



# Athalon™ Filters

## Athalon™ Filter Elements The Next Generation in Anti-Static, Stress Resistant Filtration

### The Ultimate in Filter Performance

Pall's Athalon™ hydraulic and lube oil filters combine Beta<sub>x(c)</sub> ≥ 2000 rated, anti-static, stress resistant filter technology and a full range of housings to provide the greatest overall filter performance and value available in industry today.

### Features

- Greatly reduced static charge build-up
- Optimum performance for the full service life of the filter for consistently cleaner fluid
- Low element pressure drop for small envelope size and long-life
- Resistance to cyclic flow and pressure conditions for cleaner fluid

### Innovative Media Design, Superior Performance

Designing filter elements has traditionally been a question of balance. Make a filter finer and more efficient and you generally sacrifice clean pressure drop and /or service life. In addition, with ever increasing flow rates per unit surface area of filter media, static charging / discharging can lead to significant operational problems. With the Athalon filter design we've improved the filter's ability to consistently maintain fluid cleanliness, reduce the clean pressure drop, increase the filter area and significantly reduce static charge generation.

The result: cleaner fluid, better, more consistent system protection combined with long filter service life.

### Filter Media Charging Measurements

Sample description	Average charge generation in turbine lube oil (current, nA)	
	No heat exposure	After 149°C (300°F) for 1 hour
Standard glass fiber material	620 ± 100	1,200 ± 200
Surface modified standard glass fiber material	250 ± 40	490 ± 70
Glass fiber-based ESD material (SRT)	80 ± 20	80 ± 20

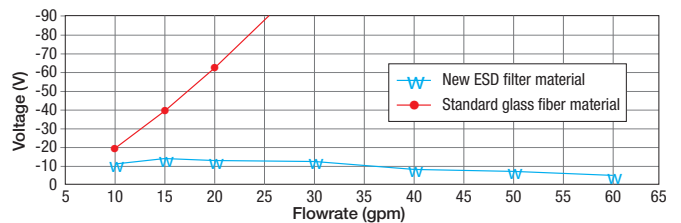


Athalon anti-static filter elements

### Field Experience with Pall's Anti-Static Media Filter

System/Problem	Result from using anti-static filter element
Turbine lube system - clicking noise	Eliminated noise and burn marks on filters and reduced charging
Turbine lube oil varnish formation	Maintained acceptable varnish potential levels

- Electrostatic charging can be a problem in hydraulic and lube systems, leading to oil breakdown varnish formation
- Standard glass and paper media can lead to excessive electrostatic charging
- Athalon anti-static filter substantially reduces electrostatic charging and noise, sparking oil and filter damage.



Pleated Element Charging Chart

## Element Collapse/Burst Rating (ISO 2941)

10 bard (150 psid)

## Flow vs. Pressure Drop (ISO 3968)

See appropriate Athalon filter housing literature.

## Fluid Compatibility (ISO 2943)

Compatible with petroleum oils, water glycols, water-oil emulsions, and high water containing fluids. Fluorocarbon seals are standard, enabling use with industrial phosphate esters, diesters, and specified synthetics.

## Flow Fatigue (ISO 3724)

Contact factory; filter element pleats are fully supported, both upstream and downstream to achieve excellent fatigue cycle life.

## Fabrication Integrity (ISO 2942)

Fabrication integrity is validated and assured during the manufacturing process by numerous evaluations and inspections including Bubble Point testing.

## Temperature Range

Fluorocarbon seals: -29 °C (-20 °F) to +120 °C (+250 °F)

Note: Maximum 60 °C (140°F) in water based fluids.

Other seal materials available on application

## Quality Control

All filter elements are manufactured by Pall to exacting procedures and strict quality controls. Filter elements are checked against rigorous ongoing validation test protocols within Pall Corporation. Pall is accredited to ISO 9001 and QS 9000.

## Filter Construction

Coreless filter elements - Polymer end caps

## Filter Element Medium

Inorganic fibers impregnated and bonded with epoxy resins.

For further information on test protocols and certification, please contact Pall sales.

## Measuring Filter Performance - the Cyclic Stabilization Test (based on SAE ARP4205):

Conditions such as varying flow, cold starts, shock and vibration can potentially reduce the effectiveness of a filter in an operating system.

The Cyclic Stabilization Test examines the effects of cyclic flow conditions and dirt loading on the capture and retention characteristics of the filter. The result is an improved filter performance reporting method that simply tells the user via ISO Codes the level of contamination control that can be maintained throughout the filter's service life.

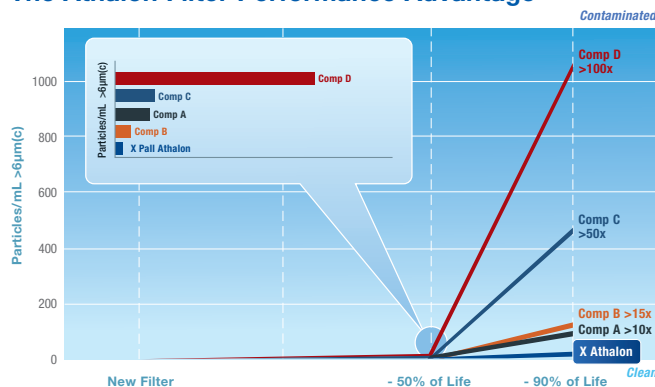
## Cleanliness Code Ratings

Code	$\beta_{x(c)} \geq 2000$ per ISO 16889	CST Rating*
AZ	3	07/04/01
AP	5	11/08/03
AN	7	13/09/04
AS	12	15/11/06
AT	25	16/14/08

\* CST: Cyclic Stabilization Test to determine filter rating under stress conditions, based on SAE ARP4205

Note these ISO codes are laboratory measurements under standard conditions. Cleanliness measured in actual operation will depend on operating conditions and sampling method.

## The Athalon Filter Performance Advantage



## Giving customers what they pay for

A critical measure of a filter's performance is its ability to sustain fluid cleanliness throughout its service life. This graph compares an Athalon 7 µm(c) rated filter to competitors' products with equivalent manufacturer's ratings. While all filters provide good fluid cleanliness early in service life, only Athalon filters produce sustained fluid cleanliness over the life of the filter.



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