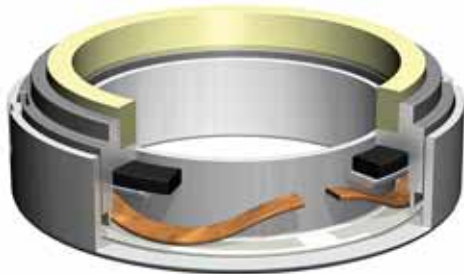


PRESSURE RELIEF VALVE

An exact load applied to the top sealing plate was accomplished using a flat wire wave spring. Air pressure entering the top slots forces the plate away from the sealing surface providing the pressure relief mechanism.

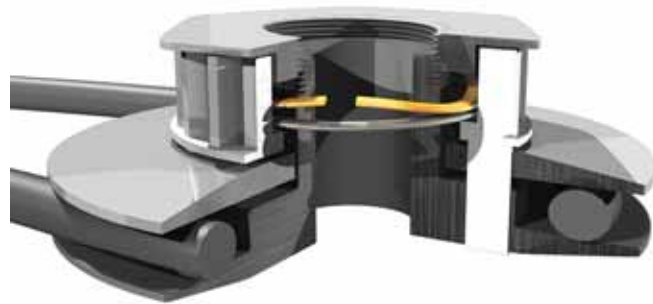


FACE SEAL

Wave spring applies pressure, to precisely load the carbon face against a mating surface, to properly seal fluids. The spring operates over a fixed working range and provides an exact force, unlike the stamped wavy washer it replaced which could not maintain the necessary spring rate.

CLUTCH DRIVE

Pressure on the round belt is produced by compressing the Wavo® Spring thru the sheave halves. The top threaded cap rotates to adjust the Wavo compression.



BAYONET CONNECTOR

Overlap Type Wave Spring installed in an electronic connector assembly. As male and female components are rotated together into final assembly, the wave spring is compressed to its working height. In this position it exerts a constant force that locks both components together.

MULTI-TOOTH CUTTER

A custom designed wave spring with locating tabs is contained in the housing. The spring applies a precise force to the two cutter halves, allowing them to oscillate but not rattle.



SLIP CLUTCH

Clutch drives when the "V"-detents are in the "V"-slots. A Smalley Wave Spring maintains pressure to hold this position. As torque is increased, the "V"-detents will ride up and out the "V"-slots, depressing the wave spring and developing the slip mechanism. When torque is decreased, the wave spring forces the "V"-detents firmly into the "V"-slots to drive again.

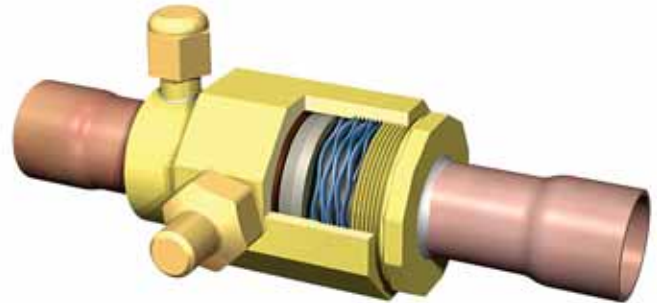


BEARING PRE-LOAD

One of the most common wave spring applications world-wide is a bearing preload arrangement as illustrated. Having the proper load will often extend bearing life by lowering operating temperatures, reducing vibration, minimizing wear and providing for quieter & smoother performance.

FLOW VALVE

As fluid pressure increases the Crest-to-Crest® Wave Spring precisely controls the linear displacement of the piston, which positions the orifice for proper fluid flow.



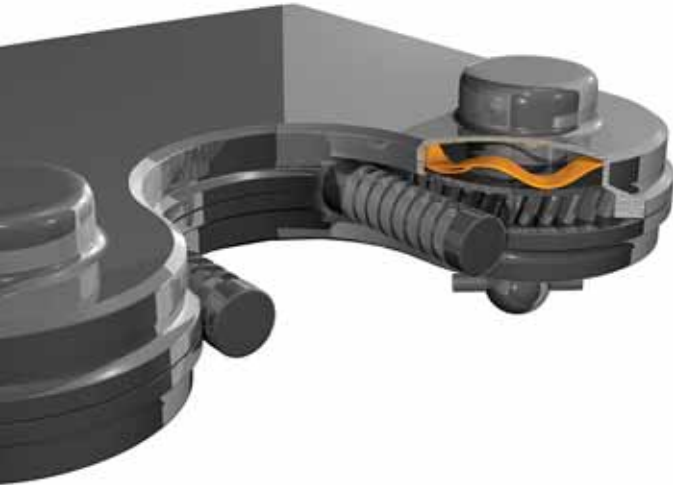
LOW VOLTAGE CONNECTOR

A Bayonet Connector couples as the male end rotates and follows the groove contour in the female end. A 2-Turn Nested Spirawave Wave Spring provides the pre-load between the two halves. A 2-Turn Nested Spring was necessary, to develop a higher load in very tight radial and axial space.

SPRINKLER VALVE

With height restrictions accounted for, the Smalley Crest-to-Crest Wave Spring maintains constant pressure on the pop-up head, holding it firmly closed. In operation, water pressure releases the head by over-coming the spring's force.





GEAR BOX DRIVE

Designed in a plastic housing, this Smalley Wave Spring keeps constant pressure on a pinion gear, which is driven by a worm gear. The presence of vibration is greatly reduced by the spring. Also, the spring takes up tolerances that accumulate in the plastic non-critical components used in the box.

HIGH SPEED PUMP

A Smalley Wavo® Spring was specified to provide a higher preload (the force needed was greater than offered with a stock Wave Spring) to the tapered roller bearings. Also, the entire bearing/spindle arrangement is held in its housing by a spiral retaining ring.

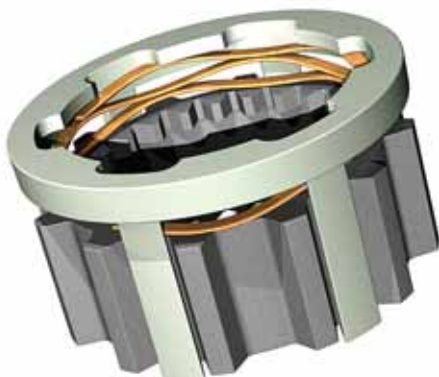


QUICK DISCONNECT

The sliding member of the disconnect is held in its forward / locked position against the retaining ring, by the Crest-to-Crest® Spring. As the user slides the member in the opposite direction compressing the spring, the detent balls align with a groove and release.

VIBRATION ISOLATOR

Wavo Springs provide high force and a relatively large axial displacement, in limited space. The springs are arranged in series for additional travel.



FLOATING GEAR

Functioning in a contained bracket, a Crest-to-Crest Wave Spring loads a gear with light force allowing axial movement. The gear shown self-aligns with its mating gear during operation.