

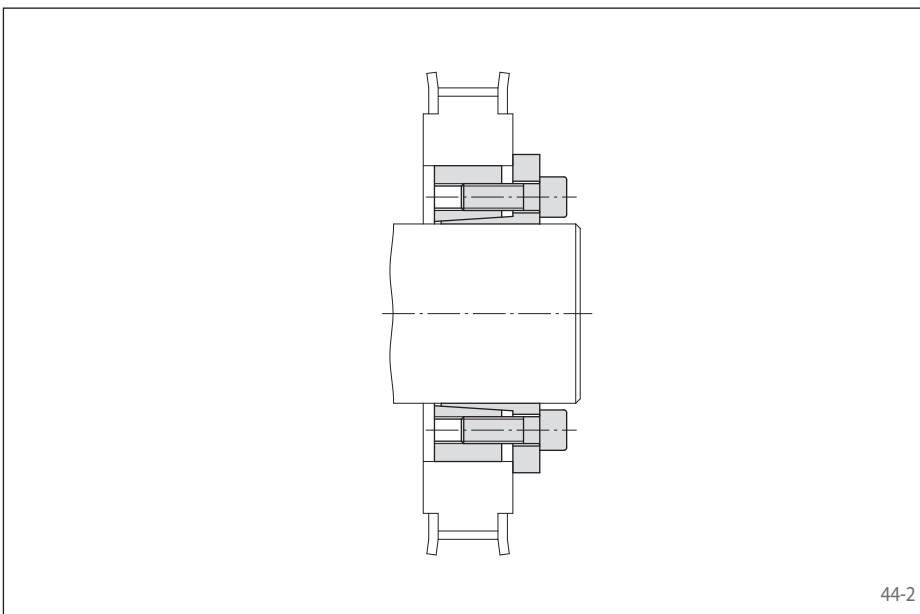
# Cone Clamping Elements RLK 133

centres the hub to the shaft  
short axial width with fixed backstop point



## Features

- Centres the shaft to the hub
- Short axial width
- No axial displacement between hub and shaft during clamping procedure due to fixed backstop point
- Transmissible torque of 350 Nm up to 51 500 Nm
- For shaft diameters between 20 mm and 200 mm



## Application example

Backlash free connection of a timing belt pulley to the drive shaft with a Cone Clamping Element RLK 133. Due to the fixed backstop point, the timing belt pulley is not displaced axially during clamping. The Cone Clamping Element also centres the timing belt pulley to the shaft. The compact Cone Clamping Element is a cost-efficient solution especially for applications with low space requirements.

## Transmissible torques and axial forces

The transmissible torques or axial forces listed on the following page are subject to the following tolerances, surface characteristics and material requirements. Please contact us in the case of deviations.

### Tolerances

- h8 for shaft diameter d
- H8 for hub bore D

### Surfaces

Average surface roughness at the contact surfaces between the shaft and the hub bore:  
 $R_z = 10 \dots 25 \mu\text{m}$ .

### Materials

The following apply to the shaft and the hub:

- E-module  $\geq 170 \text{ kN/mm}^2$

## Installation

Please request our installation and operating instructions for Cone Clamping Elements RLK 133.

## Simultaneous transmission of torque and axial force

The transmissible torques M which are shown in the tables apply for axial forces  $F = 0 \text{ kN}$  and conversely, the indicated axial forces F apply to torques  $M = 0 \text{ Nm}$ . If torque and axial force are to be transmitted simultaneously, the transmissible torque and the transmissible axial force are reduced. Please refer to the technical points on pages 74 and 75.

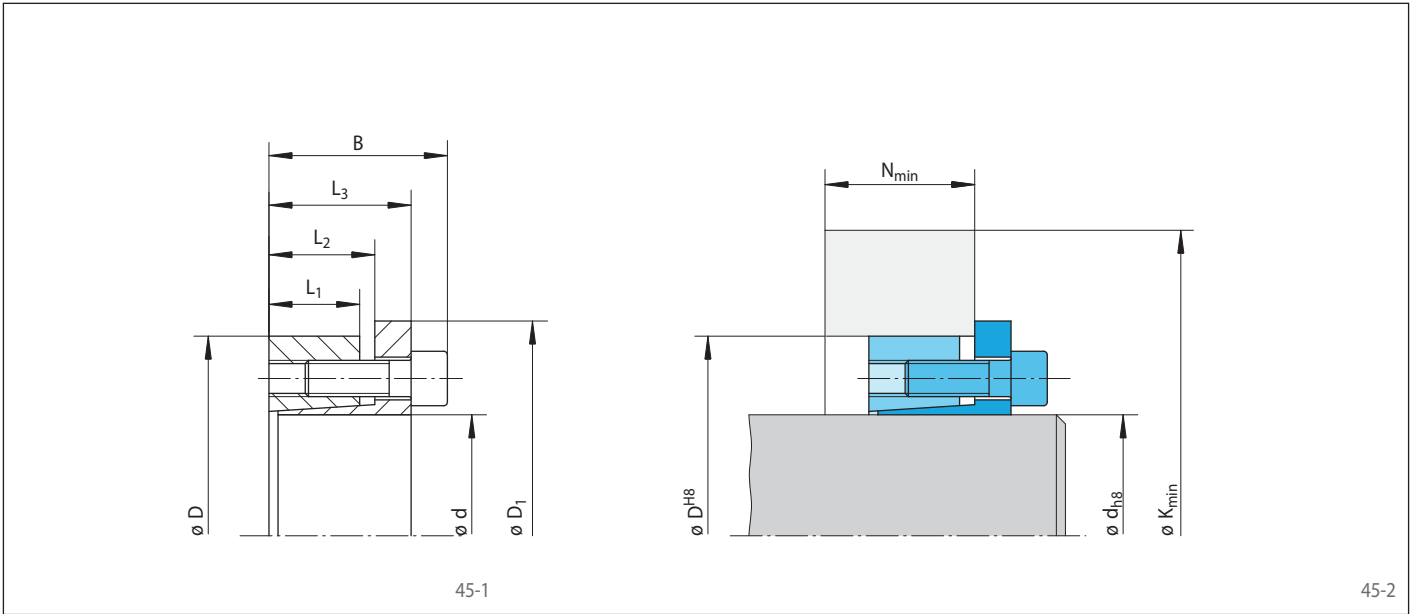
## Example for ordering

Cone Clamping Element RLK 133 for shaft diameter  $d = 100 \text{ mm}$ :

- RLK 133, size 100 x 145  
Article number 4204-100301-000000

# Cone Clamping Elements RLK 133

centres the hub to the shaft  
short axial width with fixed backstop point



| Dimensions |         |                      |         |                      |                      |                      |   |     |     |    |     |  | Technical Data                             |  |                        |      |                 |    |      |              |      |                    | Article number |
|------------|---------|----------------------|---------|----------------------|----------------------|----------------------|---|-----|-----|----|-----|--|--|--|------------------------|------|-----------------|----|------|--------------|------|--------------------|----------------|
| Size       |         | D <sub>1</sub><br>mm | B<br>mm | L <sub>1</sub><br>mm | L <sub>2</sub><br>mm | L <sub>3</sub><br>mm | Yield strength R <sub>e</sub><br>of the hub material [N/mm <sup>2</sup> ] |     |     |    |     |  | Transmissible<br>torque or<br>axial force  |  | Contact<br>pressure at |      | Clamping screws |    |      | Weight<br>kg |      |                    |                |
| d<br>mm    | D<br>mm |                      |         |                      |                      |                      | 200   | 320 | 500 | M  | F   | Shaft<br>P <sub>W</sub><br>N/mm <sup>2</sup> | Hub<br>P <sub>N</sub><br>N/mm <sup>2</sup> | Tightening<br>torque<br>M <sub>5</sub><br>Nm | Number                 | Size | Length<br>mm    |    |      |              |      |                    |                |
| 20         | 47      | 53                   | 34      | 17                   | 22                   | 28                   | 96  | 30  | 74  | 24 | 63  | 21   | 350  | 35   | 277                    | 118  | 17,4            | 6  | M 6  | 20           | 0,3  | 4204-020301-000000 |                |
| 22         | 47      | 53                   | 34      | 17                   | 22                   | 28                   | 96  | 30  | 74  | 24 | 63  | 21   | 390  | 35   | 252                    | 118  | 17,4            | 6  | M 6  | 20           | 0,3  | 4204-022301-000000 |                |
| 24         | 50      | 56                   | 34      | 17                   | 22                   | 28                   | 96  | 29  | 76  | 24 | 66  | 21   | 430  | 35   | 231                    | 111  | 17,4            | 6  | M 6  | 20           | 0,3  | 4204-024301-000000 |                |
| 25         | 50      | 56                   | 34      | 17                   | 22                   | 28                   | 96  | 29  | 76  | 24 | 66  | 21   | 440  | 35   | 222                    | 111  | 17,4            | 6  | M 6  | 20           | 0,3  | 4204-025301-000000 |                |
| 28         | 55      | 61                   | 34      | 17                   | 22                   | 28                   | 98  | 28  | 80  | 24 | 70  | 21   | 500  | 35   | 198                    | 101  | 17,4            | 6  | M 6  | 20           | 0,4  | 4204-028301-000000 |                |
| 30         | 55      | 61                   | 34      | 17                   | 22                   | 28                   | 98  | 28  | 80  | 24 | 70  | 21   | 530  | 35   | 185                    | 101  | 17,4            | 6  | M 6  | 20           | 0,4  | 4204-030301-000000 |                |
| 32         | 60      | 66                   | 34      | 17                   | 22                   | 28                   | 117   | 32  | 93  | 26 | 80  | 22   | 760  | 47   | 231                    | 123  | 17,4            | 8  | M 6  | 20           | 0,4  | 4204-032301-000000 |                |
| 35         | 60      | 66                   | 34      | 17                   | 22                   | 28                   | 117   | 32  | 93  | 26 | 80  | 22   | 830  | 47   | 211                    | 123  | 17,4            | 8  | M 6  | 20           | 0,4  | 4204-035301-000000 |                |
| 38         | 65      | 71                   | 34      | 17                   | 22                   | 28                   | 119   | 31  | 97  | 25 | 85  | 22   | 900  | 47   | 194                    | 114  | 17,4            | 8  | M 6  | 20           | 0,5  | 4204-038301-000000 |                |
| 40         | 65      | 71                   | 34      | 17                   | 22                   | 28                   | 119   | 31  | 97  | 25 | 85  | 22   | 940  | 47   | 185                    | 114  | 17,4            | 8  | M 6  | 20           | 0,4  | 4204-040301-000000 |                |
| 42         | 75      | 81                   | 41      | 20                   | 25                   | 33                   | 165   | 43  | 127 | 33 | 106 | 28   | 1800                                       | 86   | 273                    | 153  | 42,2            | 8  | M 8  | 25           | 0,8  | 4204-042301-000000 |                |
| 45         | 75      | 81                   | 41      | 20                   | 25                   | 33                   | 165   | 43  | 127 | 33 | 106 | 28   | 1950                                       | 86   | 255                    | 153  | 42,2            | 8  | M 8  | 25           | 0,7  | 4204-045301-000000 |                |
| 48         | 80      | 86                   | 41      | 20                   | 24                   | 33                   | 165   | 42  | 130 | 33 | 111 | 28   | 2050                                       | 86   | 239                    | 143  | 42,2            | 8  | M 8  | 25           | 0,8  | 4204-048301-000000 |                |
| 50         | 80      | 86                   | 41      | 20                   | 24                   | 33                   | 165   | 42  | 130 | 33 | 111 | 28   | 2150                                       | 86   | 229                    | 143  | 42,2            | 8  | M 8  | 25           | 0,8  | 4204-050301-000000 |                |
| 55         | 85      | 91                   | 41      | 20                   | 24                   | 33                   | 166   | 41  | 133 | 32 | 115 | 28   | 2350                                       | 86   | 208                    | 135  | 42,2            | 8  | M 8  | 25           | 0,8  | 4204-055301-000000 |                |
| 60         | 90      | 96                   | 41      | 20                   | 24                   | 33                   | 168   | 40  | 137 | 32 | 120 | 28   | 2600                                       | 86   | 191                    | 128  | 42,2            | 8  | M 8  | 25           | 0,9  | 4204-060301-000000 |                |
| 65         | 95      | 101                  | 41      | 20                   | 24                   | 33                   | 171   | 39  | 141 | 32 | 124 | 28   | 2800                                       | 86   | 176                    | 121  | 42,2            | 8  | M 8  | 25           | 0,9  | 4204-065301-000000 |                |
| 70         | 110     | 119                  | 50      | 24                   | 29                   | 40                   | 213   | 50  | 172 | 40 | 149 | 34   | 4800                                       | 140  | 215                    | 137  | 83,0            | 8  | M 10 | 30           | 1,7  | 4204-070301-000000 |                |
| 75         | 115     | 124                  | 50      | 24                   | 29                   | 40                   | 215   | 49  | 176 | 40 | 153 | 34   | 5100                                       | 140  | 201                    | 131  | 83,0            | 8  | M 10 | 30           | 1,8  | 4204-075301-000000 |                |
| 80         | 120     | 129                  | 50      | 24                   | 29                   | 40                   | 218   | 49  | 179 | 39 | 158 | 34   | 5400                                       | 140  | 188                    | 126  | 83,0            | 8  | M 10 | 30           | 1,9  | 4204-080301-000000 |                |
| 85         | 125     | 134                  | 50      | 24                   | 29                   | 40                   | 246   | 55  | 198 | 43 | 172 | 36   | 7200                                       | 170  | 221                    | 151  | 83,0            | 10 | M 10 | 30           | 2,0  | 4204-085301-000000 |                |
| 90         | 130     | 139                  | 50      | 24                   | 29                   | 40                   | 248   | 54  | 202 | 42 | 176 | 36   | 7600                                       | 170  | 209                    | 145  | 83,0            | 10 | M 10 | 30           | 2,1  | 4204-090301-000000 |                |
| 95         | 135     | 144                  | 50      | 24                   | 29                   | 40                   | 250   | 53  | 206 | 42 | 180 | 36   | 8100                                       | 170  | 198                    | 140  | 83,0            | 10 | M 10 | 30           | 2,2  | 4204-095301-000000 |                |
| 100        | 145     | 154                  | 56      | 26                   | 31                   | 44                   | 269   | 57  | 221 | 45 | 194 | 39   | 10000                                      | 200  | 204                    | 141  | 144,0           | 8  | M 12 | 30           | 2,8  | 4204-100301-000000 |                |
| 110        | 155     | 164                  | 56      | 26                   | 31                   | 44                   | 274   | 56  | 229 | 45 | 203 | 38   | 11000                                      | 200  | 186                    | 132  | 144,0           | 8  | M 12 | 30           | 3,0  | 4204-110301-000000 |                |
| 120        | 165     | 174                  | 56      | 26                   | 31                   | 44                   | 295   | 59  | 246 | 47 | 218 | 40   | 13500                                      | 220  | 191                    | 139  | 144,0           | 9  | M 12 | 30           | 3,4  | 4204-120301-000000 |                |
| 130        | 180     | 189                  | 64      | 34                   | 39                   | 52                   | 326   | 71  | 269 | 57 | 237 | 49   | 19500                                      | 300  | 180                    | 130  | 144,0           | 12 | M 12 | 30           | 5,1  | 4204-130301-000000 |                |
| 140        | 190     | 199                  | 68      | 34                   | 39                   | 54                   | 336   | 71  | 280 | 57 | 248 | 49   | 21500                                      | 310  | 172                    | 127  | 229,0           | 9  | M 14 | 40           | 5,3  | 4204-140301-000000 |                |
| 150        | 200     | 209                  | 68      | 34                   | 39                   | 54                   | 358   | 74  | 298 | 59 | 263 | 50   | 25500                                      | 340  | 178                    | 134  | 229,0           | 10 | M 14 | 40           | 5,6  | 4204-150301-000000 |                |
| 160        | 210     | 219                  | 68      | 34                   | 39                   | 54                   | 395   | 81  | 325 | 63 | 284 | 53   | 33000                                      | 410  | 200                    | 153  | 229,0           | 12 | M 14 | 40           | 6,0  | 4204-160301-000000 |                |
| 170        | 225     | 234                  | 78      | 44                   | 49                   | 64                   | 381   | 83  | 321 | 68 | 286 | 60   | 35000                                      | 410  | 146                    | 110  | 229,0           | 12 | M 14 | 40           | 8,2  | 4204-170301-000000 |                |
| 180        | 235     | 244                  | 78      | 44                   | 49                   | 64                   | 387   | 82  | 329 | 68 | 295 | 59   | 37000                                      | 410  | 138                    | 106  | 229,0           | 12 | M 14 | 40           | 8,6  | 4204-180301-000000 |                |
| 190        | 250     | 259                  | 78      | 44                   | 49                   | 64                   | 435   | 91  | 365 | 73 | 324 | 63   | 48500                                      | 510  | 163                    | 124  | 229,0           | 15 | M 14 | 40           | 10,0 | 4204-190301-000000 |                |
| 200        | 260     | 269                  | 78      | 44                   | 49                   | 64                   | 441   | 90  | 373 | 73 | 333 | 63   | 51500                                      | 510  | 155                    | 119  | 229,0           | 15 | M 14 | 40           | 10,4 | 4204-200301-000000 |                |