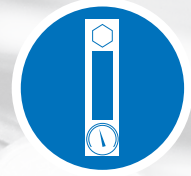


Fluid Level and
Temperature Indicators



Tank Filler Breathers



Particle and Desiccant Breathers



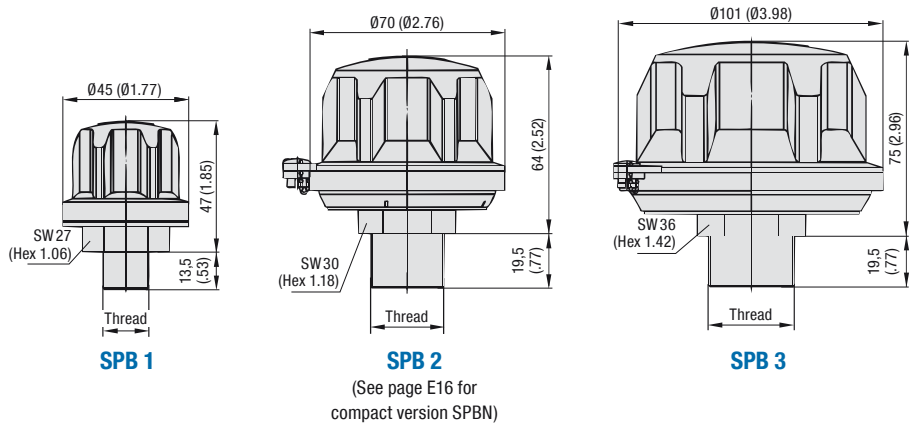
Suction Strainers



Diffusors



Plastic Filler Breather - Types SPB 1 / 2 / 3
(Screw-In Version)



Characteristics

Designed to be used as filler ports for hydraulic reservoirs, allowing the reservoir to breathe whilst protecting it from contamination found in harsh environments

Features

- Available with 3 different cap diameters
- Screw-in version, equipped with male BSP thread (ISO 228) or male NPT thread (ANSI B1.20.1)
- Operating temperature range: -40 °C ... +120 °C / -40 °F ... +248 °F

Materials

- Made of non-corrosive materials
- Body and cap made of glass-fibre reinforced Polyamide (PA)
- Sealings made of NBR (Buna-N®)

Consult STAUFF for alternative materials.

Accessories / Options

- Pressurisation up to 0,7 bar / 10 PSI (not available for SPB 1)
- Air filter element
- Anti-splash feature
- Plastic dipstick with integrated anti-splash feature

Please see page E14 for details.

Maximum Air Flow Rate

- 0,15 m³/min / 5.30 cfm for SPB 1
- 0,40 m³/min / 14.13 cfm for SPB 2
- 1,00 m³/min / 35.31 cfm for SPB 3

Please see page E15 for detailed air flow curves.

Oil Displacement

- 150 l/min / 40 US GPM for SPB 1
- 400 l/min / 106 US GPM for SPB 2
- 1000 l/min / 264 US GPM for SPB 3

Installation

- Recommended mounting spaces: Ø48 mm / Ø1.89 in for SPB 1, Ø90 mm / Ø3.54 in for SPB 2, and Ø122 mm / Ø4.80 in for SPB 3

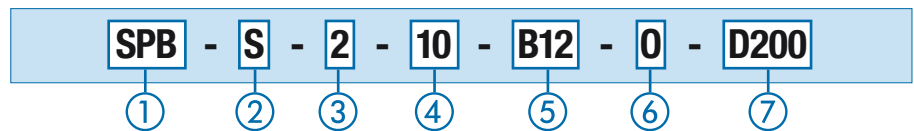
Thread Options

Thread	SPB 1	SPB 2	SPB 3	Code
Male BSP Thread (ISO 228)				
G1/4	●	○	○	B04
G3/8	●	●	○	B06
G1/2	●	●	●	B08
G3/4	○	●	●	B12
G1	○	○	●	B16

Thread	SPB 1	SPB 2	SPB 3	Code
Male NPT Thread (ANSI B1.20.1)				
1/4	●	○	○	N04
3/8	●	○	○	N06
1/2	●	○	○	N08
3/4	●	●	●	N12
1	○	○	●	N16

● Standard Option

Order Codes



① Type

Plastic Filler Breather **SPB**

② Pressurisation

Without pressurisation	S
Pressurised at 0,2 bar / 3 PSI	P1
Pressurised at 0,35 bar / 5 PSI	P2
Pressurised at 0,7 bar / 10 PSI	P3

Type SPB 1 is only available without pressurisation. Please see page E14 for details.

③ Version

Screw-in version; Cap diameter Ø45 mm (Ø1.77 in)	1
Screw-in version; Cap diameter Ø70 mm (Ø2.76 in)	2
Screw-in version; Cap diameter Ø101 mm (Ø3.98 in)	3

④ Air Filter Element (Material / Micron Rating)

Without air filter element	00
10 µm Foam / PUR (standard option)	10
40 µm Foam / PUR	40
3 µm Inorganic Glass-Fibre, pleated	E03
10 µm Filter Paper, pleated	L10

Options E03 and L10 are only available for type SPB 3. Consult STAUFF for alternative materials / micron ratings.

⑤ Connection Thread (Male)

G1/4 (for SPB 1 only)	B04
G3/8 (for SPB 1 and 2 only)	B06
G1/2 (for SPB 1, 2 and 3)	B08
G3/4 (for SPB 2 and 3 only)	B12
G1 (for SPB 3 only)	B16
1/4 NPT (for SPB 1 only)	N04
3/8 NPT (for SPB 1 only)	N06
1/2 NPT (for SPB 1 only)	N08
3/4 NPT (for SPB 1, 2 and 3)	N12
1 NPT (for SPB 3 only)	N16

⑥ Anti-Splash Feature

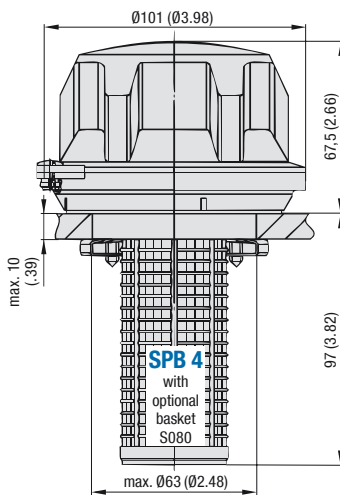
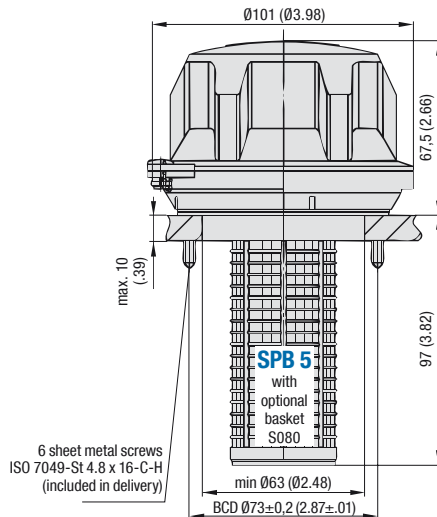
With anti-splash feature (standard option)	A
Without anti-splash feature	0

The anti-splash feature for the SPB 1, can only be achieved in conjunction with a dipstick, but is not available for the SPB 1 with connection sizes B04 and N04. Please see page E14 for details.

⑦ Dipstick

Plastic dipstick (200 mm / 7.88 in) with integrated anti-splash feature	D200
Plastic dipstick (300 mm / 11.81 in) with integrated anti-splash feature	D300
Without dipstick	-

A shorter dipstick length can be achieved by simply cutting down the total length according to individual requirements. Please see page E14 for details.

**Plastic Filler Breather ■ Types SPB 4 / 5
(Flange Version)**

**Clamping jaw installation
to a single mounting hole**

**Installation to a six-hole bolt pattern
with flange interface similar to DIN 24557, Part 2**

Characteristics

Designed to be used as filler ports for hydraulic reservoirs, allowing the reservoir to breathe whilst protecting it from contamination found in harsh environments

Features

- Cap diameter of Ø101 mm / Ø3.98 in
- Either for clamping installation (with 3 clamping jaws and cross-drive screws) or with a six-hole bolt pattern
- Operating temperature range:
-40 °C ... +120 °C / -40 °F ... +248 °F

Materials

- Made of non-corrosive materials
- Body and cap made of glass-fibre reinforced Polyamide (PA)
- Sealings made of NBR (Buna-N®)

Consult STAUFF for alternative materials.

Accessories / Options

- Plastic basket (800 µm)
- Pressurisation up to 0,7 bar / 10PSI
- Air filter element
- Anti-splash feature
- Plastic dipstick with integrated anti-splash feature

Please see page E14 for details.

Maximum Air Flow Rate

- 1,00 m³/min / 35.31 cfm for SPB 4+5

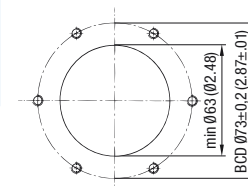
Please see page E15 for detailed air flow curves.

Oil Displacement

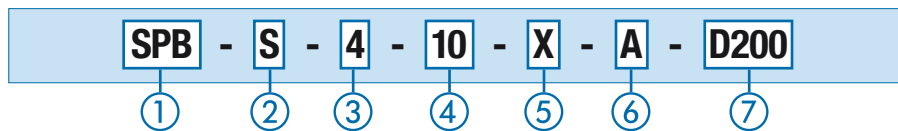
- 1000 l/min / 264 US GPM for SPB 4+5

Installation

- Recommended mounting space: Ø122 mm / Ø4.80 in
- Six-hole bolt pattern for flange interfaces similar to DIN 24557, part 2 (type SPB 5):



- 6 sheet metal screws (ISO 7049-St 4.8 x 16-C-H) are included in delivery (type SPB 5); can be replaced by regular M5 socket cap screws (ISO 4762), if required
- Recommended diameters of the screw holes, depending on the sheet thickness of the reservoir (type SPB 5):
Ø4,0 mm / Ø.16 in at a thickness of 1,20 mm / .05 in,
Ø4,1 mm / Ø.16 in at a thickness of 2,00 mm / .08 in,
Ø4,3 mm / Ø.17 in at a thickness of 4,00 mm / .16 in, and
Ø4,4 mm / Ø.17 in at a thickness of 5,00 mm / .20 in

Order Codes

① Type

Plastic Filler Breather **SPB**

② Pressurisation

Without pressurisation **S**
 Pressurised at 0,2 bar / 3 PSI **P1**
 Pressurised at 0,35 bar / 5 PSI **P2**
 Pressurised at 0,7 bar / 10 PSI **P3**

Please see page E14 for details.

③ Version

Bayonet version for clamping jaw installation to a single mounting hole; Cap diameter Ø101 mm (Ø3.98 in) **4**
 Bayonet Version with six-hole bolt pattern for flange interfaces similar to DIN 24557, part 2; Cap diameter Ø101 mm (Ø3.98 in) **5**

④ Air Filter Element (Material / Micron Rating)

Without air filter element **00**
 10 µm Foam / PUR (standard option) **10**
 40 µm Foam / PUR **40**
 3 µm Inorganic Glass-Fibre, pleated **E03**
 10 µm Filter Paper, pleated **L10**

Consult STAUFF for alternative materials / micron ratings.

⑤ Basket Option

Plastic basket (105 mm / 4.13 in) **S080**
 Telescopic plastic basket **S200**
 (max. 205 mm / max. 8.07 in)
 Plastic basket with flange interface similar to DIN 24557, part 2 **S095P**
 (95 mm / 3.74 in)
 Without basket **X**

Option S095P is only available for type SPB 5.
 Please see page E14 for details.

⑥ Anti-Splash Feature

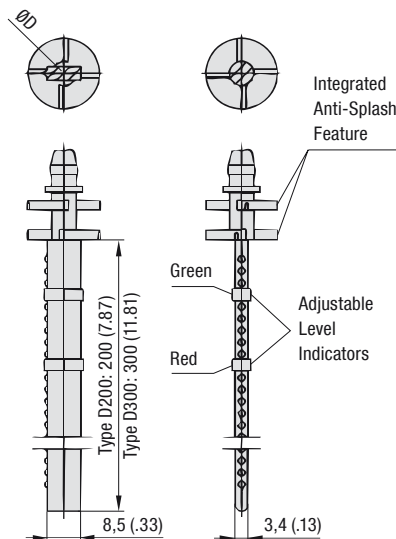
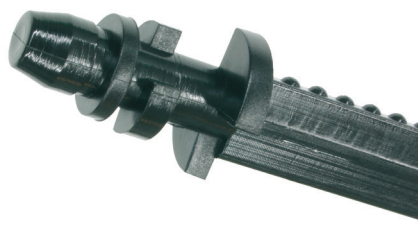
With anti-splash feature (standard option) **A**
 Without anti-splash feature **0**

⑦ Dipstick

Plastic dipstick (200 mm / 7.88 in) with integrated anti-splash feature **D200**
 Plastic dipstick (300 mm / 11.81 in) with integrated anti-splash feature **D300**
 Without dipstick **-**

A shorter dipstick length can be achieved by simply cutting down the total length according to individual requirements. When choosing a combination of a basket and a dipstick, the dipstick has to be at least 15 mm / .59 in shorter than the basket.
 Please see page E14 for details.

Plastic Dipstick - Types DS 1 / 2 / 3 Anti-Splash Feature



For all Plastic Filler Breathers (except type SPB 1 with connection sizes B04 and N04), dipsticks made of Polyamide are available as an option. These dipsticks are available in 2 standard lengths of 200 mm / 7.87 in and 300 mm / 11.81 in and equipped with 2 adjustable level indicators in green and red colour.

A shorter dipstick length can be achieved by simply cutting down the total length according to individual requirements.

All dipsticks have an integrated anti-splash feature protecting the SPB from backspilling fluid and avoiding an early breakdown of the air filter element.

For Plastic Filler Breathers without dipstick, the anti-splash function can be achieved by an integrated concave baffle. The anti-splash feature for the SPB 1 (except the type SPB 1 with connection sizes B04 and N04), can only be achieved in conjunction with a dipstick.

Connection	Code	For Type	Suitable Dipstick*	ØD (mm/in)
Male BSP Thread (ISO 228)	G1/4	B04	SPB 1	Dipstick Option Not Available
	G3/8	B06	SPB 1+2	DS-1 10 / .39
	G1/2	B08	SPB 1-3	DS-2 14 / .55
	G3/4	B12	SPB 1+2	DS-3 18 / .71
	G1	B16	SPB 3	DS-3 18 / .71
Male NPT Thread (ANSI B1.20.1)	1/4	N04	SPB 1	Dipstick Option Not Available
	3/8	N06	SPB 1	DS-1 10 / .39
	1/2	N08	SPB 1	DS-2 14 / .55
	3/4	N12	SPB 1-3	DS-3 18 / .71
	1	N16	SPB 3	DS-3 18 / .71
Plastic Basket	S080	SPB 4+5	DS-3	18 / .71
	S095-P	SPB 5	DS-3	18 / .71
	S200	SPB 4+5	DS-3	18 / .71
w/o Basket	X	SPB 4+5	DS-3	18 / .71

* When ordered separately, please add the length of the dipstick (in mm) to the ordering code (e.g. DS-2-300).

Please note: When choosing a combination of a dipstick and a basket (see below), the dipstick has to be at least 15 mm / .59 in shorter than the basket.

Special designs and alternative materials available on request. Please consult STAUFF for further details.

Plastic Basket - Types S080 / S095-P / S200

For the Plastic Filler Breathers SPB 4 and SPB 5, different types of baskets are available as an option. All baskets have a reinforced 0,8 x 3,5 mm / .03 x .14 in mesh (800 µm), so that rough dirt particles are filtered out of the medium and a smooth flow into the tank is being ensured.

The **Plastic Basket S080** (length of 105 mm / 4.13 in) snaps into the breather housing and suitable for the SPB 4 and SPB 5.

The **Plastic Basket S095-P** (length of 95 mm / 3.74 in) is equipped with a six-hole bolt pattern with flange interface similar to DIN 24557, part 2. It is suitable for the SPB 5 only and is installed between the breather housing of the SPB 5 and the reservoir.

The **Telescopic Plastic Basket S200** (maximum length of 205 mm / 8.07 in) is ideal to further improve the straining ability and oil flow-through and allowing longer dipstick lengths, where reservoir depth allows. It also snaps into the breather housing and is suitable for the SPB 4 and SPB 5.

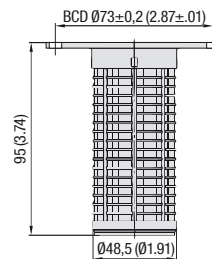
Please note: When choosing a combination of a dipstick (see above) and a basket, the dipstick has to be at least 15 mm / .59 in shorter than the basket.

Special designs and alternative materials available on request. Please consult STAUFF for further details.

Plastic Basket S080 (for SPB 4+5)
Material: Polypropylene (PP)

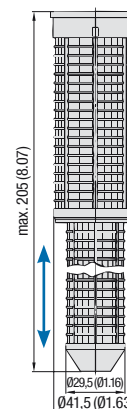


Plastic Basket S095-P (only for SPB 5)
Material: Polyamide (PA)



Six-hole bolt pattern with flange interface according to DIN 24557, part 2

Telescopic Plastic Basket S200 (for SPB 4+5)
Material: Polypropylene (PP)



Pressurisation

All Plastic Filler Breathers (except the type SPB 1) are also available as pressurised versions with pressure settings of 0,7 bar / 10PSI, 0,35 bar / 5PSI or 0,2 bar / 3PSI. In order to achieve an air flow, the actual tank pressure has to exceed the chosen pressure setting of the Plastic Filler Breather.

When the fluid level inside the reservoir rises, no air is expelled from the reservoir until the pressurisation level is reached.

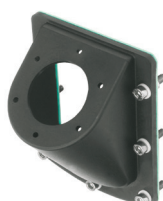
When the fluid level inside the reservoir falls, the tank pressure drops and air is drawn into the reservoir.

Due to less breathing, the service life of a filler breather and the oil can be increased by using the pressurisation feature. It also minimizes foaming and cavitation, and provides additional protection from moisture entering the reservoir which causes erosion and oil degradation.

Further Accessories / Options



Weld Riser - Type WR
Suitable for SPB 5
(See page E25 for details)

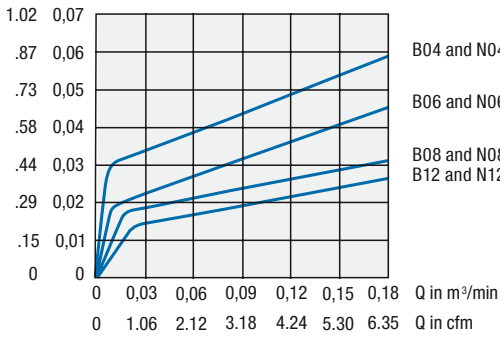


Side Mount Bracket (Polyamide) - Type ASMB-1
Suitable for SPB 5
(See page E24 for details)



Side Mount Bracket (Aluminium) - Type ASMB-2
Suitable for SPB 5
(See page E24 for details)

Pressure Drop Flow Curves Plastic Filler Breathers

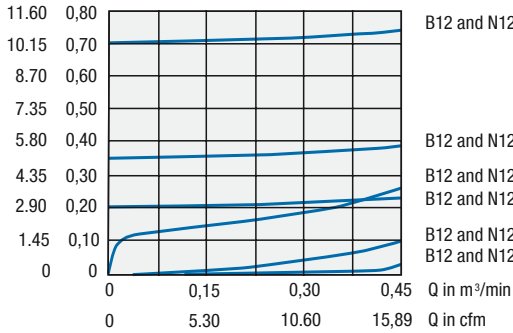
 Δp in PSI Δp in bar


Type SPB 1 (into / out of the tank)

B04 and N04 (into / out of the tank)

B06 and N06 (into / out of the tank)

 B08 and N08 (into / out of the tank)
 B12 and N12 (into / out of the tank)

 Δp in PSI Δp in bar


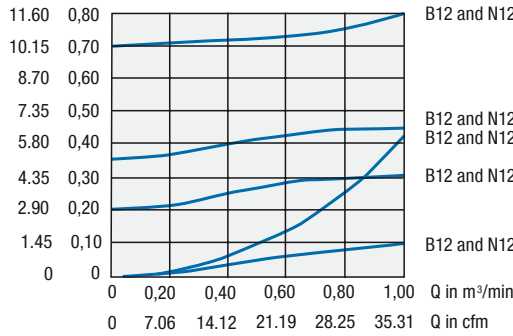
Type SPB 2 (into / out of the tank)

B12 and N12 (out of the tank; pressurised at 0,7 bar / 10 PSI)

B12 and N12 (out of the tank; pressurised at 0,35 bar / 5 PSI)

 B12 and N12 (into the tank; pressurised at 0,7 bar / 10 PSI, 0,35 bar / 5 PSI or 0,2 bar / 3 PSI)
 B12 and N12 (out of the tank; pressurised at 0,2 bar / 3 PSI)

 B12 and N12 (out of the tank; without pressurisation)
 B12 and N12 (into the tank; without pressurisation)

 Δp in PSI Δp in bar


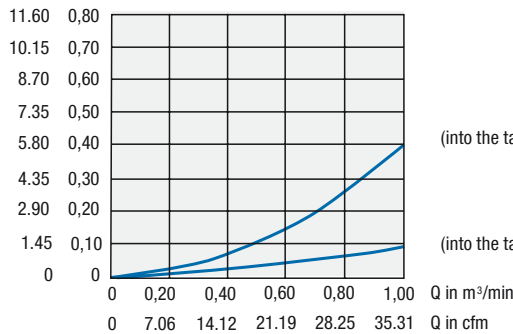
Type SPB 3 (into / out of the tank)

B12 and N12 (out of the tank; pressurised at 0,7 bar / 10 PSI)

 B12 and N12 (out of the tank; pressurised at 0,35 bar / 5 PSI)
 B12 and N12 (into the tank; pressurised at 0,7 bar / 10 PSI, 0,35 bar / 5 PSI or 0,2 bar / 3 PSI)

B12 and N12 (out of the tank; pressurised at 0,2 bar / 3 PSI)

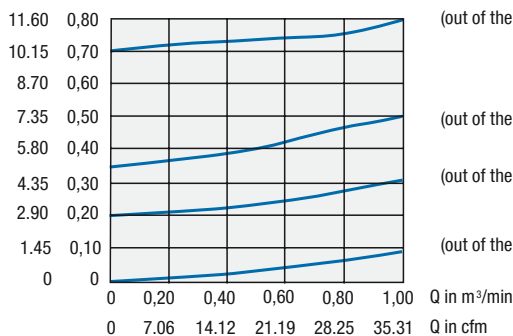
B12 and N12 (into / out of the tank; without pressurisation)

 Δp in PSI Δp in bar


Type SPB 4+5 (into the tank)

(into the tank; pressurised at 0,7 bar / 10 PSI, 0,35 bar / 5 PSI or 0,2 bar / 3 PSI)

(into the tank; without pressurisation)

 Δp in PSI Δp in bar


Type SPB 4+5 (out of the tank)

(out of the tank; pressurised at 0,7 bar / 10 PSI)

(out of the tank; pressurised at 0,35 bar / 5 PSI)

(out of the tank; pressurised at 0,2 bar / 3 PSI)

(out of the tank; without pressurisation)

Introduction

Fluid Level and Temperature Indicators

Tank Filler Breathers

Particle and Desiccant Breathers

Suction Strainers

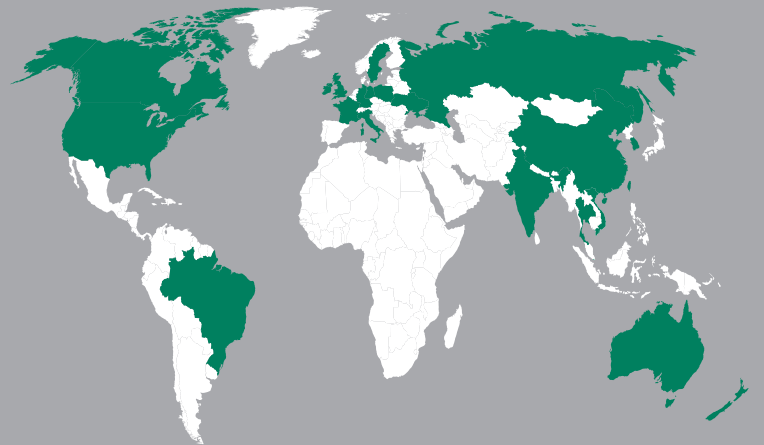
Diffusers

Appendix



Catalogue 10

STAUFF Hydraulic Accessories



Germany

Walter Stauffenberg GmbH & Co. KG
Im Ehrenfeld 4
58791 Werdohl

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