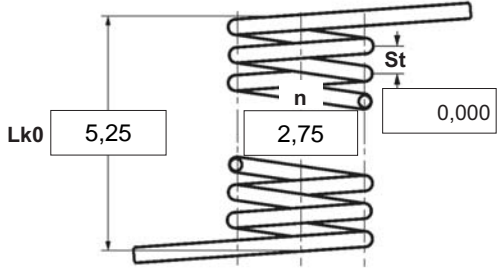





|            |        |                                       |
|------------|--------|---------------------------------------|
| $\alpha$   | degree | Unstressed leg position               |
| $\alpha 1$ | degree | Prestressed rotational angle          |
| $\alpha 2$ | degree | Loaded rotational angle               |
| $\alpha h$ | degree | Excursion                             |
| $\alpha n$ | degree | Maximum rotational angle              |
| d          | mm     | Wire diameter                         |
| Ddmin      | mm     | Min. possible mandrel diameter        |
| Ddmax      | mm     | Max. possible mandrel diameter        |
| De         | mm     | Outer coil diameter                   |
| Di         | mm     | Inner coil diameter                   |
| F1         | N      | Prestressed spring force              |
| F2         | N      | Loaded spring force                   |
| Lk0        | mm     | Length of spring body when relaxed    |
| LS         | mm     | Length of leg                         |
| M1         | Nmm    | Prestressed torque                    |
| M2         | Nmm    | Loaded torque                         |
| Mn         | Nmm    | Maximum torque                        |
| n          | pc.    | Active coils                          |
| RH         | mm     | Distance power flow point from centre |
| St         | mm     | Distance between coils (pitch)        |
| Weight     | g      | Weight of one spring in grammes       |



Spring test acc. to DIN ISO 2859/1 test level II

| <b>1 Coiling direction</b><br><input checked="" type="checkbox"/>  left <input type="checkbox"/>  right |                                     | <b>5 Excursion <math>\alpha h</math></b> <input type="text"/> degr. |                                     | <b>12 Tolerances to DIN 2194</b> <table border="1"> <thead> <tr> <th>Grade</th> <th>Di</th> <th>Lk0</th> <th>LSH,LSR</th> <th><math>\alpha, \alpha 1, \alpha 2</math></th> <th>M1, M2</th> <th>Wire diameter d to DIN 2076</th> </tr> </thead> <tbody> <tr> <td>1</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> <tr> <td>2</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> </tr> <tr> <td>3</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> </tbody> </table> |                                     | Grade  | Di             | Lk0                                 | LSH,LSR   | $\alpha, \alpha 1, \alpha 2$ | M1, M2                   | Wire diameter d to DIN 2076 | 1        | <input type="checkbox"/> | <input type="checkbox"/>                              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                 | 2                        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |     | 3        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|-------------------------------------|---|-------------------------------------|--|-------------------------------------|--|----------------|-------------------------------------|---|------------------------------|--------------------------|-----------------------------|----------|--------------------------|---|--------------------------|--------------------------|--------------------------|-----------------|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----|----------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| Grade   | Di                                  | Lk0   | LSH,LSR                             | $\alpha, \alpha 1, \alpha 2$   | M1, M2                              | Wire diameter d to DIN 2076                    |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| 1   | <input type="checkbox"/>            | <input type="checkbox"/>  | <input type="checkbox"/>            | <input type="checkbox"/>   | <input type="checkbox"/>            |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| 2   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>                                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>  | <input checked="" type="checkbox"/> |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| 3   | <input type="checkbox"/>            | <input type="checkbox"/>  | <input type="checkbox"/>            | <input type="checkbox"/>   | <input type="checkbox"/>            | <input checked="" type="checkbox"/>            |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| <b>2 Form of legs</b><br>tangential, straight, no bends * <br>*We can also supply torsion springs with any form of leg for an extra charge.  |                                     | <b>6 Stress cyc. end. N</b> <input type="text"/>                    |                                     | <b>13 Production compensation through</b> <table border="1"> <tr> <td>A spring torque and the associated swing angle</td> <td><math>\alpha</math></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>A spring torque and the associated swing angle and <math>\alpha 0</math></td> <td>n, d</td> <td><input type="checkbox"/></td> </tr> <tr> <td></td> <td>n, Di</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Two spring resistances and the associated swing angle</td> <td><math>\alpha, n, d</math></td> <td><input type="checkbox"/></td> </tr> <tr> <td></td> <td><math>\alpha, n, Di</math></td> <td><input type="checkbox"/></td> </tr> </table>  |                                     | A spring torque and the associated swing angle | $\alpha$       | <input checked="" type="checkbox"/> | A spring torque and the associated swing angle and $\alpha 0$ | n, d                         | <input type="checkbox"/> |                             | n, Di    | <input type="checkbox"/> | Two spring resistances and the associated swing angle | $\alpha, n, d$           | <input type="checkbox"/> |                          | $\alpha, n, Di$ | <input type="checkbox"/> |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| A spring torque and the associated swing angle  | $\alpha$                            | <input checked="" type="checkbox"/>                                 |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| A spring torque and the associated swing angle and $\alpha 0$   | n, d                                | <input type="checkbox"/>  |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
|   | n, Di                               | <input type="checkbox"/>  |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| Two spring resistances and the associated swing angle   | $\alpha, n, d$                      | <input type="checkbox"/>  |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
|   | $\alpha, n, Di$                     | <input type="checkbox"/>  |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| <b>3 Fixing</b><br>Recumbent leg <input type="checkbox"/> Lever leg <input type="checkbox"/>  |                                     | <b>7 Stress cycle frequ. n</b> <input type="text"/> /               |                                     | <b>8 Application temp.</b> <input type="text"/> °C   |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| <b>4 Load</b><br><input type="checkbox"/> in winding direction<br><input type="checkbox"/> against winding direction  |                                     | <b>9 Material</b><br>EN 10270-3-1.4310                              |                                     | <b>10 Wire or rod surface</b><br><input checked="" type="checkbox"/> drawn <input type="checkbox"/> rolled <input type="checkbox"/> metal-cut  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| <b>Remarks</b><br>Származási ország: DE   Vámtarifaszám: 73202089   |                                     | <b>11 Surface treatment</b><br><input type="text"/>                 |                                     | <b>Prices</b> <table border="1"> <thead> <tr> <th>Mennyiségi lépcsők</th> <th>Egységár (EUR)</th> </tr> </thead> <tbody> <tr><td>1</td><td>5,1600 €</td></tr> <tr><td>2</td><td>3,6400 €</td></tr> <tr><td>3</td><td>3,4700 €</td></tr> <tr><td>7</td><td>2,4200 €</td></tr> <tr><td>17</td><td>1,1500 €</td></tr> <tr><td>37</td><td>0,8500 €</td></tr> <tr><td>75</td><td>0,6800 €</td></tr> <tr><td>125</td><td>0,4859 €</td></tr> <tr><td>175</td><td>0,4196 €</td></tr> <tr><td>250</td><td>0,3695 €</td></tr> <tr><td>350</td><td>0,3536 €</td></tr> <tr><td>450</td><td>0,3284 €</td></tr> </tbody> </table>  |                                     | Mennyiségi lépcsők                             | Egységár (EUR) | 1                                   | 5,1600 €  | 2                            | 3,6400 €                 | 3                           | 3,4700 € | 7                        | 2,4200 €  | 17                       | 1,1500 €                 | 37                       | 0,8500 €        | 75                       | 0,6800 €                            | 125                                 | 0,4859 €                            | 175                                 | 0,4196 €                            | 250 | 0,3695 € | 350                      | 0,3536 €                 | 450                      | 0,3284 €                 |                          |                                     |
| Mennyiségi lépcsők  | Egységár (EUR)                      |   |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| 1   | 5,1600 €                            |   |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| 2   | 3,6400 €                            |   |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| 3   | 3,4700 €                            |   |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| 7   | 2,4200 €                            |   |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| 17  | 1,1500 €                            |   |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| 37  | 0,8500 €                            |   |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| 75  | 0,6800 €                            |   |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| 125   | 0,4859 €                            |   |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| 175   | 0,4196 €                            |   |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| 250   | 0,3695 €                            |   |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| 350   | 0,3536 €                            |   |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |
| 450   | 0,3284 €                            |   |                                     |  |                                     |  |                |                                     |   |                              |                          |                             |          |                          |   |                          |                          |                          |                 |                          |                                     |                                     |                                     |                                     |                                     |     |          |                          |                          |                          |                          |                          |                                     |