

THINK > Filter Technology



Standard Filter Elements

ENGINEERING > THAT MOVES THE WORLD



GKN Sinter Metals Filters, the leading manufacturer of porous sinter metal products, offers a variety of solutions to fulfill customer requirements. We are familiar with various applications in almost every industrial branch.

The GKN filters are produced by an Isostatic compacting process, which results in outstanding homogeneous pore size distribution with excellent burst and collapse resistance, based on seamless design. The high mechanical strength is leading to complete self-supporting structures.

We offer solutions for a cryogenic as well as hot gas applications in a high variety of alloys. Filters can be produced seamless up to 1,500 mm length and 320



GKN Standard Liquid Filter Design

mm OD. Larger elements (like for cross flow or triad design application) will be assembled in our certified in-house welding shop.

Stainless and Ni-based alloys can be supplied including a metallic membrane (SIKA-R AS), which offers retention rates down to 0.1µm in liquid. The membrane is available in different grades. Membrane coated filter offers initially an up to 4x higher flow, compared with completive single layer metallic filters. GKN Double Open End (DOE) and Hex-Nippel (HN) filters are 1:1 interchangeable with most other suppliers media.

GKN porous media will be beneficial to various other applications besides filtration, such as sparging, a term that describes the distribution of gas into liquids.

The rate of saturation will be much higher compared to conventional solutions due to the fine and uniform pore structure of GKN's materials.

We offer custom made solutions that may be fitted into your existing plant without any modifications.

Instrumentation-, medical- and mechanical industry is benefiting from GKN Filters large tool park. The innovative, weld free design of connection between porous body and fitting opens new horizons in assembly and design.

Further information – including 3D laser sintering – are available on GKN's homepage www.gkn.com/filters.





Batch Filtration

Advantages

- High temperature resistance
- High corrosion resistance
- Nickel based alloys available
- High mechanical strength

- Excellent back pulse performance
- Design freedom
- Seamless filter body
- Cryogen application possible



Further to our fully customized solutions with diameters available from 4 - 320 mm (0.15"-12"), we can now offer shorter delivery times for the most common standard dimensions (acc. to above sketch) made of AISI 316L.



Standard Materials

Material	Name	MatNo.	MatNo. SIKA-					Fe	Cr	Ni	С	Мо	Miscellany	Max. Temp	erature °C	Keyword
				R		FIL	в		in weight- %					Reducing	Oxidizing	
			IS	AX	AS											
High alloyed material	AISI 304 L	1.4306	х	х	х			Bal.	18.0-20.0	8.0-12.0	<=0.03	0.5	N<=0.1	600	500	Standard for food application
	AISI 316 L	1.4404	х	х	x			Bal.	16.0-18.0	10.0-14.0	<=0.03	2.0-3.0	N<=0.1	540	400	
						х								380	320	
	AISI 904 L	1.4539	x	x	x			Bal.	19.0-21.0	24.0-26.0	<=0.02	4.0-5.0	N<=0.15 Cu 1.2-2.0	600	500	Resistant against sulphuric acid, phosphoric and hydro- chloric acid
	AISI 310	1.4841				х		Bal.	24.0-26.0	19.0-22.0	<=0.25	-	-	800	600	Heat resistant
	FeCrAl	1.4767 Mod.				х		Bal.	19.0-22.0	-	<0.10	-	Al 5.0-6.5 with rare earth elements	unfit	900	
Nickel based alloys*	Hastelloy C 22	2.4602	х					2.0-6.0	20.0-22.5	Bal.	<0.02	12.0-14.5	W 2.0-3.5 Co 2.5	650	650	Corrosion resistant with various agressive media. Duration application at > 400 °C possible.
	Hastelloy C 276	2.4819	x	х				4.0-7.0	14.0-16.0	Bal.	<0.02	15.0-17.0	W 3.0-4.5	650	650	
	Hastelloy X	2.4665	x	х				17.0- 20.0	20.5-23.0	Bal.	<0.15	8.0-10.0	Co 0.5-2.5 W 0.2-1.0	930	800	
	Inconel 600	2.4816	х	х	х			6.0-10.0	14.0-17.0	>=72.0	<0.15	-	-	700	600	
	Inconel 625	2.4856	х		x			<=5.00	20.0-23.0	>=58.0	<0.10	8.0-10.0	Nb 3.15-4.15	650	650	
	Monel 400	2.4360	x	х	х			<2.0	-	>=63.0	<0.30	-	Cu 28.0-34.0	500	500	Resistant against Cl-contain- ing media
Bronze**	89/11 AK	-					х	-	-	-	-	-	Sn 9-11 < 2 % others Rest Cu	300	250	Typically used for hydraulic & pneumatic
Tita- nium	Ti	-	x	х				-		-	-	-	Ti > 99 %	500	500	Medicine. acid. electrolysis
PE	PE (Polyethylene)													60	60	Food safe, resistant against many acids
ther	Other materials Not all raw mate	iterials on request. w materials are in stock. Typical Iron or Nickel elements e.g. Si, Mn, P, S according to the literature.														

only after consultation. Not all dimensions feasible.

* Nickel based AX-product ** Nickel plating possible





ASsymmetric membrane SIKA R...AS



SIKA-R AS membranes show up a double-layer construction with a thin filter-active membrane applied on top of a coarse carrier material.

Filter grades available are in a range from 0.1 μm to 3 $\mu m.$

SIKA-R AS can be manufactured of all standard alloys available, membrane and carrier are always made of the same alloy.

Main field of application for metallic membranes are catalyst recovery (Raney Nickel, Pd-, Pt-catalysts) and gas filtration finer than 5 µm.





1. Customer's information

Basic information for designing a filter

Enquiry date: Company name: Contact name: Street address: ZIP: Town, US State: Country:			Email: Phone Mobile								
2. The planned application of the SIKA element?											
Filtration □ E Separation □ S Throttling □ P	qualizing [] ilencing [] ! rotecting []	Fluidising Sparging Degassing	OthersOthers	; 							
3. What kind of gas or liquid will flow through the SIKA element?											
Absolute pres Wanted or permissib Max permissibl	Medium sp Operati Dynam Operation te Operatio sure before the SIM ole pressure drop of e pressure drop of	ecification on density ic viscosity mperature n flow rate (A element clean filter used filter									
4. Which particles must be retained by a SIKA element?											
	Size of t Shape of t I	Kind he particle he particle Filter grade									
5. How will the SIKA element be applied?											
Shape of the element Connecting element	Tube □ Disc □ Flange □	Cartridge Other Thread	□ Sheet □ □ Other								
Housing diameter		Quantity									
6. Short description of the process:											
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GKN Locations

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