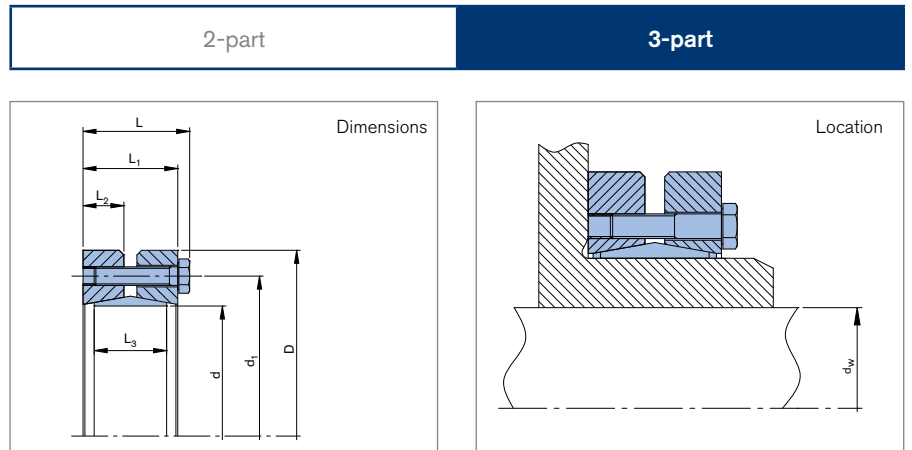


Shrink Discs

RINGFEDER® RfN 4091

Heavy series for the highest torque



| Shrink Discs dimensions | | | | | | | | | | | Transmissible torques or axial forces | | | | Locking screws | | | |
|-------------------------|---|-----|----------------|----------------|------|----------------|----------------|----------------|----------------|----------------|---------------------------------------|-----------------|-------------------|-------------------|----------------------|----------------|----------------|------------------|
| d | x | D | d _w | d ₁ | L | L ₁ | L ₂ | L ₃ | L _B | T _A | T | F _{ax} | P | σ _v | ISO 4014/4017 - 10.9 | | | T _{max} |
| mm | | | mm | mm | mm | mm | mm | mm | mm | Nm | Nm | kN | N/mm ² | N/mm ² | n _{Sc} | D _G | G _w | Nm |
| 50 | x | 95 | 38 | 73 | 44,5 | 39 | 17 | 30 | 23 | 25 | 1800 | 106 | 285 | 410 | 7 | M8 | 1,4 | 2250 |
| | | | 2100 | | | | | | | | 115 | 447 | | 2625 | | | | |
| | | | 2400 | | | | | | | | 124 | 511 | | 3000 | | | | |
| 55 | x | 105 | 42 | 78 | 44,5 | 39 | 17 | 30 | 23 | 28 | 2250 | 122 | 290 | 404 | 7 | M8 | 1,7 | 2813 |
| | | | 2700 | | | | | | | | 135 | 457 | | 3375 | | | | |
| | | | 3200 | | | | | | | | 148 | 574 | | 4000 | | | | |
| 62 | x | 115 | 48 | 85 | 44,5 | 39 | 17 | 30 | 23 | 30 | 2950 | 134 | 276 | 376 | 7 | M8 | 2 | 3688 |
| | | | 3400 | | | | | | | | 142 | 401 | | 4250 | | | | |
| | | | 3600 | | | | | | | | 145 | 458 | | 4500 | | | | |
| 68 | x | 118 | 50 | 93 | 49 | 44 | 19 | 34 | 27 | 30 | 3600 | 147 | 260 | 334 | 8 | M8 | 2,1 | 4500 |
| | | | 4600 | | | | | | | | 168 | 362 | | 5750 | | | | |
| | | | 5700 | | | | | | | | 190 | 475 | | 7125 | | | | |
| 75 | x | 145 | 55 | 105 | 53 | 46 | 20 | 36 | 27 | 59 | 4600 | 193 | 302 | 403 | 7 | M10 | 3,8 | 5750 |
| | | | 5700 | | | | | | | | 221 | 437 | | 7125 | | | | |
| | | | 7000 | | | | | | | | 249 | 540 | | 8750 | | | | |
| 80 | x | 145 | 60 | 105 | 53 | 46 | 20 | 36 | 27 | 59 | 5700 | 200 | 283 | 379 | 7 | M10 | 3,6 | 7125 |
| | | | 7000 | | | | | | | | 226 | 413 | | 8750 | | | | |
| | | | 8400 | | | | | | | | 253 | 510 | | 10500 | | | | |
| 90 | x | 160 | 65 | 116 | 57 | 50 | 22 | 40 | 29 | 59 | 6700 | 217 | 259 | 339 | 8 | M10 | 4,8 | 8375 |
| | | | 8100 | | | | | | | | 243 | 352 | | 10125 | | | | |
| | | | 9600 | | | | | | | | 269 | 395 | | 12000 | | | | |
| 100 | x | 170 | 70 | 126 | 61 | 54 | 23 | 44 | 32 | 59 | 8800 | 265 | 265 | 334 | 10 | M10 | 5,6 | 11000 |
| | | | 10000 | | | | | | | | 293 | 342 | | 12500 | | | | |
| | | | 12200 | | | | | | | | 321 | 368 | | 15250 | | | | |

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Shrink Discs RINGFEDER® RfN 4091

| Shrink Discs dimensions | | | | | | | | | | Transmissible torques or axial forces | | | | Locking screws | | | | |
|-------------------------|---|-----|----------------|----------------|------|----------------|----------------|----------------|----------------|---------------------------------------|--------|-----------------|-------------------|-------------------|-----------------|----------------|----------------|------------------|
| d | x | D | d _w | d ₁ | L | L ₁ | L ₂ | L ₃ | L _B | T _A | T | F _{ax} | P | σ _v | n _{Sc} | D _G | G _w | T _{max} |
| mm | | | mm | mm | mm | mm | mm | mm | mm | Nm | Nm | kN | N/mm ² | N/mm ² | | mm | kg | Nm |
| 110 | x | 185 | 75 | 138 | 67 | 60 | 26 | 50 | 35 | 59 | 11000 | 308 | 254 | 316 | 12 | M10 | 7,6 | 13750 |
| | | | 80 | | | | | | | | 12900 | 338 | | | | | | 16125 |
| | | | 85 | | | | | | | | 14700 | 352 | | | | | | 18375 |
| 125 | x | 215 | 85 | 160 | 73 | 65 | 28 | 55 | 37,5 | 100 | 15000 | 355 | 248 | 331 | 10 | M12 | 11 | 18750 |
| | | | 90 | | | | | | | | 17500 | 388 | | | | | | 21875 |
| | | | 95 | | | | | | | | 20000 | 422 | | | | | | 25000 |
| 135 | x | 212 | 90 | 172 | 85 | 77 | 32 | 60 | 45 | 100 | 18800 | 420 | 251 | 330 | 12 | M12 | 10,7 | 22500 |
| | | | 95 | | | | | | | | 21600 | 456 | | | | | | 27000 |
| | | | 105 | | | | | | | | 27800 | 531 | | | | | | 34750 |
| 140 | x | 300 | 90 | 220 | 106 | 96 | 42 | 80 | 54 | 250 | 36700 | 817 | 360 | 423 | 12 | M16 | 35,5 | 45850 |
| | | | 100 | | | | | | | | 47000 | 942 | | | | | | 58750 |
| | | | 110 | | | | | | | | 58700 | 1096 | | | | | | 73350 |
| 155 | x | 263 | 105 | 197 | 91,5 | 84 | 35 | 66 | 45 | 100 | 28900 | 551 | 248 | 310 | 15 | M12 | 19,6 | 36100 |
| | | | 110 | | | | | | | | 32400 | 590 | | | | | | 40500 |
| | | | 115 | | | | | | | | 36200 | 630 | | | | | | 45250 |
| 165 | x | 290 | 115 | 210 | 98 | 88 | 38 | 72 | 49 | 250 | 41000 | 740 | 270 | 324 | 10 | M16 | 26 | 51250 |
| | | | 120 | | | | | | | | 46000 | 785 | | | | | | 57500 |
| | | | 125 | | | | | | | | 50700 | 815 | | | | | | 63375 |
| 175 | x | 300 | 125 | 220 | 124 | 114 | 50 | 92 | 59 | 250 | 72800 | 1165 | 301 | 367 | 15 | M16 | 36,5 | 91000 |
| | | | 130 | | | | | | | | 79900 | 1230 | | | | | | 99850 |
| | | | 135 | | | | | | | | 87300 | 1294 | | | | | | 109100 |
| 185 | x | 330 | 135 | 236 | 122 | 112 | 50 | 92 | 61 | 250 | 72000 | 1100 | 263 | 327 | 14 | M16 | 47 | 90000 |
| | | | 140 | | | | | | | | 78000 | 1150 | | | | | | 97500 |
| | | | 145 | | | | | | | | 86000 | 1200 | | | | | | 107500 |
| 190 | x | 350 | 135 | 239 | 129 | 116,5 | 50 | 92 | 62 | 470 | 95100 | 1409 | 331 | 386 | 12 | M20 | 55 | 118850 |
| | | | 140 | | | | | | | | 103400 | 1478 | | | | | | 129250 |
| | | | 155 | | | | | | | | 130600 | 1685 | | | | | | 163250 |
| 195 | x | 350 | 140 | 246 | 122 | 112 | 50 | 92 | 63,5 | 250 | 75000 | 1075 | 250 | 310 | 14 | M16 | 53 | 93750 |
| | | | 150 | | | | | | | | 88000 | 1180 | | | | | | 110000 |
| | | | 155 | | | | | | | | 96000 | 1235 | | | | | | 120000 |
| 200 | x | 350 | 145 | 246 | 122 | 112 | 50 | 92 | 63,5 | 250 | 85000 | 1170 | 261 | 317 | 15 | M16 | 50 | 106250 |
| | | | 150 | | | | | | | | 92500 | 1230 | | | | | | 115625 |
| | | | 155 | | | | | | | | 100000 | 1290 | | | | | | 125000 |
| 220 | x | 370 | 160 | 270 | 144 | 134 | 60 | 114 | 74,5 | 250 | 127000 | 1590 | 255 | 309 | 20 | M16 | 65 | 158750 |
| | | | 165 | | | | | | | | 136000 | 1650 | | | | | | 170000 |
| | | | 170 | | | | | | | | 146500 | 1720 | | | | | | 183125 |
| 240 | x | 405 | 170 | 295 | 157 | 144 | 65 | 120 | 79,5 | 490 | 155000 | 1820 | 261 | 305 | 15 | M20 | 87 | 193750 |
| | | | 180 | | | | | | | | 176000 | 1960 | | | | | | 220000 |
| | | | 190 | | | | | | | | 198000 | 2080 | | | | | | 247500 |
| 260 | x | 430 | 190 | 321 | 173 | 160 | 72 | 136 | 87,5 | 490 | 213000 | 2260 | 255 | 308 | 18 | M20 | 100 | 266250 |
| | | | 200 | | | | | | | | 240000 | 2420 | | | | | | 300000 |
| | | | 210 | | | | | | | | 268000 | 2580 | | | | | | 335000 |
| 280 | x | 460 | 210 | 346 | 185 | 172 | 78 | 148 | 96 | 490 | 285000 | 2740 | 254 | 310 | 21 | M20 | 132 | 356250 |
| | | | 220 | | | | | | | | 320000 | 2910 | | | | | | 400000 |
| | | | 230 | | | | | | | | 355000 | 3090 | | | | | | 443750 |
| 300 | x | 485 | 230 | 364 | 189 | 176 | 80 | 152 | 98 | 490 | 341000 | 2960 | 242 | 298 | 22 | M20 | 140 | 426250 |
| | | | 240 | | | | | | | | 376000 | 3130 | | | | | | 470000 |
| | | | 245 | | | | | | | | 394000 | 3215 | | | | | | 492500 |

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Shrink Discs RINGFEDER® RfN 4091

| Shrink Discs dimensions | | | | | | | | | | Transmissible torques or axial forces | | | | Locking screws | | | | |
|-------------------------|---|-----|----------------|----------------|-------|----------------|----------------|----------------|----------------|---------------------------------------|---------|-----------------|-------------------|-------------------|----------------------|----------------|----------------|------------------|
| d | x | D | d _w | d ₁ | L | L ₁ | L ₂ | L ₃ | L _B | T _A | T | F _{ax} | P | σ _v | ISO 4014/4017 - 10.9 | | | T _{max} |
| mm | | | mm | mm | mm | mm | mm | mm | mm | Nm | Nm | kN | N/mm ² | N/mm ² | n _{Sc} | D _G | G _w | T _{max} |
| | | | | | | | | | | | | | | | | mm | kg | Nm |
| 320 | x | 520 | 240 | 386 | 196,5 | 184 | 82 | 160 | 102 | 490 | 378000 | 3150 | 235 | 282 | 24 | M20 | 165 | 472500 |
| | | | 250 | | | | | | | | 415000 | 3325 | | | | | | 518750 |
| | | | 260 | | | | | | | | 451000 | 3470 | | | | | | 563750 |
| 340 | x | 570 | 250 | 420 | 215 | 200 | 92 | 176 | 110 | 840 | 489500 | 3910 | 253 | 295 | 21 | M24 | 240 | 611875 |
| | | | 260 | | | | | | | | 530000 | 4075 | | | | | | 662500 |
| | | | 270 | | | | | | | | 578000 | 4275 | | | | | | 722500 |
| 350 | x | 580 | 270 | 425 | 215 | 200 | 92 | 176 | 110 | 840 | 556000 | 4122 | 247 | 304 | 21 | M24 | 247 | 695000 |
| | | | 280 | | | | | | | | 604000 | 4320 | | | | | | 755000 |
| | | | 285 | | | | | | | | 629000 | 4415 | | | | | | 786250 |
| 360 | x | 590 | 280 | 432 | 219 | 204 | 92 | 180 | 114,5 | 840 | 612000 | 4370 | 245 | 303 | 22 | M24 | 250 | 765000 |
| | | | 290 | | | | | | | | 663000 | 4570 | | | | | | 828750 |
| | | | 295 | | | | | | | | 689000 | 4670 | | | | | | 861250 |
| 380 | x | 645 | 290 | 458 | 219 | 204 | 92 | 180 | 114,5 | 840 | 618000 | 4270 | 233 | 279 | 22 | M24 | 320 | 772500 |
| | | | 300 | | | | | | | | 668000 | 4455 | | | | | | 835000 |
| | | | 310 | | | | | | | | 719000 | 4645 | | | | | | 898750 |
| 390 | x | 660 | 300 | 468 | 227 | 212 | 96 | 188 | 118,5 | 840 | 708000 | 4715 | 236 | 284 | 24 | M24 | 350 | 885000 |
| | | | 310 | | | | | | | | 762000 | 4910 | | | | | | 952500 |
| | | | 320 | | | | | | | | 814500 | 5090 | | | | | | 1018125 |
| 400 | x | 680 | 315 | 480 | 227 | 212 | 96 | 188 | 118,5 | 840 | 765000 | 4855 | 231 | 285 | 24 | M24 | 370 | 956250 |
| | | | 320 | | | | | | | | 788000 | 4927 | | | | | | 985000 |
| | | | 330 | | | | | | | | 845000 | 5125 | | | | | | 1056250 |
| 420 | x | 690 | 330 | 504 | 253 | 238 | 111 | 214 | 131,5 | 840 | 999000 | 6055 | 241 | 302 | 30 | M24 | 410 | 1248750 |
| | | | 340 | | | | | | | | 1068000 | 6285 | | | | | | 1335000 |
| | | | 350 | | | | | | | | 1140000 | 6515 | | | | | | 1425000 |
| 440 | x | 750 | 340 | 527 | 269 | 252 | 115 | 224 | 138,5 | 1250 | 1058000 | 6230 | 231 | 283 | 24 | M27 | 540 | 1322500 |
| | | | 350 | | | | | | | | 1130000 | 6460 | | | | | | 1412500 |
| | | | 360 | | | | | | | | 1204000 | 6690 | | | | | | 1505000 |
| 460 | x | 770 | 360 | 547 | 269 | 252 | 115 | 224 | 141 | 1250 | 1320000 | 7440 | 257 | 312 | 28 | M27 | 540 | 1650000 |
| | | | 370 | | | | | | | | 1420000 | 7700 | | | | | | 1775000 |
| | | | 380 | | | | | | | | 1500000 | 7950 | | | | | | 1875000 |
| 480 | x | 800 | 380 | 580 | 291 | 274 | 128 | 246 | 152 | 1250 | 1535000 | 8080 | 241 | 302 | 30 | M27 | 650 | 1918750 |
| | | | 390 | | | | | | | | 1626000 | 8340 | | | | | | 2032500 |
| | | | 400 | | | | | | | | 1720000 | 8600 | | | | | | 2150000 |
| 500 | x | 850 | 400 | 600 | 291 | 274 | 128 | 246 | 152 | 1250 | 1750000 | 8750 | 246 | 309 | 32 | M27 | 750 | 2187500 |
| | | | 410 | | | | | | | | 1840000 | 8980 | | | | | | 2300000 |
| | | | 420 | | | | | | | | 1940000 | 9250 | | | | | | 2425000 |

More sizes on request
To continue see next page

Shrink Discs RINGFEDER® RfN 4091

Explanation

| | | |
|--|---|---|
| d = Inner diameter | L₂ = Thrust ring width | P = Hub surface pressure |
| D = Outer diameter | L₃ = Width of ring | σ_v = Equivalent stress in the hub |
| d_w = Solid shaft diameter | L_B = Width of the half Shrink Disc | n_{sc} = Quantity of screws |
| d₁ = Pitch circle diameter | T_A = Tightening torque of the clamping screws | D_G = Thread |
| L = Overall length | T = Transmissible torque at given T _A | G_w = Weight |
| L₁ = Overall length (without screws) | F_{ax} = Transmissible axial force | T_{max} = Max. transmissible torque |

Ordering example

| Series | d | D |
|----------|-----|-----|
| RfN 4091 | 100 | 170 |

Table Clearance

| d _w | | ISO | Max. clearance S mm |
|----------------|-------|-------|------------------------|
| above | up to | | |
| 6 | 10 | H6/j6 | 0,011 |
| 10 | 18 | | 0,014 |
| 18 | 30 | | 0,017 |
| 30 | 50 | H6/h6 | 0,032 |
| 50 | 80 | H6/g6 | 0,048 |
| 80 | 120 | H7/g6 | 0,069 |
| 120 | 180 | | 0,079 |
| 180 | 250 | | 0,090 |
| 250 | 315 | | 0,101 |
| 315 | 400 | | 0,111 |
| 400 | 500 | | 0,123 |
| 500 | 630 | | 0,136 |
| 630 | 800 | 0,154 | |

Technical information

- Surface finishes: For shaft R_a ≤ 3,2 μm
- Tolerances: For shaft see table
- When using a hollow shaft instead of a solid shaft please contact our Engineering-Team.
- Additional loads, e.g. tension, thrust or bending have to be taken into consideration accordingly
- Function values: The functional characteristics are valid with the screw tightening torque listed in the tables and the following assumed conditions: The locking screws are lubricated using MoS₂ (μ_{tot} = 0,1). The tapered cones are lubricated using MoS₂ (μ = 0,05). The contact surfaces (d_w) are in lightly oiled condition with coefficient of friction μ = 0,12. The hub and shaft materials have a modulus of elasticity of 210,000 N/mm². (Lower values result in increased values for T and Fax with reduced tangential stress.) The maximum clearance S is being fully utilized. The shaft being used is solid, for hollow shaft applications the functional values will change. In cases where the assumed conditions do not apply then contact our Technical Department where we will be happy to assist you with your application.

Clearances considered for the calculation of the function values

Further information on
RINGFEDER® RfN 4091 on
www.ringfeder.com

Disclaimer of liability

All technical details and notes are non-binding and cannot be used as a basis for legal claims. The user is obligated to determine whether the represented products meet his requirements. We reserve the right carry out modifications at any time in the interests of technical progress.