



In-house development

Own manufacturing

Sole distributor in Germany

Working with distributors worldwide

**TAS**  
**SCHÄFER**

**External**  
Clamping devices



# Overview



## 3073 Mini-Range

For very low torque transmission  
Very small profile  
Very light weight



## 3051 Light-Range

For low torque transmission  
Small profile  
Lightweight



## 3071 Standard-Range

For Medium torque transmission  
Average profile  
Average weight



## 3081 Standard-Range strengthened

Like 3071, but with screws class 12.9  
For higher quality shaft and hub materials  
Higher transmissible torque than 3071



## 3091 Heavy-Range

For high torque transmission  
Heavy duty construction



## 3093 Heavy-Range strengthened

Like 3091, but with screws class 12.9  
For very high transmissible torque  
Heavy duty construction



## Type 52

Suitable for Stiebel - helical-bevel gears  
With bolt protection against contact (guard)

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# Description of function

## Three part shrink disc of the types TAS 30.. & TAS 52..

The main function of a shrink disc is the safe connection of a shaft with a hub by means of friction. For example, between a drive shaft and a transmission hollow shaft. The shrink disc generates a backlash-free connection by pressing the hub onto the shaft. This connection is mainly used to transmit torque.

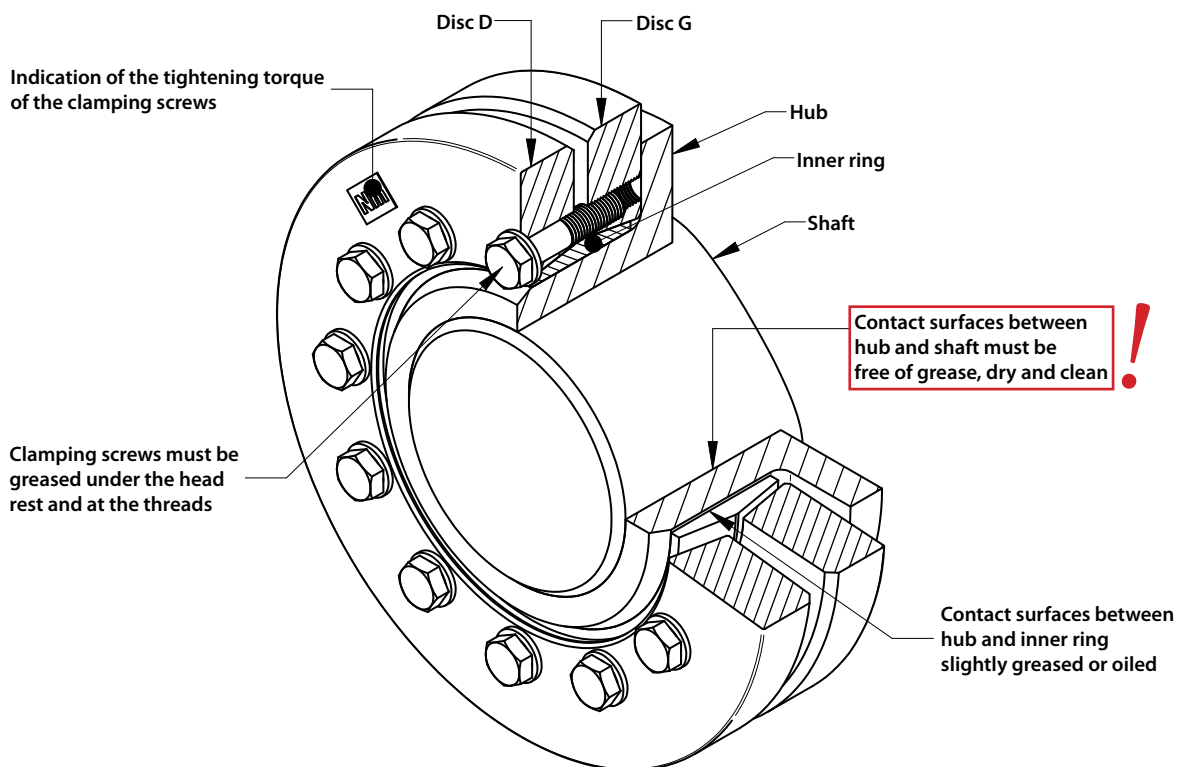
The shrink disc only provides the required forces, and transfers no forces or moments between shaft and hub by itself. Therefore, the force flow does not pass through it.

It is installed by sliding the shrink disc onto the hollow shaft and the subsequent tightening of the screws. By using conical surfaces the inner diameter reduces and the radial pressure is built up. The 30xx range of shrink discs are not self-locking. The clamping forces are provided and controlled through the screws.

This allows the direct compensation of the clearance between the shaft and hub, without an overload that may occur on path controlled shrink discs, due to small or over sized clearance.

The supplied shrink discs are ready for installation.

To achieve proper operation with a sufficiently high coefficient of friction, the contact surfaces between shaft and hub must be dry, clean and free of grease. The functional surfaces of the shrink disc, the thread and head rests of the screws, are equipped at the factory with lubricant. Molykote G-Rapid Plus or comparable must be used as a lubricant. The contact surfaces between the hub and inner ring must be provided with grease or oil before installation.



## Product data

A detailed installation manual is available on our Homepage.

### Data sheets

- Contact us if a data sheet for an individual product is required.

### CAD data

- We provide CAD data for our products in various formats. These can be found online at [www.traceparts.com](http://www.traceparts.com). If the desired product is not available, please contact us directly.



# Basics - Calculation

The calculation of the values, given in the catalogue, are based on the following assumptions and simplifications:

## Transmissible torque

A shrink disc connection is capable of transmitting torque, bending moment and axial force. Alternatively, the transmissible torque  $M_{max}$  is specified in the product data. If such loads occur simultaneously then they must be added vectorially to the resultant moment  $M_{res}$ . The formula below applies to the resulting moment:

$$M_{res} \leq M_{max}$$

At different load cases, these are individually checked against  $M_{max}$ !

$M_{res}$  is determined for combined loads as follows:

$$M_{res} = \sqrt{M_T^2 + M_B^2 + (F_{AX} \frac{d_W}{2})^2}$$

with  $M_B \leq 0,3 M_T$  as the limit\* for the the bending moment

\*In principle, the maximum bending moment corresponds to the maximum transmittable torque. The limitation to  $0,3 M_T$  is due to the change of the surface pressure at the edges of the connection. (see also „Bending moment“)

This results in the following relationships:

Torque only:

The maximum torque is equivalent to  $M_{max}$ .

Bending moment only:

The maximum bending moment corresponds to  $0,3 M_T$ .

Axial force only:

The maximum axial force is  $M_{max} \frac{2}{d_W}$ .

A different equation applies for very small shrink discs (3073):

$$M_B \leq 0,2 M_T$$

Depending on the application, additional safety factors need to be considered for the individual loads!

## Calculation of transmissible torques and forces

The catalogue data relates to specific shaft diameters which we recommend using. If the shaft diameter is between two sizes, the larger shrink disc should be selected. A deviation is possible within certain limits but the predetermined tolerances and surface roughness should be considered.

The shaft diameter and transmissible torque behave approximately proportional to each other. The transmissible torque increases with greater shaft diameter and vice versa. In contrast, the transmissible axial force changes only slightly. This is not due to the shaft diameter but because of the change in stiffness of the hub when the inner diameter changes.

Within certain limits, the changes can be linearly approximated. Information about the range of the respective shaft diameter can be found in the product data. The determination of the deviating values is explained below. Please contact us if the shaft diameter must be outside the indicated range. The formula below calculates the torque for specific shaft diameters:

$$M = M_{max (Catalog)} \left( \frac{d_{W (target)}}{d_{W (Catalog)}} \right)^2$$

The corresponding axial force which is transmitted instead of the torque, results as follows:

$$F_{ax} = M \frac{2}{d_{W (table)}}$$

## Radial force

Radial forces cause a change in pressure at the contact surface. In the force direction, the pressure increases on the one side and is reduced accordingly on the other side. This depends on the amount of radial force and the rigidity of the parts.

The following equation can be used to approximate the pressure change:

$$\Delta p_W = 0,75 \frac{F_{AX}}{d_W l_K}$$

The modified pressures  $p_{Wmin, max}$  results from the following equation:

$$p_{Wmin, max} = p_W \pm \Delta p_W$$

The minimum pressure  $p_{Wmin}$  should be at least 50 N/mm<sup>2</sup> to avoid gap corrosion. In addition, the material must be designed for a maximum pressure  $p_{Wmax}$ .



## Notes

A full-page sheet of white graph paper featuring a light gray grid. The grid consists of small squares, approximately 10 units wide by 10 units high. A single horizontal line runs across the middle of the page, dividing it into two equal halves. There are no margins or other markings on the paper.

**QUALITY ON  
every continent**



Hydraulic Shrink Disc  
for Gearbox test benches



Hydraulic Shrink Disc  
for Wind power and Industrial applications



Hydraulic Shaft Coupling  
for shaftings



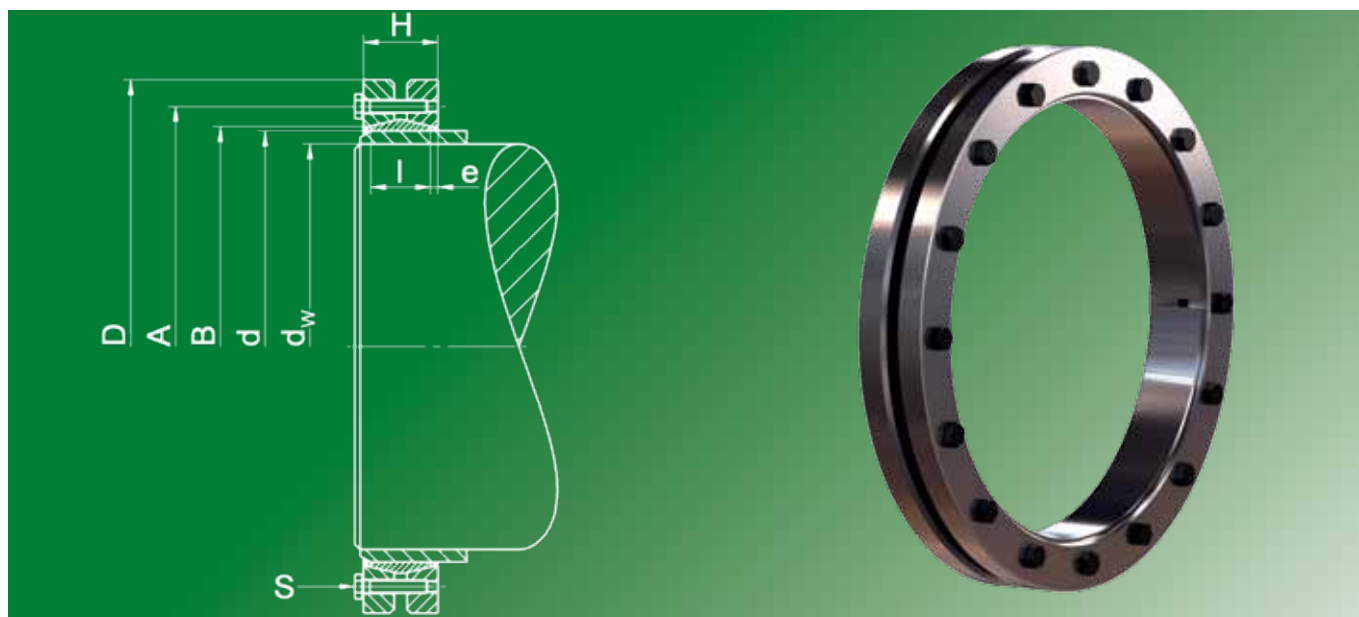
Hydraulic Flange Coupling  
for Conveyor drives

**TAS**  
**SCHÄFER**



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## Used symbols

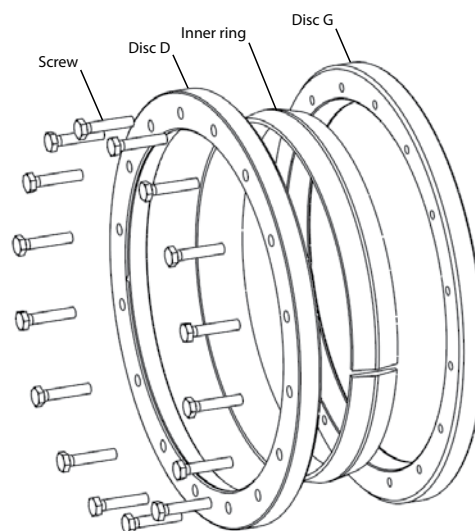
|           |                      |                                          |
|-----------|----------------------|------------------------------------------|
| $d$       | [mm]                 | Nominal diameter of the shrink disc      |
| $d_w$     | [mm]                 | Shaft diameter                           |
| $M_{max}$ | [Nm]                 | Maximal transmittable torque             |
| $D$       | [mm]                 | Outer diameter                           |
| $l$       | [mm]                 | Length of the inner ring                 |
| $e$       | [mm]                 | Excess length                            |
| $H$       | [mm]                 | Width of the shrink disc                 |
| $A$       | [mm]                 | Pitch circle diameter                    |
| $B$       | [mm]                 | Attachment size                          |
| $M_A$     | [Nm]                 | Tightening torque of the clamping screws |
| $Z$       |                      | Number of clamping screws                |
| $S$       |                      | Size of the clamping screws              |
| $n_{max}$ | [min <sup>-1</sup> ] | Permitted rotational frequency           |
| $p_N$     | [N/mm <sup>2</sup> ] | Moderate pressure to the hub             |
| $I$       | [kgm <sup>2</sup> ]  | Moment of inertia                        |

## Design of the shrink disc

Discs galvanized

without washers

Dimensions **H** & **e** in unlocked position



## Variation from the standard shaft diameter $d_w$

| ><br>mm | ≤<br>mm | minimal<br>-<br>mm | maximal<br>+<br>mm |
|---------|---------|--------------------|--------------------|
| 20      | 60      | -2                 | 1                  |
| 60      | 100     | -2                 | 2                  |
| 100     | 160     | -3                 | 2                  |
| 160     | 220     | -4                 | 2                  |
| 220     | 300     | -5                 | 2                  |

$$M = M_{max(Catalog)} \left( \frac{d_{w(target)}}{d_{w(Catalog)}} \right)^2$$

(see Basics - Calculation)

| min. yield strength $R_{p0.2}$ | N/mm <sup>2</sup> |
|--------------------------------|-------------------|
| Solid shaft                    | 290               |
| Hub                            | 350               |

Ordering information: TAS 3073-d (Further sizes on request)

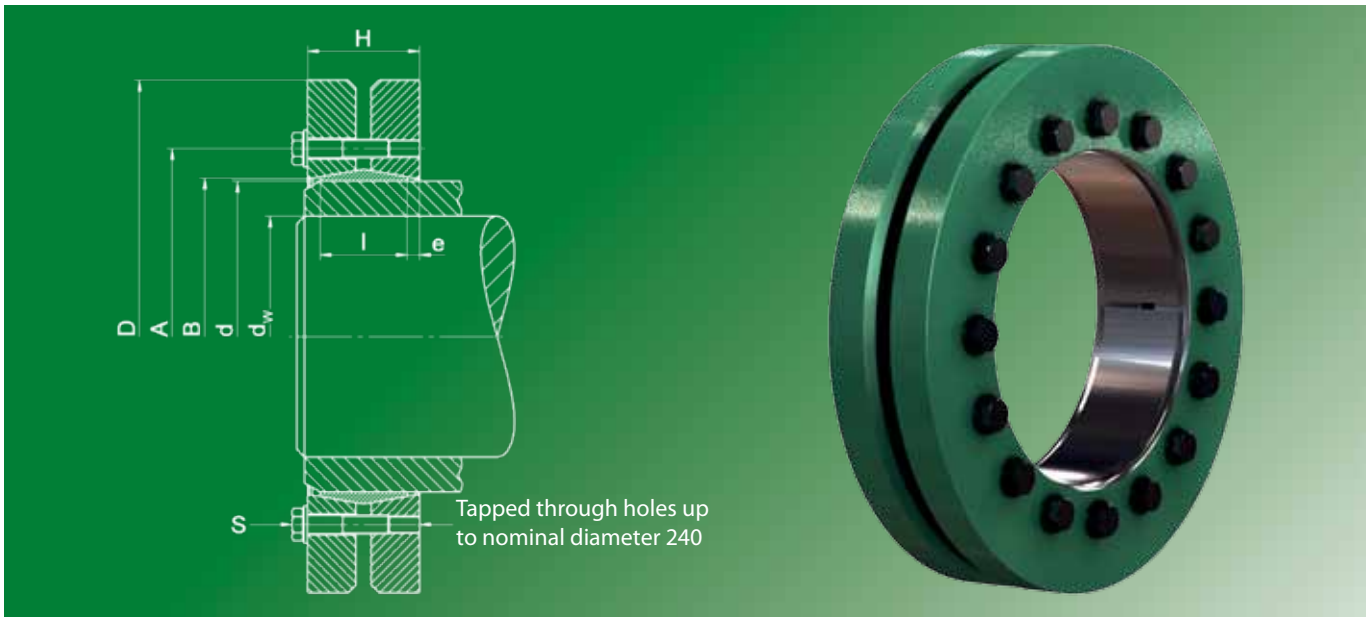
# 3073

Mini-Range

| <i>d</i><br>mm | <i>d<sub>W</sub></i><br>mm | <i>M<sub>max</sub></i><br>Nm | <i>D</i><br>mm | <i>l</i><br>mm | <i>e</i><br>mm | <i>H</i><br>mm | <i>A</i><br>mm | <i>B</i><br>mm | <i>M<sub>A</sub></i><br>Nm | <i>Z</i><br>Pcs. | <i>S</i> | <i>DIN</i> | <i>Class</i> | <i>n<sub>max</sub></i><br>min <sup>-1</sup> | <i>p<sub>N</sub></i><br>N/mm <sup>2</sup> | <i>I</i><br>kgm <sup>2</sup> | <i>Weight</i><br>kg |
|----------------|----------------------------|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|------------------|----------|------------|--------------|---------------------------------------------|-------------------------------------------|------------------------------|---------------------|
| 20             | 18                         | 78                           | 47             | 10             | 2              | 14             | 34             | 22             | 3                          | 4                | M 5 x 14 | 933        | 8.8          | 12100                                       | 155                                       | 0,000424                     | 0,13                |
| 24             | 20                         | 80                           | 52             | 10             | 2,5            | 15             | 39,5           | 26             | 3                          | 5                | M 5 x 14 | 933        | 8.8          | 11000                                       | 161                                       | 0,000697                     | 0,17                |
| 25             | 21                         | 88                           | 56             | 10             | 2,5            | 15             | 43             | 30             | 3                          | 5                | M 5 x 14 | 933        | 8.8          | 10200                                       | 155                                       | 0,000940                     | 0,20                |
| 28             | 24                         | 110                          | 56             | 10             | 2,5            | 15             | 43             | 30             | 3                          | 5                | M 5 x 14 | 933        | 8.8          | 10200                                       | 138                                       | 0,000931                     | 0,19                |
| 29             | 25                         | 110                          | 58             | 10             | 2,5            | 15             | 44,5           | 31,5           | 3                          | 5                | M 5 x 14 | 933        | 8.8          | 9800                                        | 133                                       | 0,001051                     | 0,20                |
| 30             | 26                         | 120                          | 58             | 10             | 2,5            | 15             | 44,5           | 31,5           | 3                          | 5                | M 5 x 14 | 933        | 8.8          | 9800                                        | 129                                       | 0,001066                     | 0,20                |
| 31             | 28                         | 160                          | 60             | 10             | 2,5            | 15             | 46             | 33             | 3                          | 5                | M 5 x 14 | 933        | 8.8          | 9500                                        | 125                                       | 0,001197                     | 0,21                |
| 35             | 30                         | 180                          | 64             | 10             | 2,5            | 15             | 50             | 36,5           | 3                          | 6                | M 5 x 14 | 933        | 8.8          | 8900                                        | 133                                       | 0,001530                     | 0,23                |
| 36             | 31                         | 170                          | 66             | 10             | 2,5            | 15             | 52             | 38,5           | 3                          | 6                | M 5 x 14 | 933        | 8.8          | 8600                                        | 129                                       | 0,001766                     | 0,25                |
| 37             | 32                         | 180                          | 66             | 10             | 2,5            | 15             | 52             | 38,5           | 3                          | 6                | M 5 x 14 | 933        | 8.8          | 8600                                        | 125                                       | 0,001718                     | 0,24                |
| 38             | 33                         | 290                          | 68             | 10             | 2,5            | 15             | 55             | 41,5           | 4                          | 6                | M 5 x 14 | 933        | 8.8          | 8400                                        | 163                                       | 0,001972                     | 0,26                |
| 40             | 35                         | 310                          | 68             | 10             | 2,5            | 15             | 55             | 41,5           | 4                          | 6                | M 5 x 14 | 933        | 8.8          | 8400                                        | 155                                       | 0,001867                     | 0,24                |
| 42             | 37                         | 370                          | 75             | 14             | 2,5            | 19             | 58             | 44             | 4                          | 7                | M 5 x 16 | 933        | 8.8          | 7600                                        | 123                                       | 0,003510                     | 0,38                |
| 46             | 40                         | 460                          | 80             | 14             | 2,5            | 19             | 63             | 49             | 4                          | 8                | M 5 x 16 | 933        | 8.8          | 7100                                        | 128                                       | 0,004471                     | 0,42                |
| 47             | 42                         | 530                          | 80             | 14             | 2,5            | 19             | 63             | 49             | 4                          | 8                | M 5 x 16 | 933        | 8.8          | 7100                                        | 125                                       | 0,004412                     | 0,41                |
| 48             | 43                         | 550                          | 86             | 14             | 2,5            | 19             | 68,5           | 53,5           | 4                          | 8                | M 5 x 16 | 933        | 8.8          | 6600                                        | 123                                       | 0,006062                     | 0,50                |
| 51             | 45                         | 550                          | 86             | 14             | 2,5            | 19             | 68,5           | 53,5           | 4                          | 8                | M 5 x 16 | 933        | 8.8          | 6600                                        | 115                                       | 0,005873                     | 0,47                |
| 55             | 49                         | 710                          | 91             | 14             | 2,5            | 19             | 73             | 59             | 4                          | 9                | M 5 x 16 | 933        | 8.8          | 6200                                        | 120                                       | 0,007349                     | 0,52                |
| 56             | 50                         | 730                          | 91             | 14             | 2,5            | 19             | 73             | 59             | 4                          | 9                | M 5 x 16 | 933        | 8.8          | 6200                                        | 118                                       | 0,007278                     | 0,51                |
| 58             | 52                         | 710                          | 93             | 14             | 2,5            | 19             | 74             | 60             | 4                          | 9                | M 5 x 16 | 933        | 8.8          | 6100                                        | 114                                       | 0,007808                     | 0,52                |
| 59             | 53                         | 840                          | 96             | 14             | 2,5            | 19             | 77             | 63             | 4                          | 10               | M 5 x 16 | 933        | 8.8          | 5900                                        | 125                                       | 0,009047                     | 0,57                |
| 60             | 54                         | 860                          | 96             | 14             | 2,5            | 19             | 77             | 63             | 4                          | 10               | M 5 x 16 | 933        | 8.8          | 5900                                        | 123                                       | 0,008811                     | 0,55                |
| 61             | 55                         | 880                          | 96             | 14             | 2,5            | 19             | 77             | 63             | 4                          | 10               | M 5 x 16 | 933        | 8.8          | 5900                                        | 121                                       | 0,008732                     | 0,54                |
| 65             | 59                         | 970                          | 100            | 14             | 2,5            | 19             | 82             | 68             | 4                          | 10               | M 5 x 16 | 933        | 8.8          | 5700                                        | 113                                       | 0,010135                     | 0,57                |
| 66             | 60                         | 990                          | 100            | 14             | 2,5            | 19             | 82             | 68             | 4                          | 10               | M 5 x 16 | 933        | 8.8          | 5700                                        | 112                                       | 0,010049                     | 0,56                |
| 69             | 63                         | 1500                         | 105            | 18             | 3              | 24             | 87             | 73             | 6                          | 10               | M 5 x 20 | 933        | 10.9         | 5400                                        | 117                                       | 0,015194                     | 0,77                |
| 70             | 65                         | 1600                         | 110            | 18             | 3              | 24             | 90             | 76             | 6                          | 10               | M 5 x 20 | 933        | 10.9         | 5200                                        | 115                                       | 0,018912                     | 0,89                |
| 72             | 67                         | 1600                         | 110            | 18             | 3              | 24             | 90             | 76             | 6                          | 10               | M 5 x 20 | 933        | 10.9         | 5200                                        | 112                                       | 0,018364                     | 0,85                |
| 73             | 68                         | 1700                         | 110            | 18             | 3              | 24             | 90             | 76             | 6                          | 10               | M 5 x 20 | 933        | 10.9         | 5200                                        | 110                                       | 0,018300                     | 0,84                |
| 75             | 70                         | 1700                         | 114            | 18             | 3              | 24             | 93             | 78,5           | 6                          | 10               | M 5 x 20 | 933        | 10.9         | 5000                                        | 107                                       | 0,021181                     | 0,91                |
| 78             | 70                         | 1900                         | 120            | 18             | 3              | 24             | 101            | 86             | 6                          | 12               | M 5 x 20 | 933        | 10.9         | 4700                                        | 124                                       | 0,025605                     | 1,0                 |
| 81             | 73                         | 2000                         | 120            | 18             | 3              | 24             | 101            | 86             | 6                          | 12               | M 5 x 20 | 933        | 10.9         | 4700                                        | 119                                       | 0,026201                     | 1,0                 |
| 83             | 75                         | 2100                         | 120            | 18             | 3              | 24             | 101            | 86             | 6                          | 12               | M 5 x 20 | 933        | 10.9         | 4700                                        | 116                                       | 0,024748                     | 0,93                |
| 85             | 77                         | 2400                         | 128            | 22             | 3              | 28             | 105            | 88,5           | 12                         | 8                | M 6 x 25 | 933        | 10.9         | 4400                                        | 103                                       | 0,038365                     | 1,3                 |
| 88             | 80                         | 2500                         | 130            | 22             | 3              | 28             | 108            | 91,5           | 12                         | 8                | M 6 x 25 | 933        | 10.9         | 4400                                        | 99                                        | 0,040046                     | 1,3                 |
| 94             | 85                         | 2500                         | 140            | 22             | 3              | 28             | 119            | 102,5          | 12                         | 8                | M 6 x 25 | 933        | 10.9         | 4000                                        | 93                                        | 0,053318                     | 1,5                 |
| 95             | 86                         | 2500                         | 140            | 22             | 3              | 28             | 119            | 102,5          | 12                         | 8                | M 6 x 25 | 933        | 10.9         | 4000                                        | 92                                        | 0,053672                     | 1,5                 |
| 98             | 90                         | 2800                         | 140            | 22             | 3              | 28             | 119            | 102,5          | 12                         | 8                | M 6 x 25 | 933        | 10.9         | 4000                                        | 89                                        | 0,051107                     | 1,4                 |
| 99             | 91                         | 2800                         | 140            | 22             | 3              | 28             | 119            | 102,5          | 12                         | 8                | M 6 x 25 | 933        | 10.9         | 4000                                        | 88                                        | 0,051452                     | 1,4                 |
| 100            | 92                         | 2900                         | 140            | 22             | 3              | 28             | 119            | 102,5          | 12                         | 8                | M 6 x 25 | 933        | 10.9         | 4000                                        | 87                                        | 0,051800                     | 1,4                 |
| 103            | 95                         | 3400                         | 150            | 22             | 3              | 28             | 128            | 111,5          | 12                         | 9                | M 6 x 25 | 933        | 10.9         | 3800                                        | 95                                        | 0,070357                     | 1,7                 |
| 104            | 96                         | 3500                         | 150            | 22             | 3              | 28             | 128            | 111,5          | 12                         | 9                | M 6 x 25 | 933        | 10.9         | 3800                                        | 95                                        | 0,070796                     | 1,7                 |
| 105            | 97                         | 3500                         | 150            | 22             | 3              | 28             | 128            | 111,5          | 12                         | 9                | M 6 x 25 | 933        | 10.9         | 3800                                        | 94                                        | 0,067050                     | 1,6                 |
| 108            | 100                        | 3700                         | 150            | 22             | 3              | 28             | 128            | 111,5          | 12                         | 9                | M 6 x 25 | 933        | 10.9         | 3800                                        | 91                                        | 0,064058                     | 1,5                 |
| 112            | 104                        | 3800                         | 158            | 22             | 3              | 28             | 135            | 118,5          | 12                         | 9                | M 6 x 25 | 933        | 10.9         | 3600                                        | 88                                        | 0,084393                     | 1,8                 |
| 115            | 107                        | 4000                         | 158            | 22             | 3              | 28             | 135            | 118,5          | 12                         | 9                | M 6 x 25 | 933        | 10.9         | 3600                                        | 85                                        | 0,081152                     | 1,7                 |

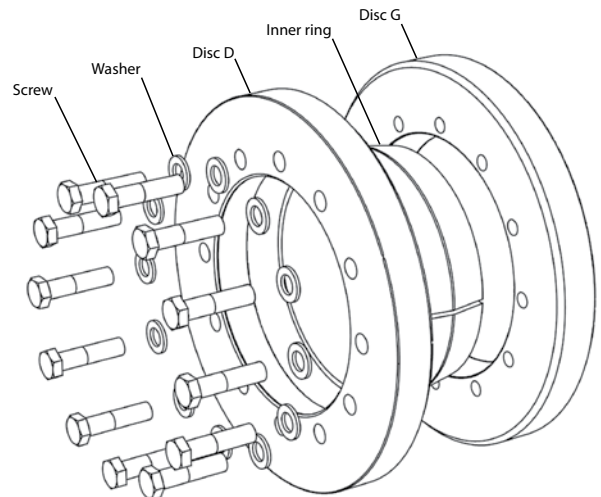
| <i>d</i><br>mm | <i>d<sub>w</sub></i><br>mm | <i>M<sub>max</sub></i><br>Nm | <i>D</i><br>mm | <i>l</i><br>mm | <i>e</i><br>mm | <i>H</i><br>mm | <i>A</i><br>mm | <i>B</i><br>mm | <i>M<sub>A</sub></i><br>Nm | <i>Z</i><br>Pcs. | <i>S</i> | <i>DIN</i> | <i>Class</i> | <i>n<sub>max</sub></i><br>min <sup>-1</sup> | <i>p<sub>N</sub></i><br>N/mm <sup>2</sup> | <i>I</i><br>kgm <sup>2</sup> | <i>Weight</i><br>kg |
|----------------|----------------------------|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|------------------|----------|------------|--------------|---------------------------------------------|-------------------------------------------|------------------------------|---------------------|
| 120            | 110                        | 4300                         | 164            | 25             | 3,5            | 32             | 141            | 123,5          | 12                         | 10               | M 6 x 25 | 933        | 10.9         | 3400                                        | 80                                        | 0,0103240                    | 2,0                 |
| 125            | 115                        | 4600                         | 169            | 25             | 3,5            | 32             | 146            | 128,5          | 12                         | 10               | M 6 x 25 | 933        | 10.9         | 3300                                        | 77                                        | 0,0115988                    | 2,1                 |
| 130            | 120                        | 6000                         | 179            | 25             | 3,5            | 32             | 156            | 138,5          | 12                         | 12               | M 6 x 25 | 933        | 10.9         | 3200                                        | 89                                        | 0,0146823                    | 2,4                 |
| 135            | 125                        | 6200                         | 179            | 25             | 3,5            | 32             | 156            | 138,5          | 12                         | 12               | M 6 x 25 | 933        | 10.9         | 3200                                        | 85                                        | 0,0138232                    | 2,2                 |
| 138            | 128                        | 6400                         | 182            | 25             | 3,5            | 32             | 161            | 143,5          | 12                         | 12               | M 6 x 25 | 933        | 10.9         | 3100                                        | 84                                        | 0,0149983                    | 2,3                 |
| 140            | 130                        | 6500                         | 182            | 25             | 3,5            | 32             | 161            | 143,5          | 12                         | 12               | M 6 x 25 | 933        | 10.9         | 3100                                        | 82                                        | 0,0144991                    | 2,2                 |
| 145            | 135                        | 6800                         | 194            | 25             | 3,5            | 32             | 171            | 153,5          | 12                         | 12               | M 6 x 25 | 933        | 10.9         | 2900                                        | 80                                        | 0,0197981                    | 2,7                 |
| 150            | 140                        | 7100                         | 194            | 25             | 3,5            | 32             | 171            | 153,5          | 12                         | 12               | M 6 x 25 | 933        | 10.9         | 2900                                        | 77                                        | 0,0180408                    | 2,4                 |
| 160            | 150                        | 7700                         | 204            | 25             | 3,5            | 32             | 181            | 163,5          | 12                         | 12               | M 6 x 25 | 933        | 10.9         | 2800                                        | 72                                        | 0,0218452                    | 2,6                 |
| 166            | 156                        | 7900                         | 210            | 25             | 3,5            | 32             | 187            | 169,5          | 12                         | 12               | M 6 x 25 | 933        | 10.9         | 2700                                        | 69                                        | 0,0241839                    | 2,7                 |
| 167            | 157                        | 9500                         | 214            | 25             | 3,5            | 32             | 191            | 173,5          | 12                         | 14               | M 6 x 25 | 933        | 10.9         | 2600                                        | 81                                        | 0,0267108                    | 2,9                 |
| 170            | 160                        | 9700                         | 214            | 25             | 3,5            | 32             | 191            | 173,5          | 12                         | 14               | M 6 x 25 | 933        | 10.9         | 2600                                        | 79                                        | 0,0252099                    | 2,7                 |
| 173            | 163                        | 9900                         | 220            | 25             | 3,5            | 32             | 196            | 178,5          | 12                         | 14               | M 6 x 25 | 933        | 10.9         | 2600                                        | 78                                        | 0,0293734                    | 3,0                 |
| 175            | 165                        | 10100                        | 220            | 25             | 3,5            | 32             | 196            | 178,5          | 12                         | 14               | M 6 x 25 | 933        | 10.9         | 2600                                        | 77                                        | 0,0286466                    | 2,9                 |
| 180            | 170                        | 10400                        | 225            | 25             | 3,5            | 32             | 201            | 183,5          | 12                         | 14               | M 6 x 25 | 933        | 10.9         | 2500                                        | 75                                        | 0,0300966                    | 2,9                 |
| 185            | 175                        | 11600                        | 230            | 25             | 3,5            | 32             | 206            | 188,5          | 12                         | 15               | M 6 x 25 | 933        | 10.9         | 2400                                        | 78                                        | 0,0326719                    | 3,0                 |
| 192            | 180                        | 11500                        | 240            | 28             | 3,5            | 35             | 220            | 200,5          | 12                         | 15               | M 6 x 30 | 933        | 10.9         | 2300                                        | 67                                        | 0,0436896                    | 3,7                 |
| 195            | 183                        | 11600                        | 240            | 28             | 3,5            | 35             | 220            | 200,5          | 12                         | 15               | M 6 x 30 | 933        | 10.9         | 2300                                        | 66                                        | 0,0418359                    | 3,5                 |
| 198            | 186                        | 12700                        | 250            | 28             | 3,5            | 35             | 225            | 206            | 12                         | 16               | M 6 x 30 | 933        | 10.9         | 2200                                        | 69                                        | 0,0533946                    | 4,2                 |
| 202            | 190                        | 13100                        | 250            | 28             | 3,5            | 35             | 225            | 206            | 12                         | 16               | M 6 x 30 | 933        | 10.9         | 2200                                        | 68                                        | 0,0503607                    | 3,9                 |
| 212            | 200                        | 13900                        | 260            | 28             | 3,5            | 35             | 235            | 216            | 12                         | 16               | M 6 x 30 | 933        | 10.9         | 2200                                        | 65                                        | 0,0576788                    | 4,1                 |
| 214            | 202                        | 16000                        | 270            | 28             | 3,5            | 35             | 245            | 226            | 12                         | 18               | M 6 x 30 | 933        | 10.9         | 2100                                        | 72                                        | 0,0727013                    | 4,9                 |
| 215            | 203                        | 16100                        | 270            | 28             | 3,5            | 35             | 245            | 226            | 12                         | 18               | M 6 x 30 | 933        | 10.9         | 2100                                        | 72                                        | 0,0714750                    | 4,8                 |
| 220            | 208                        | 16600                        | 270            | 28             | 3,5            | 35             | 245            | 226            | 12                         | 18               | M 6 x 30 | 933        | 10.9         | 2100                                        | 70                                        | 0,0667150                    | 4,4                 |
| 222            | 210                        | 16700                        | 270            | 28             | 3,5            | 35             | 245            | 226            | 12                         | 18               | M 6 x 30 | 933        | 10.9         | 2100                                        | 70                                        | 0,0641466                    | 4,2                 |
| 230            | 218                        | 17500                        | 280            | 28             | 3,5            | 35             | 255            | 236            | 12                         | 18               | M 6 x 30 | 933        | 10.9         | 2000                                        | 67                                        | 0,0754975                    | 4,6                 |
| 232            | 220                        | 17700                        | 280            | 28             | 3,5            | 35             | 255            | 236            | 12                         | 18               | M 6 x 30 | 933        | 10.9         | 2000                                        | 67                                        | 0,0727232                    | 4,4                 |
| 235            | 223                        | 17900                        | 290            | 28             | 3,5            | 35             | 265            | 246            | 12                         | 18               | M 6 x 30 | 933        | 10.9         | 1900                                        | 66                                        | 0,0905613                    | 5,2                 |
| 236            | 224                        | 18000                        | 290            | 28             | 3,5            | 35             | 265            | 246            | 12                         | 18               | M 6 x 30 | 933        | 10.9         | 1900                                        | 65                                        | 0,0891199                    | 5,1                 |
| 242            | 230                        | 18600                        | 290            | 28             | 3,5            | 35             | 265            | 246            | 12                         | 18               | M 6 x 30 | 933        | 10.9         | 1900                                        | 64                                        | 0,0820318                    | 4,6                 |
| 252            | 240                        | 19500                        | 300            | 28             | 3,5            | 35             | 276            | 256            | 12                         | 18               | M 6 x 30 | 933        | 10.9         | 1900                                        | 61                                        | 0,0901836                    | 4,7                 |
| 257            | 245                        | 22400                        | 310            | 28             | 3,5            | 35             | 286            | 266            | 12                         | 20               | M 6 x 30 | 933        | 10.9         | 1800                                        | 67                                        | 0,1094506                    | 5,4                 |
| 262            | 250                        | 22900                        | 310            | 28             | 3,5            | 35             | 286            | 266            | 12                         | 20               | M 6 x 30 | 933        | 10.9         | 1800                                        | 66                                        | 0,1009057                    | 4,9                 |
| 266            | 254                        | 25600                        | 325            | 28             | 3,5            | 35             | 291            | 271            | 12                         | 22               | M 6 x 30 | 933        | 10.9         | 1700                                        | 71                                        | 0,1366953                    | 6,2                 |
| 278            | 265                        | 28900                        | 352            | 32             | 4              | 40             | 304            | 284            | 12                         | 24               | M 6 x 30 | 933        | 10.9         | 1600                                        | 65                                        | 0,2389108                    | 9,5                 |
| 280            | 267                        | 29200                        | 352            | 32             | 4              | 40             | 304            | 286            | 12                         | 24               | M 6 x 30 | 933        | 10.9         | 1600                                        | 64                                        | 0,2351784                    | 9,3                 |
| 298            | 283                        | 30600                        | 370            | 32             | 4              | 40             | 322            | 302            | 12                         | 24               | M 6 x 30 | 933        | 10.9         | 1500                                        | 60                                        | 0,2764874                    | 9,8                 |
| 300            | 285                        | 30900                        | 370            | 32             | 4              | 40             | 324            | 304            | 12                         | 24               | M 6 x 30 | 933        | 10.9         | 1500                                        | 60                                        | 0,2722800                    | 9,6                 |
| 310            | 285                        | 31000                        | 385            | 32             | 4              | 40             | 334            | 314            | 12                         | 26               | M 6 x 30 | 933        | 10.9         | 1400                                        | 63                                        | 0,3359469                    | 11                  |
| 335            | 300                        | 51800                        | 410            | 34             | 5              | 44             | 365            | 340            | 30                         | 20               | M 8 x 35 | 933        | 10.9         | 1300                                        | 88                                        | 0,3854469                    | 11                  |
| 350            | 320                        | 23700                        | 405            | 28             | 4,5            | 37             | 374,7          | 357            | 18                         | 15               | M 8 x 30 | 933        | 10.9         | 1400                                        | 46                                        | 0,2650356                    | 7,4                 |
| 360            | 330                        | 71400                        | 450            | 40             | 5              | 50             | 390            | 366            | 30                         | 24               | M 8 x 40 | 933        | 10.9         | 1200                                        | 83                                        | 0,7472250                    | 18                  |
| 370            | 340                        | 53500                        | 455            | 42             | 5              | 52             | 400            | 376            | 30                         | 18               | M 8 x 40 | 933        | 10.9         | 1200                                        | 58                                        | 0,7738312                    | 18                  |
| 380            | 340                        | 52000                        | 455            | 32             | 6              | 44             | 410            | 386            | 30                         | 18               | M 8 x 30 | 933        | 10.9         | 1200                                        | 74                                        | 0,6149938                    | 14                  |





## Used symbols

|           |                      |                                          |
|-----------|----------------------|------------------------------------------|
| $d$       | [mm]                 | Nominal diameter of the shrink disc      |
| $d_w$     | [mm]                 | Shaft diameter                           |
| $M_{max}$ | [Nm]                 | Maximal transmittable torque             |
| $D$       | [mm]                 | Outer diameter                           |
| $l$       | [mm]                 | Length of the inner ring                 |
| $e$       | [mm]                 | Excess length                            |
| $H$       | [mm]                 | Width of the shrink disc                 |
| $A$       | [mm]                 | Pitch circle diameter                    |
| $B$       | [mm]                 | Attachment size                          |
| $M_A$     | [Nm]                 | Tightening torque of the clamping screws |
| $Z$       |                      | Number of clamping screws                |
| $S$       |                      | Size of the clamping screws              |
| $n_{max}$ | [min <sup>-1</sup> ] | Permitted rotational frequency           |
| $p_N$     | [N/mm <sup>2</sup> ] | Moderate pressure to the hub             |
| $I$       | [kgm <sup>2</sup> ]  | Moment of inertia                        |



## Design of the shrink disc

$d < 140$  - Discs galvanized - without washers

$d \geq 140$  - Discs painted - with washers

Dimensions **H** & **e** in unlocked position

Hexagon head bolts are used as standard.

Upon request we provide all sized shrink discs with hexagon socket head bolts (Inbus). (See ordering information)

## Variation from the standard shaft diameter $d_w$

| ><br>mm | ≤<br>mm | minimal<br>-<br>mm | maximal<br>+<br>mm |
|---------|---------|--------------------|--------------------|
| 100     | 170     | -5                 | 5                  |
| 170     | 230     | -10                | 5                  |
| 230     | 320     | -10                | 10                 |
| 320     | 480     | -15                | 10                 |
| 480     | 510     | -20                | 10                 |

$$M = M_{max(Catalog)} \left( \frac{d_{w(target)}}{d_{w(Catalog)}} \right)^2$$

(see Basics - Calculation)

| min. yield strength $R_{p0.2}$ | N/mm <sup>2</sup> |
|--------------------------------|-------------------|
| Solid shaft                    | 290               |
| Hub                            | 350               |

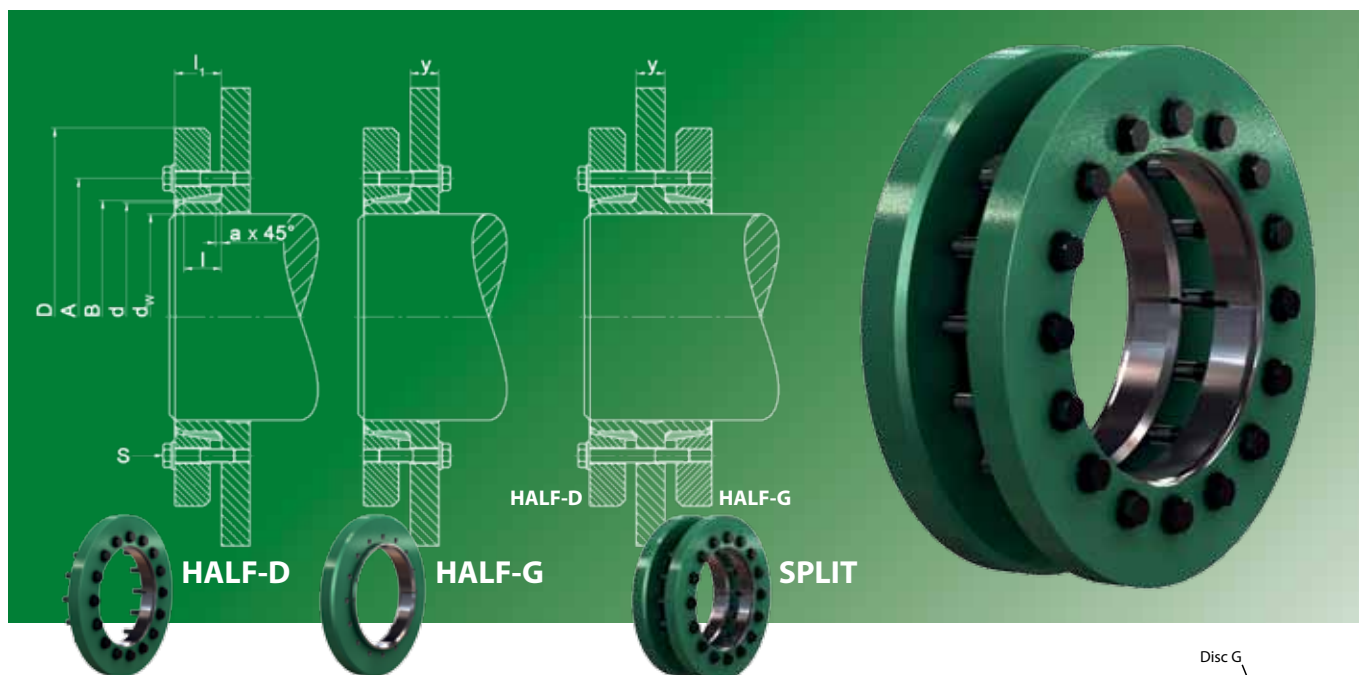
Ordering information: TAS 3051 -  $d$  (e.g.: TAS 3051-200 ... further sizes on request)  
with Inbus: TAS 3051 -  $d$  - Inbus (e.g.: TAS 3051-200-Inbus)

# 3051

Light-Range

| <i>d</i><br>mm | <i>d<sub>w</sub></i><br>mm | <i>M<sub>max</sub></i><br>Nm | <i>D</i><br>mm | <i>l</i><br>mm | <i>e</i><br>mm | <i>H</i><br>mm | <i>A</i><br>mm | <i>B</i><br>mm | <i>M<sub>A</sub></i><br>Nm | <i>Z</i><br>Stk | <i>S</i>   | <i>DIN</i> | <i>Class</i> | <i>n<sub>max</sub></i><br>min <sup>-1</sup> | <i>p<sub>N</sub></i><br>N/mm <sup>2</sup> | <i>I</i><br>kgm <sup>2</sup> | <i>Weight</i><br>kg |
|----------------|----------------------------|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|-----------------|------------|------------|--------------|---------------------------------------------|-------------------------------------------|------------------------------|---------------------|
| 120            | 100                        | 11900                        | 185            | 39             | 6              | 51             | 158            | 129            | 59                         | 8               | M 10 x 40  | 931        | 10.9         | 3000                                        | 169                                       | 0,0328219                    | 5,4                 |
| 125            | 100                        | 10900                        | 185            | 39             | 6              | 51             | 158            | 129            | 59                         | 8               | M 10 x 40  | 931        | 10.9         | 3000                                        | 163                                       | 0,0317794                    | 5,1                 |
| 140            | 120                        | 17300                        | 220            | 39             | 6              | 51             | 175            | 144            | 59                         | 9               | M 10 x 40  | 931        | 10.9         | 2600                                        | 163                                       | 0,0663000                    | 7,8                 |
| 155            | 135                        | 24800                        | 245            | 39             | 6              | 51             | 192            | 159            | 59                         | 11              | M 10 x 40  | 931        | 10.9         | 2300                                        | 180                                       | 0,1029612                    | 9,8                 |
| 165            | 140                        | 33100                        | 260            | 46             | 8              | 62             | 210            | 169            | 100                        | 10              | M 12 x 50  | 931        | 10.9         | 2200                                        | 190                                       | 0,1540906                    | 13                  |
| 175            | 150                        | 40000                        | 275            | 46             | 8              | 62             | 220            | 179            | 100                        | 11              | M 12 x 50  | 931        | 10.9         | 2000                                        | 198                                       | 0,1859375                    | 14                  |
| 185            | 160                        | 47000                        | 295            | 46             | 8              | 62             | 225            | 189            | 100                        | 12              | M 12 x 50  | 931        | 10.9         | 1900                                        | 204                                       | 0,2576562                    | 17                  |
| 195            | 170                        | 63400                        | 315            | 56             | 8              | 72             | 237            | 199            | 100                        | 15              | M 12 x 55  | 931        | 10.9         | 1800                                        | 199                                       | 0,3945938                    | 23                  |
| 200            | 180                        | 75700                        | 330            | 56             | 8              | 72             | 242            | 204            | 100                        | 16              | M 12 x 55  | 931        | 10.9         | 1700                                        | 207                                       | 0,4839250                    | 26                  |
| 220            | 190                        | 96500                        | 345            | 66             | 9              | 84             | 265            | 224            | 250                        | 10              | M 16 x 70  | 931        | 10.9         | 1600                                        | 205                                       | 0,6487719                    | 31                  |
| 240            | 210                        | 132000                       | 370            | 66             | 9              | 84             | 290            | 244            | 250                        | 12              | M 16 x 70  | 931        | 10.9         | 1500                                        | 226                                       | 0,8509                       | 35                  |
| 260            | 230                        | 172000                       | 395            | 72             | 10             | 92             | 310            | 265            | 250                        | 14              | M 16 x 70  | 931        | 10.9         | 1400                                        | 223                                       | 1,2299                       | 44                  |
| 280            | 240                        | 196000                       | 425            | 84             | 10             | 104            | 333            | 285            | 250                        | 16              | M 16 x 75  | 931        | 10.9         | 1300                                        | 203                                       | 1,8779                       | 58                  |
| 300            | 260                        | 243000                       | 460            | 84             | 10             | 104            | 358            | 305            | 250                        | 18              | M 16 x 75  | 931        | 10.9         | 1200                                        | 213                                       | 2,6013                       | 69                  |
| 320            | 280                        | 297000                       | 495            | 84             | 11             | 106            | 378            | 325            | 250                        | 20              | M 16 x 75  | 931        | 10.9         | 1100                                        | 222                                       | 3,6914                       | 85                  |
| 340            | 300                        | 339000                       | 535            | 84             | 11             | 106            | 402            | 345            | 250                        | 21              | M 16 x 75  | 931        | 10.9         | 1000                                        | 219                                       | 5,0730                       | 101                 |
| 350            | 300                        | 388000                       | 545            | 100            | 11             | 122            | 413            | 360            | 490                        | 16              | M 20 x 90  | 931        | 10.9         | 1000                                        | 213                                       | 6,0831                       | 116                 |
| 360            | 310                        | 404000                       | 555            | 100            | 11             | 122            | 423            | 365            | 490                        | 16              | M 20 x 90  | 931        | 10.9         | 1000                                        | 207                                       | 6,5097                       | 119                 |
| 380            | 330                        | 487000                       | 585            | 112            | 12             | 136            | 442            | 387            | 490                        | 18              | M 20 x 100 | 931        | 10.9         | 970                                         | 197                                       | 8,94                         | 147                 |
| 390            | 340                        | 564000                       | 595            | 112            | 12             | 136            | 452            | 397            | 490                        | 20              | M 20 x 100 | 931        | 10.9         | 960                                         | 214                                       | 9,49                         | 150                 |
| 400            | 350                        | 614000                       | 615            | 112            | 12             | 136            | 462            | 407            | 490                        | 21              | M 20 x 100 | 931        | 10.9         | 930                                         | 219                                       | 10,90                        | 162                 |
| 420            | 360                        | 643000                       | 630            | 120            | 12             | 144            | 485            | 427            | 490                        | 22              | M 20 x 100 | 931        | 10.9         | 900                                         | 204                                       | 12,47                        | 174                 |
| 440            | 380                        | 751000                       | 660            | 120            | 12             | 144            | 505            | 447            | 490                        | 24              | M 20 x 100 | 931        | 10.9         | 860                                         | 212                                       | 15,02                        | 191                 |
| 460            | 400                        | 934000                       | 685            | 132            | 13             | 158            | 527            | 468            | 490                        | 28              | M 20 x 110 | 931        | 10.9         | 830                                         | 215                                       | 19,23                        | 226                 |
| 480            | 420                        | 981000                       | 715            | 132            | 13             | 158            | 547            | 488            | 490                        | 28              | M 20 x 110 | 931        | 10.9         | 800                                         | 206                                       | 22,80                        | 246                 |
| 500            | 440                        | 1113000                      | 750            | 132            | 13             | 158            | 567            | 508            | 490                        | 30              | M 20 x 110 | 931        | 10.9         | 760                                         | 212                                       | 27,83                        | 274                 |
| 530            | 470                        | 1319000                      | 800            | 150            | 12,5           | 175            | 600            | 540            | 490                        | 33              | M 20 x 120 | 931        | 10.9         | 710                                         | 194                                       | 39,83                        | 346                 |
| 560            | 500                        | 1550000                      | 850            | 150            | 12,5           | 175            | 630            | 570            | 490                        | 36              | M 20 x 120 | 931        | 10.9         | 670                                         | 200                                       | 51,03                        | 394                 |
| 590            | 530                        | 1652000                      | 870            | 150            | 12,5           | 175            | 676            | 602            | 490                        | 36              | M 20 x 130 | 931        | 10.9         | 650                                         | 190                                       | 54,42                        | 394                 |
| 620            | 560                        | 1759000                      | 880            | 150            | 12,5           | 175            | 686            | 624            | 490                        | 36              | M 20 x 130 | 931        | 10.9         | 650                                         | 181                                       | 54,46                        | 376                 |

# 3051 HALF / SPLIT Light-Range



## Used symbols

|           |                      |                                          |
|-----------|----------------------|------------------------------------------|
| $d$       | [mm]                 | Nominal diameter of the shrink disc      |
| $d_w$     | [mm]                 | Shaft diameter                           |
| $M_{max}$ | [Nm]                 | Maximal transmittable torque             |
| $D$       | [mm]                 | Outer diameter                           |
| $l$       | [mm]                 | Length of the inner ring                 |
| $a$       | [mm]                 | Width of the chamfer on the inner ring   |
| $l_1$     | [mm]                 | Width of the shrink disc                 |
| $A$       | [mm]                 | Pitch circle diameter                    |
| $B$       | [mm]                 | Attachment size                          |
| $M_A$     | [Nm]                 | Tightening torque of the clamping screws |
| $Z$       |                      | Number of clamping screws                |
| $S$       |                      | Size of the clamping screws              |
| $n_{max}$ | [min <sup>-1</sup> ] | Permitted rotational frequency           |
| $p_N$     | [N/mm <sup>2</sup> ] | Moderate pressure to the hub             |
| $I$       | [kgm <sup>2</sup> ]  | Moment of inertia                        |

## Design of the shrink disc

$d < 140$  - Discs galvanized - without washers

$d \geq 140$  - Discs painted - with washers

Dimensions **H** & **e** in unlocked position

Deviation from the standard shaft diameter  $d_w$   
see the table „3051 Light-Range“  
and „Calculation of transmissible torques and forces“

Hexagon head bolts are used as standard.

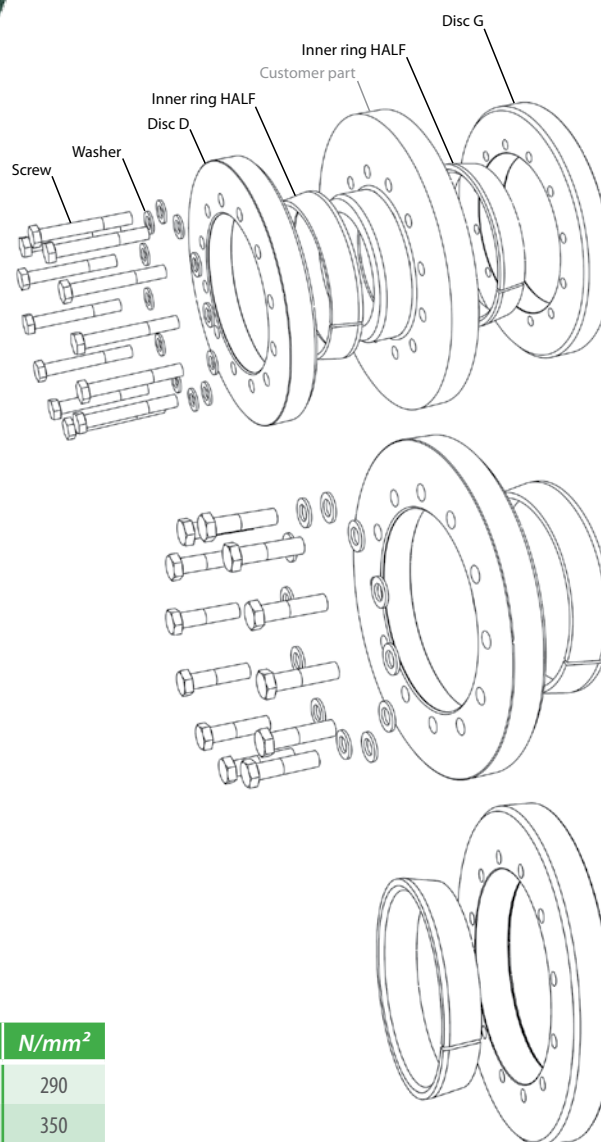
Upon request we provide all sized shrink discs with hexagon socket head bolts (Inbus). (See ordering information)

For **Typ** in ordering information:

**GET** means **SPLIT**

**HALB** means **HALF**

| min. yield strength $R_{p0.2}$ | N/mm <sup>2</sup> |
|--------------------------------|-------------------|
| Solid shaft                    | 290               |
| Hub                            | 350               |



**Ordering information:** TAS 3051Type -  $d$  -  $y$  (e.g.: TAS 3051GET-200-Y60 or TAS 3051HALB-G-200-Y30 or TAS 3051HALB-D-200)

with Inbus: TAS 3051Type -  $d$  -  $y$  - Inbus (e.g.: TAS 3051GET-200-Y60-Inbus etc.)

(Further sizes on request)

# 3051 HALF / SPLIT Light-Range

## Please note:

All values refer to shrink disk design **HALF**!

Please provide us the dimension of „y“ or the length of screws. Otherwise we can not provide appropriate screws!  
(see ordering information)

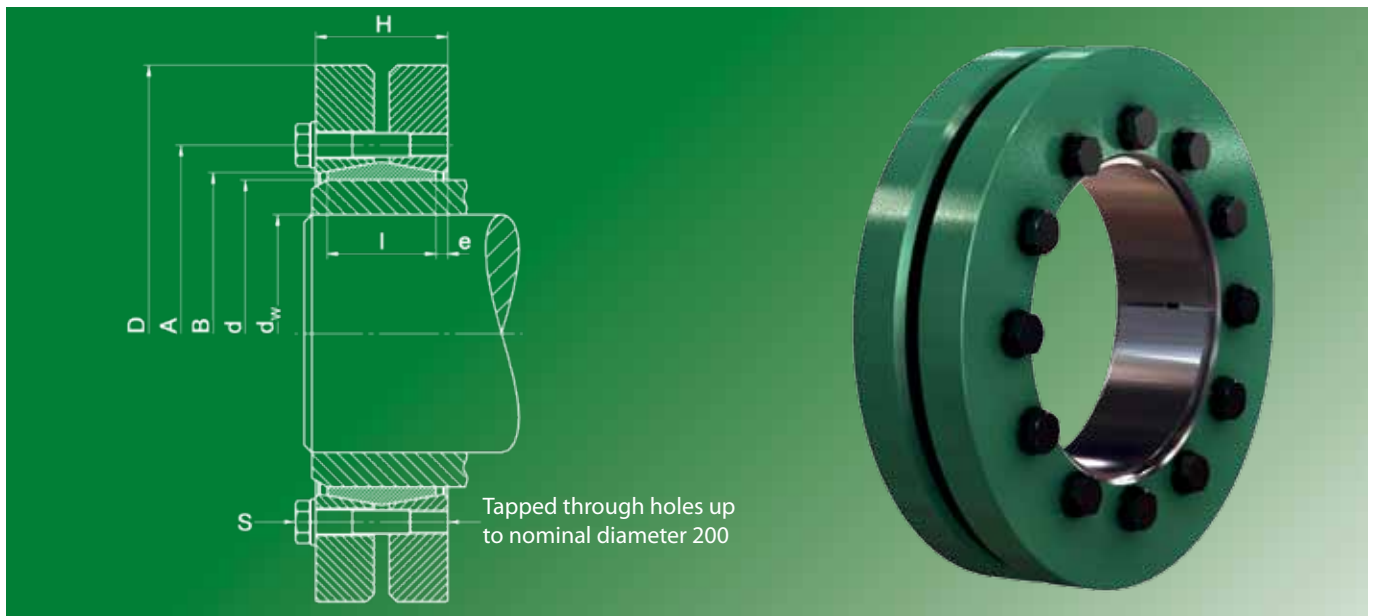
Applies to shrink disc design **HALF-G**:

- The required screw length is:  $\text{Screw length (3051 Light-Range)} - l_1 + 2a + y$  (rounded up to standard lengths)

Applies to shrink disc design **SPLIT**:

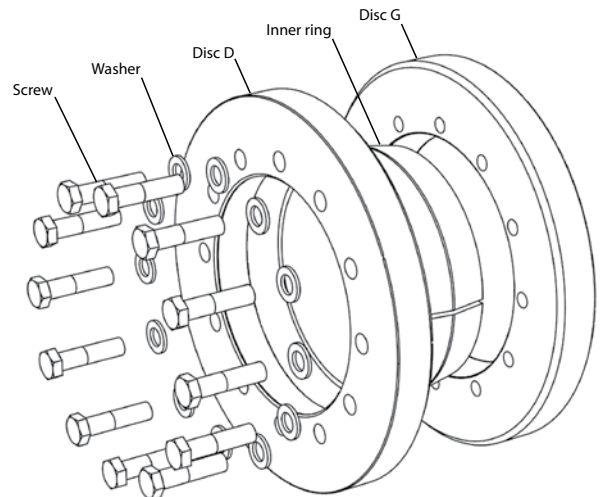
- The design consists of 1x **HALF-D** + 1x **HALF-G**
- Delivery is possible with or without screws
- Maximum transmittable torque:  $M_{ges} = 2 M_{max}$
- The required screw length:  $\text{Screw length (3051 Light-Range)} + 2a + y$  (rounded up to standard lengths)

| d<br>mm | d <sub>w</sub><br>mm | M <sub>max</sub><br>Nm | D<br>mm | l<br>mm | a<br>mm | l <sub>1</sub><br>mm | A<br>mm | B<br>mm | M <sub>A</sub><br>Nm | Z<br>Stk | HALF-D only          |            |     |       | n <sub>max</sub><br>min <sup>-1</sup> | p <sub>N</sub><br>N/mm <sup>2</sup> | I<br>kgm <sup>2</sup> | Weight<br>kg |
|---------|----------------------|------------------------|---------|---------|---------|----------------------|---------|---------|----------------------|----------|----------------------|------------|-----|-------|---------------------------------------|-------------------------------------|-----------------------|--------------|
|         |                      |                        |         |         |         |                      |         |         |                      |          | d <sub>B</sub><br>mm | S          | DIN | Class |                                       |                                     |                       |              |
| 120     | 100                  | 5900                   | 185     | 24,5    | 5       | 30,5                 | 158     | 129     | 59                   | 8        | 11                   | M 10 x 40  | 931 | 10.9  | 3000                                  | 169                                 | 0,0164109             | 2,7          |
| 125     | 100                  | 5400                   | 185     | 24,5    | 5       | 30,5                 | 158     | 129     | 59                   | 8        | 11                   | M 10 x 40  | 931 | 10.9  | 3000                                  | 163                                 | 0,0155781             | 2,5          |
| 140     | 120                  | 8600                   | 220     | 24,5    | 5       | 30,5                 | 175     | 144     | 59                   | 9        | 11                   | M 10 x 40  | 931 | 10.9  | 2600                                  | 163                                 | 0,0331500             | 3,9          |
| 155     | 135                  | 12400                  | 245     | 24,5    | 5       | 30,5                 | 192     | 159     | 59                   | 11       | 11                   | M 10 x 40  | 931 | 10.9  | 2300                                  | 180                                 | 0,0514806             | 4,9          |
| 165     | 140                  | 16500                  | 260     | 28      | 5       | 36                   | 210     | 169     | 100                  | 10       | 13,5                 | M 12 x 50  | 931 | 10.9  | 2200                                  | 190                                 | 0,0770453             | 6,5          |
| 175     | 150                  | 20000                  | 275     | 28      | 5       | 36                   | 220     | 179     | 100                  | 11       | 13,5                 | M 12 x 50  | 931 | 10.9  | 2000                                  | 198                                 | 0,0956250             | 7,2          |
| 185     | 160                  | 23500                  | 295     | 28      | 5       | 36                   | 225     | 189     | 100                  | 12       | 13,5                 | M 12 x 50  | 931 | 10.9  | 1900                                  | 204                                 | 0,1288281             | 8,5          |
| 195     | 170                  | 31700                  | 315     | 33      | 5       | 41                   | 237     | 199     | 100                  | 15       | 13,5                 | M 12 x 55  | 931 | 10.9  | 1800                                  | 199                                 | 0,2058750             | 12           |
| 200     | 180                  | 37800                  | 330     | 33      | 5       | 41                   | 242     | 204     | 100                  | 16       | 13,5                 | M 12 x 55  | 931 | 10.9  | 1700                                  | 207                                 | 0,2419625             | 13           |
| 220     | 190                  | 48200                  | 345     | 41      | 6       | 50                   | 265     | 224     | 250                  | 10       | 17,5                 | M 16 x 70  | 931 | 10.9  | 1600                                  | 205                                 | 0,3348500             | 16           |
| 240     | 210                  | 66100                  | 370     | 41      | 6       | 50                   | 290     | 244     | 250                  | 12       | 17,5                 | M 16 x 70  | 931 | 10.9  | 1500                                  | 226                                 | 0,4376250             | 18           |
| 260     | 230                  | 86200                  | 395     | 44      | 6       | 54                   | 310     | 265     | 250                  | 14       | 17,5                 | M 16 x 70  | 931 | 10.9  | 1400                                  | 223                                 | 0,6149687             | 22           |
| 280     | 240                  | 98100                  | 425     | 52      | 8       | 62                   | 333     | 285     | 250                  | 16       | 17,5                 | M 16 x 80  | 931 | 10.9  | 1300                                  | 203                                 | 0,9390                | 29           |
| 300     | 260                  | 121000                 | 460     | 52      | 8       | 62                   | 358     | 305     | 250                  | 18       | 17,5                 | M 16 x 80  | 931 | 10.9  | 1200                                  | 213                                 | 1,3195                | 35           |
| 320     | 280                  | 148000                 | 495     | 52      | 8       | 63                   | 378     | 325     | 250                  | 20       | 17,5                 | M 16 x 80  | 931 | 10.9  | 1100                                  | 222                                 | 1,8240                | 42           |
| 340     | 300                  | 169000                 | 535     | 52      | 8       | 63                   | 402     | 345     | 250                  | 21       | 17,5                 | M 16 x 80  | 931 | 10.9  | 1000                                  | 219                                 | 2,5616                | 51           |
| 350     | 300                  | 202000                 | 545     | 60      | 10      | 71                   | 413     | 360     | 490                  | 16       | 22                   | M 20 x 90  | 931 | 10.9  | 1000                                  | 213                                 | 3,0416                | 58           |
| 360     | 310                  | 202000                 | 555     | 60      | 10      | 71                   | 423     | 365     | 490                  | 16       | 22                   | M 20 x 90  | 931 | 10.9  | 1000                                  | 207                                 | 3,2275                | 59           |
| 380     | 330                  | 243000                 | 585     | 69      | 12      | 81                   | 442     | 387     | 490                  | 18       | 22                   | M 20 x 100 | 931 | 10.9  | 970                                   | 197                                 | 4,4405                | 73           |
| 390     | 340                  | 282000                 | 595     | 69      | 12      | 81                   | 452     | 397     | 490                  | 20       | 22                   | M 20 x 100 | 931 | 10.9  | 960                                   | 214                                 | 4,7449                | 75           |
| 400     | 350                  | 307000                 | 615     | 69      | 12      | 81                   | 462     | 407     | 490                  | 21       | 22                   | M 20 x 100 | 931 | 10.9  | 930                                   | 219                                 | 5,4495                | 81           |
| 420     | 360                  | 321000                 | 630     | 73      | 12      | 85                   | 485     | 427     | 490                  | 22       | 22                   | M 20 x 110 | 931 | 10.9  | 900                                   | 204                                 | 6,2346                | 87           |
| 440     | 380                  | 375000                 | 660     | 73      | 12      | 85                   | 505     | 447     | 490                  | 24       | 22                   | M 20 x 110 | 931 | 10.9  | 860                                   | 212                                 | 7,5504                | 96           |
| 460     | 400                  | 467000                 | 685     | 79      | 14      | 92                   | 527     | 468     | 490                  | 28       | 22                   | M 20 x 120 | 931 | 10.9  | 830                                   | 215                                 | 9,6167                | 113          |
| 480     | 420                  | 490000                 | 715     | 81      | 14      | 94                   | 547     | 488     | 490                  | 28       | 22                   | M 20 x 120 | 931 | 10.9  | 800                                   | 206                                 | 11,40                 | 123          |
| 500     | 440                  | 556000                 | 750     | 81      | 14      | 94                   | 567     | 508     | 490                  | 30       | 22                   | M 20 x 120 | 931 | 10.9  | 760                                   | 212                                 | 13,91                 | 137          |
| 530     | 470                  | 659000                 | 800     | 90      | 14      | 102,5                | 600     | 540     | 490                  | 33       | 22                   | M 20 x 120 | 931 | 10.9  | 710                                   | 194                                 | 19,91                 | 173          |
| 560     | 500                  | 775000                 | 850     | 90      | 14      | 102,5                | 630     | 570     | 490                  | 36       | 22                   | M 20 x 120 | 931 | 10.9  | 670                                   | 200                                 | 25,51                 | 197          |
| 590     | 530                  | 826000                 | 870     | 90      | 14      | 102,5                | 676     | 602     | 490                  | 36       | 22                   | M 20 x 130 | 931 | 10.9  | 650                                   | 190                                 | 27,21                 | 197          |
| 620     | 560                  | 879000                 | 880     | 90      | 14      | 102,5                | 686     | 624     | 490                  | 36       | 22                   | M 20 x 130 | 931 | 10.9  | 650                                   | 181                                 | 27,23                 | 188          |



## Used symbols

|           |                      |                                          |
|-----------|----------------------|------------------------------------------|
| $d$       | [mm]                 | Nominal diameter of the shrink disc      |
| $d_w$     | [mm]                 | Shaft diameter                           |
| $M_{max}$ | [Nm]                 | Maximal transmittable torque             |
| $D$       | [mm]                 | Outer diameter                           |
| $I$       | [mm]                 | Length of the inner ring                 |
| $e$       | [mm]                 | Excess length                            |
| $H$       | [mm]                 | Width of the shrink disc                 |
| $A$       | [mm]                 | Pitch circle diameter                    |
| $B$       | [mm]                 | Attachment size                          |
| $M_A$     | [Nm]                 | Tightening torque of the clamping screws |
| $Z$       |                      | Number of clamping screws                |
| $S$       |                      | Size of the clamping screws              |
| $n_{max}$ | [min <sup>-1</sup> ] | Permitted rotational frequency           |
| $p_N$     | [N/mm <sup>2</sup> ] | Moderate pressure to the hub             |
| $I$       | [kgm <sup>2</sup> ]  | Moment of inertia                        |



## Design of the shrink disc

$d < 115$  - Discs galvanized - without washers

$d \geq 110$  - Discs painted - with washers

Dimensions **H** & **e** in unlocked position

Hexagon head bolts are used as standard.

Upon request we provide all sized shrink discs with hexagon socket head bolts (Inbus). (See ordering information)

| min. yield strength $R_{p0.2}$ | N/mm <sup>2</sup> |
|--------------------------------|-------------------|
| Solid shaft                    | 290               |
| Hub                            | 350               |

## Variation from the standard shaft diameter $d_w$

| > mm | ≤ mm | minimal - mm | maximal + mm |
|------|------|--------------|--------------|
| 10   | 30   | -1           | 1            |
| 30   | 50   | -3           | 2            |
| 50   | 140  | -5           | 5            |
| 140  | 180  | -10          | 5            |
| 180  | 320  | -15          | 10           |
| 320  | 500  | -20          | 10           |
| 500  | 700  | -30          | 20           |
| 700  | 820  | -40          | 20           |

$$M = M_{max(Catalog)} \left( \frac{d_w(target)}{d_w(Catalog)} \right)^2$$

(see Basics - Calculation)

Ordering information: TAS 3071 -  $d$  (e.g.: TAS 3071-200 ... further sizes on request)  
with Inbus: TAS 3071 -  $d$  - Inbus (e.g.: TAS 3071-200-Inbus)

# 3071

Standard-Range

| <i>d</i><br>mm | <i>d<sub>w</sub></i><br>mm | <i>M<sub>max</sub></i><br>Nm | <i>D</i><br>mm | <i>l</i><br>mm | <i>e</i><br>mm | <i>H</i><br>mm | <i>A</i><br>mm | <i>B</i><br>mm | <i>M<sub>A</sub></i><br>Nm | <i>Z</i><br>Stk | <i>S</i>   | <i>DIN</i> | <i>Class</i> | <i>n<sub>max</sub></i><br>min <sup>-1</sup> | <i>p<sub>N</sub></i><br>N/mm <sup>2</sup> | <i>I</i><br>kgm <sup>2</sup> | <i>Weight</i><br>kg |
|----------------|----------------------------|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|-----------------|------------|------------|--------------|---------------------------------------------|-------------------------------------------|------------------------------|---------------------|
| 14             | 11                         | 27                           | 37             | 9              | 1,5            | 12             | 24             | 15             | 2,4                        | 3               | M 4 x 10   | 933        | 8.8          | 15400                                       | 254                                       | 0,0000137                    | 0,07                |
| 16             | 13                         | 59                           | 41             | 12             | 1,5            | 15             | 27             | 17             | 4,8                        | 3               | M 5 x 12   | 933        | 8.8          | 13900                                       | 240                                       | 0,0000266                    | 0,11                |
| 18             | 15                         | 110                          | 43             | 12             | 1,5            | 15             | 29             | 19             | 4,8                        | 4               | M 5 x 12   | 933        | 8.8          | 13300                                       | 285                                       | 0,0000326                    | 0,12                |
| 20             | 17                         | 220                          | 48             | 14             | 2,75           | 19,5           | 34             | 24             | 6                          | 5               | M 5 x 18   | 933        | 10.9         | 11900                                       | 322                                       | 0,0000642                    | 0,19                |
| 21             | 18                         | 240                          | 48             | 14             | 2,75           | 19,5           | 34             | 24             | 6                          | 5               | M 5 x 18   | 933        | 10.9         | 11900                                       | 307                                       | 0,0000618                    | 0,18                |
| 22             | 19                         | 250                          | 48             | 14             | 2,75           | 19,5           | 36             | 26             | 6                          | 5               | M 5 x 18   | 933        | 10.9         | 11900                                       | 293                                       | 0,0000627                    | 0,18                |
| 24             | 20                         | 300                          | 50             | 14             | 2,5            | 19             | 36             | 26             | 6                          | 6               | M 5 x 18   | 933        | 10.9         | 11400                                       | 322                                       | 0,0000731                    | 0,19                |
| 30             | 25                         | 360                          | 60             | 16             | 2,75           | 21,5           | 44             | 32             | 6                          | 6               | M 5 x 18   | 931        | 10.9         | 9500                                        | 225                                       | 0,0001687                    | 0,30                |
| 36             | 30                         | 640                          | 72             | 18             | 2,75           | 23,5           | 52             | 38             | 12                         | 5               | M 6 x 20   | 933        | 10.9         | 7900                                        | 231                                       | 0,0003888                    | 0,48                |
| 38             | 31                         | 910                          | 80             | 20             | 3              | 26             | 56             | 41             | 12                         | 7               | M 6 x 25   | 933        | 10.9         | 7100                                        | 275                                       | 0,0006569                    | 0,67                |
| 40             | 32                         | 740                          | 75             | 19             | 2,75           | 24,5           | 57             | 43             | 12                         | 6               | M 6 x 20   | 933        | 10.9         | 7600                                        | 236                                       | 0,0004967                    | 0,55                |
| 41             | 33                         | 940                          | 80             | 20             | 2,75           | 25,5           | 61             | 46             | 12                         | 7               | M 6 x 20   | 933        | 10.9         | 7100                                        | 255                                       | 0,0006465                    | 0,64                |
| 44             | 35                         | 970                          | 80             | 20             | 2,75           | 25,5           | 61             | 47             | 12                         | 7               | M 6 x 20   | 933        | 10.9         | 7100                                        | 238                                       | 0,0006356                    | 0,61                |
| 50             | 40                         | 1200                         | 90             | 22             | 3              | 28             | 70             | 53             | 12                         | 8               | M 6 x 25   | 933        | 10.9         | 6300                                        | 217                                       | 0,0010998                    | 0,83                |
| 55             | 45                         | 1500                         | 100            | 23             | 3,75           | 30,5           | 75             | 58             | 12                         | 8               | M 6 x 25   | 933        | 10.9         | 5700                                        | 189                                       | 0,0017909                    | 1,1                 |
| 62             | 50                         | 2100                         | 110            | 23             | 3,75           | 30,5           | 86             | 66             | 12                         | 10              | M 6 x 25   | 933        | 10.9         | 5200                                        | 210                                       | 0,0025909                    | 1,3                 |
| 68             | 55                         | 2200                         | 115            | 23             | 3,75           | 30,5           | 86             | 72             | 12                         | 10              | M 6 x 25   | 933        | 10.9         | 4900                                        | 191                                       | 0,0031236                    | 1,4                 |
| 75             | 60                         | 3600                         | 138            | 25             | 3,75           | 32,5           | 100            | 79             | 30                         | 7               | M 8 x 30   | 933        | 10.9         | 4100                                        | 233                                       | 0,0070923                    | 2,3                 |
| 80             | 65                         | 4100                         | 145            | 25             | 3,75           | 32,5           | 100            | 84             | 30                         | 7               | M 8 x 30   | 933        | 10.9         | 3900                                        | 218                                       | 0,0085703                    | 2,5                 |
| 90             | 70                         | 6000                         | 155            | 30             | 4,5            | 39             | 114            | 94             | 30                         | 10              | M 8 x 35   | 931        | 10.9         | 3600                                        | 231                                       | 0,0132516                    | 3,3                 |
| 100            | 75                         | 7300                         | 170            | 34             | 5              | 44             | 124            | 104            | 30                         | 12              | M 8 x 35   | 931        | 10.9         | 3300                                        | 220                                       | 0,0213950                    | 4,4                 |
| 110            | 80                         | 8900                         | 185            | 39             | 5,5            | 50             | 136            | 114            | 59                         | 9               | M 10 x 40  | 931        | 10.9         | 3000                                        | 208                                       | 0,0347437                    | 6,0                 |
| 115            | 80                         | 9300                         | 200            | 40             | 5              | 50             | 150            | 124            | 59                         | 10              | M 10 x 40  | 931        | 10.9         | 2800                                        | 215                                       | 0,0485678                    | 7,3                 |
| 120            | 85                         | 9600                         | 200            | 40             | 5              | 50             | 150            | 124            | 59                         | 10              | M 10 x 40  | 931        | 10.9         | 2800                                        | 206                                       | 0,0476000                    | 7,0                 |
| 125            | 90                         | 13100                        | 215            | 42             | 6              | 54             | 160            | 134            | 59                         | 12              | M 10 x 40  | 931        | 10.9         | 2600                                        | 226                                       | 0,0672619                    | 8,7                 |
| 140            | 100                        | 17900                        | 230            | 46             | 7,25           | 60,5           | 175            | 146            | 100                        | 10              | M 12 x 45  | 931        | 10.9         | 2400                                        | 224                                       | 0,0996875                    | 11                  |
| 155            | 110                        | 23900                        | 265            | 50             | 7,25           | 64,5           | 192            | 165            | 100                        | 12              | M 12 x 50  | 931        | 10.9         | 2100                                        | 224                                       | 0,1885000                    | 16                  |
| 165            | 120                        | 38700                        | 290            | 56             | 7,5            | 71             | 210            | 175            | 250                        | 8               | M 16 x 55  | 931        | 10.9         | 1900                                        | 258                                       | 0,3061438                    | 22                  |
| 175            | 130                        | 42600                        | 300            | 56             | 7,5            | 71             | 220            | 185            | 250                        | 8               | M 16 x 55  | 931        | 10.9         | 1900                                        | 243                                       | 0,3467969                    | 23                  |
| 185            | 140                        | 59000                        | 330            | 71             | 7,5            | 86             | 236            | 195            | 250                        | 10              | M 16 x 70  | 931        | 10.9         | 1700                                        | 227                                       | 0,6261719                    | 35                  |
| 195            | 150                        | 79500                        | 350            | 71             | 7,5            | 86             | 246            | 210            | 250                        | 12              | M 16 x 70  | 931        | 10.9         | 1600                                        | 258                                       | 0,8026250                    | 40                  |
| 200            | 155                        | 81700                        | 350            | 71             | 7,5            | 86             | 246            | 210            | 250                        | 12              | M 16 x 70  | 931        | 10.9         | 1600                                        | 252                                       | 0,7921875                    | 39                  |
| 220            | 165                        | 103000                       | 370            | 88             | 8              | 104            | 270            | 230            | 250                        | 15              | M 16 x 80  | 931        | 10.9         | 1500                                        | 231                                       | 1,1813                       | 51                  |
| 240            | 180                        | 144000                       | 405            | 92             | 8,5            | 109            | 295            | 248            | 490                        | 12              | M 20 x 80  | 931        | 10.9         | 1400                                        | 254                                       | 1,7730                       | 64                  |
| 245            | 185                        | 147000                       | 410            | 95             | 8              | 111            | 298            | 251            | 490                        | 12              | M 20 x 80  | 931        | 10.9         | 1300                                        | 241                                       | 1,9105                       | 67                  |
| 260            | 190                        | 170000                       | 440            | 103            | 8,5            | 120            | 321            | 268            | 490                        | 14              | M 20 x 90  | 931        | 10.9         | 1300                                        | 244                                       | 2,7426                       | 84                  |
| 280            | 210                        | 224000                       | 460            | 114            | 10             | 134            | 346            | 288            | 490                        | 16              | M 20 x 100 | 931        | 10.9         | 1200                                        | 234                                       | 3,5888                       | 99                  |
| 300            | 230                        | 287000                       | 485            | 122            | 10             | 142            | 364            | 308            | 490                        | 18              | M 20 x 100 | 931        | 10.9         | 1100                                        | 230                                       | 4,6751                       | 115                 |
| 320            | 240                        | 326000                       | 520            | 122            | 10             | 142            | 386            | 328            | 490                        | 20              | M 20 x 100 | 931        | 10.9         | 1100                                        | 239                                       | 6,1978                       | 133                 |
| 340            | 250                        | 401000                       | 570            | 134            | 11             | 156            | 408            | 348            | 490                        | 24              | M 20 x 110 | 931        | 10.9         | 1000                                        | 246                                       | 10,08                        | 183                 |
| 350            | 270                        | 456000                       | 580            | 140            | 11             | 162            | 432            | 358            | 490                        | 24              | M 20 x 110 | 931        | 10.9         | 980                                         | 229                                       | 11,07                        | 193                 |
| 360            | 290                        | 519000                       | 590            | 140            | 11             | 162            | 432            | 368            | 490                        | 24              | M 20 x 110 | 931        | 10.9         | 970                                         | 222                                       | 11,76                        | 197                 |
| 380            | 300                        | 635000                       | 645            | 144            | 12             | 168            | 458            | 387            | 840                        | 20              | M 24 x 120 | 931        | 10.9         | 880                                         | 245                                       | 17,86                        | 255                 |
| 390            | 310                        | 697000                       | 660            | 144            | 12             | 168            | 468            | 397            | 840                        | 21              | M 24 x 120 | 931        | 10.9         | 860                                         | 251                                       | 19,54                        | 266                 |
| 400            | 320                        | 722000                       | 680            | 144            | 12             | 168            | 480            | 407            | 840                        | 21              | M 24 x 120 | 931        | 10.9         | 840                                         | 245                                       | 22,10                        | 284                 |
| 420            | 340                        | 891000                       | 690            | 164            | 12             | 188            | 504            | 427            | 840                        | 24              | M 24 x 130 | 931        | 10.9         | 830                                         | 234                                       | 25,94                        | 318                 |

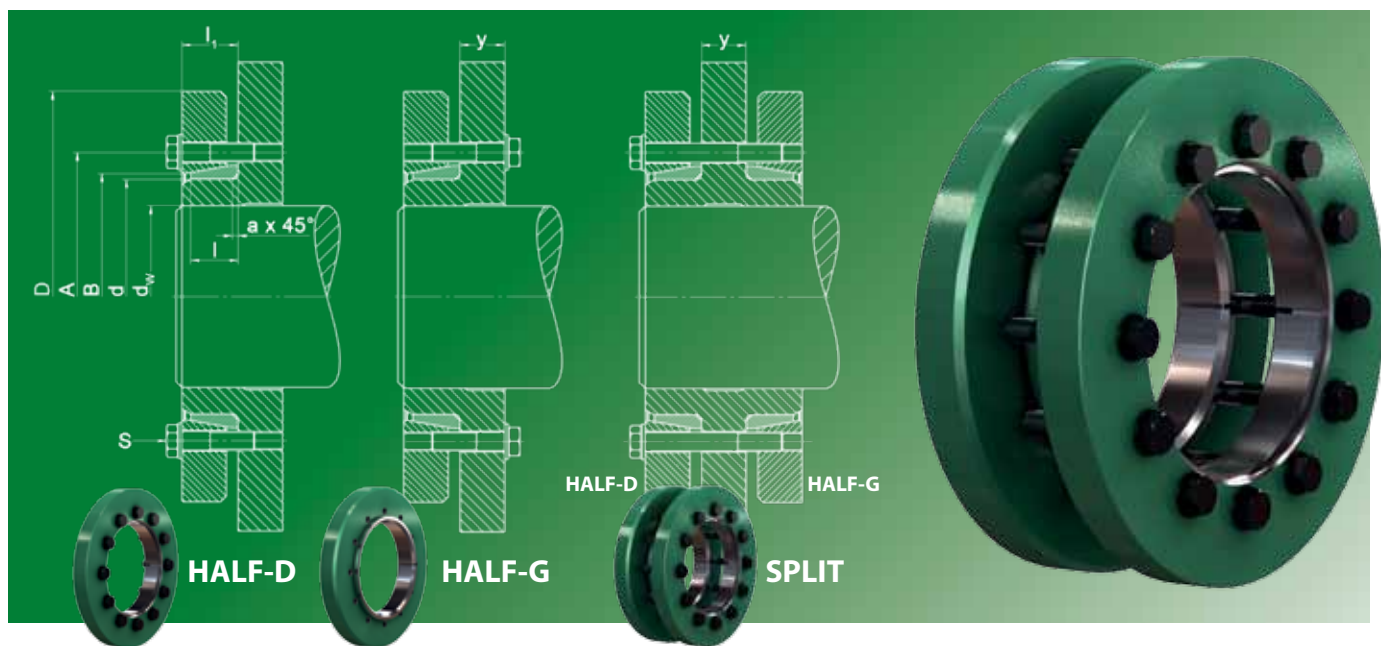
# 3071

Standard-Range

| <i>d</i><br>mm | <i>d<sub>w</sub></i><br>mm | <i>M<sub>max</sub></i><br>Nm | <i>D</i><br>mm | <i>l</i><br>mm | <i>e</i><br>mm | <i>H</i><br>mm | <i>A</i><br>mm | <i>B</i><br>mm | <i>M<sub>A</sub></i><br>Nm | <i>Z</i><br>Stk | <i>S</i>   | <i>DIN</i> | <i>Class</i> | <i>n<sub>max</sub></i><br>min <sup>-1</sup> | <i>p<sub>N</sub></i><br>N/mm <sup>2</sup> | <i>I</i><br>kgm <sup>2</sup> | <i>Weight</i><br>kg |
|----------------|----------------------------|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|-----------------|------------|------------|--------------|---------------------------------------------|-------------------------------------------|------------------------------|---------------------|
| <b>440</b>     | 350                        | 891000                       | 750            | 177            | 12,5           | 202            | 527            | 447            | 840                        | 24              | M 24 x 140 | 931        | 10.9         | 760                                         | 207                                       | 39,13                        | 414                 |
| <b>460</b>     | 370                        | 1127000                      | 770            | 177            | 12,5           | 202            | 547            | 468            | 840                        | 28              | M 24 x 140 | 931        | 10.9         | 740                                         | 231                                       | 43,04                        | 428                 |
| <b>480</b>     | 390                        | 1290000                      | 800            | 188            | 12,5           | 213            | 570            | 488            | 840                        | 30              | M 24 x 140 | 931        | 10.9         | 710                                         | 223                                       | 52,77                        | 485                 |
| <b>500</b>     | 410                        | 1431000                      | 850            | 188            | 12,5           | 213            | 590            | 508            | 1250                       | 24              | M 27 x 150 | 931        | 10.9         | 670                                         | 225                                       | 68,08                        | 560                 |
| <b>530</b>     | 440                        | 1961000                      | 900            | 215            | 12,5           | 240            | 620            | 538            | 1250                       | 30              | M 27 x 180 | 931        | 10.9         | 630                                         | 232                                       | 93,54                        | 686                 |
| <b>560</b>     | 460                        | 2165000                      | 950            | 215            | 12,5           | 240            | 650            | 568            | 1250                       | 32              | M 27 x 180 | 931        | 10.9         | 600                                         | 234                                       | 116                          | 763                 |
| <b>590</b>     | 480                        | 2514000                      | 980            | 235            | 15             | 265            | 685            | 600            | 1250                       | 36              | M 27 x 180 | 931        | 10.9         | 580                                         | 229                                       | 142                          | 869                 |
| <b>620</b>     | 510                        | 2856000                      | 1020           | 235            | 15             | 265            | 715            | 630            | 1250                       | 38              | M 27 x 180 | 931        | 10.9         | 560                                         | 230                                       | 166                          | 931                 |
| <b>660</b>     | 540                        | 3676000                      | 1100           | 260            | 15             | 290            | 760            | 670            | 1700                       | 38              | M 30 x 200 | 931        | 10.9         | 520                                         | 238                                       | 246                          | 1195                |
| <b>700</b>     | 580                        | 4232000                      | 1200           | 260            | 15             | 290            | 800            | 710            | 1700                       | 40              | M 30 x 200 | 931        | 10.9         | 470                                         | 236                                       | 354                          | 1466                |
| <b>720</b>     | 600                        | 4639000                      | 1230           | 260            | 15             | 290            | 820            | 730            | 1700                       | 42              | M 30 x 200 | 931        | 10.9         | 460                                         | 241                                       | 390                          | 1535                |
| <b>750</b>     | 620                        | 4967000                      | 1230           | 280            | 17,5           | 315            | 855            | 762            | 1700                       | 44              | M 30 x 220 | 931        | 10.9         | 460                                         | 225                                       | 420                          | 1619                |
| <b>800</b>     | 660                        | 5501000                      | 1310           | 280            | 17,5           | 315            | 905            | 812            | 1700                       | 46              | M 30 x 220 | 931        | 10.9         | 430                                         | 220                                       | 540                          | 1833                |
| <b>850</b>     | 700                        | 6322000                      | 1330           | 310            | 17,5           | 345            | 965            | 862            | 1700                       | 50              | M 30 x 250 | 931        | 10.9         | 430                                         | 204                                       | 604                          | 1938                |
| <b>900</b>     | 740                        | 6950000                      | 1400           | 310            | 17,5           | 345            | 1015           | 912            | 1700                       | 52              | M 30 x 250 | 931        | 10.9         | 400                                         | 200                                       | 738                          | 2130                |
| <b>950</b>     | 780                        | 8421000                      | 1550           | 340            | 20             | 380            | 1075           | 962            | 2800                       | 42              | M 36 x 260 | 931        | 10.9         | 370                                         | 199                                       | 1285                         | 3111                |
| <b>1000</b>    | 820                        | 10562000                     | 1620           | 340            | 20             | 380            | 1125           | 1012           | 2800                       | 50              | M 36 x 260 | 931        | 10.9         | 350                                         | 225                                       | 1526                         | 3369                |



# 3071 HALF / SPLIT Standard-Range



## Used symbols

|           |                      |                                          |
|-----------|----------------------|------------------------------------------|
| $d$       | [mm]                 | Nominal diameter of the shrink disc      |
| $d_w$     | [mm]                 | Shaft diameter                           |
| $M_{max}$ | [Nm]                 | Maximal transmittable torque             |
| $D$       | [mm]                 | Outer diameter                           |
| $l$       | [mm]                 | Length of the inner ring                 |
| $a$       | [mm]                 | Width of the chamfer on the inner ring   |
| $l_1$     | [mm]                 | Width of the shrink disc                 |
| $A$       | [mm]                 | Pitch circle diameter                    |
| $B$       | [mm]                 | Attachment size                          |
| $M_A$     | [Nm]                 | Tightening torque of the clamping screws |
| $Z$       |                      | Number of clamping screws                |
| $S$       |                      | Size of the clamping screws              |
| $n_{max}$ | [min <sup>-1</sup> ] | Permitted rotational frequency           |
| $p_N$     | [N/mm <sup>2</sup> ] | Moderate pressure to the hub             |
| $I$       | [kgm <sup>2</sup> ]  | Moment of inertia                        |

## Design of the shrink disc

$d < 115$  - Discs galvanized - without washers

$d \geq 110$  - Discs painted - with washers

Dimensions **H** & **e** in unlocked position

Deviation from the standard shaft diameter  $d_w$   
see the table „3071 Standard-Range“  
and „Calculation of transmissible torques and forces“

Hexagon head bolts are used as standard.

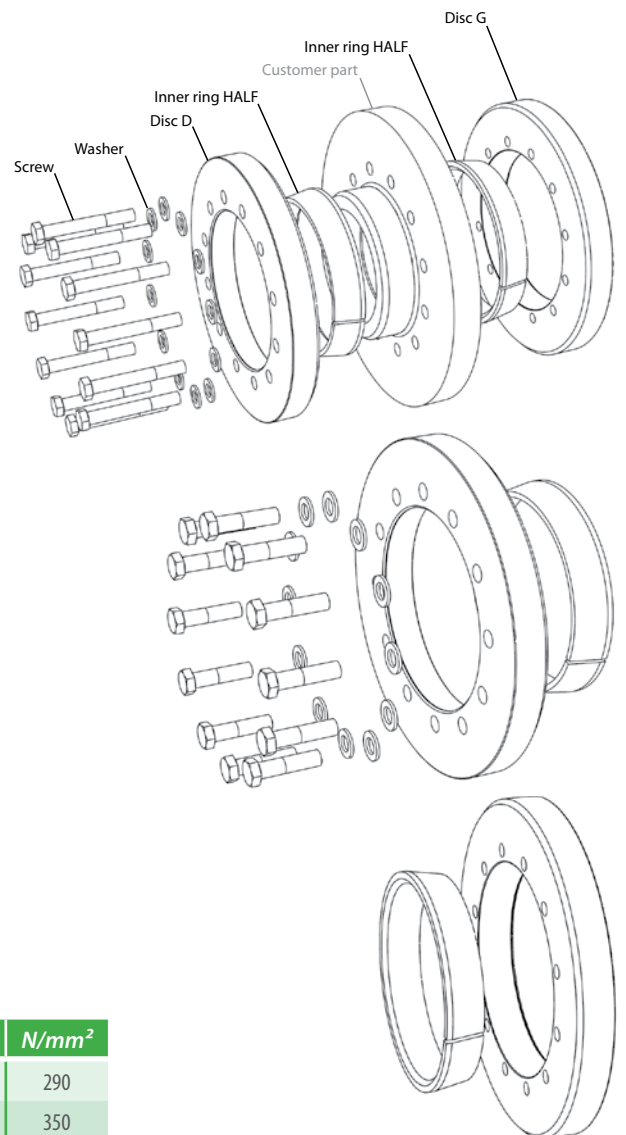
Upon request we provide all sized shrink discs with hexagon socket head bolts (Inbus). (See ordering information)

For **Typ** in ordering information:

**GET** means **SPLIT**

**HALB** means **HALF**

| min. yield strength $R_{p0.2}$ | N/mm <sup>2</sup> |
|--------------------------------|-------------------|
| Solid shaft                    | 290               |
| Hub                            | 350               |



Ordering information: **TAS 3071Type - d - y** (e.g.: TAS 3071GET-200-Y60 or TAS 3071HALB-G-200-Y30 or TAS 3071HALB-D-200)

with Inbus: **TAS 3071Type - d - y - Inbus** (e.g.: TAS 3071GET-200-Y60-Inbus etc.)

(Further sizes on request)

# 3071 HALF / SPLIT Standard-Range

## Please note:

All values refer to shrink disk design **HALF**!

Please provide us the dimension of „y“ or the length of screws. Otherwise we can not provide appropriate screws!  
(see ordering information)

Applies to shrink disk design **HALF-G**:

- The required screw length is:  $\text{Screw length (3071 Standard-Range)} - l_1 + 2 a + y$  (rounded up to standard lengths)

Applies to shrink disk design **SPLIT**:

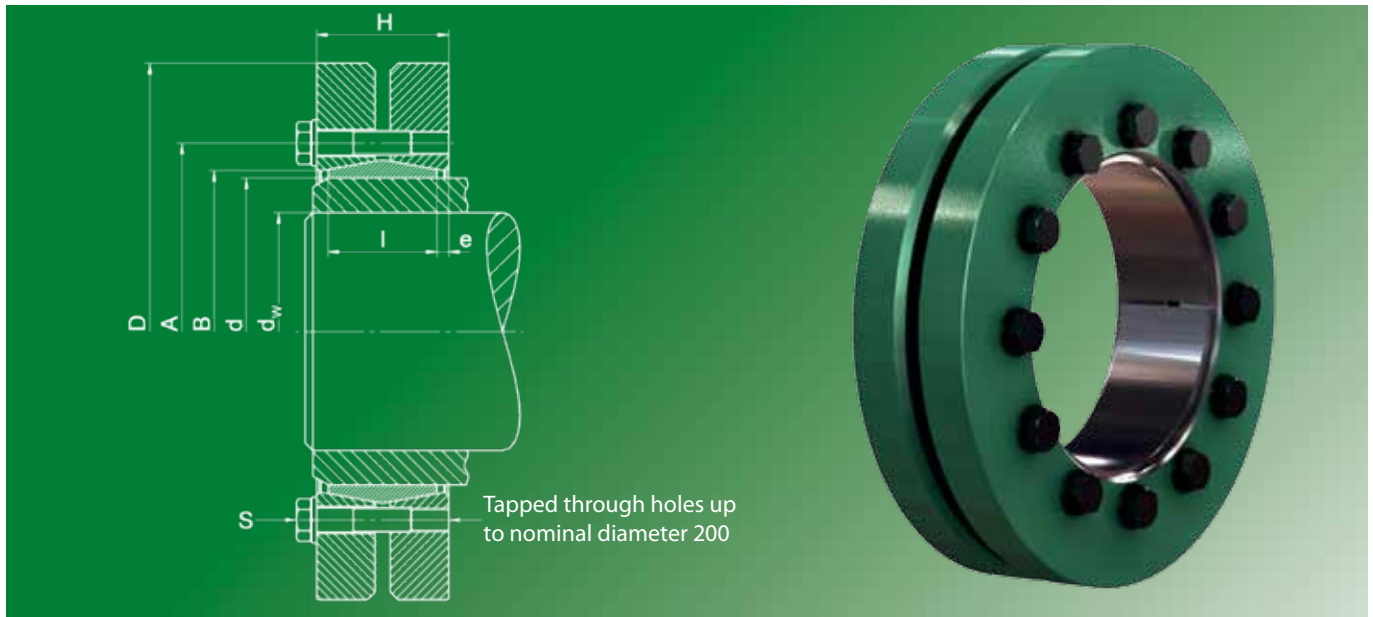
- The design consists of 1x **HALF-D** + 1x **HALF-G**
- Delivery is possible with or without screws
- Maximum transmittable torque:  $M_{ges} = 2 M_{max}$
- The required screw length:  $\text{Screw length (3071 Standard-Range)} + 2 a + y$  (rounded up to standard lengths)

|     |                |                  |     |      |     |                |     |     |                |     | HALF-D only    |           |     |       |                   |                   |                  |        |
|-----|----------------|------------------|-----|------|-----|----------------|-----|-----|----------------|-----|----------------|-----------|-----|-------|-------------------|-------------------|------------------|--------|
| d   | d <sub>w</sub> | M <sub>max</sub> | D   | l    | a   | l <sub>1</sub> | A   | B   | M <sub>A</sub> | Z   | d <sub>B</sub> | S         | DIN | Class | n <sub>max</sub>  | p <sub>N</sub>    | I                | Weight |
| mm  | mm             | Nm               | mm  | mm   | mm  | mm             | mm  | mm  | Nm             | Stk | mm             |           |     |       | min <sup>-1</sup> | N/mm <sup>2</sup> | kgm <sup>2</sup> | kg     |
| 14  | 11             | 14               | 37  | 6    | 0,8 | 7,5            | 24  | 15  | 2,4            | 3   | 4,5            | M 4 x 12  | 933 | 10.9  | 15400             | 257               | 0,0000078        | 0,04   |
| 16  | 13             | 39               | 41  | 7,5  | 0,8 | 9              | 27  | 17  | 4,8            | 3   | 5,5            | M 5 x 14  | 933 | 10.9  | 13900             | 282               | 0,0000121        | 0,05   |
| 18  | 15             | 59               | 43  | 7,5  | 0,8 | 9              | 29  | 19  | 4,8            | 4   | 5,5            | M 5 x 14  | 933 | 8.8   | 13300             | 285               | 0,0000163        | 0,06   |
| 20  | 17             | 110              | 48  | 8,5  | 1,5 | 11,25          | 34  | 24  | 6              | 5   | 5,5            | M 5 x 18  | 933 | 10.9  | 11900             | 322               | 0,0000304        | 0,09   |
| 21  | 18             | 120              | 48  | 8,5  | 1,5 | 11,25          | 34  | 24  | 6              | 5   | 5,5            | M 5 x 18  | 933 | 10.9  | 11900             | 307               | 0,0000309        | 0,09   |
| 22  | 19             | 120              | 48  | 8,5  | 1,5 | 11,25          | 36  | 26  | 6              | 5   | 5,5            | M 5 x 18  | 933 | 10.9  | 11900             | 293               | 0,0000314        | 0,09   |
| 24  | 20             | 150              | 50  | 9    | 1,5 | 11,5           | 36  | 26  | 6              | 6   | 5,5            | M 5 x 18  | 933 | 10.9  | 11400             | 322               | 0,0000366        | 0,09   |
| 30  | 25             | 180              | 60  | 10   | 2   | 12,75          | 44  | 32  | 6              | 6   | 5,5            | M 5 x 18  | 931 | 10.9  | 9500              | 225               | 0,0000844        | 0,15   |
| 36  | 30             | 320              | 72  | 11   | 2   | 13,75          | 52  | 38  | 12             | 5   | 6,6            | M 6 x 20  | 933 | 10.9  | 7900              | 231               | 0,0001944        | 0,24   |
| 38  | 31             | 450              | 80  | 12   | 2   | 15             | 56  | 41  | 12             | 7   | 6,6            | M 6 x 22  | 933 | 10.9  | 7100              | 275               | 0,0003334        | 0,34   |
| 40  | 32             | 370              | 75  | 11,5 | 2   | 14,25          | 57  | 43  | 12             | 6   | 6,6            | M 6 x 20  | 933 | 10.9  | 7600              | 236               | 0,0002438        | 0,27   |
| 41  | 33             | 470              | 80  | 12   | 2   | 14,75          | 61  | 46  | 12             | 7   | 6,6            | M 6 x 22  | 933 | 10.9  | 7100              | 255               | 0,0003232        | 0,32   |
| 44  | 35             | 480              | 80  | 12   | 2   | 14,75          | 61  | 47  | 12             | 7   | 6,6            | M 6 x 22  | 933 | 10.9  | 7100              | 238               | 0,0003126        | 0,30   |
| 50  | 40             | 640              | 90  | 13   | 2   | 16             | 70  | 53  | 12             | 8   | 6,6            | M 6 x 25  | 933 | 10.9  | 6300              | 217               | 0,0005432        | 0,41   |
| 55  | 45             | 750              | 100 | 14   | 2,5 | 17,75          | 75  | 58  | 12             | 8   | 6,6            | M 6 x 25  | 933 | 10.9  | 5700              | 189               | 0,0009118        | 0,56   |
| 62  | 50             | 1000             | 110 | 14   | 2,5 | 17,75          | 86  | 66  | 12             | 10  | 6,6            | M 6 x 25  | 933 | 10.9  | 5200              | 210               | 0,0013154        | 0,66   |
| 68  | 55             | 1100             | 115 | 14   | 2,5 | 17,75          | 86  | 72  | 12             | 10  | 6,6            | M 6 x 25  | 933 | 10.9  | 4900              | 191               | 0,0015395        | 0,69   |
| 75  | 60             | 1800             | 138 | 16,5 | 3   | 20,25          | 100 | 79  | 30             | 7   | 9              | M 8 x 30  | 933 | 10.9  | 4100              | 233               | 0,0037004        | 1,2    |
| 80  | 65             | 2000             | 145 | 16,5 | 3   | 20,25          | 100 | 84  | 30             | 7   | 9              | M 8 x 30  | 933 | 10.9  | 3900              | 218               | 0,0044566        | 1,3    |
| 90  | 70             | 3000             | 155 | 20   | 4   | 24,5           | 114 | 94  | 30             | 10  | 9              | M 8 x 35  | 931 | 10.9  | 3600              | 231               | 0,0068266        | 1,7    |
| 100 | 75             | 3600             | 170 | 22   | 4   | 27             | 124 | 104 | 30             | 12  | 9              | M 8 x 35  | 931 | 10.9  | 3300              | 220               | 0,0106975        | 2,2    |
| 110 | 80             | 4400             | 185 | 24,5 | 4   | 30             | 136 | 114 | 59             | 9   | 11             | M 10 x 40 | 931 | 10.9  | 3000              | 208               | 0,0173719        | 3,0    |
| 115 | 80             | 4600             | 200 | 25   | 4   | 30             | 150 | 124 | 59             | 10  | 11             | M 10 x 40 | 931 | 10.9  | 2800              | 215               | 0,0239512        | 3,6    |
| 120 | 85             | 4800             | 200 | 25   | 4   | 30             | 150 | 124 | 59             | 10  | 11             | M 10 x 40 | 931 | 10.9  | 2800              | 206               | 0,0238000        | 3,5    |
| 125 | 90             | 6500             | 215 | 26   | 5   | 32             | 160 | 134 | 59             | 12  | 11             | M 10 x 45 | 931 | 10.9  | 2600              | 226               | 0,0332444        | 4,3    |
| 140 | 100            | 8900             | 230 | 28   | 5   | 35,25          | 175 | 146 | 100            | 10  | 13,5           | M 12 x 50 | 931 | 10.9  | 2400              | 224               | 0,0480312        | 5,3    |
| 155 | 110            | 11900            | 265 | 30   | 5   | 37,25          | 192 | 165 | 100            | 12  | 13,5           | M 12 x 50 | 931 | 10.9  | 2100              | 224               | 0,0942500        | 8,0    |
| 165 | 120            | 19300            | 290 | 33   | 5   | 40,5           | 210 | 175 | 250            | 8   | 17,5           | M 16 x 55 | 931 | 10.9  | 1900              | 258               | 0,1530719        | 11     |
| 175 | 130            | 21300            | 300 | 33   | 5   | 40,5           | 220 | 185 | 250            | 8   | 17,5           | M 16 x 55 | 931 | 10.9  | 1900              | 243               | 0,1658594        | 11     |
| 185 | 140            | 29500            | 330 | 40,5 | 5   | 48             | 236 | 195 | 250            | 10  | 17,5           | M 16 x 70 | 931 | 10.9  | 1700              | 227               | 0,3220312        | 18     |

# 3071 HALF / SPLIT Standard-Range

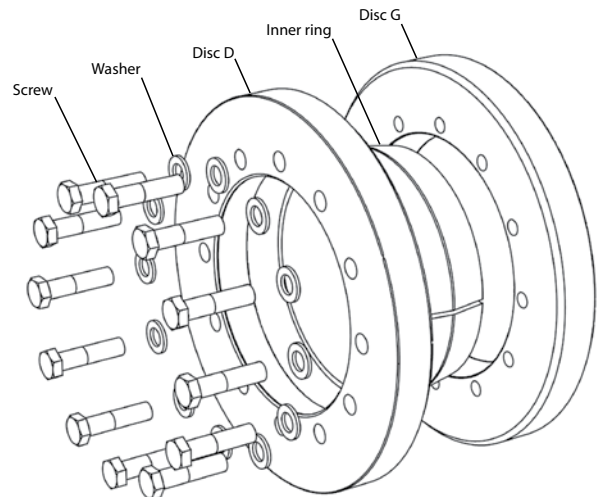
|                |                            |                              |                |                |                |                            |                |                |                            |                 | HALF-D only                |            |            |              |                                             |                                           |                              |                     |
|----------------|----------------------------|------------------------------|----------------|----------------|----------------|----------------------------|----------------|----------------|----------------------------|-----------------|----------------------------|------------|------------|--------------|---------------------------------------------|-------------------------------------------|------------------------------|---------------------|
| <i>d</i><br>mm | <i>d<sub>w</sub></i><br>mm | <i>M<sub>max</sub></i><br>Nm | <i>D</i><br>mm | <i>I</i><br>mm | <i>a</i><br>mm | <i>I<sub>1</sub></i><br>mm | <i>A</i><br>mm | <i>B</i><br>mm | <i>M<sub>A</sub></i><br>Nm | <i>Z</i><br>Stk | <i>d<sub>B</sub></i><br>mm | <i>S</i>   | <i>DIN</i> | <i>Class</i> | <i>n<sub>max</sub></i><br>min <sup>-1</sup> | <i>p<sub>N</sub></i><br>N/mm <sup>2</sup> | <i>I</i><br>kgm <sup>2</sup> | <i>Weight</i><br>kg |
| 195            | 150                        | 39700                        | 350            | 40,5           | 5              | 48                         | 246            | 210            | 250                        | 12              | 17,5                       | M 16 x 70  | 931        | 10.9         | 1600                                        | 258                                       | 0,4013125                    | 20                  |
| 200            | 155                        | 40800                        | 350            | 40,5           | 5              | 48                         | 246            | 210            | 250                        | 12              | 17,5                       | M 16 x 70  | 931        | 10.9         | 1600                                        | 252                                       | 0,3859375                    | 19                  |
| 220            | 165                        | 51800                        | 370            | 52             | 8              | 60                         | 270            | 230            | 250                        | 15              | 17,5                       | M 16 x 80  | 931        | 10.9         | 1500                                        | 231                                       | 0,6022250                    | 26                  |
| 240            | 180                        | 72400                        | 405            | 54             | 8              | 62,5                       | 295            | 248            | 490                        | 12              | 22                         | M 20 x 90  | 931        | 10.9         | 1400                                        | 254                                       | 0,8865000                    | 32                  |
| 245            | 185                        | 73900                        | 410            | 55,5           | 8              | 63,5                       | 298            | 251            | 490                        | 12              | 22                         | M 20 x 90  | 931        | 10.9         | 1300                                        | 241                                       | 0,9410156                    | 33                  |
| 260            | 190                        | 85300                        | 440            | 59,5           | 8              | 68                         | 321            | 268            | 490                        | 14              | 22                         | M 20 x 90  | 931        | 10.9         | 1300                                        | 244                                       | 1,3713                       | 42                  |
| 280            | 210                        | 112000                       | 460            | 67             | 10             | 77                         | 346            | 288            | 490                        | 16              | 22                         | M 20 x 100 | 931        | 10.9         | 1200                                        | 234                                       | 1,7762                       | 49                  |
| 300            | 230                        | 143000                       | 485            | 71             | 10             | 81                         | 364            | 308            | 490                        | 18              | 22                         | M 20 x 100 | 931        | 10.9         | 1100                                        | 230                                       | 2,3172                       | 57                  |
| 320            | 240                        | 163000                       | 520            | 71             | 10             | 81                         | 386            | 328            | 490                        | 20              | 22                         | M 20 x 100 | 931        | 10.9         | 1100                                        | 239                                       | 3,0756                       | 66                  |
| 340            | 250                        | 163000                       | 570            | 77             | 10             | 88                         | 408            | 348            | 490                        | 24              | 22                         | M 20 x 110 | 931        | 10.9         | 1000                                        | 205                                       | 5,0658                       | 92                  |
| 350            | 270                        | 228000                       | 580            | 80             | 10             | 91                         | 432            | 358            | 490                        | 24              | 22                         | M 20 x 110 | 931        | 10.9         | 980                                         | 229                                       | 5,5068                       | 96                  |
| 360            | 290                        | 259000                       | 590            | 80             | 10             | 91                         | 432            | 368            | 490                        | 24              | 22                         | M 20 x 110 | 931        | 10.9         | 970                                         | 222                                       | 5,8518                       | 98                  |
| 380            | 300                        | 317000                       | 645            | 85             | 13             | 97                         | 458            | 387            | 840                        | 20              | 26                         | M 24 x 120 | 931        | 10.9         | 880                                         | 245                                       | 8,8967                       | 127                 |
| 390            | 310                        | 348000                       | 660            | 85             | 13             | 97                         | 468            | 397            | 840                        | 21              | 26                         | M 24 x 120 | 931        | 10.9         | 860                                         | 251                                       | 9,7705                       | 133                 |
| 400            | 320                        | 361000                       | 680            | 85             | 13             | 97                         | 480            | 407            | 840                        | 21              | 26                         | M 24 x 120 | 931        | 10.9         | 840                                         | 245                                       | 11,05                        | 142                 |
| 420            | 340                        | 445000                       | 690            | 95             | 13             | 107                        | 504            | 427            | 840                        | 24              | 26                         | M 24 x 130 | 931        | 10.9         | 830                                         | 234                                       | 12,97                        | 159                 |
| 440            | 350                        | 445000                       | 750            | 101,5          | 13             | 114                        | 527            | 447            | 840                        | 24              | 26                         | M 24 x 140 | 931        | 10.9         | 760                                         | 207                                       | 19,56                        | 207                 |
| 460            | 370                        | 478000                       | 770            | 101,5          | 13             | 114                        | 547            | 468            | 840                        | 28              | 26                         | M 24 x 140 | 931        | 10.9         | 740                                         | 198                                       | 21,52                        | 214                 |
| 480            | 390                        | 599000                       | 800            | 109            | 15             | 121,5                      | 570            | 488            | 840                        | 30              | 26                         | M 24 x 150 | 931        | 10.9         | 710                                         | 208                                       | 26,44                        | 243                 |
| 500            | 410                        | 715000                       | 850            | 109            | 15             | 121,5                      | 590            | 508            | 1250                       | 24              | 30                         | M 27 x 150 | 931        | 10.9         | 670                                         | 225                                       | 34,04                        | 280                 |
| 530            | 440                        | 980000                       | 900            | 122,5          | 15             | 135                        | 620            | 538            | 1250                       | 30              | 30                         | M 27 x 170 | 931        | 10.9         | 630                                         | 232                                       | 46,77                        | 343                 |
| 560            | 460                        | 1082000                      | 950            | 122,5          | 15             | 135                        | 650            | 568            | 1250                       | 32              | 30                         | M 27 x 170 | 931        | 10.9         | 600                                         | 234                                       | 58,07                        | 382                 |
| 590            | 480                        | 1257000                      | 980            | 132,5          | 15             | 147,5                      | 685            | 600            | 1250                       | 36              | 30                         | M 27 x 180 | 931        | 10.9         | 580                                         | 229                                       | 71,15                        | 435                 |
| 620            | 510                        | 1428000                      | 1020           | 132,5          | 15             | 147,5                      | 715            | 630            | 1250                       | 38              | 30                         | M 27 x 180 | 931        | 10.9         | 560                                         | 230                                       | 82,99                        | 466                 |
| 660            | 540                        | 1838000                      | 1100           | 145            | 15             | 160                        | 760            | 670            | 1700                       | 38              | 33                         | M 30 x 200 | 931        | 10.9         | 520                                         | 238                                       | 123                          | 598                 |
| 700            | 580                        | 2116000                      | 1200           | 145            | 15             | 160                        | 800            | 710            | 1700                       | 40              | 33                         | M 30 x 200 | 931        | 10.9         | 470                                         | 236                                       | 177                          | 733                 |
| 720            | 600                        | 2319000                      | 1230           | 145            | 15             | 160                        | 820            | 730            | 1700                       | 42              | 33                         | M 30 x 200 | 931        | 10.9         | 460                                         | 241                                       | 195                          | 767                 |
| 750            | 620                        | 2483000                      | 1230           | 155            | 15             | 172,5                      | 855            | 762            | 1700                       | 44              | 33                         | M 30 x 220 | 931        | 10.9         | 460                                         | 225                                       | 210                          | 810                 |
| 800            | 660                        | 2750000                      | 1310           | 155            | 15             | 172,5                      | 905            | 812            | 1700                       | 46              | 33                         | M 30 x 220 | 931        | 10.9         | 430                                         | 220                                       | 270                          | 917                 |
| 850            | 700                        | 3161000                      | 1330           | 170            | 15             | 187,5                      | 965            | 862            | 1700                       | 50              | 33                         | M 30 x 230 | 931        | 10.9         | 430                                         | 204                                       | 302                          | 969                 |
| 900            | 740                        | 3475000                      | 1400           | 170            | 15             | 187,5                      | 1015           | 912            | 1700                       | 52              | 33                         | M 30 x 230 | 931        | 10.9         | 400                                         | 200                                       | 369                          | 1065                |
| 950            | 780                        | 4210000                      | 1550           | 185            | 15             | 205                        | 1075           | 962            | 2800                       | 42              | 39                         | M 36 x 250 | 931        | 10.9         | 370                                         | 199                                       | 643                          | 1556                |
| 1000           | 820                        | 5281000                      | 1620           | 185            | 15             | 205                        | 1125           | 1012           | 2800                       | 50              | 39                         | M 36 x 250 | 931        | 10.9         | 350                                         | 225                                       | 763                          | 1685                |





## Used symbols

|           |                      |                                          |
|-----------|----------------------|------------------------------------------|
| $d$       | [mm]                 | Nominal diameter of the shrink disc      |
| $d_w$     | [mm]                 | Shaft diameter                           |
| $M_{max}$ | [Nm]                 | Maximal transmittable torque             |
| $D$       | [mm]                 | Outer diameter                           |
| $I$       | [mm]                 | Length of the inner ring                 |
| $e$       | [mm]                 | Excess length                            |
| $H$       | [mm]                 | Width of the shrink disc                 |
| $A$       | [mm]                 | Pitch circle diameter                    |
| $B$       | [mm]                 | Attachment size                          |
| $M_A$     | [Nm]                 | Tightening torque of the clamping screws |
| $Z$       |                      | Number of clamping screws                |
| $S$       |                      | Size of the clamping screws              |
| $n_{max}$ | [min <sup>-1</sup> ] | Permitted rotational frequency           |
| $p_N$     | [N/mm <sup>2</sup> ] | Moderate pressure to the hub             |
| $I$       | [kgm <sup>2</sup> ]  | Moment of inertia                        |



## Design of the shrink disc

$d < 115$  - Discs galvanized - without washers

$d \geq 110$  - Discs painted - with washers

Dimensions **H** & **e** in unlocked position

Hexagon head bolts are used as standard.

Upon request we provide all sized shrink discs with hexagon socket head bolts (Inbus). (See ordering information)

| min. yield strength $R_{p0.2}$ | N/mm <sup>2</sup> |
|--------------------------------|-------------------|
| Solid shaft                    | 350               |
| Hub                            | 450               |

## Variation from the standard shaft diameter $d_w$

| ><br>mm | ≤<br>mm | minimal<br>-<br>mm | maximal<br>+<br>mm |
|---------|---------|--------------------|--------------------|
| 10      | 30      | -1                 | 1                  |
| 30      | 50      | -3                 | 2                  |
| 50      | 140     | -5                 | 5                  |
| 140     | 180     | -10                | 5                  |
| 180     | 320     | -15                | 10                 |
| 320     | 500     | -20                | 10                 |
| 500     | 700     | -30                | 20                 |
| 700     | 820     | -40                | 20                 |

$$M = M_{max (Catalog)} \left( \frac{d_w (target)}{d_w (Catalog)} \right)^2$$

(see Basics - Calculation)

Ordering information: TAS 3081 -  $d$  (e.g.: TAS 3081-200 ... further sizes on request)  
with Inbus: TAS 3081 -  $d$  - Inbus (e.g.: TAS 3081-200-Inbus)

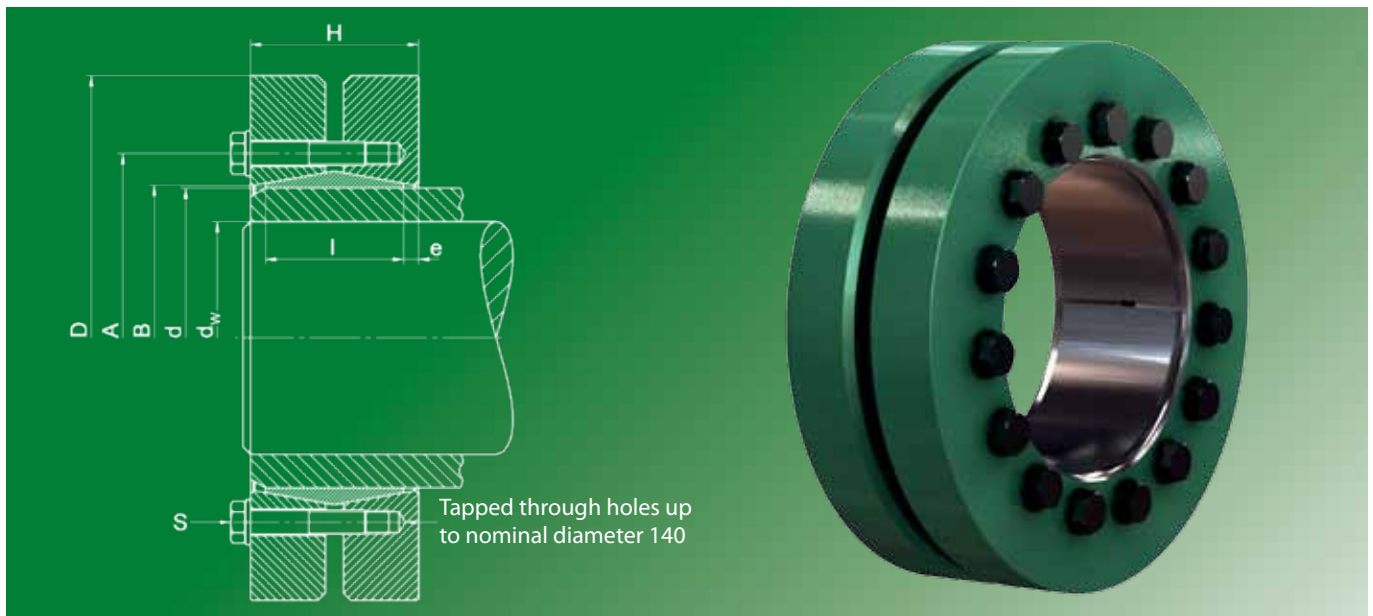
| <i>d</i><br>mm | <i>d<sub>w</sub></i><br>mm | <i>M<sub>max</sub></i><br>Nm | <i>D</i><br>mm | <i>l</i><br>mm | <i>e</i><br>mm | <i>H</i><br>mm | <i>A</i><br>mm | <i>B</i><br>mm | <i>M<sub>A</sub></i><br>Nm | <i>Z</i><br>Stk | <i>S</i>   | <i>DIN</i> | <i>Class</i> | <i>n<sub>max</sub></i><br>min <sup>-1</sup> | <i>p<sub>N</sub></i><br>N/mm <sup>2</sup> | <i>I</i><br>kgm <sup>2</sup> | <i>Weight</i><br>kg |
|----------------|----------------------------|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|-----------------|------------|------------|--------------|---------------------------------------------|-------------------------------------------|------------------------------|---------------------|
| 14             | 11                         | 48                           | 37             | 9              | 1,5            | 12             | 24             | 15             | 4                          | 3               | M 4 x 10   | 933        | 12.9         | 15400                                       | 344                                       | 0,000137                     | 0,07                |
| 30             | 25                         | 520                          | 60             | 16             | 2,75           | 21,5           | 44             | 32             | 8                          | 6               | M 5 x 18   | 931        | 12.9         | 9500                                        | 300                                       | 0,001687                     | 0,30                |
| 36             | 30                         | 780                          | 72             | 18             | 2,75           | 23,5           | 52             | 38             | 14                         | 5               | M 6 x 20   | 933        | 12.9         | 7900                                        | 271                                       | 0,0003888                    | 0,48                |
| 38             | 31                         | 1100                         | 80             | 20             | 3              | 26             | 56             | 41             | 14                         | 7               | M 6 x 25   | 933        | 12.9         | 7100                                        | 324                                       | 0,0006569                    | 0,67                |
| 40             | 32                         | 910                          | 75             | 19             | 2,75           | 24,5           | 57             | 43             | 14                         | 6               | M 6 x 20   | 933        | 12.9         | 7600                                        | 277                                       | 0,0004967                    | 0,55                |
| 50             | 40                         | 1500                         | 90             | 22             | 3              | 28             | 70             | 53             | 14                         | 8               | M 6 x 25   | 933        | 12.9         | 6300                                        | 255                                       | 0,0010998                    | 0,83                |
| 55             | 45                         | 1800                         | 100            | 23             | 3,75           | 30,5           | 75             | 58             | 14                         | 8               | M 6 x 25   | 933        | 12.9         | 5700                                        | 222                                       | 0,0017909                    | 1,1                 |
| 62             | 50                         | 2600                         | 110            | 23             | 3,75           | 30,5           | 86             | 66             | 14                         | 10              | M 6 x 25   | 933        | 12.9         | 5200                                        | 246                                       | 0,0025909                    | 1,3                 |
| 68             | 55                         | 2700                         | 115            | 23             | 3,75           | 30,5           | 86             | 72             | 14                         | 10              | M 6 x 25   | 933        | 12.9         | 4900                                        | 225                                       | 0,0031236                    | 1,4                 |
| 75             | 60                         | 4400                         | 138            | 25             | 3,75           | 32,5           | 100            | 79             | 35                         | 7               | M 8 x 30   | 933        | 12.9         | 4100                                        | 272                                       | 0,0070923                    | 2,3                 |
| 80             | 65                         | 4900                         | 145            | 25             | 3,75           | 32,5           | 100            | 84             | 35                         | 7               | M 8 x 30   | 933        | 12.9         | 3900                                        | 255                                       | 0,0085703                    | 2,5                 |
| 90             | 70                         | 7200                         | 155            | 30             | 4,5            | 39             | 114            | 94             | 35                         | 10              | M 8 x 35   | 931        | 12.9         | 3600                                        | 269                                       | 0,0132516                    | 3,3                 |
| 100            | 75                         | 8800                         | 170            | 34             | 5              | 44             | 124            | 104            | 35                         | 12              | M 8 x 35   | 931        | 12.9         | 3300                                        | 257                                       | 0,0213950                    | 4,4                 |
| 110            | 80                         | 10800                        | 185            | 39             | 5,5            | 50             | 136            | 114            | 69                         | 9               | M 10 x 40  | 931        | 12.9         | 3000                                        | 243                                       | 0,0347437                    | 6,0                 |
| 115            | 80                         | 11400                        | 200            | 40             | 5              | 50             | 150            | 124            | 69                         | 10              | M 10 x 40  | 931        | 12.9         | 2800                                        | 252                                       | 0,0485678                    | 7,3                 |
| 120            | 85                         | 11700                        | 200            | 40             | 5              | 50             | 150            | 124            | 69                         | 10              | M 10 x 40  | 931        | 12.9         | 2800                                        | 241                                       | 0,0476000                    | 7,0                 |
| 125            | 90                         | 15900                        | 215            | 42             | 6              | 54             | 160            | 134            | 69                         | 12              | M 10 x 40  | 931        | 12.9         | 2600                                        | 265                                       | 0,0672619                    | 8,7                 |
| 140            | 100                        | 21700                        | 230            | 46             | 7,25           | 60,5           | 175            | 146            | 120                        | 10              | M 12 x 45  | 931        | 12.9         | 2400                                        | 263                                       | 0,0996875                    | 11                  |
| 155            | 110                        | 28900                        | 265            | 50             | 7,25           | 64,5           | 192            | 165            | 120                        | 12              | M 12 x 50  | 931        | 12.9         | 2100                                        | 262                                       | 0,1885000                    | 16                  |
| 165            | 120                        | 46400                        | 290            | 56             | 7,5            | 71             | 210            | 175            | 290                        | 8               | M 16 x 55  | 931        | 12.9         | 1900                                        | 303                                       | 0,3061438                    | 22                  |
| 175            | 130                        | 51200                        | 300            | 56             | 7,5            | 71             | 220            | 185            | 290                        | 8               | M 16 x 55  | 931        | 12.9         | 1900                                        | 286                                       | 0,3467969                    | 23                  |
| 185            | 140                        | 70700                        | 330            | 71             | 7,5            | 86             | 236            | 195            | 290                        | 10              | M 16 x 70  | 931        | 12.9         | 1700                                        | 266                                       | 0,6261719                    | 35                  |
| 195            | 150                        | 94900                        | 350            | 71             | 7,5            | 86             | 246            | 210            | 290                        | 12              | M 16 x 70  | 931        | 12.9         | 1600                                        | 303                                       | 0,8026250                    | 40                  |
| 200            | 155                        | 97700                        | 350            | 71             | 7,5            | 86             | 246            | 210            | 290                        | 12              | M 16 x 70  | 931        | 12.9         | 1600                                        | 296                                       | 0,7921875                    | 39                  |
| 220            | 165                        | 124000                       | 370            | 88             | 8              | 104            | 270            | 230            | 290                        | 15              | M 16 x 80  | 931        | 12.9         | 1500                                        | 271                                       | 1,1813                       | 51                  |
| 240            | 180                        | 171000                       | 405            | 92             | 8,5            | 109            | 295            | 248            | 570                        | 12              | M 20 x 80  | 931        | 12.9         | 1400                                        | 296                                       | 1,7730                       | 64                  |
| 245            | 185                        | 175000                       | 410            | 95             | 8              | 111            | 298            | 251            | 570                        | 12              | M 20 x 80  | 931        | 12.9         | 1300                                        | 281                                       | 1,9105                       | 67                  |
| 260            | 190                        | 203000                       | 440            | 103            | 8,5            | 120            | 321            | 268            | 570                        | 14              | M 20 x 90  | 931        | 12.9         | 1300                                        | 285                                       | 2,7426                       | 84                  |
| 280            | 210                        | 266000                       | 460            | 114            | 10             | 134            | 346            | 288            | 570                        | 16              | M 20 x 100 | 931        | 12.9         | 1200                                        | 273                                       | 3,5888                       | 99                  |
| 300            | 230                        | 340000                       | 485            | 122            | 10             | 142            | 364            | 308            | 570                        | 18              | M 20 x 100 | 931        | 12.9         | 1100                                        | 268                                       | 4,6751                       | 115                 |
| 320            | 240                        | 386000                       | 520            | 122            | 10             | 142            | 386            | 328            | 570                        | 20              | M 20 x 100 | 931        | 12.9         | 1100                                        | 279                                       | 6,1978                       | 133                 |
| 340            | 250                        | 474000                       | 570            | 134            | 11             | 156            | 408            | 348            | 570                        | 24              | M 20 x 110 | 931        | 12.9         | 1000                                        | 287                                       | 10,08                        | 183                 |
| 350            | 270                        | 539000                       | 580            | 140            | 11             | 162            | 432            | 358            | 570                        | 24              | M 20 x 110 | 931        | 12.9         | 980                                         | 267                                       | 11,07                        | 193                 |
| 360            | 290                        | 613000                       | 590            | 140            | 11             | 162            | 432            | 368            | 570                        | 24              | M 20 x 110 | 931        | 12.9         | 970                                         | 259                                       | 11,76                        | 197                 |
| 380            | 300                        | 750000                       | 645            | 144            | 12             | 168            | 458            | 387            | 980                        | 20              | M 24 x 120 | 931        | 12.9         | 880                                         | 287                                       | 17,86                        | 255                 |
| 390            | 310                        | 824000                       | 660            | 144            | 12             | 168            | 468            | 397            | 980                        | 21              | M 24 x 120 | 931        | 12.9         | 860                                         | 294                                       | 19,54                        | 266                 |
| 400            | 320                        | 853000                       | 680            | 144            | 12             | 168            | 480            | 407            | 980                        | 21              | M 24 x 120 | 931        | 12.9         | 840                                         | 286                                       | 22,10                        | 284                 |
| 420            | 340                        | 1052000                      | 690            | 164            | 12             | 188            | 504            | 427            | 980                        | 24              | M 24 x 130 | 931        | 12.9         | 830                                         | 274                                       | 25,94                        | 318                 |
| 440            | 350                        | 1054000                      | 750            | 177            | 12,5           | 202            | 527            | 447            | 980                        | 24              | M 24 x 140 | 931        | 12.9         | 760                                         | 242                                       | 39,13                        | 414                 |
| 460            | 370                        | 1331000                      | 770            | 177            | 12,5           | 202            | 547            | 468            | 980                        | 28              | M 24 x 140 | 931        | 12.9         | 740                                         | 270                                       | 43,04                        | 428                 |
| 480            | 390                        | 1523000                      | 800            | 188            | 12,5           | 213            | 570            | 488            | 980                        | 30              | M 24 x 140 | 931        | 12.9         | 710                                         | 261                                       | 52,77                        | 485                 |
| 500            | 410                        | 1691000                      | 850            | 188            | 12,5           | 213            | 590            | 508            | 1450                       | 24              | M 27 x 150 | 931        | 12.9         | 670                                         | 263                                       | 68,08                        | 560                 |
| 530            | 440                        | 2314000                      | 900            | 215            | 12,5           | 240            | 620            | 538            | 1450                       | 30              | M 27 x 180 | 931        | 12.9         | 630                                         | 272                                       | 93,54                        | 686                 |
| 560            | 460                        | 2554000                      | 950            | 215            | 12,5           | 240            | 650            | 568            | 1450                       | 32              | M 27 x 180 | 931        | 12.9         | 600                                         | 274                                       | 116                          | 763                 |
| 590            | 480                        | 2967000                      | 980            | 235            | 15             | 265            | 685            | 600            | 1450                       | 36              | M 27 x 180 | 931        | 12.9         | 580                                         | 268                                       | 142                          | 869                 |
| 620            | 510                        | 3370000                      | 1020           | 235            | 15             | 265            | 715            | 630            | 1450                       | 38              | M 27 x 180 | 931        | 12.9         | 560                                         | 269                                       | 166                          | 931                 |

# 3081

Standard-Range strengthened

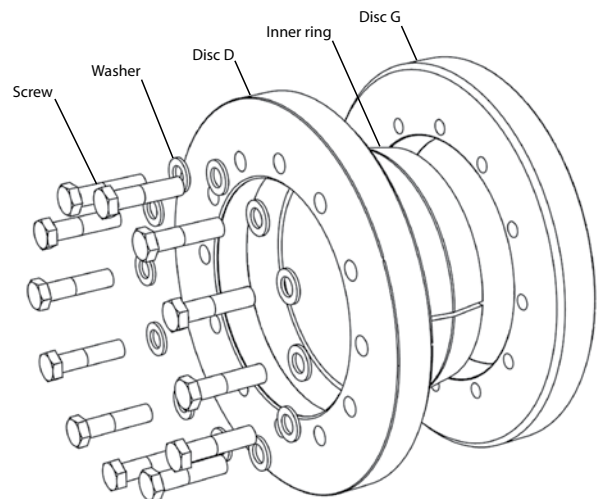
| <i>d</i><br>mm | <i>d<sub>w</sub></i><br>mm | <i>M<sub>max</sub></i><br>Nm | <i>D</i><br>mm | <i>l</i><br>mm | <i>e</i><br>mm | <i>H</i><br>mm | <i>A</i><br>mm | <i>B</i><br>mm | <i>M<sub>A</sub></i><br>Nm | <i>Z</i><br>Stk | <i>S</i>   | <i>DIN</i> | <i>Class</i> | <i>n<sub>max</sub></i><br>min <sup>-1</sup> | <i>p<sub>N</sub></i><br>N/mm <sup>2</sup> | <i>I</i><br>kgm <sup>2</sup> | <i>Weight</i><br>kg |
|----------------|----------------------------|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|-----------------|------------|------------|--------------|---------------------------------------------|-------------------------------------------|------------------------------|---------------------|
| <b>660</b>     | 540                        | 4329000                      | 1100           | 260            | 15             | 290            | 760            | 670            | 1950                       | 38              | M 30 x 200 | 931        | 12.9         | 520                                         | 278                                       | 246                          | 1195                |
| <b>700</b>     | 580                        | 4980000                      | 1200           | 260            | 15             | 290            | 800            | 710            | 1950                       | 40              | M 30 x 200 | 931        | 12.9         | 470                                         | 276                                       | 354                          | 1466                |
| <b>720</b>     | 600                        | 5456000                      | 1230           | 260            | 15             | 290            | 820            | 730            | 1950                       | 42              | M 30 x 200 | 931        | 12.9         | 460                                         | 282                                       | 390                          | 1535                |
| <b>750</b>     | 620                        | 5844000                      | 1230           | 280            | 17,5           | 315            | 855            | 762            | 1950                       | 44              | M 30 x 220 | 931        | 12.9         | 460                                         | 263                                       | 420                          | 1619                |
| <b>800</b>     | 660                        | 6475000                      | 1310           | 280            | 17,5           | 315            | 905            | 812            | 1950                       | 46              | M 30 x 220 | 931        | 12.9         | 430                                         | 258                                       | 540                          | 1833                |
| <b>850</b>     | 700                        | 7443000                      | 1330           | 310            | 17,5           | 345            | 965            | 862            | 1950                       | 50              | M 30 x 250 | 931        | 12.9         | 430                                         | 238                                       | 604                          | 1938                |
| <b>900</b>     | 740                        | 8180000                      | 1400           | 310            | 17,5           | 345            | 1015           | 912            | 1950                       | 52              | M 30 x 250 | 931        | 12.9         | 400                                         | 234                                       | 738                          | 2130                |
| <b>950</b>     | 780                        | 10005000                     | 1550           | 340            | 20             | 380            | 1075           | 962            | 3300                       | 42              | M 36 x 260 | 931        | 12.9         | 370                                         | 234                                       | 1285                         | 3111                |
| <b>1000</b>    | 820                        | 12541000                     | 1620           | 340            | 20             | 380            | 1125           | 1012           | 3300                       | 50              | M 36 x 260 | 931        | 12.9         | 350                                         | 265                                       | 1526                         | 3369                |





## Used symbols

|           |                      |                                          |
|-----------|----------------------|------------------------------------------|
| $d$       | [mm]                 | Nominal diameter of the shrink disc      |
| $d_w$     | [mm]                 | Shaft diameter                           |
| $M_{max}$ | [Nm]                 | Maximal transmittable torque             |
| $D$       | [mm]                 | Outer diameter                           |
| $I$       | [mm]                 | Length of the inner ring                 |
| $e$       | [mm]                 | Excess length                            |
| $H$       | [mm]                 | Width of the shrink disc                 |
| $A$       | [mm]                 | Pitch circle diameter                    |
| $B$       | [mm]                 | Attachment size                          |
| $M_A$     | [Nm]                 | Tightening torque of the clamping screws |
| $Z$       |                      | Number of clamping screws                |
| $S$       |                      | Size of the clamping screws              |
| $n_{max}$ | [min <sup>-1</sup> ] | Permitted rotational frequency           |
| $p_N$     | [N/mm <sup>2</sup> ] | Moderate pressure to the hub             |
| $I$       | [kgm <sup>2</sup> ]  | Moment of inertia                        |



## Design of the shrink disc

$d < 115$  - Discs galvanized - without washers

$d \geq 110$  - Discs painted - with washers

Dimensions **H** & **e** in unlocked position

Hexagon head bolts are used as standard.

Upon request we provide all sized shrink discs with hexagon socket head bolts (Inbus). (See ordering information)

## Variation from the standard shaft diameter $d_w$

| ><br>mm | ≤<br>mm | minimal<br>-<br>mm | maximal<br>+<br>mm |
|---------|---------|--------------------|--------------------|
| 40      | 50      | -3                 | 2                  |
| 50      | 140     | -5                 | 5                  |
| 140     | 180     | -10                | 5                  |
| 180     | 320     | -15                | 10                 |
| 320     | 440     | -20                | 10                 |
| 440     | 600     | -30                | 10                 |

$$M = M_{max (Catalog)} \left( \frac{d_w (target)}{d_w (Catalog)} \right)^2$$

(see Basics - Calculation)

| min. yield strength $R_{p0.2}$ | N/mm <sup>2</sup> |
|--------------------------------|-------------------|
| Solid shaft                    | 290               |
| Hub                            | 350               |

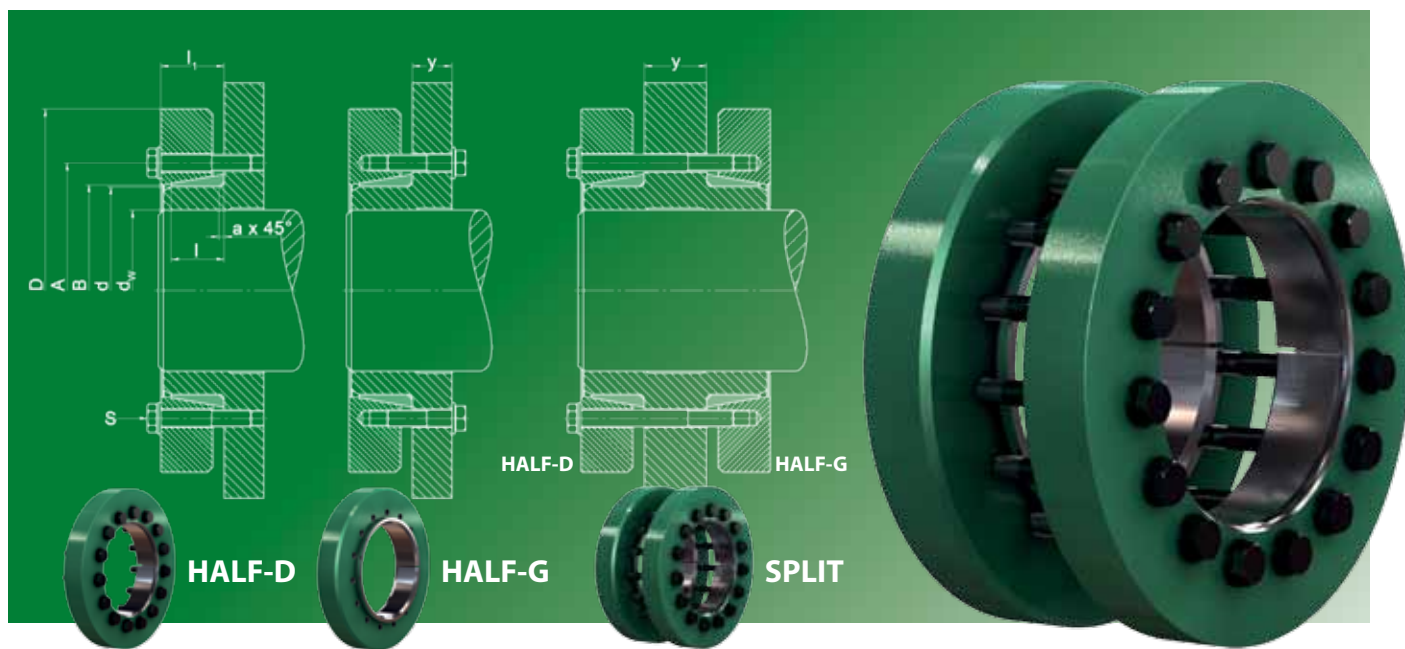
Ordering information: TAS 3091 -  $d$  (e.g.: TAS 3091-200 ... further sizes on request)  
with Inbus: TAS 3091 -  $d$  - Inbus (e.g.: TAS 3091-200-Inbus)

# 3091

Heavy-Range

| <i>d</i><br>mm | <i>d<sub>w</sub></i><br>mm | <i>M<sub>max</sub></i><br>Nm | <i>D</i><br>mm | <i>I</i><br>mm | <i>e</i><br>mm | <i>H</i><br>mm | <i>A</i><br>mm | <i>B</i><br>mm | <i>M<sub>A</sub></i><br>Nm | <i>Z</i><br>Stk | <i>S</i>   | <i>DIN</i> | <i>Class</i> | <i>n<sub>max</sub></i><br>min <sup>-1</sup> | <i>p<sub>N</sub></i><br>N/mm <sup>2</sup> | <i>I</i><br>kgm <sup>2</sup> | <i>Weight</i><br>kg |
|----------------|----------------------------|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|-----------------|------------|------------|--------------|---------------------------------------------|-------------------------------------------|------------------------------|---------------------|
| 40             | 30                         | 890                          | 80             | 25             | 3,5            | 32             | 62             | 43             | 30                         | 4               | M 8 x 30   | 933        | 10.9         | 7100                                        | 249                                       | 0,0008300                    | 0,83                |
| 44             | 34                         | 1300                         | 85             | 28             | 3              | 34             | 66             | 47             | 30                         | 5               | M 8 x 30   | 933        | 10.9         | 6700                                        | 253                                       | 0,0011451                    | 1,0                 |
| 50             | 40                         | 2500                         | 95             | 30             | 4,5            | 39             | 73             | 54             | 30                         | 7               | M 8 x 35   | 933        | 10.9         | 6000                                        | 291                                       | 0,0020169                    | 1,4                 |
| 55             | 45                         | 2900                         | 105            | 30             | 4,5            | 39             | 78             | 59             | 30                         | 7               | M 8 x 35   | 933        | 10.9         | 5400                                        | 264                                       | 0,0029856                    | 1,7                 |
| 62             | 50                         | 3200                         | 115            | 30             | 4,5            | 39             | 85             | 66             | 30                         | 7               | M 8 x 35   | 933        | 10.9         | 4900                                        | 235                                       | 0,0042672                    | 2,0                 |
| 68             | 55                         | 3900                         | 120            | 30             | 4,5            | 39             | 92             | 72             | 30                         | 8               | M 8 x 35   | 933        | 10.9         | 4700                                        | 244                                       | 0,0049938                    | 2,1                 |
| 75             | 60                         | 5900                         | 145            | 36             | 5              | 46             | 105            | 84             | 59                         | 7               | M 10 x 40  | 933        | 10.9         | 4100                                        | 257                                       | 0,0101760                    | 3,3                 |
| 80             | 65                         | 6600                         | 145            | 36             | 5              | 46             | 105            | 84             | 59                         | 7               | M 10 x 40  | 933        | 10.9         | 3900                                        | 241                                       | 0,0123412                    | 3,6                 |
| 90             | 70                         | 7600                         | 160            | 40             | 5              | 50             | 116            | 94             | 59                         | 8               | M 10 x 40  | 933        | 10.9         | 3500                                        | 220                                       | 0,0202200                    | 4,8                 |
| 100            | 75                         | 9800                         | 170            | 44             | 5              | 54             | 126            | 104            | 59                         | 10              | M 10 x 45  | 931        | 10.9         | 3300                                        | 225                                       | 0,0262575                    | 5,4                 |
| 110            | 80                         | 12000                        | 185            | 50             | 5              | 60             | 138            | 114            | 59                         | 12              | M 10 x 45  | 931        | 10.9         | 3000                                        | 216                                       | 0,0411134                    | 7,1                 |
| 120            | 85                         | 14300                        | 210            | 55             | 5              | 65             | 155            | 125            | 100                        | 10              | M 12 x 50  | 931        | 10.9         | 2700                                        | 219                                       | 0,0731250                    | 10                  |
| 125            | 90                         | 15600                        | 215            | 55             | 5              | 65             | 160            | 129            | 100                        | 10              | M 12 x 50  | 931        | 10.9         | 2600                                        | 210                                       | 0,0850438                    | 11                  |
| 140            | 100                        | 21000                        | 230            | 60             | 7              | 74             | 175            | 144            | 100                        | 12              | M 12 x 55  | 931        | 10.9         | 2400                                        | 207                                       | 0,1178125                    | 13                  |
| 155            | 110                        | 29500                        | 265            | 66             | 7              | 80             | 198            | 164            | 100                        | 15              | M 12 x 60  | 931        | 10.9         | 2100                                        | 212                                       | 0,2356250                    | 20                  |
| 165            | 120                        | 48100                        | 290            | 72             | 8              | 88             | 210            | 174            | 250                        | 10              | M 16 x 70  | 931        | 10.9         | 1900                                        | 251                                       | 0,3757219                    | 27                  |
| 175            | 130                        | 53100                        | 300            | 72             | 8              | 88             | 220            | 184            | 250                        | 10              | M 16 x 70  | 931        | 10.9         | 1900                                        | 237                                       | 0,4221875                    | 28                  |
| 185            | 140                        | 83500                        | 330            | 92             | 10             | 112            | 236            | 194            | 250                        | 14              | M 16 x 80  | 931        | 10.9         | 1700                                        | 245                                       | 0,8229688                    | 46                  |
| 200            | 150                        | 95400                        | 350            | 92             | 10             | 112            | 246            | 204            | 250                        | 15              | M 16 x 80  | 931        | 10.9         | 1600                                        | 243                                       | 1,0359000                    | 51                  |
| 220            | 165                        | 138000                       | 370            | 114            | 10             | 134            | 270            | 224            | 250                        | 20              | M 16 x 90  | 931        | 10.9         | 1500                                        | 238                                       | 1,5287                       | 66                  |
| 240            | 180                        | 180000                       | 405            | 120            | 12             | 144            | 295            | 244            | 490                        | 15              | M 20 x 100 | 931        | 10.9         | 1400                                        | 243                                       | 2,3548                       | 85                  |
| 260            | 200                        | 247000                       | 430            | 136            | 12             | 160            | 321            | 265            | 490                        | 18              | M 20 x 110 | 931        | 10.9         | 1300                                        | 238                                       | 3,2825                       | 104                 |
| 280            | 220                        | 330000                       | 460            | 148            | 12             | 172            | 346            | 285            | 490                        | 21              | M 20 x 120 | 931        | 10.9         | 1200                                        | 237                                       | 4,6400                       | 128                 |
| 300            | 240                        | 388000                       | 485            | 152            | 12             | 176            | 364            | 305            | 490                        | 22              | M 20 x 120 | 931        | 10.9         | 1100                                        | 225                                       | 5,8134                       | 143                 |
| 320            | 250                        | 428000                       | 520            | 160            | 12             | 184            | 386            | 325            | 490                        | 24              | M 20 x 130 | 931        | 10.9         | 1100                                        | 219                                       | 7,9220                       | 170                 |
| 340            | 260                        | 546000                       | 570            | 176            | 12             | 200            | 420            | 345            | 840                        | 21              | M 24 x 130 | 931        | 10.9         | 1000                                        | 236                                       | 13,10                        | 238                 |
| 350            | 280                        | 626000                       | 580            | 176            | 12             | 200            | 425            | 355            | 840                        | 21              | M 24 x 130 | 931        | 10.9         | 980                                         | 229                                       | 13,94                        | 243                 |
| 360            | 290                        | 687000                       | 590            | 180            | 12             | 204            | 432            | 365            | 840                        | 22              | M 24 x 140 | 931        | 10.9         | 970                                         | 228                                       | 14,81                        | 248                 |
| 380            | 305                        | 719000                       | 645            | 180            | 12             | 204            | 458            | 387            | 840                        | 22              | M 24 x 140 | 931        | 10.9         | 880                                         | 216                                       | 21,65                        | 309                 |
| 390            | 310                        | 789000                       | 660            | 188            | 12             | 212            | 468            | 397            | 840                        | 24              | M 24 x 140 | 931        | 10.9         | 860                                         | 220                                       | 24,68                        | 336                 |
| 400            | 320                        | 817000                       | 680            | 188            | 12             | 212            | 480            | 407            | 840                        | 24              | M 24 x 140 | 931        | 10.9         | 840                                         | 214                                       | 27,85                        | 358                 |
| 420            | 340                        | 1110000                      | 690            | 214            | 12             | 238            | 504            | 427            | 840                        | 30              | M 24 x 150 | 931        | 10.9         | 830                                         | 224                                       | 33,52                        | 411                 |
| 440            | 350                        | 1173000                      | 750            | 224            | 14             | 252            | 527            | 448            | 1250                       | 24              | M 27 x 170 | 931        | 10.9         | 760                                         | 215                                       | 49,52                        | 524                 |
| 460            | 370                        | 1483000                      | 770            | 224            | 14             | 252            | 547            | 468            | 1250                       | 28              | M 27 x 170 | 931        | 10.9         | 740                                         | 240                                       | 54,40                        | 541                 |
| 480            | 390                        | 1694000                      | 800            | 246            | 14             | 274            | 580            | 488            | 1250                       | 30              | M 27 x 180 | 931        | 10.9         | 710                                         | 224                                       | 70,39                        | 647                 |
| 500            | 410                        | 1910000                      | 850            | 246            | 14             | 274            | 600            | 508            | 1250                       | 32              | M 27 x 180 | 931        | 10.9         | 670                                         | 229                                       | 90,81                        | 747                 |
| 530            | 440                        | 2207000                      | 910            | 275            | 14             | 303            | 630            | 538            | 1250                       | 34              | M 27 x 200 | 931        | 10.9         | 630                                         | 206                                       | 130                          | 939                 |
| 660            | 540                        | 4116000                      | 1070           | 310            | 15             | 340            | 780            | 670            | 2800                       | 30              | M 36 x 240 | 931        | 10.9         | 530                                         | 224                                       | 263                          | 1331                |

# 3091 HALF / SPLIT Heavy-Range



## Used symbols

|           |                      |                                          |
|-----------|----------------------|------------------------------------------|
| $d$       | [mm]                 | Nominal diameter of the shrink disc      |
| $d_w$     | [mm]                 | Shaft diameter                           |
| $M_{max}$ | [Nm]                 | Maximal transmittable torque             |
| $D$       | [mm]                 | Outer diameter                           |
| $l$       | [mm]                 | Length of the inner ring                 |
| $a$       | [mm]                 | Width of the chamfer on the inner ring   |
| $l_1$     | [mm]                 | Width of the shrink disc                 |
| $A$       | [mm]                 | Pitch circle diameter                    |
| $B$       | [mm]                 | Attachment size                          |
| $M_A$     | [Nm]                 | Tightening torque of the clamping screws |
| $Z$       |                      | Number of clamping screws                |
| $S$       |                      | Size of the clamping screws              |
| $n_{max}$ | [min <sup>-1</sup> ] | Permitted rotational frequency           |
| $p_N$     | [N/mm <sup>2</sup> ] | Moderate pressure to the hub             |
| $I$       | [kgm <sup>2</sup> ]  | Moment of inertia                        |

## Design of the shrink disc

$d < 115$  - Discs galvanized - without washers

$d \geq 110$  - Discs painted - with washers

Dimensions **H** & **e** in unlocked position

Deviation from the standard shaft diameter  $d_w$   
see the table „3091 Standard-Range“  
and „Calculation of transmissible torques and forces“

Hexagon head bolts are used as standard.

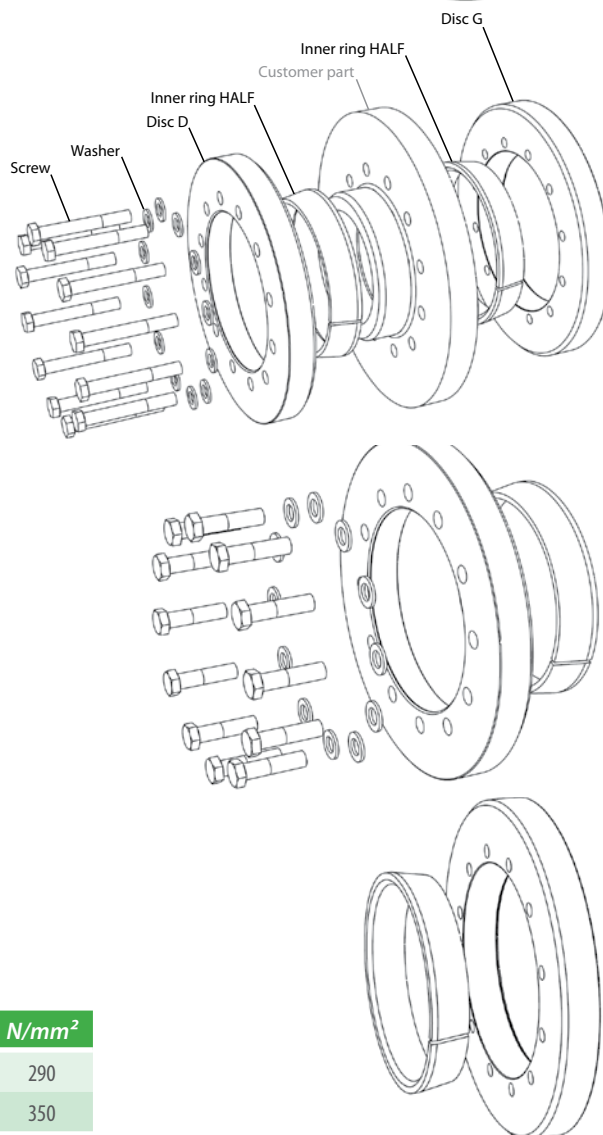
Upon request we provide all sized shrink discs with hexagon socket head bolts (Inbus). (See ordering information)

For **Typ** in ordering information:

**GET** means **SPLIT**

**HALB** means **HALF**

| min. yield strength $R_{p0.2}$ | N/mm <sup>2</sup> |
|--------------------------------|-------------------|
| Solid shaft                    | 290               |
| Hub                            | 350               |



Ordering information: **TAS 3091Type - d - y** (e.g.: TAS 3091GET-200-Y60 or TAS 3091HALB-G-200-Y30 or TAS 3091HALB-D-200)

with Inbus: **TAS 3091Type - d - y - Inbus** (e.g.: TAS 3091GET-200-Y60-Inbus etc.)

(Further sizes on request)

# 3091 HALF / SPLIT Heavy-Range

## Please note:

All values refer to shrink disk design **HALF**!

Please provide us the dimension of „y“ or the length of screws. Otherwise we can not provide appropriate screws!  
(see ordering information)

Applies to shrink disk design **HALF-G**:

- The required screw length is:  $\text{Screw length (3091 Heavy-Range)} - l_1 + 2 a + y$  (rounded up to standard lengths)

Applies to shrink disk design **SPLIT**:

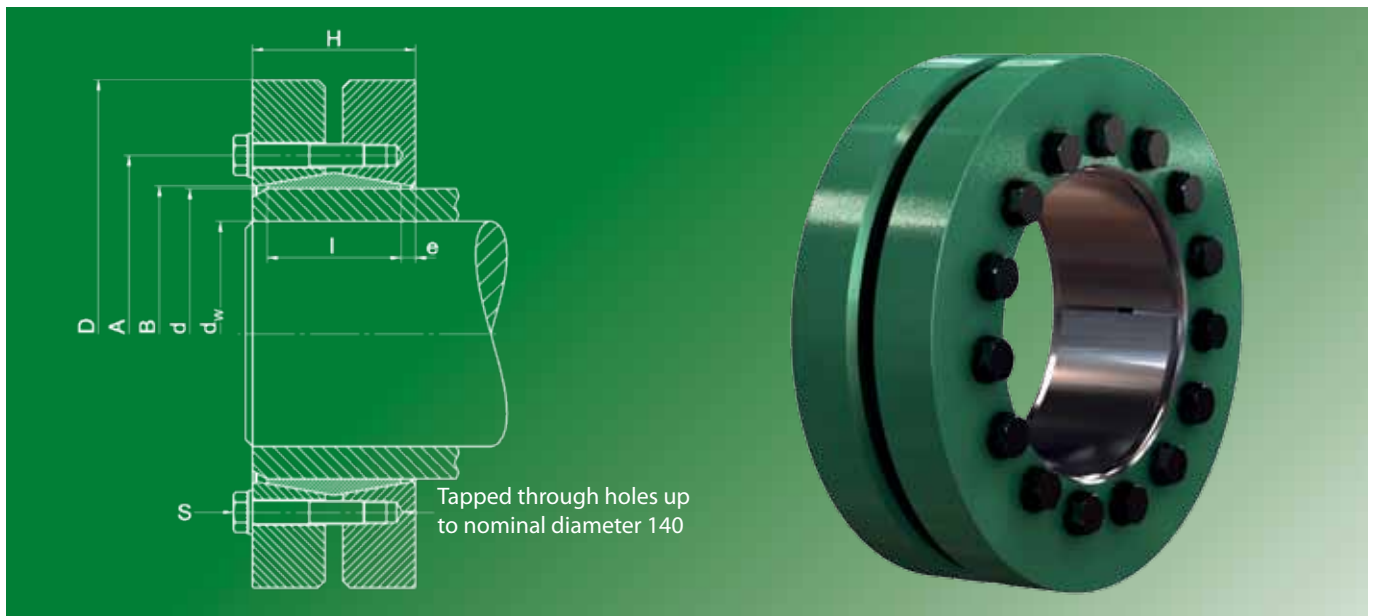
- The design consists of 1x **HALF-D** + 1x **HALF-G**
- Delivery is possible with or without screws
- Maximum transmittable torque:  $M_{ges} = 2 M_{max}$
- The required screw length:  $\text{Screw length (3091 Heavy-Range)} + 2 a + y$  (rounded up to standard lengths)

|         |                      |                        |         |         |         |                      |         |         |                      |          | HALF-D only          |            |     |       |                                       |                                     |                       |              |
|---------|----------------------|------------------------|---------|---------|---------|----------------------|---------|---------|----------------------|----------|----------------------|------------|-----|-------|---------------------------------------|-------------------------------------|-----------------------|--------------|
| d<br>mm | d <sub>w</sub><br>mm | M <sub>max</sub><br>Nm | D<br>mm | l<br>mm | a<br>mm | l <sub>1</sub><br>mm | A<br>mm | B<br>mm | M <sub>A</sub><br>Nm | Z<br>Stk | d <sub>B</sub><br>mm | S          | DIN | Class | n <sub>max</sub><br>min <sup>-1</sup> | p <sub>N</sub><br>N/mm <sup>2</sup> | I<br>kgm <sup>2</sup> | Weight<br>kg |
| 40      | 30                   | 440                    | 80      | 14,5    | 2       | 18                   | 62      | 43      | 30                   | 4        | 9                    | M 8 x 30   | 933 | 10.9  | 7100                                  | 249                                 | 0,0004100             | 0,41         |
| 44      | 34                   | 670                    | 85      | 16      | 2       | 19                   | 66      | 47      | 30                   | 5        | 9                    | M 8 x 30   | 933 | 10.9  | 6700                                  | 253                                 | 0,0005611             | 0,49         |
| 50      | 40                   | 960                    | 95      | 17      | 2       | 21,5                 | 73      | 54      | 30                   | 7        | 9                    | M 8 x 35   | 933 | 10.9  | 6000                                  | 233                                 | 0,0009796             | 0,68         |
| 55      | 45                   | 1300                   | 105     | 17,5    | 2,5     | 22                   | 78      | 59      | 30                   | 7        | 9                    | M 8 x 35   | 933 | 10.9  | 5400                                  | 238                                 | 0,0014752             | 0,84         |
| 62      | 50                   | 1600                   | 115     | 17,5    | 2,5     | 22                   | 85      | 66      | 30                   | 7        | 9                    | M 8 x 35   | 933 | 10.9  | 4900                                  | 235                                 | 0,0021336             | 1,0          |
| 68      | 55                   | 1900                   | 120     | 17,5    | 2,5     | 22                   | 92      | 72      | 30                   | 8        | 9                    | M 8 x 35   | 933 | 10.9  | 4700                                  | 244                                 | 0,0023780             | 1,0          |
| 75      | 60                   | 2900                   | 145     | 22      | 4       | 27                   | 105     | 84      | 59                   | 7        | 11                   | M 10 x 40  | 933 | 10.9  | 4100                                  | 257                                 | 0,0052422             | 1,7          |
| 80      | 65                   | 3300                   | 145     | 22      | 4       | 27                   | 105     | 84      | 59                   | 7        | 11                   | M 10 x 40  | 933 | 10.9  | 3900                                  | 241                                 | 0,0061706             | 1,8          |
| 90      | 70                   | 3800                   | 160     | 25      | 4       | 30                   | 116     | 94      | 59                   | 8        | 11                   | M 10 x 40  | 933 | 10.9  | 3500                                  | 220                                 | 0,0101100             | 2,4          |
| 100     | 75                   | 4900                   | 170     | 27      | 4       | 32                   | 126     | 104     | 59                   | 10       | 11                   | M 10 x 45  | 931 | 10.9  | 3300                                  | 225                                 | 0,0131288             | 2,7          |
| 110     | 80                   | 6000                   | 185     | 30      | 5       | 35                   | 138     | 114     | 59                   | 12       | 11                   | M 10 x 45  | 931 | 10.9  | 3000                                  | 216                                 | 0,0208462             | 3,6          |
| 120     | 85                   | 7100                   | 210     | 32,5    | 5       | 37,5                 | 155     | 125     | 100                  | 10       | 13,5                 | M 12 x 50  | 931 | 10.9  | 2700                                  | 219                                 | 0,0372938             | 5,1          |
| 125     | 90                   | 7800                   | 215     | 32,5    | 5       | 37,5                 | 160     | 129     | 100                  | 10       | 13,5                 | M 12 x 50  | 931 | 10.9  | 2600                                  | 210                                 | 0,0409756             | 5,3          |
| 140     | 100                  | 10500                  | 230     | 35      | 5       | 42                   | 175     | 144     | 100                  | 12       | 13,5                 | M 12 x 55  | 931 | 10.9  | 2400                                  | 207                                 | 0,0598125             | 6,6          |
| 155     | 110                  | 14700                  | 265     | 38      | 5       | 45                   | 198     | 164     | 100                  | 15       | 13,5                 | M 12 x 60  | 931 | 10.9  | 2100                                  | 212                                 | 0,1178125             | 10           |
| 165     | 120                  | 24000                  | 290     | 41      | 5       | 49                   | 210     | 174     | 250                  | 10       | 17,5                 | M 16 x 70  | 931 | 10.9  | 1900                                  | 251                                 | 0,1809031             | 13           |
| 175     | 130                  | 26500                  | 300     | 41      | 5       | 49                   | 220     | 184     | 250                  | 10       | 17,5                 | M 16 x 70  | 931 | 10.9  | 1900                                  | 237                                 | 0,2110938             | 14           |
| 185     | 140                  | 41700                  | 330     | 51      | 5       | 61                   | 236     | 194     | 250                  | 14       | 17,5                 | M 16 x 80  | 931 | 10.9  | 1700                                  | 245                                 | 0,4114844             | 23           |
| 200     | 150                  | 47700                  | 350     | 51      | 5       | 61                   | 246     | 204     | 250                  | 15       | 17,5                 | M 16 x 80  | 931 | 10.9  | 1600                                  | 243                                 | 0,5078125             | 25           |
| 220     | 165                  | 69300                  | 370     | 65      | 8       | 75                   | 270     | 224     | 250                  | 20       | 17,5                 | M 16 x 90  | 931 | 10.9  | 1500                                  | 238                                 | 0,7643625             | 33           |
| 240     | 180                  | 90100                  | 405     | 68      | 8       | 80                   | 295     | 244     | 490                  | 15       | 22                   | M 20 x 100 | 931 | 10.9  | 1400                                  | 243                                 | 1,1912                | 43           |
| 260     | 200                  | 123000                 | 430     | 76      | 8       | 88                   | 321     | 265     | 490                  | 18       | 22                   | M 20 x 110 | 931 | 10.9  | 1300                                  | 238                                 | 1,6412                | 52           |
| 280     | 220                  | 165000                 | 460     | 84      | 10      | 96                   | 346     | 285     | 490                  | 21       | 22                   | M 20 x 120 | 931 | 10.9  | 1200                                  | 237                                 | 2,3200                | 64           |
| 300     | 240                  | 194000                 | 485     | 86      | 10      | 98                   | 364     | 305     | 490                  | 22       | 22                   | M 20 x 120 | 931 | 10.9  | 1100                                  | 225                                 | 2,9270                | 72           |
| 320     | 250                  | 214000                 | 520     | 90      | 10      | 102                  | 386     | 325     | 490                  | 24       | 22                   | M 20 x 130 | 931 | 10.9  | 1100                                  | 219                                 | 3,9610                | 85           |
| 340     | 260                  | 273000                 | 570     | 98      | 10      | 110                  | 420     | 345     | 840                  | 21       | 26                   | M 24 x 140 | 931 | 10.9  | 1000                                  | 236                                 | 6,5524                | 119          |
| 350     | 280                  | 313000                 | 580     | 98      | 10      | 110                  | 425     | 355     | 840                  | 21       | 26                   | M 24 x 140 | 931 | 10.9  | 980                                   | 229                                 | 6,9409                | 121          |
| 360     | 290                  | 343000                 | 590     | 100     | 10      | 112                  | 432     | 365     | 840                  | 22       | 26                   | M 24 x 140 | 931 | 10.9  | 970                                   | 228                                 | 7,4044                | 124          |
| 380     | 305                  | 345000                 | 645     | 103     | 13      | 115                  | 458     | 387     | 840                  | 22       | 26                   | M 24 x 140 | 931 | 10.9  | 880                                   | 216                                 | 10,79                 | 154          |
| 390     | 310                  | 394000                 | 660     | 107     | 13      | 119                  | 468     | 397     | 840                  | 24       | 26                   | M 24 x 150 | 931 | 10.9  | 860                                   | 220                                 | 12,34                 | 168          |

# 3091 HALF / SPLIT Heavy-Range

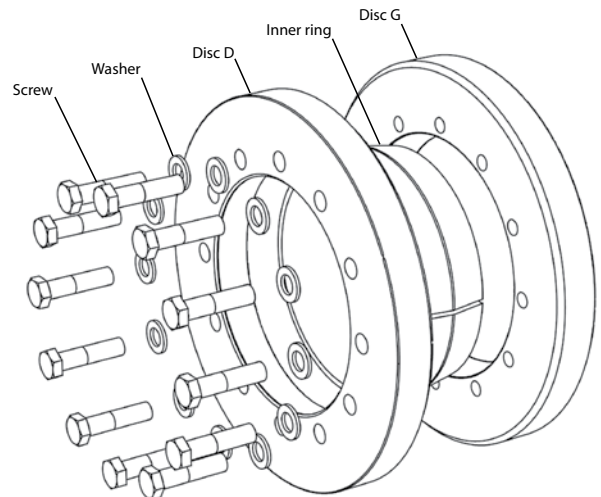
|                |                            |                              |                |                |                |                            |                |                |                            |                 | HALF-D only                |            |            |              |                                             |                                           |                              |                     |
|----------------|----------------------------|------------------------------|----------------|----------------|----------------|----------------------------|----------------|----------------|----------------------------|-----------------|----------------------------|------------|------------|--------------|---------------------------------------------|-------------------------------------------|------------------------------|---------------------|
| <i>d</i><br>mm | <i>d<sub>w</sub></i><br>mm | <i>M<sub>max</sub></i><br>Nm | <i>D</i><br>mm | <i>I</i><br>mm | <i>a</i><br>mm | <i>I<sub>1</sub></i><br>mm | <i>A</i><br>mm | <i>B</i><br>mm | <i>M<sub>A</sub></i><br>Nm | <i>Z</i><br>Stk | <i>d<sub>B</sub></i><br>mm | <i>S</i>   | <i>DIN</i> | <i>Class</i> | <i>n<sub>max</sub></i><br>min <sup>-1</sup> | <i>p<sub>N</sub></i><br>N/mm <sup>2</sup> | <i>I</i><br>kgm <sup>2</sup> | <i>Weight</i><br>kg |
| 400            | 320                        | 408000                       | 680            | 107            | 13             | 119                        | 480            | 407            | 840                        | 24              | 26                         | M 24 x 150 | 931        | 10.9         | 840                                         | 214                                       | 13,93                        | 179                 |
| 420            | 340                        | 555000                       | 690            | 120            | 13             | 132                        | 504            | 427            | 840                        | 30              | 26                         | M 24 x 160 | 931        | 10.9         | 830                                         | 224                                       | 16,72                        | 205                 |
| 440            | 350                        | 586000                       | 750            | 125            | 13             | 139                        | 527            | 448            | 1250                       | 24              | 30                         | M 27 x 170 | 931        | 10.9         | 760                                         | 215                                       | 24,76                        | 262                 |
| 460            | 370                        | 741000                       | 770            | 125            | 13             | 139                        | 547            | 468            | 1250                       | 28              | 30                         | M 27 x 170 | 931        | 10.9         | 740                                         | 240                                       | 27,25                        | 271                 |
| 480            | 390                        | 847000                       | 800            | 138            | 15             | 152                        | 580            | 488            | 1250                       | 30              | 30                         | M 27 x 180 | 931        | 10.9         | 710                                         | 224                                       | 35,25                        | 324                 |
| 500            | 410                        | 955000                       | 850            | 138            | 15             | 152                        | 600            | 508            | 1250                       | 32              | 30                         | M 27 x 180 | 931        | 10.9         | 670                                         | 229                                       | 45,34                        | 373                 |
| 530            | 440                        | 1103000                      | 910            | 152,5          | 15             | 166,5                      | 630            | 538            | 1250                       | 34              | 30                         | M 27 x 200 | 931        | 10.9         | 630                                         | 206                                       | 65,15                        | 470                 |
| 660            | 540                        | 2058000                      | 1070           | 170            | 15             | 185                        | 780            | 670            | 2800                       | 30              | 39                         | M 36 x 240 | 931        | 10.9         | 530                                         | 224                                       | 132                          | 666                 |





## Used symbols

|           |                      |                                          |
|-----------|----------------------|------------------------------------------|
| $d$       | [mm]                 | Nominal diameter of the shrink disc      |
| $d_w$     | [mm]                 | Shaft diameter                           |
| $M_{max}$ | [Nm]                 | Maximal transmittable torque             |
| $D$       | [mm]                 | Outer diameter                           |
| $I$       | [mm]                 | Length of the inner ring                 |
| $e$       | [mm]                 | Excess length                            |
| $H$       | [mm]                 | Width of the shrink disc                 |
| $A$       | [mm]                 | Pitch circle diameter                    |
| $B$       | [mm]                 | Attachment size                          |
| $M_A$     | [Nm]                 | Tightening torque of the clamping screws |
| $Z$       |                      | Number of clamping screws                |
| $S$       |                      | Size of the clamping screws              |
| $n_{max}$ | [min <sup>-1</sup> ] | Permitted rotational frequency           |
| $p_N$     | [N/mm <sup>2</sup> ] | Moderate pressure to the hub             |
| $I$       | [kgm <sup>2</sup> ]  | Moment of inertia                        |



## Design of the shrink disc

$d < 115$  - Discs galvanized - without washers

$d \geq 110$  - Discs painted - with washers

Dimensions **H** & **e** in unlocked position

Hexagon head bolts are used as standard.

Upon request we provide all sized shrink discs with hexagon socket head bolts (Inbus). (See ordering information)

## Variation from the standard shaft diameter $d_w$

| ><br>mm | ≤<br>mm | minimal<br>-<br>mm | maximal<br>+<br>mm |
|---------|---------|--------------------|--------------------|
| 40      | 50      | -3                 | 2                  |
| 50      | 140     | -5                 | 5                  |
| 140     | 180     | -10                | 5                  |
| 180     | 320     | -15                | 10                 |
| 320     | 440     | -20                | 10                 |
| 440     | 600     | -30                | 10                 |

$$M = M_{max (Catalog)} \left( \frac{d_w (target)}{d_w (Catalog)} \right)^2$$

(see Basics - Calculation)

| min. yield strength $R_{p0.2}$ | N/mm <sup>2</sup> |
|--------------------------------|-------------------|
| Solid shaft                    | 350               |
| Hub                            | 450               |

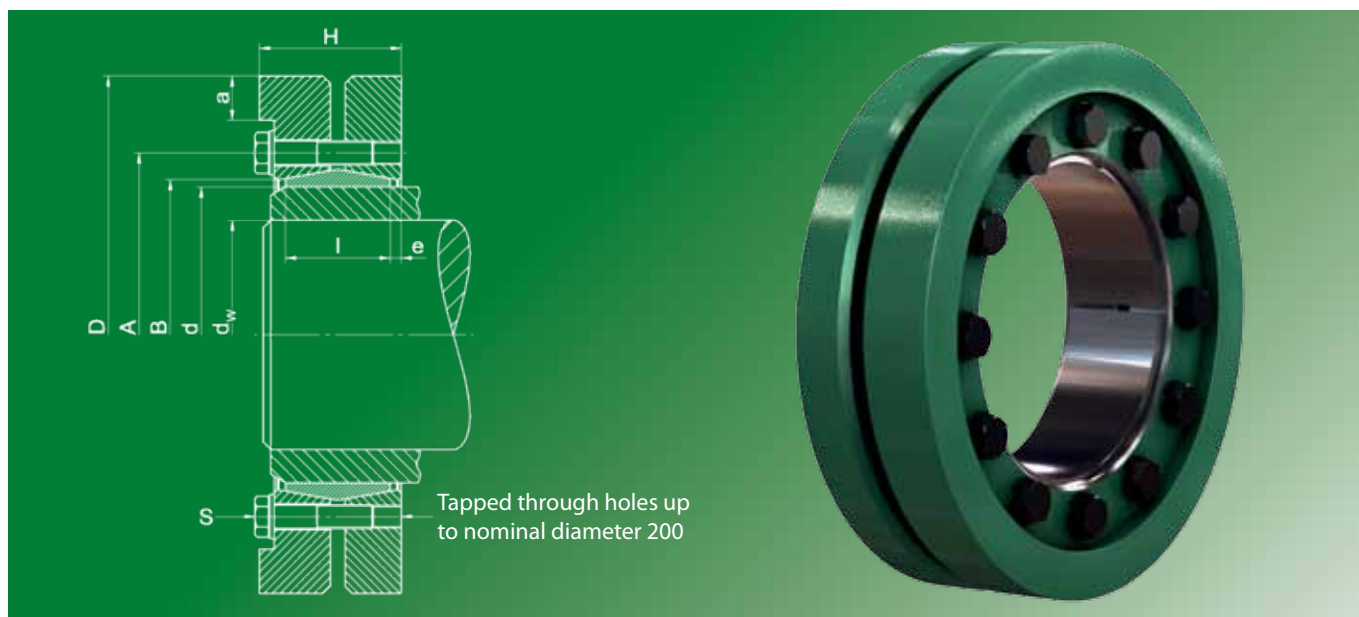
Ordering information: TAS 3093 -  $d$  (e.g.: TAS 3093-200 ... further sizes on request)  
with Inbus: TAS 3093 -  $d$  - Inbus (e.g.: TAS 3093-200-Inbus)

# 3093

Heavy-Range strengthened

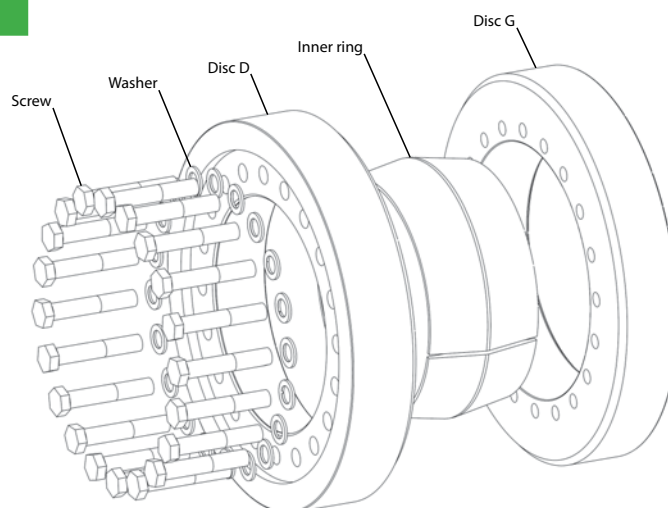
| <i>d</i><br>mm | <i>d<sub>W</sub></i><br>mm | <i>M<sub>max</sub></i><br>Nm | <i>D</i><br>mm | <i>I</i><br>mm | <i>e</i><br>mm | <i>H</i><br>mm | <i>A</i><br>mm | <i>B</i><br>mm | <i>M<sub>A</sub></i><br>Nm | <i>Z</i><br>Stk | <i>S</i>   | <i>DIN</i> | <i>Class</i> | <i>n<sub>max</sub></i><br>min <sup>-1</sup> | <i>p<sub>N</sub></i><br>N/mm <sup>2</sup> | <i>I</i><br>kgm <sup>2</sup> | <i>Weight</i><br>kg |
|----------------|----------------------------|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|-----------------|------------|------------|--------------|---------------------------------------------|-------------------------------------------|------------------------------|---------------------|
| 40             | 30                         | 1000                         | 80             | 25             | 3,5            | 32             | 62             | 43             | 35                         | 4               | M 8 x 30   | 933        | 12.9         | 7100                                        | 291                                       | 0,0008300                    | 0,83                |
| 44             | 34                         | 1600                         | 85             | 28             | 3              | 34             | 66             | 47             | 35                         | 5               | M 8 x 30   | 933        | 12.9         | 6700                                        | 295                                       | 0,0011451                    | 1,0                 |
| 55             | 45                         | 3500                         | 105            | 30             | 4,5            | 39             | 78             | 59             | 35                         | 7               | M 8 x 35   | 933        | 12.9         | 5400                                        | 309                                       | 0,0029856                    | 1,7                 |
| 62             | 50                         | 3800                         | 115            | 30             | 4,5            | 39             | 85             | 66             | 35                         | 7               | M 8 x 35   | 933        | 12.9         | 4900                                        | 274                                       | 0,0042672                    | 2,0                 |
| 68             | 55                         | 4700                         | 120            | 30             | 4,5            | 39             | 92             | 72             | 35                         | 8               | M 8 x 35   | 933        | 12.9         | 4700                                        | 285                                       | 0,0049938                    | 2,1                 |
| 75             | 60                         | 7200                         | 145            | 36             | 5              | 46             | 105            | 84             | 69                         | 7               | M 10 x 40  | 933        | 12.9         | 4100                                        | 300                                       | 0,0101760                    | 3,3                 |
| 80             | 65                         | 8000                         | 145            | 36             | 5              | 46             | 105            | 84             | 69                         | 7               | M 10 x 40  | 933        | 12.9         | 3900                                        | 282                                       | 0,0123412                    | 3,6                 |
| 90             | 70                         | 9100                         | 160            | 40             | 5              | 50             | 116            | 94             | 69                         | 8               | M 10 x 40  | 933        | 12.9         | 3500                                        | 258                                       | 0,0202200                    | 4,8                 |
| 100            | 75                         | 11800                        | 170            | 44             | 5              | 54             | 126            | 104            | 69                         | 10              | M 10 x 45  | 931        | 12.9         | 3300                                        | 263                                       | 0,0262575                    | 5,4                 |
| 110            | 80                         | 14500                        | 185            | 50             | 5              | 60             | 138            | 114            | 69                         | 12              | M 10 x 45  | 931        | 12.9         | 3000                                        | 253                                       | 0,0411134                    | 7,1                 |
| 120            | 85                         | 17500                        | 210            | 55             | 5              | 65             | 155            | 125            | 120                        | 10              | M 12 x 50  | 931        | 12.9         | 2700                                        | 257                                       | 0,0731250                    | 10                  |
| 125            | 90                         | 19000                        | 215            | 55             | 5              | 65             | 160            | 129            | 120                        | 10              | M 12 x 50  | 931        | 12.9         | 2600                                        | 246                                       | 0,0850438                    | 11                  |
| 140            | 100                        | 25600                        | 230            | 60             | 7              | 74             | 175            | 144            | 120                        | 12              | M 12 x 55  | 931        | 12.9         | 2400                                        | 242                                       | 0,1178125                    | 13                  |
| 155            | 110                        | 35800                        | 265            | 66             | 7              | 80             | 198            | 164            | 120                        | 15              | M 12 x 60  | 931        | 12.9         | 2100                                        | 248                                       | 0,2356250                    | 20                  |
| 165            | 120                        | 57800                        | 290            | 72             | 8              | 88             | 210            | 174            | 290                        | 10              | M 16 x 65  | 931        | 12.9         | 1900                                        | 295                                       | 0,3757219                    | 27                  |
| 175            | 130                        | 63800                        | 300            | 72             | 8              | 88             | 220            | 184            | 290                        | 10              | M 16 x 65  | 931        | 12.9         | 1900                                        | 278                                       | 0,4221875                    | 28                  |
| 185            | 140                        | 99900                        | 330            | 92             | 10             | 112            | 236            | 194            | 290                        | 14              | M 16 x 80  | 931        | 12.9         | 1700                                        | 288                                       | 0,8229688                    | 46                  |
| 200            | 150                        | 114000                       | 350            | 92             | 10             | 112            | 246            | 204            | 290                        | 15              | M 16 x 80  | 931        | 12.9         | 1600                                        | 285                                       | 1,0359                       | 51                  |
| 220            | 165                        | 166000                       | 370            | 114            | 10             | 134            | 270            | 224            | 290                        | 20              | M 16 x 90  | 931        | 12.9         | 1500                                        | 279                                       | 1,5287                       | 66                  |
| 240            | 180                        | 213000                       | 405            | 120            | 12             | 144            | 295            | 244            | 570                        | 15              | M 20 x 100 | 931        | 12.9         | 1400                                        | 284                                       | 2,3548                       | 85                  |
| 260            | 200                        | 294000                       | 430            | 136            | 12             | 160            | 321            | 265            | 570                        | 18              | M 20 x 110 | 931        | 12.9         | 1300                                        | 277                                       | 3,2825                       | 104                 |
| 280            | 220                        | 390000                       | 460            | 148            | 12             | 172            | 346            | 285            | 570                        | 21              | M 20 x 120 | 931        | 12.9         | 1200                                        | 276                                       | 4,6400                       | 128                 |
| 300            | 240                        | 458000                       | 485            | 152            | 12             | 176            | 364            | 305            | 570                        | 22              | M 20 x 120 | 931        | 12.9         | 1100                                        | 263                                       | 5,8100                       | 143                 |
| 320            | 250                        | 506000                       | 520            | 160            | 12             | 184            | 386            | 325            | 570                        | 24              | M 20 x 130 | 931        | 12.9         | 1100                                        | 255                                       | 7,9200                       | 170                 |
| 340            | 260                        | 648000                       | 570            | 176            | 12             | 200            | 420            | 345            | 980                        | 21              | M 24 x 130 | 931        | 12.9         | 1000                                        | 276                                       | 13,10                        | 238                 |
| 350            | 280                        | 741000                       | 580            | 176            | 12             | 200            | 425            | 355            | 980                        | 21              | M 24 x 130 | 931        | 12.9         | 980                                         | 268                                       | 13,94                        | 243                 |
| 360            | 290                        | 812000                       | 590            | 180            | 12             | 204            | 432            | 365            | 980                        | 22              | M 24 x 140 | 931        | 12.9         | 970                                         | 267                                       | 14,81                        | 248                 |
| 380            | 305                        | 850000                       | 645            | 180            | 12             | 204            | 458            | 387            | 980                        | 22              | M 24 x 140 | 931        | 12.9         | 880                                         | 253                                       | 21,65                        | 309                 |
| 390            | 310                        | 934000                       | 660            | 188            | 12             | 212            | 468            | 397            | 980                        | 24              | M 24 x 140 | 931        | 12.9         | 860                                         | 257                                       | 24,68                        | 336                 |
| 420            | 340                        | 1312000                      | 690            | 214            | 12             | 238            | 504            | 427            | 980                        | 30              | M 24 x 150 | 931        | 12.9         | 830                                         | 262                                       | 33,52                        | 411                 |
| 440            | 350                        | 1388000                      | 750            | 224            | 14             | 252            | 527            | 448            | 1450                       | 24              | M 27 x 170 | 931        | 12.9         | 760                                         | 251                                       | 49,52                        | 524                 |
| 460            | 370                        | 1752000                      | 770            | 224            | 14             | 252            | 547            | 468            | 1450                       | 28              | M 27 x 170 | 931        | 12.9         | 740                                         | 280                                       | 54,40                        | 541                 |
| 480            | 390                        | 2001000                      | 800            | 246            | 14             | 274            | 580            | 488            | 1450                       | 30              | M 27 x 180 | 931        | 12.9         | 710                                         | 262                                       | 70,39                        | 647                 |
| 500            | 410                        | 2256000                      | 850            | 246            | 14             | 274            | 600            | 508            | 1450                       | 32              | M 27 x 180 | 931        | 12.9         | 670                                         | 268                                       | 90,81                        | 747                 |
| 530            | 440                        | 2607000                      | 910            | 275            | 14             | 303            | 630            | 538            | 1450                       | 34              | M 27 x 200 | 931        | 12.9         | 630                                         | 241                                       | 130                          | 939                 |
| 660            | 540                        | 4897000                      | 1070           | 310            | 15             | 340            | 780            | 670            | 3300                       | 30              | M 36 x 240 | 931        | 12.9         | 530                                         | 264                                       | 263                          | 1331                |

# Type 52 Shrink Discs matching Stiebel – helical-bevel gears



## Used symbols

|           |                      |                                                 |
|-----------|----------------------|-------------------------------------------------|
| $d$       | [mm]                 | Nominal diameter of the shrink disc             |
| $d_w$     | [mm]                 | Shaft diameter                                  |
| $M_{max}$ | [Nm]                 | Maximal transmittable torque                    |
| $D$       | [mm]                 | Outer diameter                                  |
| $I$       | [mm]                 | Length of the inner ring                        |
| $e$       | [mm]                 | Excess length                                   |
| $H$       | [mm]                 | Width of the shrink disc                        |
| $a$       | [mm]                 | Width of the protection against contact (guard) |
| $A$       | [mm]                 | Pitch circle diameter                           |
| $B$       | [mm]                 | Attachment size                                 |
| $M_A$     | [Nm]                 | Tightening torque of the clamping screws        |
| $Z$       |                      | Number of clamping screws                       |
| $S$       |                      | Size of the clamping screws                     |
| $n_{max}$ | [min <sup>-1</sup> ] | Permitted rotational frequency                  |
| $p_N$     | [N/mm <sup>2</sup> ] | Moderate pressure to the hub                    |
| $I$       | [kgm <sup>2</sup> ]  | Moment of inertia                               |



## Design of the shrink disc

$d < 115$  - Discs galvanized - without washers

$d \geq 110$  - Discs painted - with washers

Dimensions **H** & **e** in unlocked position

| min. yield strength $R_{p0.2}$ | N/mm <sup>2</sup> |
|--------------------------------|-------------------|
| Solid shaft                    | 290               |
| Hub                            | 350               |

Ordering information: **TAS Type** (e.g.: TAS 5226 ... further sizes on request)

# Type 52

Shrink Discs matching Stiebel – helical-bevel gears

| Typ  | d<br>mm | d <sub>w</sub><br>mm | M <sub>max</sub><br>Nm | D<br>mm | l<br>mm | e<br>mm | H<br>mm | a<br>mm | A<br>mm | B<br>mm | M <sub>A</sub><br>Nm | Z<br>Stk | S         | DIN | Class | n <sub>max</sub><br>min <sup>-1</sup> | p <sub>N</sub><br>N/mm <sup>2</sup> | I<br>kgm <sup>2</sup> | Weight<br>kg |
|------|---------|----------------------|------------------------|---------|---------|---------|---------|---------|---------|---------|----------------------|----------|-----------|-----|-------|---------------------------------------|-------------------------------------|-----------------------|--------------|
| 5206 | 50      | 40                   | 1200                   | 90      | 22      | 2,75    | 31,5    | 2       | 70      | 53      | 12                   | 8        | M 6 x 25  | 931 | 10.9  | 6300                                  | 217                                 | 0,0010600             | 0,8          |
| 5208 | 62      | 50                   | 2100                   | 110     | 23      | 4,25    | 35,5    | 3       | 86      | 66      | 12                   | 10       | M 6 x 25  | 931 | 10.9  | 5200                                  | 210                                 | 0,0025909             | 1,3          |
| 5210 | 75      | 60                   | 3600                   | 138     | 25      | 3,75    | 38      | 8       | 100     | 79      | 30                   | 7        | M 8 x 30  | 931 | 10.9  | 4100                                  | 233                                 | 0,0070923             | 2,3          |
| 5212 | 88      | 70                   | 6300                   | 155     | 30      | 4,5     | 44,5    | 9,5     | 114     | 94      | 30                   | 10       | M 8 x 35  | 931 | 10.9  | 3600                                  | 236                                 | 0,0135018             | 3,4          |
| 5214 | 90      | 75                   | 7300                   | 155     | 30      | 4,5     | 44,5    | 9,5     | 114     | 94      | 30                   | 10       | M 8 x 35  | 931 | 10.9  | 3600                                  | 231                                 | 0,0132516             | 3,3          |
| 5216 | 110     | 85                   | 10000                  | 185     | 39      | 5,5     | 57      | 9,5     | 136     | 114     | 59                   | 9        | M 10 x 40 | 931 | 10.9  | 3000                                  | 208                                 | 0,0347437             | 6,0          |
| 5218 | 138     | 100                  | 18300                  | 230     | 46      | 7,25    | 68,5    | 10      | 175     | 146     | 100                  | 10       | M 12 x 45 | 931 | 10.9  | 2400                                  | 228                                 | 0,0989230             | 11           |
| 5220 | 155     | 120                  | 30000                  | 265     | 50      | 7,25    | 72,5    | 19      | 192     | 165     | 100                  | 12       | M 12 x 50 | 931 | 10.9  | 2100                                  | 224                                 | 0,1885000             | 16           |
| 5222 | 165     | 120                  | 38700                  | 290     | 56      | 7,5     | 81      | 20      | 210     | 175     | 250                  | 8        | M 16 x 55 | 931 | 10.9  | 1900                                  | 258                                 | 0,3061438             | 22           |
| 5224 | 175     | 135                  | 58400                  | 300     | 72      | 8       | 98      | 20      | 220     | 184     | 250                  | 10       | M 16 x 65 | 931 | 10.9  | 1900                                  | 237                                 | 0,4221875             | 28           |
| 5226 | 200     | 150                  | 95400                  | 350     | 92      | 10      | 122     | 30      | 246     | 204     | 250                  | 15       | M 16 x 80 | 931 | 10.9  | 1600                                  | 243                                 | 1,0359                | 51           |
| 5228 | 220     | 170                  | 149000                 | 370     | 114     | 10      | 144     | 27,5    | 270     | 224     | 250                  | 20       | M 16 x 90 | 931 | 10.9  | 1500                                  | 238                                 | 1,5287                | 66           |

Company \_\_\_\_\_ Date \_\_\_\_\_

Address \_\_\_\_\_

Contact \_\_\_\_\_ Department \_\_\_\_\_

Phone \_\_\_\_\_ FAX \_\_\_\_\_

E-Mail \_\_\_\_\_

Reference \_\_\_\_\_

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In order to allow us an accurate assessment / design, please fill in all the known data.  
If you are able to provide us a drawing, a sketch or similar, please send us such known information too.

**Load configuration:**

|                          |             |                      |                      |
|--------------------------|-------------|----------------------|----------------------|
| Motor power              | $p$         | [kW]                 | <input type="text"/> |
| Speed at LSS             | $n$         | [min <sup>-1</sup> ] | <input type="text"/> |
| Safety factor            | $SF$        |                      | <input type="text"/> |
| Nominal torque           | $M_t$       | [Nm]                 | <input type="text"/> |
| Max. torque              | $M_{t,max}$ | [Nm]                 | <input type="text"/> |
| Max. add. radial load    | $F_{rad}$   | [N]                  | <input type="text"/> |
| Max. add. bending moment | $M_b$       | [Nm]                 | <input type="text"/> |
| Max. add. axial load     | $F_{ax}$    | [N]                  | <input type="text"/> |
| Operation time           |             | [%]                  | <input type="text"/> |
| Number of starts         |             | [n/t]                | <input type="text"/> |

## Device type:

- ☐ Type 30..
- ☐ Type 31..
- ☐ SHS (hydraulic)
- ☐ Customized

**Environment:**

☐ corrosive

☐ Dust

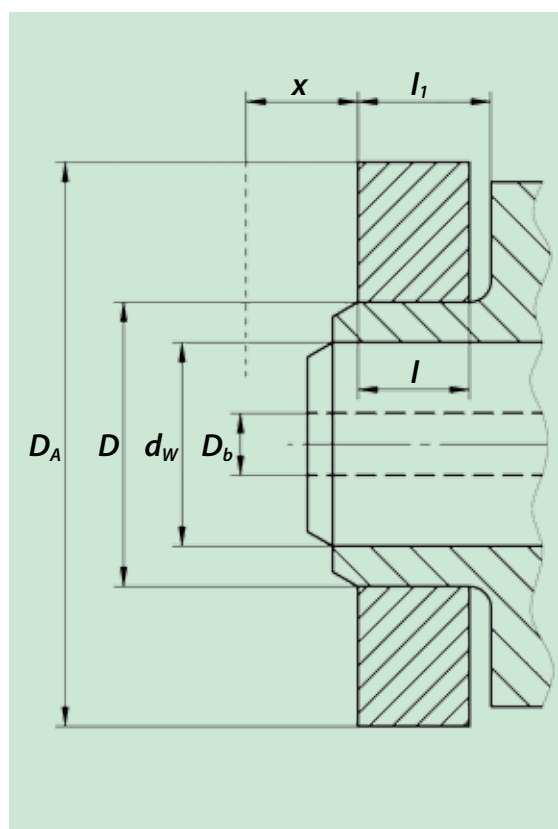
Temperature range

[°C]

### Geometric details:

|                      |            |                      |                      |                      |                      |                      |
|----------------------|------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Nominal diameter     | $D$ [mm]   | <input type="text"/> | Tolerance            | <input type="text"/> | Rz                   | <input type="text"/> |
| Shaft diameter       | $d_w$ [mm] | <input type="text"/> | Tolerance            | <input type="text"/> | Rz                   | <input type="text"/> |
| Bore in the shaft    | $D_b$ [mm] | <input type="text"/> |                      |                      |                      |                      |
| Max. clamping length | $l$ [mm]   | <input type="text"/> | Max. install. length | $l_i$ [mm]           | <input type="text"/> |                      |
| Max. diameter        | $D_A$ [mm] | <input type="text"/> | available space      | $x$ [mm]             | <input type="text"/> |                      |

| Materials: | Designation | $R_e/R_{p0.2}$ [MPa] | $E$ -Modulus [MPa] |
|------------|-------------|----------------------|--------------------|
| Shaft      |             |                      |                    |
| Hub        |             |                      |                    |



**Comments:** (coatings, environmental conditions, number of tensions, special requests, etc. ...)

[illegible]

## Further products from our company

### Locking assemblies



TAS 110



TAS 130



TAS 131



TAS 3003



TAS 3006



TAS 3012



TAS 3013



TAS 3015



TAS 3015DK



TAS 3020



TAS 4006



TAS 3014

### Shrink disc in two-part design



TAS 3173



TAS 3171, 3181, 3191, 3193

### Shaft couplings



TAS W



TAS WK



TAS WLA



TAS WLB



TAS AFS

### Flange couplings



TAS FK



TAS FKB



TAS FKBS



TAS FKH

### Hydraulic actuated shrink discs



TAS SHS

## Hydraulic actuated flange coupling



TAS FKH

## Hydraulic actuated shaft coupling



TAS WHS



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