REFINING / PROCESS ANALYTICS · EUROPE

Refinery analysers: one coalescing filter type for 16 sample systems

A refinery modernisation package included 16 process analysers with 12 × 57 mm sample filter elements. We proposed one stainless housing and one silica-bonded coalescing element as a functional alternative for all of them.



APPLICATION	ANALYSERS	ELEMENT SIZE	CONNECTION	HOUSING RATING
Sample conditioning systems for process analysers	**16**	**12 × 57 mm**	**1/4″ NPT**	**340 bar / 200 °C (316 stainless)**

SITUATION

In a refinery modernisation project, 16 analysers (gas chromatographs and other process analysers) were equipped with sample conditioning systems. Each system used a small coalescing filter with a 12 × 57 mm element, specified as a branded spare part.

TASK

Offer a generic filter set with the same connection and element size, suitable for hot and partly wet samples, and keep the number of spare-part types on site as small as possible.

ENGINEERING APPROACH

1. **Standardise on one housing**
   RF-H-122 in stainless steel: 1/4″ NPT in/out, 1/4″ drain, 340 bar / 200 °C, element 12 × 57 mm – one housing type for all 16 sample systems.
2. **Silica-bonded coalescer**
   RF-CS-12057-HE: borosilicate glass microfibre, silica-bonded, 99.99 % @ 0.01 µm. The silica binder tolerates high sample temperatures; the housing limit of 200 °C applies.
3. **Particulate pre-stage where needed**
   Dirty taps get RF-H-126 with RF-P-12057-HE ahead of the coalescer, so solids do not load the coalescing element.
4. **Define the service interval**
   Coalescing elements are changed every 3 months; one spare element per filter is kept on site.

PRODUCTS USED IN THIS CASE



RF-H-122
COALESCER HOUSING



RF-CS-12057-HE
COALESCING ELEMENT



RF-H-126 + RF-P-12057-HE
PARTICULATE PRE-STAGE



RF-M-GMS170
LIQUID BARRIER (OPTION)

Anonymised application example. Customer name, project data and prices are not disclosed.

RECOMMENDED R+F CONFIGURATION



COALESCER HOUSING

RF-H-122

Stainless steel, 1/4″ NPT, 1/4″ drain, 340 bar / 200 °C.



COALESCING ELEMENT

RF-CS-12057-HE

Silica-bonded borosilicate microfibre, 99.99 % @ 0.01 µm.



PARTICULATE PRE-STAGE

RF-H-126 + RF-P-12057-HE

Optional for taps with solids.



LIQUID BARRIER (OPTION)

RF-M-GMS170

Membrane separator as final liquid barrier, 150 bar / 100 °C.

LIMITS & OPEN POINTS

- Functional alternative – fit is checked against element and connection dimensions; no identical-part claim.
- Element temperature capability does not raise the housing limit of 200 °C (seal-dependent).
- Coalescing elements are not cleanable and are changed every 3 months.

Result: One housing type and one element type for 16 analysers – a simple spare-part list for maintenance, with generic RF article numbers instead of project-specific branded spares.

HOW WE WORK WITH YOU

1 · Send your data

Gas, flow, pressure, temperature, contamination and connection size.

2 · Get a configuration

Housing and element with R+F article numbers, limits stated openly.

3 · Order and service

Housings supplied with element fitted; replacement elements available individually.

Similar application? Let us size it for you.

Send us your operating data and we return a concrete filter configuration with R+F article numbers.

- Gas / medium and contamination
- Flow (Nm³/h or L/min), pressure, temperature
- Connection size (NPT) and installation position

info@filter-elements.eu

Online inquiry: process-gas-filter.com
Free filtration engineering tool

Read more: Analyser sample conditioning train · Coalescer in heated sample lines · Analyser filter change interval · Analytical instrumentation