



# STAUFF FILLER BREATHERS

## Literature





**Figure 1** Stauff Filler Breathers

**Introduction:**

Stauff Filler Breathers are accessories used in hydraulic tanks to ensure the pressure is not built up as the fluid expands or contracts. In addition, Stauff Filler Breathers ensure that contaminants from the external environment do not get into the reservoir. They find applications in reservoirs that are used in harsh environments to ensure that no filth contaminates the fluid in the tank and causes blockage in its pathway. Besides, Stauff Filler Breathers ensures that splashes of oil do not condense on the rooftop of the reservoir which would be a contaminant.

Stauff Filler Breathers are made in different models such as SMBT, SMBB, and SMBP. They are also made in the bayonet version with a cap diameter of 47mm and a maximum flow rate of 15.89 cfm which is equivalent to 0.45 cubic meters per minute.

Threaded versions of Breathers are made in two forms. There's the male NPT thread which uses the ANSI B1.20.1 standards and the other made with ISO 228 standards.

**Materials:**

Different parts of the Stauff Filler are made of different materials. The cap is made of steel, an alloy of Iron and Carbon. Steel being a strong metal ensures that the cap has high strength and fracture resistance. It also contains some percentage of Chromium that makes it resistant to corrosion.

Refer to the table below for the chemical composition of Steel.

<b>Elements</b>	<b>Content (%)</b>
Iron (Fe)	0.60
Vanadium (V)	0.51
Sulfur (S)	0.03
Chromium (Cr)	4.78
Carbon (C)	0.34
Nickel (Ni)	0.15
Molybdenum (Mo)	1.61
Copper (Cu)	0.08
Phosphorus (P)	0.21
Manganese (Mn)	0.44

The bayonet flange is made of chromium-plated steel. Chromium plating is the process of coating a metal with Chromium to ensure that it is resistant to corrosion. This is because Chromium is known to be an anti-corrosive material. It is used in car door handles or other machinery parts that are frequently handled and prone to corrosion.

The breather basket is made of zinc-plated steel. Zinc is used to coat this part to guard against rusting. The breather sealing is made of a material called cork. Cork is made of Suberin, a material known to be resistant to fire and tensile force. This is what makes the material suitable for the sealant or gasket of the Breathers.

## Types of Stauff Filler Breathers

Stauff Filler Breathers are produced in varying shapes and sizes depending on their applications. Below are different types of Breathers.

### Type 1:

Metal Filler Breathers in the lockable SMBL series: This type of Breathers is designed for reservoir filling and tank filling. They are available in different styles including threaded style, push-on style, and clamp style. They have a working temperature of 22°F to 212°F (-30°C to 100°C). The body of metal Filler Breathers is made of die case while its basket is polypropylene or zinc plated steel. It is a Buna-N seal. However, other types of the seal can be produced upon request.



Figure 2 Stauff Filler Breathers SPB

### Type 2:

Plastic Filler Breathers in the SPB series: Like the Metal Filler Breathers, this type is also used for reservoir filling and tank filling. The difference lies in its material composition and working temperature. It is designed to work in a temperature ranging from -40°F to 248°F (-40°C to 120°C). Other parts of this breather type are made of reinforced glass fiber. However, its basket is made of polypropylene. Other configurations can be designed upon request.

### Type 3:

Plastic Filler Breather in SES Series: This type is slightly different in use cases from the earlier two. It is used for ventilation as well as tank filling. Its seals are made of NBR, while the breather cap is made of polyamide. Steel is the material used for making its nuts, deep stacks, and sockets whereas the air filters are made of sintered bronze. Other configurations can be made upon request.

### Type 4:

Bayonet and Screw-in Filler Breathers in SPBN Series: In the industry, this series of Breathers are used for ventilation and reservoir filling. They have immensely high corrosion resistance and have a working temperature between -40°F to 248°F (-40°C to 120°C). The seal is made of NBR although, upon request, other types can be produced. The breather is made of glass fiber reinforced polyamide. Also, plastic dipsticks have a fluid anti-splash feature and would get it pressurized at 0.2 bar, 0.35bar, or 0.7 bar.

Type 5:

Giant Air Breathers in Style SGB120C and SGB90C: This type of Breathers is suitable for massive industry purposes that operate with petroleum or other mineral-based fluids. They have an impeccable filtration tool that can filter as small as 3 microns.

The table below shows the specification of the SGB90-10P.

<b>Part Number</b>	<b>Absolute Micron Rating</b>	<b>Air Flow Capacity Cfm (m<sup>3</sup>/min)</b>	<b>Air Displacement Gpm (lpm)</b>	<b>Filtration Area Sq in Sq cm</b>
SGB90-10P	10 (Nominal)	40 (1.13)	300 (1.135)	109 (700)

**What are Dipsticks used for in Breathers?**



**Figure 3 Dipstick**

Dipsticks are primarily used for checking the fluid level in a reservoir. Alternatively, they can be for sampling and testing purposes. They are made of polyamide materials and can be of different lengths. Its standard length is 200mm or 300mm. Nevertheless, they can be cut based on its requirement.

Baskets are used in filtering the oil that gets into the tank when the filling is done. The sieves are made of different materials based on the variation that was purchased.

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