



Cable spring buffers effectively prevent the transmission of vibrations to the elevator cabin and balance the lengths of the cables.

Not only can they be used for new constructions but are also ideal for supplementary vibration insulation in older elevators.

Consultation

The diagrams and the sample calculation will help you to design the cable spring buffers. Our engineering office is at your disposal for intensive technical consultation.

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Engineers and applications engineers will also answer your questions around protection against structure-born noise, vibration control of machines and cabins.

SAHLBERG

100 years of intelligent solutions

Vibration engineering in the construction of elevators

Cable spring buffers

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Note
The cable spring buffers P10, P12, P14 und P17 have been developed by the companies Sahlberg and ContiTech.

Image source
Butz & Neumair GmbH



Cable spring buffers – valuable information about technology and application

Outstanding material properties

The cable spring buffers are made of high-quality chloroprene rubber. This material is very resistant and retains its capacity to absorb vibration over years. Its positive properties are not even reduced by drastic changes in temperature. The material is resistant to oil and grease.

Optimal oscillatory response

- Excellent insulation due to large static spring deflection of the cable spring buffers. This is also valid for low-frequency vibrations.
- Very good solid-borne noise isolation with steel springs.
- Good sound insulation despite low overall height.
- Little postoscillation.
- Exact determination of spring deflection.

Easy assembly

- Easy to assemble since the cable spring buffer is self-centering due to its geometrical shape. No expensive fastenings are needed.
- Cable spring buffers can be stacked on top of another. This permits hassle-free assembly.

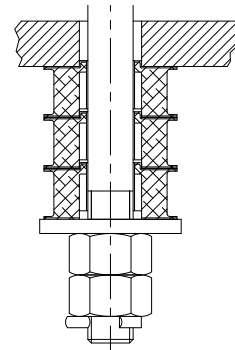
Long maintenance intervals

- Grease pockets (see graphic) allow long maintenance intervals.

High force absorption

- The almost linear characteristic permits application in a high load range at a relatively constant spring rate.
- Same overall height with higher force absorption for cellular material.
- External diameter remains the same when carrying loads due to special shaping and construction.

P10 to $F_s = 1.5$ kN per buffer battery
 P12 to $F_s = 4.0$ kN per buffer battery
 P14 to $F_s = 8.0$ kN per buffer battery
 P17 to $F_s = 12$ kN per buffer battery

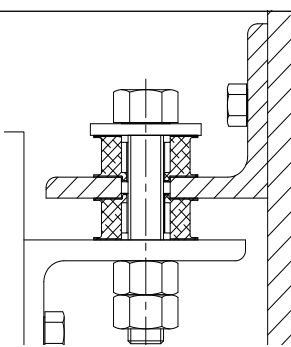


Assembly instructions

Place the cable spring buffers on the cable bolt, as shown in the graphic above, so that the flange of the bumper is centered on the suspension plate. Ensure that the cable bolt is greased so the buffer battery can also glide under load. A stable plate forms the end at the bolt retaining device. Choose the number of bumpers ordered behind each other according to isolating efficiency, which is dependent on the spring deflection. Placed on top of one another, the bumpers are self-centering. The cable bolt diameter must not be less than 12, 16, 20 or 24 mm respectively. If the diameter is smaller, the cable bolt must be increased to the respective diameter using a hose.

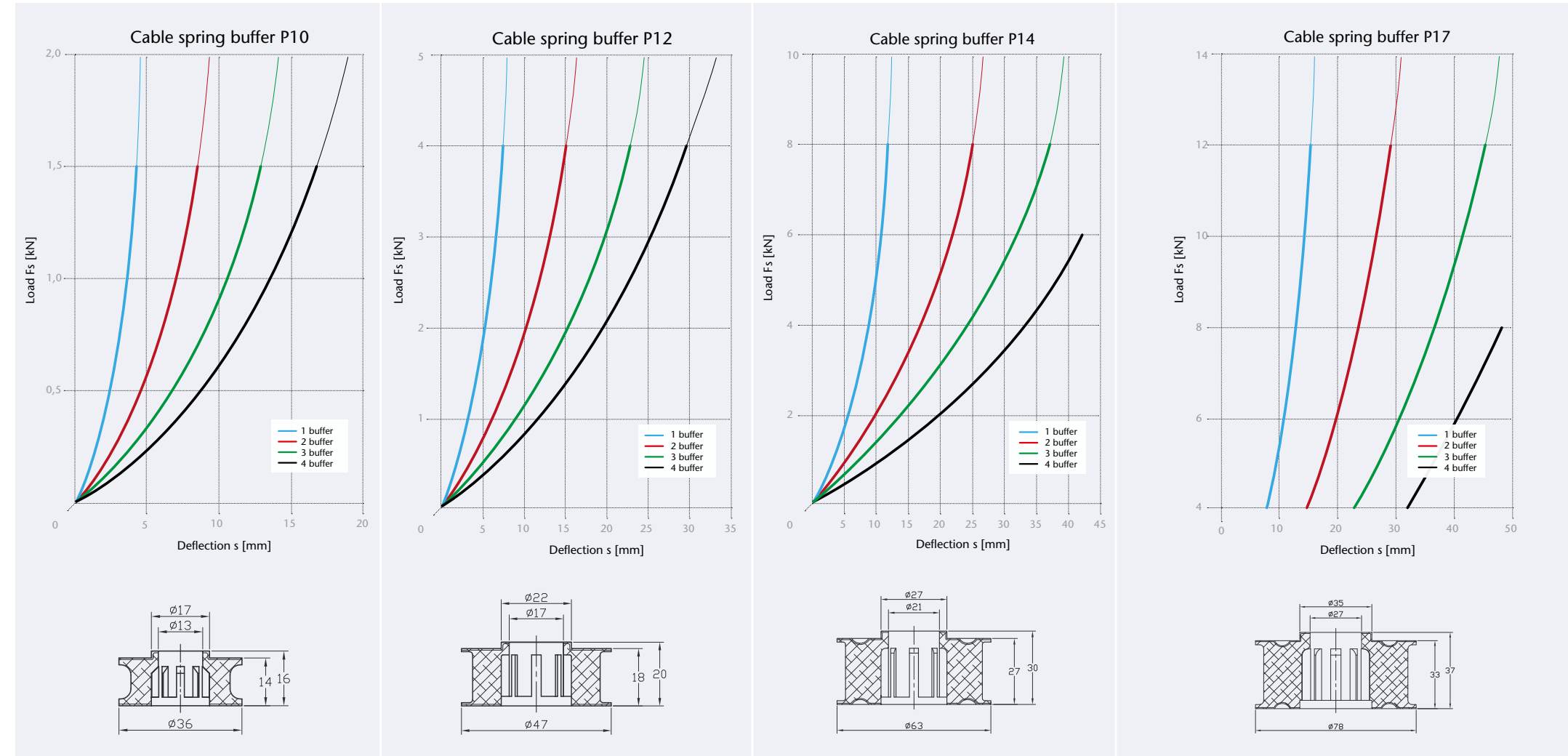
Further range of application

- Buffer – counter buffer mounts
- Torque support mounts
- Machine mounts in general
- Motor mounts
- Compressor mounts
- Fastening in general

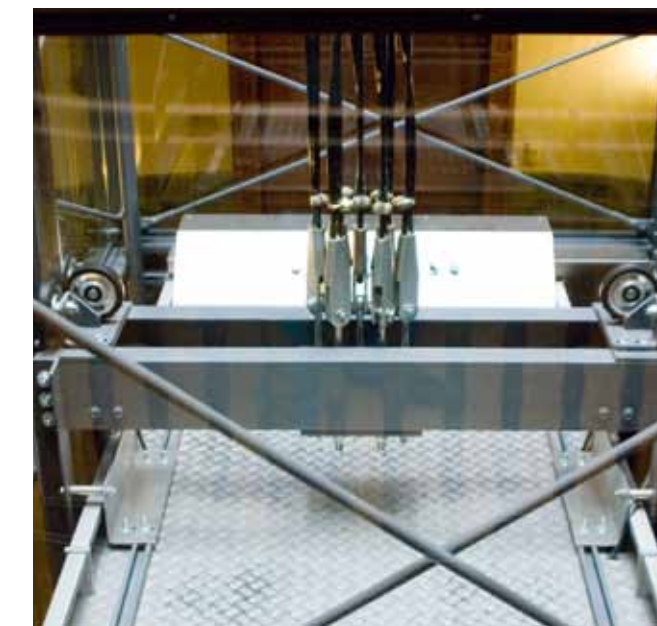


Load deflection curves Cable spring buffers P10, P12, P14 and P17

The permitted load range is represented with bold line.



Rope and attachments with cable spring buffer



Cabin attachment

Calculation example for the suspension of an elevator

Calculation of the load per cable (F_s) for buffer selection

Weight for the elevator cage	F:	400 kg
Load capacity	Q:	800 kg
Number of cables	n:	4
Spring deflection required	s:	25 mm
Load per cable	F_s :	? kN

$$F_s = \frac{(F+Q) \times g}{n}$$

$$F_s = \frac{1200 \text{ kg} \times 9.81 \text{ m/s}^2}{4} = 2943 \text{ N} = 2.94 \text{ kN}$$

With this load, cable spring buffer P12 with a maximum load of 4 kN must be used. The spring deflection (s) should amount to at least 10 mm per buffer battery at maximum load. In the load deflection curves of cable spring buffer P12, four buffers are stacked to give a spring deflection of 25 mm. Thus a total of 16 cable spring buffers will be required.



Stacked buffer batteries