

SCHNORR® Disc Springs Malaysia

Premium German Disc Spring Solutions for Critical Industrial Applications

ORIGINAL SCHNORR®

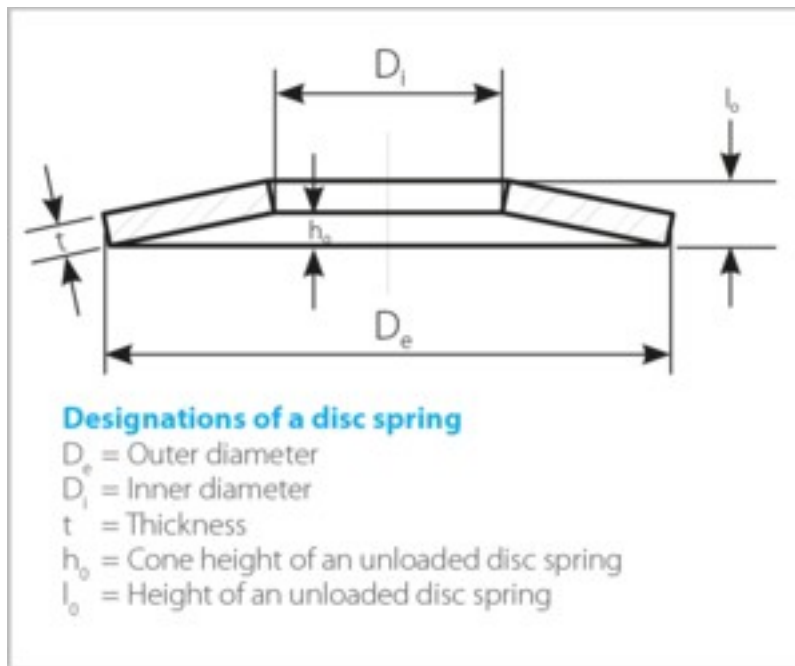
DISC SPRINGS



Disc springs support a lot of dynamic processes in a skillful, safe and efficient way – often under extreme force and load conditions.

Original SCHNORR® disc springs excel by:

- An optionally linear, degressive or progressive course of the load deflection curve.
- Long service life with dynamic load.
- Use of high quality materials.
- Precise adherence to force and dimension requirements.



Within the following product finder you will find disc springs manufactured of the following materials:

- **Standard materials (C75S and 51CrV4)**
- **Corrosion-resistant materials (X10 CrNi 18-8)**
- **Corrosion-resistant materials (X7 CrNiAl 17-7)**

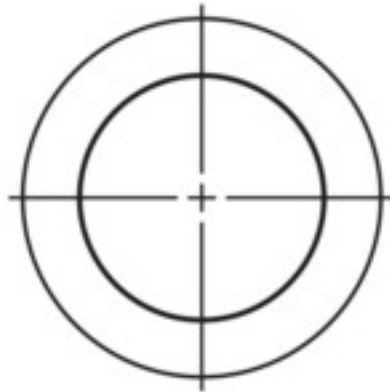
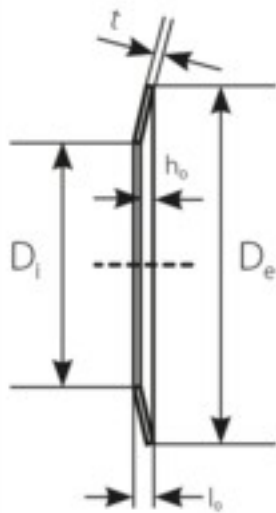
RIGINAL SCHNORR®

BEARING PRELOAD SPRINGS TYPE "K"

Preloaded bearing springs have a smaller flank (ratio O_b / I_b) than standard disc springs due to the small installation space available.

Some ball bearing applications require a "softer deflection behaviour" at the beginning of deflection. This means a lot of deflection must be generated with as little increase in spring force as possible. For this special case SCHNORR® has developed the slotted bearing springs. Due to the slotted geometry these springs can precisely meet the requirement.

As a result of the very different dimensions of these springs compared with "normal" disc springs as defined in DIN EN 16983, the load and dimensional tolerances of disc springs designed for ball bearings do not coincide with the tolerance values in DIN EN 16983.



Designations of a bearing preload spring type „K“

D_e = Outer diameter

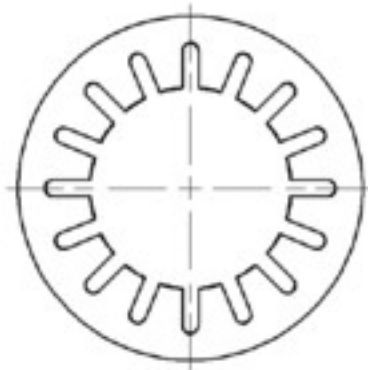
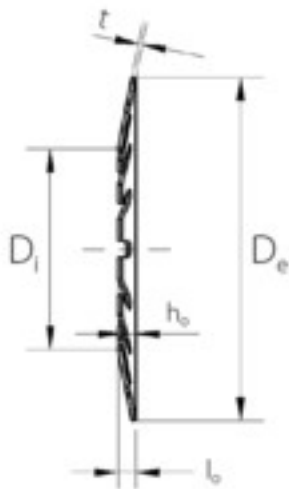
D_i = Inner diameter

t = Thickness

h_0 = Cone height of an unloaded disc spring

l_0 = Height of an unloaded disc spring

non-slotted



Designations of a bearing preload spring type „K“

D_e = Outer diameter

D_i = Inner diameter

t = Thickness

h_0 = Cone height of an unloaded disc spring

l_0 = Height of an unloaded disc spring

slotted

The optimal supplement for ball bearings

Two problems continually occupy design engineers using bearings, the reduction in noise and the elimination of play in ball bearings. A solution of both these problems has been achieved

by Schnorr working in close cooperation with well-known ball bearings manufacturers. The fitting of a special version of our disc springs effectively reduces both problems and frequently results in simpler designs.

Fitting of bearing preload springs

The drawing illustrates how the outer ring of the ball bearing usually is correctly preloaded using a disc spring “K” series. Depending on the requirements of the design, one or more disc springs can be used. In some cases it is preferable to preload the inner ring of the bearing. That is why the bore holes of disc springs for ball bearings were chosen in such a way that they match the internal diameter of an other ball bearing size. That way, a disc spring suitable for pushing the external ring of the ball bearing 6302, for example, can also be used to pretension the inner rings of the ball bearings 6205 and 6305.

Key advantages speak for bearing preload springs

An important advantage of “K” disc springs is being round.

That ensures an equal bearing surface when multiple discs are installed. As with standard disc springs, here it also applies that in alternating arrangement with the constant force the spring deflections add up, while in case of parallel layering (same laying in) with constant spring deflection the loads add up. As all springs have a strongly digressive spring characteristic (great h/t), the spring force continues to be almost constant over a large deflection range. Apart from the compensation for play, this brings the following advantages:

- The tolerance built up in the assembly can be accommodated without significant change in preload.
- Length variations due to heat impact are absorbed.
- Any subsequent axial movement of the assembly does not alter the preload significantly.

Within the following product finder you will find disc springs manufactured of the following materials:

- **Standard materials acc. to DIN EN 10132-4**

Request a Technical Consultation

Looking for the right disc spring solution for your application?

Our engineering team can help you select the correct SCHNORR® Disc Springs to improve bolted joint reliability, reduce maintenance, and extend equipment life.

Mayura Engineering & Consultancy Sdn. Bhd.

Email: sales@mayuraengineering.com

Phone: [+60 12-495 4823](tel:+60124954823)

Serving customers throughout Malaysia and Southeast Asia.