Gas pressured springs

Please observe the following assembly instructions to ensure that your gas pressured springs serve you for a long time without problems.

Principles

The cylinder is under high pressure, therefore:

- Do not tamper with the gas pressured spring- this applies for all gas pressured springs!
- Avoid heat, e.g. do not weld on the gas pressured spring!
- Avoid damage and impurification of the piston rod!
  This applies to scratches and marks as well as for impurification by grease, paint etc.
- Wherever possible build our safety bracket on to the gas pressured spring!
  Wind and snow pressure can change the support or cover weight, and this increased weight may surpass the spring pressure.

Assembly

- Mount the piston rod facing downwards!
  In this position the most is made of the damping behaviour of the GETO LIFT gas pressured springs at the end of the pushing process. In addition, the rod will be kept constantly oiled and sealing material in the cylinder kept pliable.
- Avoid tilting the gas pressured spring!
  This leads to wear of the links, bearings and fixing attachments and overbudens the sealing material in the cylinder of the gas pressured spring. To avoid tilting of the gas pressured spring itself, it is of benefit to have a certain clearance in the securing and bearing attachments.

Maintenance

- Oil the eyes in the securing and bearing attachments from time to time.
  Do not use grease!

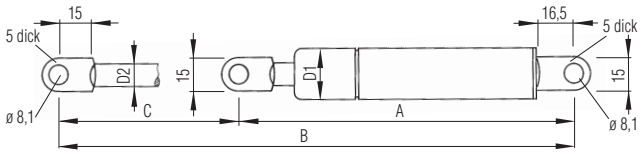
Closing over the dead centre, regulation of the pushing speed, hydraulic dampening in pushed out position.

- By appropriate choice of the link point, e.g. a support in the closed position can be shut with the GETO LIFT gas pressured spring (closed position over the dead centre), can open straight away after freeing or can first swing upwardsautomatically according to a known angle.
- The opening speed can be adjusted to requirements by choice of the link point.
- In every case, just before the end of the pushing process of GETO LIFT gaspressured springs, a hydraulic dampening takes place before the final strike of the piston in the cylinder takes place.

Gas pressured springs

Gas pressured spring Model ST-1

– eyes welded on

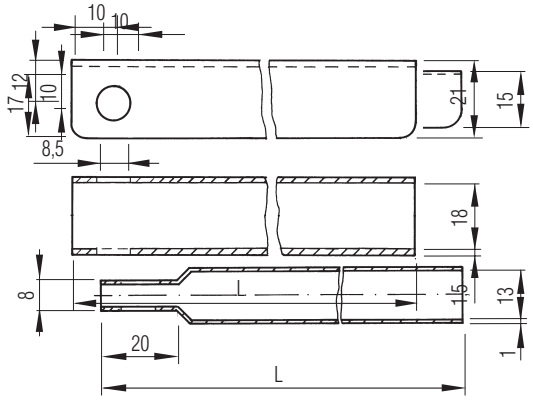


Surface: piston rod, nislide treated
Colour: sprayed black cylinder, sprayed black piston rod

Stroke C	Spring pressure	Length A	B	Cylinder D1	Piston rod D2	Weight approx.	Appropriate safety bracket Article No.	Article No.
[mm]	[N]	[mm]	[mm]	[mm]	[mm]	[kg/each]		
100	250	185	285	22	10	0.265	605 174 000	605 003 000
	500	185	285	22	10	0.268	605 174 000	605 005 000
	750	185	285	22	10	0.268	605 174 000	605 001 075
150	150	235	385	22	10	0.330	605 178 000	605 021 015
	250	235	385	22	10	0.330	605 178 000	605 023 000
	500	235	385	22	10	0.330	605 178 000	605 025 000
	750	235	385	22	10	0.330	605 178 000	605 027 000
	1000	235	385	22	10	0.330	604 178 000	605 029 000
	1150	235	385	22	10	0.330	605 178 000	605 030 000
200	150	285	485	22	10	0,400	605 182 000	605 041 015
	250	285	485	22	10	0.400	605 182 000	605 043 000
	500	285	485	22	10	0.400	605 182 000	605 045 000
	750	285	485	22	10	0.400	605 182 000	605 047 000
	1000	285	485	22	10	0.400	605 182 000	605 049 000
	1150	285	485	22	10	0.400	605 182 000	605 050 000
250	250	335	585	22	10	0.470	605 186 000	605 063 000
	500	335	585	22	10	0.470	605 186 000	605 065 000
	750	335	585	22	10	0.470	605 186 000	605 067 000
	1000	335	585	22	10	0.470	605 186 000	605 069 000
	1150	335	585	22	10	0.470	605 186 000	605 070 000
300	500	385	685	22	10	0.550	605 190 000	605 085 000
	750	385	685	22	10	0.550	605 190 000	605 087 000
	1000	385	685	22	10	0.550	605 190 000	605 089 000
	1150	385	685	22	10	0.550	605 190 000	605 090 000
400	500	490	890	22	10	0.650	605 194 000	605 095 000
	750	490	890	22	10	0.650	605 194 000	605 097 000
	950	490	890	22	10	0.650	605 194 000	605 099 000

Safety bracket ST-1 for GETO LIFT-gas pressured springs

Material: steel
Surface: galvanized

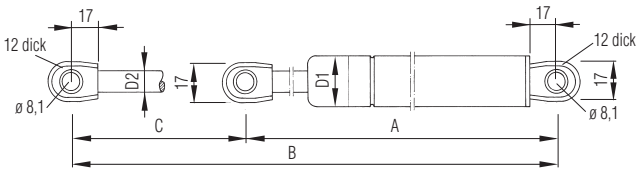


Stroke length of spring [mm]	L [mm]	Weight approx. [kg/each]	Article No.
100	130	0.050	605 174 000
150	177	0.070	605 178 000
200	230	0.090	605 182 000
250	276	0.105	605 186 000
300	328	0.125	605 190 000
400	433	0.136	605 194 000

Gas pressured springs

Gas pressured spring Model ST-2

Eyes screwed firmly onto cylinder and the piston rod

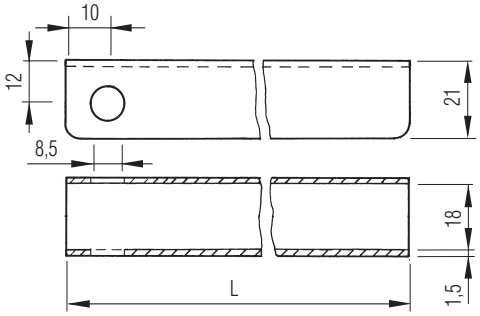


Surface: Piston rod, nislide treated
Colour: sprayed black cylinder, sprayed black piston rod

Stroke C	Spring pressure	Length A	B	Cylinder D1	Piston rod D2	Weight approx.	Appropriate safety bracket Article No.	Article No.
[mm]	[N]	[mm]	[mm]	[mm]	[mm]	[kg/each]		
100	250	201	300.5	22	10	0.290	-	603 990 000
	500	201	300.5	22	10	0.290	-	603 992 000
150	250	295	444.5	22	10	0.392	-	604 000 000
	500	295	444.5	22	10	0.392	-	604 002 000
	750	295	444.5	22	10	0.392	-	604 004 000
	1000	295	444.5	22	10	0.392	-	604 006 000
200	250	305	504.5	22	10	0.432	604 065 000	604 010 000
	500	305	504.5	22	10	0.432	604 065 000	604 012 000
	750	305	504.5	22	10	0.432	604 065 000	604 014 000
	1000	305	504.5	22	10	0.432	604 065 000	604 016 000
250	250	402	651.5	22	10	0.540	604 067 000	604 020 000
	500	402	651.5	22	10	0.540	604 067 000	604 022 000
	750	402	651.5	22	10	0.540	604 067 000	604 024 000
	1000	402	651.5	22	10	0.540	604 067 000	604 026 000
300	500	451	750.5	22	10	0.611	604 069 000	604 032 000
	750	451	750.5	22	10	0.611	604 069 000	604 034 000
	1000	450	749.5	28	14	1.092	604 069 000	604 036 000
	1250	450	749.5	28	14	1.092	604 069 000	604 038 000
	1500	450	749.5	28	14	1.092	604 069 000	604 039 000
	1750	450	749.5	28	14	1.092	604 069 000	604 037 175
	2000	450	749.5	28	14	1.092	604 069 000	604 037 200
400	500	496,5	896.5	28	14	1.092	604 069 000	604 101 000
	750	496,5	896.5	28	14	1.092	604 069 000	604 102 000
	1000	496,5	896.5	28	14	1.092	604 069 000	604 103 000
	1250	496,5	896.5	28	14	1.092	604 069 000	604 104 000
	1500	496,5	896.5	28	14	1.092	604 069 000	604 105 000
	2000	496,5	896.5	28	14	1.092	604 069 000	604 106 000
	2300	496,5	896.5	28	14	1.092	604 069 000	604 101 230

Safety bracket ST-2 for GETO LIFT gas pressured springs

Material: Steel
Surface: galvanized



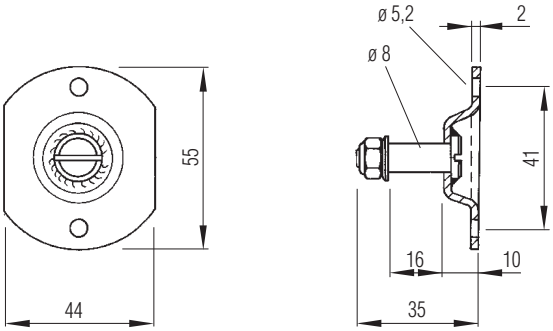
Stroke length of spring [mm]	L [mm]	Weight approx. [kg/each]	Article No.
200	223	0.16	604 065 000
250	273	0.19	604 067 000
300	323	0.23	604 069 000

Spare part: Gudgeon for ST-2 model series – Article No. 604 080 000

Gas pressured springs

Base plate with axle ST-1 / ST-2

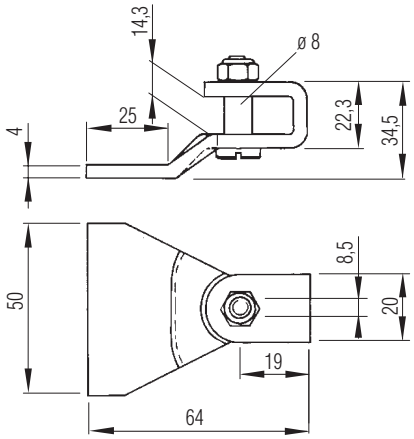
- To secure and link the GETO LIFT gas pressured spring (eye of the piston rod) on frames
- On the ST-2 model = clear axle opening (16 mm), not sufficient
  to take the safety bracket but will take the piston rod eye without safety bracket
- Sole plate welded to axle
- With axle (screw M 6 x 18, DIN 923) and counternut



Material:	Steel
Surface:	galvanized
Weight:	approx. 0.045 kg/each
Article No.	**605 150 000**

Bracket with axle ST-1 / ST-2

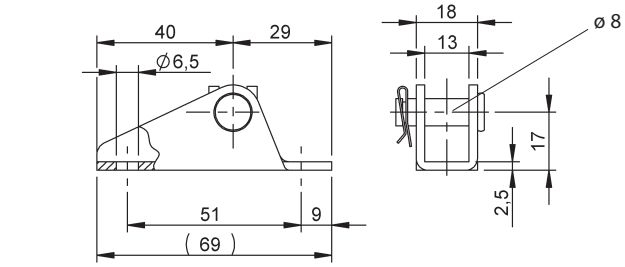
- To secure and link the gas pressured spring (eye of the piston rod) on frames
- On ST-2 models there is no possibility of taking the safety bracket, but suitable for end-stop without securing ring
- With axle (screw M 6 x 20, DIN 923) and counternut

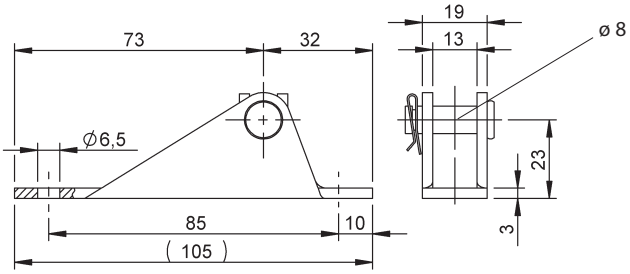


Material:	Steel
Surface:	galvanized
Weight:	approx. 0.095 kg/each
Article No.	**605 152 000**

Base shoe with axle ST-1 / ST-2

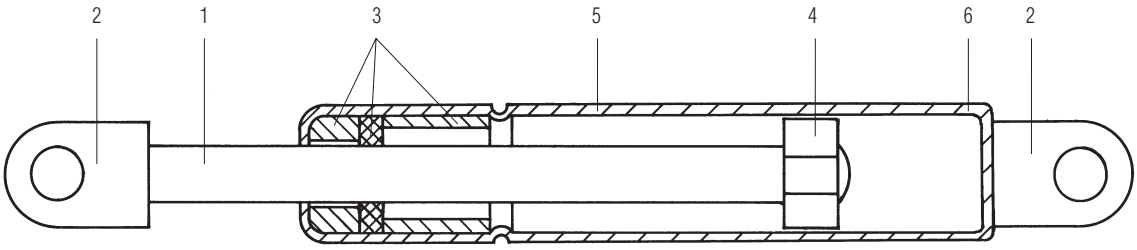
To secure and link the GETO LIFT gas pressured spring (eye of the cylinder) onto an exposed object, e.g. a flap.





Material:	Steel
Surface:	galvanized
Weight:	605 160 000 – approx. 0.065 kg/each 605 162 000 – approx. 0.095 kg/each
Article No.	**605 160 000** – small **605 162 000** – large
Spare part:	Bracket pin – Article No. 605 166 000 Clip for bracket pin – Article No. 605 167 000

Gas pressured springs



It is composed of a cylinder **(5)**, which is made gas-tight by a cap **(6)** on one end and on the opposite end by a seal. A piston rod **(1)** is inserted into the seal, on whose end the damping piston **(4)** is attached. At the same time it prevents the piston being pushed out. The ends of the piston rod and the cylinder are fitted with suitable fixings1. The seal **(3)** in the cylinder **(5)** protects the cylinder against the atmosphere when it is filled with gas. The desired pushing force will be generated by filling the cylinder with a defined gas pressure. By pushing the piston rod **(1)** into the cylinder the volume of the gas pressure will be increased. This increase in pressure is the measure for the increase in power of the spring when the piston rod is in a “pushed in” position. The result is the force “F”.

[1] Ask us for details of other fixing components.

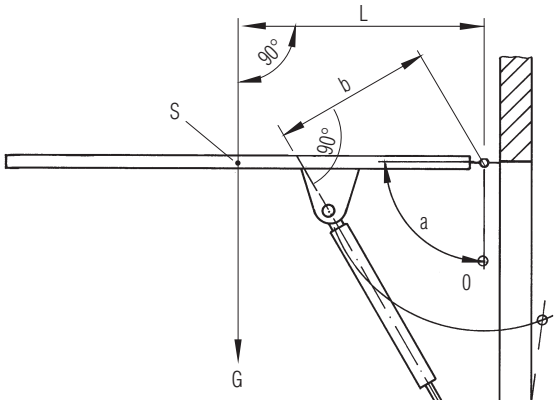
Choosing the right GETO LIFT-gas pressured spring

The following details should be taken into consideration (flap as example):

G: Flap weight
L: Distance between centre of gravity and pivot
S: Safety factor 1.1
b: Distance from contact point of gas spring on flap to pivot
b: Can be selected, for example, as follows: stroke of gas spring minus 50 mm
F: Spring pressure (result)

Calculation:
Weight of flap G x horizontal distance from centre of gravity S to thefulcrum: effective lever arm of the gas pressured spring (shortestdistance from gas spring to fulcrum) = nominal theoretical pushing force F x 1.1 safety margin s (10 % in addition to nominal pushing force F) = number and spring pressure N of the correct GETO LIFT gas pressured spring. See diagram opposite for formula with example.

Attention:
Our assembly instructions and recommendations for proper assembly and effective function are with regard to the locking action over the dead centre and damping when pushing the piston rod.



Formula example:

$$\frac{G \times L \times S}{b} = F$$

G = 350N
L = 500 mm
S = 1,1
b = 200 mm

$$\frac{350 \times 500 \times 1{,}1}{200} = 963\ N$$

= 2 Gas pressured springs

Arithmetically à 481,5 N