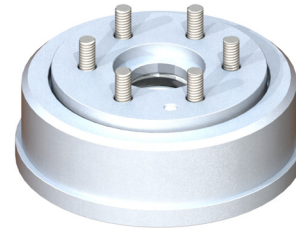


Technical Data Sheet TI-B20

Spring bases for Safety Brakes series KSP

- ☑ allow a release without lifting the load after minor lowering of the load
- ☑ compensate for lateral misalignment between axis guide and clamping rod
- ☑ also fit pneumatic Safety Locks series KRGP



Purpose

For reasons of safety, SITEMA Safety Brakes can usually only be released if their clamping system is not under load.

For a detailed function description and an explanation of the different operating conditions, please refer to "Technical Informationen TI-B10".

As long as the Safety Brake only secures the load and does not take the load, the clamping can be released by applying pressure at pressure port L "release".

Spring bases can compensate for a minor lowering of the load, making it possible to release the clamping without lifting the load.

Use in practice

If the vertical axis of a machine overshoots after reaching its top cut-off position or moves slightly downwards for any particular reason (e. g. due to leakage in the driving cylinders), the Safety Brake is subjected to a partial load. In practice this means that the axis must first be raised before a downward movement is possible.

This effect can be avoided by not bolting the Safety Brake directly to the machine frame but rather on a spring-base.

The **advantages** of the spring bases are:

- The axis does not need to be lifted before a downward movement when minor lowering occurs during cyclic operation.
- The spring base **compensates for lateral misalignment** between the axis guide and the clamping rod. Other compensating measures are not necessary in this case.

Function

The housing (1) Fig. 1 is securely fixed to the machine frame (4) Fig. 1 over the flange plate (5) Fig. 1.

The bottom plate (2) Fig. 1 bears the Safety Brake and is securely fixed to it.

When released (i. e. not under load) the Safety Brake and the bottom plate are pressed upward by the spring (3) Fig. 1 against the stop.

The bottom plate is free to move vertically (stroke "h") as well as horizontally (radial play "X") against the machine frame (4) Fig. 1.

If the load should settle slightly (due to leakage, for example) while the Safety Brake is engaged, only the spring force of the

spring base is exerted on the Safety Brake. In this case, the Safety Brake can be released without an upward movement.

Only when the lowering movement exceeds the stroke length "h", the full weight of the load will be taken by the Safety Brake. Now it is only possible to release the Safety Brake after a short upward movement.

Note:

The overall distance after which the load will be secured mechanically is increased by the distance h (for h see Table 1). This amount is to be taken into consideration when making safety analyses for engineering purposes.

i The **release pressure** (using a spring base) for standard designs is **4.5 bar**. Pressure must be supplied via a flexible line.

The spring bases are fitted with an internal protection against torsion to prevent the pneumatic hoses from kinking or squeezing.

Order and mounting

If the spring base and the Safety Brake are ordered together, the spring base is factory-mounted under the Safety Brake, ready for use.

All spring bases are also available separately. The spring bases are supplied fully assembled and just need to be attached on the attachment side of the Safety Brake.

The control of the Safety Brake is not affected by the spring base, see "Technical Informationen TI-B10".

Attachment

There are two alternatives for attaching the spring bases to the machine frame:

- **direct screw mounting** using the threaded holes and drilling patterns arranged identically to the ones of the Safety Brake
- with a **mounting flange** which engages with the externally attached shoulder

All fixation elements that carry the load need to be dimensioned for 3.5 x admissible load (M). (Attachment screws are not included in the scope of delivery.)

Bore holes with the correct dimensions (see Table 1) need to be provided in the machine frame.

Dimensions

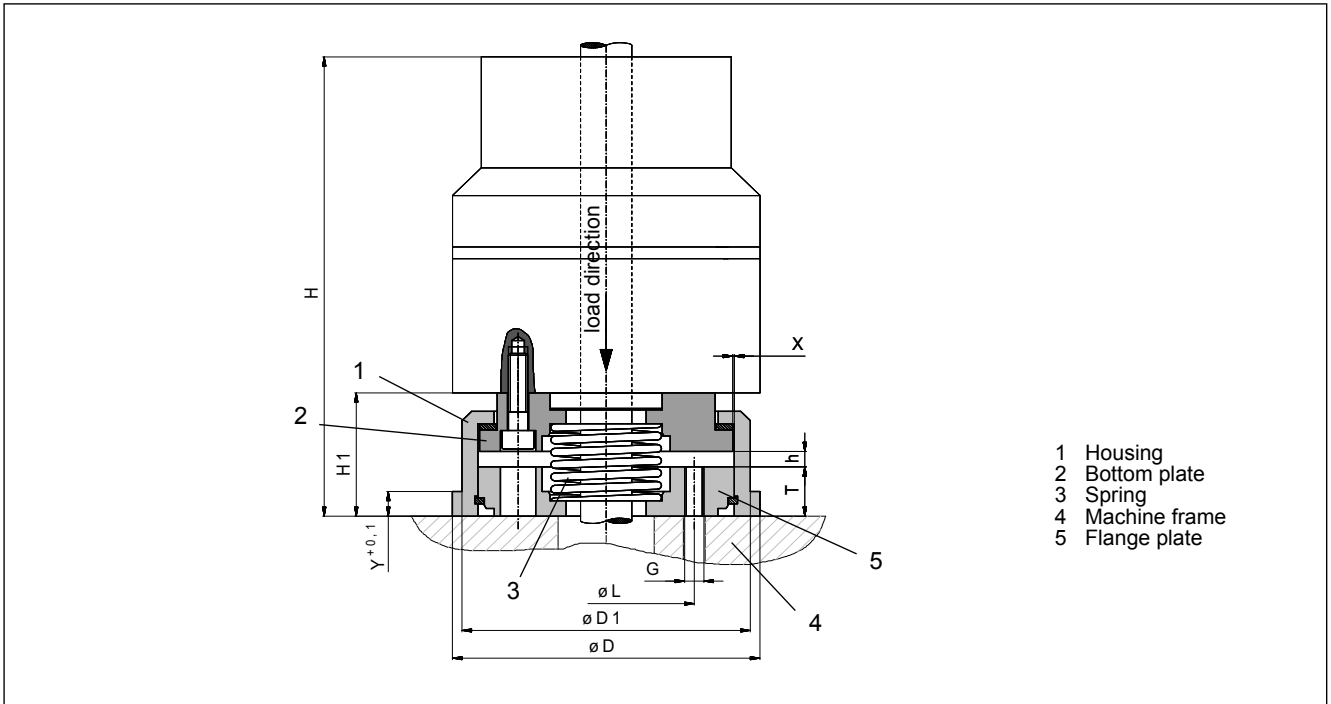


Fig 2: Dimensions of spring base for Safety Brakes KSP

Safety Brake (ID no.)	Spring base (ID no.)	H	H1	D	D1	Y	L	G	T	h	X
(order no.)	(order no.)	mm	mm	mm	mm	mm	mm		mm	mm	mm
KSP 16 (KSP 016 01)	FS 16 (FS 016 30)	149	40	96	90	8	55	6 x M6	16	5	0.5
KSP 22 (KSP 022 01, KSP 022 02)	FS 22 (FS 022 30)	184	47	120	114	10	60	6 x M6	22	5	1
KSP 25 (KSP 025 01)	FS 25 (FS 025 30)	192	50	140	134	10	70	6 x M8	21	5	1
KSP 28 (KSP 028 02)	FS 28 (FS 028 30)	233	60	184	178	12	80	6 x M8	29	6	1
KSP 32 (KSP 032 01)	FS 32 (FS 032 30)	278	74	216	208	14	130	6 x M10	36	6	1

Table 1: Dimensions of spring base for Safety Brakes KSP

Subject to modification without prior notice