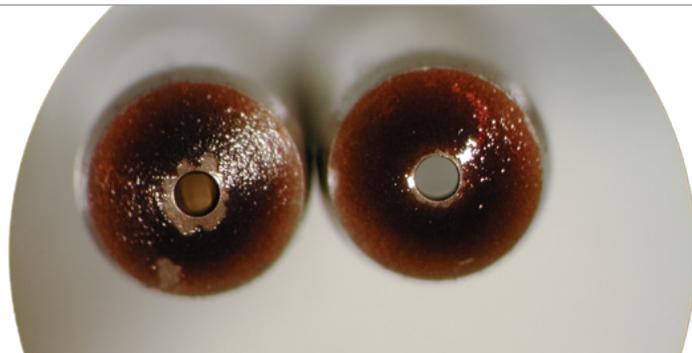
Water and phosphate ester together form strong acid which leads to premature fluid replacement. Integrated TMR™-N₂ Headspace Dehydrators continuously introduce nitrogen through the headspace to simultaneously remove water, O₂, CO, H and other high temperature breakdown gases. Maintaining low water levels and eliminating reservoir contact with O₂ will proactively manage the rate of fluid breakdown and minimize acid production.

Minimize acid. Maximize efficiency.

High acid number (AN) in phosphate ester means premature fluid replacement if left unmanaged. Since acid production is autocatalytic, the acid in your system will generate more acid until your fluid becomes unusable. ICB technology can reduce AN to as low as 0.03 with 4-8x the capacity of other acid removal filters.



H_3PO_4
Phosphoric Acid

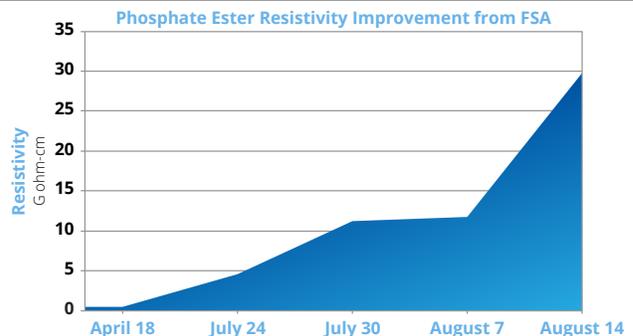


Remove what others left behind.

Dissolved metal ions in phosphate ester form gels and deposits that accumulate on servo valve nozzles & flappers, resulting in slow servo valve response time, unit trips, and reduced fluid resistivity. ICB removes all dissolved metal, reverses gel and deposit formation, prevents unit trip and restores servo valve response time.

Extend your oil life, don't flush it.

Low resistivity in phosphate ester leads to electro-kinetic corrosion between dissimilar metal surfaces and is one of the condemning factors of phosphate ester. In addition to removing acids and dissolved metals, ICB has been shown to significantly increase fluid resistivity to prevent premature fluid replacement, expensive bleed-and-feed routines and unnecessary chemical flushes.



Comprehensive EHC protection.

In addition to FSA we offer these important companion products that eliminate common weak points in EHC fluid maintenance. Dynafuzz stainless steel filters to eliminate the common issues of high pressure filter fiber migration and static discharge, ECR to restore fluid color and to reduce patch weight, and VTM to upgrade existing low pressure filters.

FSA Specifications

Dimensions ¹	Height 58" (147 cm)	Length² 47.5" (121 cm)	Width² 31.5" (80 cm)	Weight 571 lbs (259 kg)
Connections	Inlet 1" FNPT with locking ball valve		Outlet 1" FNPT with locking ball valve	
Max Reservoir Size	FSA05 200 gal (750 liters)	FSA1 400 gal (1,500 liters)	FSA2 800 gal (3,000 liters)	FSA4 1,600 gal (6,050 liters)
Element Configuration	Particulate filter HP107L18-VTM710V		ICB FSA05: ICB600504-A FSA1: ICB 600504-A x 2 FSA2: ICB600524-A FSA4: ICB600524-A x 2	
Seals	Fluorocarbon + silicone			
Operating Temperature	Fluid Temperature 86°F to 176°F (30°C to 80°C)		Ambient Temperature -4°F to 104°F (-20C to 40C)	
Materials of Construction	Housings Carbon steel with industrial coating		Tray Carbon steel with industrial coating	
Electric Motor	TEFC, 56-145 frame 0.5 hp, 1450-1750 RPM			
Motor Starter	MSP (motor starter/protector) in an IP65, aluminum enclosure with short circuit and overload protection.			
Pump	Cast iron, positive displacement gear pump with internal relief. Maximum pressure on pump inlet 15 psi (1 bar). Consult factory for higher pressures.			
Pump Bypass	Full bypass at 150 psi (10 bar)			
Pneumatic Option Air Consumption	~40 cfm @ 80 psi ³			
TMR-N ₂ Air Consumption	FSA05 < 1.2 SCFM	FSA1 < 1.2 SCFM	FSA2 < 2.0 SCFM	FSA4 < 3.6 SCFM
Media Description	VTM β0.9 _(c) = 1000 particulate, insoluble oxidation by-product and water removal media.		ICB Ion charge bonding resin media for molecular removal of acids, gels and deposits, oxidation by-products and dissolved metal ions from phosphate ester and other synthetic fluids.	
Fluid Compatibility	EHC Fire resistant hydraulic fluids (phosphate ester). For polyol ester and other specified synthetics contact factory.			
Hazardous Environment Options	Select pneumatic powered unit (Power Option 00) or explosion proof NEC Article 501, Class 1, Division 1, Group C+D. Call for IEC, Atex or other requirements.			

¹Dimensions are approximations taken from base model and will vary according to options chosen.

²Spill retention pan standard size. Consult factory for custom pan sizing.

³Air consumption values are estimated maximums and will vary with regulator setting.

