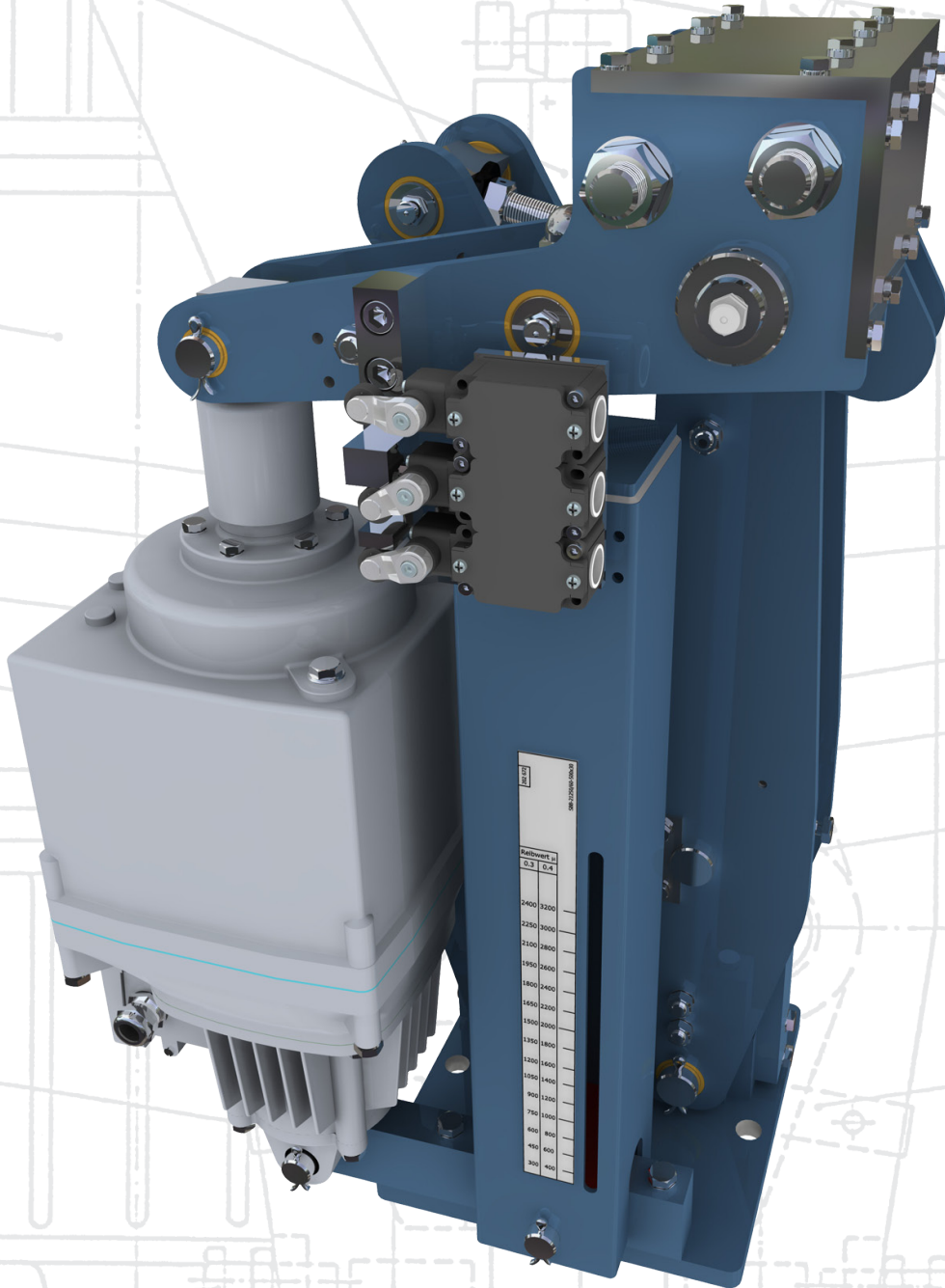


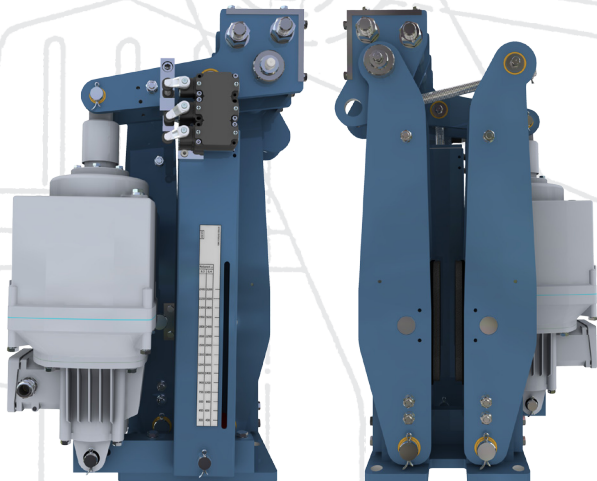


KoRo · IBS
MOVING AND BRAKE SYSTEM



Disk brakes
with thrusters

Industrial Brakes · Thrusters · Pressure Oil Pumps · Couplings · Hydraulic Buffers · Cellular Buffers
Rail Pliers · Sheaves · Hook Blocks · Crane Rail Wheels · Rail Clamps · Repairation · Service



Special features:

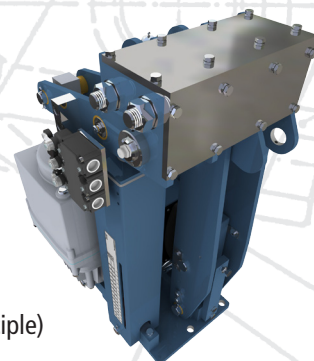
- ➔ the fitting dimensions correspond to the industrial standard, thus interchangeability is guaranteed
- ➔ the brake can be delivered in following designs:
right hand design R (as pictured)
left hand design L (reversed image)
- ➔ the tangential arrangement of the brake shoe levers and a strong construction form make it possible that high brake torques can be achieved without squealing
- ➔ a big lifting gap at the brake lining as well as adjustable stops at brakes shoe and brake shoe lever guarantee a sufficient removal of the brake shoes from the brake disks even under unfavourable operating conditions
- ➔ a closed spring tube will protect the spring from damage and contamination
- ➔ brake torque adjustable, brake torque moment scale with Nm-graduation
- ➔ 100% produced by KoRo IBS

Material:

- ➔ All supporting parts made of S S355J2+N (St52-3)
- ➔ All bolts made of 1.4104
- ➔ Pull-spring balancer rod made of V2A
- ➔ Crossed bolt, tie rod, traverse made of V2A
- ➔ Screws, Nuts, cotter pins made of V2A or zinc-plated
- ➔ All bushings made of CuZn40Al2 (DIN 17660)

Functioning principle:

- ➔ braking by spring power
- ➔ lifting by thruster
- ➔ brake torque adjustable
- ➔ in case of power failure, brake falls in (fail-safe principle)

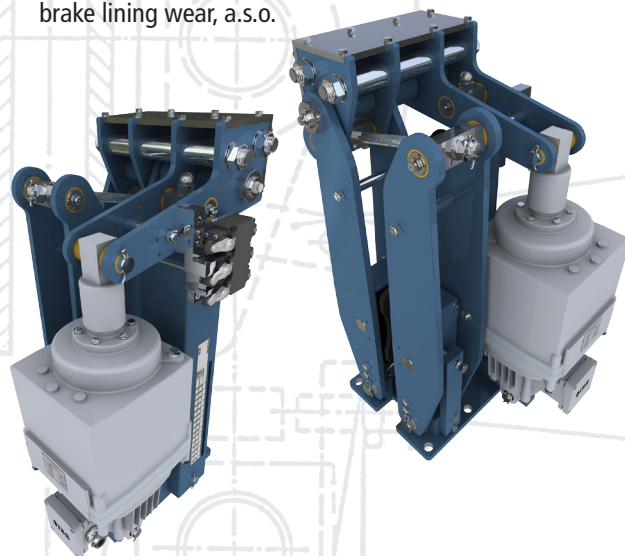


Construction form:

- ➔ brake shoe levers arranged tangentially to the disk
- ➔ brake spring and electro hydraulic thruster arranged laterally
- ➔ brake shoe lever in double-webbed steel design
- ➔ adjustable positive stops for brake shoes and brake shoe lever

Options and accessories:

- ➔ automatic wear adjustment AVN
- ➔ different lining qualities and coefficient of friction
- ➔ greaseable bearings (bushings)
- ➔ hand lifting device
- ➔ special painting
- ➔ limit switches and monitoring devices for brake indication, brake lining wear, a.s.o.



Functioning principle:

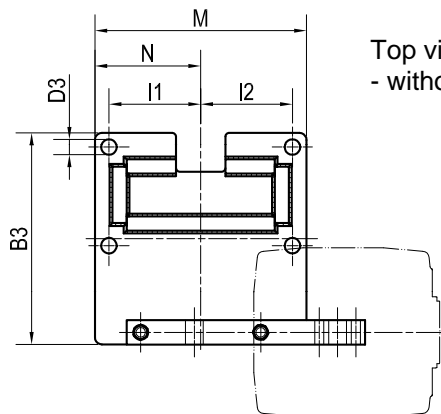
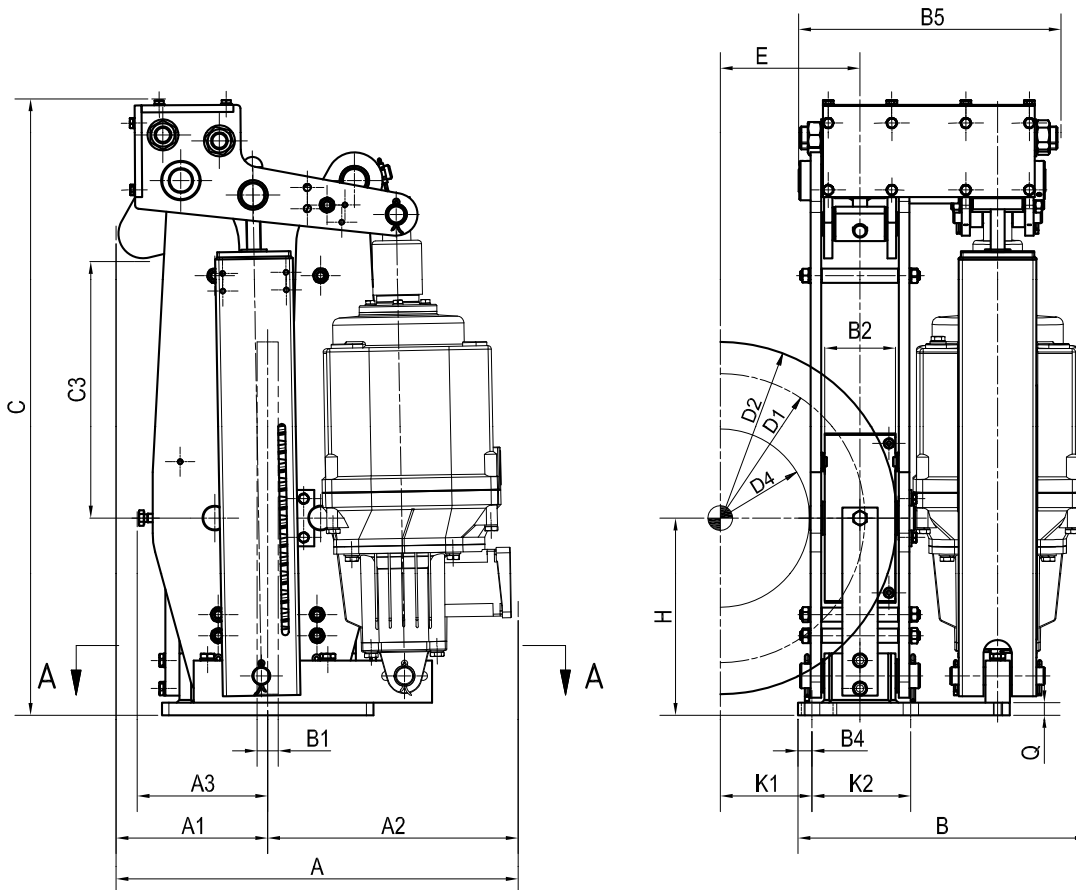
- Braking by spring power
- for electro hydraulic thrusters acc. to DIN 15 430
- adjustable braking torque
- in case of power failure, brake falls in (fail-safe principle)

Construction form:

- brake shoe levers arranged tangentially to the disk
- brake spring and thruster arranged laterally in vertical position
- brake shoe lever in double-webbed steel design
- adjustable positive stops for brake shoes and brake shoe levers

Special features:

- the fitting dimensions correspond to the industrial standard, thus interchangeability is guaranteed
- the brake can be delivered in:
 - right hand design R (as pictured)
 - left hand design L (reversed image)
- the tangential arrangement of the brake shoe levers and a strong construction form make it possible that high brake torques can be achieved without squealing
- a big lifting gap at the brake lining as well as adjustable stops at brake shoes and brake shoe levers guarantee a sufficient removal of the brake shoes from the brake disks even under unfavorable operating conditions
- a spring tube on all sides will protect the spring from damage and contamination
- brake torque adjustable, braking moment scale with Nm-graduation
- brake lining can be changed without disassembly of the disk brake
- options and accessories (selection):
 - automatic wear adjustment AVN
 - different lining qualities and coefficient of friction
 - re-greaseable bearings (bushings)
 - stainless steel pull rods
 - hand lifting device
 - special painting
 - limit switches and monitoring devices for brake indication, brake lining wear, temperature a.s.o.



Top view baseplate / section spring tube
- without brake shoe lever and links

The brake is illustrated in right hand design R. The left hand design L is mirror inverted.

Thrusters turned by 90° can be mounted.
Different dimensions on request.

Notes on the following data table:

- 1) The different operation factors such as sliding speed, surface pressure, thermal load, condition of the sliding surfaces, brake disk material and surrounding conditions can influence the friction coefficient μ . They should thus be taken into consideration in addition to the guiding rules of DIN 15 434 when designing the brake.
The data for braking torque are valid for dynamical braking at normal operating temperatures and sliding speeds to 25 m/s. The operating temperature for standard linings compounded with synthetic resin may not exceed 250°C.
- 2) Without thrusters.

Technical Data

Dimensions in mm

Size SBB 1

Thruster	A _{max}	A _{1max}	A _{2max}	A3	B _{max}	B3	B4	B _{5max}	C _{max}	C3	D3	H	I1	I2	K2	M	N	Q
Ed 230/50	470	195	275	125	312	250	20	285	660	260	18	230	80	180	120	300	100	15
Ed 300/50	465		270		312					260								
Ed 500/60	500		305		340					270								
Ed 800/60	500		305		340					270								
Brake Disk							Brake Lining		Weight	max. brake torque in Nm, $\mu = 0,4$ ¹⁾								
Size	D2	B1	D1	D _{4max}	E	K1	B2	AB [cm ²]	[kg] ²⁾	Ed 230/50	Ed 300/50	Ed 500/60	Ed 800/60					
SBB 1	315	30	237	120	118	58	76	105	60	300	390	760	1200					
SBB 1	355	30	277	160	138	78	76	105	60	350	455	890	1400					
SBB 1	400	30	322	205	160	100	76	105	60	405	525	1030	1600					
SBB 1	450	30	372	255	185	125	76	105	60	465	605	1190	1850					
SBB1	500	30	422	305	210	150	76	105	60	525	685	1350	2100					
SBB1	560	30	482	365	240	180	76	105	60	600	780	1540	2400					
SBB1	630	30	552	435	275	215	76	105	60	690	900	1760	2750					

Size SBB 2

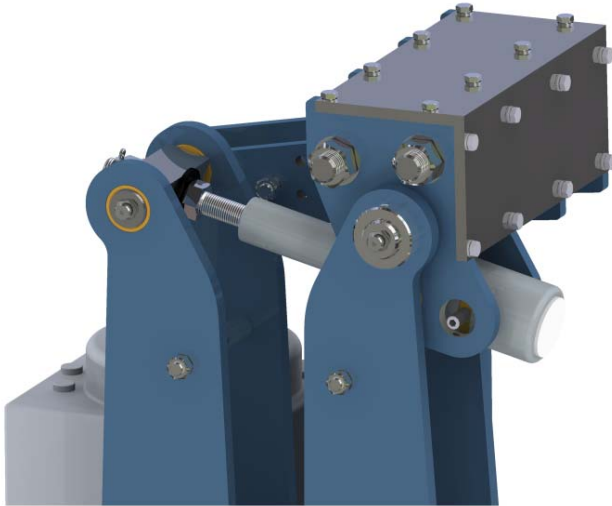
Thruster	A _{max}	A _{1max}	A _{2max}	A3	B _{max}	B3	B4	B _{5max}	C _{max}	C3	D3	H	I1	I2	K2	M	N	Q
Ed 500/60	615	255	360	165	366	300	20	360	870	350	22	280	130	130	140	310	150	18
Ed 800/60	615		360		366													
Ed 1250/60	605		350		405													
Ed 2000/60	605		350		405													
Brake Disk							Brake Lining		Weight	max. brake torque in Nm, $\mu = 0,4$ ¹⁾								
Size	D2	B1	D1	D _{4max}	E	K1	B2	AB [cm ²]	[kg] ²⁾	Ed 500/60	Ed 800/60	Ed 1250/60	Ed 2000/60					
SBB 2	450	30	359	196	173	105	100	194	130	1050	1670	2560	4050					
SBB 2	500	30	409	246	198	130	100	194	130	1195	1900	2910	4600					
SBB 2	560	30	469	306	228	160	100	194	130	1375	2180	3340	5300					
SBB 2	630	30	539	376	263	195	100	194	130	1575	2500	3830	6100					
SBB 2	710	30	619	456	303	235	100	194	130	1810	2870	4400	7000					
SBB 2	800	30	709	546	348	280	100	194	130	2100	3320	5100	8100					

Size SBB 3

Thruster	A _{max}	A _{1max}	A _{2max}	A3	B _{max}	B3	B4	B _{5max}	C _{max}	C3	D3	H	I1	I2	K2	M	N	Q
Ed 1250/60	620 (625)	285 (290)	335	190 (195)	472	370	30	436	1090	495	27	370	180	180	160	450	225	22
Ed 2000/60																		
Ed 3000/60																		
Ed 3000/120																		
Brake Disk							Brake Lining		Weight	max. brake torque in Nm, $\mu = 0,4$ ¹⁾								
Size	D2	B1	D1	D _{4max}	E	K1	B2	AB [cm ²]	[kg] ²⁾	Ed 1250/60	Ed 2000/60	Ed 3000/60	Ed 3000/120					
SBB 3	630	30	520	305	256	170	125	309	265	3520	5700	8550	10100					
SBB 3	710	30	600	385	296	210	125	309	265	4070	6600	9900	11650					
SBB 3	800	30	690	475	341	255	125	309	265	4680	7600	11380	13400					
SBB 3	900	30	790	575	391	305	125	309	265	5350	8650	13000	15200					

¹⁾ Lifting gap at each brake shoe approx. 1,5 mm

AVN - automatic wear adjustment



AVN wear adjustment to compensate the lining wear

The necessary residual stroke of the lifting device is guaranteed. The readjustment serves as compensation of the lining wear.

HL - hand lifting

SM - lubrication



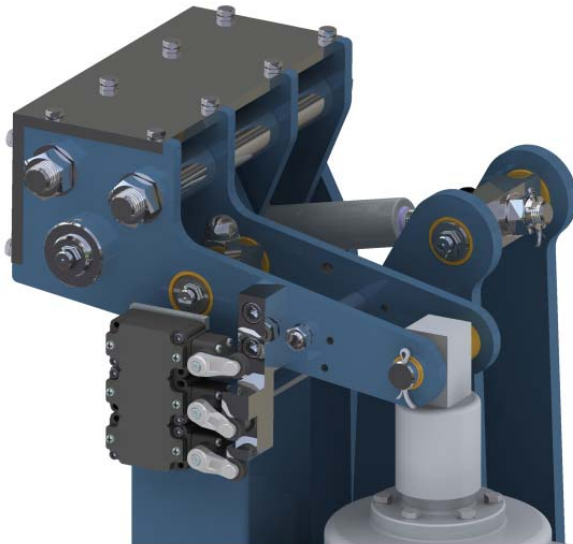
Hand lifting lever to open the brake

The hand lifting lever serves, in case of emergency- or service, for manual lifting of the brake. For safety reasons the lever device is designed so that the lever won't „lock in place“ when the lifting device is mounted, so that the brake won't be accidentally blocked in the open position.

Regreasable bearing position

Cross bars made of stainless acid resistant material 1.4301 and bolts made of stainless material 1.4104 with flat lubrication nipple for regreasing of stored bearing positions made of CuZn40Al2.

ME - mechanical limit switch



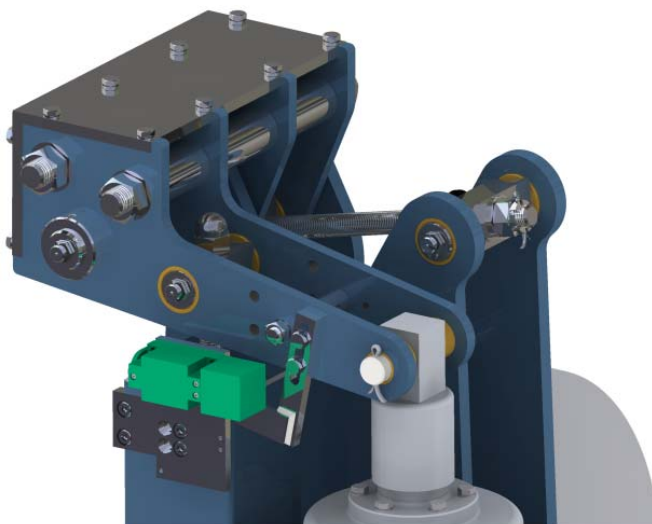
Limit switch for brake control

The limit switch unit serves for monitoring of the brake in 3 positions:

- brake „open“
- brake „closed“
- brake „adjusting“.

The switching positions of the limit switches are factory-adjusted.

IE - inductive limit switch



Limit switch for brake control

The limit switch serves for monitoring of the brake in position:

- brake „open“

The switching positions of the limit switches are factory-adjusted.

Please indicate in your order:

- Quantity per unit
- Size, thruster type
- Right (R) or left (L) hand design
- Automatic wear adjustment (AVN)
- Disk size
- Coefficient of friction (standard: $\mu = 0,4$)
- Required brake torque
- Voltage of the thruster (standard: 400 V, 50 Hz)

Order example:

6 units SBB 2 D630 x 30 R 1250/60 AVN
 $\mu = 0,4$ - 3830 Nm
with Ed 1250/60 - 400 V, 50 Hz