BX9..., BZ9...

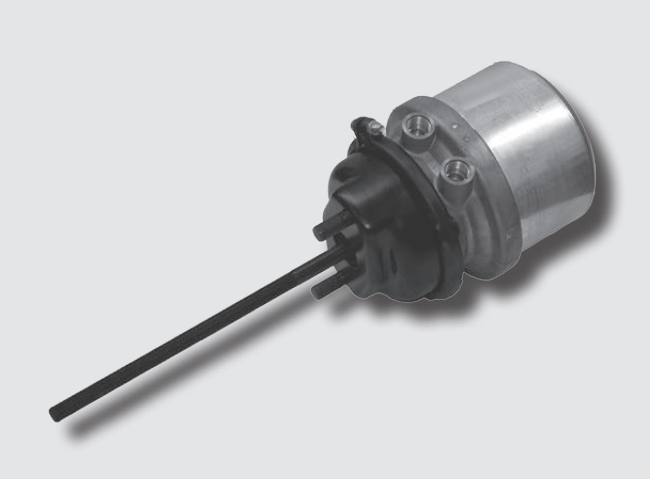
Spring Brakes (S-cam), diaphragm/piston

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.

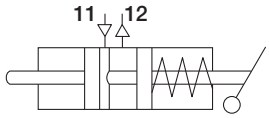
See PD-413-000, Document No. Y115384 for the full range of Spring Brakes for trailers.



Technical Features

Maximum operating pressure:	Port 11; 10.2 bar
	Port 12; 8.5 bar
Release pressure:	See chart
Operating temperature range:	-40 °C to +80 °C
Push rod stroke:	See table
Port threads:	See table
Release device:	Mechanical
Weight:	See table

Standard Symbol as DIN ISO 1219



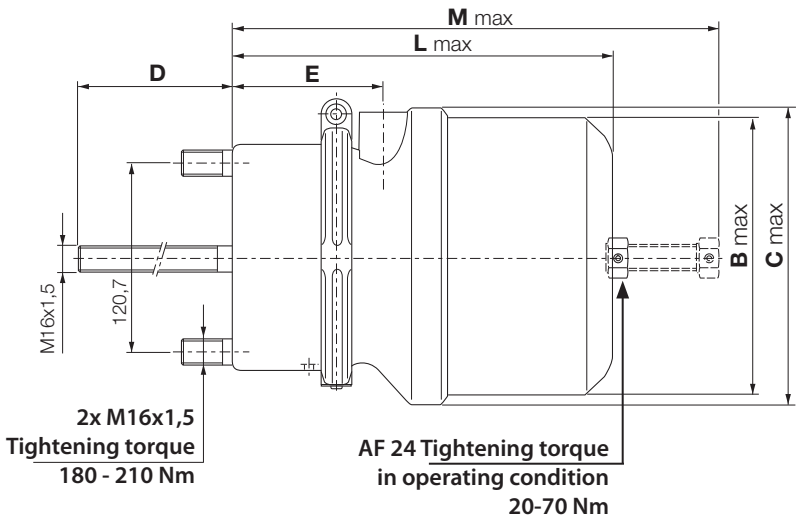
Range Overview

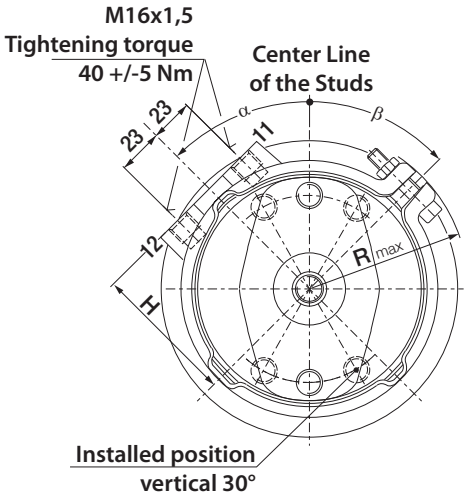
Part No.	Type No.	Size		Port Threads	Stroke [mm]	TÜV Inspection Report	Weight approx. [kg]
		Service Brake [Type]	Parking Brake [Type]				
II31997 1)4)	BZ9317	16	24	M16x1,5	57	Service Brake 361-0132-05-FBKV Spring Brake 361-0133-05-FBKV	8,0
II33453 2)	BZ9318						
II33454 2)	BZ9319						
II37274 1)5)	BX9400	20		M22x1,5 Voss 5)			7,5
K153953 1)5)	BX9467		30				9,6
II17092 2)	BZ9502	24	24HF 7)	M16x1,5			8,2
K153956 1)5)	BX9511		30	M22x1,5 Voss 5)			9,6
II37277 1)5)	BX9519		24				8,0
K041990 1)6)	BZ9646	30	30	M16x1,5	64		10,9

1) without rubber boot
2) with rubber boot and welded yoke
4) with Mounting kit SEB00536
5) with Mounting kit II37099
6) with Mounting kit K129057K50
7) HF = high force
Other versions are available.
The part number will carry a suffix, "N##" which defines the packaging requirements of different market sectors, e.g. N00, N50. Example: K041990N00 - is supplied without packaging.

Mounting kit	
SEB00536 K129057K50	Yoke, yoke pin, split pin, lock nut for yoke, hexagon self-locking mounting nut (2x)
II37099	Port adapter (M22x1.5 to M16x1.5) and sealing ring (2x), yoke, yoke pin, split pin, lock nut for yoke, hexagon self-locking mounting nut (2x)

Dimensions





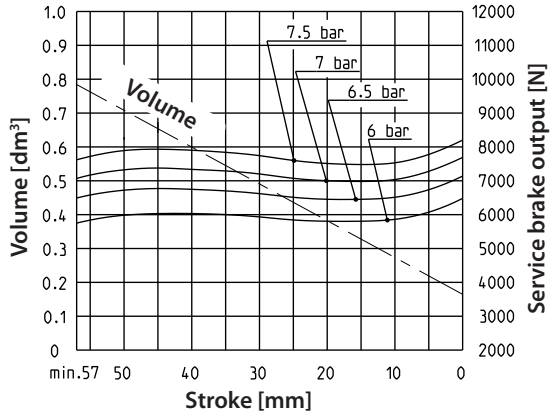
Part No.	Type No.	L max [mm]	B max [mm]	C max [mm]	D [mm]	E [mm]	M max [mm]	H [mm]	R max [mm]	α [°]	β [°]
II31997	BZ9317	240	176	186	300	96	318	90	106	0	45
II33453	BZ9318			191	60					330	75
II33454	BZ9319									30	285
II37274	BX9400				300				111	0	45
K153953	BX9467	251	191	201			283	97			
II17092	BZ9502	240	176	191	75		318	90	117		
K153956	BX9511	251	191	201	300		283	97			
II37277	BX9519	240	176	186		103	318	90			
K041990	BZ9646	272	191	207		104	357	102,5	129		

Performance Charts

Service Brake

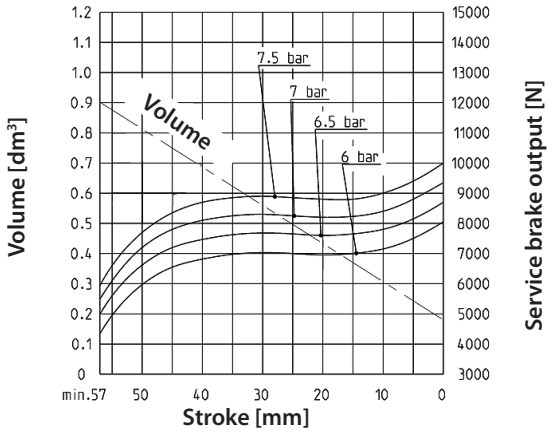
BZ9317, BZ9318, BZ9319

Return spring force at 20mm stroke: F= 340N



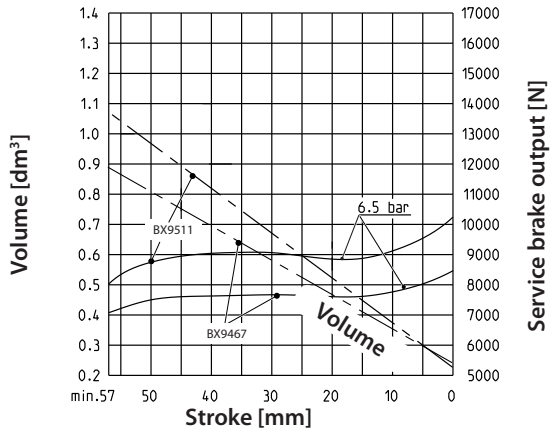
BX9400

Return spring force at 20mm stroke: F= 340N



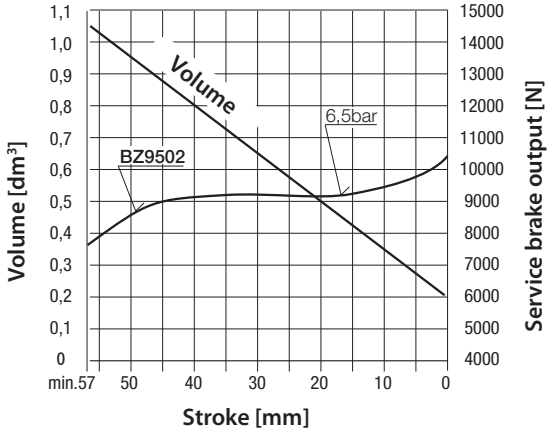
BX9467, BX9511

Return spring force at 0mm stroke: F= 220N



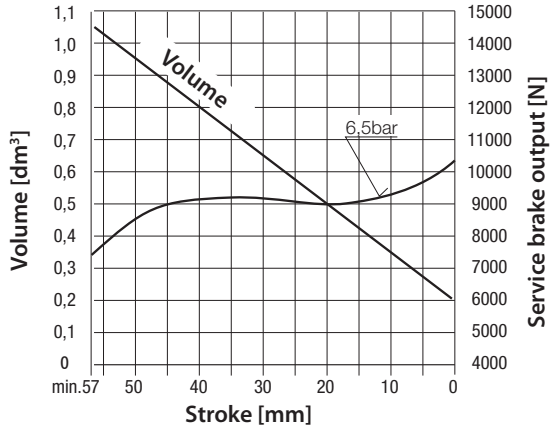
BZ9502

Return spring force at 20mm stroke: F= 340N



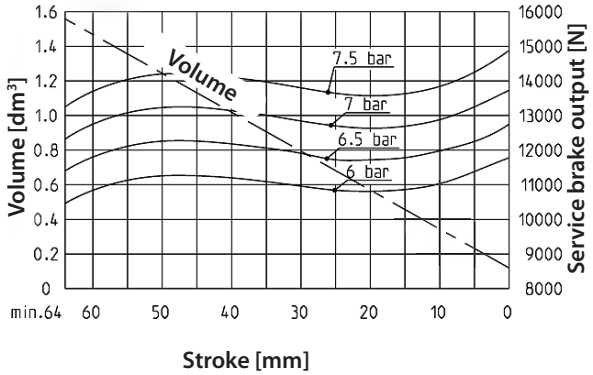
BX9519

Return spring force at 0mm stroke: F= 220N



BZ9646

Return spring force at 0mm stroke: F= 220N

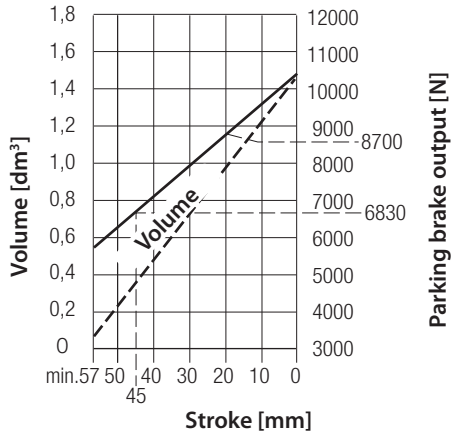


Performance Charts (continued)

Parking Brake

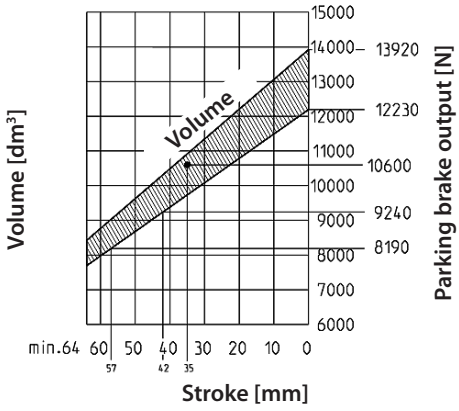
BZ9317, BZ9318, BZ9319, BX9400, BX9519

Required Release pressure: 5,1 ±0,3 bar



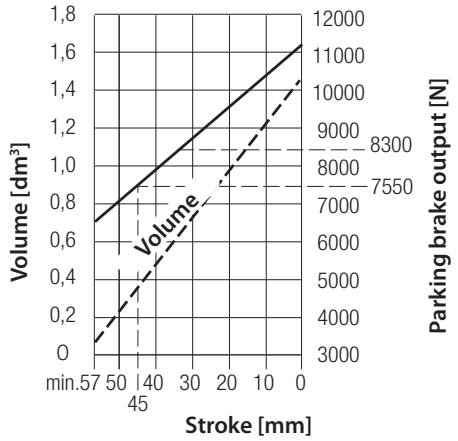
BZ9646

Required Release pressure: 5,1 ±0,3 bar



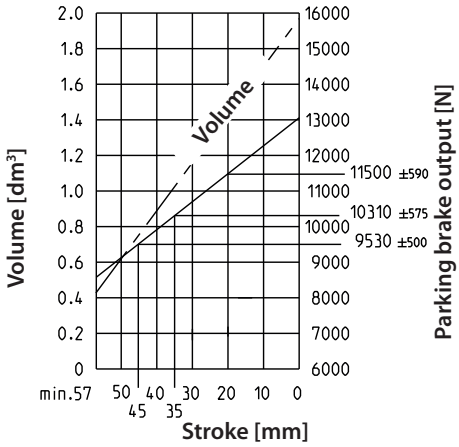
BZ9502

Required Release pressure: 5,5 ±0,3 bar



BX9467, BX9511

Required Release pressure: 5,1 ±0,3 bar



Installation and Mounting instructions

For reliable and safe mounting of spring brakes, please note the following points:

- 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 unscrewed.
- 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 stepwise 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.

Special Note:

If the actuator is supplied with the drain holes plugged, remove lowest plug (as viewed when the actuator is instaled)

Winding-off the Power Spring

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

- Ensure the wheels are chocked. Rotate the nut (24 mm AF - across flats) at the rear of the actuator in a counter clockwise direction. Max. torque 35 Nm or 45 Nm see installation drawing.

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. 006	April 2019	New Layout

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