EPT™
CLEAN OIL

LUBRICANT CHEMISTRY MANAGEMENT

ECR® 12000 PRODUCT BULLETIN

Forward thinking skid-based filtration system designed for phosphate ester fluid, primarily used in electro-hydraulic control (EHC) applications.

4 in 1 complete EHC fluid chemistry management solution

Inline sensors and online monitoring

The ECR® 12000 is an enhanced capability, integrated, skid-mounted filtration system equipped with four proprietary filtration technologies, and inline sensing capabilities to aid in exceeding fluid quality requirements under ASTM D8323-24 and GEK 46357_K. ECR 12000 enhances fluid color, resistivity, and removes acid and varnish, leaving your EHC fluid in a completely managed state.

The four filtration technologies include:

- ECR® Electrostatics to manage nano particulate, varnish, color, and patch weight reduction.
- Patented ICB® Ion-exchange technology to control acid, phenol, metal, remove varnish, and correct resistivity.
- High-efficiency particulate removal to extend fluid life with solid contaminant removal.
- TMR® N2 water removal to maintain moisture levels <500 ppm preventing hydrolysis and acid formation.

Inline real-time monitoring sensors:

- Temperature
- ISO Particle Count
- Water Content

ECR 12000 QUICK REFERENCE GUIDE

PHASE 3

DISSOLVED CONTAMINATION REMOVAL
Patented ICB ion-exchange filters eliminate acids and soluble varnish at the molecular level, effectively removing harmful phosphate ester varnish and acids. This enhances EHC fluid stability and significantly extends its lifetime.

PHASE 2

SUB-MICRON PARTICULATE REMOVAL
ECR Collector elements remove sub-micron particles (<4 microns) that standard filters miss, enhancing fluid life and reducing component wear. ECR Collector media captures contaminants as small as 0.01 microns through advanced electrostatic filtration processes.

PHASE 4

FINAL SOLID CONTAMINATION REMOVAL
A high-efficiency particulate filter polishes EHC fluids to ensure their maximum cleanliness.

PHASE 1

WATER CONTENT MANAGEMENT
TMR N2 introduces high-purity, dry nitrogen (≥97%) to insulate the reservoir, reducing fluid exposure to oxygen and atmospheric water, thus preventing oxidation and hydrolysis. Continuous operation keeps water content within the ideal range of 200 to 500 ppm.

ECR 12000 INCLUDES

- EPT Clean Oil Fluid Technical Center fluid analysis and reporting until results are documented
- Dedicated online training, commissioning resources and warranty registration
- Engineer approved system manufactured to ISO 9001 standards, designed to facilitate rapid approval and deployment
- Certified stainless steel pressure vessels
- Skid mounted low footprint kidney loop system that does not demand an outage or downtime for installation

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EHC FLUID CLEAN-UP AND MAINTENANCE MODE CONSUMABLE REQUIREMENTS

	CLEAN-UP MODE CONSUMABLES	CLEAN-UP MODE	MAINTENANCE MODE CONSUMABLES	MAINTENANCE MODE
ICB® FRF ION-EXCHANGE FILTER	8	Changed every two (2) weeks, for the first eight (8) weeks or until fluid is confirmed to meet ASTM D8323-24 targets.	2	Once fluid targets are achieved, filter change timelines extend to every four (3) months.
ECR® COLLECTOR	4	Changed every two (2) weeks, for the first eight (8) weeks or until fluid is confirmed to meet ASTM D8323-24 targets.	1	Once fluid targets are achieved, Collector change timelines extend to every four (3) months.
HIGH-EFFICIENCY PARTICULATE FILTERS	4	Changed every two (2) weeks, for the first eight (8) weeks or until fluid is confirmed to meet ASTM D8323-24 targets.	1	Once fluid targets are achieved, filter change timelines extend to every four (3) months.
PNEUMATIC PARTICULATE FILTERS	1	Changed every six (6) months.	1	Changed every six (6) months.
PNEUMATIC COALESCER FILTERS	1	Changed every six (6) months.	1	Changed every six (6) months.
ELECTROSTATIC VESSEL O-RING	1	Suggested spare.	1	Suggested spare.
ICB VESSEL O-RING	1	Suggested spare.	1	Suggested spare.
MECHANICAL VESSEL O-RING	1	Suggested spare.	1	Suggested spare.

ECR 12000 SPECIFICATIONS

MODEL	ECR 12000
HEIGHT	61" (155 cm)
HEIGHT (WITH CRANE)	94" (239cm)
WIDTH	60" (152 cm)
DEPTH	36" (91 cm)
WEIGHT	900 lbs (408 kg)
CONNECTIONS	1" Female NPT
MAX FLOW RATE	3 GPM (11.4 LPM)
ELEMENT QUANTITY	1 ECR® Collector element 2 ICB® Ion-exchange Filters 1 High-efficiency Particulate Filter
SEALS	Fluorocarbon
CONTROL PANEL	Weather resistant NEMA 4 enclosure
HIGH VOLTAGE CAPACITY	12,000 V (DC)
ELECTRIC MOTOR	1/2 HP, 56C Frame, 1450-1750 RPM, TEFC
PUMP	Cast Iron, PD Spur gear, Internal Relief, Lip Seal, Maximum inlet pressure 15 psi (1 bar)
MAX SUCTION LINE PRESSURE LOSS	6 psi, 12.2 inches Hg (Vacuum)
MOISTURE REMOVAL – TMR N2	≥97% high purity nitrogen, eliminating ingression of atmospheric water and lubricant contact with oxygen
TARGET WATER LEVEL	200 - 500 ppm for maximum efficiency
FLUID COMPATIBILITY	Phosphate ester-based fire-resistant fluids (EHC fluids)
ELECTRICAL OPTIONS (STANDARD OFFERING)	**60 Hz, 1750 RPM** 120 V ac, 1P 208-230 V ac, 1P 460-480 V ac, 3P **50 Hz, 1450 RPM** 110 V ac, 1P 220 V ac, 1P
ELECTRICAL OPTIONS (NON-STANDARD)	Additional voltages can be applied but will require additional assembly and costs. Please connect with your local Sales Representative for more information.

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cleanoil.com | 1-403-246-3044 | #17 3900 -106th Ave. SE Calgary, AB T2C 5B6 | Canada