SBT - SPRING RETURN BOLT TENSIONERS - IMPERIAL

SBT5-300B1

Imperial bolt size range from 1¼" to 4"

Maximum working pressure 1500 Bar

Spring assisted piston retraction

The SBT imperial range of hydraulic bolt tensioners, offers all of the features and benefits of our standard STS range (see main catalogue, pages 102 and 103), but with the added feature of spring assisted return hydraulic pistons. Designed primarily for topside operation, this additional spring return piston feature will reduce bolt tensioning cycle times considerably, as the tensioner piston will automatically retract immediately after the hydraulic pressure is released. The range currently comprises of 22 models, suitable for standard size bolts from 1¼" to 4" diameter.

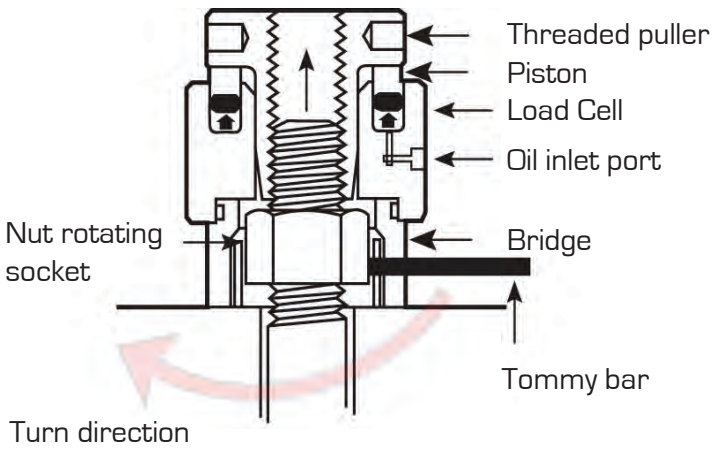
The versatility of the SBT bolt tensioner range, is identical to our standard STS range, with a variety of interchangeable threaded pullers and nut rotating sockets available, either as bolt size conversion kits or individual parts. Further details on SBT conversion kits are available on request. All SBT bolt tensioners are designed and manufactured with a wear coated piston, maximum stroke indicator, self energising high pressure seals, dual quick connect couplers, for easy multiple tensioner hook up and operate at pressures up to 1500 Bar maximum.

Suitable hydraulic pumps and high pressure hydraulic hose assemblies for use with SBT tensioners are detailed on pages 115 & 116 of our main product catalogue.

- Nitrocarburised piston
- Maximum piston stroke indicator
- Spring assisted return
- User friendly operating and maintenance procedure

Don't forget to order your tommy bars when purchasing Hi-Force hydraulic tensioners. We recommend the purchase of one tommy bar for every four hydraulic tensioners.

Tensioner range	Tommy bar
SBT2	TTB08
SBT3	TTB10
SBT4	TTB10
SBT5	TTB14
SBT6	TTB14

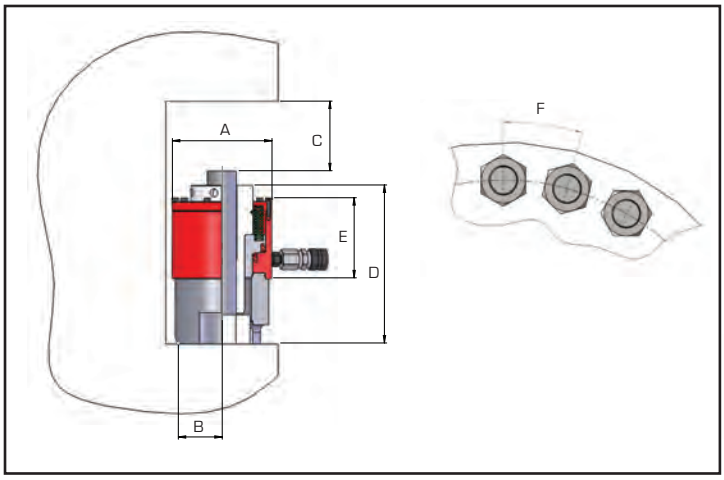


SBT - SPRING RETURN BOLT TENSIONERS - IMPERIAL

SBT5-300B1

- Bolt sizes from 1¼" to 4"
- Modular design for optimum versatility
- Dual quick connect couplings for easy connection

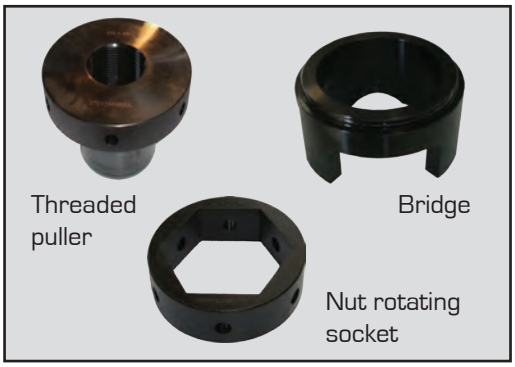
Conversion kits for SBT imperial range of bolt tensioners can be found on pages 96 and 97 of this catalogue.



Model number	Bolt thread size	Threads per inch	Capacity kN	Capacity tonnes	Effective area cm²	Stroke mm	Weight kg	Dimensions in mm A	B	C min	D	E	F
SBT2-125B1	1 ¼"	8	457	46.6	30.5	15	4.0	102	39	140	164	91	74
SBT2-137B1	1 ⅜"	8	457	46.6	30.5	15	4.0	102	39	140	164	91	77
SBT2-150B1	1 ½"	8	457	46.6	30.5	15	4.0	102	39	140	164	91	80
SBT3-162B1	1 ⅝"	8	822	83.8	54.8	15	6.7	137	47	158	188	94	92
SBT3-175B1	1 ¾"	8	822	83.8	54.8	15	6.7	137	47	158	188	94	93
SBT3-175B2	1 ¾"	8	822	83.8	54.8	15	6.7	137	50	156	193	94	104
SBT3-187B1	1 ⅞"	8	822	83.8	54.8	15	6.7	137	47	158	188	94	97
SBT3-187B2	1 ⅞"	8	822	83.8	54.8	15	6.7	137	50	156	193	94	104
SBT3-200B2	2"	8	822	83.8	54.8	15	6.7	137	50	156	193	94	104
SBT4-187B1	1 ⅞"	8	1264	128.9	84.3	15	11.0	167	50	167	197	97	104
SBT4-200B1	2"	8	1264	128.9	84.3	15	11.0	167	50	167	197	97	104
SBT4-200B2	2"	8	1264	128.9	84.3	15	11.0	167	62	177	213	97	106
SBT4-225B2	2¼"	8	1264	128.9	84.3	15	11.0	167	62	177	213	97	121
SBT4-250B2	2 ½"	8	1264	128.9	84.3	15	11.0	167	62	177	213	97	127
SBT5-250B1	2 ½"	8	1833	186.9	122.2	15	16.5	209	73	187	229	102	134
SBT5-275B1	2¾"	8	1833	186.9	122.2	15	16.5	209	73	187	229	102	140
SBT5-300B1	3"	8	1833	186.9	122.2	15	16.5	209	73	187	229	102	147
SBT6-300B1	3"	8	2649	270.0	176.6	15	24.0	257	84	219	254	102	161
SBT6-325B1	3¼"	8	2649	270.0	176.6	15	24.0	257	84	219	254	102	167
SBT6-350B1	3 ½"	8	2649	270.0	176.6	15	24.0	257	84	219	254	102	172
SBT6-375B3	3¾"	8	2649	270.0	176.6	15	24.0	257	105	258	295	102	191
SBT6-400B3	4"	8	2649	270.0	176.6	15	24.0	257	105	258	295	102	196

Note: Weight is for load cell and bridge only. Total weight of complete assembly depends on size of puller and nut rotating socket selected. Tommy bars are not included. Hi-Force recommends one tommy bar for every four tensioners, please see page 94 for ordering code.

SBT - BOLT TENSIONER COMPONENTS - IMPERIAL



Use with SBT Imperial Spring Return Tensioners

Modular design

Offers greater versatility

The modular design of Hi-Force SBT series spring return hydraulic bolt tensioners enables the user to adapt an existing SBT tensioner assembly to another thread size, within the tensioner range, by purchasing individual components or a simple conversion kit. By changing the required components (see drawing and table on the next page), Hi-Force SBT bolt tensioners offer the user even greater versatility at an economical cost.

Tensioner models SBT3, SBT4 and SBT6 are available with two different bridge sizes, hence always check whether or not the required thread change is possible within the bridge size (please follow coloured lines in below drawing). Make sure that all components match up. DO NOT mix components from different colour lines. A large bridge will require the usage of a long threaded puller to ensure sufficient thread engagement, as well as a large size nut rotating socket.

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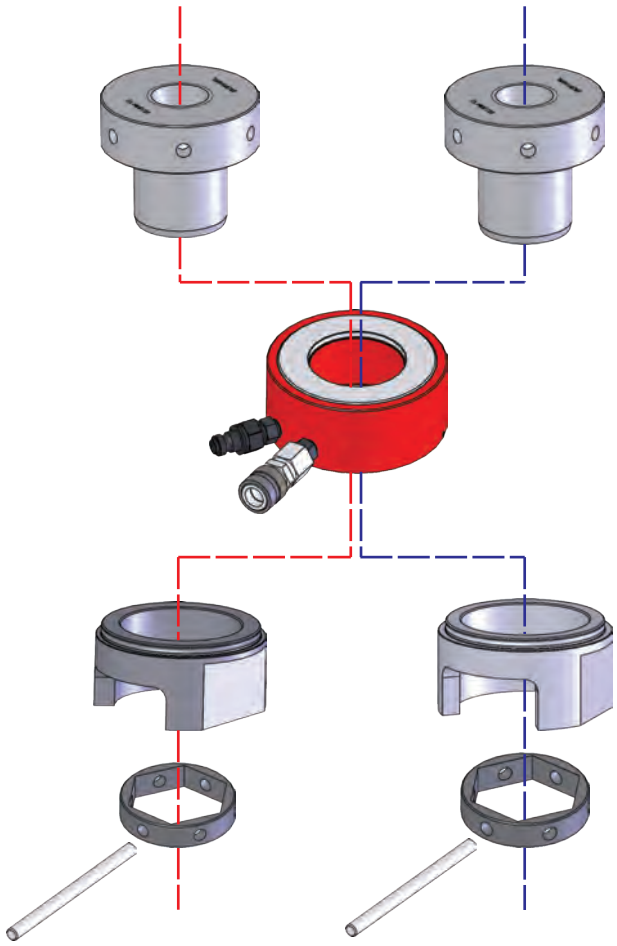
Changes within the same colour code DO NOT require a bridge change however, changes from the red to blue line (or vice versa) MUST include a relative bridge also.

The next page will provide part numbers for all the tensioner components, for which the same colour coding is used, i.e. red represents the smaller bolt sizes within the tensioner range, comprising of short threaded adapter, load cell, small bridge, small nut rotating socket and tommy bar. The blue line represents the larger bolt sizes within the tensioner range, in which case the tensioner is built from the long threaded adaptor, load cell, large bridge, large nut rotating socket and tommy bar.

Don't forget to order your tommy bars when purchasing Hi-Force Bolt tensioners, Hi-Force recommends the purchase of one tommy bar for every four tensioners.

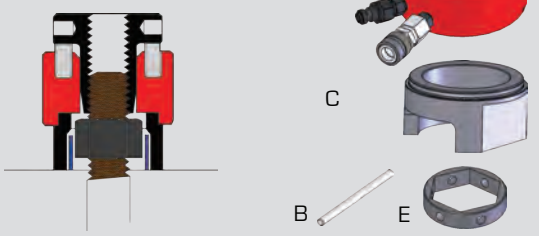


Note: SBT2 & SBT5 models both have only one tensioner bridge available.

SBT - BOLT TENSIONER COMPONENTS - IMPERIAL

Principle of SBT spring return bolt tensioner

A = Load cell
B = Tommy bar
C = Bridge
D = Threaded puller
E = Nut rotating socket



This table provides all the information to select the components to modify your existing tensioner to suit another bolt size. Changes are only possible within the same tensioner size. It is essential that all the components or selected conversion kits have the same suffix as the target tensioner size (i.e. B1, B2 or B3).

Examples:
To change from SBT3-162B1 to SBT3-187B1 would require conversion kit CKS3-187B1 only.
To change from SBT3-187B1 to SBT3-200B2 would require conversion kit CKS3-200B2 and bridge STS3-B2.

- Denotes smaller bridge size within tensioner range
- Denotes larger bridge size within tensioner range
- Denotes one bridge size within tensioner range

Complete tensioner		Individual components					
		A	B	C	Available as conversion kit		D & E
Model number	Bolt Thread	Load cell	Tommy bar	Bridge	D - Threaded puller	E - Rotating socket	Complete conversion kit
For tensioner range SBT2:							
SBT2-125B1	1 1/4"	STS2-LC	TTB08	STS1-B1	TPS2-125B1	RS2-51B1	CKS2-125B1
SBT2-137B1	1 3/8"				TPS2-137B1	RS2-56B1	CKS2-137B1
SBT2-150B1	1 1/2"				TPS2-150B1	RS2-60B1	CKS2-150B1
For tensioner range SBT3:							
SBT3-162B1	1 5/8"	STS3-LC	TTB10	STS3-B1	TPS3-162B1	RS3-65B1	CKS3-162B1
SBT3-175B1	1 3/4"				TPS3-175B1	RS3-70B1	CKS3-175B1
SBT3-175B2	1 3/4"				TPS3-187B1	RS3-75B1	CKS3-187B1
SBT3-187B1	1 7/8"			STS3-B2	TPS3-175B2	RS3-70B2	CKS3-175B2
SBT3-187B2	1 7/8"				TPS3-187B2	RS3-75B2	CKS3-187B2
SBT3-200B2	2"				TPS3-200B2	RS3-80B2	CKS3-200B2
For tensioner range SBT4:							
SBT4-187B1	1 7/8"	STS4-LC	TTB10	STS4-B1	TPS4-187B1	RS4-75B1	CKS4-187B1
SBT4-200B1	2"				TPS4-200B1	RS4-80B1	CKS4-200B1
SBT4-200B2	2"			STS4-B2	TPS5-200B2	RS4-80B2	CKS4-200B2
SBT4-225B2	2 1/4"				TPS5-225B2	RS4-90B2	CKS4-225B2
SBT4-250B2	2 1/2"				TPS5-250B2	RS4-98B2	CKS4-250B2
For tensioner range SBT5:							
SBT5-250B1	2 1/2"	STS5-LC	TTB14	STS5-B1	TP5-250B1	RS5-100B1	CKS5-250B1
SBT5-275B1	2 3/4"				TP5-275B1	RS5-108B1	CKS5-275B1
SBT5-300B1	3"				TP5-300B1	RS5-118B1	CKS5-300B1
For tensioner range SBT6:							
SBT6-300B1	3"	STS5-LC	TTB14	STS6-B1	TPS6-300B1	RS6-118B1	CKS6-300B1
SBT6-325B1	3 1/4"				TPS6-325B1	RS6-127B1	CKS6-325B1
SBT6-350B1	3 1/2"				TPS6-350B1	RS6-137B1	CKS6-350B1
SBT6-375B3	3 3/4"			STS6-B3	TPS6-375B3	RS6-146B3	CKS6-375B3
SBT6-400B3	4"				TPS6-400B3	RS6-156B3	CKS6-400B3

Note: Remember to check bridge compatibility for SBT3, SBT4 and SBT6 models when ordering components.

SBT - SPRING RETURN BOLT TENSIONERS - METRIC

SBT5-M76B1

Metric bolt size range from M30 to M100

Maximum working pressure 1500 Bar

Spring assisted piston retraction

The SBT metric range of hydraulic bolt tensioners, offers all of the features and benefits of our standard STS range (see main catalogue, pages 104 and 105), but with the added feature of spring assisted return hydraulic pistons. Designed primarily for topside operation, this additional spring return piston feature will reduce bolt tensioning cycle times considerably, as the tensioner piston will automatically retract immediately after the hydraulic pressure is released. The range currently comprises of 26 models, suitable for standard size bolts from M30 to M100 diameter.

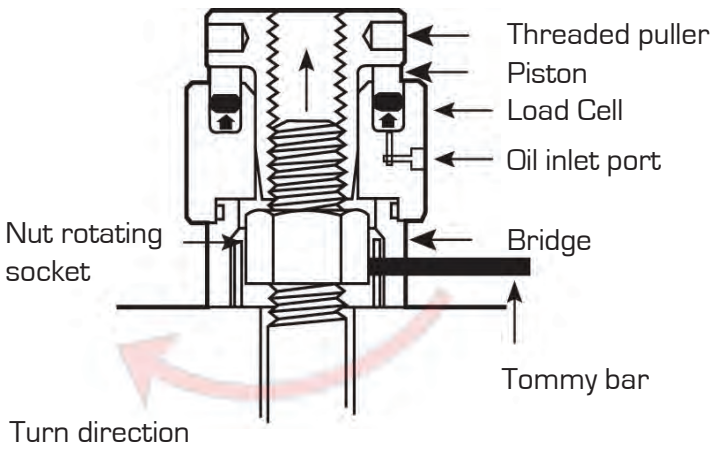
The versatility of the SBT bolt tensioner range, is identical to our standard STS range, with a variety of inter-changeable threaded pullers and nut rotating sockets available, either as bolt size conversion kits or individual parts. Further details on SBT conversion kits are available on request. All SBT bolt tensioners are designed and manufactured with a wear coated piston, maximum stroke indicator, self energising high pressure seals, dual quick connect couplers, for easy multiple tensioner hook up and operate at pressures up to 1500 Bar maximum.

Suitable hydraulic pumps and high pressure hydraulic hose assemblies for use with SBT tensioners are detailed on pages 115 & 116 of our main product catalogue.

- Nitrocarburised piston
- Maximum piston stroke indicator
- Spring assisted return
- User friendly operating and maintenance procedure

Don't forget to order your tommy bars when purchasing Hi-Force hydraulic tensioners. We recommend the purchase of one tommy bar for every four hydraulic tensioners.

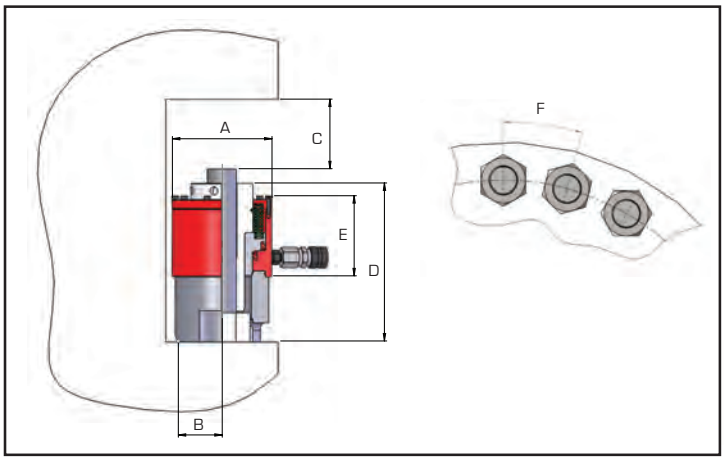
Tensioner range	Tommy bar
SBT2	TTB08
SBT3	TTB10
SBT4	TTB10
SBT5	TTB14
SBT6	TTB14



SBT - SPRING RETURN BOLT TENSIONERS - METRIC

SBT5-M76B1

- Bolt sizes from M30 to M100
- Modular design for optimum versatility
- Dual quick connect couplings for easy connection

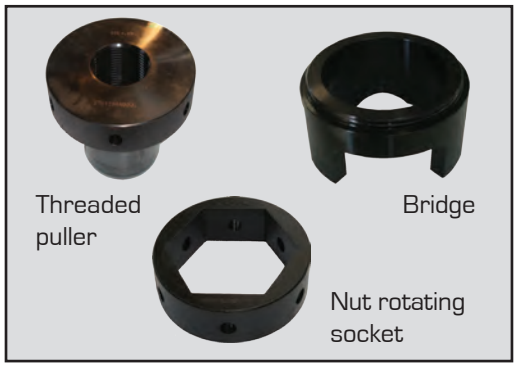


Conversion kits for SBT metric range of bolt tensioners can be found on pages 100 and 101 of this catalogue.

Model number	Bolt thread size	Threads per inch	Capacity kN	Capacity tonnes	Effective area cm²	Stroke mm	Weight kg	Dimensions in mm A	B	C min	D	E	F
SBT2-M30B1	M30	3.5	457	46.6	30.5	15	4.0	102	39	140	164	91	71
SBT2-M33B1	M33	3.5	457	46.6	30.5	15	4.0	102	39	140	164	91	74
SBT2-M36B1	M36	4	457	46.6	30.5	15	4.0	102	39	140	164	91	77
SBT2-M39B1	M39	4	457	46.6	30.5	15	4.0	102	39	140	164	91	80
SBT3-M42B1	M42	4.5	822	83.8	54.8	15	6.7	137	47	158	188	94	91
SBT3-M45B1	M45	4.5	822	83.8	54.8	15	6.7	137	47	158	188	94	94
SBT3-M45B2	M45	4.5	822	83.8	54.8	15	6.7	137	50	156	193	94	105
SBT3-M48B1	M48	5	822	83.8	54.8	15	6.7	137	47	158	188	94	97
SBT3-M48B2	M48	5	822	83.8	54.8	15	6.7	137	50	156	193	94	105
SBT3-M52B2	M52	5	822	83.8	54.8	15	6.7	137	50	156	193	94	105
SBT4-M48B1	M48	5	1264	128.9	84.3	15	11.0	167	50	167	197	97	105
SBT4-M52B1	M52	5	1264	128.9	84.3	15	11.0	167	50	167	197	97	108
SBT4-M52B2	M52	5	1264	128.9	84.3	15	11.0	167	62	177	213	97	120
SBT4-M56B2	M56	5.5	1264	128.9	84.3	15	11.0	167	62	177	213	97	120
SBT4-M60B2	M60	5.5	1264	128.9	84.3	15	11.0	167	62	177	213	97	124
SBT4-M64B2	M64	6	1264	128.9	84.3	15	11.0	167	62	177	213	97	126
SBT5-M64B1	M64	6	1833	186.9	122.2	15	16.5	209	73	187	229	102	134
SBT5-M68B1	M68	6	1833	186.9	122.2	15	16.5	209	73	187	229	102	136
SBT5-M72B1	M72	6	1833	186.9	122.2	15	16.5	209	73	187	229	102	139
SBT5-M76B1	M76	6	1833	186.9	122.2	15	16.5	209	73	187	229	102	142
SBT6-M76B1	M76	6	2649	270.0	176.6	15	24.0	257	84	219	254	102	158
SBT6-M80B1	M80	6	2649	270.0	176.6	15	24.0	257	84	219	254	102	160
SBT6-M85B1	M85	6	2649	270.0	176.6	15	24.0	257	84	219	254	102	162
SBT6-M90B1	M90	6	2649	270.0	176.6	15	24.0	257	84	219	254	102	170
SBT6-M95B3	M95	6	2649	270.0	176.6	15	24.0	257	105	258	295	102	184
SBT6-M100B3	M100	6	2649	270.0	176.6	15	24.0	257	105	258	295	102	190

Note: Weight is for load cell and bridge only. Total weight of complete assembly depends on size of puller and nut rotating socket selected. Tommy bars are not included. Hi-Force recommends one tommy bar for every four tensioners, please see page 101 for ordering code.

SBT - BOLT TENSIONER COMPONENTS - METRIC



- Cost saving option
- Easily fitted to existing tensioner assembly
- Offers greater versatility

Similar to the imperial tensioner components (pages 96 & 97), the Hi-Force metric spring return hydraulic bolt tensioners are also modular in design and can be adapted to another thread size, within the tensioner range, by purchasing individual components or a simple conversion kit. By changing the required components (see drawing and table on the next page), Hi-Force SBT spring return bolt tensioners offer the user even greater versatility at an economical cost.

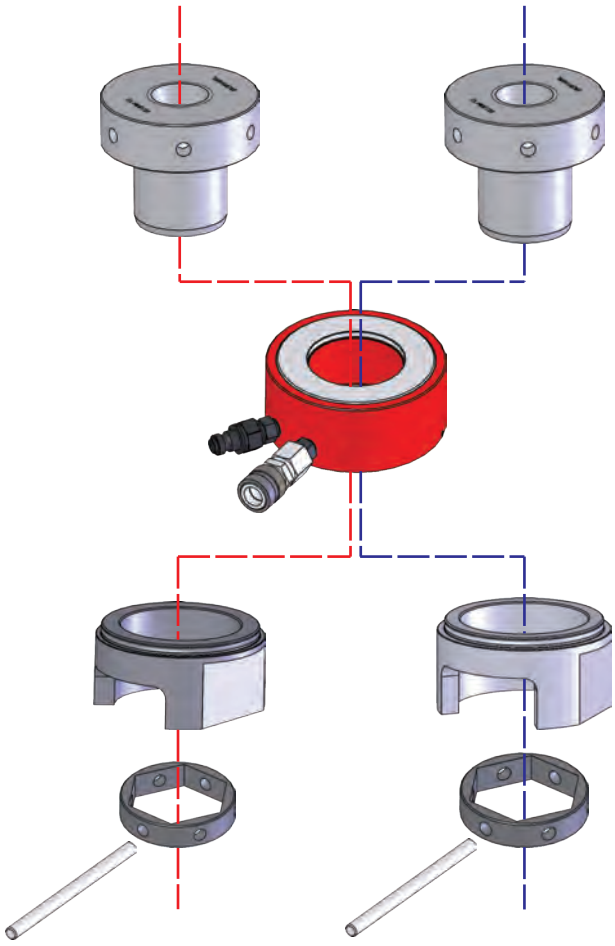
Tensioner models SBT3, SBT4 & SBT6 are available with two different bridge sizes, hence always check whether or not the required thread change is possible within the bridge size (please follow coloured lines in below drawing). Make sure that all components match up. DO NOT mix components from different colour lines. A large bridge will require the usage of a long threaded puller to ensure sufficient thread engagement, as well as a large size nut rotating socket.

G

Changes within the same colour code DO NOT require a bridge change however, changes from the red to blue line (or vice versa) MUST include a relative bridge also.

The next page will provide part numbers for all the tensioner components, for which the same colour coding is used, i.e. red represents the smaller bolt sizes within the tensioner range, comprising of short threaded adapter, load cell, small bridge, small nut rotating socket and tommy bar. The blue line represents the larger bolt sizes within the tensioner range, in which case the tensioner is built from the long threaded adaptor, load cell, large bridge, large nut rotating socket and tommy bar.

Don't forget to order your tommy bars when purchasing Hi-Force Bolt tensioners, Hi-Force recommends the purchase of one tommy bar for every four tensioners.

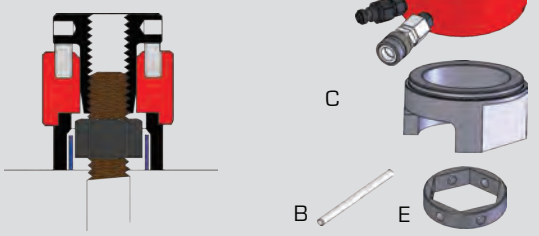


Note: SBT2 & SBT5 models both have only one tensioner bridge available.

SBT - BOLT TENSIONER COMPONENTS - METRIC

Principle of SBT spring return bolt tensioner

A = Load cell
B = Tommy bar
C = Bridge
D = Threaded puller
E = Nut rotating socket



This table provides all the information to select the components to modify your existing tensioner to suit another bolt size. Changes are only possible within the same tensioner size. It is essential that all the components or selected conversion kits have the same suffix as the target tensioner size (i.e. B1, B2 or B3).

Examples:
To change from SBT3-M42B1 to SBT3-M48B1 would require conversion kit CKS3-M48B1 only.
To change from SBT3-M48B1 to SBT3-M52B2 would require conversion kit CKS3-M52B2 and bridge STS3-B2.

- Denotes smaller bridge size within tensioner range
- Denotes larger bridge size within tensioner range
- Denotes one bridge size within tensioner range

Complete tensioner		Individual components					D & E
Model number	Bolt Thread	A Load cell	B Tommy bar	C Bridge	Available as conversion kit → D - Threaded puller	E - Rotating socket	Complete conversion kit
For tensioner range SBT2:							
SBT2-M30B1	M30	STS2-LC	TTB08	STS1-B1	TPS2-M30B1	RS2-46B1	CKS2-M30B1
SBT2-M33B1	M33				TPS2-M33B1	RS2-51B1	CKS2-M33B1
SBT2-M36B1	M36				TPS2-M36B1	RS2-56B1	CKS2-M36B1
SBT2-M39B1	M39				TPS2-M39B1	RS2-60B1	CKS2-M39B1
For tensioner range SBT3:							
SBT3-M42B1	M42	STS3-LC	TTB10	STS3-B1	TPS3-M42B1	RS3-65B1	CKS3-M42B1
SBT3-M45B1	M45				TPS3-M45B1	RS3-70B1	CKS3-M45B1
SBT3-M45B2	M45				TPS3-M48B1	RS3-75B1	CKS3-M48B1
SBT3-M48B1	M48			STS3-B2	TPS3-M45B2	RS3-70B2	CKS3-M45B2
SBT3-M48B2	M48				TPS3-M48B2	RS3-75B2	CKS3-M48B2
SBT3-M52B2	M52				TPS3-M52B2	RS3-80B2	CKS3-M52B2
For tensioner range SBT4:							
SBT4-M48B1	M48	STS4-LC	TTB10	STS4-B1	TPS4-M48B1	RS4-75B1	CKS4-M48B1
SBT4-M52B1	M52				TPS4-M52B1	RS4-80B1	CKS4-M52B1
SBT4-M52B2	M52			STS4-B2	TPS4-M52B2	RS4-80B2	CKS4-M52B2
SBT4-M56B2	M56				TPS4-M56B2	RS4-85B2	CKS4-M56B2
SBT4-M60B2	M60				TPS4-M60B2	RS4-90B2	CKS4-M60B2
SBT4-M64B2	M64				TPS4-M64B2	RS4-95B2	CKS4-M64B2
For tensioner range SBT5:							
SBT5-M64B1	M64	STS5-LC	TTB14	STS5-B1	TP5-M64B1	RS5-95B1	CKS5-M64B1
SBT5-M68B1	M68				TP5-M68B1	RS5-100B1	CKS5-M68B1
SBT5-M72B1	M72				TP5-M72B1	RS5-105B1	CKS5-M72B1
SBT5-M76B1	M76				TP5-M76B1	RS5-110B1	CKS5-M76B1
For tensioner range SBT6:							
SBT6-M76B1	M76	STS5-LC	TTB14	STS6-B1	TPS6-M76B1	RS6-110B1	CKS6-M76B1
SBT6-M80B1	M80				TPS6-M80B1	RS6-115B1	CKS6-M80B1
SBT6-M85B1	M85				TPS6-M85B1	RS6-120B1	CKS6-M85B1
SBT6-M90B1	M90				TPS6-M90B1	RS6-130B1	CKS6-M90B1
SBT6-M95B3	M95			STS6-B3	TPS6-M95B3	RS6-135B3	CKS6-M95B3
SBT6-M100B3	M100				TPS6-M100B3	RS6-146B3	CKS6-M100B3

Note: Remember to check bridge compatibility for SBT3, SBT4 and SBT6 models when ordering components.