



# KWF

## Single filter

- Steel, stainless steel, plastic, GRP

PN	10–150
DN	15–1000
ANSI	1/2–40"
JIS	15–1000
GOST	15–1000



ISO 9001:2015

## 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.

## Maintenance & Inspections

A single basket filter does not have a high grade of maintenance. 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 mandatory in operation, an inspection every 6 months is recommended.

### 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, recommended 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 immediately 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 rubberlining 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. It's recommended to change gaskets after disassembly 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. Too 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.



KWF 1"



KWF DN 150 special design with quick release cover and heating jacket



KWF cartridge filter with 40 cartridges



KWF in RAL 5010 blue



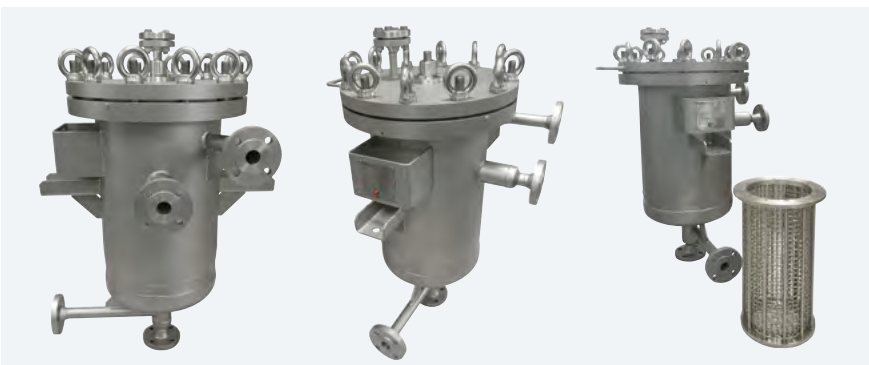
KWF-E DN 700, 28"



KWF-Inline DN 500



KWF-Inline DN 500 in GRP

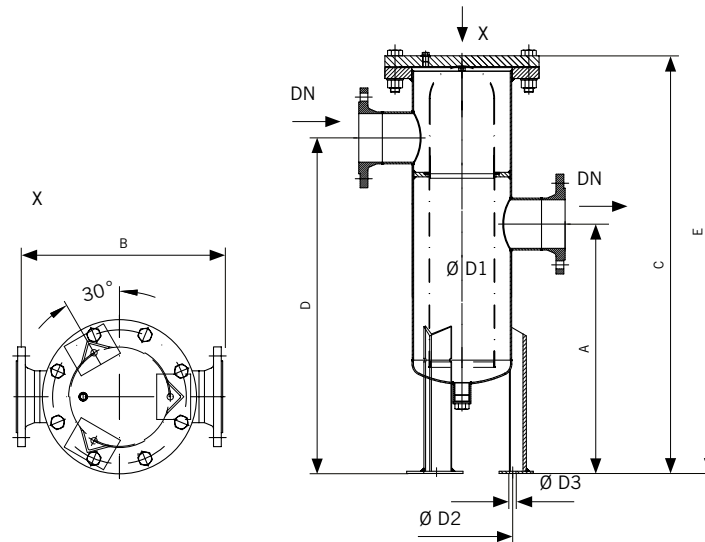


KWF-H with heating jacket and customized strainer insert



KWF-E DN 300

# Technical data and dimensions



Pict. 1: Standard version KWF

Housing	Nominal flange	Vessel design pressure	D1	D2	D3	D	A	C	B	E	Volume	Flow rate	Filter surface area	Weight
Size	DN		∅	∅	∅	mm	mm	mm	mm	mm	l	m <sup>3</sup> /h	cm <sup>2</sup>	kg
		bar	mm	mm	mm	mm	mm	mm	mm	mm				
1	15	16	76.1	-	-	218	125	324	270	600	1.5	3	150	7.5
	20											3		
	25											4,5		
1L	15	16	76.1	-	-	402	220	508	270	950	1.9	3	180	9
	20											3		
	25											4,5		
2	32	16	114.3	-	-	277	137	473	300	765	3.5	7	270	9.8
	40											12		
	50											18		
2L	32	16	114.3	-	-	407	267	603	300	1,025	6	7	405	12
	40											12		
	50											18		
3	20	16	114.3	-	-	317	177	513	300	840	5	3	440	12
	25											4,5		
	32											7		
	40											12		
	50											18		
3L	20	16	114.3	-	-	477	336	672	300	1,170	7	3	660	15
	25											4,5		
	32											7		
	40											12		
	50											18		
	65											30		

## Technical data and dimensions

Housing	Nominal flange	Vessel design pressure	D1	D2	D3	D	A	C	B	E	Volume	Flow rate	Filter surface area	Weight		
Size	DN		∅	∅	∅						l	m <sup>3</sup> /h	Basket strainer			
		bar	mm	mm	mm	mm	mm	mm	mm	mm			cm <sup>2</sup>	kg		
4	40	16	168.3	215	10	665	515	828	500	1,270	13	12	740	48		
	50											18				
	80											45				
4L	40	16	168.3	215	10	855	705	1,014	500	1,650	17	12	1,110	55		
	50											18				
	80											45				
5	50	16	168.3	215	10	735	585	898	500	1,410	16	18	950	52		
	80											45				
	100											70				
5L	50	16	168.3	215	10	985	835	1,114	500	1,925	20	18	1,425	60		
	80											45				
	100											70				
6	125	16	219.1	200	14	680	460	862	500	1,350	25	110	1,350	68		
6L	125	16	219.1	200	14	965	470	1,152	500	1,930	30	110	3,525	80		
7	65	16	273	270	14	900	500	1,200	600	2,200	55	30	1,980	110		
	80											45				
	150											160				
	200											280				
7L	65	16	273	270	14	1,063	663	1,363	600	2,500	75	30	2,970	130		
	80											45				
	150											160				
	200											280				
8	200														On request	
9	250															On request
10	300															On request
	350															On request
10,5	400															On request
	450															On request
11	500–1,000															On request

At long version, dimensions change.

## Technical data


Technical data		
	Standard version	Special version or supplemental equipment
Filter insert	Basket strainer insert	Ring type strainer, cartridges, filter bags, slot wedge wire, star pleated strainer, multi mantle element
Degree of filtration	10–1000 µm stainless steel mesh; > 1 mm: perforated plate with round perforation	5 µm, square perforation, braid, cartridges, pleated mesh
Filter cover	Bolts and nuts (Pict. 1)	Clamp, quick release cover, david etc.
Vent	Screw	Ball valve/Flange
Drain	Screw	Ball valve/Flange
Connection	Inlet and outlet height-offset, flange in accordance with EN 1092-1 11B	As specified by the customer/ANSI/JIS/treaded connection
<b>Materials</b>		
Vessel and cover	St 35.8, P 265 GH, SS321, SS316Ti	Various plastics such as PP, PE, PVDF, GFK
Cover seal	Asbestos-free flat seal C4400	O-Ring: NBR, FPM, EPDM, MPO, PTFE
Perforated plate/mesh	SS304/SS3161	SS316Ti/SS316, MS/Bz, Hastelloy C 4, titanium, various plastics
<b>Extras</b>		
Supplemental filter	–	Magnetic filter insert
Heater	–	Customized heating connection
Differential pressure indicator	–	Optical, with electric contacts
<b>Surface treatment inside</b>		
Vessel steel	Preservation oil	Corrosion protection paint, epoxy resin, E-CTFE, chemonit 33 rubber lining
Vessel stainless steel	Pickled and passivated	Glass-bead blasted, electro-polished
<b>Surface treatment outside</b>		
Vessel steel	Epoxy RAL 5010 blue	Epoxy coated, glassflake coated, RAL acc. customer specification
Vessel stainless steel	Pickled and passivated	Glass-bead blasted, electro-polished
<b>Design/Certification</b>		
	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

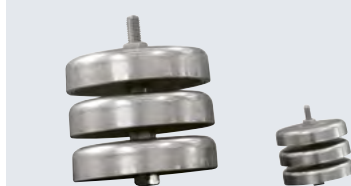
## Accessory

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




Differential pressure indicator

 Product online



Magnetic inserts

 Product online



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