

CJC® Phosphate Ester Filter, PEU

for Steam Turbine Electro Hydraulic Control Oil Systems (EHC)

Offline filtration system combining effective varnish, moisture, and particle removal to maintain the optimal condition of new-generation phosphate ester oils.

APPLICATION

The **CJC® Phosphate Ester Filter, PEU** is designed to maintain maximum cleanliness of hydraulic fire-resistant fluids (HFD) based on new generation phosphate ester oil (TXP-free) used in high-pressure **Steam Turbine Electro Hydraulic Control**.

RESULT & PERFORMANCE

Maintaining clean oil with the PEU Filter, results in optimal condition according to international standards (ASTM D8323-24) and specification defined by steam turbine and servo valve OEMs.

Following results can be obtained and maintained:

Contaminant	Oil Analysis	CJC® PEU	CJC® Filter Insert
Acidic Byproducts	MPC ≤ 20dE TAN ≤ 0.10 mg KOH/g	✓	PEX1
Phenols	RULER ≤ 8000 peak area	✓	PEX1
Water (Moisture)	Moisture ≤ 800 ppm	✓	PEX2
Solid Particles	ISO Particle Count ≤ 16/14/11	✓	PEX3
Varnish/Sludge	MPC ≤ 20dE	✓	PEX1 & PEX3
Metal Ions	ICP, Resistivity ≥ 5 GΩ·cm	✓	PEX1 & PEX3
Metal Soaps	ICP, Resistivity ≥ 5 GΩ·cm	✓	PEX1 & PEX3

The results and performance rely heavily on proper installation, continuous operation, and timely, regular maintenance to ensure optimal functioning.

BENEFITS

- Extended oil lifetime and reduced oil waste
- Optimal functioning of servo valves & actuators
- Less wear, extended component lifetime, and lower O&M costs
- Increased reliability, mitigating the risk of turbine trips and failed startups
- Avoiding forced outages and downtime



CJC® PEU Filter
Type 3x27/54

FEATURES

- Enhanced performance and efficiency
- High decontamination capacity
- Quick & easy installation
- Automatic controls with HMI screen
- Safe and user-friendly operation
- Energy-efficient IE3-motor
- Magnetic coupled pump eliminating leak risk
- Designed for 24/7 operation, +20 years
- Oil sample valve for accurate sampling
- Serviceability-focused design

FUNCTION

The oil is pumped from the bottom of the oil reservoir (drain valve/point) into the first filter stage of the PEU Filter, where the Filter Inserts PEX1 **adsorb acidic oil degradation compounds and polar contaminants** (see page 2).

Depending on the oil condition, in the second stage, the Filter Inserts PEX2 are used for **moisture adsorption** or PEX1 or PEX3 for **enhanced varnish and particle removal**.

Finally, the oil is ultra-fine filtered through the Cellulose Filter Inserts PEX3 to **remove submicron particles, including wear particles, soot, insoluble deposits, and sludge**.

The PEU Filter utilizes control instruments to ensure reliable and safe operation. A control box with an HMI screen permits easy operation and monitoring of the process and unit condition.

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		TECHNICAL DATA			
		PEU 3x27/27	PEU 3x27/54	PEU 3x27/81	PEU 3x27/108
Oil tank volume	L/gal	< 1,000 / 264	< 2,000 / 528	< 3,000 / 793	< 4,000 / 1,057
Pump flow. per hour (std.)					
- 50 Hz	L/gal	45 / 12	90 / 24	150 / 40	250 / 66
- 60 Hz	L/gal	55 / 14	110 / 29	180 / 47	300 / 79
Filter Insert, total no.		3	6	9	12
- 1. Filter Stage (PEX1)		1	2	3	4
- 2. Filter Stage (PEX1 or PEX2 or PEX3)	pcs.	1	2	3	4
- 3. Filter Stage (PEX3)		1	2	3	4
Weight, dry	kg/lb	334 / 735	358 / 788	382 / 840	418 / 920
Height	mm/in	800 / 31.5	1,050 / 41.3	1,320 / 52.0	1,585 / 62.4
Free height, service	mm/in	325 / 12.8	575 / 22.6	845 / 33.3	575 / 22.6
Length	mm/in	1,800 / 71			
Width	mm/in	600 / 24			
Pump		Magnetic coupled gear pump			
Motor		IE3 premium efficiency multi voltage			
Power supply	V	3 x 380- 415 V - 50Hz / 3 x 440- 480 V - 60Hz			
Power consumption, avg.	kW	0.18			
Load, max.	A	0.52 / 0.47			
High pressure alarm	bar/psi	5 bar / 72 psi			
Pump inlet pressure, max.	bar/psi	3 / 44			
Design pressure, filter	bar/psi	7 / 102			
Oil temperature, max.	°C/°F	80 / 176			
Ambient temperature, max.	°C/°F	45 / 113			

