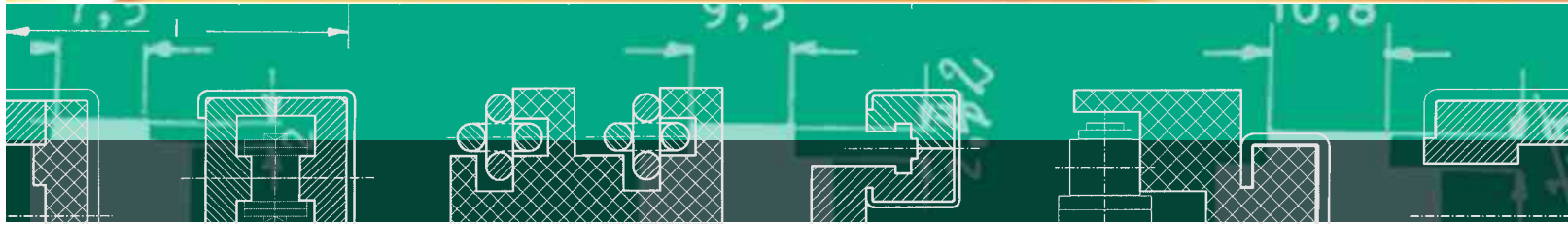




**RODAVIGO, S.A.**  
RODAMIENTOS VIGO, S.A.

[www.rodavigo.net](http://www.rodavigo.net)

**+34 986 288118**  
Servicio de Att. al Cliente



[www.murfeldt.com](http://www.murfeldt.com)

smooth. good. informed.



**ASA/JIS EDITION**

CHAIN AND BELT TENSIONING SYSTEMS

*Chain and Belt  
Tensioning Systems*



## TENSIONING SYSTEMS – TABLE OF CONTENTS

Introduction	<b>3</b>	
Function, Principles, Handling	<b>4</b>	
Optical Control Displays	<b>5</b>	
Chain and Belt Monitors	<b>6</b>	
Mechanical Limit Switches	<b>6</b>	
Inductive Switches	<b>7</b>	
Mounting Brackets for Spann-Box® Sizes 1 and 2	<b>8</b>	
Graphical Depiction of Installation Examples	<b>9</b>	
Special Tensioners	<b>10 – 11</b>	
Spann-Box® Overview	<b>12 – 13</b>	
The Correct Choice of Chain Tensioner	<b>13</b>	
Signs and Symbols	<b>14</b>	
Chain Tensioners for Roller Chains as per DIN 8188	<b>14</b>	
	Mini-tensioner, Spann-Boy®, Spann-Boy®TS, Spann-Box® Size 0, Spann-Box® Size 30, Spann-Box® Size 1, Spann-Box® Size 2	<b>14 – 32</b>
Automatic Belt Tensioners	<b>33</b>	
	Spann-Boy®, Spann-Boy®TS, Spann-Box® Size 0, Spann-Box® Size 1, Spann-Box® Size 1 Type SR-L, Spann-Box® Size 1 Type SR-S	<b>33 – 39</b>



## 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"<sup>®</sup>.

### 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.

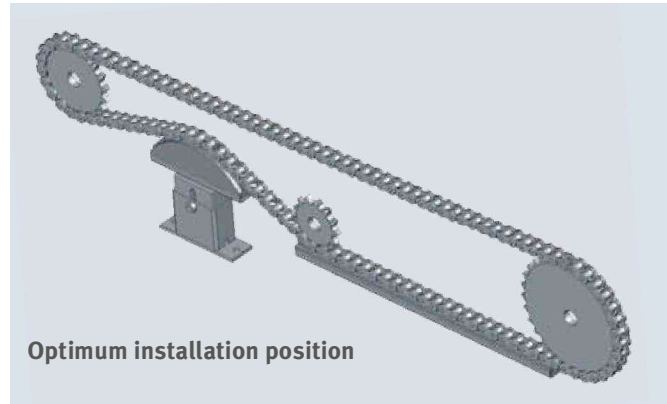
### Tension force regulation

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

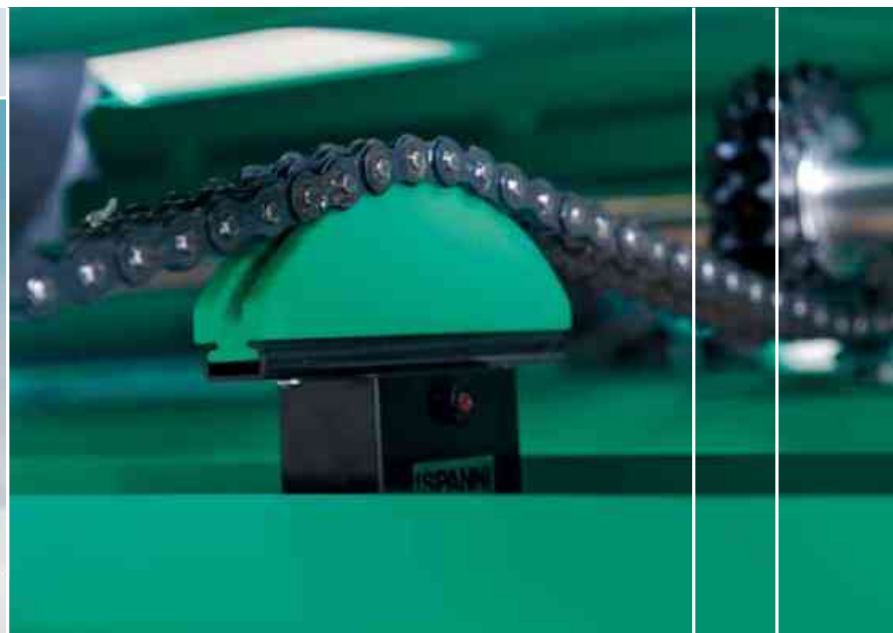


**Optimum installation position**

**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<sup>®</sup> 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**

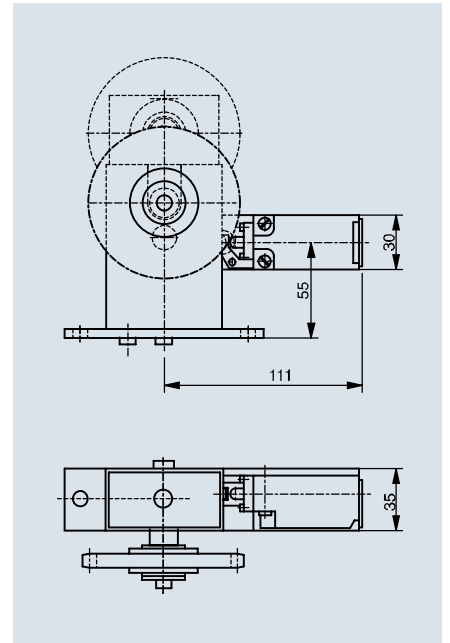
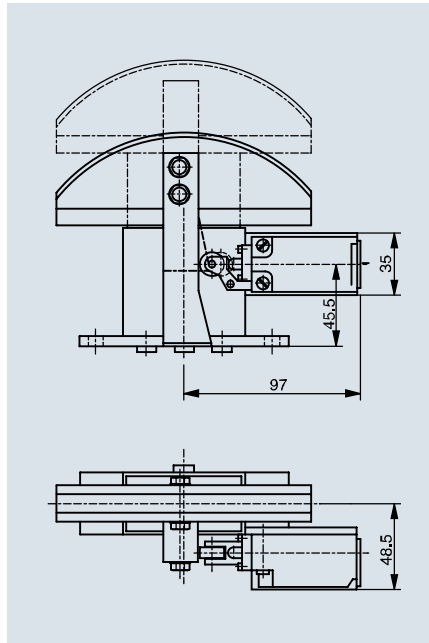
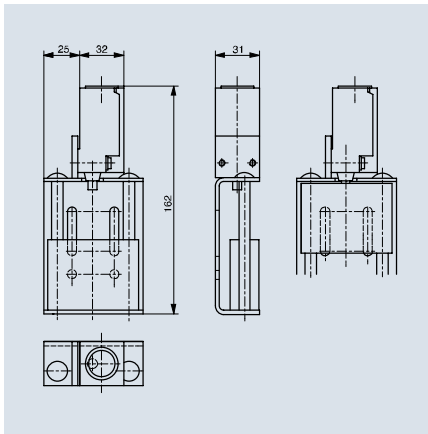
The attachment location depends on the Spann-Box® type. In most cases, the limit switch is attached on the side. The contact is triggered by a cam switch attached to the slide profile. In the case of some models (types K-L and SR-L), the contact is achieved directly via the tension core by means of an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





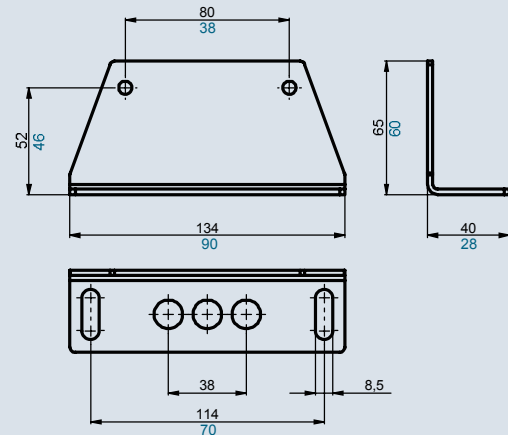
## MOUNTING BRACKETS FOR SPANN-BOX®

### 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.

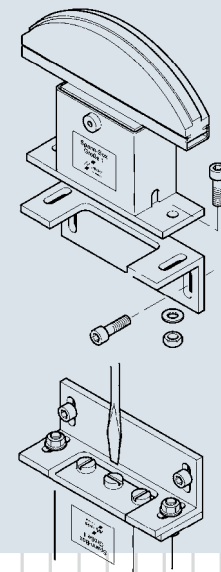
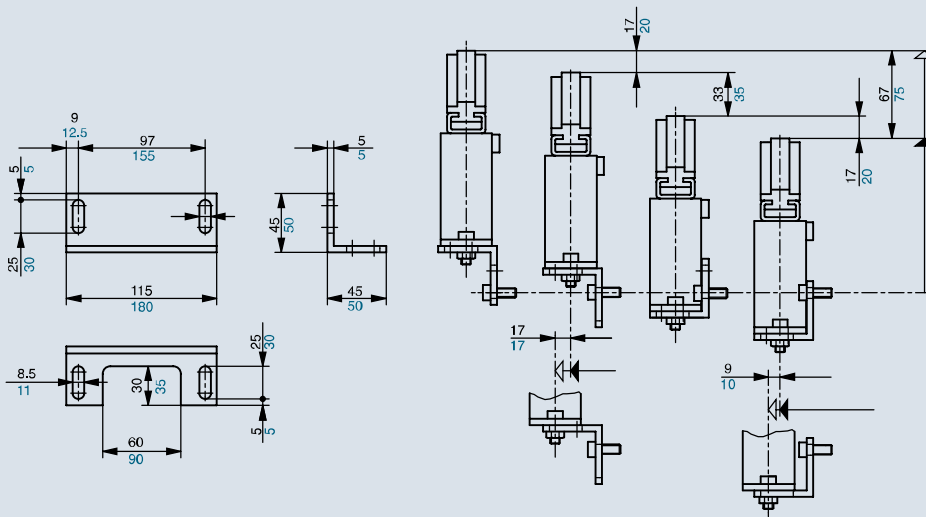
We are happy to provide detailed assembly instructions for all our systems. Simply contact us or see our Web site at [www.murtefeldt.com](http://www.murtefeldt.com).

Size 0 und 30



Corresponding size	Adjustment range	Material	
1	67 mm	St 37, powder-coated	
2	75 mm	St 37, powder-coated	
1	67 mm	1,4301 (V2A)	
2	75 mm	1,4301 (V2A)	
0	-	1.4301 (V2A) incl. screws	
30	-	1.4301 (V2A) incl. screws	

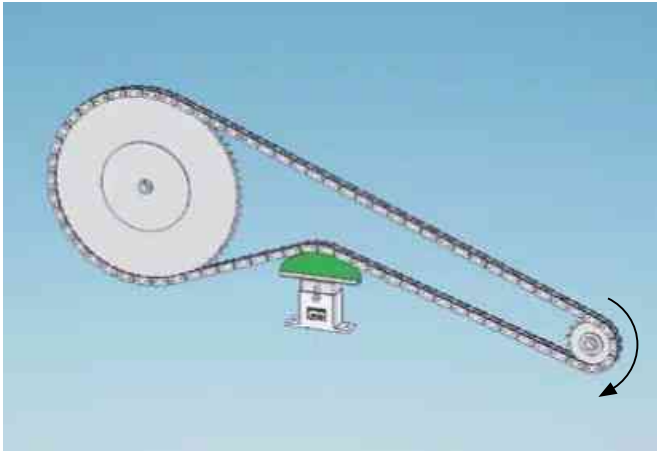
Size 1 und 2



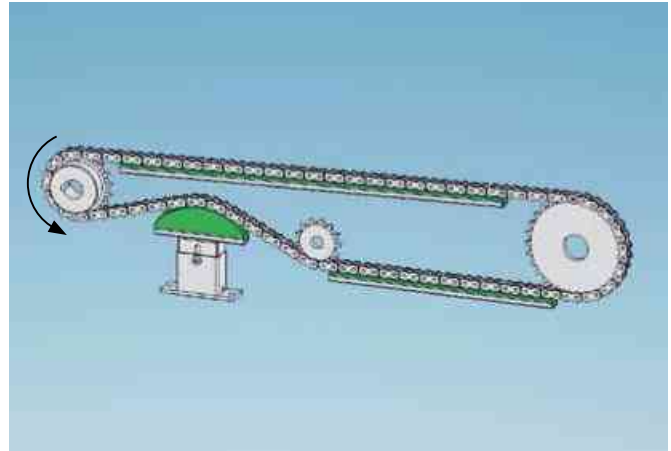




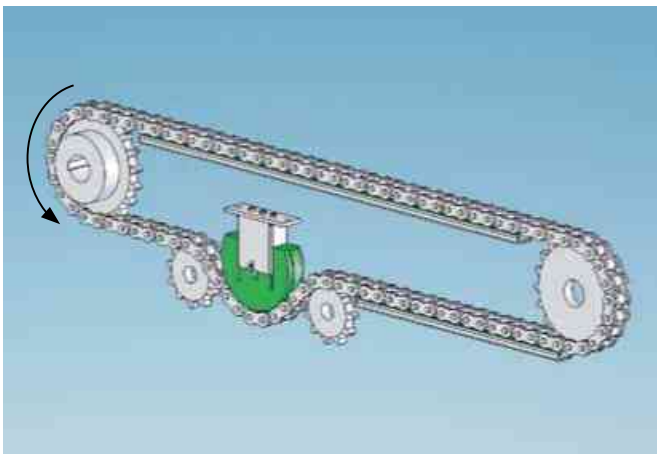
## GRAPHICAL DEPICTION OF INSTALLATION EXAMPLES



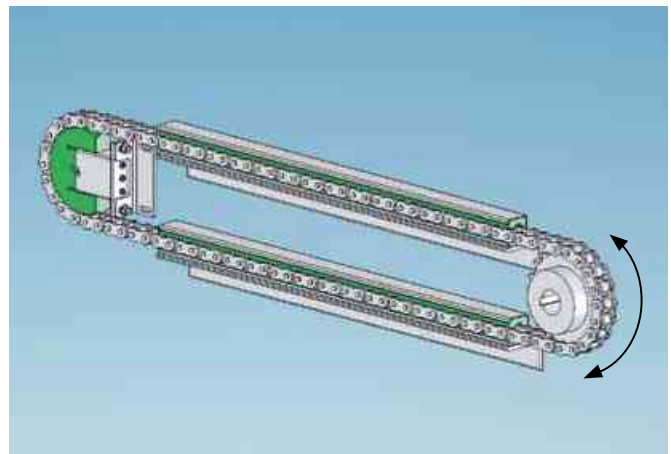
Popular but non-optimal arrangement, tension distance not used efficiently



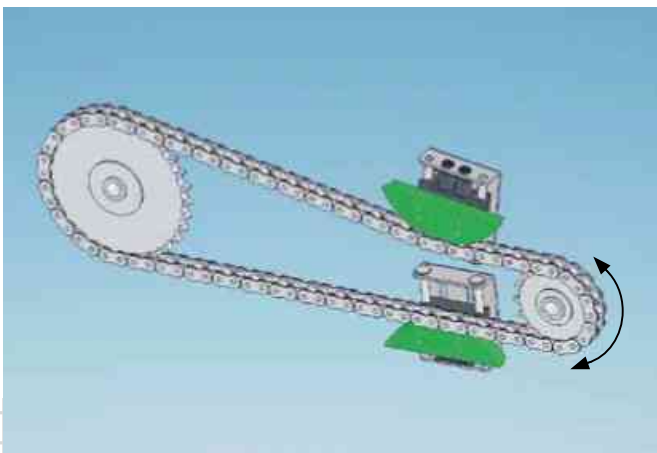
Optimum, extremely efficient chain support/tensioning



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

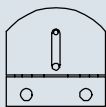


Spann-Box® designs with locking devices; they prevent the slide profile from being compressed when the direction of rotation changes, for example.

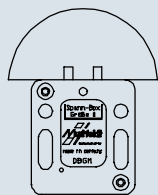


# OVERVIEW OF SPANN-BOX® TYPES

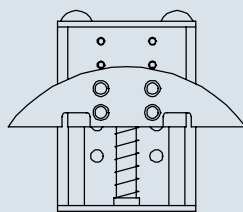
## Chain tensioners



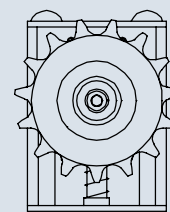
Mini-tensioner  
page 15



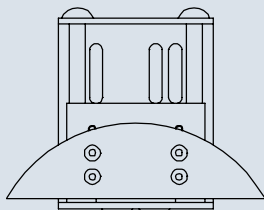
Spann-Box® size 0  
page 21



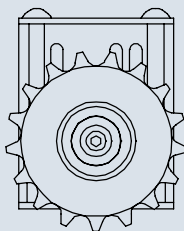
Spann-Boy® with arc segment  
profile – page 17



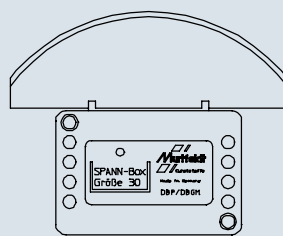
Spann-Boy® with sprocket  
page 18



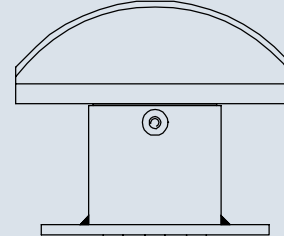
Spann-Boy® TS with arc  
segment profile – page 19



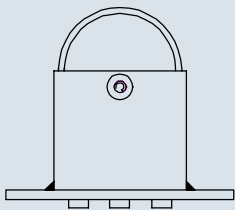
Spann-Boy® TS with sprocket  
page 20



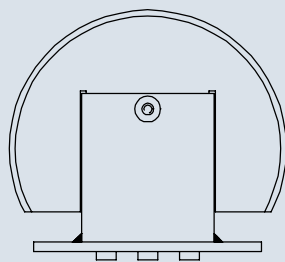
Spann-Box® size 30  
page 22



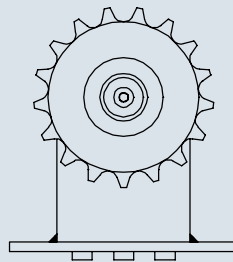
Spann-Box® size 1 with arc  
segment profile – page 24



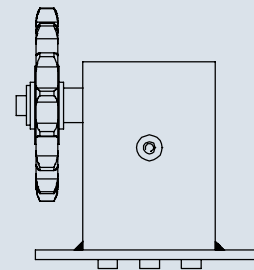
Spann-Box® size 1 with  
semi-circular profile – page 25



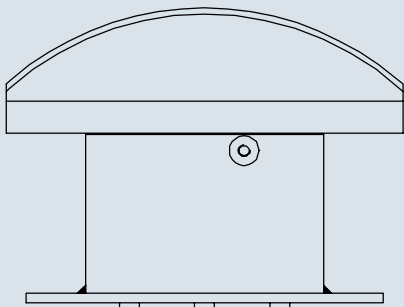
Spann-Box® size 1 with  
return profile – page 26



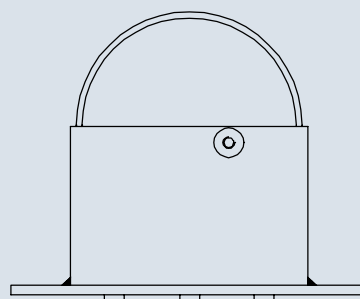
Spann-Box® size 1 with  
sprocket type K-L – page 27



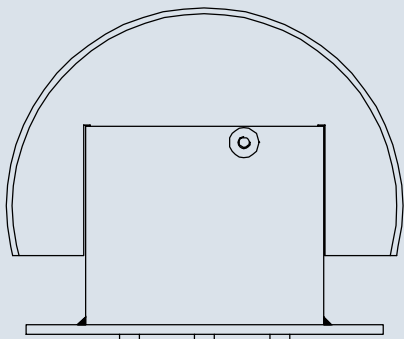
Spann-Box® size 1 with  
sprocket type K-S – page 27



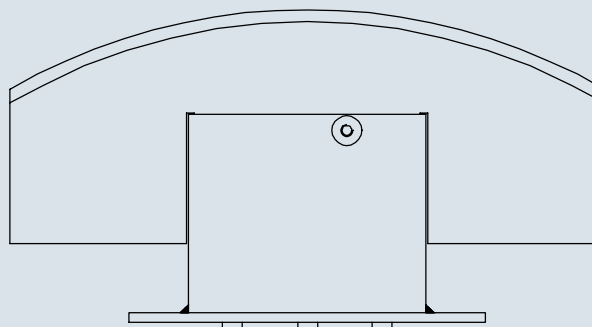
Spann-Box® size 2 with arc segment  
profile  
page 29



Spann-Box® size 2 with semi-circular  
profile  
page 30



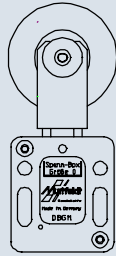
Spann-Box® size 2 with return  
profile – page 31



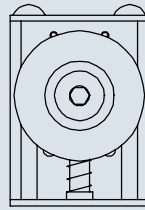
Spann-Box® size 2 with block  
profile – page 32



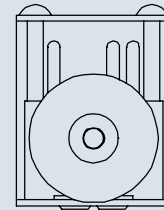
### Belt tensioners



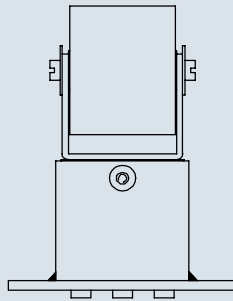
Spann-Box® size 0  
page 36



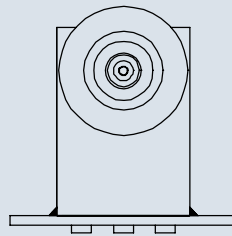
Spann-Boy® with tensioning  
roller – page 34



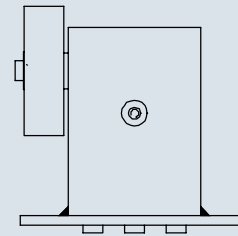
Spann-Boy® TS with tensioning  
roller – page 35



Spann-Box® size 1, belt tensioner  
with tensioning roller at top  
page 37



Spann-Box® size 1 with  
tensioning roller type SR-L  
page 38



Spann-Box® size 1 with  
tensioning roller type SR-S  
page 39

## 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.murfeldt.com](http://www.murfeldt.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	 <b>Arc segment profile</b> <ul style="list-style-type: none"> <li>· Slide profile shape with best mechanical properties</li> <li>· Simultaneous contact with several rollers</li> <li>· Optimum chain protection</li> </ul>
 Two pre-tensioned compression springs, tension distance specification in mm	 <b>Block profile</b> <ul style="list-style-type: none"> <li>· Suitable for particularly heavy chains and high mass forces</li> <li>· Slide profile and tension core made from a single piece</li> <li>· No screw connections</li> <li>· High stability</li> <li>· 300mm slide profile ensures support for many rollers for chains with larger chain pitches</li> </ul>
 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)	 <b>Return profile</b> <ul style="list-style-type: none"> <li>· Up to 180° change of direction</li> <li>· For controlling extensive chain lengthening</li> </ul>
 Plastic housing	
 Steel housing	
 Track profile for all large chains	 <b>Semi-circular profile</b> <ul style="list-style-type: none"> <li>· For 90° change of direction</li> <li>· Contact only possible for small number of chain rollers</li> <li>· Recommended for small installation spaces</li> </ul>
 U profile for chains up to specified overall width in mm	
	 <b>Roller/sprocket</b> <ul style="list-style-type: none"> <li>· For small changes of direction</li> <li>· For high chain speeds (&gt; 1m/s)</li> </ul>

## 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".

Chain no.		Chain dim. in inches	Simplex	Duplex	Triplex
ASA/JIS	DIN 8188				
25	04C	1/4" x 1/8"			
35	06C	3/8" x 3/16"			
40	08A	1/2" x 5/16"			
Tensioning force				Light	Heavy
			2 springs	19 – 13N	85 – 58N
			Tension distance	16mm	16mm



# MINI-TENSIONER

All metal parts stainless steel



with arc segment profile

### Applications

- Environments with a risk of corrosion

### Tensioning pressure

- Choice of light or heavy spring force

### Chain guide

- Track profile

### Attachment

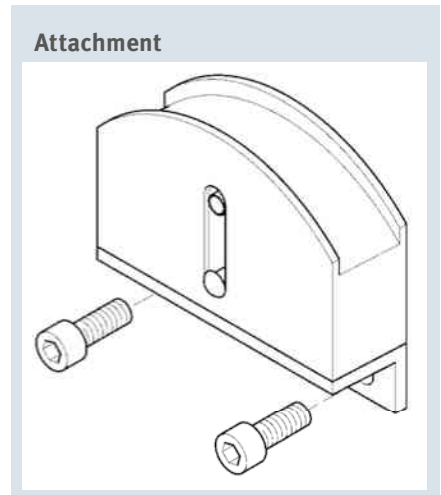
- Screws on bracket base

### Axis-centre distance

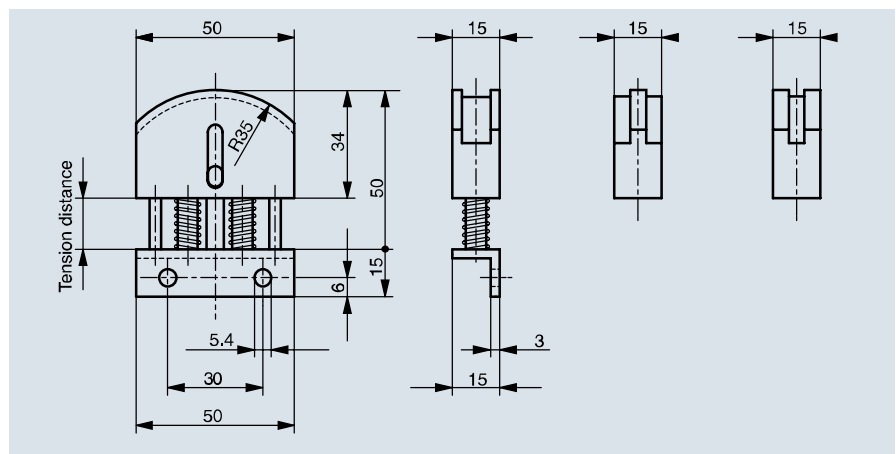
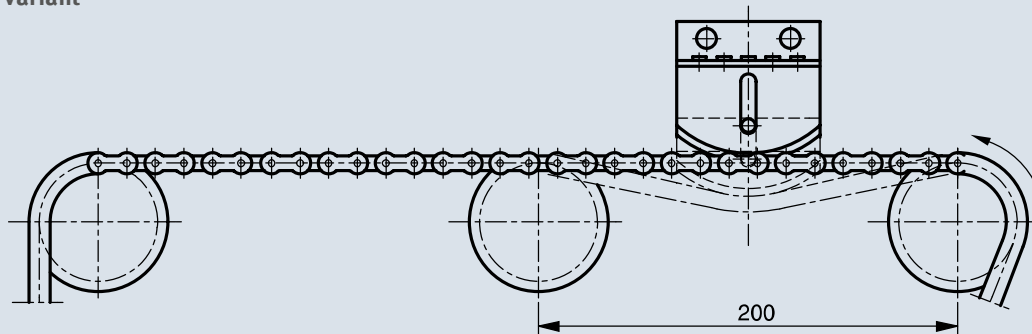
- Max. 200mm recommended

Chain no.		Chain dimensions in inch	Article no. Light tension force	Article no. Heavy tension force
ASA/JIS	DIN 8188			
25	04C-1 (U-profile)	1/4" x 1/8"	291 050 001	291 050 002
35	06C-1	3/8" x 3/16"	291 050 003	291 050 004
40	08A-1	1/2" x 5/16"	291 050 010	291 050 007
35-2	06C-2	3/8" x 3/16"	291 050 005	291 050 006

Special and stainless steel designs on request



### 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.

Chain no.		Chain dim. in inches	Simplex	Duplex	Triplex
ASA/JIS	DIN 8188				
25	04C	1/4" x 1/8"			
35	06C	3/8" x 3/16"			
40	08A	1/2" x 5/16"			
50	10A	5/8" x 3/8"			
60	12A	3/4" x 1/2"			
				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

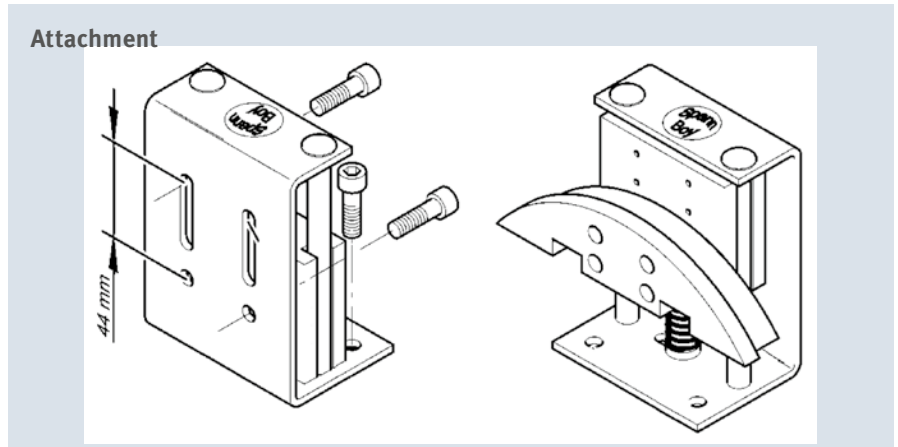
For applications with restricted free space beneath the chain. 30 mm are sufficient.

### Tensioning pressure

- Choice of light or heavy spring force

### Attachment

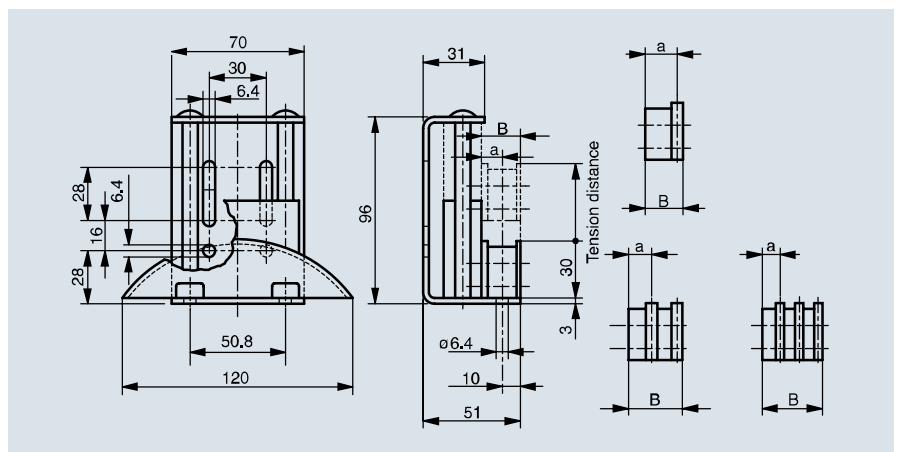
- Installed next to the chain
- Bore holes in the housing



Chain no.		Chain dim. in inch	B	a	Article no. Light tension force	Article no. Heavy tension force	Article no. Heavy tension force, stainless steel
ASA/JIS	DIN 8188						
25	04C-1 (U-profile)	1/4" x 1/8"	20	10.00	291 040 001	291 040 005	292 040 005
35	06C-1	3/8" x 3/16"	20	17.90	291 040 009	291 040 010	292 040 010
40	08A-1	1/2" x 5/16"	20	16.45	291 040 002	291 040 006	292 040 006
50	10A-1	5/8" x 3/8"	20	15.75	291 040 003	291 040 007	292 040 007
60	12A-1	3/4" x 1/2"	20	14.35	291 040 004	291 040 008	292 040 008
35-2	06C-2	3/8" x 3/16"	20	7.85	291 040 017	291 040 019	292 040 019
40-2	08A-2	1/2" x 5/16"	32	15.15	291 040 018	291 040 020	292 040 021
50-2	10A-2	5/8" x 3/8"	32	10.80	291 040 021	291 040 023	292 040 023
35-3	06C-3	3/8" x 3/16"	32	9.20	291 040 022	291 040 024	292 040 024

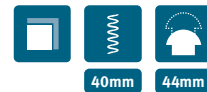
Special designs on request

Dimensions in mm





## SPANN-BOY® with sprocket



### Applications

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

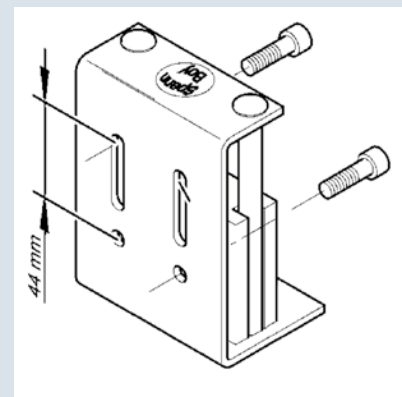
### Tensioning pressure

- Heavy spring force

### Attachment

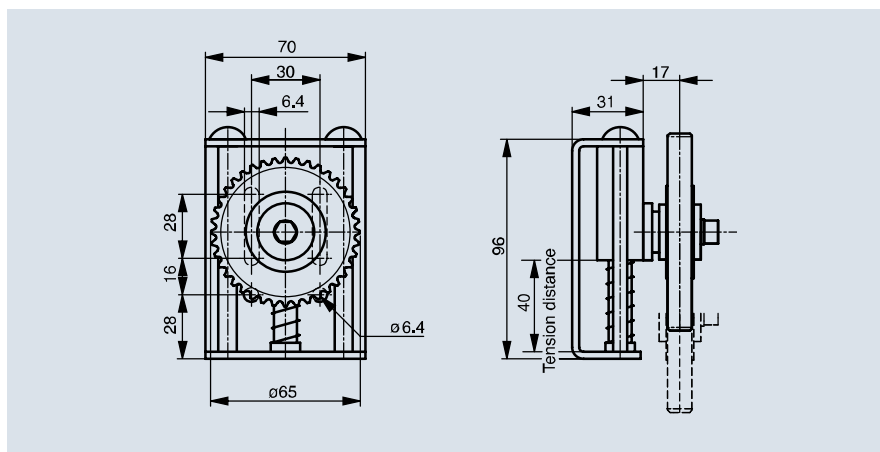
- Installed next to the chain
- Bore holes in the housing

### Attachment



Chain no.		Chain dimensions in inch	Number of teeth	Article no. Heavy tension force
ASA/JIS	DIN 8188			
35	06C-1	3/8" x 3/16"	21	291 140 013
40	08A-1	1/2" x 5/16"	16	291 240 009
40	08A-1	1/2" x 5/16"	17	291 140 014
50	10A-1	5/8" x 3/8"	16	291 240 013
50	10A-1	5/8" x 3/8"	17	291 140 015
60	12A-1	3/4" x 1/2"	15	291 140 016
60	12A-1	3/4" x 1/2"	16	291 240 015

Special and stainless steel designs on request





## SPANN-BOY® TS with arc segment profile

Three tension pressure settings



### Applications

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

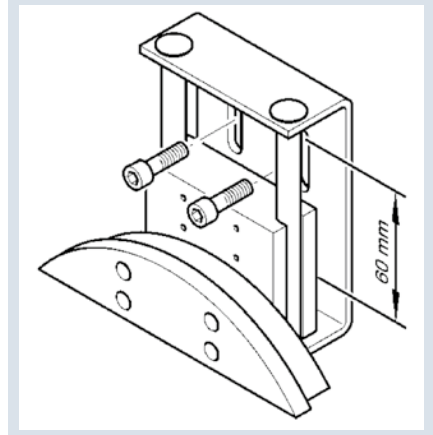
### Tensioning pressure

- 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

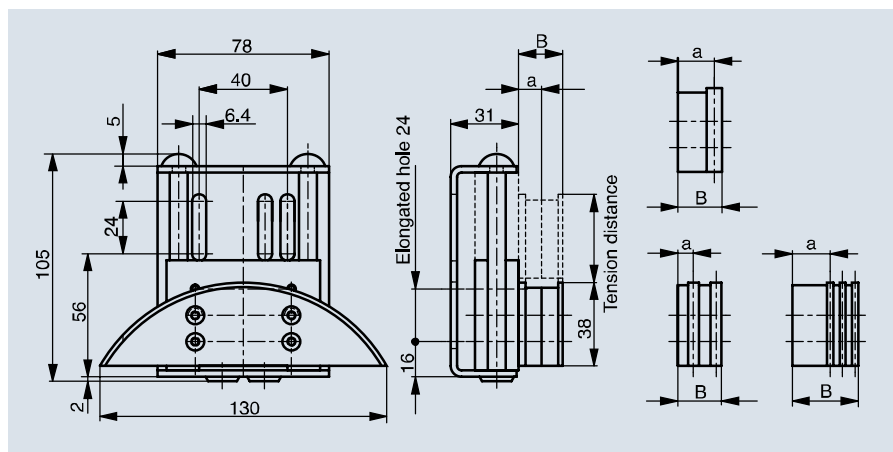
Attachment



Chain no.		Chain dimensions in inch	B	a	Article no. Standard design	Article no. Stainless steel
ASA/JIS	DIN 8188					
35	06C-1	3/8" x 3/16"	20	10.00	291 060 001	292 060 002
40	08A-1	1/2" x 5/16"	20	17.90	291 060 003	292 060 004
50	10A-1	5/8" x 3/8"	20	16.45	291 060 005	292 060 006
60	12A-1	3/4" x 1/2"	20	15.75	291 060 007	292 060 008
35-2	06C-2	3/8" x 3/16"	20	14.35	291 060 009	292 060 010
40-2	08A-2	1/2" x 5/16"	20	7.85	291 060 011	292 060 012
50-2	10A-2	5/8" x 3/8"	32	15.15	291 060 013	292 060 014
35-3	06C-3	3/8" x 3/16"	32	10.80	291 060 017	292 060 018

Special designs on request

Dimensions in mm





## SPANN-BOY® TS with sprocket

Three tension pressure settings



40 mm

60 mm

### Applications

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

### Tensioning pressure

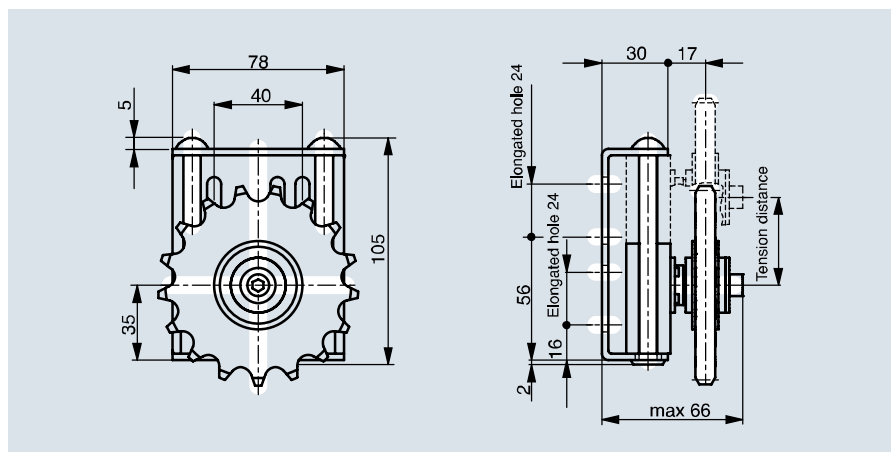
- Spann-Boy®TS has one light and one heavy pressure spring that can be released together or separately depending on the required tension pressure.

### Attachment

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

Chain no.		Chain dimensions in inch	Number of teeth	Article no. Heavy tension force
ASA/JIS	DIN 8188			
35	06C-1	3/8" x 3/16"	21	291 260 003
40	08A-1	1/2" x 5/16"	16	291 260 005
40	08A-1	1/2" x 5/16"	17	291 260 006
50	10A-1	5/8" x 3/8"	16	291 260 010
50	10A-1	5/8" x 3/8"	17	291 260 011
60	12A-1	3/4" x 1/2"	15	291 260 013
60	12A-1	3/4" x 1/2"	16	291 260 014

Special and stainless steel designs on request





## 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.

Chain no.		Chain dim. in inches	Simplex	Duplex	Triplex
ASA/JIS	DIN 8188				
25	04C	1/4" x 1/8"			
35	06C	3/8" x 3/16"			
40	08A	1/2" x 5/16"			
50	10A	5/8" x 3/8"			
60	12A	3/4" x 1/2"			
				Light	Heavy
Tension force			1 spring	58 – 32N	132 – 60N
			Tension distance	40mm	40mm

## SPANN-BOX® SIZE 0 with semi-circular profile

### Applications

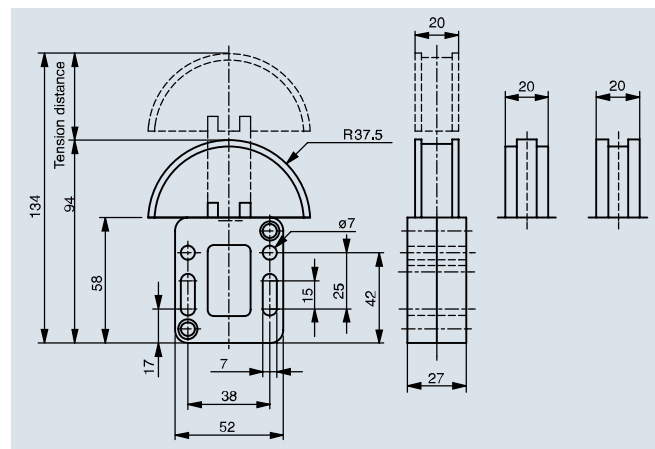
- Restricted installation space
- Environments with a risk of corrosion
- Chain drives with a pitch of up to 3/4"

### 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

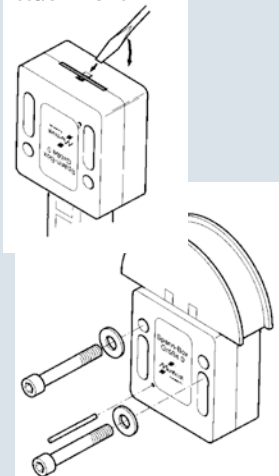


Stainless steel screws and springs

Chain no.		Chain dim. in inch	Article no. Light tension force	Article no. Heavy tension force
ASA/JIS	DIN 8188			
25	04C-1 (U-profile)	1/4" x 1/8"	291 000 001	291 000 002
35	06C-1	3/8" x 3/16"	291 000 013	291 000 016
40	08A-1	1/2" x 5/16"	291 000 003	291 000 016
50	10A-1	5/8" x 3/8"	291 000 005	291 000 006
60	12A-1	3/4" x 1/2"	291 000 015	291 000 012
35-2	06C-2	3/8" x 3/16"	291 000 009	291 000 010
40-2	08A-2	1/2" x 5/16"	291 000 007	291 000 008

Special designs on request

### Attachment





## 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.

Chain no.		Chain dim. in inches	Simplex	Duplex	Triplex
ASA/JIS	DIN 8188				
25	04C	1/4" x 1/8"			
35	06C	3/8" x 3/16"			
40	08A	1/2" x 5/16"			
50	10A	5/8" x 3/8"			
60	12A	3/4" x 1/2"			
80	16A	1" x 5/8"			

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

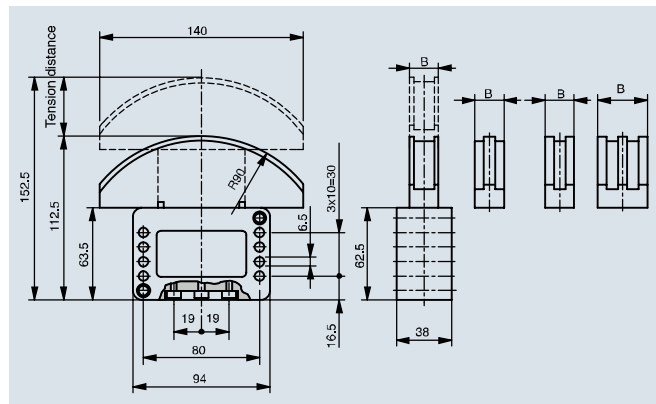
- Choice of light or heavy spring force

### Attachment

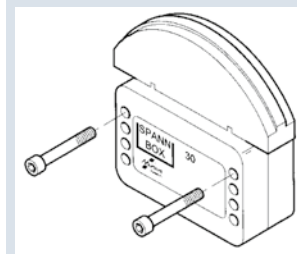
- Installed underneath the chain
- Bore holes in the housing

Chain no.		Chain dim. in inch	B	Article no. Light tension force	Article no. Heavy tension force
ASA/JIS	DIN 8188				
25	04C-1 (U-profile)	1/4" x 1/8"	20	291 030 001	291 030 012
35	06C-1	3/8" x 3/16"	20	291 030 023	291 020 024
40	08A-1	1/2" x 5/16"	20	291 030 002	291 030 013
50	10A-1	5/8" x 3/8"	20	291 030 003	291 030 014
60	12A-1	3/4" x 1/2"	20	291 030 004	291 030 015
80	16A-1	1" x 5/8"	20	291 030 005	291 030 016
35-2	06C-2	3/8" x 3/16"	20	291 030 006	291 030 017
40-2	08A-2	1/2" x 5/16"	20	291 030 007	291 030 018
50-2	10A-2	5/8" x 3/8"	25	291 030 008	291 030 019
60-2	12A-2	1/2" x 5/16"	30	291 030 009	291 030 020
35-3	06C-3	3/8" x 3/16"	25	291 030 010	291 030 021
40-3	08A-3	1/2" x 5/16"	35	291 030 011	291 030 022

Special designs on request



### Attachment





## 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.

Chain no.		Chain dim. in inches	Simplex	Duplex	Triplex
ASA/JIS	DIN 8188				
25	04C	1/4" x 1/8"			
35	06C	3/8" x 3/16"			
40	08A	1/2" x 5/16"			
50	10A	5/8" x 3/8"			
60	12A	3/4" x 1/2"			
80	16A	1" x 5/8"			
100	20A	1 1/4" x 3/4"			
Tension force				Light	Heavy
			1 released spring	58 – 32N	132 – 60N
Tension distance			2 released springs	116 – 64N	264 – 120N
			3 released springs	174 – 96N	396 – 180N
				40mm	40mm





## SPANN-BOX® SIZE 1 with arc segment profile

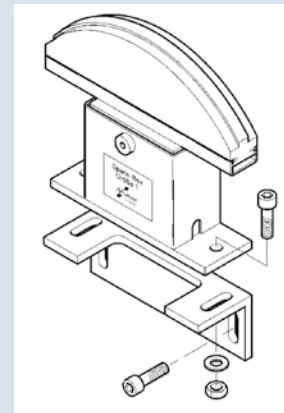
### Tensioning pressure

- Choice of light or heavy spring force

### Attachment

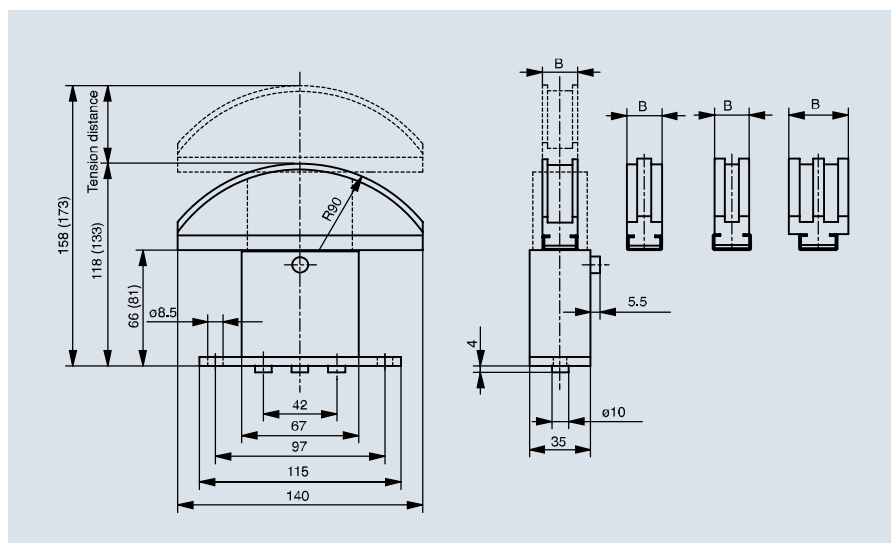
- Installed underneath the chain
- Bore holes in the housing

### Attachment



Chain no.		Chain dim. in inch	B	Article no. Short housing; light tension force	Article no. Short housing, Heavy tension force	Article no. Long housing, Heavy tension force	Article no. Short housing, Heavy tension force, stainless steel	Article no. Long housing, Heavy tension force, stainless steel
ASA/JIS	DIN 8188							
25/35	04/06C-1 (U-profile)	1/2" x 1/8" 3/8" x 3/16"	20	291 010 001	291 010 016	291 010 202	292 010 016	292 010 202
40	08A-1	1/2" x 5/16"	20	291 010 002	291 010 017	291 010 204	292 010 017	292 010 204
50	10A-1	5/8" x 3/8"	20	291 010 003	291 010 018	291 010 206	292 010 018	292 010 206
60	12A-1	3/4" x 1/2"	20	291 010 004	291 010 019	291 010 208	292 010 019	292 010 208
80	16A-1	1" x 5/8"	20	291 010 005	291 010 020	291 010 210	292 010 020	292 010 210
100	20A-1	1 1/4" x 3/4"	20	291 010 006	291 010 021	291 010 212	292 010 021	292 010 212
35-2	06C-2	3/8" x 3/16"	20	291 010 007	291 010 022	291 010 214	292 010 022	292 010 214
40-2	08A-2	1/2" x 5/16"	20	291 010 008	291 010 023	291 010 216	292 010 023	292 010 216
50-2	10A-2	5/8" x 3/8"	25	291 010 009	291 010 024	291 010 218	292 010 024	292 010 218
60-2	12A-2	3/4" x 1/2"	30	291 010 010	291 010 025	291 010 220	292 010 025	292 010 220
80-2	16A-2	1" x 5/8"	40	291 010 011	291 010 026	291 010 222	292 010 026	292 010 222
35-3	06C-3	3/8" x 3/16"	25	291 010 012	291 010 027	291 010 224	292 010 027	292 010 224
40-3	08A-3	1/2" x 5/16"	35	291 010 013	291 010 028	291 010 226	292 010 028	292 010 226
50-3	10A-3	5/8" x 3/8"	45	291 010 014	291 010 029	291 010 228	292 010 029	292 010 228
60-3	12A-3	3/4" x 1/2"	55	291 010 015	291 010 030	291 010 230	292 010 030	292 010 230

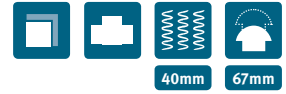
Special designs on request







## SPANN-BOX® SIZE 1 with semi-circular profile



### Applications

- For restricted installation spaces

### Tensioning pressure

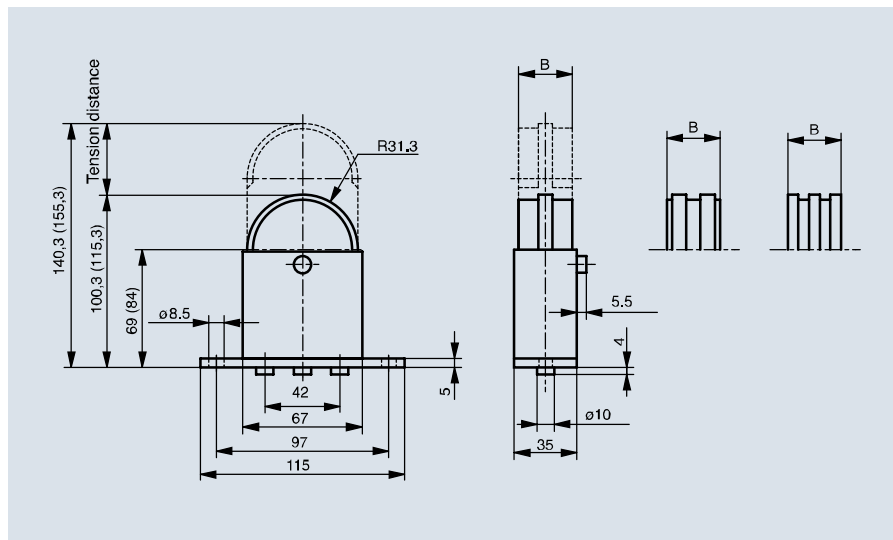
- Choice of light or heavy spring force

### Attachment

- Easier assembly thanks to mounting bracket

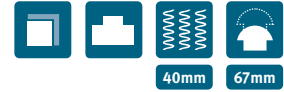
Chain no.		Chain dim. in inch	B	Article no. Short housing; light tension force	Article no. Short housing, Heavy tension force	Article no. Long housing, Heavy tension force	Article no. Short housing, Heavy tension force, stainless steel	Article no. Long housing, Heavy tension force, stainless steel
ASA/JIS	DIN 8188							
35	06C-1	3/8" x 3/16"	30	291 010 031	291 010 041	291 010 232	292 010 032	292 010 232
40	08A-1	1/2" x 5/16"	30	291 010 032	291 010 042	291 010 234	292 010 034	292 010 234
50	10A-1	5/8" x 3/8"	30	291 010 033	291 010 043	291 010 236	292 010 036	292 010 236
60	12A-1	3/4" x 1/2"	30	291 010 034	291 010 044	291 010 238	292 010 038	292 010 238
35-2	06C-2	3/8" x 3/16"	30	291 010 035	291 010 045	291 010 240	292 010 040	292 010 240
40-2	08A-2	1/2" x 5/16"	30	291 010 036	291 010 046	291 010 242	292 010 042	292 010 242
50-2	10A-2	5/8" x 3/8"	30	291 010 037	291 010 047	291 010 244	292 010 044	292 010 244
60-2	12A-2	3/4" x 1/2"	30	291 010 038	291 010 048	291 010 246	292 010 046	292 010 246
35-3	06C-3	3/8" x 3/16"	30	291 010 039	291 010 049	291 010 248	292 010 048	292 010 248
40-3	08A-3	1/2" x 5/16"	30	291 010 040	291 010 050	291 010 250	292 010 050	292 010 250

Special designs on request





## SPANN-BOX® SIZE 1 with return profile



### Tensioning pressure

- Heavy spring force

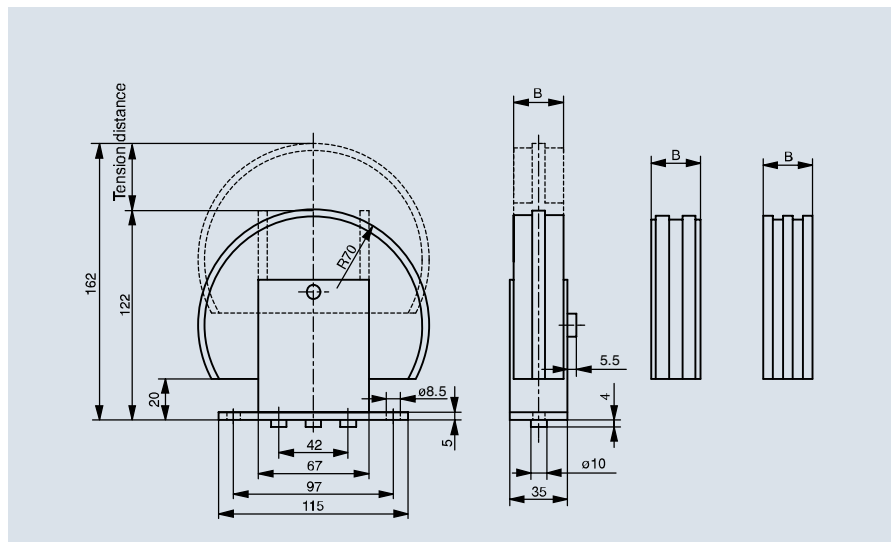
### Attachment

- Easier assembly thanks to mounting bracket

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

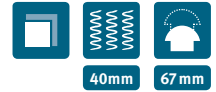
Chain no.		Chain dimension in inch	B	Article no. Long housing, Heavy tension force	Article no. Long housing, Heavy tension force, stainless steel
ASA/JIS	DIN 8188				
35	06C-1	3/8" x 3/16"	30	291 010 051	292 010 051
40	08A-1	1/2" x 5/16"	30	291 010 052	292 010 052
50	10A-1	5/8" x 3/8"	30	291 010 053	292 010 053
60	12A-1	3/4" x 1/2"	30	291 010 054	292 010 054
80	16A-1	1" x 5/8"	30	291 010 055	292 010 055
35-2	06C-2	3/8" x 3/16"	30	291 010 056	292 010 056
40-2	08A-2	1/2" x 5/16"	30	291 010 057	292 010 057
50-2	10A-2	5/8" x 3/8"	30	291 010 058	292 010 058
60-2	12A-2	3/4" x 1/2"	30	291 010 059	292 010 059
35-3	06C-3	3/8" x 3/16"	30	291 010 060	292 010 060
40-3	08A-3	1/2" x 5/16"	30	291 010 061	292 010 061

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

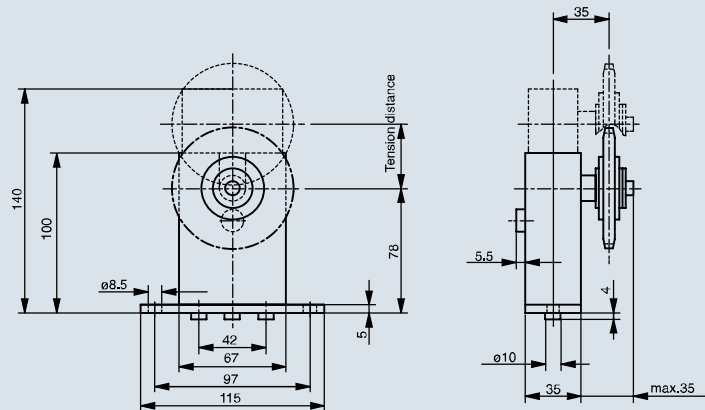
- Easier assembly thanks to mounting bracket

Chain no.		Chain dim. in inch	Number of teeth	Article no. Long housing, Heavy tension force	Article no. Long housing, Heavy tension force, stainless steel
ASA/JIS	DIN 8188				
35	06C-1	3/8" x 3/16"	21	291 110 062	291 110 066
40	08A-1	1/2" x 5/16"	17	291 110 063	291 110 067
50	10A-1	5/8" x 3/8"	17	291 110 064	291 110 068
60	12A-1	3/4" x 1/2"	15	291 110 065	291 110 069

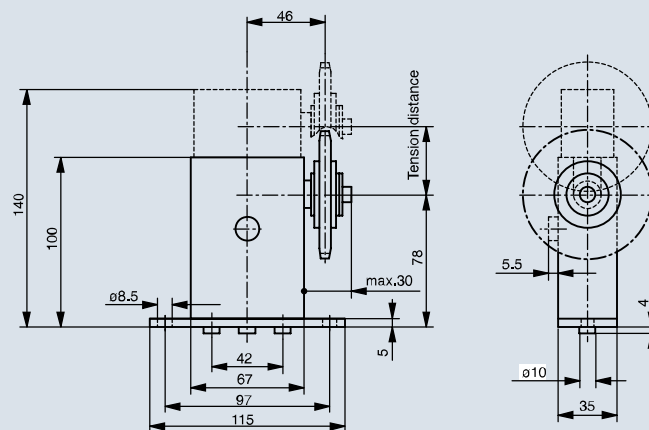
Special and stainless steel designs on request



Type K-L



Type K-S





## 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.

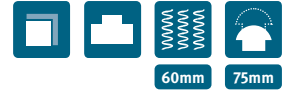
### Reverse operation

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.

Chain no.		Chain dim. in inches	Simplex	Duplex	Triplex
ASA/JIS	DIN 8188				
40	08A	1/2" x 5/16"			
50	10A	5/8" x 3/8"			
60	12A	3/4" x 1/2"			
80	16A	1" x 5/8"			
100	20A	1 1/4" x 3/4"			
120	24A	1 1/2" x 1"			
140	28A	1 3/4" x 1"			
160	32A	2" x 1 1/4"			
200	40A	2 1/2" x 1 1/2"			
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

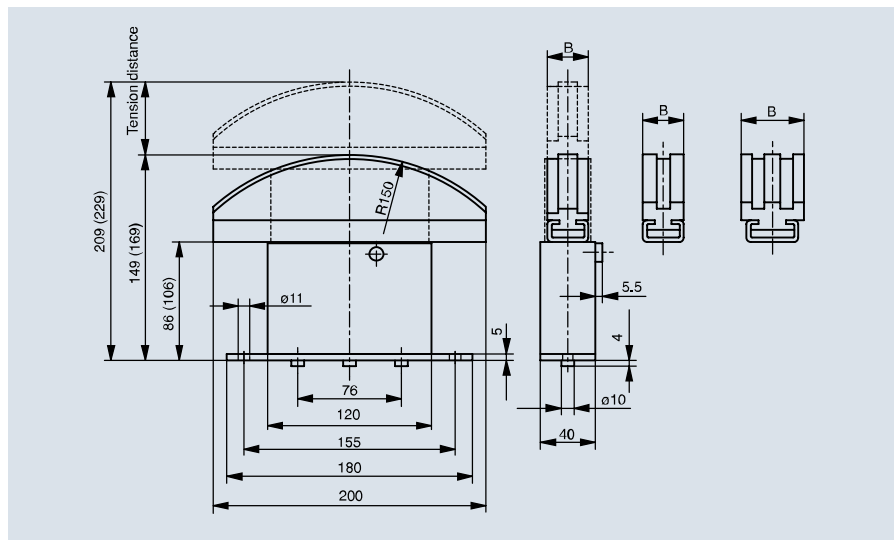
- Choice of light or heavy spring force

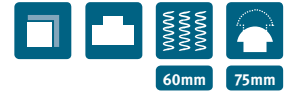
### Attachment

- Easier assembly thanks to mounting bracket

Chain no.		Chain dim. in inch	B	Article no. Short housing; light tension force	Article no. Short housing, Heavy tension force	Article no. Long housing, Heavy tension force	Article no. Short housing, Heavy tension force, stainless steel	Article no. Long housing, Heavy tension force, stainless steel
ASA/JIS	DIN 8188							
60	12A-1	3/4" x 1/2"	25	291 020 001	291 020 016	291 020 202	292 020 016	292 020 202
80	16A-1	1" x 5/8"	25	291 020 002	291 020 017	291 020 204	292 020 017	292 020 204
100	20A-1	1 1/4" x 3/4"	25	291 020 003	291 020 018	291 020 206	292 020 018	292 020 206
120	24A-1	1 1/2" x 1"	30	291 020 004	291 020 019	291 020 208	292 020 019	292 020 208
40-2	08A-2	1/2" x 5/16"	25	291 020 005	291 020 020	291 020 210	292 020 020	292 020 210
50-2	10A-2	5/8" x 3/8"	25	291 020 006	291 020 021	291 020 212	292 020 021	292 020 212
60-2	12A-2	3/4" x 1/2"	30	291 020 007	291 020 022	291 020 214	292 020 022	292 020 214
80-2	16A-2	1" x 5/8"	40	291 020 008	291 020 023	291 020 216	292 020 023	292 020 216
100-2	20A-2	1 1/4" x 3/4"	50	291 020 009	291 020 024	291 020 218	292 020 024	292 020 218
120-2	24A-2	1 1/2" x 1"	70	291 020 010	291 020 025	291 020 220	292 020 025	292 020 220
40-3	08A-3	1/2" x 5/16"	35	291 020 011	291 020 026	291 020 222	292 020 026	292 020 222
50-3	10A-3	5/8" x 3/8"	45	291 020 012	291 020 027	291 020 224	292 020 027	292 020 224
60-3	12A-3	3/4" x 1/2"	55	291 020 013	291 020 028	291 020 226	292 020 028	292 020 226
80-3	16A-3	1" x 5/8"	70	291 020 014	291 020 029	291 020 228	292 020 029	292 020 228
100-3	20A-3	1 1/4" x 3/4"	85	291 020 015	291 020 030	291 020 230	292 020 030	292 020 230

Special designs on request





## SPANN-BOX® SIZE 2 with semi-circular profile

### Applications

- For restricted installation spaces

### Tensioning pressure

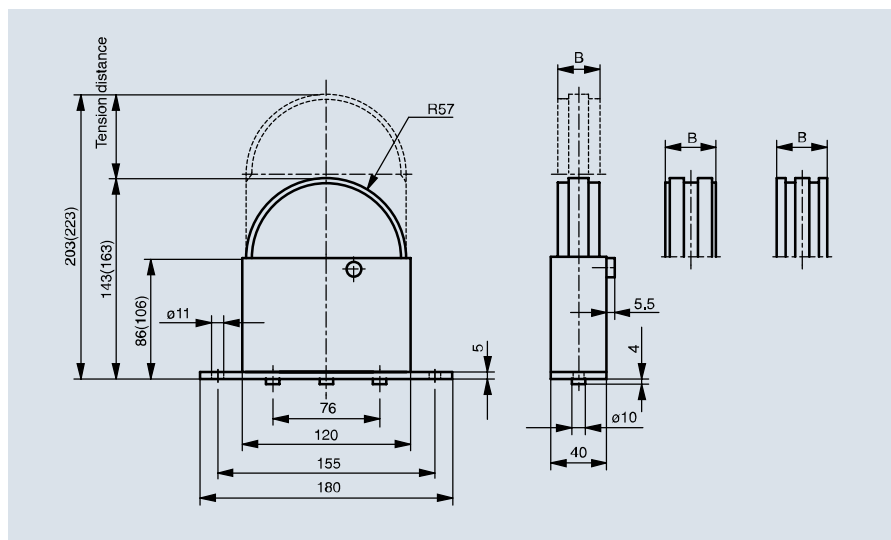
- Choice of light or heavy spring force

### Attachment

- Easier assembly thanks to mounting bracket

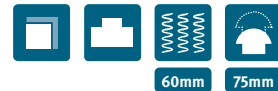
Chain no.		Chain dim. in inch	B	Article no. Short housing; light tension force	Article no. Short housing, Heavy tension force	Article no. Long housing, Heavy tension force	Article no. Short housing, Heavy tension force, stainless steel	Article no. Long housing, Heavy tension force, stainless steel
ASA/JIS	DIN 8188							
60	12A-1	3/4" x 1/2"	33	291 020 031	291 020 038	291 020 232	292 020 032	292 020 232
80	16A-1	1" x 5/8"	33	291 020 032	291 020 039	291 020 234	292 020 034	292 020 234
40-2	08A-2	1/2" x 5/16"	33	291 020 033	291 020 040	291 020 236	292 020 036	292 020 236
50-2	10A-2	5/8" x 3/8"	33	291 020 034	291 020 041	291 020 238	292 020 038	292 020 238
60-2	12A-2	3/4" x 1/2"	33	291 020 035	291 020 042	291 020 240	292 020 040	292 020 240
40-3	08A-3	1/2" x 5/16"	35	291 020 036	291 020 043	291 020 242	292 020 042	292 020 242
50-3	10A-3	5/8" x 3/8"	45	291 020 037	291 020 044	291 020 244	292 020 044	292 020 244

Special designs on request





## SPANN-BOX® SIZE 2 with 180° return profile



With the appropriate installation, the double tension distance length can be used for chain elongation.

### Tensioning pressure

- Heavy spring force

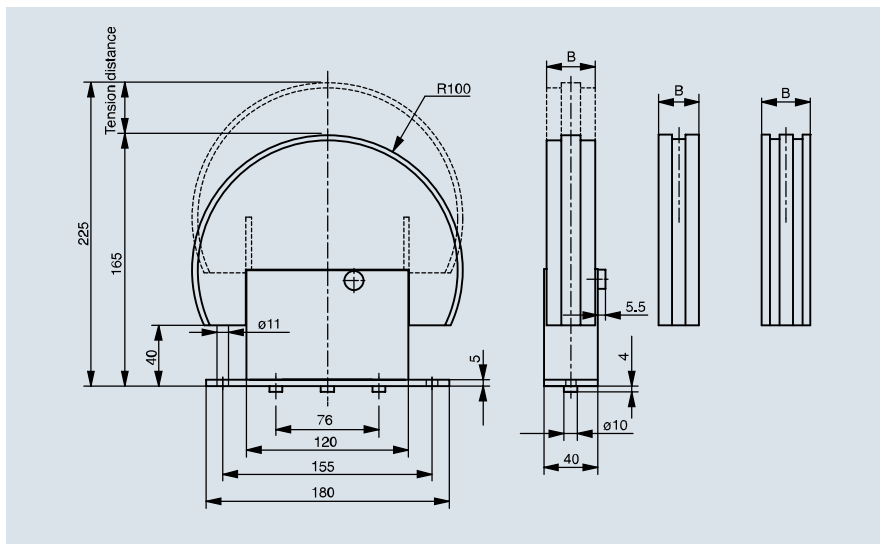
### Attachment

- Easier assembly thanks to mounting bracket



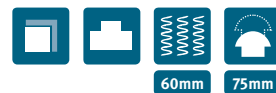
Chain no.		Chain dim. in inch	B	Article no. Long housing, Heavy tension force	Article no. Long housing, Heavy tension force, stainless steel
ASA/JIS	DIN 8188				
60	12A-1	3/4" x 1/2"	33	291 020 045	292 020 045
80	16A-1	1" x 5/8"	33	291 020 046	292 020 046
100	20A-1	1 1/4" x 3/4"	33	291 020 047	292 020 047
40-2	08A-2	1/2" x 5/16"	33	291 020 048	292 020 048
50-2	10A-2	5/8" x 3/8"	33	291 020 049	292 020 049
60-2	12A-2	3/4" x 1/2"	33	291 020 050	292 020 050
40-3	08A-3	1/2" x 5/16"	35	291 020 051	292 020 051
50-3	10A-3	5/8" x 3/8"	45	291 020 052	292 020 052
60-3	12A-3	3/4" x 1/2"	55	291 020 053	292 020 053

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

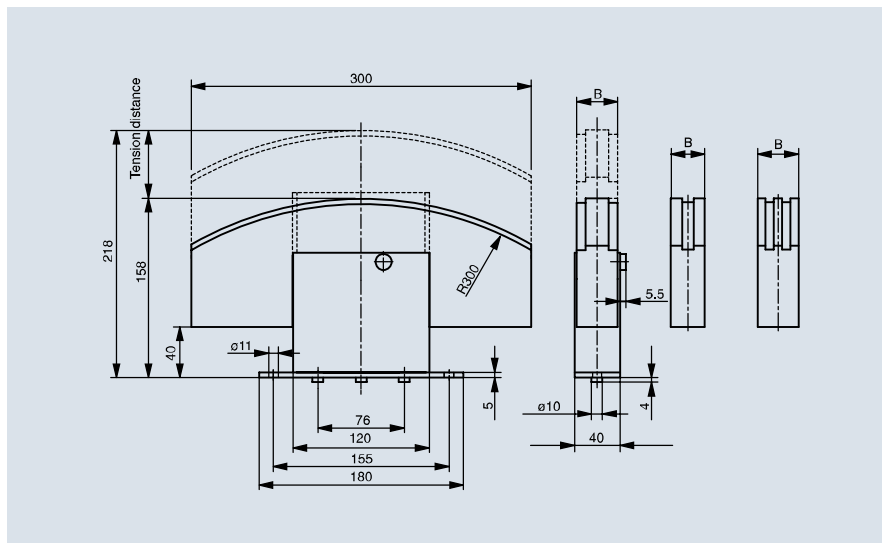
- Heavy spring force

### Attachment

- Easier assembly thanks to mounting bracket

Chain no.		Chain dimension in inch	B	Article no. Long housing, Heavy tension force	Article no. Long housing, Heavy tension force, stainless steel
ASA/JIS	DIN 8188				
120	24A-1	1 1/2" x 1"	33	291 020 054	292 020 054
140	28A-1	1 3/4" x 1"	33	291 020 055	292 020 055
160	32A-1	2" x 1 1/4"	33	291 020 056	292 020 056
200	40A-1	2 1/2" x 1 1/2"	40	291 020 057	292 020 057
80-2	16A-2	1" x 5/8"	40	291 020 058	292 020 058
100-2	20A-2	1 1/4" x 3/4"	50	291 020 059	292 020 059
120-2	24A-2	1 1/2" x 1"	70	291 020 060	292 020 060
80-3	16A-3	1" x 5/8"	70	291 020 061	292 020 061
100-3	20A-3	1 1/4" x 3/4"	85	291 020 062	292 020 062

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

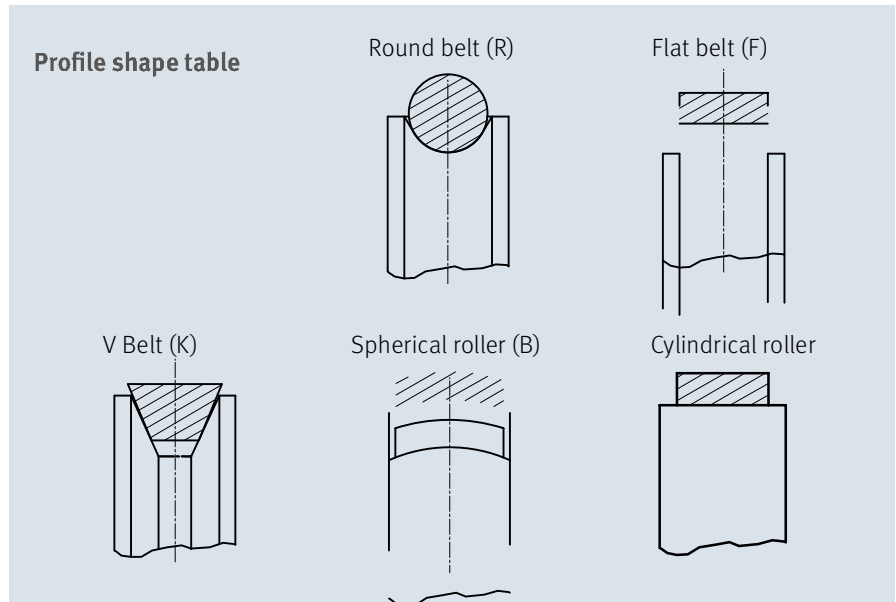
- Spann-Boy®
- Spann-Boy®TS
- Spann-Box® size 0
- Spann-Box® size 1

### 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.



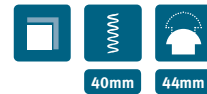
		Light tension force	Heavy tension force	Tension distance
Spann-Boy® with roller Spann-Boy® size 0 with roller	1 released spring	58 – 32N	132 – 60N	40 mm
Spann-Boy® TS with roller	1 released spring	58 – 32N	132 – 60N	40 mm
	2 released springs	190 – 96N		40 mm
Spann-Box® size 1 Typ SR-0 tensioning roller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





# SPANN-BOY® AS BELT TENSIONER

with roller

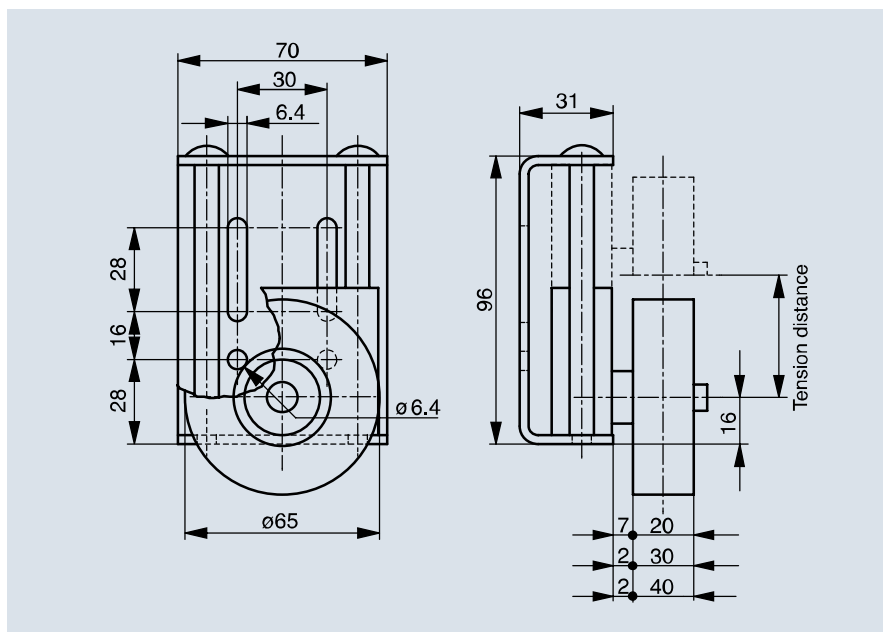


## Tension pressure

- Choice of light or heavy spring force

Roller width mm	Profile shape		
20	Cylindrical		
	Spherical		
	Flat belt		
	V-belt		
	Round belt		
30	Cylindrical		
	Spherical		
	Flat belt		
	V-belt		
	Round belt		
40	Cylindrical		
	Spherical		
	Flat belt		
	V-belt		
	Round belt		

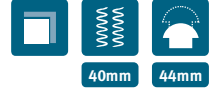
Special and stainless steel designs on request





# SPANN-BOY® TS AS BELT TENSIONER

with roller



Three tension pressure settings

## Tension pressure

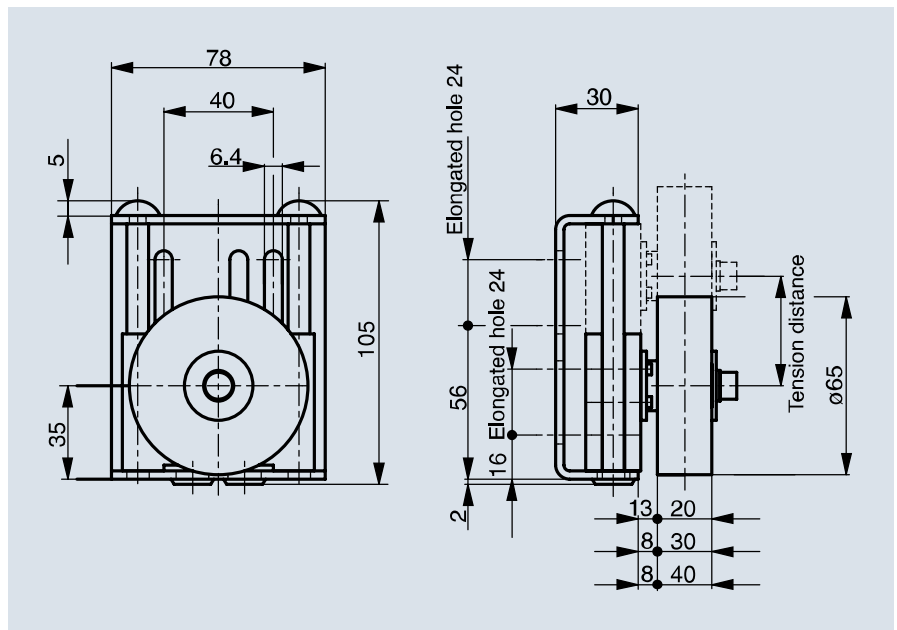
- Spann-Boy®TS has one light and one heavy pressure spring that can be released together or separately depending on the required tension pressure.

## Attachment

- Bore holes in the housing

Roller width mm	Profile shape	
20	Cylindrical	
	Spherical	
	Flat belt	
	V-belt	
	Round belt	
30	Cylindrical	
	Spherical	
	Flat belt	
	V-belt	
	Round belt	
40	Cylindrical	
	Spherical	
	Flat belt	
	V-belt	
	Round belt	

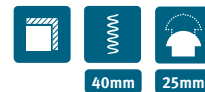
Special and stainless steel designs on request





# SPANN-BOX® SIZE 0 AS BELT TENSIONER

with roller



## Design

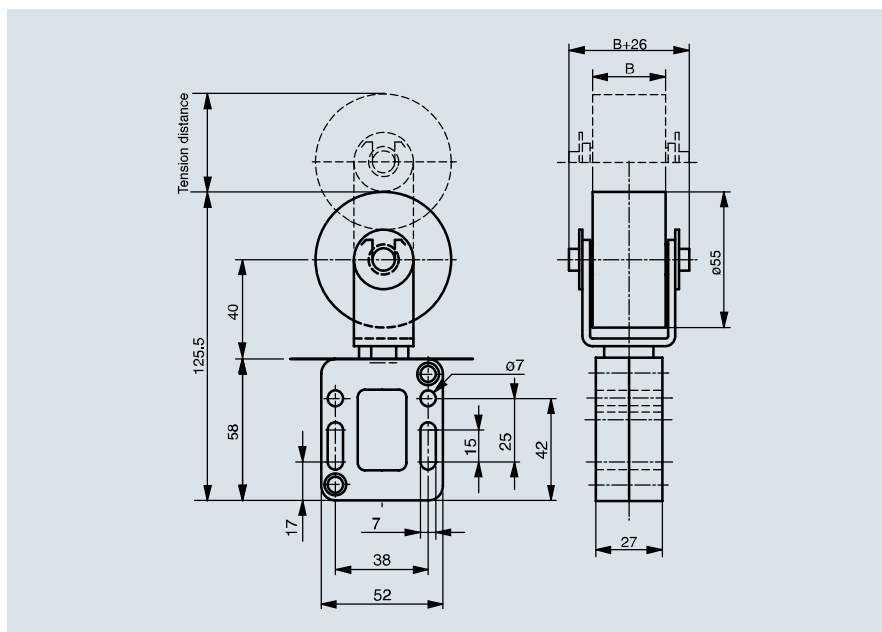
- Corrosion-proof housing

## Tensioning pressure

- Choice of light or heavy spring force

Roller width mm	Profile shape		
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

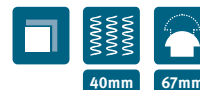
- Choice of light or heavy spring force

### Attachment

- Bore holes in the housing

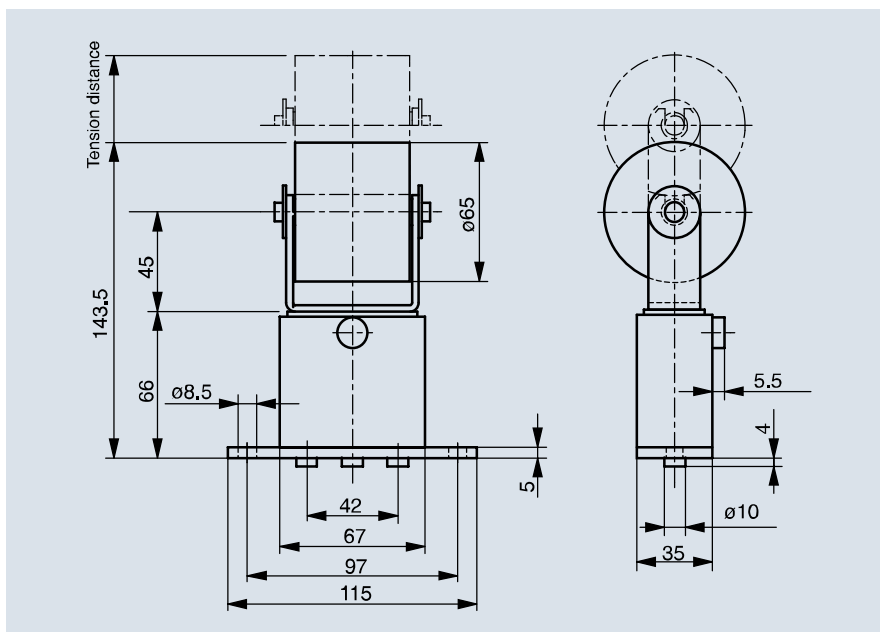
## SPANN-BOX® SIZE 1

as belt tensioner with roller



Roller width mm	Profile shape		
53	Cylindrical		
	Spherical		
	Flat belt		
	V-belt		
	Round belt		

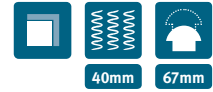
Special and stainless steel designs on request





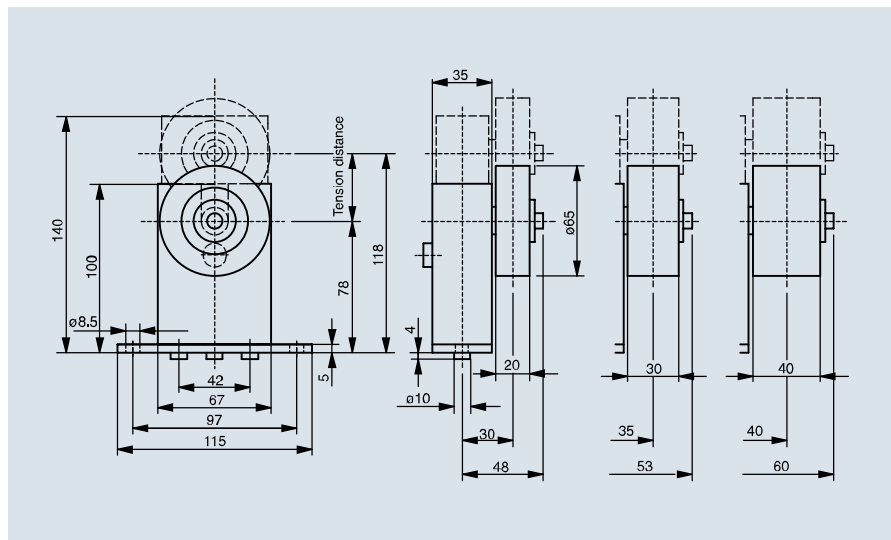
# SPANN-BOX® SIZE 1 / TYPE SR-L

Tensioning roller on long side



Roller width mm	Profile shape		
20	Cylindrical		
	Spherical		
	Flat belt		
	V-belt		
	Round belt		
30	Cylindrical		
	Spherical		
	Flat belt		
	V-belt		
	Round belt		
40	Cylindrical		
	Spherical		
	Flat belt		
	V-belt		
	Round belt		

Special and stainless steel designs on request



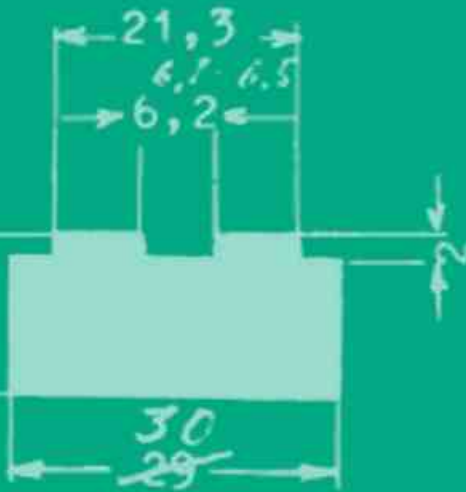




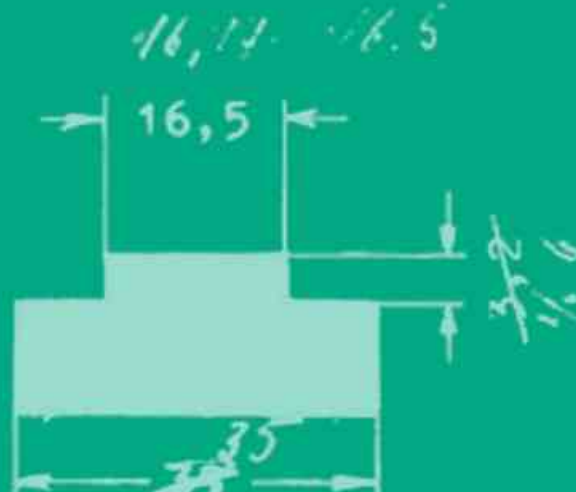
Heßlingsweg 14 – 16  
D-44309 Dortmund  
Phone +49 231 20609-0  
Fax +49 231 2060992  
[www.murtfeldt.com](http://www.murtfeldt.com)

GDS/0512/372011061-E-5000

Nr. D 462



Profil 4 - 6,2



Profil 5 6,4

