

# PRODUCT INFORMATIE

SIKA-B – P422



THINK • *Filter Technology*



SIKA-B

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• *Since 1759, 260 years of exceptional engineering*

GKN Sinter Metals Filters, the leading manufacturer of porous sinter metal products, is working together with us - first with Hofte and since 2007 with Hofte's sister firm P4P b.v. Together we offer a variety of solutions to fulfil customer requirements. We are familiar with various applications in almost every industrial branch. Our products are applied in gas- and liquid filtration, dampening, sparging, sensor protection, bulk handling and many more. We offer solutions for high temperature and corrosive environments.

## AS

Sintered filter elements made of stainless steels, bronze, nickel based alloys, titanium and several special alloys can be manufactured seamless up to 1,600 mm length and 320 mm OD. Larger elements will be assembled in our certified in-house welding shop. Our most innovative product for the chemical industry is the patented metallic membrane.

The filter cartridges equipped with this state-of-the-art technology offer a flow rate up to 4 times higher compared to conventional sinter metal filter cartridges. Furthermore an excellent back flush performance is guaranteed. The filter active membrane layer with filter grades down to 0.1  $\mu\text{m}$  absolute has a thickness of only 200  $\mu\text{m}$  and is made of the same alloy as the coarse support material. The membrane is sinter bonded to the support and therefore cannot peel off.

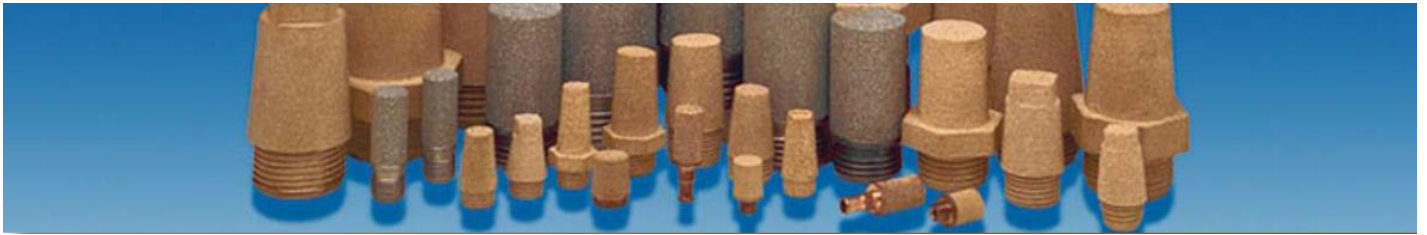
Another innovation introduced by GKN is the sinter bonded joint of porous parts with solid fittings in order to avoid welding seams – the weak spot of all sintered cartridges of our competitors.

All sintered materials of GKN offer a self-supporting structure with high mechanical strength.

We manufacture various filter grades with specified pore sizes and flow rates in order to have the appropriate solution for your requirements.

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SIKA-B, is a brand name for GKN Sinter Metals' high porosity sintered elements from spherical Bronze powder.

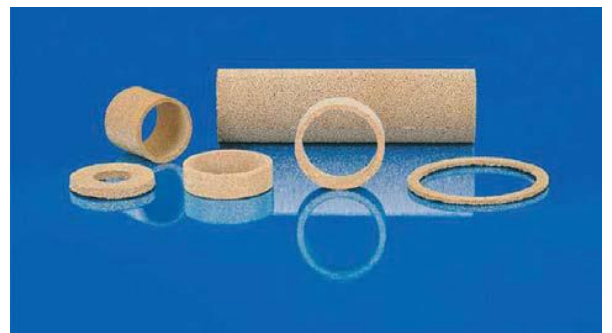
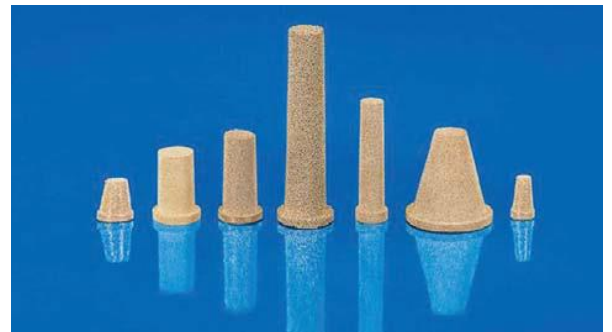
SIKA-B... materials are used as self-supporting structural elements.

The pores are mechanically fixed with respect to both size and position after the sintering process.

## Properties

The characteristics of SIKA-B products result in the following important properties:

- Shape/-stability i.e. selfsupporting structural elements suitable for high differential pressures
- Particularly good properties when under compression, vibration and changing conditions or with high sudden pressures peaks
- High heat resistance and thermal stability
- Defined permeability and filtration properties because the pore size and distribution are exact and uniform
- Backflushing and easy cleaning with superheated steam, chemical solvents, thermal processes or ultrasonically
- The variety of materials used can be welded and machined



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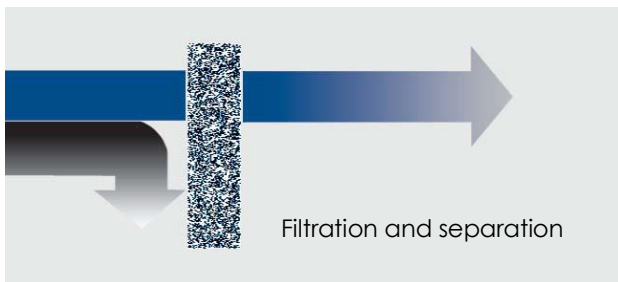


## Application examples

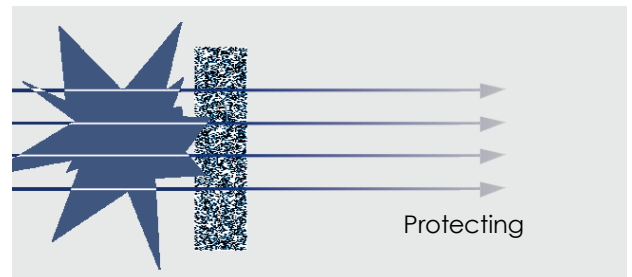
- Autogenous welding (as flame arrestors) / explosion protection
- Polymer filtration
- Gas- and liquid filtration
- Silencing
- Sparging
- Fluidization (handling of bulk material)
- Sensor and valve protection
- Flow restriction

As well as various further applications in industries like:

- Chemical
- Semiconductor
- Scientific instrumentation
- Pharmaceutical



Filtration and separation



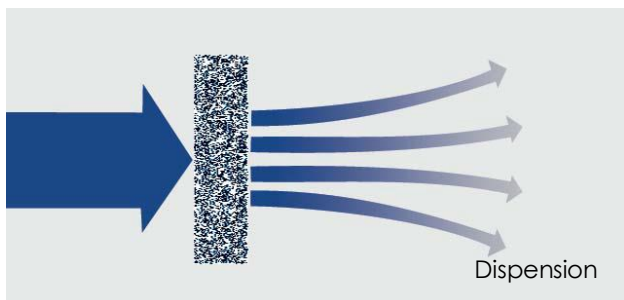
Protecting



Oil filter in an oil burner nozzle

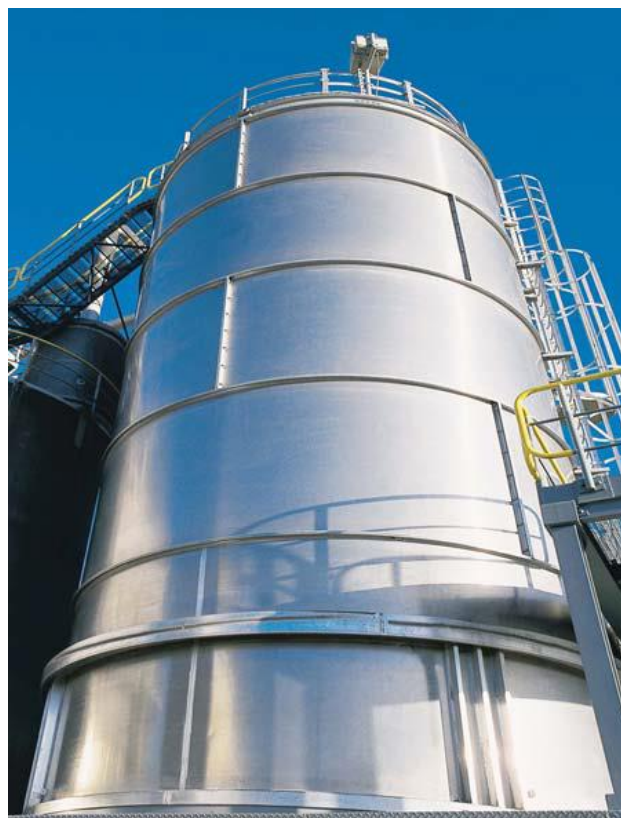
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Aeration pads for bulk handling:

Ideal aftermarket solution duet to easy installation!



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### Manufacturing of Sika-B... products

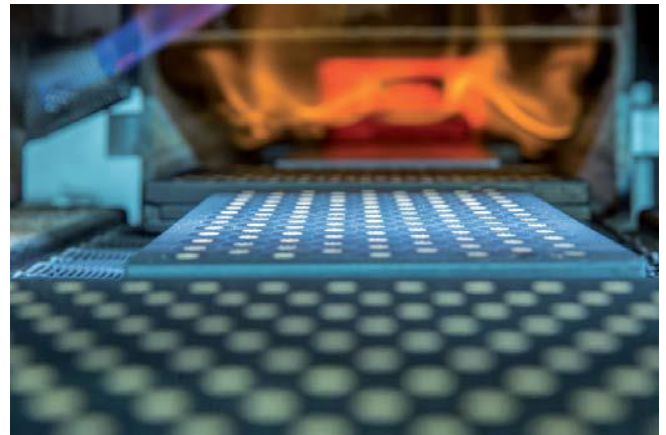
#### Moulding

Shape, size and distribution of the powder particles are important parameters which affect the properties of a high porosity sintered Bronze product. By varying the parameters of the powder production process, it is possible to produce spherical powder particles in a wide range of particle sizes. Sika-B filters are produced by gravity sintering technique. The powder is filled into moulds and then sintered inside of these moulds.



#### Sintering

Sintering, the fundamental processing step for all P/M products, means bonding of powder particles through fusion at temperatures well below the melting point. The structure, after sintering, shows that the grain boundaries run over the original particle boundaries. Sintering gives the high porosity material its shape-stability and properties of a strong metal component. Sika-B materials are used as self-supporting structural elements. The pores are mechanically fixed regarding size and position after sintering.



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## Standaard poeders

Material	Name	Mat.-no.	Sika-				Fe	Cr	Ni	C	Mo	Si	Miscel-lany	Max. Temp. °C		Keyword
			R... IS	AX	AS	FIL								B	Reducing	
High alloyed material	AISI 304L	1.4306	x	x	x									600	500	Standard for food application
	AISI 316L	1.4404	x	x	x									540	400	
						x								380	320	
	AISI 904L	1.4539	x	x	x								Cu 1.0-2.0	600	500	Resistant against sulphuric, phosphoric and hydrochloric acid
	AISI 310	1.4841				x								800	600	Heat resistant
Nickel based alloys*	Hastelloy C22	2.4602	x		x								W2.5-3.5 Co≤2.5	650	650	Corrosion resistant with various aggressive media. Duration application at >400°C possible
	Hastelloy C276	2.4819	x	x									W3.0-4.5 Co≤2.5	650	650	
	Hastelloy X	2.4665	x	x									W 0.2-1.0 Co 0.5-2.5	930	800	
	Inconel 600	2.4816	x	x	x									700	600	
	Inconel 625	2.4856	x										Nb 3.0-4.0	650	650	
	Monel 400	2.4360	x	x										500	500	Resistant against Cl-containing media
Bronze	CuSn 11	2.1052 mod.											Sn 10.0-11.5 Cu bal.	300	250	Typically used for hydraulic and pneumatic
Titanium	Ti	-	x	x									Ti > 99%	500	500	Medicine, acids and electrolysis
Other	Op aanvraag															

Not all raw materials are in stock. Materials for fittings on request.

Due to powder metallurgy process, there are slight deviations in the element composition compared to the material standards.

\* Nickel based AX-products only after consultation. Not all dimensions feasible.

## SIKA-B Elements

Our various high porosity sintered metal filter elements can be manufactured in the following standard geometries:

- Sika-Discs
- Sika-Cylinders
- Sika-Cones
- Sika-Plates
- Sika-Silencers
- Seamless construction up to Ø300 mm

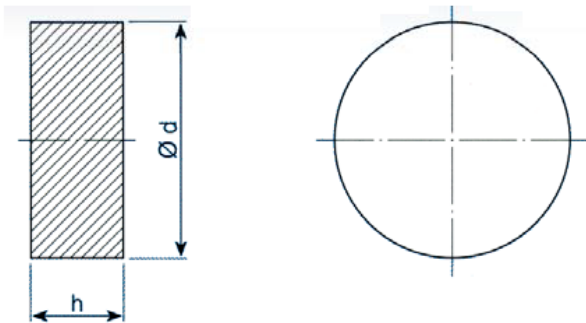
## GKN filter grades

Sika-B 8	Sika-B 80
Sika-B 12	Sika-B 100
Sika-B 20	Sika-B 120
Sika-B 30	Sika-B 150
Sika-B 45	Sika-B 200
Sika-B 60	

Bigger element can be welded in our house  
We also manufacture customer-specified elements

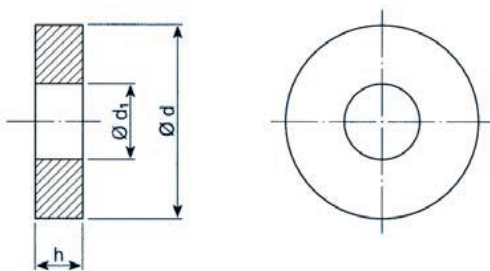


### Sika-B discs and -plugs of sintered Bronze



- $\varnothing d$  1 mm to  $\varnothing d$  300 mm seamless
- $\varnothing d$  from 300 mm welded from sections
- Up to  $h$  100 mm

### Sika-B rings and hollow cylinders of sintered Bronze



- $\varnothing d$  4 mm to  $\varnothing d$  300 mm seamless
- $\varnothing d$  from 300 mm welded from sections
- Up to  $h$  900 mm

And according to diameter, either seamless or welded from sections

### Sika-B plates of sintered Bronze



- $l$  up to 1200 mm
- $b$  up to 300 mm up to  $h$  100 mm
- $h$  up to 70 mm
- Larger dimensions welded from sections

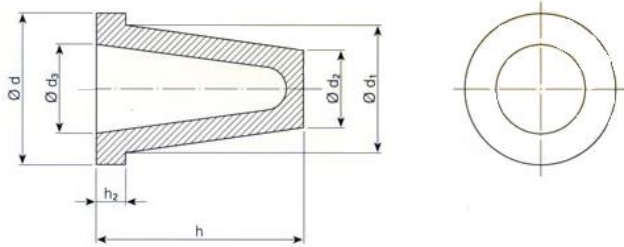


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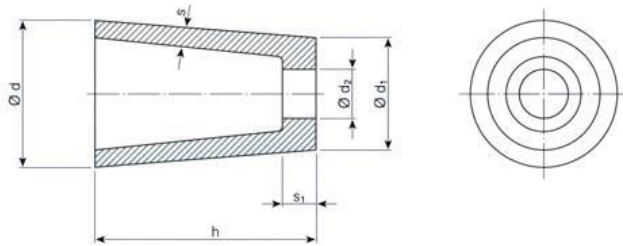


## Sika-B conical moulds with or without flange of sintered Bronze



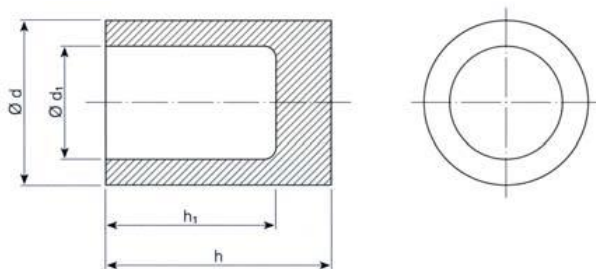
- $\varnothing d$  4 mm to  $\varnothing d$  100 mm
- h 8 mm to h 200 mm

## Sika-B conical moulds of sintered Bronze



- $\varnothing d$  4 mm to  $\varnothing d$  100 mm
- h 5 mm to h 200 mm up to h 900 mm

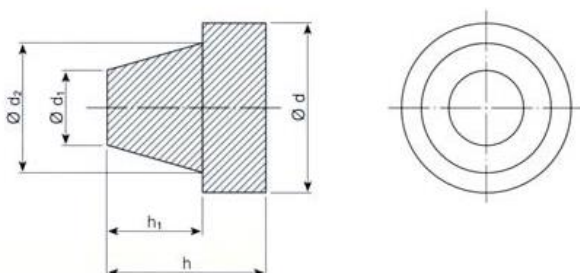
## Sika-B moulds of sintered Bronze



- $\varnothing d$  4 mm to  $\varnothing d$  100 mm, seamless
- $\varnothing d$  from 500 mm welded from sections up to 900 mm

and according tot diameter, either seamless or welded from sections

## Sika-B cones with flange of sintered Bonze



- $\varnothing d$  2 mm to  $\varnothing d$  100 mm
- h 2 mm to h 100 mm

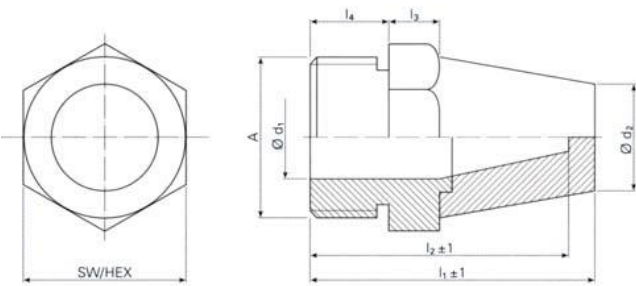
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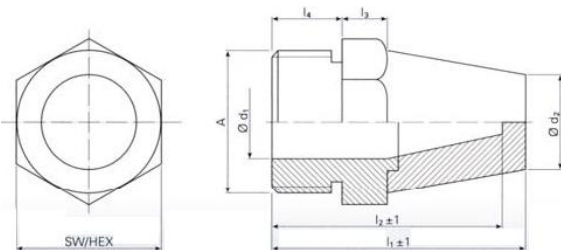


## Silencer made of sintered Bronze with a hexagon



A	Ød <sub>1</sub> mm	Ød <sub>2</sub> mm	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	SW HEX	Tool no.
G1/8"	4	8	28	24	4	6	13	540001
G1/4"	6	12	34	30	4	8	17	540002
G3/8"	9	15	36	32	5	10	22	540003
G1/2"	12	19	44	40	7	12	27	540004
G1/2"	12	17	65	60	7	12	22	540021
G3/4"	16	22	54	48	10	14	32	540005
G1"	22	28	66	60	10	16	41	540006
G1 1/2"	36	-	70	63	10	16	55	540011
G2"	48	50	75	68	10	16	70	540010
M30x1.5	22	28	66	60	10	16	41	540019

## Silencer made of sintered Bronze sintered together with a solid fitting hexagon



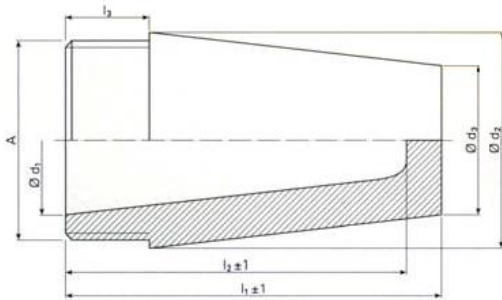
A	Ød <sub>1</sub> mm	Ød <sub>2</sub> mm	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	SW HEX	Tool no.
G1/8"	4	8	28	24	4	6	13	546001
G1/4"	6	12	34	30	4	8	17	546002
G3/8"	9	15	36	32	5	10	22	546003
G1/2"	12	19	44	40	7	12	27	546021
G3/4"	16	22	54	48	10	14	32	546005
G1"	22	28	66	60	10	16	41	546006

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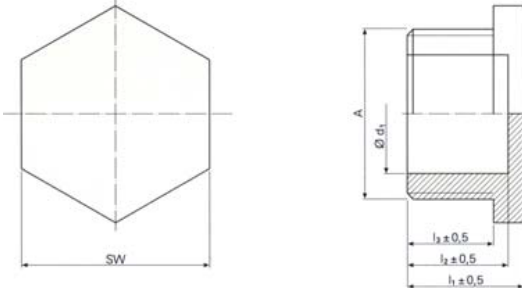


## Silencer made of sintered Bronze



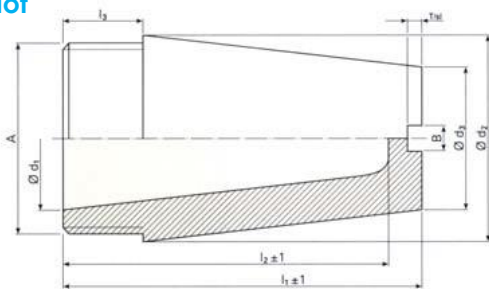
A	Ød1 mm	Ød2 mm	Ød2 mm	l1	l2	l3	Tool no.
G1/8"	4	11	8	21	17	5,5	541001
G1/4"	6	14	10	27	20	8,5	541002
G3/8"	10	16	15	36	30	11	541003
G1/2"	11	24	19	44	37	11	541004
G3/4"	16	30	20	63	55	13	541005
G1"	22	36	25	75	67	15	541006
G 1 1/2"	39	54	20	75	67	15	541007

## Vent plug made of sintered Bronze



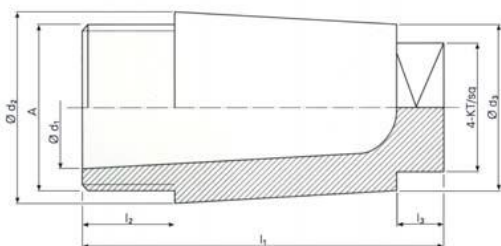
A	Ød1 mm	l1	l2	l3	SW 6kant	Tool no.
G1/8"	5,2	8,4	4,7	5,3	11	540035
G1/4"	7	12	9	8,5	15	540030
G3/8"	9	15	12,5	11	19	540031
G1/2"	13	18	12,5	11	22	540008
G3/4"	16	17	14	13	29	540032
G1"	22	19	16	15	36	540036

## Silencer made of sintered Bronze with a Slot



A	Ød1 mm	Ød2 mm	Ød3 mm	l1 mm	l2 mm	l3 mm	B mm	T sl	Tool no.
G1/8"	4	11	8	21	17	5,5	1,5	2	543001
G1/4"	6	14	10	27	20	8,5	1,5	2	543002
G3/8"	10	18	15	36	30	11	2	2	543003
G1/2"	11	24	19	44	37	11	2	3	543003
G3/4"	17	29	20	65	53	12	2	3,5	543005
G1"	22	35	26	75	66	15	3,5	4	543005

## Silencer made of sintered Bronze with a square



A	Ød1 mm	Ød2 mm	Ød3 mm	l1	l2	l3	4-KT sq	Tool no.
G1/8"	5	12	8,5	22	5,5	4,5	7	544001
G1/4"	6,2	14	11,5	27	7	4,5	9	544002
G3/8"	9	18	15,5	35	9	6	13	544003
G1/2"	13	24	20,5	43	10	7	17	544004
G3/4"	20	30	25	55	14	7	19	544005
G1"	25	38	30	69	15	8	24	544006

A	Ød1 mm	Ød2 mm	Ød3 mm	l1	l2	l3	4-KT sq	Tool no.
M10x1	5	12	8,5	22	5,5	4,5	7	545001
M12x1,5	6,2	14	11,5	27	7	4,5	9	545002
M14x1,5	6,2	16	11,5	27	7	4,5	9	545003
M16x1,5	9	18	15,5	35	9	6	13	545004
M22x1,5	13	24	20,5	43	10	7	17	545005
M27x2	20	30	25	55	14	7	19	545006
M33x2	25	38	30	69	15	8	24	545007

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SIKA-B – P422



- 1. Catalyst recovery
- 2. Refinery
- 3. Water treatment

- 4. Food shaping
- 5. EX-protection
- 6. Pneumatic valves

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