



STRAINER BASKET FILTER PN 6–25 | DN 15–600 | ANSI 1 1/2" – 24" JIS 15–600 | GOST 15–600

Applications

The KSF filter is a versatile strainer basket filter for liquid media made from GGG-50 (nodular graphite) in accordance with EN-GJS-500-7 / ASTM 80-55-06 or Rg 10, (special version). It is characterized by high performance, low weight and space-saving design, as well as an extremely easy, fast cleaning.

- **Flexible combination of housing sizes, filter surfaces and connecting flanges.**

Twelve housing sizes can be supplied with different connecting flanges, which ensures adaptation to the operating requirements and quantities of impurities.

- **Variable filter surface selection.**

Brief description

The filter consists of a cast housing with opposing connecting flanges of equal height. The filter cover is alternatively fastened with stud bolts and nuts. The venting device in the cover and drain unit in the housing are included in the scope of supply.

- **Quick-acting clamp for cleaning the strainers (to DN 200).**

Filter media

Alternatively the filter can be equipped with a basket strainer, ring or other inserts. For example the filter insert consists of perforated plate, which is optionally spanned with mesh of different widths. The medium to be filtered flows through the strainer insert from the inside to the outside. The particles remain in the strainer and can be removed with the strainer.

Safety instructions

Do not use the filter with clamp catch for filtering of hazardous media (e.g. toxic, flammable, or corrosive media) gases or vapors! In these cases select bolts and nuts for the cover catch. Prior to using the filter verify the intended use. If there are changes in operating conditions or the medium then a conformity evaluation in accordance with PED EN 2014/68/EU must be carried out (for this please contact us as the manufacturer or execute a hazard analysis with conformity evaluation). The allowable differential pressure/clogging rate for the insert (page 3., and specific contract documentation) shall not be exceeded and can lead to equipment damage.

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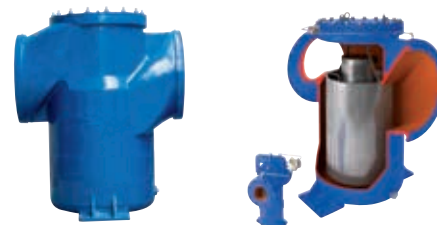
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Type Approval
Certificate No. 16/20086



ISO 9001:2008



Installation

Installation in pipes is carried out using flanges. Ensure that the standard version of the filter is installed and in a mechanically tension-free manner without additional loads. The medium must flow in the direction specified on the housing. Incorrect installation can cause filter malfunctions and damage the inserts. The allowable differential pressure/clogging rate for the insert (page 3., and specific contract documentation) shall not be exceeded and can lead to equipment damage.

Commissioning/operating instructions

1. Open the venting device until liquid escapes
2. Close venting device
3. Filter is ready for operation

Attention: Since this is a pressure vessel make absolutely sure that the filter is depressurized before starting maintenance tasks. Follow the safety and accident prevention guidelines required for the medium.

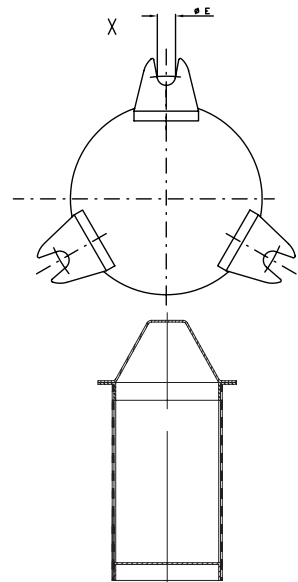
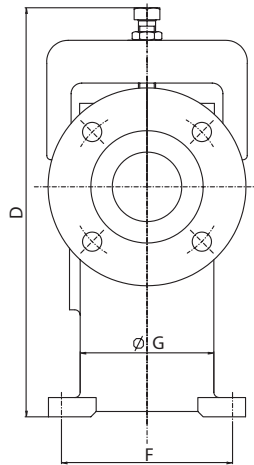
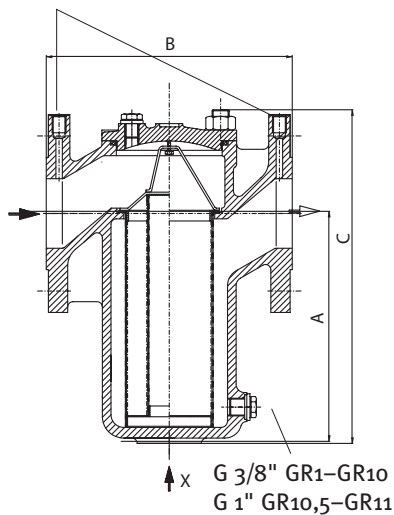
Cleaning

1. Relieve the pressure on the filter by means of the venting device and drain unit.
2. Loosen the filter catch and lift off the cover
3. Drain the filter via the drain unit 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 strainer must be soaked and cleaned in a suitable cleaning agent. In some circumstances optimum cleaning is achieved by means of ultrasound. For all cleaning types ensure that the filter mesh is not damaged.
5. When assembling the filter in the reverse sequence, check the sealing elements for wear and replace them if necessary.

Approvals

3.1. Certificate, DGRL / TÜV, GL, LS, DNV, ABS, LR TA type approval, TR TF / TR CU Certificates (EAC) Lloyd's Register Type Approval Certificate No. 16/20086

Standard Connections for differential pressure indicator/switch G 1/4"



Basket strainer

KSF combination version (clamp version pre-drilled), can be converted by using stud bolts.

Housing Size	Nom. diameter Flange connection DN	Vessel		G	A	B	D	C	E	F	Flow rate at 2,5 m/s m ³ /h	Content l	Filter surface area Basket cm ²	Weight approx. in kg
		Design pressure Clamp	Design pressure Bolts**											
mm	mm	bar	bar	mm	mm	mm	mm	mm	mm	mm	m ³ /h	l	cm ²	approx. in kg
1	15	16	16 (25)*	81	156	171	264	220	Ohne FüÙe		3	1	150	6
	20										3			
	25										4,5			
2	32	10	16 (25)*	102	164	189	340	250	Ohne FüÙe		7	1,2	270	15
	40										12			
	50										18			
3	20	10	16 (25)*	127	214	230	400	315	12	161	3	3,5	440	25
	25										4,5			
	32										7			
	40										12			
	65										30			
4	40	10	16 (25)*	168	235	279	450	350	12	201	12	6,5	740	28
	80										45			
5	50	10	16 (25)*	176	324	317	560	465	12	216	18	9	950	42
	80										45			
	100										70			
6	125	6	10 (16)*	222	324	379	610	510	14	261	110	15	1.350	55
	65										30			
7	80	6	10 (16)*	262	389	461	720	580	14	311	45	27	1.980	75
	150										160			
	80										45			
	100										70			
8	100	6	10 (16)*	322	489	605	890	745	23	360	45	53	2.950	140
	125										70			
	200										110			
	80										280			
	100										45			
9	150	-	10 (16)*	402	605	604	-	880	23	460	160	85	3.590	195
	250										440			
10	300	-	10 (16)*	472	730	719	-	1.035	23	530	635	140	5.610	300
	350										900			
10,5	300	-	10 (16)*	680	920	1.166	-	1.425	33	280	700***	485	13.000	1.300
	350										900***			
	400										2.000			
	450										2.500			
	500										2.500			
11	400	-	10 (16)*	790	1.000	1.246	-	1.500	33	966	2.000	600	16.000	1.400
	500										2.500			
	600										3.000			

* Special version

** For screws dependent on DN and medium to PN 25

*** Flowrate limited by inlet flange

Technical data

	Standard version	Special version or supplemental equipment
Filter insert design	Strainer insert or ring strainer	Double strainers, cartridges, sleeve strainer, wedge wire
Filter mesh	20–1,000 µm (microns) Stainless steel mesh 1,5–10 mm perforated plate, round pitch	5 µm, square perforation, braid, cartridges, pleated mesh
Filter insert dp pressure	Allowable differential pressure filter insert 1.5 bar	Higher allowable differential pressure for insert possible (design modification)
Filter cover	DN 15–200 combination cover with clamp catch or cover with bolts and nuts. Housing with clamp already predrilled for stud bolts – upgrade by customer possible. From DN 250 bolts and nuts.	
		Fig. 2: Clamp, david
Venting device	Bolt, G 1/4"	Ball valve / Flange / SW*
Draining unit	Bolt, G 3/8"	Ball valve / Flange / SW*
Connection	Flange in accordance with EN 1092-1 11B	As specified by the customer (ANSI) or JIS
Materials:		
Housing and cover	GGG-50, DN 1693 DIN EN 1563 or EN GJS-500-07 / ASTM 80-55-06	Rg 10, GGG-40.3 (EN GJS-400-18)
Cover seal	NBR	FPM, EPDM, MPQ, PTFE
Perforated plate/mesh	1.4401, 1.4301, 1.4301/1.4401	1.4571/1.4401, Ms/Bz, Hastelloy C 4, various plastics
Extras		
Additional filter	-	Magnetic filter insert
Heater	-	Steam, hot water or electrical heater
Zinc protection	-	For sea water filters
Differential pressure indicator	Connection possibility G 1/4"	Optical, with contacts
Body/Cover Surface treatment		
internal:	Anti-corrosion primer	Untreated, anti-corrosion oil, epoxy resin, Chemonit 31 (rubberlined), E-CTFE, Belzona 2011
external:	Epoxy paint RAL 5010 blue	Epoxy resin, E-CTFE, Levasynt, customer RAL
Design/Certification	Declaration of Conformity, 3.1 Material Certificates – Lloyds Register certified foundry acc. to DGRL 2014/68/EU (CE)	3.1. Certificate, DGRL / TÜV, GL, LS, DNV, ABS, LR TA type approval, TR TF / TR CU Certificates (EAC) or on request

*Depends on size of body

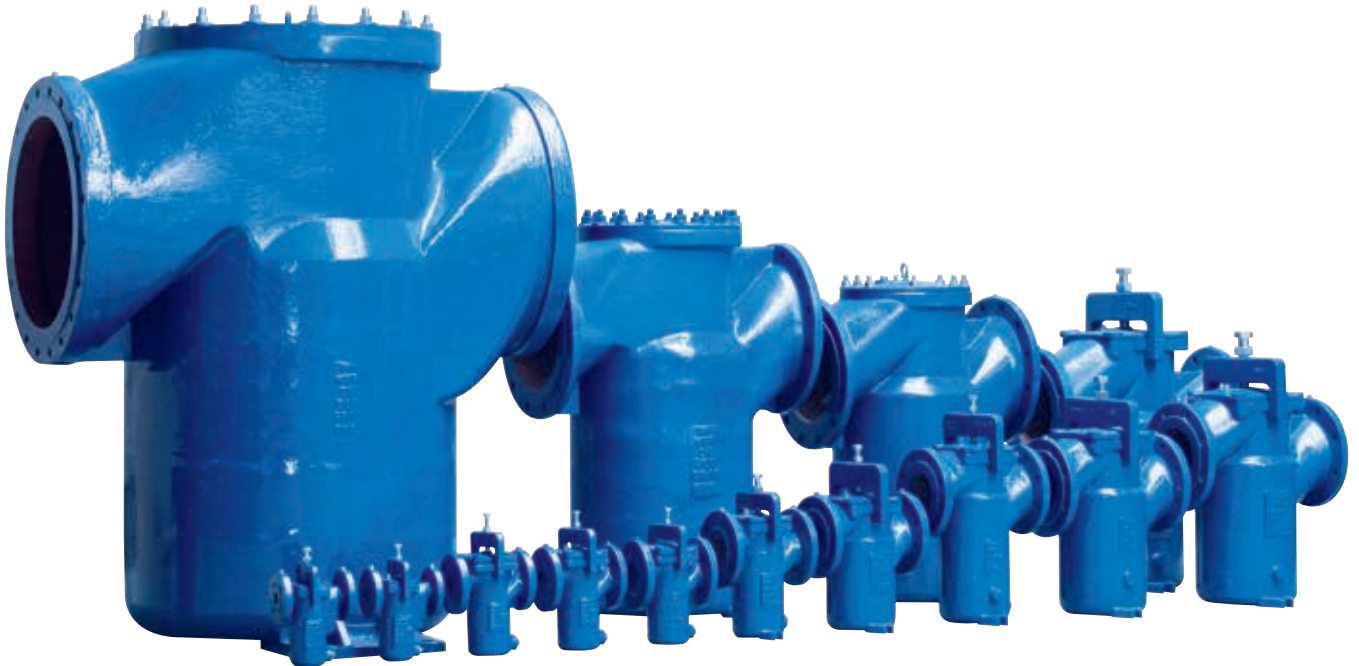
Heat flanges and differential pressure indicator

On request the filter can be fitted with heat flanges in the floor area as shown in the sketch.
 The use of heaters requires the use of ring strainers.

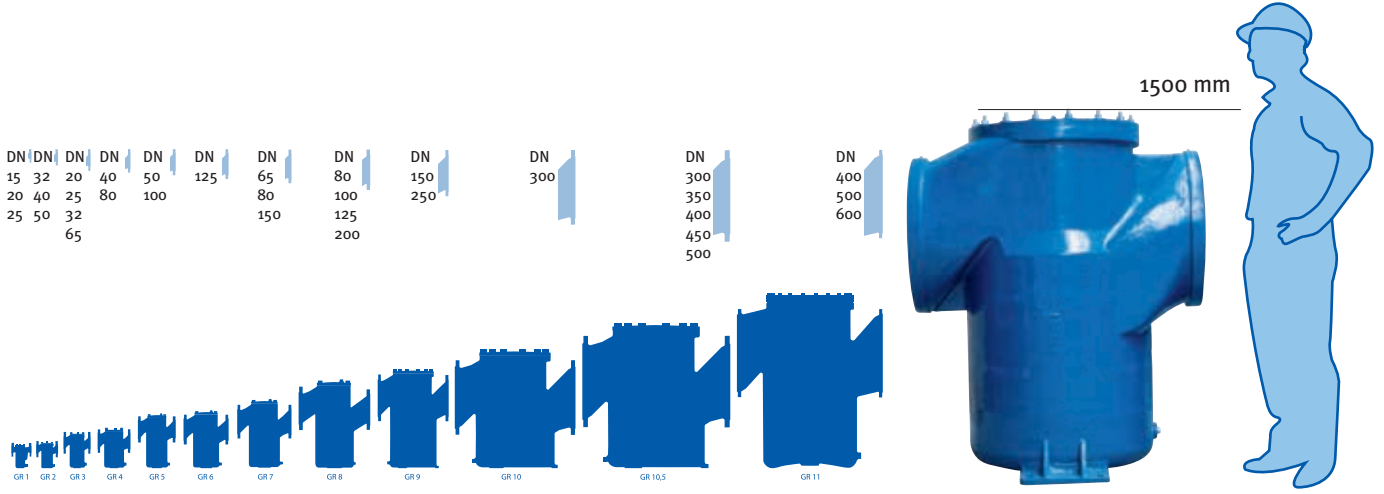


KSF filter with differential pressure indicator

Differential pressure indicator



The KSF "family" from size 1 to size 11





Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate is issued to:

PRODUCER	Krone Filter Solutions GmbH Industriestrasse 19 28876 Oyten Germany			
DESCRIPTION	Single, duplex and self-cleaning automatic filter with several housing sizes and combinations made from standard materials spheroidal iron castings EN-GJS-500-7 (GGG 50)* or EN-GJS-400-15 (GGG 40), carbon steel optional rubber lined or stainless steel.			
TYPES	KSF, KMF, KDF-K, KDF-V, KAF, KRF			
APPLICATION	Filter depending on type for diesel oil, oil or water piping systems in ship and offshore installations classed or intended for Classification with Lloyd's Register.			
RATINGS	Filter type:	Nominal pressures: [bar]	Size range:	Material:
	KSF	6, 10, 25	DN 15 - DN 600	Spheroidal iron casting
	KMF	6, 10, 25	G ½" - 2 ½"	Spheroidal iron casting
	KDF-K	6, 10, 25	DN 15 - DN 200	Spheroidal iron casting
	KDF-V	6, 10, 25	DN 100 - DN 600	Spheroidal iron casting, carbon steel
	KRF	6, 10	DN 32 - DN 400	Spheroidal iron casting, carbon steel
	KAF	6, 10	DN 50 - DN 1000	Spheroidal iron casting, carbon or stainless steel,

Certificate No.	16 / 20086
Issue Date	09 September 2016
Expiry Date	08 September 2021
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RATINGS, cont.

Material:	Temperature range:	For fluids**:
Spheroidal cast iron	-10 up to +300°C	MDO, oil, water, seawater
Austenitic stainless steel: 1.4571, 1.4401, 1.4404, 1.4408, 1.4539, 1.4301, 1.4541, SA240-304L, SA240-316Ti, SA240-321, SA240-316L, SA240-904L,	-196 up to +300°C	MDO, oil, nitrogen
Duplex stainless steel: 1.4462, 1.4463, UNS S31803	-40 up to +250°C	seawater
Super duplex: 1.4410, UNS 32750		
Carbon steel: St 50, P235GH, P245GH, P250GH, P265GH, SA516 Gr60, SA516 Gr70	-40 up to +100°C	MDO, oil, water, seawater

**) including fluids and mixture of similar evaluation class
Pressure reductions at elevated temperatures are to be considered.

Media depending on type: KAF, KRF: water, seawater
KSF, KMF, KDF-K and KDF-V: MDO, oil, nitrogen, water, seawater

OTHER CONDITIONS

The manufacturer's installation instructions are to be sought.
*) Not to be used for applications with expected significant chock or vibration loads.

STANDARD

Lloyd's Register Rules and Regulations for the Classification of Ships, July 2016

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The Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

The Design Appraisal Document No. HTS/ENS 34963-16 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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