

## ACCUSET SB



### 1. DESCRIPTION

The HYDAC accumulator unit ACCUSET SB consists of a bladder accumulator SB, a safety and shut-off block SAF and the appropriate accumulator set SEB. The parts are designed for optimum compatibility and form a compact, ready-to-install device.

This space-saving combination simplifies the connection of the hydraulic accumulator to the hydraulic system, reduces maintenance costs and considerably reduces the time and effort required for installation.

Advantages:

- Simple and secure mounting of the hydraulic accumulator at the installation site
- Connection of the hydraulic accumulator with a hydraulic system via a safety and shut-off block
- Protects the hydraulic accumulator from excessive pressure
- Discharge of the hydraulic accumulator to the tank via a pressure release valve
- Separation of the hydraulic accumulator from the system
- Two additional hydraulic connections on the shut-off block for accessories (e.g. pressure gauge)

#### 1.1. STANDARD BLADDER ACCUMULATOR SB330

with a nominal volume of 1 ... 50 litres.

Special accumulators available on request.

See catalogue section:

- Bladder Accumulators  
Standard  
No. 3.201

**The operating instruction must be followed!**

**No. 3.201.BA**

#### 1.2. SAFETY AND SHUT-OFF BLOCK SAF

in nominal sizes 10, 20 and 32, with manual or solenoid-operated/manual discharge and with the direct-acting pressure relief valve DB12 with CE marking, in accordance with the regulations of DIN EN 14359 "Gas-loaded accumulators for fluid power applications" and the European Pressure Equipment Directive (PED).

See catalogue section:

- Safety and Shut-off Block SAF/DSV  
No. 3.551

#### 1.3. ACCUMULATOR SET SEB

For mounting the bladder accumulator with clamps, back plate, console and rubber backup ring.

See catalogue section:

- Supports for Hydraulic Accumulators  
No. 3.502

### 2. TECHNICAL DATA

**Dimensioning:**

European Pressure Equipment Directive (PED) <sup>1)</sup>

**Permitted operating pressure:**  
330 bar<sup>1)</sup>

**Permitted operating temperature of the hydraulic accumulator:**

-10 °C ... +80 °C

for standard models (NBR, carbon steel), others on request

**Bladder material:**

The bladder material must be selected in accordance with the particular operating medium or operating temperature – see table titled "Working temperature and operating medium" on the following page.

If discharge conditions are unfavourable (high  $p_2/p_0$  pressure ratio, rapid discharge speed), the gas may cool to below the permitted temperature. This can cause cold cracking. The gas temperature can be calculated using the HYDAC Accumulator Simulation Program **ASP**.

**Pressure limit:**

DB12 set to 330 bar<sup>1)</sup>

**Release valve:**

Operation voltage 24 V DC <sup>1)</sup>

**Fluid port P:**

see table at section 5.

**Surface:**

Hydraulic accumulator primed, SAF block phosphate-plated, accumulator set zinc-plated.

See catalogue section:

- HYDAC Accumulator Technology  
No. 3.000
- Charging and Testing Unit FPU  
No. 3.501

<sup>1)</sup> others on request

### Working temperature and operating medium:

The permitted working temperature of a bladder accumulator is dependent on the application limits of the metal materials and the bladder. Outside this temperature range, special materials must be used. The operating medium must also be taken into account. The following table displays a selection of elastomer materials including max. temperature range and a rough overview of resistant and non-resistant fluids. Please contact us for help in selecting a suitable elastomer.

Materials		Material code <sup>1)</sup>	Temperature range	Overview of the fluids <sup>2)</sup>	
				Resistant to	Not resistant to
NBR	Acrylonitrile butadiene rubber	2	-15 °C ... + 80 °C	<ul style="list-style-type: none"> <li>● Mineral oil (HL, HLP)</li> <li>● Fire-resistant fluids from the groups HFA, HFB, HFC</li> <li>● Synthetic esters (HEES)</li> <li>● Water</li> <li>● Sea water</li> </ul>	<ul style="list-style-type: none"> <li>● Aromatic hydrocarbons</li> <li>● Chlorinated hydrocarbons (HFD-S)</li> <li>● Amines and ketones</li> <li>● Hydraulic fluids from the group HFD-R</li> <li>● Fuels</li> </ul>
		5	-50 °C ... + 50 °C		
		9	-30 °C ... + 80 °C		
ECO	Ethylene oxide epichlorohydrin rubber	3	-30 °C ... +120 °C	<ul style="list-style-type: none"> <li>● Mineral oil (HL, HLP)</li> <li>● Flame-resistant fluids from the HFB group</li> <li>● Synthetic esters (HEES)</li> <li>● Water</li> <li>● Sea water</li> </ul>	<ul style="list-style-type: none"> <li>● Aromatic hydrocarbons</li> <li>● Chlorinated hydrocarbons (HFD-S)</li> <li>● Amines and ketones</li> <li>● Hydraulic fluids from the group HFD-R</li> <li>● Flame-resistant fluids from the groups HFA and HFC</li> <li>● Fuels</li> </ul>
IIR	Butyl rubber	4	-50 °C ... +100 °C	<ul style="list-style-type: none"> <li>● Hydraulic fluids from the group HFD-R</li> <li>● Flame-resistant fluids from the group HFC</li> <li>● Water</li> </ul>	<ul style="list-style-type: none"> <li>● Mineral oils and mineral greases</li> <li>● Synthetic esters (HEES)</li> <li>● Aliphatic, chlorinated and aromatic hydrocarbons</li> <li>● Fuels</li> </ul>
FKM	Fluorine rubber	6	-10 °C ... +150 °C	<ul style="list-style-type: none"> <li>● Mineral oil (HL, HLP)</li> <li>● Hydraulic fluids from the group HFD</li> <li>● Synthetic esters (HEES)</li> <li>● Fuels</li> <li>● Aromatic hydrocarbons</li> <li>● Inorganic acids</li> </ul>	<ul style="list-style-type: none"> <li>● Amines and ketones</li> <li>● Ammonia</li> <li>● Skydrol and HyJet IV</li> <li>● Steam</li> </ul>

<sup>1)</sup> see section 3. Model code, accumulator bladder/sealing material

<sup>2)</sup> others on request

Temperatures exceeding this range (e.g. in the event of an external fire) can result in the hydraulic accumulator bursting. To prevent this, HYDAC can provide additional temperature fuses and burst discs – see catalogue section:

- Safety Equipment for Hydraulic Accumulators No. 3.552

### 3. MODEL CODE

Not all combinations are possible. Order example.  
For further information, please contact HYDAC.

ACCUSET SB 330 - 10 A 1 / 1 1 2 U - 10 Y 1 - 330

#### Type of accumulator

SB = bladder accumulator

#### Series

Nominal volume [l]

#### Fluid port

A = standard connection

#### Gas valve

1 = standard model

#### Material of fluid port/block

1 = carbon steel

2 = stainless steel (dependent on type and pressure level)

#### Shell material

1 = carbon steel

#### Accumulator bladder/seal material

2 = NBR / NBR

3 = ECO / NBR

4 = IIR / EPDM

6 = FKM / FKM

#### Certification code

#### SAF block series

#### Type of directional poppet valve

M = manual discharge

Y = solenoid-operated and manual discharge (open when de-energised)

Z = solenoid-operated and manual discharge (closed when de-energised)

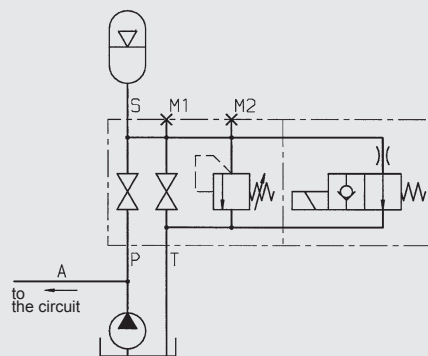
#### Type of voltage – poppet valve

1 = 24 V DC (only for Y or Z version)

#### Permitted operating pressure/

response pressure of the pressure relief valve [bar]

### Circuit diagram

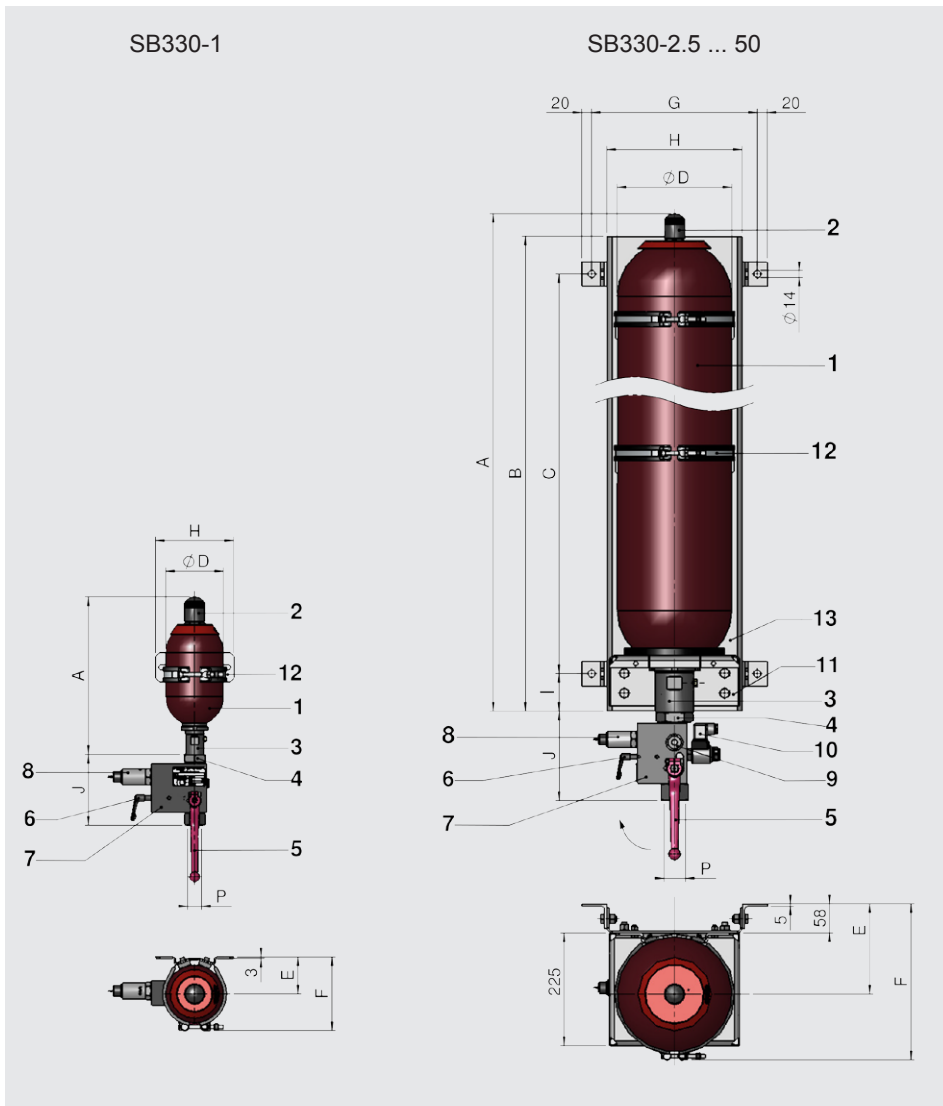


#### 4. PREFERRED MODELS

Designation	Part no.	SB330-1A1/112U-330A	SB330-2.5A1/112U-330A	SB330-4A1/112U-330A	SB330-6A1/112U-330A	SB330-10A1/112U-330A	SB330-13A1/112U-330A	SB330-20A1/112U-330A	SB330-24A1/112U-330A	SB330-32A1/112U-330A	SB330-50A1/112U-330A	SAF10M12T330A	SAF10E12Y1T330A	SAF20M12T330A	SAF20E12Y1T330A	SAF32M12T330A	SAF32E12Y1T330A
ACCUSET SB330-1A1/112U-10M-330	3033471	●										●					
ACCUSET SB330-1A1/112U-10Y1-330	3033472	●											●				
ACCUSET SB330-2.5A1/112U-10M-330	3033473		●									●					
ACCUSET SB330-2.5A1/112U-10Y1-330	3033474		●										●				
ACCUSET SB330-4A1/112U-10M-330	3033475			●								●					
ACCUSET SB330-4A1/112U-10Y1-330	3033476			●									●				
ACCUSET SB330-6A1/112U-10M-330	3033477				●							●					
ACCUSET SB330-6A1/112U-10Y1-330	3033478				●								●				
ACCUSET SB330-10A1/112U-10M-330	3033479					●						●					
ACCUSET SB330-10A1/112U-10Y1-330	3033480					●							●				
ACCUSET SB330-13A1/112U-10M-330	3033481						●					●					
ACCUSET SB330-13A1/112U-10Y1-330	3033482						●						●				
ACCUSET SB330-13A1/112U-20M-330	3033483						●							●			
ACCUSET SB330-13A1/112U-20Y1-330	3033484						●								●		
ACCUSET SB330-20A1/112U-20M-330	3033485							●						●			
ACCUSET SB330-20A1/112U-20Y1-330	3033486							●							●		
ACCUSET SB330-24A1/112U-20M-330	3033487								●					●			
ACCUSET SB330-24A1/112U-20Y1-330	3033488								●						●		
ACCUSET SB330-32A1/112U-20M-330	3033489									●				●			
ACCUSET SB330-32A1/112U-20Y1-330	3033490									●					●		
ACCUSET SB330-32A1/112U-32M-330	3033491									●						●	
ACCUSET SB330-32A1/112U-32Y1-330	3033492									●							●
ACCUSET SB330-50A1/112U-20M-330	3033493										●			●			
ACCUSET SB330-50A1/112U-20Y1-330	3033494										●				●		
ACCUSET SB330-50A1/112U-32M-330	3033495										●					●	
ACCUSET SB330-50A1/112U-32Y1-330	3033496										●						●

Other combinations and models available on request

## 5. DIMENSIONS



Bladder accumulator	A <sub>max</sub> [mm]	B [mm]	C [mm]	ØD <sub>max</sub> [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]
SB330-1 <sup>1)</sup>	302	–	–	118	74	147	–	156	–
SB330-2.5 <sup>2)</sup>	571	460	310		133	214	198	138	75
SB330-4	440	415	320	173	152	253	330	270	75
SB330-6	560	570	420						
SB330-10	568								
SB330-13	686								
SB330-20	896								
SB330-24	1062	1340	1190						
SB330-32	1411								
SB330-50	1931								

<sup>1)</sup> without back plate and console, with one HyRac clamp 110-118/124 H10 ST

<sup>2)</sup> without console, with back plate and two HyRac clamps 110-118/124 H10 ST

SAF series	Nominal size SB330 [l]	P ISO 228	Connection for pressure gauge	J [mm]
SAF10	1	G 1/2	2 x G 1/4	142
	2.5			104
	4			113
	6			102
	≥ 10			147
SAF20	2.5	G 1	G 1/4, G 1/2	135
	4			142
	6			132
	≥ 10			178
SAF32	≥ 10	G 1 1/2		203

Description	Item
Accumulator shell	1
Gas valve	2
Oil valve	3
Adapter S	4
Switching handle	5
Pressure release valve	6
SAF safety block	7
Pressure relief valve	8
Connection for pressure gauge	9
Release valve	10
Console	11
HyRac clamp	12
Back plate	13

## 6. NOTE

The information in this brochure relates to the operating conditions and fields of application described. For fields of application and operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

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