

### Spring Brakes (S-cam), diaphragm/diaphragm

#### Function

This range of **Spring Brakes** is used on axles fitted with drum brakes to provide the service and parking brake functions.

The internal wind off mechanism allows the parking brake force to be removed if air pressure is no longer present.

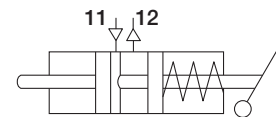
See PD-413-000, Document No. Y115384 for the full range of Spring Brake Actuators for Trailers.



#### Technical Features

Maximum operating pressure:	8.5 bar
Release pressure:	See table
Operating temperature range:	-40 °C to +80 °C
Push rod stroke:	See table
Port threads:	M16x1.5
Release device:	Mechanical
Weight:	See table

#### Standard Symbol as DIN ISO 1219



#### Range Overview

Part No.	Type No.	Size		Stroke [mm]	TÜV Inspection Report	Weight approx. [kg]
		Service Brake [Type]	Parking Brake [Type]			
K031733 <sup>1)</sup>	BX7408	20	30	76	Service Brake 361-0134-05-FBKV Spring Brake 361-0135-05-FBKV	8,8
K031734 <sup>1)</sup>	BX7409			63,5		9,5
K031748 <sup>1)</sup>	BX7514			76		9,7
K037970 <sup>1)</sup>	BX7515	24	24	63,5		8,2
K031738 <sup>1)</sup>	BX7516			76		9,5
K038536 <sup>1)</sup>	BX7518			30		30
K031739 <sup>1)2)</sup>	BX7523	63,5	9,6			
K031740 <sup>1)</sup>	BX7525	30	30			
K031744 <sup>1)</sup>	BX7611			63,5		
K031745 <sup>1)</sup>	BX7612					

1) The part number will carry a suffix, "N##" which defines the packaging requirements of different market sectors, e.g. N00, N50. Example: K031740N00 - is supplied without packaging.

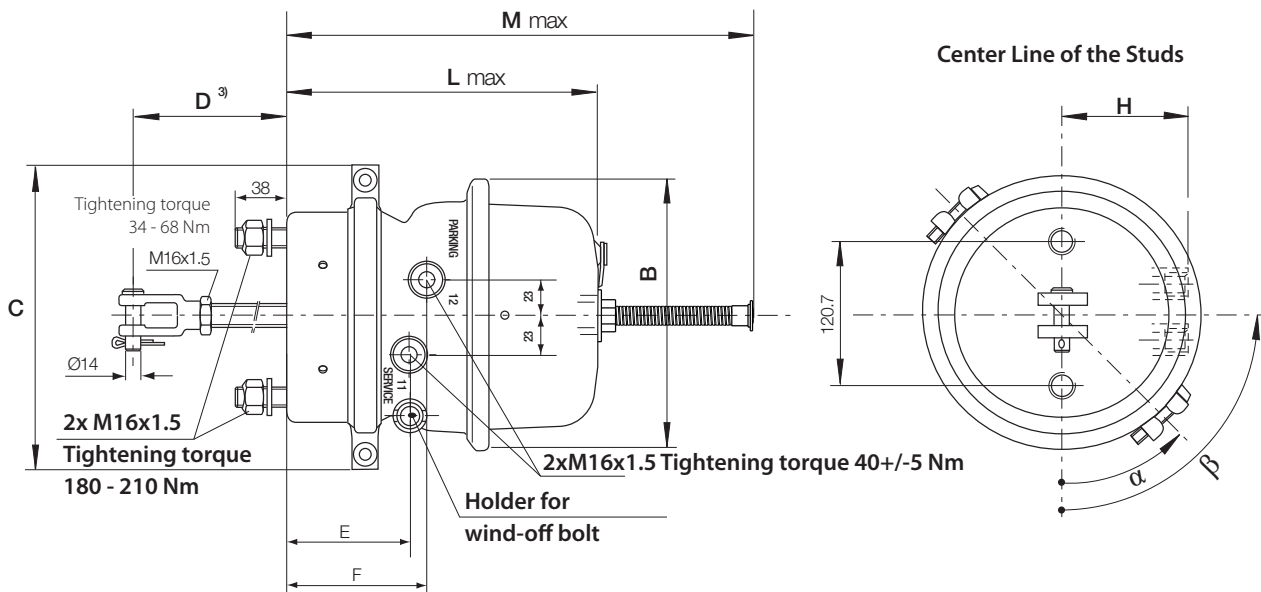
2) Replaces BX7515  
Other versions are available.

#### Service Parts:

K037837	yoke (round)
K040394K50	release tool
K050194K50	closure cap

### Spring Brakes (S-cam), diaphragm/diaphragm

#### Dimensions



Part No.	Type No.	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	H [mm]	L max. [mm]	M max. [mm]	$\alpha$ [°]	$\beta$ [°]
K031733 <sup>1)</sup>	BX7408	206	239	227	100	125,2	94	262	392	45	270 0
K031734 <sup>1)</sup>	BX7409										
K031748 <sup>1)</sup>	BX7514		234	250	90	110	91	255	364	0	
K037970 <sup>1)</sup>	BX7515				100	125,2	94	262	392	45	
K031738 <sup>1)</sup>	BX7516	187	239	280	90,4	105,7	89	236	338,7	0	270
K038536 <sup>1)</sup>	BX7518	206									
K031739 <sup>1)2)</sup>	BX7523		239	250	100	125,2	94	262	392	45	
K031740 <sup>1)</sup>	BX7525	254									
K031744 <sup>1)</sup>	BX7611		227	227	227	100	100	240	349	0	
K031745 <sup>1)</sup>	BX7612										

**Note:**

when spring brakes are replaced, ensure that the units on both sides of the axle have the same stroke capability.

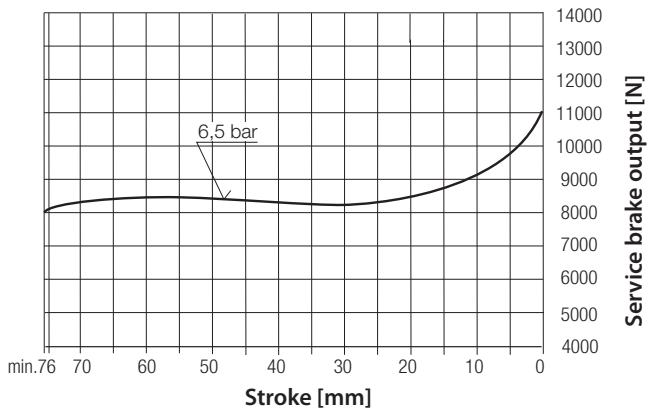
1) The part number will carry a suffix, "N##" which defines the packaging requirements of different market sectors, e.g. N00, N50. Example: K031733N00 - is supplied without packaging.  
 2) Replaces BX7515  
 3) Delivery or driving condition

### Spring Brakes (S-cam), diaphragm/diaphragm

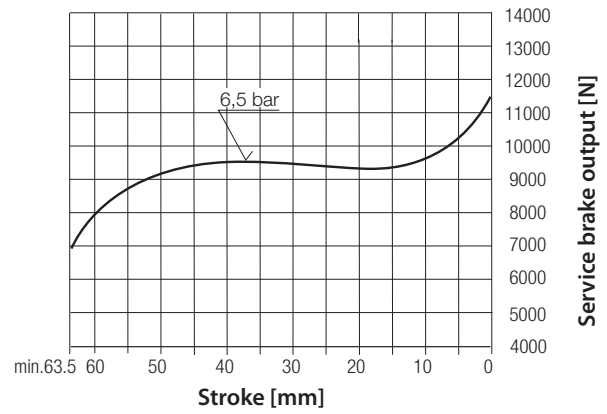
#### Performance Charts

#### Service Brake

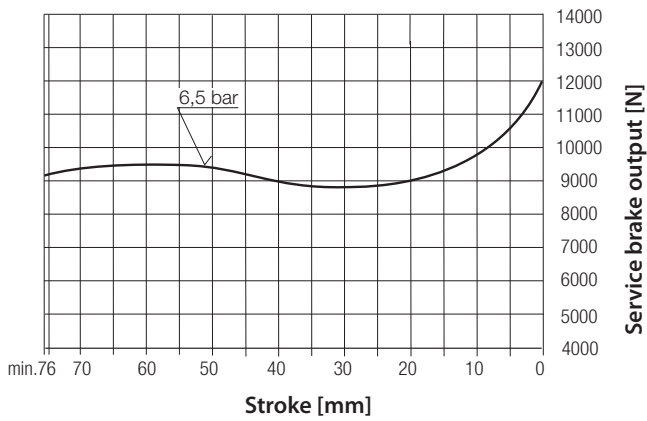
**BX7408, BX7409**



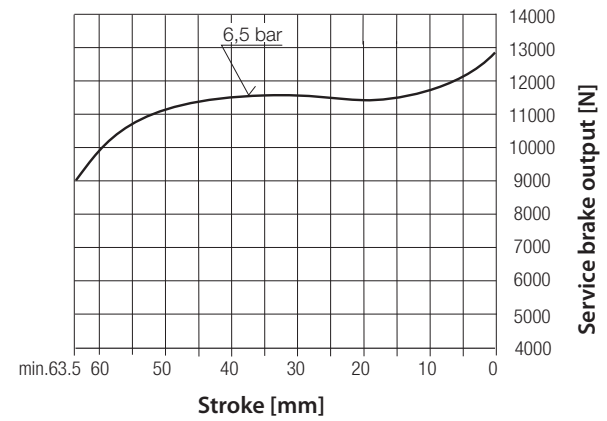
**BX7514, BX7516, BX7518**



**BX7515, BX7523, BX7525**



**BX7611, BX7612**

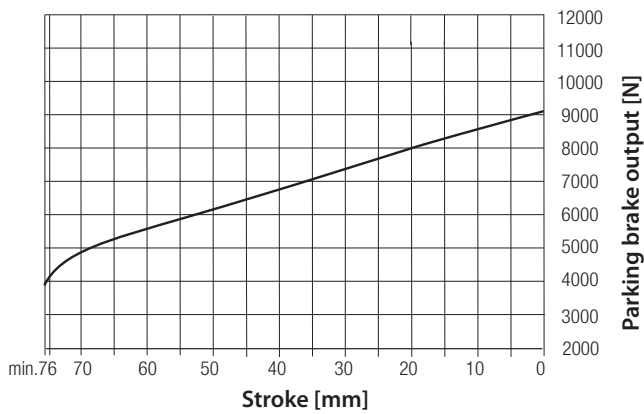


### Spring Brakes (S-cam), diaphragm/diaphragm

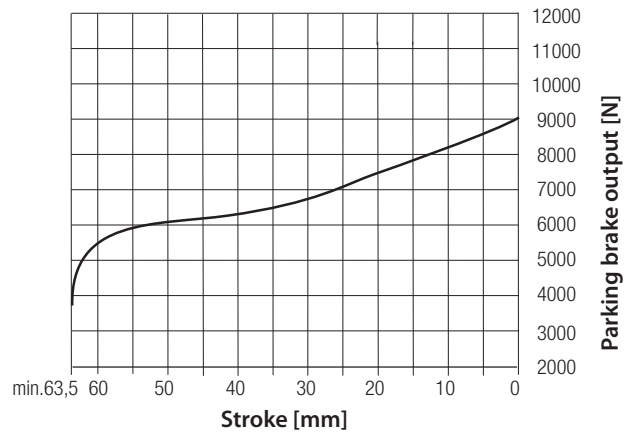
#### Performance Charts (continued)

#### Parking Brake

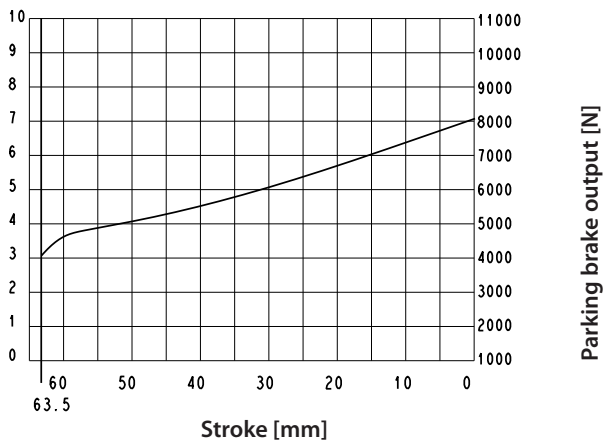
BX7408, BX7409, BX7515, BX7523, BX7525



BX7514, BX7518, BX7611, BX7612



BX7516



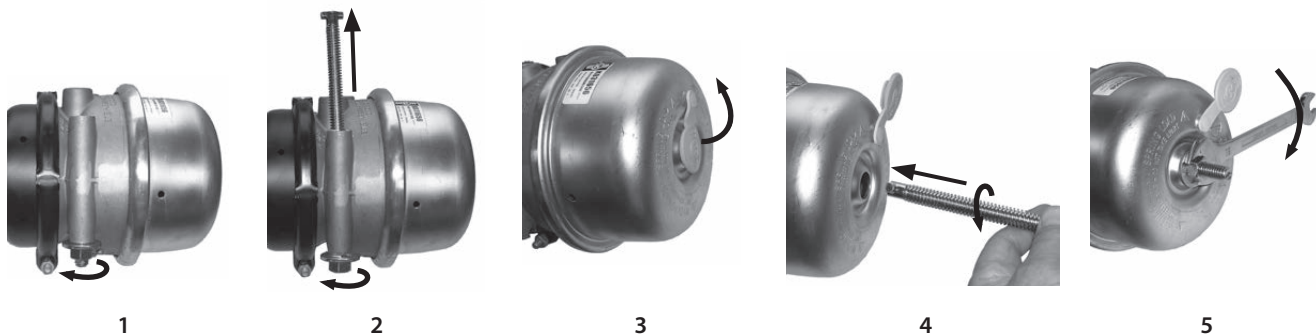
Type	Required release pressure at 10 mm stroke
20/24	5,14 bar
20/30	4,65 bar
24/30x63,5	4,40 bar
24/30x76	4,64 bar
24/24	5,26 bar
30/30	4,70 bar

### Spring Brakes (S-cam), diaphragm/diaphragm

#### Installation and Mounting instructions

- Use suitable mounting bracket with adequate stability (material thickness)
- Hole dimensions according to DIN
- Plain mounting face, only primed (maximum thickness 0.1 mm), not final coated
- Direct contact of the full surface of the spring brake mounting face must be made with the mounting bracket. No spacing washers, adapter plates or other elements are allowed.
- Ensure adequate clearance is provided behind the actuator to allow the wind-off bolt to be removed
- Check length of push rod, it may need to be shortened.
- The angle between push rod and slack adjuster and between push rod and mounting bracket should be approximately 90 deg. when the push rod is at its mid-stroke position.
- During installation, the slack adjuster should be rotated towards the yoke to insert the yoke pin. On no account should the push rod be pulled out from the actuator to meet the slack adjuster.
- Maximum pivoting angle of push rod in all directions = 3°
- For mounting studs, nuts and plain washers must be used.
- General requirements of mechanical engineering concerning progressive tightening must be followed.
- Tightening torque 180+30 Nm for M16 x 1.5 thread.
- For further information please contact Knorr-Bremse, the axle or trailer manufacturer.

#### Winding-off the Power Spring



In case of failure in the air system, to release the actuator's spring force:

- Ensure wheels are chocked.
- Remove release bolt from its holder (Figs. 1 & 2)
- Unclip closure cap (Fig. 3).
- Fully insert "T" end of the release bolt into the spring portion and rotate to engage in the internal slot (Fig. 4)
- Fit washer and nut.
- Rotate the nut (19 mm AF - across flats) in a clockwise direction (Fig. 5). Max. torque 68 Nm.



**Attention:**

Use only the correct sized ring or open-ended spanner!

The parking brake portion of the Spring Brake contains a very high spring load and it is strongly recommended that you do not attempt any disassembly of this portion. This should also be taken into consideration when disposing of spring brakes of any type.

Revision Details		
Rev. 005	April 2019	New Layout



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