

Accumulators type Y-SB330 and Y-SBO

bladder and diaphragm

1 MODEL CODE

Y-SB330 - 6 A 1 / 112 U 330 A **

Y-SB330 = bladder accumulators

Nominal capacity:
1 = 1 litres **10** = 10 litre **32** = 32 litre
2,5 = 2,5 litres **13** = 13 litre **50** = 50 litre
4 = 4 litres **20** = 20 litre
6 = 6 litres **24** = 24 litre
 Other volumes are available on request

Hydraulic connection:
A = female Gas thread
F = SAE flange
 Other connections are available on request

GAS connection:
1 = 7/8-14 UNF
 Other connections are available on request

Design number

Oil side connection type
A = GAS threaded
C = SAE 3000 flange 2"
D = SAE 6000 flange 1 1/2"

Max. operating pressure:
330 = 330 bar (for type "A" and "D" only)
210 = 210 bar (for type "C" only)

Testing:
U = Europe (CE - PED)
 Other testings are available on request

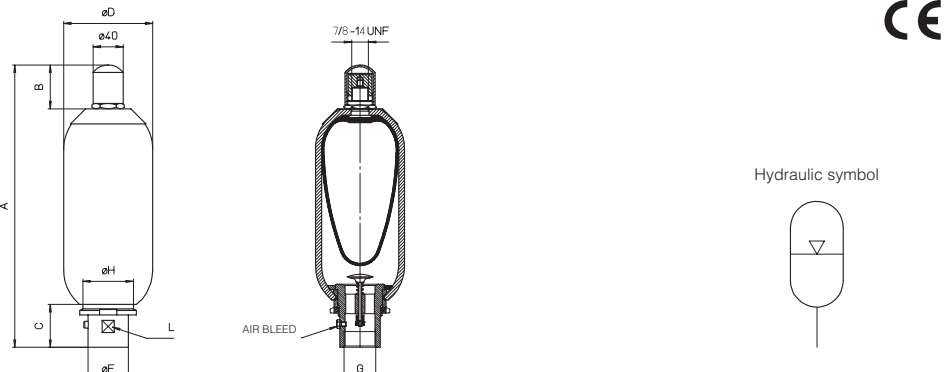
Shell materials (standard selection):
1 = hydraulic connection – alloyed carbon steel
1 = shell – alloyed carbon steel
2 = bladder – NBR
 Other materials are available on request

2 MAIN CHARACTERISTICS

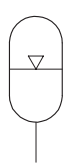
Assembly position	vertical with gas connection upward
Fluid	hydraulic oil according to DIN 51524...535, for other fluids contact our technical office
Recommended viscosity	15 ÷ 100 mm ² /s at 40°C (ISO VG 15 ÷ 100)
Fluid contamination class	ISO 19/16 achieved with in line filters at 25 µm and β ₂₅ ≥ 75 (recommended)
Fluid temperature	T < 80°C
Ambient temperature	from -15°C to +70°C
Max operating pressure	330 bar T < 80°C
Material	Shell: alloyed carbon steel Bladder: NBR (Perbunan)
Precharging gas	nitrogen only
Painting	antirust primer

3 DIMENSIONS [mm]

Y-SB330



Hydraulic symbol



Model	Volume V ₀ [litres]	A	B	C	ø D	ø F	G	ø H	L	Mass [Kg]	
Y-SB-1	1	302	58	57	118	53	G 3/4"	50	32	4,5	
Y-SB-2,5	2,4	532		63			173			G 1 1/4"	10
Y-SB-4	3,7	410									11,5
Y-SB-6	5,7	540		103	222	77	G 2"	100	70	15	
Y-SB-10	9,3	568								31,5	
Y-SB-13	12	660								43	
Y-SB-20	18,4	896	50,5								
Y-SB-24	23,6	1062	69								
Y-SB-32	33,9	1411	68	229	77	G 2"	100	70	87		
Y-SB-50	47,5	1931							117,5		

4 MODEL CODE

Y-SBO210

- **0,75**

E1

/ **112**

U

210AK

Y-SBO = diaphragm accumulators

Nominal capacity:

0,75 = 0,75 litres

1 = 1 litre

1,4 = 1,4 litre

2,8 = 2,8 litre

Other volumes are available on request

Construction:

E1 = welded version, suitable to be filled up

Design number

Max. operating pressure:

210AK = 210 bar

Testing:

U = Europe (CE - PED)

Other testings available on request

Shell materials (standard selection):

1 = hydraulic connection – alloyed carbon steel

1 = shell – alloyed carbon steel

2 = bladder - NBR

Other materials are available on request

5 MAIN CHARACTERISTICS

Assembly position	any position
Fluid	hydraulic oil according to DIN 51524...535, for other fluids contact our technical office
Fluid contamination class	ISO 19/16 achieved with in line filters at 25 µm and β25 ≥75 (recommended)
Fluid temperature	T < 80°C
Ambient temperature	from -10°C to +80°C
Max operating pressure	210 bar
Material	Shell: alloyed carbon steel Diaphragm: NBR (Perbunan)
Precharging gas	nitrogen only
Painting	antirust primer

6 DIMENSIONS [mm]

Y-SBO

Hydraulic symbol

Model	Volume V ₀ [liters]	A	B	ø D	F	G	Mass [Kg]
Y-SBO-0,75	0,75	168	14	121	34	G 1/2"	2,8
Y-SBO-1	1	181		136			3,6
Y-SBO-1,4	1,4	200	150	5,4			
Y-SBO-2,8	2,8	278	18	167		G 3/4"	8,2

7 CHOICE OF THE ACCUMULATOR

For the choice of the accumulator, the following rules must be considered:

or adiabatic transformation:
$$V_0 = \frac{\Delta V}{(p_0 / p_1)^{0,7143} - (p_0 / p_2)^{0,7143}}$$

for isothermal transformation:
$$V_0 = \frac{\Delta V}{p_0 (1/ p_1 - 1/ p_2)}$$

for **Y-SB-330** accumulators: **p₀ min** ≥ 0,25 x p₂; **p₀ max** ≤ 0,9 x p₁; usually **p₀** = 0,9 x p₁

for **Y-SBO** accumulators: **p₀ min** ≥ 0,125 x p₂; **p₀ max** ≤ 0,9 x p₁; usually **p₀** = 0,9 x p₁
p₀ min ≥ 0,25 x p₂ (only for 2,8 liters)

Attention:
 Approximately, when the compression time or expansion time is less then 3 minutes, consider adiabatic transformation.

where:

p₀ = precharge pressure

p₁ = min. working pressure

p₂ = max. working pressure

ΔV = volume of accumulated or released fluid

V₀ = volume of nitrogen at p₀ precharging pressure