

# ECR<sup>®</sup>

## EHC Fluid Conditioning

ECR<sup>®</sup> is an integrated skid-mounted kidney loop filtration system designed for phosphate ester fluid, primarily electro-hydraulic control (EHC) turbine systems, equipped with four proprietary filtration technologies to achieve fluid standards as defined in ASTM D8323-21.

The four filtration technologies include:

1. Electrostatics
2. Patented ICB<sup>®</sup> ion-exchange
3. High-efficiency particulate removal
4. TMR<sup>®</sup> N<sub>2</sub> water removal

Donaldson.  
HY-PRO<sup>™</sup>

EPT<sup>™</sup>  
CLEAN OIL

hyprofiltration.com/



### Extend your oil life.

ECR decreases air entrainment, improves fluid color, and increases resistivity, integral in the management of phosphate ester fluid quality. In conjunction with TMR<sup>®</sup> N<sub>2</sub> for water removal, comprehensive fluid chemistry management is achieved which, when maintained over time, eliminates the need for chemical flushes.

### Unique restoration solution.

Pressure induced dieseling and element spark discharge generate sub-micron insoluble carbon based particles that cannot be removed by traditional particulate filtration. The ECR combines a high voltage electrostatic field with a proprietary collector element design to remove the sub-micron particles that are the cause of dark EHC fluid and high varnish potential values (MPC). Used in conjunction with patented ICB ion-exchange filters engineered to remove acids and soluble varnish at the molecular level, dissolved contamination is addressed, removing phosphate ester varnish. Additional contaminants that come out of solution are removed when the fluid passes through the high-efficiency particulate filter. Together these three leading filtration technologies maintain the quality, life and reliability of EHC fluids.



### Comprehensive testing & support.

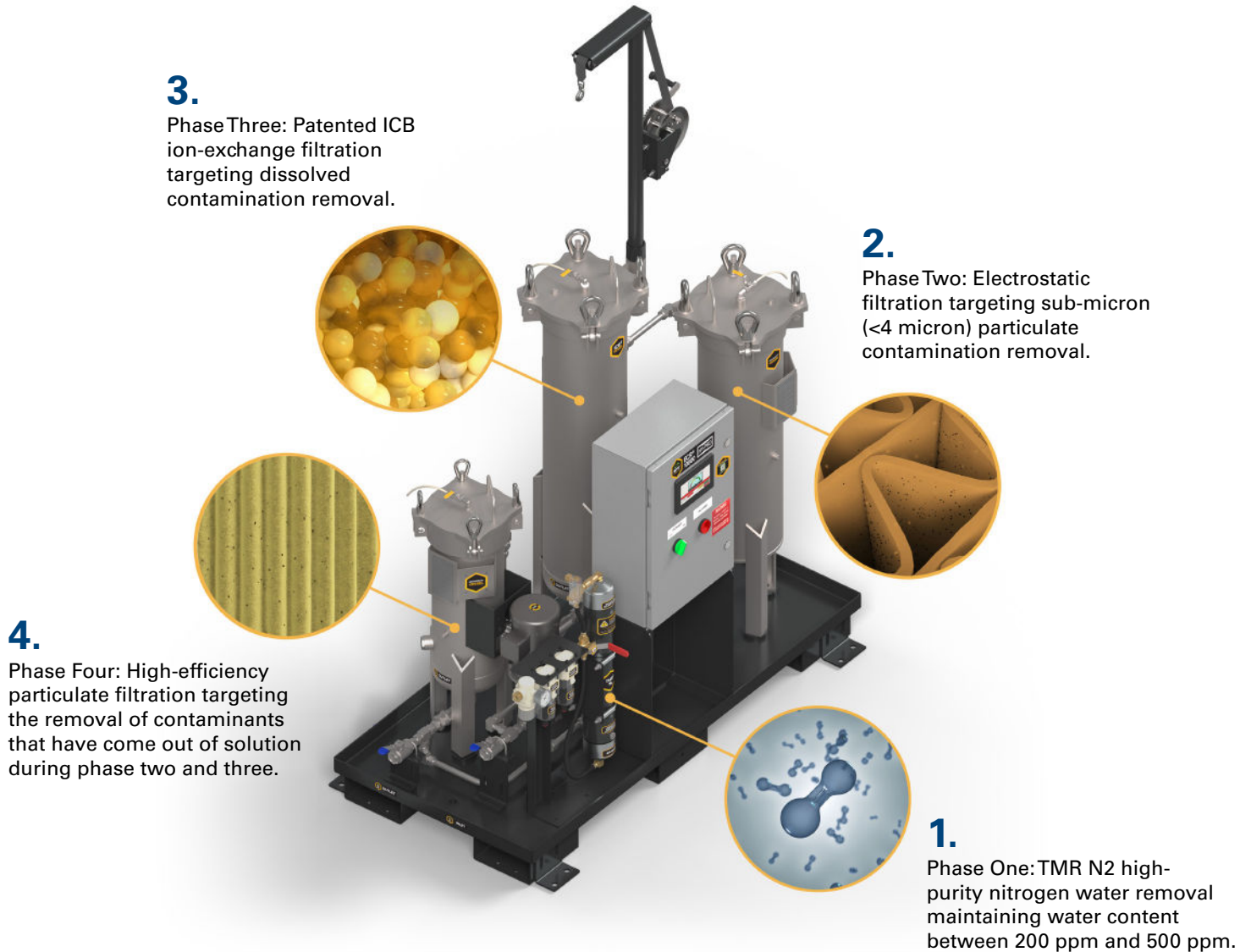
With typical analysis showing as little as 10% of the contamination present, specialized testing through the EPT Clean Oil Fluid Technical Center documents results to ASTM D8323-21 standards.

# Fluid Clean-Up & Maintenance

	Clean-Up Mode Consumables	Clean-Up Mode	Maintenance Mode Consumables	Maintenance Mode
ICB® Ion-Exchange Filter	8	Changed every two (2) weeks, for the first eight (8) weeks or until fluid is confirmed to meet ASTM D8323-21 targets.	2	Once fluid targets are achieved, filter change timelines extend to every three (3) months.
ECR® Collector	4	Changed every two (2) weeks, for the first eight (8) weeks or until fluid is confirmed to meet ASTM D8323-21 targets.	1	Once fluid targets are achieved, Collector change timelines extend to every three (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 D8323-21 targets.	1	Once fluid targets are achieved, filter change timelines extend to every three (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.

# Quick Reference Guide

ECR 10000 model shown



## ECR 10000 Includes

- Complete set of filters required for the initial clean up and maintenance mode.
- 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.

# ECR<sup>®</sup> Specifications

Model	<b>ECR10000</b>
Height	60" (152 cm)
Width	64" (163cm)
Depth	30" (62cm)
Weight	680 Lbs (308 kg)
Connections	1" Female NPT
Max Flow Rate	<b>ECR10000-H</b> 3 GPM (11 LPM) <b>ECR10000-XL</b> 5 GPM (19 LPM)
Element Quantity	1 Collector element 2 ICB <sup>®</sup> Ion-exchange Filters 1 High-efficiency Particulate Filter – HP107L18-VTM710-C-V ( $\beta_{0.9_{(c)}}$ > 4000)
Seals	Fluorocarbon
Control Panel	Weather resistant NEMA 4 enclosure
High Voltage Capacity	12,000 V
Electric Motor	1/2HP, 56C Frame 1450-1750 RPM, TEFC
Dirt Capacity	15 lbs (6.8 kg) per element
Element Lifespan	4,000 hrs (Collector), 1 month during clean up mode for the first three months and 6-12 months during maintenance mode determined by sample analysis (ICB <sup>®</sup> Filter), Differential Pressure (High Efficiency Particulate Filter)
Max Suction Line Pressure Loss	6 psi, 12.2 inches Hg (Vacuum)
Max Water Level	<500 ppm for maximum efficiency.
Fluid Compatibility	Phosphate ester based fire resistant fluids.

## ECR<sup>®</sup> Part Number Builder

**ECR10000**   -

Collector Type    ICB<sup>®</sup> Type    Power Option

Collector Type	Fluid Resistivity Value	Collector Element
	<b>OMIT</b> > 8G-OHMS/cm <b>LR</b> < 8G-OHMS/cm	COL-600990 COL-600907
ICB Type	Reservoir Volume	ICB Filter
	<b>OMIT</b> ≤ 800 US Gal / 3,028 Liter	602210A
	<b>H</b> > 800 US Gal / 3,028 Liter	602354A
	<b>XL</b> ≥ 2600 US Gal / 10,000 Liter	600524A
Power Options	60 Hz, 1750 RPM	50 Hz, 1450 RPM
	<b>12</b> 120 V ac, 1P	<b>11</b> 110 V ac, 1P
	<b>22</b> 208-230 V ac, 1P	<b>21</b> 220 V ac, 1P
	<b>46</b> 460-480 V ac, 3P	

**Want to find out more? Get in touch.**

hyprofiltration.com  
info@hyprofiltration.com  
+1 317 849 3535

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