

## LIFT & LOCK gas springs with end position locking

Lift type gas springs have two main positions; the fully extended and the fully closed positions. Some applications require rigid holding at these positions due to

- legal requirements demanding safety precautions against unintentional movement,
- necessity of extra security to prevent closing of the gas spring without the users' control,
- applications where the gas spring is subjected to uncontrollable forces which are exceeding its extension force.

Lift gas springs with additional end position locking feature are the ideal choice for such applications. Variants of Lift with end position locking feature are

- Lift&Lock-LT : provides end position locking at fully extended position by an additional automatic locking / safety tube.
- Lift&Lock-LE : provides end position locking at fully extended position by an integrated locking element.
- Lift&Lock-LC : provides end position locking at fully compressed position by an integrated locking element.
- Lift&Lock-LD : provides end position locking at fully extended and fully compressed position by an integrated locking element.

The advantages of an additional end position lock are

- rigidity at extended and/or closed position of the gas spring
- eliminates the need of additional mechanical locking elements on the application thus reducing production and installation costs
- safe and easy to use self-contained units which operate automatically and thus providing locking and unlocking controlled directly on the gas spring
- additional protection against uncontrolled closing and/or opening
- absorption of uncontrollable or unforeseeable external forces (ie. snow load or under a heavy wind)
- Maintenance Free
- custom sized to fit your individual application



## LIFT&LOCK-LT

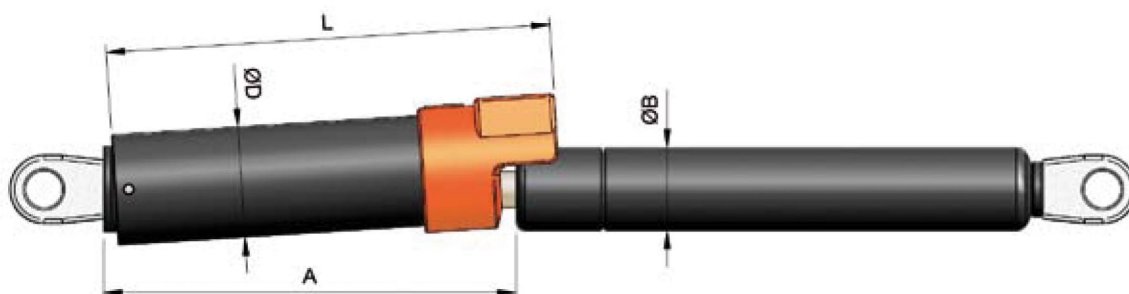
The Lift&Lock-LT is equipped with an automatic locking/safety tube which is an external mechanical locking device mounted over the piston rod. It is simple to use and operates automatically. When the gas spring is fully extended the spring-loaded automatic locking/safety tube springs into place and blocks the moving way of the piston rod, thus preventing the gas spring from compressing. To compress the gas spring again, the operator has to press the marked "PRESS" button. The automatic locking/safety tube moves over the pressure tube when the gas spring closes. An additional feature of the automatic locking/safety tube is that it protects the piston rod against dirt, scratches, paint and all kinds of damage.

### Technical advice

If more than one gas spring is used in an application it is usually sufficient to use the Lift&Lock-LT in conjunction with a regular Lift type gas spring.

### Technical Details

The Lift&Lock-LT is available in any desired length for the most common Lift groups.



Group	Ø D	L	Loss of working stroke
8/18	24	A + 7 mm	20 mm
10/22	28	A + 7 mm	20 mm
10/28	32	A + 20 mm	20 mm
14/28	32	A + 20 mm	20 mm



### Important Notice

Due to the additional parts of the locking mechanism the working stroke stated in the technical pages reduces for 10 mm.



### Lift&Lock with integrated locking mechanism

Another Lift&Lock type gas spring features various locking alternatives achieved by an integrated locking mechanism. It is simple to use and operates automatically. The mechanical lock consists of two parts, one on the piston rod and one inside the tube, and locks the gas spring at the required end position (either at extended, compressed or at extended and compressed positions), thus preventing the gas spring from uncontrolled extending and/or closing. To release the locking, the piston rod must be briefly pushed in (in direction of compression) for approximately 10 mm.

### Variants of Lift&Lock with integrated locking mechanism are;

- Lift&Lock-LE : provides end position locking at fully extended position by an integrated locking element.
- Lift&Lock-LC : provides end position locking at fully compressed position by an integrated locking element.
- Lift&Lock-LD : provides end position locking at fully extended and fully compressed position by an integrated locking element.

### Technical advice

- If more than one gas spring is used in an application, it is usually sufficient to use the Lift&Lock in conjunction with a regular Lift type gas spring.
- A major advantage of the Lift&Lock with integrated locking mechanism is that releasing the gas spring and adjusting the application can be done with one hand.

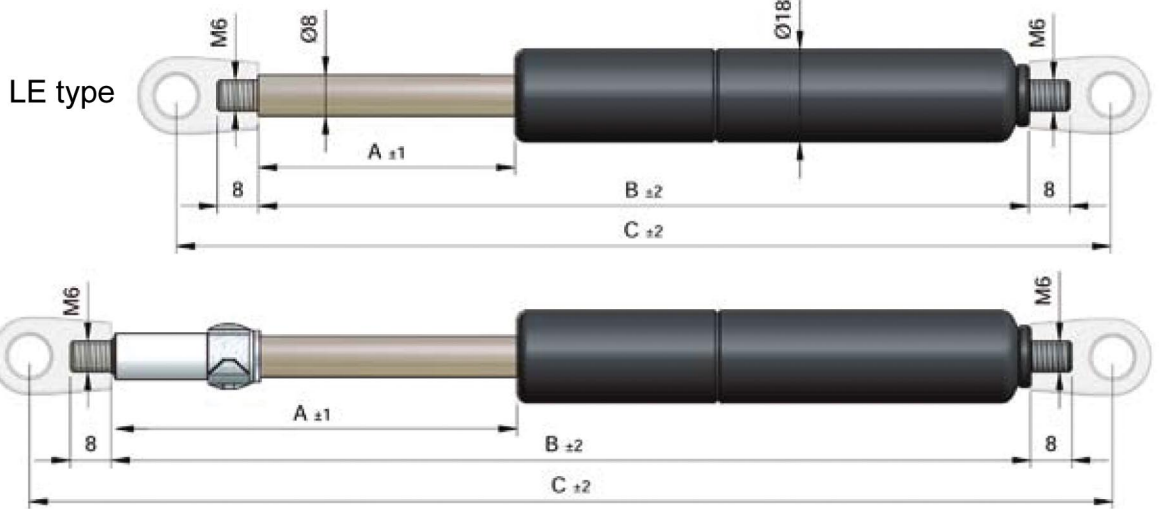
### Technical Details

Lift&Lock with integrated locking mechanism are available in 8/18, 8/22 and 10/22. Group 8/22 and 10/22 are special order items.

### Important Notice

- 1- To ensure that the locking mechanism does not release unintentionally, the external load exerted by the application onto the gas spring must be greater than the F1 (extension force) of the gas spring.
- 2- In order that the gas spring can be unlocked, a free play of ~10 mm in compression direction must be allowed at the gas springs' locked position.
- 3- Overload in locked position should be avoided as this may cause bending of the piston rod.





STANDARD			
A	B size for LE - LC	B size for LD	F1(N)
50	180	210	*
60	200	230	*
80	240	270	*
100	280	310	*
120	310	340	*
140	360	390	*
150	380	410	*
160	400	430	*
180	440	470	*
200	480	510	*
220	510	540	*
250	580	610	*

A : 20 min. - 500 max.  
F1 - ( N ) : min. 100N / max. 800N  
Progression : ~ 35 %

Extras	see page
Protection Tube	47
Valve	50
Special Damping	48-49
Special Extension Speed	51
Other	52

### ORDERING EXAMPLE

LE8 / 18 - 080 - 240 - 600N - B119 - B119 - Extras  
 LC8 / 18  
 LD8 / 18

Fitting on cylinder  
 Fitting on piston rod  
 Force in Newton  
 C-Extended length  
 A-Stroke  
 Type & Group

Thickness 10  Ø8.1 ±0.2 Ø14 22	Thickness 10  Ø6.1 Ø8.1 B181 B182 15 13	Thickness 10  Ø6.1 Ø8.1 B185 B186 15 16	B7  Ø8.1 ±0.2 16 8 32 Folding Spring Bolt Page 54	B46  Ball Ø10 18	 18 26 13 M8 13 M6
Plastic B216  22 Ball Ø10	Zinc B217  22 26 13 M8	Zinc  15 16 18 B51 Plastic B56 Metal	Plastic B52  18 26 13 M8	Metal B57  18 26 13 M8	Plastic B9  25 26 13 M8

Dimensions in mm - We reserve the right to make modifications