

smooth. good. informed.



CHAIN AND BELT TENSIONING SYSTEMS



**ASA/JIS
EDITION**

TENSIONING SYSTEMS – TABLE OF CONTENTS

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TENSIONING SYSTEMS

For chains and belts

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

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

Wide range – extensive inventory

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

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

Advantages of our tensioning systems

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



FUNCTION, PRINCIPLES, HANDLING

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

Tried-and-tested quality

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

Installation

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

Tension force regulation

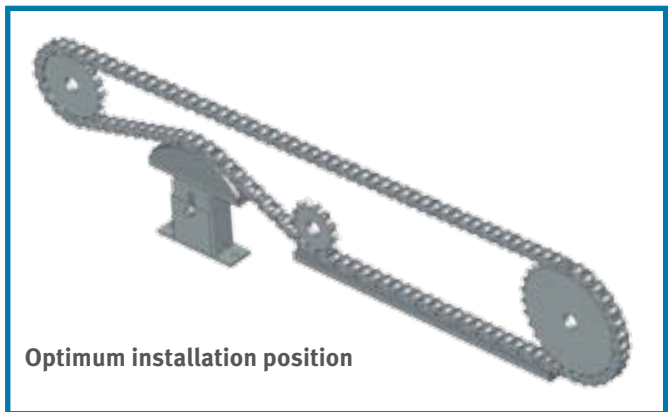
For all Murtfeldt tensioning systems, you can choose either light or heavy tensioning pressure. Depending on the type, the tensioners have one, two, or three springs. You decide how many springs you want to use. This enables the optimum application of pressure onto a chain or belt running on the profile.

Use at extreme temperatures

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

Normal steel springs: -10 to +170°C

Stainless steel springs: -40 to +200°C



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



OPTICAL CONTROL DISPLAYS

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

■ Green

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

■ Yellow

The tensioning force is not ideal but is still sufficient.

■ Red

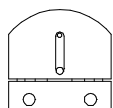
The chain tensioner needs to be adjusted. The tensioning force on the chain is too low for a smooth and reliable running movement.

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

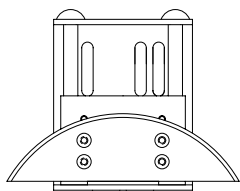


OVERVIEW OF SPANN-BOX® TYPES

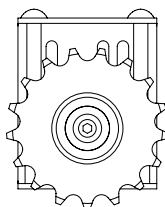
Chain tensioners



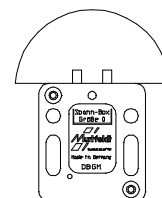
Mini-tensioner
page 15



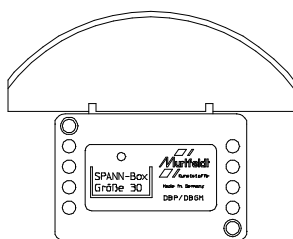
Spann-Boy® TS with arc
segment profile – page 16



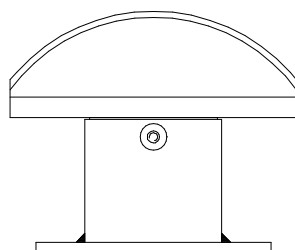
Spann-Boy® TS
with sprocket – page 17



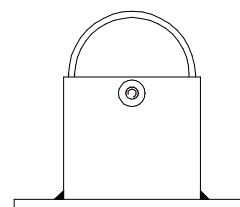
Spann-Box® size 0
page 18



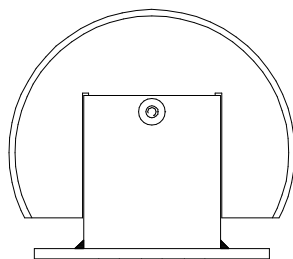
Spann-Box® size 30
page 19



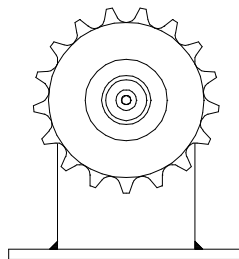
Spann-Box® size 1 with arc
segment profile – page 20



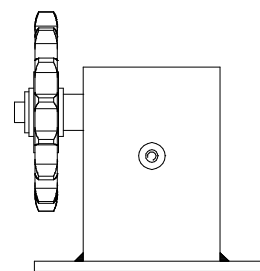
Spann-Box® size 1 with
semi-circular profile – page 21



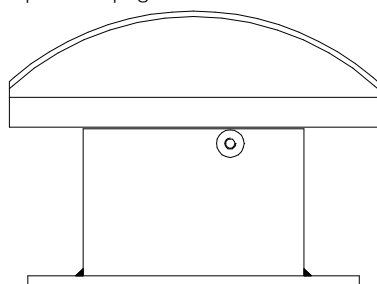
Spann-Box® size 1 with return
profile – page 22



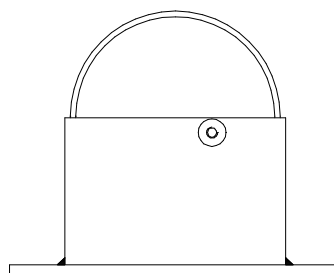
Spann-Box® size 1 with sprocket
Type K-L – page 23



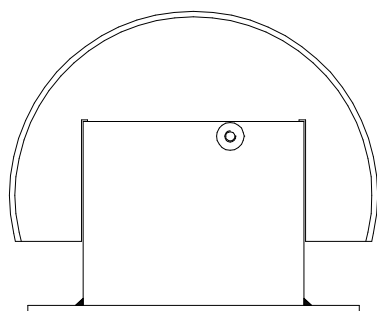
Spann-Box® size 1 with
sprocket Type K-S – page 23



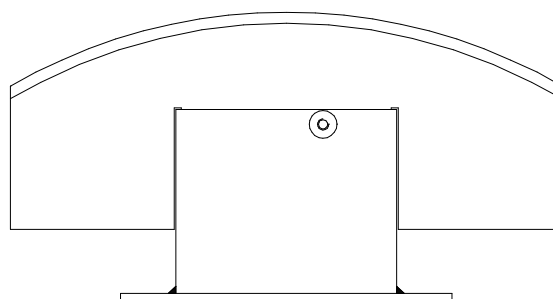
Spann-Box® size 2 with arc segment profile – page 24



Spann-Box® size 2 with semi-circular profile – page 25

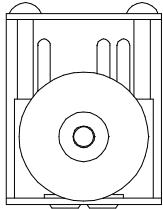


Spann-Box® size 2 with return profile – page 26

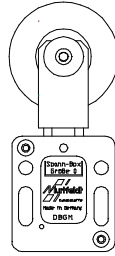


Spann-Box® size 2 with block profile – page 27

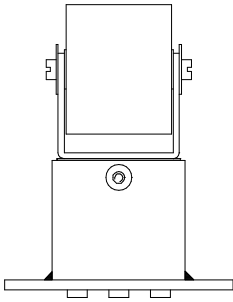
Belt tensioners



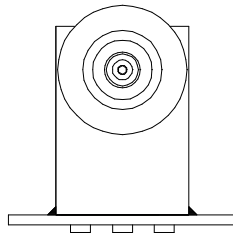
Spann-Boy® TS
tensioning roller – page 29



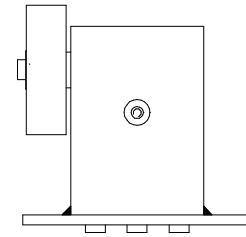
Spann-Box® size 0
page 30



Spann-Box® size 1 belt tensioner with
tensioning roller at top – page 31



Spann-Box® size 1 with
tensioning roller type SR-L – page 32



Spann-Box® size 1 with
tensioning roller type SR-S – page 33

SIGNS AND SYMBOLS

Features and properties of tensioning systems



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



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



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



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



Plastic housing



Steel housing (also stainless steel)

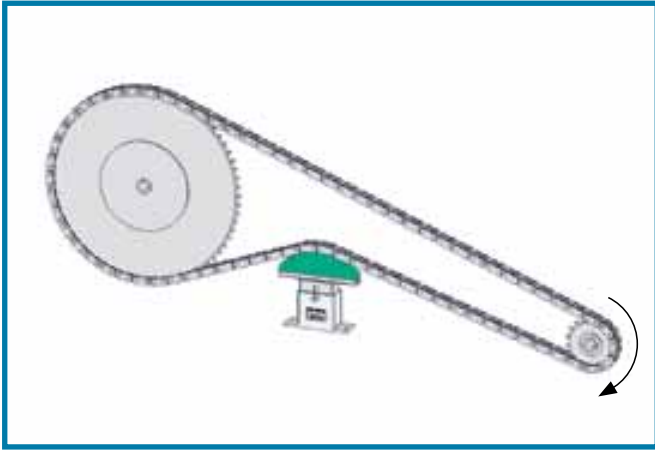


Track profile for all large chains

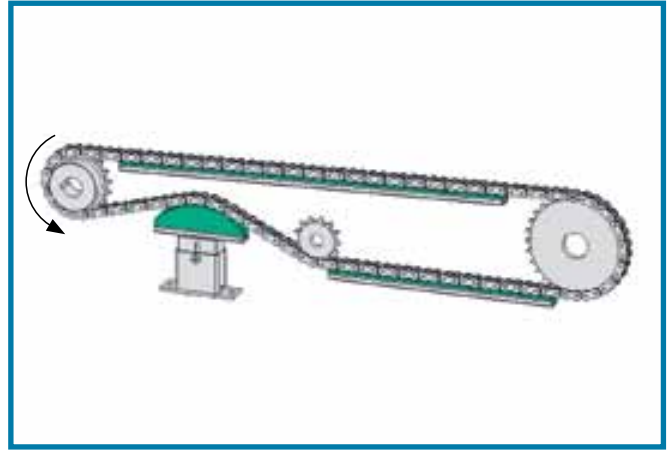


U profile for chains up to specified overall
width in mm

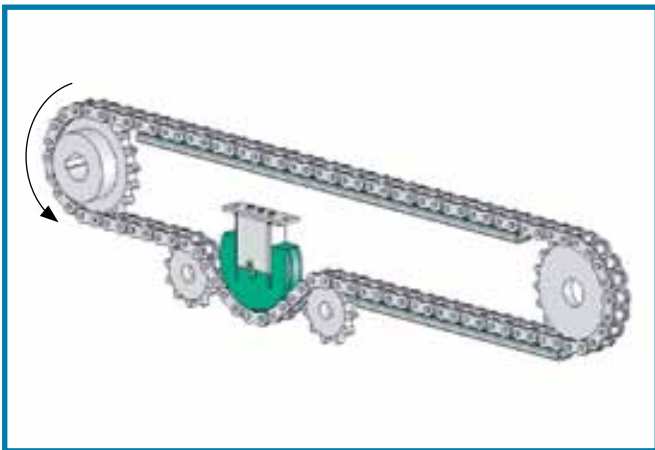
GRAPHICAL DEPICTION OF INSTALLATION EXAMPLES



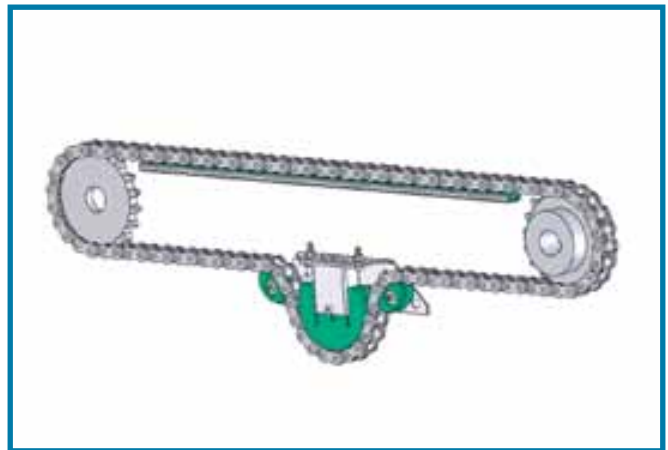
Popular but non-optimal arrangement, tension distance not used efficiently



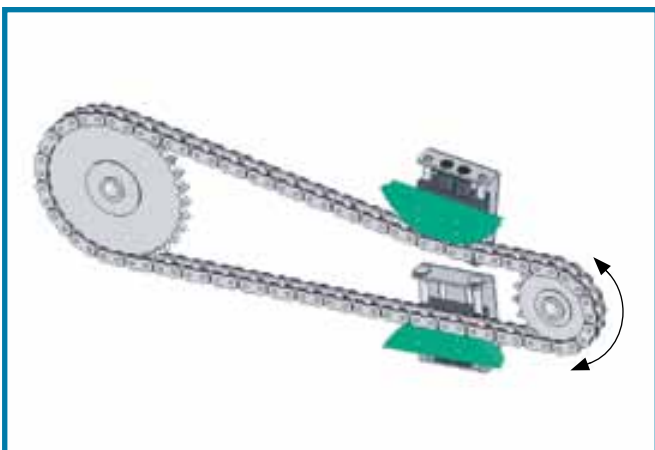
Optimum, extremely efficient chain support/tensioning



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



Omega tensioning station – ready-to-install system



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



Return/tensioning station

THE CORRECT CHOICE OF CHAIN TENSIONER

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

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

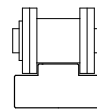
IMPORTANT CRITERIA WHEN SELECTING THE BEST CHAIN TENSIONER FOR YOUR NEEDS






















































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

SELECTION TABLE FOR CHAIN TENSIONERS

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

Simplex chain



Chain	Pitch	inch	MINI-TENSIONER	SPANN-BOY®TS with arc segment profile	SPANN-BOY®TS with sprocket	SPANN-BOX® size 0	SPANN-BOX® size 30	SPANN-BOX® size 1	SPANN-BOX® size 2	MINI-TENSIONER
ASA ISO 606	mm									
Unspecified chains with a width of up to 15 mm ²⁾			 2)	 2)	 2)	 2)				
06C	9,525	3/8		 2)	 2)	 2)	 2)	 		
08A	12,7	1/2		  2)	  2)			 		
10A	15,875	5/8		 	 			 		
12A	19,05	3/4		 	 			 	 	
16A	25,4	1						 	 	
20A	31,75	1 1/4							 	
24A	38,1	1 1/2							 	
28A	44,45	1 3/4								
32A	50,8	2								
40A	63,5	2 1/2								
48A	76,2	3								

EXPLANATION OF SYMBOLS

Profiles symbols for selection tables



Arc segment profile

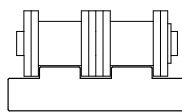
- Slide profile shape with optimum mechanical properties
- Simultaneous contact with several rollers
- Optimum chain protection



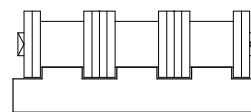
Return profile

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

Duplex chain



Triplex chain



SPANN-BOY®TS with arc segment profile	SPANN-BOY®TS with sprocket	SPANN-BOX® size 0	SPANN-BOX® size 30	SPANN-BOX® size 1	SPANN-BOX® size 2	SPANN-BOY®TS	SPANN-BOX® size 0	SPANN-BOX® size 30	SPANN-BOX® size 1	SPANN-BOX® size 2
2)	2)	2)	2)							
										1)
					1)					1)
					1)					1)
					1)					1)
					1)					1)
					1)					1)



Block profile

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



Semi-circular profile

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



Roller/sprocket

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

MOUNTING BRACKETS FOR SPANN-BOX® SYSTEMS

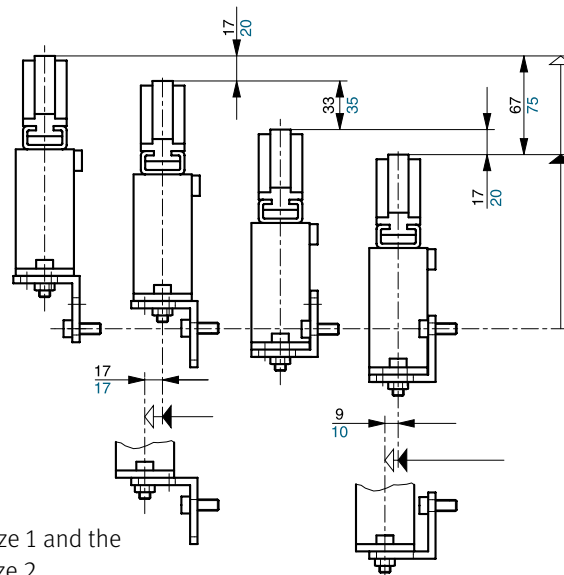
The ideal assembly aid

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

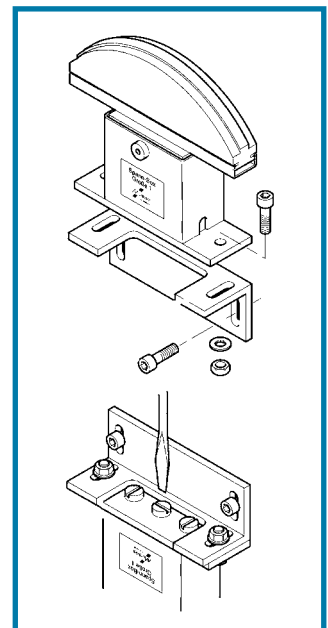
We are happy to provide detailed assembly instructions for all our systems. Simply contact us or see our website at www.murtfeldt.com.

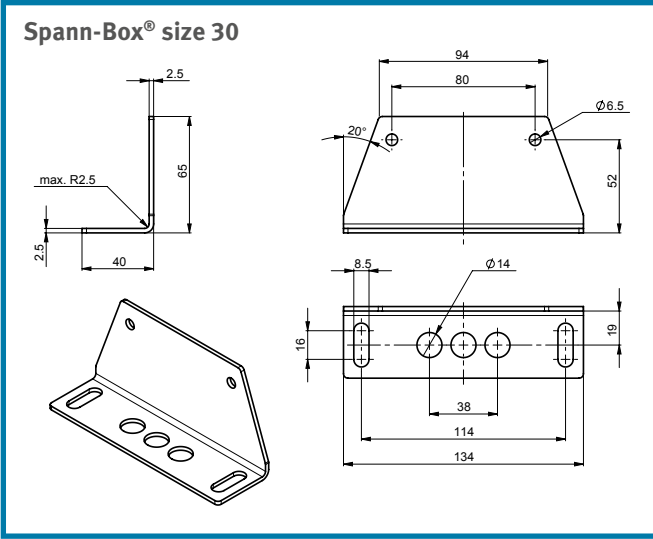
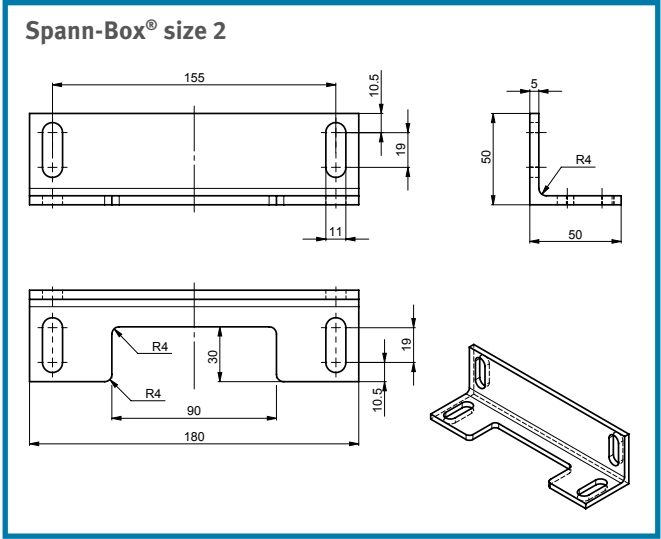
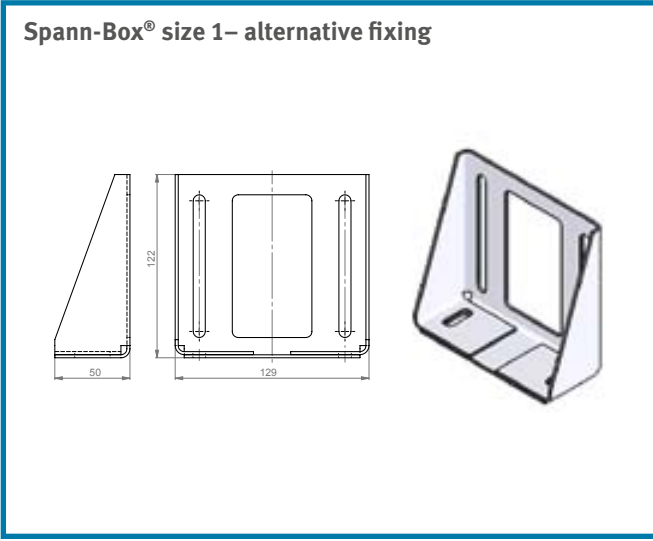
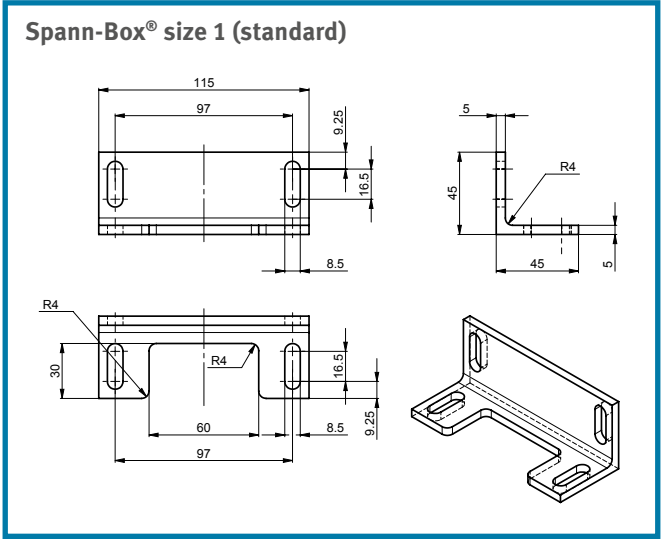
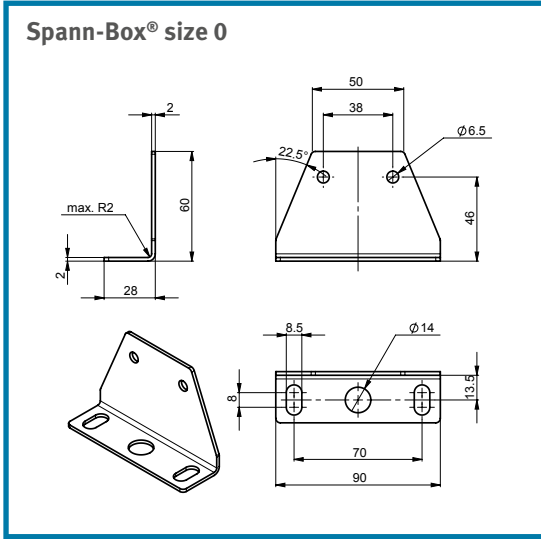
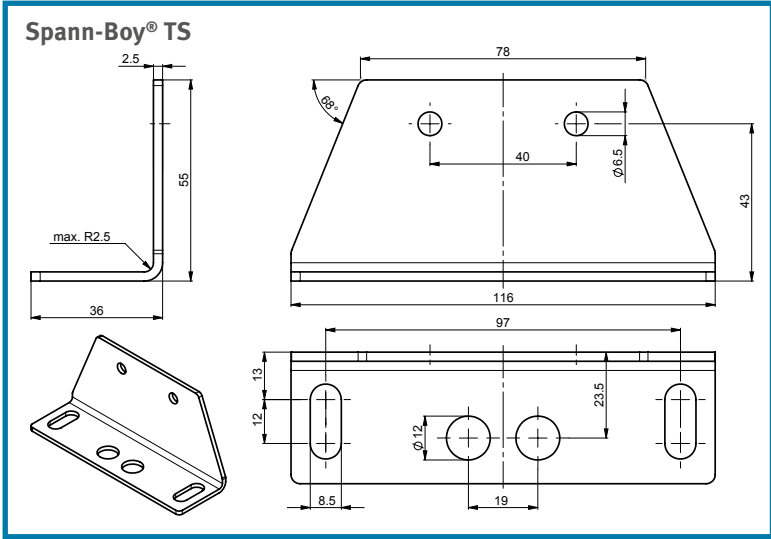
Corresponding size	Adjustment range	Material	Article no.
1	67 mm	St 37 powder-coated	281 090 001
2	75 mm	St 37 powder-coated	281 090 002
1	67 mm	1.4301 (stainless steel)	281 090 029
2	75 mm	1.4301 (stainless steel)	281 090 030
0	-	1.4301 (stainless steel) incl. screws	281 090 087
30	-	1.4301 (stainless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

Size 1 and 2



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





CHAIN AND BELT MONITORS

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

Both individual and reliable

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

Inductive switches for Spann-Box®

Alternatively, a contact-free inductive switch can be used. This makes sense if there is a risk of explosion or contamination. Concerns about wear might also result in the use of an inductive switch. Inductive switches can be used for all of our Spann-Box® types as well as for our special models and designs in stainless steel.



CHAIN TENSIONERS FOR ROLLER CHAINS PER DIN 8188

MINI-TENSIONER

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

Tension force		Light	Heavy
2 springs		19 – 13 N	85 – 58 N
Tension distance		16 mm	16 mm

MINI-TENSIONER

with arc segment profile

Tensioning pressure

- Choice of light or heavy spring force

Chain guide

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

Attachment

- Screws on bracket base

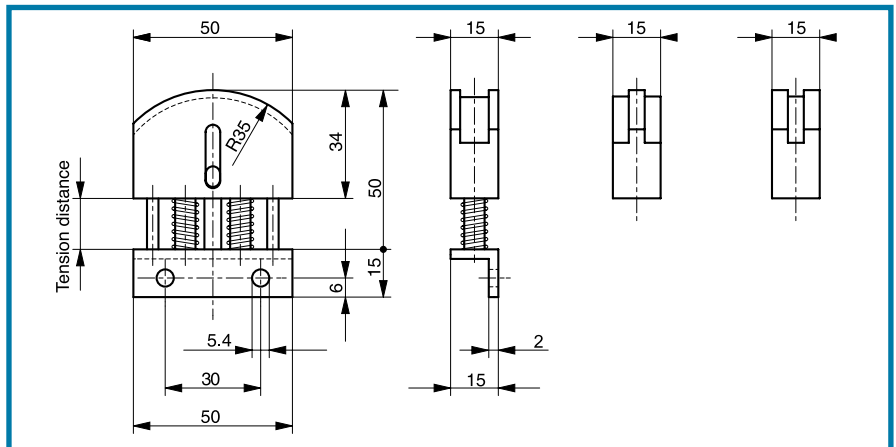
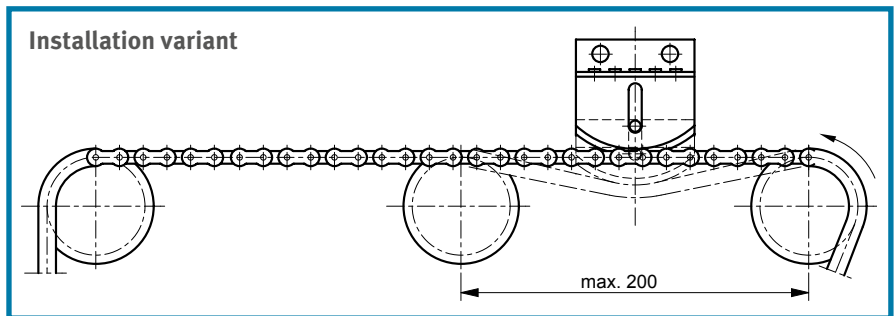
Axis-centre distance

- Max. 200mm recommended



Chain no.		Chain dimensions in inch	Article no. Light tension force	Article no. Heavy tension force
ASA/JIS	DIN 8188			
25	04C-1	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



SPANN-BOY® TS

Three tension pressure settings

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

Design

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

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

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

SPANN-BOY® TS

with arc segment profile



Applications

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

Tensioning pressure

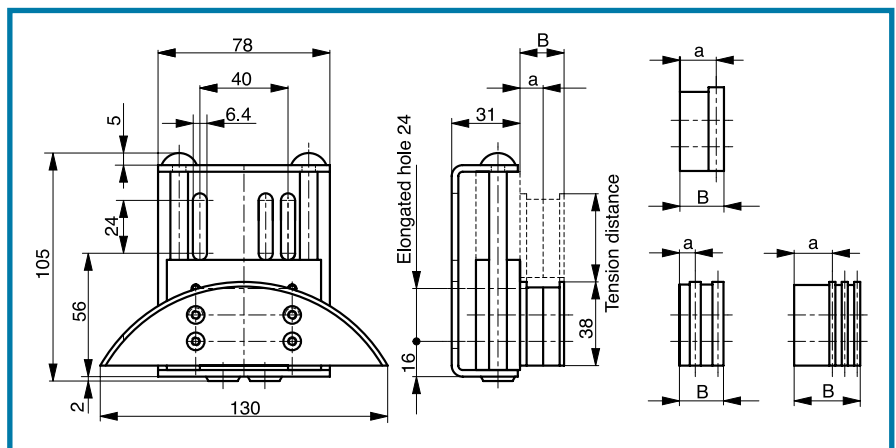
- Spann-Boy® TS has one light and one heavy pressure spring that can be released together or separately depending on the required tension pressure.

Attachment

- Installed next to the chain
- Bore holes in the housing (for matching fastening brackets refer to pages 12-13)

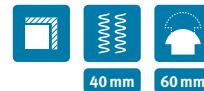
Chain no.		Chain dimensions in inch	B	a	Article no. Standard design	Article no. Stainless steel
ASA/JIS	DIN 8188					
35	06C-1	3/8" x 3/16"	20	10.00	291 060 001	292 060 002
40	08A-1	1/2" x 5/16"	20	17.90	291 060 003	292 060 004
50	10A-1	5/8" x 3/8"	20	16.45	291 060 005	292 060 006
60	12A-1	3/4" x 1/2"	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



SPANN-BOY® TS

with sprocket



Applications

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

Tensioning pressure

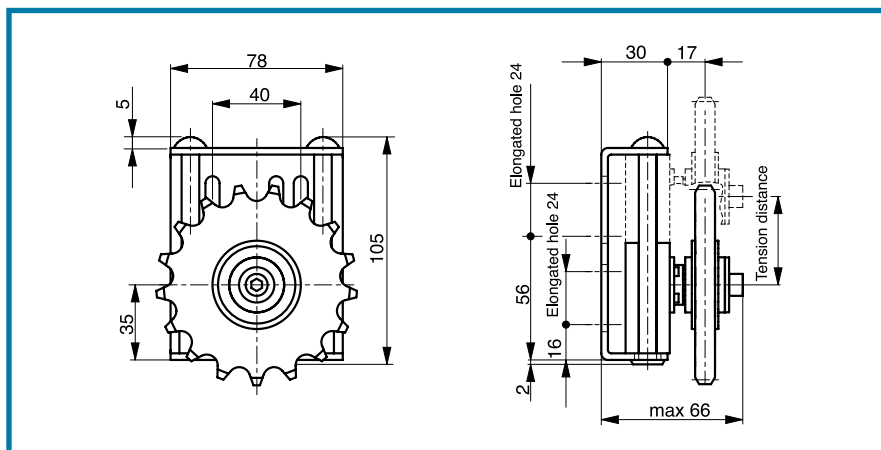
- Spann-Boy® TS has one light and one heavy pressure spring that can be released together or separately depending on the required tension pressure.

Attachment

- Installed next to the chain
- Bore holes in the housing (for matching fastening brackets refer to pages 12-13)

Chain no.		Chain dimensions in inch	Number of teeth	Article no. standard design
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-BOX® SIZE 0

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

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

SPANN-BOX® SIZE 0 with semi-circular profile

Stainless steel screws and springs



Applications

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

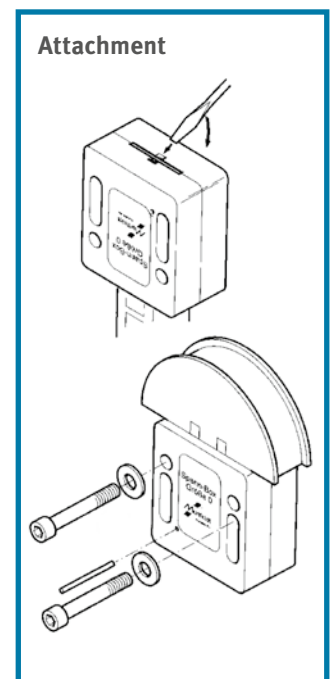
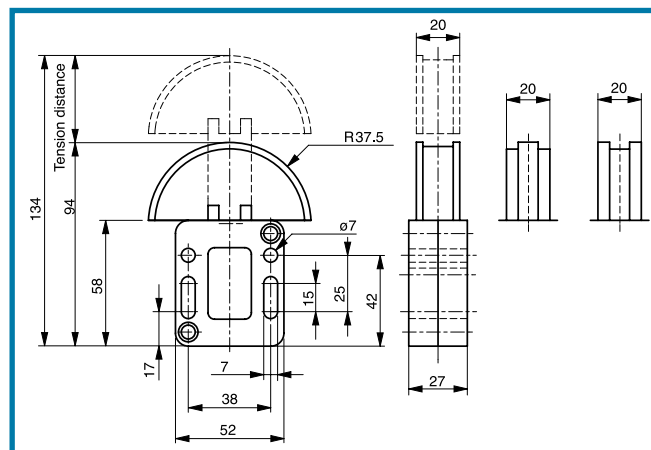
Tensioning pressure

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

Attachment

- Installed underneath the chain
- Bore holes in the housing (for matching fastening brackets refer to pages 12-13)

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	291 000 004
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



SPANN-BOX® SIZE 30

Three tension pressure settings

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

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

SPANN-BOX® SIZE 30

with arc segment profile

Stainless steel screws and springs



Applications

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

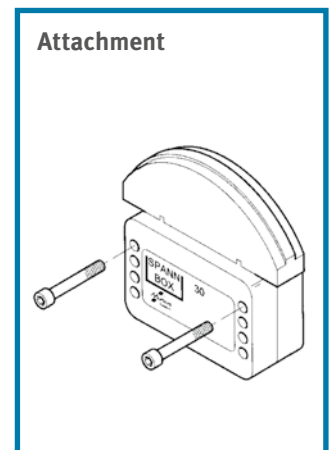
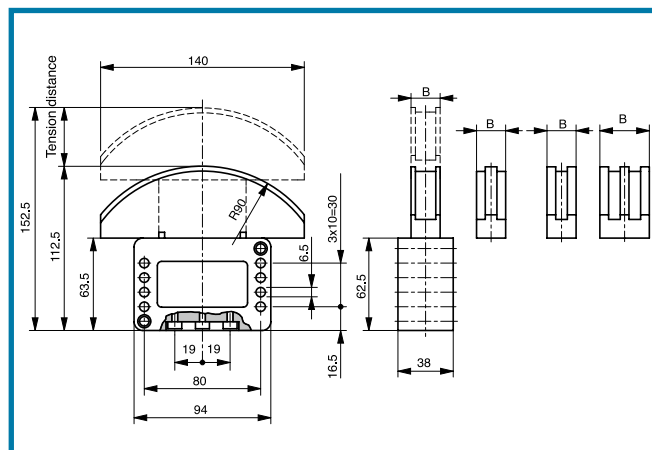
Tensioning pressure

- Choice of light or heavy spring force

Attachment

- Installed underneath the chain
- Bore holes in the housing (for matching fastening brackets refer to pages 12-13)

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



SPANN-BOX® SIZE 1

Three tension pressure settings

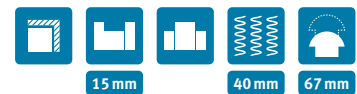
Spann-Box® size 1 is available in several variants. The robust design with its steel housing guarantees durability and reliable operation. We offer a total of five different designs to meet individual requirements.

Reverse operation

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

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

SPANN-BOX® SIZE 1 with arc segment profile



Tensioning pressure

- Choice of light or heavy spring force

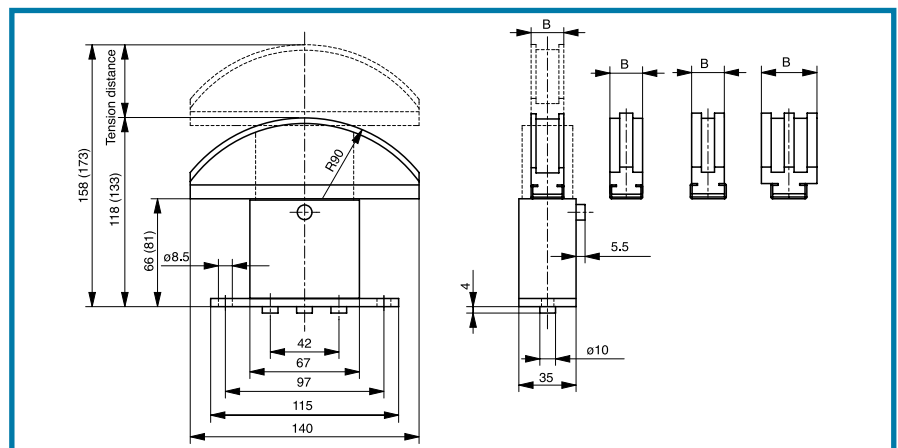
Attachment

- Installed underneath the chain

- Bore holes in the housing (for matching fastening brackets refer to pages 12-13)

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

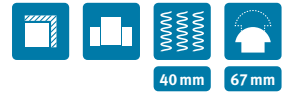
Special designs on request



Clamp dimensions (...) for long housing

SPANN-BOX® SIZE 1

with semi-circular profile



Applications

- For restricted installation spaces

Tensioning pressure

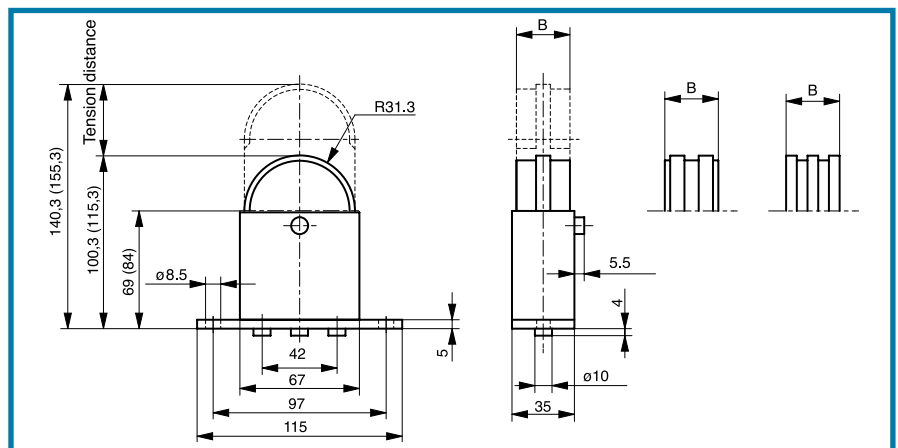
- Choice of light or heavy spring force

Attachment

- Easier assembly thanks to mounting bracket
- Bore holes in the housing (for matching fastening brackets refer to pages 12-13)

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

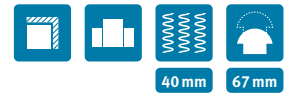
Special designs on request



Clamp dimensions (...) for long housing

SPANN-BOX® SIZE 1

with 180° return profile



If the Spann-Box has been properly fitted, the double length of the Spann-Box's tension distance can be used to compensate for chain extension. For more examples see page 8.

Tensioning pressure

- Heavy spring force

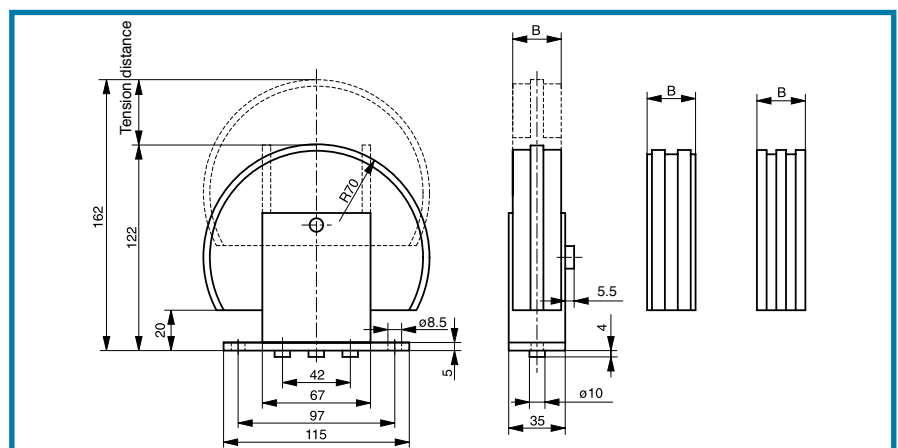
Attachment

- Easier assembly thanks to fastening bracket
- Bore holes in the housing (for matching fastening brackets refer to pages 12-13)



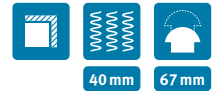
Chain no.		Chain dimension in inch	B	Article no. Long housing, Heavy tension force	Article no. Long housing, Heavy tension force, Stainless steel
ASA/JIS	DIN 8188				
35	06C-1	3/8" x 3/16"	30	291 010 051	292 010 051
40	08A-1	1/2" x 5/16"	30	291 010 052	292 010 052
50	10A-1	5/8" x 3/8"	30	291 010 053	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 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

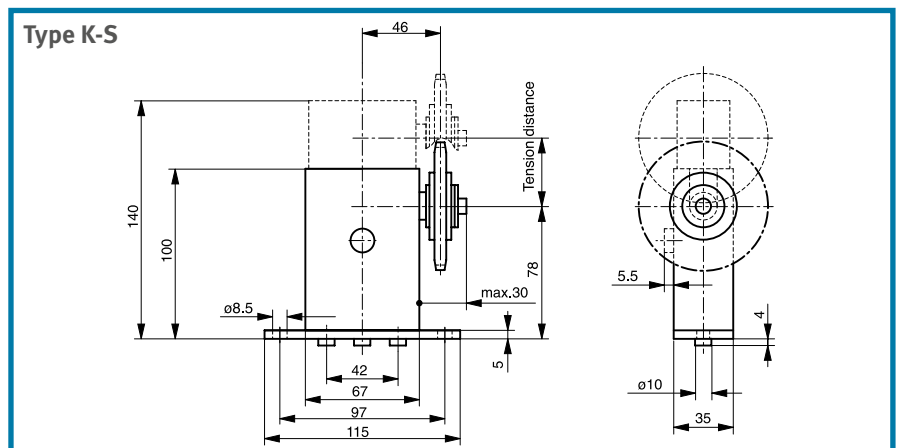
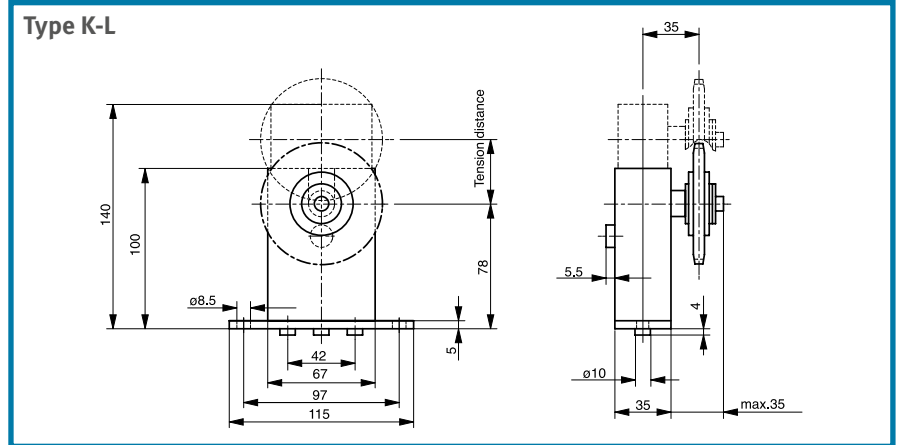
- Heavy spring force

Attachment

- Easier assembly thanks to mounting bracket
- Bore holes in the housing (for matching fastening brackets refer to pages 12-13)

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



SPANN-BOX® SIZE 2

Three tension pressure settings

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

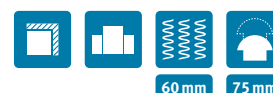
Reverse operation

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

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

SPANN-BOX® SIZE 2

with arc segment profile



Tensioning pressure

- Choice of light or heavy spring force

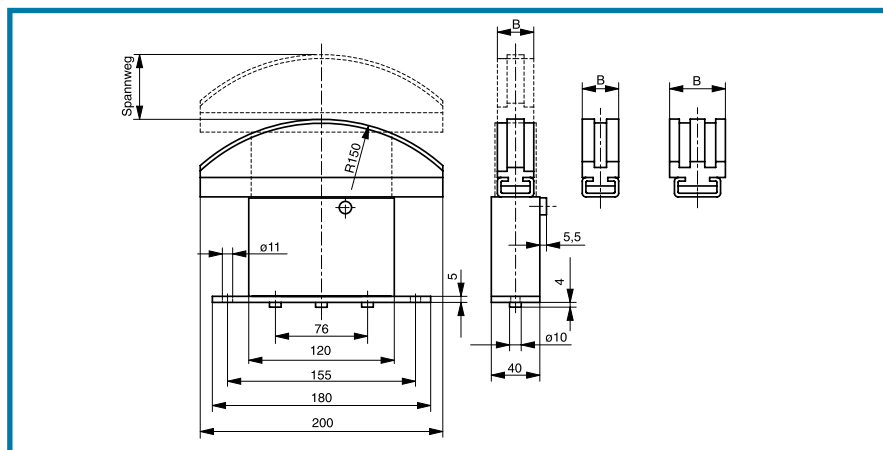
Attachment

- Easier assembly thanks to mounting bracket

- Bore holes in the housing (for matching fastening brackets refer to pages 12-13)

Chain no.		Chain dim. in inch	B	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	291 020 202	292 020 016	292 020 202
80	16A-1	1" x 5/8"	25	291 020 204	292 020 017	292 020 204
100	20A-1	1 1/4" x 3/4"	25	291 020 206	292 020 018	292 020 206
120	24A-1	1 1/2" x 1"	30	291 020 208	292 020 019	292 020 208
40-2	08A-2	1/2" x 5/16"	25	291 020 210	292 020 020	292 020 210
50-2	10A-2	5/8" x 3/8"	25	291 020 212	292 020 021	292 020 212
60-2	12A-2	3/4" x 1/2"	30	291 020 214	292 020 022	292 020 214
80-2	16A-2	1" x 5/8"	40	291 020 216	292 020 023	292 020 216
100-2	20A-2	1 1/4" x 3/4"	50	291 020 218	292 020 024	292 020 218
120-2	24A-2	1 1/2" x 1"	70	291 020 220	292 020 025	292 020 220
40-3	08A-3	1/2" x 5/16"	35	291 020 222	292 020 026	292 020 222
50-3	10A-3	5/8" x 3/8"	45	291 020 224	292 020 027	292 020 224
60-3	12A-3	3/4" x 1/2"	55	291 020 226	292 020 028	292 020 226
80-3	16A-3	1" x 5/8"	70	291 020 228	292 020 029	292 020 228
100-3	20A-3	1 1/4" x 3/4"	85	291 020 230	292 020 030	292 020 230

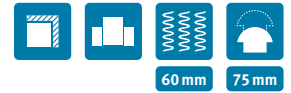
Special designs on request



Clamp dimensions (...) for long housing

SPANN-BOX® SIZE 2

with semi-circular profile



Applications

- For restricted installation spaces

Tensioning pressure

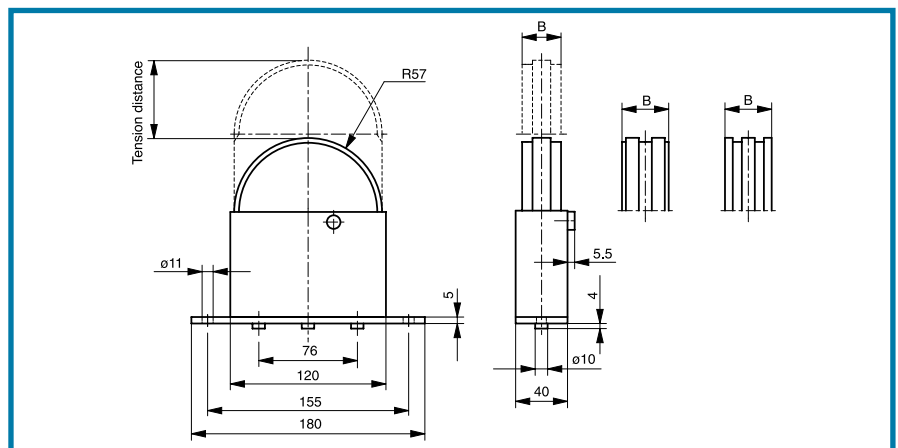
- Choice of light or heavy spring force

Attachment

- Easier assembly thanks to mounting bracket
- Bore holes in the housing (for matching fastening brackets refer to pages 12-13)

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

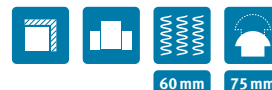
Special designs on request



Clamp dimensions (...) for long housing

SPANN-BOX® SIZE 2

with 180° return profile



With the appropriate installation, the double tension distance length can be used for chain elongation. Further installation examples see page 8.

Tensioning pressure

- Heavy spring force

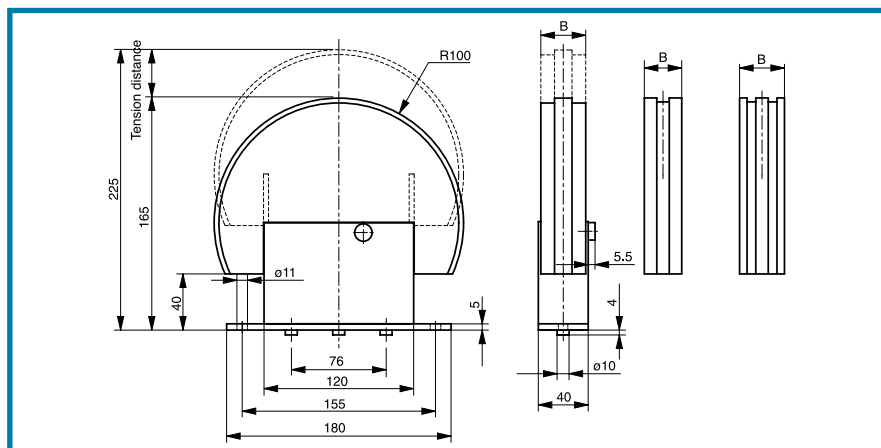
Attachment

- Easier assembly thanks to mounting bracket
- Bore holes in the housing (for matching fastening brackets refer to pages 12-13)



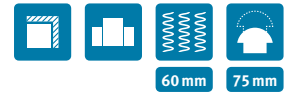
Chain no.		Chain dim. in inch	B	Article no. Long housing, Heavy tension force	Article no. Long housing, Heavy tension force, Stainless steel
ASA/JIS	DIN 8188				
60	12A-1	3/4" x 1/2"	33	291 020 045	292 020 045
80	16A-1	1" x 5/8"	33	291 020 046	292 020 046
100	20A-1	1 1/4" x 3/4"	33	291 020 047	292 020 047
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

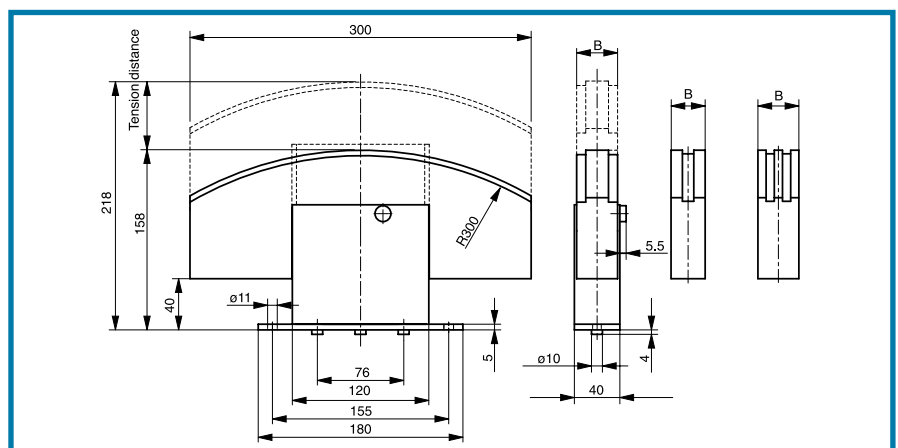
- Heavy spring force

Attachment

- Easier assembly thanks to mounting bracket
- Bore holes in the housing (for matching fastening brackets refer to pages 12-13)

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

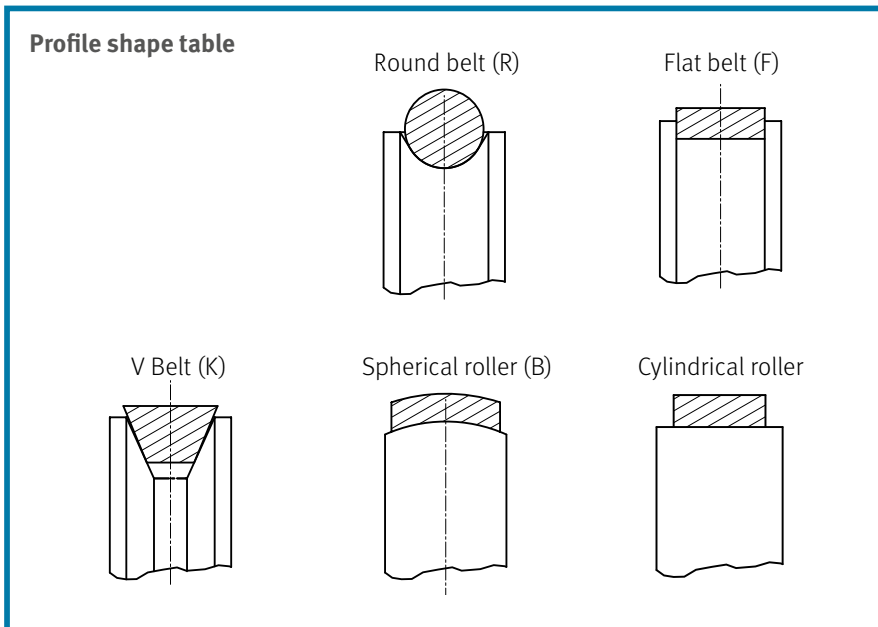
- Spann-Boy®
- Spann-Boy®TS
- Spann-Box® size 0
- Spann-Box® size 1

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 – 32 N	132 – 60 N	40 mm
Spann-Boy® TS with roller	1 released spring	58 – 32 N	132 – 60 N	40 mm
	2 released springs	190 – 96 N		40 mm
Spann-Box® size 1 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 – 32 N	132 – 60 N	40 mm
	2 released springs	116 – 64 N	264 – 120 N	40 mm
	3 released springs	174 – 96 N	396 – 180 N	40 mm



SPANN-BOY® TS AS BELT TENSIONER

with roller



Three tension pressure settings

Tension pressure

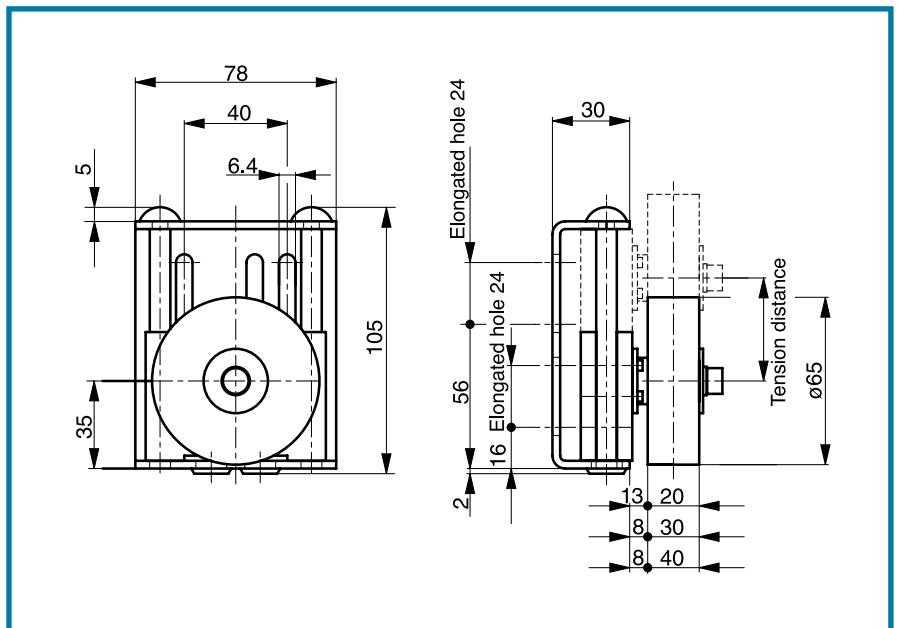
- Spann-Boy® TS has one light and one heavy pressure spring that can be released together or separately depending on the required tension pressure.

Attachment

- Bore holes in the housing (for matching fastening brackets refer to pages 12-13)

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

Special and stainless steel designs on request



SPANN-BOX® SIZE 0 AS BELT TENSIONER

with roller



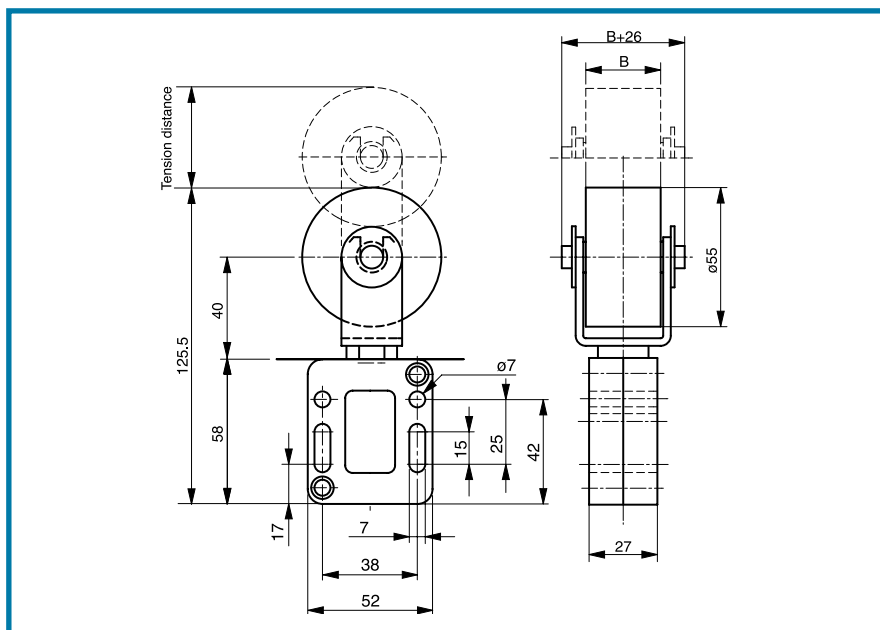
Design

- Corrosion-proof housing

Tensioning pressure

- Choice of light or heavy spring force

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



SPANN-BOX® SIZE 1 AS BELT TENSIONER

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

Tensioning pressure

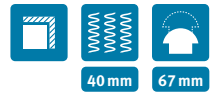
- Choice of light or heavy spring force

Attachment

- Bore holes in the housing (for matching fastening brackets refer to pages 12-13)

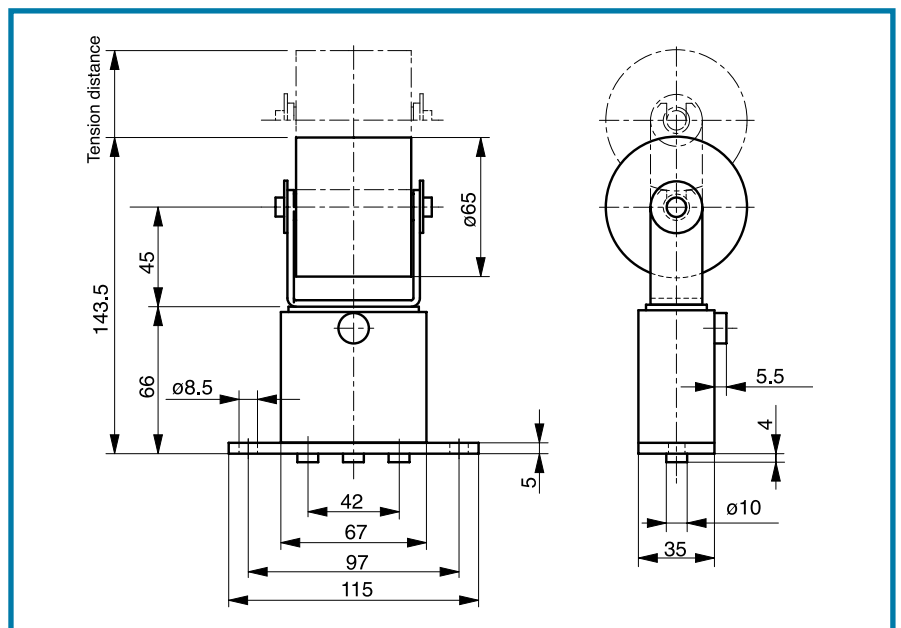
SPANN-BOX® SIZE 1

as belt tensioner with roller



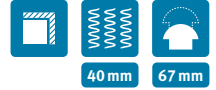
Roller width mm	Profile shape	Light tension force article no.	Heavy tension force article no.
53	Cylindrical	281 110 001	281 110 002
	Spherical	281 110 003	281 110 004
	Flat belt	281 110 005	281 110 006
	V-belt	281 110 007	281 110 008
	Round belt	281 110 009	281 110 010

Special and stainless steel designs on request



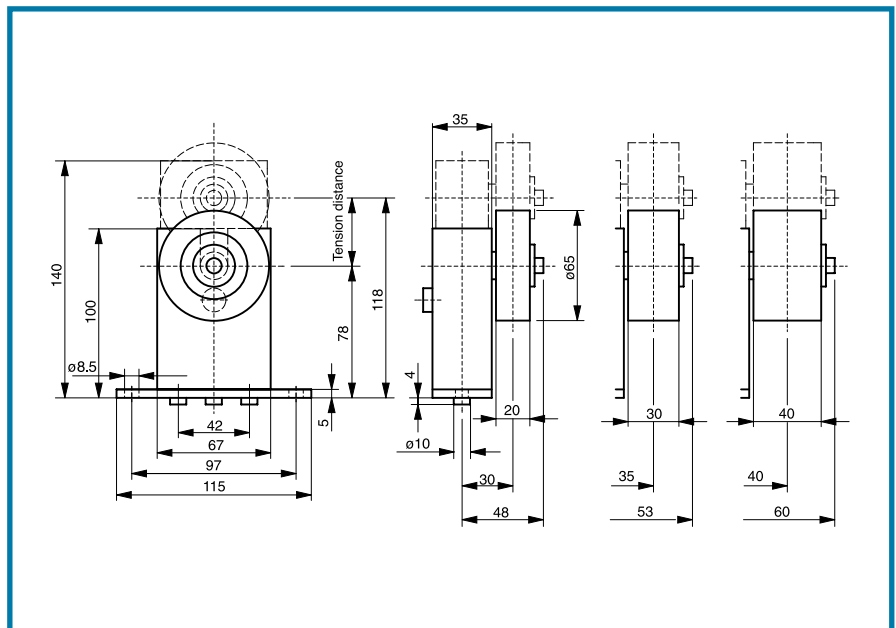
SPANN-BOX® SIZE 1 / TYPE SR-L

Tensioning roller on long side



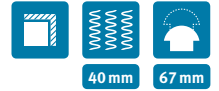
Roller width mm	Profile shape	Light tension force article no.	Heavy tension force article no.
20	Cylindrical	281 110 011	281 110 012
	Spherical	281 110 017	281 110 018
	Flat belt	281 110 023	281 110 024
	V-belt	281 110 029	281 110 030
	Round belt	281 110 035	281 110 036
30	Cylindrical	281 110 013	281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

Special and stainless steel designs on request



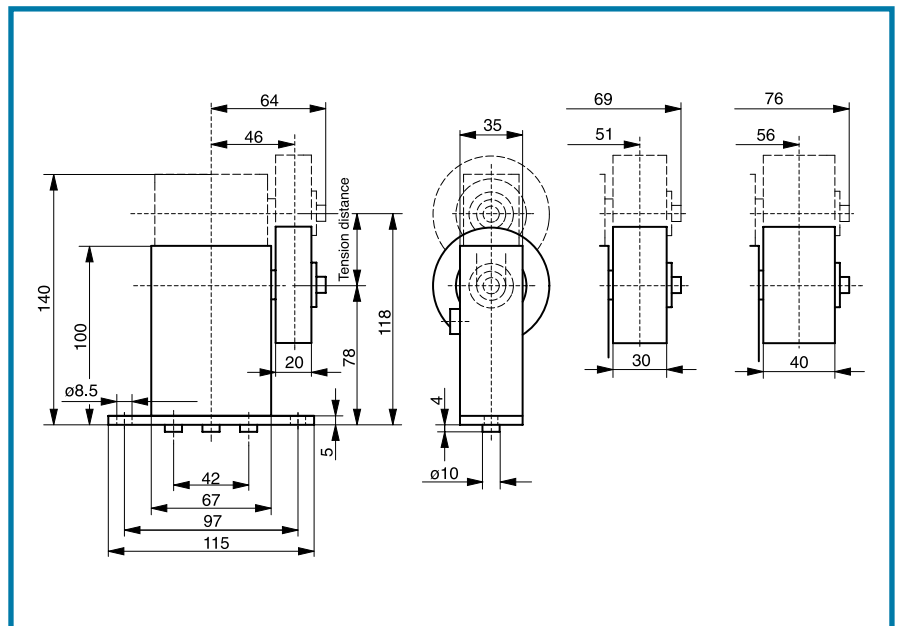
SPANN-BOX® SIZE 1 / TYPE SR-S

Tensioning roller on front



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

Special and stainless steel designs on request



SPECIAL TENSIONERS

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

A variety of influences

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

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

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

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

technik@murtfeldt.de

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



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



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



Spann-Box® size 30, with mechanical limit switch



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



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



Ω-tension station for compensation of extensive chain lengthening



Size 1 tension station with roller



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



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



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



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