

Precision Disc Springs

Custom and Catalog Products. One Source.

Century Spring, an MW Industries company, is North America's leading catalog source of stock and custom springs for both MRO and OEM applications, covering all markets and industries. Century Spring's 75 year tradition of success is built on exceptional customer service including: the largest stock spring selection in the world, custom spring manufacturing, superior customer service, and exacting quality standards.

Introduction

Disc Springs, also known as Belleville Washers and Belleville Springs, are discs with a slight cone shape, that deform to a shorter height when subjected to a load along their axis of symmetry. This elastic deformation characterizes the spring action.

MW Industries' disc spring fabrication is subject to exacting manufacturing and quality control standards. Materials used are generally in the annealed condition and hardened to within a range of Rc 44-51 depending on the material thickness. When required, disc springs are preset so that they will not significantly relax under load over time.

Disc springs can be a good design solution where the load required is high and the space available is limited. They can be tailored to provide loading profiles that are not feasible with coiled springs. Disc springs are used singly or in stacks to achieve a desired load and travel. Our disc springs are commonly used in high temperature/extreme pressure applications, pipe flange applications, bolted joint applications, heavy and light bolting applications, dynamic applications, and bearing preloaded washer applications.

Custom Disc Springs

If a disc spring meeting your requirements can't be found in our catalog, contact our disc spring team to engineer a custom solution. If your application needs an engineered solution due to special environmental conditions, tight space constraints, special load requirements, or service life expectations then let us help. Together we will optimize the performance of your system by providing insight into manufacturing methods that minimize your cost.



Disc Spring & Belleville Washer Products:

Composite Disc Springs

Alternative to steel elements as they are up to 70% lighter weight, non-corrosive, and non-magnetic

CDM Disc Springs

Precision steel Belleville disc springs designed for dynamic loading

CDS Disc Springs

Steel Belleville disc springs for light bolted assemblies, sized for standard bolt sizes

Serrated Disc Springs

Serrated element ideal for use with most any screw or bolt

Contact Disc Springs

For improved bolt connection applications, compensates for developed looseness, loss of bolt tension due to applied surface deterioration, or movement due to thermal changes

Curved Disc Springs

Cylindrical curve is well-suited for applications requiring flexibility, light loads, and repeated cycles through a range of motion

Wave Disc Springs

Efficient for obtaining the required load when the load is static, the working range is small, and the allowable amount of axial space is limited

SP Series Disc Springs

For heavy bolted applications with a need to overcome thermal expansion and contraction, and stainless steel options for corrosion resistance

FL & MFL Series Flange Disc Springs

Elastic mechanical elements designed primarily for pipe flange applications

NDS Series Flange Disc Springs

Maintain tension and pressure around a flange especially under thermal variations or mechanical shock

Springs for Ball Bearings

Especially designed for preloading springs used with radial ball bearings

Slotted Disc Springs

Slotted elements reduce the spring load and increase deflection

Finger Disc Springs

Counteract noise, excess wear, end play, and vibration especially at high speeds

Custom Disc Springs

Contact us if you need something and do not see it in our catalog

Applications of Disc Springs

- Valve actuator assembly
- Shock absorbing bolted assembly
- Punch stripper assembly
- Fail-safe brake assembly
- Cable support assembly
- Pipe hold-down assembly
- Shock absorber assembly for drill bit
- Friction assembly
- Live loaded joints
- High pressure valve
- Valve packing assembly
- And more



MW Components

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