

## FLUXX<sup>®</sup> Product portfolio

Venting, Dosing and Closing using the -tra



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## FLUXX® Product portfolio

### Packaging using the X-tra

FLUXX® is a series of quality products made by SABEU, consisting of innovative closing and dosing systems as well as venting solutions:

- Dispensing Taps for bottling and decanting liquids
- Degassing Inserts used in caps for the continuous pressure compensation of containers
- Vented Caps ready-to-use for the continuous pressure compensation of containers
- Screw Caps for various bottles, canisters, drums and IBCs



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SABEU is also developing customized plastic components and membrane solutions – especially:

- Membranes – even combined with plastic components
- Sealing caps
- Drum closures
- Shaker cans and caps
- Tube tips and nozzles
- Ring nuts and diffusion-resistant closures

### Dispensing Taps

The excellent dispensing properties of the FLUXX® Dosing Systems are based upon our innovative ventilation system. The aim of our Dispensing Taps with a 13 mm outlet spout 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 spout are designed to facilitate the decanting of large amounts of liquids within a very short period of time.

### Degassing Inserts

FLUXX® 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.



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### Vented Caps

Our FLUXX® Vented Caps are equipped with the SAVE (SAfety VEnt) System and are available with several DIN thread sizes. For the venting 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 FLUXX® Screw Caps are available for the common thread sizes DIN 45, 51 and 61. Because of the construction, our Caps can fulfil all requirements for authorization with various containers – especially in accordance with the test specifications set forth in the ADR regulations. As a standard feature, the Caps are equipped with a molded on tamper-evidence ring as well as an EPE sealing ring.

### Customized plastic solutions



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### Customized membrane solutions

### SABEU – Everything from a single source



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# Dispensing Taps

## Series AH (1/2)

**Ready, steady, flow**

Series AH 13 and 23 mm – easy, fast and clean



### Scope of application

The innovative FLUXX® Dispensing Taps perfectly facilitate the easy, fast and clean decanting of liquids without gurgling. Series AH 13 supports the accurate and clean dosing – especially in bottles with small threaded necks. Series AH 23 is designed to support the dosing of large amounts of liquids within a short period of time.

### Broad product portfolio

Our FLUXX® Dispensing Taps are suitable for all containers – bottles, canisters, drums and IBC's – with an external thread ranging from DIN 38 to DIN 71 as well as plastic and steel drums with an ¾" and 2" internal thread.

### Unique ventilation system

The outstanding flow properties are based on the unique ventilation system from SABEU. Thanks to this, FLUXX® Dispensing Taps AH 13 series have a flow rate of 1.5 L / min at the minimum. The AH 23 series even have a flow rate higher than 5 L / min.

### No leaking

FLUXX® Dispensing Taps have a high impermeability even with aggressive chemicals and strongly seeping liquids.

### Benefits

- Easy, fast and clean dispensing without gurgling
- Available for all common thread sizes
- Drip-off edge for convenient and clean dosing – even in narrow bottle necks
- Smooth moving lever for easy operability
- High flow rates
- Resistance to a multitude of chemicals
- Declaration of food conformity

### Declaration of food conformity

Upon request, our products are available with regulations EU no.10/2011, EC no.1935/2004, LFGB, FDA as well as Mercosur – inspected and approved by certified testing institutes.

### Application examples

#### Decanting especially of:

- Liquid food
- Hygiene and care products
- Cleaners
- Agrochemicals
- Engine and gear oils
- Industrial chemicals



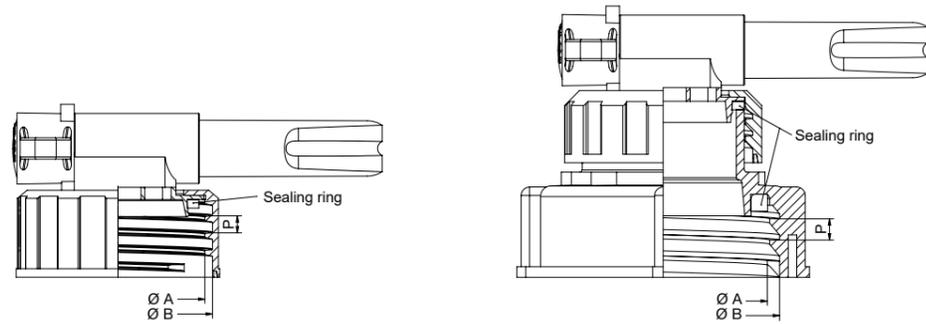
		Series AH 13	Series AH 23
Materials	Polyethylene (PE)	Housing, cover cap, reducing cap, adapter	Housing, cover cap, adapter, sealing ring for plug, "cap nut AH 23/63"
	Polypropylene (PP)	Lever, cap nut	Lever, cap nut, plug
	EPE	Sealing ring for cap nut	Sealing rings for adapter and cap nut
	EPDM		Sealing ring for "cap nut AH 23/63"
Colors	Red / Black	Cap nut	Cap nut
	Red	Lever, cover cap	Lever, cover cap
	Natural	Housing, adapter, reducing cap	Housing, adapter, plug, "cap nut AH 23/63"
Characteristics	Flow rate	≥ 1.5 L / min	≥ 5 L / min
	Outlet spout diameter	13 mm	23 mm
	Thread sizes	DIN 38 to DIN 61	DIN 45 to DIN 71 and for drums with ¾" and 2" thread



#### Chemical resistance

Our products achieve a high chemical resistance to many liquids. However, we cannot guarantee comprehensive chemical resistance of specific applications. Therefore, we recommend individual testing of customer applications prior to use – with the support of our experts.

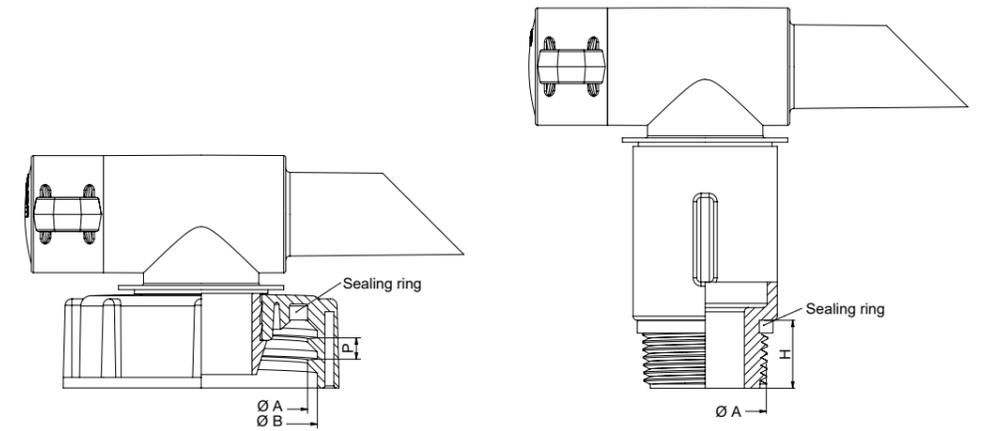
# Dispensing Taps Series AH (2/2)



## Product portfolio AH 13

Description	Picture	Item number	Quantity per carton	Dimensions
AH 13/38 for DIN 38 thread		402 144	750 pcs.	Ø A = 36.1 mm / Ø B = 37.9 mm P = 3 mm (Thread pitch)
AH 13/40 for DIN 40 thread		403 133	750 pcs.	Ø A = 38.8 mm / Ø B = 42.2 mm P = 4 mm (Thread pitch)
AH 13/45 for DIN 45 thread		404 133	650 pcs.	Ø A = 41.0 mm / Ø B = 44.6 mm P = 4 mm (Thread pitch)
AH 13/50 for DIN 50 thread		405 232	250 pcs.	Ø A = 46.1 mm / Ø B = 50.1 mm P = 4 mm (Thread pitch)
AH 13/51 for DIN 51 thread		405 133	250 pcs.	Ø A = 50.2 mm / Ø B = 54.8 mm P = 5 mm (Thread pitch)
AH 13/61 for DIN 61 thread		406 133	200 pcs.	Ø A = 55.6 mm / Ø B = 60.5 mm P = 6 mm (Thread pitch)

Customizations upon request.



## Product portfolio AH 23

Description	Picture	Item number	Quantity per carton	Dimensions
AH 23/45 for DIN 45 thread		410 124	350 pcs.	Ø A = 41.1 mm / Ø B = 45.1 mm P = 4 mm (Thread pitch)
AH 23/50 for DIN 50 thread		410 224	275 pcs.	Ø A = 46.1 mm / Ø B = 50.1 mm P = 4 mm (Thread pitch)
AH 23/51 for DIN 51 thread		407 124	250 pcs.	Ø A = 50.2 mm / Ø B = 54.8 mm P = 5 mm (Thread pitch)
AH 23/61 for DIN 61 thread		408 124	200 pcs.	Ø A = 55.6 mm / Ø B = 60.5 mm P = 6 mm (Thread pitch)
AH 23/63 for DIN 63 thread		410 426	150 pcs.	Ø A = 60.7 mm / Ø B = 64.5 mm P = 4.2 mm (Thread pitch)
AH 23/71 for DIN 71 thread		410 320	125 pcs.	Ø A = 67.0 mm / Ø B = 72.3 mm P = 7 mm (Thread pitch)
AH 23/ 3/4" with 3/4" external thread		409 120	250 pcs.	Ø A = R 3/4" BSP thread ‡ H = 16 mm
AH 23/ 3/4" on 2" Mauser thread		409 220 – Rough thread	175 pcs.	Ø A = R 3/4" on S 70x6 rough thread
AH 23/ 3/4" on 2" Trisure thread		409 320 – Rough thread 409 420 – Fine thread	175 pcs.	Ø A = R 3/4" on 2" PPS rough or fine thread
Protective cap AH 23		999 008	Upon request	Suitable for all Dispensing Taps AH 23

Customizations upon request.

# Degassing Inserts

## Series F (1/2)

### Scope of application

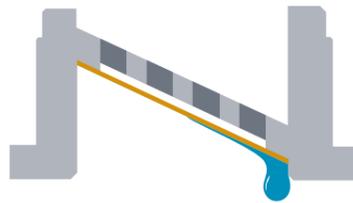
The high-quality FLUXX® Degassing Inserts make it possible for gaseous substances to diffuse, thereby preventing pressure from building up and decreasing in the containers – including bottles, canisters, drums and IBCs. The membranes are hydrophobic as well as oleophobic, and as a result, they are not moistened even by liquids with a low surface tension.

### Broad product portfolio

For a continuous pressure compensation of containers, our FLUXX® Degassing Inserts F15, F17 & F38 – without and with catch (LOCK) – can be pressed in customized closures or other applications. The Degassing Inserts contain various high-performance membranes which were validated for specific product solutions.

### Patented drip-off edge

Thanks to the diagonally developed membrane surface of the innovative FLUXX® Degassing Inserts, liquids can rinse off immediately after contact and thus the membrane remains fully breathable at all times.



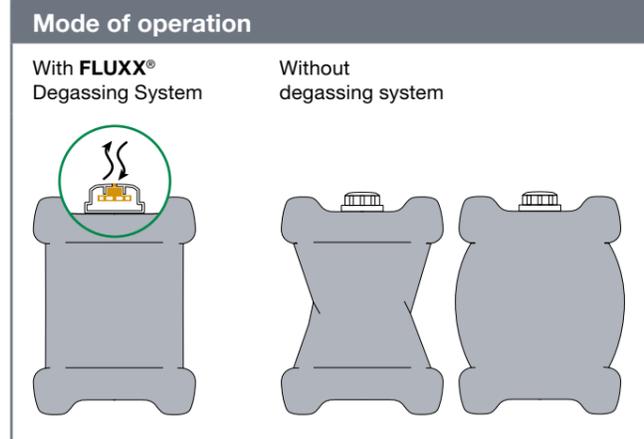
### Declaration of food conformity

Our products comply with regulations EU no. 10/2011, EC no. 1935/2004, LFGB as well as FDA and are fit for human consumption under the food law as well as from a physiological point of view – inspected and approved by certified testing institutes.

In addition, selected products fulfil further international regulations – especially according to Mercosur – and are available upon request.

### Suitability for hazardous goods

Because of the construction and performance values, our FLUXX® Degassing Inserts can fulfil all requirements for authorization with various containers – especially in accordance with the test specifications set forth in the ADR regulations.



- ### Benefits
- Continuous pressure compensation
  - Prevent containers from swelling and collapsing
  - Reliable protection against leaks
  - Drip-off edge for a rapid re-ventilation after contact with liquids
  - Easy to install
  - Declaration of food conformity

- ### Application examples
- Liquid food
  - Agrochemicals
  - Cleaners
  - Hygiene and care products
  - Industrial chemicals

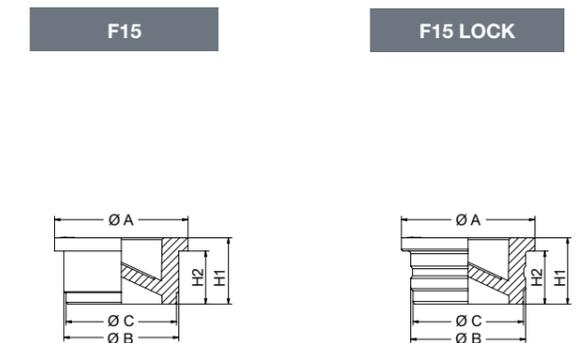
### Materials

Plastic insert:	Polyethylene (PE)
Membrane:	Polytetrafluorethylene (PTFE)
Backing:	Polypropylene (PP)



**Chemical resistance**  
Our products achieve a high chemical resistance to many liquids. However, we cannot guarantee comprehensive chemical resistance of specific applications. Therefore, we recommend individual testing of customer applications prior to use – with the support of our experts.

## Degassing Inserts – F15



### Product portfolio

Description	Picture	Item number	Quantity per carton	Dimensions	Typical airflow at 12 mbar	Typical WEP <sup>1</sup>
F15 recommended for 2–30 L		924 005	40,000 pcs.	Ø A = 15.1 mm Ø B = 13.0 mm / Ø C = 12.6 mm ‡ H1 = 7.5 mm / ‡ H2 = 6.0 mm	5.2 L / h	0.8 bar
F15 LOCK recommended for 2–30 L		924 006				

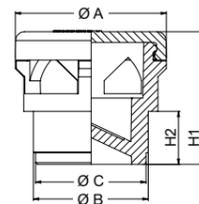
Customizations (especially alternative membranes) upon request.  
<sup>1</sup>WEP = Water Entry Pressure

# Degassing Inserts Series F (2/2)

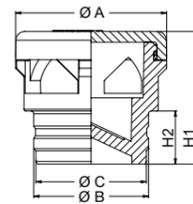
## Degassing Inserts – F17



F17, F17 HF



F17 LOCK, F17 LOCK HF



### Product portfolio

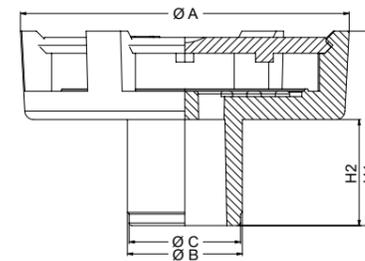
Description	Picture	Item number	Quantity per carton	Dimensions	Typical airflow at 12 mbar	Typical WEP <sup>1</sup>
F17 incl. splash protection recommended for 30–60 L		924 015	10,000 pcs.	Ø A = 17.1 mm Ø B = 13.0 mm / Ø C = 12.6 mm ‡ H1 = 15.0 mm / ‡ H2 = 6.0 mm	5.2 L / h	0.8 bar
F17 LOCK incl. splash protection recommended for 30–60 L		924 016				
F17 HF incl. splash protection with increased airflow recommended for 30–60 L		924 055	10,000 pcs.	Ø A = 17.1 mm Ø B = 13.0 mm / Ø C = 12.6 mm ‡ H1 = 15.0 mm / ‡ H2 = 6.0 mm	15.2 L / h	0.3 bar
F17 LOCK HF incl. splash protection with increased airflow recommended for 30–60 L		924 056				

Customizations (especially alternative membranes) upon request.  
<sup>1</sup>WEP = Water Entry Pressure

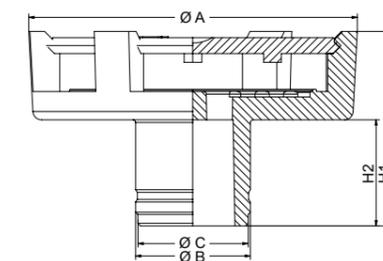
## Degassing Inserts – F38



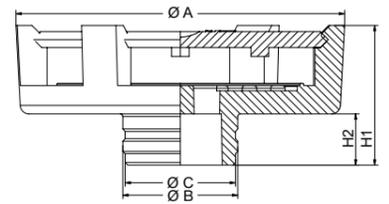
F38, F38 HP



F38 LOCK, F38 LOCK HP



F38 LOCK SN



### Product portfolio

Description	Picture	Item number	Quantity per carton	Dimensions	Typical airflow at 12 mbar	Typical WEP <sup>1</sup>
F38 incl. splash protection recommended for 60–1,500 L		924 025	2,000 pcs.	Ø A = 38.2 mm Ø B = 13.0 mm / Ø C = 12.6 mm ‡ H1 = 22.0 mm / ‡ H2 = 12.0 mm	72.8 L / h	0.8 bar
F38 LOCK incl. splash protection recommended for 60–1,500 L		924 026				
F38 LOCK SN incl. splash protection with shortened neck recommended for 60–1,500 L		924 036		Ø A = 38.2 mm Ø B = 13.0 mm / Ø C = 12.6 mm ‡ H1 = 15.8 mm / ‡ H2 = 5.8 mm	21.1 L / h	3.0 bar
F38 HP incl. splash protection with increased WEP <sup>1</sup> recommended for 60–1,500 L		924 027				
F38 LOCK HP incl. splash protection with increased WEP <sup>1</sup> recommended for 60–1,500 L		924 028				

Customizations (especially alternative membranes) upon request.  
<sup>1</sup>WEP = Water Entry Pressure

# Vented Caps Series KSE

Close, breathe, ease

Caps with venting function



## Scope of application

Our unique FLUXX® Vented Caps are equipped with the SAVE System and are available for common thread sizes with DIN 45, 51 and 61. For the venting system we are using high-quality membranes, which enable a continuous pressure compensation with gaseous liquids, to prevent containers from swelling and collapsing. The membranes are hydrophobic as well as oleophobic, and as a result, they are not moistened even by liquids with a low surface tension.

## SAVE Venting System

The SAVE (SAfety VEnt) has a wedge-like design and the membrane is 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.



## Suitability for hazardous goods

Because of the construction and performance values, our FLUXX® Vented Caps can fulfil all requirements for authorization with various containers – especially in accordance with the test specifications set forth in the ADR regulations. As a standard feature, the Caps are equipped with a molded on tamper-evidence ring as well as an EPE sealing ring.

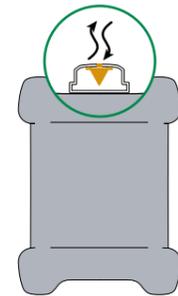
## Declaration of food conformity

Our products comply with regulations EU no. 10/2011, EC no. 1935/2004, LFGB as well as FDA and are fit for human consumption under the food law as well as from a physiological point of view – inspected and approved by certified testing institutes.

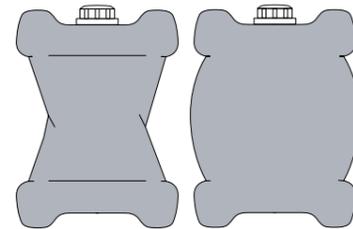
In addition, selected products fulfil further international regulations – especially according to Mercosur – and are available upon request.

## Mode of operation

With FLUXX®  
Venting System



Without  
venting system

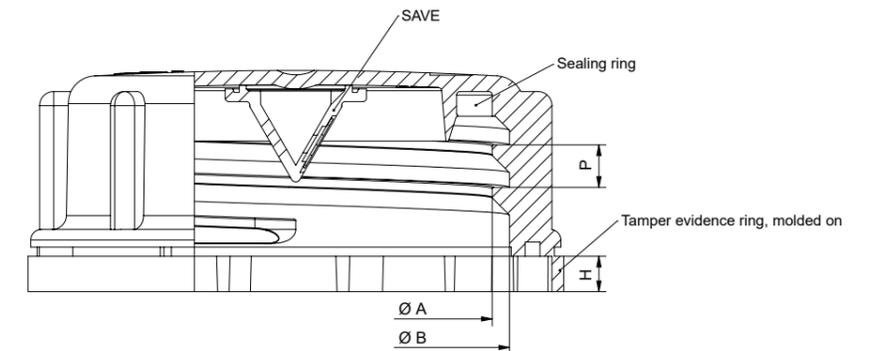


## Benefits

- Continuous pressure compensation
- Prevent containers from swelling and collapsing
- Reliable protection against leaks
- Drip-off edge for a rapid re-ventilation after contact with liquids
- Ready to use – venting component combined (welded) with the cap
- Declaration of food conformity

## Application examples

- Liquid food
- Agrochemicals
- Cleaners
- Hygiene and care products
- Industrial chemicals



## Product portfolio

Description	Picture	Item number	Quantity	Dimensions
KSE 45 SAVE OV with molded on tamper-evidence ring for DIN 45 thread		332 93x	18,000 pcs. (20 cartons)	Ø A = 41.1 mm / Ø B = 44.7 mm P = 4 mm (Thread pitch) H = 5 mm
KSE 51 SAVE OV with molded on tamper-evidence ring for DIN 51 thread		357 13x	10,000 pcs. (20 cartons)	Ø A = 50.2 mm / Ø B = 54.8 mm P = 5 mm (Thread pitch) H = 5 mm
KSE 61 SAVE OV with molded on tamper-evidence ring for DIN 61 thread		367 13x	7,000 pcs. (20 cartons)	Ø A = 55.6 mm / Ø B = 60.5 mm P = 6 mm (Thread pitch) H = 5 mm

Customizations (especially alternative membranes) upon request.

Materials	
Cap:	Polyethylene (PE)
SAVE:	Polyethylene (PE)
Membrane: Backing:	Polytetrafluorethylene (PTFE) Polypropylene (PP)
Sealing ring:	Expanded Polyethylene (EPE)

Colors					
Black	Red	White	Blue	Yellow	Green
Other colors upon request.					

Performance values	
Typical airflow at 12 mbar:	3.6 L/h
Typical water entry pressure (WEP):	0.8 bar



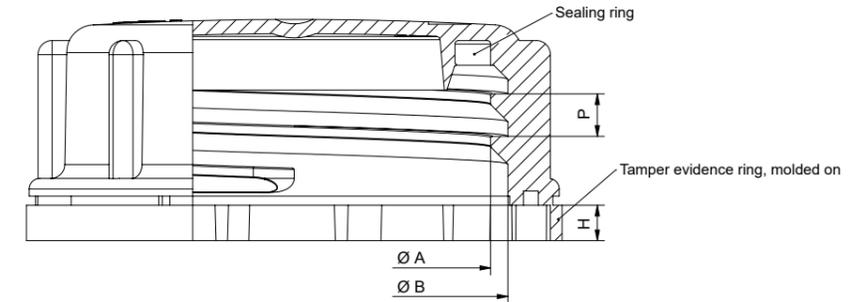
## Chemical resistance

Our products achieve a high chemical resistance to many liquids. However, we cannot guarantee comprehensive chemical resistance of specific applications. Therefore, we recommend individual testing of customer applications prior to use – with the support of our experts.

# Screw Caps Series KS

**Secure, tight, reliable**

Caps for hazardous goods packaging



## Scope of application

The versatile FLUXX® Screw Caps are made of impact-resistant polyethylene (PE) and are available for common thread sizes with DIN 45, 51 and 61. Our Caps are especially suitable for several hazardous goods because of high chemical resistance against aggressive liquids.

## Suitability for hazardous goods

Because of the construction, our FLUXX® Screw Caps can fulfil all requirements for authorization with various containers – especially in accordance with the test specifications set forth in the ADR regulations. As a standard feature, the Caps are equipped with a molded on tamper-evidence ring as well as an EPE sealing ring.

## Declaration of food conformity

Upon request, our products are available with regulations EU no. 10 / 2011, EC no. 1935 / 2004, LFGB, FDA as well as Mercosur – inspected and approved by certified testing institutes.

## Benefits

- Secure closing
- Reliable protection against leaks
- Suitability for hazardous goods packaging
- High chemical resistance
- Molded on tamper-evidence ring
- Declaration of food conformity

## Application example



## Product portfolio

Description	Picture	Item number	Quantity	Dimensions
KS 45 OV with molded on tamper-evidence ring for DIN 45 thread		332 92x	18,000 pcs. (20 cartons)	Ø A = 41.1 mm / Ø B = 44.7 mm P = 4 mm (Thread pitch) H = 5 mm
KS 51 OV with molded on tamper-evidence ring for DIN 51 thread		M4050x	10,000 pcs. (20 cartons)	Ø A = 50.2 mm / Ø B = 54.8 mm P = 5 mm (Thread pitch) H = 5 mm
KS 61 OV with molded on tamper-evidence ring for DIN 61 thread		M4060x	7,000 pcs. (20 cartons)	Ø A = 55.6 mm / Ø B = 60.5 mm P = 6 mm (Thread pitch) H = 5 mm

Customizations upon request.

Materials	
Cap:	Polyethylene (PE)
Sealing ring:	Expanded Polyethylene (EPE)

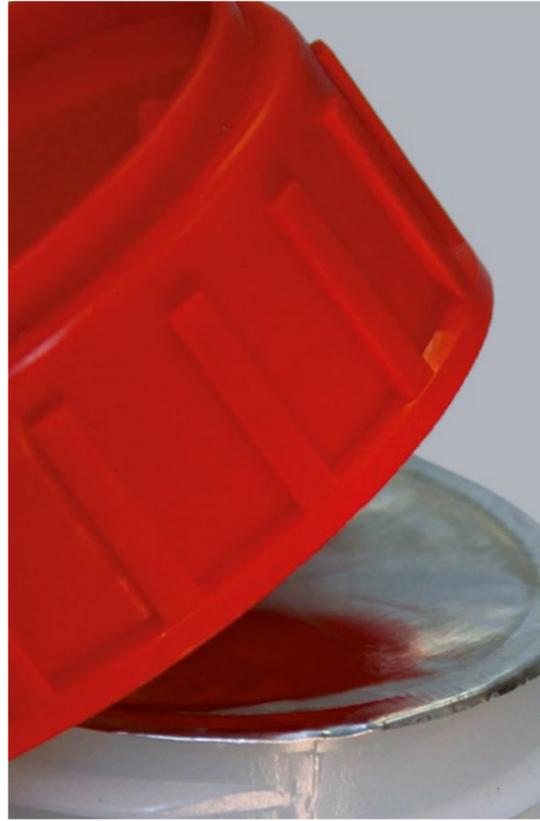
Colors					
Black	Red	White	Blue	Yellow	Green

Other colors upon request.



### Chemical resistance

Our products achieve a high chemical resistance to many liquids. However, we cannot guarantee comprehensive chemical resistance of specific applications. Therefore, we recommend individual testing of customer applications prior to use – with the support of our experts.

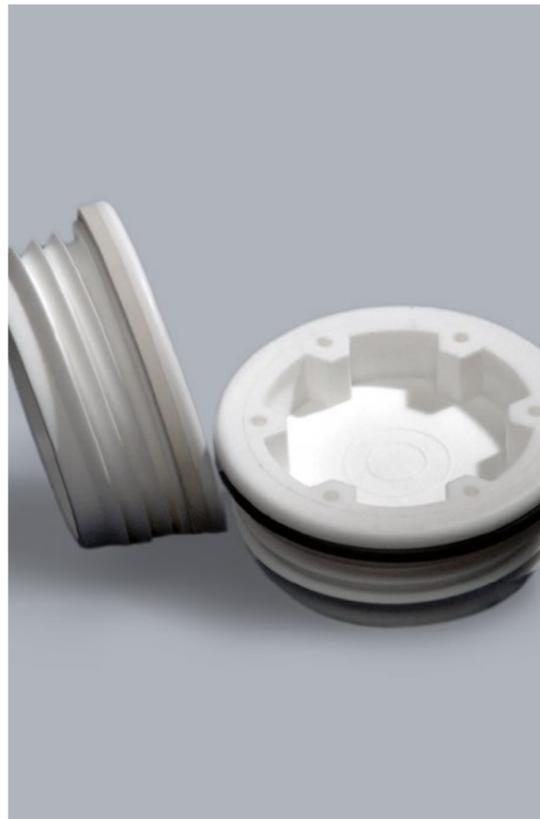


### Sealing Caps

#### For tamper-resistance and safety

Our FLUXX® Sealing Caps for plastic and aluminum containers ensure an increased diffusion-density which is achieved with special multi-layered sealing discs. They comprise a barrier layer made of aluminum, are high-frequency sealable, thereby ensuring a qualified tamper-resistance.

In particular, we are offering our **Sealing Caps with DIN 50 thread size** – especially used for applications with agro-chemicals. This ready-to-use solution is also available with a special venting insert upon request.



### Drum Closures

#### For industrial applications

FLUXX® Drum Closures are designed for several plastic and steel drums with 2" thread.

### Shaker Cans and Caps

#### One shape, many possibilities

The FLUXX® Shaker Cans and Caps are particularly suitable for packaging of spreadable foodstuffs. Various Shaker Caps with several hole pattern variations are available for a multitude of applications. The plastic parts can be dyed upon request.



### Tube Tips and Nozzles

#### Working like professionals

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



### Accessories

#### Ring nuts and diffusion-resistant closures

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



## Customized membrane solutions

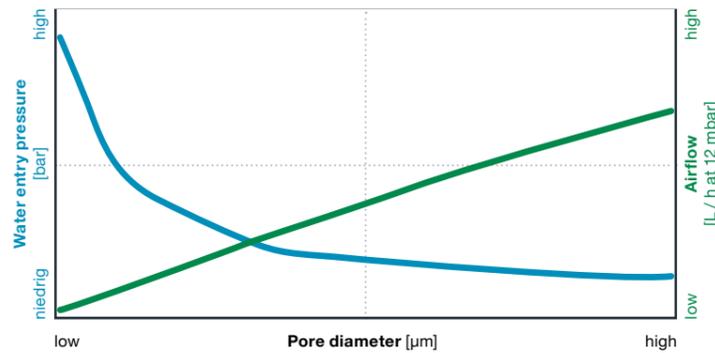
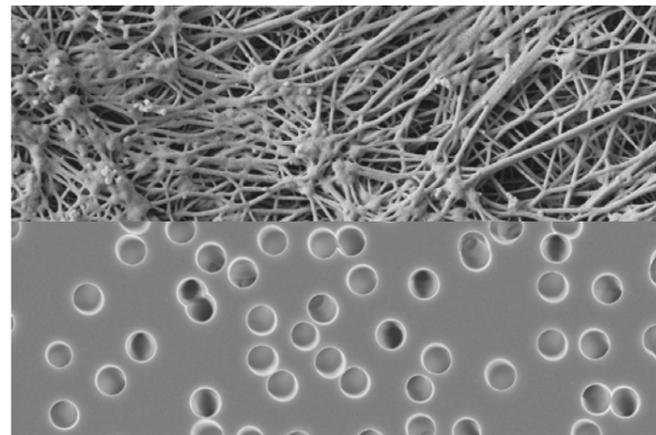


### Membrane technology made by SABEU

As a specialist in the development of custom-manufactured membranes, we are one of the world's very few in the industry with such expertise. We are offering microporous PTFE as well as ion-track membranes under the brand TRAKETCH® – on rolls, as sheets or discs and combined with plastic components. The membranes can also be further refined by special processes to create hydrophobic and oleophobic surfaces.

### Versatile applications

Our high-performance membranes are generally characterized by an excellent chemical resistance and thus suitable for several applications. Typical applications are pressure compensation elements for packaging – including liquid foods, hygiene and care products, cleaners, agrochemicals as well as other hazardous materials.



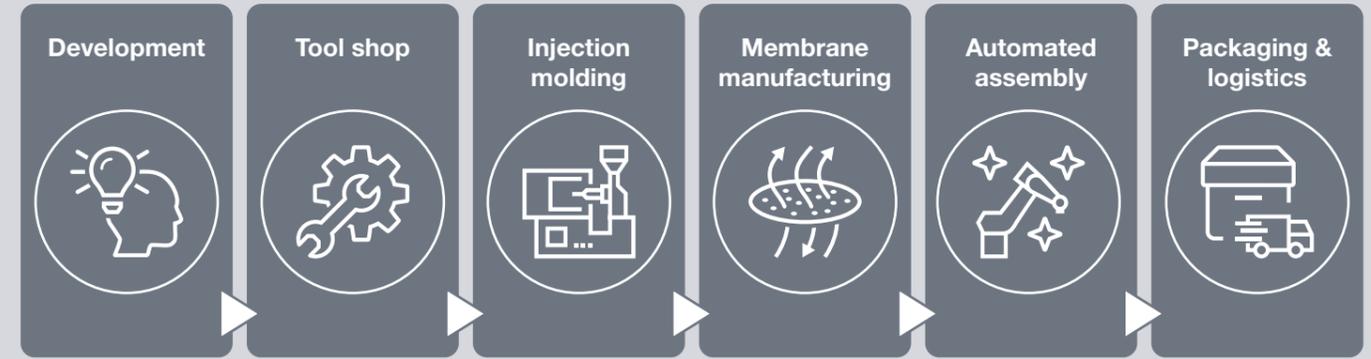
### In comparison – PTFE and TRAKETCH®

In the case that very aggressive chemicals are involved – especially in packaging products – PTFE (expanded Polytetrafluoroethylene) membranes become the membrane of choice. They are chemically inert and also surface-treated to become highly oleophobic. As usual, the PTFE membranes are supported with a PET or PP backing for improved stability.

Being able to determine an exact pore size sets TRAKETCH® membranes in a unique position compared to stretched and casted PTFE membranes. For the manufacturing of TRAKETCH® membranes, ultra-thin plastic films are bombarded with accelerated heavy ions and then chemically etched. The diameter of the resulting pore channels can be determined with micrometer accuracy.

## SABEU

### Everything from a single source



**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?

### Development

We have 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. In close dialog with our clients, we develop customer-specific complete solutions. We are committed to create innovative and high-quality marketable products – always in compliance with the regulatory requirements. A balanced cooperation of human engineering, optical appearance, functionality, technology and economics is of utmost importance. A systematically designed, modular product development process generates transparency, enabling our clients to get on board during any phase of the product development.

### Tool shop

In our state-of-the-art mold making department, equipped with CNC-controlled machines, we take care of both the new construction of 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, hot runner molds, tiered molds and rotary table tools.

### Injection molding

The reproducible manufacture of component parts using the injection molding process is one of our 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 packaged in an integrated process.

Injection molding machines with clamping forces between 100 and 2,750 kN are available for the processing of plastics. 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.

### Membrane manufacturing

We develop and produce membranes – especially ion-track membranes under the brand TRAKETCH®. Typical applications for TRAKETCH® membranes are pressure compensation elements for electronic component parts as well as for packaging of special agrochemicals. Additionally, we offer PTFE membranes with various performance values for several applications of packaging.

### Automated assembly

We generate customized manufacturing concepts for the assembly and packaging of products on the basis of customer specifications. They guarantee a high availability as well as a secure and economical production of the items, especially 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, edge over-molding and in-line testing. In addition, we refine finished parts by adding an imprint, laser engraving, a metal coat and by means of other processes.



 Further product information:



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**Headquarters & Plastics Technology**  
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