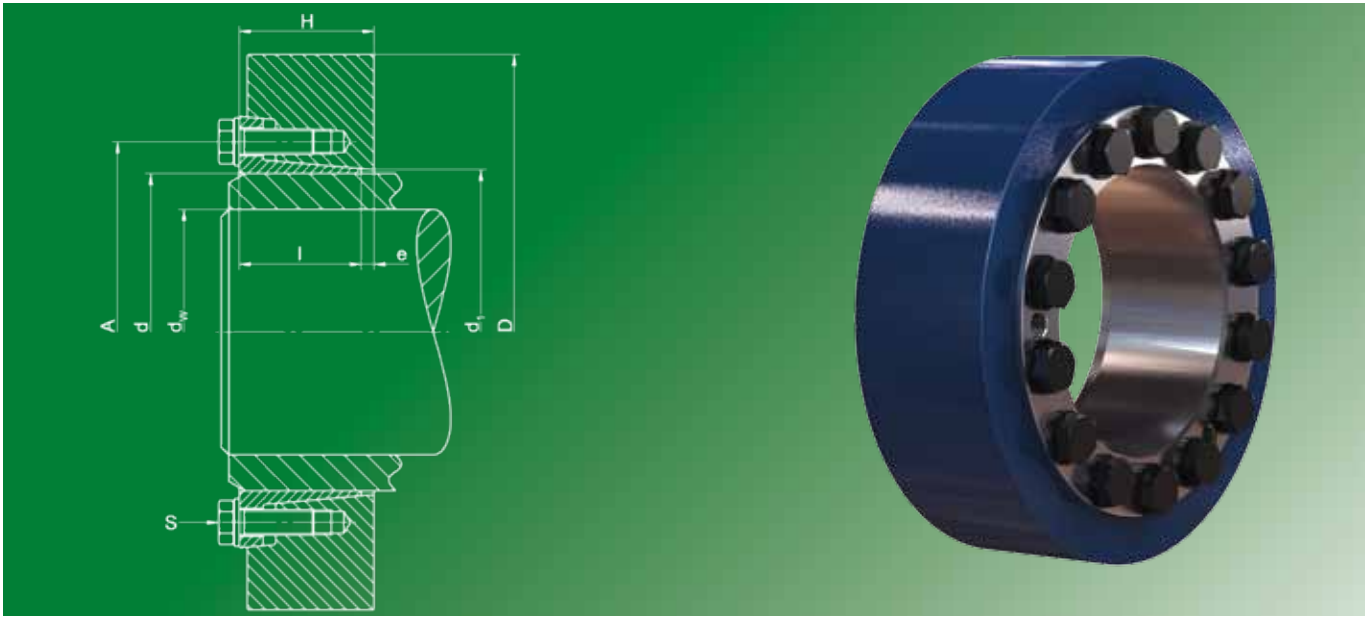


3191 Heavy-Range

| d mm | d_w mm | M_{max} Nm | D mm | l mm | e mm | H mm | A mm | d₁ mm | M_A Nm | Z Stk | S | DIN | Class | n_{max} min ⁻¹ | p_N N/mm ² | I kgm ² | Weight kg |
|----------------|----------------------------|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------------------|----------------------------|-----------------|------------|------------|--------------|---|---|------------------------------|---------------------|
| 110 | 80 | 13413 | 185 | 65 | 5 | 70 | 139 | 113 | 100 | 10 | M 12 x 35 | 933 | 12.9 | 3097 | 226 | 0,0508296 | 8,78 |
| 125 | 90 | 22621 | 215 | 69 | 6,5 | 75,5 | 163 | 129 | 250 | 8 | M 16 x 50 | 933 | 12.9 | 2665 | 291 | 0,0959929 | 12,4 |
| 135 | 95 | 24251 | 230 | 69 | 6,5 | 75,5 | 178 | 144 | 250 | 8 | M 16 x 50 | 933 | 12.9 | 2491 | 248 | 0,1250883 | 14,1 |
| 140 | 105 | 30603 | 230 | 69 | 6,5 | 75,5 | 178 | 144 | 250 | 8 | M 16 x 50 | 933 | 12.9 | 2491 | 248 | 0,1278926 | 14,1 |
| 155 | 115 | 50510 | 263 | 72 | 9 | 81 | 196 | 159 | 250 | 12 | M 16 x 50 | 933 | 12.9 | 2179 | 318 | 0,2402568 | 20,6 |
| 165 | 125 | 62853 | 290 | 81 | 8 | 89 | 204 | 169 | 250 | 12 | M 16 x 50 | 933 | 12.9 | 1976 | 285 | 0,3853659 | 27,7 |
| 175 | 135 | 72733 | 300 | 81 | 8 | 89 | 214 | 179 | 250 | 12 | M 16 x 50 | 933 | 12.9 | 1910 | 262 | 0,4359133 | 28,9 |
| 185 | 145 | 122608 | 320 | 100 | 12,5 | 112,5 | 232 | 189 | 480 | 12 | M 20 x 60 | 933 | 12.9 | 1790 | 310 | 0,7859084 | 43,9 |
| 200 | 155 | 113000 | 350 | 102 | 11 | 113 | 246 | 204 | 490 | 14 | M 20 x 60 | 933 | 10.9 | 1637 | 302 | 1,0778672 | 53,1 |
| 220 | 165 | 137000 | 370 | 127 | 9 | 136 | 270 | 225 | 490 | 18 | M 20 x 60 | 933 | 10.9 | 1549 | 271 | 1,5895806 | 68,6 |
| 240 | 180 | 180000 | 405 | 132 | 12 | 144 | 298 | 248 | 490 | 20 | M 20 x 60 | 933 | 10.9 | 1415 | 260 | 2,4546318 | 88,6 |
| 260 | 200 | 224000 | 430 | 148 | 12 | 160 | 326 | 266 | 490 | 22 | M 20 x 60 | 933 | 10.9 | 1332 | 228 | 3,4273171 | 109 |
| 280 | 220 | 305000 | 460 | 160 | 12 | 172 | 346 | 289 | 840 | 18 | M 24 x 70 | 933 | 10.9 | 1246 | 241 | 4,8181962 | 133 |
| 300 | 240 | 398000 | 485 | 160 | 16 | 176 | 366 | 305 | 840 | 21 | M 24 x 70 | 933 | 10.9 | 1181 | 261 | 6,0332094 | 148 |
| 320 | 250 | 433000 | 520 | 170 | 14 | 184 | 388 | 325 | 840 | 22 | M 24 x 70 | 931 | 10.9 | 1102 | 244 | 8,3297625 | 179 |
| 340 | 260 | 460000 | 570 | 186 | 14 | 200 | 414 | 349 | 1250 | 18 | M 27 x 80 | 933 | 10.9 | 1005 | 223 | 13,3704682 | 243 |
| 350 | 270 | 494000 | 570 | 186 | 14 | 200 | 419 | 359 | 1250 | 18 | M 27 x 80 | 933 | 10.9 | 1005 | 222 | 12,9280867 | 231 |
| 360 | 280 | 576000 | 590 | 188 | 22 | 210 | 434 | 365 | 1250 | 20 | M 27 x 80 | 931 | 10.9 | 971 | 235 | 15,9212399 | 267 |
| 390 | 300 | 627000 | 650 | 205 | 15 | 220 | 470 | 398 | 1250 | 21 | M 27 x 90 | 931 | 10.9 | 881 | 198 | 24,8087801 | 345 |
| 420 | 330 | 973000 | 715 | 222 | 25 | 247 | 508 | 428 | 1700 | 20 | M 30 x 80 | 931 | 10.9 | 801 | 235 | 41,0007733 | 477 |
| 440 | 350 | 1160000 | 750 | 233 | 25 | 258 | 528 | 448 | 1700 | 22 | M 30 x 90 | 931 | 10.9 | 764 | 234 | 51,9773030 | 550 |
| 460 | 370 | 1307000 | 770 | 240 | 18 | 258 | 548 | 468 | 1700 | 23 | M 30 x 90 | 931 | 10.9 | 744 | 227 | 57,1634855 | 568 |
| 480 | 390 | 1435000 | 800 | 270 | 28 | 298 | 572 | 488 | 1700 | 24 | M 30 x 90 | 931 | 10.9 | 716 | 197 | 76,8838095 | 707 |
| 500 | 410 | 1650000 | 825 | 270 | 28 | 298 | 592 | 508 | 1700 | 26 | M 30 x 90 | 931 | 10.9 | 694 | 206 | 86,4231353 | 743 |
| 530 | 440 | 2105000 | 890 | 306 | 32 | 338 | 640 | 539 | 2200 | 25 | M 33 x 100 | 931 | 10.9 | 644 | 198 | 133,9516584 | 999 |
| 560 | 460 | 2276000 | 940 | 306 | 32 | 338 | 670 | 569 | 2200 | 26 | M 33 x 100 | 931 | 10.9 | 610 | 196 | 166,6476108 | 1114 |

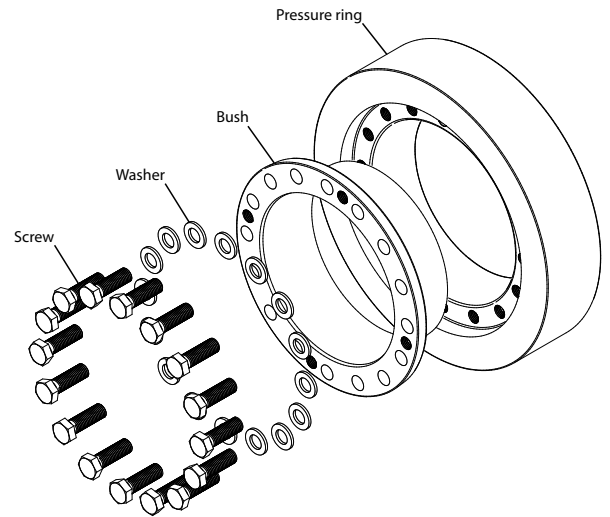
3193

Heavy-Range strengthened



Used symbols

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



Design of the shrink disc

d < 200 - Discs painted - without washers

d ≥ 200 - Discs painted - with washers

d ≥ 195 - Cone of bush not slit

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

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

Variation from the standard shaft diameter *d_w*

| > mm | ≤ mm | minimal - mm | maximal + 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)

Ordering information: TAS 3193-d (e.g.: TAS 3193-200 ... further sizes on request)

3193

Heavy-Range strengthened

| d mm | d_w mm | M_{max} Nm | D mm | l mm | e mm | H mm | A mm | d₁ mm | M_A Nm | Z Stk | S | DIN | Class | n_{max} min ⁻¹ | p_N N/mm ² | I kgm ² | Weight kg |
|----------------|----------------------------|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------------------|----------------------------|-----------------|------------|------------|--------------|---|---|------------------------------|---------------------|
| 110 | 80 | 15657 | 185 | 65 | 5 | 70 | 139 | 113 | 120 | 10 | M 12 x 35 | 933 | 12.9 | 3097 | 272 | 0,0508296 | 8,78 |
| 125 | 90 | 26187 | 215 | 69 | 6,5 | 75,5 | 163 | 129 | 290 | 8 | M 16 x 50 | 933 | 12.9 | 2665 | 337 | 0,0959929 | 12,4 |
| 135 | 95 | 28736 | 230 | 69 | 6,5 | 75,5 | 178 | 144 | 290 | 8 | M 16 x 50 | 933 | 12.9 | 2491 | 287 | 0,1250883 | 14,1 |
| 140 | 105 | 35156 | 230 | 69 | 6,5 | 75,5 | 178 | 144 | 290 | 8 | M 16 x 50 | 933 | 12.9 | 2491 | 287 | 0,1278926 | 14,1 |
| 155 | 115 | 58406 | 263 | 72 | 9 | 81 | 196 | 159 | 290 | 12 | M 16 x 50 | 933 | 12.9 | 2179 | 370 | 0,2402568 | 20,6 |
| 165 | 125 | 71252 | 290 | 81 | 8 | 89 | 204 | 169 | 290 | 12 | M 16 x 50 | 933 | 12.9 | 1976 | 330 | 0,3853659 | 27,7 |
| 175 | 135 | 81896 | 300 | 81 | 8 | 89 | 214 | 179 | 290 | 12 | M 16 x 50 | 933 | 12.9 | 1910 | 303 | 0,4359133 | 28,9 |
| 185 | 145 | 131546 | 320 | 100 | 12,5 | 112,5 | 232 | 189 | 570 | 12 | M 20 x 60 | 933 | 12.9 | 1790 | 368 | 0,7859084 | 43,9 |
| 200 | 155 | 131000 | 350 | 102 | 11 | 113 | 246 | 204 | 570 | 14 | M 20 x 60 | 933 | 12.9 | 1637 | 352 | 1,0778672 | 53,1 |
| 220 | 165 | 159000 | 370 | 127 | 9 | 136 | 270 | 225 | 570 | 18 | M 20 x 60 | 933 | 12.9 | 1549 | 318 | 1,5895806 | 68,6 |
| 240 | 180 | 209000 | 405 | 132 | 12 | 144 | 298 | 248 | 570 | 20 | M 20 x 60 | 933 | 12.9 | 1415 | 305 | 2,4546318 | 88,6 |
| 260 | 200 | 260000 | 430 | 150 | 12 | 162 | 326 | 266 | 570 | 22 | M 20 x 60 | 933 | 12.9 | 1332 | 268 | 3,4273171 | 109 |
| 280 | 220 | 354000 | 460 | 160 | 12 | 172 | 346 | 289 | 980 | 18 | M 24 x 70 | 933 | 12.9 | 1246 | 283 | 4,8181962 | 133 |
| 300 | 240 | 464000 | 485 | 162 | 16 | 178 | 366 | 305 | 980 | 21 | M 24 x 70 | 933 | 12.9 | 1181 | 306 | 6,0332094 | 148 |
| 320 | 250 | 505000 | 520 | 170 | 14 | 184 | 388 | 325 | 980 | 22 | M 24 x 70 | 931 | 12.9 | 1102 | 287 | 8,3297625 | 179 |
| 340 | 260 | 536000 | 570 | 189 | 14 | 203 | 414 | 349 | 1450 | 18 | M 27 x 80 | 933 | 12.9 | 1005 | 262 | 13,3704682 | 243 |
| 350 | 270 | 576000 | 570 | 186 | 14 | 200 | 419 | 354 | 1450 | 18 | M 27 x 80 | 933 | 12.9 | 1005 | 260 | 12,9280867 | 231 |
| 360 | 280 | 671000 | 590 | 191 | 22 | 213 | 434 | 365 | 1450 | 20 | M 27 x 80 | 933 | 12.9 | 971 | 276 | 15,9212399 | 267 |
| 390 | 300 | 730000 | 650 | 208 | 15 | 223 | 470 | 398 | 1450 | 21 | M 27 x 90 | 931 | 12.9 | 881 | 233 | 24,8087801 | 345 |
| 420 | 330 | 1154000 | 715 | 222 | 25 | 247 | 508 | 428 | 1950 | 20 | M 30 x 80 | 931 | 12.9 | 801 | 276 | 41,0007733 | 477 |
| 440 | 350 | 1351000 | 750 | 233 | 25 | 258 | 528 | 448 | 1950 | 22 | M 30 x 90 | 931 | 12.9 | 764 | 275 | 51,9773030 | 550 |
| 460 | 370 | 1523000 | 770 | 243 | 18 | 261 | 548 | 468 | 1950 | 23 | M 30 x 90 | 931 | 12.9 | 744 | 267 | 57,1634855 | 568 |
| 480 | 390 | 1672000 | 800 | 270 | 28 | 298 | 572 | 488 | 1950 | 24 | M 30 x 90 | 931 | 12.9 | 716 | 231 | 76,8838095 | 707 |
| 500 | 410 | 1960000 | 825 | 270 | 28 | 298 | 592 | 508 | 1950 | 26 | M 30 x 90 | 931 | 12.9 | 694 | 241 | 86,4231353 | 743 |
| 530 | 440 | 2505000 | 890 | 306 | 32 | 338 | 640 | 539 | 2600 | 25 | M 33 x 100 | 931 | 12.9 | 644 | 234 | 133,9516584 | 999 |
| 560 | 460 | 2653000 | 940 | 309 | 32 | 341 | 670 | 569 | 2600 | 26 | M 33 x 100 | 931 | 12.9 | 610 | 231 | 166,6476108 | 1114 |



Dimensioning outside clamping shaft / hub connection

(Shrinkdisc)

Company _____ Date _____
 Address _____
 Contact _____ Department _____
 Phone _____ FAX _____
 E-Mail _____
 Reference _____

TAS Schäfer GmbH
 Osterfeldstraße 75
 58300 Wetter (Ruhr)
 Germany
 ☎ +49 (0) 2335 9781-0
 📠 +49 (0) 2335 72956
 E-Mail: info@tas-schaefer.de

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 | <i>p</i> | [kW] | <input type="text"/> |
| Speed at LSS | <i>n</i> | [min ⁻¹] | <input type="text"/> |
| Safety factor | <i>SF</i> | | <input type="text"/> |
| Nominal torque | <i>M_t</i> | [Nm] | <input type="text"/> |
| Max. torque | <i>M_{tmax}</i> | [Nm] | <input type="text"/> |
| Max. add. radial load | <i>F_{rad}</i> | [N] | <input type="text"/> |
| Max. add. bending moment | <i>M_b</i> | [Nm] | <input type="text"/> |
| Max. add. axial load | <i>F_{ax}</i> | [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 | <i>D</i> [mm] | <input type="text"/> | Tolerance | <input type="text"/> | Rz | <input type="text"/> |
| Shaft diameter | <i>d_w</i> [mm] | <input type="text"/> | Tolerance | <input type="text"/> | Rz | <input type="text"/> |
| Bore in the shaft | <i>D_b</i> [mm] | <input type="text"/> | | | | |
| Max. clamping length | <i>l</i> [mm] | <input type="text"/> | Max. install. length | <i>l₁</i> [mm] | <input type="text"/> | |
| Max. diameter | <i>D_A</i> [mm] | <input type="text"/> | available space | <i>x</i> [mm] | <input type="text"/> | |

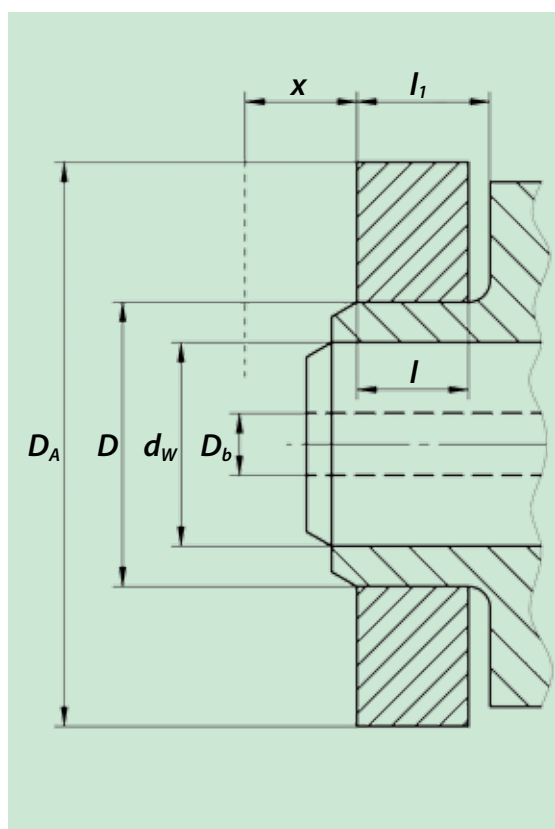
Materials:

Designation

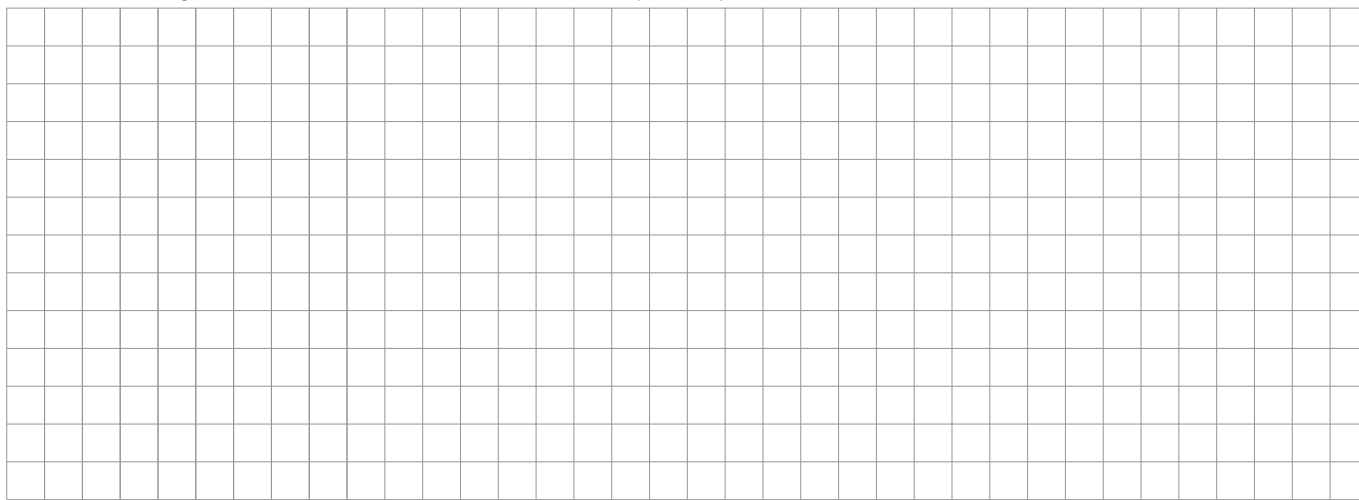
***R_e/R_{p0.2}* [MPa]**

***E-Modulus* [MPa]**

| | | | |
|-------|----------------------|----------------------|----------------------|
| Shaft | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Hub | <input type="text"/> | <input type="text"/> | <input type="text"/> |



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





Special design

For the following product features, please send us a separate request:

Other dimensions

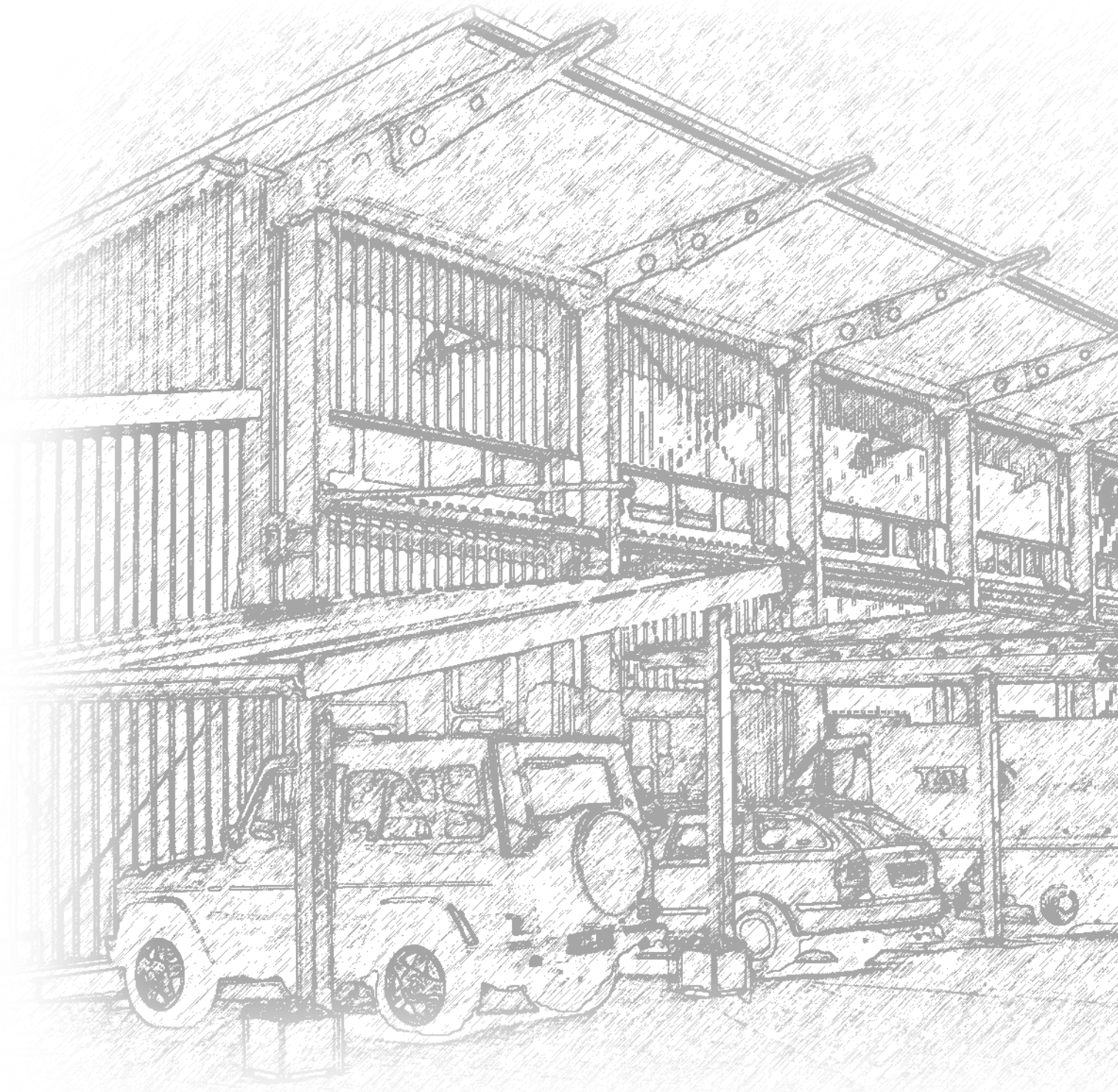
Stainless steel designs

Galvanized or nickel plated surfaces

Special painting

With class acceptance (e.g.: Lloyds Register, Germanischer Lloyd, Rina, etc ...)

...



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 discs in three-parts design



TAS 3073



TAS 3051, 3071, 3081, 3091, 3093



Split



Half-G



Half-D

Shaft couplings



TAS W



TAS WK



TAS WLA



TAS WLB



TAS AFS

Flange couplings



TAS FK



TAS FKB



TAS FKBS



TAS FKH

Hydraulic products from our company

Hydraulic actuated shrink discs



TAS SHS

Hydraulic actuated flange coupling



TAS FKH

Hydraulic actuated shaft coupling



TAS WHS



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AUTORIZADO**

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