



TENSIONING SYSTEMS

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TENSIONING SYSTEMS

For chains and belts

Chains and belts are important wearing parts in many plants and machines. Since they are constantly moving, the stresses to which they are subjected are particularly high. Belts require pretensioning – chain links elongate and run increasingly less smoothly.

Murtfeldt tensioning systems keep chains and belts reliably tensioned, thus increasing their lifetime. They are tried-and-tested following decades of use around the world. Our experience with these systems enables us to provide you with optimum advice and to always offer the best possible solution for your needs.

Wide range – extensive inventory

Thanks to our variety of different tensioning systems, we are able to quickly and accurately meet practically any requirements. If you require an individual solution, our free-of-charge, non-binding consulting services are sure to help.

One more thing: We supply all tensioning systems with a declaration of installation in line with the Machinery Directive EC 2006/42/EC.

Advantages of our tensioning systems

- Smooth chain movement
- Reduction in wear on chain links and drive sprockets
- Reduction in working noise
- Automatic adjustment
- Compensation for chain and belt elongation
- Use as chain and belt monitors
- Direction change for chain and belt drives
- Small installation size
- Simple assembly
- Quick and safe recognition of need to adjust system thanks to optical control display



FUNCTION, PRINCIPLES, HANDLING

Our tensioning systems are free-running and resilient. As a result, they do not function as rigid deflectors when stressed. This avoids excessive contact pressure. Our systems aim to keep the overall force on the slack strand – resulting from the weight of the chain and the centrifugal force – under control. The ideal installation position is right behind the drive sprocket in order to keep the length of the slack strand that needs to be tensioned as short as possible.

Tried-and-tested quality

The stable design of the steel housing makes our tensioning systems resistant to high mechanical loads. Our housings and tensioning systems are galvanized, which provides protection against corrosion. A plastic lacquer makes the surface impact and scratch resistant. In addition, we offer a stainless steel range for particularly high corrosion resistance requirements. All slide profiles are made of Original Material "S"®.

Installation

Special holding mechanisms initially hold back the spring action. When these retainers are released following the installation, the tensioning pressure is released in a targeted manner.

Tension force regulation

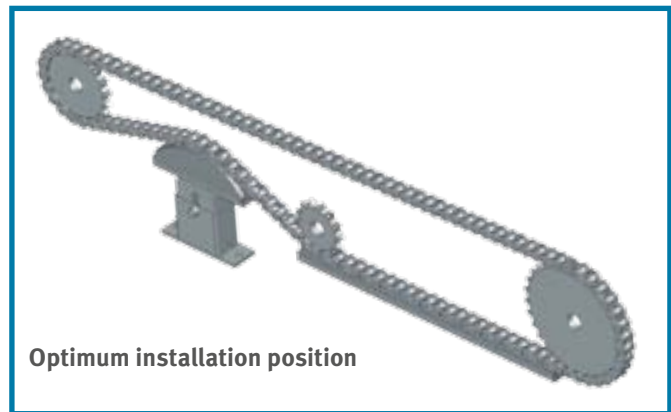
For all Murtfeldt tensioning systems, you can choose either light or heavy tensioning pressure. Depending on the type, the tensioners have one, two, or three springs. You decide how many springs you want to use. This enables the optimum application of pressure onto a chain or belt running on the profile.

Use at extreme temperatures

If you choose the correct material, you can also use our tensioning systems in otherwise problematic temperature ranges:

Normal steel springs: -10 to +170°C

Stainless steel springs: -40 to +200°C



Employees from our application technology department are constantly available to make sure that we are able to provide the best product to meet your requirements.

The weight on the return side of the chain that is to be tensioned should not be greater than the force of a spring already 50% released.

The red dot on the Spann-Box® and/or the red plastic clips visible at the bottom of the Spann-Box® signify "heavy tension force".



OPTICAL CONTROL DISPLAYS

Murtfeldt Spann-Box® systems generally have a coloured scale. This enables you to determine the tensioning state of the chain at a glance. The display is as easy to understand as possible:

■ Green

The chain tensioner is working in the “green range”. The tensioning force is providing an ideal, smooth running movement.

■ Yellow

The tensioning force is not ideal but is still sufficient.

■ Red

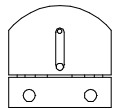
The chain tensioner needs to be adjusted. The tensioning force on the chain is too low for a smooth and reliable running movement.

The chain has to be replaced if it is not possible to sufficiently adjust the chain tensioner using any of the available adjustment options.

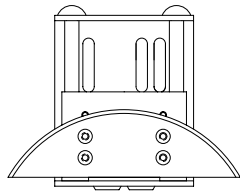


OVERVIEW OF SPANN-BOX® TYPES

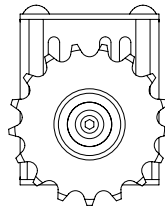
Chain tensioners



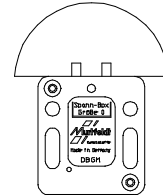
Mini-tensioner
page 127



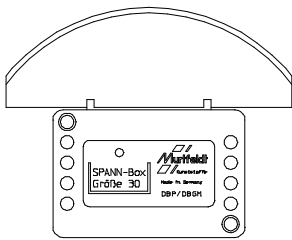
Spann-Boy® TS with arc
segment profile – page 128



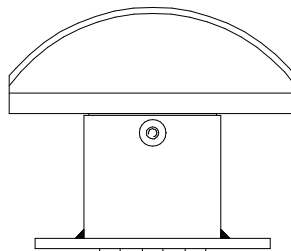
Spann-Boy® TS
with sprocket – page 129



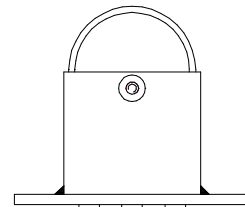
Spann-Box® size 0
page 130



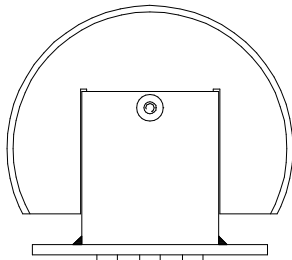
Spann-Box® size 30
page 131



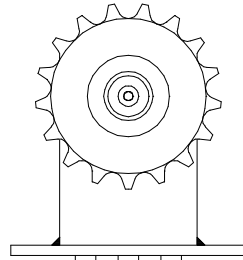
Spann-Box® size 1 with arc
segment profile – page 132



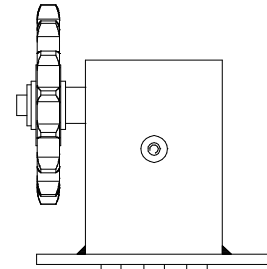
Spann-Box® size 1 with
semi-circular profile – page 133



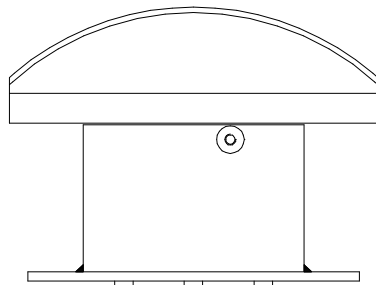
Spann-Box® size 1 with return
profile – page 134



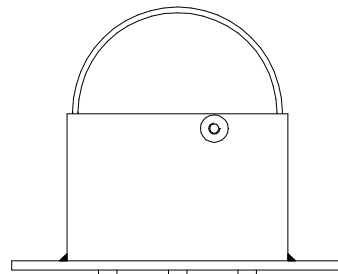
Spann-Box® size 1 with sprocket
Type K-L – page 135



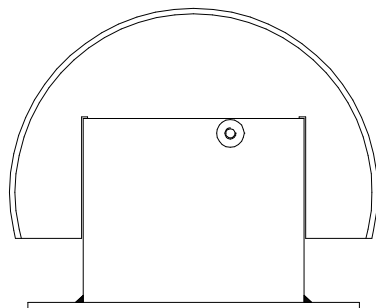
Spann-Box® size 1 with
sprocket Type K-S – page 135



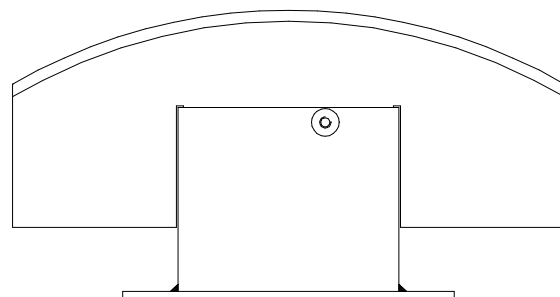
Spann-Box® size 2 with arc segment profile – page 136



Spann-Box® size 2 with semi-circular profile – page 137

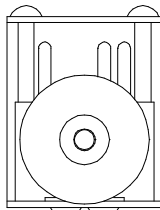


Spann-Box® size 2 with return profile – page 138

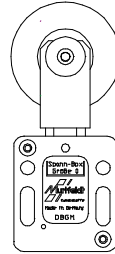


Spann-Box® size 2 with block profile – page 139

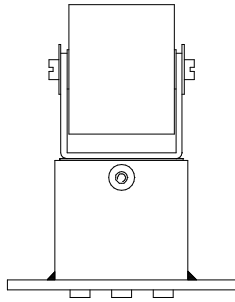
Belt tensioners



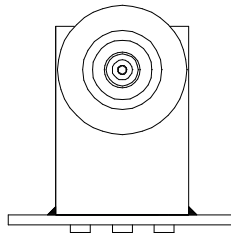
Spann-Boy® TS
tensioning roller – page 141



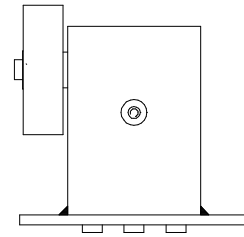
Spann-Box® size 0
page 142



Spann-Box® size 1 belt tensioner with
tensioning roller at top – page 143



Spann-Box® size 1 with
tensioning roller type SR-L – page 144



Spann-Box® size 1 with
tensioning roller type SR-S – page 145

SIGNS AND SYMBOLS

Features and properties of tensioning systems



One pre-tensioned compression spring,
tension distance specification in mm



Two pre-tensioned compression springs,
tension distance specification in mm



Three pre-tensioned compression springs,
tension distance specification in mm



Further adjustment possible: Adjustment range in mm
once original tension distance has been used (value
for size 1 and size 2 if using mounting bracket)



Plastic housing



Steel housing (also stainless steel)



Track profile for all large chains



U profile for chains up to specified overall
width in mm

THE CORRECT CHOICE OF CHAIN TENSIONER

Smooth running is a decisive factor for the long lifetime of a chain. We therefore recommend the use of a chain tensioner with a slide profile. Advantage: Protects the chain links and provides a quieter, safer movement.

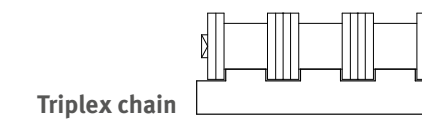
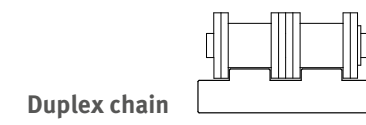
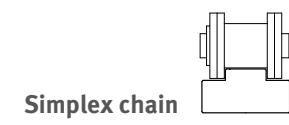
We are happy to provide detailed advice if you inform us of the required criteria. Our Web site at www.murtfeldt.com contains a design questionnaire that you can use to enter all required data.

IMPORTANT CRITERIA WHEN SELECTING THE BEST CHAIN TENSIONER FOR YOUR NEEDS

- Axis-centre distances of sprockets
- Chain design
- Constant/changing running direction
- Chain speed
- Chain lubrication
- Operating time and intensity
- Risk of contamination
- Environmental temperature
- Chemical influences

SELECTION TABLE FOR CHAIN TENSIONERS

1) It is possible to use several types of SPANN-BOX® alongside each other with duplex or triplex chains.
2) Slide profile or return pulley with U-profile.



Chain	Pitch	inch	MINI-TENSIONER	SPANN-BOY®TS with arc segment profile	SPANN-BOY®TS with sprocket	SPANN-BOX® size 0	SPANN-BOX® size 30	SPANN-BOX® size 1	SPANN-BOX® size 2	MINI-TENSIONER	SPANN-BOY®TS with arc segment profile	SPANN-BOX® size 0	SPANN-BOX® size 30	SPANN-BOX® size 1	SPANN-BOX® size 2	SPANN-BOY®TS	SPANN-BOX® size 0	SPANN-BOX® size 30	SPANN-BOX® size 1	SPANN-BOX® size 2	
DIN ISO	mm																				
Unspecified chains with a width of up to 15 mm ²⁾																					
06B	9,525	3/8																			
08B	12,7	1/2																			
10B	15,875	5/8																			
12B	19,05	3/4																			
16B	25,4	1																			
20B	31,75	1 1/4																			
24B	38,1	1 1/2																			
28B	44,45	1 3/4																			
32B	50,8	2																			
40B	63,5	2 1/2																			
48B	76,2	3																			

EXPLANATION OF SYMBOLS

Profiles symbols for selection tables



Arc segment profile

- Slide profile shape with optimum mechanical properties
- Simultaneous contact with several rollers
- Optimum chain protection



Return profile

- 180° change of direction
- The 180° change of direction permits the dual use of longer tension distances.



Block profile

- Suitable for particularly heavy chains and high mass forces
- Slide profile and tension core made from a single piece
- No screw connections
- Excellent stability
- 300 mm slide profile ensures support for many rollers with chains with large chain pitches



Semi-circular profile

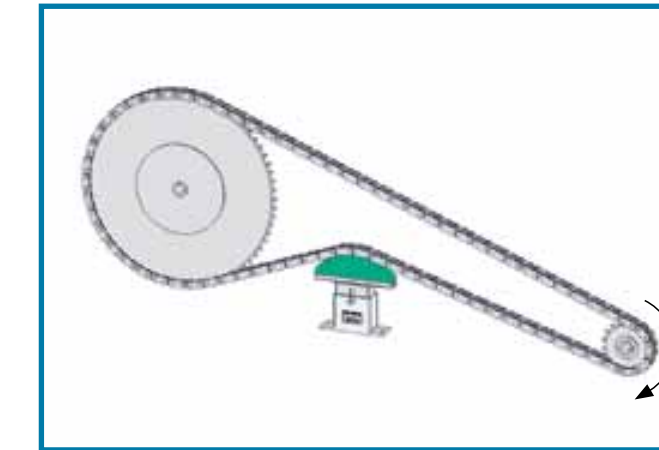
- For 90° deflection
- Contact with only very few chain rollers
- Recommended where space is at a premium



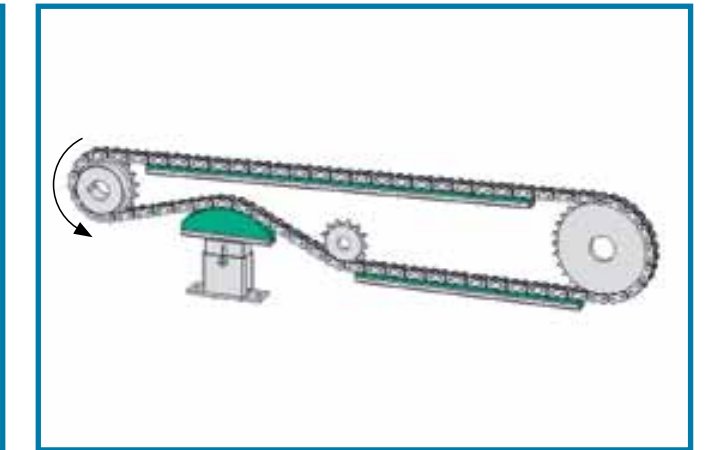
Roller/sprocket

- For small changes of direction
- For high chain speeds (>1 m/s)

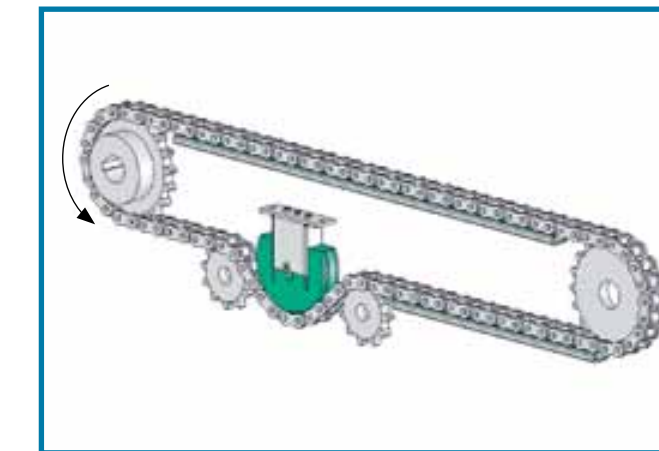
GRAPHICAL DEPICTION OF INSTALLATION EXAMPLES



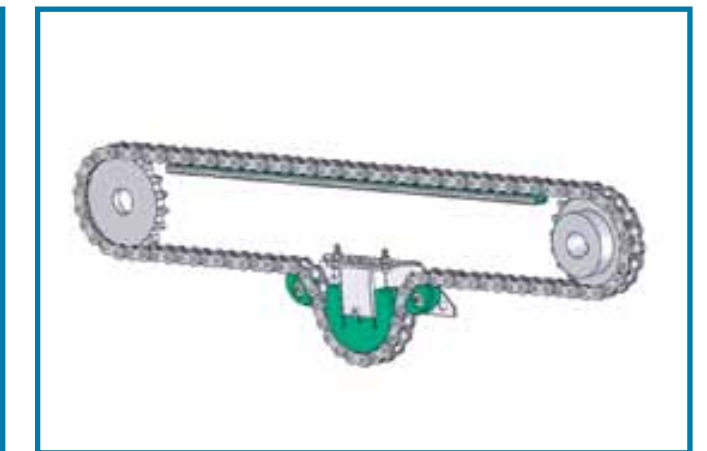
Popular but non-optimal arrangement, tension distance not used efficiently



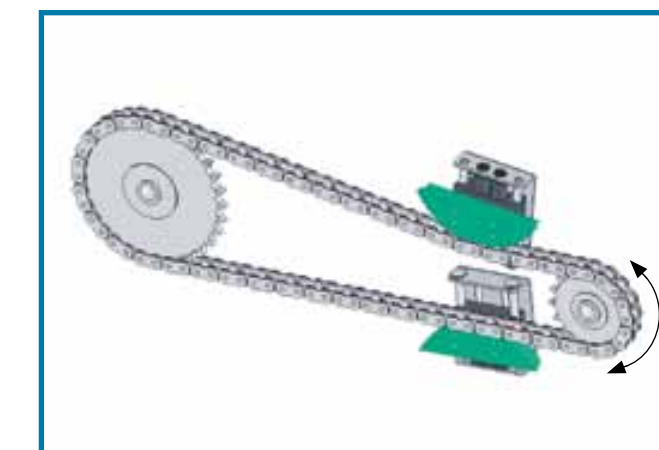
Optimum, extremely efficient chain support/tensioning



180° return profile. This arrangement allows a particularly long chain length to be accommodated.



Omega tensioning station – ready-to-install system



If the running direction changes, we recommend using two Spann-Box® units near to the drive.



Return/tensioning station

MOUNTING BRACKETS FOR SPANN-BOX® SYSTEMS

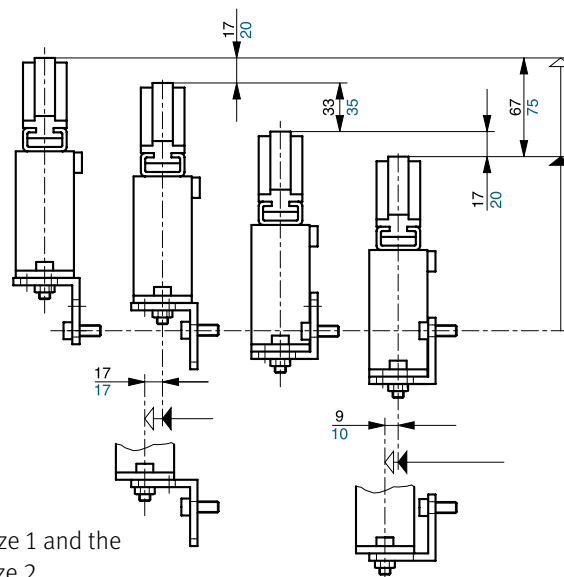
The ideal assembly aid

We offer various mounting brackets to make assembly more easy. They provide additional modification/adjustment flexibility. Elongated mounting holes allow easy adjustment if the normal tension distance has already been used up. Alignment errors can be corrected by side movement.

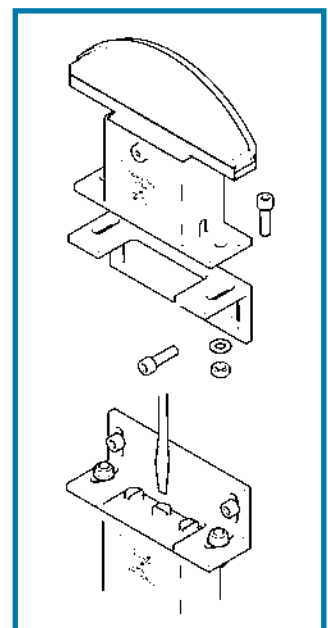
We are happy to provide detailed assembly instructions for all our systems. Simply contact us or see our website at www.murtfeldt.com.

Corresponding size	Adjustment range	Material	Article no.
1	67 mm	St 37 powder-coated	281 090 001
2	75 mm	St 37 powder-coated	281 090 002
1	67 mm	1.4301 (stainless steel)	281 090 029
2	75 mm	1.4301 (stainless steel)	281 090 030
0	-	1.4301 (stainless steel) incl. screws	281 090 087
30	-	1.4301 (stainless steel) incl. screws	281 090 088
TS	-	1.4301 (stainless steel)	281 090 091
1 (alternative fixing)	87 mm	1.4301 (stainless steel)	281 090 092

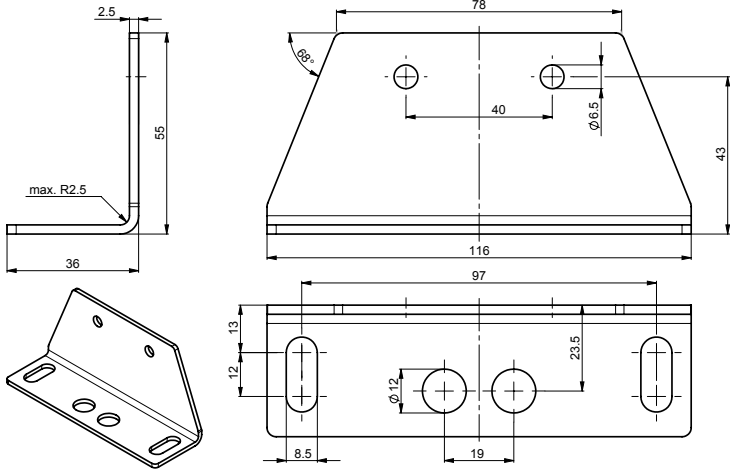
Size 1 and 2



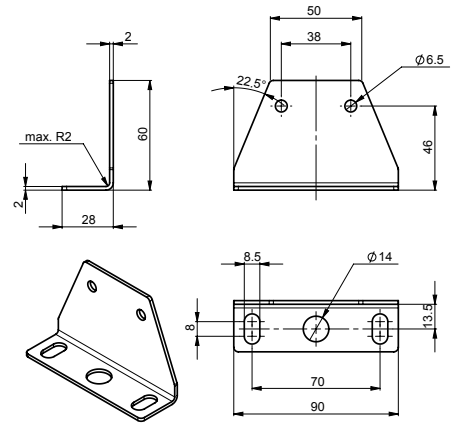
The top numbers are for size 1 and the bottom numbers are for size 2.



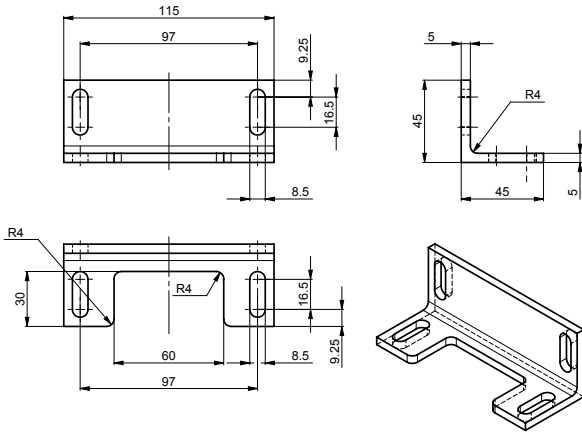
Spann-Boy® TS



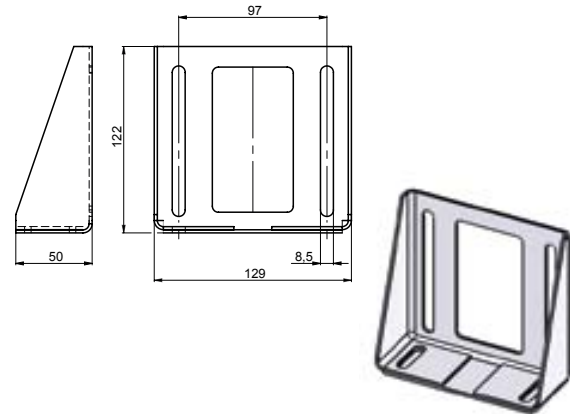
Spann-Box® size 0



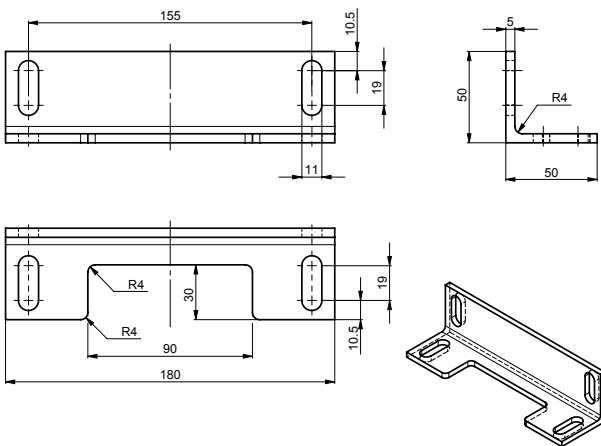
Spann-Box® size 1 (standard)



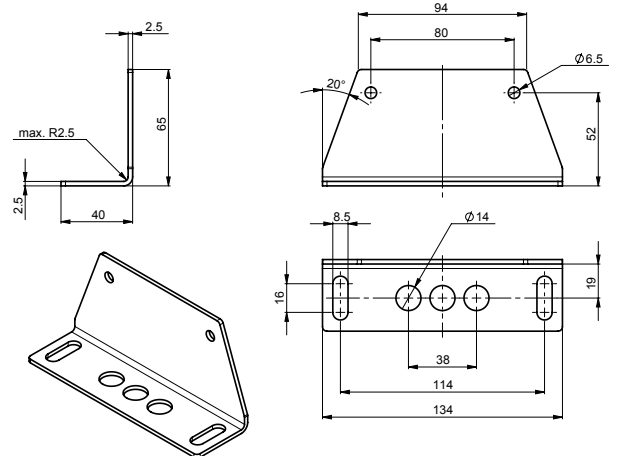
Spann-Box® size 1- alternative fixing



Spann-Box® size 2



Spann-Box® size 30



CHAIN AND BELT MONITORS

If a chain has excessive elongation or a break, critical damage can occur. Our chain and belt monitors track the production process and trigger the automatic shutdown of the machine if malfunctions occur. For this purpose, a mechanical limit switch or contact-free inductive switch is integrated into your chain or belt tensioner.

Both individual and reliable

Switch design requirements can vary greatly. Please contact us for more information. We will design the best solution for your requirements.

Inductive switches for Spann-Box®

Alternatively, a contact-free inductive switch can be used. This makes sense if there is a risk of explosion or contamination. Concerns about wear might also result in the use of an inductive switch. Inductive switches can be used for Spann-Box® size 1 and 2. Special models and designs in stainless steel are available on request.



CHAIN TENSIONERS FOR ROLLER CHAINS PER DIN 8187

MINI-TENSIONER

The smallest automatic chain tensioner in our range, the mini-tensioner is targeted for use with smaller chains with a chain pitch of up to 1/2.

Tension force	Light	Heavy
	2 springs	19 – 13 N
Tension distance	16 mm	16 mm

MINI-TENSIONER

with arc segment profile



Tensioning pressure

- Choice of light or heavy spring force

Chain guide

- Track profile for 06B-1, 08B-1 and duplex chains

Attachment

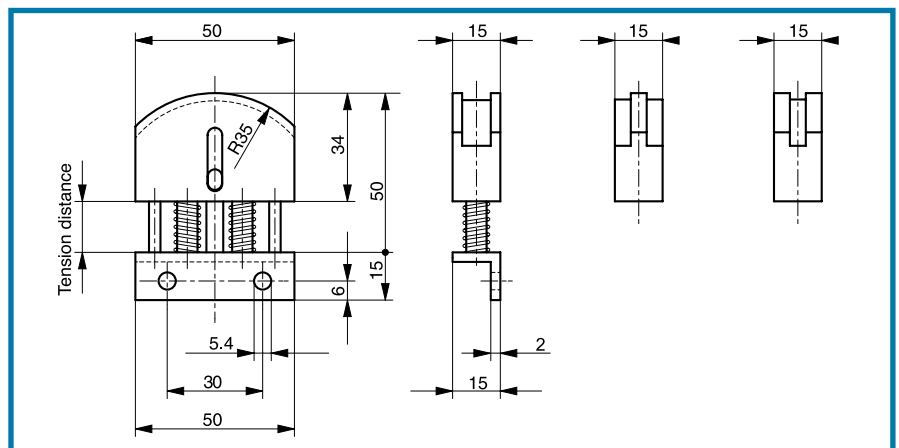
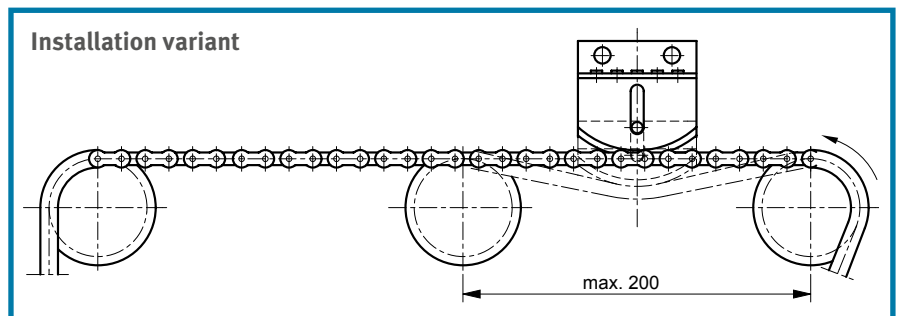
- Screws on bracket base

Axis-centre distance

- Max. 200mm recommended

DIN 8187 chain no.	Light tension force Article no.	Heavy tension force Article no.
06B-1 (U-Profil)	281 050 001	281 050 002
06B-1	281 050 003	281 050 004
08B-1	281 050 009	281 050 010
10B-1	–	281 050 011
05B-2	281 050 005	281 050 006
06B-2	281 050 007	281 050 008

Special and stainless steel designs on request



SPANN-BOY® TS

Three tension pressure settings

If the space beneath the chain is not large enough for a traditional tensioning system, Spann-Boy® TS can be used. They are installed near to the chain and thus require considerably less space.

Design

Our Spann-Boy® TS models are made from robust steel. The focus is on achieving a long lifetime and reliability. There are two different variants: With an arc segment profile or with a sprocket. Spann-Boy® TS has two pre-tensioned

springs. They can be released separately and provide three different tension pressure settings. The bore holes in the housing make assembly easier and provide more scope for adjustment once the original tension distance has been used up.

		Light	Heavy
Tension force Spann-Boy® TS	1 released spring	58 – 32 N	132 – 60 N
	2 released springs	190 – 96 N (extra heavy)	
	Tension distance	40 mm	40 mm

SPANN-BOY® TS

with arc segment profile



Applications

- For applications with restricted free space beneath the chain. 40mm are sufficient.

Tensioning pressure

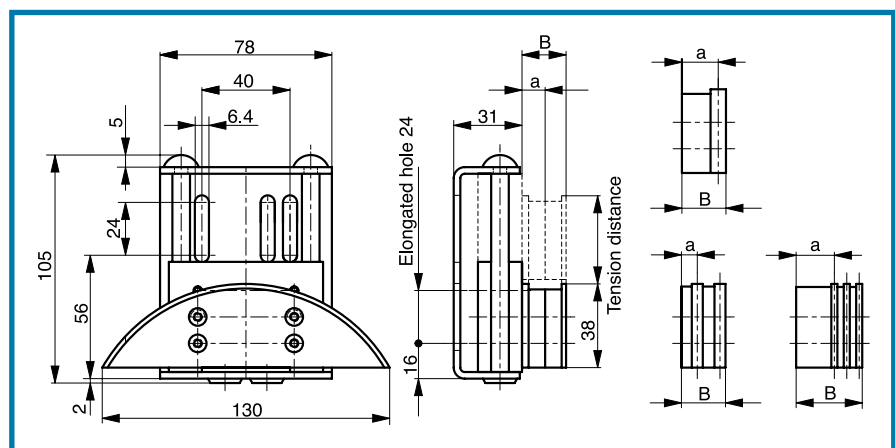
- Spann-Boy® TS has one light and one heavy pressure spring that can be released together or separately depending on the required tension pressure.

Attachment

- Installed next to the chain
- Bore holes in the housing (for matching fastening brackets refer to pages 124 – 125)

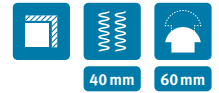
DIN 8187 chain no.	B	a	Article no. Standard design	Article no. Stainless steel
≤ 06B-1 (U-Profile)	20	10,0	281 060 001	282 060 002
08B-1	20	16,5	281 060 003	282 060 004
10B-1	20	15,6	281 060 005	282 060 006
12B-1	20	14,8	281 060 007	282 060 008
06B-2	20	7,5	281 060 009	282 060 010
08B-2	32	15,2	281 060 011	282 060 012
10B-2	32	11,3	281 060 013	282 060 014
05B-3	20	7,4	281 060 015	282 060 016
06B-3	32	9,4	281 060 017	282 060 018

Special designs on request



SPANN-BOY® TS

with sprocket



Applications

- For applications with restricted free space beneath the chain
- High chain speeds (>1m/s)
- Small return radii

Tensioning pressure

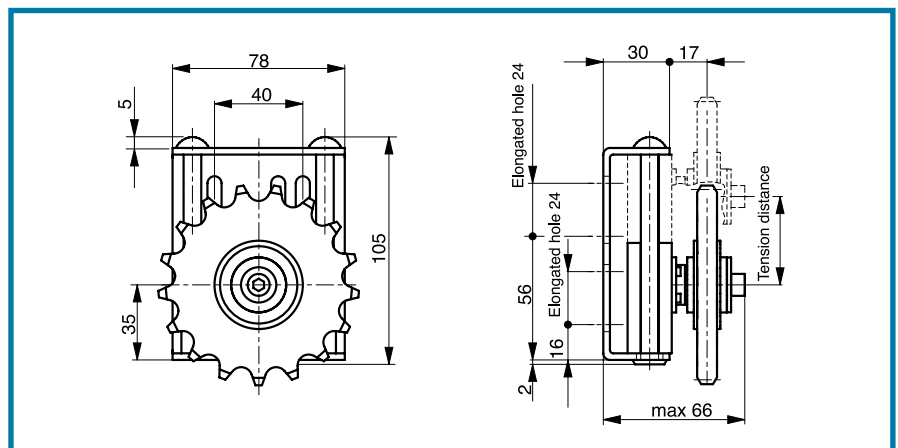
- Spann-Boy® TS has one light and one heavy pressure spring that can be released together or separately depending on the required tension pressure.

Attachment

- Installed next to the chain
- Bore holes in the housing (for matching fastening brackets refer to pages 124 – 125)

DIN 8187 chain no.	Number of teeth	Article no. Standard design
06B-1	20	281 260 002
06B-1	21	281 260 003
06B-1	23	281 260 004
08B-1	16	281 260 005
08B-1	17	281 260 006
08B-1	18	281 260 007
10B-1	14	281 260 008
10B-1	15	281 260 009
10B-1	16	281 260 010
10B-1	17	281 260 011
12B-1	13	281 260 012
12B-1	15	281 260 013
12B-1	16	281 260 014
12B-1	17	281 260 015

Special and stainless steel designs on request



SPANN-BOX® SIZE 0

The Spann-Box® size 0 is the smallest in our range. It is used where installation spaces are very restricted. The plastic housing means there is no risk of corrosion.

		Light	Heavy
Tension force	1 spring	58 – 32 N	132 – 60 N
	Tension distance	40 mm	40 mm

SPANN-BOX® SIZE 0

with semi-circular profile

Stainless steel screws and springs



Applications

- Restricted installation space
- Environments with a risk of corrosion
- Chain drives with a pitch of up to $\frac{3}{4}$ "

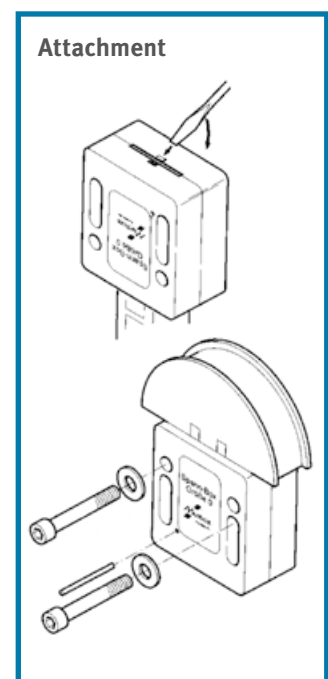
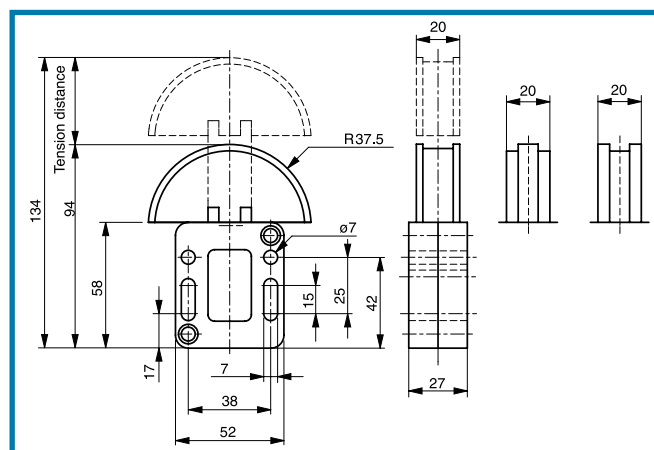
Tensioning pressure

- Choice of light or heavy spring force
- Lock pin in base of housing

DIN 8187 chain no.	Light tension force Article no.	Heavy tension force Article no.
≤06B-1 (U-Profile)	281 000 001	281 000 002
08B-1	281 000 003	281 000 004
10B-1	281 000 003	281 000 004
12B-1	281 000 005	281 000 006
06B-2	281 000 007	281 000 008
08B-2	281 000 009	281 000 010
10B-2	281 000 011	281 000 012

Attachment

- Installed underneath the chain
- Bore holes in the housing (for matching fastening brackets refer to pages 124 – 125)



SPANN-BOX® SIZE 30

Three tension pressure settings

Spann-Box® size 30 provides high quality at the same time as being economically priced. The robust plastic housing gives high resistance to corrosion.

		Light	Heavy
Tension force	1 released spring	58 – 32 N	132 – 60 N
	2 released springs	116 – 64 N	264 – 120 N
	3 released springs	174 – 96 N	396 – 180 N
	Tension distance	40 mm	40 mm

SPANN-BOX® SIZE 30

with arc segment profile

Stainless steel screws and springs



Applications

- Environments with a risk of corrosion
- No high mechanical stresses

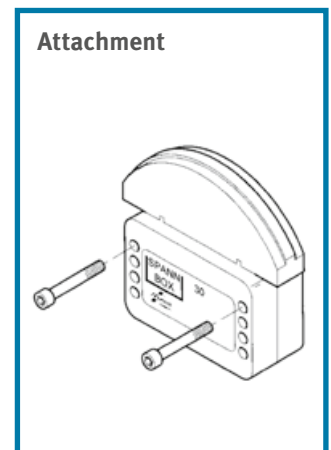
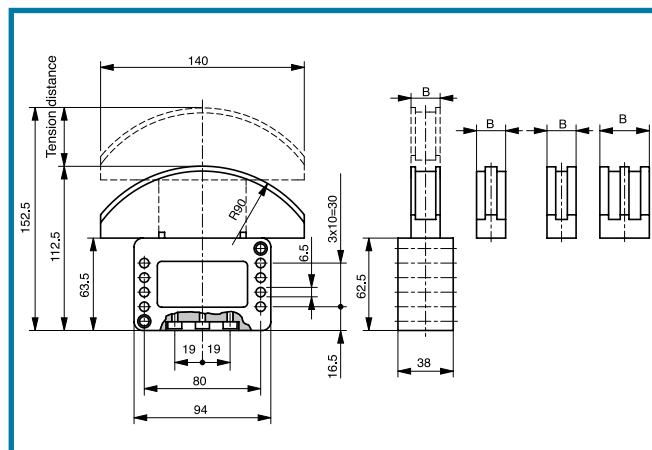
Tensioning pressure

- Choice of light or heavy spring force

Attachment

- Installed underneath the chain
- Bore holes in the housing (for matching fastening brackets refer to pages 124 – 125)

DIN 8187 chain no.	B mm	Light tension force Article no.	Heavy tension force Article no.
≤06B-1 (U-Profile)	20	281 030 001	281 030 002
08B-1	20	281 030 003	281 030 004
10B-1	20	281 030 005	281 030 006
12B-1	20	281 030 007	281 030 008
16B-1	20	281 030 009	281 030 010
05B-2	20	281 030 011	281 030 012
06B-2	20	281 030 013	281 030 014
08B-2	20	281 030 015	281 030 016
10B-2	25	281 030 017	281 030 018
12B-2	30	281 030 019	281 030 020
05B-3	20	281 030 021	281 030 022
06B-3	25	281 030 023	281 030 024
08B-3	30	281 030 025	281 030 026
10B-3	40	281 030 027	281 030 028
12B-3	45	281 030 029	281 030 030



SPANN-BOX® SIZE 1

Three tension pressure settings

Spann-Box® size 1 is available in several variants. The robust design with its steel housing guarantees durability and reliable operation. We offer a total of five different designs to meet individual requirements.

Reverse operation

If the running direction changes, we recommend using the appropriate Spann-Box® size with a long housing. We deliver this variant with heavy tension force.

		Light	Heavy
Tension force	1 released spring	58 – 32 N	132 – 60 N
	2 released springs	116 – 64 N	264 – 120 N
	3 released springs	174 – 96 N	396 – 180 N
	Tensioning distance	40 mm	40 mm

SPANN-BOX® SIZE 1

with arc segment profile



Tensioning pressure

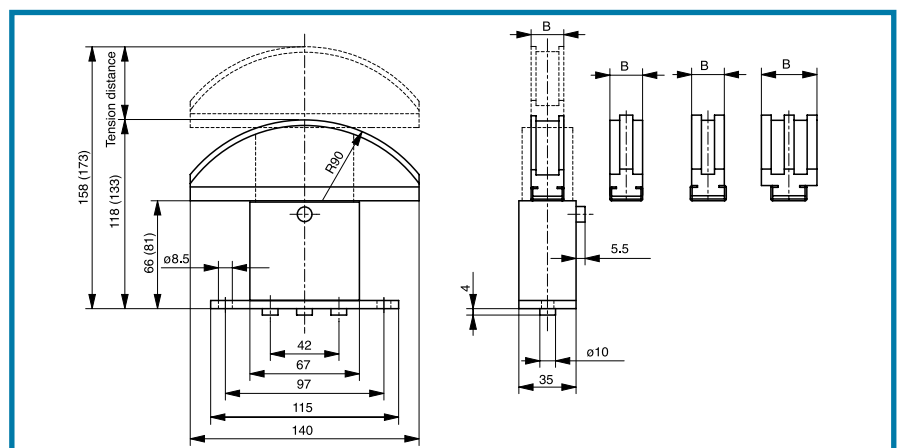
- Choice of light or heavy spring force

Attachment

- Installed underneath the chain
- Bore holes in the housing (for matching fastening brackets refer to pages 124 – 125)

DIN 8187 chain no.	B mm	Short housing, light tension force article no.	Short housing, heavy tension force article no.	Long housing, heavy tension force article no.	Stainless steel, heavy tension force, short housing article no.	Stainless steel, heavy tension force, long housing article no.
≤06B-1 (U-Profile)	20	281 010 001	281 010 002	281 010 202	282 010 002	282 010 202
08B-1	20	281 010 003	281 010 004	281 010 204	282 010 004	282 010 204
10B-1	20	281 010 005	281 010 006	281 010 206	282 010 006	282 010 206
12B-1	20	281 010 007	281 010 008	281 010 208	282 010 008	282 010 208
16B-1	20	281 010 009	281 010 010	281 010 210	282 010 010	282 010 210
20B-1	20	281 010 011	281 010 012	281 010 212	282 010 012	282 010 212
06B-2	20	281 010 013	281 010 014	281 010 214	282 010 014	282 010 214
08B-2	20	281 010 015	281 010 016	281 010 216	282 010 016	282 010 216
10B-2	25	281 010 017	281 010 018	281 010 218	282 010 018	282 010 218
12B-2	30	281 010 019	281 010 020	281 010 220	282 010 020	282 010 220
16B-2	45	281 010 021	281 010 022	281 010 222	282 010 022	282 010 222
06B-3	25	281 010 023	281 010 024	281 010 224	282 010 024	282 010 224
08B-3	30	281 010 025	281 010 026	281 010 226	282 010 026	282 010 226
10B-3	40	281 010 027	281 010 028	281 010 228	282 010 028	282 010 228
12B-3	45	281 010 029	281 010 030	281 010 230	282 010 030	282 010 230

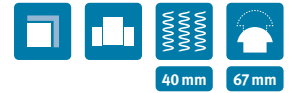
Special designs on request



Clamp dimensions (...) for long housing

SPANN-BOX® SIZE 1

with semi-circular profile



Applications

- For restricted installation spaces

Tensioning pressure

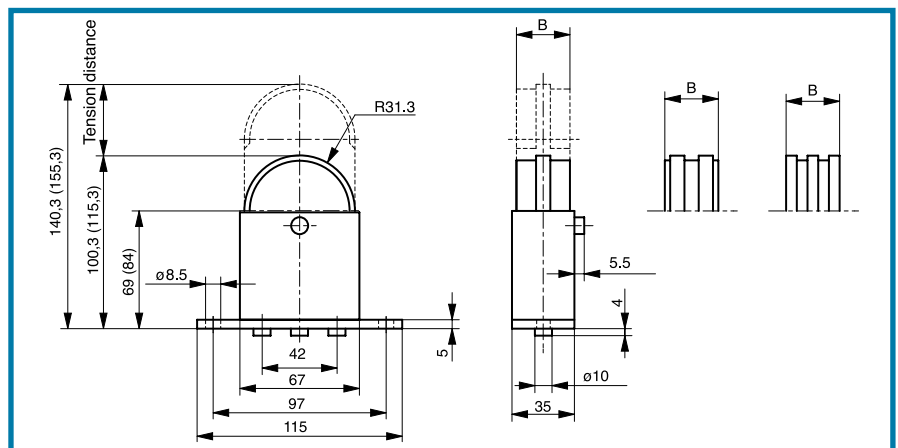
- Choice of light or heavy spring force

Attachment

- Easier assembly thanks to mounting bracket
- Bore holes in the housing (for matching fastening brackets refer to pages 124–125)

DIN 8187 chain no.	B mm	Short housing, light tension force article no.	Short housing, heavy tension force article no.	Long housing, heavy tension force article no.	Stainless steel, heavy tension force, short housing article no.	Stainless steel, heavy tension force, long housing article no.
06B-1	30	281 010 031	281 010 032	281 010 232	282 010 032	282 010 232
08B-1	30	281 010 033	281 010 034	281 010 234	282 010 034	282 010 234
10B-1	30	281 010 035	281 010 036	281 010 236	282 010 036	282 010 236
12B-1	30	281 010 037	281 010 038	281 010 238	282 010 038	282 010 238
06B-2	30	281 010 039	281 010 040	281 010 240	282 010 040	282 010 240
08B-2	30	281 010 041	281 010 042	281 010 242	282 010 042	282 010 242
10B-2	30	281 010 043	281 010 044	281 010 244	282 010 044	282 010 244
12B-2	30	281 010 045	281 010 046	281 010 246	282 010 046	282 010 246
06B-3	30	281 010 047	281 010 048	281 010 248	282 010 048	282 010 248
08B-3	30	281 010 049	281 010 050	281 010 250	282 010 050	282 010 250

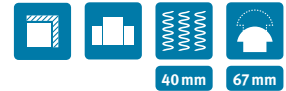
Special designs on request



Clamp dimensions (...) for long housing

SPANN-BOX® SIZE 1

with 180° return profile



If the Spann-Box has been properly fitted, the double length of the Spann-Box's tension distance can be used to compensate for chain extension. For more examples see page 123.

Tensioning pressure

- Heavy spring force

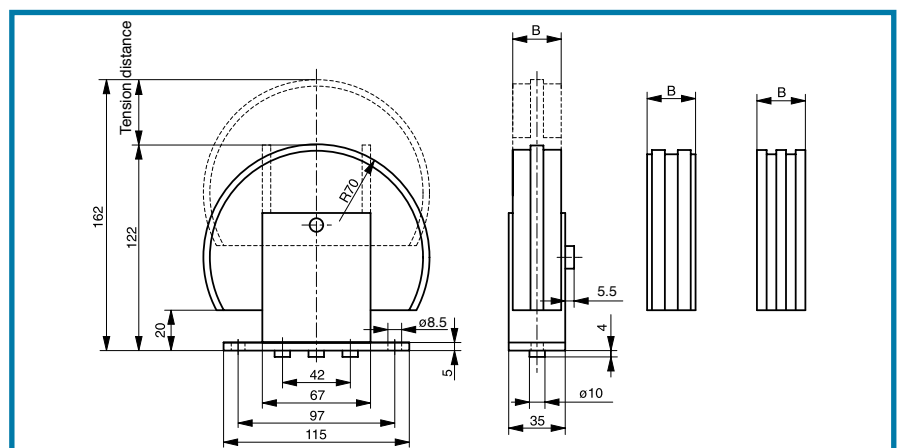
Attachment

- Easier assembly thanks to fastening bracket
- Bore holes in the housing
(for matching fastening brackets refer to pages 124 – 125)

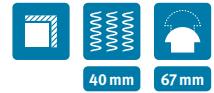


DIN 8187 chain no.	B mm	Long housing, heavy tension force article no.	Stainless steel, long housing, heavy tension force article no.
06B-1	30	281 010 051	282 010 051
08B-1	30	281 010 052	282 010 052
10B-1	30	281 010 053	282 010 053
12B-1	30	281 010 054	282 010 054
16B-1	30	281 010 055	282 010 055
06B-2	30	281 010 056	282 010 256
08B-2	30	281 010 057	282 010 257
10B-2	30	281 010 058	282 010 258
12B-2	30	281 010 059	282 010 259
06B-3	30	281 010 060	282 010 260
08B-3	30	281 010 061	282 010 261

Special designs on request



SPANN-BOX® SIZE 1 with sprocket type K-L/ Type K-S



Spann-Box® size 1 with sprocket is used where space is restricted or there are high chain speeds (> 1m/s).

Applications

- High chain speeds
- Small return radii
- Compensation for high chain elongation

Tensioning pressure

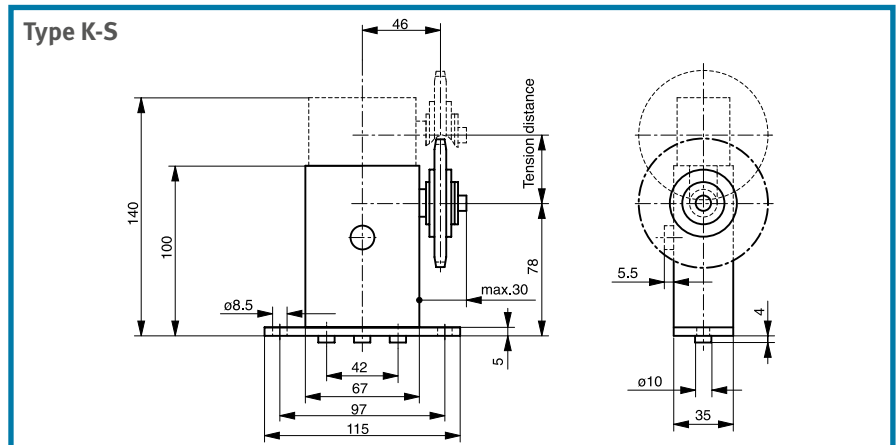
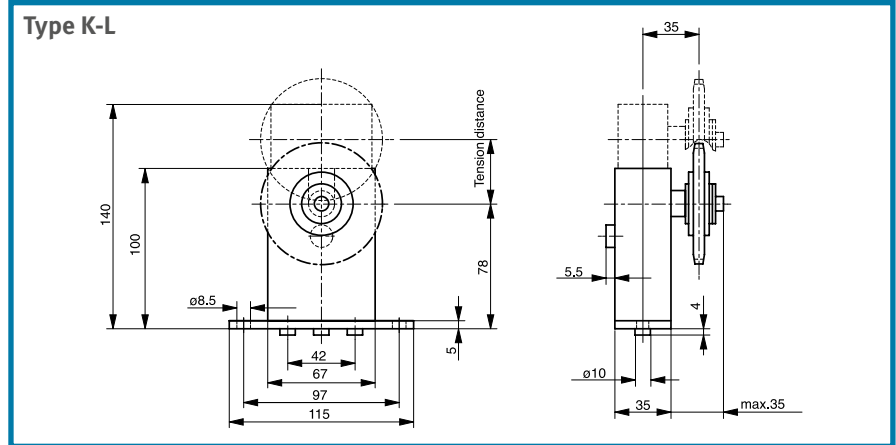
- Heavy spring force

Attachment

- Easier assembly thanks to mounting bracket
- Bore holes in the housing (for matching fastening brackets refer to pages 124 – 125)

DIN 8187 chain no.	No. of teeth	Type K-L heavy tension force article no.	Type K-S heavy tension force article no.
06B-1	20	281 210 005	281 210 001
06B-1	21	281 210 011	281 210 022
06B-1	23	281 210 012	281 210 023
08B-1	16	281 210 014	281 210 024
08B-1	17	281 210 006	281 210 025
08B-1	18	281 210 015	281 210 002
10B-1	14	281 210 016	281 210 026
10B-1	15	281 210 017	281 210 027
10B-1	16	281 210 007	281 210 028
10B-1	17	281 210 018	281 210 003
12B-1	13	281 210 033	281 210 029
12B-1	14	281 210 019	281 210 030
12B-1	15	281 210 008	281 210 004
12B-1	16	281 210 020	281 210 031
12B-1	17	281 210 021	281 210 032

Special and stainless steel designs on request



SPANN-BOX® SIZE 2

Three tension pressure settings

Like Spann-Box® size 1, Spann-Box® size 2 is available in different variants. The steel housing guarantees durability and reliability.

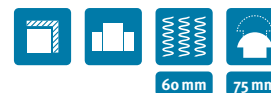
Reverse operation

If the running direction changes, we recommend using the appropriate Spann-Box® size with a long housing. We deliver this variant with heavy tension force.

		Light	Heavy
Tension force	1 released spring	148 – 82 N	262 – 118 N
	2 released springs	296 – 164 N	524 – 236 N
	3 released springs	444 – 246 N	786 – 354 N
	Tension distance	60 mm	60 mm

SPANN-BOX® SIZE 2

with arc segment profile



Tensioning pressure

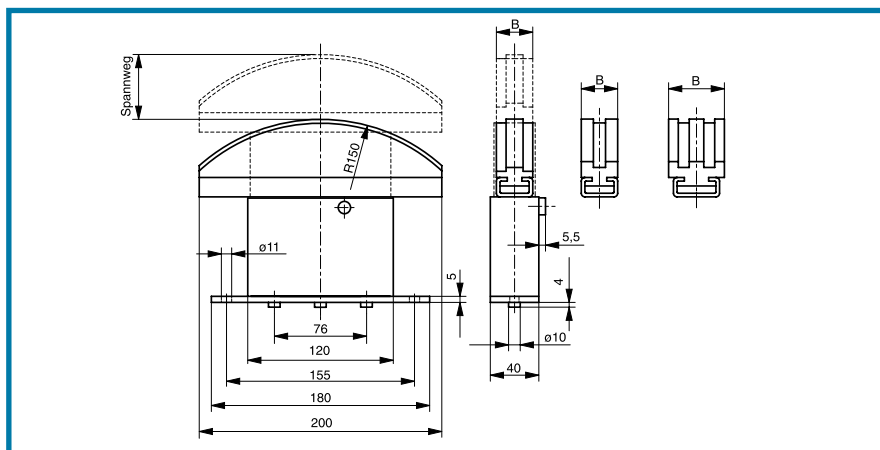
- Choice of light or heavy spring force

Attachment

- Easier assembly thanks to mounting bracket
- Bore holes in the housing (for matching fastening brackets refer to pages 124 – 125)

DIN 8187 chain no.	B mm	Long housing, light tension force, Article no.	Long housing, heavy tension force Article no.	Stainless steel, long housing, heavy tension force Article no.
12B-1	25	281 020 201	281 020 202	282 020 202
16B-1	25	281 020 203	281 020 204	282 020 204
20B-1	25	281 020 205	281 020 206	282 020 206
24B-1	30	281 020 207	281 020 208	282 020 208
08B-2	25	281 020 209	281 020 210	282 020 210
10B-2	25	281 020 211	281 020 212	282 020 212
12B-2	30	281 020 213	281 020 214	282 020 214
16B-2	45	281 020 215	281 020 216	282 020 216
20B-2	55	281 020 217	281 020 218	282 020 218
24B-2	70	281 020 219	281 020 220	282 020 220
08B-3	30	281 020 221	281 020 222	282 020 222
10B-3	40	281 020 223	281 020 224	282 020 224
12B-3	45	281 020 225	281 020 226	282 020 226
16B-3	75	281 020 227	281 020 228	282 020 228
20B-3	90	281 020 229	281 020 230	282 020 230

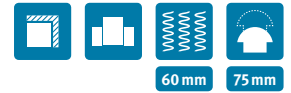
Special designs on request



Clamp dimensions (...) for long housing

SPANN-BOX® SIZE 2

with semi-circular profile



Applications

- For restricted installation spaces

Tensioning pressure

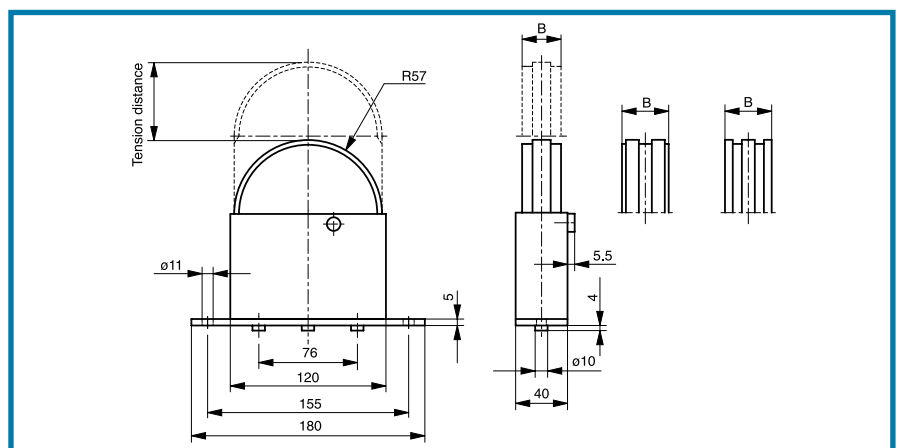
- Choice of light or heavy spring force

Attachment

- Easier assembly thanks to mounting bracket
- Bore holes in the housing (for matching fastening brackets refer to pages 124–125)

DIN 8187 chain no.	B mm	Long housing, light tension force, Article no.	Long housing, heavy tension force, Article no.	Stainless steel, long housing, heavy tension force, Article no.
12B-1	33	281 020 231	281 020 232	282 020 232
16B-1	33	281 020 233	281 020 234	282 020 234
08B-2	33	281 020 235	281 020 236	282 020 236
10B-2	33	281 020 237	281 020 238	282 020 238
12B-2	33	281 020 239	281 020 240	282 020 240
08B-3	33	281 020 241	281 020 242	282 020 242
10B-3	40	281 020 243	281 020 244	282 020 244

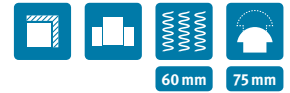
Special designs on request



Clamp dimensions (...) for long housing

SPANN-BOX® SIZE 2

with 180° return profile



With the appropriate installation, the double tension distance length can be used for chain elongation. Further installation examples see page 117.

Tensioning pressure

- Heavy spring force

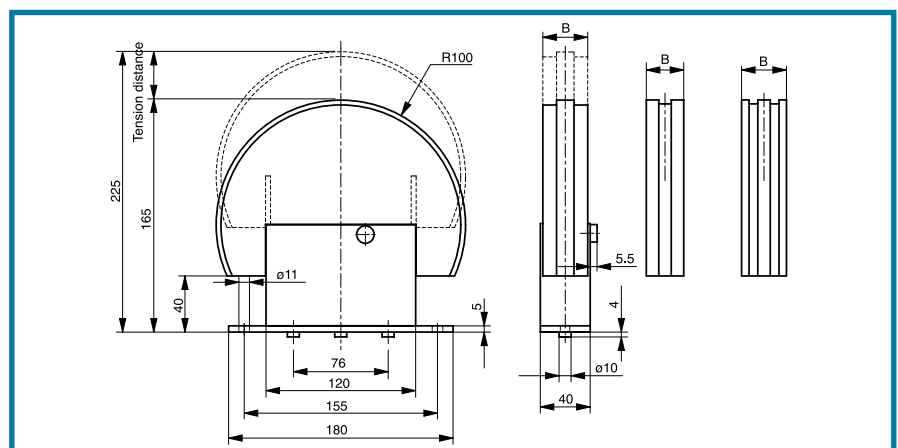
Attachment

- Easier assembly thanks to mounting bracket
- Bore holes in the housing (for matching fastening brackets refer to pages 124 – 125)



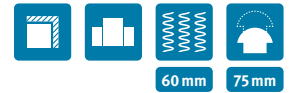
DIN 8187 chain no.	B mm	Long housing, heavy tension force Article no.	Stainless steel, long housing, heavy tension force Article no.
12B-1	33	281 020 045	282 020 045
16B-1	33	281 020 046	282 020 046
20B-1	33	281 020 047	282 020 047
08B-2	33	281 020 048	282 020 048
10B-2	33	281 020 049	282 020 049
12B-2	33	281 020 050	282 020 050
08B-3	33	281 020 051	282 020 051
10B-3	40	281 020 052	282 020 052
12B-3	45	281 020 053	282 020 053

Special designs on request



SPANN-BOX® SIZE 2

with block profile



This design is ideally suited for heavy loads. It is intended for use with high dynamic forces.

Design

- Slide profile and tension core made from a single piece

Tensioning pressure

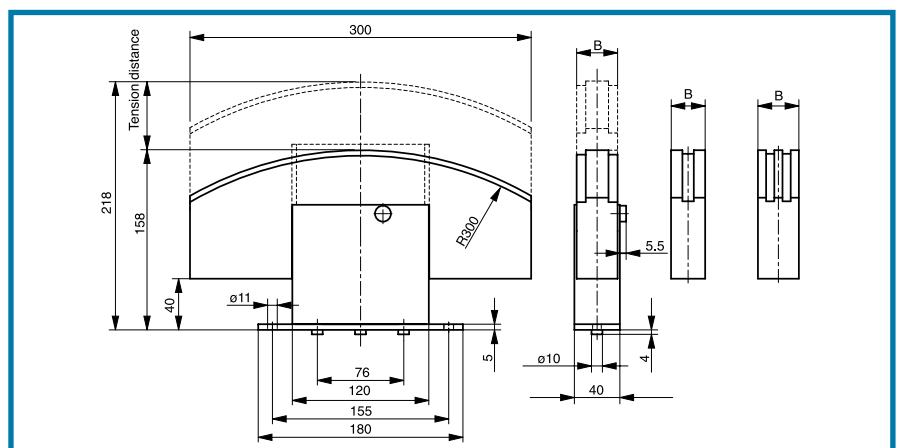
- Heavy spring force

Attachment

- Easier assembly thanks to mounting bracket
- Bore holes in the housing (for matching fastening brackets refer to pages 124 – 125)

DIN 8187 chain no.	B mm	Long housing, heavy tension force Article no.	Stainless steel, long housing, heavy tension force Article no.
24B-1	33	281 020 054	282 020 054
28B-1	33	281 020 055	282 020 055
32B-1	33	281 020 056	282 020 056
40B-1	40	281 020 057	282 020 057
48B-1	45	281 020 058	282 020 058
16B-2	45	281 020 059	282 020 059
20B-2	55	281 020 060	282 020 060
24B-2	70	281 020 061	282 020 061
16B-3	75	281 020 062	282 020 062
20B-3	90	281 020 063	282 020 063

Special designs on request



AUTOMATIC BELT TENSIONERS

Round belts, V-belts as per DIN 2215, or flat belts – they all require different pre-tensioning. The following Spann-Box®/ Spann-Boy® types are available as belt tensioners

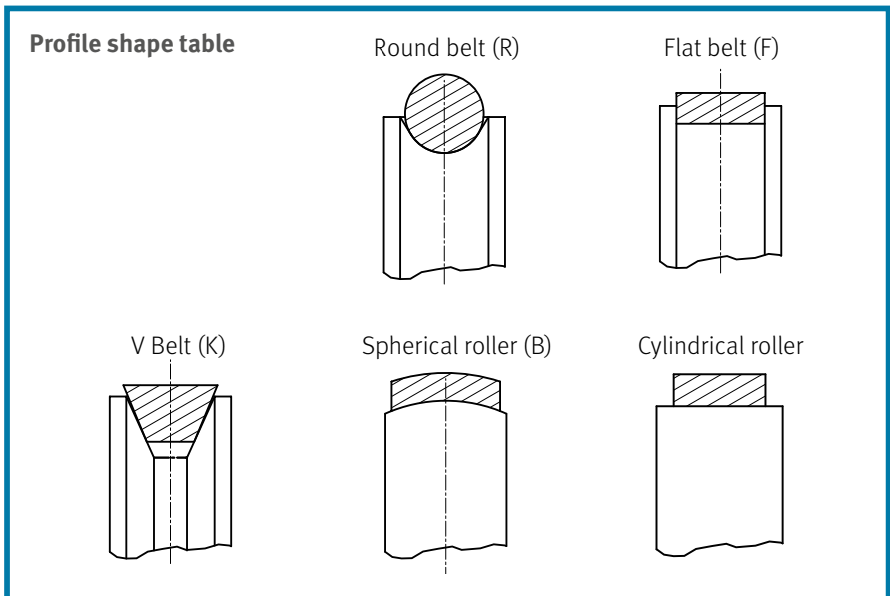
- Spann-Boy®TS
- Spann-Box® size 0
- Spann-Box® size 1

Material

We use our tried-and-tested Original Material "S"™ Black Antistatic for the ball-bearing supported tensioning roller that is attached to the housing. It is characterized by its excellent wear resistance, ideal slide properties, and very good resistance to chemicals.

Design

Our tensioning rollers come with a cylindrical surface or a profile of your choice. Use the profile shape table to specify the required profile along with the belt type used when you make your order.

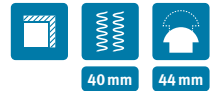


		Light tension force	Heavy tension force	Tension distance
Spann-Box® size 0 with roller	1 released spring	58 – 32 N	132 – 60 N	40 mm
Spann-Boy® TS with roller	1 released spring	58 – 32 N	132 – 60 N	40 mm
	2 released springs	190 – 96 N		40 mm
Spann-Box® size 1 Type SR-0 tensioning roller on top Type SR-L tensioning roller on long side Type SR-S tensioning roller on front	1 released spring	58 – 32 N	132 – 60 N	40 mm
	2 released springs	116 – 64 N	264 – 120 N	40 mm
	3 released springs	174 – 96 N	396 – 180 N	40 mm



SPANN-BOY® TS AS BELT TENSIONER

with roller



Three tension pressure settings

Tension pressure

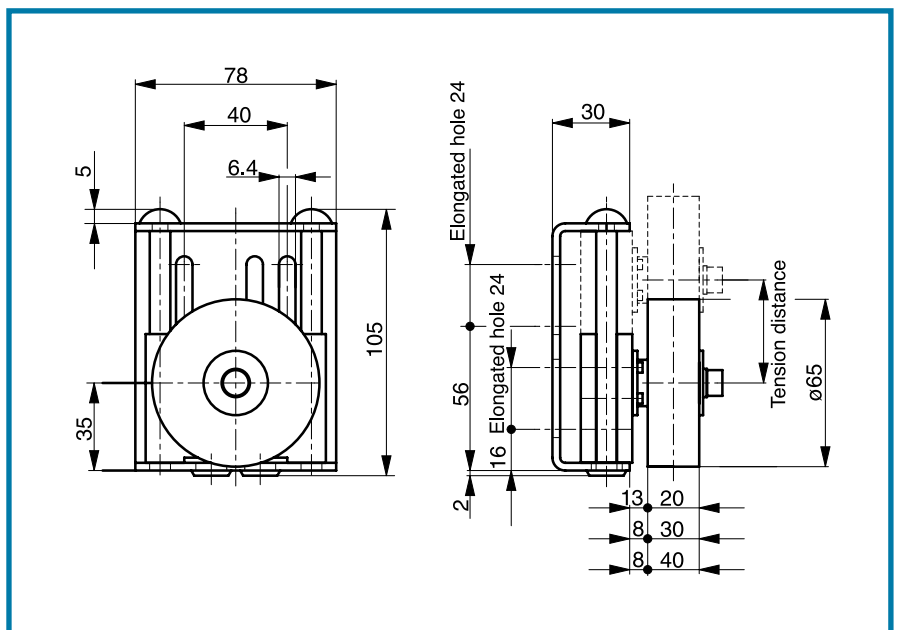
- Spann-Boy® TS has one light and one heavy pressure spring that can be released together or separately depending on the required tension pressure.

Attachment

- Bore holes in the housing (for matching fastening brackets refer to pages 124 – 125)

Roller width mm	Profile shape	Article no.
20	Cylindrical	281 160 001
	Spherical	281 160 004
	Flat belt	281 160 007
	V-belt	281 160 010
	Round belt	281 160 013
30	Cylindrical	281 160 002
	Spherical	281 160 005
	Flat belt	281 160 008
	V-belt	281 160 011
	Round belt	281 160 014
40	Cylindrical	281 160 003
	Spherical	281 160 006
	Flat belt	281 160 009
	V-belt	281 160 012
	Round belt	281 160 015

Special and stainless steel designs on request



SPANN-BOX® SIZE 0 AS BELT TENSIONER

with roller



Design

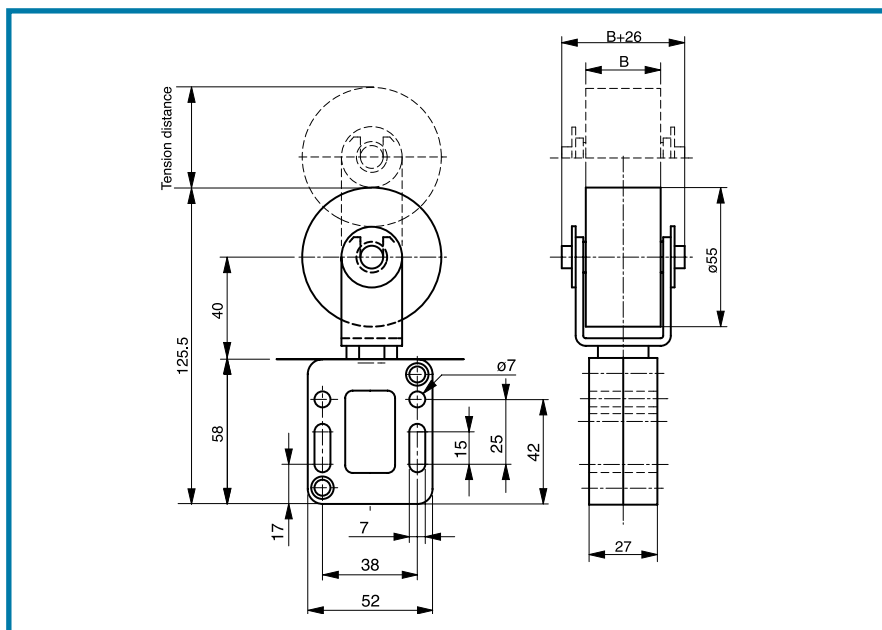
- Corrosion-proof housing

Tensioning pressure

- Choice of light or heavy spring force

Roller width mm	Profile shape	Light tension force Article no.	Heavy tension force Article no.
20	Cylindrical	281 100 001	281 100 002
	Spherical	281 100 007	281 100 008
	Flat belt	281 100 013	281 100 014
	V-belt	281 100 019	281 100 020
	Round belt	281 100 025	281 100 026
30	Cylindrical	281 100 003	281 100 004
	Spherical	281 100 009	281 100 010
	Flat belt	281 100 015	281 100 016
	V-belt	281 100 021	281 100 022
	Round belt	281 100 027	281 100 028
40	Cylindrical	281 100 005	281 100 006
	Spherical	281 100 011	281 100 012
	Flat belt	281 100 017	281 100 018
	V-belt	281 100 023	281 100 024
	Round belt	281 100 029	281 100 030

Special and stainless steel designs on request



SPANN-BOX® SIZE 1 AS BELT TENSIONER

Our tried-and-tested Spann-Box® is ideally suited for use as a belt tensioner. We offer different designs for different scenarios. The variants differ primarily in the mounting of the tensioning roller. The basic design is identical for all variants.

Tensioning pressure

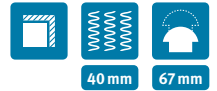
- Choice of light or heavy spring force

Attachment

- Bore holes in the housing (for matching fastening brackets refer to pages 124 – 125)

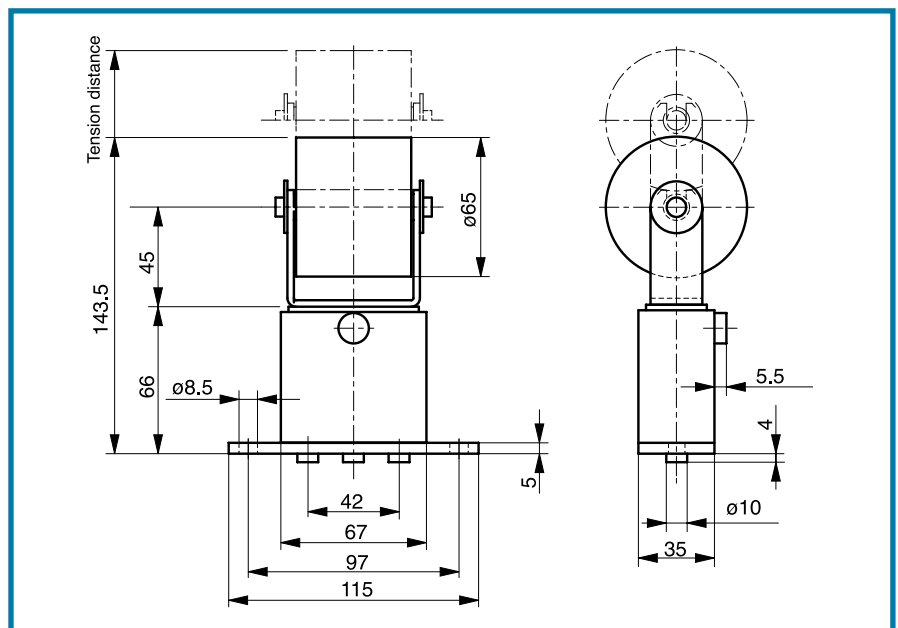
SPANN-BOX® SIZE 1 TYPE SR-O

as belt tensioner with roller on top



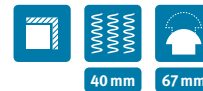
Roller width mm	Profile shape	Light tension force Article no.	Heavy tension force Article no.
53	Cylindrical	281 110 001	281 110 002
	Spherical	281 110 003	281 110 004
	Flat belt	281 110 005	281 110 006
	V-belt	281 110 007	281 110 008
	Round belt	281 110 009	281 110 010

Special and stainless steel designs on request



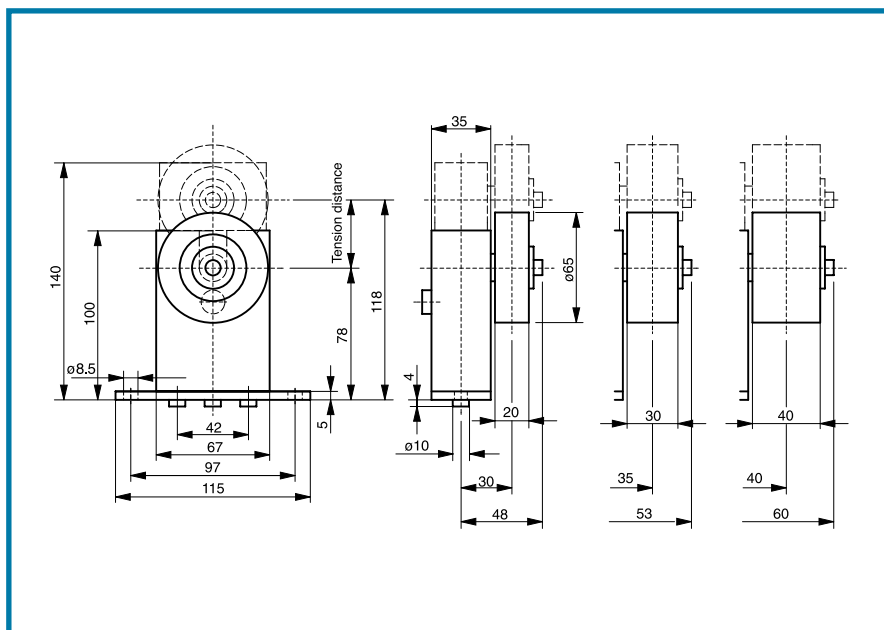
SPANN-BOX® SIZE 1 / TYPE SR-L

Tensioning roller on long side



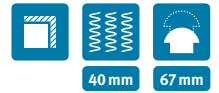
Roller width mm	Profile shape	Light tension force Article no.	Heavy tension force Article no.
20	Cylindrical	281 110 011	281 110 012
	Spherical	281 110 017	281 110 018
	Flat belt	281 110 023	281 110 024
	V-belt	281 110 029	281 110 030
	Round belt	281 110 035	281 110 036
30	Cylindrical	281 110 013	281 110 014
	Spherical	281 110 019	281 110 020
	Flat belt	281 110 025	281 110 026
	V-belt	281 110 031	281 110 032
	Round belt	281 110 037	281 110 038
40	Cylindrical	281 110 015	281 110 016
	Spherical	281 110 021	281 110 022
	Flat belt	281 110 027	281 110 028
	V-belt	281 110 033	281 110 034
	Round belt	281 110 039	281 110 040

Special and stainless steel designs on request



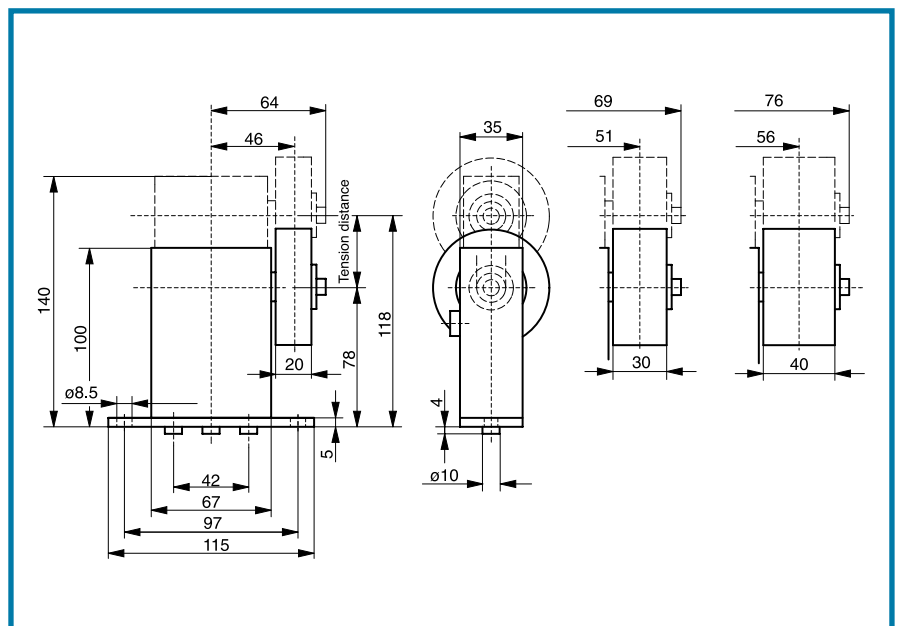
SPANN-BOX® SIZE 1 / TYPE SR-S

Tensioning roller on front



Roller width mm	Profile shape	Light tension force Article no.	Heavy tension force Article no.
20	Cylindrical	281 110 041	281 110 042
	Spherical	281 110 047	281 110 048
	Flat belt	281 110 053	281 110 054
	V-belt	281 110 059	281 110 060
	Round belt	281 110 065	281 110 066
30	Cylindrical	281 110 043	281 110 044
	Spherical	281 110 049	281 110 050
	Flat belt	281 110 055	281 110 056
	V-belt	281 110 061	281 110 062
	Round belt	281 110 067	281 110 068
40	Cylindrical	281 110 045	281 110 046
	Spherical	281 110 051	281 110 052
	Flat belt	281 110 057	281 110 058
	V-belt	281 110 063	281 110 064
	Round belt	281 110 069	281 110 070

Special and stainless steel designs on request



SPECIAL TENSIONERS

The requirements of our customers are diverse. No pool of machinery is the same as another, so the enquiries we receive are often extremely individual. We will do everything possible to meet your demands with our special models. Correct advice is absolutely vital here – it's what makes our components reliable.

A variety of influences

The work conditions must be known in detail in order for the best tensioning

system for your machines to be determined. A host of factors can restrict functionality, such as force effects, chain speed, chain pressure, contamination, and temperature. The use of machinery in problematic temperature ranges can often result in a high risk of malfunction or damage.

This makes it vital for you to receive the best possible advice on the correct choice of material. Please contact our

application technology department. We will be glad to work with you to find a custom solution.

technik@murtfeldt.de

Feel free to use also our design questionnaire at www.murtfeldt.com.



Spann-Box® size 2 for use at temperatures of up to 200°C



Spann-Box® size 1 for use at temperatures of up to 150°C



Spann-Box® size 30, with mechanical limit switch



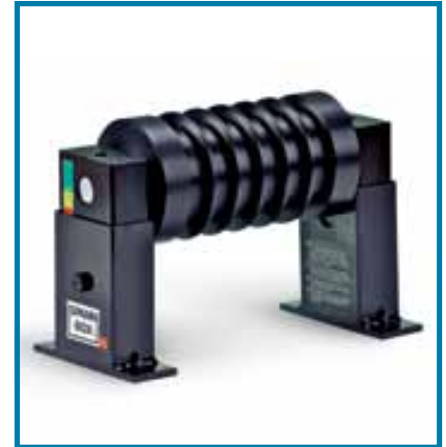
The double-tensioner for chain drives with reverse operation. Thanks to the „floating“ suspension of the clamping elements, the tension is always applied just where it's needed: On the slack strand.



Spann-Box® size 1 with return profile made of Murinit® SP in accordance with customer's requirements



Ω-tension station for compensation of extensive chain lengthening



Size 1 tension station with roller



Spann-Box® size 1 with arc segment made from Original Material "S" plus+OIL for an accumulator chain



Spann-Box® size 1 or size 2, tandem tensioner for tensioning chains with extremely large chain pitches



Spann-Box® designs with locking devices; they prevent the slide profile from being compressed when the direction of rotation changes, for example.

