

PROFESSIONAL
ENVIRONMENTAL
PROTECTION
PRODUCTS

AIRCRAFT RECOVERY



SA-LB 5/120 and SA-LB 8/240



These lifting bags are designed for recovering smaller aircraft, including business jets. The number of lifting bag sets and the type of bags will depend on the aircraft to be recovered as well as the nature of the incident. They can be used as stand alone recovery systems or in combination with conventional recovery methods.

The lifting bag SA-LB 5/120 consists of one triple-chamber bag and three single chamber bags. The SA-LB 8/240 consists of three triple-chamber bags and three single-chamber bags. They are packed in special storage bags that also serve as ground protective covers.

The SA-LB 5/120 requires a 4-port deadman controller for inflation and the SA-LB 8/240 requires a 6-port deadman controller.



Advantages:

- Combination of triple-chamber and single-chamber lift bags reduces the number of inflation hoses
- Simpler and lighter inflation controllers
- Damaged lift bags can easily be repaired using cold vulcanizing
- Lift bags can be folded and stored for extended period of time without structural break down
- Life expectancy from 15 to 20 years.

Safety:

- All lifting bags have a minimum safety factor of 5
- All seams are hot vulcanized
- Resistant to ozone and hydrocarbons
- Each lifting bag is tested at a pressure that is 30% higher than required operating pressure
- Calibrated inflation controllers with deadman.

SA-LB 5/120 and SA-LB 8/240

Technical data

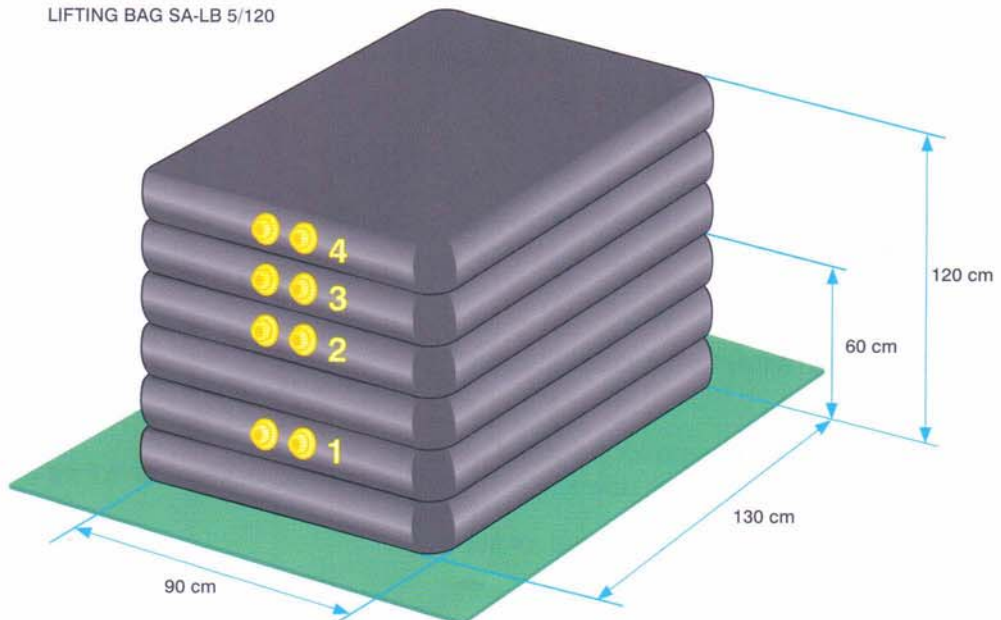
Model	EU	SA-LB 5/120	SA-LB 8/240
Part Number		545630	537227
Size - total area (LxW)	cm	150x110	140x160
Size - lifting surface (LxW)	cm	130x90	120x140
Max. lifting height	cm	120	240
Max. lifting capacity	kg	5000	8000
Height of single chamber	cm	20	20
Chambers (total) *	No.	1+3	3+3
Insertion (deflation) height	cm	10	20
Nominal content	l	1700	3430
Air requirement at 0,5 bar	l	2600	5140
Weight	kg	30	116
Max. inflation pressure	bar	0,5	0,5
Test pressure	bar	0,65	0,65
Bursting pressure	bar	>2,0	>2,0

SA-LB 5/120 and SA-LB 8/240

Sets

Code	Description	Set SA-LB 5/120	Set SA-LB 8/240
545630	SA-LB 5/120; 0,5 bar with storage bag	1	
537227	SA-LB 8/240; 0,5 bar with storage bag		1
545631	4 port controller, deadman, 0,5 bar	1	
545632	6 port controller, deadman, 0,5 bar		1
545635	SA-LB compressed air hose, 10m	4	6
545637	SA-LB air supply hose 10m	1	1
545644	Padded plate , 10mm	1	1
522050	Set of repair material	1	1

LIFTING BAG SA-LB 5/120



SA-LB 0,5 bar



The unique feature of Sava lifting bags is the combination of triple-chamber and single-chamber bags.

There are 5 standard models capable of lifting up to 300 cm high. A two layer rubber-coated fabric connected with thousands of mono-filament fibers assures excellent stability of the lift bags in all directions. This results in greater safety even with the largest size bags which are capable of lifting upwards of 46 metric tons.



Advantages:

- Combination of triple-chamber and single-chamber bags which reduces the number of inflation hoses
- Simpler and lighter inflation controllers
- Damaged lift bags can easily be repaired using cold vulcanizing
- Lift bags can be folded and stored for extended period of time without structural break down
- Can be supplied with chambers connected or separate
- Life expectancy of 15 to 20 years.

Safety:

- All lifting bags have a minimum safety factor of 5
- All seams are hot vulcanized
- Resistant to ozone and hydrocarbons
- Each lifting bag is tested at a pressure that is 30% higher than required operating pressure
- Calibrated inflation controllers with deadman

SA-LB

SA-LB - 0,5 bar

Technical data

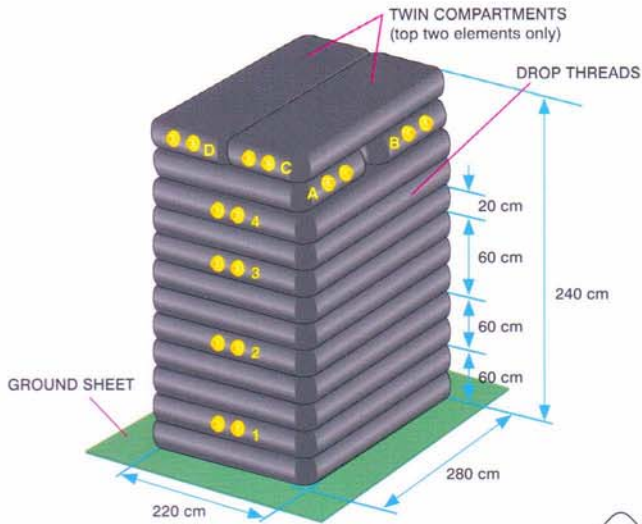
Model	EU	SA-LB 3/100	SA-LB 14/160	SA-LB 30/240	SA-LB 30/300	SA-LB 45/300
Art Number		537228	537229	537230	537231	537232
Size - total area (LxW)	cm	120x90	220x160	300x240	300x240	440x240
Size - lifting surface (LxW)	cm	100x70	200x140	280x220	280x220	420x220
Max. lifting height	cm	100	160	240	300	300
Max. lifting capacity	kg	3500	14000	30800	30800	46200
Height of single chamber	cm	20	20	20	20	20
Chambers (total) *	No.	1+2	2+2	3+3	4+3	4+3
Insertion (deflation) height	cm	7	10	15	20	20
Nominal content	l	880	5350	16400	20500	29100
Air requirement at 0,5 bar	l	1300	8000	24500	30700	43800
Weight	kg	22	100	260	330	500
Max. inflation pressure	bar	0.5	0.5	0.5	0.5	0.5
Test pressure	bar	0.65	0.65	0.65	0.65	0.65
Bursting pressure	bar	>2,0	>2,0	>2,0	>2,0	>2,0

* (n+n1)n-triple LB; n1-single LB

Code	Description	291223	291225	291226	291227	291228
		SA-LB 3/100	SA-LB 14/160	SA-LB 30/240	SA-LB 30/300	SA-LB 45/300
537228	SA-LB 3/100; 0,5 bar with storage bag	1				
537229	SA-LB 14/160; 0,5 bar with storage bag		1			
537230	SA-LB 30/240; 0,5 bar with storage bag			1		
537231	SA-LB 30/300; 0,5 bar with storage bag				1	
537232	SA-LB 45/300; 0,5 bar with storage bag					1
545645	Padded plate for SA-LB 3/100; 10mm	1				
545646	Padded plate for SA-LB 14/160; 10mm		1			
545647	Padded plate for SA-LB 30/240 and 30/300			1	1	
545648	Padded plate for SA-LB 45/300 10mm					1
545651	Transport box for SA-LB 3/100;	1				
545652	Transport box for SA-LB 14/160;		1			
545653	Transport box for SA-LB 30/240 and 30/300			1	1	
545654	Transport box for SA-LB 45/300					1
522050	Set of repair material	1	1	1	1	1

SAVA CATEGORIES

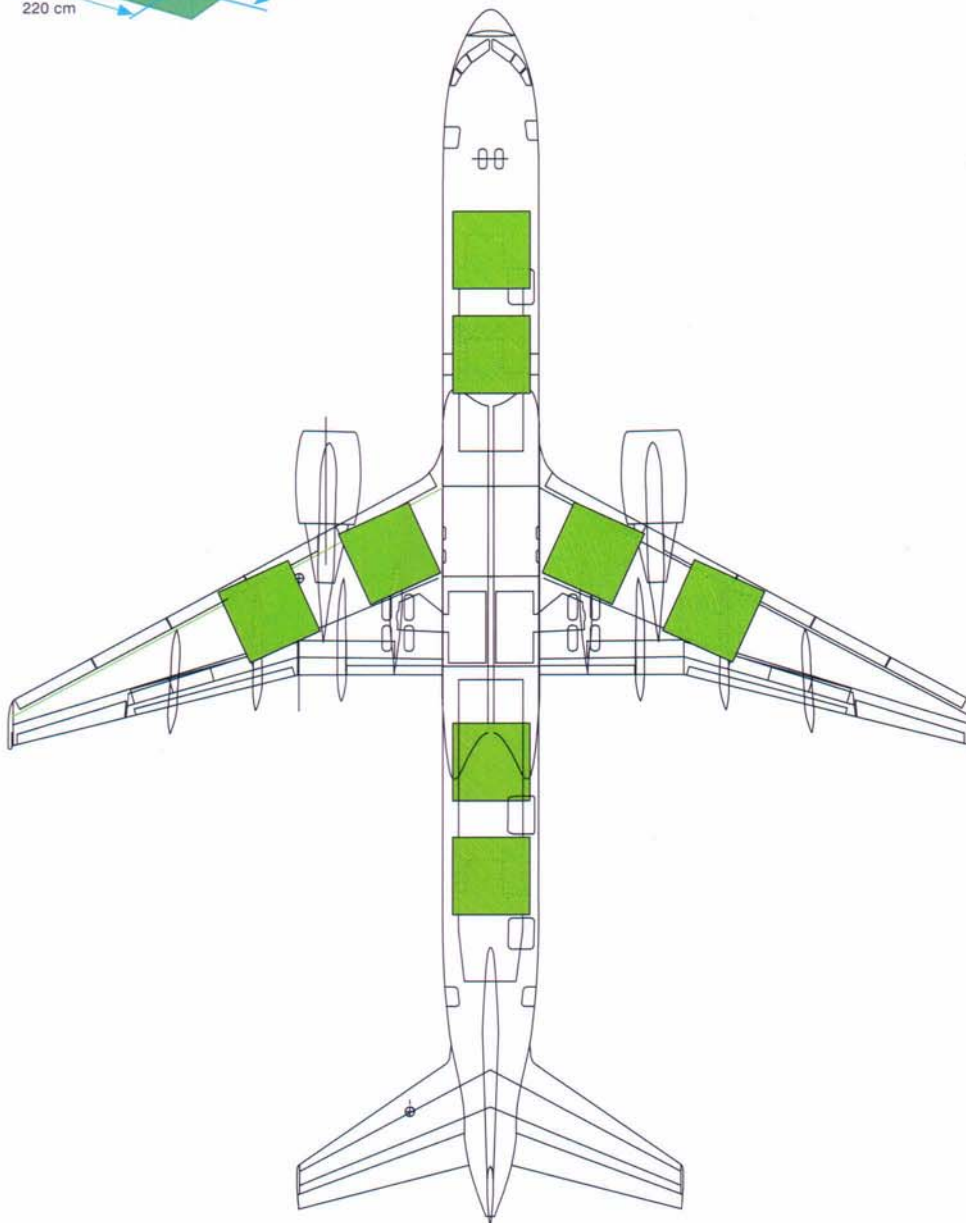
LIFTING BAG SA-LB 30/240



The selection of the type and size of the lifting bags is based on 5 different categories and depends on the following:

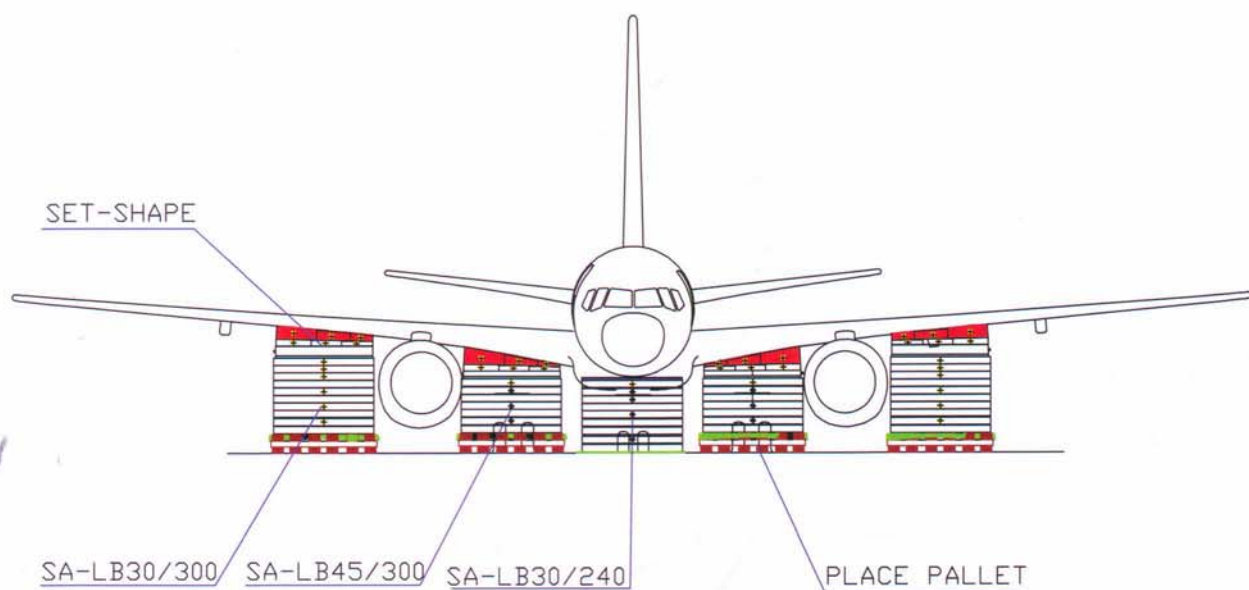
- Type of aircraft and type of recovery
- Weight of the aircraft
- Accessibility of aircraft surfaces
- Requirements as listed in manufacturer's Aircraft Recovery Manual

Listed under each category is also additional equipment recommended for the successful completion of the recovery process.



Lifting Bag Sets SA-LB - CATEGORIES ; 0,5 bar

Code	Description	Cat.5	Cat.4	Cat.3	Cat.2	Cat.1
291225	Set of SA-LB 14/160	3				
291226	Set of SA-LB 30/240		2	2	2	2
291227	Set of SA-LB 30/300		2	4	5	4
291228	Set of SA-LB 45/300					2
545636	SA-LB compressed air hose, 20m	12	28	40	47	54
545637	SA-LB air supply hose 10m	4	8	10	20	20
545631	4 port controller, deadman, 0,5 bar	3				
545633	10 port controller, deadman, 0,5 bar		4	6	7	8
545638	Compressed air distributor	1	1	1	2	2
545641	Padded plate for SA-LB 14/160; 30mm	3				
545642	Padded plate for SA-LB 30/240 and 30/300		4	6	7	6
545643	Padded plate for SA-LB 45/300; 30mm					2
545639	Compressor Type Sava SA-LB 1	1	1	1	1	1



CONTOUR MATCHING

To facilitate aircraft recovery, we have added contour matching equipment to the lifting bag sets.

There are two ways to achieve contour matching:

- By using contact chambers
- By using vacuum chambers

Contact chambers contour matching consists of individual inflatable elements positioned in such a way that there is an optimum contact with the surface of the aircraft, which is particularly important when the aircraft surface is at an angle. Padded plate (10mm) is used as protection from sharp edges or protrusions.

Most modern aircraft have wings that angle upwards which make the lifting process more difficult. The vacuum chamber system offers additional advantages:

- Meets the requirements of aircraft manufacturers
- High stability
- Ability to adapt to any shape
- Low skin pressure

Detailed instructions on the use of contour matching are included in the Instructions/Safety Manual..

Code	Description	Cat.3	Cat.2	Cat.1
545655	SA-LB chamber 500x2000mm, 0,5 bar	6	10	12
545656	SA-LB chamber 1000x2200mm, 0,5 bar	6	10	12
545657	SA-LB chamber 1400x2200mm, 0,5 bar	3	4	6
545658	SA-LB chamber 1000x2200mm, VACUM	7	10	14
545635	SA-LB compressed air hose, 10m	15	25	30
545640	SA-LB compressed air hose, 10m VACUM	7	10	14
545633	10 port controller, deadman, 0,5 bar	1	3	3
545634	10 port controller, deadman, VACUM	1	1	2
545649	Filling sack 400x600mm, filled with styropore	50	55	60
545638	Compressed air distributor	1	1	1



MATERIALS AND TABLE OF RESISTANCE

We are committed to only use the highest quality materials in all of our products to ensure safety in use and long product life.

All data concerning temperature and chemical resistance are based on laboratory tests and field tests.

Product	Material list		
	Material	Support material	Manufacturing
SA-LB lifting bags 0,5 bar	CR	Polyester	Hot vulcanised
SA-LB chamber	CR	Polyester	Hot vulcanised
Packing bag	PVC	Polyester	
Compressed air inflation hoses	EPDM	Polyester	

Product	Temperature resistance			
	Cold resistance	Cold flexibility	Heat resistance long term	Heat resistance short term
	Deg.C	Deg.C	Deg.C	Deg.C
Hot vulcanised	- 40	- 30	+ 90	+ 115
Cold vulcanised	- 40	- 20	+ 70	+ 85
Rubber hoses	- 35	- 30	+ 90	+ 110
Packing bags	- 20		+ 50	
Controllers deadman	- 20		+ 60	

MATERIALS AND TABLE OF RESISTANCE

Chemical resistance					
Chemical	Conc %	Temp C	CR	PVC	EPDM
Acetone		RT	0	-	+
Acetylene			0	-	
Ammonium Hydroxide	10	RT	+	+	+
	konc	RT	+	+	+
Aniline		RT	-	-	+
		100	-	-	+
Benzene		RT	-	-	-
Boric Acid	10	100	+	+	+
Brake Fluid (Vegetable)		50	+	-	+
Butanol		50	+	+	+
		100	0	+	+
Butyric Acid		RT	0	-	0
Calcium Hydroxide		100	0	0	+
Calcium Hypochlorite	15	RT	+	+	+-
Chloric Acid	20	RT	-	-	+
Diesel Oil			+	+	0
Ethanol		50	+	+	+
Ether		RT	-	0	0
Formaldehyde	40	RT	+	+	0
Glycerol (Glycerine)		100	+	+	+
Hexanol		RT	0	0	0
Hydrogen Peroxide	30	RT	+	+	+
	90	RT	-	-	-
Kerosene		70	0	+	
Methanol		50	+	+	+
Methyl Chloride			-	-	-
Milk			+	+	+
Mineral Oil No. 1		100	+	+	-
Mineral Oil No. 2		100	+	+	-
Mineral Oil No. 3		100	-	+	-
Naphtha		RT	-	+	-
Natural Gas			+	+	-
Nitric Acid Diluted	10	50	0	0	+
Ozone	50pphm	40	+	0	+
Phenol		100	-	-	0
Phosphoric Acid	60	50	0	0	+
Propanol		50	+	+	+
Sodium Hydroxide	12	100	+	+	+
	25	100	+	-	+
Sodium Hypochlorite	10	50	0	0	+
	10	100	+	0	+
Sulfuric Acid		RT	+	+	+
	50	100	+	-	+
	60	100	-	-	-
	75	100	-	-	-
Tolvene	96	RT	-	-	-
		RT	-	-	-

+ Resistant, 0 conditionally resistant, - non resistant