

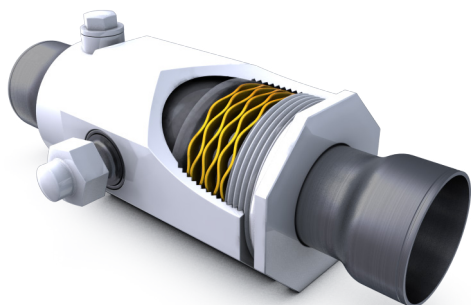
SPRING COMPRESSION IN HALF THE AXIAL SPACE

Smalley is The Engineer's Choice® for innovative wave spring solutions.

CREST-TO-CREST® WAVE SPRINGS

MADE BY SMALLEY, THE INVENTOR OF THE WAVE SPRING

- Same force and deflection as traditional coil springs but with **50% of the axial space**
- Low to medium load, high travel spring
- Reduced work height allows for overall reduced assembly size and lower manufacturing cost
- Nearly any aspect of a wave spring can be customized to meet application requirements
- Consistent force distribution, less likely to misalign
- Custom parts available from .118 to 120" with No-Tooling-Charges™



APPLICATION USE

One common application that benefits from a wave spring is a flow valve. Engineers often choose wave springs over other types of springs because of their space-saving capability and linear compression performance. These features allow for more precise and repeatable control of flow and pressure.

Spend less time searching for the right retaining ring and **more time innovating.**
Connect with a Smalley Engineer today. Free samples available.



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ABOUT THE CREST-TO-CREST

Smalley engineered the revolutionary Crest-to-Crest Wave Spring as an alternative to the traditional coil compression spring. Smalley discovered a method in which a spring could bear more load at a smaller height. This was achieved by coiling flattened wire and applying waves along the process. The wave peaks and valleys connect in a crest shape, holding their configuration while maintaining the same force and load specifications of a conventional round wire spring.

The Crest-to-Crest Wave Spring is able to function on compacted operating heights, free heights, and solid heights. This invention has since opened the door for increased flexibility in product and application design. Today, the Smalley Crest-to-Crest Wave Spring is an integral component in many applications across various industries, including aerospace, oil and gas, automotive, medical, industrial, off-highway, consumer, and windpower.

CREST-TO-CREST WAVE SPRING

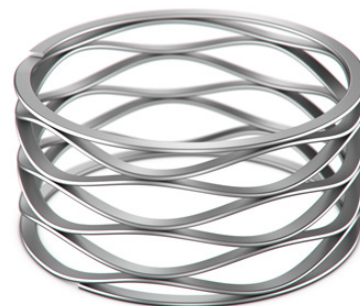
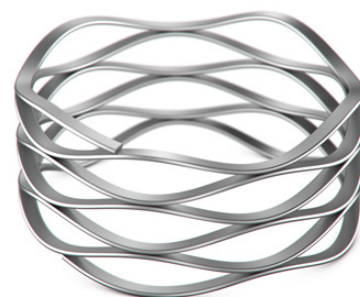
Crest-to-Crest available from stock in carbon and 17-7 PH stainless steel:

Stock Series	Spring Type	Diameter
C	Light-to-medium forces duty; medium travel	0.188 - 2"
CM	Light-to-medium forces duty; medium travel	5 - 60 mm

CREST-TO-CREST WAVE SPRING WITH SHIM ENDS

Crest-to-Crest with Shim Ends available from stock in carbon and 17-7 PH stainless steel:

Stock Series	Spring Type	Diameter
CS	Light-to-medium forces duty; medium travel	0.312 - 2"
CMS	Light-to-medium forces duty; medium travel	8 - 60 mm



CUSTOM WAVE SPRINGS

Creating a custom spring has never been easier! Smalley's expert engineers are available to help you find the right solution for your application. We offer free design consultations; simply send us your requirements, or use our helpful online tool to modify a standard spring or design your own!

Customizable Features:

- Spring Force
- Cycle Life
- Spring Work Height
- Diameters - from .118" to 120" (3 mm to 3000 mm)
- Radial Wall or Wire Thickness
- Material
- Finishes
- Quality Assurance Procedures/ Certifications



Scan for
Free Samples

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