

Increase in service life of dry gas seals

HYDAC gas filters reduce seal failures to zero

Key figures

Savings in filter elements / year



7 pc.
EUR 8,000

Savings in loss Repair / standstill



EUR 36,000

Savings by increasing the service life of the seal gas sealing device

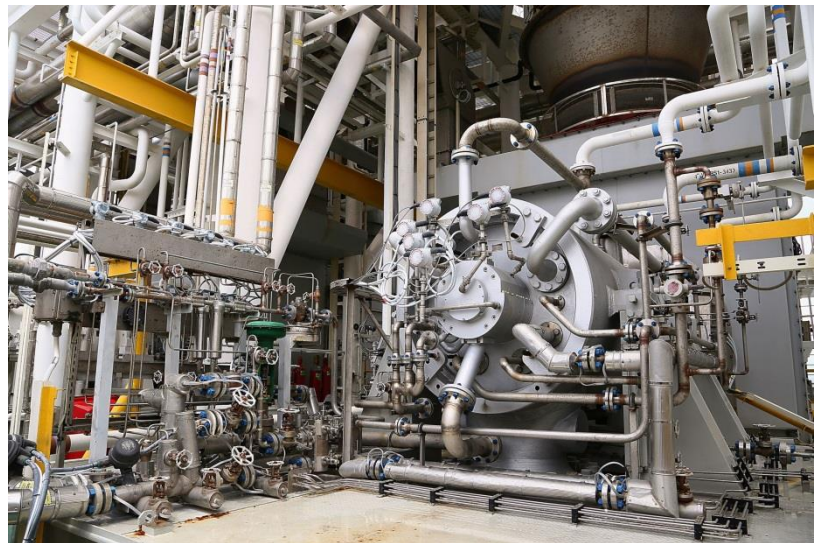


EUR 30,000

Amortization time



2 months



Example image of a compressor station, source: Fotolia

Initial situation

A well-known french petroleum company approached HYDAC with the problem of recurring failures of dry gas seals in a compressor station. Up until this point, the dry gas seals had to be serviced on a quarterly basis.

Analysis and solution approach

After thoroughly assessing the plant situation and using our filter design software, it soon became clear that the seal failures were caused by an incorrectly designed competition filter. This is a problem that we encounter frequently in practice.

Thanks to the use of our lay out diagram based on many real measurements with nitrogen and various theoretical simulations (CFD), we were able to determine the ideal filter size. One particular challenge was the dirt and moisture in the gas which significantly reduced the service life of the competition filter elements and exceeded their liquid separation efficiency considerably.

Therefore, we decided to design our Gas Coalescing Filter GCF with an integrated cyclone pre-separator so that the service life of the filter element could be significantly increased. HYDAC is the only provider in the market who offers a reversible seal gas filter with an integrated cyclone. Compared to the market standard solution with an upstream separator, the customer benefits from our compact design that prevents flow and pressure losses at the same time.

➔ Result

The first two filters were installed in 2011. We were able to reduce failures in the dry gas seals to zero within 2 years.

Thanks to the consistently positive results, the customer has now replaced six competition filters with HYDAC filters. The customer currently has a total of eight HYDAC GCF filters in use.

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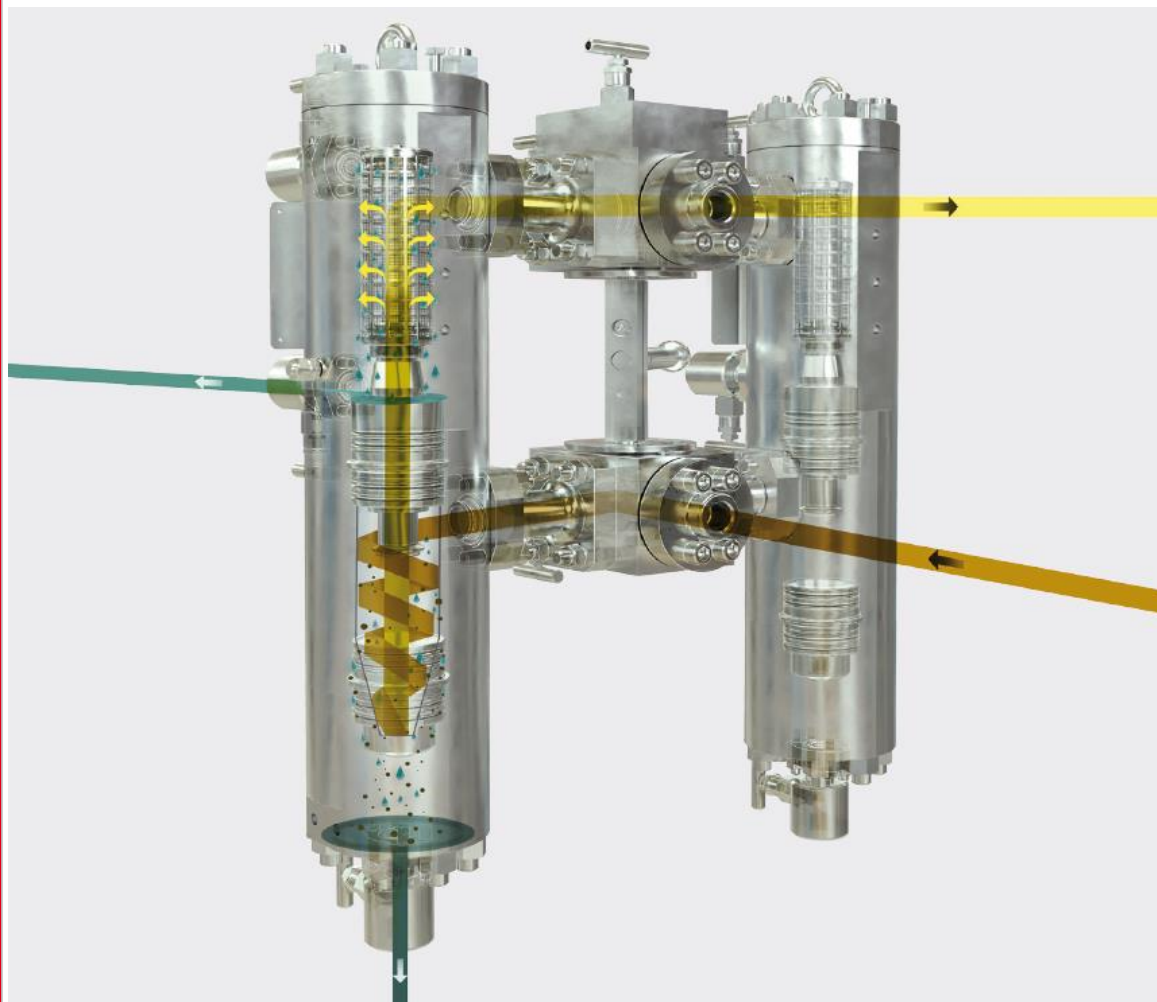


Gas Coalescing Filter in use



Technical details GCF with cyclone

Delivered filters	<ul style="list-style-type: none"> • 2011: 2x GCF-B-25-1 • 2014: 4x GCF-B-25-1 • 2015: 2x GCF-B-20-1
Housing and inner parts	Stainless Steel
Standards and certifications	ASME VIII, Div. 1 with ASME (U) marking
Features	<ul style="list-style-type: none"> • p_{max} 160 bar • Double block and bleed valves (Double Block & Bleed) • ATEX



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