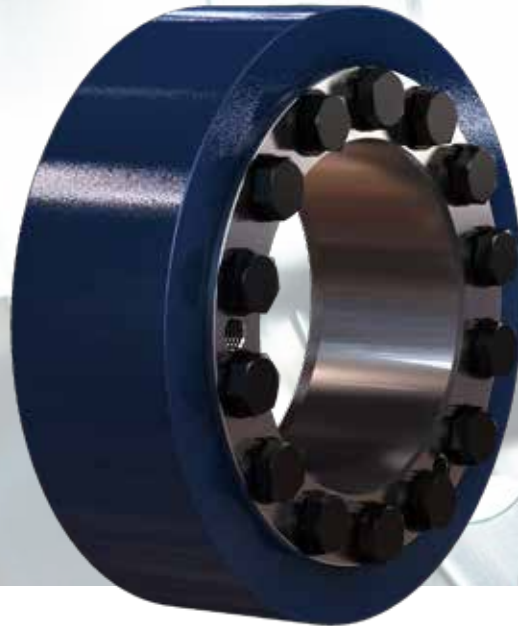
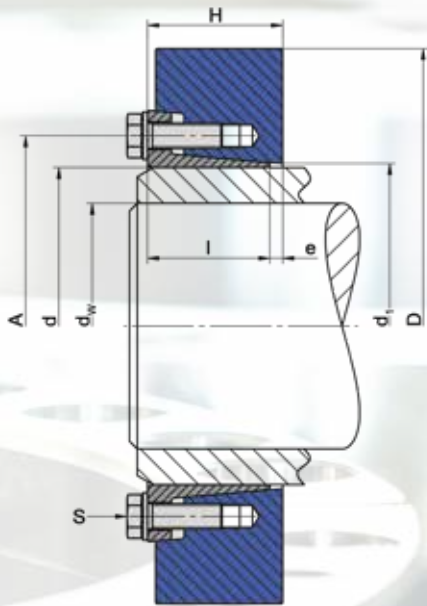


# 3193 Heavy-Range (strengthened)



## Used symbols

$d$	[mm]	Nominal diameter of the shrink disc
$d_w$	[mm]	Shaft diameter
$M_{max}$	[mm]	Maximal transmittable torque
$D$	[mm]	Outer diameter
$l$	[mm]	Length of the bush
$e$	[mm]	Excess length
$H$	[mm]	Width of the shrink disc
$A$	[mm]	Pitch circle diameter
$d_1$	[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> ]	Average pressure to the hub
$I$	[kgm <sup>2</sup> ]	Moment of inertia

## Design of the shrink disc

$d < 200$	Discs painted without washers
$d \geq 200$	Disc painted with washers
$d \geq 195$	Cone of bush not slit

Dimensions H & e in unlocked position

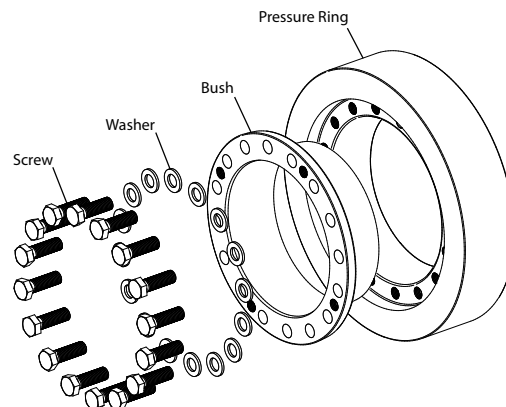
min. yield strength Rp0,2	N/mm <sup>2</sup>
Solid shaft	290
Hub	350

Variation from the standard shaft diameter  $d_w$

> mm	≤ mm	minimal - mm	maximal + mm
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 (z.B.: TAS 3193-200 ... further sizes on request)

# 3193 Heavy-Range (strengthened)

<i>d</i> mm	<i>d<sub>w</sub></i> mm	<i>M<sub>max</sub></i> Nm	<i>D</i> mm	<i>l</i> mm	<i>e</i> mm	<i>H</i> mm	<i>A</i> mm	<i>d<sub>1</sub></i> mm	<i>M<sub>A</sub></i> Nm	<i>Z</i> Stk	<i>S</i>	<i>DIN</i>	<i>Class</i>	<i>n<sub>max</sub></i> min <sup>-1</sup>	<i>p<sub>N</sub></i> N/mm <sup>2</sup>	<i>I</i> kgm <sup>2</sup>	<i>Weight</i> 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