



BRAKE SYSTEMS FOR STEEL MILLS
BRAKING UNLIMITED

Made in Germany



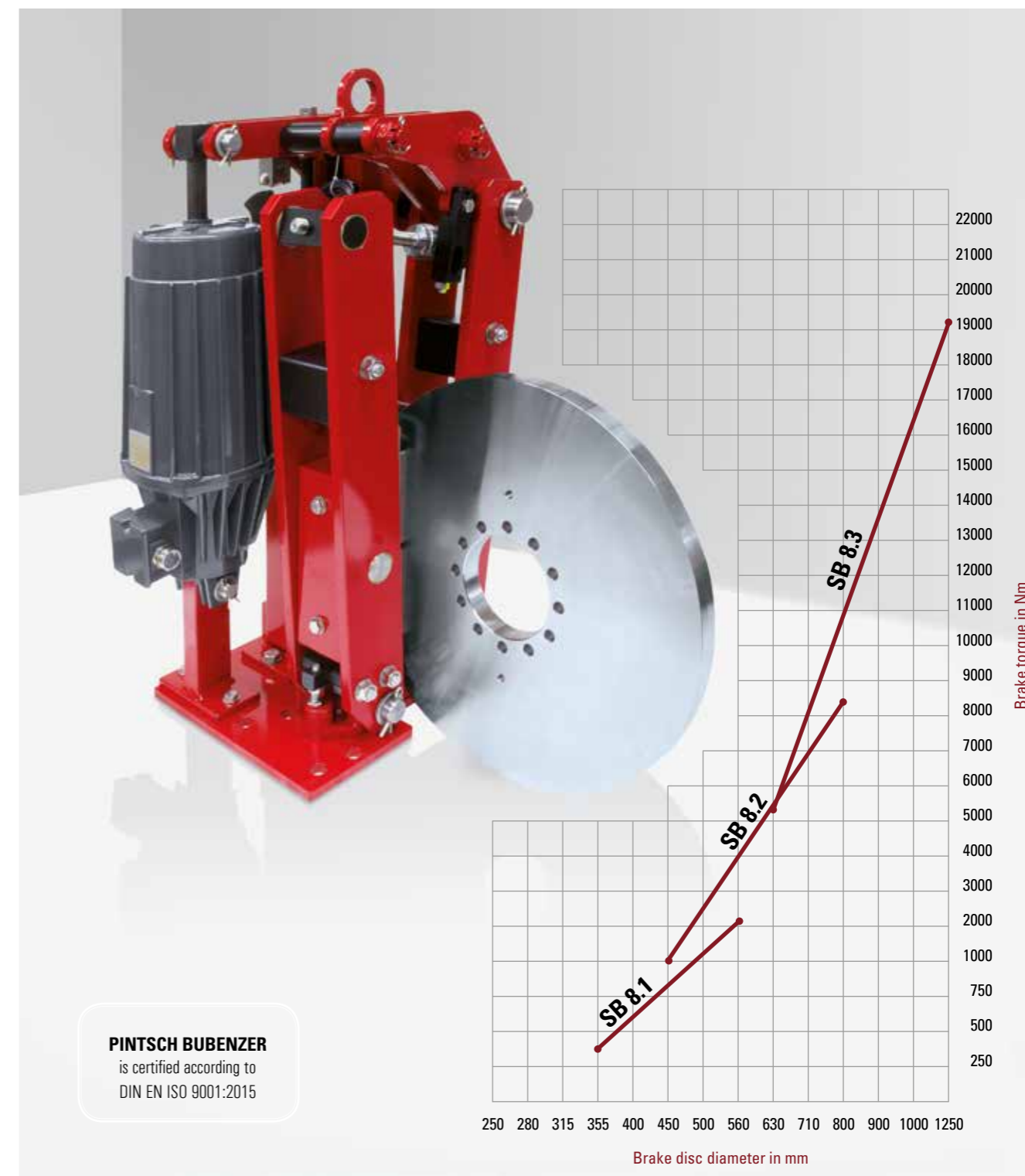
© 2018 PINTSCH BUBENZER

www.pintschbubenzler.com

Content

Thruster Disc Brakes	_____	A7 - A12
Hydraulic Disc Brakes	_____	B1 - B5
Electromagnetic Disc Brakes	_____	C1 - C9, CX1 - CX15, C21 - C26
Drum Brakes	_____	E1 - E3, E15 - E16
Couplings, Hubs, Discs	_____	F1 - F8, F13 - F16
Monitoring Systems, Control Systems	_____	G1 - G9, G13 - G16
Buffers	_____	I1 - I9

Thruster Disc Brakes SB 8 Series



Reliable



Compact Design



Robust Construction



Easy Maintenance

Description SB 8



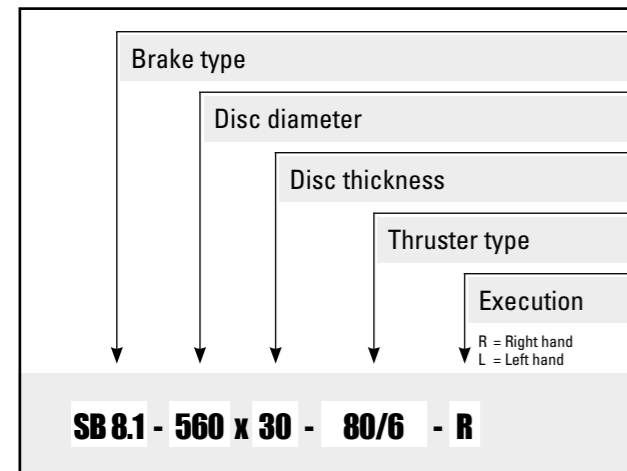
Main Features - Steel Mill Execution

- Very compact dimensions
- Thrusters for high ambient temperatures in steel mills
- Wear resistant linings
- Adjustable, enclosed brake spring with torque scale
- Stainless steel pins and spindles
- Maintenance free bushings in all hinge points
- Right or Left hand design

Options

- Heavy-duty designed automatic wear compensator (dust-proof)
- Heat resistant wiring of limit switches
- Limit switch release control (special execution)
- Limit switch wear control (special execution)
- Limit switch manual release (special execution)
- Manual release lever with or without stop
- Monitoring systems (e.g. VSR)
- Brake discs with hubs or couplings

Ordering Example



Thrusters, Technical Data

Thruster Type	Power (W)	Curr. (A) at 400 V	Weight (kg)
Ed 30/5	200	0,5	14
Ed 50/6	210	0,5	23
Ed 80/6	330	1,2	24
Ed 121/6	330	1,2	39
Ed 201/6	450	1,3	39
Ed 301/6	550	1,4	40

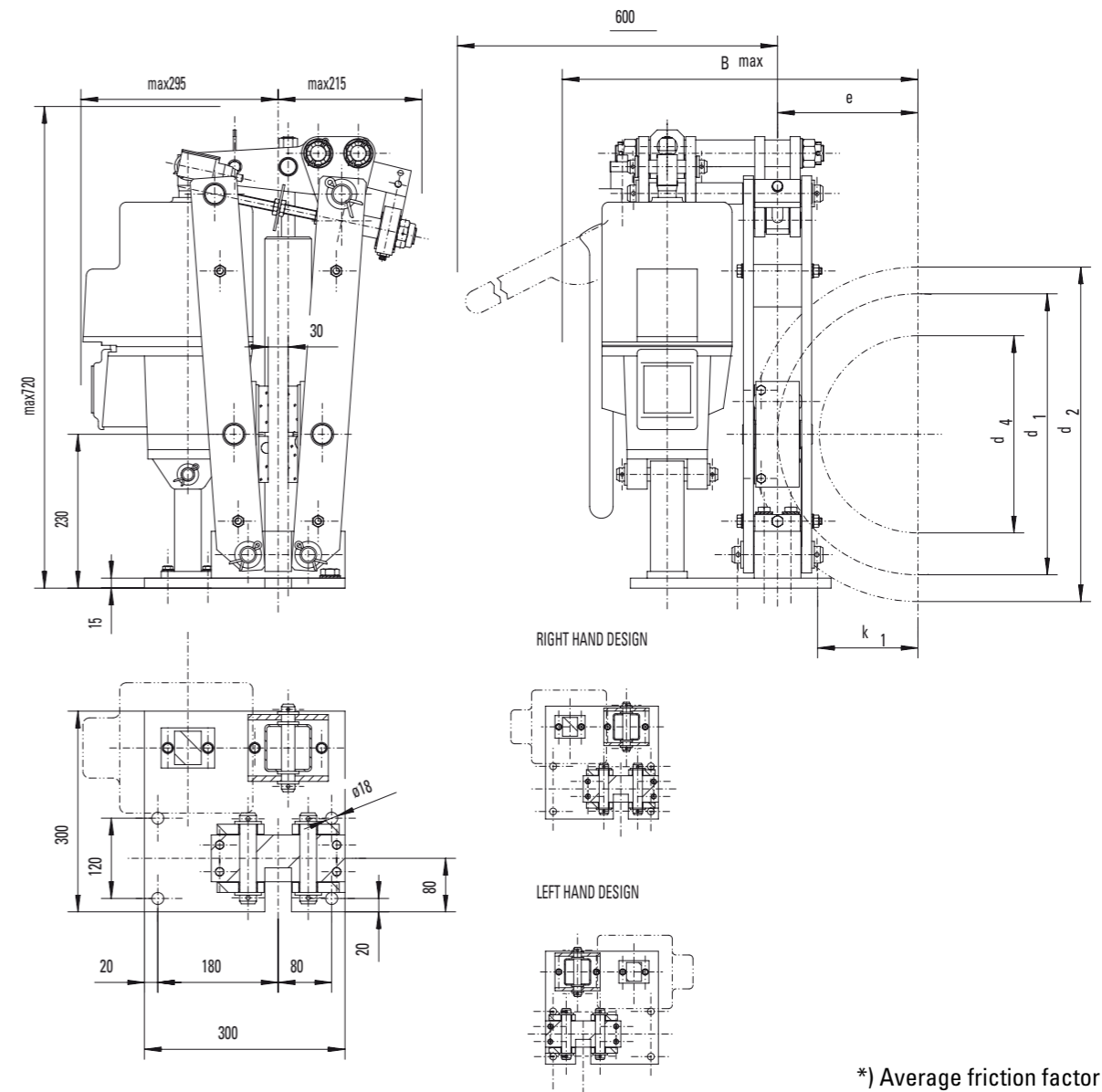
Data supplied by thruster manufacturer, please take higher start current into consideration, fuses to be minimum 2A

Disc Brake SB 8.1

Dimensions and technical data



Rev. 03-09



*) Average friction factor of standard material combination

For crane brake lay-out use safety factors documented in the FEM 1.001, Section 1

All dimensions in mm
Alterations reserved without notice

Weight: 78 kg w/o thruster		Thruster type				Ed 30/5	Ed 50/6	Ed 80/6
		Contact force in N				4000	6100	10500
Disc Ø	Friction Ø					Brake torque M _{Br} in Nm		Friction factor μ = 0,4*
d ₂	d ₁	d ₄	e	k ₁	B _{max}			
355	275	160	138	78	430	450	650	1150
400	320	205	160	100	457	500	800	1350
450	370	255	185	125	482	600	900	1550
500	420	305	210	150	507	670	1000	1750
560	480	365	240	180	537	770	1150	2000



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 therefore 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

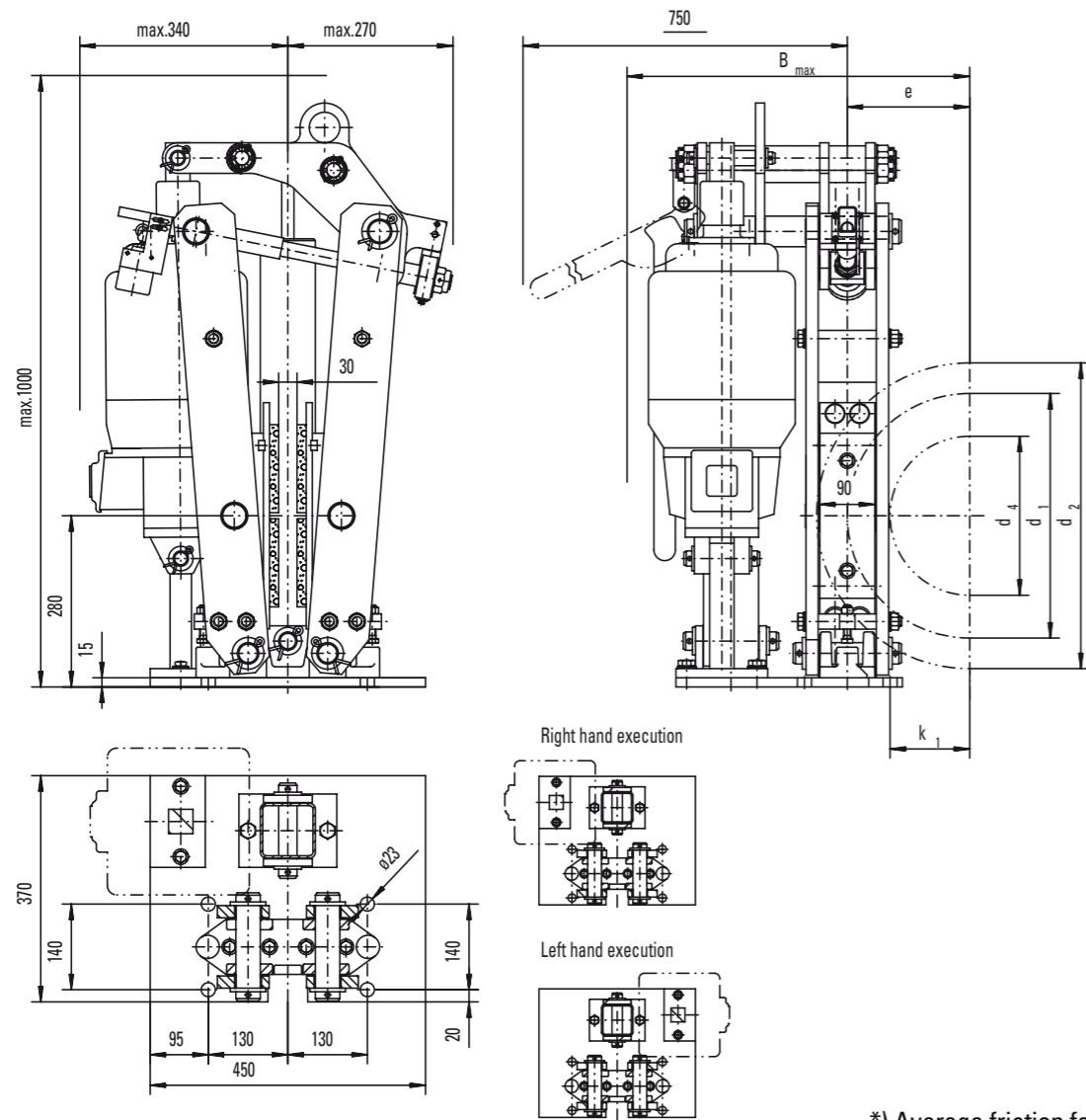
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on site is possible by PINTSCH BUBENZER service engineers. Drawings as DWG/DXF files for your engineering department are available upon request.

Disc Brake SB 8.2

Dimensions and technical data



Rev. 10-08



*) Average friction factor of standard material combination

For crane brake lay-out use safety factors documented in the FEM 1.001, Section 1

All dimensions in mm
Alterations reserved without notice

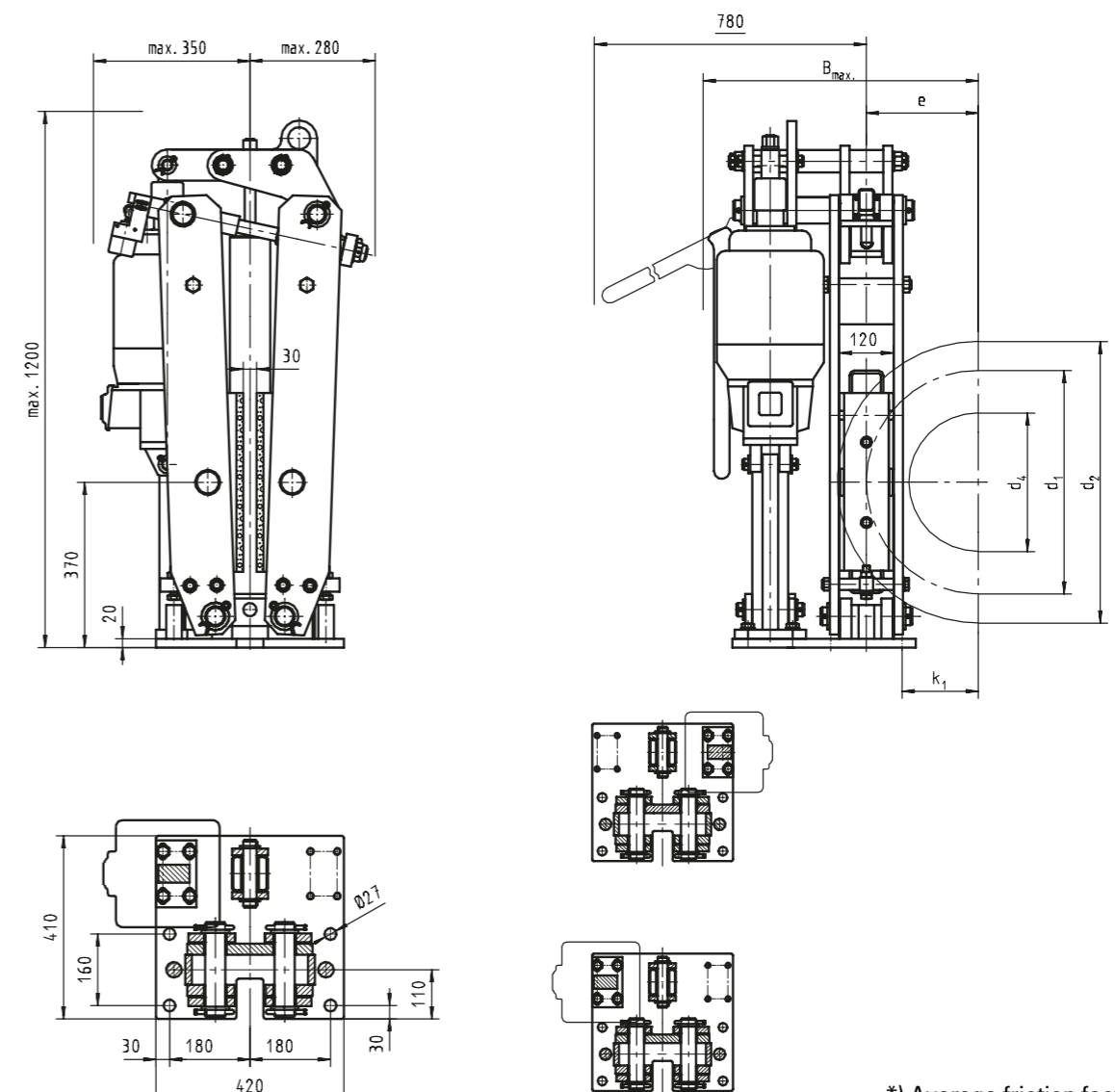
Weight: 180 kg w/o thruster		Thruster type				Ed 50/6	Ed 80/6	Ed 121/6	Ed 201/6
		Contact force in N				7300	12300	19300	30000
Disc Ø	Friction Ø					Brake torque M _{Br} in Nm		Friction factor μ = 0,4*	
d ₂	d ₁	d ₄	e	k ₁	B _{max}				
450	350	200	175	105	540	1000	1700	2700	4200
500	400	250	200	130	575	1200	2000	3100	4800
560	460	310	230	160	605	1400	2300	3600	5500
630	530	380	265	195	640		2600	4100	6400
710	610	460	305	235	680			4700	7300
800	700	550	350	280	725			5400	8400

Disc Brake SB 8.3

Dimensions and technical data



Rev. 06-13



*) Average friction factor of standard material combination

For crane brake lay-out use safety factors documented in the FEM 1.001, Section 1

All dimensions in mm
Alterations reserved without notice

Weight: 285 kg w/o thruster		Thruster type				Ed 201/6	Ed 301/6		
		Contact force in N				27000	43000		
Disc Ø	Friction Ø					Brake torque M _{Br} in Nm		Friction factor μ = 0,4*	
d ₂	d ₁	d ₄	e	k ₁	B _{max}				
630	500	310	250	170	630	5400	8600		
710	580	390	290	210	670	6250	10000		
800	670	480	335	255	715	7200	11500		
900	770	580	385	305	765	8300	13200		
1000	870	680	435	355	815	9400	15000		
1250	1120	930	560	480	940	12000	19200		

Description SF



Main Features - Steel Mill Execution

- Two identical caliper halves, ready for operation, with spring packs set to nominal force and limit switch for release control (heat resistant)
- Up to 2 mm airgap between linings and brake disc
- Easy, manual pad wear compensation
- Organic, non-asbestos linings
- Special seals for flame-proof liquids
- Viton seals

Hydraulic power unit - Steel Mill Execution

- Dead man's circuit
- Stainless steel tank
- Non flammable oil
- Oil temperature switch
- Automatic emergency release system
- Stainless steel cover

Options

- Heat resistant wiring of limit switches
- Limit switch wear control (special execution)
- Heat resistant piping
- Completely piped supports for one or more calipers
- Hydraulic power units
- Cleaning pad

Applications

- The high capacity of these brakes makes them particularly suitable as secondary emergency brakes on main hoists (ladle cranes)
- Other applications are possible in material handling, requiring power and compact design in either direction of rotation, particularly in replacing band brakes
- **Use of the brakes for applications with high duty cycles should be specifically indicated during technical selection procedure**

Operating Restrictions

- Brakes of this range are tested both mechanically and hydraulically and are set to nominal force. This setting can only be changed by the manufacturer. Operating conditions other than described in this brochure require the manufacturer's approval and may influence the function of the caliper and its components



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 therefore 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

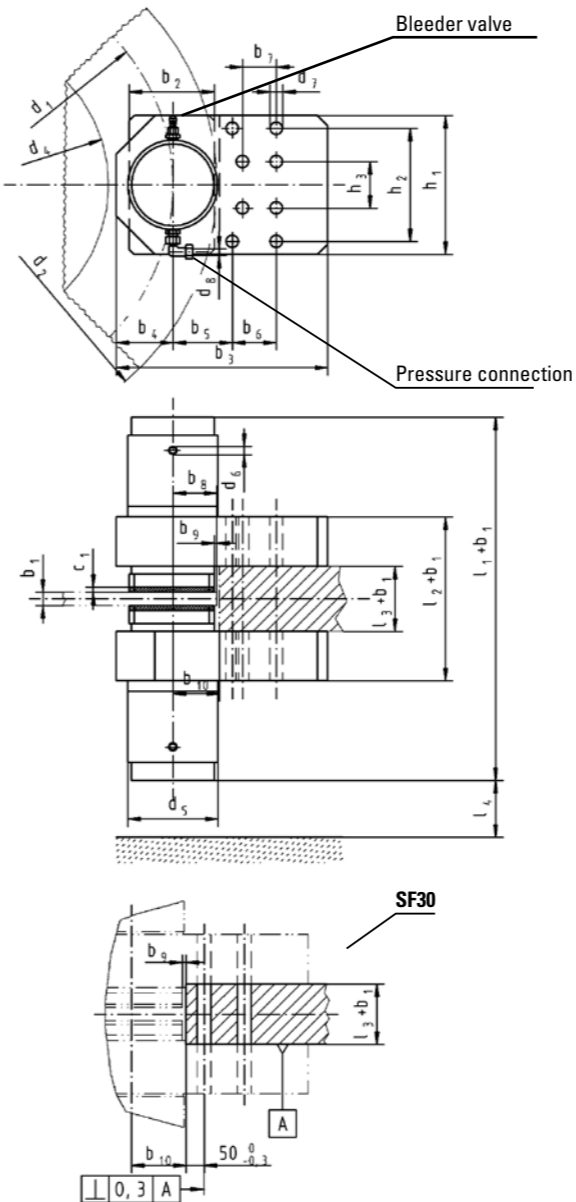
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on site is possible by PINTSCH BUBENZER service engineers. Drawings as DWG/DXF files for your engineering department are available upon request.

Disc Brake SF

Dimensions and technical data

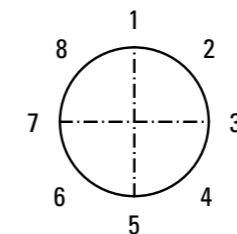


Rev. 12-06



*) Average friction factor of standard material combination
All dimensions in mm. Alterations reserved without notice.

$$\text{Brake torque } M_{Br} \text{ in Nm} = F_A \text{ (kN)} \times \mu \times d_1 \text{ (mm)}$$



Please indicate required mounting position.

Type SF	10	15	24	30	40
b ₂	165	165	195	280	300
b ₃	410	410	480	640	720
b ₄	110	110	130	155	175
b ₅	115	115	130	200	220
b ₆	85	85	100	110	125
b ₇	60	60	70	110	125
b ₈	85	85	100	140	160
b ₉	5	5	5	5	10
b ₁₀	90	90	105	150	170
c ₁	10	10	10	10	10
d ₅	175	175	225	290	310
d ₆	3/8"	3/8"	3/8"	3/8"	3/8"
d ₇	25	25	31	38	50
d ₈	12	12	12	12	12
h ₁	270	270	300	400	480
h ₂	220	220	230	300	375
h ₃	90	90	70	100	125
l ₁	650	690	810	940	981
l ₂	292	292	342	402	502
l ₃	100	100	110	130	110
l _{4min}	40	110	130	180	200
Bolt	ø M24	M24	M30	M36	M48
Bolt material	10.9	10.9	10.9	10.9	10.9
Tighten. torque, Nm	1050	1050	2100	3500	6400
Contact force F _A kN	100	150	240	300	400
Op. pressure bar	140	180	180	210	210
Max. pressure bar	200	200	200	240	240
Release stroke mm	2	2	2	2	2
Oil volume l	0,023	0,023	0,035	0,050	0,052
Pad surface cm ²	427	427	570	1050	1360
Theor. friction μ*	0,40	0,40	0,40	0,40	0,40
Weight (kg)	200	210	368	760	1180

Data per caliper half

Brake disc data		SF10	SF15	SF24	SF30	SF40
d ₁ =	d ₂ -170 mm	d ₂ -170 mm	d ₂ -200 mm	d ₂ -290 mm	d ₂ -320 mm	
d ₄ =	d ₂ -420 mm	d ₂ -420 mm	d ₂ -490 mm	d ₂ -620 mm	d ₂ -700 mm	

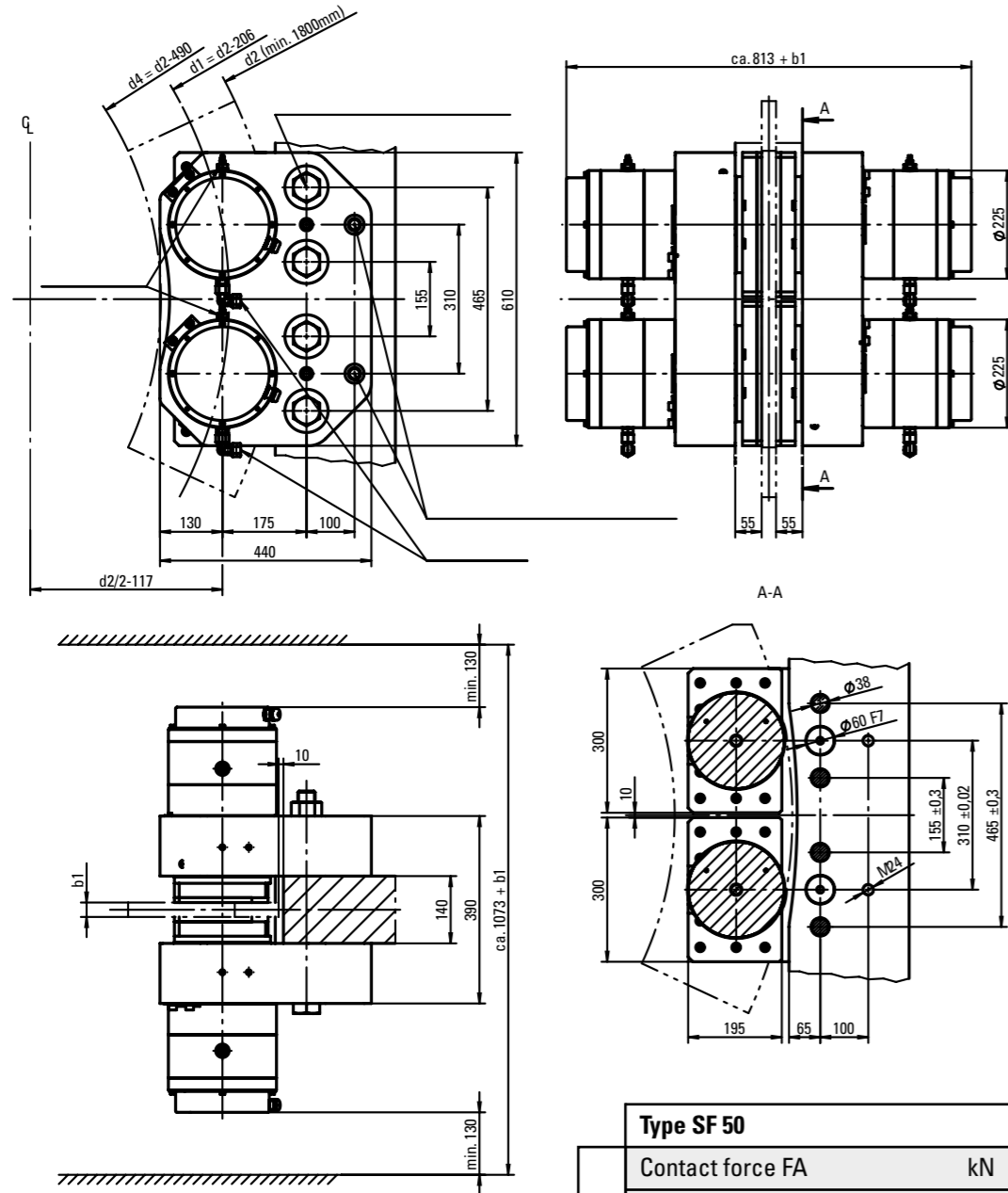
d₂ = Brake disc diameter in mm
d₁ = Friction diameter in mm
d₄ = Max. permissible drum or hub diameter in mm
b₁ = Disc thickness in mm (min. 30)

Disc Brake SF 50

Dimensions and technical data



Rev. 02-14



Brake Torque M_B in Nm = F_A (kN) x μ x d_1 (mm)

*) Theor. friction factor of standard material combination

All dimensions in mm
Alterations reserved without notice

Type SF 50		
Contact force F_A	kN	510
Operating pressure p	bar	180
Max. pressure $p_{max.}$	bar	200
Release stroke	mm	2
Oil volume	l	0,07
Pad surface	cm ²	1100
Theor. friction factor	μ^*	0,40
Weight (without bracket)	kg	ca. 730

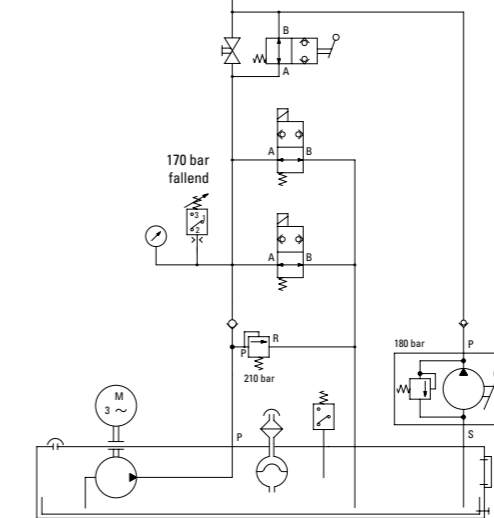
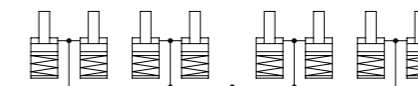
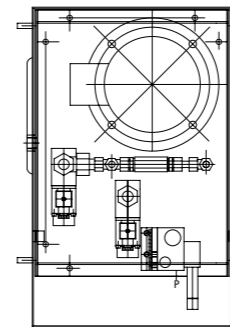
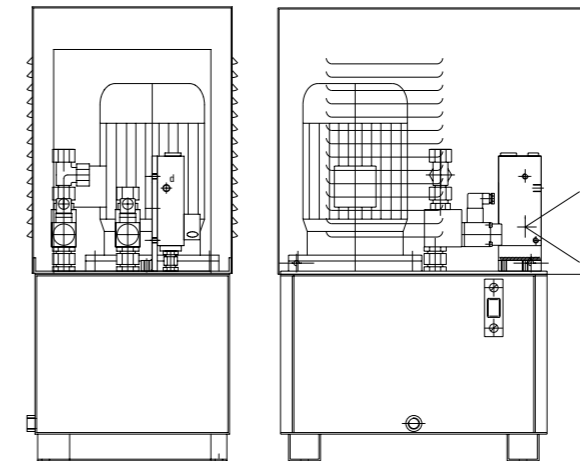
d_2 = Brake disc diameter in mm
 d_1 = Friction diameter in mm
 d_4 = Max. permissible drum or hub diameter in mm
 b_1 = Brake disc thickness in mm (min. 30)

Disc Brake SF

Hydraulic power unit for one and more calipers (example)



Rev. 03-09



Example:	
Standard configuration up to 8	SF10/SF15
Standard configuration up to 4	SF24
Motor:	4 kW
Pump:	12,3 l/min
Pressure:	210 bar
Tank:	40 l
Weight:	115 kg

The flow diagram shows the general arrangement of the hydraulic power unit, including handpump and dead man circuit for emergency manual release of the brakes.

The two solenoid valves are switched in parallel (redundancy). After the nominal pressure is reached, the idler valve switches into idle running.

All dimensions in mm
Alterations reserved without notice



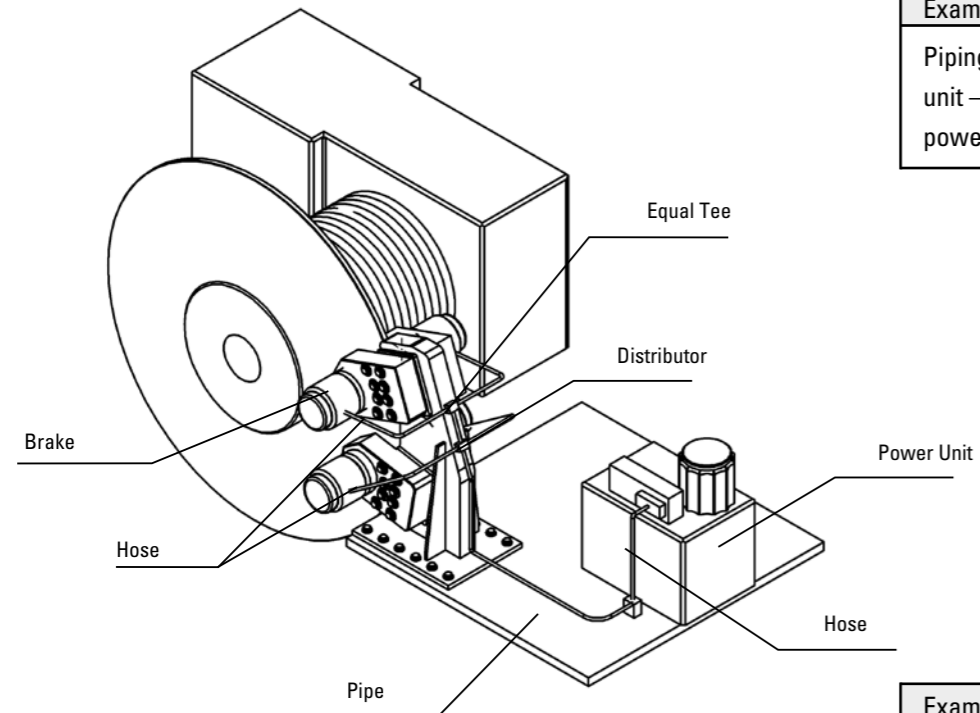
With every order we supply a complete hydraulic and electric diagram according to the order specification.

Piping Samples

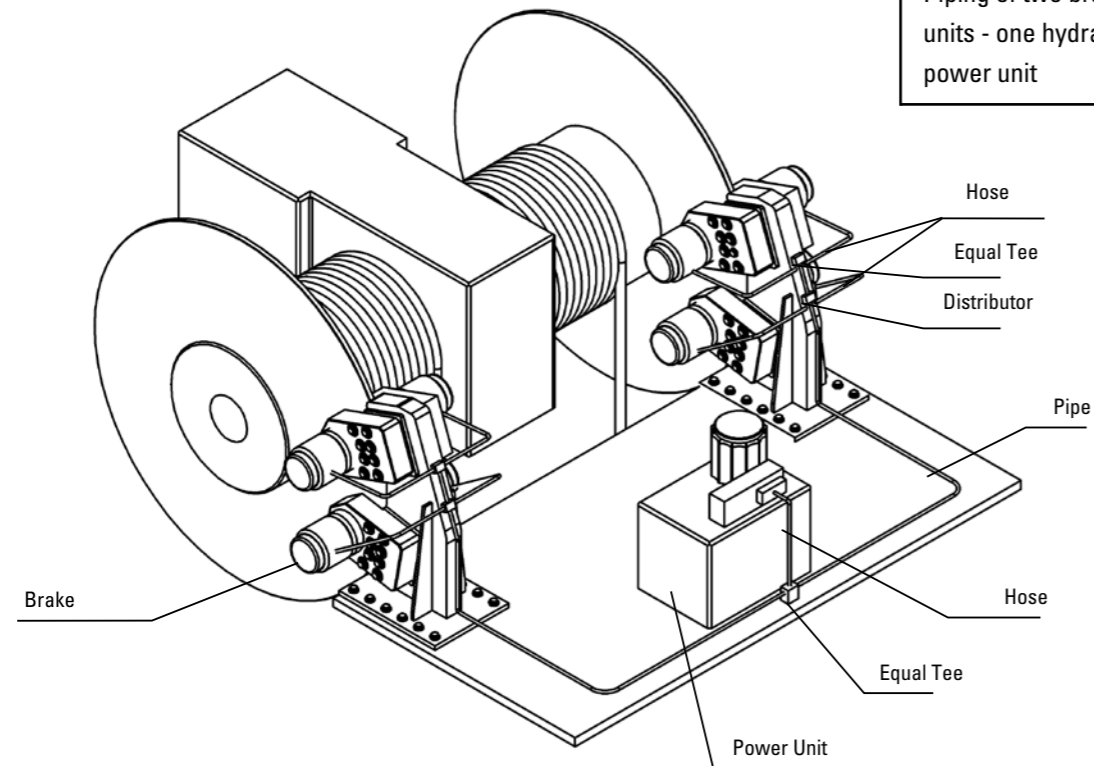
Disc brakes SF and BSC




Rev. 09-02



Example:
Piping of one brake unit – one hydraulic power unit



Example:
Piping of two brake units - one hydraulic power unit

 Attention: For operating two brake units with one power unit please note, that the power unit should be installed between the brakes in the centre to achieve almost equal pipe length on both sides (equal apply time of brakes).

Spring Set Brakes SFB Series



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



Reliable



High Performance



Robust



Easy Maintenance



Compact



Tried and Trusted

Description SFB Series



Main Features

- Spring applied safety brake
- Electromechanically released
- Protection-class IP67
- Double wear reserve by single air gap adjustment
- High work capacity
- High wear resistance because of high abrasion resistance
- Functional without cover
- Emergency release screws

Applications

- Gantry, trolley and hoisting applications
- Electrical drives for ship winches and deck machinery
- Jack up systems at offshore systems
- Dynamic and static use at general industrial applications

Certificates

- ABS, DNV, LR, GL, RMROS, BV

Options

- Special brake torque:
 - Lower brake torque = type SFB
 - Higher brake torque = type SFB-SH
- Holding brake torques available on request
- Micro- or proximity switches:
 - Monitoring the function on/off
 - Maximum air gap (wear-monitoring)
- Lateral junction box
- Tacho preparation with all mounting parts
- Cover bore
- Shaft sealing
- Special voltage
- Anti condensation heater
- Radial cable outlet
- Special flange

Electrical equipment

- One-way, bridge and switching rectifier
- Protective element
- Brake control unit = BCU 2001
- Brake control and monitoring system = BCMS-4



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

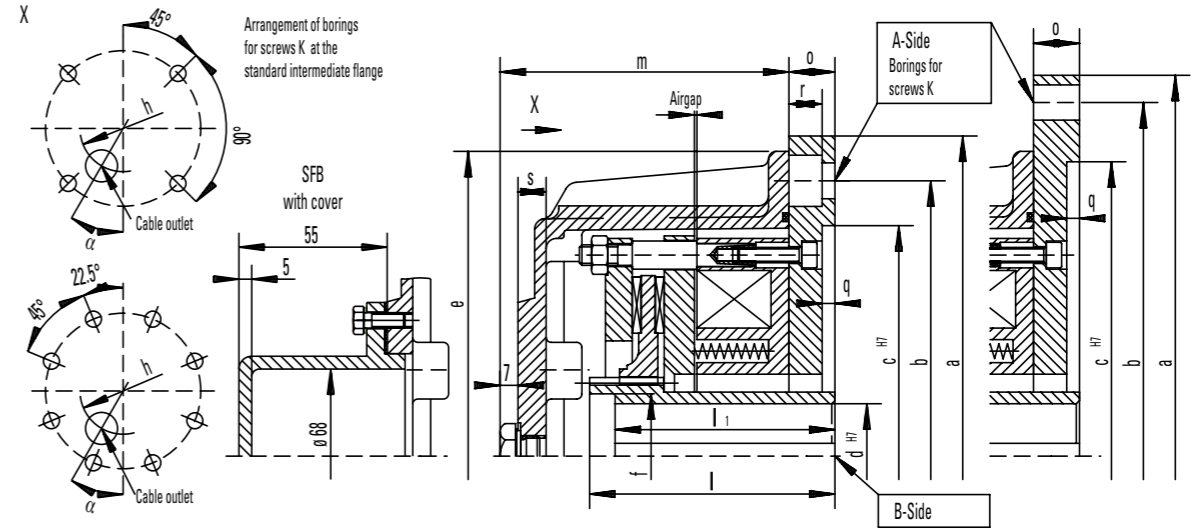
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on-site by PINTSCH BUBENZER service engineers is possible. Drawings as DWG/DXF files for your engineering department are available upon request.

Spring Set Brake SFB

Electromagnetic Two Disc, Spring Set Brake



Rev. 05-08



Keyways for keys acc. to DIN6885 Bl.1, width accuracy P9. Protection IP67

Alterations reserved without notice

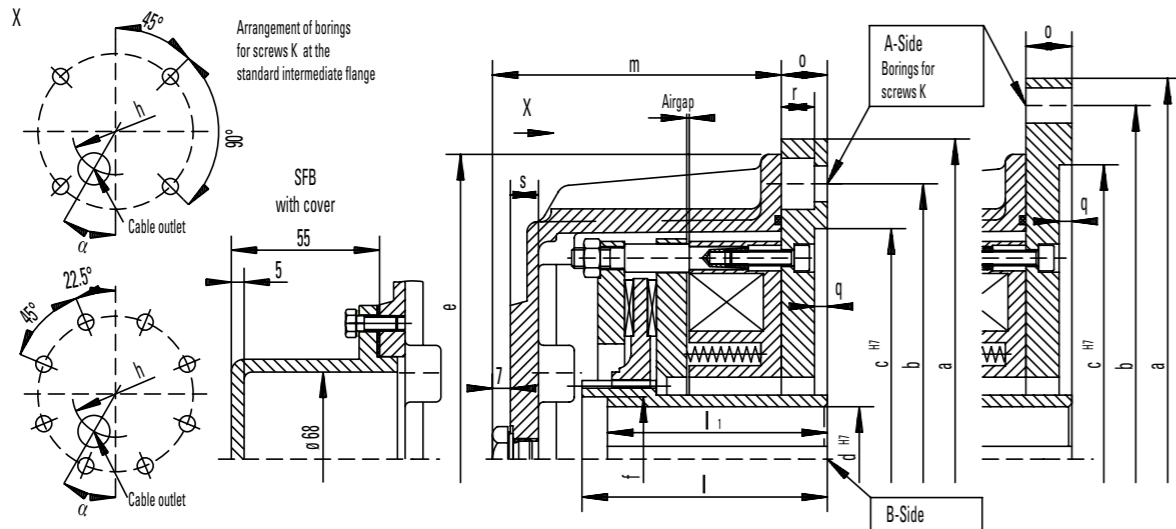
Brake size		SFB 6.3	SFB 10	SFB 16	SFB 25	SFB 40	SFB 63	SFB 100	SFB 160	SFB 250			
Brake torque M2 dynamic acc. to DIN VDE 0580	Nm	63	100	160	250	400	630	1000	1600	2500			
		54	80	130	210	330	520	830	1300	2100			
		45	63	100	180	260	400	660	1050	1650			
Mass moment of inertia	kgm ²	0.0017	0.0037	0.0048	0.0068	0.0175	0.036	0.050	0.128	0.140			
Mass (weight)	kg	19	28	42	55	74	106	168	242	306			
max. speed	min ⁻¹	6000	6000	6000	5500	4700	4000	3600	3200	2800			
Coil b. 20° C	Nominal voltage	V DC	110	110	110	110	110	110	110	110			
	Nominal power	W	99	128	158	196	220	307	344	435			
	Nominal current	A	0.90	1.16	1.44	1.78	2.0	2.79	3.13	3.95			
Air gap, brake OFF	min. mm	0.3	0.3	0.3	0.4	0.4	0.4	0.6	0.4	0.4			
	max. mm	0.9	1.2	1.2	1.3	1.4	1.8	1.8	2.3	2.5			
Diameter mm	B-Side	d Rough boring	26	26	36	36	36	36	36	46	46		
		d ^{H7} Preferential boring	28	28	38	38	48	60	60	65	65		
			32	32	42	42	55	65	65	70	70		
			38	38	48	48	60	75	75	75	75		
					55	55				80	80		
	d ^{H7} maximal	40	40	55	55	60	75	75	110	110			
Length mm	e	238	260	280	318	400	440	446	540	556			
	f						95	95	128	128			
	h	150	180	202	214	244	292	330	394	440			
	l	96	96	117	117	142	148	148	191	191			
	l ¹	96	96	117	117	142	142	142	171	171			
	m	115	118	137	143	169	171	183	211	232			
s	11	11	11	12	14	15	15	15	15				
A	α°	15	15	30	22.5	30	30	30	30	45			
Suitable standard Intermediate flange		A250	A300	A300-1	A350	A400-1	A450-1	A450-1	A550-1	A660			
		A300	A350	A350	A400	A450	A550	A550	A660	A800			
				A400	A450	A550	A660	A660	A800				
Dimensions of standard intermediate flanges													
Standard intermediate flange		A250	A300	A300-1	A350	A400	A400-1	A450	A450-1	A550	A550-1	A660	A800
Diameter mm	a	250	300	300	350	400	400	450	450	550	550	660	800
	b	215	265	265	300	350	350	400	400	500	500	600	740
	c ^{H7}	180	230	230	250	300	300	350	350	450	450	550	680
	o	18	18	18	20	22	22	24	24	24	24	30	30
Length mm	q	5	5	5	6	6	6	6	6	6	6	7	7
	r	13		13			17.5		17.5		17.5		
	Screws k	4xM12	4xM12	4xM12	4xM16	4xM16	4xM16	4xM12	8xM16	8xM16	8xM16	8xM20	8xM20

Spring Set Brake SFB

Electromagnetic Two Disc, Spring Set Brake



Rev. 05-08



Brake size		SFB	SFB	SFB	
		400	630	1000	
Brake torque M2 dynamic acc. to DIN VDE 0580	Nm	4000	6300	10000	
		3350	5250	8500	
		2650	4200	7000	
Mass moment of inertia	kgm ²	0.325	0.375	1.007	
Mass (weight)	kg	357	500	750	
max. speed	min ⁻¹	2500	2200	2000	
Coil b. 20° C	Nominal voltage	V DC	110	110	110
	Nominal power	W	553	671	980
	Nominal current	A	5.03	6.10	8.91
Air gap, brake OFF		min. mm	0.4	0.7	0.7
		max. mm	2.5	2.8	3.1
Diameter mm	B-Side	d Rough boring	46	58	68
		d ^{H7} Preferential boring	65	100	125
			70		
			75		
			80		
d ^{H7} maximal	110	125	140		
Length mm	e	660	700	795	
	f	128	140	155	
	h	520	570	620	
	l	191	237	282	
	l ¹	171	210	255	
	m	272	310	360	
A	s	15	15	15	
Suitable standard intermediate flange	α°	30	30	30	
	A660-1	A800	A800-1		
	A800				
Dimensions of standard intermediate flange					
Standard intermediate flange		A660-1	A800	A800-1	
Diameter mm	a	660	800	800	
	b	600	740	740	
	c ^{H7}	550	680	680	
	o	30	30	30	
Length mm	q	7	7	7	
	r	21.5		21.5	
	Screws k	8xM20	8xM20	8xM20	

Keyways for keys acc. to DIN6885 Bl.1, width accuracy P9. Protection IP67

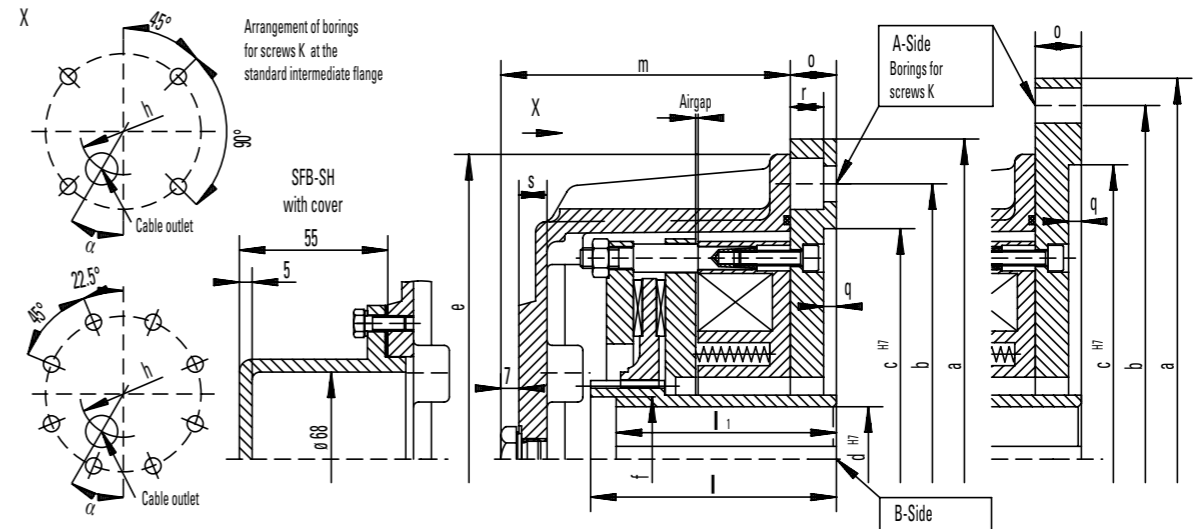
Alterations reserved without notice

Spring Set Brake SFB-SH

Electromagnetic Two Disc, Spring Set Brake
Increased brake torque



Rev. 05-08



Keyways for keys acc. to DIN6885 Bl.1, width accuracy P9. Protection IP67

Alterations reserved without notice

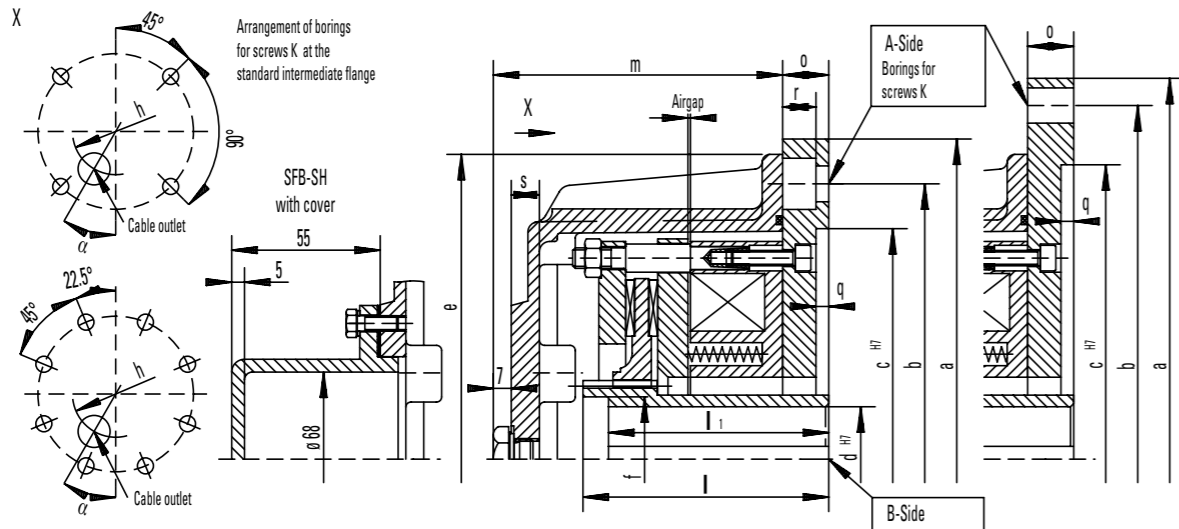
Brake size		SFB	SFB	SFB	SFB	SFB	SFB	SFB	SFB	SFB			
		6.3-SH	10-SH	16-SH	25-SH	40-SH	63-SH	100-SH	160-SH	250-SH			
Brake torque M2 dynamic acc. to DIN VDE 0580	Nm	80	130	210	350	550	800	1300	2100	3300			
		75	120	190	310	490	750	1200	1900	3000			
		69	110	180	275	440	690	1100	1750	2750			
Mass moment of inertia	kgm ²	0.0017	0.0037	0.0048	0.0068	0.0175	0.036	0.050	0.128	0.140			
Mass (weight)	kg	19	28	42	55	74	106	168	242	306			
max. speed	min ⁻¹	6000	6000	6000	5500	4700	4000	3600	3200	2800			
Coil b. 20° C	Nominal voltage	V DC	110	110	110	110	110	110	110	110			
	Nominal power	W	99	128	158	196	220	307	344	435			
	Nominal current	A	0.90	1.16	1.44	1.78	2.0	2.79	3.13	3.95			
Air gap, brake OFF		min. mm	0.3	0.3	0.3	0.4	0.4	0.6	0.4	0.4			
		max. mm	0.9	1.2	1.2	1.3	1.4	1.8	1.8	2.3	2.5		
Diameter mm	B-Side	d Rough boring	26	26	36	36	36	36	36	46	46		
		d ^{H7} Preferential boring	28	28	38	38	48	60	60	65	65		
			32	32	42	42	55	65	65	70	70		
			38	38	48	48	60	75	75	75	75		
					55	55				80	80		
d ^{H7} maximal	40	40	55	55	60	75	75	110	110				
Length mm	e	238	260	280	318	400	440	446	540	556			
	f						95	95	128	128			
	h	150	180	202	214	244	292	330	394	440			
	l	96	96	117	117	142	148	148	191	191			
	l ¹	96	96	117	117	142	142	142	171	171			
	m	115	118	137	143	169	171	183	211	232			
A	s	11	11	11	12	14	15	15	15	15			
Suitable standard intermediate flange	α°	15	15	30	22.5	30	30	30	30	45			
	A250	A300	A300-1	A350	A400-1	A450-1	A450-1	A450-1	A550-1	A660			
	A300	A350	A350	A400	A450	A550	A550	A550	A660	A800			
Dimensions of standard intermediate flange													
Standard intermediate flange		A250	A300	A300-1	A350	A400	A400-1	A450	A450-1	A550	A550-1	A660	A800
Diameter mm	a	250	300	300	350	400	400	450	450	550	550	660	800
	b	215	265	265	300	350	350	400	400	500	500	600	740
	c ^{H7}	180	230	230	250	300	300	350	350	450	450	550	680
	o	18	18	18	20	22	22	24	24	24	24	30	30
Length mm	q	5	5	5	6	6	6	6	6	6	6	7	7
	r	13		13			17.5		17.5		17.5		
	Screws k	4xM12	4xM12	4xM12	4xM16	4xM16	4xM16	8xM16	8xM16	8xM16	8xM16	8xM20	8xM20

Spring Set Brake SFB-SH

Electromagnetic Two Disc, Spring Set Brake
Increased brake torque



Rev. 05-08



Brake size		SFB 400-SH	SFB 630-SH	SFB 1000-SH	
Brake torque M2 dynamic acc. to DIN VDE 0580	Nm	5200	8000	13000	
		4800	7500		
		4400	6900		
Mass moment of inertia	kgm ²	0.325	0.375	1.007	
Mass (weight)	kg	357	500	750	
max. speed	min ⁻¹	2500	2200	2000	
Coil b. 20° C	Nominal voltage	V DC	110	110	110
	Nominal power	W	553	671	980
	Nominal current	A	5.03	6.10	8.91
Air gap, brake OFF	min. mm	0.4	0.7	0.7	
	max. mm	2.5	2.8	3.1	
Diameter mm	B-Side	d Rough boring	46	58	68
		d ^{H7} Preferential boring	65	100	125
			70		
			75		
			80		
			90		
d ^{H7} maximal	110	125	140		
Length mm	e	660	700	795	
	f	128	140	155	
	h	520	570	620	
	l	191	237	282	
	l ¹	171	210	255	
	m	272	310	360	
	s	15	15	15	
A	α°	30	30	30	
Suitable standard intermediate flange		A660-1	A800	A800-1	
		A800			
Dimensions of standard intermediate flange					
Standard intermediate flange		A660-1	A800	A800-1	
Diameter mm	a	660	800	800	
	b	600	740	740	
	c ^{H7}	550	680	680	
Length mm	o	30	30	30	
	q	7	7	7	
	r	21.5		21.5	
	Screws k	8xM20	8xM20	8xM20	

Keyways for keys acc. to DIN6885 BI.1, width accuracy P9. Protection IP67

Alterations reserved without notice

Spring Set Brake KFB



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



Reliable



High Performance



Robust



Easy Maintenance



Compact



Tried and Trusted

Description KFB



Main Features

- Spring applied safety brake
- Electromechanically released
- Protection-class IP67 – seawater protected
- High wear reserve by multiple air gap adjustment
- Small construction at high work capacity
- High availability caused by high durability
- Functional without cover
- Emergency release screws

Applications

- Gantry, trolley and hoisting application
- Dynamic and static use at general industrial applications
- General engineering
- Steel mills
- Wind energy systems
- Coal mining

Certificates

- ABS, Atex

Options

- Special brake torque
- Handlever
- Micro or proximity switch:
 - Monitoring the function on/off
 - Maximum air gap (wear-monitoring)
- Lateral junction box
- Tacho preparation with all mounting parts
- Cover bore
- Shaft sealing
- Special voltage
- Anti condensation heater
- Radial cable outlet
- Special flange

Electrical equipment

- One-way, bridge and switching rectifier
- Protective element
- Brake control unit = BCU 2001
- Brake control and monitoring system = BCMS-4



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

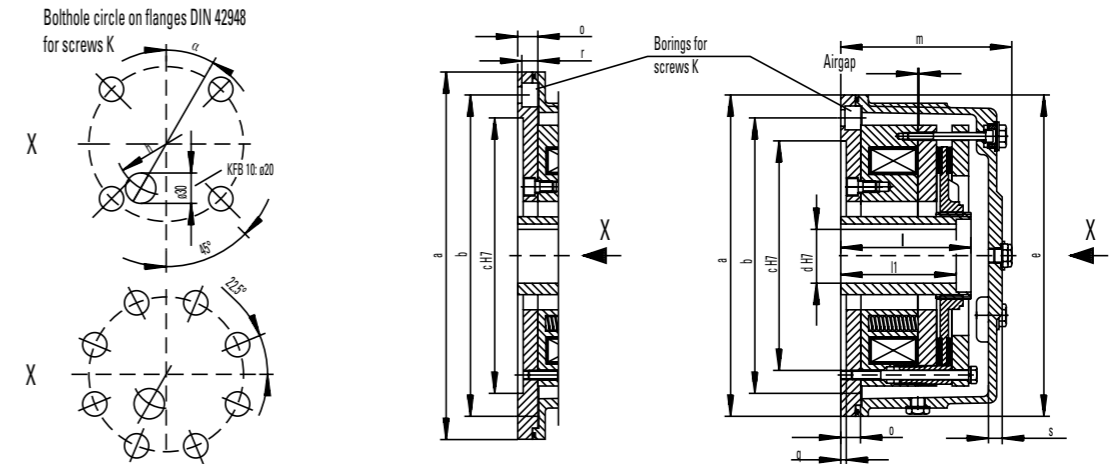
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on-site by PINTSCH BUBENZER service engineers is possible. Drawings as DWG/DXF files for your engineering department are available upon request.

Spring Set Brake KFB

Electromagnetic Two Disc, Spring Set Brake



Rev. 10-09



* The larger dimension belongs to the larger assigned brake.

Alterations reserved without notice.

Brake size		KFB 5	KFB 10	KFB 16	KFB 25	KFB 30	KFB 40	KFB 63	KFB 100	KFB 160	
Brake torque M2 dynamic acc. to DIN VDE 0580 Nm		50	100	160	250	300	400	630	1000	1600	
Mass moment of inertia kgm ²		0.0010	0.0017	0.0037	0.0048	0.0055	0.0068	0.0175	0.036	0.050	
Mass (weight) kg		13	19	28	42	50	55	74	106	168	
max. speed min ⁻¹		6000	6000	6000	6000	6000	5500	4700	4000	3600	
Coil b. 20° C	Nominal voltage V DC	110	110	110	110	110	110	110	110	110	
	Nominal power W	79	93	128	158	133	196	220	307	344	
	Nominal current A	0.72	0.84	1.16	1.44	1.2	1.78	2.0	2.79	3.13	
Air gap, OFF		norm. mm	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	
		max. mm	0.8	1.0	1.0	1.2	0.8	1.2	1.3	1.6	
Diameter mm	B-Side	d pilot bore	8	26	26	36	26	36	36	36	36
		d ^{H7} preferential bore	15	28	28	38	32	38	48	60	60
			20	32	32	42	38	42	55	65	65
			25	38	38	48	42	48	60	75	75
						55	45	55			
Length mm	e	160/200	200/250	253/303	300/350	250/300	303/350	350/400	400/450	450/550	
	f										
	h	93	106	144	194	144	194	214	264	314	
	l	110	110	96	117	137	117	142	148	155	
	l ¹	110	110	96	117	137	117	142	142	142	
	m	145	154	141	165	175	175	187	196	218	
s	13	15	15	15	15	15	15	15	15	17	
A	α °	22.5	30	30	30	67.5	30	30	30	30	
Suitable standards flanges		A160	A200	A250	A300	A250	A300	A350	A400	A450	
		A200	A250	A300	A350	A300	A350	A400	A450	A550	
Dimensions of standards flanges											
Size of standards flanges		A160	A200	A250	A300	A350	A400	A450	A550		
Diameter mm	a	160	200	250	300	350	400	450	550		
	b	130	165	215	265	300	350	400	500		
	c ^{H7}	110	130	180	230	250	300	350	450		
	o	18	18	18/20*	20/22*	22	22/24*	24/29*	24/29*		
Length mm	q	5	5	5	5	6	6	6	6		
	r	11	11	13	13	17.5	17.5	17.5	17.5		
	Screws k	4xM8	4xM10	4xM12	4xM12	4xM16	4xM16	8xM16	8xM16		

Description Accessories



Main Features

- EMC compatibility
- Top-hat rail mounted
- Combinable with Brake Control Unit BCU2001
- Integrated protective element
- Integrated spark quench element

Specific Features for the rectifiers BGL and EGL

- Prepared for switching AC and DC circuits simultaneously
- Installation in cabinet

Specific Features for the protective element PE 400/150/5

- To be connected parallel to the output of the rectifiers BGL, EGL and SGL to increase the interruption capacity

Specific Features for the rectifiers FWR and HWR

- Prepared for switching AC and DC circuits simultaneously
- Installation in junction box

Specific Features of the switching rectifier SGL

- Prepared for switching AC and DC circuits simultaneously
- Switches from bridge rectification to half-wave rectification
- Four time settings 0,5 s, 1 s, 1,5 s, 2 s adjustable
- Applying brakes at elevated temperatures
- Accelerated brake release (Overexcitation with AC power supply voltage = 2 x DC coil voltage)
- Accelerated brake effect (Standard excitation with AC power supply voltage = DC coil voltage)



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.

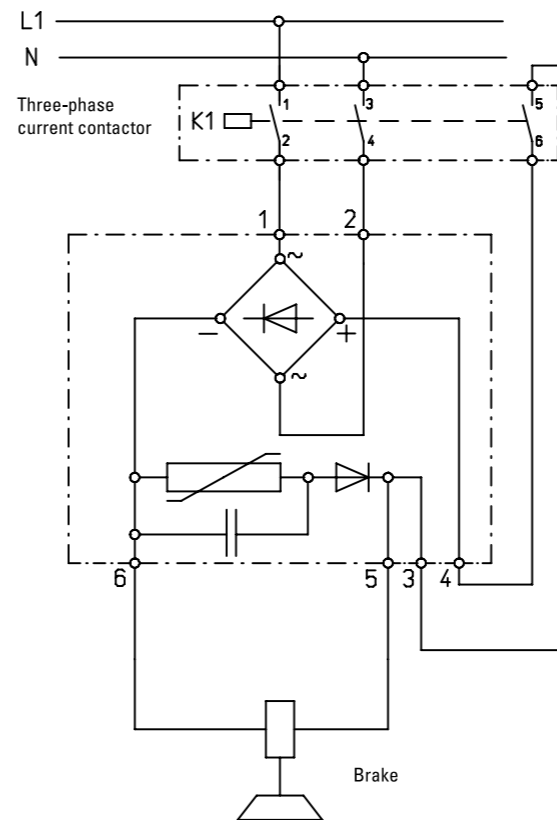
BGL-PE400/150/3 - EGL-PE400/150/5

Principal circuit diagram

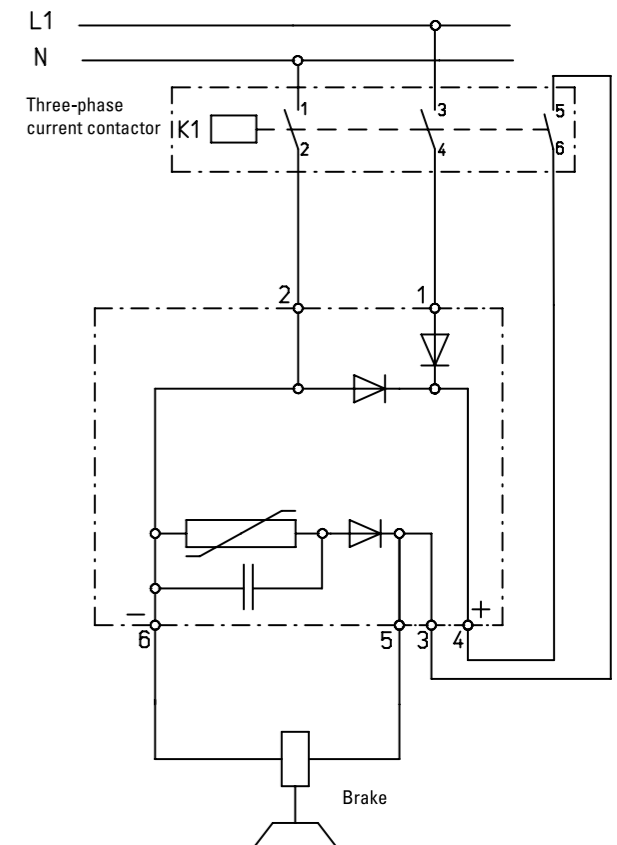


Rev. 03-09

Bridge rectification with module BGL



Half-wave rectification with module EGL



Technical data

Brake rectifier BGL-PE400/150/3	
AC line voltage:	AC 460V; 50/60 Hz
Permissible rated coil voltages:	DC 24V...390V
Maximum brake current:	2,5A
Maximum continuous output of the internal protective circuit:	3W
Disconnection peak at maximum coil current:	≤450V
Ambient temperature:	-40° C ... +50° C
Protection class:	IP 20

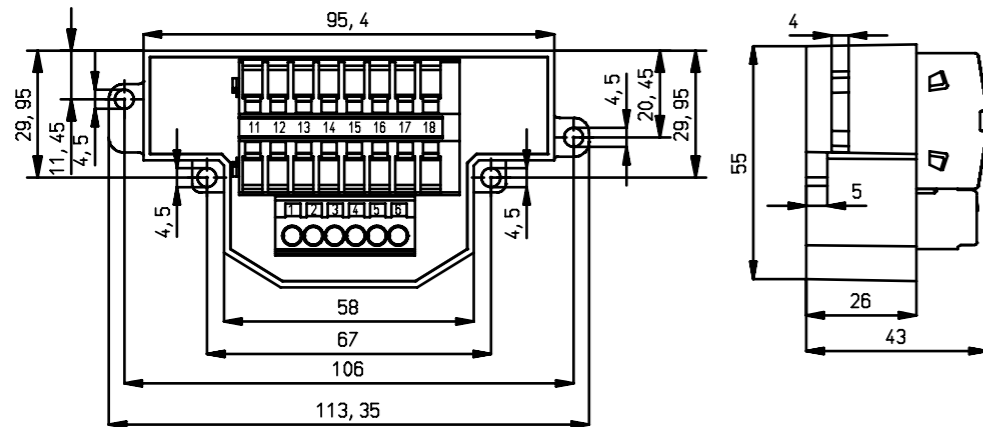
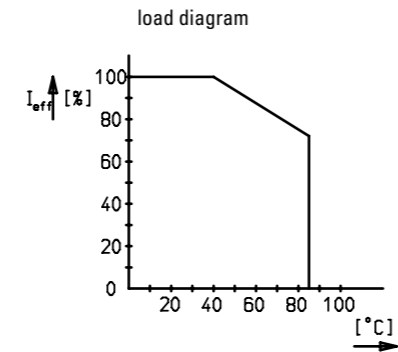
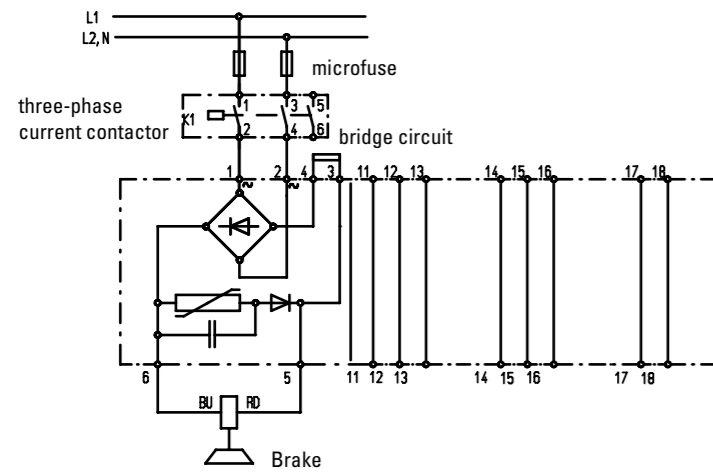
Brake rectifier EGL-PE400/150/5	
AC line voltage:	AC 460V; 50/60 Hz
Permissible rated coil voltages:	DC 24V...220V
Maximum brake current:	5A
Maximum continuous output of the internal protective circuit:	5W
Disconnection peak at maximum coil current:	≤450V
Ambient temperature:	-40° C ... +50° C
Protection class:	IP 20

Full wave rectifier FWR-PE400/150/3

Principal circuit diagram



Rev. 10-10



Technical data

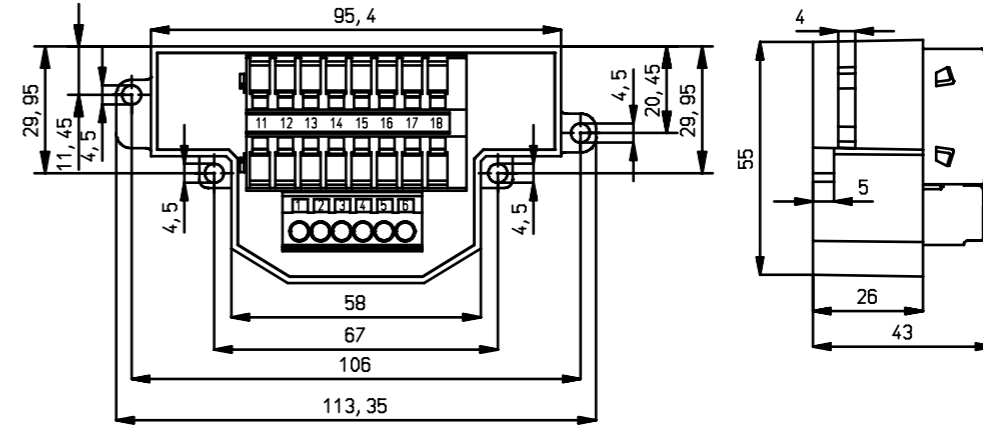
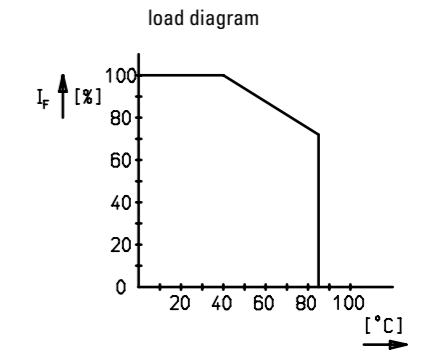
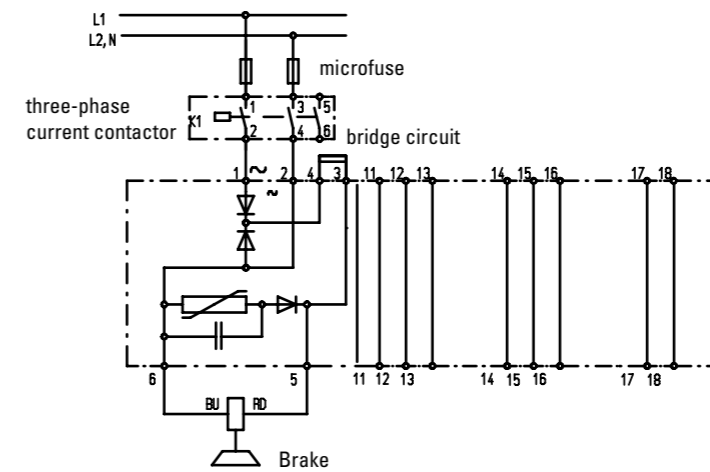
Coil voltage of the connected brake	DC 24V ... 390V
Max. voltage of supplying alternating current network	AC 460V - 50/60 Hz
Max. Output current I_{eff} at $T_A = < 50^\circ\text{C}$	2,5 A
Max. Output current I_{eff} at max. T_A 85°C	1,8 A
Protection fuse in the AC input voltage line to the rectifier (In the selection of fuse is permissible on the $I^2 t$ limit load integral to eight)	FF 4A microfuse switching capacity H
Permitted limit integral $I^2 t$	700A ² s (t <10ms)
Max. energy absorption of a shut-off	150 J
Max. continuous power of the internal protective circuit (average value)	3W
Shut-off peak at max. coil current	< 450V
Ambiente temperature T_A	-40° C ... +85° C
Permissible cross section of connection wire	0,2 ... 2,5 mm AWG 24 ... 14
Weight	0,3 kg
Protection class	IP 65 components seal / IP20 terminals
Mark of conformity	CE / RoHS conform

Half wave rectifier HWR-PE400/150/5

Principal circuit diagram



Rev. 10-10



Technical data

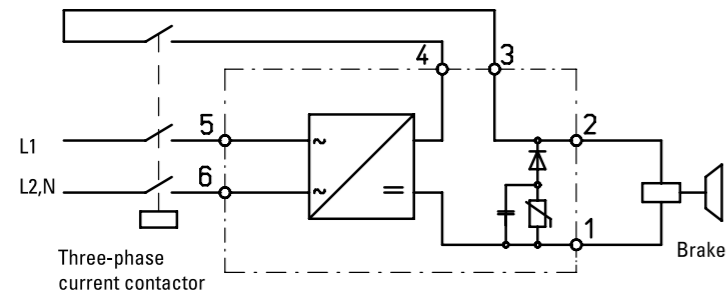
Coil voltage of the connected brake	DC 24V ... 240V
Max. voltage of supplying alternating current network	AC 550V - 50/60 Hz
Max. Output current I_{eff} at $T_A = < 50^\circ\text{C}$	5 A
Max. Output current I_{eff} at max. T_A 85°C	3,6 A
Protection fuse in the AC input voltage line to the rectifier (In the selection of fuse is permissible on the $I^2 t$ limit load integral to eight)	FF 4A microfuse switching capacity H
Permitted limit integral $I^2 t$	700A ² s (t <10ms)
Max. energy absorption of a shut-off	150 J
Max. continuous power of the internal protective circuit (average value)	5W
Shut-off peak at max. coil current	< 450V
Ambiente temperature T_A	-40° C ... +85° C
Permissible cross section of connection wire	0,2 ... 2,5 mm AWG 24 ... 14
Weight	0,3 kg
Protection class	IP 65 components seal / IP20 terminals
Mark of conformity	CE / RoHS conform

Switching rectifier SGL

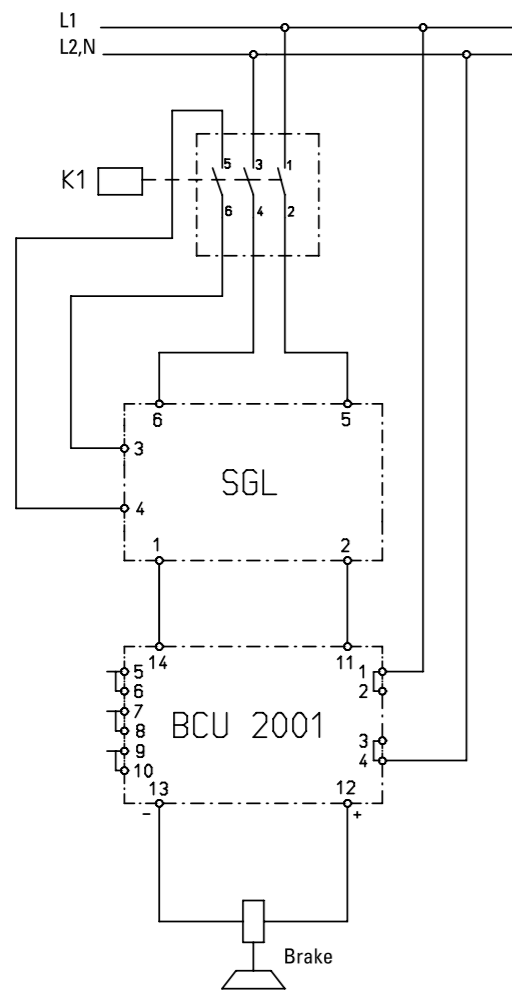
Principal circuit diagram



Rev. 03-09



Switching rectification with module SGL



Switching rectification with module SGL combined with the Brake Control Unit BCU2001

Technical data

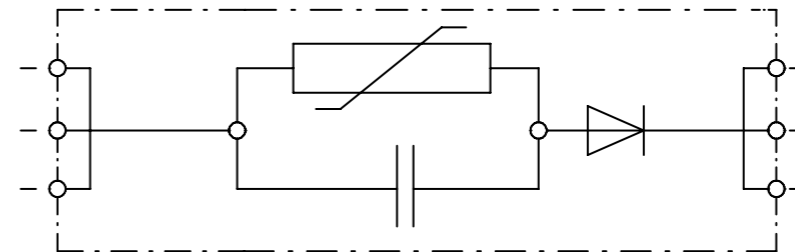
AC line voltage:	AC 220V...484V; 50/60 Hz
Maximum brake current for 2 s:	8A
Maximum continuous output of the internal protective circuit:	5 W
Permanent brake current:	4A
Time settings by DIP switch:	0,5 s, 1 s, 1,5 s, 2,0 s
Ambient temperature:	-40° C ... +50° C
Protection class:	IP 20

Protective element PE-400/150/5

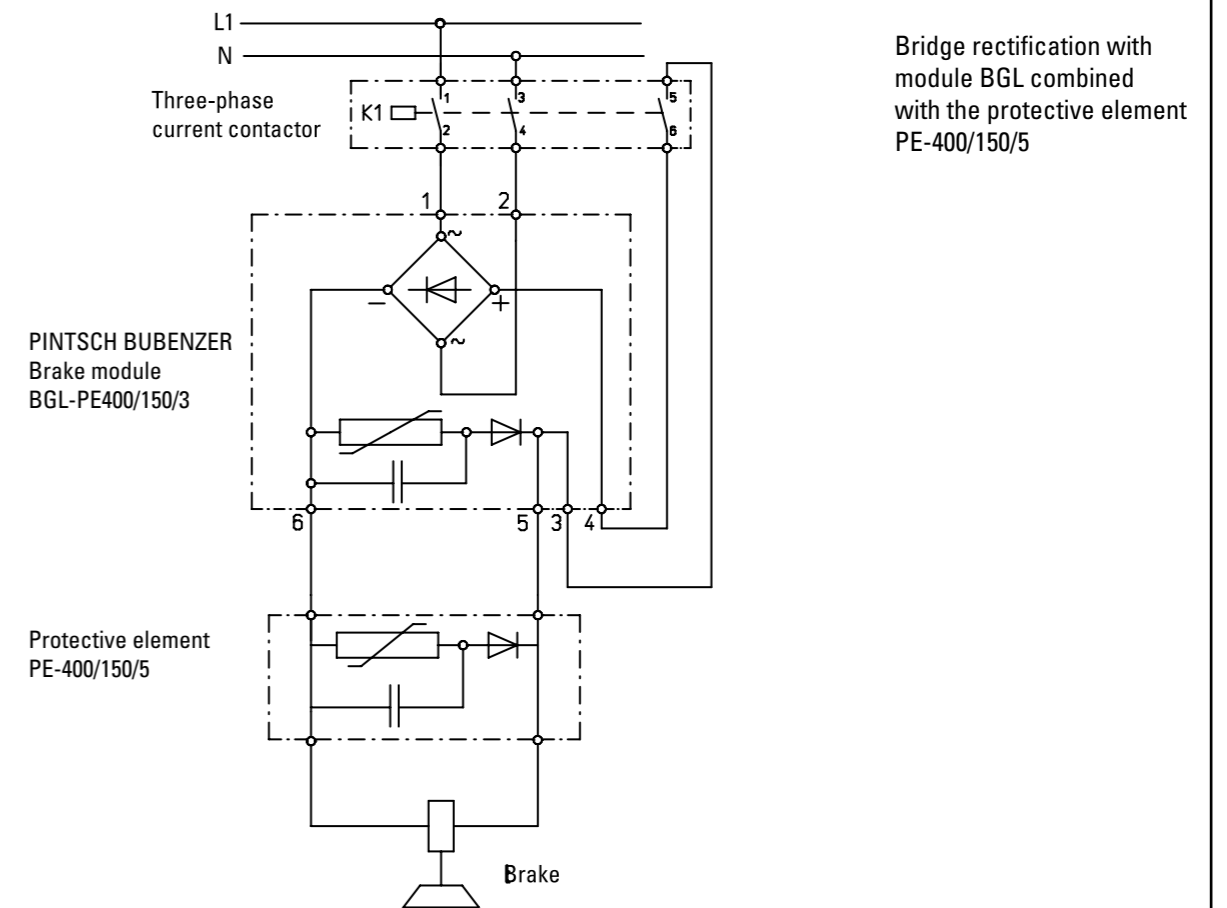
Principal circuit diagram



Rev. 03-09



Protective element PE-400/150/5



Bridge rectification with module BGL combined with the protective element PE-400/150/5

Technical data

Maximum brake voltage:	DC 400V
Maximum brake current:	5A
Maximum continuous output of the internal protective circuit:	5W
Disconnection peak at maximum coil current:	≤ 450V
Ambient temperature:	-40° C ... +50° C
Protection class:	IP 20

Description Brake Control Unit BCU2001



Main Features

- EMC compatibility
- Maximum air gap (wear) indication by LED
- Maximum air gap indication by relay contact
- Function on/off indication by LED
- Function on/off indication by relay contact
- No sensors on the brake
- No sensor wiring to the brake
- Perfect retrofit equipment
- Directly connectable with PLC systems
- AC and DC auxiliary power supplies applicable
- Top-hat rail mounted

Applications

- Container cranes
- Ship winches
- Automatic racking systems
- Conveyor belts
- General electrical drives

Options

- Combinable with the switching rectifier SGL in overexcitation mode
- Combinable with bridge rectifier BGL-PE400/150/3
- Combinable with half-wave rectifier EGL-PE400/150/3

Method

The Brake Control Unit BCU 2001 records characteristic current and voltage variations, which are induced by movements of the armature disk in the magnetic field of the brake coil. In an interference free and reliable manner it evaluates the signal levels in terms of the control state (applied or released) and the maximum air gap (maximum wear)

Important requirements

- AC and DC circuit to be switched simultaneously
- AC circuit may not be switched alone



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

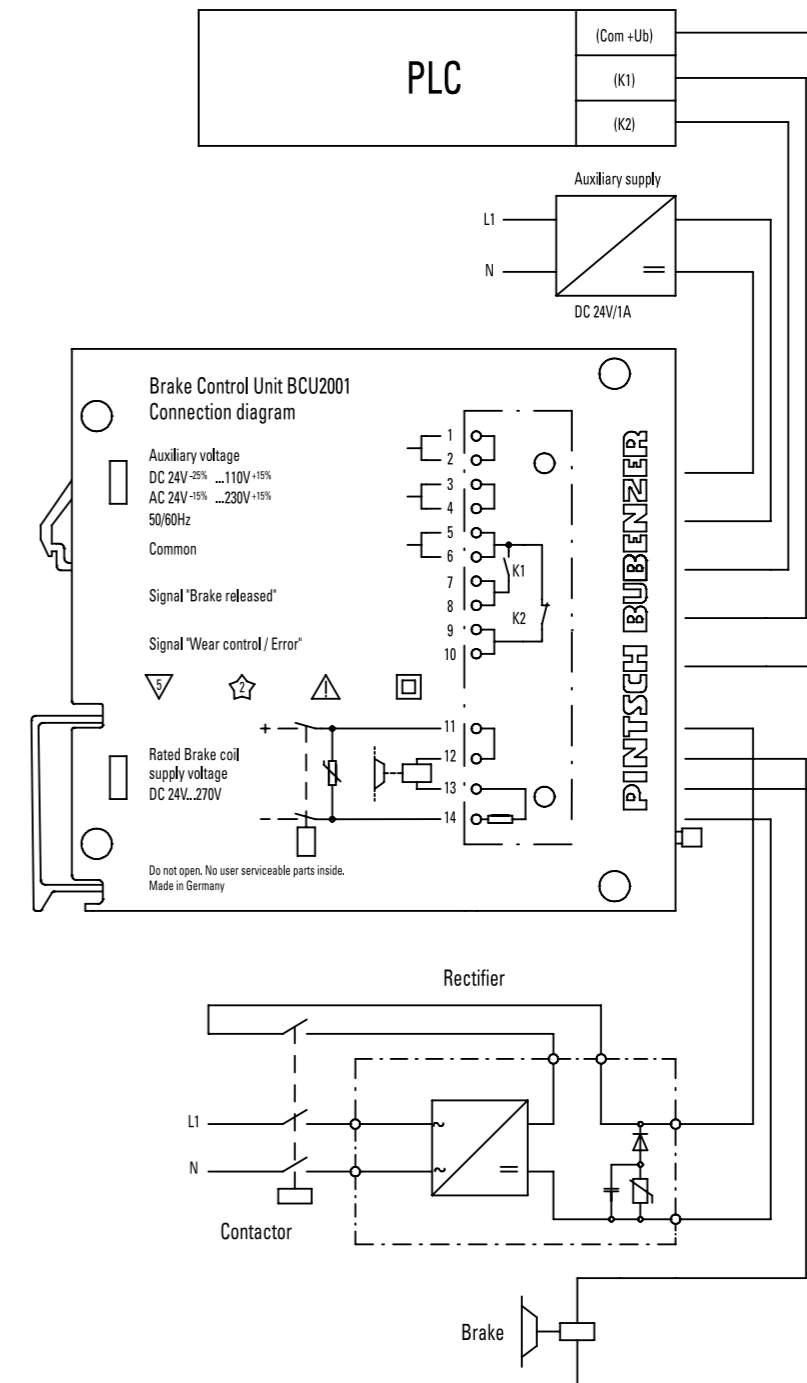
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on-site by PINTSCH BUBENZER service engineers is possible. Drawings as DWG/DXF files for your engineering department are available upon request.

Brake Control Unit BCU2001

Principal circuit diagram



Rev. 03-09



Technical data

Permissible coil voltages:	DC 24V ... 396V
Ambient temperature:	-40° C ... +50° C
Protection class:	IP 20
Permissible auxiliary power supplies:	AC 24 V -15% ... AC 230 V +15% DC 24 V -25% ... DC 110 V +15%

Description Brake Control Unit BCMS-4



Main Features

- Plug and play – minimal configuration and implementation effort
- No micro- or proximity switches required for the brake (much lower amount of wiring)
- Components such as contactors, power rectifier, suppressor to be omitted (space and cost savings)
- Through the use of plug-in terminals a prior installation of the connecting cables is possible (saves time)
- Normal maintenance intervals are not required on our brakes (extreme reduction of maintenance costs)
- Due to the 4-channel version up to four spring-loaded brakes can be operated simultaneously
- Certified safety through professional association
- In conjunction with a superior safety PLC operation by security classification DIN EN ISO 13849-1 PL d, Cat 3 is possible
- Internal 2-channel safety logic in redundant design
- Providing I / O diagnostic outputs for integration into PLC
- Quick releasing and closing of the brakes
- Overcurrent trip to protect the brakes
- Wire break recognition
- Minimize the power dissipation of the brakes by regulation the holding current
- Internal menu structure

- Representation of the status wear
- User interface RS 232 for connection and intervention in the menu structure
- Manual operation of the menu structure
- The operating status and diagnostic messages are be visualized and displayed at the unit itself
- Optimization of the wear allowance
- „One solution, one source“

Applications

- Container cranes
- Ship winches
- Automatic racking systems
- Conveyor belts
- General electrical drives

Method

The BCMS-4 is a micro-controller-based monitoring and switching device for spring applied brakes of the SFB and KFB series. Through measurement and analysis of current and voltage of the outgoing two-wire lines of the individual brakes wear and switching state of each electromagnetic spring-applied brake can be detected in some distant mounting position. There can be up to four brakes operated and evaluated simultaneously. The operation of the brakes is fundamentally with rapid releasing and closing of the brakes.



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

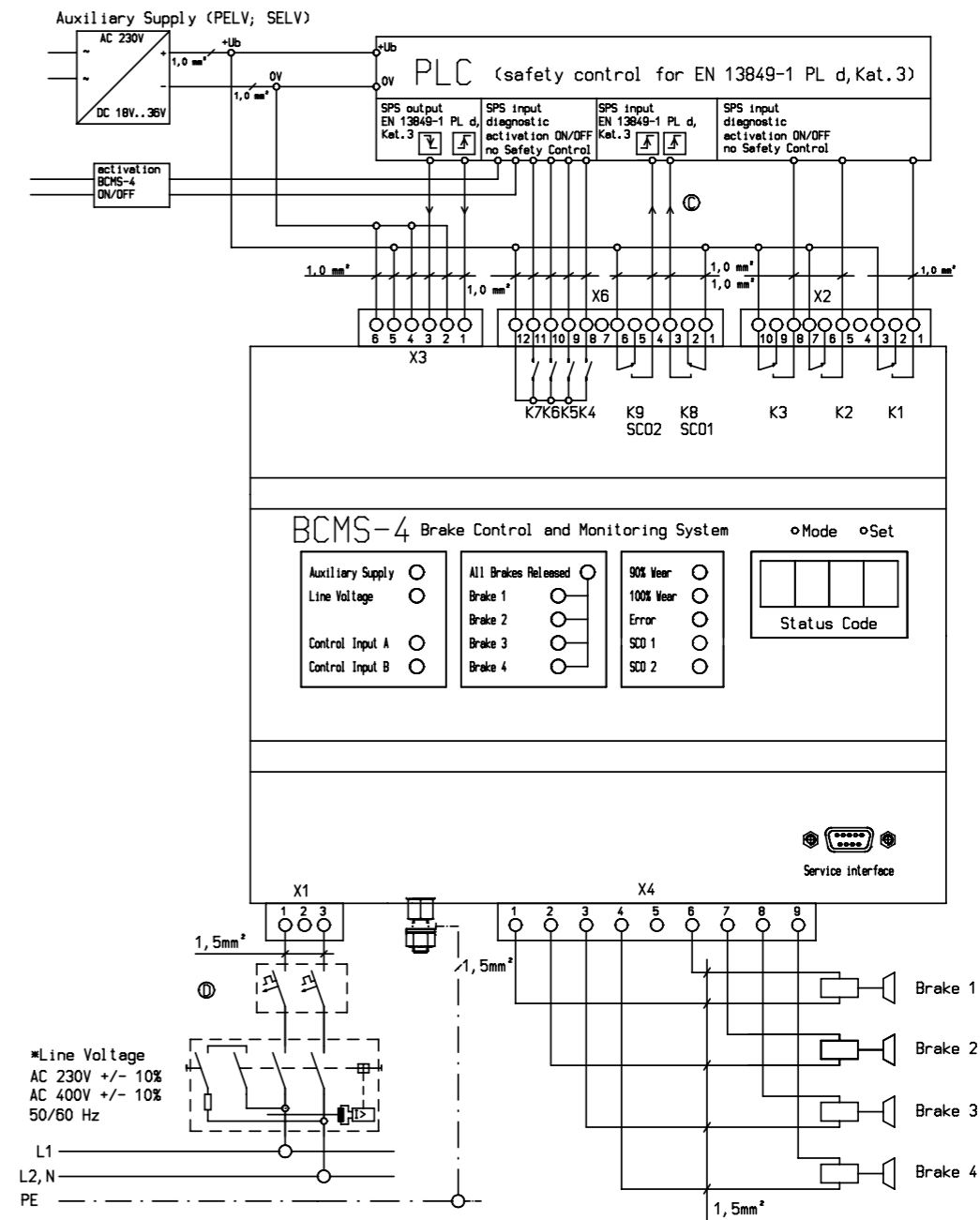
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on-site by PINTSCH BUBENZER service engineers is possible. Drawings as DWG/DXF files for your engineering department are available upon request.

Brake Control Unit BCMS-4

Principal circuit diagram



Rev. 11-11



Technical data

Permissible auxiliary power supplies:	AC 230V +/- 10%; 50/60 Hz AC 400V +/- 10%; 50/60 Hz
Ambient temperature:	-30°C +50°C
Protection class:	IP 20
Permissible coil voltages:	110 V DC and 207 V DC
security rating:	DIN EN ISO 13849-1 PL d, Cat 3
PFHD:	1.16 ⁻⁷

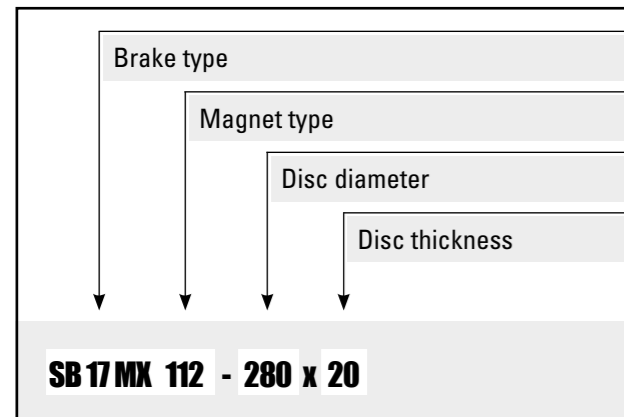
Description SB 17 MX



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

- Automatic wear compensator and self-centering unit
- 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

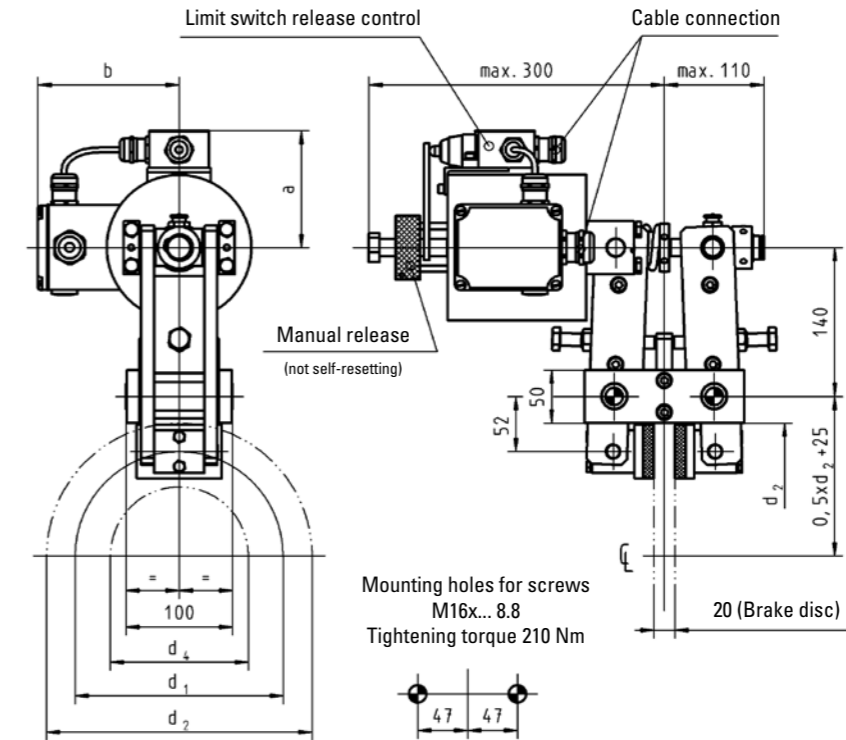
Magnet Type	Inrush (W)	Holding (W)
111	100	100
112	360	100
113	360	100
133	360	100

Disc Brake SB 17 MX

Dimensions and technical data



Rev. 12-06



Type	Magnet dimensions			Lining
	a	b	Øc	b ₂
111	105	120	114	40
112	105	120	114	40
113	105	120	114	50
133	115	133	137	50

*) Average friction factor of standard material combination

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

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



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

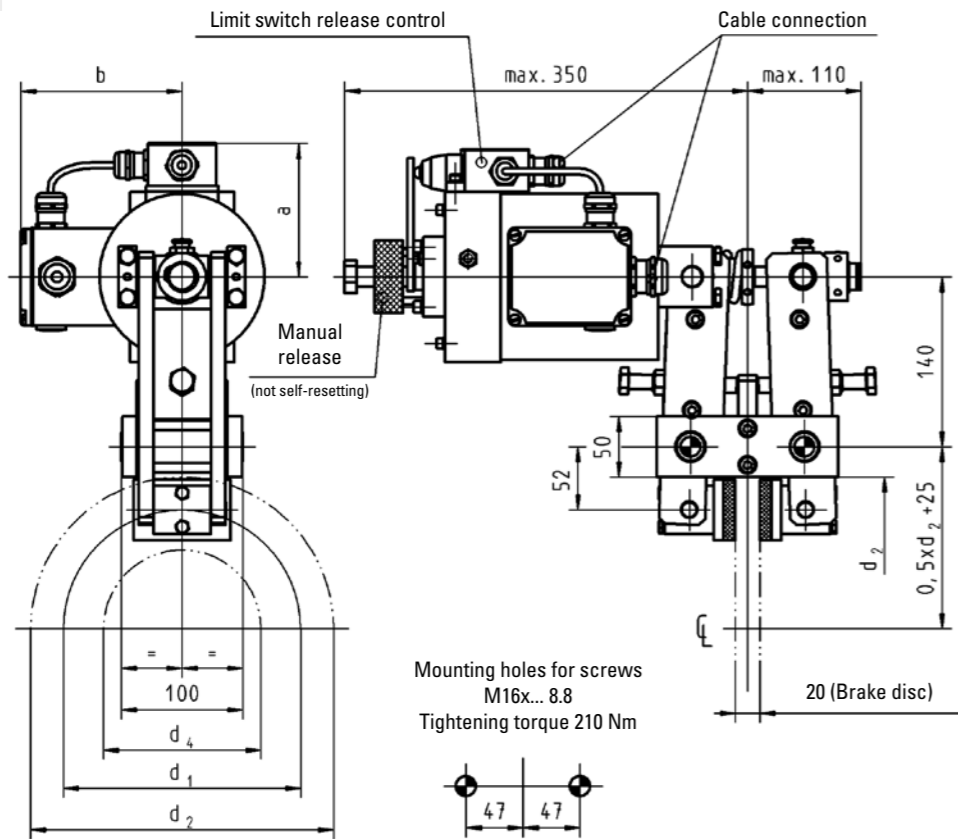
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on-site by PINTSCH BUBENZER service engineers is possible. Drawings as DWG/DXF files for your engineering department are available upon request.

Disc Brake SB 17 MXs

with hydraulic damping unit – Dimensions and technical data



Rev. 12-06



Apply time adjustable 1...8 seconds

*) Average friction factor of standard material combination

Magnet dimensions			Lining
Type	a	b	b ₂
111	105	120	40
112	105	120	40
113	105	120	50
133	115	133	50

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

All dimensions in mm
Alterations reserved without notice

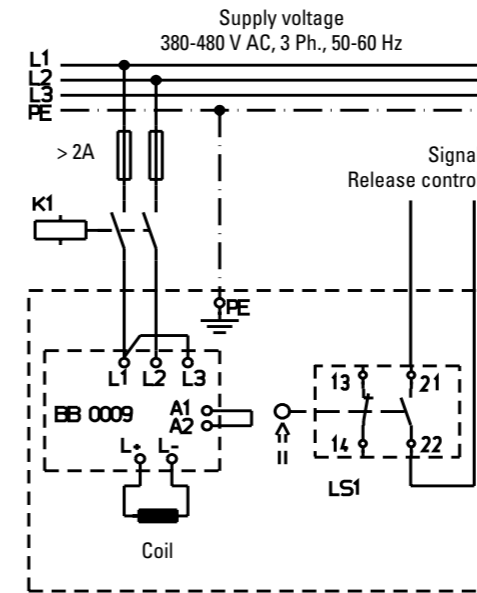
Weight: 26 kg max. incl. magnet		Magnet Type	112	113	133
		Contact force in N	1000	1500	3000
Disc Ø	Friction Ø	Hub Ø max.	Brake torque M _{Br} in Nm		Friction factor $\mu = 0,4^*$
d ₂	d ₁	d ₄			
200	146	80	58		
225	171	105	68	102	
250	196	130	78	117	235
280	226	160	90	135	270
315	261	195	104	155	310
355	301	235		180	360
400	346	280		207	415
450	396	330			475
500	446	380			535

Disc Brake SB 17 MX

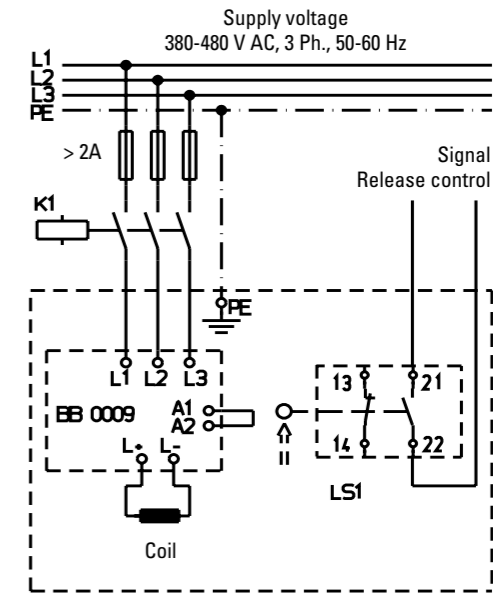
Connecting diagram internal rectifier/economizer



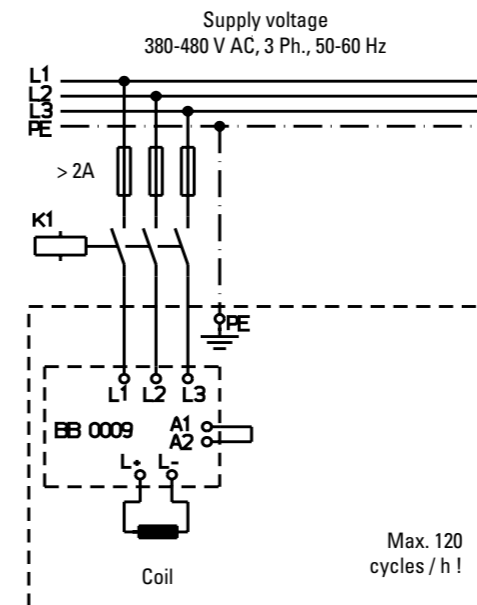
Rev. 07-14



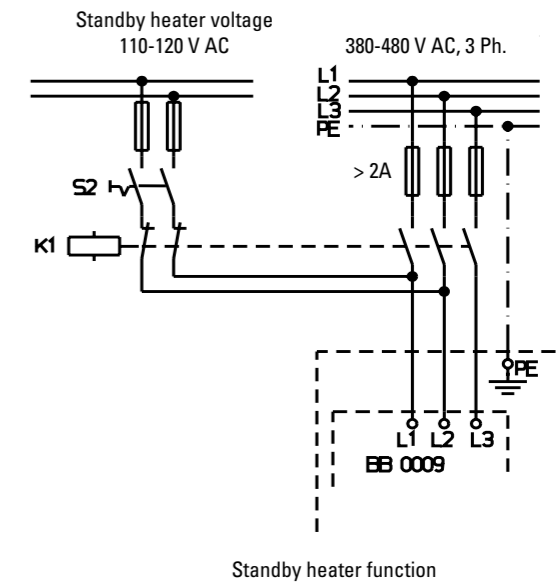
SB 17 MX 111



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

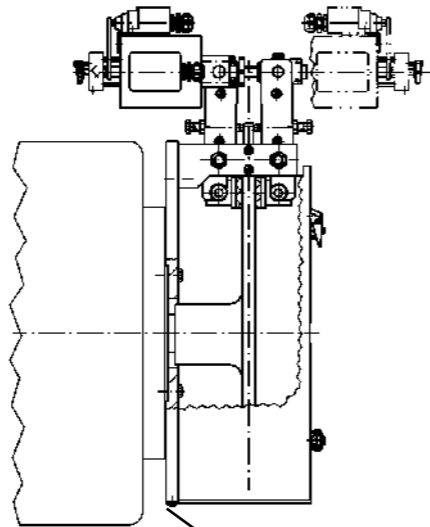
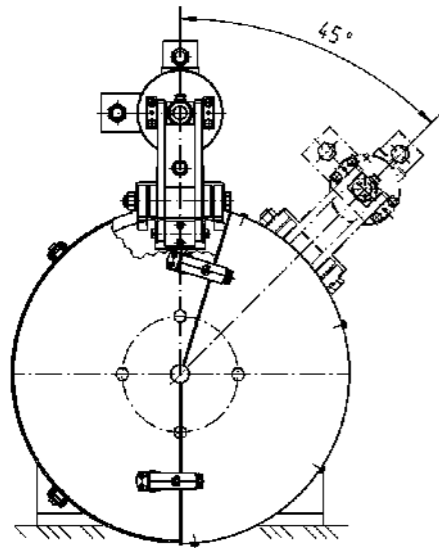
Disc Brake SB 17 MX

Installation example, motor mounted version



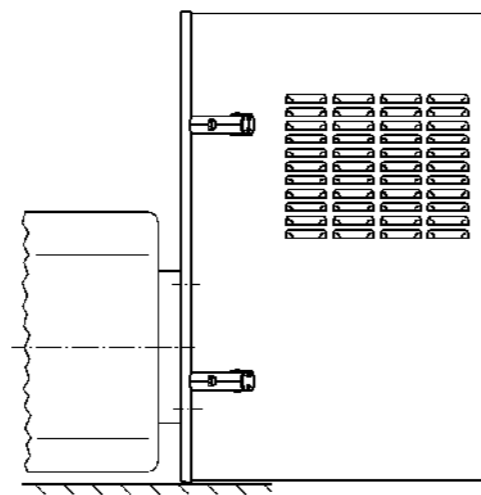
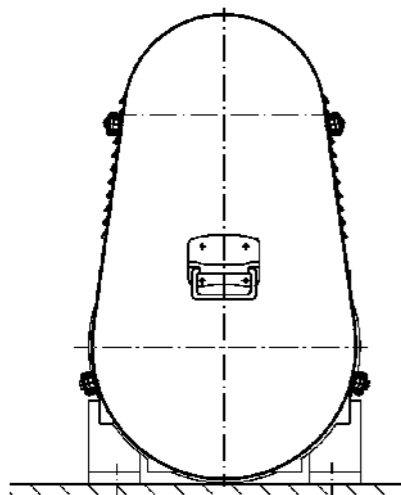
Rev. 12-06

Brake mountable in each 45° steps



With cover IP00

Connection flange
Motor - Brake



With cover IP22



When placing order, please indicate motor type.

Drum Brakes



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

Brake drum diameter in mm	Brake torque in Nm
200	~500
250	~1000
315	~1500
400	~2500
500	~4000
630	~5500
710	~7000



Acc. to DIN 15435



Reliable



High Performance



Robust Design



Tried and Trusted

Description Drum Brakes



Main Features - Steel Mill Execution

- Adherence to DIN 15435 standard
- Stepless adjustable brake spring enclosed in a square tube with directly readable torque scale
- Self-lubricating bushings mean brakes are easy to service, no greasing necessary
- Even brake shoe release by adjustable lever stops
- Up to size 400: Levers and base plate of nodular cast iron
- From size 500: Levers and base plate welded steel
- Thrusters for high ambient temperatures in steel mills
- Spring split pins in the shoe pins for an easy and quick change of brake linings/shoes
- Special shoe clamping

Options

- Heavy-duty designed automatic wear compensator (dust-proof)
- Heat resistant wiring of limit switches
- Limit switch release control (special execution)
- Limit switch wear control (special execution)
- Limit switch manual release (special execution)
- Manual release lever with or without stop
- Monitoring systems (e.g. VSR)
- Brake discs with hubs or couplings

Thrusters, Technical Data

Thruuster Type	Power (W)	Curr. (A) at 400 V	Weight (kg)
Ed 23/5	165	0,5	10
Ed 30/5	200	0,5	14
Ed 50/6	210	0,5	23
Ed 80/6	330	1,2	24
Ed 121/6	330	1,2	39
Ed 201/6	450	1,3	39
Ed 301/6	550	1,4	40

Data supplied by thruuster manufacturer, please take higher start current into consideration, fuses to be minimum 2A



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 therefore 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

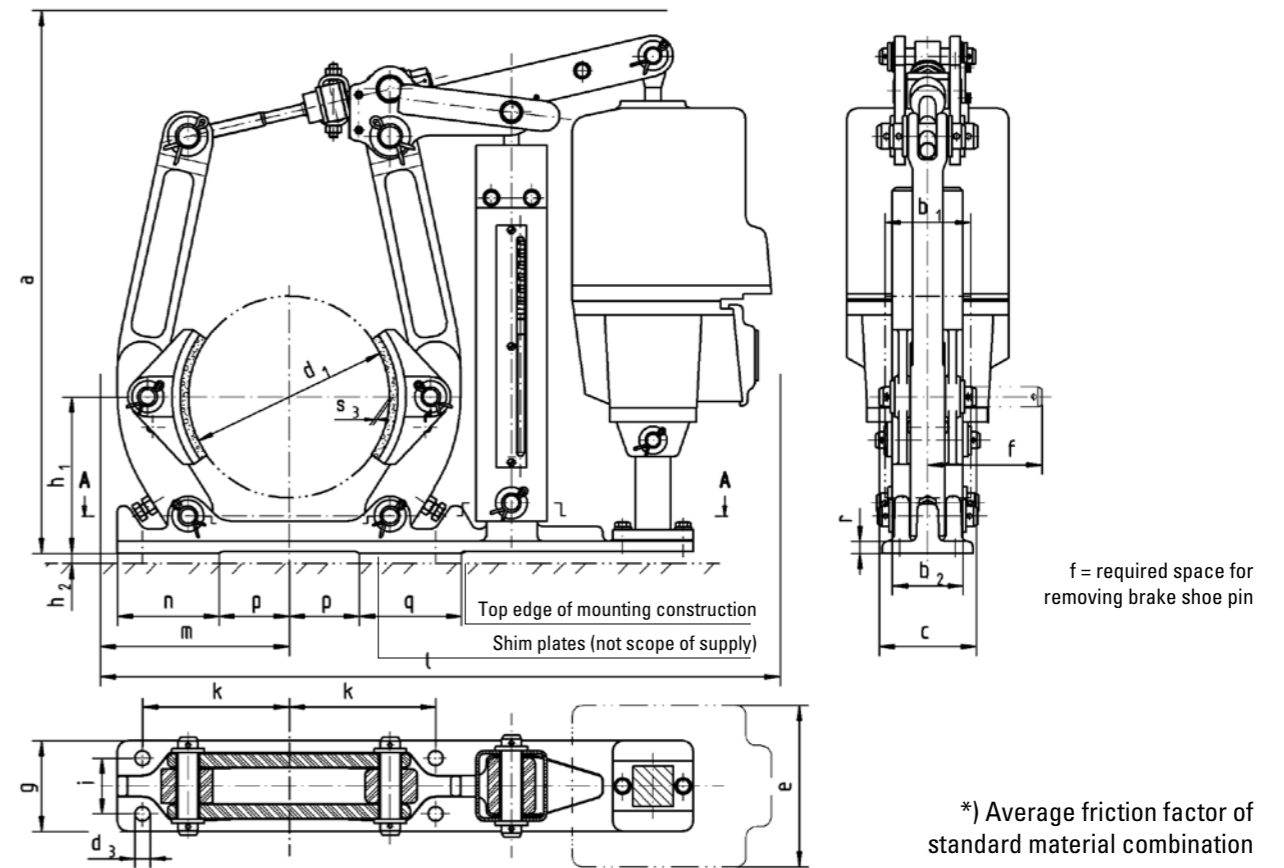
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on site is possible by PINTSCH BUBENZER service engineers. Drawings as DWG/DXF files for your engineering department are available upon request.

Drum Brake Type EBN

Dimensions (DIN 15435) and technical data



Rev. 01-10



*) Average friction factor of standard material combination

All dimensions in mm
Alterations reserved without notice

Brake type	Thruuster type	M _{BR max} (Nm) $\mu=0,4^*$	a _{max}	b ₁	b ₂	c	d ₁	d ₃	e	f	g	h ₁	h ₂	i	k	l _{max}	m	n	p	q	r	s ₃	kg
EBN 200-23/5	Ed 23/5	300	500						160	115	90	155	5	55	145	665	185	100	70	100	12	1	22
EBN 200-30/5	Ed 30/5	380	563	75	70	96	200	14	160	115	90	155	5	55	145	705	185	100	70	100	12	1	22
EBN 200-50/6	Ed 50/6	600							195														
EBN 250-23/5	Ed 23/5	320	500						160							770							
EBN 250-30/5	Ed 30/5	450	572						160	135	100	185	5	65	180	810	205	105	95	105	13	1,2	28
EBN 250-50/6	Ed 50/6	750	582	95	90	115	250	18	195														
EBN 250-80/6	Ed 80/6	1200							195														
EBN 315-30/5	Ed 30/5	540							160							920							
EBN 315-50/6	Ed 50/6	1000	665						195	165	110	225	5	80	220	1000	300	110	133	240	13	1,2	68
EBN 315-80/6	Ed 80/6	1650		118	110	140	315	18	195							990							
EBN 315-121/6	Ed 121/6	2500	790						240														
EBN 400-50/6	Ed 50/6	1100							195							1075							
EBN 400-80/6	Ed 80/6	1700	680						195	195	140	270	10	100	270	1065	310	135	165	280	15	1,5	82
EBN 400-121/6	Ed 121/6	2650		150	140	167	400	22	240														
EBN 400-201/6	Ed 201/6	4000	790						240														
EBN 500-50/6	Ed 50/6	1090							195														
EBN 500-80/6	Ed 80/6	1870							195	245	170	330	10	130	325	1245	370	155	210	315	20	1,5	122
EBN 500-121/6	Ed 121/6	3010	830						240														
EBN 500-201/6	Ed 201/6	5120							240														
EBN 630-121/6	Ed 121/6	3040							195														
EBN 630-201/6	Ed 201/6	4870	990	236	225	250	630	27	240	300	220	410	10	170	400	1320	450	150	280	170	25	2	196
EBN 630-301/6	Ed 301/6	6210	1015																				
EBN 710-121/6	Ed 121/6	3450							195														
EBN 710-201/6	Ed 201/6	5510	1120	265	255	280	710	27	240	335	240	460	10	190	450	1515	520	250	250	450	25	2	266
EBN 710-301/6	Ed 301/6	6920																					

Enclosures

For drum brakes type EBN – Dimensions and executions



Rev. 11-03

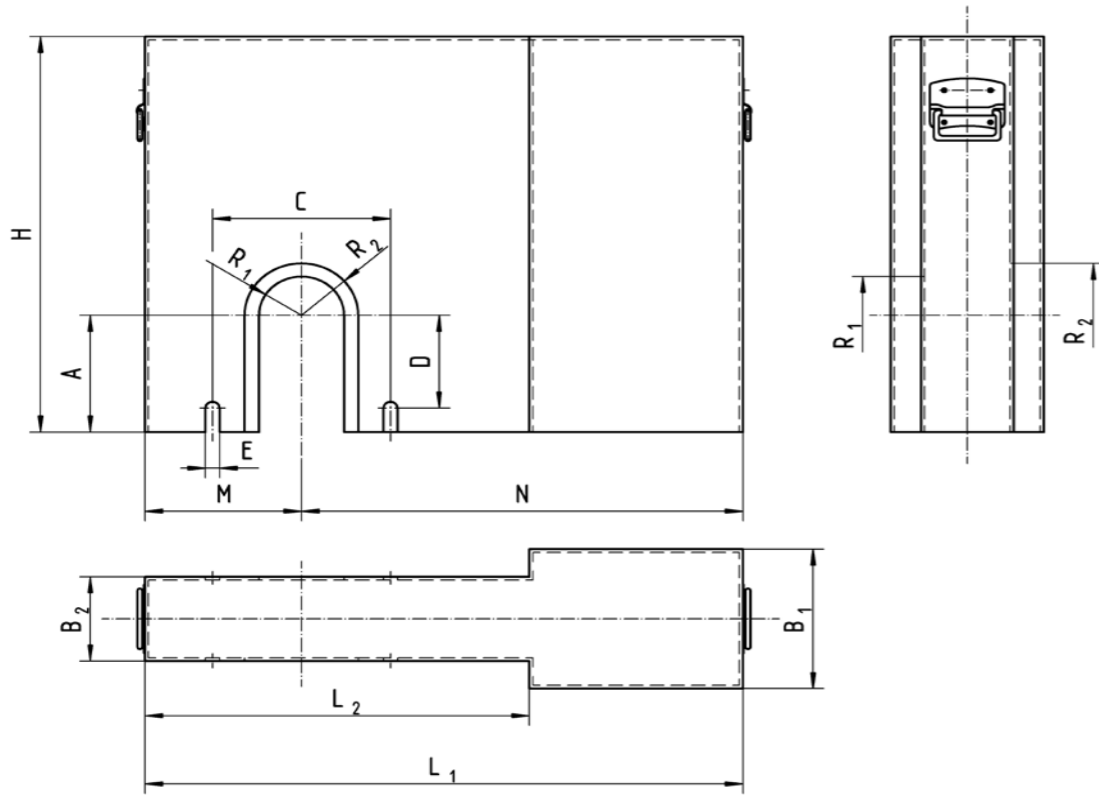


Plate thickness = 1,5 mm
All enclosures are provided with handles
Other dimensions upon request

All dimensions in mm
Alterations reserved without notice

Brake type	A	B ₁	B ₂	C	D	E	H	L ₁	L ₂	M	N	R _{max}
EBN 200-23/5	150	180	130	200	118	10	530	690	460	195	495	90
EBN 200-30/5		215					580					
EBN 200-50/6		530										
EBN 250-23/5	180	180	130	250	143	10	530	810	560	220	590	110
EBN 250-30/5		215					610					
EBN 250-50/6		215					840					
EBN 250-80/6		215					840					
EBN 315-30/5	220	180	170	315	179	12	700	1030	700	320	710	140
EBN 315-50/6		215					700					
EBN 315-80/6		215					1030					
EBN 315-121/6		260					830					
EBN 400-50/6	260	215	180	400	205	12	710	1100	800	320	780	180
EBN 400-80/6		215					710					
EBN 400-121/6		260					830					
EBN 400-201/6		260					830					
EBN 500-121/6	320	280	240	500	260	12	880	1280	400	400	880	230
EBN 500-80/6		280					880					
EBN 500-201/6		280					900					
EBN 630-121/6	400	280	180	630	325	14	1080	1350	470	320	880	290
EBN 630-201/6		280					1080					
EBN 630-301/6		280					1080					
EBN 710-121/6	450	320	240	710	370	14	1150	1530	400	400	1000	330
EBN 710-201/6		320					1150					
EBN 710-301/6		320					1150					



When ordering please advise: Brake type, Dimension "R₁ and R₂".

Enclosures

For drum brakes type EBN – Dimensions and executions



Rev. 11-03

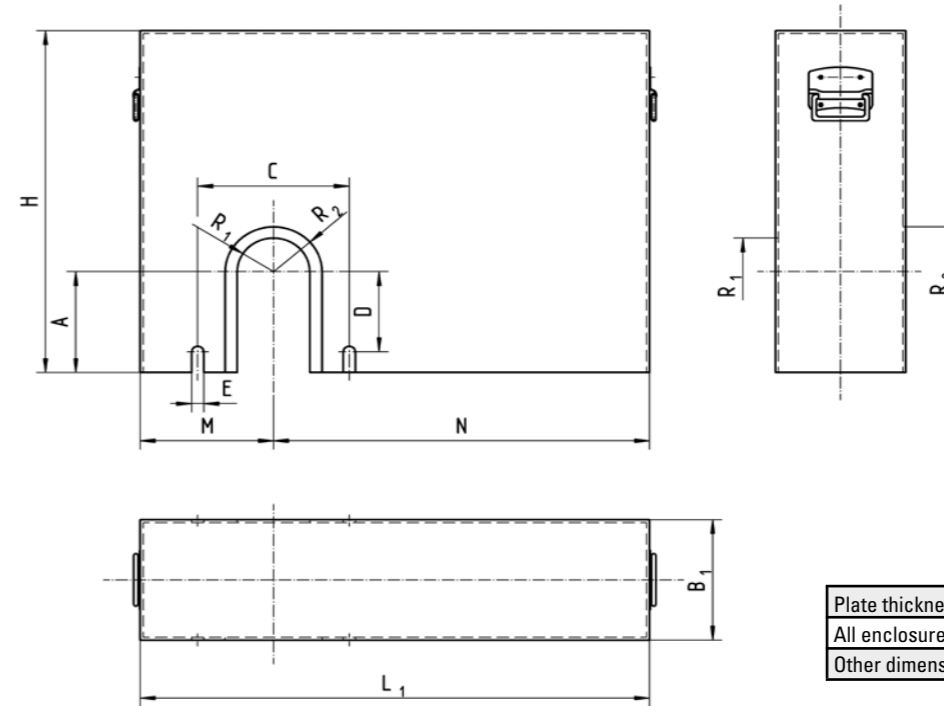


Plate thickness = 1,5 mm
All enclosures are provided with handles
Other dimensions upon request

All dimensions in mm
Alterations reserved without notice

Brake Type	A	B	C	D	E	H	L ₁	M	N	R _{max}
EBN 200-23/5	150	180	200	118	10	530	690	195	495	90
EBN 200-30/5		215				580				
EBN 200-50/6		215				530				
EBN 250-23/5	180	180	250	143	10	530	810	220	590	110
EBN 250-30/5		215				610				
EBN 250-50/6		215				840				
EBN 250-80/6		215				840				
EBN 315-30/5	220	180	315	179	12	700	1030	320	710	140
EBN 315-50/6		215				700				
EBN 315-80/6		215				1030				
EBN 315-121/6		260				830				
EBN 400-50/6	260	215	400	205	12	710	1100	320	780	180
EBN 400-80/6		215				710				
EBN 400-121/6		260				830				
EBN 400-201/6		260				830				
EBN 500-50/6	320	280	500	260	12	880	1280	400	880	230
EBN 500-80/6		280				880				
EBN 500-121/6		280				900				
EBN 630-121/6	400	280	630	325	14	1080	1350	470	880	290
EBN 630-201/6		280				1080				
EBN 630-301/6		280				1080				
EBN 710-121/6	450	320	710	370	14	1150	1530	530	1000	330
EBN 710-201/6		320				1150				
EBN 710-301/6		320				1150				



When ordering please advise: Brake type, Dimension "R₁ and R₂".

Description Coupling Type K



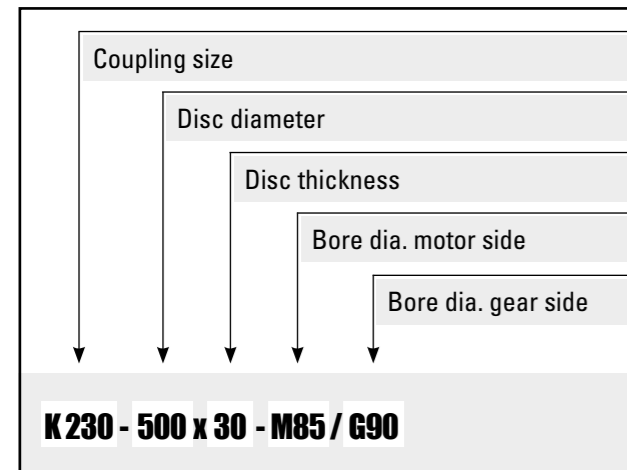
Main Features

- Four component steel coupling, torsionally elastic and puncture-proof
- Transmission of torque via elastic intermediate ring
- Replacement of the elastic intermediate ring or the brake disc without disturbing any equipment
- Arrangement of the brake disc on the load side to allow the brake torque to be maintained when the motor is disengaged
- Extensive selection of coupling sizes and brake disc diameters to satisfy most braking and drive requirements

Options

- Coupling hubs ready bored and keywayed (preferably acc. to DIN 6885)
- Coupling hubs tapered bored
- Coupling hubs with double keyway
- Coupling hubs pilot bored
- Coupling balanced according to ISO 1940-Grade: G 6.3
- Special material for elastic intermediate ring according to application
- Coupling without brake disc

Ordering Example



Applications

- The design of these couplings makes them particularly suitable in machinery subjected to high dynamic stress
- Damping of peak torques and vibrations as well as electrical insulation between motor and gearbox are further reasons for the use of this coupling type
- The standard material of the elastic intermediate ring (Vk60D, polyurethane) is suitable for a temperature range of -30°C...+60°C



Please Note

We supply a detailed operating manual with every order. Couplings are rotating parts and as such a cover must be fitted for the prevention of accidents.



PINTSCH BUBENZER Service

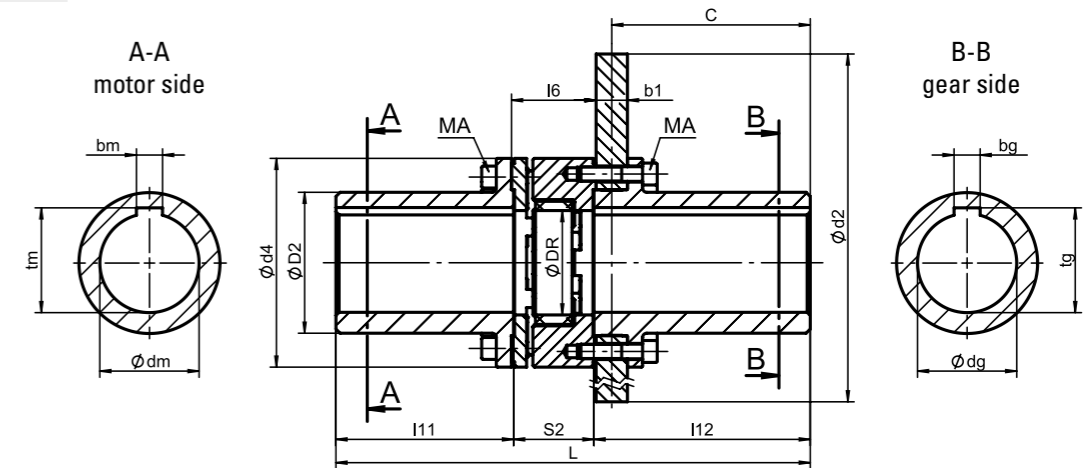
This includes the verification of the coupling selection, if required. A detailed questionnaire is provided for this purpose. Installation, commissioning and alignment by a laser system on site is possible by PINTSCH BUBENZER service engineers. Drawings as DWG/DXF files for your engineering department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

Flexible Coupling Type K

Dimensions and technical data



Rev. 11-14



All dimensions in mm
Alterations reserved without notice

Coupling K (size = d4)	145	170	200	230	260	300	360	400	
MB _r max. Nm	1800	2850	4950	7740	11940	17550	29100	40050	
TKN (VK60D) Nm	600	950	1650	2580	3980	5850	9700	13350	
n _{max} at max. disc Ø min ⁻¹	3800	3400	3000	2700	2400	2200	1750	1750	
d _m max. + d _g max. mm	65	75	95	110	125	140	160	160	
D ₂ mm	92	110	135	160	180	200	225	225	
DR mm	67	90	100	115	150	162	215	250	
L mm	344,5	374,5	454	458,5	518,5	535,5	627,5	627,5	
l ₁₁ mm	110	140	170	170	210	210	250	250	
l ₁₂ mm	166,5	166,5	207	207,5	212,5	212,5	252,5	252,5	
l ₆ mm	71 +2,5	71 +3	81 +3	86 +3,5	101 +4	118 +4	130 +4	130 +4	
S ₂ mm	68	68	77	81	96	113	125	125	
C (b ₁ = 30 mm / 40 mm) mm	150 / -	150 / -	190 / -	190 / -	195 / -	195 / -	235 / 230	235 / 230	
MA Nm	84	84	132	132	206	410	710	710	
Brake disc diameter d ₂ x b ₁ (mm)	355 x 30	41	Weight of the coupling with steel brake disc						kg
		0,3973	Moment of inertia						kgm ²
	400 x 30	47	54	76					
		0,6219	0,656	0,801					
	450 x 30	55	62	84					
		0,9781	1,016	1,158					
	500 x 30		71	93	116	139			
			1,513	1,655	1,782	2,123			
	560 x 30			105	128	150			
				2,484	2,611	2,960			
	630 x 30				143	168	189		
					3,98	4,330	4,704		
710 x 30					185	225			
					6,563	6,92			
800 x 30						250	311		
						10,52	11,49		
900 x 30							342	354	
							17,21	17,69	
1000 x 30							376	389	
							25,16	25,65	

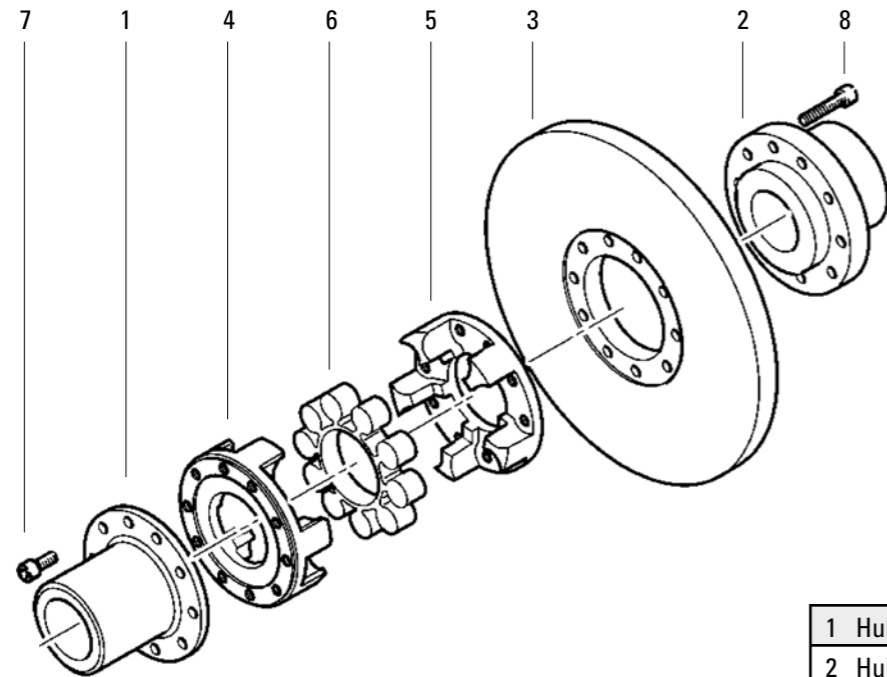
Flexible Coupling Type K

Design and permissible misalignments



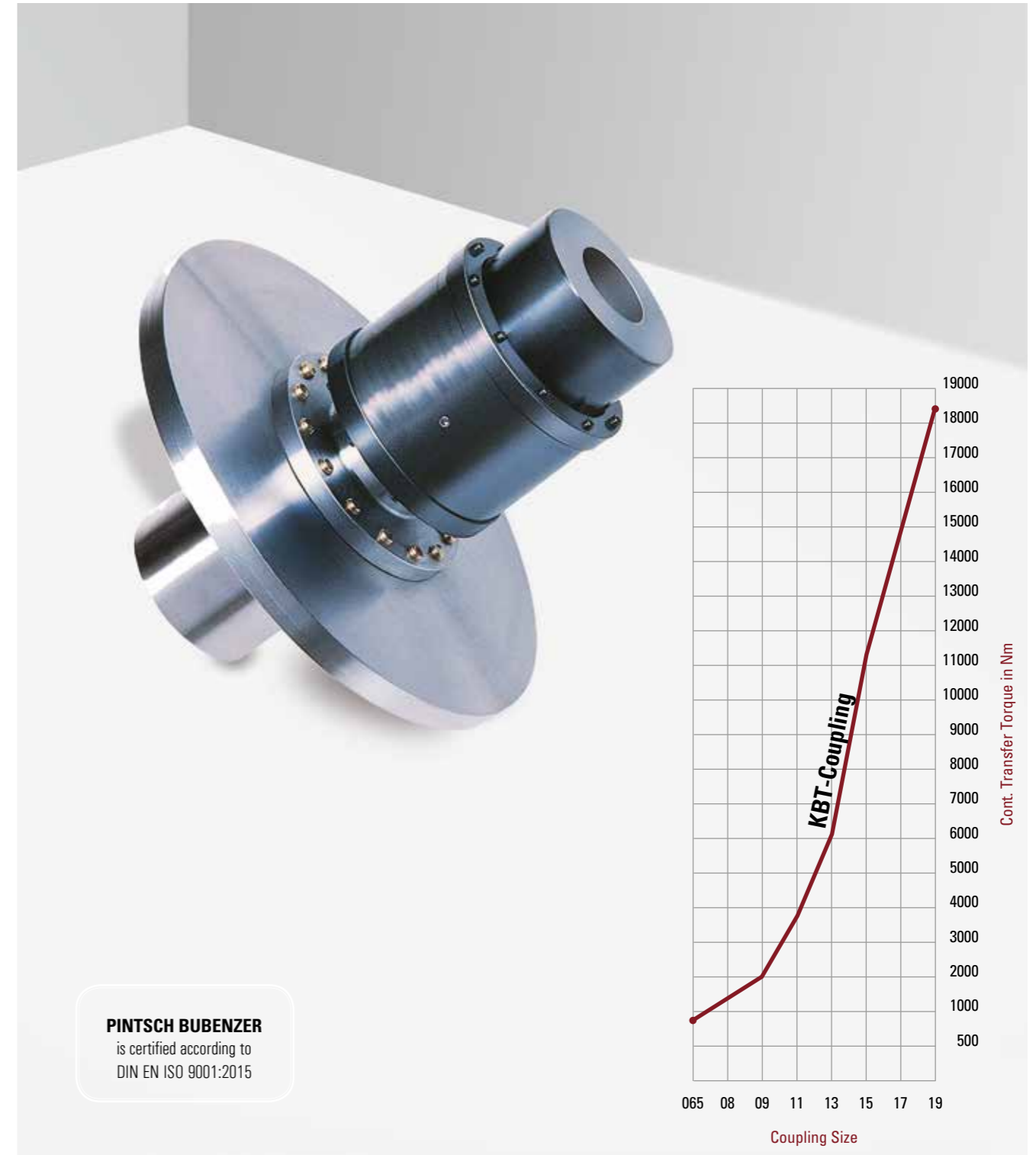
Rev. 09-02

Design



1	Hub, motor side
2	Hub, gear side
3	Brake disc
4	Claw ring, removable
5	Claw ring, removable
6	Elastic intermediate ring
7	Socket head screws
8	Socket head screws

Gear Coupling Type KBT



Torsionally Rigid



Tried and Trusted



High Performance



Robust



Easy Maintenance

Description Coupling Type KBT



Main Features

- Steel coupling with special formed teeth
- Torque transmission via internal geared sleeve and external geared hubs
- Replacement of the brake disc or the seals without disturbing any equipment
- High temperature resistance
- Low wear
- Arrangement of the brake disc on the load side to allow the brake torque to be maintained when the motor is disengaged
- Extensive selection of coupling sizes and brake disc diameters to satisfy most braking and drive requirements

Options

- Coupling hubs ready bored and keywayed (preferably acc. to DIN 6885)
- Coupling hubs tapered bored
- Coupling hubs with double keyway
- Coupling hubs pilot bored
- Coupling without brake disc

Balancing grade ISO 1940 - G 6.3 is guaranteed for all coupling parts

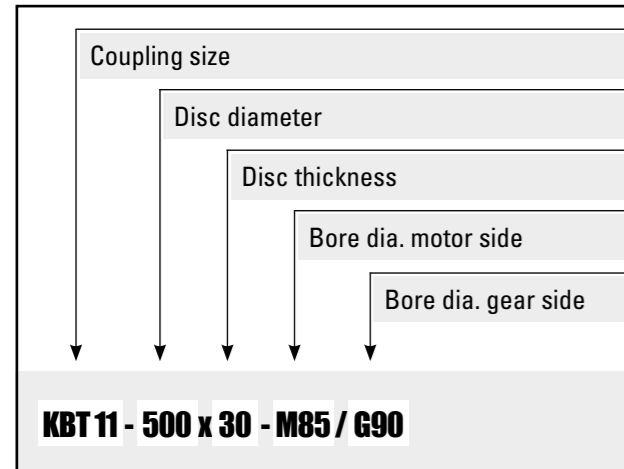
Applications

The design of these couplings makes them particularly suitable in machinery where a torsionally rigid torque transmission is required, especially on frequently varying loads and speeds

Attention

Special grease for high ambient temperatures!

Ordering Example



Please Note

We supply a detailed operating manual with every order. Couplings are rotating parts and as such a cover must be fitted for the prevention of accidents.



PINTSCH BUBENZER Service

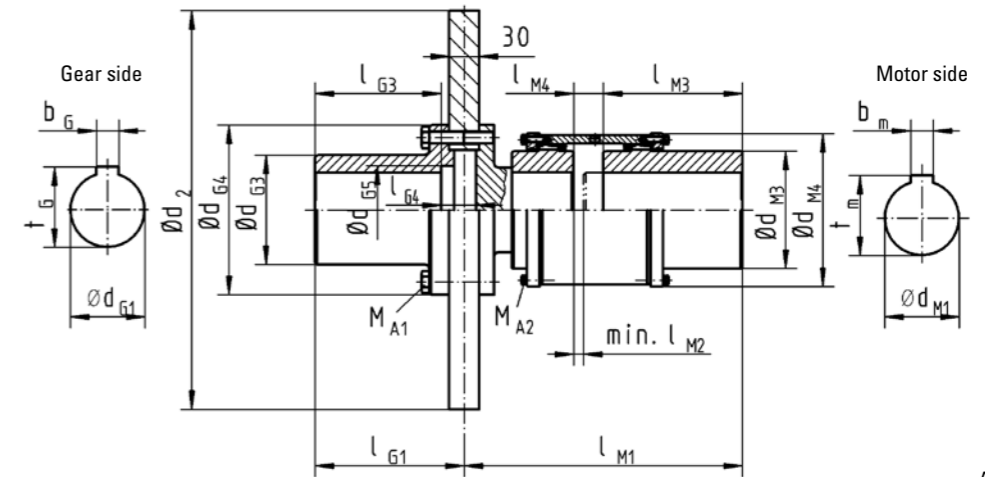
This includes the verification of the coupling selection, if required. A detailed questionnaire is provided for this purpose. Installation, commissioning and alignment by a laser system on site is possible by PINTSCH BUBENZER service engineers. Drawings as DWG/DXF files for your engineering department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

Gear Coupling Type KBT

Dimensions and technical data



Rev. 09-02



All dimensions in mm
Alterations reserved without notice

Coupling KBT		065	08	09	11	13	15	17	19	
MBr max.	Nm	2000	4000	5000	9250	15250	27500	36500	46000	
TKN	Nm	800	1600	2000	3700	6100	11000	14600	18400	
nmax at max. disc Ø	min ⁻¹	3800	3400	2750	2400	2150	2150	1900	1900	
dG1 max.	mm	55	75	90	110	120	140	160	195	
dG3	mm	85	110	130	160	180	200	225	265	
dG4	mm	145	170	200	230	260	300	360	400	
dG5	mm	68	88	105	130	140	162	184	225	
dM1 max.	mm	70	85	95	110	130	155	175	195	
dM3	mm	100	118	130	151	178	213	235	263	
dM4	mm	140	154	161	186	216	254	282	317	
lG1	mm	150	150	190	190	195	195	235	235	
lG3	mm	127	127	167	167	172	172	212	212	
lG4	mm	35	35	35	35	35	35	35	35	
lM1	mm	215	280	310	325	350	385	425	470	
lM2	mm	7	10	10	10	10	10	10	10	
lM3	mm	110	140	146	165	170	190	200	220	
lM4	mm	12	30	17	19	23	24	29	32	
Brake disc diameter d ₂ x b ₁ (mm)	355 x 30	43			Weight		of the coupling with			
		0,415			Moment of inertia		brake disc			
	400 x 30	49	62	79						
		0,639	0,73	0,752						
	450 x 30	57	70	87						
		0,996	1,09	1,108						
	500 x 30		79	96	119					
			1,585	1,605	1,783					
	560 x 30			108	131	161				
				2,434	2,611	2,915				
630 x 30			123	146	176	229				
			3,802	3,98	4,283	4,955				
710 x 30			166	196	248	310	393			
			6,213	6,516	7,118	8,351	10,23			
800 x 30				221	274	335	418			
				10,11	10,78	11,94	13,83			
900 x 30						367	450			
						17,64	19,53			
		Weights and moments of inertia are not binding, referring to the max. finish bore.								

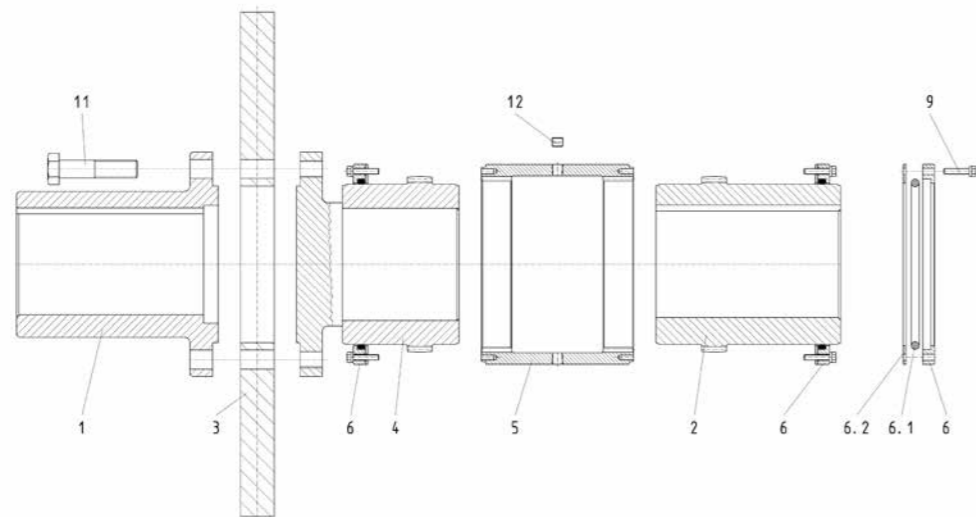
Gear Coupling Type KBT

Design and permissible misalignments



Rev. 09-02

Design
(except KBT065)



1	Hub, gear side
2	Hub, motor side
3	Brake disc
4	Flange with geared hub
5	Internal geared sleeve
6	End-cap with O-ring (6.1) and gasket (6.2)
9	End-cap screws
11	Fastening bolts
12	Lube plugs

Hub with Brake Disc Type N + NX



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

Hub Size	Maximum Brake Torque in Nm
145	~1000
170	~2000
200	~4000
230	~8000
260	~14000
300	~22000
360	~34000
400	~40000



Safe



Tried and Trusted



Robust



Easy Maintenance

Description Hub Type N + NX



Main Features

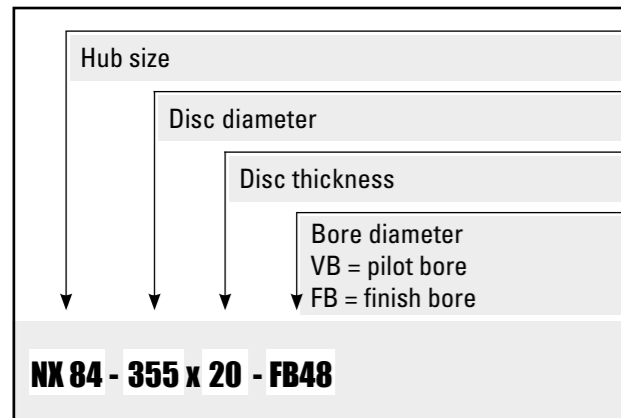
- Three-piece hub-disc combination for easy exchange of brake disc (type N)
- High accident prevention by fastening ring, no rotating nuts (type N)
- Exchange of brake disc without removing the hub (type N)
- Simple, one-piece construction with 20 mm brake disc thickness for SB17 series brakes (type NX)

Options

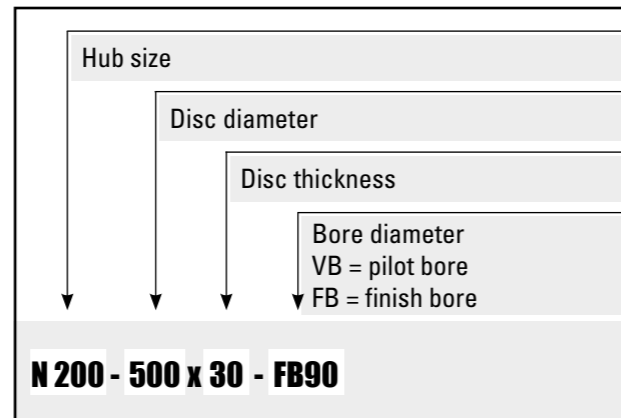
- Hubs ready bored and keywayed (preferably acc. to DIN 6885)
- Hubs tapered bored
- Hubs with double keyway
- Hubs pilot bored
- Hubs in special dimensions
- Hubs with extension shafts (Ns)

Balancing grade ISO 1940 - G 6.3 is guaranteed for all coupling parts

Ordering Example



Ordering Example



Applications

All drives, where the brake is not located between motor and gearbox, like brake location on the second gear box shaft or at the motor end shaft



Please Note

We supply a detailed operating manual with every order. Hubs with brake discs are rotating parts and as such a cover must be fitted for the prevention of accidents.



PINTSCH BUBENZER Service

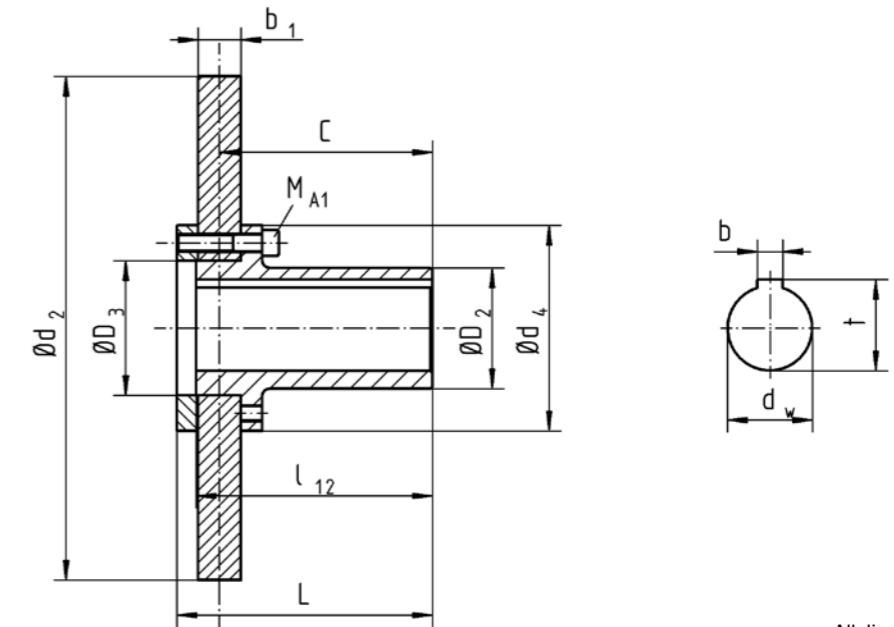
This includes the verification of the hub selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on site is possible by PINTSCH BUBENZER service engineers. Drawings as DWG/DXF files for your engineering department are available upon request.

Hub with Brake Disc Type N

Dimensions and technical data



Rev. 12-06



All dimensions in mm
Alterations reserved without notice

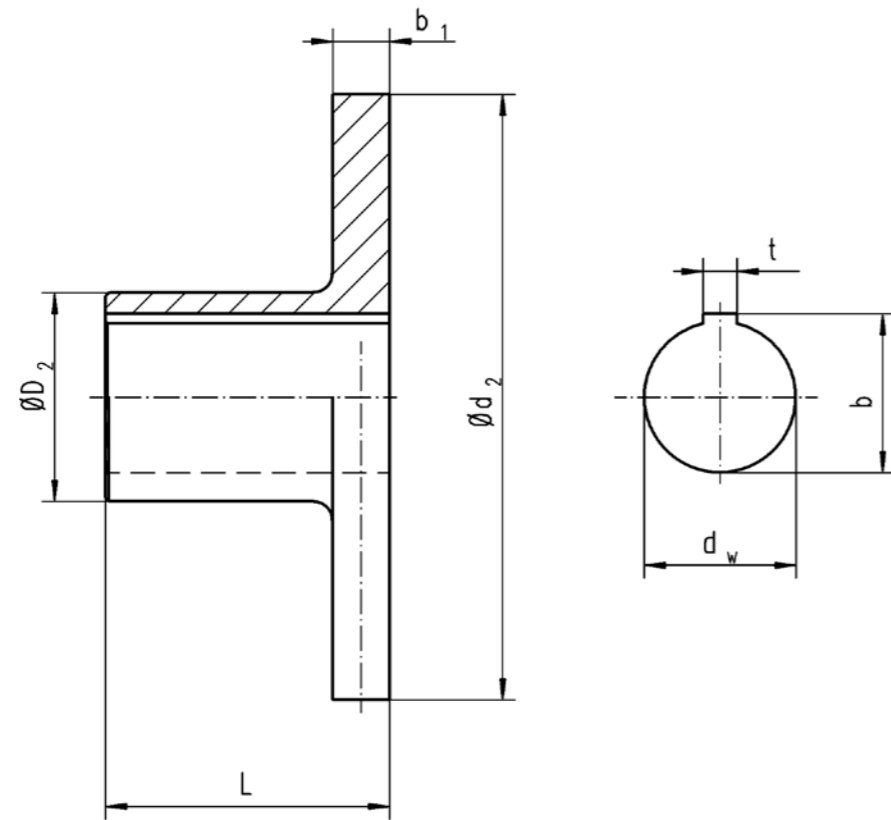
Hub N (size = d4)		145	170	200	230	260	300	360	400
MBr max.	Nm	1800	2850	4950	7740	11940	17550	29100	40050
nmax at max. disc Ø	min ⁻¹	3800	3400	3000	2700	2400	2200	1750	1750
dW max.	mm	60	75	95	110	125	140	160	160
D2	mm	85	110	135	160	180	200	225	225
D3	mm	95	120	140	170	200	220	260	300
L	mm	180	180	220	220	230	230	275	275
l12	mm	166,5	166,5	207	207,5	212,5	212,5	252,5	252,5
C	mm	150	150	190	190	195	195	235*	235*
MA	Nm	84	84	132	132	206	410	710	710
Brake disc diameter d2 x b1 (mm)	355 x 30	28			Weight		of the hub with		kg
		0,378			Moment of inertia		brake disc		kgm ²
	400 x 30	35	37	44					
		0,603	0,612	0,653					
	450 x 30	42	45	52					
		0,959	0,973	1,011					
	500 x 30		54	60	67	77			
			1,469	1,506	1,571	1,682			
	560 x 30			72	79	89			
				2,335	2,399	2,51			
	630 x 30				95	105	109		
				3,768	3,879	4,081			
710 x 30					124	128			
					6,112	6,213			
800 x 30	Weights and moments of inertia are not binding, referring to the max. finish bore for the sizes 145 to 300 respectively for a finish bore of 120 mm for the sizes 360 and 400.						153	189	
							9,808	10,456	
900 x 30								221	232
								16,123	16,473
1000 x 30	* Dimension C = 230 mm at brake disc thickness 40 mm							257	267
								24,075	24,424

Hub with Brake Disc Type NX

Dimensions and technical data



Rev. 12-06

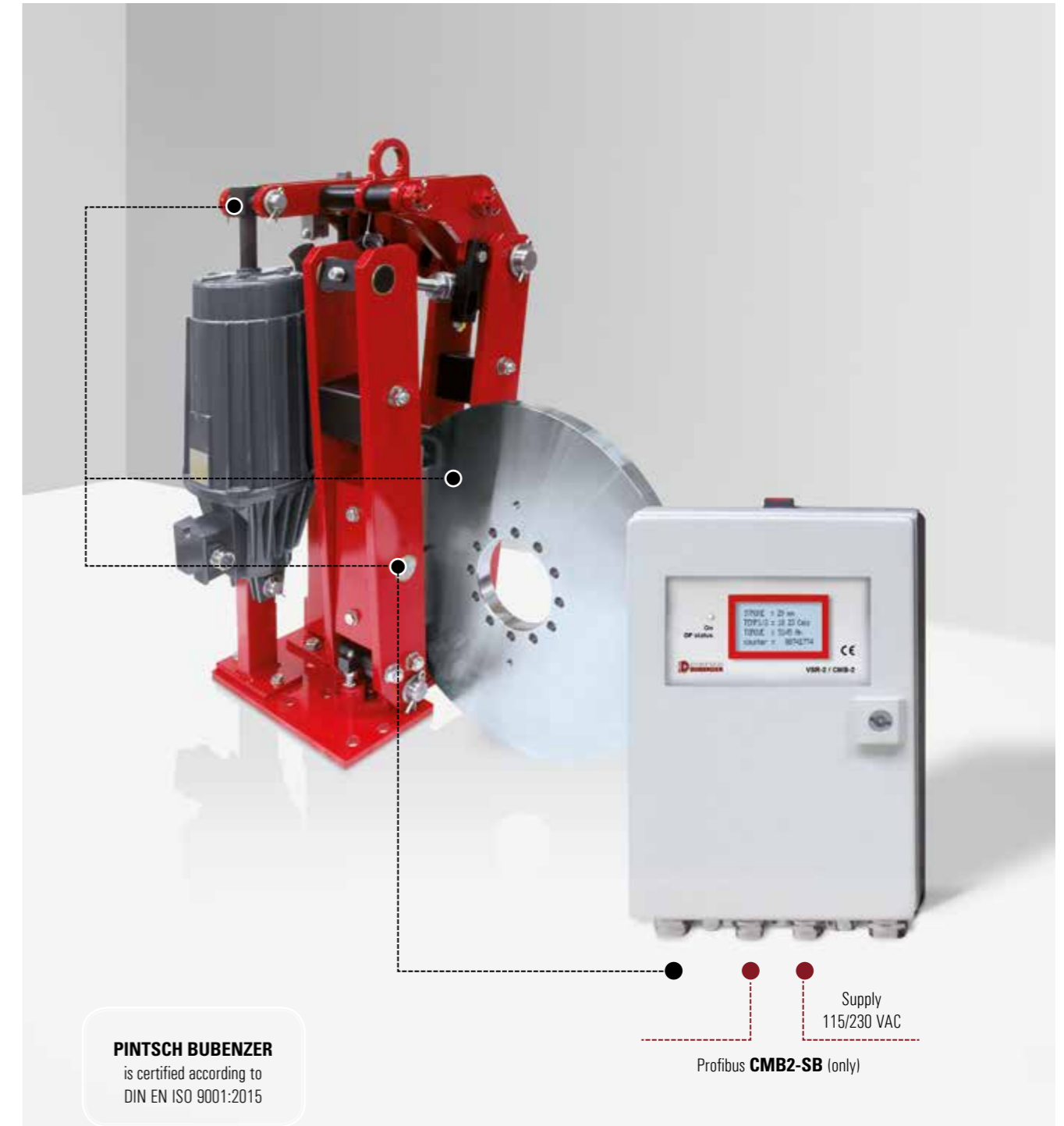


* Higher speeds possible by using sintered linings

All dimensions in mm
Alterations reserved without notice

Hub NX (size = D2)		58	64	74	84	92	100	114		
L mm		80	110	110	110	140	140	140		
dW max. mm		38	42	48	55	60	65	70		
	nmax. min ⁻¹ *									
	Thermal capacity kW									
Brake disc diameter d ₂ x b ₁ (mm)	200 x 20	3500	344	5,6 0,025	6,2 0,026	Weight of the hub with brake disc				kg kgm ²
	225 x 20	3300	399	7,0 0,040	7,5 0,040	8,1 0,041	8,6 0,042	9,3 0,045	10,9 0,047	
	250 x 20	3000	474	8,5 0,060	9,0 0,061	9,6 0,062	10,1 0,063	10,8 0,066	12,4 0,067	14,0 0,072
	280 x 20	2675	567	10,5 0,095	11,0 0,096	11,6 0,096	12,2 0,097	13,0 0,100	14,5 0,102	16,2 0,107
	315 x 20	2380	653	13,2 0,153	13,7 0,153	14,3 0,153	14,9 0,154	15,5 0,157	17,1 0,159	18,7 0,164
	355x 20	2100	752		17,0 0,246	17,6 0,246	18,2 0,274	18,9 0,250	20,5 0,252	22,2 0,257
	400 x 20	1875	863		21,0 0,396	21,6 0,396	22,2 0,397	22,8 0,400	24,4 0,402	26,0 0,407
	450 x 20	1650	986			27,0 0,634	27,7 0,635	28,4 0,637	30,0 0,639	31,7 0,645
	500 x 20	1500	1100			33,0 0,956	33,7 0,966	34,4 0,969	36,0 0,970	37,7 0,976

Monitoring System VSR2-SB/CMB2-SB



Visual indication of			
thruster stroke < 5 mm > 20 mm < 55 mm	maximum brake pad temperature	air gap difference between disc and pad surface by measuring the temperature difference between pads caused by unilateral pad rubbing	pad thickness < 5 mm

Description VSR2-SB/CMB2-SB



In response to requirements to simplify the maintenance of industrial brakes and at the same time to increase their operational safety, PINTSCH BUBENZER offers a retrofitable, compact electronic status indication system to be integrated into the brake as an additional safety device

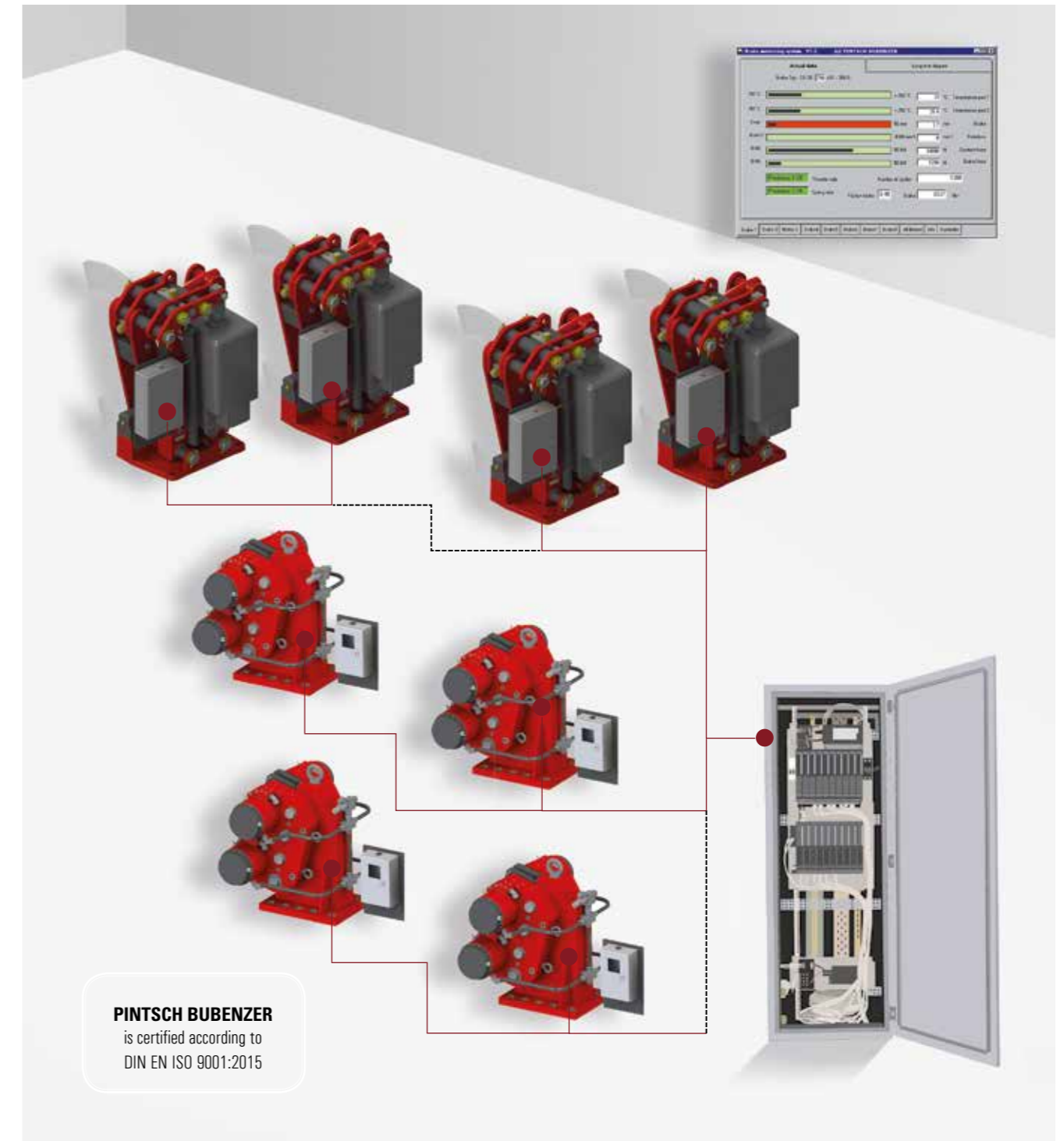
Main Features

- Industrial display with 4 rows of 20 characters for indication of measurement data and error messages
- High ambient temperature range – 20°C.....+70°C
- Protection class IP66
- Internal keypad for parameter change
- Up to 5 m cable length from sensor to electronic box. (Option)
- Brake operation cycle counter (up to 100 Mio. Cycles)
- Supply voltage selection switch 115/230 V AC
- One common error relay contact (VSR2-SB only)
- Profibus (CMB2-SB only). All scaled measures signals and error bits are transferred by bus system to the main control PLC. No analogue inputs in control PLC are required
- Option RPM speed sensor available
- Option: Stainless steel electronic box IP66 for outdoor use

Common parts for VSR2-SB and CMB2-SB






- Supply voltage:** The electronic unit can be connected directly to 110-240 VAC supply voltage. The internal voltage selector switch must be set by the user to the corresponding position 115 or 230 V
- Temperature sensor:** A pair of Pt100 sensors (B) measures the temperature of the each brake pad. If the temperature is too high or if the temperature is unequal from left to right side the unit generates a signal that is displayed in the panel. This reflected to the main control plc if the CMB2-SB unit is added
- Pad wear sensor:** If the minimum brake pad thickness is reached, the sensors (A) send a signal to the electronic box
- Display:** All measured analogue and digital signals and error messages are shown on the display in English language. Other languages are available on request. The display is readable under direct sunshine and has a LED backlight for use in a dark environment, such as steel mills.
- Keypad:** With the internal key pad, the user can adjust parameters such as changing the temperature display from Celsius (°C) to Fahrenheit (°F) or setting of the Profibus address
- Reset button:** The LED pushbutton on top of the electronic box indicates a wrong brake adjustment by a flashing red light. After the problem on the brake is solved, the status of the VSR2-SB / CMB2-SB can be reset to normal operation by pushing the button.
- Proximity switch release control:** This switch and the optional manual release switch are independent from the VSR2-SB/ CMB2-SB and have to be connected to the control plc

Monitoring System VSR2-SB/CMB2-SB



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

Permanent monitoring of

				
Thruster Stroke	Contact Force Brake Force	Lining Temperature	Lining Wear	Disc Speed (optional)

Description VSR2-SB/CMB2-SB



VSR2-SB parts

Stroke sensor: A digital stroke sensor detects an Eldro reserve stroke <5mm or larger than 15 mm

Relay contact: A dry contact (max 250 V 2 A) is connected to terminals 21/22. It is closed in normal status of the VSR2-SB and open, if the system is in error mode, or switched off

CMB2-SB parts

Stroke sensor: The digital stroke sensor of the VSR-SB is replaced by an analogue sensor that measures the position of the thruster piston rod. The reserve stroke is measured and checked that it is at the perfect position of 10 mm with the brake is completely released. The maximum measurement range is 100 mm. The digital sensor is still available as an option

Force sensor: One load cell pin, located in the brake shoe, measures the contact force in the closed condition of the brake. This signal is used to detect an incorrect or broken spring setting. The signal "contact force" (max. 70 kN) is converted in software to the equivalent torque value in Nm. So the displayed value in Nm can be easily compared with the torque value shown on the spring scale

Disc speed RPM sensor: For this option, a special brake disc with marks is needed. A proximity sensor counts the impulses per time period and the RPM value is calculated

Profibus: All measured data (scaled) and warning signals are transferred by the Profibus-DP port to the main control PLC. No expensive analogue inputs (6 pc per brake) are required in the main PLC. The address of the DP slave can be easily set in the electronic box by a parameter change in the software. Up to 126 brakes can be connected to one Profibus master on the main PLC

Signals from brake to main PLC



Please Note

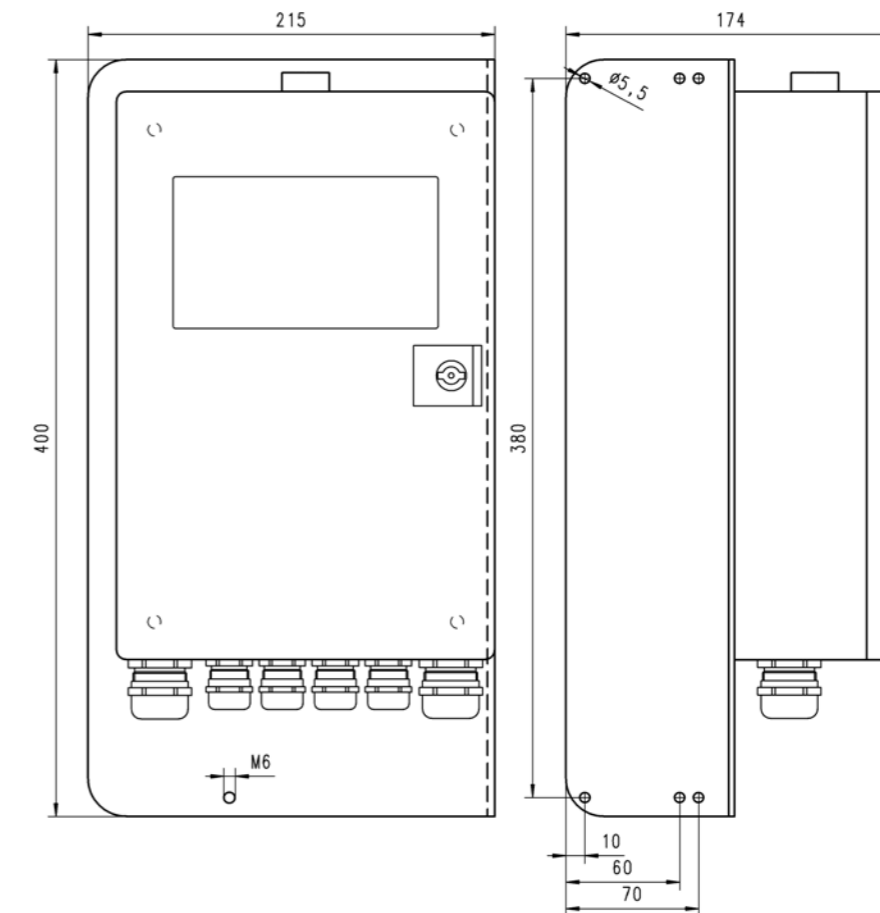
All these readings are logged by the CMB unit and transmitted for visualization. Visualization of sensor output can be provided by a stand-alone PC system or by combining the CMB with an existing crane operating / visualization system (e.g. via Profibus).

Monitoring System VSR2-SB/CMB2-SB

Dimensions and technical data

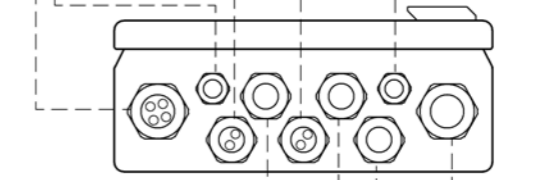


Rev. 12-06



Cable glands wired by PB:

- M25: Padwear1, Padwear2, Stroke, Force
- M12: Temperature 1
- M20: Release, Manual Release
- M20: Speed, Temperature 2
- M12: spare



Cable glands for customer:

- M20: Profibus In, max cable diameter 13 mm
- M20: Profibus Out, max cable diameter 13 mm
- M20: Supply voltage, max cable diameter 13 mm
- M25: Signals to crane, max cable diameter 17 mm

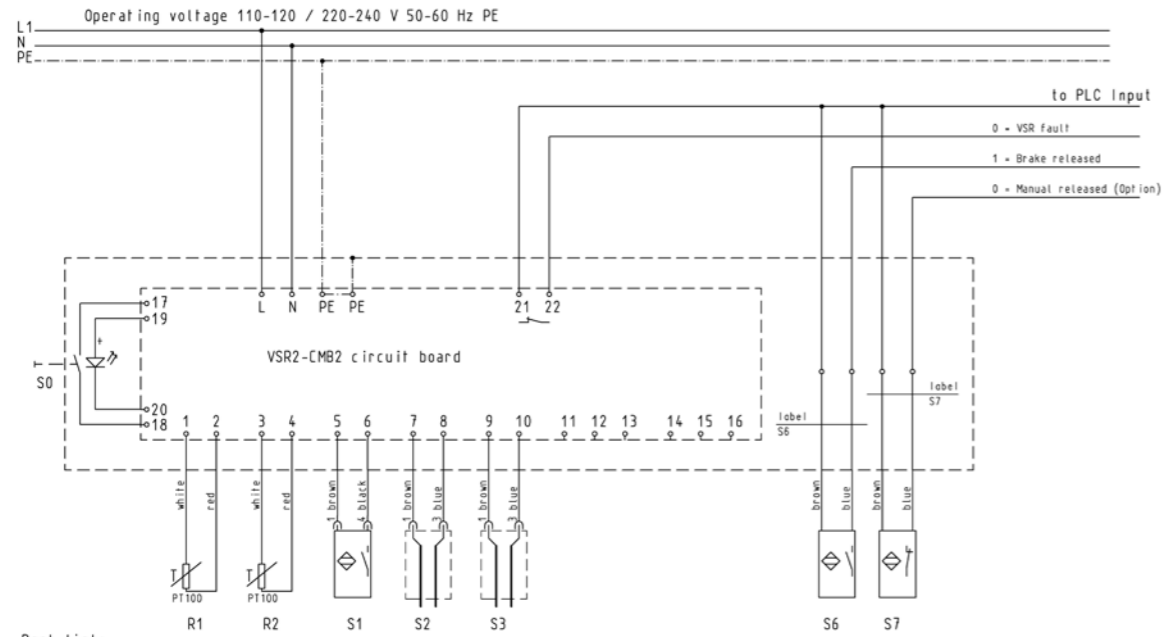
Remark: Force, Profibus In and Out only for CMB2

Monitoring System VSR2-SB/CMB2-SB

Dimensions and technical data

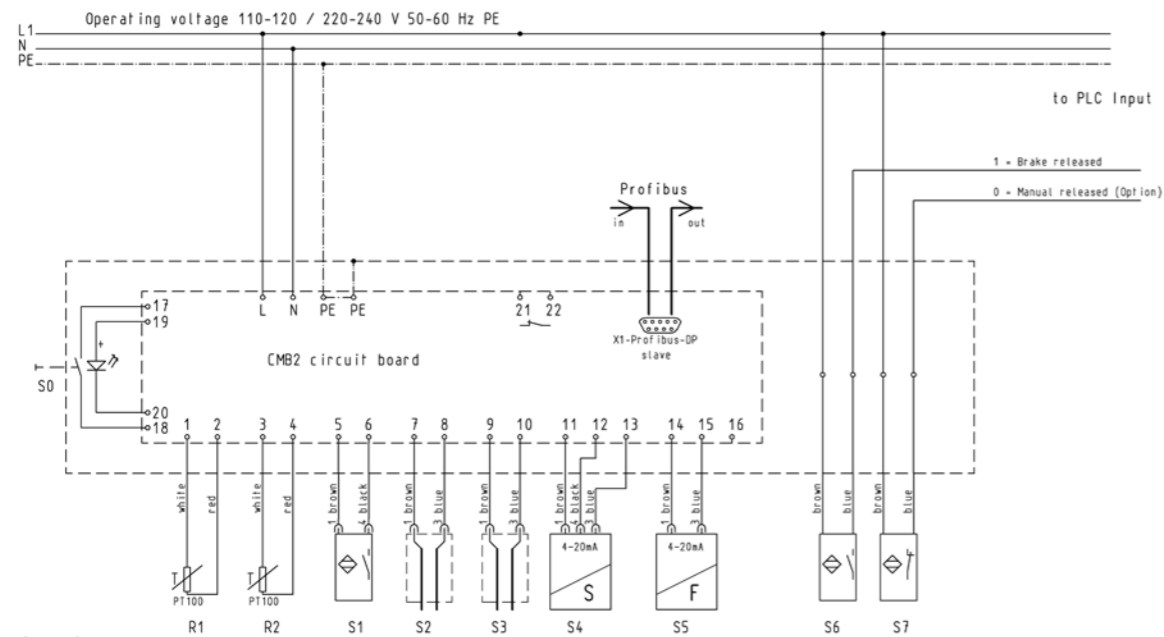


Rev. 09-02



- Part list:
- S0 Reset button with LED lamp
 - R1 Brake pad 1 temperature sensor
 - R2 Brake pad 2 temperature sensor
 - S1 Stroke sensor
 - S2 Pad 1 wear sensor
 - S3 Pad 2 wear sensor
 - S6 Proximity switch brake release control 20-240 V AC/DC
 - S7 Proximity switch hand release control 20-240 V AC/DC (Option)

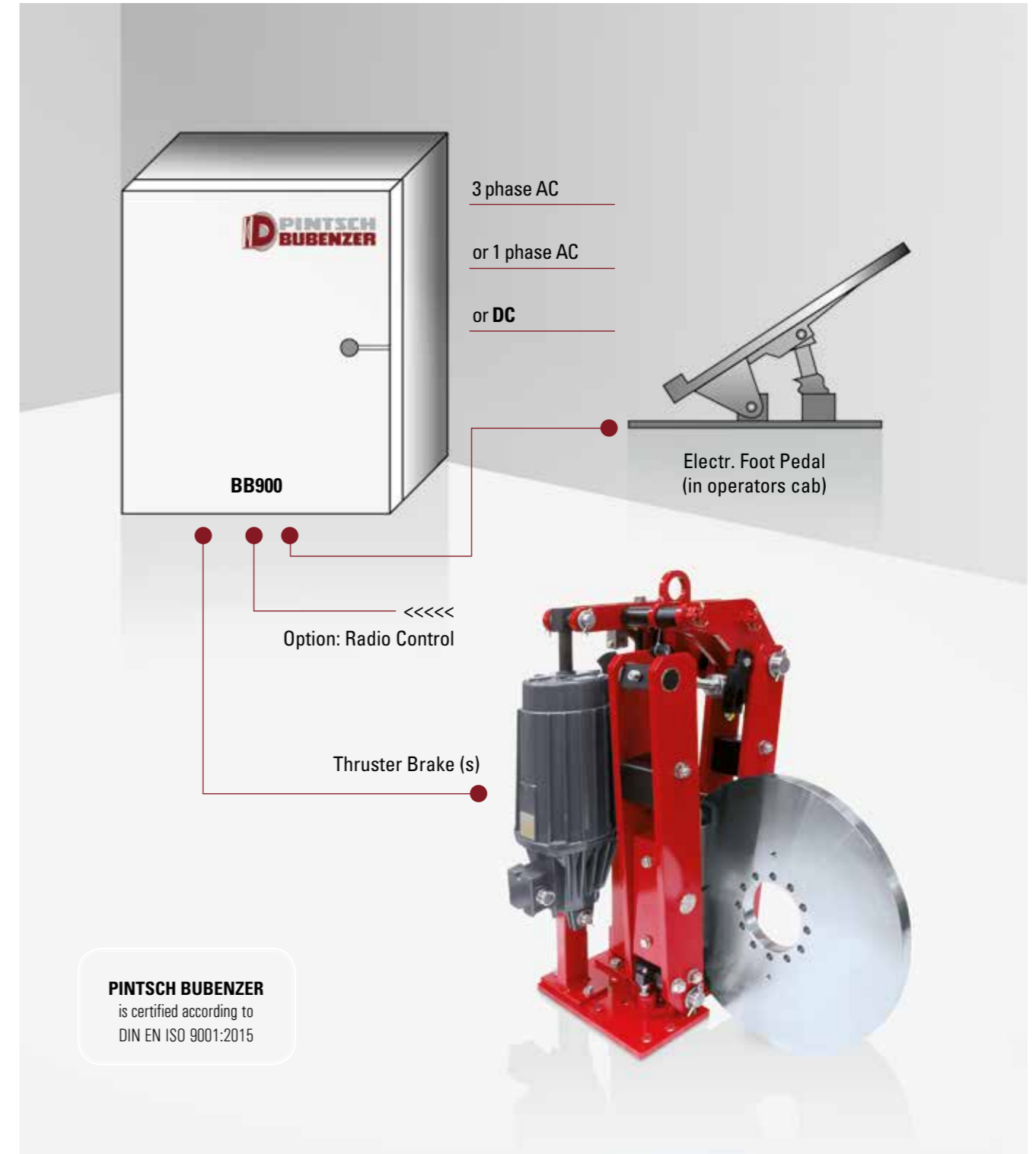
VSR2-SB Version



- Part list:
- S0 Reset button with LED lamp
 - R1 Brake pad 1 temperature sensor
 - R2 Brake pad 2 temperature sensor
 - S1 Speed sensor (Option)
 - S2 Pad 1 wear sensor
 - S3 Pad 2 wear sensor
 - S4 Analog stroke sensor
 - S5 Contact force sensor
 - S6 Proximity switch brake release control 20-240 V AC/DC
 - S7 Proximity switch hand release control 20-240 V AC/DC

CMB2-SB Version

Brake Control System BB 900



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



Controlled Braking



Simple Installation



Retrofitable



Brake Remains Failsafe!

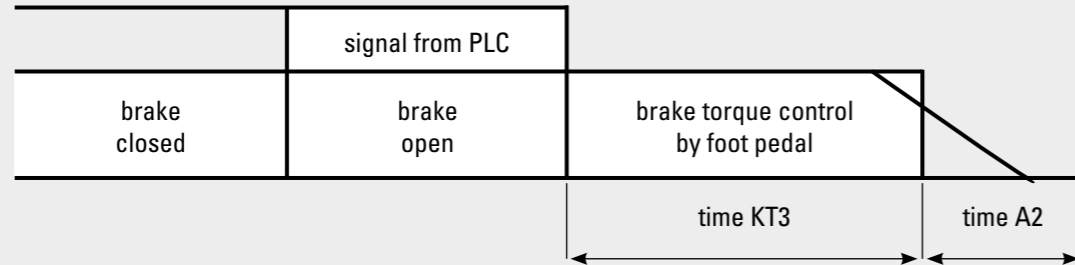


Use of AC Thrusters in DC Systems!

Description BB 900



Version 0



Version 1

Foot pedal with two limit switches. Actuation of the foot pedal switches off the drive motor and allows braking control with the pedal. When the pedal is depressed to the full extent, the brake remains closed until the customer's master switch is actuated once more.

Version 2

Two operating modes, accessed by the customer's selector switch.

1. Direct opening and closing of the brake without time delay.
2. Direct opening of the brake; Closing of the brake with adjustable time delay. During this time delay, braking can be carried out by the foot pedal.

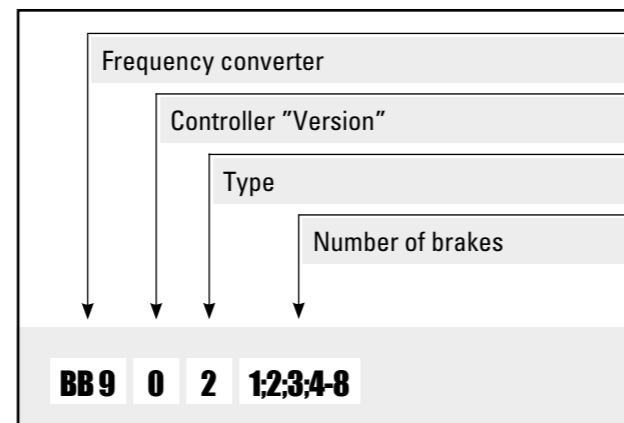
Version 3

Customer's current (4...20 mA) or voltage signal (0...10 V) for the stepless control of the brake torque (without foot pedal)

All frequency converter units as standard with:

- Steel enclosure for use under harsh environmental conditions (600x600x210mm).
- Main power input filter for filtering out main disturbances.
- Filter for reducing voltage spikes of the electro-hydraulic brake thrusters and eliminating EMV problems.
- Board for connection of the standard PINTSCH BUBENZER foot pedal with inductive coil.

Ordering Example

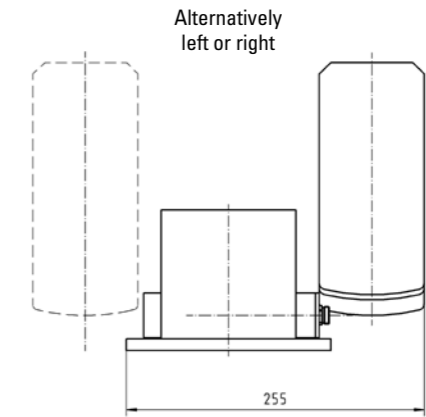
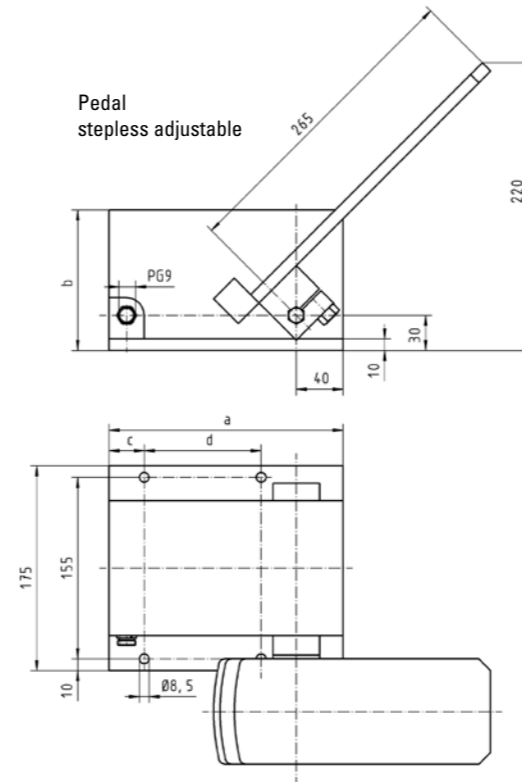


Foot Pedal

for electric operated brakes

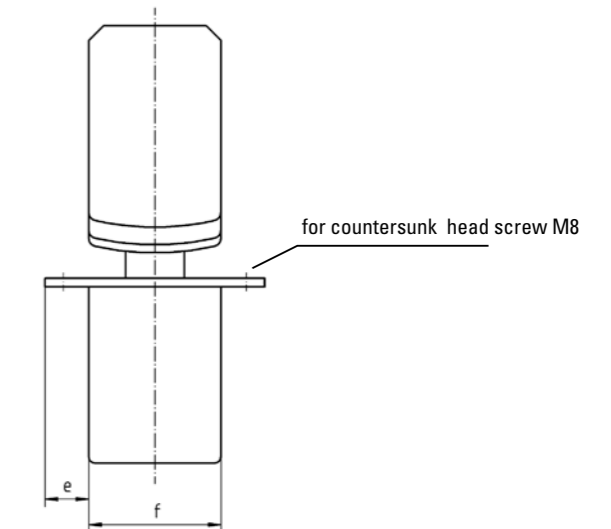
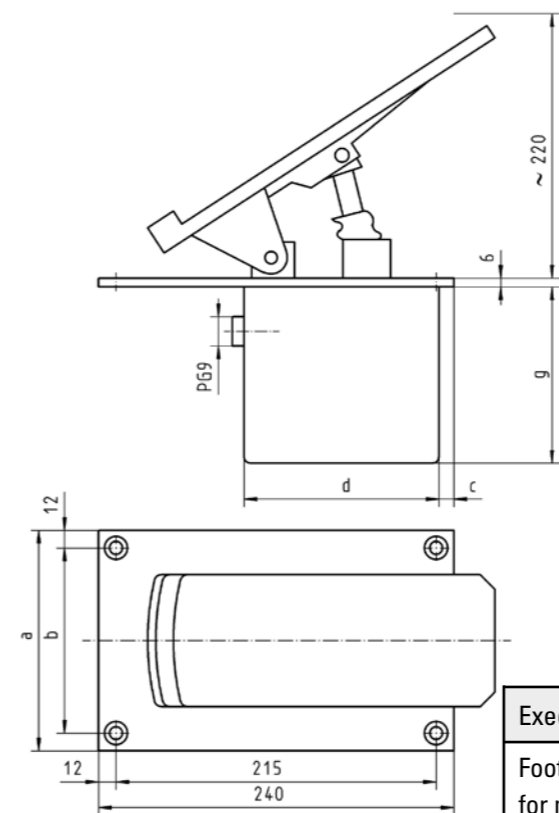


Rev. 09-02



Electr. Foot Pedal "A" for installation on top cabin floor

Execution	a	b	c	d	Weight kg.
Foot pedal "A" for max. 2 brakes	200	120	30	100	7,8
Double foot pedal "A" for max. 4 brakes	275	135	33	175	9,2



Electr. Foot Pedal "B" for installation into the cabin floor

Execution	a	b	c	d	e	f	g	Weight kg.
Foot pedal "B" for max. 2 brakes	150	125	10	135	25	85	95	4,7
Double foot pedal "B" for max. 4 brakes	224	195	25	145	22	180	105	6,8

Description CMB2-SF



Main Features

Industrial display with 4 rows of 20 characters for indication of measurement data and error messages

High ambient temperature range – 20°C.....+70°C (-4°F.....158°F)

Protection class IP66

Internal keypad for parameter change

Up to 5 m cable length from sensor to electronic box.

Brake operation cycle counter

Supply voltage selection switch 115/230 V AC

Profibus connection. All scaled measure signals and error bits are transferred by bus system to the main control PLC. No expensive analogue inputs in customers PLC are required!

Parts of the system

Supply voltage The electronic unit can be connected directly to 110-240 V AC (50/60 Hz) supply voltage. The internal voltage selector switch must be set by the user to the corresponding position 115 or 230 V

Display All measured analogue and digital signals and error messages are shown on the display in English language. Other languages are available on request. The display is readable under direct sunshine (outdoor and container crane applications) and has a LED backlight for use in a dark environment, such as steel mills.

Keypad With the internal key pad, the user can adjust parameters such as changing the temperature display from Celsius (°C) to Fahrenheit (°F) or setting of the Profibus address.

Reset button The LED pushbutton on top of the electronic box indicates that the brake is outside its normal operating parameters by a flashing red light. When the problem on the brake is solved, the status of the CMB2-SF can be reset by pushing the button. The unit cannot be reset until the adjustments are made and the problem solved.

Pad temperature sensor A pair of Pt100 sensors (R1, R2) measure the temperature of each brake pad. If the temperature is too high, or unequal between left, or right hand side the unit generates a signal that can be sensed by the main control PLC to warn the operator that attention is required.

Contact force sensor A load cell located in each brake cylinder (S3 S4) measures the contact force of the spring pack. This signal is used to detect a spring failure or malfunction of the hydraulic system.

Stroke sensor These analogue sensors (S1, S2) measure the stroke of the piston. If the rated stroke of 2 mm/side increases beyond the maximum value due to pad wear. If the value is higher than 2.5 mm, the customer should readjust the stroke back to 2.0 mm in accordance with the manual. Failure to do so can result in a reduced braking performance. Again a signal bit is set to flag the problem to the control PLC.

Proximity switch release control These 2 switches (S5 S6) are independent from the CMB2-SF and have to be connected directly to the main control PLC to be active.

Relay contact A dry contact (max 250 V 2 A) is connected to terminals 21/22. It is closed in normal status of the CMB2 and open, if the system is in error mode, or switched off. If no Profibus is available, this contact can be connected to main control PLC input, to give a common error signal.

Profibus All scaled measured data and warning signals are transferred by the Profibus-DP slave port to the main control PLC. No expensive analogue inputs (6 pcs. per brake) are required in PLC. The address of the DP slave can be easily set in the unit by a parameter change in the software. Up to 126 brakes can be connected to one Profibus master.

Options

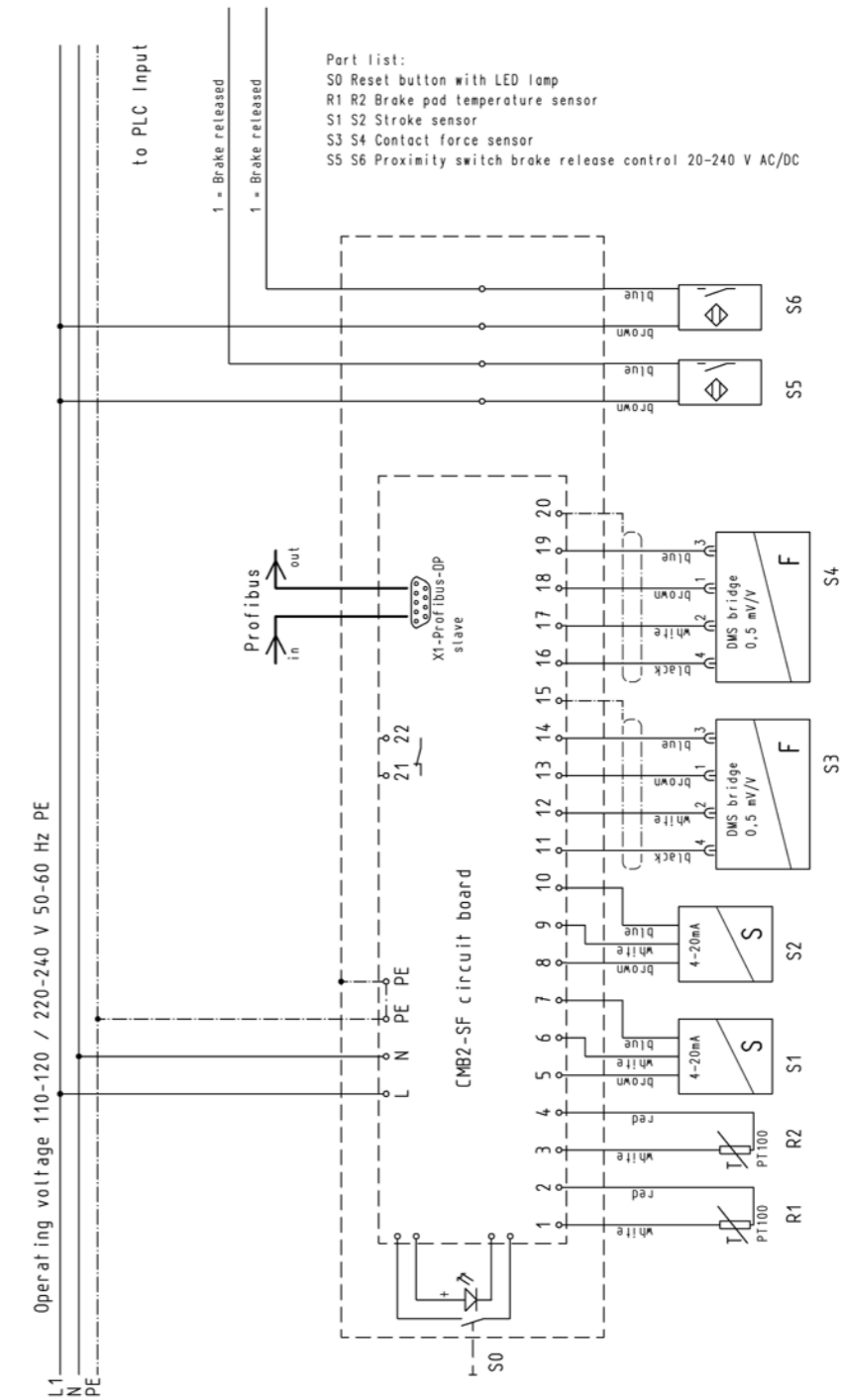
Stainless steel electronic box IP66 for outdoor use

Monitoring System CMB2-SF

Dimensions and technical data



Rev. 12-06



Description BP Buffer



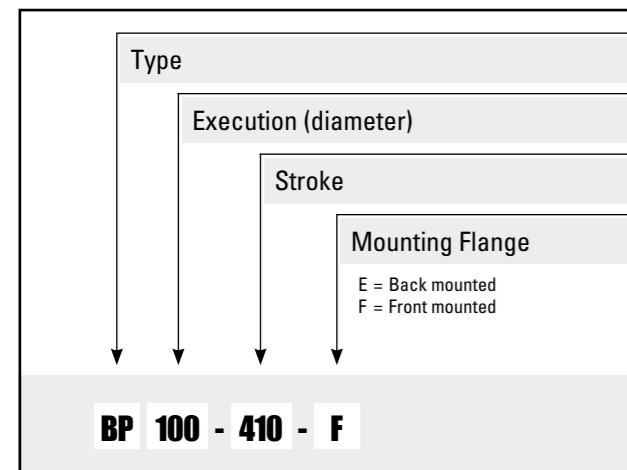
Main Features

- Piston and cylinder of special seamless pipes
- Back mounted or front mounted versions available
- Piston special hard chrome plated
- High temperature resistant coating
- Impact speed sensitive damping
- Low maintenance

Options

- Special mounting arrangements
- High temperature seals
- Safety chain
- Safety wire rope
- Protective bellows
- Special design for certain applications

Ordering Example



Applications

As impact energy absorber on crane gantries, trolleys, elevators, stackers, reclaimers and other industrial applications.



Please Note

We supply a detailed operating manual with every order. Nevertheless, we would point out that buffers are only as safe as the servicing and maintenance performed while they are in operation. The guarantee for the correct functioning of our buffers is therefore only valid if the user adheres to the installation and operating manual.



PINTSCH BUBENZER Service

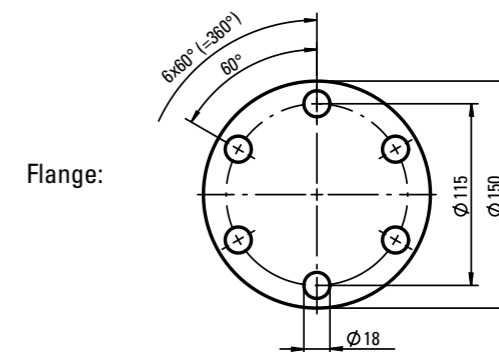
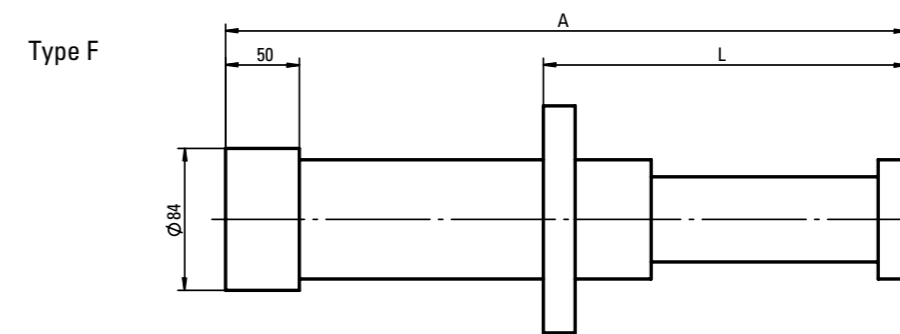
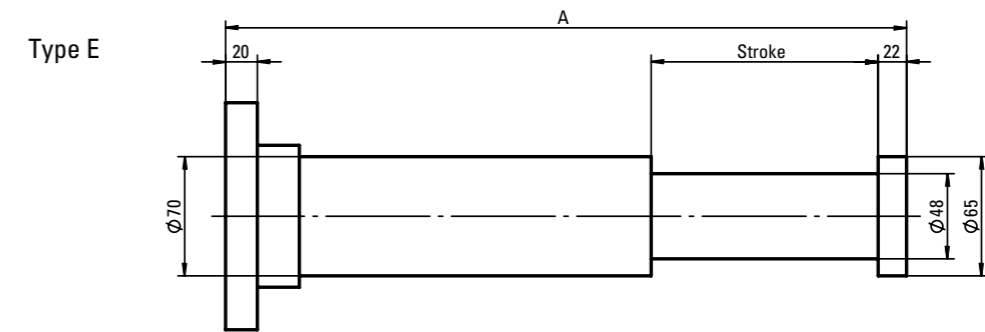
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on-site by PINTSCH BUBENZER service engineers is possible. Drawings as DWG/DXF files for your engineering department are available upon request.

Buffer Type BP 50

Dimensions and technical data



Rev. 04-14



E = Back mounted
F = Front mounted

All dimensions in mm
Alterations reserved without notice

Stroke mm	Energy / Stroke E / F kJ (kJ)	* Max. damping force E / F kN	Inward force kN	Weight E / F kg	** Perm. angular dev. in degree	E / F A mm	F L mm
50	6	130	5,57	9	4,6	310	165
100	12			12	2,3	460	215
150	18			15	1,5	610	265
200	24			18	1,4	760	315
250	30			21	1,3	910	365
300	35			24	1,2	1060	415
350	41			27	1,1	1210	465
400	47			30	1,0	1360	515
450	53			33	0,9	1510	565
500	57			36	0,9	1660	615

Intermediate strokes are available on request!

* For strokes > 350 mm: the damping force is initially lower than the maximum value.

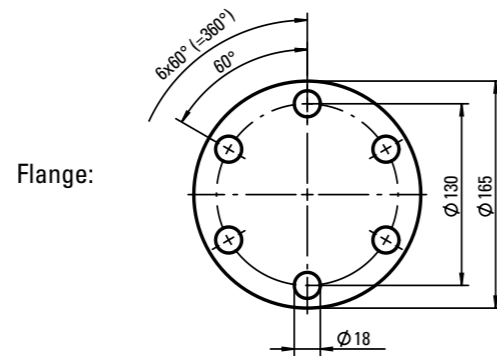
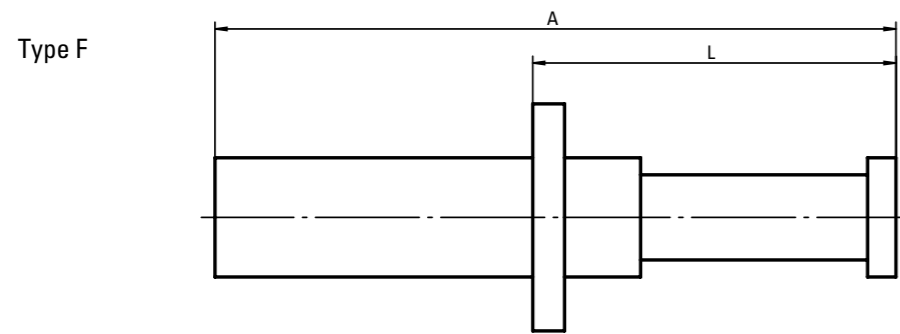
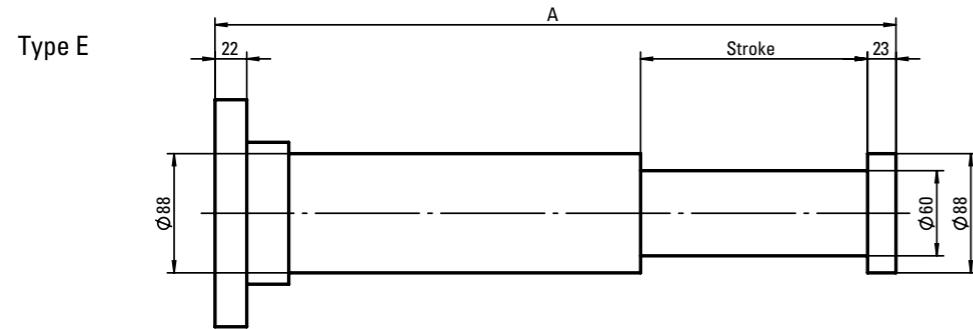
** Relating to the max. permissible damping force

Buffer Type BP 63

Dimensions and technical data



Rev. 05-14



E = Back mounted
F = Front mounted

All dimensions in mm
Alterations reserved without notice

Stroke mm	Energy / Stroke E / F kJ	* Max. damping force E / F kN	Inward force kN	Weight E / F kg	** Perm. angular dev. in degree	E / F A mm	F L mm
100	16	180	8,84	16	2,9	480	270
200	33			22	1,5	760	370
300	49			28	1,0	1040	470
400	65			33	0,8	1320	570
500	81			39	0,8	1600	670
600	95			45	0,8	1880	770
700	107			51	0,8	2160	870
800	118			57	0,8	2440	970
900	127			63	0,8	2720	1070
1000	135			69	0,8	3000	1170

Intermediate strokes are available on request!

* For strokes > 350 mm: the damping force is initially lower than the maximum value.

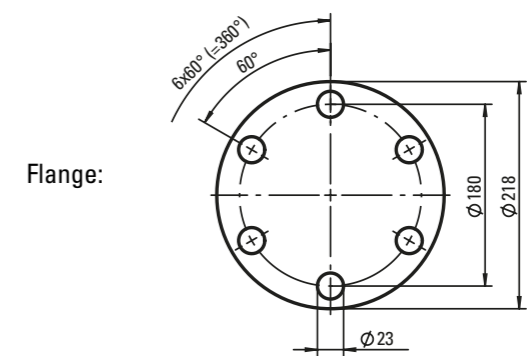
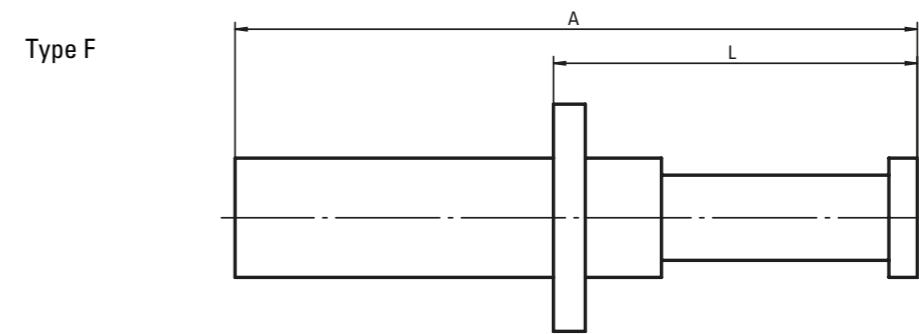
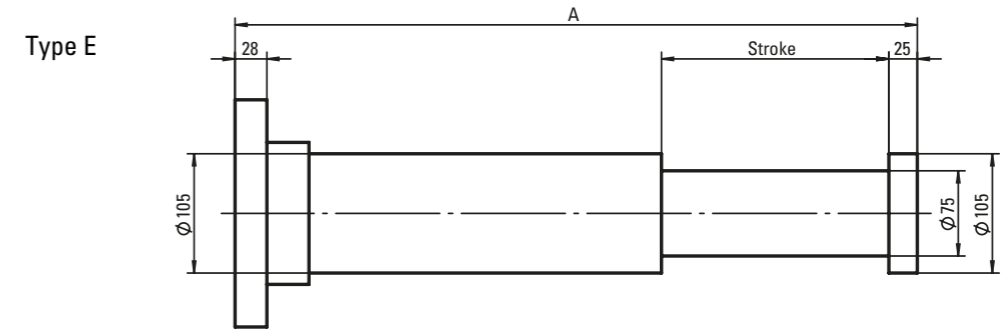
** Relating to the max. permissible damping force

Buffer Type BP 80

Dimensions and technical data



Rev. 05-14



E = Back mounted
F = Front mounted

All dimensions in mm
Alterations reserved without notice

Stroke mm	Energy / Stroke E / F kJ	* Max. damping force E / F kN	Inward force kN	Weight E / F kg	** Perm. angular dev. in degree	E / F A mm	F L mm
100	26	290	14,25	24	2,9	477	305
200	53			30	1,5	754	405
300	79			36	1,0	1031	505
400	105			45	0,8	1308	605
500	131			53	0,8	1585	705
600	155			62	0,8	1862	805
700	177			69	0,8	2139	905
800	197			77	0,8	2416	1005
900	215			85	0,8	2693	1105
1000	231			93	0,8	2970	1205

Intermediate strokes are available on request!

* For strokes > 350 mm: the damping force is initially lower than the maximum value.

** Relating to the max. permissible damping force

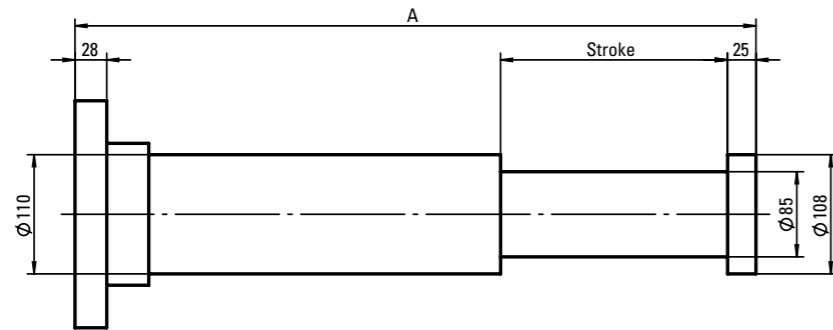
Buffer Type BP 90

Dimensions and technical data

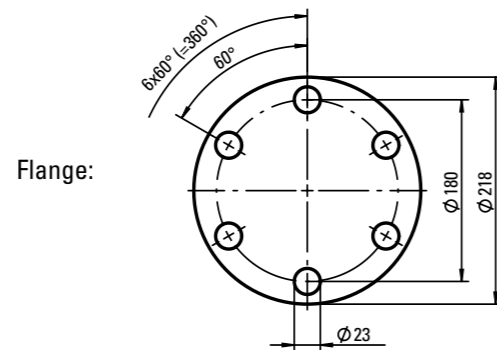
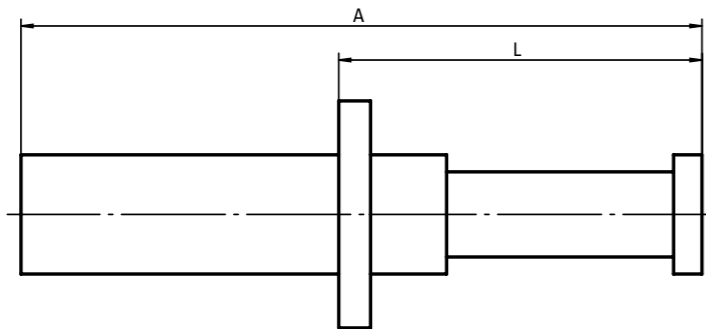


Rev. 05-14

Type E



Type F



E = Back mounted
F = Front mounted

All dimensions in mm
Alterations reserved without notice

Stroke mm	Energy / Stroke E / F kJ	* Max. damping force E / F kN	Inward force kN	Weight E / F kg	** Perm. angular dev. in degree	E / F A mm	F L mm
100	31	350	18,3	26	2,0	477	305
200	64			33	1,5	754	405
300	95			39	1,0	1031	505
400	126			49	0,8	1308	605
500	157			58	0,8	1585	705
600	186			68	0,8	1862	805

Intermediate strokes are available on request!

* For strokes > 350 mm: the damping force is initially lower than the maximum value.

** Relating to the max. permissible damping force

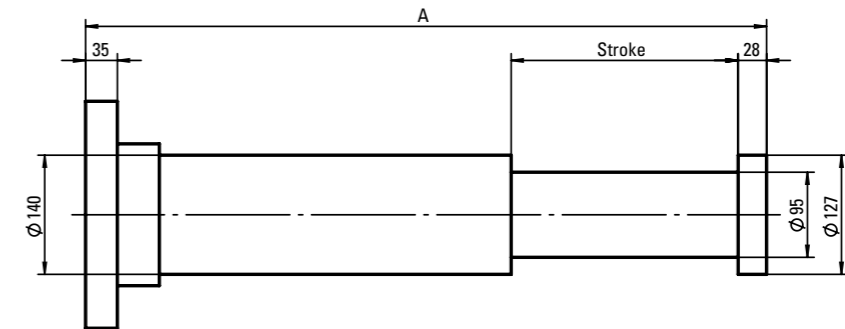
Buffer Type BP 100

Dimensions and technical data

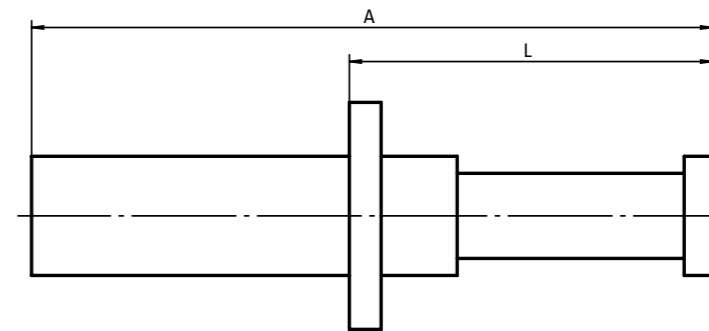


Rev. 05-14

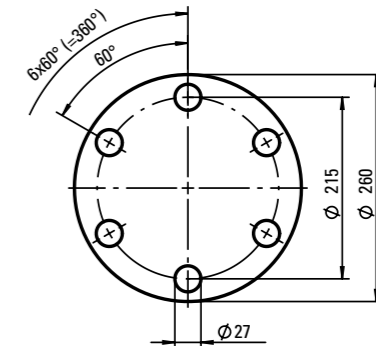
Type E



Type F



Flange:



E = Back mounted
F = Front mounted

All dimensions in mm
Alterations reserved without notice

Stroke mm	Energy / Stroke E / F kJ	* Max. damping force E / F kN	Inward force kN	Weight E / F kg	** Perm. angular dev. in degree	E / F A mm	F L mm
100	45	500	22,3	46	2,5	504	340
200	91			60	1,3	780	440
300	136			74	0,9	1056	540
400	182			89	0,8	1332	640
500	225			103	0,8	1608	740
600	267			118	0,8	1884	840
700	306			132	0,8	2160	940
800	343			146	0,8	2436	1040
900	377			161	0,8	2712	1140
1000	409			175	0,8	2988	1240
1200	467			205	0,8	3280	1440

Intermediate strokes are available on request!

* For strokes > 350 mm: the damping force is initially lower than the maximum value.

** Relating to the max. permissible damping force

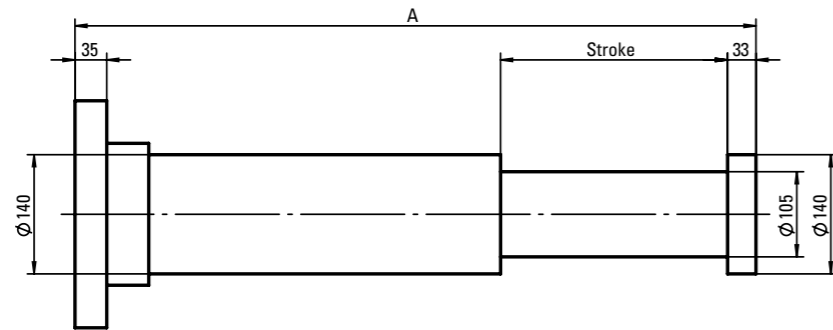
Buffer Type BP 110

Dimensions and technical data

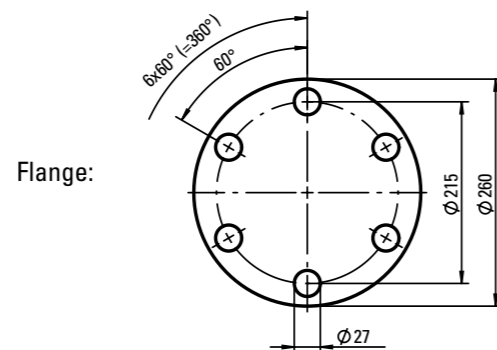
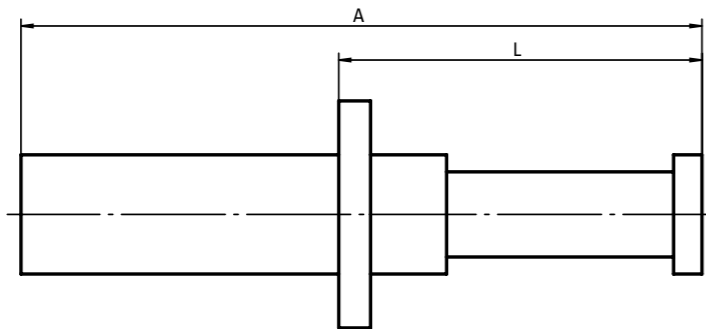


Rev. 05-14

Type E



Type F



E = Back mounted
F = Front mounted

All dimensions in mm
Alterations reserved without notice

Stroke mm	Energy / Stroke E / F kJ	* Max. damping force E / F kN	Inward force kN	Weight E / F kg	** Perm. angular dev. in degree	E / F A mm	F L mm
100	67	750	24	48	2,0	504	340
200	136			62	1,5	780	440
300	204			76	1,0	1056	540
400	273			91	0,8	1332	640
500	337			105	0,8	1608	740
600	400			120	0,8	1884	840

Intermediate strokes are available on request!

* For strokes > 350 mm: the damping force is initially lower than the maximum value.

** Relating to the max. permissible damping force

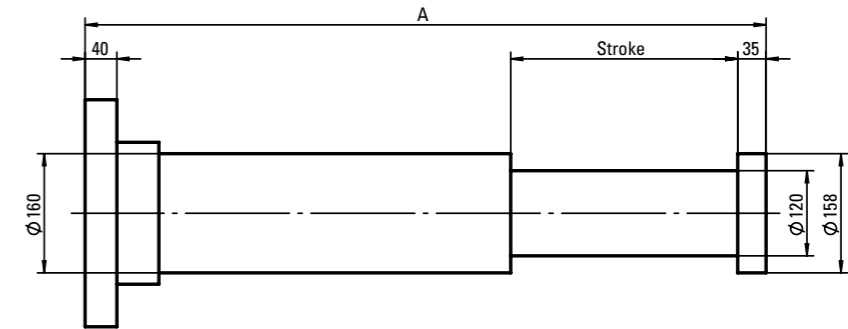
Buffer Type BP 125

Dimensions and technical data

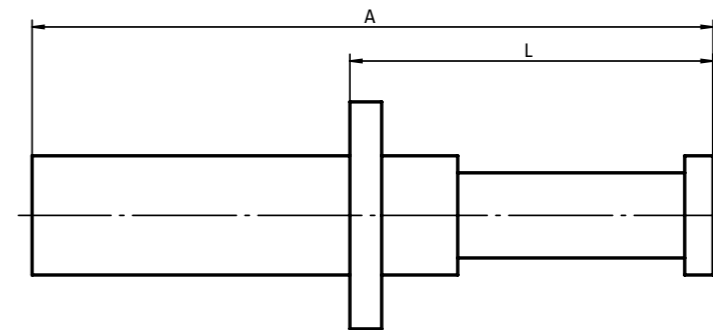


Rev. 05-14

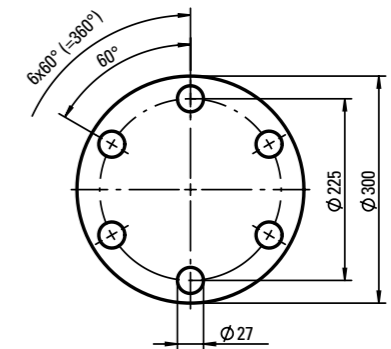
Type E



Type F



Flange:



E = Back mounted
F = Front mounted

All dimensions in mm
Alterations reserved without notice

Stroke mm	Energy / Stroke E / F kJ	* Max. damping force E / F kN	Inward force kN	Weight E / F kg	** Perm. angular dev. in degree	E / F A mm	F L mm
100	71	780	34,8	64	4,4	540	375
200	142			82	2,2	820	475
300	213			100	1,5	1100	575
400	284			118	1,1	1380	675
500	355			136	0,9	1660	775
600	425			154	0,8	1940	875
700	496			171	0,8	2220	975
800	564			189	0,8	2500	1075
900	629			207	0,8	2780	1175
1000	691			225	0,8	3060	1275

Intermediate strokes are available on request!

* For strokes > 350 mm: the damping force is initially lower than the maximum value.

** Relating to the max. permissible damping force



3rd edition

PINTSCH BUBENZER GmbH

Friedrichshuettenstr. 1
D-57548 Kirchen-Wehbach
Phone +49 27 41/94 88-0

Huenxer Str. 149
D-46537 Dinslaken
Phone +49 20 64/602-0

www.pintschbubenzler.com