**Application areas**

The KWF single filter is a versatile implementation filter for liquid, gaseous or pasty media. It is characterized by high-performance, space-saving design, as well as an extremely easy and fast cleaning. Inlet and outlet flange can be positioned as desired as special version (in the standard version height offset). Many customized design requirements can be met with this filter type.

**Approvals**

3.1. Certificate, DGRL/TÜV, GL, LS, DNV, ABS, TR TF/TR CU Certificates (EAC), ASME U-Stamp
Brief description

In the standard version the filter consists of a welded steel vessel with cover that is fastened through bolts and nuts. Alternatively the filter can be equipped with a basket strainer, ring type strainer insert or cartridges, or bag filters.

Notice:
The compatibility between medium and vessel or sealing material is the responsibility of the operator.
The design of the pressure vessel is based on a quasi-static operation (load cycle number \( \leq 1000 \) according to AD 2000 Merkblatt S1, section 1.4). Max. Differential pressure inlet - outlet 1 bar.

Installation

The filter is installed in piping via flanges. Ensure that the standard version of the filter is installed vertically, tension-free without additional mechanical stress. The medium must flow in the direction specified on the vessel. Incorrect installation can cause filter malfunctions or damage the inserts.

Commissioning/operating instructions

1. Slowly open the inlet/outlet valves.
2. Open the vent until liquid escapes.
3. Close vent.
4. Filter is ready for operation.

Cleaning

Attention: Since this is a pressure vessel, make absolutely sure that the filter is depressurized before starting maintenance tasks. Comply with the safety and accident prevention guidelines required for the medium.
1. Depressurize the filter via vent and drain devices.
2. Loosen the filter closure and take off the cover.
3. Empty the filter via the drain to a level that is at least below the strainer support.
4. Pull the strainer insert upward and out of the filter housing. The strainer can now be cleaned by careful blowing it out or blasting it with compressed air, steam, or water. If necessary the sieve must be soaked and cleaned in a suitable agent. Under some circumstances optimal sieve cleaning is achieved through ultrasonic bath. For all cleaning types ensure that the filter mesh is not damaged.
5. When assembling the filter check the seals for wear, replace them if necessary.
6. If the medium is changed a conformity evaluation in accordance with PED EN 2014/68/EU must be executed.
Maintanance & Inspections

A single basket filter does not have a high grade of main-
tenance. Nevertheless the filter shall regularly be visually
inspected from the outside during regular shift maintenance
on site. Recommendation for visual inspection is 1 time per
month. The filter has to be cleaned acc. site requirements
and present grade of impurities (see position: cleaning).
During the removal of the basket the filter vessel and insert
shall be visually inspected and both insert and vessel cleaned
if necessary.
Minimum 1 visual inspection from inside per year is man-
datory in operation, an inspection every 6 months is recom-
mended.

Recommendation:
All gaskets shall be replaced with new gaskets for safety in
operation. Old gaskets can pose a danger of leakage and may
damage equipment.
Filter insert shall regularly be changed for a new one, recom-
mended is a change after 3 years of operation as minimum.
Optional rubberlined surfaces shall regularly be inspected
for superficial damages, recommended is an inspection every
6 months, minimum 1 time per year. Damages shall imme-
diately be repaired acc. manufacturer repair procedure for
rubberlining. Operator shall handle rubberlined filters with
care and avoid mechanical damage of lining.
During special maintenance (Shutdown of plants or Yard
stays) on heavy duty applications a spark test of rubberli-
ing is recommended. The manufacturer shall be contacted
for details before performing it to check suitability of test
equipment.

Reparable ITEM´s of filter

The filter has no repairable items, damaged parts shall be
replaced. Its recommended to change gaskets after disassem-
bling of the gasket area.

Disposal Plan

No harmful substances or asbestos are used as material of
construction.
The filter has stainless steel and therefore regenerable inserts
which can be cleaned by appropriate means and following
safety instructions of media retained in inserts. Operator shall
follow safety instruction of filtered media during cleaning.
Damaged filter insert shall be disposed acc. local regulations
for stainless steel metallic waste (fully recyclable ) after
cleaning. To high differential pressure dirty before cleaning
may damage the fine mesh if installed. A dp over 0.5 bar is
not recommended.
Rubber and synthetic materials (plastic) shall be disposed
acc. local regulations, Gaskets are NBR or Aramid fibers
reinforced NBR and shall be disposed acc. applicable local
regulations.
Storage plan

Goods not installed shall be stored in dry place without UV radiation and protected from humidity from temperatures in a recommended range of +5 to +45°C. Recommended shelf time 5 years due to gasket lifetime. Goods stored shall be inspected visually acc. storage conditions on regular basis. Minimum yearly visual inspection (outside/inside) is recommended.

Flanges and all openings shall be closed during storage. Wrapping of items into plastic in storage is not environmentally recommended and also may lead to condensation on metal surface of filter and surface corrosion. Covering of goods is preferred in storage with breathable material (fabric). Drying agent use is recommended.
Technical data and dimensions

<table>
<thead>
<tr>
<th>Size</th>
<th>DN</th>
<th>Ø</th>
<th>Ø</th>
<th>Ø</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D</th>
<th>A</th>
<th>C</th>
<th>B</th>
<th>Volume</th>
<th>Flow rate</th>
<th>Filter surface area</th>
<th>Weight</th>
<th>Basket strainer</th>
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</tbody>
</table>

At long version, dimensions change.
# Technical data

<table>
<thead>
<tr>
<th></th>
<th>Standard version</th>
<th>Special version or supplemental equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter insert</td>
<td>Basket strainer insert</td>
<td>Ring type strainer, cartridges, filter bags, slot wedge wire, star pleated strainer, multi mantle element</td>
</tr>
<tr>
<td>Degree of filtration</td>
<td>10–1000 µm stainless steel mesh; &gt; 1 mm: perforated plate with round perforation</td>
<td>5 µm, square perforation, braid, cartridges, pleated mesh</td>
</tr>
<tr>
<td>Filter cover</td>
<td>Bolts and nuts (Pict. 1)</td>
<td>Clamp, quick release cover, david etc.</td>
</tr>
<tr>
<td>Vent</td>
<td>Screw</td>
<td>Ball valve/Flange</td>
</tr>
<tr>
<td>Drain</td>
<td>Screw</td>
<td>Ball valve/Flange</td>
</tr>
<tr>
<td>Connection</td>
<td>Inlet and outlet height-offset, flange in accordance with EN 1092-1 11B</td>
<td>As specified by the customer/ANSI/JIS/treaded connection</td>
</tr>
</tbody>
</table>

## Materials

<table>
<thead>
<tr>
<th></th>
<th>St 35.8, P 265 GH, SS321, SS316Ti</th>
<th>Various plastics such as PP, PE, PVDF, GFK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover seal</td>
<td>Asbestos-free flat seal C4400</td>
<td>O-Ring: NBR, FPM, EPDM, MPO, PTFE</td>
</tr>
<tr>
<td>Perforated plate/mesh</td>
<td>SS304/SS3161</td>
<td>SS316Ti/SS316, MS/Bz, Hastelloy C 4, titanium, various plastics</td>
</tr>
</tbody>
</table>

## Extras

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Suppmental filter</td>
<td>–</td>
<td>Magnetic filter insert</td>
</tr>
<tr>
<td>Heater</td>
<td>–</td>
<td>Customized heating connection</td>
</tr>
<tr>
<td>Differential pressure indicator</td>
<td>–</td>
<td>Optical, with electric contacts</td>
</tr>
</tbody>
</table>

## Surface treatment inside

<table>
<thead>
<tr>
<th></th>
<th>Preservation oil</th>
<th>Corrosion protection paint, epoxy resin, E-CTFE, chemonit 33 rubber lining</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vessel stainless steel</td>
<td>Pickled and passivated</td>
<td>Glass-bead blasted, electro-polished</td>
</tr>
</tbody>
</table>

## Surface treatment outside

<table>
<thead>
<tr>
<th></th>
<th>Epoxy RAL 5010 blue</th>
<th>Epoxy coated, glasflake coated, RAL acc. customer specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vessel stainless steel</td>
<td>Pickled and passivated</td>
<td>Glass-bead blasted, electro-polished</td>
</tr>
</tbody>
</table>

## Design/Certification

|                          | Evaluation of Conformity acc. to DGRL 2014/68/EU | 3.1. Certificate, DGRL/TÜV, GL, LS, DNV, ABS, LR TA type approval, TR /TF/TR CU Certificates (EAC) or on request |

## Accessory

We produce and deliver additional design and material variants on request. We solicit your request.
## Product range

### Self cleaning filter
- **KAF®** Self cleaning
- **KAF-G** Bernoulli®-filter
- **KAF-S**
- **KRF Backflush-filter**
- **KAS Scraper filter**

### Single filter
- **KSF®** Single basket filter (flanged)
- **KMF** Threaded basket filter
- **KWF** Welded/custom made basket filter
- **KWF-Inline** Inlet flange and outlet flange inline

### Duplex filter
- **KDF-K** Duplex filter
- **KDF-V** Valve switch duplex filter
- **KDF-VB** Butterfly valve switch filter

### Other filter solutions
- **KBF** Bag filter
- **KOW** Oil and water separator
- **KCS** Centrifugal separator

### Others / accessoires
- **DeltaP** Differential pressure indicator
- **Contaminant level indicator**
- **Filterbags**

### Strainer inserts
- **Basket strainers**
- **Ring strainers**
- **Wedge wire inserts**

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[www.krone-filter.com](http://www.krone-filter.com)