

Chain and Belt *Tensioning Systems*

CHAIN AND BELT 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.

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

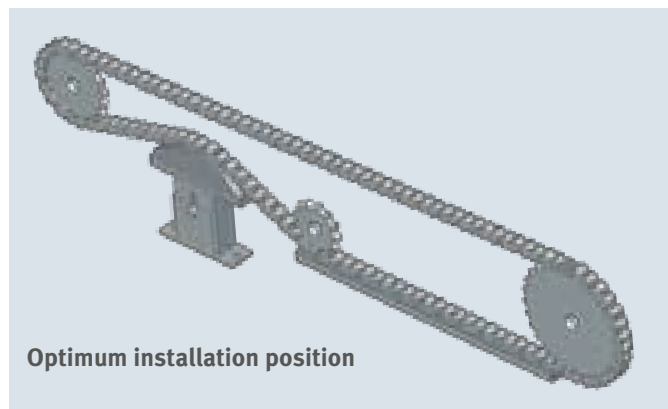
For all Murtfeldt tensioning systems, you can choose either light or heavy tensioning pressure. Depending on the type, the tensioners have one, two, or three springs. You decide how many springs you want to use. This enables the optimum application of pressure onto a chain or belt running on the profile.

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

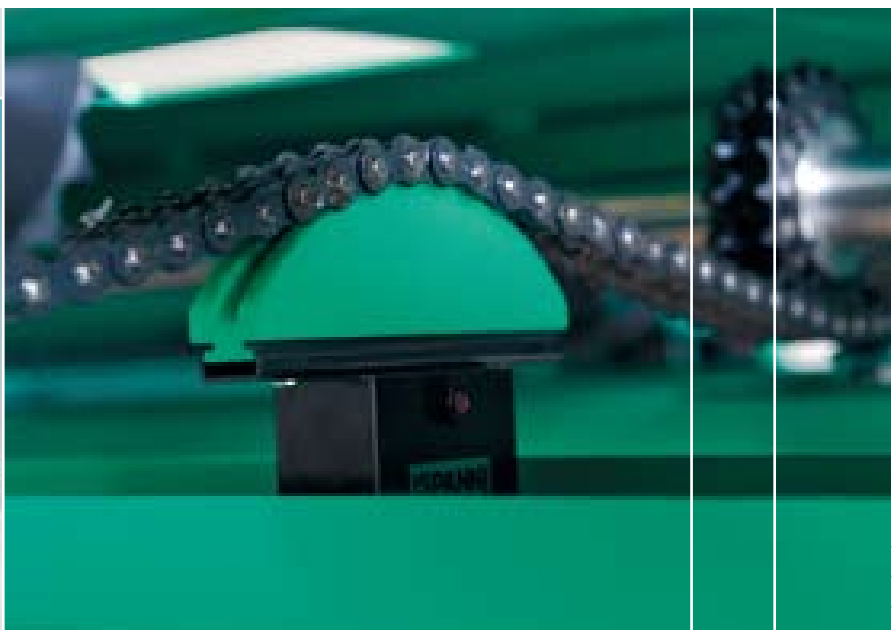


Optimum installation position

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® means "heavy tensioning 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.



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.



MECHANICAL LIMIT SWITCHES

To best suit your requirements

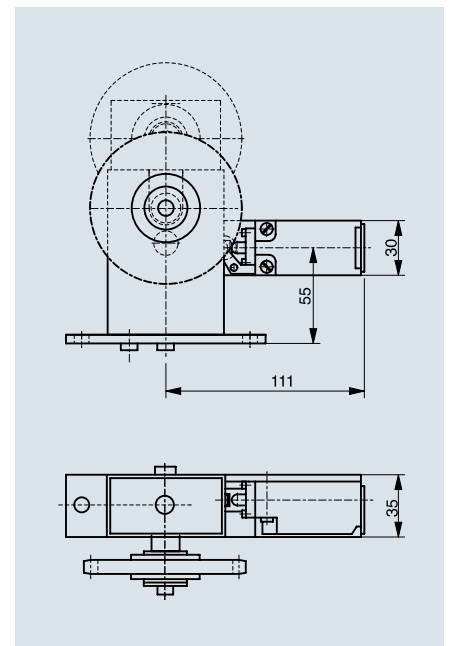
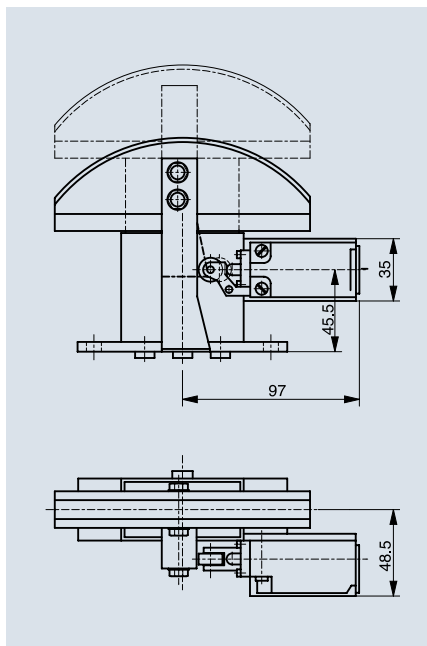
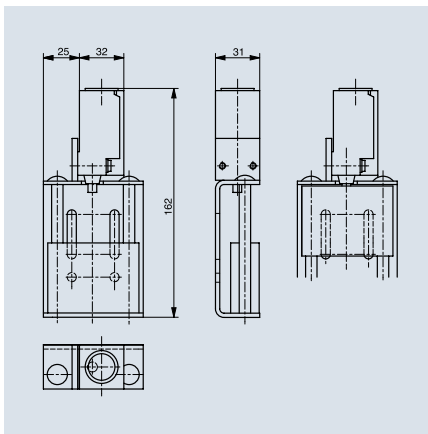
The attachment location depends on the Spann-Box® type. In most cases, the limit switch is attached on the side. The contact is triggered by a cam switch attached to the slide profile. In the case of some models (types K-L and SR-L), the contact is achieved directly via the tension core by means of an opening in the housing.

Limit switches attached on the side are not suitable for the Spann-Boy®, for example. In this case, a limit switch mounted on top is used instead. A contact is actuated when the pressure pin on the tension core is reached.

If you decide on a Spann-Box® or Spann-Boy® design, please contact us. We will provide detailed advice on a range of custom options.



When ordering, please state “with mechanical limit switch” or “with inductive switch” in addition to the article number.



Spann-Boy® (left) and Spann-Box® (right) with mechanical limit switch

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.

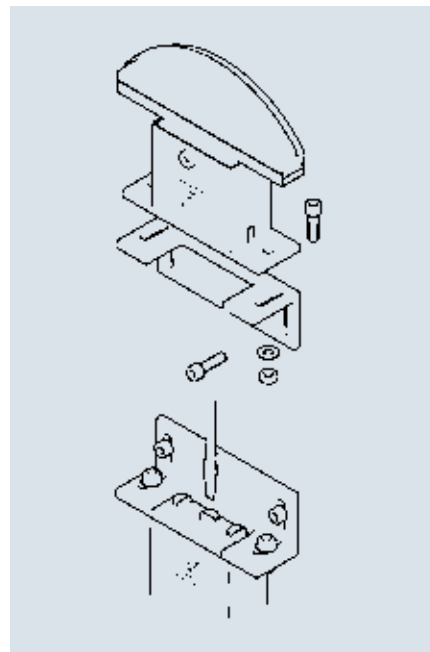


MOUNTING BRACKETS FOR SPANN-BOX® SIZES 1 AND 2

The ideal assembly aid

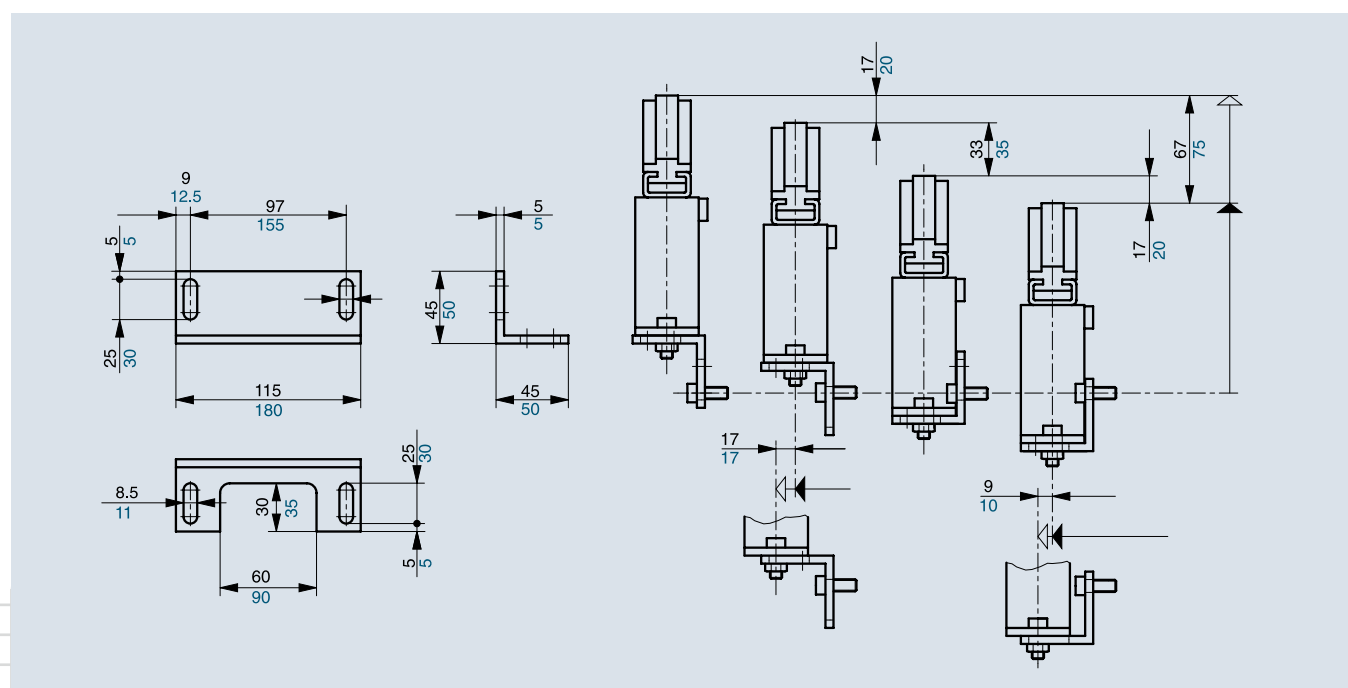
We offer various mounting brackets to make assembly more easy. They provide additional modification/adjustment flexibility. Elongated mounting holes allow easy adjustment if the normal tension distance has already been used up. Alignment errors can be corrected by side movement.

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

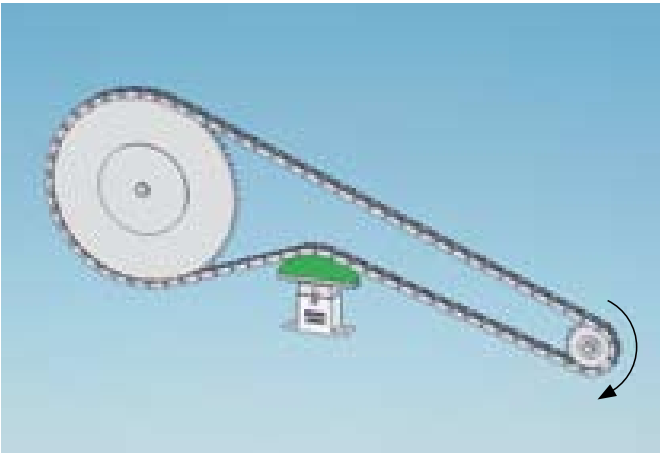


Corresponding size	Adjustment range	Material	Article no.	Availability
1	67mm	St 37, powder-coated	281 090 001	●
2	75mm	St 37, powder-coated	281 090 002	●
1	67mm	1,4301 (V2A)	281 090 029	○
2	75mm	1,4301 (V2A)	281 090 030	○

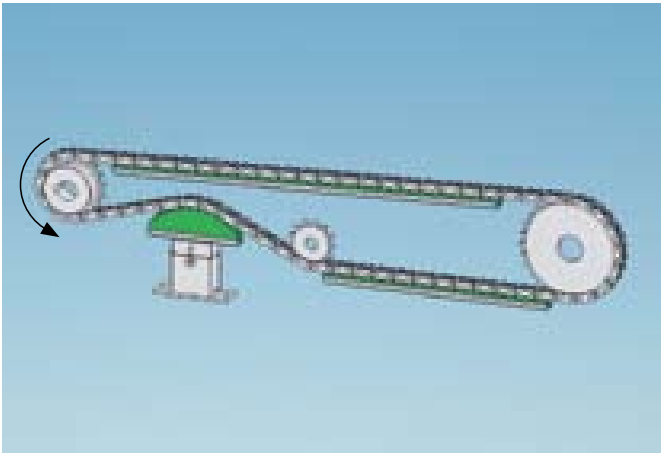
● Stocked ○ Available within 10 days



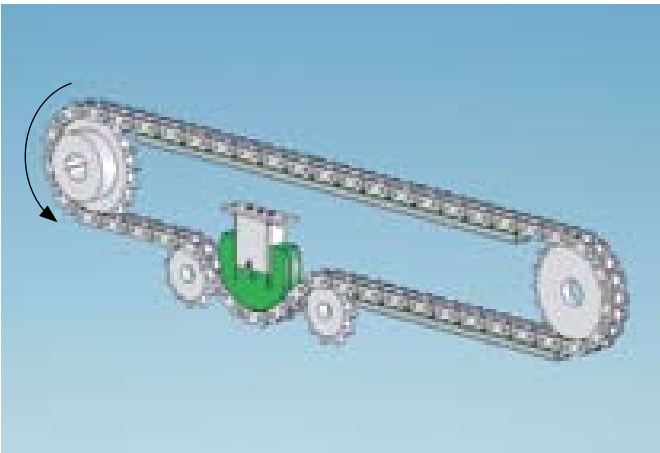
GRAPHICAL DEPICTION OF INSTALLATION EXAMPLES



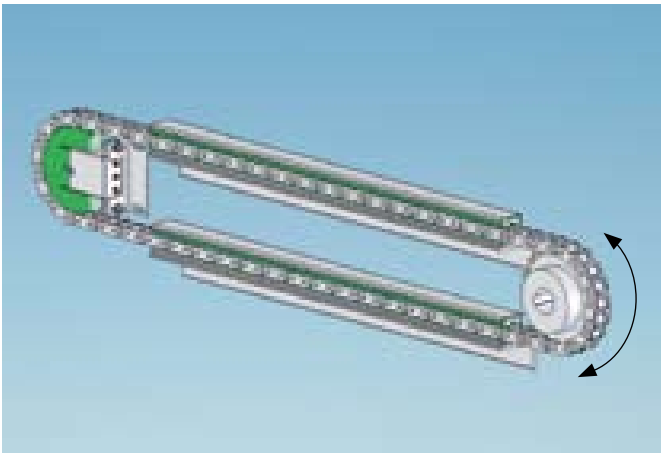
Popular but non-optimal arrangement, tension distance not used efficiently



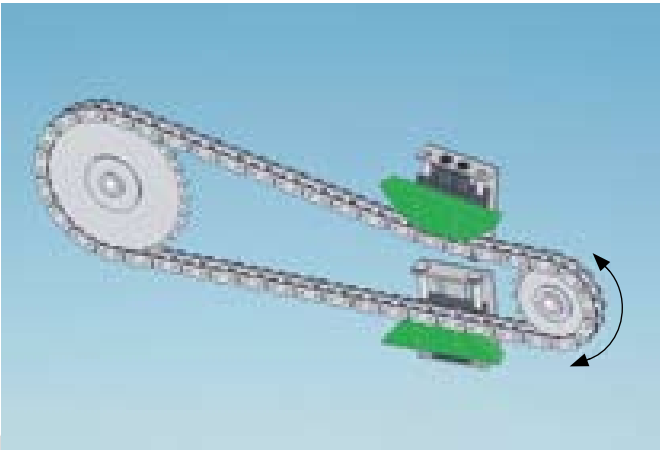
Optimum, extremely efficient chain support/tensioning



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



Return/tensioning station



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

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.



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



Spann-Box® size 1 with combined central lubrication unit to tension and lubricate your roller chain at the same time



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



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



Ω tension station for compensation of extensive chain lengthening



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



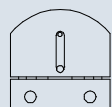
Size 1 tension station with roller



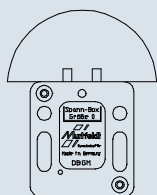
Spann-Box® designs with locking devices; they prevent the slide profile from being compressed when the direction of rotation changes, for example.

OVERVIEW OF SPANN-BOX® TYPES

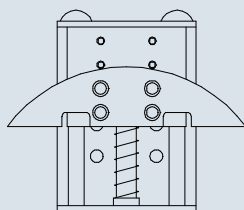
Chain tensioners



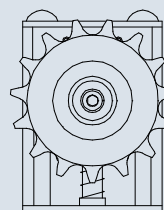
Mini-tensioner



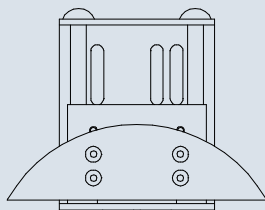
Spann-Box® size 0



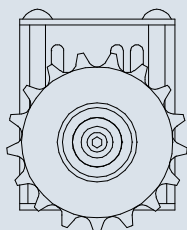
Spann-Boy®
with arc segment profile



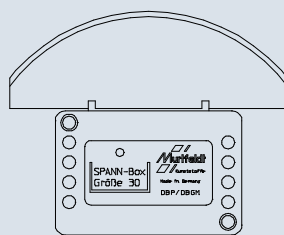
Spann-Boy®
with sprocket



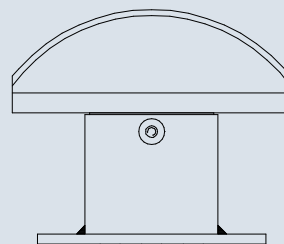
Spann-Boy® TS
with arc segment profile



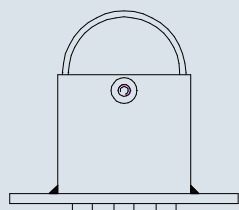
Spann-Boy® TS
with sprocket



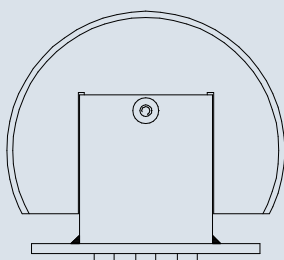
Spann-Box® size 30



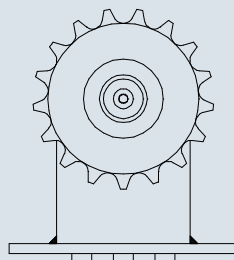
Spann-Box® size 1
with arc segment profile



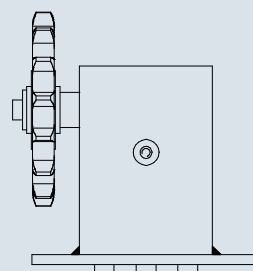
Spann-Box® size 1
with semi-circular profile



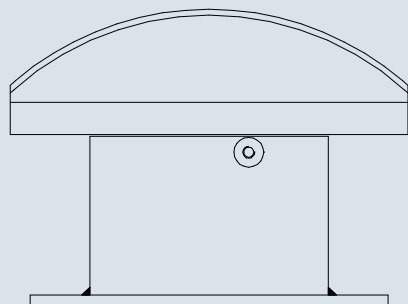
Spann-Box® size 1
with return profile



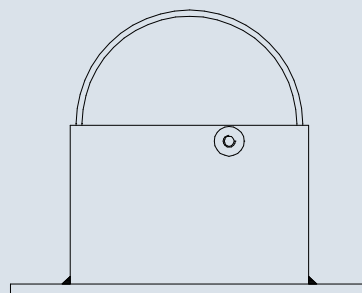
Spann-Box® size 1
with sprocket type K-L



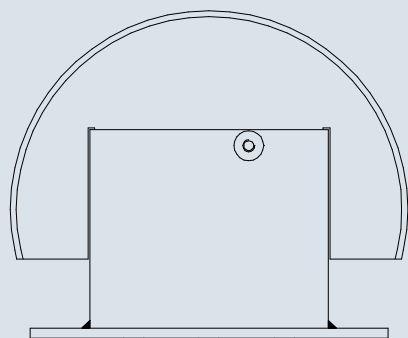
Spann-Box® size 1
with sprocket type K-S



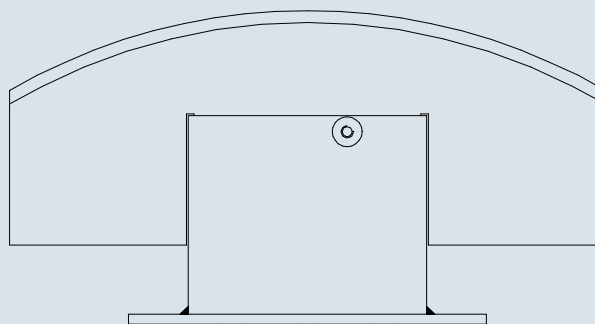
Spann-Box® size 2
with arc segment profile



Spann-Box® size 2
with semi-circular profile

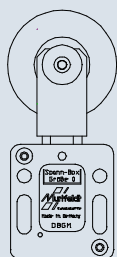


Spann-Box® size 2
with return profile

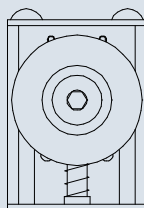


Spann-Box® size 2
with block profile

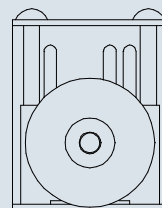
Belt tensioners



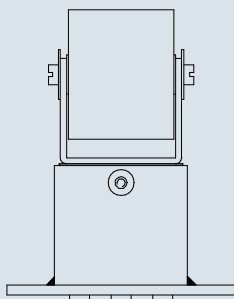
Spann-Box® size 0



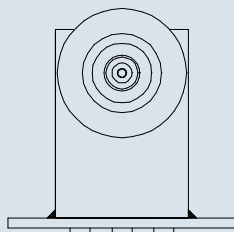
Spann-Boy®
with tensioning roller



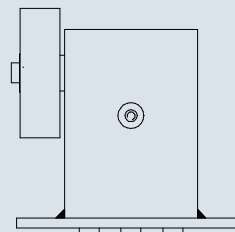
Spann-Boy® TS
with tensioning roller



Spann-Box® size 1, belt tensioner
with tensioning roller at top



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



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

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

SIGNS AND SYMBOLS

Features and properties of tensioning systems	Profile symbols for selection tables
 One pre-tensioned compression spring, tension distance specification in mm	 Arc segment profile · Slide profile shape with best mechanical properties · Simultaneous contact with several rollers · Optimum chain protection
 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)	 Block profile · Suitable for particularly heavy chains and high mass forces · Slide profile and tension core made from a single piece · No screw connections · High stability · 300mm slide profile ensures support for many rollers for chains with larger chain pitches
 Plastic housing	
 Steel housing	 Return profile · Up to 180° change of direction · For controlling extensive chain lengthening
 Track profile for all large chains	 Semi-circular profile · For 90° change of direction · Contact only possible for small number of chain rollers · Recommended for small installation spaces
 U profile for chains up to specified overall width in mm	 Roller/sprocket · For small changes of direction · For high chain speeds (> 1m/s)

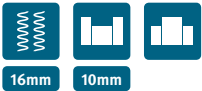
MINI-TENSIONER

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.

DIN 8187 chain no.	Pitch in mm	Pitch in inch	Simplex	Duplex	Triplex
≤ 06B	–	–			
06B	9,525	3/8			
08B	12,7	1/2			
Tensioning force				Light	Heavy
			2 springs	19 – 13N	85 – 58N
			Tension distance	16mm	16mm

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

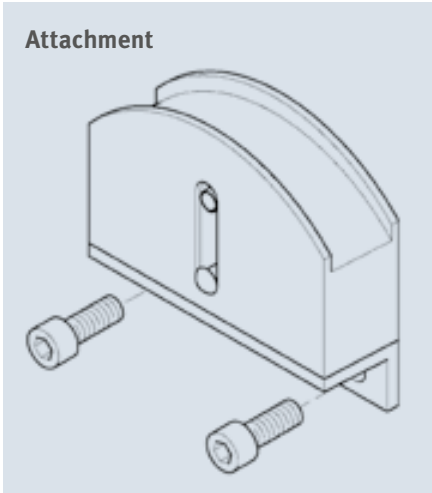
Axis-centre distance

- Max. 200mm recommended

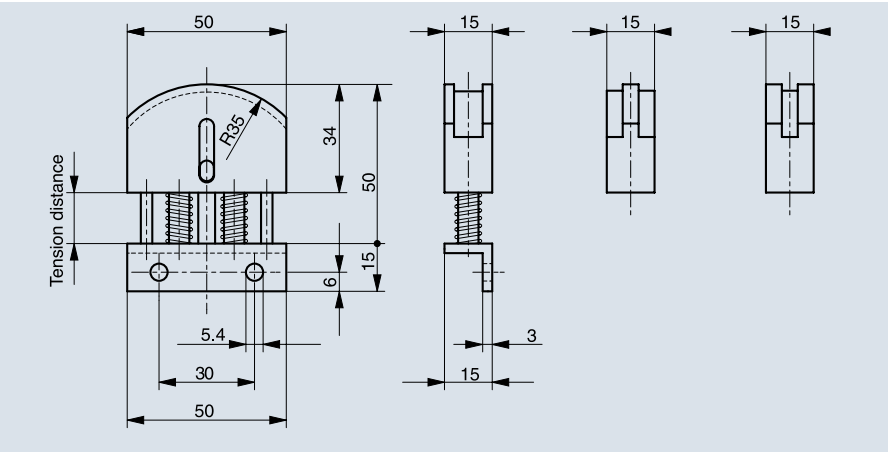
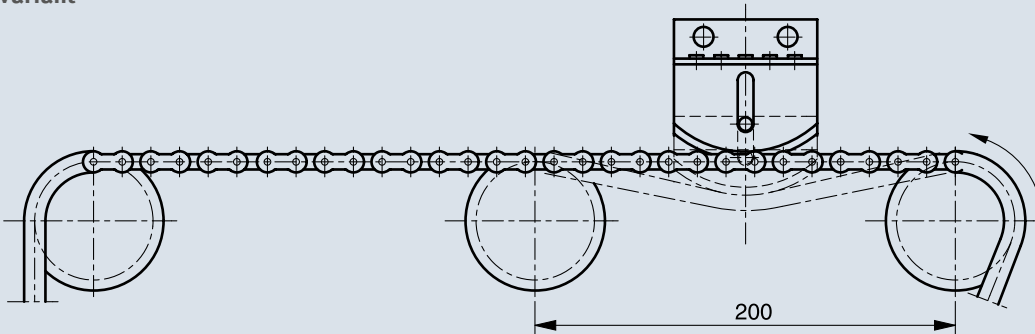
DIN 8187 chain no.	Light tension force article no.	Heavy tension force article no.	Availability
<06B-1 (U profile)	281 050 001	281 050 002	●
06B-1	281 050 003	281 050 004	●
08B-1	281 050 009	281 050 010	●
05B-2	281 050 005	281 050 006	○
06B-2	281 050 007	281 050 008	○

Special and stainless steel designs on request

● Stocked ○ Available within 10 days



Installation variant



SPANN-BOY® AND SPANN-BOY® TS

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

Design

Our Spann-Boy® and 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. In the case of Spann-Boy®, a tension spring provides a light or heavy tension force as required. 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.

DIN 8187 chain no.	Pitch in mm	Pitch in inch	Simplex	Duplex	Triplex
≤ 06B	–	–			
06B	9.525	3/8			
08B	12.7	1/2	 		
10B	15.875	5/8	 		
12B	19.05	3/4	 		
				Light	Heavy
Spann-Boy® tension force			1 spring	58 – 32N	132 – 60N
Spann-Boy® TS tension force			1 released spring	58 – 32N	132 – 60N
			2 released springs	190 – 96N (extra heavy)	
			Tension distance	40mm	40mm

SPANN-BOY®

with arc segment profile



Applications

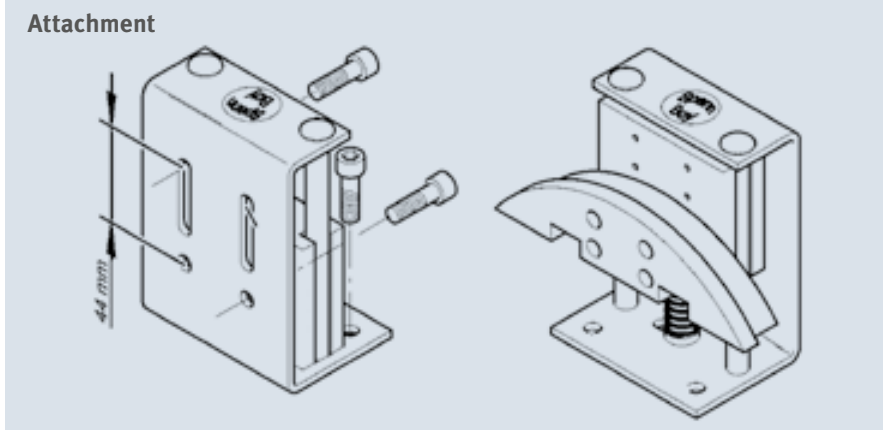
For applications with restricted free space beneath the chain. 30 mm are sufficient.

Tensioning pressure

- Choice of light or heavy spring force

Attachment

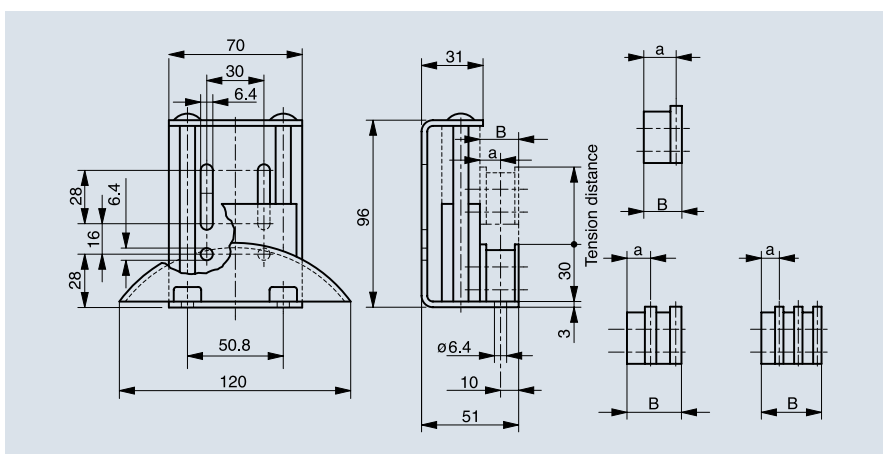
- Installed next to the chain
- Bore holes in the housing



DIN 8187 chain no.	B	a	Light tension force article no.	Heavy tension force article no.	Heavy tension force, stainless steel article no.	Availability
≤06B-1 (U profile)	20	10.0	281 040 001	281 040 002	282 040 002	●
08B-1	20	16.5	281 040 003	281 040 004	282 040 004	●
10B-1	20	15.6	281 040 005	281 040 006	282 040 006	●
12B-1	20	14.8	281 040 007	281 040 008	282 040 008	●
06B-2	20	7.5	281 040 009	281 040 010	282 040 010	○
08B-2	32	15.2	281 040 011	281 040 012	282 040 012	●
10B-2	32	11.3	281 040 013	281 040 014	282 040 014	●
05B-3	20	7.4	281 040 015	281 040 016	282 040 016	○
06B-3	32	9.4	281 040 017	281 040 018	282 040 018	○

Special designs on request

● Stocked ○ Available within 10 days Dimensions in mm





Applications

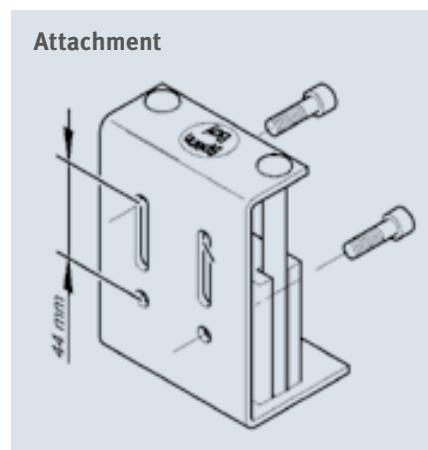
- For applications with restricted free space beneath the chain
- High chain speeds (>1m/s)
- Small return radii

Tensioning pressure

- Heavy spring force

Attachment

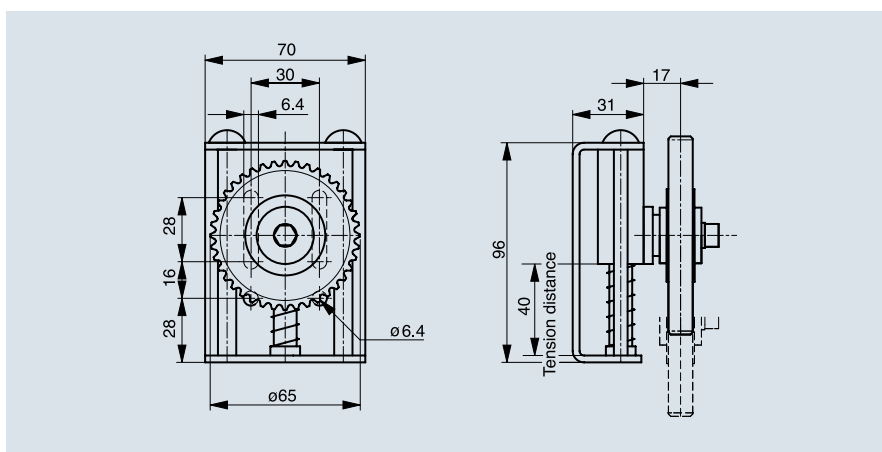
- Installed next to the chain
- Bore holes in the housing



DIN 8187 chain no.	Number of teeth	Heavy tension force article no.	Availability
06B-1	20	281 240 007	●
06B-1	21	281 240 001	●
06B-1	23	281 240 008	●
08B-1	16	281 240 009	●
08B-1	17	281 240 010	●
08B-1	18	281 240 002	●
10B-1	14	281 240 011	●
10B-1	15	281 240 012	●
10B-1	16	281 240 013	●
10B-1	17	281 240 003	●
12B-1	13	281 240 014	●
12B-1	15	281 240 004	●
12B-1	16	281 240 015	●
12B-1	17	281 240 016	●

Special and stainless steel designs on request

● Stocked ○ Available within 10 days



SPANN-BOY® TS

Three tension pressure settings

with arc segment profile



Applications

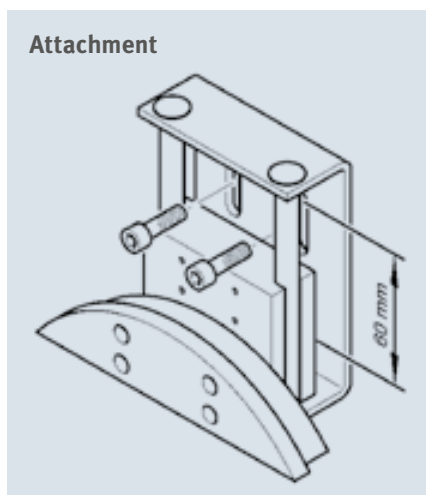
- For applications with restricted free space beneath the chain. 40mm are sufficient.

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

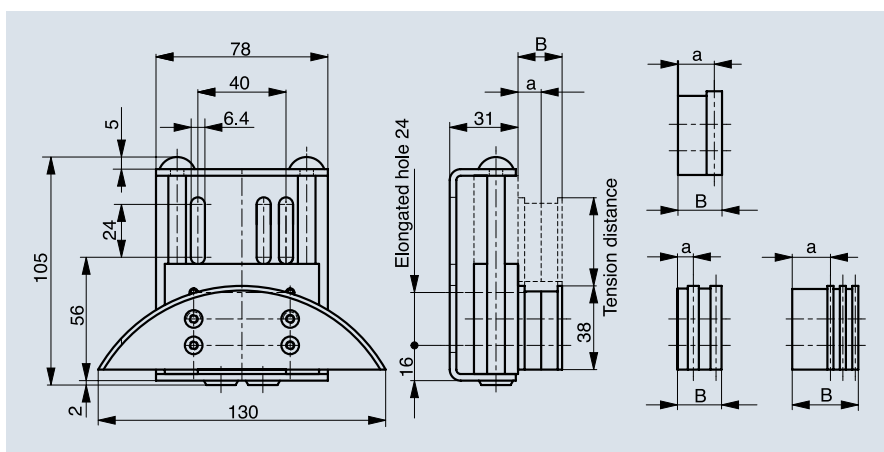
- Installed next to the chain
- Bore holes in the housing



DIN 8187 chain no.	B	a	Standard design article no.	Stainless steel article no.	Availability
≤ 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	○

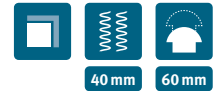
Special designs on request

● Stocked ○ Available within 10 days Dimensions in mm



SPANN-BOY® TS

Three tension pressure settings



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.

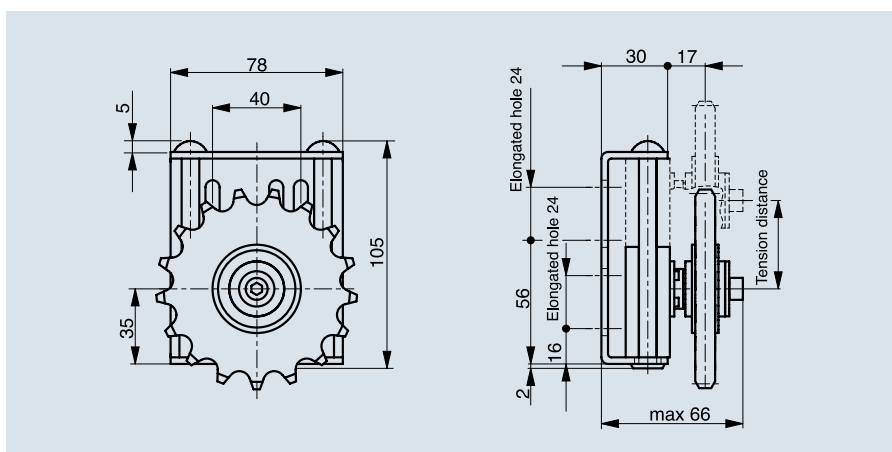
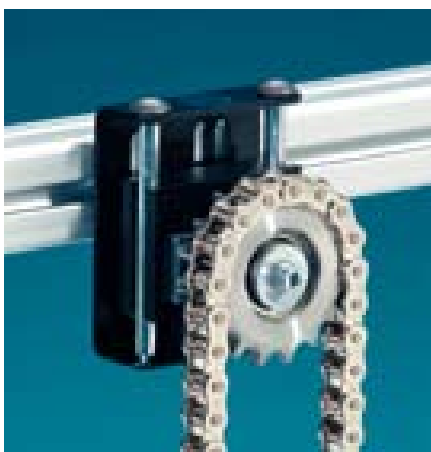
Attachment

- Installed next to the chain
- Bore holes in the housing

DIN 8187 chain no.	Number of teeth	Standard design article no.	Availability
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

● Stocked ○ Available within 10 days



SPANN-BOX® SIZE 0

The size 0 Spann-Box® 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.

DIN 8187 chain no.	Pitch in mm	Pitch in inch	Simplex	Duplex	Triplex
≤ 06B	–	–			
06B	9.525	3/8			
08B	12.7	1/2			
10B	15.875	5/8			
12B	19.05	3/4			
			Light		Heavy
Tension force			1 spring		58 – 32N
			Tension distance		40mm
					40mm

SPANN-BOX® SIZE 0

with semi-circular profile

Applications

- Restricted installation space
- Environments with a risk of corrosion
- Chain drives with a pitch of up to 3/4"

Tensioning pressure

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

Attachment

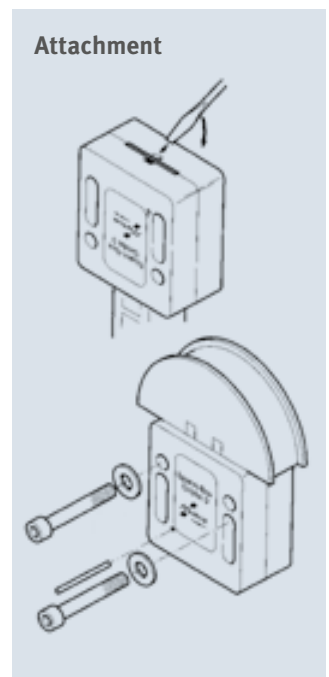
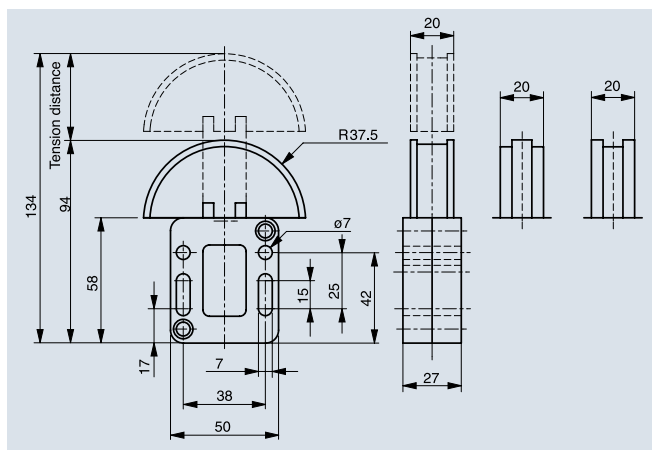
- Installed underneath the chain
- Bore holes in the housing

Stainless steel screws and springs



DIN 8187 chain no.	Light tension force article no.	Heavy tension force article no.	Availability
≤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	●

Special designs on request ● Stocked ○ Available within 10 days



SPANN-BOX® SIZE 30

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

DIN 8187 chain no.	Pitch in mm	Pitch in inch	Simplex	Duplex	Triplex
≤ 06B	–	–			
06B	9.525	3/8			
08B	12.7	1/2			
10B	15.875	5/8			
12B	19.05	3/4			
Tension force			Light		Heavy
			1 released spring		58 – 32N
			2 released springs		116 – 64N
			3 released springs		174 – 96N
			Tension distance		40mm

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

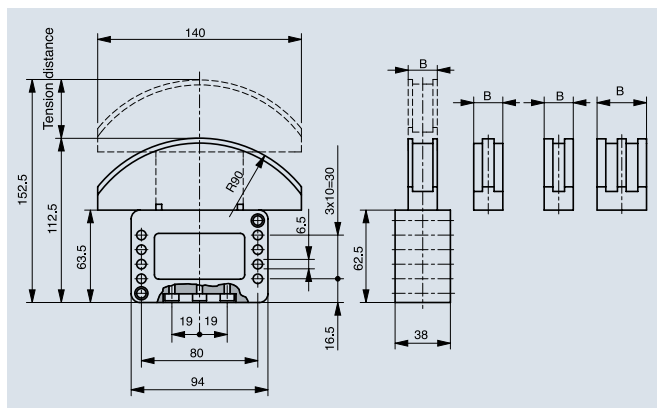
Attachment

- Installed underneath the chain
- Bore holes in the housing

DIN 8187 chain no.	B mm	Light tension force article no.	Heavy tension force article no.	Availability
≤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	○

Special designs on request

● Stocked ○ Available within 10 days



SPANN-BOX® SIZE 1

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.

DIN 8187 chain no.	Pitch in mm	Pitch in inch	Simplex	Duplex	Triplex
≤ 06B	–	–			
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			
Tension force				Light	Heavy
			1 released spring	58 – 32N	132 – 60N
			2 released springs	116 – 64N	264 – 120N
			3 released springs	174 – 96N	396 – 180N
			Tension distance	40mm	40mm



SPANN-BOX® SIZE 1

with arc segment profile



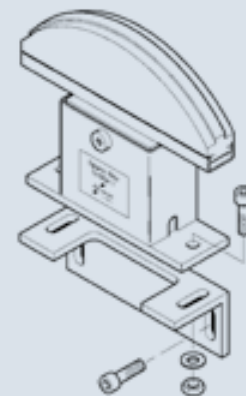
Tensioning pressure

- Choice of light or heavy spring force

Attachment

- Installed underneath the chain
- Bore holes in the housing

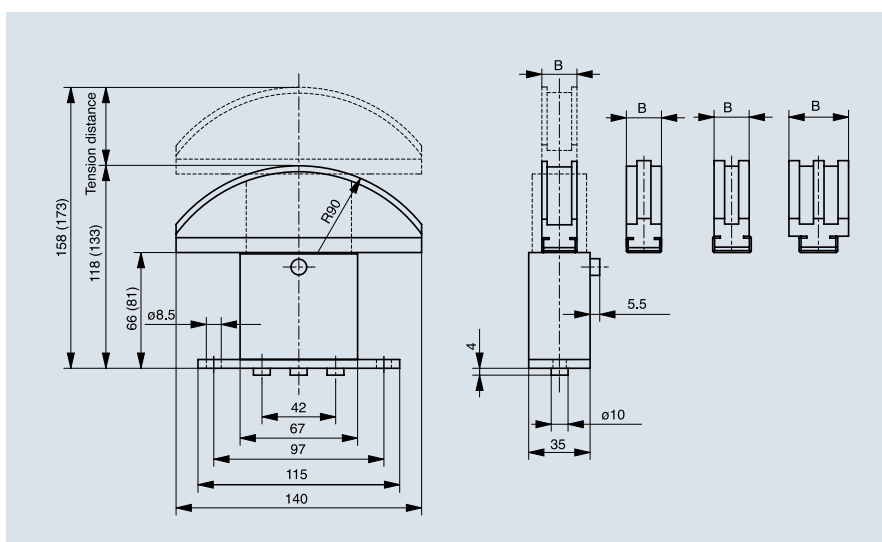
Attachment



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.	Availability
≤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

● Stocked ○ Available within 10 days



SPANN-BOX® SIZE 1

with semi-circular profile



Applications

- For restricted installation spaces

Tensioning pressure

- Choice of light or heavy spring force

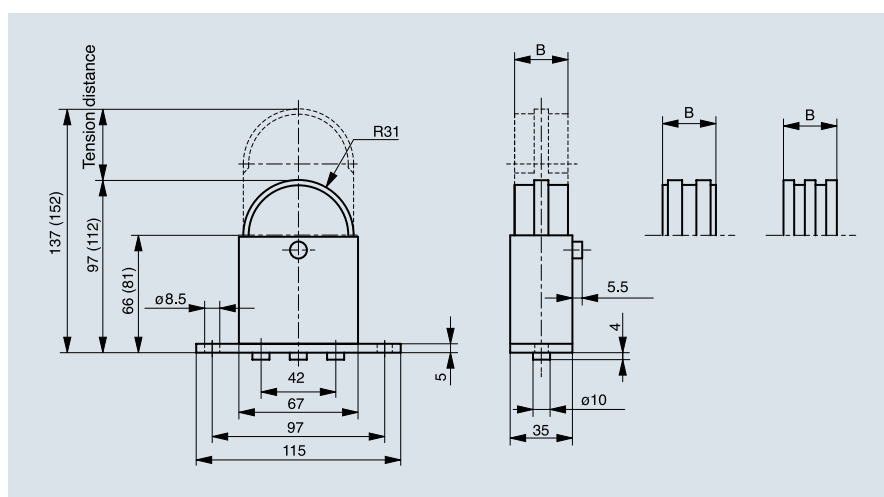
Attachment

- Easier assembly thanks to mounting bracket

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.	Availability
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

● Stocked ○ Available within 10 days



SPANN-BOX® SIZE 1

with return profile



Tensioning pressure

- Heavy spring force

Attachment

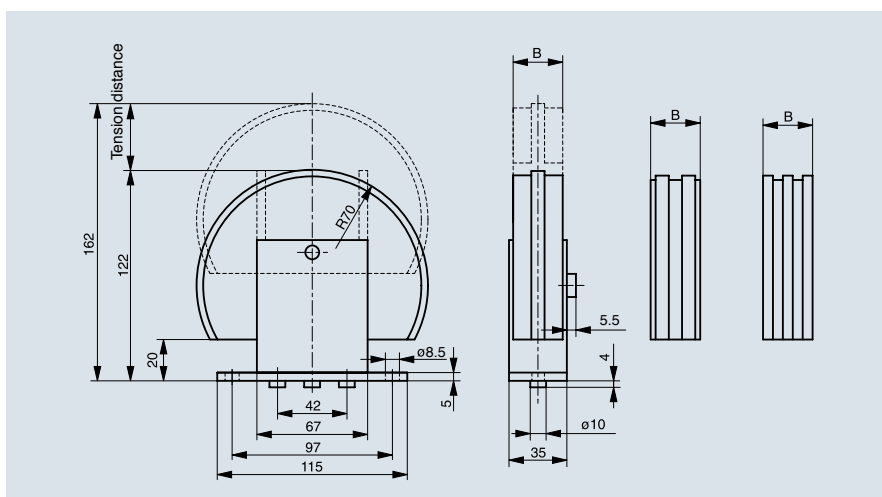
- Easier assembly thanks to mounting bracket

With the appropriate installation, it is possible to compensate for a large level of chain elongation.

DIN 8187 chain no.	B mm	Long housing, heavy tension force article no.	Stainless steel, long housing, heavy tension force article no.	Availability
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	●

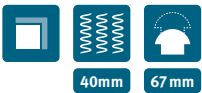
Special designs on request

● Stocked



SPANN-BOX® SIZE 1

with chain wheel type K-L / Type K-S



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

Applications

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

Tensioning pressure

- Heavy spring force

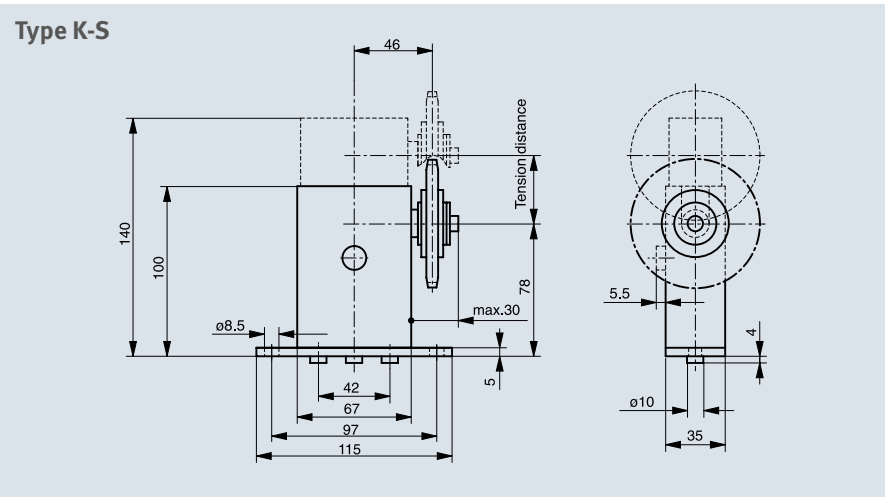
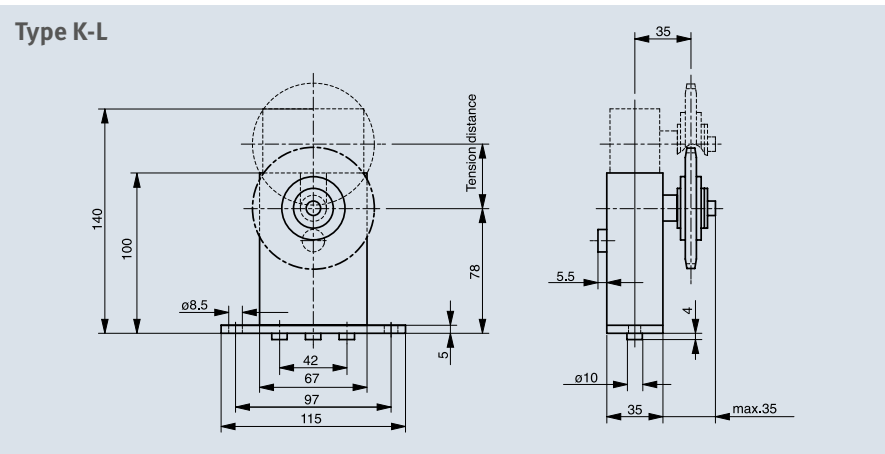
Attachment

- Easier assembly thanks to mounting bracket

chain no. DIN 8187	no. of teeth	Type K-L heavy tension force article no.	Type K-S heavy tension force article no.	Availability
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

● Stocked



SPANN-BOX® SIZE 2

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

We offer four different designs in this size to meet your varied 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.

DIN 8187 chain no.	Pitch in mm	Pitch in inch	Simplex	Duplex	Triplex
08B	12.7	½			
10B	15.875	⅝			
12B	19.05	¾			
16B	25.4	1			
20B	31.75	1¼			
24B	38.1	1½			
28B	44.45	1¾			
32B	50.8	2			
40B	63.5	2½			
48B	76.2	3			
Tension force				Light	Heavy
			1 released spring	148 – 82N	262 – 118N
			2 released springs	296 – 164N	524 – 236N
			3 released springs	444 – 246N	786 – 354N
			Tension distance	60mm	60mm

SPANN-BOX® SIZE 2

with arc segment profile



Tensioning pressure

- Choice of light or heavy spring force

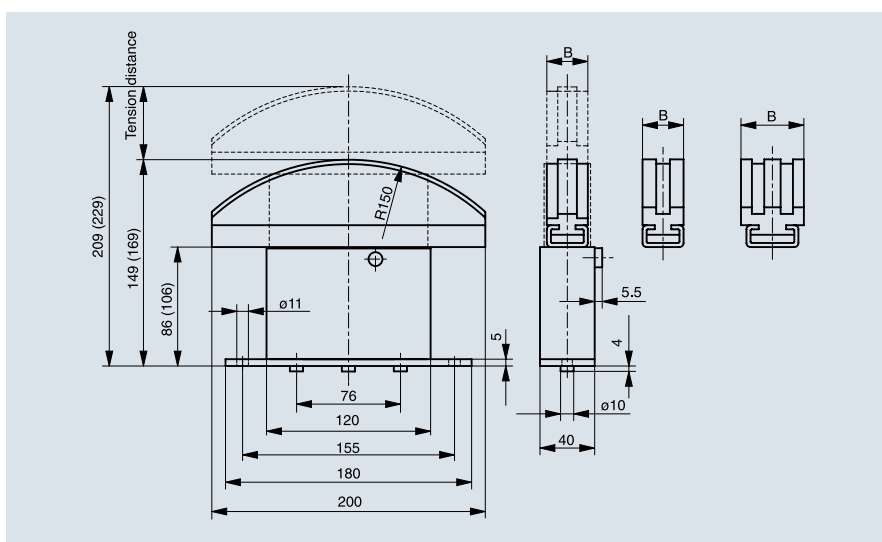
Attachment

- Easier assembly thanks to mounting bracket

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.	Availability
12B-1	25	281 020 001	281 020 002	281 020 202	282 020 002	282 020 202	●
16B-1	25	281 020 003	281 020 004	281 020 204	282 020 004	282 020 204	●
20B-1	25	281 020 005	281 020 006	281 020 206	282 020 006	282 020 206	●
24B-1	30	281 020 007	281 020 008	281 020 208	282 020 008	282 020 208	○
08B-2	25	281 020 009	281 020 010	281 020 210	282 020 010	282 020 210	●
10B-2	25	281 020 011	281 020 012	281 020 212	282 020 012	282 020 212	●
12B-2	30	281 020 013	281 020 014	281 020 214	282 020 014	282 020 214	●
16B-2	45	281 020 015	281 020 016	281 020 216	282 020 016	282 020 216	●
20B-2	55	281 020 017	281 020 018	281 020 218	282 020 018	282 020 218	○
24B-2	70	281 020 019	281 020 020	281 020 220	282 020 020	282 020 220	○
08B-3	30	281 020 021	281 020 022	281 020 222	282 020 022	282 020 222	●
10B-3	40	281 020 023	281 020 024	281 020 224	282 020 024	282 020 224	●
12B-3	45	281 020 025	281 020 026	281 020 226	282 020 026	282 020 226	●
16B-3	75	281 020 027	281 020 028	281 020 228	282 020 028	282 020 228	○
20B-3	90	281 020 029	281 020 030	281 020 230	282 020 030	282 020 230	○

Special designs on request

● Stocked ○ Available within 10 days



SPANN-BOX® SIZE 2

with semi-circular profile



Applications

- For restricted installation spaces

Tensioning pressure

- Choice of light or heavy spring force

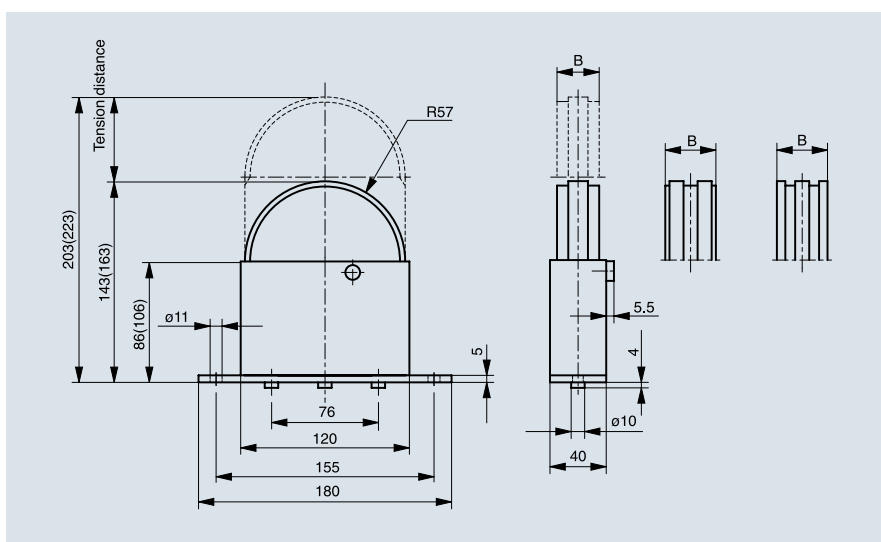
Attachment

- Easier assembly thanks to mounting bracket

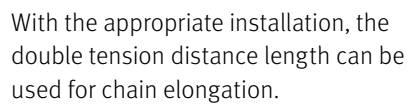
DIN 8187 chain no.	B mm	Short housing, light tension force article no.	Short housing, heavy tension force article no.	Long housing, heavy tension force article no.	Stainless steel, heavy tension force, short housing article no.	Stainless steel, heavy tension force, long housing article no.	Availability
12B-1	33	281 020 031	281 020 032	281 020 232	282 020 032	282 020 232	●
16B-1	33	281 020 033	281 020 034	281 020 234	282 020 034	282 020 234	●
08B-2	33	281 020 035	281 020 036	281 020 236	282 020 036	282 020 236	●
10B-2	33	281 020 037	281 020 038	281 020 238	282 020 038	282 020 238	●
12B-2	33	281 020 039	281 020 040	281 020 240	282 020 040	282 020 240	●
08B-3	33	281 020 041	281 020 042	281 020 242	282 020 042	282 020 242	●
10B-3	40	281 020 043	281 020 044	281 020 244	282 020 044	282 020 244	○

Special designs on request

● Stocked ○ Available within 10 days

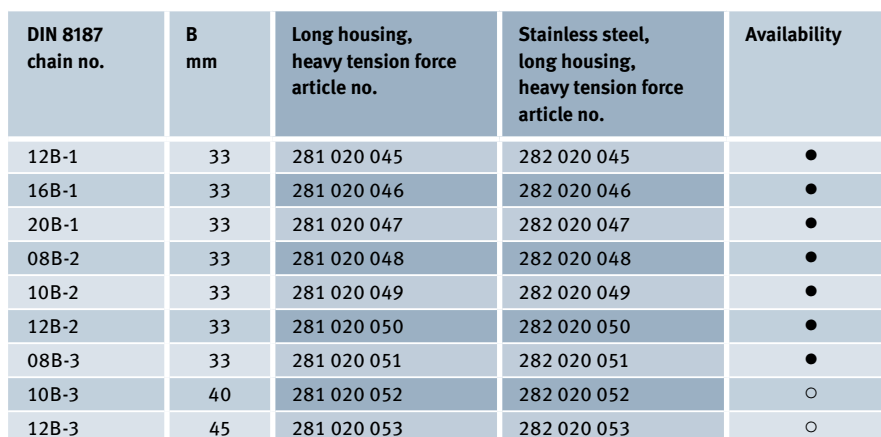


with 180° return profile

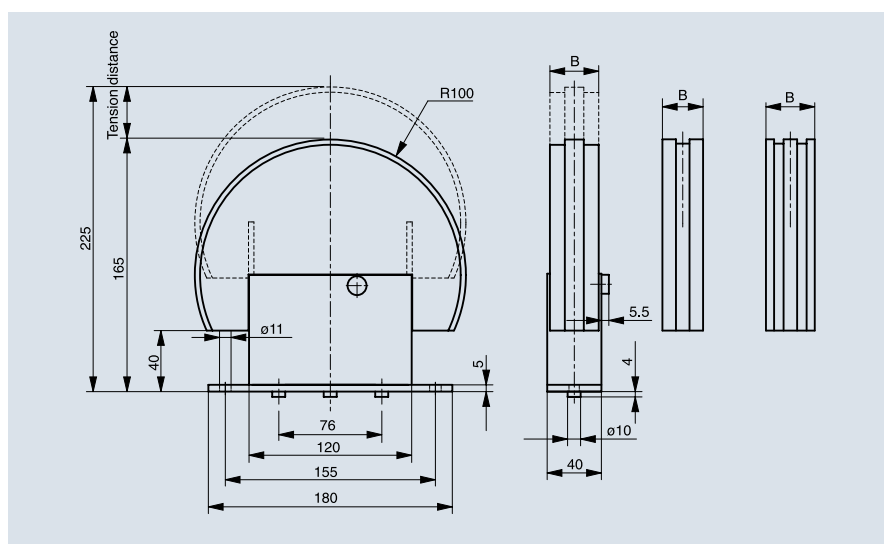


- Heavy spring force

- Easier assembly thanks to mounting bracket



● Stocked ○ Available within 10 days



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

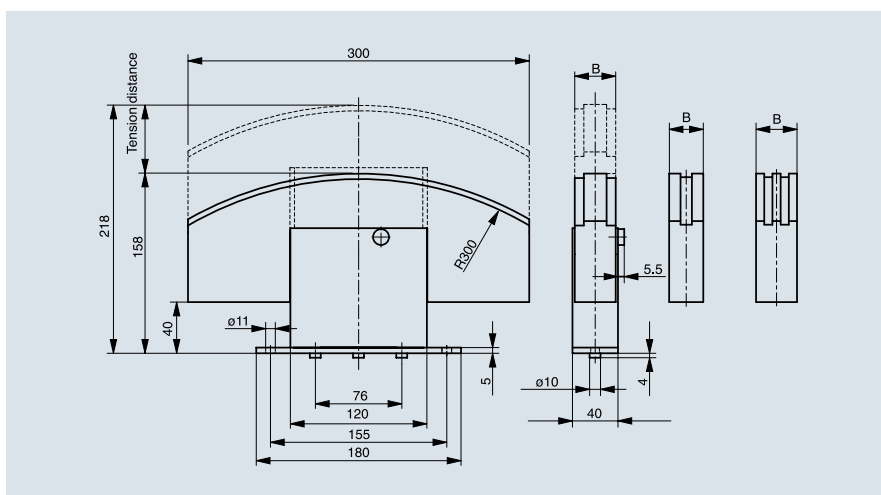
Attachment

- Easier assembly thanks to mounting bracket

DIN 8187 chain no.	B mm	Long housing, heavy tension force article no.	Stainless steel, long housing, heavy tension force article no.	Availability
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

● Stocked ○ Available within 10 days



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

Material

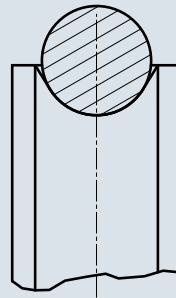
We use our tried-and-tested Original Material "S"® Black Antistatic for the ball-bearing supported tensioning roller that is attached to the housing. It is characterized by its excellent wear resistance, ideal slide properties, and very good resistance to chemicals.

Design

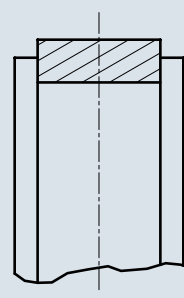
Our tensioning rollers come with a cylindrical surface or a profile of your choice. Use the profile shape table to specify the required profile along with the belt type used when you make your order.

Profile shape table

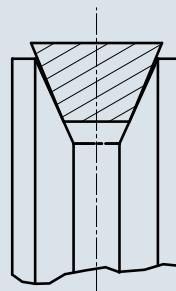
Round belt (R)



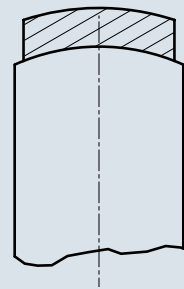
Flat belt (F)



V Belt (K)



Spherical roller (B)



SPANN-BOY® AS BELT TENSIONER

with roller



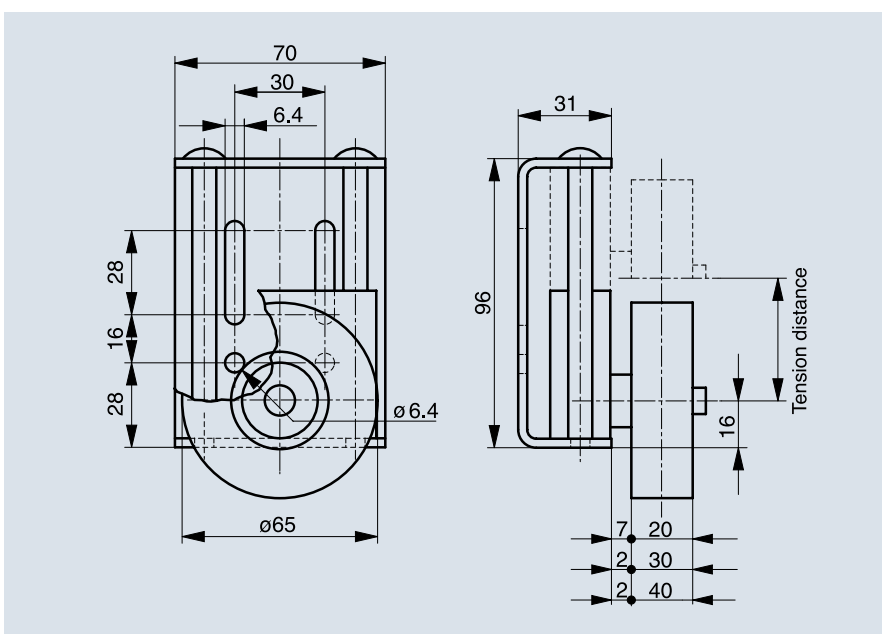
Tension pressure

- Choice of light or heavy spring force

Roller width mm	Profile shape	Light tension force article no.	Heavy tension force article no.	Availability
20	Cylindrical	281 140 001	281 140 002	●
	Spherical	281 140 007	281 140 008	●
	Flat belt	281 140 013	281 140 014	○
	V-belt	281 140 019	281 140 020	○
	Round belt	281 140 025	281 140 026	○
30	Cylindrical	281 140 003	281 140 004	●
	Spherical	281 140 009	281 140 010	●
	Flat belt	281 140 015	281 140 016	○
	V-belt	281 140 021	281 140 022	○
	Round belt	281 140 027	281 140 028	○
40	Cylindrical	281 140 005	281 140 006	●
	Spherical	281 140 011	281 140 012	●
	Flat belt	281 140 017	281 140 018	○
	V-belt	281 140 023	281 140 024	○
	Round belt	281 140 029	281 140 030	○

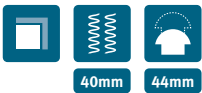
Special and stainless steel designs on request

● Stocked ○ Available within 10 days



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.

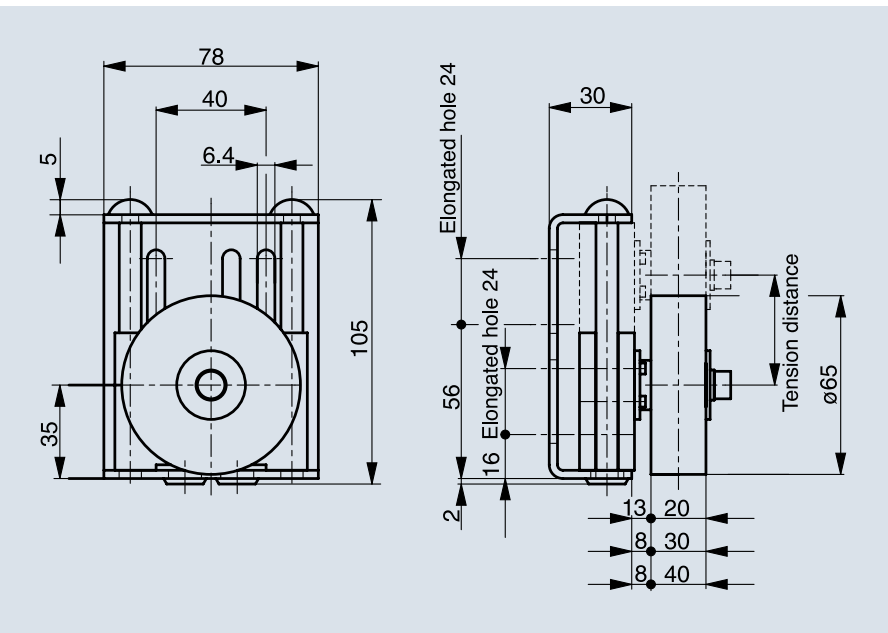
Attachment

- Bore holes in the housing

Roller width mm	Profile shape	Article no.	Availability
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	○

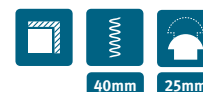
Special and stainless steel designs on request

● Stocked ○ Available within 10 days



SPANN-BOX® SIZE 0 AS BELT TENSIONER

with roller



Design

- Corrosion-proof housing

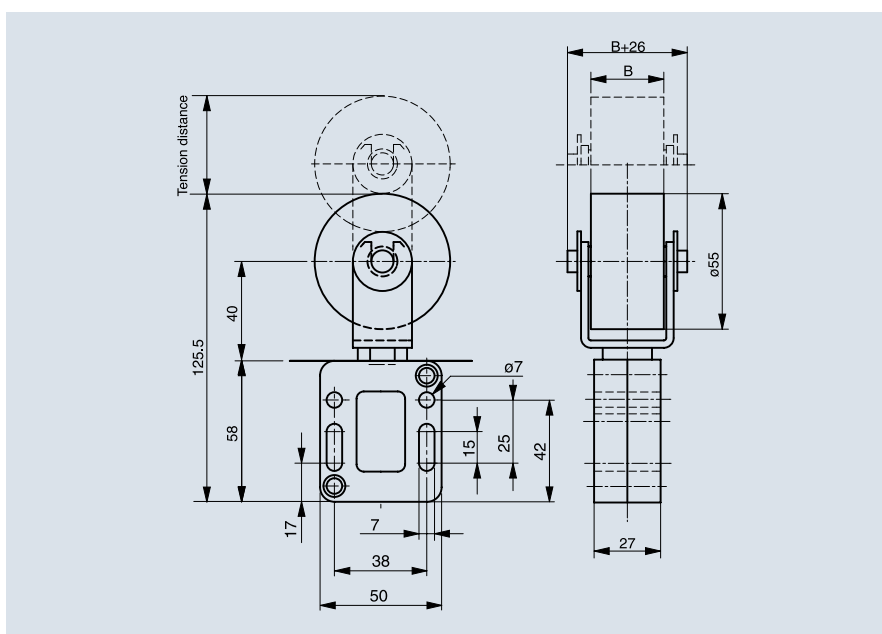
Tensioning pressure

- Choice of light or heavy spring force

Roller width mm	Profile shape	Light tension force article no.	Heavy tension force article no.	Availability
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

● Stocked ○ Available within 10 days

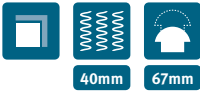


SPANN-BOX® SIZE 1 AS BELT TENSIONER

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

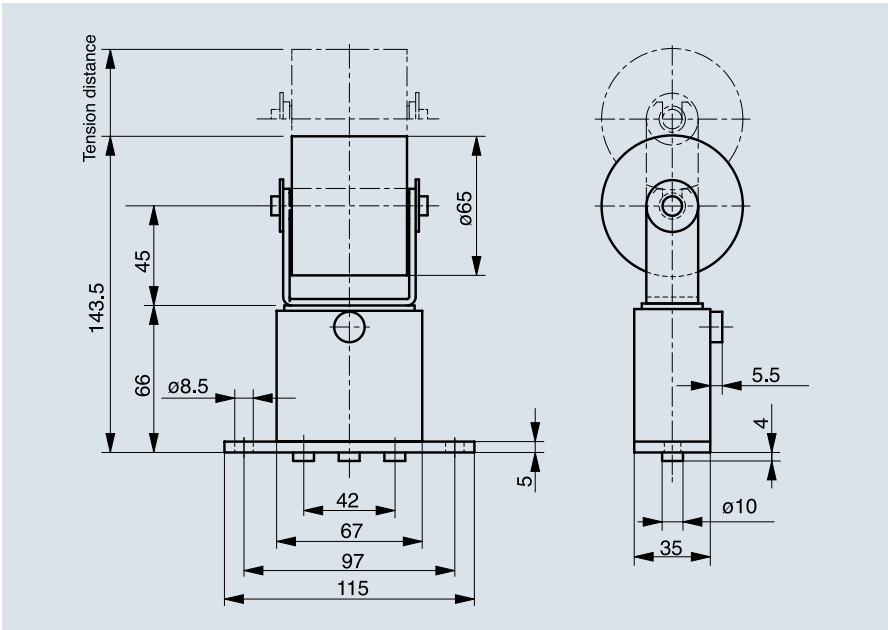
SPANN-BOX® SIZE 1 as belt tensioner with roller



Roller width mm	Profile shape	Light tension force article no.	Heavy tension force article no.	Availability
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	○

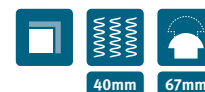
Special and stainless steel designs on request

● Stocked ○ Available within 10 days



SPANN-BOX® SIZE 1 / TYPE SR-L

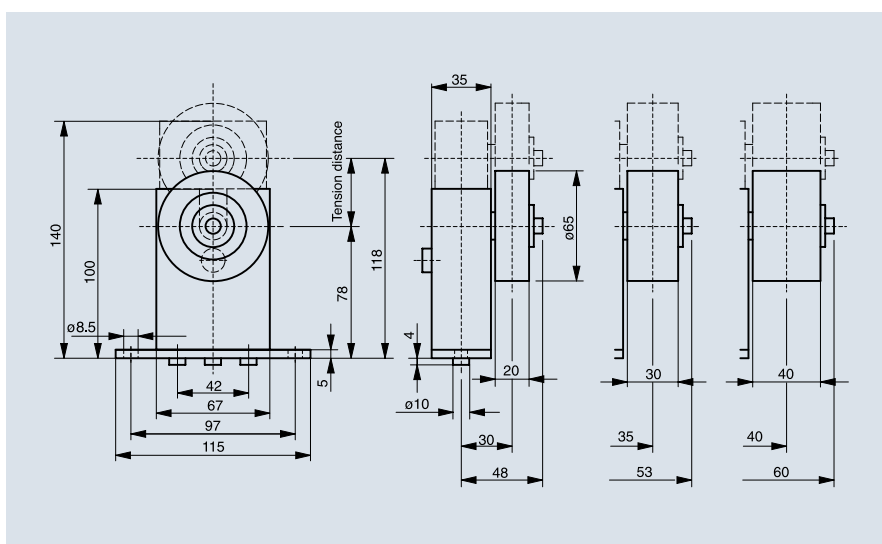
Tensioning roller on long side



Roller width mm	Profile shape	Light tension force article no.	Heavy tension force article no.	Availability
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	○

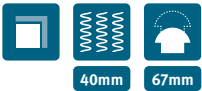
Special and stainless steel designs on request

● Stocked ○ Available within 10 days



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.	Availability
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

● Stocked ○ Available within 10 days

