

## **B** Bladder Accumulators

The standard bladder accumulator consists of a “closed” rubber bladder inside a forged steel shell. A mechanically actuated valve closes when the fluid has been expelled, blocking off the fluid port, thereby enclosing the bladder within the shell. Where high discharge rates are required, a high flow model is available.

# BLADDER ACCUMULATORS

## SB Series

### Bladder Accumulators

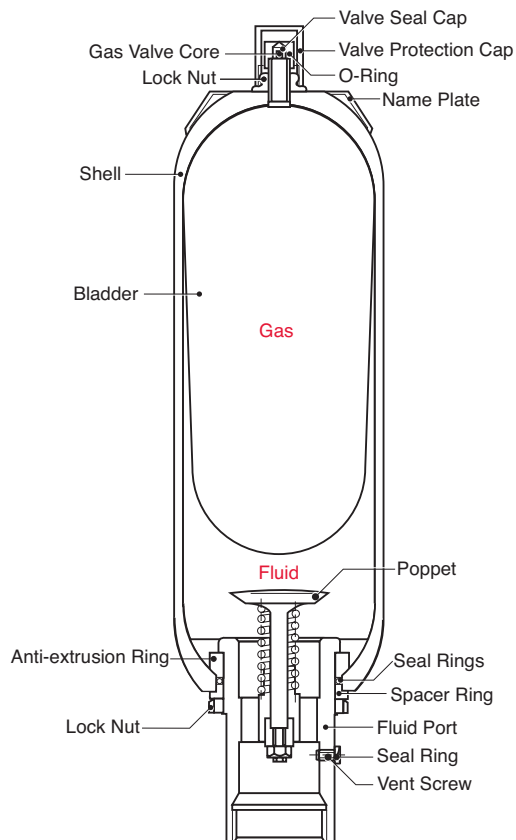


### Description

Bladder accumulators are a very versatile and cost effective option for numerous types of hydraulic systems involving energy storage, shock absorption, pulsation dampening, leakage loss compensation and volume compensation. They are a first choice for a great variety of general applications and have the widest range of standard sizes and model options. Bladder accumulators also have very quick shock response characteristics in sizes much larger than diaphragm accumulators.

### Construction

HYDAC bladder accumulators consist of a welded or forged pressure vessel (shell), a bladder and ports for gas and fluid inlet. The gas and fluid sides are separated by the bladder.



### Bladder Materials

Not all fluids are compatible with every elastomer at all temperatures. Therefore, HYDAC offers the following choice of elastomers:

- NBR (*Standard Nitrile*)
- LT-NBR (*Low Temperature Nitrile*)
- ELT-NBR (*Extra Low Temperature Nitrile*)
- ECO (*Epichlorohydrin*)
- IIR (*Butyl*)
- FPM (*Fluoroelastomer*)
- Others (*available upon request*)

To determine which material is appropriate...

**ALWAYS REFER TO FLUID MANUFACTURER'S RECOMMENDATION**

### Corrosion Protection

For use with certain aggressive or corrosive fluids, or in a corrosive environment, HYDAC offers protective coatings and corrosive resistant materials (i.e. stainless steel) for the accumulator parts that come in contact with the fluid, or are exposed to the hostile environment.

### Mounting Position

HYDAC bladder accumulators can be installed in any orientation depending upon the application. When installing vertically or at an angle, the fluid port must be at the bottom. On certain applications listed below, specific positions are preferable:

- Energy Storage:  
vertical
- Pulsation Dampening:  
any position from vertical to horizontal
- Maintaining Constant Pressure:  
any position from vertical to horizontal
- Volume Compensation:  
any position from vertical to horizontal

**Caution:** Mounting a HYDAC bladder accumulator horizontally or at an angle will decrease the amount of usable volume available.

### System Mounting

HYDAC bladder accumulators are designed to be screwed directly onto the system. We also recommend the use of our mounting components, which are detailed on page H25, to minimize risk of failure due to system vibrations.

### Applications

Some common applications of bladder accumulators are:

- Agricultural Machinery & Equipment
- Forestry Equipment
- Oil Field & Offshore
- Machine Tools
- Mining Machinery & Equipment
- Mobile & Construction Equipment
- Off-Road Equipment

For specific examples of applications using bladder accumulators, please see pages I2 and I3.

## Model Code

**SB 330 - 20 A 1 / 112 S - 210 C XXX**

### Series

- SB 330 = Bladder accumulator (3000 psi, typically)
- SB 600 = Bladder accumulator (5000 psi, typically)

### Design

- (omit) = Standard (bottom repairable)
- N** = Modified Flow (396 gpm)
- H** = High Flow (480 gpm)
- TR = Standard (top repairable)
- NTR** = Modified Flow (396 gpm) (top repairable)

### Size (in Liters, see dimension tables on following pages for most common sizes)

- 1 = 1 quart
- 4 = 1 gallon
- 6 = 1.5 gallons
- 10 = 2.5 gallons
- 20 = 5 gallons
- 32 = 10 gallons
- 42 = 11 gallons
- 54 = 15 gallons

### Line Connection

- A = Threaded
- F = Flanged

### Gas Port

- 1 = Standard model, HYDAC gas valve version 4 (8V1 - ISO 4570)

### Material Code

#### Depending on Application

- 112 = Standard for oil service (mineral oil)

### Fluid Port

- 0 = Synthetic coated carbon steel (PTFE solid film, internal & external for water service)
- 1 = Carbon steel
- 2** = High strength stainless steel (typically 17-4 PH)
- 3** = Stainless steel (corrosion resistance, typically 316 ss)
- 4** = Chemically plated carbon steel (internal & external for water service)
- 6** = Low temperature carbon steel (<-40°F, min)

### Shell

- 0 = Synthetic coated carbon steel (PTFE solid film, internal & external for water service)
- 1 = Carbon steel
- 2** = Chemically plated carbon steel (internal & external for water service)
- 6** = Low temperature carbon steel (<-40°F, min)
- 7** = Others available on request

(The maximum operating temperature of the standard accumulator design is 200°F; other options will be considered, upon request)

### Bladder Compound

- 2 = NBR (Buna N)
- 3** = ECO (Hydrin)
- 4** = IIR (Butyl)
- 5 = ELT-NBR (extra low temp. Buna)
- 6** = FPM (Fluoroelastomer)
- 7** = Others (available on request)
- 9 = LT-NBR (low temp. Buna)

Compound	Oper. Temp Range	Typical Fluids
NBR	5° to 180°F	mineral oils (standard)
	32° to 180°F	water & water-glycols (5% minimum glycol)
LT-NBR	-20° to 180°F	mineral oils (for low temperature)
ELT-NBR	-50° to 220°F	mineral oils (for extra low temperature)
ECO	-40° to 250°F	mineral oils
IIR	-20° to 200°F	phosphate esters & brake fluids
FPM	5° to 300°F	chlorinated hydrocarbons

### Country of Installation

- S = USA
- S1 = Canada (CRN registered)
- W1 = ABS Type Approval
- W3 = DNV Type Approval
- U = PED/CE

(for other countries see page 3 for proper code designation)

### Maximum Allowable Working Pressure (MAWP) in bar

- 210 = 3000 psi
- 345 = 5000 psi

### Fluid Port Connection

- Threaded
  - A = BSPP (ISO 228) Radial Seal Design NOT Axial
  - B = Metric (DIN 13)
  - C = SAE (ANSI B1.1)
  - D = NPT (ANSI B1.2)
- Flanged
  - E = SAE 2" - 3000 psi (Code 61)
  - F = SAE 1 1/2" - 6000 psi (Code 62)
  - G = SAE 1 1/4" - 3000 psi (Code 61) (only available in sizes 4 liters & 6 liters)
  - H = SAE 1" - 6000 psi (Code 62) (only available in sizes 1 liter & 4 liters)

### Gas Precharge Pressure (P<sub>0</sub>) in bar

- xxx = 3 digits

Model Codes containing RED selections are non-standard items – Contact HYDAC for information and availability. Not all combinations are available.

# BLADDER ACCUMULATORS

## Quad Certified Bladders

### Model Code

**SB 330 - 20 A 1 / 112 USFS1 - 330/262 C XXX**

**Series** \_\_\_\_\_  
SB 330 = Bladder accumulator

**Design** \_\_\_\_\_  
(omit) = Standard (bottom repairable)  
**N** = Modified Flow (396 gpm)

**Size** (in Liters, see dimension tables on following pages for most common sizes) \_\_\_\_\_

- 4 = 1 gallon
- 6 = 1.5 gallons
- 10 = 2.5 gallons
- 20 = 5 gallons
- 32 = 10 gallons
- 54 = 15 gallons

**Line Connection** \_\_\_\_\_  
A = Threaded  
F = Flanged

**Gas Port** \_\_\_\_\_  
1 = Standard model, HYDAC gas valve version 4 (8V1 - ISO 4570)

**Material Code** \_\_\_\_\_  
**Depending on Application**  
112 = Standard for oil service (mineral oil)

**Fluid Port** \_\_\_\_\_  
0 = Synthetic coated carbon steel (PTFE solid film, internal & external for water service)  
1 = Carbon steel  
2 = High strength stainless steel (typically 17-4 PH)  
3 = Stainless steel (corrosion resistance, typically 316 ss)  
4 = Chemically plated carbon steel (internal & external for water service)  
6 = Low temperature carbon steel (<-40°F, min)

**Shell** \_\_\_\_\_  
0 = Synthetic coated carbon steel (PTFE solid film, internal & external for water service)  
1 = Carbon steel  
2 = Chemically plated carbon steel (internal & external for water service)  
6 = Low temperature carbon steel (<-40°F, min)  
7 = Others available on request

(The maximum operating temperature of the standard accumulator design is 200°F; other options considered, upon request)

**Bladder Compound** \_\_\_\_\_  
2 = NBR (Buna N)  
3 = ECO (Hydrin)  
4 = IIR (Butyl)  
5 = ELT-NBR (extra low temp. Buna)  
6 = FPM (Fluoroelastomer)  
7 = Others (available on request)  
9 = LT-NBR (low temp. Buna)

Compound	Oper. Temp Range	Typical Fluids
NBR	5° to 180°F	mineral oils (standard)
	32° to 180°F	water & water-glycols (5% minimum glycol)
LT-NBR	-20° to 180°F	mineral oils (for low temperature)
ELT-NBR	-50° to 220°F	mineral oils (for extra low temperature)
ECO	-40° to 250°F	mineral oils
IIR	-20° to 200°F	phosphate esters & brake fluids
FPM	5° to 300°F	chlorinated hydrocarbons

**Country of Installation** \_\_\_\_\_  
F = Australia  
S = USA  
S1 = Canada (CRN registered)  
U = PED/CE

**Maximum Working Pressure in bar** \_\_\_\_\_  
210 = 3000 psi (only available in sizes 4 liters & 6 liters)  
262 = 3800 psi  
330 = 4785 psi (only available for PED)

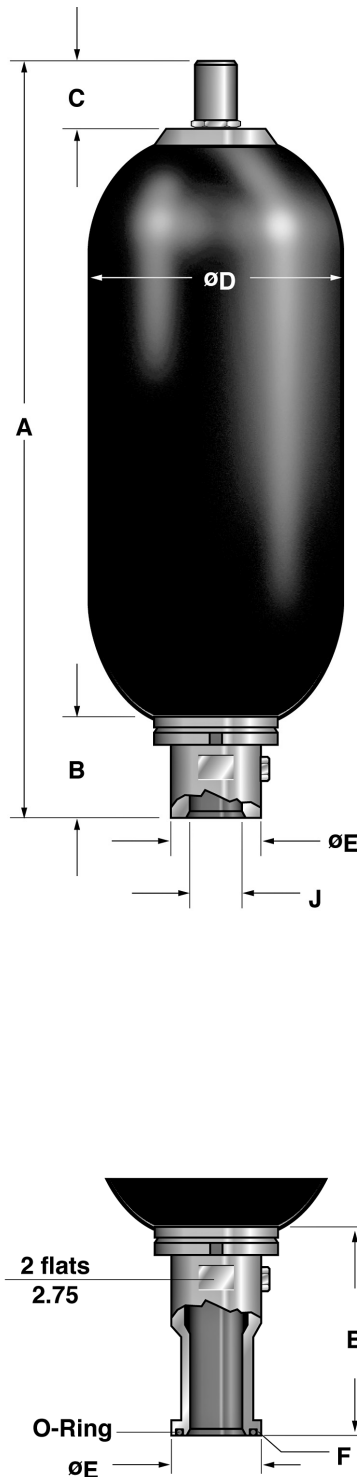
**Fluid Port Connection** \_\_\_\_\_  
A = BSPP (ISO 228) Radial Seal Design NOT Axial  
B = Metric (DIN 13)  
C = SAE (ANSI B1.1)  
D = NPT (ANSI B1.2)  
E = SAE 2" - 3000 psi (Code 61)  
F = SAE 1 1/2" - 6000 psi (Code 62)  
G = SAE 1 1/4" - 3000 psi (Code 61) (only available in sizes 4 liters & 6 liters)  
H = SAE 1" - 6000 psi (Code 62) (only available in sizes 1 liter & 4 liters)

**Gas Precharge Pressure (P<sub>0</sub>) in bar** \_\_\_\_\_  
xxx = 3 digits

Model Code	Part Number
SB330-4A1/112USFS1-210C	2214819
SB330-6A1/112USFS1-210C	2214820
SB330-10A1/112USFS1-330/262C	2212537
SB330-20A1/112USFS1-330/262C	2212538
SB330-32A1/112USFS1-330/262C	2212539
SB330-54A1/112USFS1-330/262C	2212540

Model Codes containing RED selections are non-standard items – Contact HYDAC for information and availability. Not all combinations are available.

## Dimensions Bottom Repairable



### SB 330... (3000 psi)

Size (L)	Nom. Vol. (gal.)	Eff. Gas Vol. in <sup>3</sup> / (gal.)	Weight	A	B	C	ØD	ØE	Thread-J		Q gpm
									SAE	NPTF BSPP	
1	.25	66 (0.29)	10 (4.5)	12.0 (303)	2.0 (51)	2.3 (58)	4.5 (115)	1.4 (36)	1 1/16-12 UN (SAE-12)	3/4"	60
4	1	226 (0.98)	30 (14)	16.3 (415)	2.6 (66)	2.3 (58)	6.6 (168)	2.1 (53)	1 5/8-12 UN (SAE-20)	1 1/4"	160
6	1.5	340 (1.47)	33 (15)	20.5 (521)	2.6 (66)	2.3 (58)	6.6 (168)	2.1 (53)	1 5/8-12 UN (SAE-20)	1 1/4"	160
10	2.5	566 (2.45)	86 (39)	22.0 (559)	3.1 (80)	2.3 (58)	9.1 (231)	3.0 (76)	1 7/8-12 UN (SAE-24)	2"	240
20	5	1125 (4.87)	140 (63)	34.5 (876)	3.1 (80)	2.3 (58)	9.1 (231)	3.0 (76)	1 7/8-12 UN (SAE-24)	2"	240
32	10	2080 (9.00)	226 (102)	54.7 (1390)	3.1 (80)	2.3 (58)	9.1 (231)	3.0 (76)	1 7/8-12 UN (SAE-24)	2"	240
42	11	2320 (10.04)	270 (123)	60.2 (1530)	3.1 (80)	2.3 (58)	9.1 (231)	3.0 (76)	1 7/8-12 UN (SAE-24)	2"	240
54	15	3205 (13.87)	330 (150)	78.3 (1990)	3.1 (80)	2.3 (58)	9.1 (231)	3.0 (76)	1 7/8-12 UN (SAE-24)	2"	240

See notes at bottom of page

Dimensions are for general information only, all critical dimensions should be verified.  
Dimensions are in inches/(mm) and lbs/(kg)

### SB 600... (5000 psi)

Size (L)	Nom. Vol. (gal.)	Eff. Gas Vol. in <sup>3</sup> / (gal.)	Weight	A	B <sup>1</sup>	C	ØD	ØE	Thread-J		Q <sup>2</sup> gpm
									SAE	NPTF BSPP	
1	.25	66 (0.29)	17 (7.7)	13.2 (335)	2.4 (62)	2.3 (58)	4.5 (115)	2.1 (53)	1 5/8-12 UN (SAE - 20)	1 1/4"	160
4	1	226 (0.98)	33 (15)	16.3 (415)	2.5 (64)	2.3 (58)	6.8 (173)	2.1 (53)	1 5/8-12 UN (SAE - 20)	1 1/4"	160
10	2.5	566 (2.45)	154 (70)	22.4 (568)	3.1 (80)	2.8 (70)	9.1-9.7 (232-247)	3.0 (76)	1 7/8-12 UN (SAE - 24)	2"	240
20	5	1125 (4.87)	248 (113)	35.0 (888)	3.1 (80)	2.8 (70)	9.1-9.7 (232-247)	3.0 (76)	1 7/8-12 UN (SAE - 24)	2"	240
32	10	2080 (9.00)	413 (188)	55.2 (1402)	3.1 (80)	2.8 (70)	9.1-9.7 (232-247)	3.0 (76)	1 7/8-12 UN (SAE - 24)	2"	240
54	15	3180 (13.77)	611 (278)	78.8 (2002)	3.1 (80)	2.8 (70)	9.1-9.7 (232-247)	3.0 (76)	1 7/8-12 UN (SAE - 24)	2"	240

See notes at bottom of page

Dimensions are for general information only, all critical dimensions should be verified.  
Dimensions are in inches/(mm) and lbs/(kg)

### Split Flange Connection (sizes 10 - 54)

Series	B	ØE	F Split Flange Connection	Q <sup>2</sup> gpm
SB 330 SB 330 TR <sup>3</sup>	4.1 (104)	2.8 (71.4)	SAE 2" - 3000 psi Code 61	240
SB 600 SB 600 TR <sup>3</sup>	5.5 (140)	2.5 (63.5)	SAE 1 1/2" - 5000 psi Code 62	240

**NOTE:** Higher pressure may be available. Please consult HYDAC for more information.

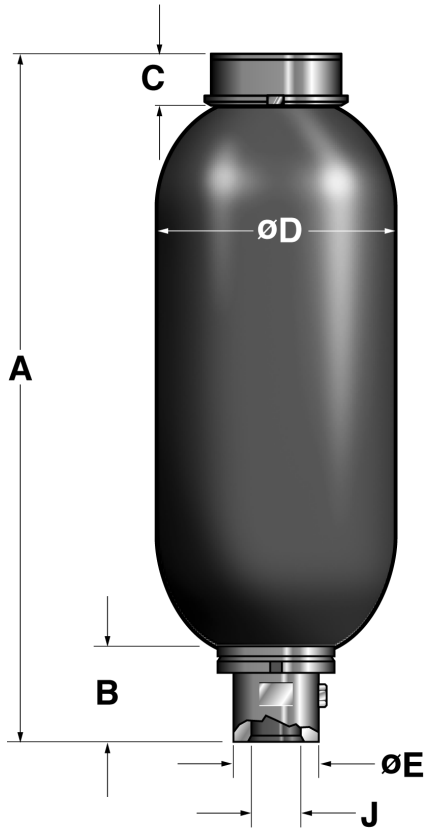
1) Applies to SAE thread type only. For Split Flange, see separate chart and illustration.

2) Maximum discharge flow rate recommended for vertically mounted accumulators.

3) Sizes 10 to 54 only.

# BLADDER ACCUMULATORS

## Top Repairable and Modified Flow



### SB 330 TR... (3000 psi)

Size (L)	Nom. Vol. (gal.)	Eff. Gas Vol. in <sup>3</sup> / (gal.)	Weight	A	B <sup>(1)</sup>	C	ØD	ØE	Thread-J		Q <sup>(2)</sup> gpm
									SAE	NPTF BSPP	
10	2.5	566 (2.45)	94 (43)	21.3 (540)	3.1 (80)	1.6 (40)	9.1 (231)	3.0 (76)	1 7/8-12 UN (SAE - 24)	2"	240
20	5	1125 (4.87)	140 (63)	34.8 (883)	3.1 (80)	1.6 (40)	9.1 (231)	3.0 (76)	1 7/8-12 UN (SAE - 24)	2"	240
32	10	2080 (9.00)	226 (102)	55.0 (1397)	3.1 (80)	1.6 (40)	9.1 (231)	3.0 (76)	1 7/8-12 UN (SAE - 24)	2"	240
42	11	2320 (10.04)	270 (123)	60.2 (1530)	3.1 (80)	1.6 (40)	9.1 (231)	3.0 (76)	1 7/8-12 UN (SAE - 24)	2"	240
54	15	3205 (13.87)	330 (150)	78.6 (1997)	3.1 (80)	1.6 (40)	9.1 (231)	3.0 (76)	1 7/8-12 UN (SAE - 24)	2"	240

See notes at bottom of page

Dimensions are for general information only, all critical dimensions should be verified.

Dimensions are in inches/(mm) and lbs/(kg)

### SB 600 TR... (5000 psi)

Size (L)	Nom. Vol. (gal.)	Eff. Gas Vol. in <sup>3</sup> / (gal.)	Weight	A	B <sup>(1)</sup>	C	ØD	ØE	Thread J		Q <sup>(2)</sup> gpm
									SAE	NPTF BSPP	
10	2.5	566 (2.45)	154 (70)	20.9 (531)	3.1 (80)	1.6 (40)	9.1-9.7 (232-247)	3.0 (76)	1 7/8-12 UN (SAE-24)	2"	240
20	5	1125 (4.87)	248 (113)	33.5 (851)	3.1 (80)	1.6 (40)	9.1-9.7 (232-247)	3.0 (76)	1 7/8-12 UN (SAE-24)	2"	240
32	10	2080 (9.00)	413 (188)	53.7 (1364)	3.1 (80)	1.6 (40)	9.1-9.7 (232-247)	3.0 (76)	1 7/8-12 UN (SAE-24)	2"	240
54	15	3205 (13.87)	611 (278)	77.3 (1964)	3.1 (80)	1.6 (40)	9.1-9.7 (232-247)	3.0 (76)	1 7/8-12 UN (SAE-24)	2"	240

See notes at bottom of page

Dimensions are for general information only, all critical dimensions should be verified.

Dimensions are in inches/(mm) and lbs/(kg)

### SB 330 NTR... (3000 psi, Modified Flow)

Size (L)	Nom. Vol. (gal.)	Eff. Gas Vol. in <sup>3</sup> / (gal.)	Weight	A	B <sup>(1)</sup>	C	ØD	ØE	Thread J		Q <sup>(2)</sup> gpm
									SAE	NPTF BSPP	
10	2.5	566 (2.45)	94 (43)	21.3 (540)	3.1 (80)	1.6 (40)	9.1 (231)	3.0 (76)	1 7/8-12 UN (SAE-24)	2"	240
20	5	1125 (4.87)	140 (63)	34.8 (883)	3.1 (80)	1.6 (40)	9.1 (231)	3.0 (76)	1 7/8-12 UN (SAE-24)	2"	240
32	10	2080 (9.00)	226 (102)	55.0 (1397)	3.1 (80)	1.6 (40)	9.1 (231)	3.0 (76)	1 7/8-12 UN (SAE-24)	2"	240
54	15	3205 (13.87)	330 (150)	77.3 (1964)	3.1 (80)	1.6 (40)	9.1 (231)	3.0 (76)	1 7/8-12 UN (SAE-24)	2"	240

Dimensions are for general information only, all critical dimensions should be verified.

Dimensions are in inches/(mm) and lbs/(kg)

Note:

- 1) Applies to SAE thread type only. For Split Flange, see chart and illustration on previous page.
- 2) Maximum discharge flow rate recommended for vertically mounted accumulators.

## Water Service

Size (L)	Effective Gas Vol (in3)	MAWP psi/(bar)	Model Code	P/N	Fluid Connection Thread Size
1	66	3000 (210)	SB330-1A1/002S-210C	2055285	SAE 1 1/16" - 12 UN
4	226	3000 (210)	SB330-4A1/002S-210C	2055070	SAE 1 5/8" - 12 UN
4	226	3000 (210)	SB330-4A1/005S-210C	2092089	SAE 1 5/8" - 12 UN
4	226	3000 (210)	SB330-4A1/006S-210D (USES 1.25" NPT ADAP)	2091080	1 1/4" NPT
6	340	3000 (210)	SB330-6A1/002S-210D (USES 1.25" NPT ADAP)	2092310	1 1/4" NPT
10	566	3000 (210)	SB330-10A1/002S-210C	2055224	SAE 1 7/8" - 12 UN
10	566	3000 (210)	SB330-10A1/002S-210D	2087571	2" NPT
10	566	3000 (210)	SB330-10F1/002S-210E	2069474	Flanged SAE 2" (Code 61)
20	1125	3000 (210)	SB330-20A1/002S-210C	2054720	SAE 1 7/8" - 12 UN
20	1125	3000 (210)	SB330-20A1/002S-210D	2087570	2" NPT
20	1125	3000 (210)	SB330-20A1/002S1-210A CRN	2082666	2" BSPP
20	1125	3000 (210)	SB330-20A1/002S1-210C CRN	2084359	SAE 1 7/8" - 12 UN
20	1125	3000 (210)	SB330-20F1/002S-210E	2072909	Flanged SAE 2" (Code 61)
32	2080	3000 (210)	SB330-32A1/002S-210C	2083387	SAE 1 7/8" - 12 UN
32	2080	3000 (210)	SB330-32A1/002S-210D	2063921	2" NPT
32	2080	3000 (210)	SB330-32F1/002S-210E	2072536	Flanged SAE 2" (Code 61)
54	3205	3000 (210)	SB330-54A1/002S-210C	2055269	SAE 1 7/8" - 12 UN
54	3205	3000 (210)	SB330-54A1/002S-210D	2069311	2" NPT
54	3205	3000 (210)	SB330-54A1/002S1-210A CRN	2082667	2" BSPP
54	3205	3000 (210)	SB330-54F1/002S-210E	2055105	Flanged SAE 2" (Code 61)

1	66	5000 (345)	SB600-1A1/002S-345C	2054911	SAE 1 5/8" - 12 UN
1	66	5000 (345)	SB600-1F1/002S-345H	2094814	Flanged SAE 1" (Code 62)
4	226	5000 (345)	SB600-4A1/002S-345C	2055063	SAE 1 5/8" - 12 UN
10	566	5000 (345)	SB600-10A1/002S-345C	2055093	SAE 1 7/8" - 12 UN
10	566	5000 (345)	SB600-10A1/002S1-345C CRN	2093123	SAE 1 7/8" - 12 UN
10	566	5000 (345)	SB600-10F1/002S-345F	2089028	Flanged SAE 1 1/2" (Code 62)
20	1125	5000 (345)	SB600-20A1/002S-345C	2056383	SAE 1 7/8" - 12 UN
20	1125	5000 (345)	SB600-20F1/002S-345F	2083359	Flanged SAE 1 1/2" (Code 62)
32	2080	6000 (414)	SB600-32A1/002S-414A	2070756	2" BSPP
32	2080	5000 (345)	SB600-32F1/002S-345F	2076097	Flanged SAE 1 1/2" (Code 62)
54	3180	5000 (345)	SB600-54A1/002S-345C	2062971	SAE 1 7/8" - 12 UN
54	3180	5000 (345)	SB600-54A1/006S-345C	2094879	SAE 1 7/8" - 12 UN
54	3180	5000 (345)	SB600-54F1/002S-345F	2074828	Flanged SAE 1 1/2" (Code 62)

RED selections are non-standard items – Contact HYDAC for information and availability. Not all combinations are available.

# BLADDER ACCUMULATORS

## Stainless Steel Bladders

### Model Code

**SB 140 TR - 20 S 11/ 332S1-138C**

**Series** \_\_\_\_\_  
 SB 140 = Bladder Accumulator (2000 psi, *Nominal*)

**Design** \_\_\_\_\_  
 TR = Top repairable

**Size** \_\_\_\_\_  
 10 = 2.5 gal  
 20 = 5 gal  
 35 = 10 gal  
 57 = 15 gal

**Line Connection** \_\_\_\_\_  
 S = Threaded (*SAE Lock Nut*)  
 F = Flanged (*SAE Lock Nut*)

**Gas Port** \_\_\_\_\_  
 11 = 2pc 316 SS Gas Valve  
*(see page H19 for permanent gauge blocks. See page H11 for charging and gauging info, FPO is recommended)*

**Fluid port** \_\_\_\_\_  
 3 = 316 Stainless steel

**Shell** \_\_\_\_\_  
 3 = 316 Stainless steel (Static Storage Temp -40° C to 100° C) Vessel Only  
*(The maximum operating temperature of the standard accumulator design is 200°F; other options will be considered, upon request)*

**Bladder Compound** \_\_\_\_\_

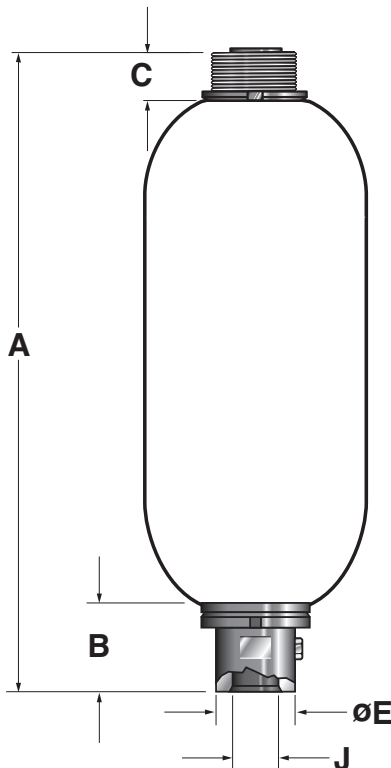
Compound	Oper. Temp Range	Typical Fluids
NBR	5° to 180°F	mineral oils (standard)
3	32° to 180°F	water & water-glycols (5% minimum glycol)
4	-20° to 180°F	mineral oils (for low temperature)
5	-50° to 220°F	mineral oils (for extra low temperature)
6	-40° to 250°F	mineral oils
7	-20° to 200°F	phosphate esters & brake fluids
9	5° to 300°F	chlorinated hydrocarbons

2 = NBR (Buna N)  
 3 = ECO (Hydrin)  
 4 = IIR (Butyl)  
 5 = ELT-NBR (extra low temp. Buna)  
 6 = FPM (Fluoroelastomer)  
 7 = Others (*available on request*)  
 9 = LT-NBR (*low temp. Buna*)

**Country of Installation** \_\_\_\_\_  
 S1 = USA & Canada

**Maximum Working Pressure** (in bar) \_\_\_\_\_  
 138 = SB140's 2000 PSI

**Fluid Port Connection (316SS)** \_\_\_\_\_  
 Threaded  
 C = SAE  
 D = NPT  
 Flanged  
 E = SAE 2" - 3000 psi



**SB 140... (2000 psi)**

Nom. Vol. (L)	Eff. Gas Vol. in <sup>3</sup> /(gal.)	Weight	A	B <sup>1</sup>	C	ØD	ØE	Thread J	
								SAE	NPTF
10	566 (2.45)	150 (68)	20.8 (527)	3.2 (82)	1.6 (40)	9.0 (229)	3.0 (76)	1 7/8-12 UN (SAE-24)	2"
20	1125 (4.87)	200 (92)	33.0 (837)	3.2 (82)	1.6 (40)	9.0 (229)	3.0 (76)	1 7/8-12 UN (SAE-24)	2"
35	2080 (9.00)	290 (132)	53.4 (1357)	3.2 (82)	1.6 (40)	9.0 (229)	3.0 (76)	1 7/8-12 UN (SAE-24)	2"
57	3205 (13.87)	390 (178)	76.9 (1952)	3.2 (82)	1.6 (40)	9.0 (229)	3.0 (76)	1 7/8-12 UN (SAE-24)	2"

*Dimensions are in inches/(mm) and lbs/(kg)*

Model Code	Part Number
SB140-10S11/332S-138C	2205654
SB140-20S11/332S-138C	2205656
SB140-35S11/332S-138C	2205658
SB140-57S11/332S-138C	2205660

*Model Codes containing RED selections are non-standard items – Contact HYDAC for information and availability. Not all combinations are available.*