

**High Start Power Springs**

High start power springs are almost exclusively manufactured to order, as they require mating components that are usually integrated into customers products.

This data sheet provides a guide only; it is strongly recommended that you discuss your requirements with a Spiroflex Sales Engineer at the earliest opportunity.

A high start power spring provides a near constant torque in a relatively confined space, they are ideally suited to applications such as Seat Belt Webbing retraction, Tape Measure Retraction, Retracting Dog Leads, Seat Recliner Mechanism's and Window Recliners.

A high start power spring would provide a superior alternative to a conventional clock spring where a greater number of turns or relatively constant torque is desired.

Typically a High Start Retractor spring will exceed 100,000 cycles fatigue life but this will depend upon the design employed.

The spring will consist of a hook profile that is secured to a housing and a second profile that secures to an arbor, the arbor is generally an integrated into the webbing / cable spool of the application. The arbor typically rotates winding up the spring whilst the webbing or tape of the device is extracted, when the tape is released the spring relaxes and pulls the webbing back to its rest position.

Generally the spring is supplied fitted inside the customers housing, when this is not practical then the spring can be supplied in a retaining ring for customers own assembly or it may be possible to supply a raw spring for the customers own assembly.

It is also possible to pre tension the spring subject to a suitable design, this enables the spring to retract the webbing on the customer's assembly line and may simplify the end product assembly process.

Whilst the springs may typically have more than 20 turns, perhaps only 12 of these may be safe for operation. The first turns of the spring need to be wound prior to operation but are not suitable for constant use, as they do not exhibit constant torque. Operating in this area may lead to premature fatigue failure; similarly the final turns of the spring should not be used for the same reasons.

Your Spiroflex Sales Engineer will be able to identify the safe working area of the spring for your application and make recommendations as to the number of 'pre turns' to be applied to your design.

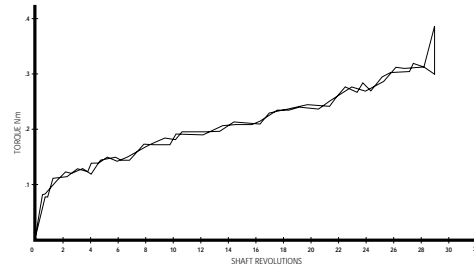
**Health & Safety Warning**

Springs rewound into keeper rings or housings need to be handled with extreme care, until the assembly is completed they are relatively unstable and if not handled properly can come out of the housing with some force potentially causing injury. If you are at all uncertain as to how to handle these products then please speak to a Spiroflex Sales Engineer for advice at the earliest opportunity.

**Typical End Form Profiles**

Dimensions available upon request, profiles can be developed to suit your needs

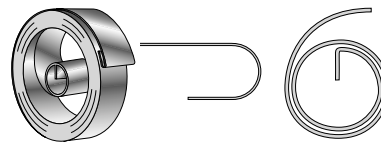
**Typical Torque Profile**



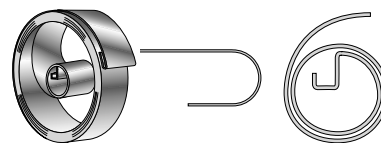
**Typical Spring Values**

If your requirements generally fit into this envelope then please contact a Spiroflex Sales Engineer who will help you develop a product specific to your needs.

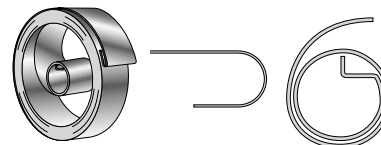
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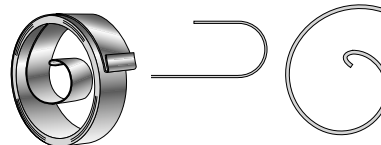
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P3



P4



P5

