

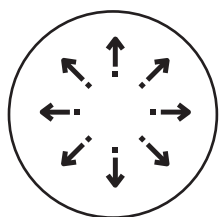


TENSIONER DEVICES

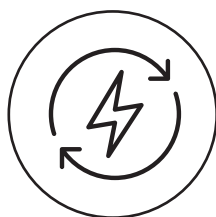
Optimum tension for chain and belt drives

- Quiet and smooth running
- Best possible transfer of power
- Automatic re-tensioning
- Compensation for belt elongation
- Pressing, guiding and vibration damping

Product advantages:



wide range
of applications



energy-saving



minimal
maintenance costs

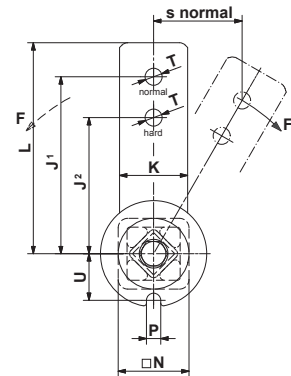
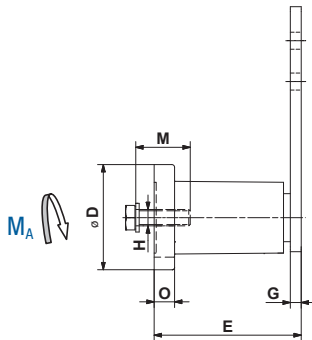
Selection table tensioner devices

	Illustration	Type	Description	Page
Standard tensioner devices		SE	Standard component. Housing and inner part made out of steel. Rubber quality Rubmix 10. Steel parts ROSTA blue painted. Working temperature: – 40 ° to + 80 °C.	5.3
		SE-G	Oil resistant. Housing and inner part made out of steel. Rubber quality Rubmix 20. Steel parts galvanized. Marked with yellow dot or printing R20. Working temperature: – 30 ° to + 90 °C.	
		SE-W	Heat resistant. Housing and inner part made out of steel. Rubber quality Rubmix 40. Steel parts ROSTA blue painted. Marked with red dot or printing R40. Tension force 40% less than SE. Working temperature: – 35 ° to + 120 °C.	
Additional tensioner devices		SE-R	Reinforced lever arm. Housing and inner part made out of steel. Rubber quality Rubmix 10. Arm and inner core especially welded for use on combustion engines and compressors. Steel parts ROSTA blue painted. Marked with white ring or printing SE-R. Working temperature: – 40 ° to + 80 °C.	5.3
		SE-I	Housing and inner part made out of stainless steel. Rubber quality Rubmix 10. For the use in food- and pharmaceutical industries. Material: GX5CrNi19-10. Working temperature: – 40 ° to + 80 °C.	5.4
		SE-B	Boomerang®. Housing and inner part made out of steel. Rubber quality Rubmix 10. For the tensioning of very long chain and belt drives (triple compensation). Steel parts ROSTA blue painted. Working temperature: – 40 ° to + 80 °C.	5.5
		SE-F	Front mounting device. Housing and inner part made out of steel. Rubber quality Rubmix 10. As example for installations on blind-hole frames (fixation from the front only). Steel parts ROSTA blue painted. Hex socket screw quality 12.9. Working temperature: – 40 ° to + 80 °C.	5.6
		SE-FE	Front mounting. For installations on blind-hole frames (fixation from the front only). Steel parts painted black. Hex socket screw quality 12.9. Especially designed for engine applications. Working temperature: see page 5.7.	5.7

Note about accessories on pages 5.8–5.17.

Tensioner Device

SE/SE-G/SE-W/SE-R



Part no.	Type	D	E	G	H	J ¹	J ²	K	L	M	N	O	P	T	U	Weight [kg]
06 011 001	SE 11	35	51 ⁺¹ _{-0.5}	5	M6	80	60	20	90	20	22	6	8	8.5	16.5	0.2
06 013 201	SE 11-G	35	51 ⁺¹ _{-0.5}	5	M6	80	60	20	90	20	22	6	8	8.5	16.5	0.2
06 011 002	SE 15	45	64 ⁺¹ _{-0.5}	5	M8	100	80	25	112.5	25	30	8	8.5	10.5	20.8	0.4
06 013 202	SE 15-G	45	64 ⁺¹ _{-0.5}	5	M8	100	80	25	112.5	25	30	8	8.5	10.5	20.8	0.4
06 015 002	SE 15-W	45	64 ⁺¹ _{-0.5}	5	M8	100	80	25	112.5	25	30	8	8.5	10.5	20.8	0.4
06 011 702	SE-R 15	45	64 ⁺¹ _{-0.5}	5	M8	100	80	25	112.5	25	30	8	8.5	10.5	20.8	0.4
06 011 003	SE 18	58	79 ⁺¹ _{-0.5}	7	M10	100	80	30	115	30	35	10.5	8.5	10.5	25.3	0.7
06 013 203	SE 18-G	58	79 ⁺¹ _{-0.5}	7	M10	100	80	30	115	30	35	10.5	8.5	10.5	25.3	0.7
06 015 003	SE 18-W	58	79 ⁺¹ _{-0.5}	7	M10	100	80	30	115	30	35	10.5	8.5	10.5	25.3	0.7
06 011 703	SE-R 18	58	79 ^{+1.5} _{-0.5}	7	M10	100	80	30	115	30	35	10.5	8.5	10.5	25.3	0.7
06 011 004	SE 27	78	108 ^{+1.5} _{-0.5}	8	M12	130	100	50	155	40	52	15	10.5	12.5	34.3	1.8
06 013 204	SE 27-G	78	108 ^{+1.5} _{-0.5}	8	M12	130	100	50	155	40	52	15	10.5	12.5	34.3	1.9
06 015 004	SE 27-W	78	108 ^{+1.5} _{-0.5}	8	M12	130	100	50	155	40	52	15	10.5	12.5	34.3	1.8
06 011 005	SE 38	95	140 ⁺² _{-0.5}	10	M16	175	140	60	205	40	66	15	12.5	20.5	42.0	3.3
06 013 205	SE 38-G	95	140 ⁺² _{-0.5}	10	M16	175	140	60	205	40	66	15	12.5	20.5	42.0	3.3
06 015 005	SE 38-W	95	140 ⁺² _{-0.5}	10	M16	175	140	60	205	40	66	15	12.5	20.5	42.0	3.3
06 011 006	SE 45	115	200 ⁺² ₋₁	12	M20	225	180	70	260	50	80	18	12.5	20.5	52.0	6.4
06 013 206	SE 45-G	115	200 ⁺² ₋₁	12	M20	225	180	70	260	50	80	18	12.5	20.5	52.0	6.5
06 015 006	SE 45-W	115	200 ⁺² ₋₁	12	M20	225	180	70	260	50	80	18	12.5	20.5	52.0	6.4
06 011 007	SE 50	130	210 ⁺³ ₋₁	20	M24	250	200	80	290	60	87	20	17	20.5	57.5	10.4
06 013 207	SE 50-G	130	210 ⁺³ ₋₁	20	M24	250	200	80	290	60	87	20	17	20.5	57.5	10.3
06 015 007	SE 50-W	130	210 ⁺³ ₋₁	20	M24	250	200	80	290	60	87	20	17	20.5	57.5	10.3

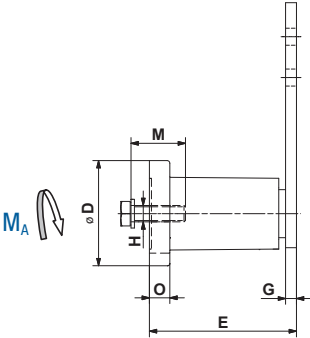
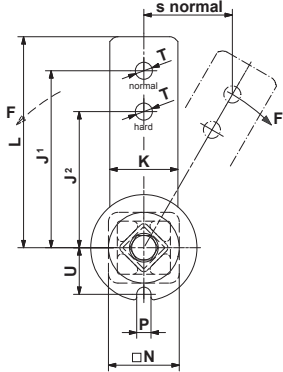
Further product and performance data in chapter 7 «Technology».

SE-R: Tensioning element with strengthened tensioning arm

If no other units are specified, the numbers given are in mm.

Tensioner Device

SE-I

Part no.	Type	D	E	G	H	J ¹	J ²	K	L	M	N	O	P	T	U	Weight [kg]
06 071 111	SE-I 15	45	64 ⁺¹ _{-0.5}	5	M8	100	80	25	112.5	25	30	8	8.5	10.5	20.8	0.4
06 071 112	SE-I 18	58	79 ^{+1.5} _{-0.5}	7	M10	100	80	30	115	30	35	10.5	8.5	10.5	25.3	0.8
06 071 113	SE-I 27	78	108 ⁺² _{-0.5}	8	M12	130	100	50	155	40	52	15	10.5	12.5	34.3	2.3
06 071 114	SE-I 38	95	140 ⁺² _{-0.5}	10	M16	175	140	60	205	40	66	15	12.5	20.5	42.0	4.1

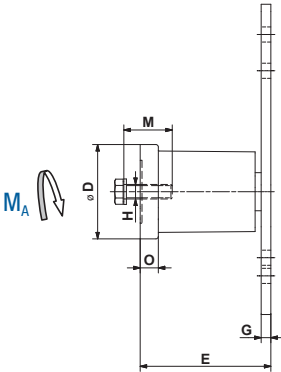
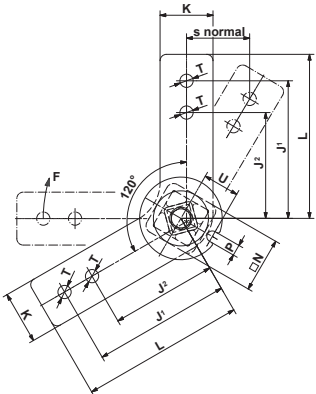
Further product and performance data in chapter 7 «Technology».

Tensioning element made out of stainless steel, INOX

If no other units are specified, the numbers given are in mm.

Tensioner Device

SE-B Boomerang®

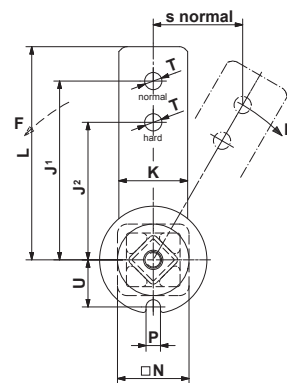
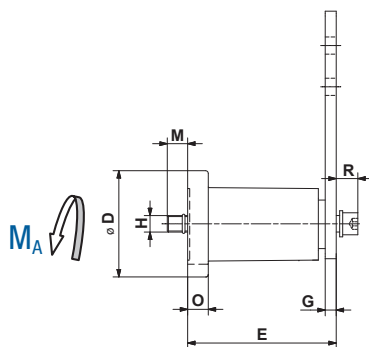




Part no.	Type	D	E	G	H	J ¹	J ²	K	L	M	N	O	P	T	U	Weight [kg]
06 021 003	SE-B 18	58	78 ^{+1.5} _{-0.5}	6	M10	100	80	30	115	30	35	10.5	8.5	10.5	25.3	0.8
06 021 004	SE-B 27	78	108 ⁺² _{-0.5}	8	M12	130	100	50	155	40	52	15	10.5	12.5	34.3	2.2

Further product and performance data in chapter 7 «Technology».
 If no other units are specified, the numbers given are in mm.

Tensioner Device

SE-F



Part no.	Type	D	E	G	H	J ¹	J ²	K	L	M	N	O	P	R	T	U	Weight [kg]
06 061 002	SE-F 15	45	64 ⁺¹ _{-0.5}	5	M6	100	80	25	112.5	12	30	8	8.5	10	10.5	20.8	0.4
06 061 003	SE-F 18	58	79 ^{+1.5} _{-0.5}	7	M8	100	80	30	115	18	35	10.5	8.5	11	10.5	25.3	0.7
06 061 004	SE-F 27	78	108 ⁺² _{-0.5}	8	M10	130	100	50	155	17	52	15	10.5	15	12.5	34.3	1.9
06 061 005	SE-F 38	95	140 ⁺² _{-0.5}	10	M12	175	140	60	205	16	66	15	12.5	17	20.5	42.0	3.5
06 061 006	SE-F 45	115	200 ⁺³ ₋₁	12	M16	225	180	70	260	32	80	18	12.5	24	20.5	52.0	7.2
06 061 007	SE-F 50	130	210 ⁺³ ₋₁	20	M20	250	200	80	290	23	87	20	17	27	20.5	57.5	11.6

Further product and performance data in chapter 7 «Technology».

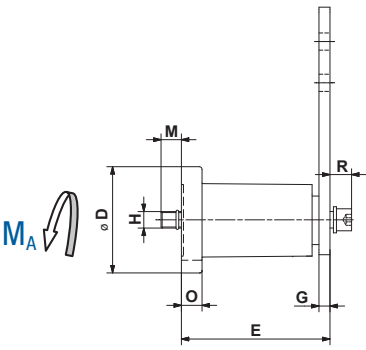
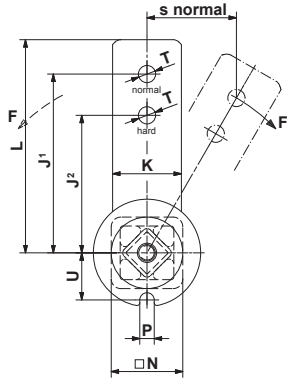
Tensioning element with front mounting.

Screw quality 12.9

If no other units are specified, the numbers given are in mm.

Tensioner Device

SE-FE

Part no.	Type	D	E	G	H	J ¹	J ²	K	L	M	N	O	P	R	T	U	Weight [kg]
06 093 904	SE-FE 27	78	110 ⁺² _{-0.5}	10	M10	130	100	50	155	16	52	15	10.5	15	12.5	34.3	2.1
06 095 905	SE-FE 38	95	120 ⁺² _{-0.5}	10	M12	145	110	60	175	35	66	15	12.5	17	22.0	42.0	3.1

Part no.	Type	Rubber Type	Working temperature	Marked with	Pre-tension ∠ 10° (J ¹)		Pre-tension ∠ 20° (J ¹)		Pre-tension ∠ 30° (J ¹)		Coating
					F [N]	s [mm]	F [N]	s [mm]	F [N]	s [mm]	
06 093 904	SE-FE 27	Rubmix 20	– 30° to + 90°C	yellow dot or R20	150	23	380	44	810	65	RAL 9005 (black)
06 095 905	SE-FE 38	Rubmix 40	– 35° to + 120°C	red dot or R40	170	25	425	50	870	73	RAL 9005 (black)

Further product and performance data in chapter 7 «Technology».

Tensioning element with front mounting in special design.

Screw quality 12.9

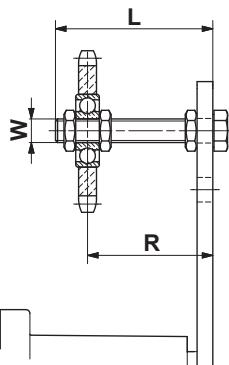
If no other units are specified, the numbers given are in mm.

Tensioner Device

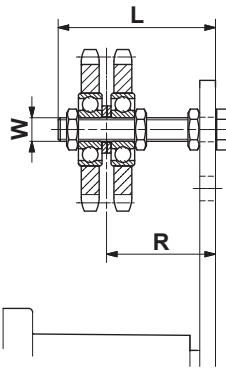
Sprocket wheel set N



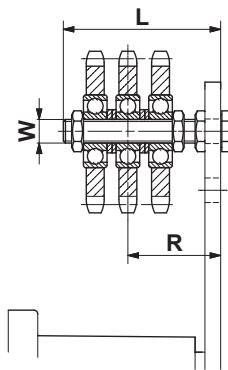
Simplex «S»



Duplex «D»



Triplex «T»



Part no.	Type	Roller chain		Number of teeth	W	L	Torque hex nut 0.5 d [Nm]	suitable for size SE	Adjusting range R with SE	Weight [kg]
		ANSI	DIN 8187							
Simplex «S»										
06 510 001	N $\frac{3}{8}$ " – 10 S	35	ISO 06 B-1	15	M10	55	20	15/18	22 – 43/23 – 43	0.15
06 510 002	N $\frac{1}{2}$ " – 10 S	40	ISO 08 B-1	15	M10	55	20	18	23 – 44	0.20
06 510 003	N $\frac{5}{8}$ " – 12 S	50	ISO 10 B-1	15	M12	80	35	27	27 – 65	0.35
06 510 004	N $\frac{3}{4}$ " – 12 S	60	ISO 12 B-1	15	M12	80	35	27	27 – 65	0.55
06 510 005	N $\frac{3}{4}$ " – 20 S	60	ISO 12 B-1	15	M20	100	165	38	40 – 80	0.85
06 510 006	N1" – 20 S	80	ISO 16 B-1	13	M20	100	165	38	40 – 80	1.25
06 510 007	N1 $\frac{1}{4}$ " – 20 S	100	ISO 20 B-1	13	M20	100	165	45/50	40 – 80/48 – 80	2.00
06 510 008	N1 $\frac{1}{2}$ " – 20 S	120	ISO 24 B-1	11	M20	140	165	45/50	40 – 120/48 – 120	2.35

Duplex «D»

06 520 001	N $\frac{3}{8}$ " – 10 D	35	ISO 06 B-2	15	M10	55	20	15/18	27–39/28–39	2.00
06 520 002	N $\frac{1}{2}$ " – 10 D	40	ISO 08 B-2	15	M10	55	20	18	30–37	0.35
06 520 003	N $\frac{5}{8}$ " – 12 D	50	ISO 10 B-2	15	M12	80	35	27	36–57	0.60
06 520 004	N $\frac{3}{4}$ " – 12 D	60	ISO 12 B-2	15	M12	80	35	27	37–56	1.05
06 520 005	N $\frac{3}{4}$ " – 20 D	60	ISO 12 B-2	15	M20	120	165	38	50–90	1.35
06 520 006	N1" – 20 D	80	ISO 16 B-2	13	M20	120	165	38	55–84	2.10
06 520 007	N1 $\frac{1}{4}$ " – 20 D	100	ISO 20 B-2	13	M20	140	165	45/50	60–102/68–102	3.60
06 520 008	N1 $\frac{1}{2}$ " – 20 D	120	ISO 24 B-2	11	M20	140	165	45/50	65–97/73–97	4.25

Triplex «T»

06 530 001	N $\frac{3}{8}$ " – 10 T	35	ISO 06 B-3	15	M10	70	20	18	33–48	0.25
06 530 002	N $\frac{1}{2}$ " – 12 T	40	ISO 08 B-3	15	M12	80	35	27	41–51	0.50
06 530 003	N $\frac{5}{8}$ " – 12 T	50	ISO 10 B-3	15	M12	80	35	27	43–50	0.95
06 530 004	N $\frac{5}{8}$ " – 20 T	50	ISO 10 B-3	15	M20	120	165	38	56–84	1.25
06 530 005	N $\frac{3}{4}$ " – 20 T	60	ISO 12 B-3	15	M20	120	165	38	59–80	1.50
06 530 006	N1" – 20 T	80	ISO 16 B-3	13	M20	160	165	45	74–108	2.90
06 530 007	N1 $\frac{1}{4}$ " – 20 T	100	ISO 20 B-3	13	M20	160	165	45/50	78–105/86–105	5.20
06 530 008	N1 $\frac{1}{2}$ " – 20 T	120	ISO 24 B-3	11	M20	180	165	45/50	90–111/98–111	6.20

Allows accurate positioning of relevant chain track.

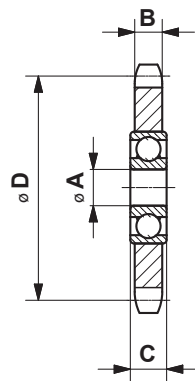
Ball-bearings 2Z/C3, permanently lubricated.

Working temperature: –40 ° to +100 °C.

If no other units are specified, the numbers given are in mm.

Tensioner Device

Sprocket wheel N

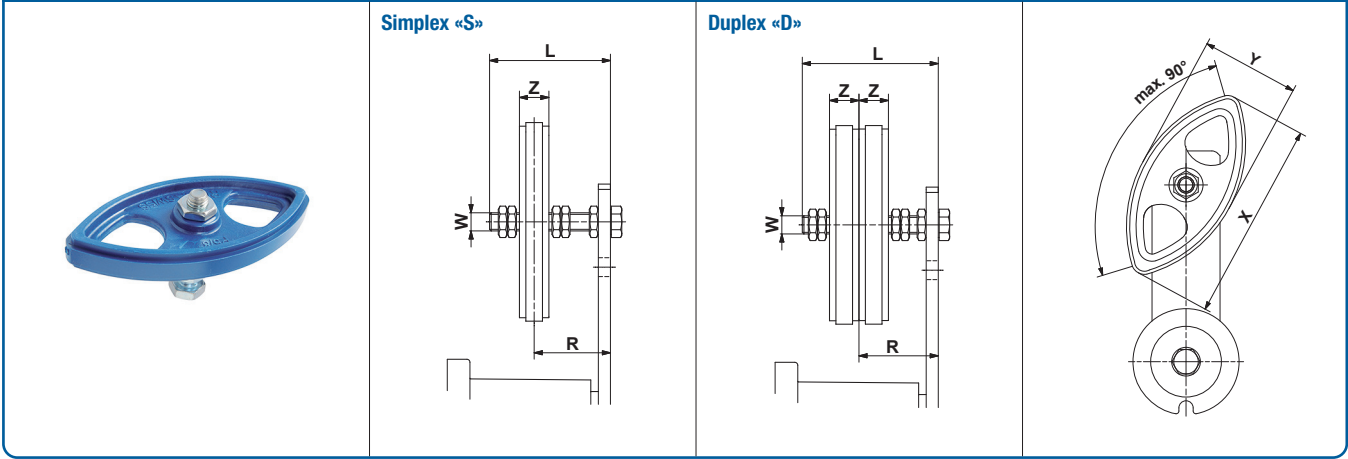


Part no.	Type	Roller chain		Number of teeth	A	B	C	D	Weight [kg]
		ANSI	DIN 8187						
06 500 001	N $\frac{3}{8}$ " – 10	35	ISO 06 B	15	10	5.3	9	45.81	0.06
06 500 002	N $\frac{1}{2}$ " – 10	40	ISO 08 B	15	10	7.2	9	61.08	0.15
06 500 003	N $\frac{1}{2}$ " – 12	40	ISO 08 B	15	12	7.2	12	61.08	0.15
06 500 004	N $\frac{5}{8}$ " – 12	50	ISO 10 B	15	12	9.1	12	76.36	0.27
06 500 005	N $\frac{5}{8}$ " – 20	50	ISO 10 B	15	20	9.1	15	76.36	0.29
06 500 006	N $\frac{3}{4}$ " – 12	60	ISO 12 B	15	12	11.1	12	91.63	0.47
06 500 007	N $\frac{3}{4}$ " – 20	60	ISO 12 B	15	20	11.1	15	91.63	0.47
06 500 008	N1" – 20	80	ISO 16 B	13	20	16.1	15	106.14	0.88
06 500 009	N1 $\frac{1}{4}$ " – 20	100	ISO 20 B	13	20	18.5	15	132.67	1.60
06 500 010	N1 $\frac{1}{2}$ " – 20	120	ISO 24 B	11	20	24.1	15	135.23	1.93

Allows accurate positioning of relevant chain track.
Ball-bearings 2Z / C3, permanently lubricated.
Working temperature: –40 ° to +100 °C.
If no other units are specified, the numbers given are in mm.

Tensioner Device

Chain rider set P



Part no.	Type	Roller chain		W	L	X	Y	Z	Torque hex nut 0.5 d [Nm]	suitable for size SE	Adjusting range R with SE	Weight [kg]
		ANSI	DIN 8187									
Simplex «S»												
06 550 001	P $\frac{3}{8}$ "-8 S	35	ISO 06 B-1	M8	45	74	37	10.2	11	11	19-34	0.05
06 550 002	P $\frac{1}{2}$ "-10 S	40	ISO 08 B-1	M10	55	96	48	13.9	20	15/18	23-41	0.10
06 550 003	P $\frac{5}{8}$ "-10 S	50	ISO 10 B-1	M10	55	126	63	16.6	20	18	24-39	0.12
06 550 004	P $\frac{3}{4}$ "-12 S	60	ISO 12 B-1	M12	80	148	72	19.5	35	27	30-61	0.18
Duplex «D»												
06 560 001	P $\frac{3}{8}$ "-8 D	35	ISO 06 B-2	M8	45	74	37	10.2	11	11	25-30	0.07
06 560 002	P $\frac{1}{2}$ "-10 D	40	ISO 08 B-2	M10	55	96	48	13.9	20	15/18	30-34	0.12
06 560 003	P $\frac{5}{8}$ "-10 D	50	ISO 10 B-2	M10	70	126	63	16.6	20	18	34-46	0.17
06 560 004	P $\frac{3}{4}$ "-12 D	60	ISO 12 B-2	M12	80	148	72	19.5	35	27	40-52	0.26

For double sided use. Max. allowed chain speed 1.5 m/sec.

Material: POM-H.

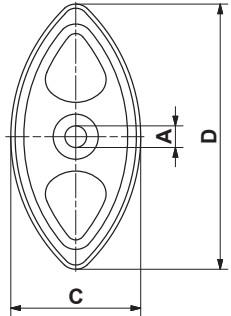
Working temperature: -40 ° to +100 °C.

If no other units are specified, the numbers given are in mm.

Tensioner Device

Chain rider P



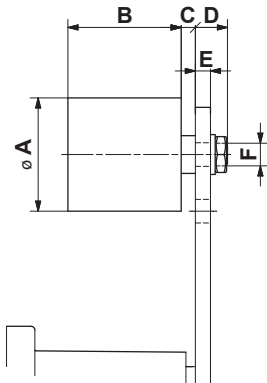


Part no.	Type	Roller chain		A	B	C	D	Weight [kg]
		ANSI	DIN 8187					
06 540 001	P $\frac{3}{8}$ "	35	ISO 06 B	8 ^{+0.2} ₀	10.2	37	74	0.02
06 540 002	P $\frac{1}{2}$ "	40	ISO 08 B	10 ^{+0.2} ₀	13.9	48	96	0.03
06 540 003	P $\frac{5}{8}$ "	50	ISO 10 B	10 ^{+0.2} ₀	16.6	63	126	0.05
06 540 004	P $\frac{3}{4}$ "	60	ISO 12 B	12 ^{+0.2} ₀	19.5	72	148	0.07

For double sided use. Max. allowed chain speed 1.5 m/sec.
 Material: POM-H.
 Working temperature: –40 ° to +100 °C.
 If no other units are specified, the numbers given are in mm.

Tensioner Device



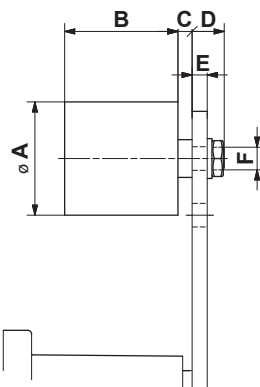


Part no.	Type	Max. speed [rpm]	Max. belt width	A	B	C	D	E	F	Torque hex nut 0.5 d [Nm]	suitable for size SE	Weight [kg]
06 580 001	R 11	8 000	30	30	35	2	14	≤5	M8	25	11	0.08
06 580 002	R 15/18	8 000	40	40	45	6	16	≤7	M10	20	15/18	0.17
06 580 003	R 27	6 000	55	60	60	8	17	≤8	M12	35	27	0.40
06 580 004	R 38	5 000	85	80	90	8	25	≤10	M20	165	38	1.15
06 580 005	R 45	4 500	130	90	135	10	27	≤12	M20	165	45	1.75

Customer-specific $\varnothing A$ or outer contours on request.
 Material: PA 6. Ball-bearings 2Z/C3, permanently lubricated.
 Working temperature: −35 ° to + 100 °C.
 If no other units are specified, the numbers given are in mm.

Tensioner Device

Tensioning roller light RL



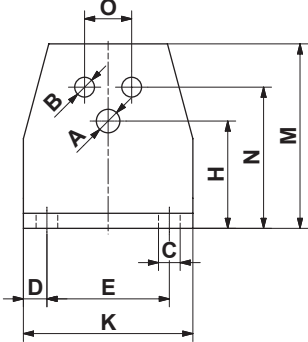
Part no.	Type	Max. speed [rpm]	Max. belt width	A	B	C	D	E	F	Torque hex nut 0.5 d [Nm]	suitable for size SE	Weight [kg]
06 580 901	RL 11	6 000	30	30	35	3	19	≤10	M8	25	11	0.08
06 580 902	RL 15/18	6 000	40	40	45	6	21	≤9	M10	49	15/18	0.17
06 580 903	RL 27	4 500	55	60	60	8	22	≤8	M12	86	27	0.50

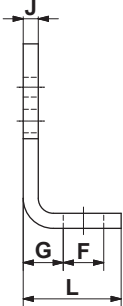
Designed for light belt drive loads.
Material: PA 6. Ball-bearings 2Z / C3, permanently lubricated.
Working temperature: – 35 ° to + 80 °C.
If no other units are specified, the numbers given are in mm.

Tensioner Device

Bracket WS





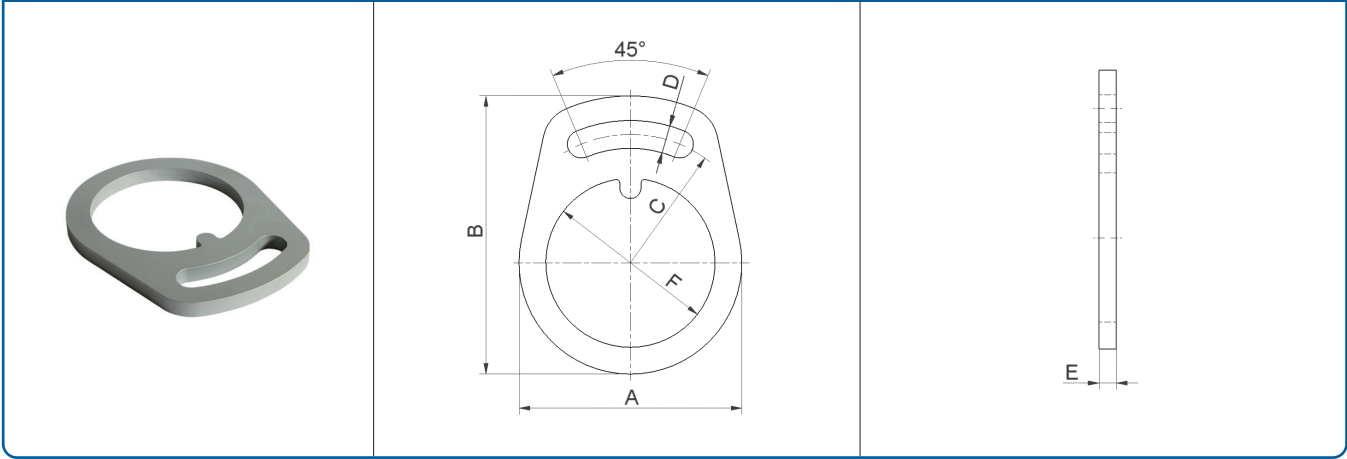


Part no.	Type	A	B	C	D	E	F	G	H	J	K	L	M	N	O	suitable for size SE	Weight [kg]
06 590 001	WS 11	6.5	5.5	7	7.5	30	13	11.5	27	4	45	30	46	35	10	11	0.08
06 590 002	WS 15	8.5	6.5	7	7.5	40	13	13.5	34	5	55	32	58	44	12	15	0.15
06 590 003	WS 18	10.5	8.5	9.5	10	50	15.5	16.5	43	6	70	38	74	55	20	18	0.28
06 590 004	WS 27	12.5	10.5	11.5	12.5	65	21.5	21	57	8	90	52	98	75	25	27	0.70
06 590 005	WS 38	16.5	12.5	14	15	80	24	21	66	8	110	55	116	85	35	38	0.90
06 590 006	WS 45	20.5	12.5	18	20	100	30	26	80	10	140	66	140	110	40	45	1.80

For the easy mounting of tensioners on the standard support (except SE 50).
 If no other units are specified, the numbers given are in mm.

Tensioner Device

Safety Sockets

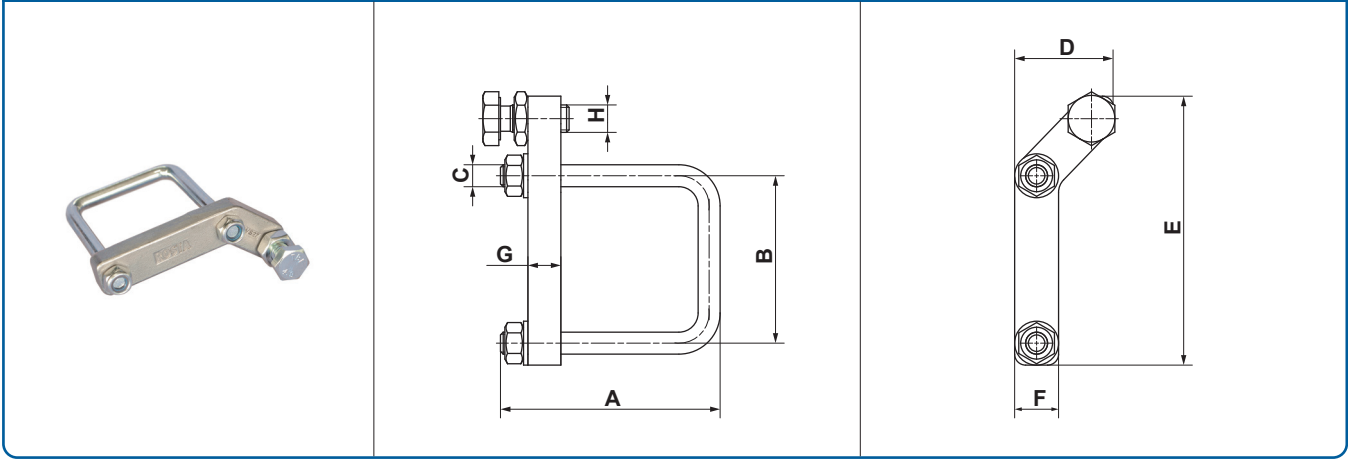


Part no.	Type	A	B	C	D	E	F	suitable for size SE	Weight [kg]
06 618 400	SS 27	104	130	60	13	8	79	27	0.35
06 618 394	SS 38	128	161	75	17	10	96.5	38	0.65

In case of uneven surfaces or coatings that give inadequate frictional locking, additional tensioning can be made with this safety clamp. If no other units are specified, the numbers given are in mm.

Tensioner Device

Tension bracket VS

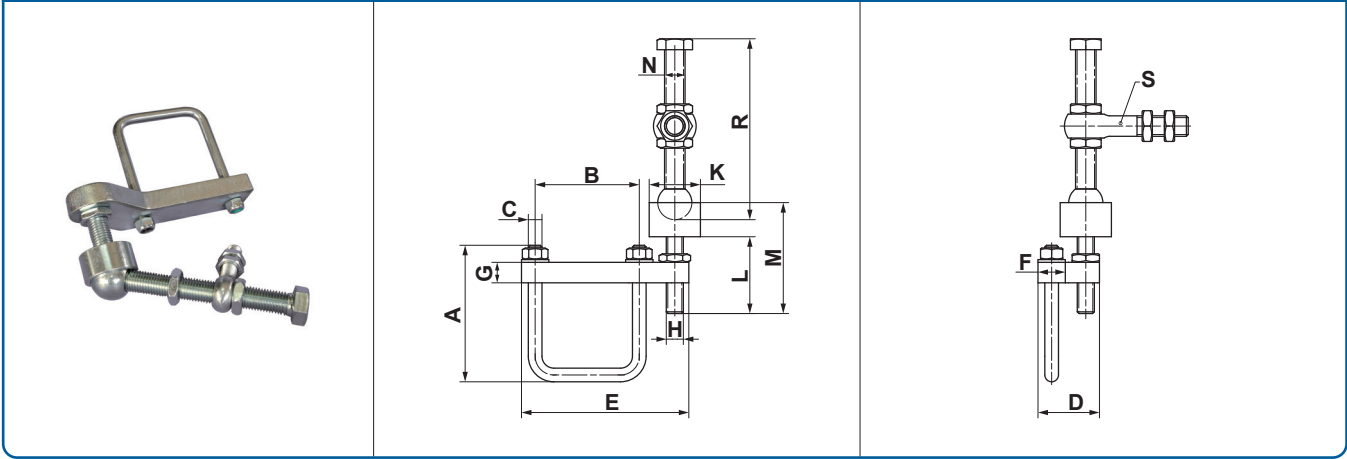


Part no.	Type	A	B	C	D	E	F	G	H	suitable for size SE	Weight [kg]
06 600 203	VS 15/18	54/59	36/42	M6	32	74	15	10	M8	15/18	0.16
06 600 204	VS 27	85	61	M8	36	98	16	12	M10	27	0.28
06 600 205	VS 38	112	79	M10	62	167	30	20	M10	38	1.00
06 600 206	VS 45	124	93	M10	97	205	50	20	M20	45	2.05
06 600 207	VS 50	139	102	M10	97	205	50	20	M20	50	2.15

The Tension bracket VS 15/18 is supplied with brackets fitting both SE 15 and SE 18 Tensioners.
The maximum pre-tensioning angle is 15°.
If no other units are specified, the numbers given are in mm.

Tensioner Device

Fast tension device SV



Part no.	Type	A	B	C	D	E	F	G	H	K
06 600 305	SV 15/18	54/59	36/42	M6	32	74	15	10	M8	24
06 600 301	SV 27	85	61	M8	36	98	16	12	M10	30
06 600 302	SV 38	112	79	M10	62	167	30	20	M10	30
06 600 303	SV 45	124	93	M10	97	205	50	20	M20	50
06 600 304	SV 50	139	102	M10	97	205	50	20	M20	50

Part no.	Type	L	M	N	R	S eyebolt	suitable for size SE	Weight [kg]
06 600 305	SV 15/18	22	39	M10 × 70	79	DIN4444 LAM 8 × 60	15/18	0.33
06 600 301	SV 27	45	60	M12 × 100	112	DIN4444 LAM 10 × 60	27	0.60
06 600 302	SV 38	45	60	M12 × 100	112	DIN4444 LAM 10 × 60	38	1.45
06 600 303	SV 45	60	86	M20 × 170	184	DIN4444 LAM 16 × 80	45	3.10
06 600 304	SV 50	60	86	M20 × 170	184	DIN4444 LAM 16 × 80	50	3.20

Installation guidelines SV in chapter 7 «Technology».
If no other units are specified, the numbers given are in mm.

TENSIONER DEVICES



Tensioner devices

Tensioner device

Adjustable chain track

Shock absorption

360° position flexibility

Pretension infinitely variable in the positions «normal» or «hard»

Torsion angle scale

Positioning notch

One bolt central mounting on front or base

Tensioning force F

Tensioning forces for lever position «normal» for SE/SE-G/SE-R/SE-F/SE-I

Size SE	Pre-tension < 10°		Pre-tension < 20°		Pre-tension < 30°	
	F [N]	s [mm]	F [N]	s [mm]	F [N]	s [mm]
11	18	14	48	27	96	40
15	25	17	65	34	135	50
18	75	17	185	34	350	50
27	150	23	380	44	810	65
38	280	30	720	60	1500	88
45	520	39	1350	77	2650	113
50	740	43	2150	86	4200	125

The tensioning force can be continuously adjusted. The max. pre-tensioning angle is 30° out of neutral position.

When fixing the sprockets, riders and rollers in arm-position «hard», tensioning force will increase on about 25%.

SE-W: 40 % lower tensioning force than standard versions (Rubmix 40).
SE-FE: see SE-FE in chapter 5.

Tightening torque M_A

	Quality 8.8	Quality 12.9 for SE-F/SE-FE
M6	10 Nm	17 Nm
M8	25 Nm	41 Nm
M10	49 Nm	83 Nm
M12	86 Nm	145 Nm
M16	210 Nm	355 Nm
M20	410 Nm	690 Nm
M24	750 Nm	

Table mentioning the tightening torque for the central screw (included in scope of delivery).

Tensioner devices

Installation guidelines

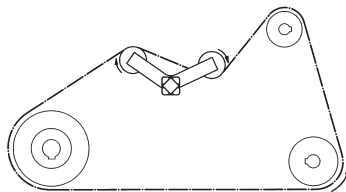
«Z» layout

If chain tensioning wheels/chain sliders or tension rollers are mounted on the outer lever side, the distance «Z» should be as low as possible. The maximum pre-tensioning force F should not exceed 50 % (~ 20° pre-tensioning).



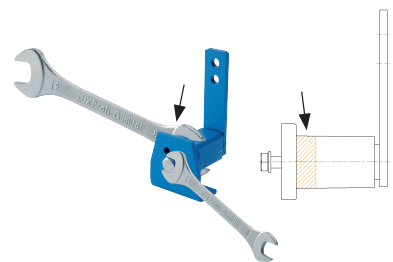
Use of SE-B Boomerang® tensioners

In very long chain and belt drives it was recommendable to install on the slack-side several tensioners, in order to compensate occurring elongation. The «Boomerang» with its bent double-arm equipped with two chain sprockets or a combination of grooved pulley and flat-roller (belt-drives) offers a triple-compensation of chain and belt elongations, due to S-shape contact-arc.



Assembly

The central screw is tightened slightly. The tensioner housing is set with a wrench and tightened in the desired direction. Then tighten the screw with the appropriate M_A tightening torque. Position the wrench near the flange bottom.



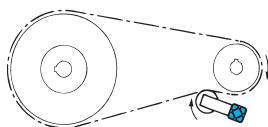
Chain or belt drives

Further assembly instructions specific for chain or belt drives on the following pages.

Installation guidelines for chain drives

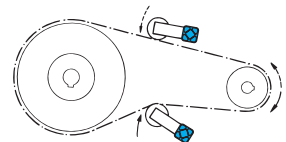
Standard positioning

The ROSTA tensioning device should be placed on the slack-side of the chain drive, close by the smaller sprocket wheel in order to enlarge its contact-arc, therefore contact application from outer side of drive. In mounted position the tensioner-arm should stay close to parallel to the chain run, in drain direction. By extremely long chain drives it is recommendable to install several tensioners or the type «Boomerang®» in order to enlarge the slack compensation.



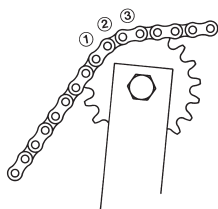
Reversible chain drive

On reversing chain drives, we recommend installing two chain tensioners, one per chain strand. Due to the constantly alternating slackening, depending on the direction of travel of the drive, both tensioners should only be pre-tensioned to a maximum of 20° to retain a free return angle of 10° when changing from the «slack section» to the «working section».



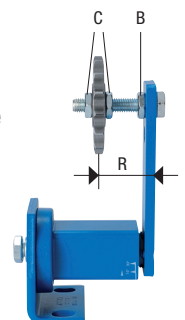
Sprocket teeth engaged

When tightening for the first time, at least 3 teeth of the sprocket must be engaged with the chain. The free length of the chain between tensioning wheel and the next sprocket should be at least 4 sections.



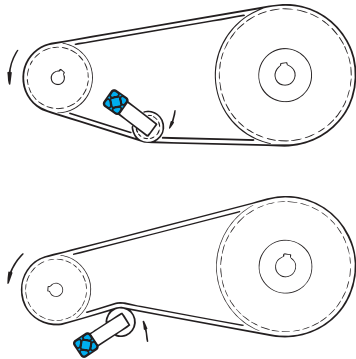
Chain track

The tensioner sprocket and the chain sliders should be positioned on the track between 2 nuts «C». The chain track can be precisely set by adjusting the setting range R . The lock nut «B» is always tight.



Installation guidelines for belt drives

1. Layout in belt drives



Tensioning from inside the belt drive with a V-belt pulley

- When installing in the slack section, both belt pulleys must have sufficient wrap angles (driver and driven).
- For vibration-intensive drives with very long centre distances, it is recommended use deep-grooved pulleys.

Tensioning with flat roller on the back of the belt

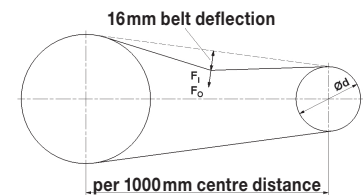
- Roll diameter should be at least $\frac{2}{3}$ of the diameter of the smallest pulley.
- Roll width approx. 20% bigger than the overall width of the belt unit.
- When installing in the slack section, both belt pulleys must have sufficient wrap angles (driver and driven).

V-belt type	Diameter d of the smaller pulley [mm]	Initial operation test-force F_i^* [N]	1 belt	2 belts	3 belts	4 belts	5 belts	6 belts	7 belts	8 belts
SPZ/XPZ 3V/3VX	< 71	20	11	18	18	18	27	27	27	27
	71–90	22	11	18	18	18	27	27	27	27
	91–125	25	15	18	18	18	27	27	27	38
	> 125	28	15	18	18	18	27	27	38	38
SPA/XPA	< 101	28	15	18	18	27	27	27	38	38
	101–140	38	18	18	27	27	27	38	38	38
	141–200	45	18	18	27	27	38	38	38	38
	> 200	50	18	27	27	38	38	38	38	45
SPB/XPB 5V/5VX	< 161	50	27	27	27	38	38	38	38	45
	161–250	70	27	27	38	38	38	45	45	45
	251–355	80	27	27	38	38	45	45	45	45
	> 355	90	27	27	38	38	45	45	45	50
SPC/XPC	< 251	87	18	27	38	38	45	45	45	50
	251–355	115	27	38	38	45	45	50	50	50
	356–560	128	27	38	45	45	45	50	50	50
	> 560	145	27	38	45	45	50	50	50	**
8V	< 356	155	27	38	45	45	50	50	**	**
	356–450	190	27	45	45	50	50	**	**	**
	451–560	220	38	45	45	50	**	**	**	**
	> 560	230	38	45	50	50	**	**	**	**
Z/ZX	< 51	11	11	11	18	18	18	18	18	18
	51–70	12	11	11	18	18	18	18	18	27
	71–100	14	11	15	18	18	18	18	27	27
	> 100	17	11	18	18	18	18	27	27	27
A/AX	< 113	20	11	18	18	18	27	27	27	27
	113–200	22	11	18	18	18	27	27	27	27
	201–300	25	15	18	18	18	27	27	27	38
	> 300	28	15	18	18	18	27	27	38	38
B/BX	< 161	28	15	18	18	27	27	27	38	38
	161–250	30	15	18	18	27	27	27	38	38
	251–355	33	18	18	27	27	27	38	38	38
	> 355	40	18	18	27	27	38	38	38	38
C/CX	< 213	50	18	27	27	38	38	38	38	45
	213–280	55	18	27	27	38	38	38	45	45
	281–475	60	18	27	27	38	38	38	45	45
	> 475	65	18	27	38	38	38	45	45	45
D	< 356	80	18	27	38	38	45	45	45	45
	356–450	95	27	27	38	45	45	45	45	50
	451–560	110	27	38	38	45	45	45	50	50
	> 560	120	27	38	38	45	45	50	50	50

2. Selection of the ROSTA tensioner device

Reference values for the most common types of V-belts

* Required test-force for belt deflection of 16 mm per 1 000 mm of center distance. The relevant deflection by shorter or longer center distance is proportional to 16 mm/m. The values may vary depending on the belt supplier.



$$F = F_i \cdot z \cdot 2$$

F Resulting tensioning force by a SE pre-tension angle of 20° (see table «Tension force F»)

F_i Initial operation test-force

z Quantity of belts in drive

2 Multiplier e.g. to compensate for belt slip and/or of centrifugal force generated on the drive belts.

The operational test-force F_o (after belt elongation) is around 20% lower than the initial test-force F_i . Therefore, we recommend to inspect the belt tension after a few days of operation.

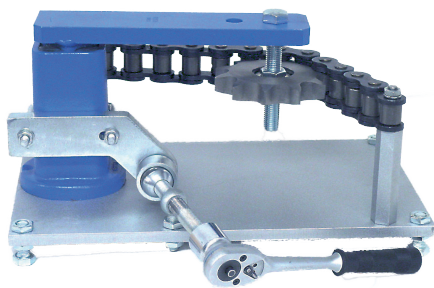
** Please contact ROSTA

Tensioner devices

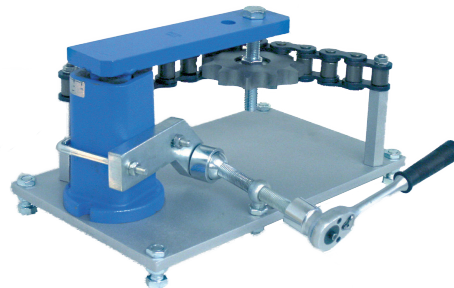
Installation guidelines for fast tension device SV

An additional drill hole (see drill hole specifications) is required for the swivel joint of the quick tensioning unit. The installation guidelines for the ROSTA tensioning element (e.g. position of the lever arm in relation to the chain or belt) must be observed. The quick pre-tensioning unit is to be attached to the tensioning element as deep as possible. Position the axis of rotation in the hole with the two nuts, but do not tighten it. Turn the pre-tensioning screw further until the ball is seated in the joint socket, which has been turned up to the stop in the pretensioning lever. The ball must be greased beforehand with a commercially available, graphitized or MoS₂-containing multipurpose grease. After the tensioning element has been pre-tensioned, the fastening screw of the tensioning element must be tightened.

The type SV quick tensioning unit can also be attached mirror-inverted or rotated by 90°.



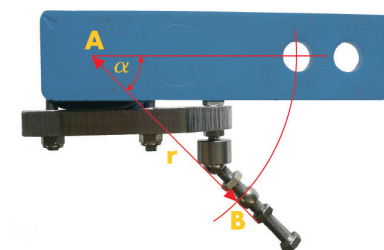
Untensioned



approx. 20° pre-tensioned

Drill hole specification for the Fast tension device SV

Type	B	r	α
SV 15/18	Ø 8.5 mm	93 mm	50°
SV 27	Ø 10.5 mm	110 mm	50°
SV 38	Ø 10.5 mm	150 mm	40°
SV 45	Ø 17.0 mm	190 mm	45°
SV 50	Ø 17.0 mm	190 mm	45°



A = mounting hole or thread for the SE tensioner

B = hole for the eyebolt

Important

The ball socket should be screwed in as far as it will go in the pre-tensioning lever.