



# Disc Spring Catalog



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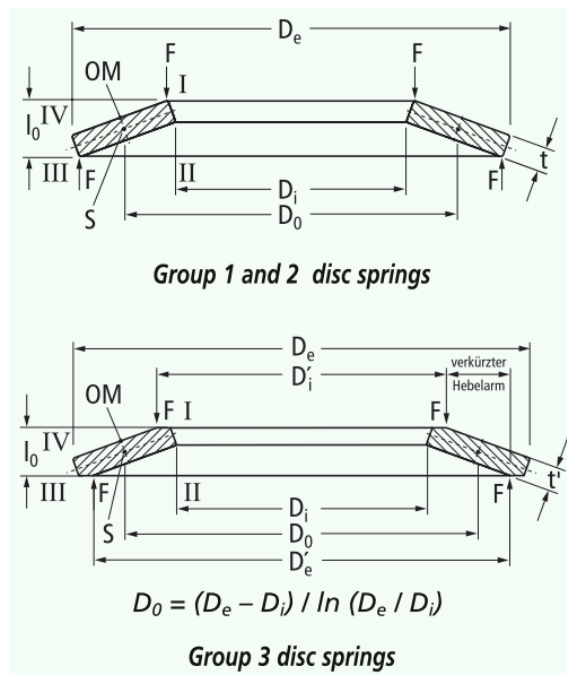
## Catalog – Standard Disc Springs

This compendium of data contains an extensive table section covering all disc springs to DIN 2093 and CB works standards. According to DIN 2093, disc springs are broken down into three groups:

| Group | Disc thickness<br>$t$<br>[mm] | Contact surfaces<br>and reduced<br>disc thickness |
|-------|-------------------------------|---------------------------------------------------|
| 1     | < 1.25                        | no                                                |
| 2     | 1.25 to 6.0                   | no                                                |
| 3     | > 6.0 to 14.0                 | yes                                               |

Disc springs with dimensions that deviate from standard can be accordingly assigned to one of these groups. Disc springs belonging to groups 1 and 2 feature a rectangular cross-section with rounded edges. This results in a slight reduction in the leverage length and so in a higher spring force. Some group 3 disc springs feature contact surfaces which ensure a defined application of force. The reduction of the lever arm length results in higher spring force, which is compensated by reduced material thickness of the disc spring.

It should also be mentioned in passing that, alongside the hundreds of springs listed here, our production range also encompasses a wide selection of non-standard disc springs. Our advisory team is at your service at any time to discuss the design of your specific disc spring.



| Part No. | Dimensions                          | Material    |
|----------|-------------------------------------|-------------|
| 104298   | 6 x 3.2 x 0.3 lo=0.45 mm            | EN10132-4   |
| 104299   | 8 x 3.2 x 0.2 lo=0.4 mm not preset  | 1.1231/C67S |
| 104301   | 8 x 3.2 x 0.3 lo=0.55 mm not preset | 1.1231/C67S |
| 104302   | 8 x 3.2 x 0.4 lo=0.6 mm             | EN10132-4   |
| 104306   | 8 x 3.2 x 0.5 lo=0.7 mm             | 1.1231/C67S |
| 104308   | 8 x 4.2 x 0.2 lo=0.45 mm not preset | 1.1231/C67S |
| 104310   | 8 x 4.2 x 0.3 lo=0.55 mm not preset | 1.1231/C67S |
| 104313   | 8 x 4.2 x 0.4 lo=0.6 mm             | 1.1231/C67S |
| 104317   | 10 x 3.2 x 0.3 lo=0.65 mm           | EN10132-4   |
| 104318   | 10 x 3.2 x 0.4 lo=0.7 mm            | 1.1231/C67S |
| 104319   | 10 x 3.2 x 0.5 lo=0.75 mm           | EN10132-4   |

| Part No. | Dimensions                            | Material      |
|----------|---------------------------------------|---------------|
| 104321   | 10 x 4.2 x 0.4 lo=0.7 mm              | 1.1231/C67S   |
| 104323   | 10 x 4.2 x 0.5 lo=0.75 mm             | 1.1231/C67S   |
| 104326   | 10 x 4.2 x 0.6 lo=0.85 mm             | 1.1231/C67S   |
| 104329   | 10 x 5.2 x 0.25 lo=0.55 mm not preset | 1.1231/C67S   |
| 104330   | 10 x 5.2 x 0.4 lo=0.7 mm              | 1.1231/C67S   |
| 104332   | 10 x 5.2 x 0.5 lo=0.75 mm             | 1.1231/C67S   |
| 104342   | 12 x 5.2 x 0.5 lo=0.9 mm              | 1.1231/C67S   |
| 104336   | 12 x 4.2 x 0.4 lo=0.8 mm              | 1.1231/C67S   |
| 104338   | 12 x 4.2 x 0.5 lo=0.85 mm             | 1.1231/C67S   |
| 104339   | 12 x 4.2 x 0.6 lo=1.0 mm              | 1.1231/C67S   |
| 104345   | 12 x 5.2 x 0.6 lo=0.95 mm             | 1.1231/C67S   |
| 104347   | 12 x 6.2 x 0.5 lo=0.85 mm             | 1.1231/C67S   |
| 104351   | 12 x 6.2 x 0.6 lo=0.95 mm             | 1.8159/51CrV4 |
| 104353   | 12.5 x 5.2 x 0.5 lo=0.85 mm           | 1.8159/51CrV4 |
| 104354   | 12.5 x 6.2 x 0.35 lo=0.8 mm           | 1.1231/C67S   |
| 104358   | 12.5 x 6.2 x 0.5 lo=0.85 mm           | 1.1231/C67S   |
| 104361   | 12.5 x 6.2 x 0.7 lo=1.0 mm            | 1.1231/C67S   |
| 104369   | 14 x 7.2 x 0.35 lo=0.8 mm             | 1.1231/C67S   |
| 104372   | 14 x 7.2 x 0.5 lo=0.9 mm              | 1.1231/C67S   |
| 104374   | 14 x 7.2 x 0.8 lo=1.1 mm              | 1.1231/C67S   |
| 104379   | 15 x 5.2 x 0.4 lo=0.95 mm             | 1.1231/C67S   |
| 104381   | 15 x 5.2 x 0.5 lo=1.0 mm              | 1.1231/C67S   |
| 104382   | 15 x 5.2 x 0.6 lo=1.05 mm             | 1.1231/C67S   |
| 104383   | 15 x 5.2 x 0.7 lo=1.1 mm              | 1.1231/C67S   |
| 104384   | 15 x 6.2 x 0.5 lo=1.0 mm              | 1.1231/C67S   |
| 104386   | 15 x 6.2 x 0.6 lo=1.05 mm             | EN10132-4     |
| 104389   | 15 x 6.2 x 0.7 lo=1.1 mm              | EN10132-4     |
| 104390   | 15 x 8.2 x 0.7 lo=1.1 mm              | 1.1231/C67S   |
| 104395   | 15 x 8.2 x 0.8 lo=1.2 mm              | 1.1231/C67S   |
| 104397   | 16 x 8.2 x 0.4 lo=0.9 mm              | 1.1231/C67S   |
| 104404   | 16 x 8.2 x 0.6 lo=1.05 mm             | 1.1231/C67S   |
| 104407   | 16 x 8.2 x 0.7 lo=1.15 mm             | 1.1231/C67S   |
| 104408   | 16 x 8.2 x 0.8 lo=1.2 mm              | 1.1231/C67S   |
| 104410   | 16 x 8.2 x 0.9 lo=1.25 mm             | 1.1231/C67S   |
| 104417   | 18 x 6.2 x 0.4 lo=1.0 mm              | EN10132-4     |
| 104420   | 18 x 6.2 x 0.5 lo=1.1 mm              | EN10132-4     |
| 104422   | 18 x 6.2 x 0.6 lo=1.2 mm              | 1.1231/C67S   |
| 104424   | 18 x 6.2 x 0.7 lo=1.25 mm             | 1.1231/C67S   |
| 104426   | 18 x 6.2 x 0.8 lo=1.3 mm              | EN10132-4     |
| 104428   | 18 x 8.2 x 0.5 lo=1.1 mm              | 1.1231/C67S   |
| 104431   | 18 x 8.2 x 0.7 lo=1.25 mm             | 1.1231/C67S   |
| 104436   | 18 x 8.2 x 0.8 lo=1.3 mm              | 1.1231/C67S   |
| 104499   | 18 x 8.2 x 1 lo=1.4 mm                | 1.1231/C67S   |
| 104437   | 18 x 9.2 x 0.45 lo=1.05 mm            | 1.1231/C67S   |
| 104439   | 18 x 9.2 x 0.7 lo=1.2 mm              | 1.1231/C67S   |
| 104504   | 18 x 9.2 x 1 lo=1.4 mm                | EN10132-4     |
| 104451   | 20 x 10.2 x 0.4 lo=0.9 mm             | 1.1231/C67S   |
| 104456   | 20 x 10.2 x 0.5 lo=1.15 mm            | 1.1231/C67S   |
| 104459   | 20 x 10.2 x 0.8 lo=1.35 mm            | 1.1231/C67S   |

| Part No. | Dimensions                    | Material      |
|----------|-------------------------------|---------------|
| 104463   | 20 x 10.2 x 0.9 lo=1.45 mm    | 1.1231/C67S   |
| 104513   | 20 x 10.2 x 1 lo=1.55 mm      | EN10132-4     |
| 104518   | 20 x 10.2 x 1.1 lo=1.55 mm    | 1.1231/C67S   |
| 104520   | 20 x 10.2 x 1.2 lo=1.55 mm    | 1.1231/C67S   |
| 104544   | 20 x 10.2 x 1.5 lo=1.8 mm     | 1.8159/51CrV4 |
| 104445   | 20 x 8.2 x 0.7 lo=1.35 mm     | 1.1231/C67S   |
| 104441   | 20 x 8.2 x 0.5 lo=1.15 mm     | 1.1231/C67S   |
| 104444   | 20 x 8.2 x 0.6 lo=1.3 mm      | 1.1231/C67S   |
| 104447   | 20 x 8.2 x 0.8 lo=1.4 mm      | 1.1231/C67S   |
| 104450   | 20 x 8.2 x 0.9 lo=1.45 mm     | 1.1231/C67S   |
| 104506   | 20 x 8.2 x 1 lo=1.55 mm       | 1.1231/C67S   |
| 104464   | 22.5 x 11.2 x 0.6 lo=1.4 mm   | 1.1231/C67S   |
| 104466   | 22.5 x 11.2 x 0.8 lo=1.45 mm  | 1.1231/C67S   |
| 104546   | 22.5 x 11.2 x 1.25 lo=1.75 mm | 1.8159/51CrV4 |
| 104477   | 23 x 10.2 x 0.9 lo=1.65 mm    | 1.1231/C67S   |
| 104522   | 23 x 10.2 x 1 lo=1.7 mm       | 1.1231/C67S   |
| 104550   | 23 x 10.2 x 1.25 lo=1.9 mm    | 1.8159/51CrV4 |
| 104524   | 23 x 12.2 x 1 lo=1.6 mm       | 1.1231/C67S   |
| 104554   | 23 x 12.2 x 1.25 lo=1.85 mm   | 1.8159/51CrV4 |
| 104558   | 23 x 12.2 x 1.5 lo=2.1 mm     | 1.8159/51CrV4 |
| 104560   | 23 x 12.2 x 1.5 lo=2.1 mm     | 1.8159/51CrV4 |
| 104470   | 23 x 8,2 x 0.8 x 1.55 mm      | 1.1231/C67S   |
| 104468   | 23 x 8.2 x 0.7 lo=1.5 mm      | 1.1231/C67S   |
| 104474   | 23 x 8.2 x 0.9 lo=1.6 mm      | EN10132-4     |
| 104521   | 23 x 8.2 x 1 lo=1.7 mm        | 1.1231/C67S   |
| 104525   | 25 x 10.2 x 1 lo=1.75 mm      | 1.1231/C67S   |
| 104478   | 25 x 12.2 x 0.7 lo=1.6 mm     | 1.1231/C67S   |
| 104480   | 25 x 12.2 x 0.9 lo=1.6 mm     | 1.1231/C67S   |
| 104526   | 25 x 12.2 x 1 lo=1.8 mm       | 1.1231/C67S   |
| 104563   | 25 x 12.2 x 1.25 lo=1.95 mm   | 1.8159/51CrV4 |
| 104565   | 25 x 12.2 x 1.5 lo=2.05 mm    | 1.8159/51CrV4 |
| 104484   | 28 x 10.2 x 0.8 lo=1.75 mm    | 1.1231/C67S   |
| 104528   | 28 x 10.2 x 1 lo=1.9 mm       | 1.8159/51CrV4 |
| 104575   | 28 x 10.2 x 1.25 lo=2.05 mm   | 1.8159/51CrV4 |
| 104579   | 28 x 10.2 x 1.5 lo=2.2 mm     | 1.8159/51CrV4 |
| 104529   | 28 x 12.2 x 1 lo=1.95 mm      | EN10132-4     |
| 104582   | 28 x 12.2 x 1.25 lo=2.1 mm    | 1.8159/51CrV4 |
| 104586   | 28 x 12.2 x 1.5 lo=2.25 mm    | 1.8159/51CrV4 |
| 104486   | 28 x 14.2 x 0.8 lo=1.8 mm     | 1.1231/C67S   |
| 104530   | 28 x 14.2 x 1 lo=1.8 mm       | 1.1231/C67S   |
| 104590   | 28 x 14.2 x 1.25 lo=2.1 mm    | 1.8159/51CrV4 |
| 104592   | 28 x 14.2 x 1.5 lo=2.15 mm    | 1.8159/51CrV4 |
| 104532   | 31.5 x 12.2 x 1 lo=2.1 mm     | 1.1231/C67S   |
| 104598   | 31.5 x 12.2 x 1.25 lo=2.2 mm  | 1.8159/51CrV4 |
| 104599   | 31.5 x 12.2 x 1.5 lo=2.35 mm  | 1.8159/51CrV4 |
| 104488   | 31.5 x 16.3 x 0.8 lo=1.85 mm  | 1.1231/C67S   |
| 104602   | 31.5 x 16.3 x 1.25 lo=2.15 mm | 1.8159/51CrV4 |
| 104611   | 31.5 x 16.3 x 1.5 lo=2.4 mm   | 1.8159/51CrV4 |
| 104616   | 31.5 x 16.3 x 1.75 lo=2.45 mm | 1.8159/51CrV4 |

| Part No. | Dimensions                    | Material      |
|----------|-------------------------------|---------------|
| 104627   | 31.5 x 16.3 x 2 lo=2.75 mm    | 1.8159/51CrV4 |
| 104533   | 34 x 12.2 x 1 lo=2.25 mm      | 1.1231/C67S   |
| 104638   | 34 x 12.2 x 1.25 lo=2.35 mm   | 1.8159/51CrV4 |
| 104639   | 34 x 12.2 x 1.5 lo=2.5 mm     | 1.8159/51CrV4 |
| 104643   | 34 x 14.3 x 1.25 lo=2.4 mm    | 1.8159/51CrV4 |
| 104646   | 34 x 14.3 x 1.5 lo=2.55 mm    | 1.8159/51CrV4 |
| 104651   | 34 x 16.3 x 1.5 lo=2.55 mm    | 1.8159/51CrV4 |
| 104658   | 34 x 16.3 x 2 lo=2.85 mm      | 1.8159/51CrV4 |
| 104498   | 35.5 x 18.3 x 0.9 lo=2.05 mm  | 1.1231/C67S   |
| 104663   | 35.5 x 18.3 x 1.25 lo=2.25 mm | 1.8159/51CrV4 |
| 104669   | 35.5 x 18.3 x 2 lo=2.8 mm     | 1.8159/51CrV4 |
| 104673   | 35.5 x 18.3 x 2 lo=2.8 mm     | 1.8159/51CrV4 |
| 104677   | 40 x 14.2 x 1.25 lo=2.65 mm   | 1.8159/51CrV4 |
| 104680   | 40 x 14.2 x 1.5 lo=2.75 mm    | 1.8159/51CrV4 |
| 104681   | 40 x 14.2 x 2 lo=3.05 mm      | 1.8159/51CrV4 |
| 104682   | 40 x 16.3 x 1.5 lo=2.8 mm     | 1.8159/51CrV4 |
| 104684   | 40 x 16.3 x 2 lo=3.1 mm       | 1.8159/51CrV4 |
| 104692   | 40 x 18.3 x 2 lo=3.15 mm      | 1.8159/51CrV4 |
| 104535   | 40 x 20.4 x 1 lo=2.3 mm       | 1.1231/C67S   |
| 104694   | 40 x 20.4 x 1.5 lo=2.65 mm    | 1.8159/51CrV4 |
| 104699   | 40 x 20.4 x 2 lo=3.1 mm       | 1.8159/51CrV4 |
| 104705   | 40 x 20.4 x 2.25 lo=3.15 mm   | 1.8159/51CrV4 |
| 104714   | 40 x 20.4 x 2.5 lo=3.45 mm    | 1.8159/51CrV4 |
| 104726   | 45 x 22.4 x 1.25 lo=2.85 mm   | 1.8159/51CrV4 |
| 104731   | 45 x 22.4 x 1.75 lo=3.05 mm   | 1.8159/51CrV4 |
| 104737   | 45 x 22.4 x 2.5 lo=3.5 mm     | 1.8159/51CrV4 |
| 104741   | 50 x 18.3 x 1.25 lo=2.85 mm   | 1.8159/51CrV4 |
| 104742   | 50 x 18.3 x 1.5 lo=3.3 mm     | 1.8159/51CrV4 |
| 104746   | 50 x 18.3 x 2 lo=3.5 mm       | 1.8159/51CrV4 |
| 104748   | 50 x 18.3 x 2.5 lo=3.85 mm    | 1.8159/51CrV4 |
| 104750   | 50 x 18.3 x 3 lo=4 mm         | 1.8159/51CrV4 |
| 104752   | 50 x 20.4 x 2 lo=3.5 mm       | 1.8159/51CrV4 |
| 104754   | 50 x 20.4 x 2.5 lo=3.85 mm    | 1.8159/51CrV4 |
| 104759   | 50 x 22.4 x 2 lo=3.6 mm       | 1.8159/51CrV4 |
| 104760   | 50 x 22.4 x 2.5 lo=3.9 mm     | 1.8159/51CrV4 |
| 104766   | 50 x 25.4 x 1.25 lo=2.85 mm   | 1.8159/51CrV4 |
| 104769   | 50 x 25.4 x 1.5 lo=3.1 mm     | 1.8159/51CrV4 |
| 104774   | 50 x 25.4 x 2 lo=3.4 mm       | 1.8159/51CrV4 |
| 104778   | 50 x 25.4 x 2.25 lo=3.75 mm   | 1.8159/51CrV4 |
| 104780   | 50 x 25.4 x 2.5 lo=3.9 mm     | 1.8159/51CrV4 |
| 104790   | 50 x 25.4 x 3 lo=4.1 mm       | 1.8159/51CrV4 |
| 104807   | 56 x 28.5 x 1.5 lo=3.45 mm    | 1.8159/51CrV4 |
| 104812   | 56 x 28.5 x 2 lo=3.6 mm       | 1.8159/51CrV4 |
| 104816   | 56 x 28.5 x 2.5 lo=4.2 mm     | 1.8159/51CrV4 |
| 104818   | 56 x 28.5 x 3 lo=4.3 mm       | 1.8159/51CrV4 |
| 104825   | 60 x 20.4 x 2 lo=4.1 mm       | 1.8159/51CrV4 |
| 104827   | 60 x 20.4 x 2.5 lo=4.3 mm     | 1.8159/51CrV4 |
| 104830   | 60 x 20.4 x 3 lo=4.7 mm       | 1.8159/51CrV4 |
| 104833   | 60 x 25.5 x 2.5 lo=4.4 mm     | 1.8159/51CrV4 |

| Part No. | Dimensions                      | Material      |
|----------|---------------------------------|---------------|
| 104836   | 60 x 25.5 x 3 lo=4.65 mm        | 1.8159/51CrV4 |
| 104841   | 60 x 30.5 x 2.5 lo=4.5 mm       | 1.8159/51CrV4 |
| 104849   | 60 x 30.5 x 2.75 lo=4.75 mm     | 1.8159/51CrV4 |
| 104853   | 60 x 30.5 x 3 lo=4.7 mm         | 1.8159/51CrV4 |
| 104860   | 60 x 30.5 x 3.5 lo=5 mm         | 1.8159/51CrV4 |
| 104868   | 63 x 31 x 1.8 lo=4.15 mm        | 1.8159/51CrV4 |
| 104870   | 63 x 31 x 2.5 lo=4.25 mm        | 1.8159/51CrV4 |
| 104876   | 63 x 31 x 3 lo=4.8 mm           | 1.8159/51CrV4 |
| 104878   | 63 x 31 x 3.5 lo=4.9 mm         | 1.8159/51CrV4 |
| 104882   | 70 x 25.5 x 2 lo=4.5 mm         | 1.8159/51CrV4 |
| 104886   | 70 x 30.5 x 2.5 lo=4.9 mm       | 1.8159/51CrV4 |
| 104889   | 70 x 30.5 x 3 lo=5.1 mm         | 1.8159/51CrV4 |
| 104890   | 70 x 35.5 x 3 lo=5.1 mm         | 1.8159/51CrV4 |
| 104896   | 70 x 35.5 x 3.5 lo=5.3 mm       | 1.8159/51CrV4 |
| 104983   | 70 x 35.5 x 4 lo=5.8 mm         | 1.8159/51CrV4 |
| 105006   | 70 x 35.5 x 4 lo=5.8 t'=3.75 mm | 1.8159/51CrV4 |
| 104984   | 70 x 40.5 x 4 lo=5.6 mm         | 1.8159/51CrV4 |
| 105014   | 70 x 40.5 x 4 lo=5.6 t'=3.75 mm | 1.8159/51CrV4 |
| 104985   | 70 x 40.5 x 5 lo=6.2 mm         | 1.8159/51CrV4 |
| 105017   | 70 x 40.5 x 5 lo=6.2 t'=4.6 mm  | 1.8159/51CrV4 |
| 104899   | 71 x 36 x 2 lo=4.6 mm           | 1.8159/51CrV4 |
| 104903   | 71 x 36 x 2.5 lo=4.5 mm         | 1.8159/51CrV4 |
| 104912   | 71 x 36 x 4 lo=5.6 mm           | 1.8159/51CrV4 |
| 105025   | 71 x 36 x 4 lo=5.6 t'=3.75 mm   | 1.8159/51CrV4 |
| 104913   | 80 x 31 x 2.5 lo=5.3 mm         | 1.8159/51CrV4 |
| 104917   | 80 x 31 x 3 lo=5.5 mm           | 1.8159/51CrV4 |
| 104986   | 80 x 31 x 4 lo=6.1 mm           | 1.8159/51CrV4 |
| 105029   | 80 x 31 x 4 lo=6.1 t'=3.75 mm   | 1.8159/51CrV4 |
| 104918   | 80 x 36 x 3 lo=5.7 mm           | 1.8159/51CrV4 |
| 104987   | 80 x 36 x 4 lo=6.2 mm           | 1.8159/51CrV4 |
| 105031   | 80 x 36 x 4 lo=6.2 t'=3.75 mm   | 1.8159/51CrV4 |
| 104921   | 80 x 41 x 2.25 lo=5.2 mm        | 1.8159/51CrV4 |
| 104923   | 80 x 41 x 3 lo=5.3 mm           | 1.8159/51CrV4 |
| 104988   | 80 x 41 x 4 lo=6.2 mm           | 1.8159/51CrV4 |
| 105032   | 80 x 41 x 4 lo=6.2 t'=3.75 mm   | 1.8159/51CrV4 |
| 105036   | 80 x 41 x 5 lo=6.7 lo=4.7 mm    | 1.8159/51CrV4 |
| 104928   | 80 x 41 x 5 lo=6.7 mm           | 1.8159/51CrV4 |
| 104931   | 90 x 46 x 2.5 lo=5.7 mm         | 1.8159/51CrV4 |
| 104942   | 90 x 46 x 3.5 lo=6 mm           | 1.8159/51CrV4 |
| 104946   | 90 x 46 x 5 lo=7 mm             | 1.8159/51CrV4 |
| 105048   | 90 x 46 x 5 lo=7 t'=4.7 mm      | 1.8159/51CrV4 |
| 105055   | 100 x 41 x 4 lo=7.2 lo=3.75 mm  | 1.8159/51CrV4 |
| 104989   | 100 x 41 x 4 lo=7.2 mm          | 1.8159/51CrV4 |
| 104990   | 100 x 41 x 5 lo=7.75 mm         | 1.8159/51CrV4 |
| 105056   | 100 x 41 x 5 lo=7.75 t'=4.75 mm | 1.8159/51CrV4 |
| 104947   | 100 x 51 x 2.7 lo=6.2 mm        | 1.8159/51CrV4 |
| 104951   | 100 x 51 x 3.5 lo=6.3 mm        | 1.8159/51CrV4 |
| 104991   | 100 x 51 x 4 lo=7 mm            | 1.8159/51CrV4 |
| 105058   | 100 x 51 x 4 lo=7 t'=3.75 mm    | 1.8159/51CrV4 |



| Part No. | Dimensions                      | Material      |
|----------|---------------------------------|---------------|
| 104993   | 100 x 51 x 5 lo=7.8 mm          | 1.8159/51CrV4 |
| 105061   | 100 x 51 x 5 lo=7.8 t'=4.75 mm  | 1.8159/51CrV4 |
| 104954   | 100 x 51 x 6 lo=8.2 mm          | 1.8159/51CrV4 |
| 105066   | 100 x 51 x 6 lo=8.2 t'=5.6 mm   | 1.8159/51CrV4 |
| 103907   | 100 x 51 x 7 lo= 9.2 t'=6.55 mm | 1.8159/51CrV4 |
| 104956   | 112 x 57 x 3 lo=6.9 mm          | 1.8159/51CrV4 |
| 104962   | 112 x 57 x 4 lo=7.2 mm          | 1.8159/51CrV4 |
| 105071   | 112 x 57 x 4 lo=7.2 t'=3.75 mm  | 1.8159/51CrV4 |
| 104964   | 112 x 57 x 6 lo=8.5 mm          | 1.8159/51CrV4 |
| 105073   | 112 x 57 x 6 lo=8.5 t'=5.6 mm   | 1.8159/51CrV4 |
| 104995   | 125 x 41 x 4 lo=8.2 mm          | 1.8159/51CrV4 |
| 105078   | 125 x 41 x 4 lo=8.2 t'=3.75 mm  | 1.8159/51CrV4 |
| 104996   | 125 x 51 x 4 lo=8.5 m           | 1.8159/51CrV4 |
| 105080   | 125 x 51 x 4 lo=8.5 t'=3.75 mm  | 1.8159/51CrV4 |
| 104997   | 125 x 51 x 5 lo=8.9 mm          | 1.8159/51CrV4 |
| 105085   | 125 x 51 x 5 lo=8.9 t'=4.7 mm   | 1.8159/51CrV4 |
| 104998   | 125 x 51 x 6 lo=9.4 mm          | 1.8159/51CrV4 |
| 105087   | 125 x 51 x 6 lo=9.4 t'=5.6 mm   | 1.8159/51CrV4 |
| 104999   | 125 x 61 x 5 lo=9 mm            | 1.8159/51CrV4 |
| 105091   | 125 x 61 x 5 lo=9 t'=4.7 mm     | 1.8159/51CrV4 |
| 105000   | 125 x 61 x 6 lo=9.6 mm          | 1.8159/51CrV4 |
| 105092   | 125 x 61 x 6 lo=9.6 t'=5.6 mm   | 1.8159/51CrV4 |
| 105098   | 125 x 61 x 8 lo=10.9 t'=7.6 mm  | 1.8159/51CrV4 |
| 104965   | 125 x 64 x 3.5 lo=8 mm          | 1.8159/51CrV4 |
| 104973   | 125 x 64 x 5 lo=8.5 mm          | 1.8159/51CrV4 |
| 105102   | 125 x 64 x 5 lo=8.5 t'=4.7 mm   | 1.8159/51CrV4 |
| 105001   | 125 x 64 x 6 lo=9.6 mm          | 1.8159/51CrV4 |
| 105106   | 125 x 64 x 6 lo=9.6 t'=5.6 mm   | 1.8159/51CrV4 |
| 105107   | 125 x 64 x 7 lo=10 t'=6.55 mm   | 1.8159/51CrV4 |
| 105109   | 125 x 64 x 8 lo=10.6 t'=7.5 mm  | 1.8159/51CrV4 |
| 105002   | 125 x 71 x 6 lo=9.3 mm          | 1.8159/51CrV4 |
| 105116   | 125 x 71 x 6 lo=9.3 t'=5.6 mm   | 1.8159/51CrV4 |
| 105118   | 125 x 71 x 8 lo=10.4 t'=7.4 mm  | 1.8159/51CrV4 |
| 105122   | 125 x 71 x 10 lo=11.8 t'=9.2 mm | 1.8159/51CrV4 |
| 104974   | 140 x 72 x 3.8 lo=8.7 mm        | 1.8159/51CrV4 |
| 105125   | 140 x 72 x 3.8 lo=8.7 t'=3.8 mm | 1.8159/51CrV4 |
| 104976   | 140 x 72 x 5 lo=9 mm            | 1.8159/51CrV4 |
| 105132   | 140 x 72 x 5 lo=9 t'=4.7 mm     | 1.8159/51CrV4 |
| 105137   | 140 x 72 x 8 lo=11.2 t'=7.5 mm  | 1.8159/51CrV4 |
| 105003   | 150 x 61 x 5 lo=10.3 mm         | 1.8159/51CrV4 |
| 105140   | 150 x 61 x 5 lo=10.3 t'=4.8 mm  | 1.8159/51CrV4 |
| 105004   | 150 x 61 x 6 lo=10.8 mm         | 1.8159/51CrV4 |
| 105144   | 150 x 61 x 6 lo=10.8 t'=5.8 mm  | 1.8159/51CrV4 |
| 105005   | 150 x 71 x 6 lo=10.8 mm         | 1.8159/51CrV4 |
| 105147   | 150 x 71 x 6 lo=10.8 t'=5.65 mm | 1.8159/51CrV4 |
| 105154   | 150 x 71 x 8 lo=12 t'=7.5 mm    | 1.8159/51CrV4 |
| 105161   | 150 x 81 x 10 lo=13 t'=9.3 mm   | 1.8159/51CrV4 |
| 105158   | 150 x 81 x 8 lo=11.7 t'=7.5 mm  | 1.8159/51CrV4 |
| 105172   | 160 x 82 x 10 lo=13.5 t'=9.4 mm | 1.8159/51CrV4 |



| Part No. | Dimensions                         | Material      |
|----------|------------------------------------|---------------|
| 104977   | 160 x 82 x 4.3 lo=9.9 mm           | 1.8159/51CrV4 |
| 105164   | 160 x 82 x 4.3 lo=9.9 t'=4.3 mm    | 1.8159/51CrV4 |
| 104978   | 160 x 82 x 6 lo=10.5 mm            | 1.8159/51CrV4 |
| 105169   | 160 x 82 x 6 lo=10.5 t'=5.6 mm     | 1.8159/51CrV4 |
| 105179   | 180 x 92 x 10 lo=14 t'=9.4 mm      | 1.8159/51CrV4 |
| 105185   | 180 x 92 x 13 lo=16.5 t'=12.1 mm   | 1.8159/51CrV4 |
| 104979   | 180 x 92 x 4.8 lo=11 mm            | 1.8159/51CrV4 |
| 105174   | 180 x 92 x 4.8 lo=11 t'=4.8 mm     | 1.8159/51CrV4 |
| 104980   | 180 x 92 x 6 lo=11.1 mm            | 1.8159/51CrV4 |
| 105177   | 180 x 92 x 6 lo=11.1 t'=5.6 mm     | 1.8159/51CrV4 |
| 105207   | 200 x 102 x 10 lo=15.6 t'=9.4 mm   | 1.8159/51CrV4 |
| 105209   | 200 x 102 x 12 lo=16.2 t'=11.25 mm | 1.8159/51CrV4 |
| 105211   | 200 x 102 x 14 lo=18.2 t'=13.1 mm  | 1.8159/51CrV4 |
| 104982   | 200 x 102 x 5.5 lo=12.5 mm         | 1.8159/51CrV4 |
| 105199   | 200 x 102 x 5.5 lo=12.5 t'=5.5 mm  | 1.8159/51CrV4 |
| 105203   | 200 x 102 x 8 lo=13.6 t'=7.5 mm    | 1.8159/51CrV4 |
| 105214   | 200 x 112 x 12 lo=16.2 t'=11.1 mm  | 1.8159/51CrV4 |
| 105215   | 200 x 112 x 14 lo=17.5 t'=12.9 mm  | 1.8159/51CrV4 |
| 105217   | 200 x 112 x 16 lo=18.8 t'=14.7 mm  | 1.8159/51CrV4 |
| 105188   | 200 x 82 x 10 lo=15.5 t'=9.45 mm   | 1.8159/51CrV4 |
| 105191   | 200 x 82 x 12 lo=16.6 t'=11.35 mm  | 1.8159/51CrV4 |
| 105186   | 200 x 82 x 8 lo=14.2 t'=7.6 mm     | 1.8159/51CrV4 |
| 105192   | 200 x 92 x 10 lo=15.6 t'=9.5 mm    | 1.8159/51CrV4 |
| 105195   | 200 x 92 x 12 lo=16.8 t'=11.4 mm   | 1.8159/51CrV4 |
| 105197   | 200 x 92 x 14 lo=18.1 t'=13.2 mm   | 1.8159/51CrV4 |
| 105223   | 225 x 112 x 12 lo=17 t'=11.25 mm   | 1.8159/51CrV4 |
| 105227   | 225 x 112 x 16 lo=20.5 t'=15 mm    | 1.8159/51CrV4 |
| 105219   | 225 x 112 x 6 lo=13.6 t'=6 mm      | 1.8159/51CrV4 |
| 105220   | 225 x 112 x 6.5 lo=13.6 t'=6.2 mm  | 1.8159/51CrV4 |
| 105221   | 225 x 112 x 8 lo=14.5 t'=7.5 mm    | 1.8159/51CrV4 |
| 105228   | 250 x 102 x 10 lo=18 t'=9.7 mm     | 1.8159/51CrV4 |
| 105229   | 250 x 102 x 12 lo=19 t'=11.25 mm   | 1.8159/51CrV4 |
| 105233   | 250 x 127 x 10 lo=17 t'=9.4 mm     | 1.8159/51CrV4 |
| 105235   | 250 x 127 x 12 lo=19.3 t'=11.3 mm  | 1.8159/51CrV4 |
| 105239   | 250 x 127 x 14 lo=19.6 t'=13.1 mm  | 1.8159/51CrV4 |
| 105240   | 250 x 127 x 16 lo=21.8 lo=15.1 mm  | 1.8159/51CrV4 |
| 105231   | 250 x 127 x 6.5 lo=14.8 t'=6.5 mm  | 1.8159/51CrV4 |
| 105232   | 250 x 127 x 7 lo=14.8 t'=6.7 mm    | 1.8159/51CrV4 |

## Catalog – Ball Bearing Disc Springs

These special disc springs were developed in close cooperation with leading ball bearing manufacturers. They are used to provide axial prestress in deep-groove ball bearings (backlash compensation) and by so doing also bridge the dimensional deviations of the ball bearing seat. Its



sound-absorbing effect helps reduce the degree of stress on the bearing. Up to an outside spring diameter of 94.5 mm, there are two variants available. Variant 1 is slotted around the inside diameter. This version offers particularly high deflection at low spring forces. Variant 2 is not slotted and supplies high forces with only a short deflection. For outside diameters greater than 94.5 mm, stacked nonslotted CB ball bearing disc springs are used. In the interests of achieving high

compensating deflection paths, a form of force-deflection characteristic was selected which is highly degressive or else demonstrates a marked force maximum. For this reason, we do not recommend creating disc spring stacks in alternating formation using these parts. Parallel stacking to multiply spring force is possible without restrictions, however. It is important to bear in mind the friction which occurs with multiple stacking, which is expressed as a hysteresis of the characteristic curve. CB ball bearing disc springs are made of spring steel in accordance with DIN EN 10 132-4. The mechanical stresses occurring in ball bearing disc springs are relatively low. This ensures that when the parts are pressed to the flattened position, no major relaxation effect occurs. This opens up the possibility of dispensing with the prestressing process in order to cut the cost of manufacture.

| Part No. | Dimensions                            | Material  |
|----------|---------------------------------------|-----------|
| 105245   | 9.8 x 6.2 x 0.15 lo=0.6 mm slotted    | EN10132-4 |
| 105248   | 9.8 x 6.2 x 0.2 lo=0.4 mm             | EN10132-4 |
| 105249   | 12.8 x 7.2 x 0.2 lo=0.65 mm slotted   | EN10132-4 |
| 105251   | 12.8 x 7.2 x 0.25 lo=0.5 mm           | EN10132-4 |
| 105253   | 15.8 x 8.2 x 0.25 lo=0.75 mm slotted  | EN10132-4 |
| 105256   | 15.8 x 8.2 x 0.25 lo=0.55 mm          | EN10132-4 |
| 105259   | 18.8 x 9.2 x 0.25 lo=1 mm slotted     | EN10132-4 |
| 105260   | 18.8 x 9.2 x 0.3 lo=0.65 mm           | EN10132-4 |
| 105261   | 18.8 x 10.2 X 0.25 lo=1.05 mm slotted | EN10132-4 |
| 105263   | 18.8 x 10.2 x 0.35 lo=0.7 mm          | EN10132-4 |
| 105265   | 21.8 x 12.3 x 0.25 lo=1.25 mm slotted | EN10132-4 |
| 105267   | 21.8 x 12.3 x 0.35 lo=0.75 mm         | EN10132-4 |

| Part No. | Dimensions                            | Material    |
|----------|---------------------------------------|-------------|
| 105273   | 23.7 x 14.3 x 0.3 lo=1.3 mm slotted   | EN10132-4   |
| 105276   | 23.7 x 14.3 x 0.4 lo=0.9 mm           | EN10132-4   |
| 105277   | 25.7 x 14.3 x 0.3 lo=1.4 mm slotted   | EN10132-4   |
| 105278   | 25.7 x 14.3 x 0.4 lo=0.9 mm           | EN10132-4   |
| 105281   | 27.7 x 17.3 x 0.35 lo=1.45 mm slotted | EN10132-4   |
| 105283   | 27.7 x 17.3 x 0.4 lo=1 mm             | EN10132-4   |
| 105285   | 29.7 x 17.3 x 0.35 lo=1.55 mm slotted | EN10132-4   |
| 105287   | 29.7 x 17.3 x 0.4 lo=1.1 mm           | EN10132-4   |
| 105289   | 31.7 x 20.4 x 0.35 lo=1.55 mm slotted | EN10132-4   |
| 105292   | 31.7 x 20.4 x 0.4 lo=1.1 mm           | EN10132-4   |
| 105293   | 34.6 x 20.4 x 0.4 lo=1.65 mm slotted  | EN10132-4   |
| 105294   | 34.6 x 20.4 x 0.4 lo=1.1 mm           | EN10132-4   |
| 105295   | 34.6 x 22.4 x 0.35 lo=1.55 mm slotted | EN10132-4   |
| 105296   | 34.6 x 22.4 x 0.5 lo=1.2 mm           | EN10132-4   |
| 105299   | 36.6 x 20.4 x 0.4 lo=1.9 mm slotted   | EN10132-4   |
| 105300   | 36.6 x 20.4 x 0.5 lo=1.3 mm           | EN10132-4   |
| 105302   | 39.6 x 25.5 x 0.4 lo=1.9 mm slotted   | EN10132-4   |
| 105303   | 39.6 x 25.5 x 0.5 lo=1.3 mm           | 1.1231/C67S |
| 105304   | 41.6 x 25.5 x 0.45 lo=2.05 mm slotted | EN10132-4   |
| 105305   | 41.6 x 25.5 x 0.5 lo=1.4 mm           | EN10132-4   |
| 105307   | 46.5 x 30.5 x 0.45 lo=2.05 mm slotted | EN10132-4   |
| 105309   | 46.5 x 30.5 x 0.6 lo=1.5 mm           | EN10132-4   |
| 105314   | 51.5 x 35.5 x 0.45 lo=2.1 mm slotted  | EN10132-4   |
| 105316   | 51.5 x 35.5 x 0.6 lo=1.5 mm           | EN10132-4   |
| 105321   | 54.5 x 40.5 x 0.45 lo=2.15 mm slotted | EN10132-4   |
| 105324   | 54.5 x 40.5 x 0.6 lo=1.5 mm           | EN10132-4   |
| 105325   | 61.5 x 40.5 x 0.55 lo=2.55 mm slotted | EN10132-4   |
| 105326   | 61.5 x 40.5 x 0.7 lo=1.8 mm           | EN10132-4   |
| 105330   | 67.5 x 50.5 x 0.55 lo=2.6 mm slotted  | EN10132-4   |
| 105331   | 67.5 x 50.5 x 0.7 lo=1.7 mm           | EN10132-4   |
| 105332   | 71.5 x 45.5 x 0.6 lo=2.9 mm slotted   | EN10132-4   |
| 105333   | 71.5 x 45.5 x 0.7 lo=2.1 mm           | EN10132-4   |
| 105336   | 71.5 x 50.5 x 0.6 lo=2.9 mm slotted   | EN10132-4   |
| 105339   | 71.5 x 50.5 x 0.7 lo=2.1 mm           | EN10132-4   |
| 105345   | 74.5 x 55.5 x 0.6 lo=2.9 mm slotted   | EN10132-4   |
| 105347   | 74.5 x 55.5 x 0.8 lo=1.9 mm           | EN10132-4   |
| 105349   | 79.5 x 50.5 x 0.7 lo=3.1 mm slotted   | EN10132-4   |
| 105350   | 79.5 x 50.5 x 0.8 lo=2.3 mm           | EN10132-4   |
| 105351   | 79.5 x 55.5 x 0.7 lo=2.9 mm slotted   | EN10132-4   |
| 105352   | 79.5 x 55.5 x 0.8 lo=2.3 mm           | EN10132-4   |
| 105353   | 84.5 x 60.5 x 0.75 lo=3.15 mm slotted | EN10132-4   |
| 105356   | 84.5 x 60.5 x 0.9 lo=2.5 mm           | EN10132-4   |
| 105357   | 89.5 x 60.5 x 0.8 lo=3.3 mm slotted   | EN10132-4   |
| 105358   | 89.5 x 60.5 x 0.9 lo=2.5 mm           | EN10132-4   |
| 105360   | 89.5 x 65.5 x 0.8 lo=3.4 mm slotted   | EN10132-4   |
| 105361   | 89.5 x 65.5 x 0.9 lo=2.5 mm           | EN10132-4   |
| 105362   | 94.5 x 75.5 x 0.8 lo=3.45 mm slotted  | EN10132-4   |
| 105364   | 94.5 x 75.5 x 1 lo=2.2 mm             | EN10132-4   |
| 105365   | 99 x 65.5 x 1 lo=2.6 mm               | EN10132-4   |

| Part No. | Dimensions                   | Material  |
|----------|------------------------------|-----------|
| 105366   | 99 x 70.5 x 1 lo=2.6 mm      | EN10132-4 |
| 105367   | 109 x 70.5 x 1.25 lo=2.7 mm  | EN10132-4 |
| 105368   | 109 x 75.5 x 1.25 lo=2.7 mm  | EN10132-4 |
| 105369   | 114 x 90.5 x 1.25 lo=2.45 mm | EN10132-4 |
| 105370   | 119 x 75.5 x 1.25 lo=2.8 mm  | EN10132-4 |
| 105371   | 119 x 85.5 x 1.25 lo=2.8 mm  | EN10132-4 |
| 105373   | 124 x 90.5 x 1.25 lo=3 mm    | EN10132-4 |
| 105374   | 129 x 85.5 x 1.25 lo=3.2 mm  | EN10132-4 |
| 105375   | 129 x 95.5 x 1.25 lo=3.2 mm  | EN10132-4 |
| 105377   | 139 x 90.5 x 1.25 lo=3.25 mm | EN10132-4 |
| 105378   | 139 x 101 x 1.25 lo=3.25 mm  | EN10132-4 |
| 105381   | 149 x 95.5 x 1.5 lo=3.2 mm   | EN10132-4 |
| 105382   | 149 x 106 x 1.5 lo=3.2 mm    | EN10132-4 |
| 105383   | 159 x 101 x 1.5 lo=3.5 mm    | EN10132-4 |
| 105384   | 159 x 111 x 1.5 lo=3.5 mm    | EN10132-4 |
| 105385   | 169 x 111 x 1.5 lo=3.8 mm    | EN10132-4 |
| 105386   | 169 x 121 x 1.5 lo=3.8 mm    | EN10132-4 |
| 105389   | 179 x 121 x 2 lo=4.2 mm      | EN10132-4 |
| 105391   | 179 x 126 x 2 lo=4.2 mm      | EN10132-4 |
| 105392   | 189 x 121 x 2 lo=4.3 mm      | EN10132-4 |
| 105393   | 189 x 131 x 2 lo=4.3 mm      | EN10132-4 |
| 105394   | 198 x 131 x 2 lo=4.5 mm      | EN10132-4 |
| 105395   | 198 x 141 x 2 lo=4.5 mm      | EN10132-4 |
| 105396   | 213 x 151 x 2.25 lo=4.5 mm   | EN10132-4 |
| 105398   | 223 x 161 x 2.25 lo=4.6 mm   | EN10132-4 |
| 105399   | 228 x 161 x 2.25 lo=4.95 mm  | EN10132-4 |
| 105400   | 238 x 161 x 2.25 lo=5.25 mm  | EN10132-4 |
| 105401   | 248 x 171 x 2.5 lo=5 mm      | EN10132-4 |
| 105402   | 258 x 171 x 2.5 lo=5.5 mm    | EN10132-4 |
| 105403   | 268 x 181 x 2.5 lo=5.7 mm    | EN10132-4 |
| 105404   | 278 x 181 x 2.5 lo=6 mm      | EN10132-4 |
| 105405   | 288 x 191 x 2.75 lo=5.75 mm  | EN10132-4 |
| 105406   | 298 x 191 x 2.75 lo=6.35 mm  | EN10132-4 |
| 105407   | 308 x 202 x 3 lo=6.1 mm      | EN10132-4 |
| 105408   | 318 x 212 x 3 lo=6.2 mm      | EN10132-4 |
| 105409   | 338 x 232 x 3 lo=6.6 mm      | EN10132-4 |
| 105410   | 358 x 242 x 3 lo=7.0 mm      | EN10132-4 |

## Catalog – Stainless Steel Disc Springs

X10CrNi18-8 (1.4310), X5CrNiMo17-12-2 (1.4401) and X7CrNiAl17-7 (1.4568) are nonrusting spring steels in compliance with DIN EN 10 151 which are characterized by special resistance to chemically aggressive substances.

Their spring power is generated as a result of strain hardening and/or heat treatment. Both types X10CrNi18-8 (1.4310) and X5CrNiMo17-12-2 (1.4401) attain their strength solely by strain hardening. For this reason, they are generally only used up to a thickness of 2 to 2.5 mm. Depending on the degree of strain hardening, a marked breakdown of straining hardening takes place from around 100 °C. These materials should accordingly not be used at high temperatures.

With the material X7CrNiAl17-7 (1.4568) up to a thickness of 2.5 mm (for larger quantities up to 3.0 mm), alongside strain hardening, a simple heat storage treatment at 480 °C is also performed, lending it thermal stability to permitting 350 °C. The increase in strength achieved by heat exposure offers the benefit that to achieve the same end strength, less strain hardening is required as for X10CrNi18-8 (1.4310) or X5CrNiMo17-12-2 (1.4401). This positively affects the corrosion characteristics.

| Part No. | Dimensions                  | Material           |
|----------|-----------------------------|--------------------|
| 105578   | 8 x 3.2 x 0.5 lo=0.7 mm     | 1.4310/X10CrNi18-8 |
| 105579   | 8 x 4.2 x 0.3 lo=0.5 mm     | 1.4310/X10CrNi18-8 |
| 105580   | 8 x 4.2 x 0.4 lo=0.6 mm     | 1.4310/X10CrNi18-8 |
| 105581   | 10 x 5.2 x 0.4 lo=0.65 mm   | 1.4310/X10CrNi18-8 |
| 105582   | 10 x 5.2 x 0.5 lo=0.7 mm    | 1.4310/X10CrNi18-8 |
| 105583   | 12 x 4.2 x 0.4 lo=0.8 mm    | 1.4310/X10CrNi18-8 |
| 105584   | 12 x 4.2 x 0.5 lo=0.8 mm    | 1.4310/X10CrNi18-8 |
| 105585   | 12 x 6.2 x 0.5 lo=0.85 mm   | 1.4310/X10CrNi18-8 |
| 105586   | 12.5 x 6.2 x 0.5 lo=0.85 mm | 1.4310/X10CrNi18-8 |
| 105587   | 12.5 x 6.2 x 0.7 lo=0.95 mm | 1.4310/X10CrNi18-8 |
| 105589   | 14 x 7.2 x 0.8 lo=1.1 mm    | 1.4310/X10CrNi18-8 |
| 105590   | 15 x 8.2 x 0.8 lo=1.25 mm   | 1.4310/X10CrNi18-8 |
| 105591   | 16 x 8.2 x 0.6 lo=1.05 mm   | 1.4310/X10CrNi18-8 |
| 105592   | 16 x 8.2 x 0.9 lo=1.25 mm   | 1.4310/X10CrNi18-8 |
| 105593   | 18 x 9.2 x 0.7 lo=1.2 mm    | 1.4310/X10CrNi18-8 |
| 105594   | 18 x 9.2 x 1 lo=1.4 mm      | 1.4310/X10CrNi18-8 |
| 105595   | 20 x 8.2 x 0.5 lo=1.15 mm   | 1.4310/X10CrNi18-8 |
| 105596   | 20 x 10.2 x 0.6 lo=1.2 mm   | 1.4310/X10CrNi18-8 |
| 105597   | 20 x 10.2 x 0.8 lo=1.35 mm  | 1.4310/X10CrNi18-8 |
| 105598   | 20 x 10.2 x 0.9 lo=1.4 mm   | 1.4310/X10CrNi18-8 |
| 105599   | 20 x 10.2 x 1 lo=1.55 mm    | 1.4310/X10CrNi18-8 |
| 105600   | 20 x 10.2 x 1.1 lo=1.55 mm  | 1.4310/X10CrNi18-8 |

| Part No. | Dimensions                    | Material            |
|----------|-------------------------------|---------------------|
| 105601   | 25 x 12.2 x 0.9 lo=1.6 mm     | 1.4310/X10CrNi18-8  |
| 105602   | 25 x 12.2 x 1.5 lo=1.9 mm     | 1.4310/X10CrNi18-8  |
| 105603   | 28 x 14.2 x 1 lo=1.8 mm       | 1.4310/X10CrNi18-8  |
| 105604   | 28 x 14.2 x 1.5 lo=2.15 mm    | 1.4310/X10CrNi18-8  |
| 105531   | 31.5 x 16.3 x 1.25 lo=2 mm    | 1.4568/X7CrNiAl17-7 |
| 105534   | 31.5 x 16.3 x 1.75 lo=2.3 mm  | 1.4568/X7CrNiAl17-7 |
| 105535   | 35.5 x 18.3 x 1.25 lo=2.15 mm | 1.4568/X7CrNiAl17-7 |
| 105536   | 35.5 x 18.3 x 2 lo=2.65 mm    | 1.4568/X7CrNiAl17-7 |
| 105537   | 40 x 20.4 x 1.5 lo=2.45 mm    | 1.4568/X7CrNiAl17-7 |
| 105539   | 40 x 20.4 x 2 lo=2.8 mm       | 1.4568/X7CrNiAl17-7 |
| 105540   | 40 x 20.4 x 2.25 lo=2.95 mm   | 1.4568/X7CrNiAl17-7 |
| 105542   | 45 x 22.4 x 1.75 lo=2.8 mm    | 1.4568/X7CrNiAl17-7 |
| 105543   | 45 x 22.4 x 2.5 lo=3.3 mm     | 1.4568/X7CrNiAl17-7 |
| 105559   | 50 x 25.4 x 1.5 lo=3.1 mm     | 1.4568/X7CrNiAl17-7 |
| 105544   | 50 x 25.4 x 2 lo=3.15 mm      | 1.4568/X7CrNiAl17-7 |
| 105545   | 50 x 25.4 x 2.5 lo=3.5 mm     | 1.4568/X7CrNiAl17-7 |
| 105546   | 56 x 28.5 x 2 lo=3.4 mm       | 1.4568/X7CrNiAl17-7 |
| 105548   | 56 x 28.5 x 3 lo=4.05 mm      | 1.4568/X7CrNiAl17-7 |
| 105551   | 63 x 31 x 2.5 lo=3.95 mm      | 1.4568/X7CrNiAl17-7 |
| 105556   | 80 x 41 x 3 lo=4.9 mm         | 1.4568/X7CrNiAl17-7 |