



# SULPHATE REMOVAL PROCESSES (SRP) OPTIMUM MEMBRANE PROTECTION FOR THE OIL AND GAS PRODUCTION INDUSTRY



**SRP pre-filtration is critical.**

SRP failure due to poor pre-filtration will compromise oil production.

## COST OF PRODUCTION DOWNTIME

- \$55/barrel x 125K barrels/day = \$6.9 million/day.
- If the SRP module is down due to poor pre-filtration, this will cost the Operator > \$286K per hour.
- The cost of oil production alone demonstrates the importance of SRP protection via quality cartridge filters.

## SRP MEMBRANE PROTECTION IS CRITICAL

- 100% membrane uptime must be targeted to maintain water injection.
- Membrane cleaning (via CIP) carries an associated cost in terms of labour and chemicals. Failure to maintain the required throughput = lost production.
- Failure to protect the membranes from particulate material will lead to membrane damage, blocking and bypass. Costly \$1m+ premature membrane replacement, with associated production down-time, is non-desirable.

## ADVANTAGE OF AMAZON ABSOLUTE RATED CARTRIDGE FILTERS AS THE FINAL STAGE OF PROTECTION

- Ensures particulate removal efficiency, regardless of flow rate at 99.98% removal efficiency.
- Filter efficiency will not change as feed water quality varies, e.g. algal bloom.
- Protects against media bed shedding, flocculent injection and sand carryover from fouling the membranes.





## BENEFITS OF AMAZON SRP GRADE FILTER CARTRIDGES

- Amazon manufactures filters in both depth and pleated depth configurations to suit conventional and large diameter 'high flow' filter housings.
- True graded density pore structure and high voids volume gives market-leading filter cartridge life.
- Developed and proven over 20 years of offshore SRP experience.
- Absolute rated cartridges ensure membrane protection, repeatedly, each and every time.
- 100% thermally welded polypropylene construction provides mechanical integrity and compatibility with chemicals injected upstream.

## COMMON MISCONCEPTIONS ABOUT CARTRIDGE FILTERS

- **'There is a problem with the cartridge filters – they keep blocking!'** The problem usually lies upstream. Without the cartridge filters the membranes would stop the problem, at a significantly higher cost to production.
- **'Filters all look the same – why are some more expensive than others?'** SRP membrane protection requires a defined Absolute rating, well below what the naked eye can see. The differences between two cartridges can therefore be on a microscopic level which cannot be assessed visually or via datasheet comparison.
- **'If two filters are both Absolute then they must be the same?'** While two filters may offer the same removal efficiency, maintaining high voids volume and a graded pore structure are essential to achieve low pressure losses, high solids retention and long life between change-outs.

## AMAZON FILTERS

Amazon Filters has developed Absolute rated SupaPleat HFC SRP and SupaSpun II SRP grade filter cartridges, specifically for the Sulphate Removal Process.

Recognising that water intake quality can vary tremendously (due to algae and plankton blooms, silts and other sediments), these filters are specifically designed to reduce the impact of this on the performance of the water treatment facilities – by maximising membrane life, reducing replacement costs and stopping unexpected interruptions to the process.

Amazon supplies filters designed to be used throughout the water treatment process to help ensure it functions to optimum levels. Whether the application is fixed or floating, seawater or freshwater, Amazon Filters is able to provide easy operating, cost effective solutions to help maximise the production of water for injection.

Amazon Filters also has particular strength in the design and manufacture of filter housings for the critical demands of the Oil and Gas industry. We have extensive experience in manufacturing vessels in Duplex (UNS S31803) and Super-Duplex (UNS S32750/60) stainless steels.

Our design team is fully conversant in the increasing technical demands of pressure vessel design codes, and we have onshore and offshore installations in service worldwide.

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 To discuss your project requirements, call +44 (0) 1276 670600 or email [sales@amazonfilters.co.uk](mailto:sales@amazonfilters.co.uk) [www.amazonfilters.com](http://www.amazonfilters.com)