

# Venting, Dosing and Sealing using the X-tra





# **Table of Contents**



**FLUXX® DOSING SYST** Dispensing Taps (AH) Comparison of Dispensing Ta

FLUXX® DEGASSING S Degassing Inserts (F-Series) Vented Caps (KSE)

FLUXX<sup>®</sup> CLOSING SYS Screw Caps (KS)

CUSTOMIZED PRODUCE Plastic Solutions Membrane Solutions

QUALITY & SERVICE





OGRAM	Page 4-5
TEMS	Page 6-7
aps	Page 8-9
SYSTEMS	Page 10-11
	Page 12-13
STEMS	Page 14-15
ICTS	Page 16-17 Page 18-19
	Page 20-21

# **FLUXX® made by SABEU**

FLUXX<sup>®</sup> is a series of quality products made by SABEU, consisting of innovative closing and dosing systems as well as degassing solutions:

- Dispensing taps for bottling and decanting liquids
- Degassing inserts for caps and ready-to-use vented caps for the ventilation and degassing of containers
- Screw caps for various bottles, canisters, drums and IBCs
- Various sealing solutions
- Shaker cans and caps for spreadable materials
- Tube tips and nozzles for plastic and aluminum cartridges
- Customized plastic and membrane solutions

### **Dispensing Taps**

The excellent dispensing properties of the FLUXX<sup>®</sup> Dosing Systems are based upon our patented ventilation system. The aim of our dispensing taps with a 13 mm outlet is that the tap can also be inserted into narrow bottle necks to enable accurate, clean filling processes. The dispensing taps with a 23 mm outlet are designed to facilitate the decanting of large amounts of liquids within a very short period of time.

## **Degassing Inserts**

FLUXX<sup>®</sup> Degassing Inserts are equipped with hydrophobic as well as oleophobic membranes. The membranes make it possible for gaseous substances to diffuse, thereby preventing pressure from building up and decreasing in the containers. Furthermore, our degassing inserts are calibrated in such a way that the membranes are not moistened even by liquids with a low surface tension and thus remain fully breathable at all times.

## Vented Caps

Our FLUXX<sup>®</sup> Vented Caps are equipped with the SAVE (SAfety VEnt) system and are available with different DIN thread sizes. For the degassing system, we are using high-quality membranes, which enable the continuous pressure compensation with gaseous liquids, to prevent the containers from swelling and collapsing.

### Screw Caps

The various FLUXX<sup>®</sup> Screw Caps are made of impact-resistant polyethylene. Because of their composition and design, they fulfil all requirements for authorization with various containers in accordance with the test specifications set forth in the ADR treaty and the BAM (Federal Institute for Materials Research and Testing) dangerous goods regulation. As a standard feature, our caps are equipped with a molded on, tamper-evidence pull-off ring.

## Sealing Caps

Our FLUXX<sup>®</sup> Sealing Caps for plastic and aluminum containers ensure an increased diffusion density, which is achieved with special multi-layered sealing disks. These inserts comprise a barrier layer made of aluminum, are high-frequency sealable, thereby guaranteeing a qualified quality assurance.

### Drum Closures

 $\mathsf{FLUXX}^{\otimes}$  Drum Closures are designed for plastic and steel drums with a 200 liter volume and have a 2" thread.





## Shaker Cans and Caps

The FLUXX<sup>®</sup> Shaker Can sets are particularly suitable for packaging spreadable foodstuffs. Various shaker caps with several hole pattern variations are available for the multitude of use cases. The plastic parts can be dyed upon request.

# Tube Tips and Nozzes

Our FLUXX<sup>®</sup> Tube Tips and Nozzles are ultra-resistant to different types of liquids. Because of the nonpolar and hydrophobic surface, our tube tips are particularly suitable for use with plastic adhesives, jointing cement and sealing materials. The tube tips and nozzles are available with a metric thread and fit cartridges made of plastic as well as aluminum.

## Accessories

Accessories we manufacture include in particular ring nuts as well as diffusion-resistant knurled, toggle and vent plugs for different technical applications.

## Membranes

In addition, SABEU produces its own ion-track membranes under the brand name TRAKETCH<sup>®</sup>. Typical applications for TRAKETCH<sup>®</sup> Membranes are pressure compensation elements for packaging – in particular of special agrochemicals and foodstuffs – as well as for electronic component parts.

# **Everything is in FLUXX**

Dispensing Taps with 13 mm and 23 mm – fast, secure, simple



The innovative FLUXX<sup>®</sup> Dispensing Systems designed for a variety of containers facilitate the easy, clean as well as fast bottling and decanting of liquids without gurgling.

The outstanding dispensing properties are based upon SABEU's patented ventilation system. Because of the drip-off edge and the 13 mm tube diameter, the tap also easily fits into narrow bottle necks, thereby enabling the accurate as well as clean decanting and dosing. The dispensing taps with a 23 mm outlet facilitate in particular the decanting of large amounts of liquids within a very short period of time (> 5 I / min).

Our FLUXX<sup>®</sup> Dispensing Taps are suitable for all common thread sizes – both for bottles, canisters, drums and IBCs with a DIN 36 to 71 external thread as well as for plastic and steel drums with a <sup>3</sup>/<sub>4</sub><sup>"</sup> internal thread. The dispensing taps feature a high degree of impermeability – including when seeping liquids are used – and fulfil the highest industrial requirements regarding quality and safety. All raw materials and additives used during the production process are fit for human consumption under the food law as well as from a physiological point of view and comply with the Directive 2002/72/EC, Regulation EU no. 10/2011 and EC no. 1935/2004 as well as the Foodstuffs and Animal Feed Code.

The FLUXX® Dispensing Systems are suitable for filling and decanting a multitude of liquids – particularly in the fields of industrial and agricultural chemistry, cleaning, hygiene and cosmetic products, the automotive industry, lubricants as well as the food industry.

### Storage



Polyethylene and polypropylene are subject to age- and weather-related embrittlement. PE and PP are particularly sensitive to sun irradiation, which, over an extended period of time, can lead to the formation of stress cracks and associated leakiness. The operational life of the dispensing taps can be extended considerably, if they are not exposed to prolonged direct sun irradiation. In addition, please be aware that the containers with our dispensing taps should be stored in upright position after use.

## Impermeability and Durability

Chemical resistance is not synonymous with impermeability. For instance, a very low viscosity liquid can result in leakiness at the dispensing tap, even though chemical resistance is given.

The components of the FLUXX<sup>®</sup> Dispensing Taps are made of polyethylene (PE) as well as polypropylene (PP). Various chemicals have been tested for their compatibility with the raw materials. The list of chemical resistances below is intended as a guide with regard to their suitability for your intended purpose.

# Chemical resistance

In particular: acetic acid, boric acid, citric acid 0.7%, formic acid, hydrochloric acid, nitric acid, sulfuric acid, amyl alcohol, benzyl alcohol, butyl alcohol, ethyl alcohol, isobutyl alcohol, methanol, formaldehyde, benzaldehyde, diethylacetamide, dimethylformamide, ammonium hydroxide 6N, sodium hydroxide, amyl acetate, ethyl acetate, isopropyl acetate, dioxane, tetrahydrofuran, butyl chloride, carbon tetrachloride, chlorobenzene, chloroform, benzene, gasoline, hexane, kerosene, pentane, phenol 0.5%, toluene, xylene, acetone, cyclohexanone, methyl ethyl ketone, methyl isobutyl ketone, ethylene glycol, glycerol, acetoni-trile, ammonia, chlorine, cresol, detergents & soaps, DMSO, FreonR TF, hydrogen peroxide 30%, nitrobenzene, pyridine, silicone oils, sodium hypochlorite (bleach), water

We can not guarantee comprehensive chemical resistance of specific applications. We recommend testing of actual application prior to use.

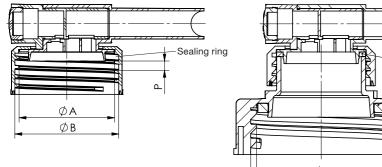


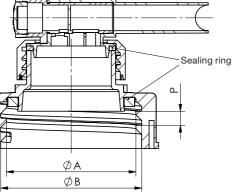
# **Benefits**

- Fast, simple and clean dosing without gurgling
- Available for all common thread sizes
- Drip-off edge for clean dosing
- Smooth moving lever for easy operability
- Beveled outlet for convenient bottling and decanting
   including in narrow bottle necks
- High flow rates
- Resistance to a multitude of chemicals
- Fit for human consumption under the food law

7

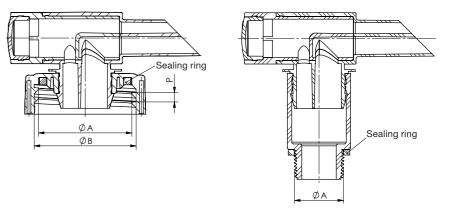
# **Comparison of Dispensing Taps**











# Dispensing Taps AH 13 mm

Description	Product illustration	Item number	Packaged quantity	Dimensions
AH 13/61 for DIN 61 thread	1	406 133	200 pieces	$\emptyset$ A 55.6 mm / $\emptyset$ B 60.5 mm P = 6 mm (thread pitch)
AH 13/51 for DIN 51 thread	1	405 133	250 pieces	Ø A 50.2 mm / Ø B 54.8 mm P = 5 mm (thread pitch)
AH 13/50 for DIN 50 thread	1	405 232	250 pieces	Ø A 46.1 mm / Ø B 50.1 mm P = 4 mm (thread pitch)
AH 13/45 for DIN 45 thread		404 133	650 pieces	Ø A 41.0 mm / Ø B 44.6 mm P = 4 mm (thread pitch)
AH 13/40 ¾" with ¾" external thread		403 183	500 pieces	R ¾" BSP thread
AH 13/40 for DIN 40 thread		403 133	750 pieces	Ø A 38.8 mm / Ø B 42.2 mm P = 4 mm (thread pitch)
AH 13/38 for DIN 38 thread		402 144	750 pieces	Ø A 36.1 mm / Ø B 37.9 mm P = 3 mm (thread pitch)
AH 13/36 for DIN 36 thread		401 133	750 pieces	Ø A 33.2 mm / Ø B 35.6 mm P = 3.6 mm (thread pitch)

Customizations (engraving / embossing – e.g. company logo) are available upon request.

Performance	
Flow rate:	> 1.5 I / min
Components	Material
Housing, cover cap, reducing cap, adapter:	Polyethylene (PE)
Lever, cap nut:	Polypropylene (PP)
Sealing ring for cap nut:	EPE

Colors	
Cap nut:	red / black
Lever, cover cap:	red
Housing, adapter, reducing cap:	natural
(other colors are available upon request)	

# Dispensing Taps AH 23 mm

Description	Product illustration	Item number	Packaged quantity	Dimensions
AH 23/71 for DIN 71 thread	T	410 320	125 pieces	Ø A 67.0 mm / Ø B 72.3 mm P = 7 mm (thread pitch)
AH 23/61 for DIN 61 thread	<b></b>	408 124	200 pieces	Ø A 55.6 mm / Ø B 60.5 mm P = 6 mm (thread pitch)
AH 23/51 for DIN 51 thread		407 124	250 pieces	Ø A 50.2 mm / Ø B 54.8 mm P = 5 mm (thread pitch)
AH 23/50 for DIN 50 thread		410 224	275 pieces	Ø A 46.1 mm / Ø B 50.1 mm P = 4 mm (thread pitch)
AH 23/45 for DIN 45 thread		410 124	350 pieces	Ø A 41.1 mm / Ø B 45.1 mm P = 4 mm (thread pitch)
AH 23/ ¾" with ¾" external thread	-	409 120	250 pieces	R ¾" BSP thread
AH 23/ ¾" on 2" Mauser thread	5	409 220	175 pieces	R ¾" on S 70x6 Mauser rough thread
AH 23/ ¾" on 2" Trisure thread		409 320 - rough thread 409 420 - fine thread	175 pieces	R ¾" on 2" PPS rough or fine thread
Protective cap	-	999 008	upon request	Suitable for all Dispensing Taps AH 23

Performance	
Flow rate:	> 5 I / min
Components	Material
Housing, cover cap, adapter:	Polyethylene (PE)
Lever, cap nut, plug:	Polypropylene (PP)
Sealing ring for cap nut:	EPE
Sealing rings for adapter & plug:	EPDM



# Customizations (engraving / embossing - e.g. company logo) are available upon request.

Colors	
Cap nut:	red / black
Lever, cover cap:	red
Housing, adapter, plug:	natural

(other colors are available upon request)

Degassing Insert F15 with drip-off edge







The FLUXX® Degassing Inserts make it possible for gaseous substances to diffuse, thereby preventing pressure from building up and decreasing in the containers. The membranes are hydrophobic as well as oleophobic, and as a result they are not moistened even by liquids with a low surface tension and remain fully breathable at all times.

Plastic insert: Polyethylene (HDPE)

• Membrane: ePTFE

ants.

**Degassing Inserts** 

with hydrophobic and oleophobic membranes

# **Product Program**

Continuous pressure compensation	lle er er er berer
Prevent containers from swelling and collapsing	Item number:
Drip-off edge for a rapid re-ventilation     after contact with liquids	Use:
Reliable protection against leaks	Packaged qua
Easy to install	Water entry pre
Fit for human consumption under the food law	Airflow:
Available with FDA conformity upon request	Item diameter:
	h1:
	h2:
Caps for bottles, canisters, drums and IBCs for packaging of industrial chemicals, agrochemicals, fertilizers and pesti-	d:

Degassing Insert F15	Degassing Insert F17	Degassing Insert F38
924 005	924 015	924 025
924 006 with catch	924 016 with catch	924 026 with catch
2 - 30 I	30 - 60 I	60 - 1,500 l
40,000 pieces	10,000 pieces	2,000 pieces
≥ 0.8 bar	≥ 0.8 bar	≥ 0.8 bar
≥ 5.2 I / h at 12 mbar	$\geq$ 5.2 l / h at 12 mbar	≥ 72.8 I / h at 12 mbar
15 mm	17 mm	38 mm
7.5 mm	15.0 mm	22.0 mm
6.0 mm	6.0 mm	12.0 mm
13 mm	13 mm	13 mm
	924 005         924 006 with catch         2 - 30 I         40,000 pieces         ≥ 0.8 bar         ≥ 5.2 I / h at 12 mbar         15 mm         7.5 mm         6.0 mm	924 005       924 015         924 006 with catch       924 016 with catch         2 - 30 I       30 - 60 I         40,000 pieces       10,000 pieces $\geq 0.8$ bar $\geq 0.8$ bar $\geq 5.2$ I / h at 12 mbar $\geq 5.2$ I / h at 12 mbar         15 mm       17 mm         7.5 mm       15.0 mm         6.0 mm       6.0 mm

## Mode of operation

Applications

Material

**Benefits** 



cides, cleaning and cosmetic products as well as disinfect-

# Chemical resistance

In particular: acetic acid, boric acid, citric acid 0.7%, formic acid, hydrochloric acid, nitric acid, sulfuric acid, amyl alcohol, benzyl alcohol, butyl alcohol, ethyl alcohol, isobutyl alcohol, methanol, formaldehyde, benzaldehyde, diethylacetamide, dimethylformamide, ammonium hydroxide 6N, sodium hydroxide, amyl acetate, ethyl acetate, isopropyl acetate, dioxane, tetrahydrofuran, butyl chloride, carbon tetrachloride, chlorobenzene, chloroform, benzene, gasoline, hexane, kerosene, pentane, phenol 0.5%, toluene, xylene, acetone, cyclohexanone, methyl ethyl ketone, methyl isobutyl ketone, ethylene glycol, glycerol, acetonitrile, ammonia, chlorine, cresol, detergents & soaps, DMSO, FreonR TF, hydrogen peroxide 30%, nitrobenzene, pyridine, silicone oils, sodium hypochlorite (bleach), water

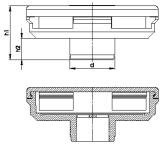
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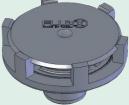
**Degassing Insert F38** 

with splash protection

Degassing Insert F17 with drip-off edge and splash protection







Indications are depending on individual applications and should be tested.

# **Precision and Innovation**

Caps with degassing function







Our FLUXX® Vented Caps with DIN 45, 51 and 61 are made of high-density polyethylene (HDPE) and because of their composition and design, they fulfil all requirements for authorization with various containers in accordance with the test specifications set forth in the ADR treaty and the BAM dangerous goods regulation. As a standard feature, the caps are equipped with a molded on, tamper-evidence ring as well as an EPE sealing ring. The degassing inserts make it possible for gaseous substances to diffuse, thereby preventing pressure from building up and decreasing in the containers. The membranes are hydrophobic as well as oleophobic, and as a result, they are not moistened even by liquids with a low surface tension and remain fully breathable at all times.

### SAVE (SAfety VEnt) B - an innovative and patented degassing system

Unlike with conventional degassing inserts, the SAVE has a wedge-like design and the membrane was welded on at a 60° angle. This enables the liquids to drain off immediately, leaving the membrane unobstructed and air permeable. In addition, no splash protection is needed, as the liquid flows past the beveled membrane should a canister fall over, rather than hitting it head-on. Among other things, the SAVE is intended for use with industrial chemicals, agrochemicals, fertilizers and pesticides, cleaning and cosmetic products as well as disinfectants.

Material	
	Cap: Polyethylene (HDPE)
	SAVE: Polyethylene (HDPE)
	Membrane: ePTFE
Colors	
	Natural, black, red, blue, green, yellow
	(other colors are available upon request)
Customization	
	Engraving / embossing on the cap
	(e.g. with the company logo)
Performance	
	<ul> <li>Water entry pressure: ≥ 0.8 bar</li> </ul>
	<ul> <li>Airflow: ≥ 3.6   / h at 12 mbar</li> </ul>
Benefits	
	Continuous pressure compensation
	Prevent containers from swelling and collapsing
	Drip-off edge for the rapid re-ventilation
	after contact with liquids
	Reliable protection against leaks
	Fit for human consumption under the food law

# **Product Program**

Description	Product illustration	Item number	Packaged quantity	Dimensions
<b>KSE 45 SAVE OV</b> with molded on, tamper-evidence ring, for DIN 45 thread	0	upon request	Euro pallet = 18,000 pieces (20 cartons)	Ø A 41.1 mm / Ø B 44.7 mm P (thread pitch) 4 mm H 5 mm
KSE 51 SAVE OV with molded on, tamper-evidence ring, for DIN 51 thread	۲	357 10x	Euro pallet = 10,000 pieces (20 cartons)	Ø A 50.2 mm / Ø B 54.8 mm P (thread pitch) 5 mm H 5 mm
KSE 61 SAVE OV with molded on, tamper-evidence ring, for DIN 61 thread	Ø	367 10x	Euro pallet = 7,000 pieces (20 cartons)	Ø A 55.6 mm / Ø B 60.5 mm P (thread pitch) 6 mm H 5 mm
Sealing ring	0	fit for human cor 2002/72/EC and	eal for industrial application nsumption in accordance no. 1935/2004 as well as the FDA 21CFR 177.1520	with the EC Directives in Germany with the LFGB /

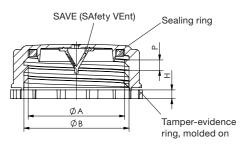
Other items and customized products are available upon request.

# Chemical resistance

In particular: acetic acid, boric acid, citric acid 0.7%, formic acid, hydrochloric acid, nitric acid, sulfuric acid, amyl alcohol, benzyl alcohol, butyl alcohol, ethyl alcohol, isobutyl alcohol, methanol, formaldehyde, benzaldehyde, diethylacetamide, dimethylformamide, ammonium hydroxide 6N, sodium hydroxide, amyl acetate, ethyl acetate, isopropyl acetate, dioxane, tetrahydrofuran, butyl chloride, carbon tetrachloride, chlorobenzene, chloroform, benzene, gasoline, hexane, kerosene, pentane, phenol 0.5%, toluene, xylene, acetone, cyclohexanone, methyl ethyl ketone, methyl isobutyl ketone, ethylene glycol, glycerol, acetonitrile, ammonia, chlorine, cresol, detergents & soaps, DMSO, FreonR TF, hydrogen peroxide 30%, nitrobenzene, pyridine, silicone oils, sodium hypochlorite (bleach), water

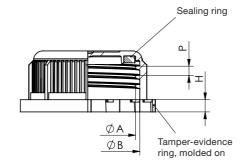
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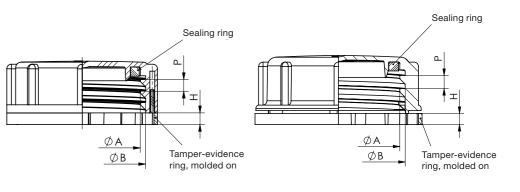




# Secure, tight and reliable

Caps for dangerous goods packaging







1



CORROSIVE

Our FLUXX® Screw Caps with DIN 45, 51 and 61 are made of high-density polyethylene (HDPE) and because of their composition and design, they fulfil all requirements for authorization with various containers in accordance with the test specifications set forth in the ADR treaty and the BAM dangerous goods regulation. As a standard feature, the caps are equipped with a molded on, tamper-evidence ring as well as an EPE sealing ring. All raw materials and additives used during the production process are fit for human consumption under the food law as well as from a physiological point of view and comply with the Directive 2002/72/EC as well as the Foodstuffs and Animal Feed Code.

> The FLUXX<sup>®</sup> Screw Caps can be used among other things for industrial chemicals, agrochemicals, fertilizers and pesticides, cleaning and cosmetic products, disinfectants as well as foodstuffs.

Material	
	Cap: Polyethylene (HDPE)
Colors	
	Natural, black, red, blue, green, yellow
	(other colors are available upon request)
Customization	
	<ul> <li>Engraving / embossing on the cap</li> </ul>
	(e.g. with the company logo)
Benefits	
	Secure sealing
	Reliable protection against leaks
	Suitable for dangerous goods packaging
	High chemical resistance
	Tamper-evidence pull-off ring, molded on

Tamper-evidence pull-off ring, molded on

# **Product Program**

Description	Product illustration	Item number	Packaged quantity	Dimensions
<b>KS 45 OV</b> with molded on, tamper-evidence ring, for DIN 45 thread	0	332 71x	Euro pallet = 19,000 pieces (20 cartons	Ø A 41.1 mm / Ø B 44.7 mm P (thread pitch) 4 mm H 5 mm
<b>KS 51 OV</b> with molded on, tamper-evidence ring, for DIN 51 thread		357 00x	Euro pallet = 10,000 pieces (20 cartons)	Ø A 50.2 mm 7 Ø B 54.8 mm P (thread pitch) 5 mm H 5 mm
KS 61 OV with molded on, tamper-evidence ring, for DIN 61 thread	Ő	367 00x	Euro pallet = 7,000 pieces (20 cartons)	Ø A 55.6 mm / Ø B 60.5 mm P (thread pitch) 6 mm H 5 mm
Sealing ring	0	Standard EPE seal for industrial applications: fit for human consumption in accordance with the EC Directives 2002/72/EC, no. 1935/2004 as well as in Germany with the LFGB / in the USA with the FDA 21CFR 177.1520/1210/3010		

Other items and customized products are available upon request.

# Chemical resistance

In particular: acetic acid, boric acid, citric acid 0.7%, formic acid, hydrochloric acid, nitric acid, sulfuric acid, amyl alcohol, benzyl alcohol, butyl alcohol, ethyl alcohol, isobutyl alcohol, methanol, formaldehyde, benzaldehyde, diethylacetamide, dimethylformamide, ammonium hydroxide 6N, sodium hydroxide, amyl acetate, ethyl acetate, isopropyl acetate, dioxane, tetrahydrofuran, butyl chloride, carbon tetrachloride, chlorobenzene, chloroform, benzene, gasoline, hexane, kerosene, pentane, phenol 0.5%, toluene, xylene, acetone, cyclohexanone, methyl ethyl ketone, methyl isobutyl ketone, ethylene glycol, glycerol, acetonitrile, ammonia, chlorine, cresol, detergents & soaps, DMSO, FreonR TF, hydrogen peroxide 30%, nitrobenzene, pyridine, silicone oils, sodium hypochlorite (bleach), water

We can not guarantee comprehensive chemical resistance of specific applications. We recommend testing of actual application prior to use.



# **Dosing, Bottling, Sealing**

and much more



**Tube Tips and Nozzles** working like professionals

**Drum Closures** for industrial applications

diffusion-resistant closures and ring nuts

16



# **Shaker Cans and Caps** one shape, many possibilities

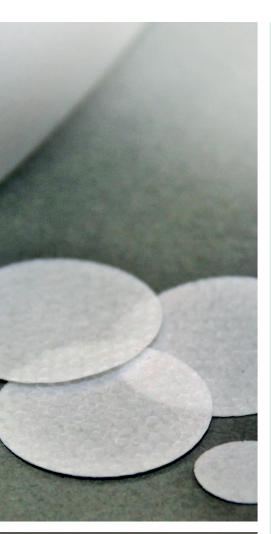




# **Accessories**



# **TRAKETCH®** Membranes made by SABEU





SABEU produces its own ion-track membranes under the brand name TRAKETCH<sup>®</sup>. Typical applications for TRAKETCH<sup>®</sup> Membranes are pressure compensation elements for packaging – in particular of special agrochemicals and foodstuffs – as well as for electronic component parts.

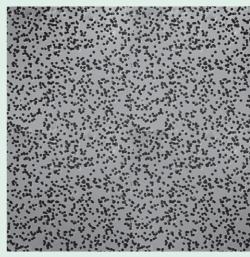
### Possible designs

Benefits

	Membrane material: PET			
	Surface treatment: hydrophobic / oleophobic			
	• White or colored membranes / membrane lamination			
	• PP or PET fleece fabric - reinforced membranes			
	Formats: rolls, sheets or roundlets			

Clearly defined cylindrical pore shape
Good reproducibility of the pore size
Microscopically smooth surfaces
High chemical resistance
Good mechanical stability





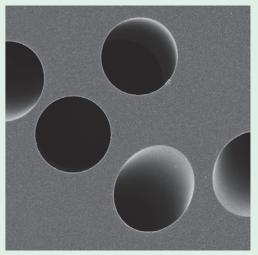
Exactly defined pore density

# Chemical resistance

In particular: acetic acid 1-10%, aliphatic hydrocarbons, ammonium chloride, ammonium sulphate, benzoic acid, butane, butyl lactate, butyl stearate, calcium chloride 10%, camphor, carbon disulphide, carbon tetrachloride, cetyl alcohol, chromic acid 1-10%, citric acid 10%, citronellol, copper (II) sulphate / copper (III) sulphate, cyclohexanone, cyclohexanol, diacetone alcohol, dibutyl phthalate, dibutyl sebacate, diethyl ether, diethylene glycol, dionyl phthalate, dioctyl phthalate, dipentene, ethyl alcohol, 2-ethoxy ethanol, ethylene glycol, formaldehyde 40%, formic acid 5-30%, Freon 11 (fluorotrichloromethane), Freon TF (1,1,2-trichloro-1,2,2-trifluoroethane), geraniol, glycerin, heptane, hexane, hydrobromic acid 50%, hydrochloric acid 10%, hydrofluoric acid 5%, hydrogen peroxide 30%, hydroquinone, isooctane, isopropyl alcohol, lanolin, linalol, magnesium chloride, maleic acid 50%, mercury, methyl alcohol, methyl cyclohexanol, nitric acid 1-10%, n-Octane, oleic acid, oxalic acid, oxygen, phosphoric acid 1-10%, pinene, potassium bromide, potassium chloride 10%, potassium chromate, sodium borate, sodium bromide, sodium carbonate 1-20%, sodium cyanide, sodium nitrate, sodium nitrite, sodium phosphate, sodium sulphate, sodium sulfide, sodium thiosulphate, stearic acid, sucrose, sulphur, sulphuric acid 1-30%, tetrachloroethylene, tetralin, toluene, trichloroethyl phosphate, xylene, zinc chloride, beer, carbonated soft drinks, castor oil, cottonseed oil, detergents 1%, diesel oil, fruit juices and nectars, flaxseed oil, lubricating grease, milk and dairy products, mineral oils, mineral eater, mouthwashes, motor oil, olive oil, medicinal paraffin, petroleum ether, silicone fluids, soap solutions 1%, transformer oil, turpentine, vegetable oils, wine vinegar, water

We can not guarantee comprehensive chemical resistance of specific applications. We recommend testing of actual application prior to use.





Ultra-precise pore diameter

# **Customer satisfaction beyond standard expectations**

## Quality

In order to implement our quality policies within the company and to achieve the goals derived from them, we installed an integrated management system under the guidance of the quality assurance business unit. We observe the Total Quality Management principles, are certified according to the standards DIN EN ISO 9001:2008 as well as DIN EN ISO 1348:2012 and the entire company operates in compliance with the applicable normative, legal and regulatory requirements.

## Quality assurance

For us, quality assurance is not simply a department, but a company-wide endeavor that involves the entire workforce. We work with a state-of-the-art CAQ (Computer Aided Quality) system, which is networked across all sites and makes the data available throughout the company at all times.

## Management system (all-in-one)

Our company is controlled by means of a centralized, fully integrated management system, enabling us to always fulfil the requirements of our customers to the full extent. This system covers all corporate divisions and is available any time at all sites by way of a company-wide IT structure.

Occupational hygiene is another component of our integrated management system. The effectiveness of the hygiene requirements is regularly monitored and documented by means of tests of the particle counts in the room air and with microbiological analyses conducted in accordance with GMP guidelines. (2)

## 1. Development

Everything from a single source – from the very first manual sketch to the serial production! Do you have a product idea you would like to turn into reality?

In close dialog with our clients, we develop customer-specific turnkey solutions. We are committed to create innovative and high-quality marketable products – always in compliance with the regulatory requirements and feasibilities. A balanced cooperation of human engineering, optical appearance, functionality, technology and economics is of utmost importance. It is the cooperation among the specialist departments that guarantees a customerfocused realization of product ideas from the very first start.

A systematically designed, modular product development process generates transparency, enabling our clients to get on board during any phase of the product development. Our services include e.g. the compilation of performance specifications, development of requirement profiles, creation of product screenshots and manufacture of rapid prototyping models.

## 2. Design

Do you have a component you would like to have manufactured by way of injection molding, or for the manufacture of which you require an injection mold? We are here to help!

SABEU has decades' worth of experience with the development of items that are compatible with plastics and the design of injection molding tools as well as peripheral equipment and is looking forward to sharing this experience with you. We design using SolidWorks as well as CAMWorks. Files can be exchanged in Parasolid, IGES, DWG + DXF format.



# 3. Mold making

In our state-of-the-art mold making department equipped with CNC-controlled machines, we take care of both the new construction of your injection molding tools as well as the maintenance, upkeep and repairs of all molds currently in use. Ultra-precise tools enable the reproducible and validatable production of complex component parts with high unit numbers. We manufacture a variety of molds, in particular high-cavitation injection molds, multi-component molds, hot runner molds, tiered molds and rotary table tools. This establishes the basis for a reproducible manufacture – in compliance with the requirements of the international markets.

(4)

## 4. Injection molding

The reproducible manufacture of component parts using the injection molding process – with high unit numbers – is one of SABEU's core competencies. Using state-of-the-art machinery, we produce injection molded component parts with a high degree of process capability and precision, which are subsequently assembled, customized and/or packaged in an integrated process.

The injection molding techniques we use include multi-component molding, back injection molding of foils (IMD, IMF), transfer molding, thin wall molding and micro molding.

Injection molding machines with clamping forces between 100 and 2,750 kN are available for the processing of plastics. We use them to manufacture items made of thermoplastic materials with individual weights of 0.1 g to 420 g. For the economical as well as gentle removal of the parts, we use the most efficient solutions in line with the respective requirements – ranging from simple handling tools to triple-axis CNC linear robots. The injection molding production as well as automated and manual assembly work up to and including the final packaging takes place during a three-shift operation.





(6)



# 5. Membranes

SABEU also develops and produces its own ion-track membranes under the brand name TRAKETCH<sup>®</sup>. Typical applications for TRAKETCH<sup>®</sup> Membranes are pressure compensation elements for packaging – in particular of special agrochemicals and foodstuffs – as well as for electronic component parts.

## 6. Assembly

SABEU generates customized manufacturing concepts for the assembly and packaging of products on the basis of customer specifications. They guarantee a high availability and a secure as well as economical production of the items, in particular in clean rooms and controlled areas.

We design assembly equipment, rotary table equipment, linear systems and automated testing tools for you. Depending on the product, different production steps can be integrated into the automation, such as for instance welding, gluing, screwing, hot caulking, riveting and in-line testing – dimensionally or visually using a camera system. Depending on the different product complexities, the assembly can be carried out fully automated, semi-automated or manually. With regard to the assembly, we are using own designs in addition to third-party products in order to achieve an effective completion and packaging. Furthermore, we take care of the surface treatment of all components. In addition, we refine finished parts by adding an imprint, laser engraving, a metal coat and by means of other processes.







Detlev-Karsten-Rohwedder-Str. 10 · 37154 Northeim · Germany Phone: +49 5551 9101-00 · Fax: +49 5551 9101-220 sales@sabeu.com · www.sabeu.com