BRAKE SYSTEMS FOR CONTAINER CRANES

BRAKING UNLIMITED

Content

Disc Brake SB 28.3 / SB 23.3 with BUEL®

PINTSCH BUBENZER

PINTSCH BUBENZER
is certified according to
DIN EN ISO 9001:2015

Easy Maintenance | **High Performance** | **Reliable** | **Robust Design** | **Self-Centering**

Description SB 28.3 / SB 23.3 with BUEL®

PINTSCH BUBENZER

Main Features

- Limit switch release control
- Manual release lever with or without lock
- Self-centering of brake arms by cam disc and roller
- Automatic wear compensator
- Sintered linings for high friction speeds
- Continuously adjustable brake spring with torque scale and wear bushing enclosed in a spring tube
- Stainless steel pins and spindles
- W-execution (special anti-corrosion protection)
- Maintenance-free bushings in all hinge points
- Symmetric design
- Parallel air gap when brake is released (no tipping of the brake shoes)

Options

- Limit switch wear control
- Limit switch manual release
- Monitoring systems (e.g. VSR/CMB)
- Brake disc with hub or coupling

BUEL® Thrusters, Technical Data

Thruster Type	Power (W)	Curr. (A) at 400 V	Weight (kg)
BL 35-5	350	0,6	16
BL 50-6	450	0,7	16
BL 80-6	600	1,3	21
BL 125-6	650	1,4	24
BL 200-6	800	1,5	24
BL 300-6	900	1,6	33
BL 450-8	1200	2,0	33
BL 550-8	1250	2,1	33

Protection: max. 1.5 times of nominal current

Ordering Example

- Brake type
  - Disc diameter
    - Disc thickness
      - Thruster type

SB 28.3 - 500 x 30 - BL 450-8

Please Note

We supply a detailed operating manual with every order. Nevertheless, we would point out that brakes are only as safe as the servicing and maintenance performed while they are in operation. The guarantee for the correct functioning of our brakes is only valid if the user adheres to the German DIN standard 15434 part 2 (drum and disc brakes, servicing and maintenance in operation), or to comparable standards in his own country.

PINTSCH BUBENZER Service

This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on-site by PINTSCH BUBENZER service engineers is possible. Drawings as DWG/DXF files for your engineering department are available upon request.

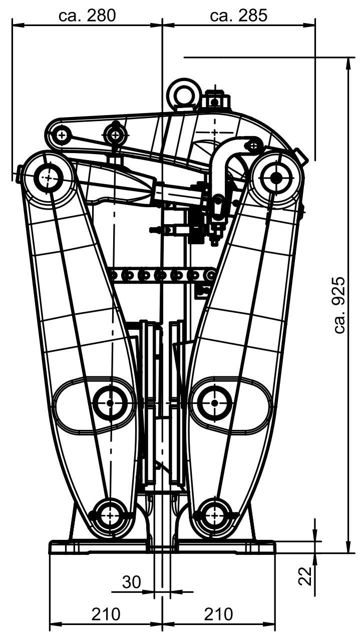
Disc Brake SB 28.3 with BUEL®

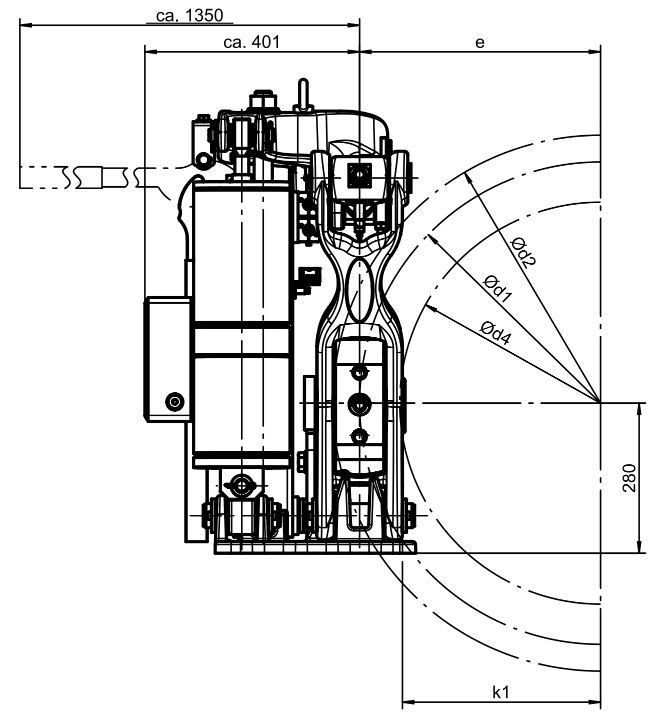
Dimensions and technical data

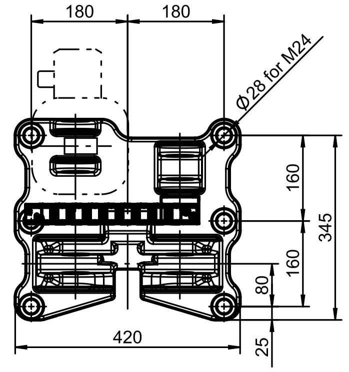
PINTSCH BUBENZER

Rev. 03-17

A







*) Average static friction factor of standard material combination

**) Only for BL 125-6 with brake disc-Ø 450 mm

The friction coefficient is subject to fluctuations depending on operational-, material- and ambient-conditions! This must be considered during the selection!

All dimensions in mm
Alterations reserved without notice

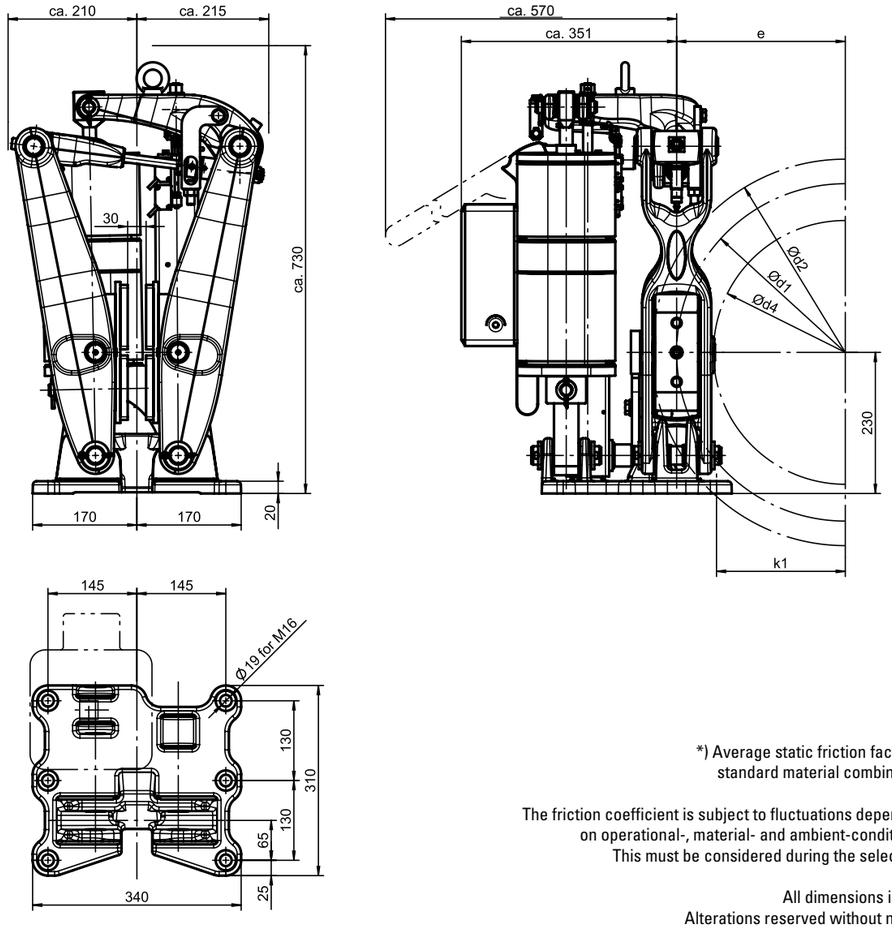
For crane brake layout use safety factors documented in the FEM 1.001, Section 1

Weight without thruster: ca. 270 kg			Thruster type		BL 125-6 (Weight: 24 kg)			BL 200-6 (Weight: 24 kg)			BL 300-6 (Weight: 33 kg)			BL 450-8 (Weight: 33 kg)			BL 550-8 (Weight: 33 kg)		
			Contact force in N		22500			35000			50000			65000			80000		
Disc-Ø d2	Friction-Ø d1	Max. hub-Ø d4	e	k1	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)
450	350	175 (200**)	175	95	3150	1575	50												
500	400	225	200	120	3600	1800	50												
560	460	285	230	150	4140	2070	50	6440	3220	50									
630	530	355	265	185	4770	2385	50	7420	3710	50	10600	5830	55						
710	610	435	305	225	5490	2745	50	8540	4270	50	12200	6710	55	15860	7930	50	19520	9760	50
800	700	525	350	270	6300	3150	50	9800	4900	50	14000	7700	55	18200	9100	50	22400	11200	50
900	800	625	400	320							16000	8800	55	20800	10400	50	25600	12800	50
1000	900	725	450	370							18000	9900	55	23400	11700	50	28800	14400	50

Disc Brake SB 23.3 with BUEL®

Dimensions and technical data

Rev. 03-17



*) Average static friction factor of standard material combination

The friction coefficient is subject to fluctuations depending on operational-, material- and ambient-conditions! This must be considered during the selection!

All dimensions in mm
Alterations reserved without notice

For crane brake layout use safety factors documented in the FEM 1.001, Section 1

Weight without thruster: ca. 99 kg			Thruster type		BL 35-5 (Weight: 16 kg)			BL 50-6 (Weight: 16 kg)			BL 80-6 (Weight: 21 kg)		
			Contact force in N		6845			10750			20500		
Disc-Ø d2	Friction-Ø d1	Max. hub-Ø d4	e	k1	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)
355	275	145	137,5	72,5	755	378	50						
400	320	190	160	95	875	438	50	1375	825	60	2625	1313	50
450	370	240	185	120	1015	508	50	1590	954	60	3035	1518	50
500	420	290	210	145	1150	575	50	1805	1083	60	3445	1723	50
560	480	350	240	175	1315	658	50	2065	1239	60	3935	1968	50
630	550	420	275	210	1505	753	50	2365	1419	60	4510	2255	50
710	630	500	315	250	1725	863	50	2710	1626	60	5165	2583	50

Disc Brake SB 16 with BUEL®

PINTSCH BUBENZER
is certified according to
DIN EN ISO 9001:2015

Easy Maintenance · **High Performance** · **Reliable** · **Robust Design** · **Self-Centering**

Description SB 16 with BUEL®

Main Features

- Limit switch release control
- Manual release lever with or without lock
- Self-centering of brake arms by cam disc and roller
- Automatic wear compensator
- Sintered linings for high friction speeds
- Organic, non-asbestos linings for low friction speeds
- Continuously adjustable brake spring with torque scale and wear bushing enclosed in a spring tube
- Stainless steel pins and spindles
- Maintenance-free bushings in all hinge points
- Right or left-hand design
- W-execution (special anti-corrosion protection)

Options

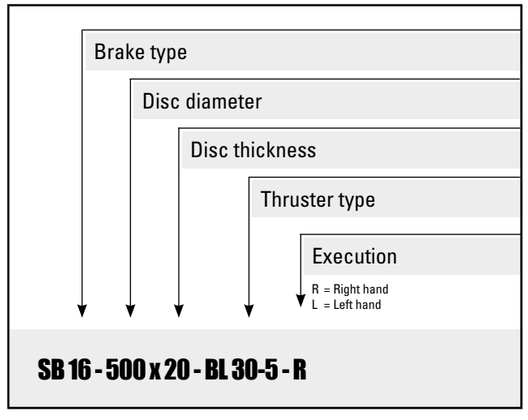
- Limit switch wear control
- Limit switch manual release
- Monitoring systems (e.g. VSR/CMB)
- Brake disc with hub or coupling

BUEL® Thrusters, Technical Data

Thruster Type	Power (W)	Curr. (A) at 400 V	Weight (kg)
BL 22-5	150	0,4	11
BL 30-5	160	0,4	13
BL 35-5	350	0,6	16

Protection: max. 1.5 times of nominal current

Ordering Example



Please Note

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PINTSCH BUBENZER Service

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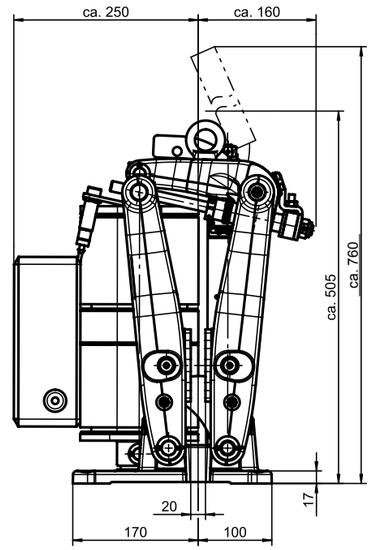
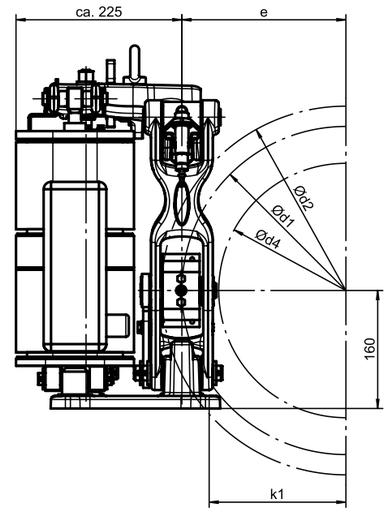
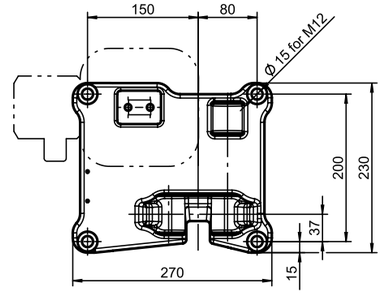
Disc Brake SB 16 with BUEL®

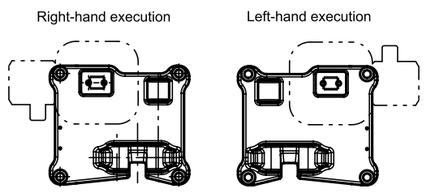
Dimensions and technical data

Rev. 02-17









*) Average static friction factor of standard material combination

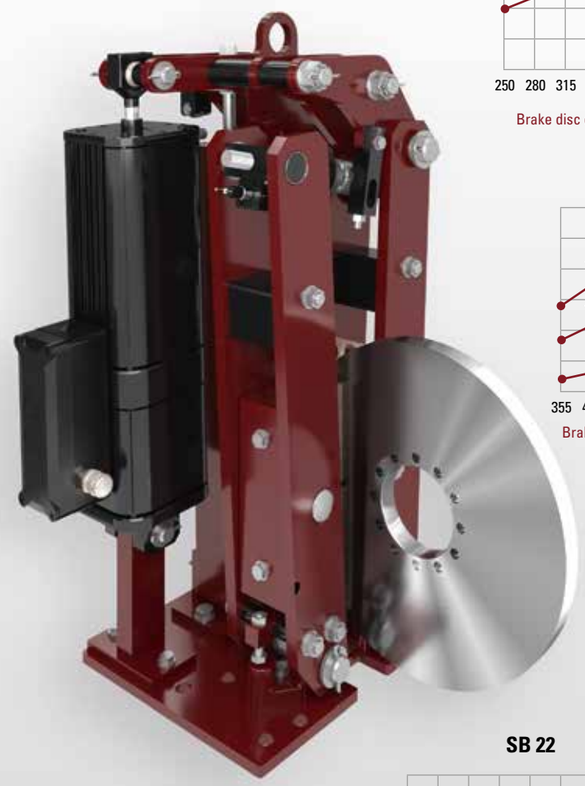
All dimensions in mm
Alterations reserved without notice

For crane brake layout use safety factors documented in the FEM 1.001, Section 1

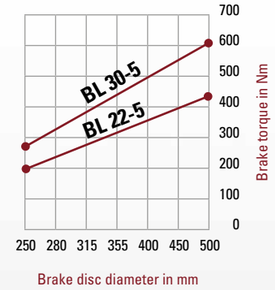
The friction coefficient is subject to fluctuations depending on operational-, material- and ambient-conditions! This must be considered during the selection!

Weight without thruster: ca. 37 kg			Thruster type		BL 22-5 (Weight: 11 kg)			BL 30-5 (Weight: 13 kg)			BL 35-5 (Weight: 16 kg)		
			Contact force in N		2610			3400			5000 (on request)		
Disc-Ø d2	Friction-Ø d1	Max. hub-Ø d4	e	k1	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)
250	195	95	97,5	60,5	205	103	50	265	133	50	390	195	50
280	225	125	112,5	75,5	235	118	50	305	153	50	450	225	50
315	260	160	130	93	270	135	50	355	178	50	520	260	50
355	300	200	150	113	315	158	50	410	205	50	600	300	50
400	345	245	172,5	135,5	360	180	50	470	235	50	690	345	50
450	395	295	197,5	160,5	410	205	50	535	268	50	790	395	50
500	445	345	222,5	185,5	465	233	50	605	303	50	890	445	50

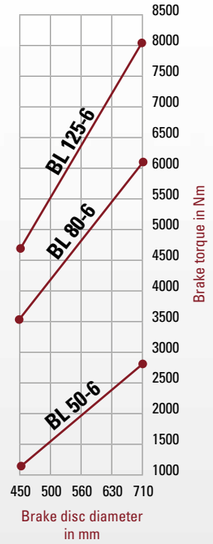
Notes



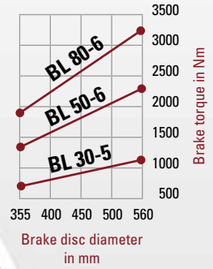
SB 8.11



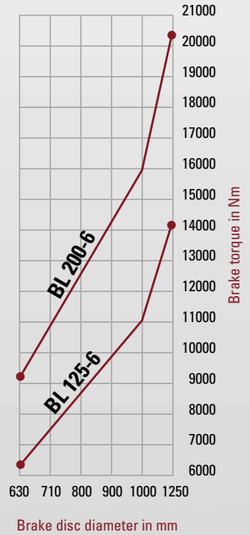
SB 8.2



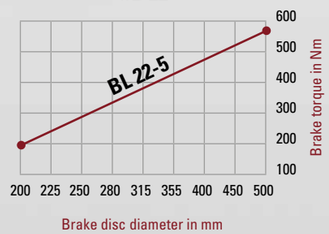
SB 8.1



SB 8.3



SB 22



PINTSCH BUBENZER
is certified according to
DIN EN ISO 9001:2015

Compact Design

Easy Maintenance

Reliable

Robust Design

Description SB 8

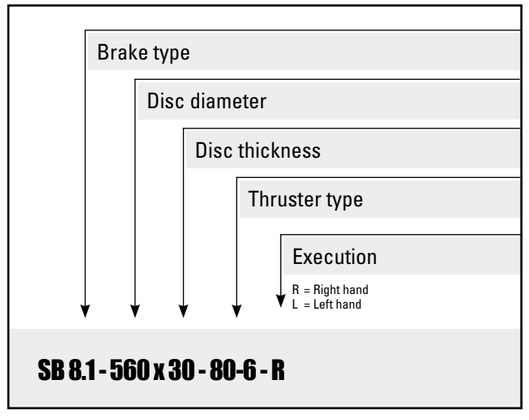
Main Features

- Compact dimensions
- Ideal for belt conveyors in combination with long stroke thrusters
- Sintered linings for high friction speeds
- Organic, non-asbestos linings for low friction speeds
- Continuously adjustable brake spring with torque scale and wear bushing enclosed in a spring tube
- Stainless steel pins and spindles
- Maintenance-free bushings in all hinge points
- Right or left-hand design

Options

- Automatic wear compensator
- Limit switch release control
- Limit switch wear control
- Limit switch manual release
- Manual release lever with or without lock
- Monitoring systems (e.g. VSR/CMB)
- Brake discs with hubs or couplings

Ordering Example



Thrusters, Technical Data

Thruster Type	Power (W)	Curr. (A) at 400 V	Weight (kg)
BL 22-5	150	0,4	11
BL 30-5	160	0,4	13
BL 50-6	450	0,7	16
BL 80-6	600	1,3	21
BL 125-6	650	1,4	24
BL 200-6	800	1,5	24

Protection: max. 1.5 times of nominal current

Please Note

We supply a detailed operating manual with every order. Nevertheless, we would point out that brakes are only as safe as the servicing and maintenance performed while they are in operation. The guarantee for the correct functioning of our brakes is only valid if the user adheres to the German DIN standard 15434 part 2 (drum and disc brakes, servicing and maintenance in operation), or to comparable standards in his own country.

PINTSCH BUBENZER Service

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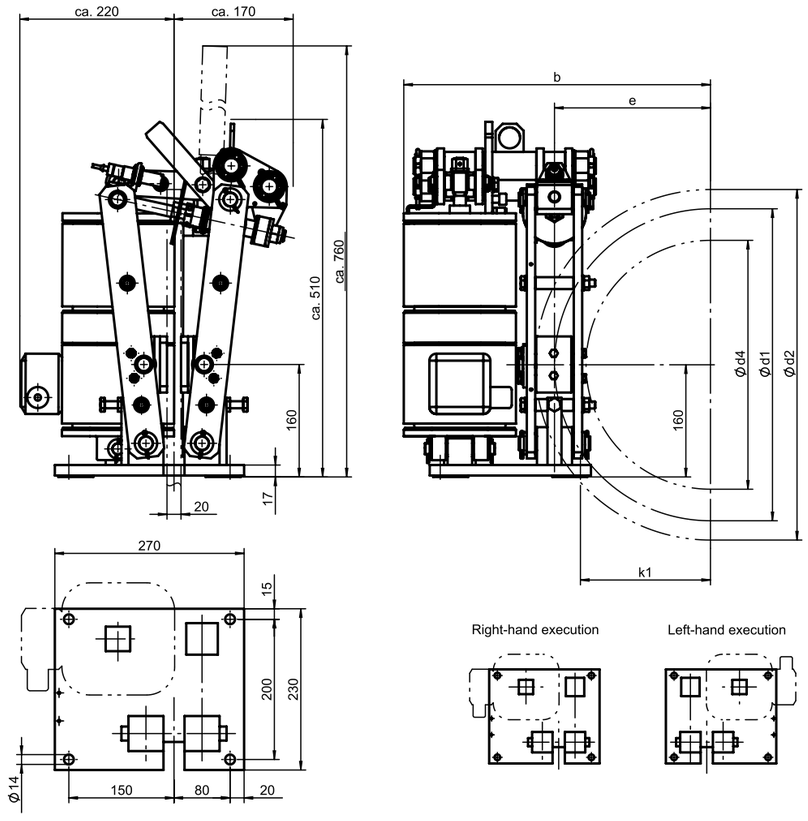
Disc Brake SB 8.11

Dimensions and technical data

Rev. 01-17



For crane brake layout use safety factors documented in the FEM 1.001, Section 1

The friction coefficient is subject to fluctuations depending on operational-, material- and ambient-conditions! This must be considered during the selection!

*) Average static friction factor of standard material combination

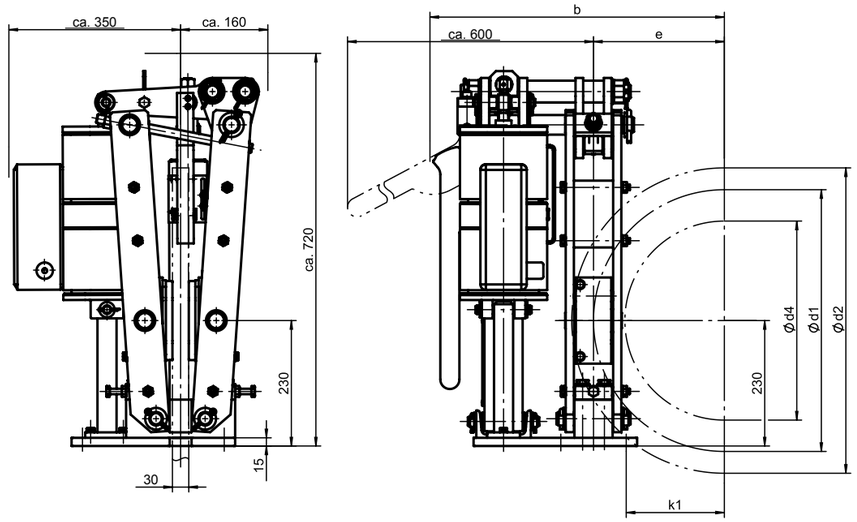
All dimensions in mm
Alterations reserved without notice

Weight without thruster: ca. 37 kg			Thruster type			BL 22-5 (Weight: 11 kg)			BL 30-5 (Weight: 13 kg)		
			Contact force in N			2500			3400		
Disc Ø d_2	Friction Ø d_1	Max. hub-Ø d_4	$b_{max.}$	e	k_1	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)
250	195	105	335	97,5	60,5	195	107	55	265	133	50
280	225	135	350	112,5	75,5	225	124	55	305	153	50
315	260	170	368	130	93	260	143	55	355	178	50
355	300	210	388	150	113	300	165	55	410	205	50
400	345	255	410	172,5	135,5	345	190	55	470	235	50
450	395	305	435	197,5	160,5	395	217	55	535	268	50
500	445	355	460	222,5	185,5	445	245	55	605	303	50

Disc Brake SB 8.1

Dimensions and technical data

Rev. 01-17



For crane brake layout use safety factors documented in the FEM 1.001, Section 1

*) Average static friction factor of standard material combination

The friction coefficient is subject to fluctuations depending on operational-, material- and ambient-conditions! This must be considered during the selection!

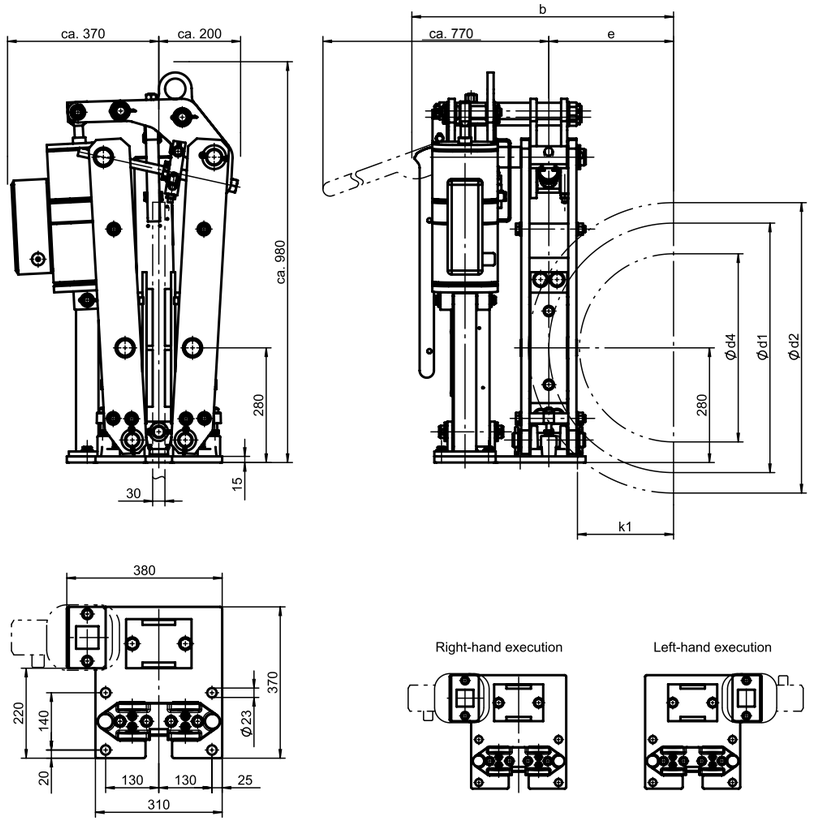
All dimensions in mm
Alterations reserved without notice

Weight without thruster: ca. 83 kg			Thruster type			BL 30-5 (Weight: 13 kg)			BL 50-6 (Weight: 16 kg)			BL 80-6 (Weight: 21 kg)		
			Contact force in N			6300			11850			16930		
Disc Ø d_2	Friction Ø d_1	Max. hub-Ø d_4	$b_{max.}$	e	k_1	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)
355	275	160	438	137,5	77,5	695	348	50	1305	653	50	1860	930	50
400	320	205	460	160	100	805	403	50	1515	758	50	2165	1083	50
450	370	255	485	185	125	930	465	50	1755	878	50	2505	1253	50
500	420	305	510	210	150	1060	530	50	1990	995	50	2845	1423	50
560	480	365	540	240	180	1210	605	50	2275	1138	50	3250	1625	50

Disc Brake SB 8.2

Dimensions and technical data

Rev. 01-17



For crane brake layout use safety factors documented in the FEM 1.001, Section 1

*) Average static friction factor of standard material combination

The friction coefficient is subject to fluctuations depending on operational-, material- and ambient-conditions! This must be considered during the selection!

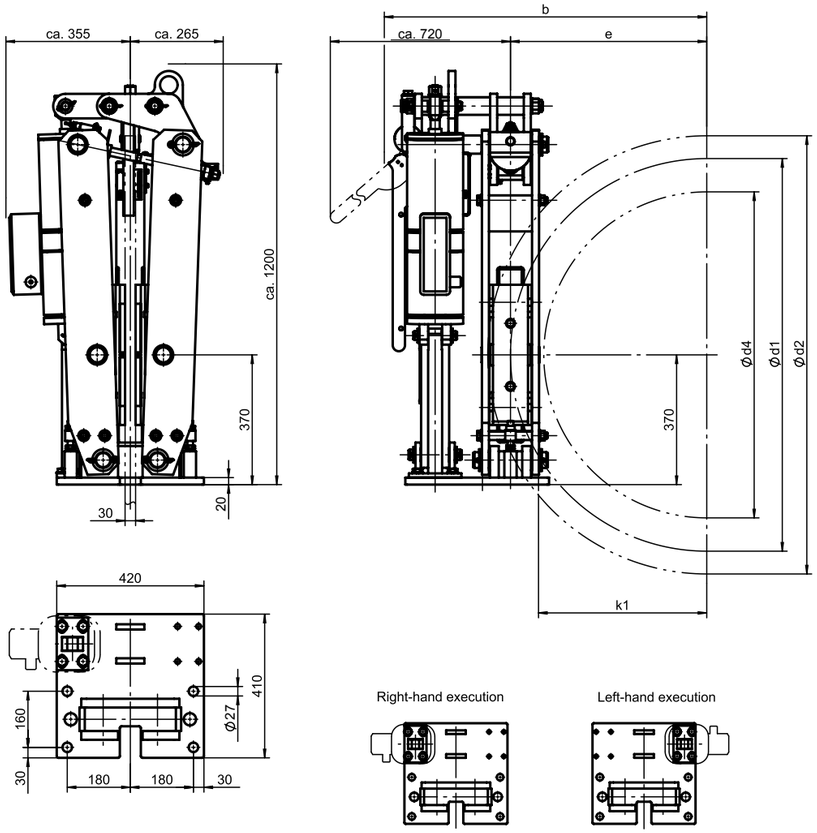
All dimensions in mm
Alterations reserved without notice

Weight without thruster: ca. 180 kg			Thruster type			BL 50-6 (Weight: 16 kg)			BL 80-6 (Weight: 21 kg)			BL 125-6 (Weight: 24 kg)		
			Contact force in N			11680			25200			33500		
Disc Ø d_2	Friction Ø d_1	Max. hub-Ø d_4	$b_{max.}$	e	k_1	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)	*$M_{Brmax.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (Nm) at μ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)
450	350	200	510	175	105	1635	818	50	3530	2118	60	4690	2345	50
500	400	250	535	200	130	1870	935	50	4030	2418	60	5360	2680	50
560	460	310	565	230	170	2150	1075	50	4635	2781	60	6165	3083	50
630	530	380	600	265	195	2475	1238	50	5340	3204	60	7100	3550	50
710	610	460	640	305	235	2850	1425	50	6150	3690	60	8175	4088	50

Disc Brake SB 8.3

Dimensions and technical data

Rev. 01-17



For crane brake layout use safety factors documented in the FEM 1.001, Section 1

The friction coefficient is subject to fluctuations depending on operational-, material- and ambient-conditions! This must be considered during the selection!

*) Average static friction factor of standard material combination

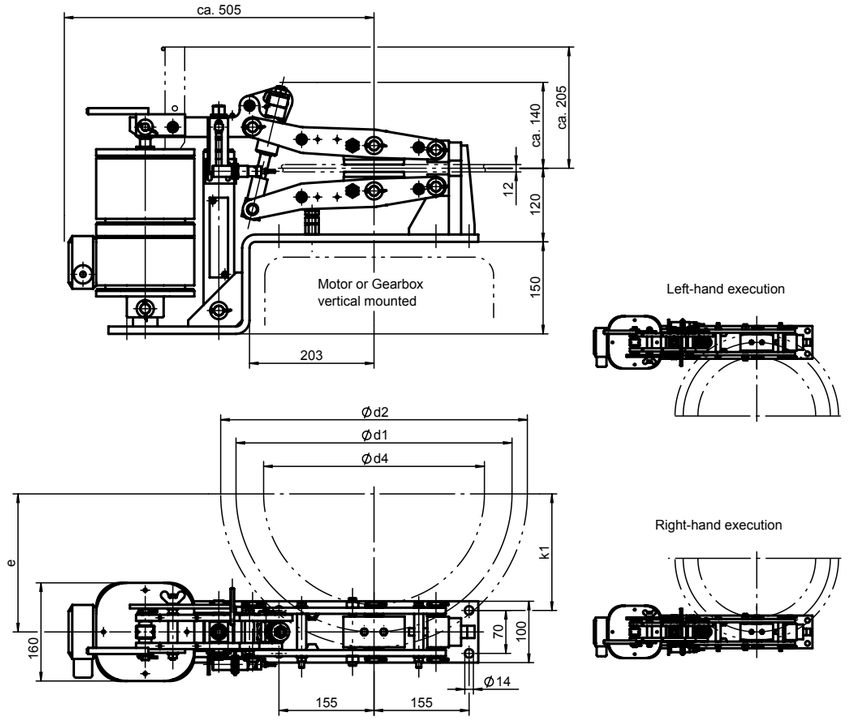
All dimensions in mm
Alterations reserved without notice

Weight without thruster: ca. 290 kg			Thruster type			BL 125-6 (Weight: 24 kg)			BL 200-6 (Weight: 24 kg)		
			Contact force in N			31810			45760		
Disc Ø d_2	Friction Ø d_1	Max. hub-Ø d_4	$b_{max.}$	e	k_1	*$M_{Brmax.}$ (Nm) at µ = 0,4	*$M_{Brmin.}$ (Nm) at µ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)	*$M_{Brmax.}$ (Nm) at µ = 0,4	*$M_{Brmin.}$ (Nm) at µ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)
630	500	310	610	250	170	6360	3180	50	9150	4575	50
710	580	390	650	290	210	7380	3690	50	10615	5308	50
800	670	480	695	335	255	8525	4263	50	12265	6133	50
900	770	580	745	385	305	9795	4898	50	14095	7048	50
1000	870	680	795	435	355	11070	5535	50	15925	7963	50
1250	1120	930	920	560	480	14250	7125	50	20500	10250	50

Disc Brake SB 22

Dimensions and technical data

Rev. 01-17



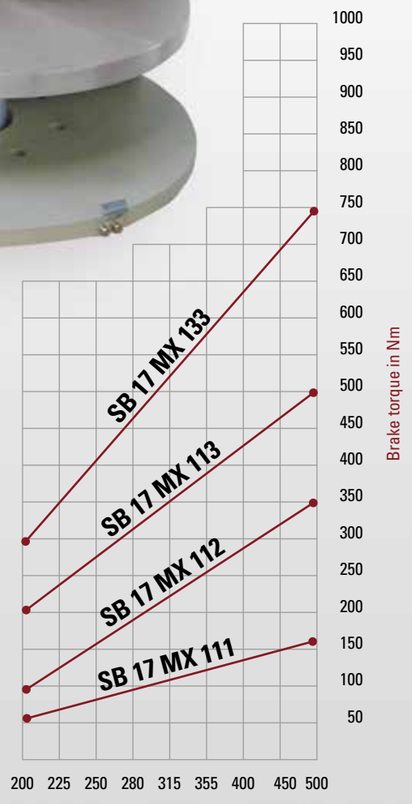
For crane brake layout use safety factors documented in the FEM 1.001, Section 1

The friction coefficient is subject to fluctuations depending on operational-, material- and ambient-conditions! This must be considered during the selection!

*) Average static friction factor of standard material combination

All dimensions in mm
Alterations reserved without notice

Weight without thruster: ca. 25 kg			Thruster type		BL 22-5 (Weight: 11 kg)		
			Contact force in N		3140		
Disc Ø d_2	Friction Ø d_1	Max. hub-Ø d_4	e	k_1	*$M_{Brmax.}$ (Nm) at µ = 0,4	*$M_{Brmin.}$ (Nm) at µ = 0,4	*$M_{Brmin.}$ (% from $M_{Brmax.}$)
200	150	60	75	40	190	114	60
225	175	85	88	53	220	132	60
250	200	110	100	65	250	150	60
280	230	140	115	80	290	174	60
315	265	175	133	98	335	201	60
355	305	215	153	118	385	231	60
400	350	260	175	140	440	264	60
450	400	310	200	165	500	300	60
500	450	360	225	190	565	339	60



PINTSCH BUBENZER
is certified according to
DIN EN ISO 9001:2015

Compact Design

High Performance

Low Maintenance

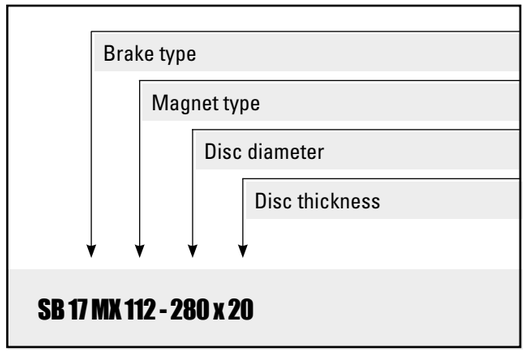
Reliable

Description SB 17 MX

Main Features

- Electromagnetic release
- High performance by overforcing of electromagnet (magnet IP54)
- Internal rectifier / economizer unit, direct connection to 380-480 V AC, 3 Ph., 50-60 Hz
- Adjustable brake torque
- Simple, manual wear compensation
- Organic, non-asbestos linings
- Manual release and limit switch release control as a standard
- Stainless steel brake body

Ordering Example



Options

- Limit switch wear control
- Sintered linings
- Hydraulic damping unit for continuously adjustable apply time of 1-8 seconds
- Motor connection flange incl. protective cover
- Brake discs with hubs or couplings

Applications

- The capacity of these brakes makes them particularly suitable as service brakes e.g. on crane gantries, slewing drives or smaller hoists
- In combination with the hydraulic damping unit, a soft and smooth braking is possible
- Very compact and easy to install as a motor mounted version

Magnets, Technical Data

Magnet Type	Inrush (W)	Holding (W)
111	100	100
112	360	100
113	360	100
133	360	100

Please Note

We supply a detailed operating manual with every order. Nevertheless, we would point out that brakes are only as safe as the servicing and maintenance performed while they are in operation. The guarantee for the correct functioning of our brakes is only valid if the user adheres to the German DIN standard 15434 part 2 (drum and disc brakes, servicing and maintenance in operation), or to comparable standards in his own country.

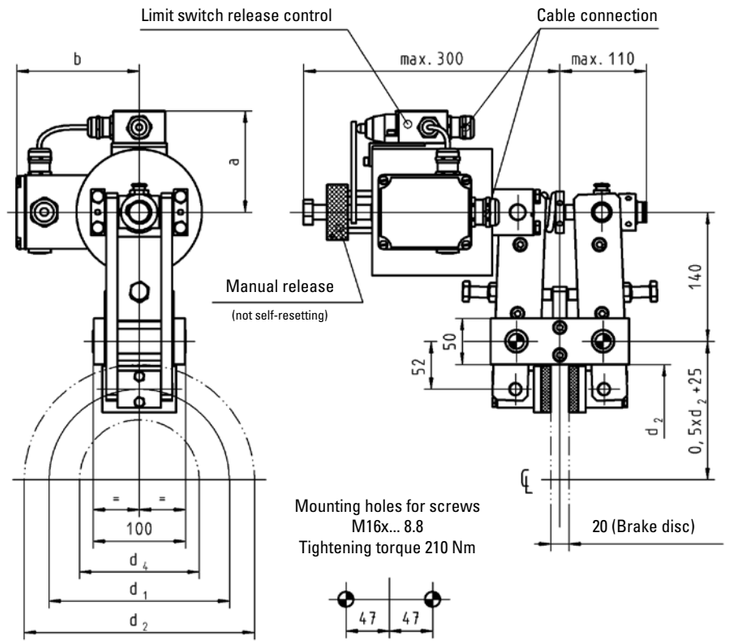
PINTSCH BUBENZER Service

This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on-site by PINTSCH BUBENZER service engineers is possible. Drawings as DWG/DXF files for your engineering department are available upon request.

Disc Brake SB 17 MX

Dimensions and technical data

Rev. 12-06



Magnet dimensions				Lining
Type	**a**	**b**	**Øc**	**b2**
111	105	120	114	40
112	105	120	114	40
113	105	120	114	50
133	115	133	137	50

For crane brake layout use safety factors documented in the FEM 1.001, Section 1

*) Average static friction factor of standard material combination

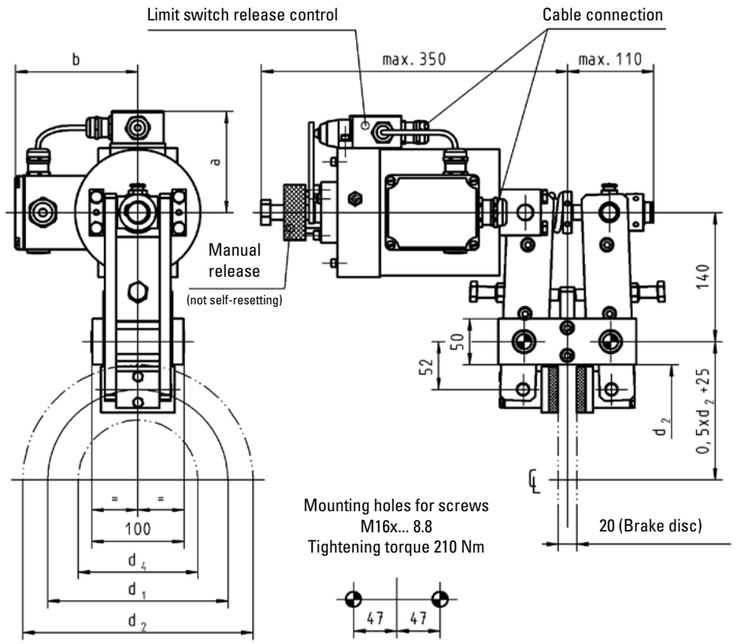
All dimensions in mm
Alterations reserved without notice

Weight: 24 kg max. incl. magnet		**Magnet type**	**111**	**112**	**113**	**133**
		Contact force in N	1100	2150	3150	4200
Disc Ø	Friction Ø	Hub Ø max.	Brake torque M_{Br} in Nm		Friction factor μ = 0,4*	
d_2	d_1	d_4				
200	146	80	60	130		
225	171	105	70	150		
250	196	130	85	170	250	
280	226	160	100	195	285	375
315	261	195	115	225	330	440
355	301	235			375	500
400	346	280			435	580
450	396	330				665
500	446	380				750

Disc Brake SB 17 MXs

with hydraulic damping unit – Dimensions and technical data

Rev. 12-06



Magnet dimensions				Lining
Type	**a**	**b**	**Øc**	**b2**
111	105	120	114	40
112	105	120	114	40
113	105	120	114	50
133	115	133	137	50

Apply time adjustable 1...8 seconds

*) Average static friction factor of standard material combination

All dimensions in mm
Alterations reserved without notice

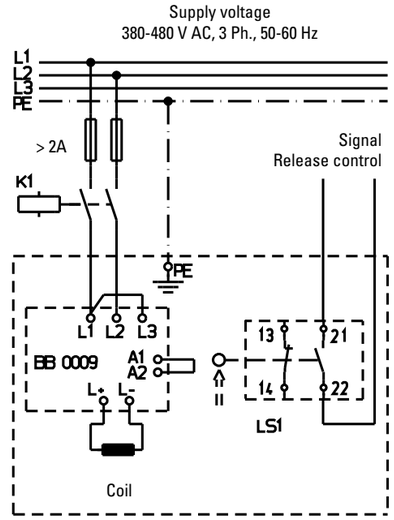
For crane brake layout use safety factors documented in the FEM 1.001, Section 1

Weight: 26 kg max. incl. magnet		**Magnet type**	**112**	**113**	**133**
		Contact force in N	1000	1500	3000
Disc Ø	Friction Ø	Hub Ø max.	Brake torque M_{Br} in Nm		Friction factor μ = 0,4*
d_2	d_1	d_4			
200	146	80	58		
225	171	105	68	102	
250	196	130	78	117	235
280	226	160	90	135	270
315	261	195	104	155	310
355	301	235		180	360
400	346	280		207	415
450	396	330			475
500	446	380			535

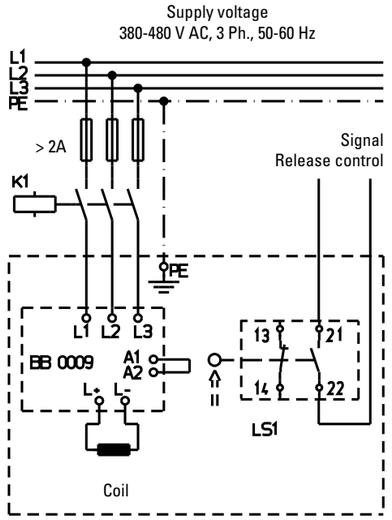
Disc Brake SB 17 MX

Connecting diagram internal rectifier/economizer

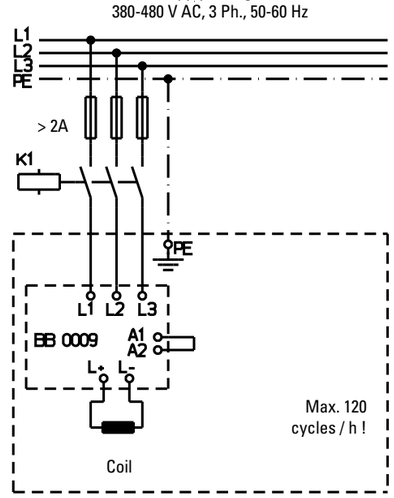
Rev. 07-14



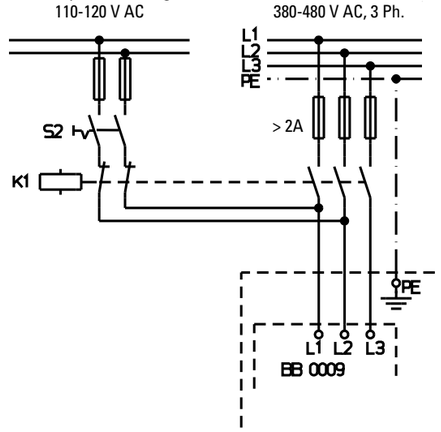
SB 17 MX 111



SB 17 MX 112/113/133



SB 17 MX without limit switch release control



Standby heater function

Alterations reserved without notice

Supply voltage	**Coil voltage**
380-415 V AC	180 V DC
440-480 V AC	205 V DC

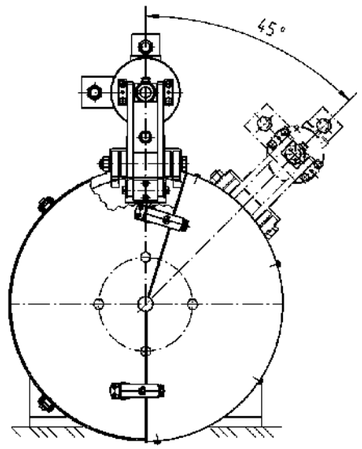
PINTSCH BUBENZER scope of supply:
SB 17 MX, coil
Rectifier / economizer BB0009 (built-in)
Limit switch LS1

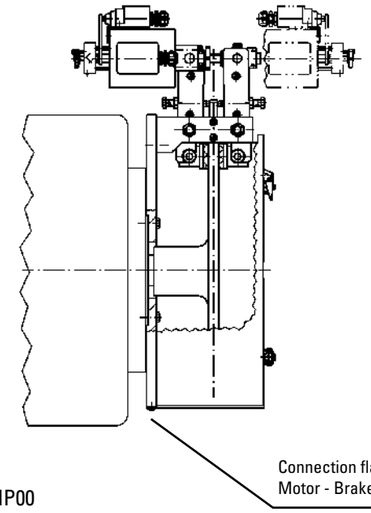
Disc Brake SB 17 MX

Installation example, motor mounted version

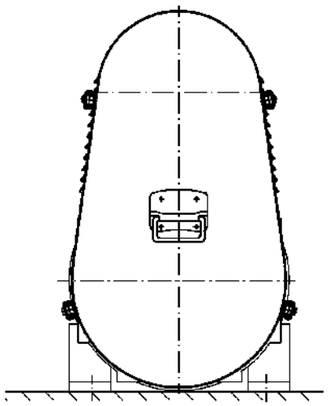
Rev. 12-06

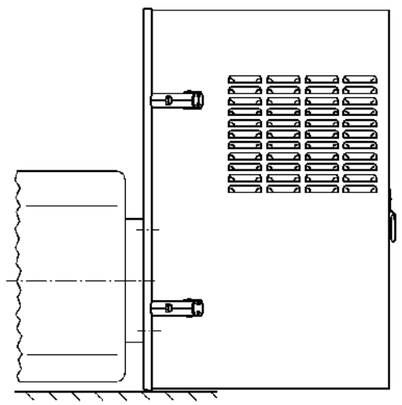
Brake mountable in each 45° steps





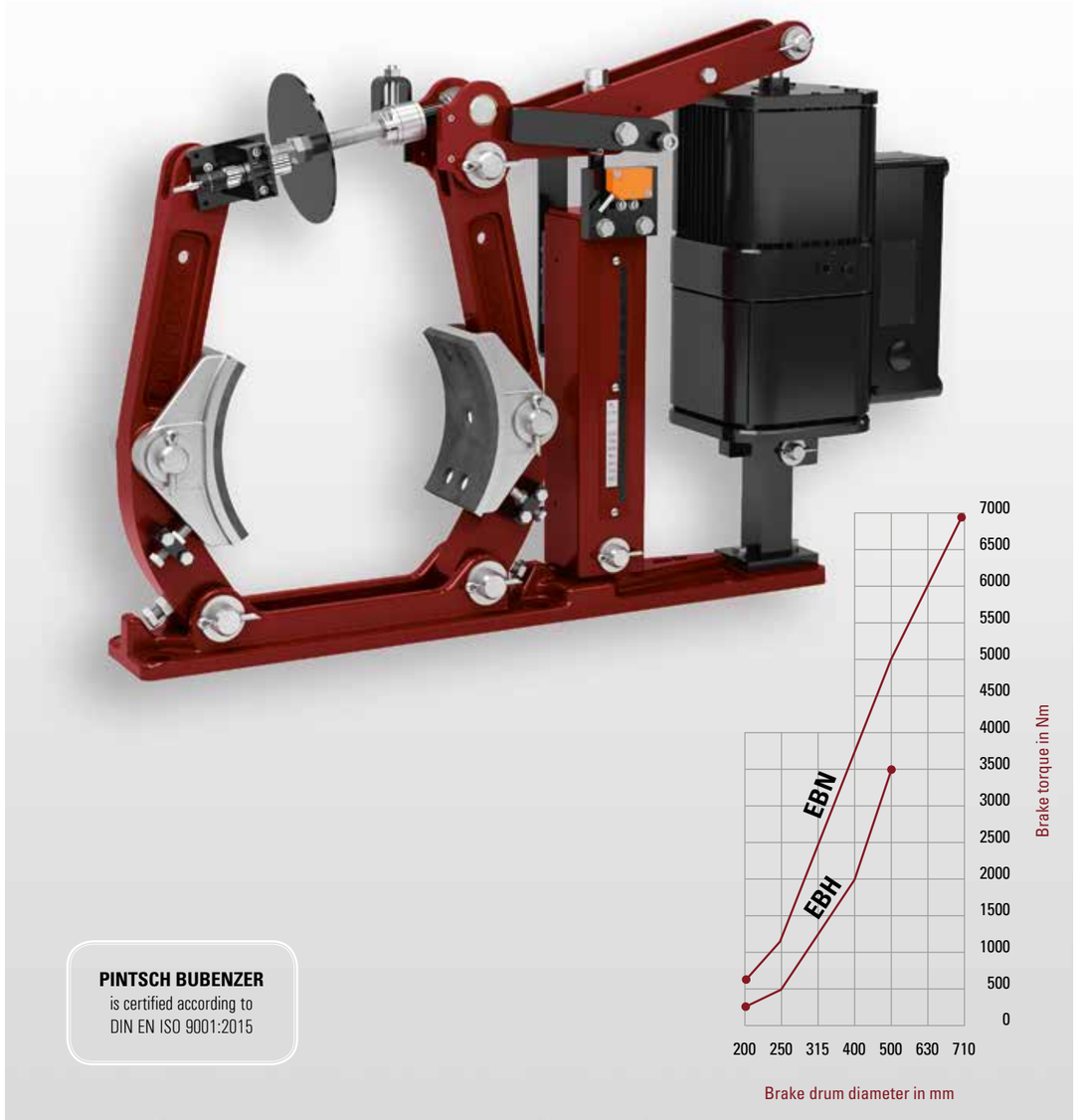
With cover IP00





With cover IP22

When placing order, please indicate motor type.



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DIN Acc. to DIN 15435

High Performance

Reliable

Robust Design

Tried and Trusted