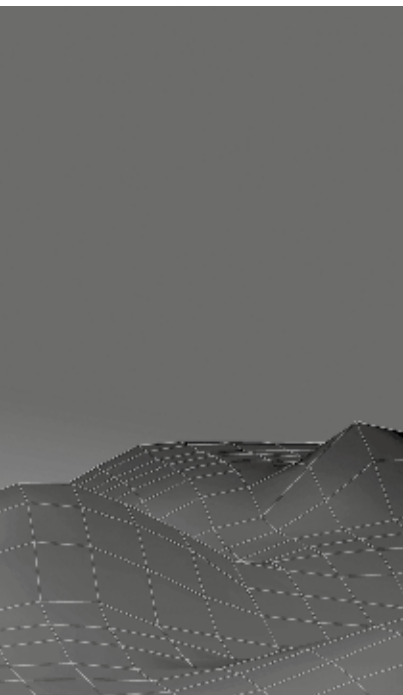


BRAKE SYSTEMS FOR MINING
BRAKING UNLIMITED

Made in Germany



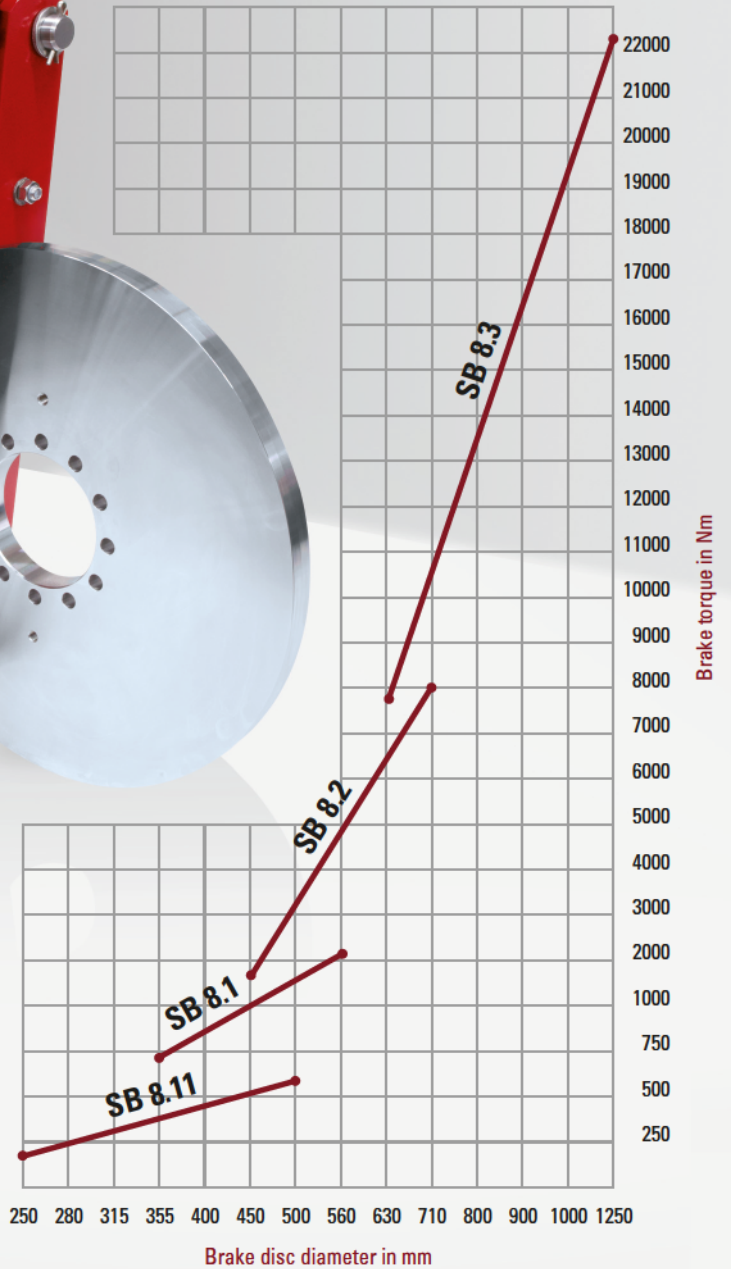
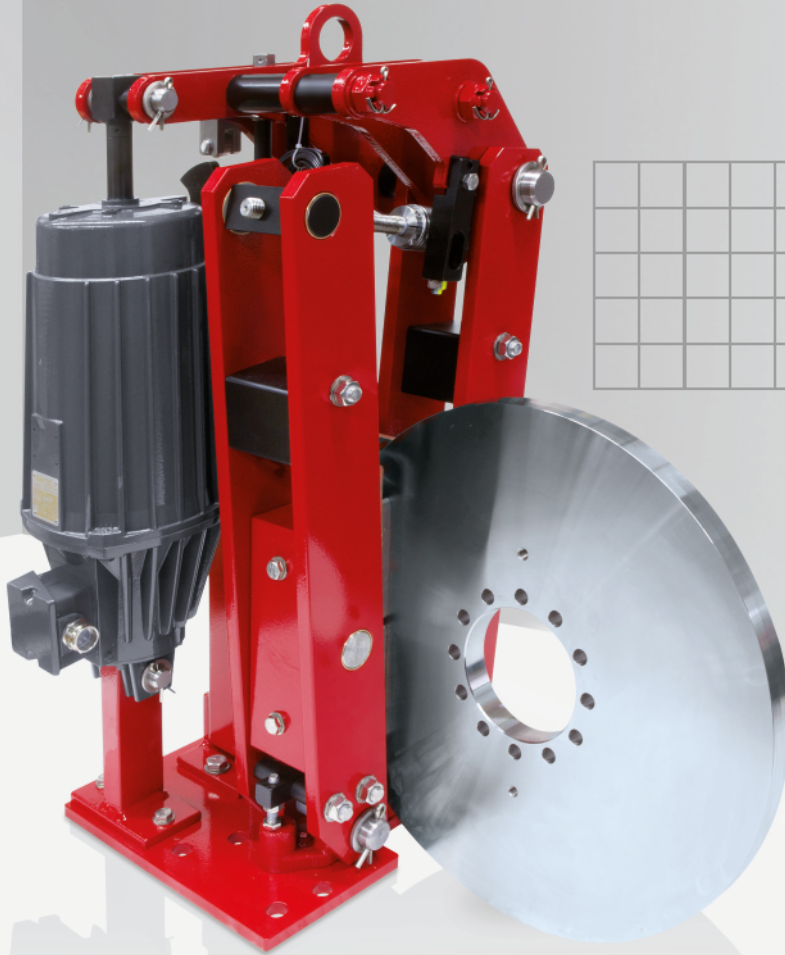
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Thruster Disc Brakes SB 8 Series



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



Reliable



Compact Design



Robust Construction



Easy Maintenance

Description SB 8



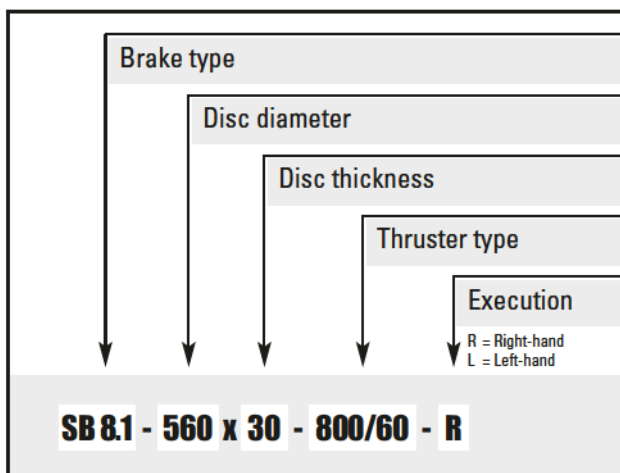
Main Features

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

Options

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

Ordering Example



Thrusters, Technical Data

Thruster Type	Power (W)	Curr. (A) at 400 V	Weight (kg)
EB 120/40	130	0,4	7,5
EB 220/50	160	0,4	9,3
EB 300/50	140	0,3	10
EB 500/60	200	0,4	13
EB 800/60	260	0,5	19
EB 1250/60	380	0,6	21
EB 2000/60	500	0,7	33
EB 3000/60	550	0,9	39

Data supplied by thruster 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 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.

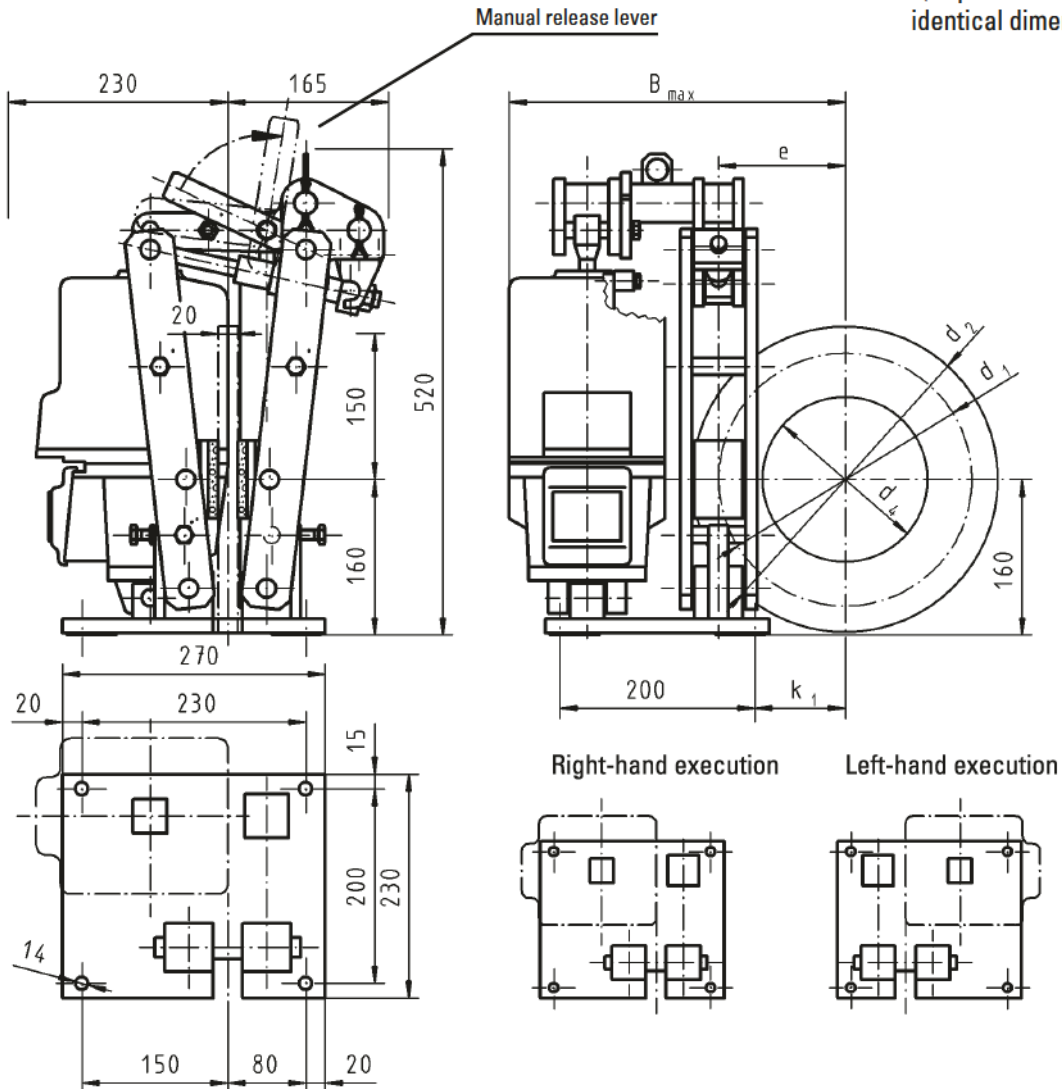
Disc Brake SB 8.11

Dimensions and technical data



Rev. 10-08

(Replaces **SB 14.11**, identical dimensions)



*) 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

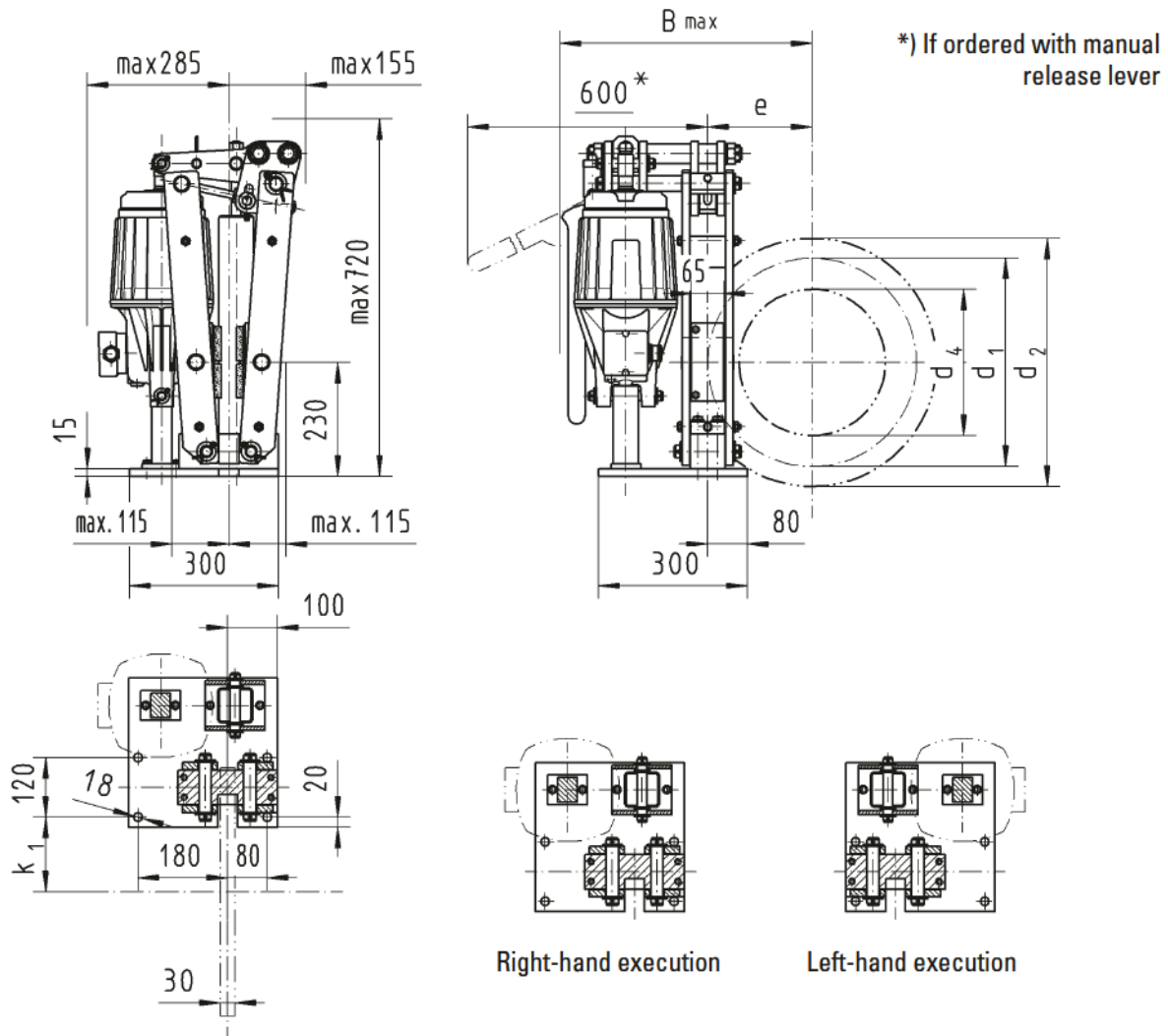
Weight: 37 kg w/o thruster		Thruster type				EB 120/40	EB 220/50	EB 300/50	Ed 23/5	Ed 30/5
		Contact force in N				1550	2500	3400	2500	3400
Disc Ø	Friction Ø					Brake torque M _{Br} in Nm			Friction factor μ = 0,4*	
		d ₂	d ₁	d ₄	e	k ₁	B _{max}			
250	195	105	98	61	311	120	200	270	200	270
280	225	135	113	76	326	140	230	310	230	310
315	260	170	130	93	343	160	260	355	260	355
355	300	210	150	113	363	185	300	410	300	410
400	345	255	173	136	386	215	345	470	345	470
450	395	305	197	160	411	245	395	540	395	540
500	445	355	222	185	436	275	445	610	445	610

Disc Brake SB 8.1

Dimensions and technical data



Rev. 01-08



*) 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

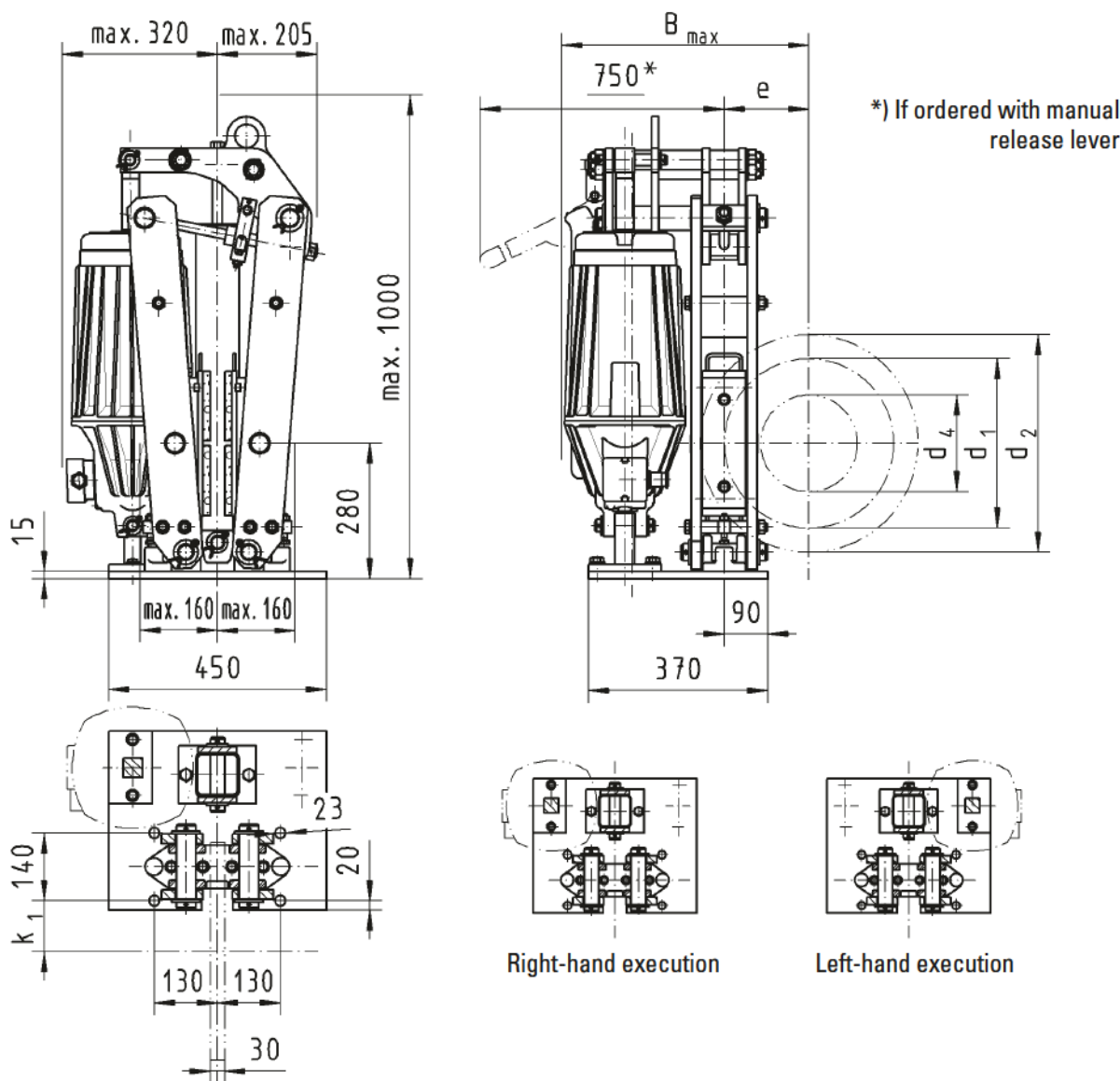
Weight: 78 kg w/o thruster		Thruster type				EB 300/50	EB 500/60 EB 500/120	EB 800/60 EB 800/120
		Contact force in N				5950	10700	16950
Disc Ø	Friction Ø					Brake torque M _{Br} in Nm		Friction factor μ = 0,4*
d ₂	d ₁	d ₄	e	k ₁	B _{max}			
355	275	160	138	78	430	655	1180	1860
400	320	205	160	100	457	760	1370	2160
450	370	255	185	125	482	880	1580	2500
500	420	305	210	150	507	1000	1800	2840
560	480	365	240	180	537	1140	2050	3250

Disc Brake SB 8.2

Dimensions and technical data



Rev. 12-06



Right-hand execution

Left-hand execution

*) 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

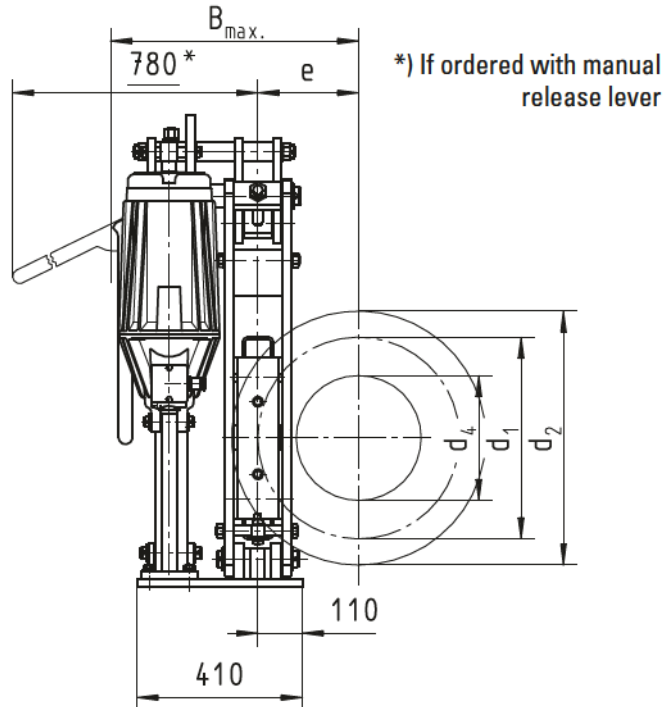
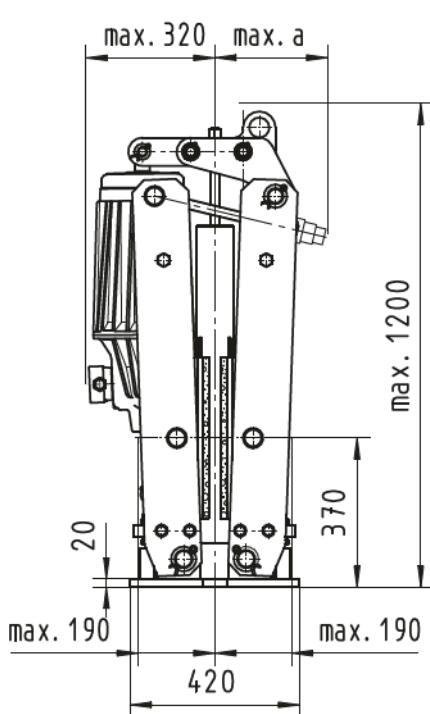
Weight: 180 kg w/o thruster		Thruster type				EB 500/60	EB 800/60	EB 1250/60	EB 2000/60
		Contact force in N				EB 500/120	EB 800/120	EB 1250/120	EB 2000/120
Disc Ø	Friction Ø	d ₄	e	k ₁	B _{max}	Brake torque M _{Br} in Nm		Friction factor μ = 0,4*	
d ₂	d ₁								
450	350	200	175	105	510	1580	2560	3430	4690
500	400	250	200	130	535	1810	2930	3920	5360
560	460	310	230	160	565	2080	3370	4510	6160
630	530	380	265	195	600	2395	3880	5190	7100
710	610	460	305	235	640	2760	4465	5980	8175

Disc Brake SB 8.3

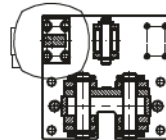
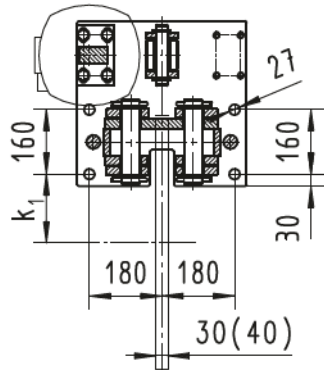
Dimensions and technical data



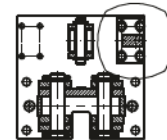
Rev. 06-13



Dimension a: With automatic wear compensator max. 280 mm
without automatic wear compensator max. 220 mm



Right-hand execution



Left-hand execution

*) 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

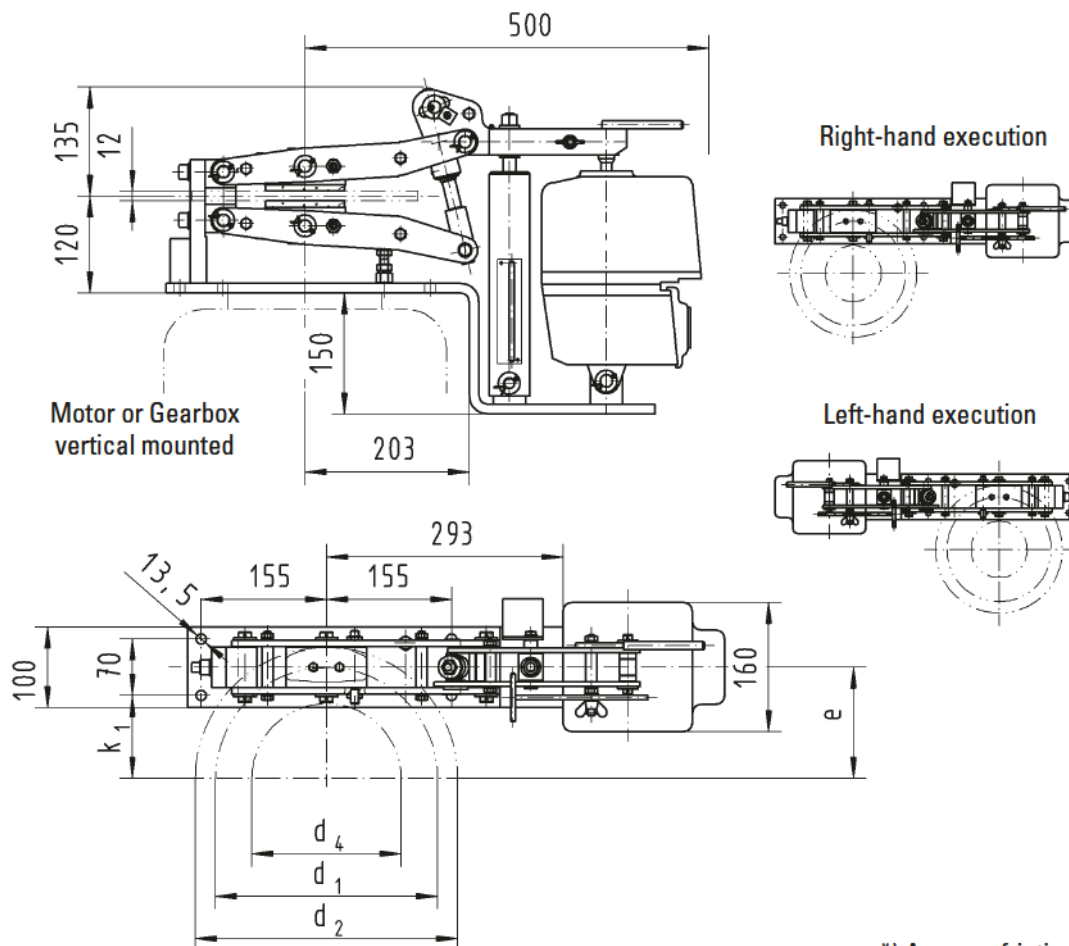
Weight: 285 kg w/o thruster		Thruster type				EB 2000/60 EB 2000/120	EB 3000/60 EB 3000/120
		Contact force in N				37400	50200
Disc Ø	Friction Ø					Brake torque M _{Br} in Nm	Friction factor μ = 0,4*
d ₂	d ₁	d ₄	e	k ₁	B _{max}		
630	500	310	250	170	615	7500	10000
710	580	390	290	210	655	8600	11600
800	670	480	335	255	700	10000	13500
900	770	580	385	305	750	11500	15500
1000	870	680	435	355	800	13000	17500
1250	1120	930	560	480	925	16750	22500

Disc Brake SB 22

Dimensions and technical data



Rev. 12-06



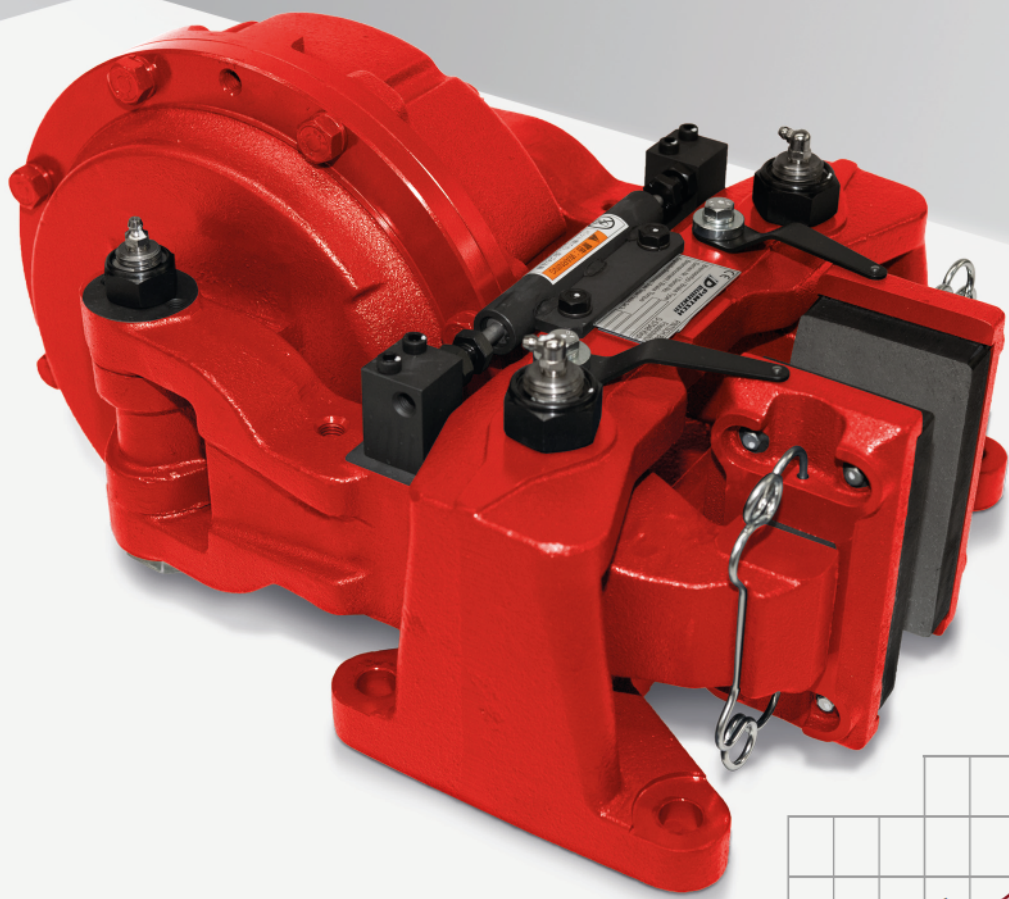
*) Average friction factor of standard material combination

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

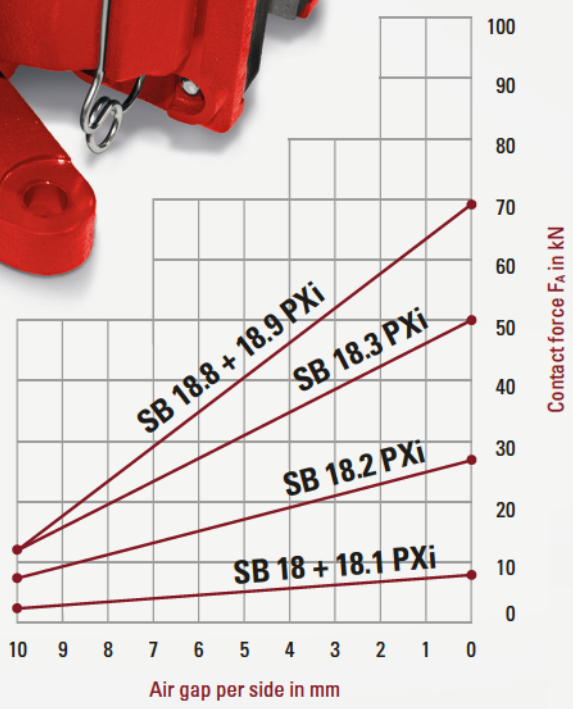
All dimensions in mm
Alterations reserved without notice

Weight: 35 kg w/o thruster		Thruster type			Ed 23/5	Ed 23/5bb
		Contact force in N			2450	3150
Disc Ø	Friction Ø				Brake torque M _{Br} in Nm	Friction factor μ = 0,4*
d ₂	d ₁	d ₄	e	k ₁		
200	150	60	75	40	145	190
225	175	85	88	53	170	220
250	200	110	100	65	200	250
280	230	140	115	80	225	290
315	265	175	133	98	260	335
355	305	215	153	118	300	385
400	350	260	175	140	345	440
450	400	310	200	165	390	500
500	450	360	225	190	440	565

Disc Brake SB 18 PXi



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



Reliable



High Performance



Robust Design



Easy Maintenance

Description SB 18 PXi



Main Features

Spring applied brake, released with pneumatic pressure, simple to operate with low cost control vales

Robust, reliable construction. Well proven in many industrial applications

Simple installation and adjustment for pad wear

Compliant link mechanism to maintain pad in parallel alignment at all times

Even pad wear throughout giving longer lifetime

Simple pad change using spring clips, requiring no special tools

Applications

Can be used in all industrial applications where pneumatic supply is available.

Such as

- Wire and steel rope manufacturing, used as tensioners
- Paper mills, tensioning and emergency
- Forestry equipment, crushers

Special reference is made to the steel industry in all machines used in the process lines such as

- coilers/uncoilers
- transfers
- slitters
- accumulators...

Operating Restrictions

Requires manual adjustment of air gap to compensate for pad wear

High capacity units need lifting equipment for installation



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

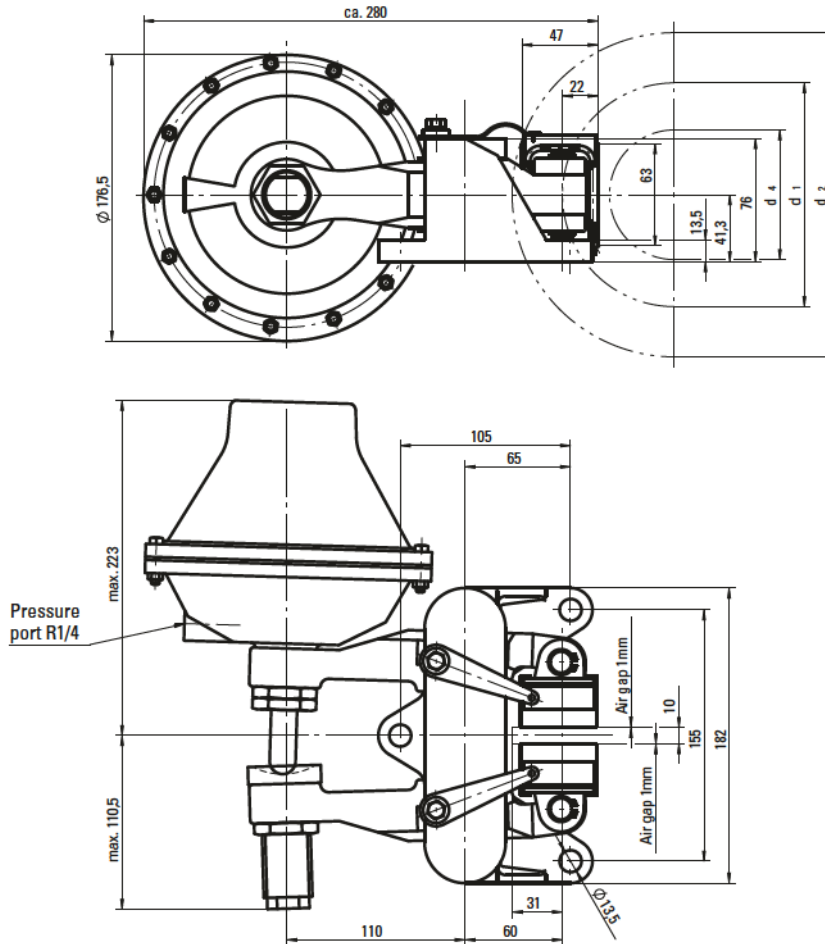
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on site is possible by PINTSCH BUBENZER service engineers. Drawings as DWG/DXF files for your engineering department are available upon request.

Disc Brake SB 18 PXi

Dimensions and technical data



Rev. 03-14



Brake torque in Nm

$$M_{BR} = F_A (N) \times \mu \times d_1 (mm) / 1000$$

All dimensions in mm
Alterations reserved without notice

*) Theoretical friction factor of standard material combination

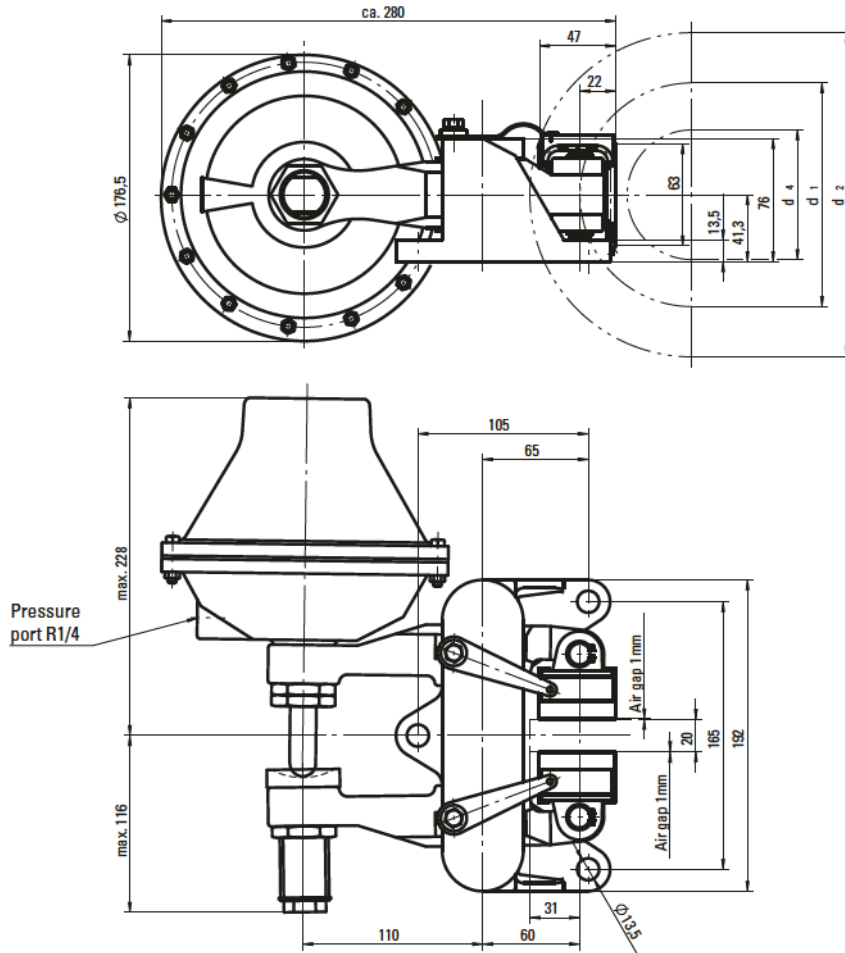
Type		SB 18 PXi - 01	SB 18 PXi - 02
Contact force F_A at 1 mm air gap	N	7410	3840
Brake disc diameter d_2	mm	min. 200	min. 200
Friction diameter d_1	mm	$d_2 - 62$	$d_2 - 62$
Max. perm. hub diameter d_4	mm	$d_2 - 125$	$d_2 - 125$
Brake disc thickness	mm	10	10
Brake pad type		56	56
Max. pad wear (each side)	mm	3,5	3,5
Piston area	cm ²	110	110
Max. operating pressure p_{max}	bar	7	7
Theor. friction coefficient	μ^*	0,30	0,30
Weight	kg	ca. 11	ca. 11

Disc Brake SB 18.1 PXi

Dimensions and technical data



Rev. 03-14



Brake torque in Nm

$$M_{BR} = F_A (N) \times \mu \times d_1 (mm) / 1000$$

All dimensions in mm
Alterations reserved without notice

*) Theoretical friction factor of standard material combination

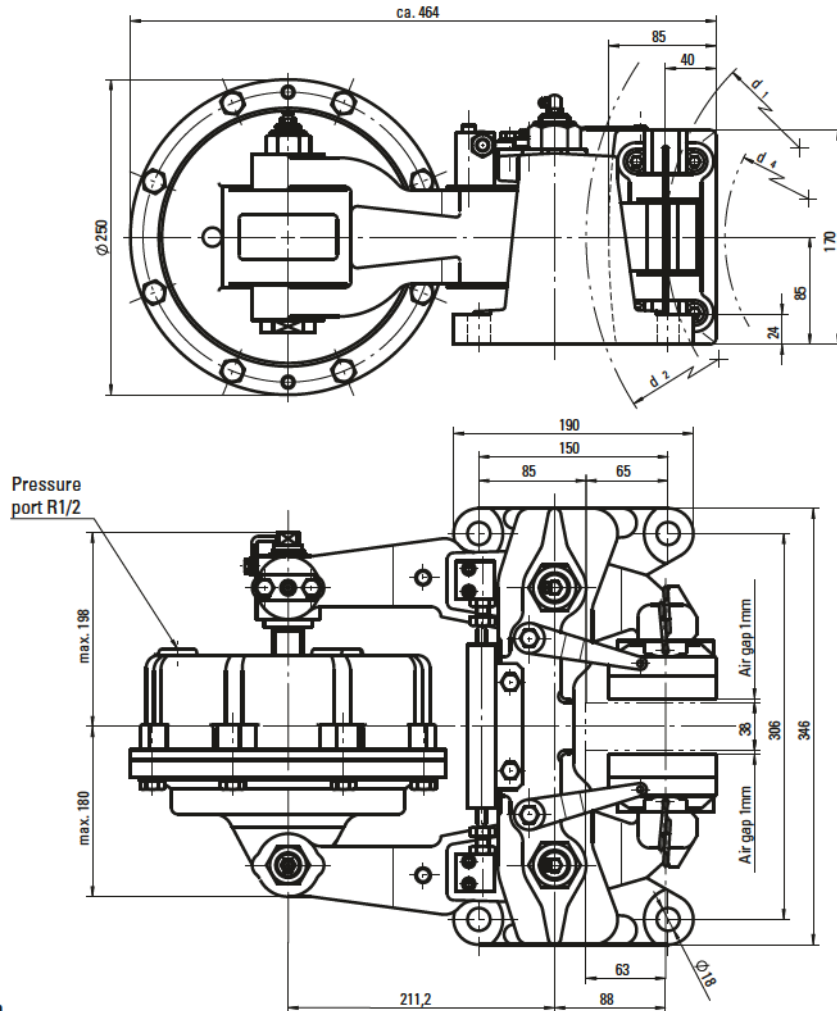
Type		SB 18.1 PXi - 01	SB 18.1 PXi - 02
Contact force F_A at 1 mm air gap	N	7410	3840
Brake disc diameter d_2	mm	min. 200	min. 200
Friction diameter d_1	mm	$d_2 - 62$	$d_2 - 62$
Max. perm. hub diameter d_4	mm	$d_2 - 125$	$d_2 - 125$
Brake disc thickness	mm	20	20
Brake pad type		56	56
Max. pad wear (each side)	mm	3,5	3,5
Piston area	cm ²	110	110
Max. operating pressure $p_{max.}$	bar	7	7
Theor. friction coefficient	μ^*	0,30	0,30
Weight	kg	ca. 12,5	ca. 12,5

Disc Brake SB 18.2 PXi

Dimensions and technical data



Rev. 03-14



Brake torque in Nm

$$M_{BR} = F_A (N) \times \mu \times d_1 (mm) / 1000$$

All dimensions in mm
Alterations reserved without notice

*) Theoretical friction factor of standard material combination

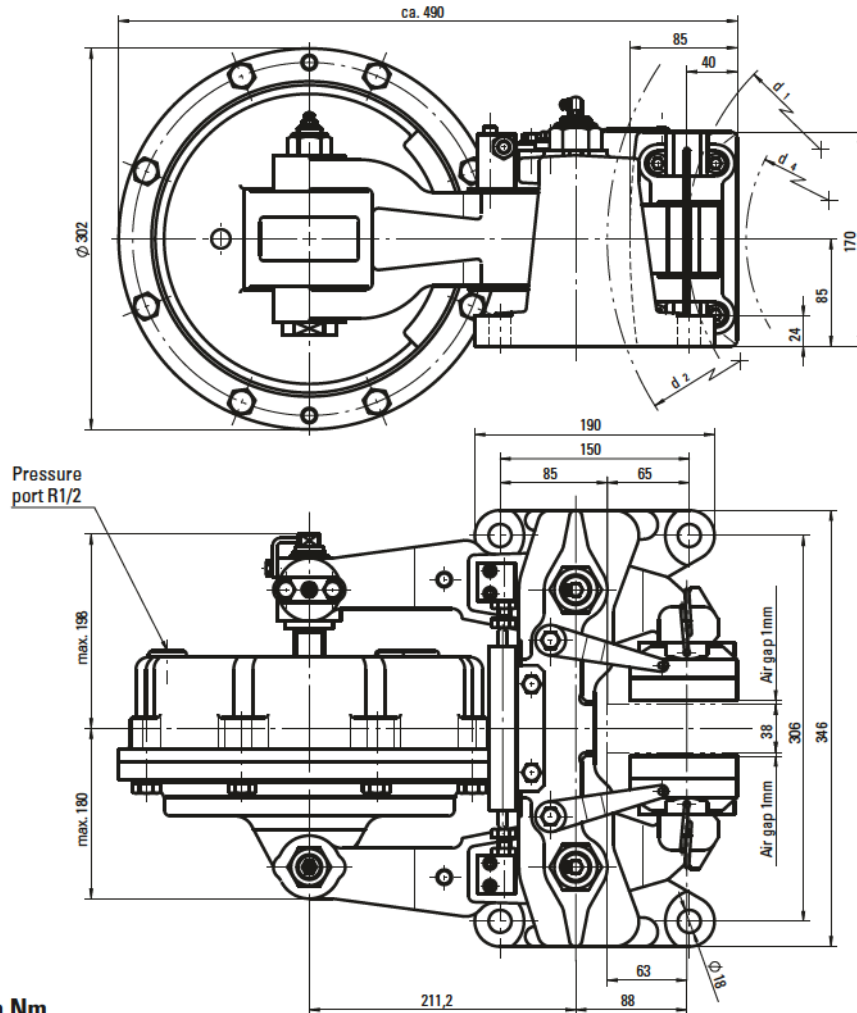
Type		SB 18.2 PXi - 01	SB 18.2 PXi - 02	SB 18.2 PXi - 03
Contact force F_A at 1 mm air gap	N	25550	19940	14960
Brake disc diameter d_2	mm	min. 500	min. 500	min. 500
Friction diameter d_1	mm	$d_2 - 126$	$d_2 - 126$	$d_2 - 126$
Max. perm. hub diameter d_4	mm	$d_2 - 230$	$d_2 - 230$	$d_2 - 230$
Brake disc thickness	mm	38	38	38
Brake pad type		57	57	57
Max. pad wear (each side)	mm	7,5	7,5	7,5
Piston area	cm ²	301,6	301,6	301,6
Max. operating pressure p_{max}	bar	7	7	7
Theor. friction coefficient	μ^*	0,30	0,30	0,30
Weight	kg	ca. 66	ca. 66	ca. 66

Disc Brake SB 18.3 PXi

Dimensions and technical data



Rev. 03-14



Brake torque in Nm

$$M_{BR} = F_A (N) \times \mu \times d_1 (mm) / 1000$$

All dimensions in mm
Alterations reserved without notice

*) Theoretical friction factor of standard material combination

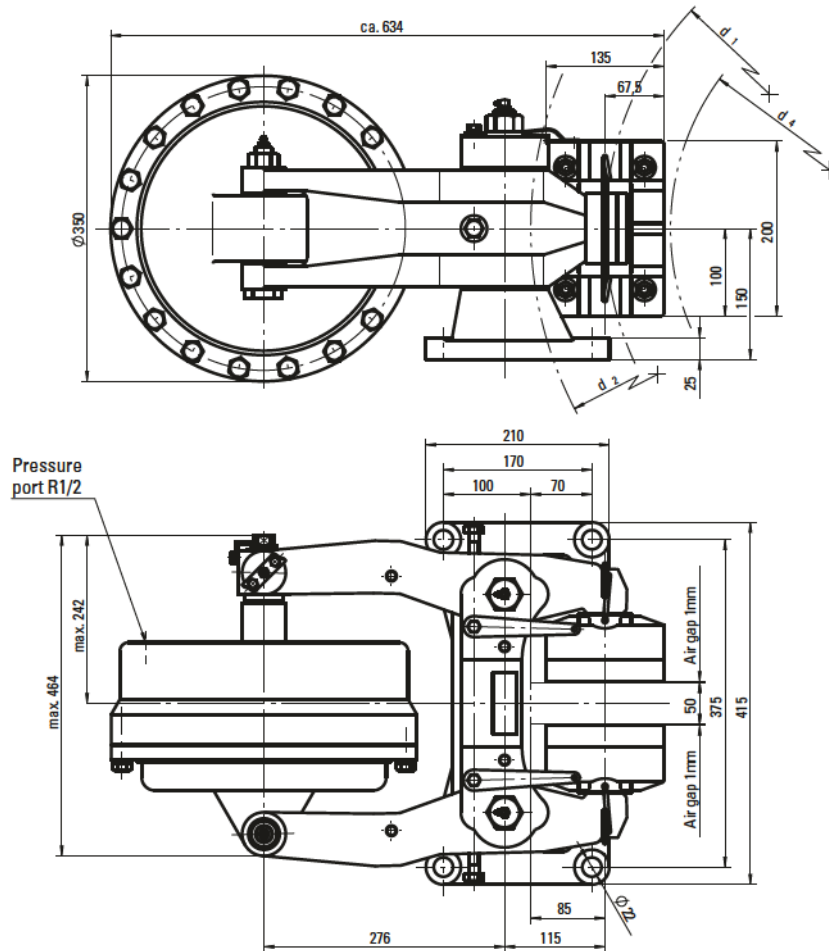
Type		SB 18.3 PXi - 01	SB 18.3 PXi - 02	SB 18.3 PXi - 03
Contact force F_A at 1 mm air gap	N	46280	33730	22480
Brake disc diameter d_2	mm	min. 500	min. 500	min. 500
Friction diameter d_1	mm	$d_2 - 126$	$d_2 - 126$	$d_2 - 126$
Max. perm. hub diameter d_4	mm	$d_2 - 230$	$d_2 - 230$	$d_2 - 230$
Brake disc thickness	mm	38	38	38
Brake pad type		57	57	57
Max. pad wear (each side)	mm	7,5	7,5	7,5
Piston area	cm ²	478,3	478,3	478,3
Max. operating pressure $p_{max.}$	bar	7	7	7
Theor. friction coefficient	μ^*	0,30	0,30	0,30
Weight	kg	ca. 78	ca. 78	ca. 78

Disc Brake SB 18.8 PXi

Dimensions and technical data



Rev. 03-14



Brake torque in Nm

$$M_{BR} = F_A \text{ (N)} \times \mu \times d_1 \text{ (mm)} / 1000$$

All dimensions in mm
Alterations reserved without notice

*) Theoretical friction factor of standard material combination

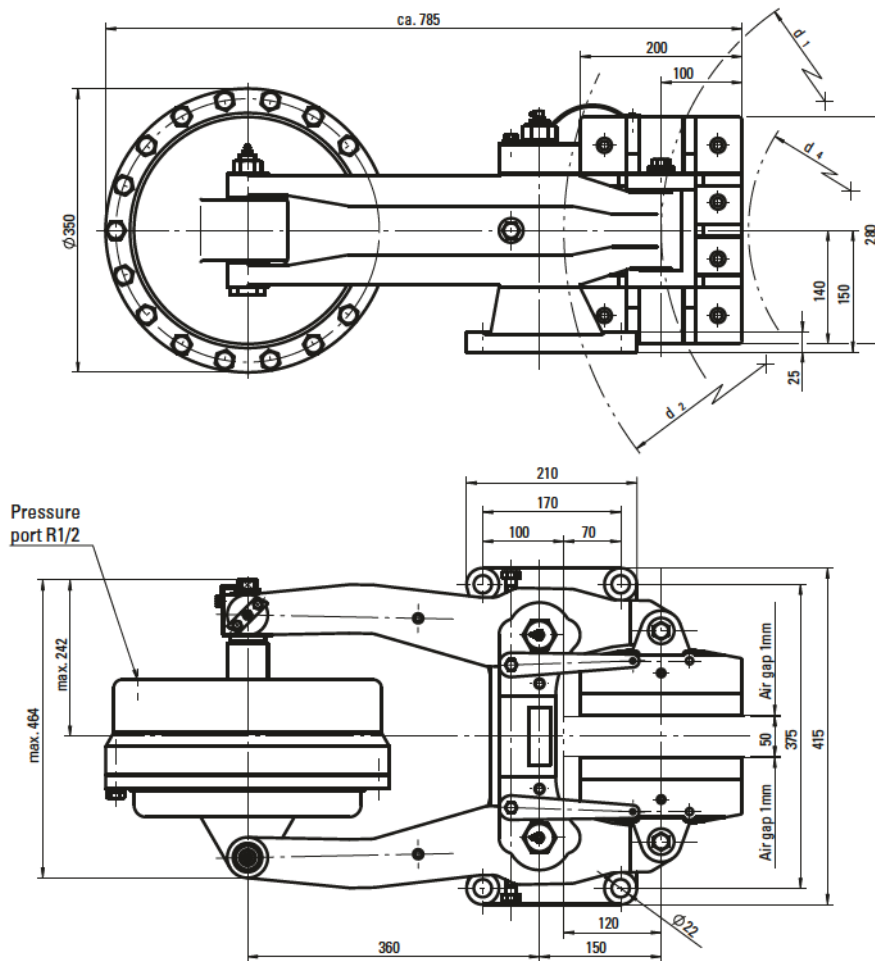
Type		SB 18.8 PXi - 01	SB 18.8 PXi - 02	SB 18.8 PXi - 03	SB 18.8 PXi - 04
Contact force F_A at 1 mm air gap	N	64210	55160	45660	34250
Brake disc diameter d_2	mm	min. 600	min. 600	min. 600	min. 600
Friction diameter d_1	mm	$d_2 - 170$	$d_2 - 170$	$d_2 - 170$	$d_2 - 170$
Max. perm. hub diameter d_4	mm	$d_2 - 325$	$d_2 - 325$	$d_2 - 325$	$d_2 - 325$
Brake disc thickness	mm	50	50	50	50
Brake pad type		59	59	59	59
Max. pad wear (each side)	mm	10	10	10	10
Piston area	cm ²	687	687	687	687
Max. operating pressure p_{max}	bar	7	7	7	7
Theor. friction coefficient	μ^*	0,30	0,30	0,30	0,30
Weight	kg	ca. 140	ca. 140	ca. 140	ca. 140

Disc Brake SB 18.9 PXi

Dimensions and technical data



Rev. 03-14



Brake torque in Nm

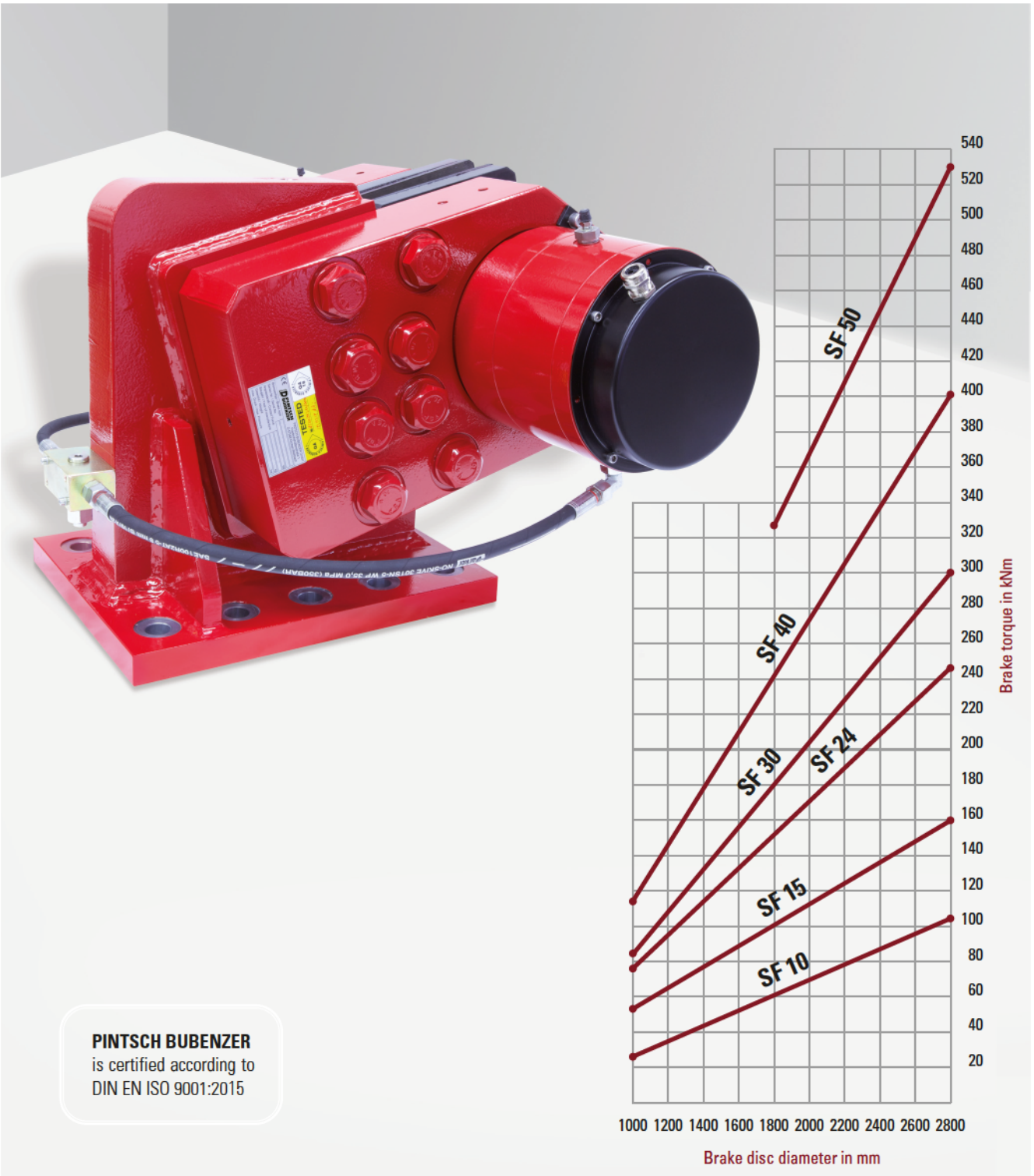
$$M_{BR} = F_A (N) \times \mu \times d_1 (mm) / 1000$$

All dimensions in mm
Alterations reserved without notice

*) Theoretical friction factor of standard material combination

Type		SB 18.9 PXi - 01	SB 18.9 PXi - 02	SB 18.9 PXi - 03	SB 18.9 PXi - 04
Contact force F_A at 1 mm air gap	N	64210	55160	45660	34250
Brake disc diameter d_2	mm	min. 900	min. 900	min. 900	min. 900
Friction diameter d_1	mm	$d_2 - 240$	$d_2 - 240$	$d_2 - 240$	$d_2 - 240$
Max. perm. hub diameter d_4	mm	$d_2 - 460$	$d_2 - 460$	$d_2 - 460$	$d_2 - 460$
Brake disc thickness	mm	50	50	50	50
Brake pad type		58	58	58	58
Max. pad wear (each side)	mm	10	10	10	10
Piston area	cm ²	687	687	687	687
Max. operating pressure $p_{max.}$	bar	7	7	7	7
Theor. friction coefficient	μ^*	0,30	0,30	0,30	0,30
Weight	kg	ca. 170	ca. 170	ca. 170	ca. 170

Hydraulic Caliper Disc Brakes SF Series



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



Reliable



High Performance



Robust Design



Easy Maintenance

Description SF



Main Features

Two identical caliper halves, ready for operation, with spring packs set to nominal force and limit switch release control

Up to 2 mm air gap between brake pad and disc

Easy, manual pad wear compensation

Organic, non-asbestos linings

Options

Limit switch wear control

Sintered linings

Complete piped supports for one or more calipers

Hydraulic power units

Special seals for flameproof fluids

Cleaning pads

Brake discs

CMB contact force measurement

Applications

The high capacity of these brakes makes them particularly suitable as secondary emergency brakes on hoist gears and on downhill conveyor

Other applications are possible in material handling, requiring power and compact design in either direction of rotation, particularly in replacing band brakes

Brakes for use in high duty cycle applications are to be specifically indicated prior to the 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 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

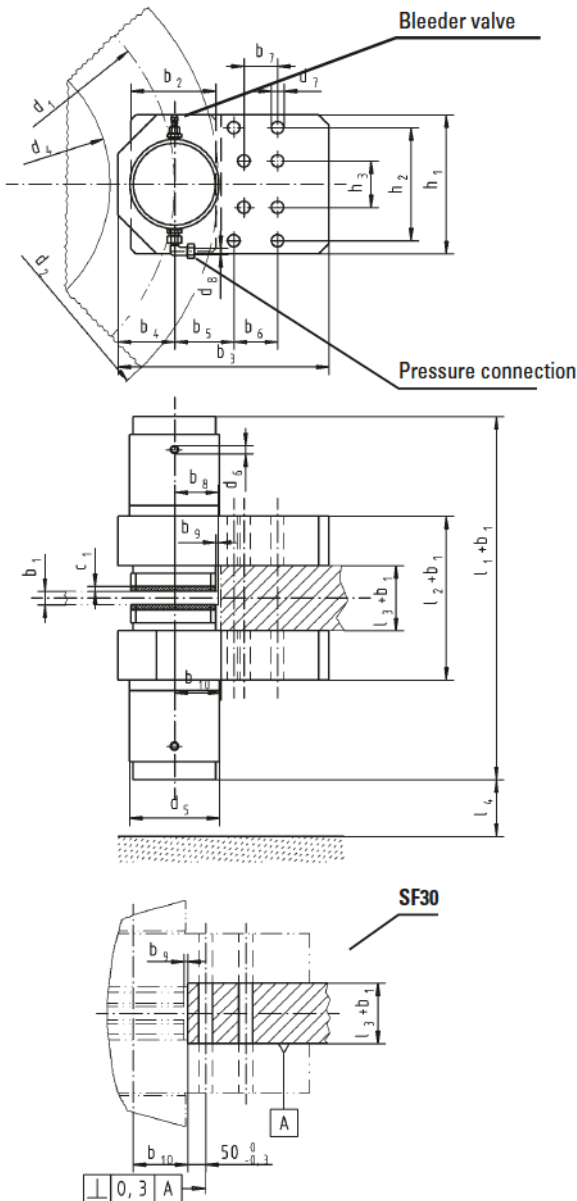
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on-site by PINTSCH BUBENZER service engineers is possible. Drawings as DWG/DXF files for your engineering department are available upon request.

Disc Brake SF

Dimensions and technical data



Rev. 12-06

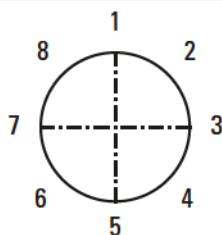


Type SF	10	15	24	30	40
b ₂	165	165	195	280	300
b ₃	410	410	480	640	720
b ₄	110	110	130	155	175
b ₅	115	115	130	200	220
b ₆	85	85	100	110	125
b ₇	60	60	70	110	125
b ₈	85	85	100	140	160
b ₉	5	5	5	5	10
b ₁₀	90	90	105	150	170
c ₁	10	10	10	10	10
d ₅	175	175	225	290	310
d ₆	3/8"	3/8"	3/8"	3/8"	3/8"
d ₇	25	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	Ø M24	Ø M30	Ø M36	Ø 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

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

Brake torque M_{Br} in Nm = F_A (kN) x μ x d_1 (mm)



Please indicate required mounting position.

Brake disc data

	SF10	SF15	SF24	SF30	SF40
d ₂ =	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

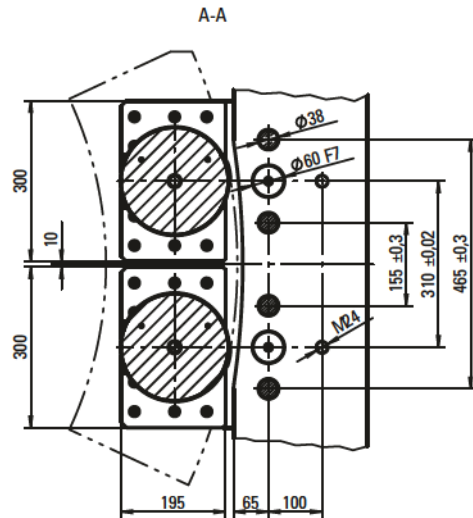
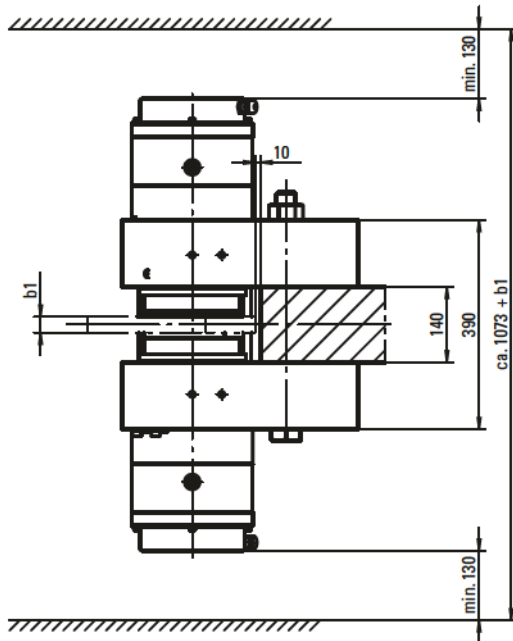
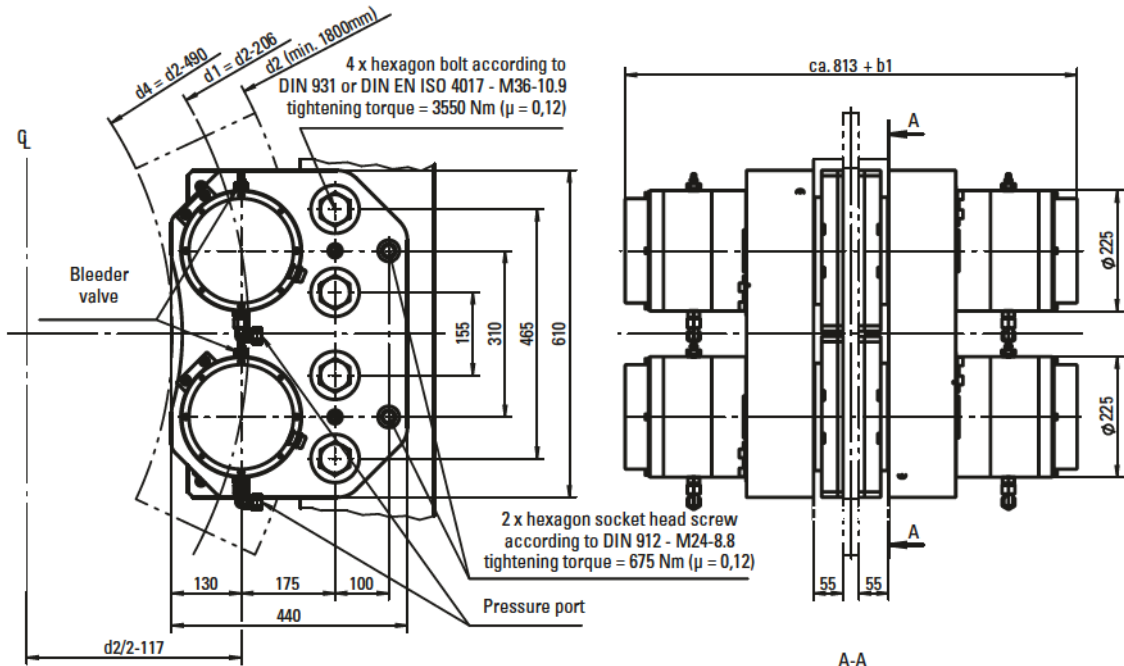
d₂ = Brake disc diameter in mm
d₁ = Friction diameter in mm
d₄ = Max. permissible drum or hub diameter in mm
b₁ = Disc thickness in mm (min. 30)

Disc Brake SF 50

Dimensions and technical data



Rev. 02-14



Brake Torque M_{Br} in Nm = F_A (kN) x μ x d_1 (mm)

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

*) Theor. friction factor of standard material combination

All dimensions in mm
Alterations reserved without notice

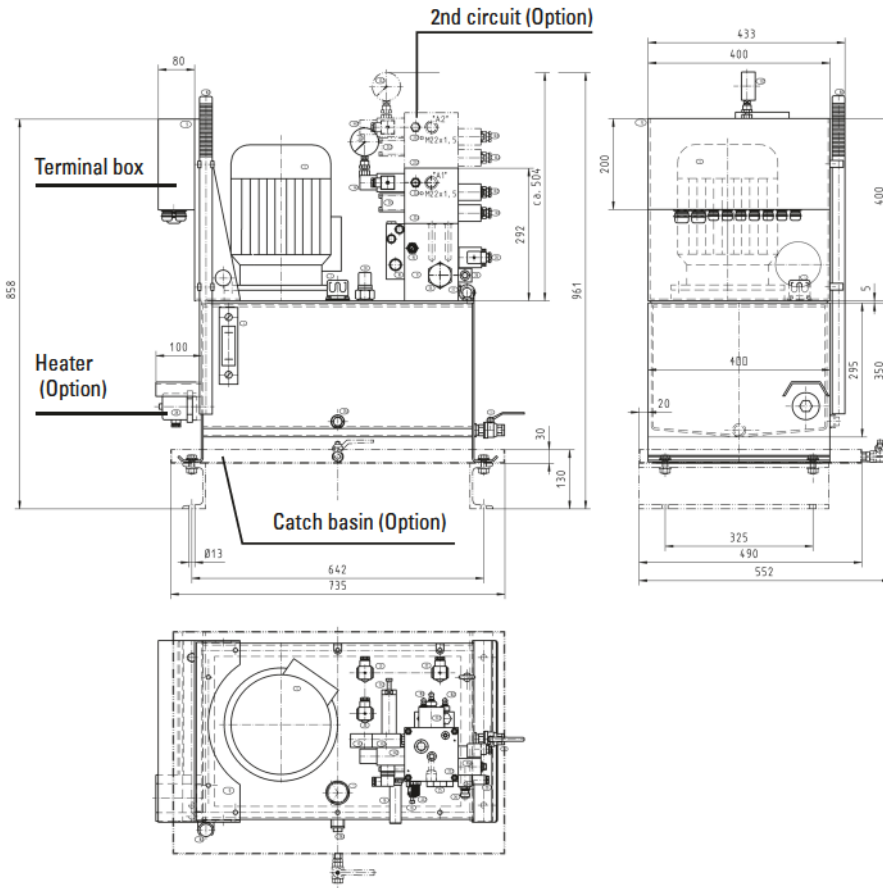
- d_2 = Brake disc diameter in mm
- d_1 = Friction diameter in mm
- d_4 = Max. permissible drum or hub diameter in mm
- b_1 = Brake disc thickness in mm (min. 30)

Disc Brake SF

Hydraulic power unit for one or more calipers



Rev. 12-06



Example:

Standard configuration
 up to 4 SF10/SF15
 up to 2 SF24

Motor: 3 kW

Pump: 7,9 l/min

Pressure: 210 bar

Tank: 40 l

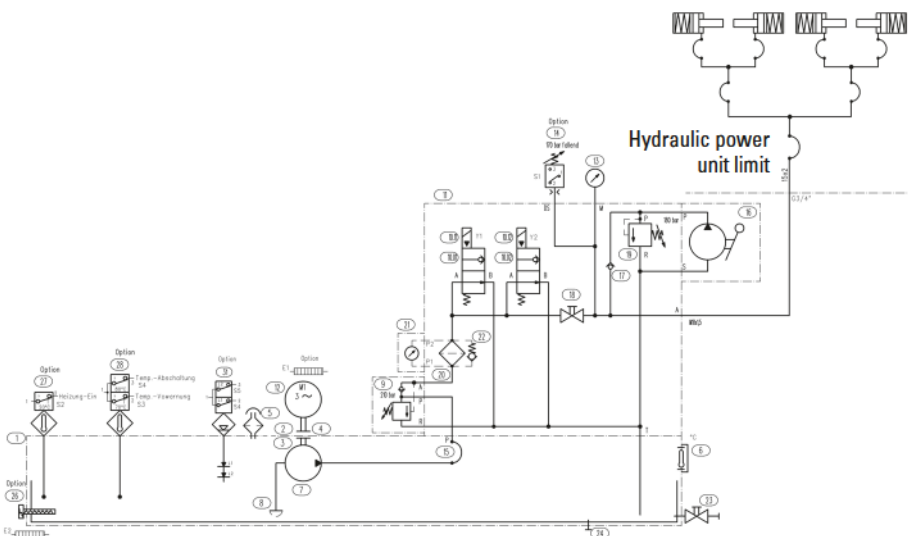
Weight: 85 kg

The flow diagram shows the general arrangement of the hydraulic power unit, including hand pump for emergency manual release of the brakes.

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

Pressure switch, temperature switch, heaters, level switch, stainless steel version and other accessories are available options.

Hydraulic power units are also available as dual-circuit power units, e.g. to operate main hoist and boom hoist brakes with one power unit only.



All dimensions in mm
 Alterations reserved without notice



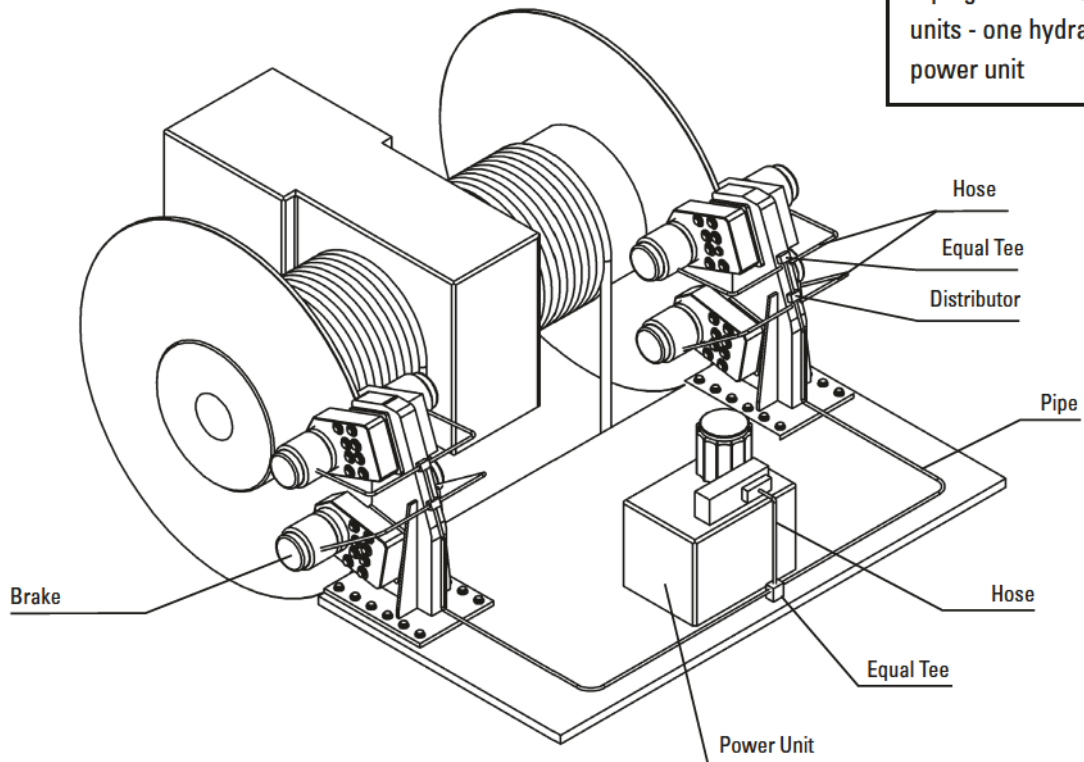
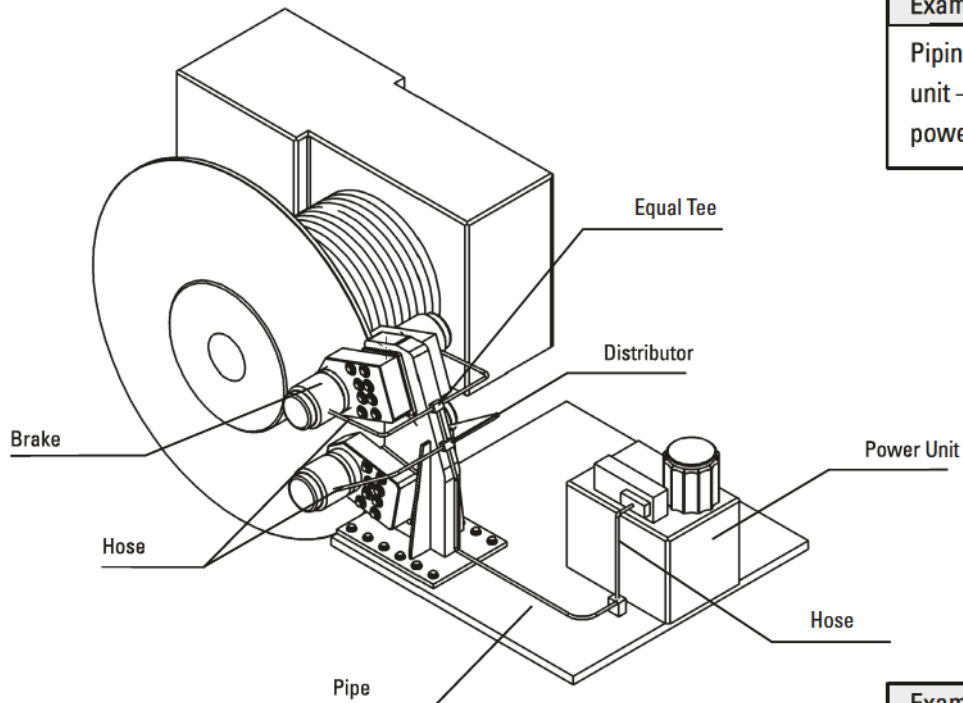
We supply a complete hydraulic and electric diagram according to the order specification with every order.

Piping Samples

Disc brakes SF and BSC

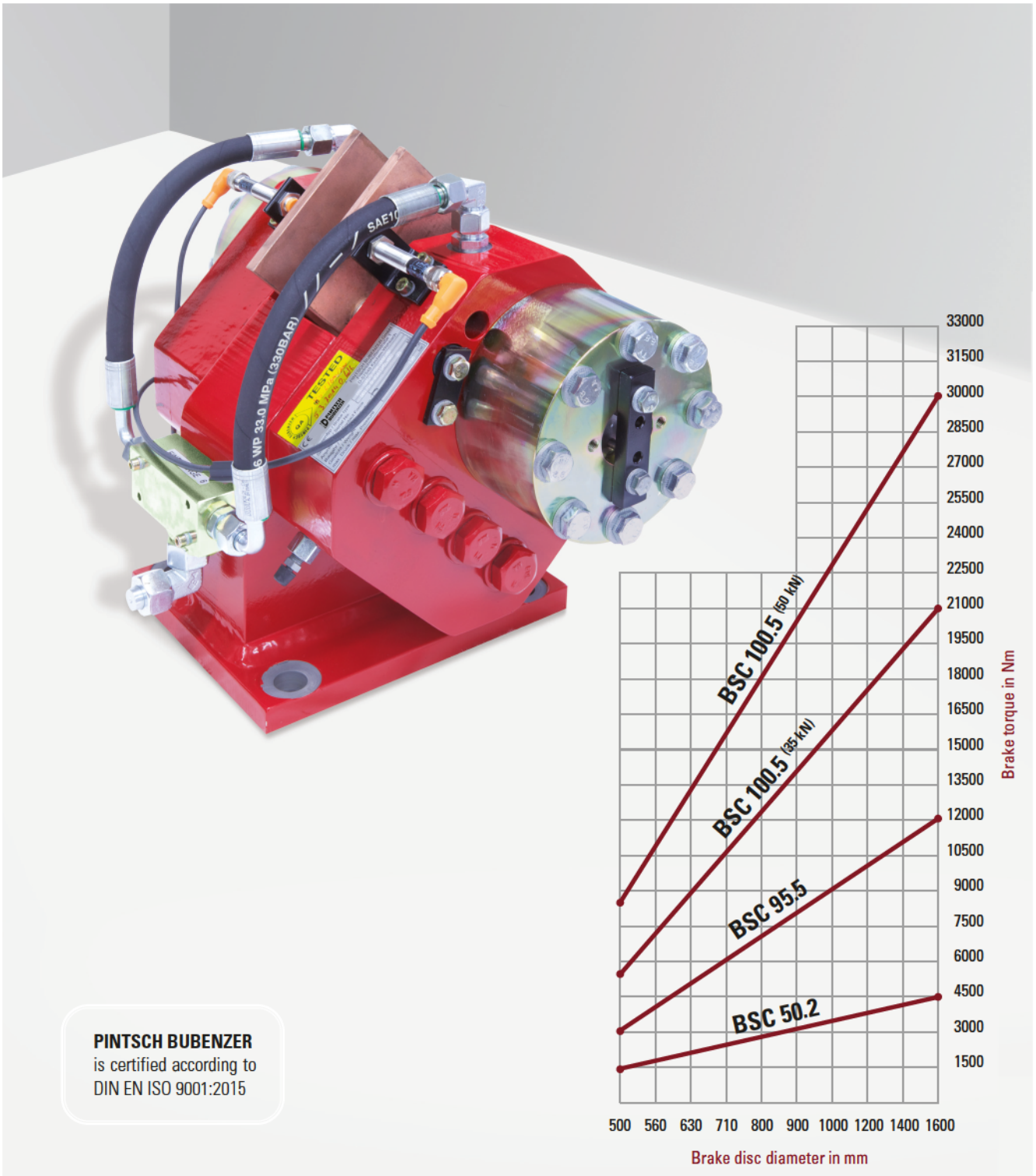


Rev. 09-02



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).

Hydraulic Caliper Disc Brakes BSC Series



Reliable



High Performance



Robust



Compact

Description BSC



Main Features

Two identical caliper halves, ready for operation, with spring packs set to nominal force

Up to 1 mm air gap between brake pad and disc

Easy, manual pad wear compensation

Organic, non-asbestos linings

Options

Limit switch release control

Limit switch wear control

Sintered linings

Complete piped supports for one or more calipers

Hydraulic power units

Special seals for flameproof fluids

Cleaning pads

Brake discs

Applications

The high capacity of these brakes makes them particularly suitable as service- or secondary emergency brakes e.g. on hoists, slewing drives and belt conveyors

Other applications are in material handling, mechanical engineering and wind turbine industry, where high holding forces are required independent of the direction of rotation within limited space

Operating Restrictions

Brakes of this range are mechanically and hydraulically tested 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 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

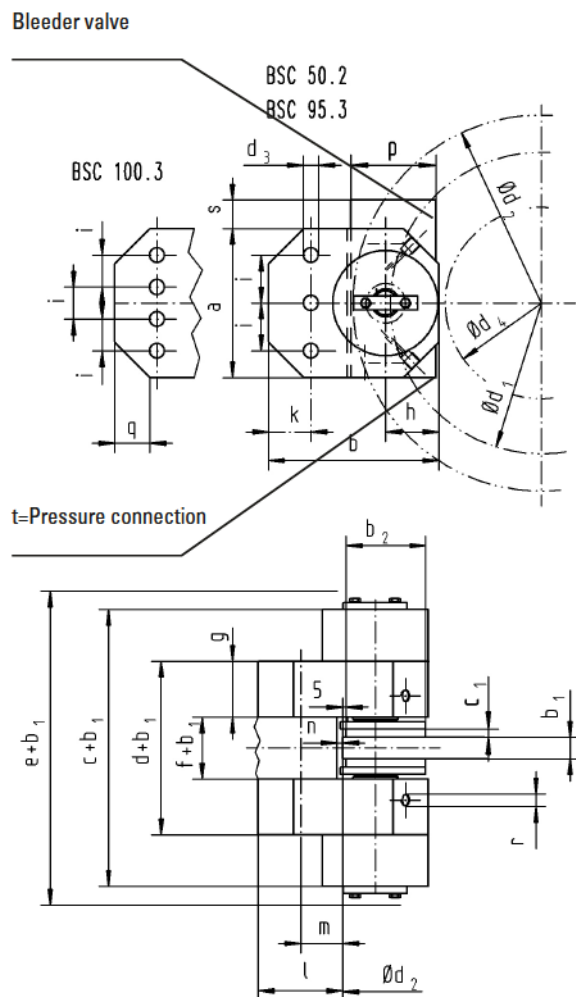
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on-site by PINTSCH BUBENZER service engineers is possible. Drawings as DWG/DXF files for your engineering department are available upon request.

Disc Brake BSC

Dimensions and technical data



Rev. 12-06



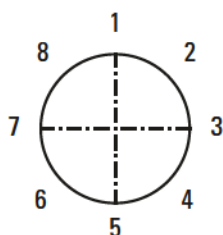
Type BSC	50.2	95.5	100.5
a	130	220	210
b	128	213	240
b ₂	63	112	112
c	224	380	360
c ₁	6	12	12
d	108	137	215
d ₃	14	21	22
e	302	435	412
f	38	57	57
g	35	40	79
h	42	75	75
i	35	47,5	45
k	24	32	60
l	53	78	119
m	29	46	59
n	7	8	8
p	70	120	120
q	30x30°	25x45°	50x45°
r	1/4"	3/8"	3/8"
s	30	34	40
t	Ø10	Ø12	Ø12
Bolt	Ø M12	M20	M20
Bolt material	8.8	8.8	10.9
Tighten. torque, Nm	86	410	560
Contact force F _A kN	7	20	35 50
Op. pressure bar	60	60	100 160
Max. pressure bar	90	100	180
Release stroke mm	1	1	1
Oil volume l	0,002	0,004	0,005
Pad surface cm ²	73	195	195
Theor. friction μ*	0,40	0,40	0,40
Weight (kg)	12	30	40

Data per caliper half

*) Average friction factor of standard material combination

All dimensions in mm
Alterations reserved without notice

Brake torque M_{Br} in Nm = F_A (kN) x μ x d_1 (mm)



Please indicate required mounting position.

Brake disc data			
	BSC 50.2	BSC 95.5	BSC 100.5
d ₁ =	d ₂ -70 mm	d ₂ -105 mm	d ₂ -105 mm
d ₄ =	d ₂ -170 mm	d ₂ -284 mm	d ₂ -260 mm

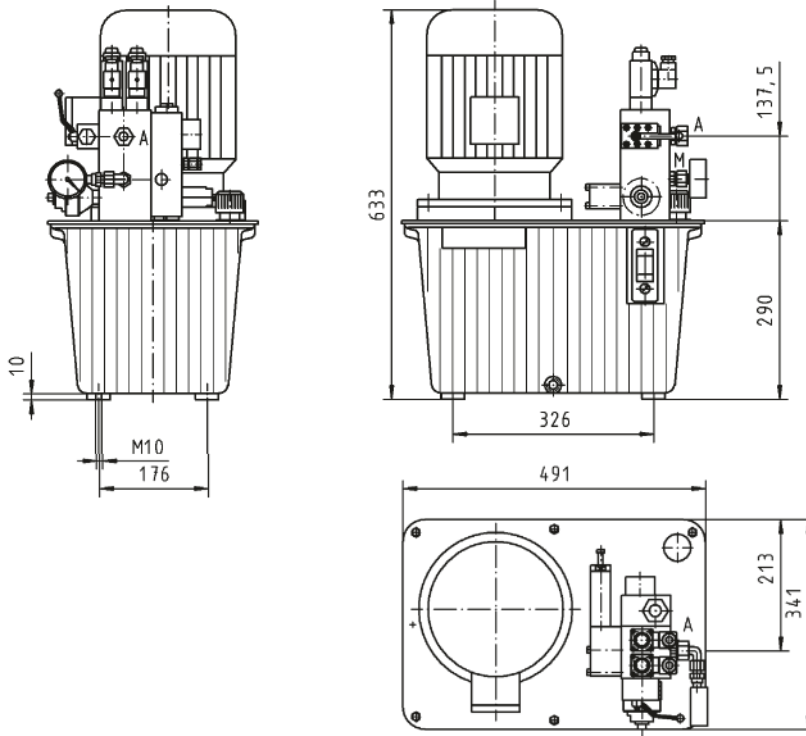
- d₂ = Brake disc diameter in mm
- d₁ = Friction diameter in mm
- d₄ = Max. permissible drum or hub diameter in mm
- b₁ = Disc thickness in mm (min. 30)

Disc Brake BSC

Hydraulic power unit for one or more calipers



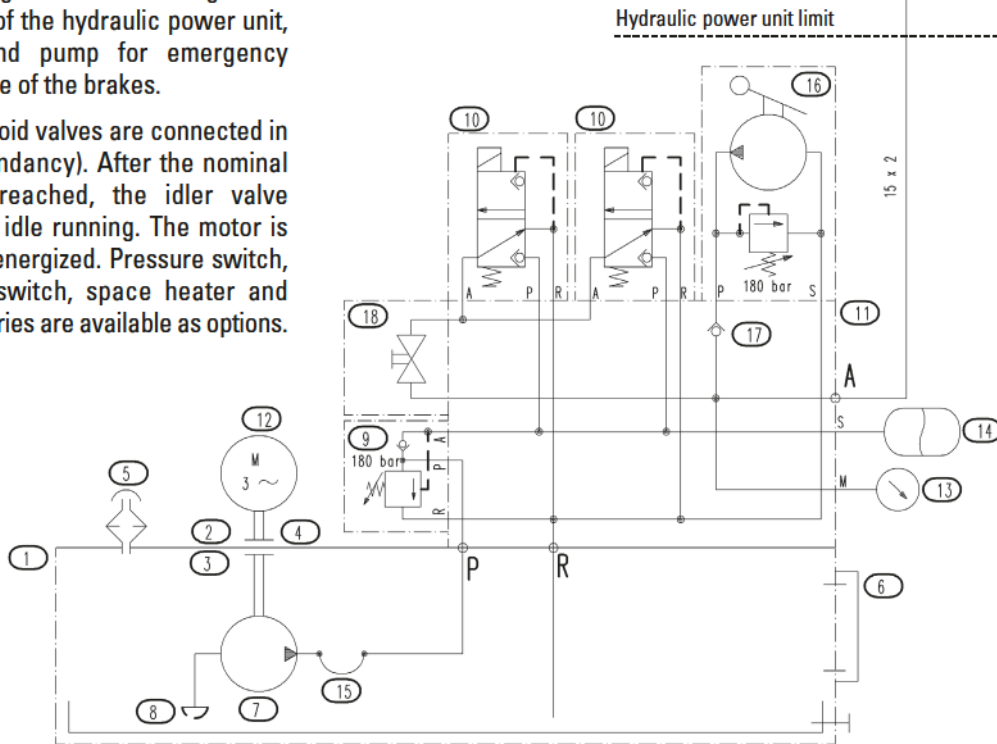
Rev. 09-02



Example:	
Standard configuration up to 4 BSC 100.3	
Motor:	3 kW
Pump:	9 l/min
Pressure:	180 bar
Tank:	30 l

The flow diagram shows the general arrangement of the hydraulic power unit, including hand pump for emergency manual release of the brakes.

The two solenoid valves are connected in parallel (redundancy). After the nominal pressure is reached, the idler valve switches into idle running. The motor is continuously energized. Pressure switch, temperature switch, space heater and other accessories are available as options.



All dimensions in mm
Alterations reserved without notice

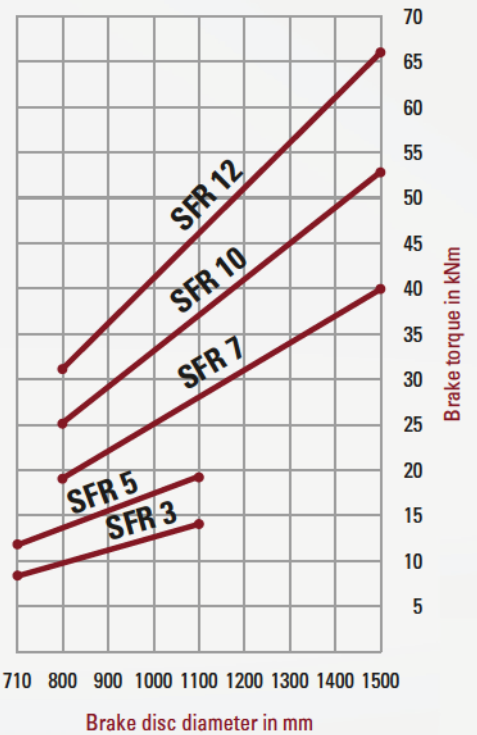


We supply a complete hydraulic and electric diagram according to the order specification with every order.

Hydraulic Caliper Disc Brakes SFR Series



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



Reliable



High Performance



Robust Design



Easy Maintenance

Description SFR



Main Features

- **Monospring** caliper brake, ready to operate, with spring pack set to nominal force
- **Sintered linings**
- Limit switch release control
- Easy, manual pad wear compensation
- Horizontal compensation +/- 5 mm
- Support for direct gear box mounting

Options

- Limit switch wear control
- Hydraulic power units
- Brake discs and couplings
- Seals for special fluids
- **Sensors for remote monitoring** and diagnostic, like e.g. spring force-, temperature-, wear- and release gap monitoring
- CMB contact force measurement

Applications

- The high capacity of these brakes makes them particularly suitable as rotor brakes in wind turbines
- Other applications are possible in material handling, requiring power and compact design in either direction of rotation, e.g. hoisting applications and conveyor belts
- 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.

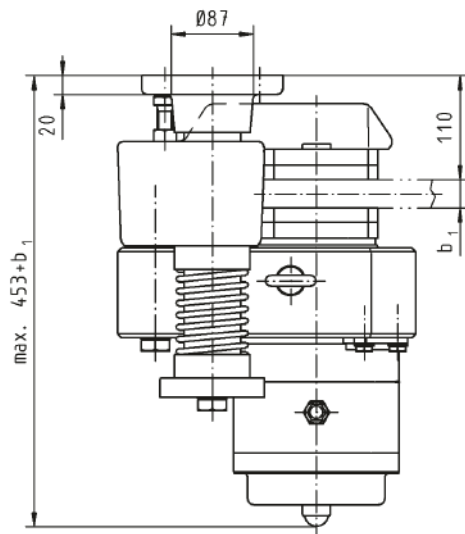
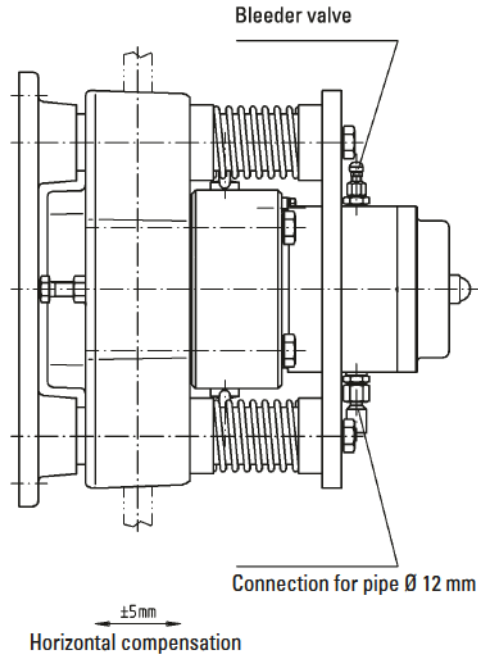
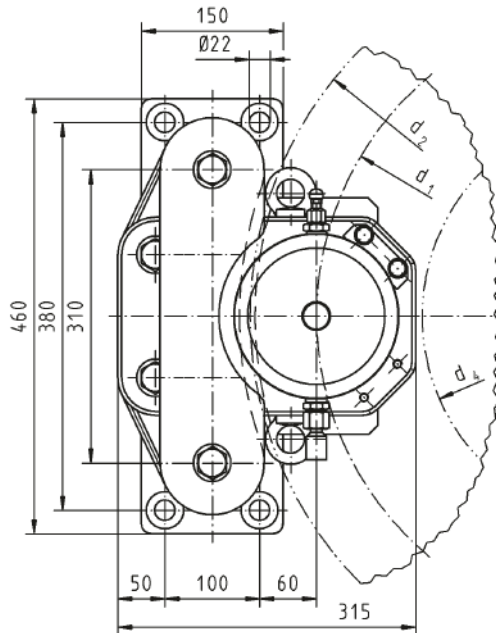
Disc Brake SFR 3-5

Dimensions and technical data



Rev. 05-08

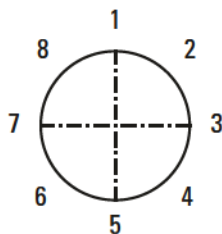
Brake is available also as "hydraulic applied" version (SFRA, upon request)



*) Average friction factor of standard material combination

All dimensions in mm
Alterations reserved without notice

Brake torque M_{Br} in Nm = F_A (kN) x μ x d_1 (mm)



Please indicate mounting position in case of order.

Type SFR		3	5
Contact force F_A	kN	35	50
Operating pressure	bar	55	80
Max. pressure	bar	135	135
Rel. stroke (per side)	mm	1	1
Oil volume	l	0.023	0.023
Pad surface (1 pad)	cm ²	300	300
Theor. friction	μ^*	0.4	0.4
Weight	kg	159	159
Bolt	Ø	M20	M20
Bolt material		10.9	10.9
Tighten. torque	Nm	560	560

Brake disc		
Brake disc Ø d_2	mm	710... 1100
Friction Ø d_1	mm	d2-140
Max. perm. Hub Ø d_4	mm	d2-360
Disc thickness b_1	mm	30... 40

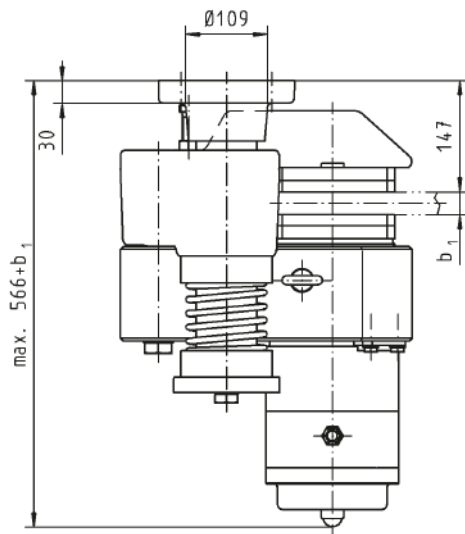
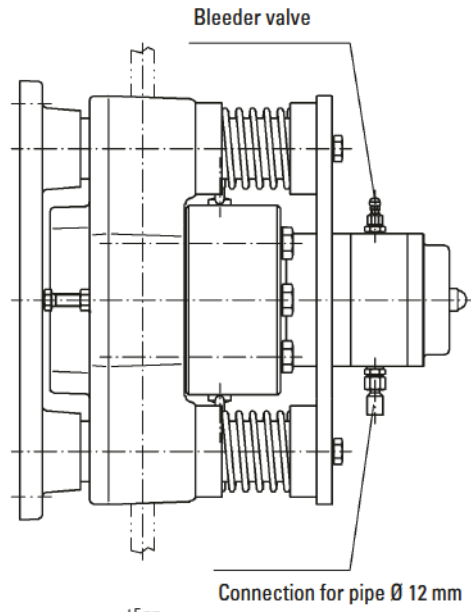
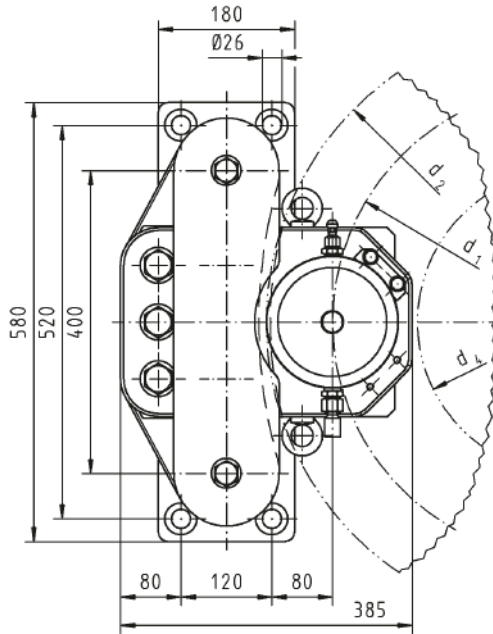
Disc Brake SFR 7-12

Dimensions and technical data



Rev. 01-10

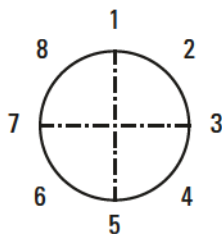
Brake is available also as "hydraulic applied" version (SFRA, upon request)



*) Average friction factor of standard material combination

All dimensions in mm
Alterations reserved without notice

Brake torque M_{Br} in Nm = F_A (kN) x μ x d_1 (mm)



Please indicate mounting position in case of order.

Type SFR		7	10	12
Contact force F_A	kN	75	100	125
Operating pressure	bar	130	150	160
Max. pressure	bar	180	180	180
Rel. stroke (per side)	mm	1	1	1
Oil volume	l	0.023	0.023	0.023
Pad surface (1 pad)	cm ²	400	400	400
Theor. friction	μ^*	0.4	0.4	0.4
Weight	kg	279	279	279
Bolt	Ø	M24	M24	M24
Bolt material		10.9	10.9	10.9
Tighten. torque	Nm	960	960	1125

Brake disc		
Brake disc Ø d_2	mm	800... 1700
Friction Ø d_1	mm	d2-140
Max. perm. Hub Ø d_4	mm	d2-395
Disc thickness b_1	mm	30... 40

Disc Brake SFR

Hydraulic power unit, example (please also see page B10)



Rev. 11-03

Example:

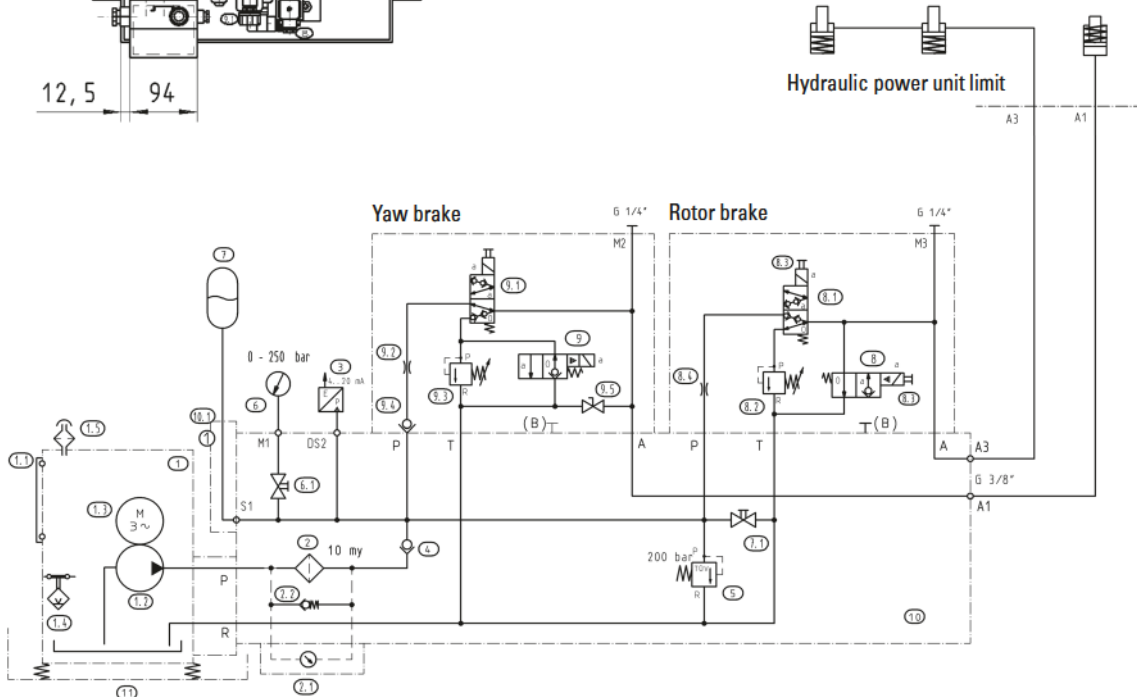
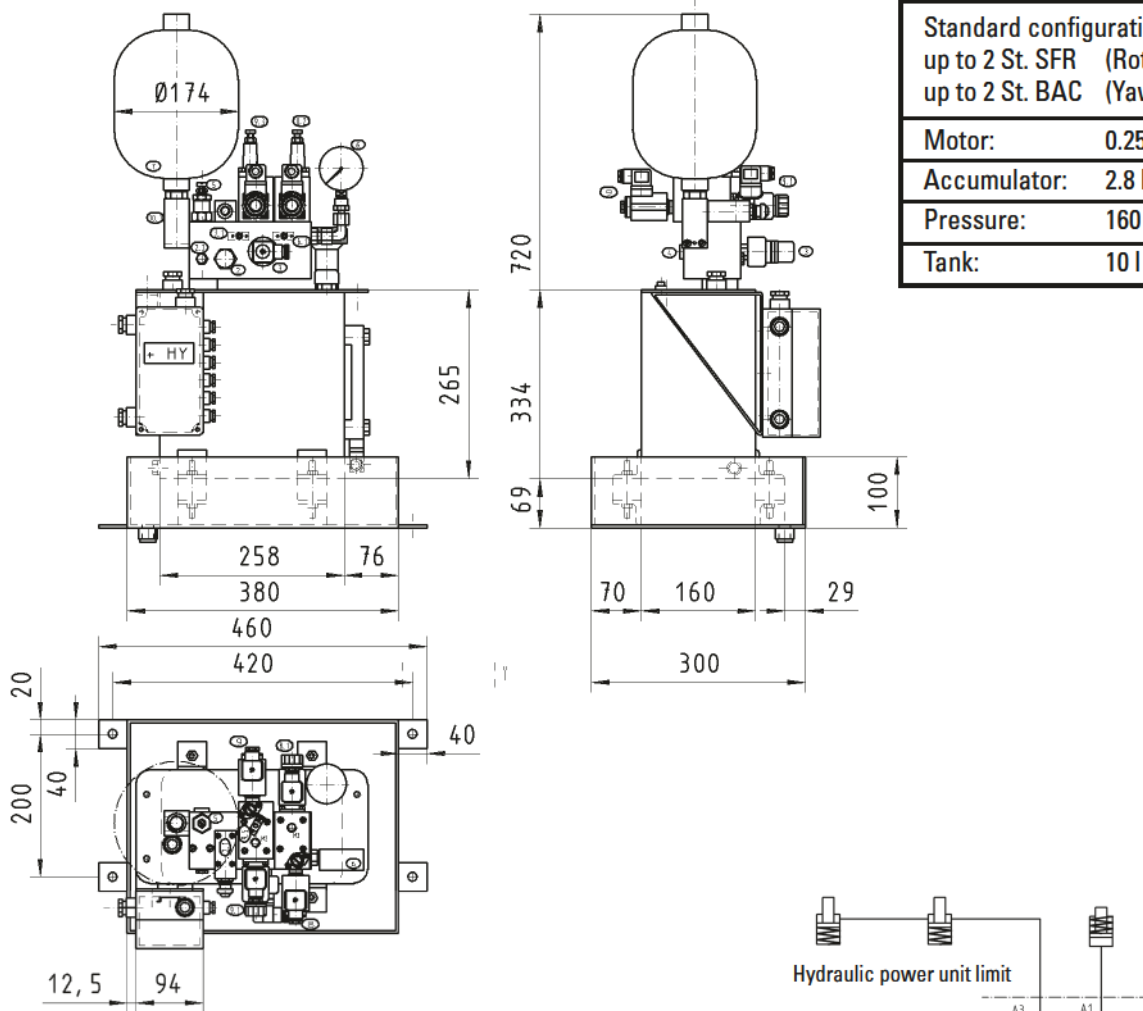
Standard configuration
up to 2 St. SFR (Rotor)
up to 2 St. BAC (Yaw)

Motor: 0.25 kW

Accumulator: 2.8 l

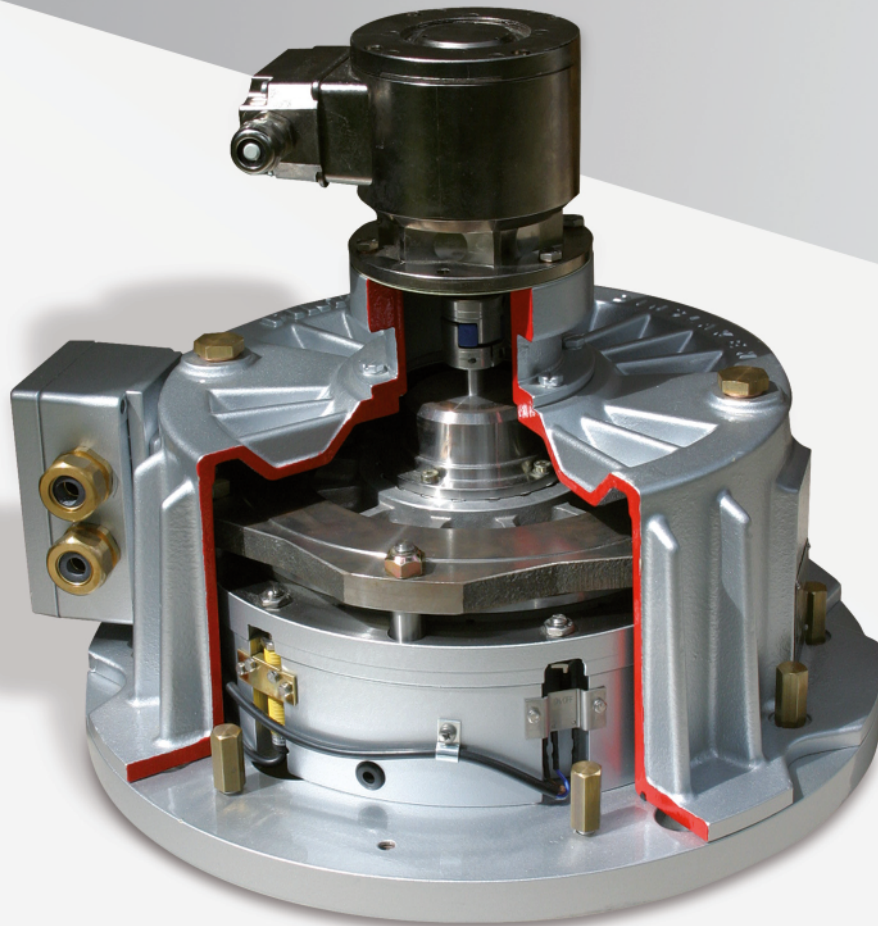
Pressure: 160 bar

Tank: 10 l



All dimensions in mm
Alterations reserved without notice

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

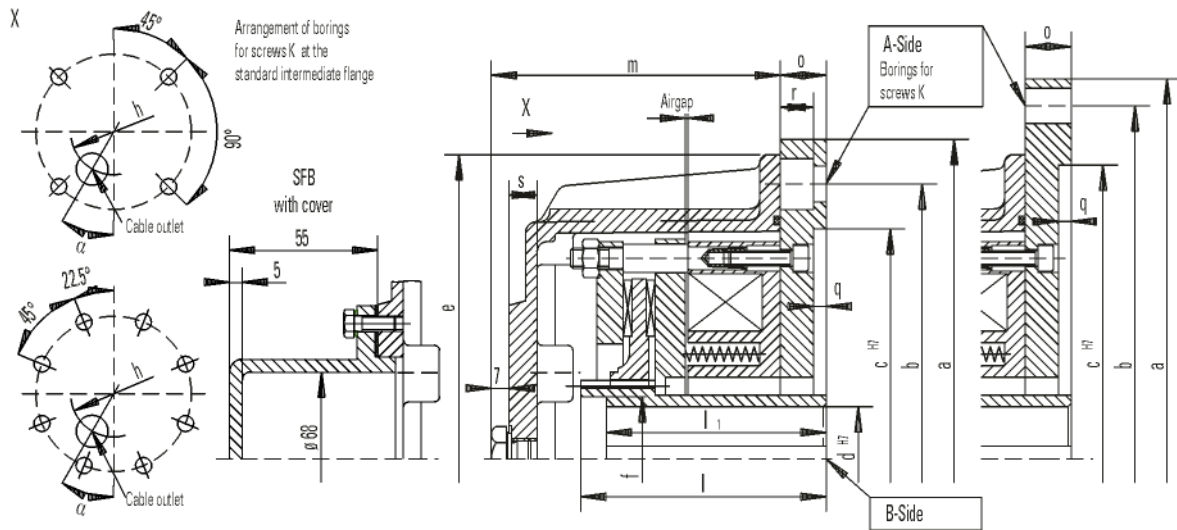
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on-site by PINTSCH BUBENZER service engineers is possible. Drawings as DWG/DXF files for your engineering department are available upon request.

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

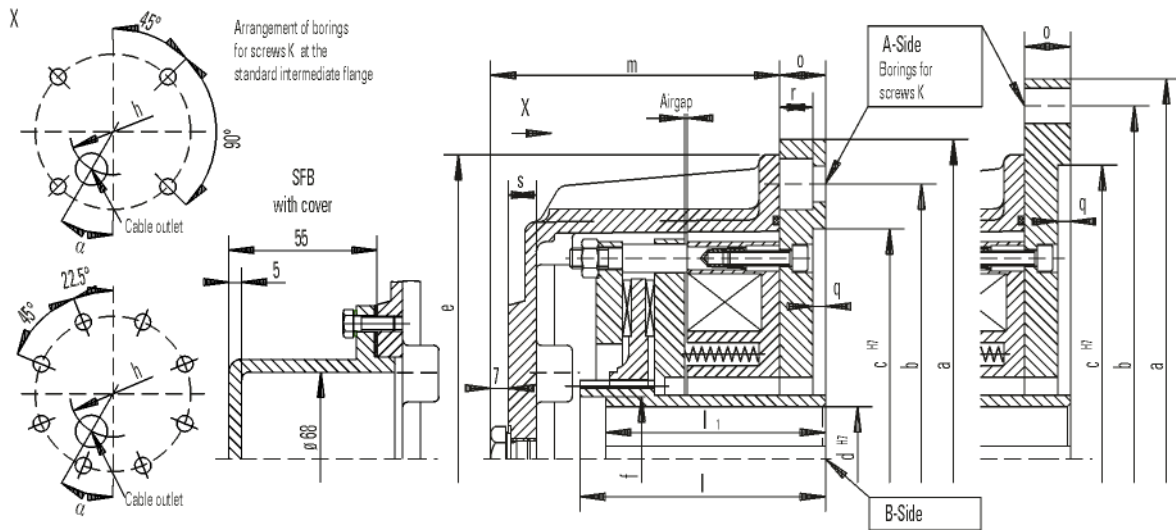
Brake size		SFB 6.3	SFB 10	SFB 16	SFB 25	SFB 40	SFB 63	SFB 100	SFB 160	SFB 250			
Brake torque M2 dynamic acc. to DIN VDE 0580	Nm	63	100	160	250	400	630	1000	1600	2500			
		54	80	130	210	330	520	830	1300	2100			
		45	63	100	180	260	400	660	1050	1650			
Mass moment of inertia	kgm ²	0.0017	0.0037	0.0048	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		
		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'	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				
				A450									
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
Length mm	o	18	18	18	20	22	22	24	24	24	24	30	30
	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	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	600	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 Bl.1, width accuracy P9. Protection IP67

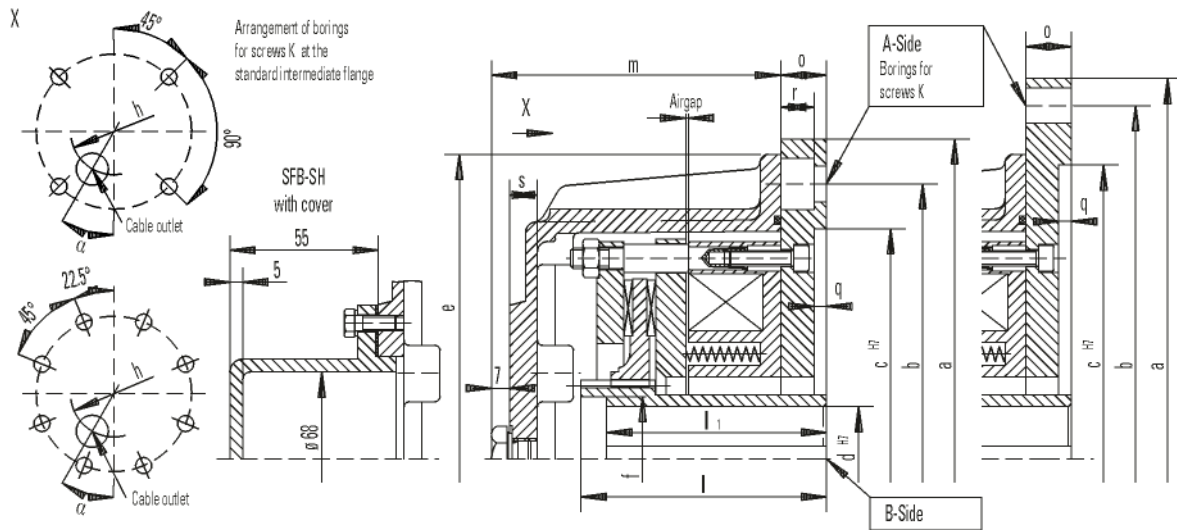
Alterations reserved without notice

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

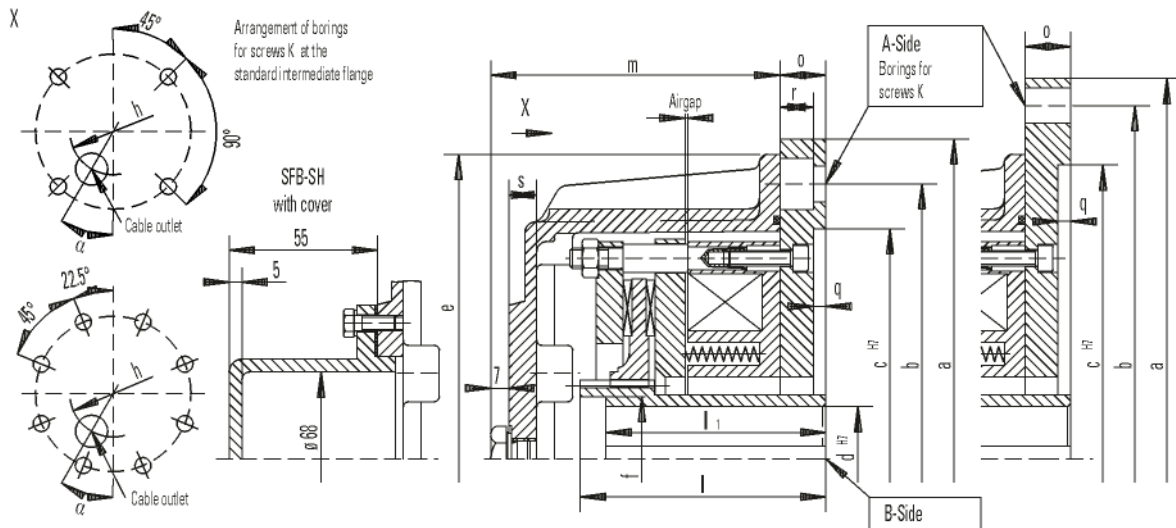
Brake size		SFB 6.3-SH	SFB 10-SH	SFB 16-SH	SFB 25-SH	SFB 40-SH	SFB 63-SH	SFB 100-SH	SFB 160-SH	SFB 250-SH			
Brake torque M2 dynamic acc. to DIN VDE 0580	Nm	80	130	210	350	550	800	1300	2100	3300			
		75	120	190	310	490	750	1200	1900	3000			
		69	110	180	275	440	690	1100	1750	2750			
Mass moment of inertia	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	0.4	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		
		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				
				A450									
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
Length mm	o	18	18	18	20	22	22	24	24	24	24	30	30
	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		
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	
	Nominal power	W	553	671	
	Nominal current	A	5.03	6.10	
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	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	600	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 Bl.1, width accuracy P9. Protection IP67

Alterations reserved without notice

Drum Brakes



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

- 
DIN
 Acc. to DIN 15435
- 
Reliable
- 
High Performance
- 
Robust Design
- 
Tried and Trusted

Description Drum Brakes



Main Features

According to DIN 15435 standard
Continuously adjustable brake spring enclosed in a square tube with torque scale
Self-lubricating bushings mean brakes are easy to service, no greasing necessary
Equal air gap by adjustable lever stops
Up to size 400: Levers and base plate made of nodular cast iron
From size 500: Levers and base plate made of welded steel
Different thrusters
Aluminum brake shoes acc. DIN 15435 Bl. 2 with non-asbestos, organic linings
Shoe clamping springs which prevent brake shoes from tilting when released
Pins and main spindle of stainless steel
Uncoated parts and screws galvanized and plated

Options

Automatic wear compensator
Limit switch release control
Limit switch wear control
Limit switch manual release
Manual release lever with or w/o stop
Monitoring systems (e.g. VSR/CMB)
Brake drums with hubs or couplings
Weather execution (special paint and coating) for outdoor use

Thrusters, Technical Data

Thruster 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 thruster 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 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

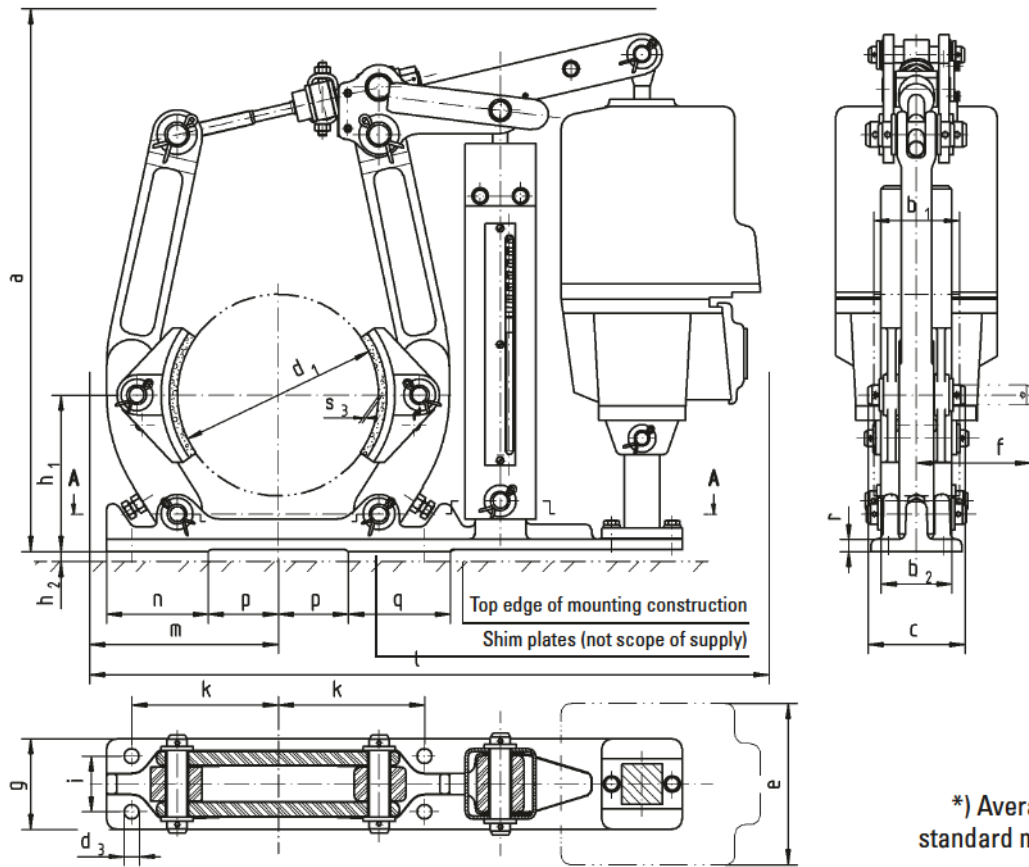
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on-site by PINTSCH BUBENZER service engineers is possible. Drawings as DWG/DXF files for your engineering department are available upon request.

Drum Brake Type EBN

Dimensions (DIN 15435) and technical data



Rev. 01-10



f = required space for removing brake shoe pin

*) Average friction factor of standard material combination

All dimensions in mm
Alterations reserved without notice

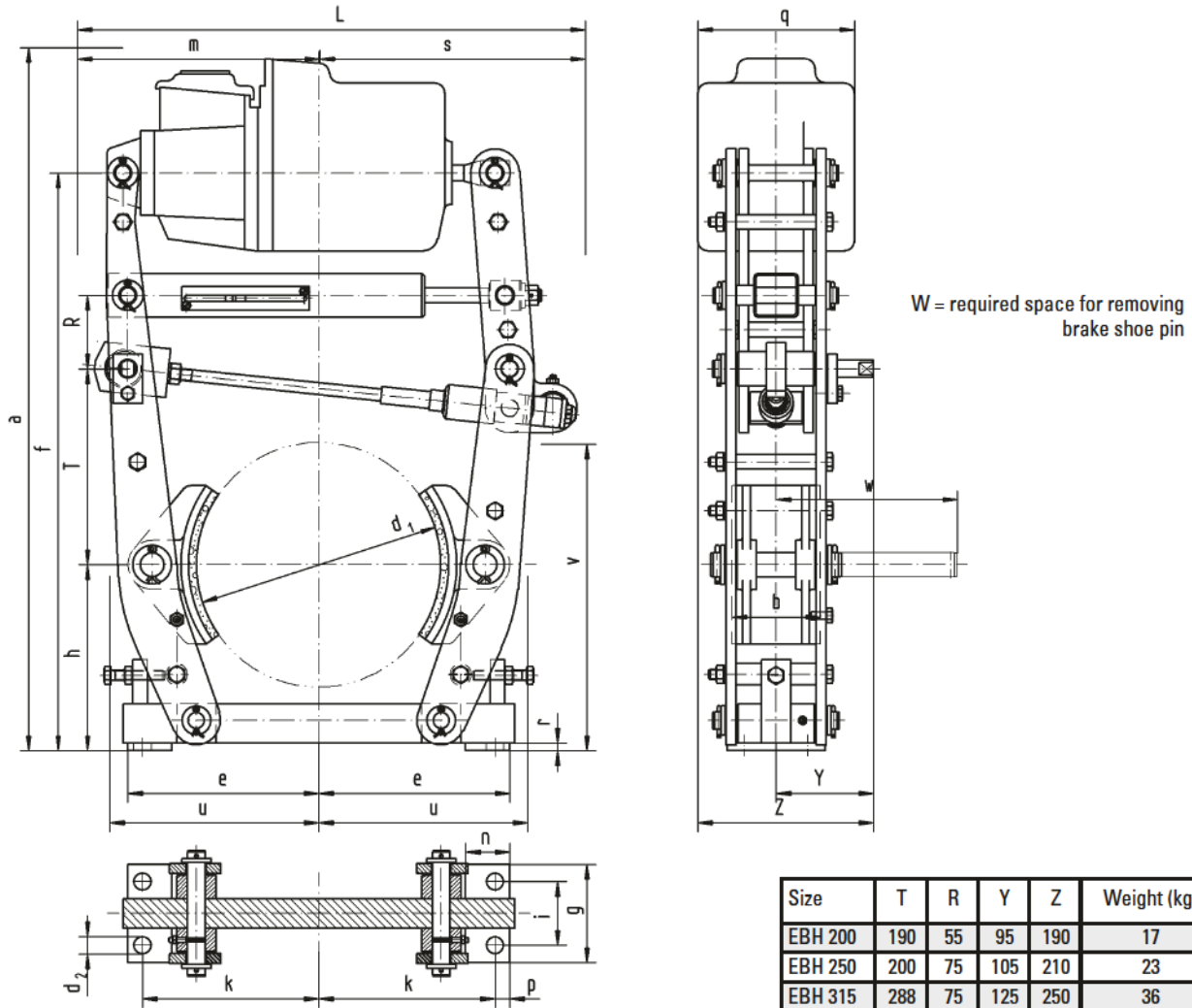
Brake type	Thruster type	$M_{BR\ max} (Nm)$ $\mu=0,4^*$	a_{max}	b_1	b_2	c	d_1	d_3	e	f	g	h_1	h_2	i	k	l_{max}	m	n	p	q	r	s_3	kg
EBN 200-23/5	Ed 23/5	300	500						160							665	185	100	70	100	12	1	22
EBN 200-30/5	Ed 30/5	380	563	75	70	96	200	14	115	90	155	5	55	145									
EBN 200-50/6	Ed 50/6	600							195							705							
EBN 250-23/5	Ed 23/5	320	500						160							770							
EBN 250-30/5	Ed 30/5	450	572	95	90	115	250	18	135	100	185	5	65	180			205	105	95	105	13	1,2	28
EBN 250-50/6	Ed 50/6	750	582						195							810							
EBN 250-80/6	Ed 80/6	1200																					
EBN 315-30/5	Ed 30/5	540							160							920							
EBN 315-50/6	Ed 50/6	1000	665	118	110	140	315	18	195	165	110	225	5	80	220	1000	300	110	133	240	13	1,2	68
EBN 315-80/6	Ed 80/6	1650							240							990							
EBN 315-121/6	Ed 121/6	2500	790																				
EBN 400-50/6	Ed 50/6	1100	680						195							1075							
EBN 400-80/6	Ed 80/6	1700		150	140	167	400	22	195	140	270	10	100	270			310	135	165	280	15	1,5	82
EBN 400-121/6	Ed 121/6	2650	790						240							1065							
EBN 400-201/6	Ed 201/6	4000																					
EBN 500-50/6	Ed 50/6	1090							195														
EBN 500-80/6	Ed 80/6	1870	830	190	180	210	500	22	245	170	330	10	130	325	1245	370	155	210	315	20	1,5	122	
EBN 500-121/6	Ed 121/6	3010							240														
EBN 500-201/6	Ed 201/6	5120																					
EBN 630-121/6	Ed 121/6	3040	990						240	300	220	410	10	170	400	1320	450	150	280	170	25	2	196
EBN 630-201/6	Ed 201/6	4870		236	225	250	630	27															
EBN 630-301/6	Ed 301/6	6210	1015																				
EBN 710-121/6	Ed 121/6	3450							240	335	240	460	10	190	450	1515	520	250	250	450	25	2	266
EBN 710-201/6	Ed 201/6	5510	1120	265	255	280	710	27															
EBN 710-301/6	Ed 301/6	6920																					

Drum Brake Type EBH

Dimensions (DIN 15435) and technical data



Rev. 12-06



Size	T	R	Y	Z	Weight (kg)
EBH 200	190	55	95	190	17
EBH 250	200	75	105	210	23
EBH 315	288	75	125	250	36
EBH 400	305	100	140	280	70
EBH 500	370	116	170	340	130
EBH 630	upon request				
EBH 710	upon request				

*) Average friction factor of standard material combination

All dimensions in mm
Alterations reserved without notice

Brake type	Thruster type	M_{BRmax} (Nm) $\mu=0,4^*$	a	b	c	d ₁	d ₂	e	f	g	h	i	k	L	m	n	p	q	r	s	u	w
EBH 200-23/5	Ed 23/5	200	640	70	110	200	14	165	520	90	160	55	145	400	190	45	15	160	8	210	180	115
EBH 200-30/5	Ed 30/5	280												485	220					265		
EBH 250-23/5	Ed 23/5	240	710	90	130	250	18	200	590	100	190	65	180	440	210	45	15	160	8	230	215	135
EBH 250-30/5	Ed 30/5	340												505	235					270		
EBH 250-50/6	Ed 50/6	510	745											600	260			195		340		
EBH 315-23/5	Ed 23/5	260	870	110	170	315	18	245	738	110	230	80	220	610	280	50	20	160	10	330	265	165
EBH 315-30/5	Ed 30/5	410												670	290					380		
EBH 315-50/6	Ed 50/6	600	910	140	200	400	22	305	845	140	280	100	270	690	300	135	25	195	10	390	320	195
EBH 315-80/6	Ed 80/6	1120												870	290					380		
EBH 400-50/6	Ed 50/6	700	1010	140	200	400	22	305	845	140	280	100	270	690	300	135	25	195	10	390	320	195
EBH 400-80/6	Ed 80/6	1410												870	400					470		
EBH 400-121/6	Ed 121/6	2000	1000											870	400			240		470		
EBH 500-50/6	Ed 50/6	800	1120	180	250	500	22	360	954	170	340	130	325	740	320	150	30	195	12	420	400	245
EBH 500-80/6	Ed 80/6	1750												900	410					490		
EBH 500-121/6	Ed 121/6	2200	1110	180	250	500	22	360	954	170	340	130	325	740	320	150	30	195	12	420	400	245
EBH 500-201/6	Ed 201/6	4000												900	410					490		

Enclosures

For drum brakes type EBN – Dimensions and executions



Rev. 11-03

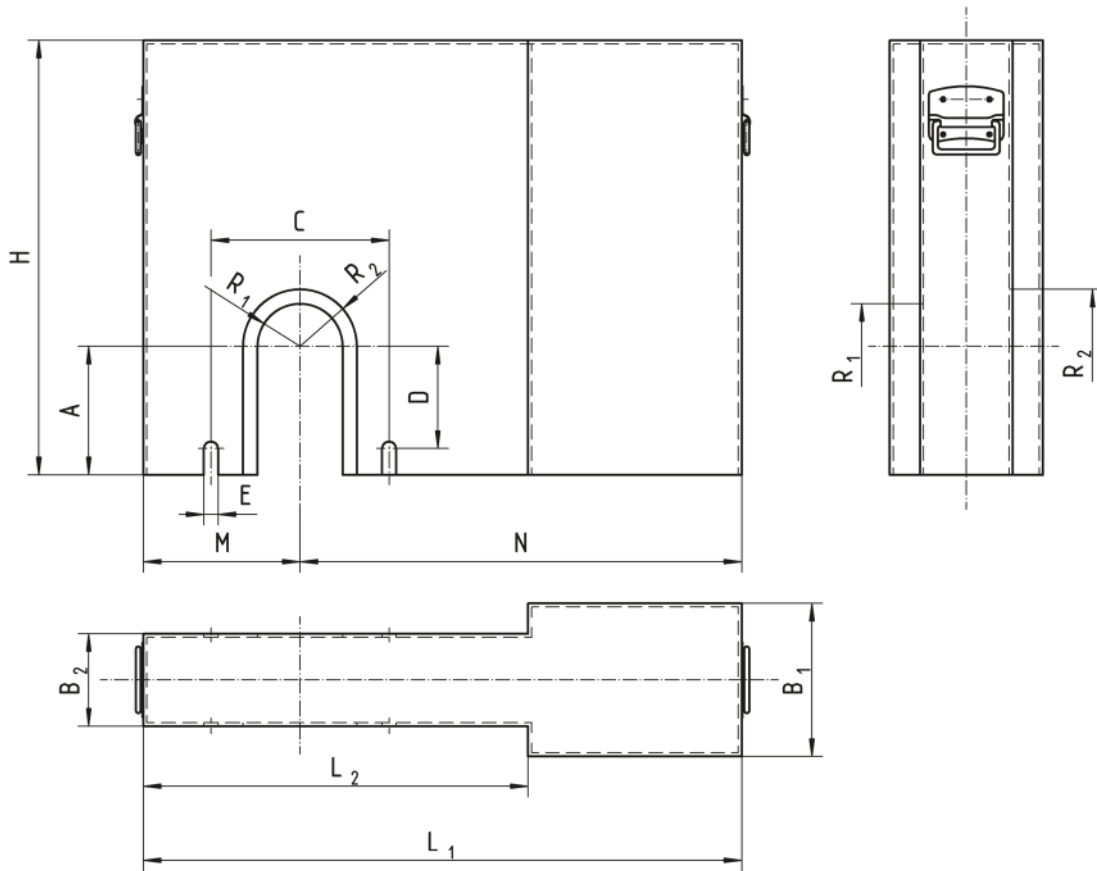


Plate thickness = 1,5 mm
 All enclosures are provided with handles
 Other dimensions upon request

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										
EBN 200-50/6		215										
EBN 250-23/5	180	180	130	250	143	10	530	810	560	220	590	110
EBN 250-30/5		215										
EBN 250-50/6		215										
EBN 250-80/6		215										
EBN 315-30/5	220	180	170	315	179	12	700	1030	700	320	710	140
EBN 315-50/6		215										
EBN 315-80/6		215										
EBN 315-121/6		260										
EBN 400-50/6	260	215	180	400	205	12	710	1100	800	320	780	180
EBN 400-80/6		215										
EBN 400-121/6		260										
EBN 400-201/6		260										
EBN 500-121/6	320	280	240	500	260	12	900	1280	930	400	880	230
EBN 500-201/6												



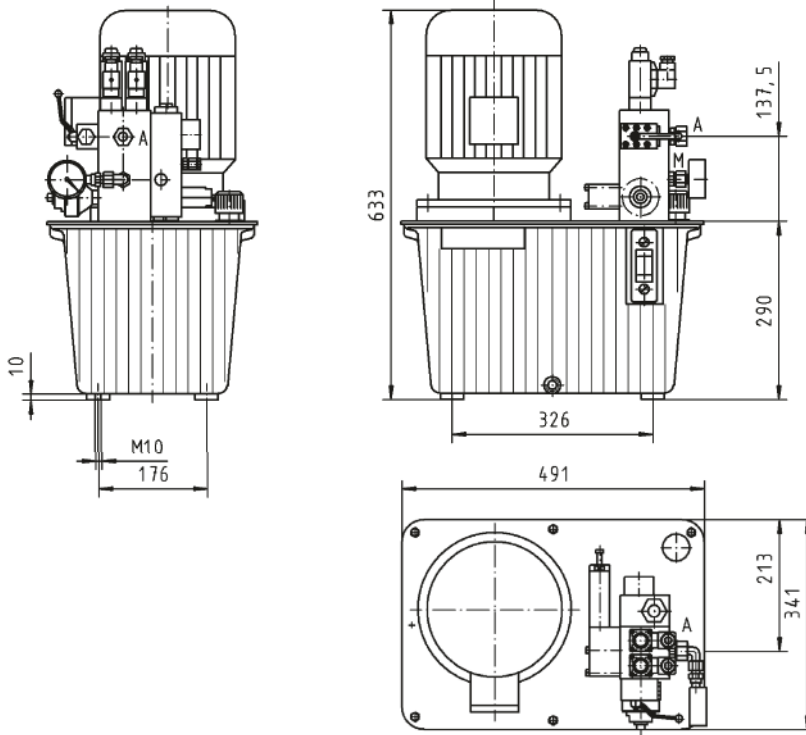
When ordering please advise: Brake type, Dimension "R₁ and R₂".

Band Brake Type BHB

Hydraulic power unit for one or more brakes



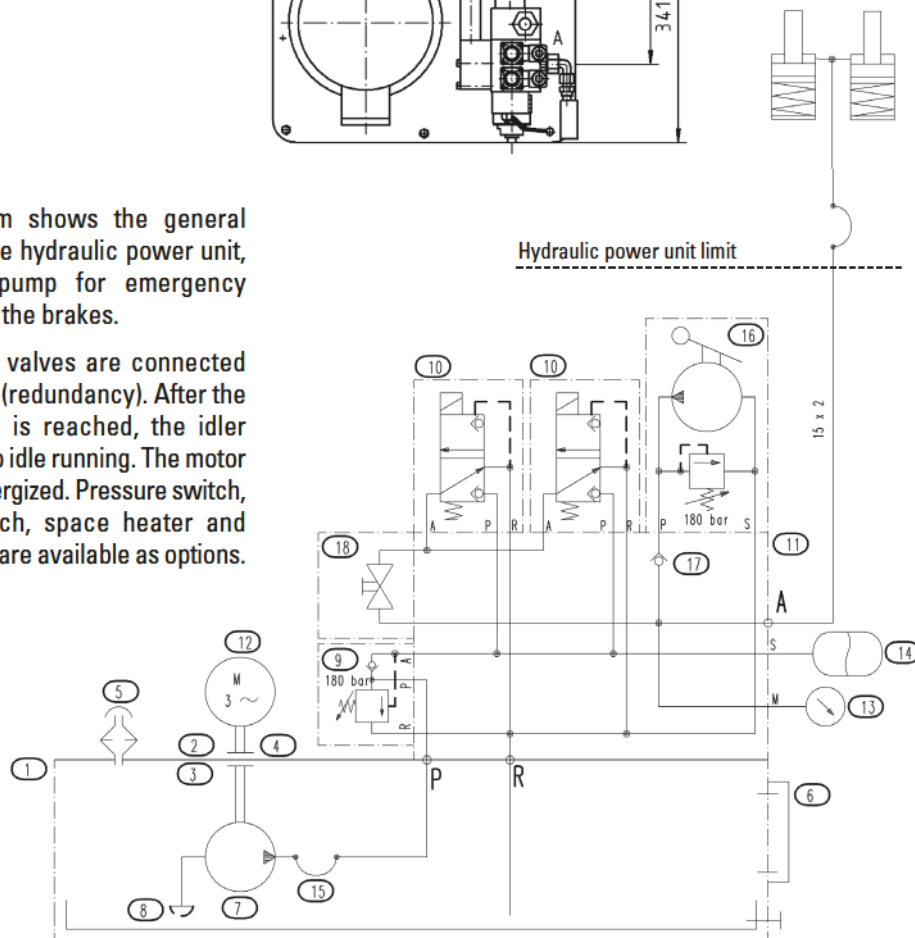
Rev. 09-02



Example:	
Motor:	3 kW
Pump:	9 l/min
Pressure:	180 bar
Tank:	30 l

The flow diagram shows the general arrangement of the hydraulic power unit, including hand pump for emergency manual release of the brakes.

The two solenoid valves are connected directly in parallel (redundancy). After the nominal pressure is reached, the idler valve switches into idle running. The motor is continuously energized. Pressure switch, temperature switch, space heater and other accessories are available as options.

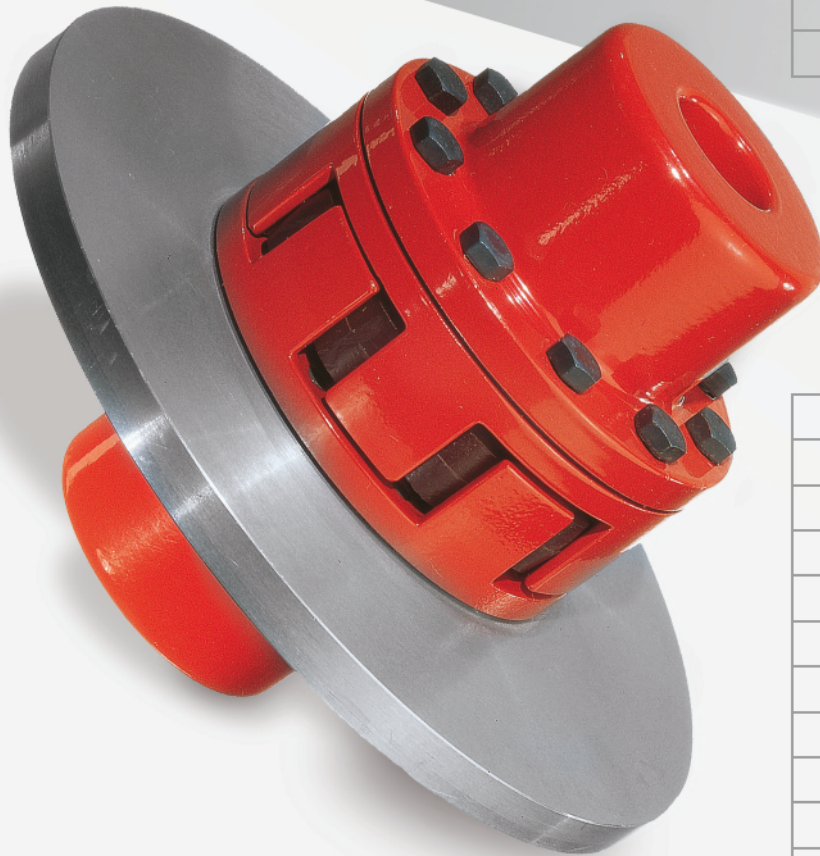


All dimensions in mm
Alterations reserved without notice

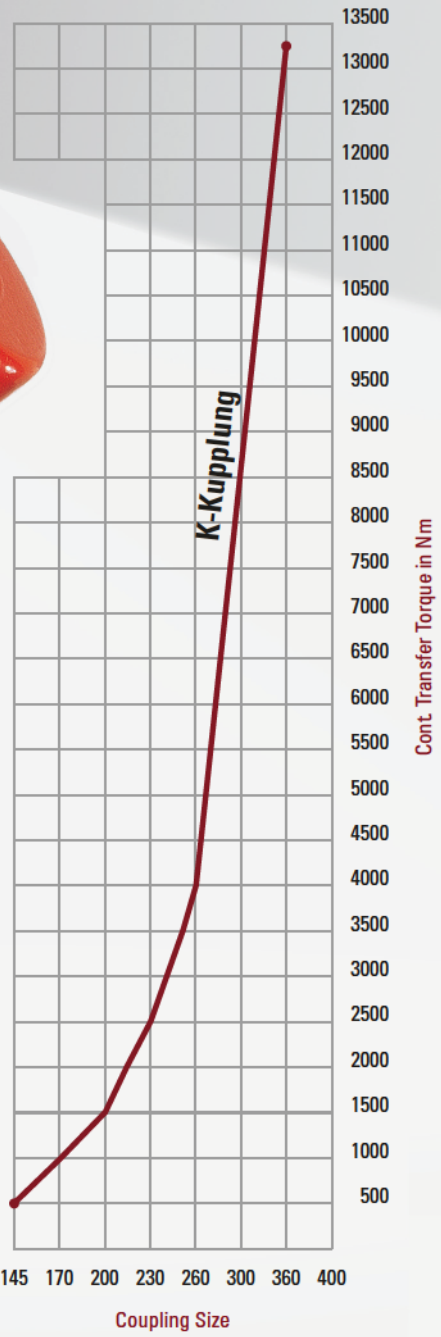



We supply a complete hydraulic and electric diagram according to the order specification with every order.

Flexible Coupling Type K




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







Torsionally Elastic




Tried and Trusted



High Performance



Robust



Easy Maintenance

Description Coupling Type K



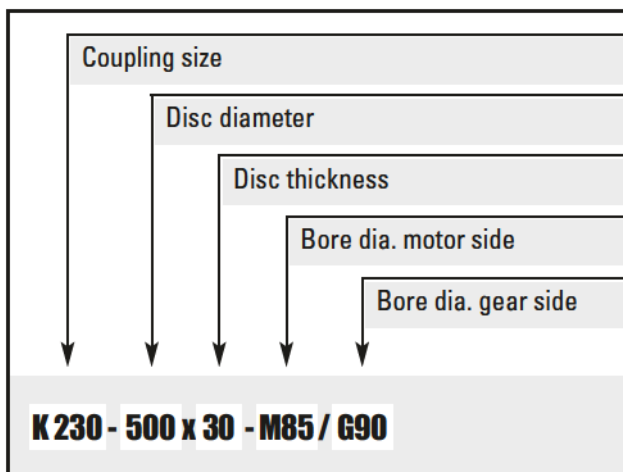
Main Features

- 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 moving any equipment
- Arrangement of the brake disc on the load side to allow the brake torque to be maintained when the motor is disengaged
- Vast 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
- Highly corrosion resistant *LiTec*[®] brake disc for low moment of inertia (see F17)

Ordering Example



Applications

- These couplings are for use in application with high dynamic loads
- 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

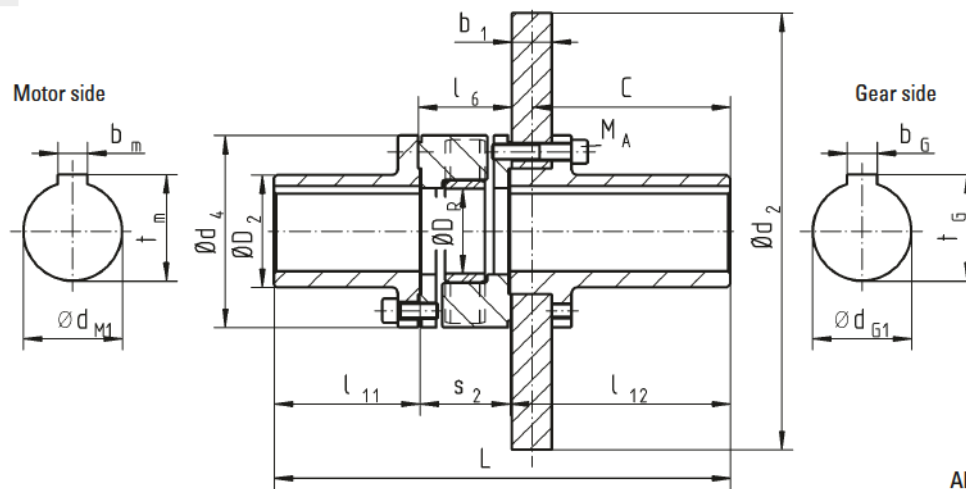
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on-site by PINTSCH BUBENZER service engineers is possible. Drawings as DWG/DXF files for your engineering department are available upon request.

Flexible Coupling Type K

Dimensions and technical data



Rev. 12-06



All dimensions in mm
Alterations reserved without notice

Coupling K (size = d ₄)		145	170	200	230	260	300	360	400
M _{Br} max.	Nm	1800	2850	4950	7740	11940	17550	29100	40050
T _{KN}	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 _{wM} max. + d _{wG} max.	mm	65	75	95	110	125	140	160	160
D ₂	mm	92	110	135	160	180	200	225	225
D _R	mm	64	90	100	115	140	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	71	81	86	101	118	130	130
S ₂	mm	68	68	77	81	96	113	125	125
C	mm	150	150	190	190	195	195	235*	235*
M _A	Nm	84	84	132	132	206	410	710	710
Brake disc diameter d ₂ x b ₁ (mm)	355 x 30	41			Weight				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	2,96			
	630 x 30				143	168	189		
					3,98	4,33	4,704		
710 x 30					185	225			
					6,563	6,92			
800 x 30						250	311		
900 x 30						10,52	11,49		
							342	354	
1000 x 30							17,21	17,69	
							376	389	
							25,16	25,65	

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.

* Dimension C = 230 mm at brake disc thickness 40 mm

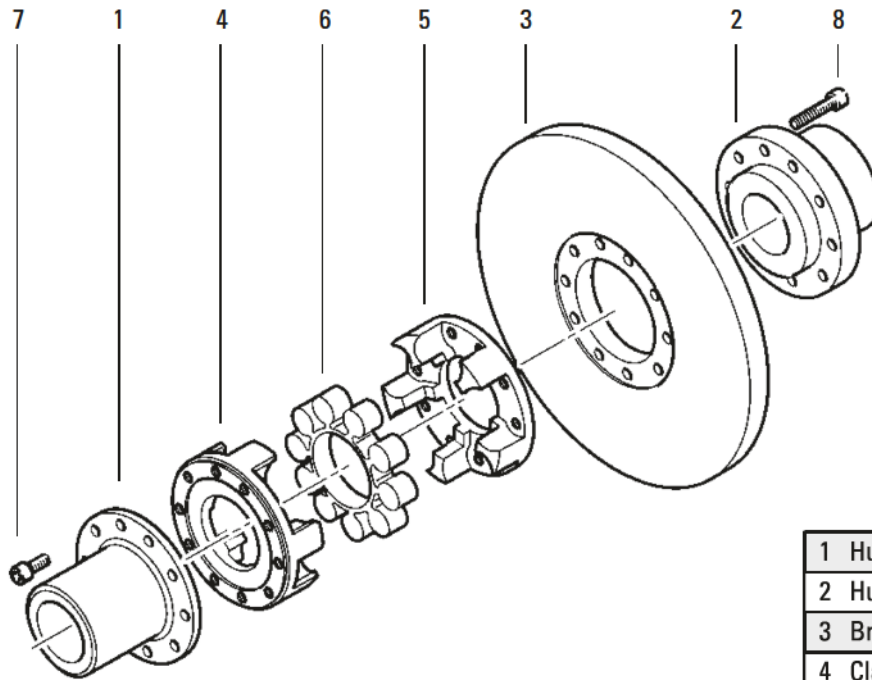
Flexible Coupling Type K

Design and permissible misalignments



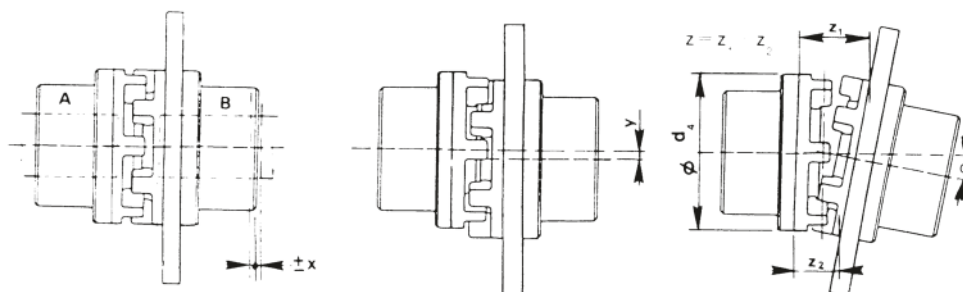
Rev. 09-02

Design



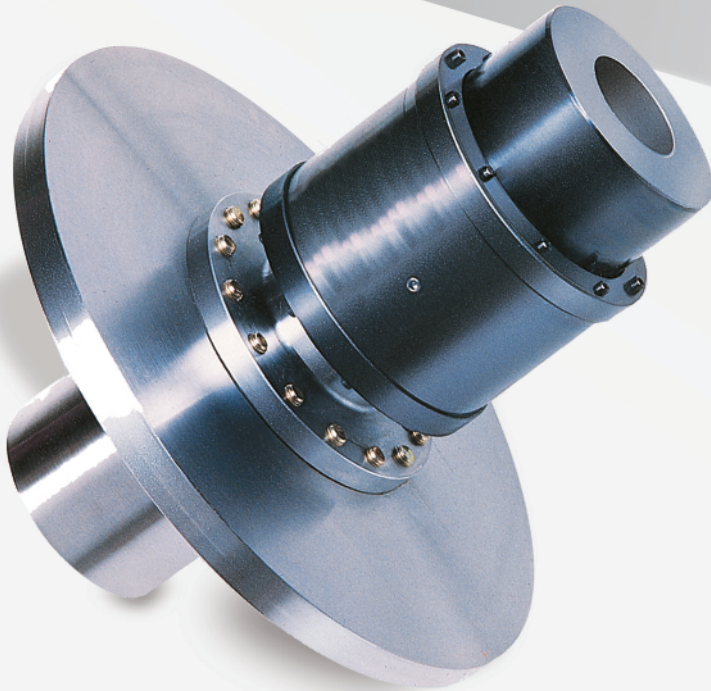
1	Hub, motor side
2	Hub, gear side
3	Brake disc
4	Claw ring, removable
5	Claw ring, removable
6	Elastic intermediate ring
7	Socket head screws
8	Socket head screws

Max. permissible misalignment

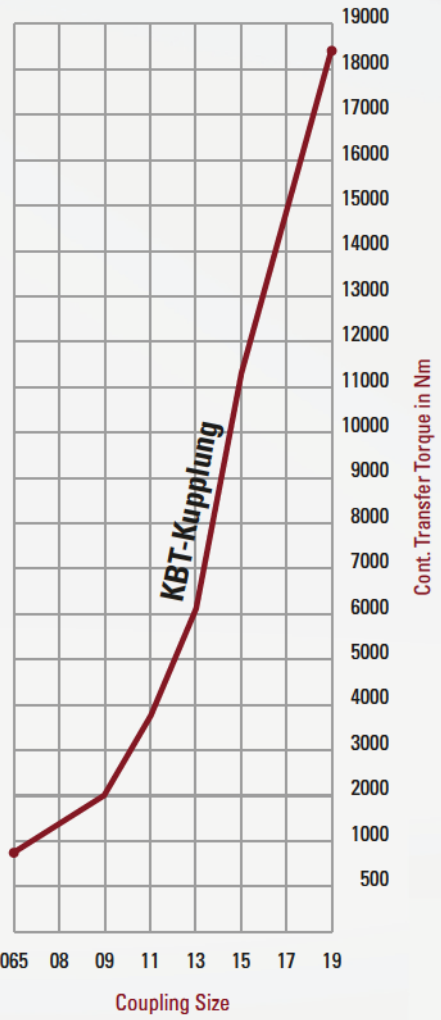


Measure Z_1 and Z_2 vertical and horizontal at a 180° turn. Angular and radial misalignment may be present simultaneously. In this case, the sum of the individual misalignments must not exceed the value of the net angular misalignment. Please refer to manual for alignment data.

Gear Coupling Type KBT



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



Torsionally Rigid



Tried and Trusted



High Performance



Robust



Easy Maintenance

Description Coupling Type KBT



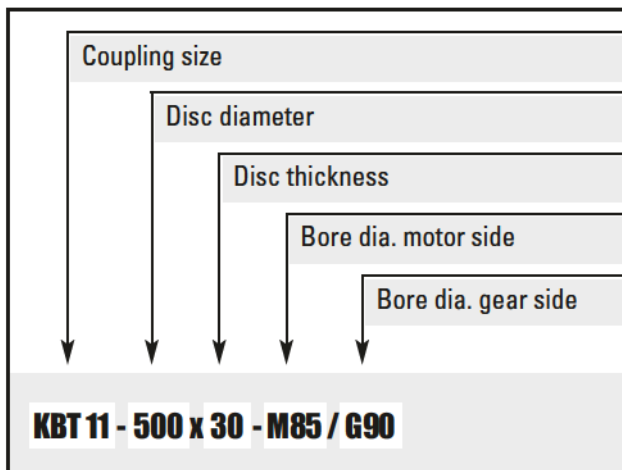
Main Features

- Steel coupling with special tooth pattern
- Torque transmission via internal geared sleeve and external geared hubs
- Replacement of the brake disc or the seals without moving 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
- Vast 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
 - Highly corrosion resistant *LiTec*[®] brake disc for low moment of inertia (see F17)
- Balancing grade ISO 1940 - G 6.3 is guaranteed for all coupling parts

Ordering Example



Applications

- These couplings are for use in machinery where a torsionally rigid torque is required, especially on frequently varying loads and speeds



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

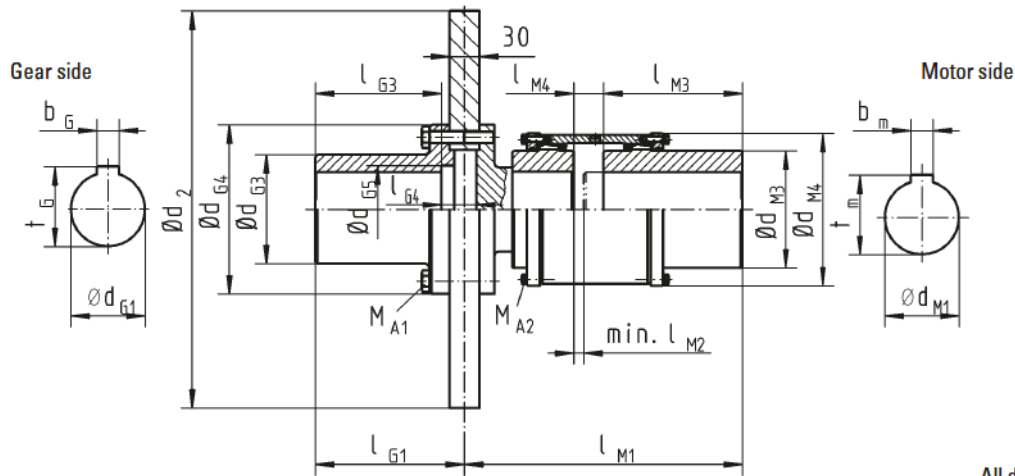
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on-site by PINTSCH BUBENZER service engineers is possible. Drawings as DWG/DXF files for your engineering department are available upon request.

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
M_{Br} max.	Nm	2000	4000	5000	9250	15250	27500	36500	46000
T_{KN}	Nm	800	1600	2000	3700	6100	11000	14600	18400
n_{max} at max. disc \emptyset	min ⁻¹	3800	3400	2750	2400	2150	2150	1900	1900
d_{G1} max.	mm	55	75	90	110	120	140	160	195
d_{G3}	mm	85	110	130	160	180	200	225	265
d_{G4}	mm	145	170	200	230	260	300	360	400
d_{G5}	mm	68	88	105	130	140	162	184	225
d_{M1} max.	mm	70	85	95	110	130	155	175	195
d_{M3}	mm	100	118	130	151	178	213	235	263
d_{M4}	mm	140	154	161	186	216	254	282	317
l_{G1}	mm	150	150	190	190	195	195	235	235
l_{G3}	mm	127	127	167	167	172	172	212	212
l_{G4}	mm	35	35	35	35	35	35	35	35
l_{M1}	mm	215	280	310	325	350	385	425	470
l_{M2}	mm	7	10	10	10	10	10	10	10
l_{M3}	mm	110	140	146	165	170	190	200	220
l_{M4}	mm	12	30	17	19	23	24	29	32
Brake disc diameter $d_2 \times b_1$ (mm)	355 x 30	43			Weight of the coupling with brake disc				kg
		0,415			Moment of inertia				kgm ²
	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	Weights and moments of inertia are not binding, referring to the max. finish bore.							367	450
							17,64	19,53	

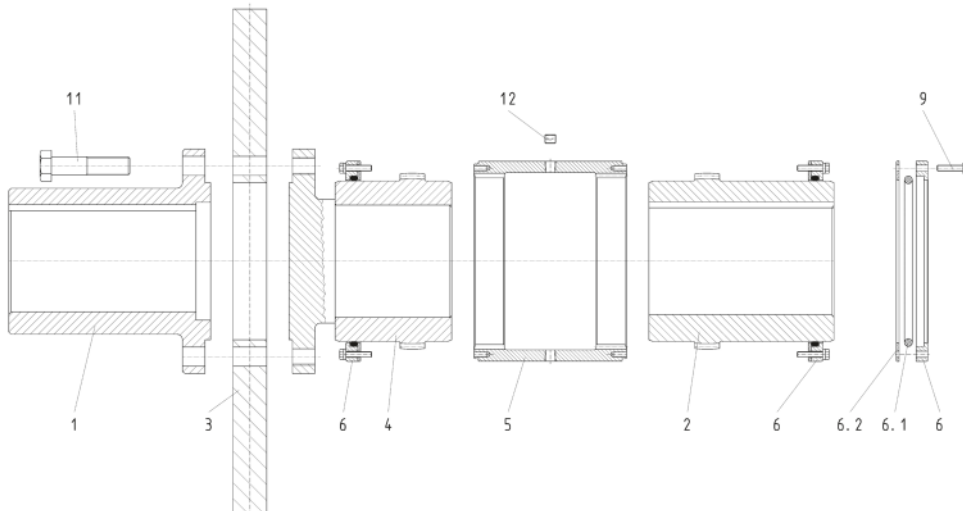
Gear Coupling Type KBT

Design and permissible misalignments



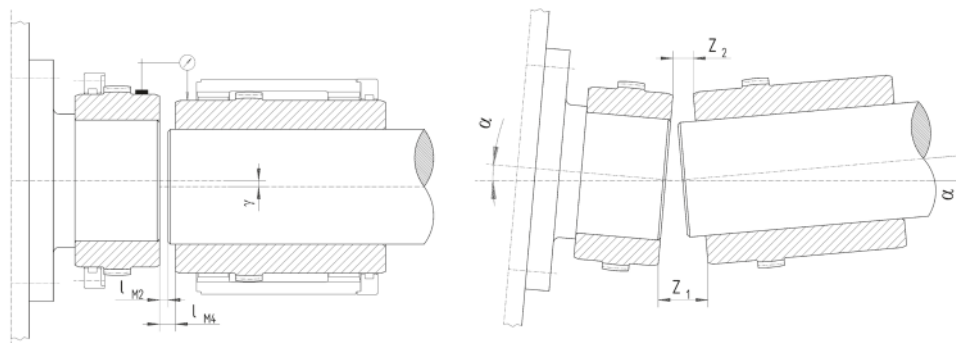
Rev. 09-02

Design
(except KBT065)



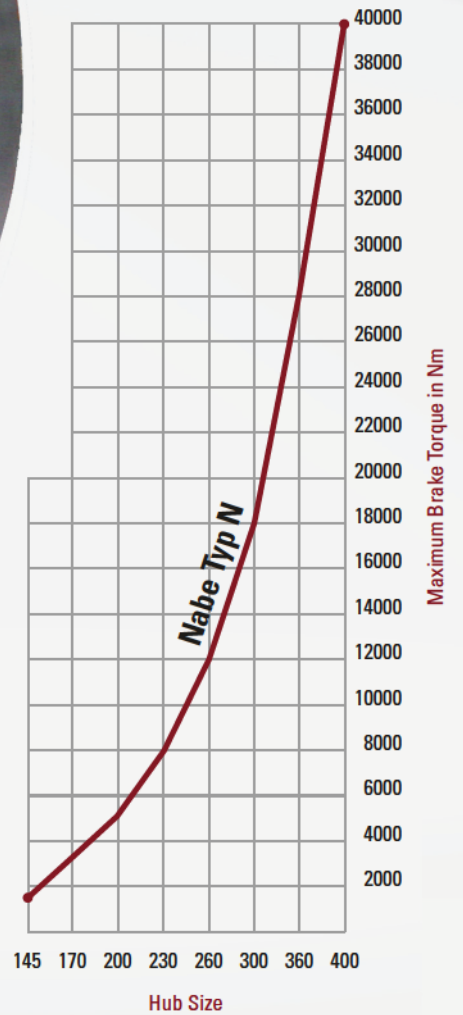
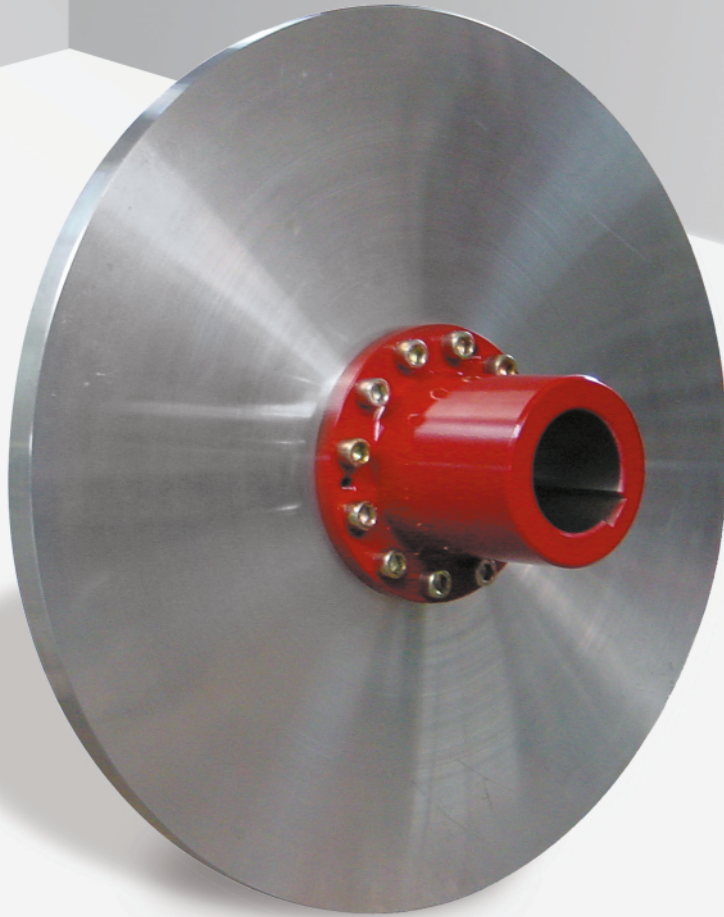
1	Hub, gear side
2	Hub, motor side
3	Brake disc
4	Flange with geared hub
5	Internal geared sleeve
6	End-cap with O-ring (6.1) and gasket (6.2)
9	End-cap screws
11	Fastening bolts
12	Lube plugs

Max. permissible misalignment



Measure Z_1 and Z_2 vertical and horizontal at a 180° turn. Angular and radial misalignment may be present simultaneously. In this case, the sum of the individual misalignments may not exceed the value of the net angular misalignment. Please refer to manual for alignment details.

Hub with Brake Disc Type N + NX



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is certified according to
DIN EN ISO 9001:2015



Safe



Tried and Trusted



Robust



Easy Maintenance

Description Hub Type N + NX



Main Features

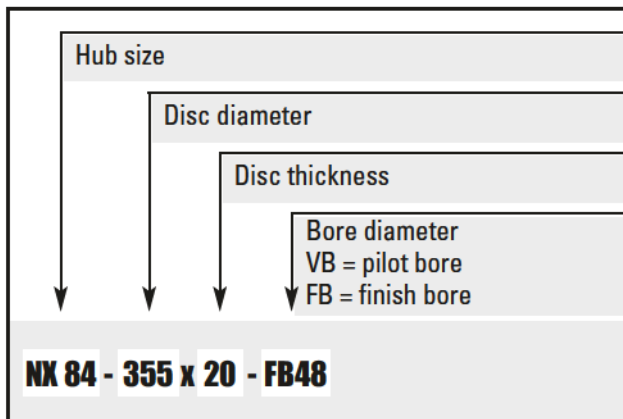
- Hub/disc combination for easy exchange of brake disc (type N)
- High accident prevention by fastening ring, no rotating nuts (type N)
- Exchange of brake disc without removing the hub (type N)
- Simple, one-piece design with 20 mm brake disc thickness for SB8.11 + SB17 series brakes (type NX)

Options

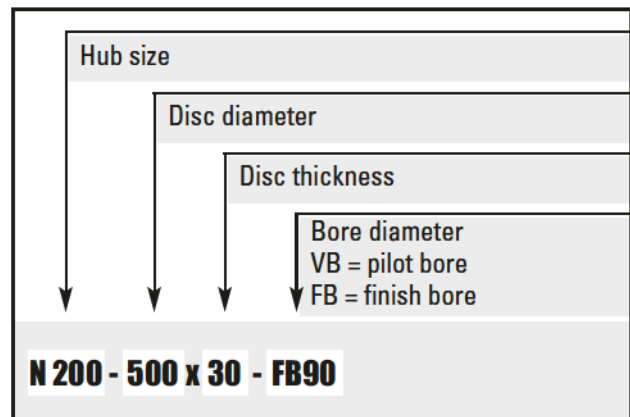
- Hubs ready bored and keywayed (preferably acc. to DIN 6885)
- Hubs with taper bore
- Hubs with double keyway
- Hubs with pilot bore
- Hubs in special dimensions
- Hubs with extension shafts (Ns)
- Highly corrosion resistant *LiTec®* brake disc for low moment of inertia (see F17)

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 installation 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

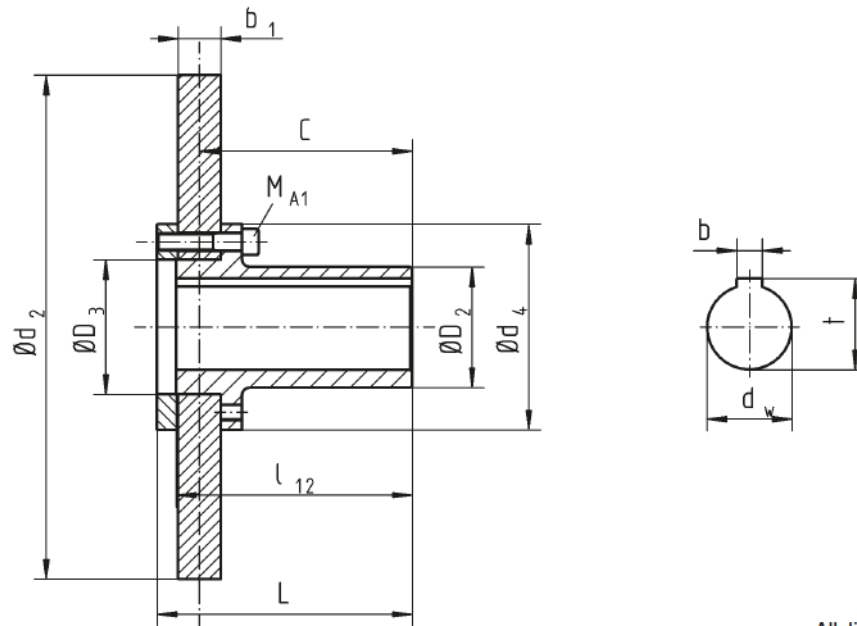
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on-site by PINTSCH BUBENZER service engineers is possible. Drawings as DWG/DXF files for your engineering department are available upon request.

Hub with Brake Disc Type N

Dimensions and technical data



Rev. 12-06



All dimensions in mm
Alterations reserved without notice

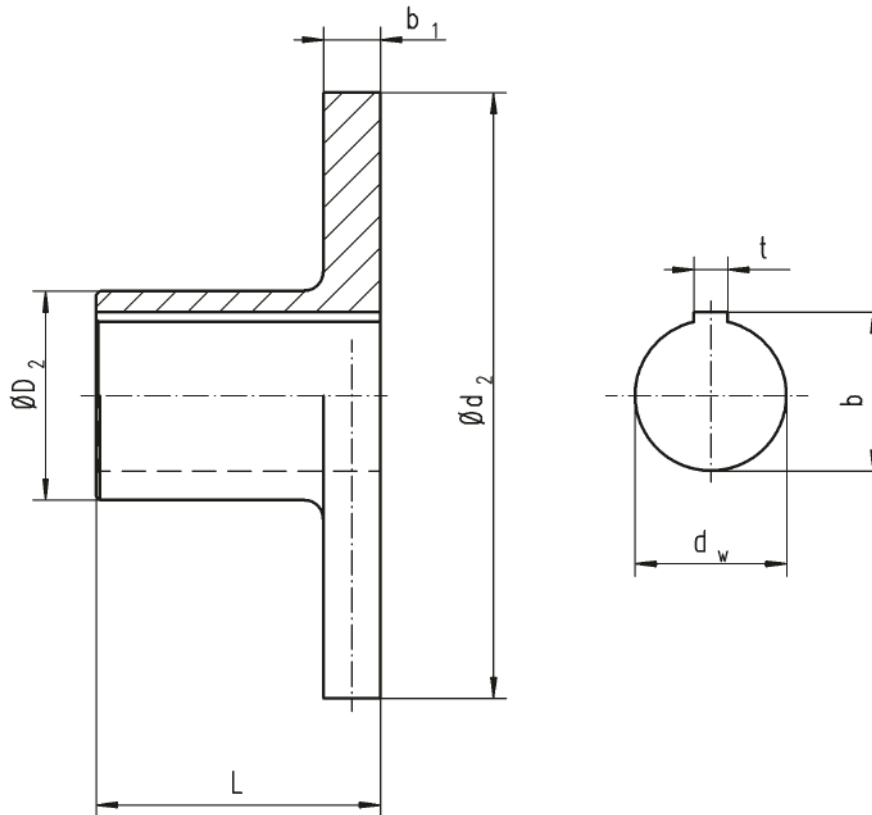
Hub N (size = d ₄)		145	170	200	230	260	300	360	400
M _{Br} max.	Nm	1800	2850	4950	7740	11940	17550	29100	40050
n _{max} at max. disc Ø	min ⁻¹	3800	3400	3000	2700	2400	2200	1750	1750
d _w max.	mm	60	75	95	110	125	140	160	160
D ₂	mm	85	110	135	160	180	200	225	225
D ₃	mm	95	120	140	170	200	220	260	300
L	mm	180	180	220	220	230	230	275	275
l ₁₂	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*
M _A	Nm	84	84	132	132	206	410	710	710
Brake disc diameter d ₂ x b ₁ (mm)	355 x 30	28			Weight				kg
		0,378			Moment of inertia				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	
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

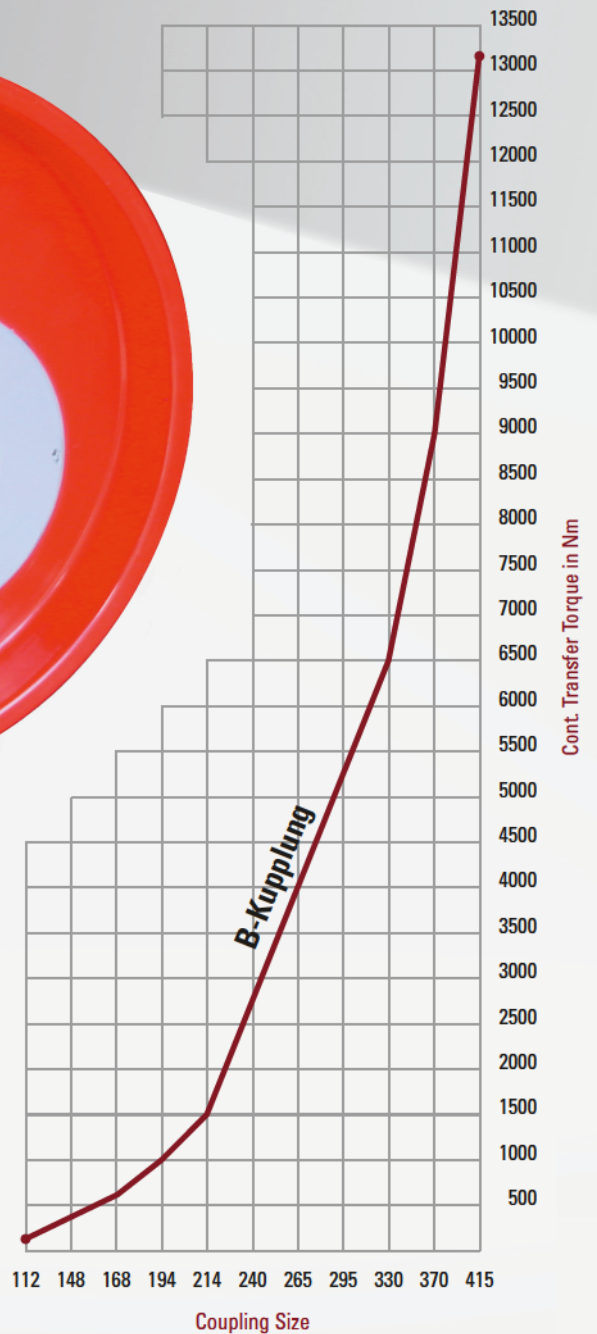
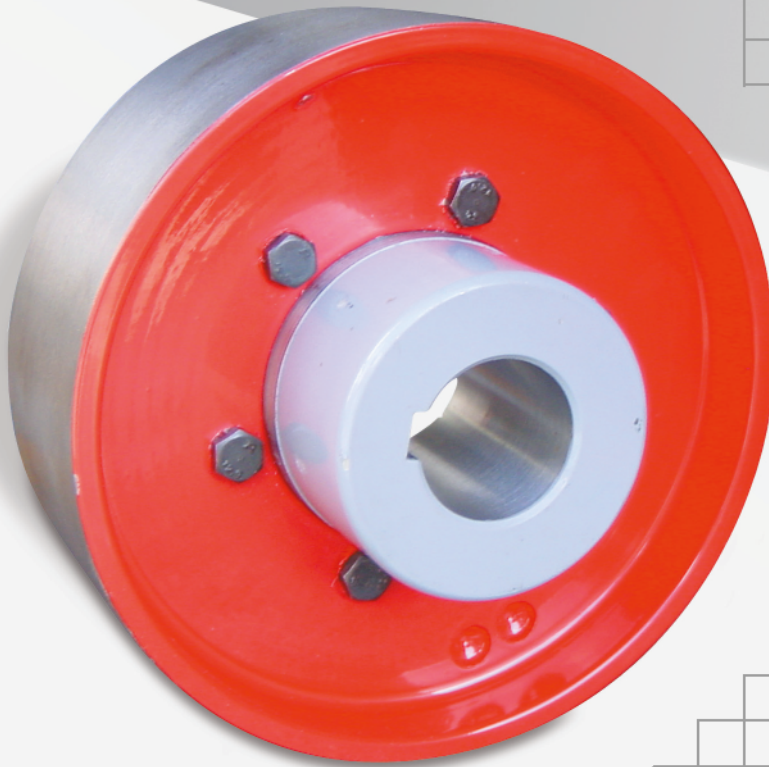


* Higher speeds possible by using sintered linings


All dimensions in mm
Alterations reserved without notice

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


Flexible Coupling Type B-EBT + B-GBT




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




Torsionally Elastic




Tried and Trusted



High Performance



Robust



Easy Maintenance

Description Coupling Type B-EBT, B-GBT



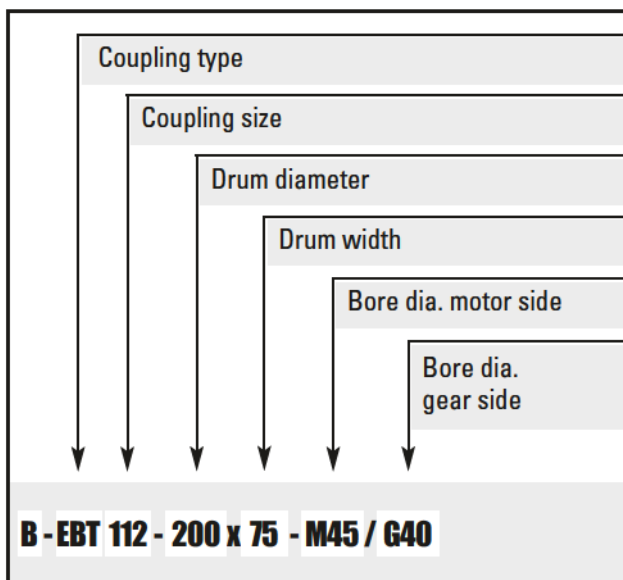
Main Features

- Multi component GG / GGG flexible coupling
- Transmission of torque via elastic intermediate ring
- Replacement of the elastic intermediate ring without moving any equipment (B-GBT only)
- Installation of the brake drum on the load side to allow the brake torque to be maintained when the motor is disengaged
- Vast selection of coupling sizes and brake drum diameters to satisfy most braking and drive requirements

Options

- Coupling hubs ready bored and keywayed (acc. to DIN 6885)
- Coupling hubs with taper bore
- Coupling hubs with two keyway
- Coupling hubs with pilot bore
- Coupling balanced according to ISO 1940-Grade: G 6.3
- Special material for elastic intermediate ring depending on application
- Coupling without brake drum

Ordering Example



Applications

- These couplings are for use in machinery subjected to high dynamic load
- Damping of peak torques and vibrations are further reasons for the use of this coupling type
- The standard material of the elastic intermediate ring is suitable for a temperature range of -20°C...+80°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

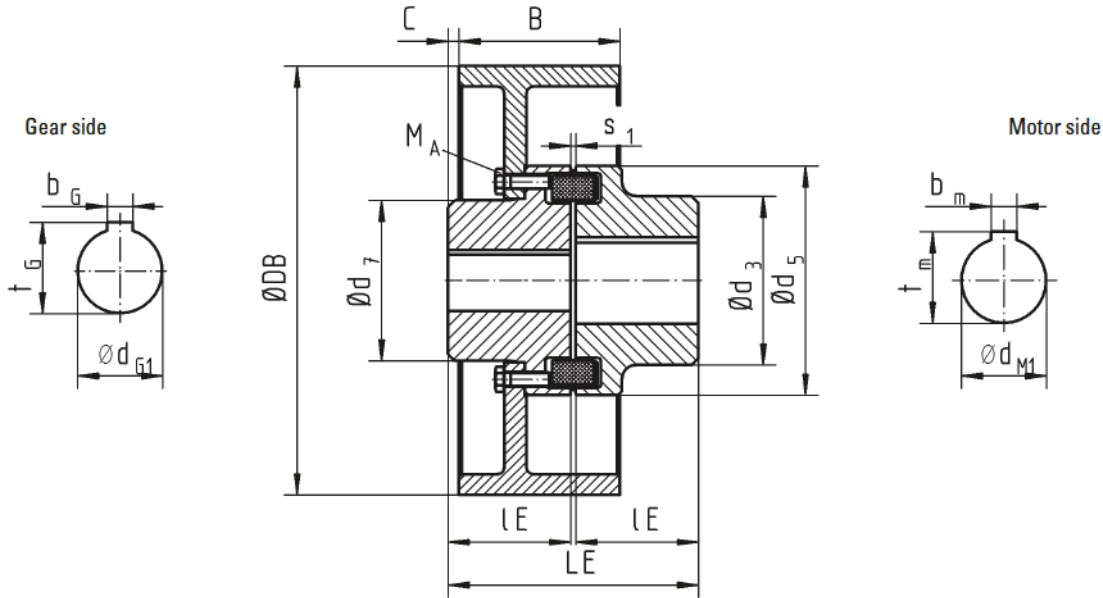
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on-site by PINTSCH BUBENZER service engineers is possible. Drawings as DWG/DXF files for your engineering department are available upon request.

Flexible Coupling Type B-EBT

Dimensions and technical data



Rev. 12-06



All dimensions in mm
Alterations reserved without notice

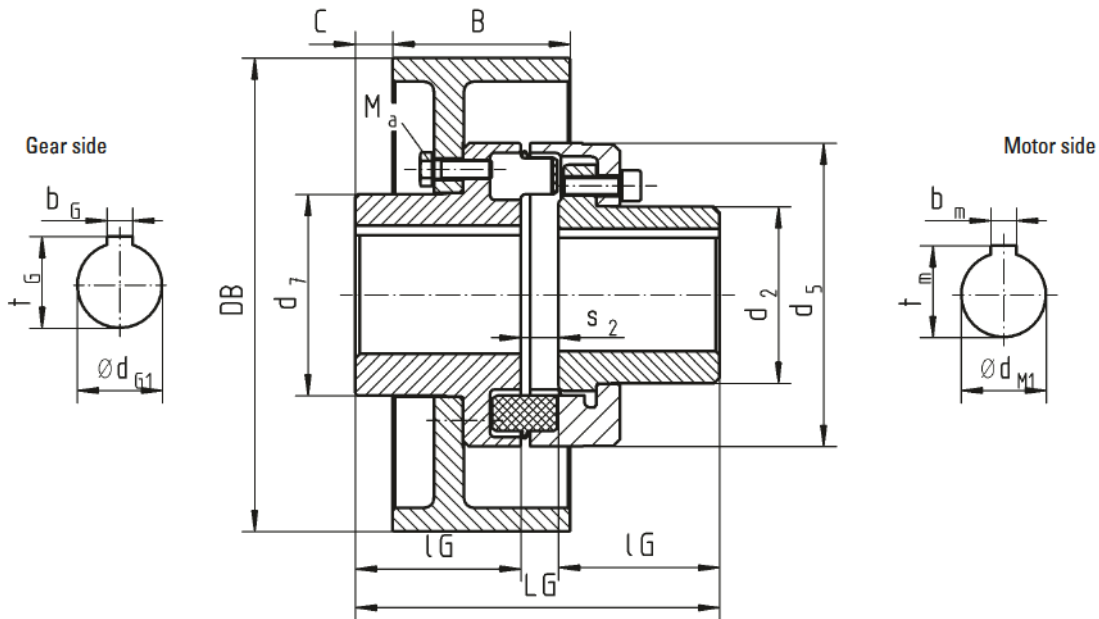
B-EBT (= d ₅)		112	128	148	168	194	214	240	265	295	330	370	415	
M _{Br} max.	Nm	450	550	1000	1600	2750	3350	4200	8700	9800	10600	13500	16000	
T _{KN}	Nm	150	250	390	630	1050	1500	2400	3700	4900	6400	8900	13200	
n _{max}	min ⁻¹	6000	5000	4500	4000	3500	3000	2750	2500	2250	2000	1750	1500	
d _{M1} max.	mm	48	55	65	75	85	95	110	120	130	150	170	190	
d _{G1} max.	mm	42	52	58	72	85	92	102	120	130	150	170	185	
d ₃	mm	79	90	107	124	140	157	179	198	214	248	278	315	
d ₇	mm	68	85	94	118	138	153	168	198	214	248	278	308	
C	mm	11	16	16	*A	16,5	*B	*C	22	*D	*E	15	25	
IE	mm	60	70	80	90	100	110	120	140	150	160	180	200	
LE	mm	123,5	143,5	163,5	183,5	203,5	224	244	285,5	308	328	368	408	
S ₂	mm	3,5±1	3,5±1	3,5±1	3,5±1,5	3,5±1,5	4±2	4±2	5,5±2,5	8±2,5	8±2,5	8±2,5	8±2,5	
M _A	Nm	25	25	49	49	85	85	85	210	210	210	210	210	
Brake drum diameter DB x B (mm)	200 x 75	9,1	12,3					Weight		of the coupling		kg		
		0,038	0,044					Moment of inertia		with brake drum		kgm ²		
	250 x 95			20,2	26,4									
				0,116	0,14									
	315 x 118				32,9	40,4	49,2							
					0,3511	0,39	0,45							
	400 x 150						63,4	72,6						
							1,056	1,145						
500 x 190							96,6	116,8	133,9					
							2,795	2,99	3,3					
630 x 236									192,9	236,5				
									8,67	9,15				
710 x 265											264,5	313,8	381,1	
											15,26	16,22	17,77	

Flexible Coupling Type B-GBT

Dimensions and technical data



Rev. 12-09



All dimensions in mm
Alterations reserved without notice

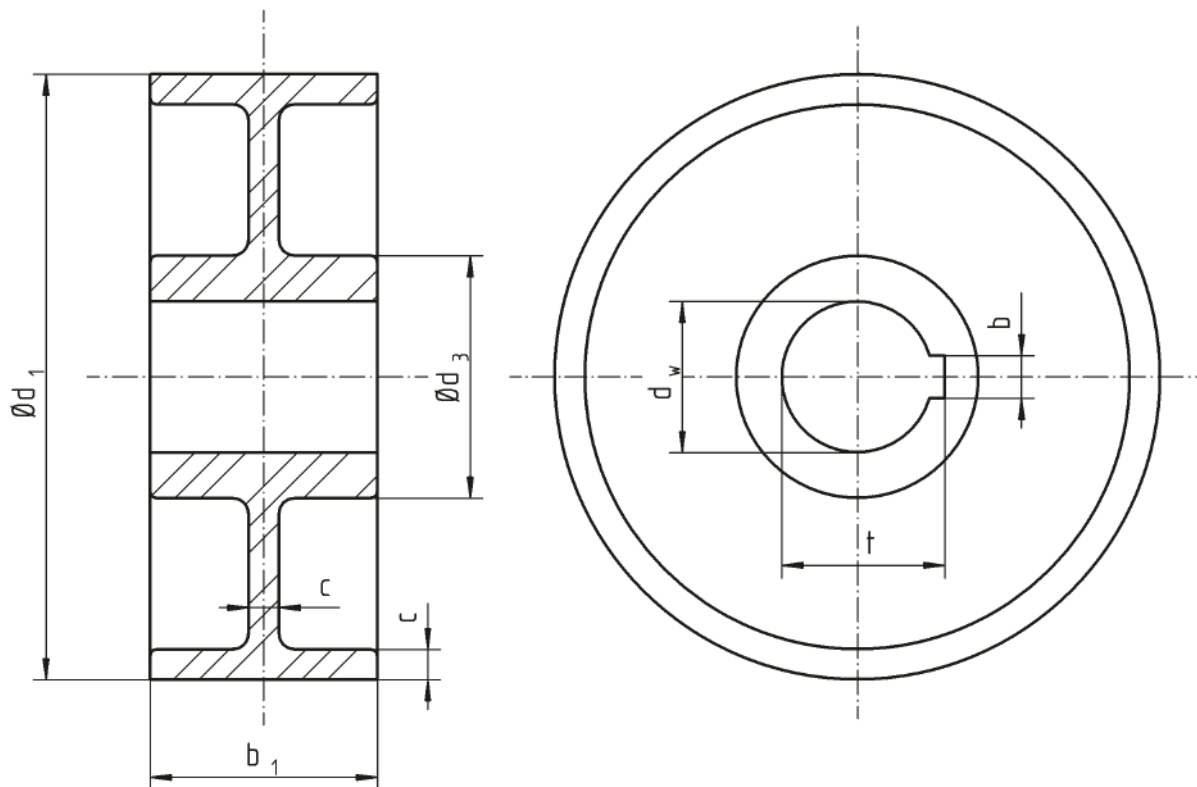
B-GBT (= d ₅)		112	128	148	168	194	214	240	265	295	330	370	415
M _{Br} max.	Nm	450	550	1000	1600	2750	3350	4200	8700	9800	10600	13500	16000
T _{KN}	Nm	150	250	390	630	1050	1500	2400	3700	4900	6400	8900	13200
n _{max}	min ⁻¹	6000	5000	4500	4000	3500	3000	2750	2500	2250	2000	1750	1500
d _{M1} max.	mm	46	53	65	75	85	95	100	115	130	135	160	180
d _{G1} max.	mm	42	52	58	72	85	92	102	120	130	150	170	185
d ₂	mm	64,5	74,5	92,5	104,5	121,5	135,5	146	164	181	208	241	275
d ₇	mm	68	85	94	118	138	153	168	198	214	248	278	308
C	mm	11	16	16	*A	16,5	*B	*C	22	*D	*E	15	25
IG	mm	58	68	78	87	97	107	117	137	147	156	176	296
LG	mm	133	154	176	198	221	243	267	310	334	356	399	441
S ₂	mm	15±1	16±1	18±1	21±1,5	24±1,5	26±2	30±2	33±2	37±2,5	40±2,5	43±2,5	45±2,5
M _A	Nm	25	25	49	49	85	85	85	210	210	210	210	210
Brake drum diameter DB x B (mm)	200 x 75	9,1	12,4						Weight		of the coupling		kg
		0,038	0,045						Moment of inertia		with brake drum		kgm ²
	250 x 95			20,2	26,4								
				0,12	0,15								
	315 x 118				32,9	40,9	49,2						
					0,353	0,396	0,46						
	400 x 150						63,4	71,7					
							1,065	1,157					
500 x 190							95,7	115,9	133,7				
							2,807	3,014	3,26				
630 x 236									192,7	233,1			
									8,63	9,183			
710 x 265										261,1	310,8	379,5	
										15,29	16,28	17,9	

Brake Drums acc. to DIN 15431

Dimensions and technical data



Rev. 05-08



Material options:	GG25
	GGG40
	St 52 welded
	C45
When ordering please indicate:	Brake drum $\varnothing d_1$
	Material
	Bore $\varnothing d_2$

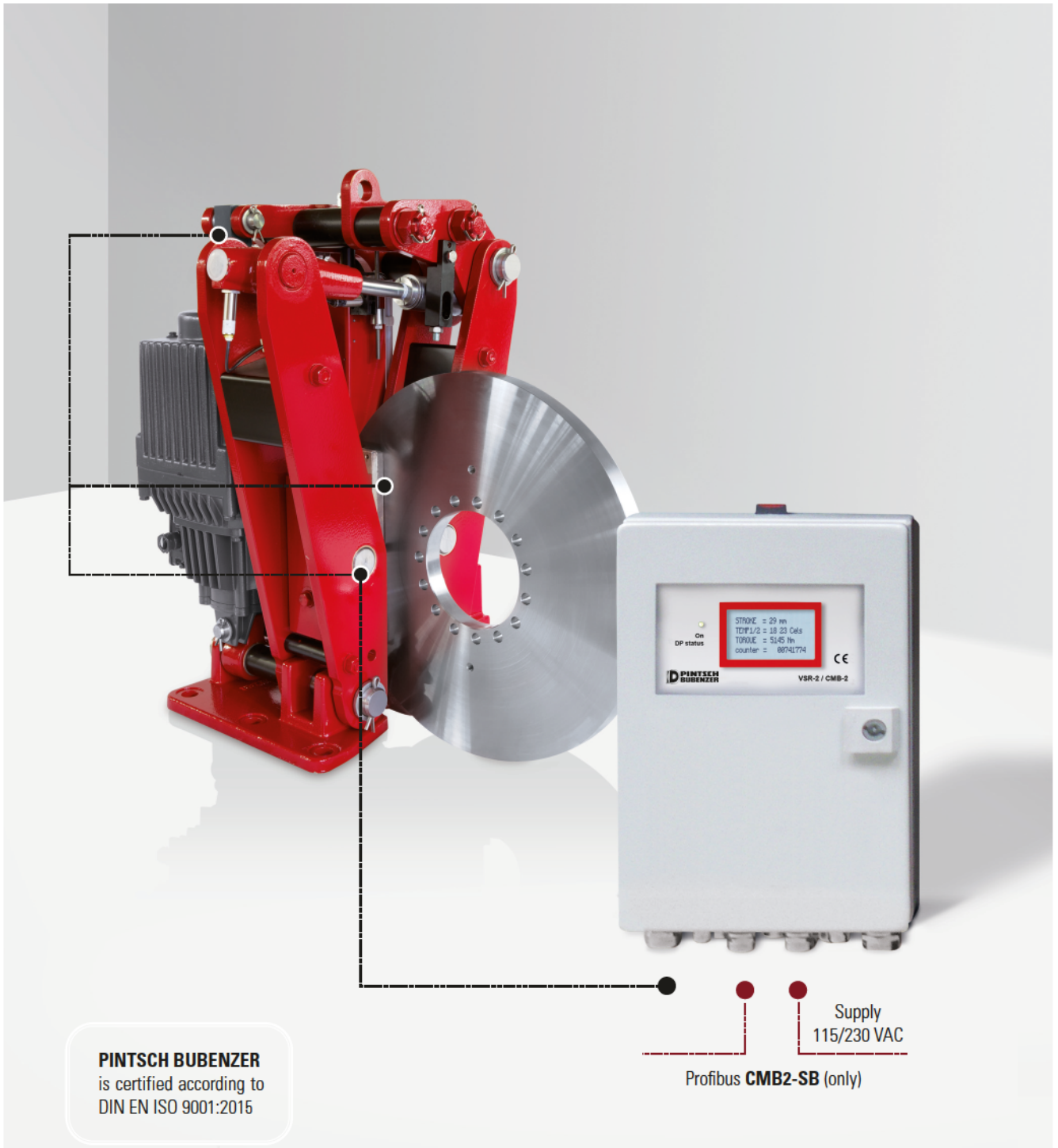
All dimensions in mm
Alterations reserved without notice

d ₁	b ₁	c	d ₂		d ₃	Moment of inertia J kgm ²	Weight kg (GGG)	Nominal heat capacity W _{n150} (kJ)		
			pilot bored	max. ready bored				St/GS	GG	GGG
200	75	10	20	50	80	0,039	7,4	264	273	371
250	95	12	25	60	95	0,1156	13,7	502	519	707
315	118	15	30	80	115	0,3585	26,4	982	1016	1383
400	150	17	35	90	130	1,0687	47,3	1806	1869	2544
500	190	20	50	100	150	3,1162	85,3	3374	3490	4751
630	236	25	50	110	170	9,6564	161,7	6602	6831	9217
710	265	30	70	120	200	18,4627	243,1	9999	10345	14080



The brake drums can be balanced on request if ordered ready bored and keywayed. If requested, brake drums can be made according to customer specifications.

Monitoring System VSR2-SB/CMB2-SB



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is certified according to
DIN EN ISO 9001:2015

Visual indication of

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

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

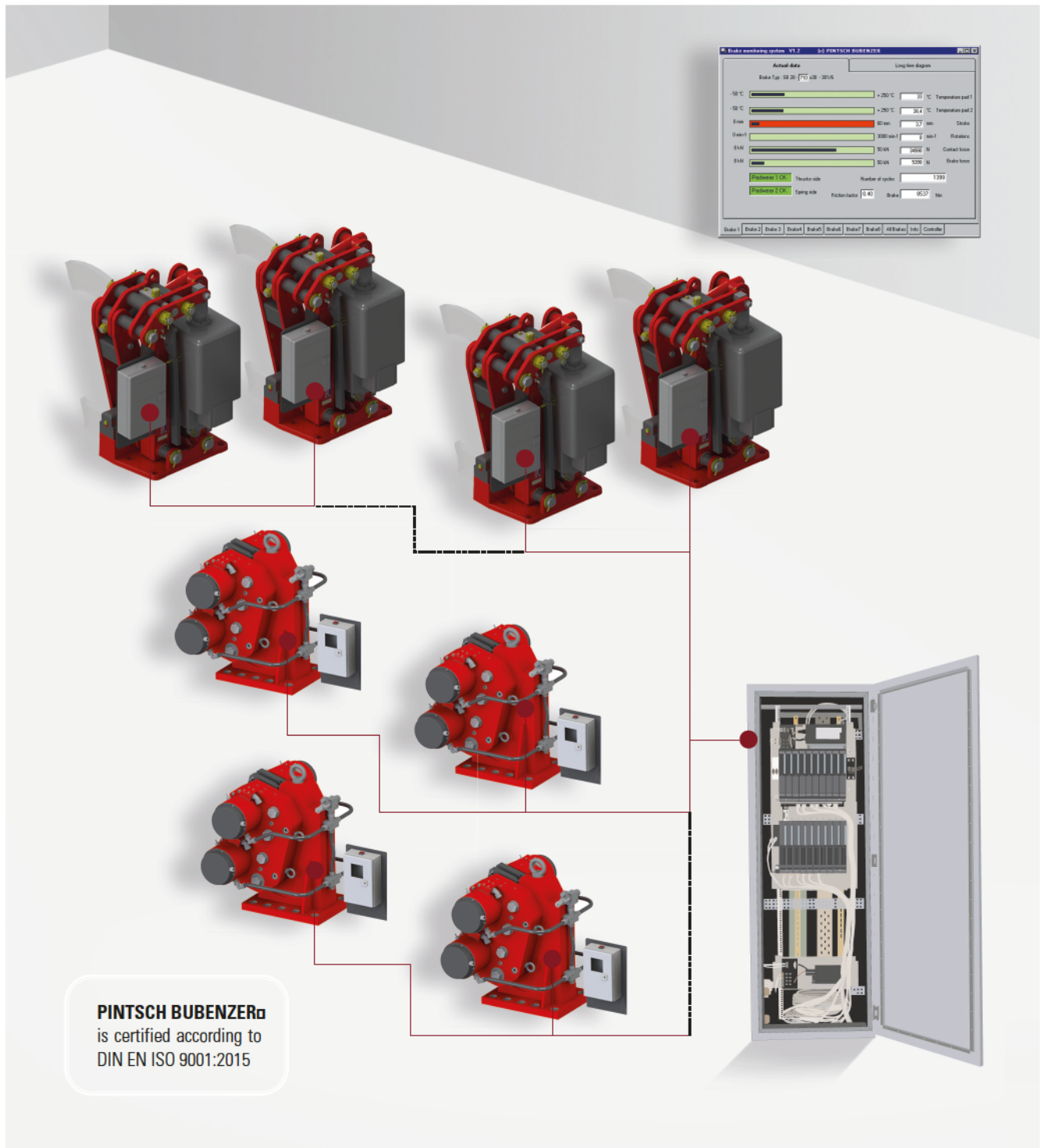
Main Features

- 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



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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

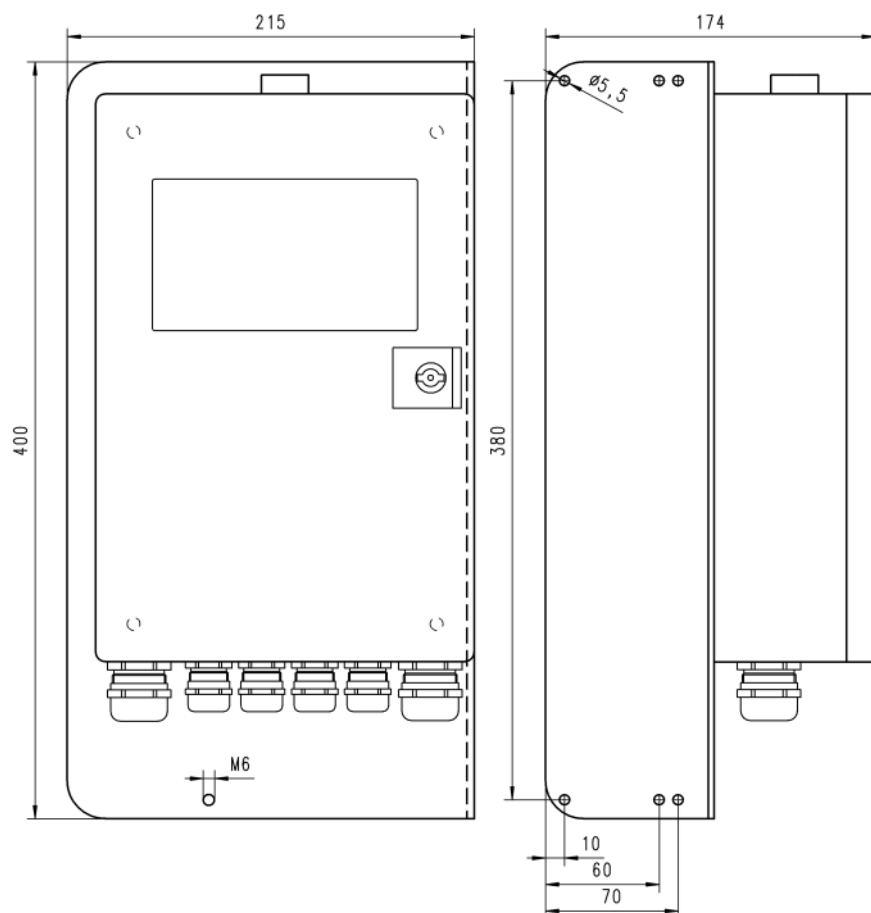
All these readings are logged by the CMB unit and transmitted for visualization. Visualization of sensor output can be provided by a stand-alone PC system or by combining the CMB with an existing crane operating / visualization system (e.g. via Profibus).

Monitoring System VSR2-SB/CMB2-SB

Dimensions and technical data

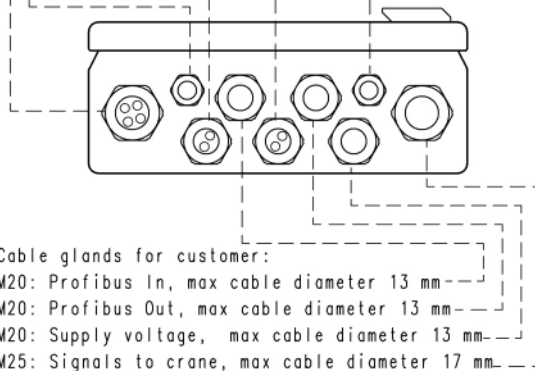


Rev. 12-06



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

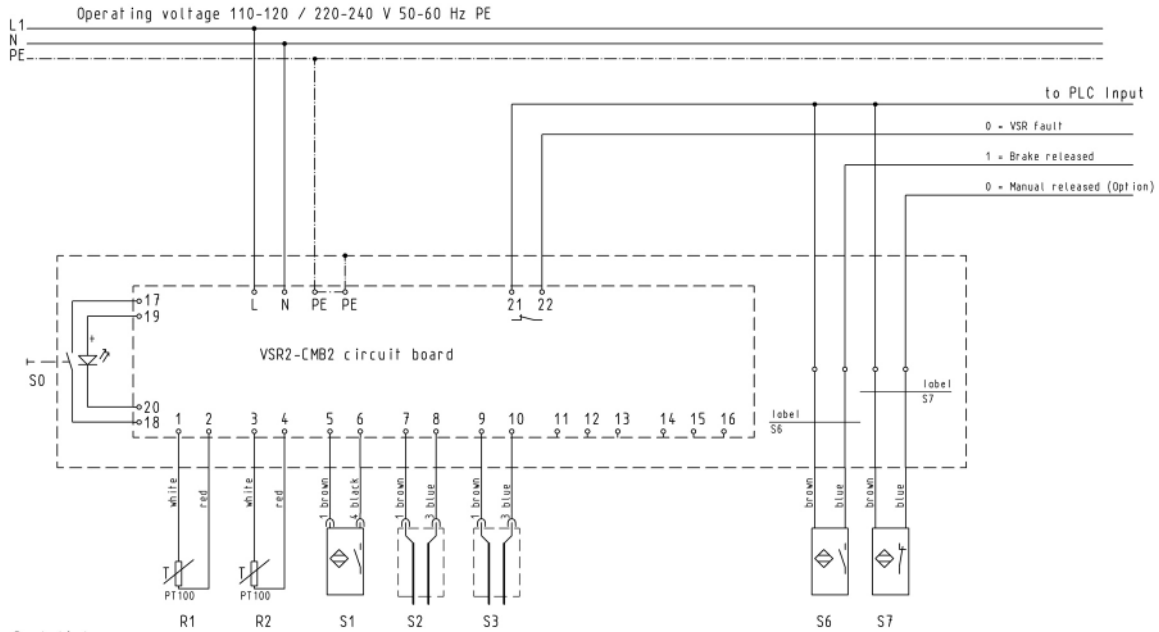
Remark: Force, Profibus In and Out only for CMB2

Monitoring System VSR2-SB/CMB2-SB

Dimensions and technical data



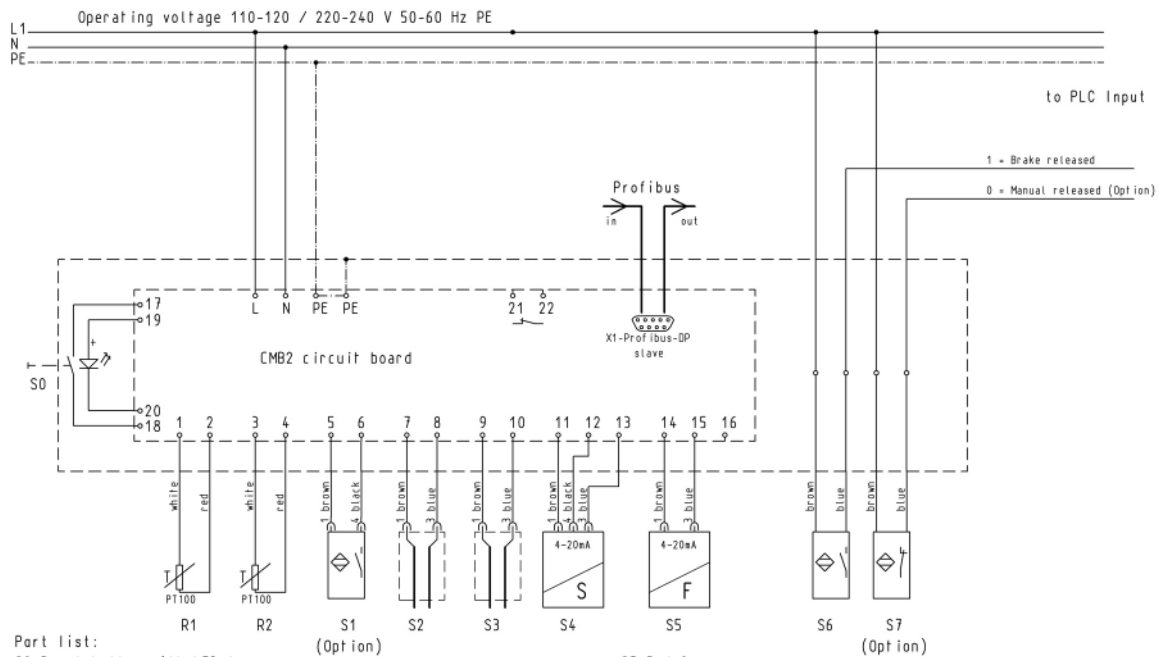
Rev. 09-02



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

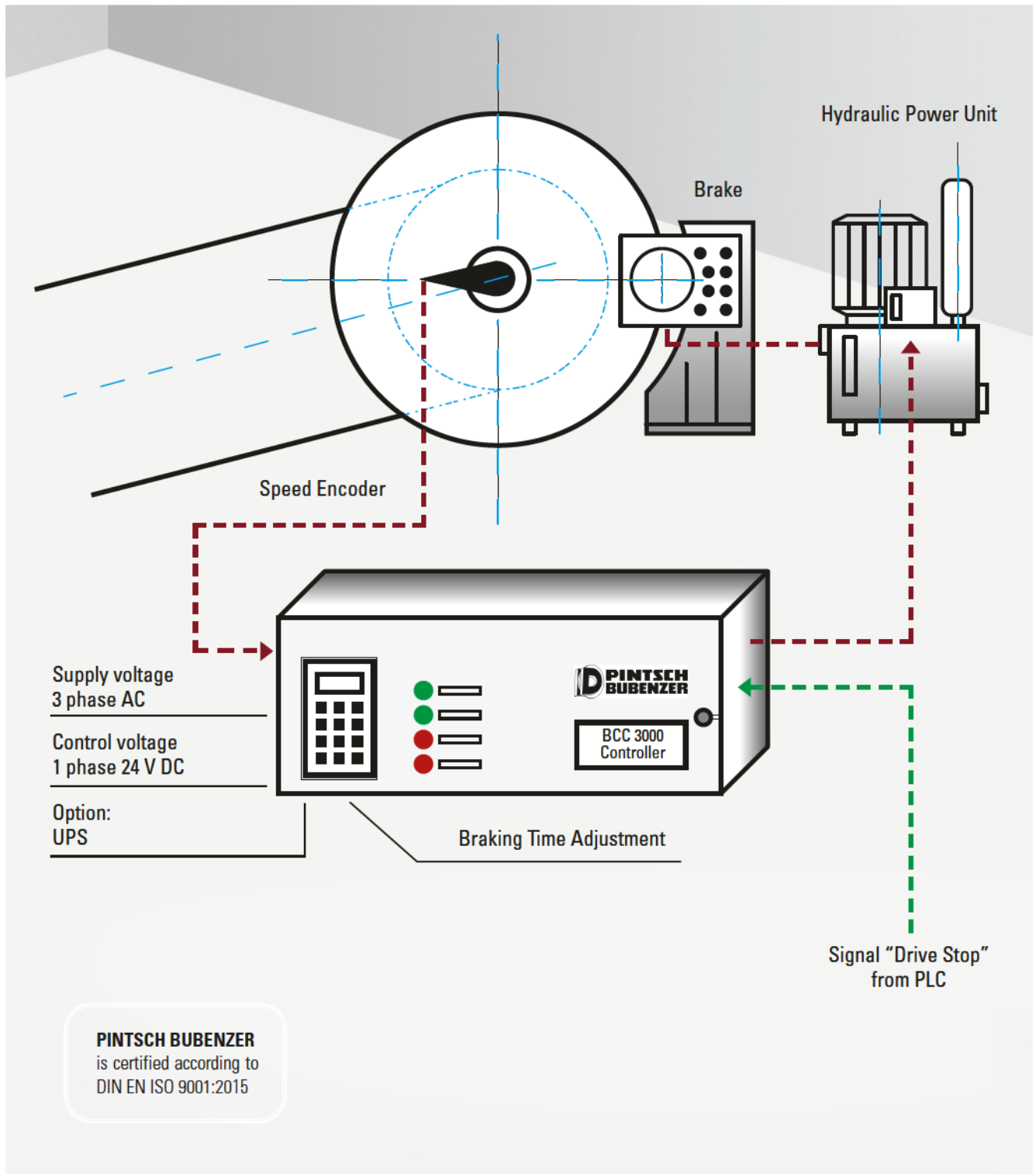


Part list:

- 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 BCC 3000



Controlled,
smooth braking



Braking time adjustable
independent of load



Synchronous braking of
several conveyor belts



Increased lifetime of
all drive components



Brake remains
failsafe!

Description BCC 3000



Main Features

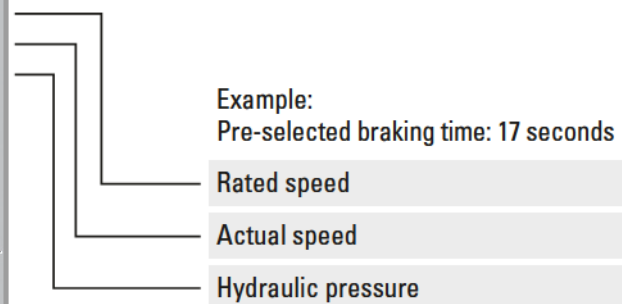
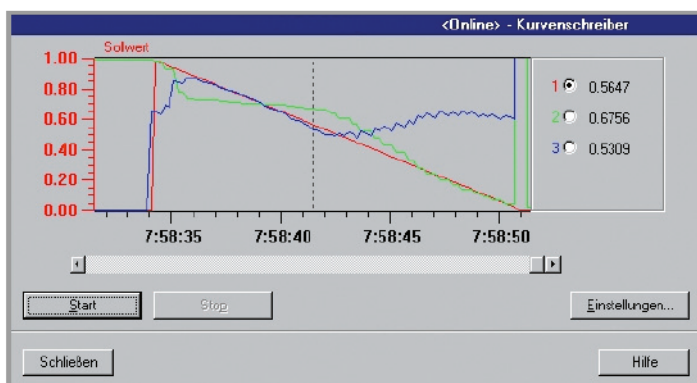
- The BCC 3000 control system is the ideal solution for a controlled braking of drives, especially on conveyor belts. By the concept of a closed loop control, whereby rated speed and actual speed are in permanent comparison, a drive can be stopped linearly independent of load always in the same (pre-selected) time
- The system consists of four components:
- A hydraulic power unit equipped with a proportional pressure valve for stepless variable operating pressure
- One or more hydraulic caliper brakes, operated by the hydraulic power unit
- A speed encoder, measuring the drive speed and submitting it to the controller
- The controller itself, equipped as an option with a UPS unit to ensure the closed loop control also in case of power cut-off

Functional Description

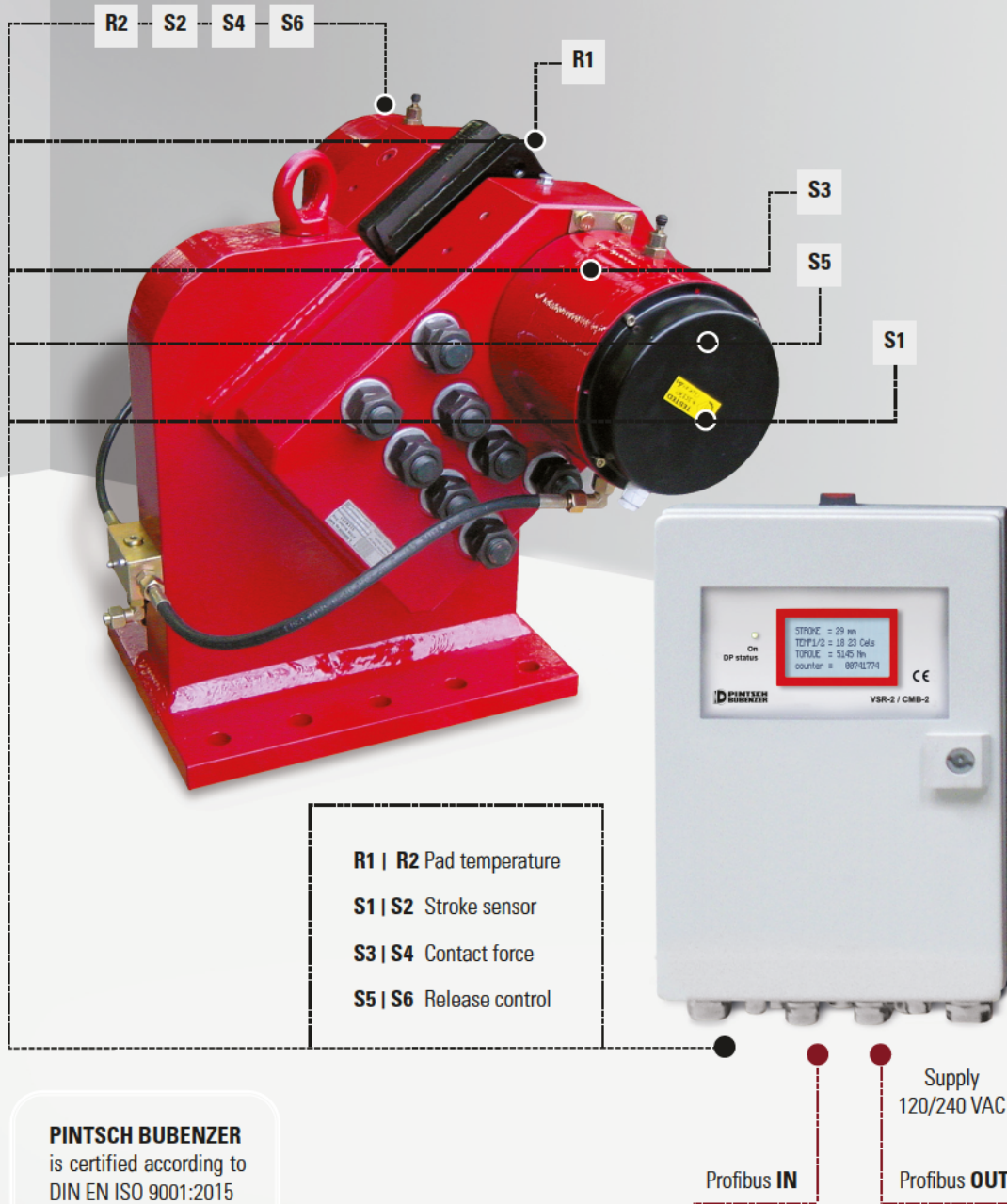
- The brakes are normally closed by the spring force. After activating the supply and control voltages and the signal "drive start" from the PLC, the hydraulic power unit opens the brakes. After switching off the drive by the "drive stop" signal from the PLC, the controller generates a time ramp for the rated speed. By comparison of rated speed with actual speed, the contact force of the brakes varies accordingly
- In case of decreased speed resulting from less load or inertia, the contact force of the brake is reduced. On overspeed, the system acts vice versa, i.e. the contact force is increased. At the end of the cycle, the hydraulic pressure goes to zero, and the drive is held with full brake torque

Advantages

- Less stress and increased lifetime for all drive components by the "smooth" braking
- Synchronous braking of several combined conveyor belts, avoids overfilling of belts on crossings due to different braking times
- Furthermore, within certain limits, variations of the friction coefficient between disc and lining are compensated by the continuous control of the brake contact force



Monitoring System CMB2-SF



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

Visual indication of			
Cylinder stroke < 2,5 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	Contact force

Description CMB2-SF



Main Features

Industrial display with 4 rows of 20 characters for indication of measurement data and error messages	Up to 5 m cable length from sensor to electronic box.
High ambient temperature range – 20°C.....+70°C (-4°F.....158°F)	Brake operation cycle counter
Protection class IP66	Supply voltage selection switch 115/230 V AC
Internal keypad for parameter change	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	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.
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.	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.
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.	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 Profi-bus is available, this contact can be connected to main control PLC input, to give a common error signal.
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.	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.
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.	

Options

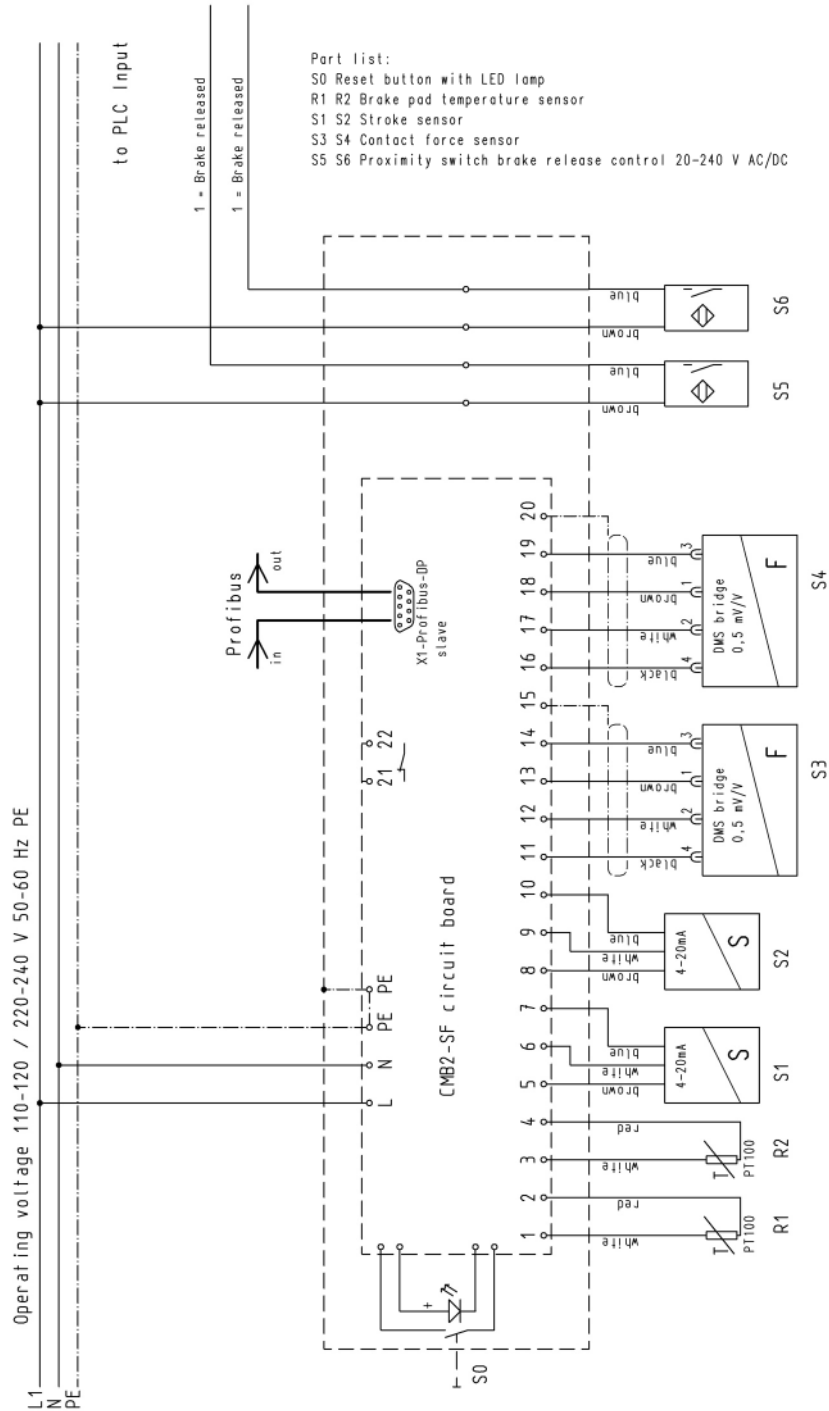
Stainless steel electronic box IP66 for outdoor use

Monitoring System CMB2-SF

Dimensions and technical data



Rev. 12-06

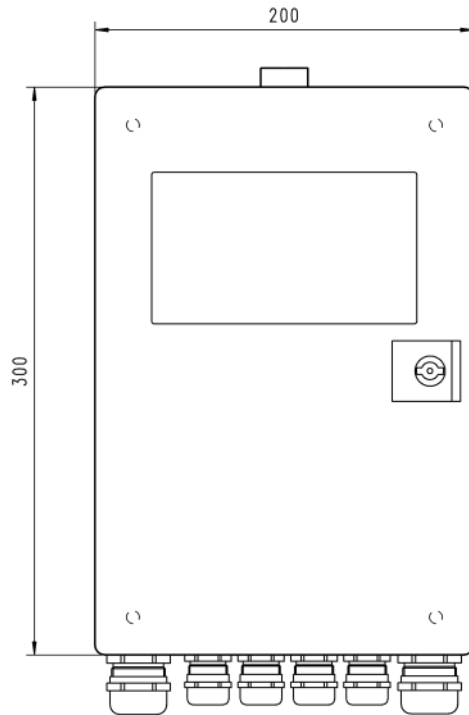


Monitoring System CMB2-SF

Dimensions and technical data

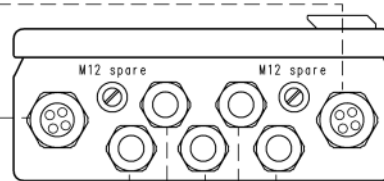


Rev. 09-02



Cable glands wired by PB:

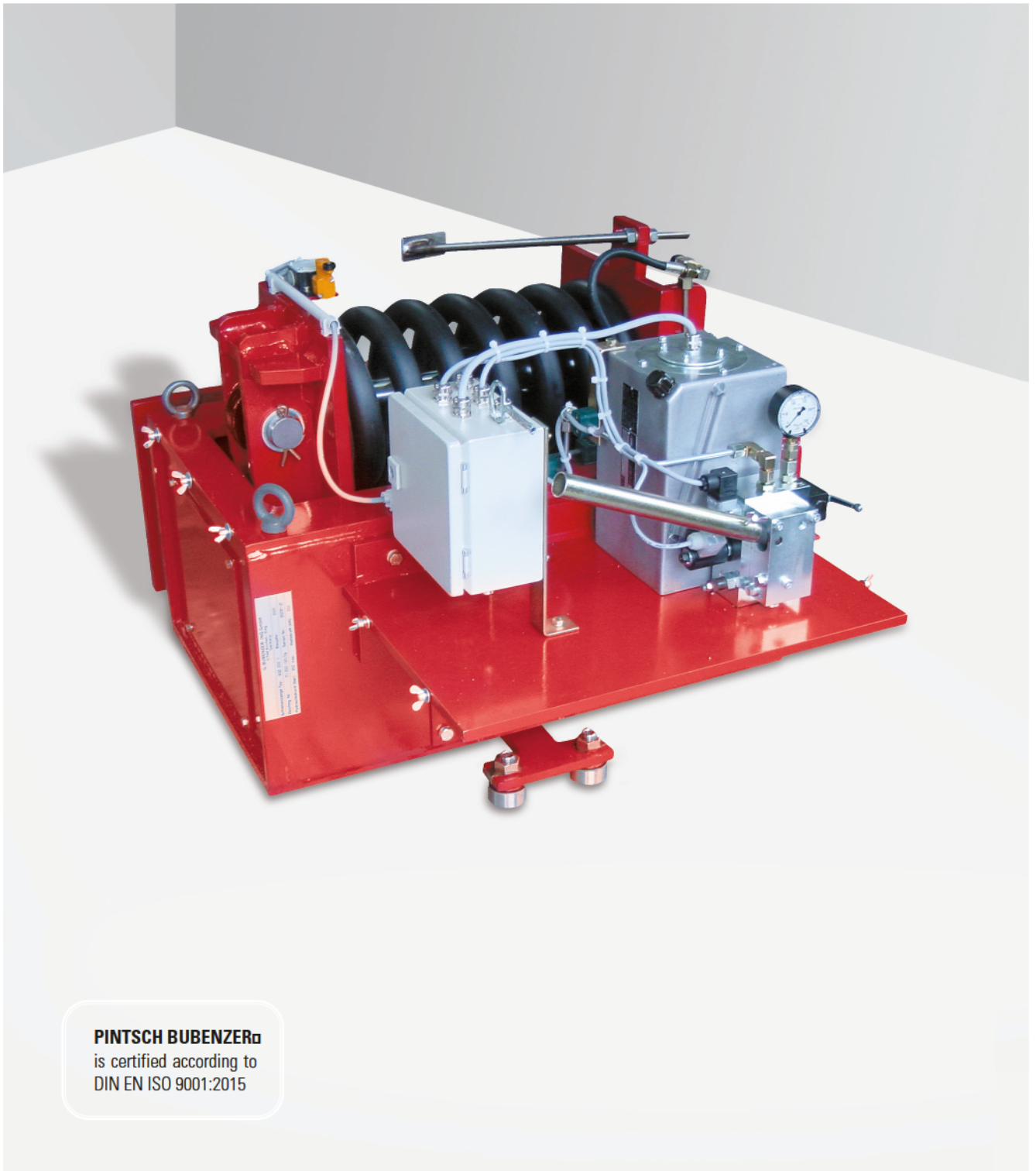
- M25: Stroke , Force, Temperature, Release control left side
- M25: Stroke , Force, Temperature, Release control right side



Cable glands free 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
- M20: Signals to crane, max cable diameter 13 mm
- M20: Release control, max cable diameter 13 mm

Rail Clamps Type BSZ



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



Safe



Tried and Trusted



High Performance



Robust



Easy Maintenance

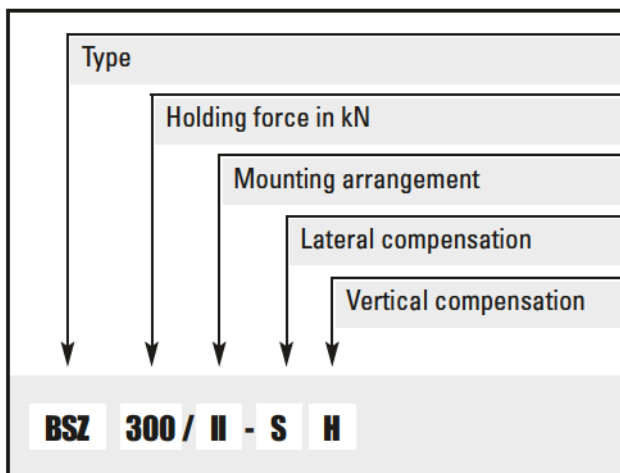
Description BSZ



Main Features

■	Rail clamp spring applied
■	Apply time: Continuously adjustable 3-12 seconds
■	Rail clamp hydraulically released
■	Hand pump for emergency release
■	Integrated hydraulic power unit, ready piped and wired to terminal box
■	Limit switch release control, mechanical or proximity type
■	Connection by flange on end face (BSZ/II)
■	Connection by flange on top (BSZ/III)
■	Static applications
■	Holding forces 100-400 kN
■	Lateral compensation ± 10 mm

Ordering Example



Options

■	Special mounting dimensions
■	Holding forces up to 1000 kN
■	Lateral compensation ± 25 mm
■	Vertical compensation ± 25 mm
■	Buffer connection
■	Rail sweeper
■	Operation of several rail clamps by one hydraulic power unit
■	Enclosures of stainless steel

Applications

As storm brake on all rail mounted equipment, e. g. cranes, stackers, reclaimers etc. Particularly when the rail is mounted above dock level or a rail channel is provided

Operating Restrictions

Rail clamps 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 rail clamp and its components



Please Note

We supply a detailed operating manual with every order. Nevertheless, we would point out that rail clamps are only as safe as the servicing and maintenance performed while they are in operation. The guarantee for the correct functioning of our rail clamps is therefore only valid if the user adheres to the German DIN standard 15019 part 1, table 5. Do not use rail clamps as dynamic brakes.



PINTSCH BUBENZER Service

This includes the installation and commissioning on site by PINTSCH BUBENZER service engineers, if required. Drawings as DWG/DXF files for your engineering department are available upon request.

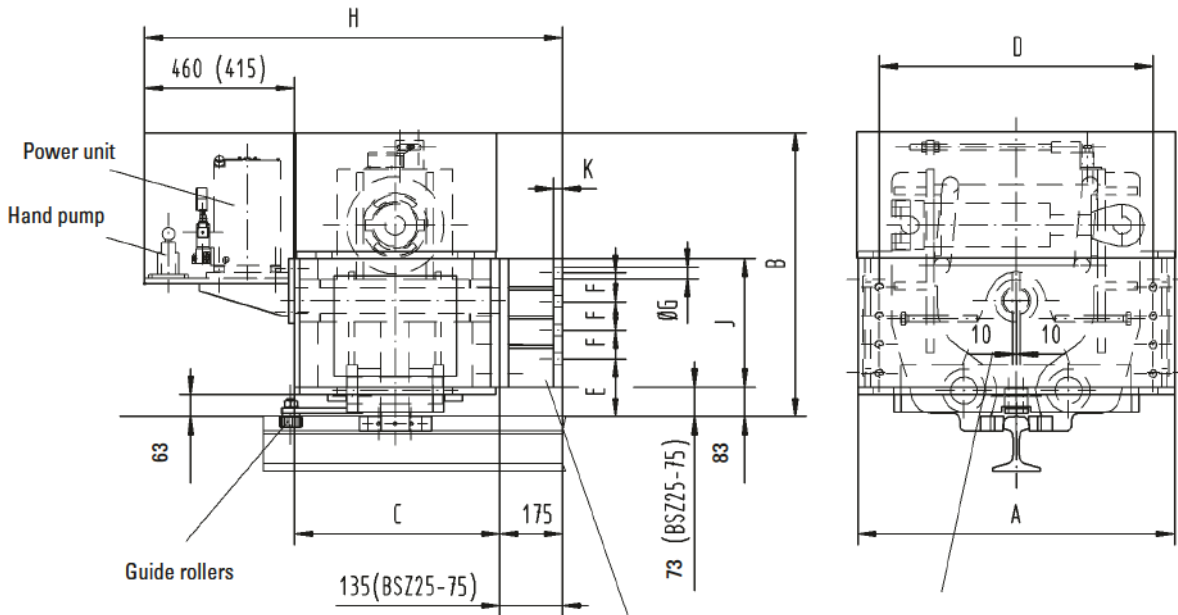
Rail Clamp BSZ/II

Dimensions and technical data



Rev. 10-08

Connection in combination with a flange on the end face



Lateral compensation ± 10 mm

Dimensions D,E,F,G,n and J by customer data or by table

n = Quantity of fixing holes

Type	Holding force kN	All dimensions in mm Alterations reserved without notice										
		A	B	C	D	E	F	G	H	J	n	K
BSZ 25/II	25	650	745	295	500	120	105	17	820	305	6	15
BSZ 50/II	50	650	745	295	500	120	105	21	820	305	6	20
BSZ 75/II	75	650	745	295	500	120	105	21	820	305	6	20
BSZ 80/II	80	690	755	470	500	133	100	21	1060	415	8	25
BSZ 100/II	100	690	755	470	500	133	100	26	1060	415	8	25
BSZ 120/II	120	690	755	470	500	133	100	26	1060	415	8	25
BSZ 140/II	140	690	755	470	500	133	100	30	1060	415	8	25
BSZ 150/II	150	880	790	575	800	120	90	30	1170	358	8	25
BSZ 200/II	200	880	790	575	800	120	90	33	1210	358	8	25
BSZ 250/II	250	880	790	575	800	120	90	33	1210	358	8	25
BSZ 300/II	300	880	790	575	800	120	90	33	1210	358	8	25
BSZ 400/II	400	880	790	575	800	120	90	33	1210	358	8	25

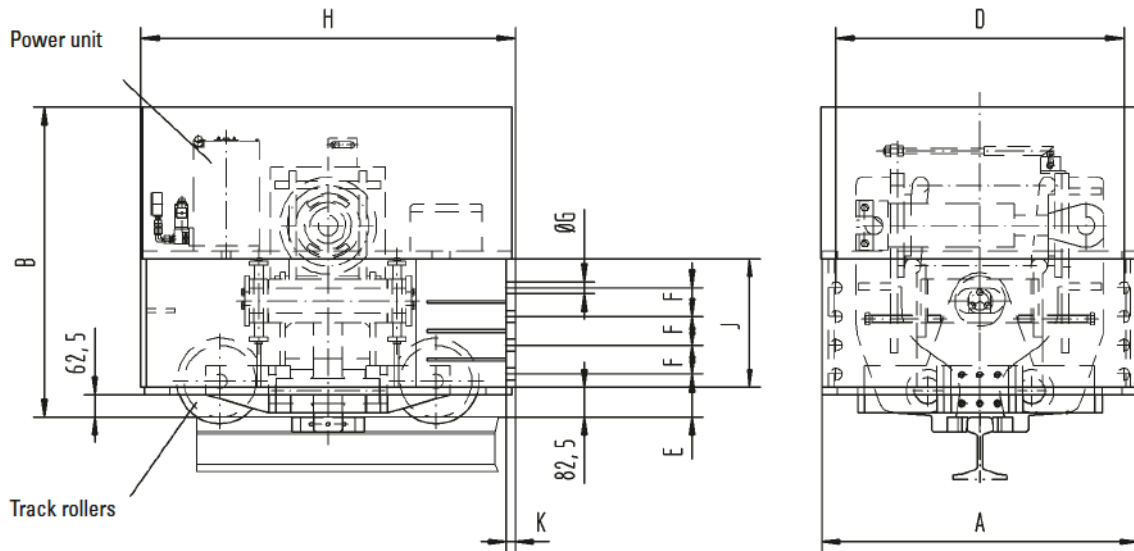
Rail Clamp BSZ/II-SH

Dimensions and technical data



Rev. 10-08

Connection in combination with a flange on the end face



Vertical compensation ± 25 mm
Lateral compensation ± 25 mm

Dimensions D,E,F,G,n and J
by customer data or by table

n = Quantity of fixing holes
m = ca. weight in kg

All dimensions in mm
Alterations reserved without notice

Type	Holding force	A	B	D	E	F	G	H	J	n	K	m
	kN											
BSZ 80/II	80	880	865	800	120	80	26	1040	368	8	25	780
BSZ 100/II	100	880	865	800	120	80	26	1040	368	8	25	820
BSZ 120/II	120	880	865	800	120	80	30	1040	368	8	25	830
BSZ 140/II	140	880	865	800	120	80	30	1040	368	8	25	830
BSZ 150/II	150	880	910	800	120	90	33	1115	368	8	25	1000
BSZ 200/II	200	880	910	800	120	90	33	1115	368	8	25	1060
BSZ 250/II	250	880	910	800	120	90	33	1115	368	8	25	1060
BSZ 300/II	300	880	910	800	120	90	33	1115	368	8	25	1060
BSZ 400/II	400	880	910	800	120	90	33	1115	368	8	25	1100

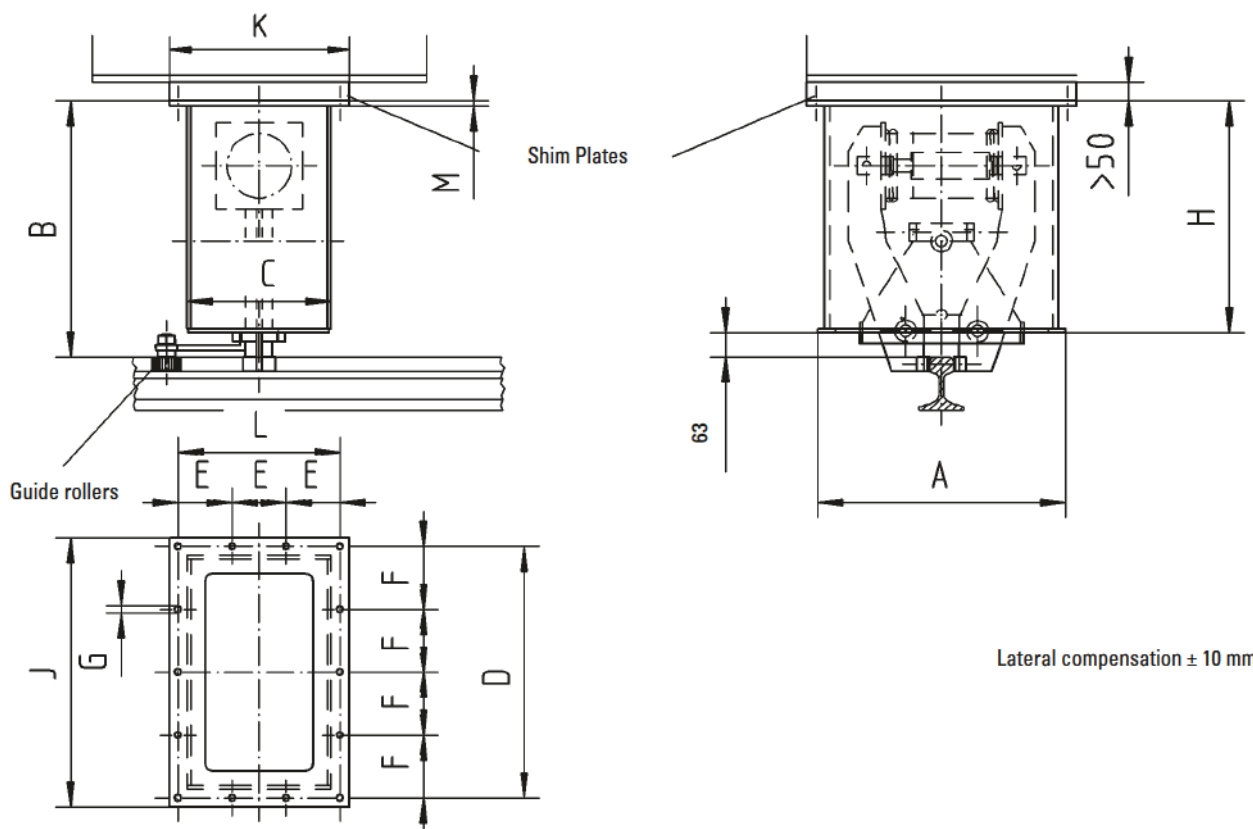
Rail Clamp BSZ/III

Dimensions and technical data



Rev. 10-08

Connection in combination with a flange on top



Lateral compensation ± 10 mm

Holding force

All dimensions in mm
Alterations reserved without notice

Type	kN	A	B	C	D	E	F	G	H	J	K	L	M
BSZ 25/III	25	640	698	390	700	150	175	22	635	750	500	450	20
BSZ 50/III	50	640	698	390	700	150	175	22	635	750	500	450	20
BSZ 75/III	75	640	698	390	700	150	175	22	635	750	500	450	20
BSZ 80/III	80	600	750	600	660	100	110	26	687	720	660	600	20
BSZ 100/III	100	600	750	600	660	100	110	26	687	720	660	600	20
BSZ 120/III	120	600	750	600	660	100	110	26	687	720	660	600	25
BSZ 140/III	140	600	750	600	660	100	110	26	687	720	660	600	25
BSZ 150/III	150	900	823	720	950	162	190	26	760	1040	900	810	30
BSZ 200/III	200	900	823	720	950	162	190	26	760	1040	900	810	30
BSZ 250/III	250	900	823	720	950	162	190	26	760	1040	900	810	30
BSZ 300/III	300	900	823	720	950	162	190	26	760	1040	900	810	30
BSZ 400/III	400	900	823	720	950	162	190	26	760	1040	900	810	30

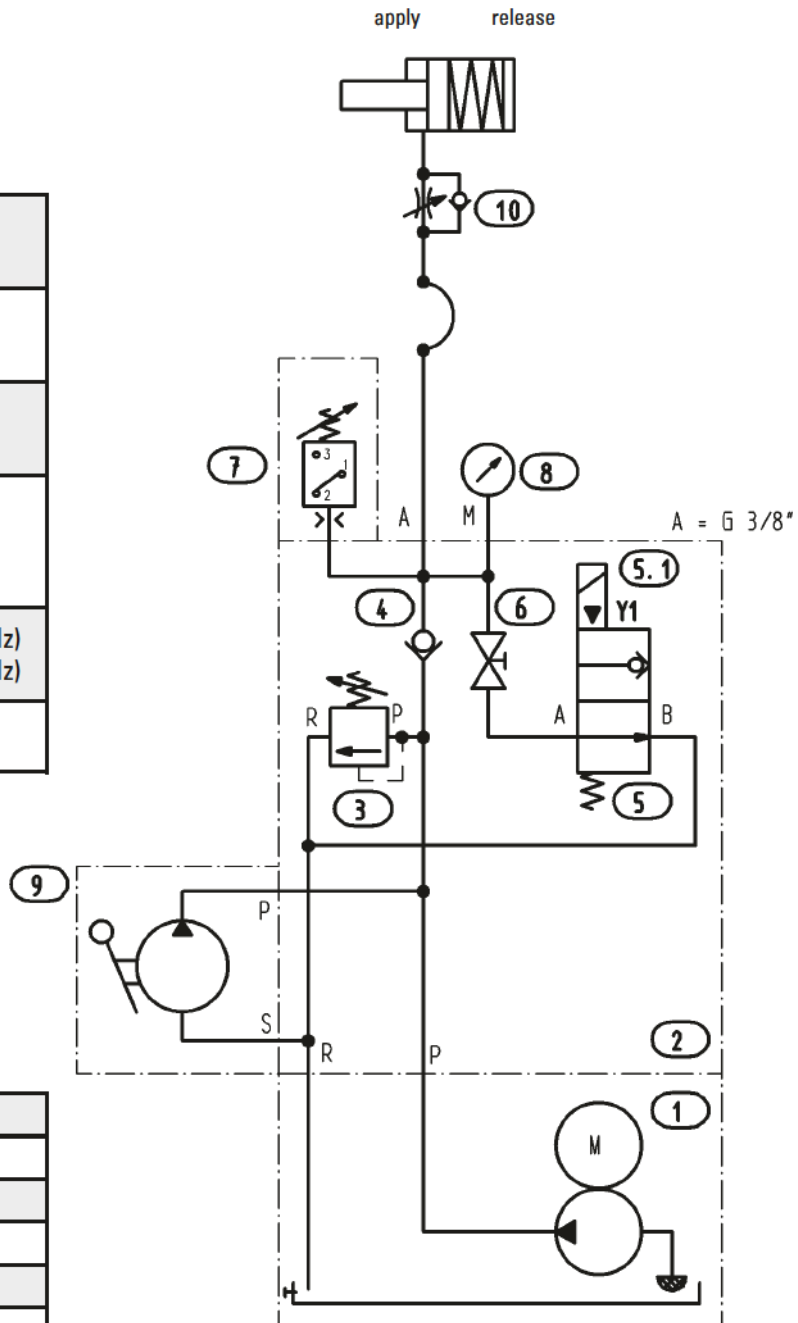
Rail Clamp BSZ

Hydraulic diagram



Rev. 09-02

Q:	4,25 l/min (50 Hz) 5,1 l/min (60 Hz)
p:	250 bar (50Hz) 210 bar (60Hz)
P:	1,1 kW (50 Hz) 1,3 kW (60Hz)
Control voltage:	24 V DC 110 V AC 230 V AC
Supply voltage:	360-440 V AC (50Hz) 380-480 V AC (60Hz)
Tank capacity:	5 Litres



Pos	Qty	Designation
1	1	Hydraulic power unit
2	1	Manifold block
3	1	Pressure valve
4	1	Check valve
5	1	2/2 valve
5.1	1	Plug
6	1	Cock
7	1	Pressure switch
8	1	Pressure gauge
9	1	Hand pump
10	1	Throttle check valve

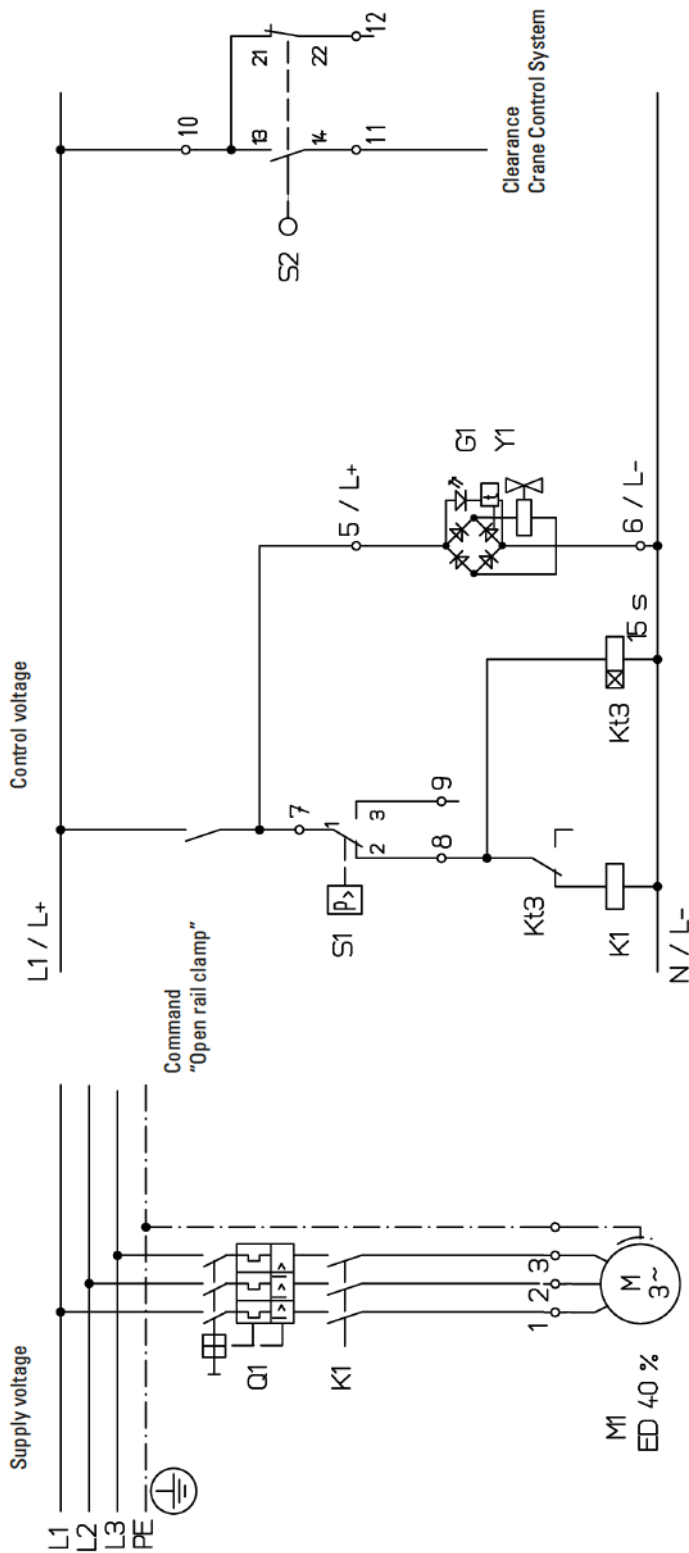
Alterations reserved without notice

Rail Clamp BSZ

Electric diagram



Rev. 09-02



PINTSCH BUBENZER scope of supply	
M1	Hydraulic motor 3 Ph, ED = 40%
Y1	Solenoid valve
G1	Plug
S1	Pressure switch
S2	Limit switch release control

Alterations reserved without notice

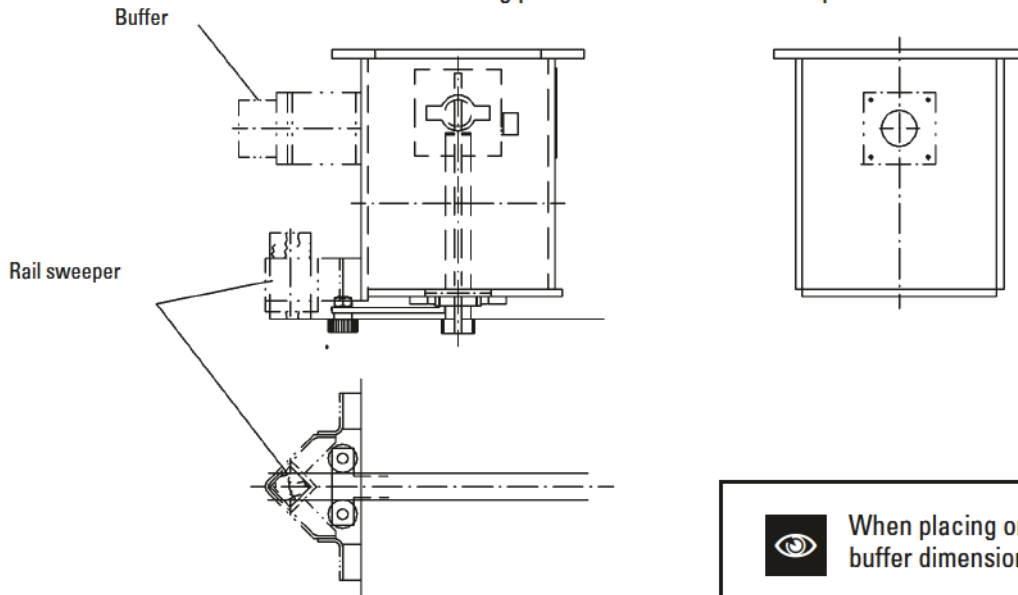
Rail Clamp BSZ

Mounting and rail position



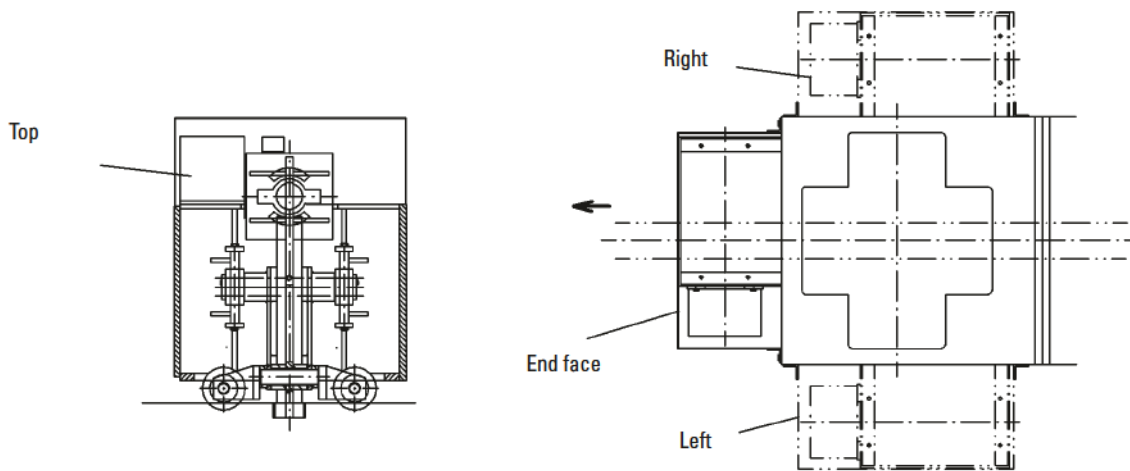
Rev. 09-02

Mounting position buffer and rail sweeper

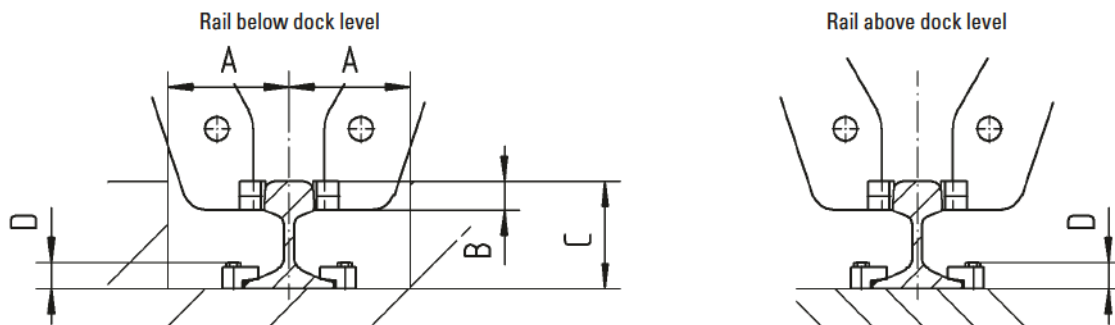


When placing order please indicate buffer dimensions and buffer force.

Mounting position hydraulic power unit



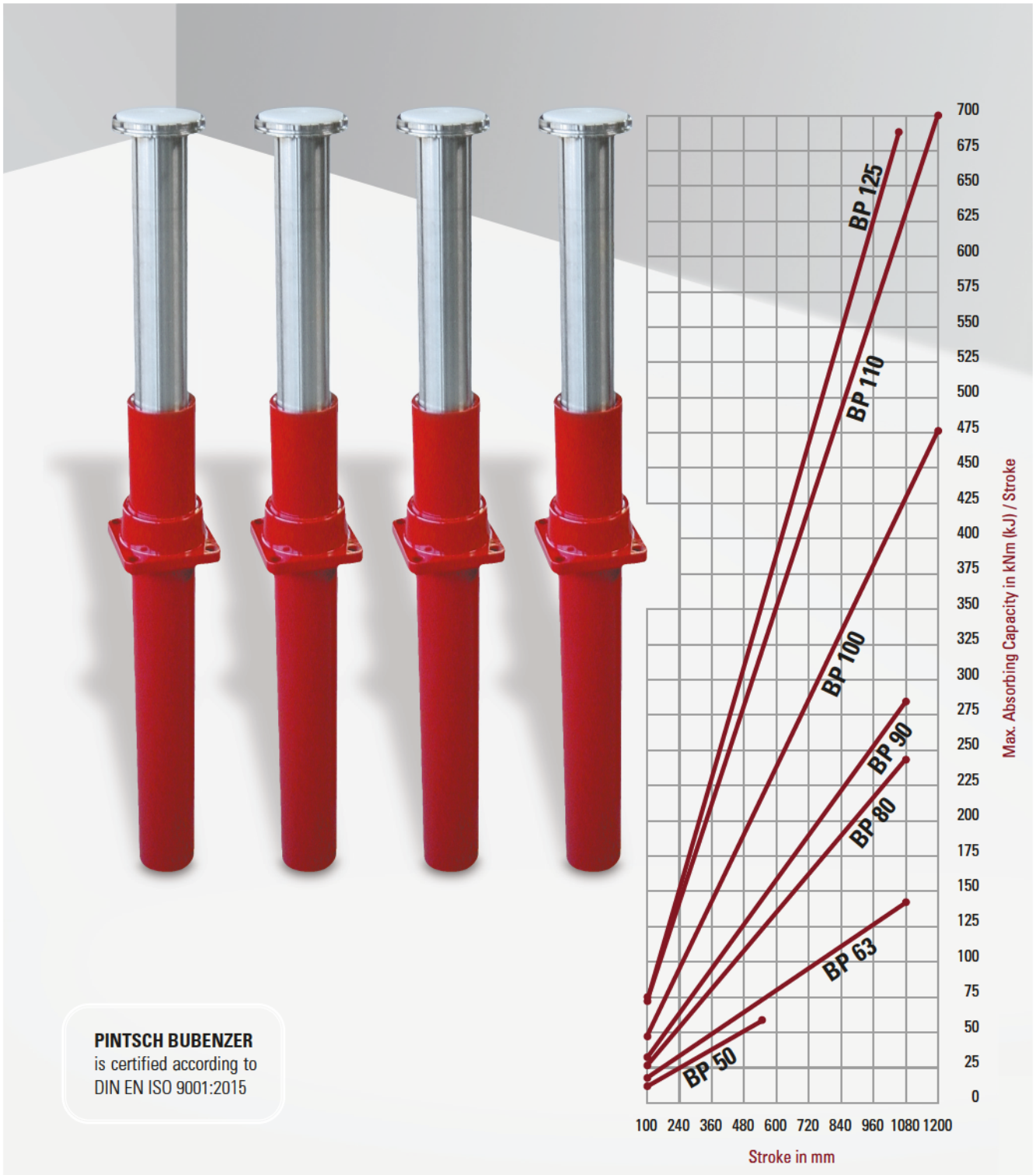
Rail arrangement



When placing order please indicate dimensions A, B, C and D.

Alterations reserved without notice

Gas-Hydraulic Buffer BP



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




Reliable



Efficient



Low Maintenance



Robust Construction

Description BP Buffer



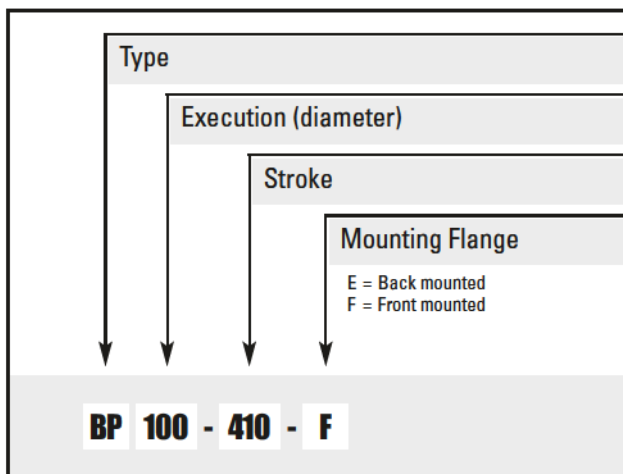
Main Features

- Piston and cylinder of special seamless pipes
- Back mounted or front mounted versions available
- Piston special hard chrome plated
- Seawater 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

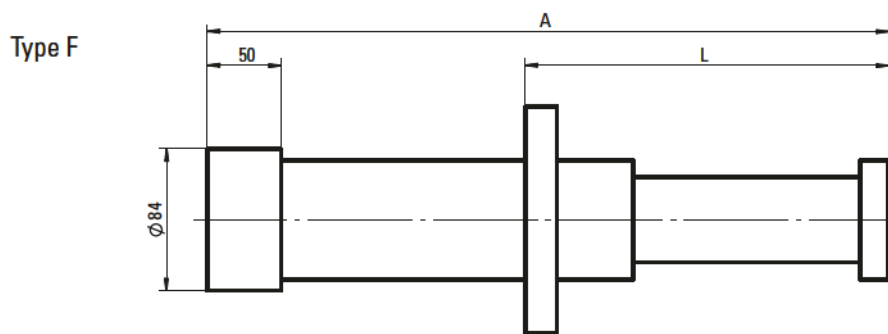
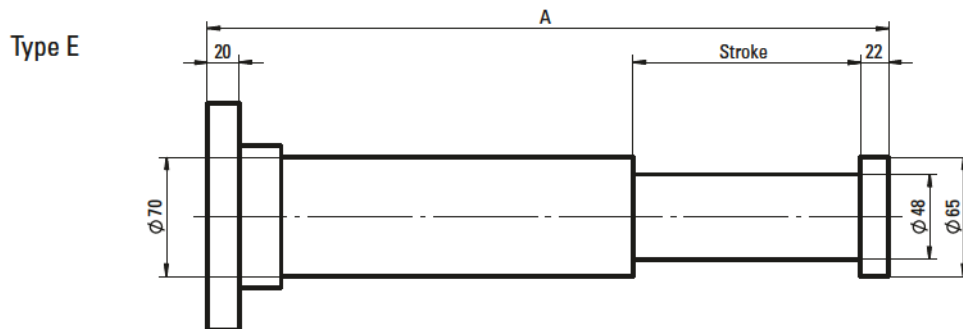
This includes the verification of the brake selection, if required. A detailed questionnaire is provided for this purpose. Installation and commissioning on-site by PINTSCH BUBENZER service engineers is possible. Drawings as DWG/DXF files for your engineering department are available upon request.

Buffer Type BP 50

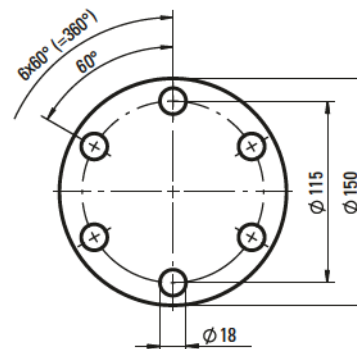
Dimensions and technical data



Rev. 04-14



Flange:



E = Back mounted
F = Front mounted

All dimensions in mm
Alterations reserved without notice

Stroke mm	Energy / Stroke E / F kJm (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.

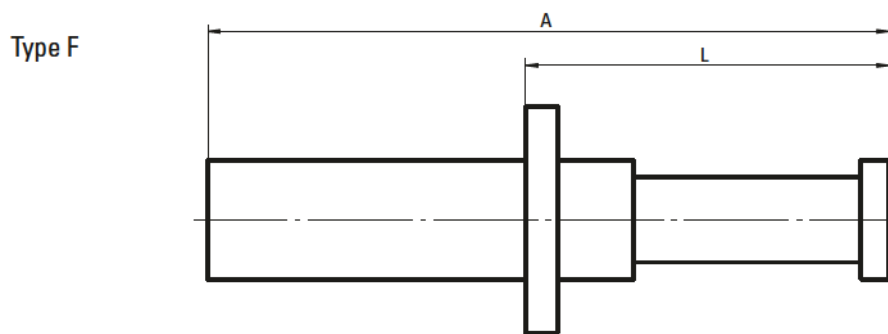
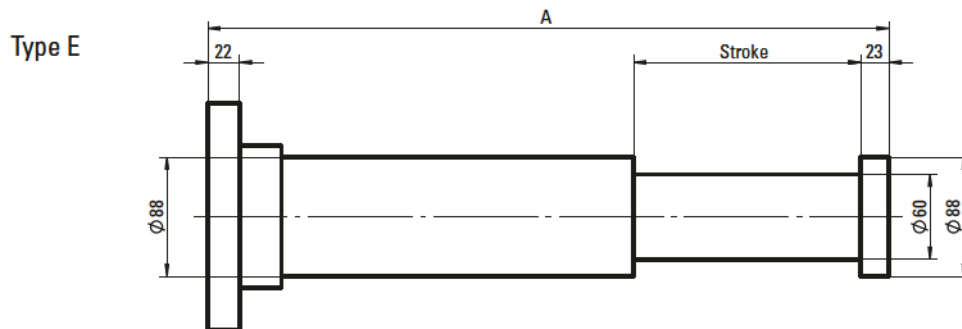
** Relating to the max. permissible damping force

Buffer Type BP 63

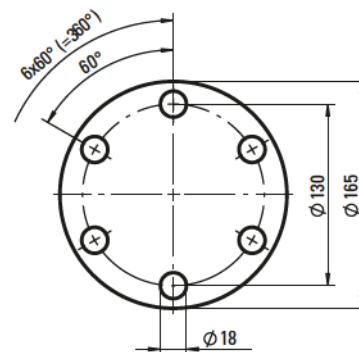
Dimensions and technical data



Rev. 05-14



Flange:



E = Back mounted
F = Front mounted

All dimensions in mm
Alterations reserved without notice

Stroke mm	Energy / Stroke E / F kJNm (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.

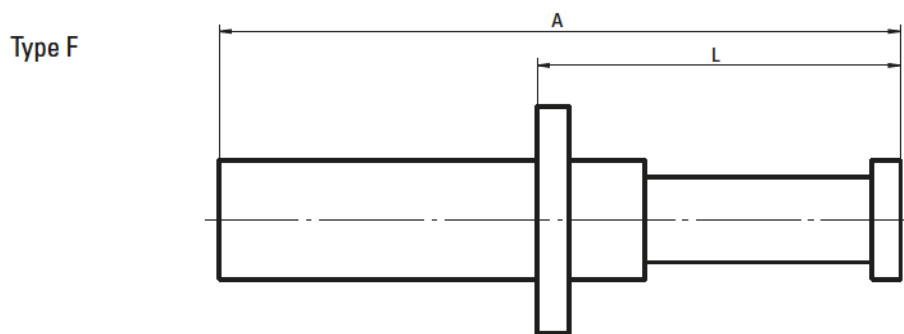
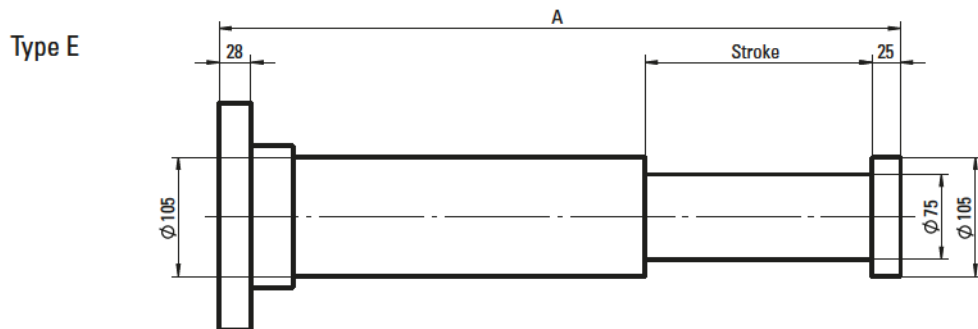
** Relating to the max. permissible damping force

Buffer Type BP 80

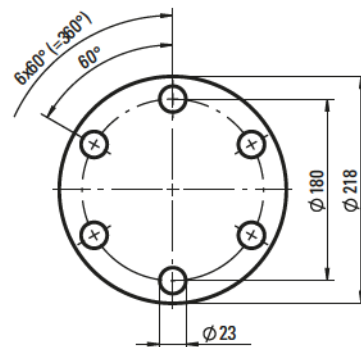
Dimensions and technical data



Rev. 05-14



Flange:



E = Back mounted
F = Front mounted

All dimensions in mm
Alterations reserved without notice

Stroke mm	Energy / Stroke E / F kJm (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.

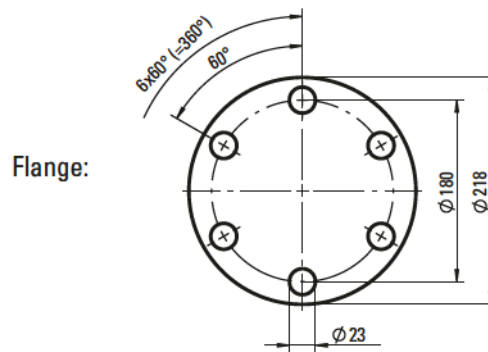
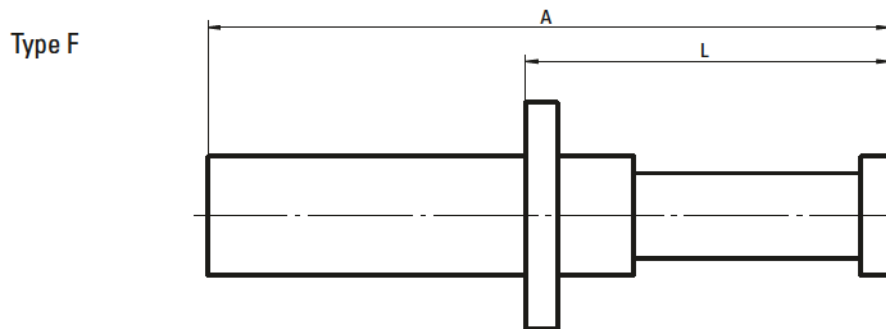
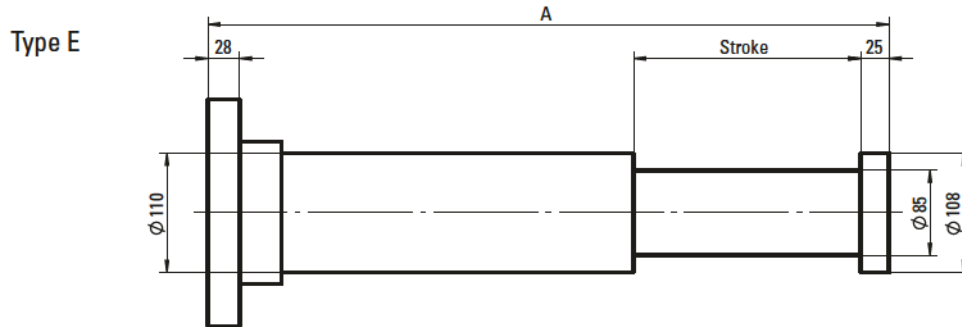
** Relating to the max. permissible damping force

Buffer Type BP 90

Dimensions and technical data



Rev. 05-14



E = Back mounted
F = Front mounted

All dimensions in mm
Alterations reserved without notice

Stroke mm	Energy / Stroke E / F kJm (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.

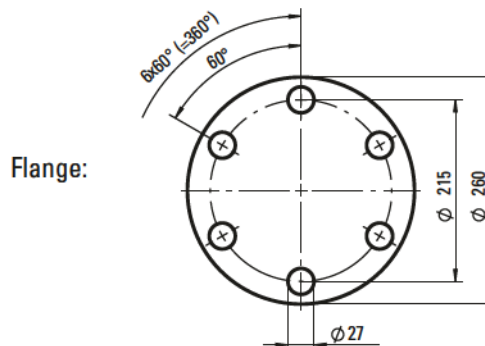
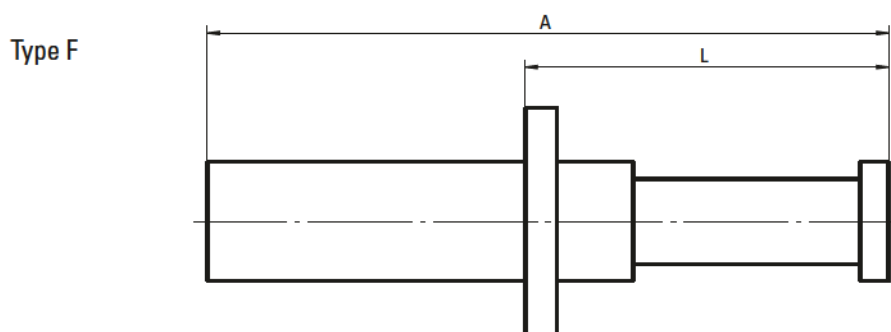
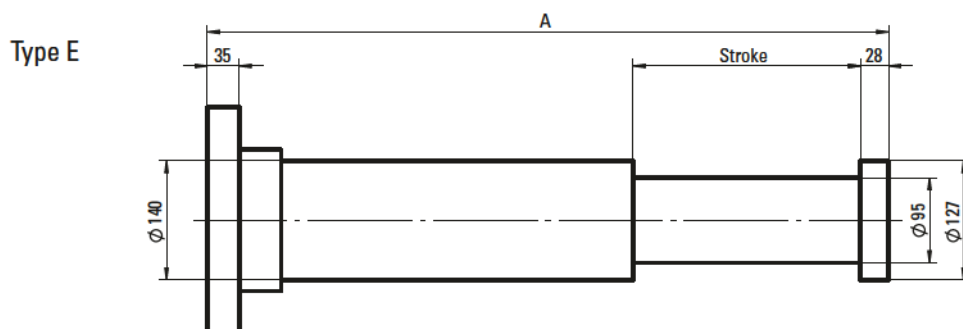
** Relating to the max. permissible damping force

Buffer Type BP 100

Dimensions and technical data



Rev. 05-14



E = Back mounted
F = Front mounted

All dimensions in mm
Alterations reserved without notice

Stroke mm	Energy / Stroke E / F kJNm (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.

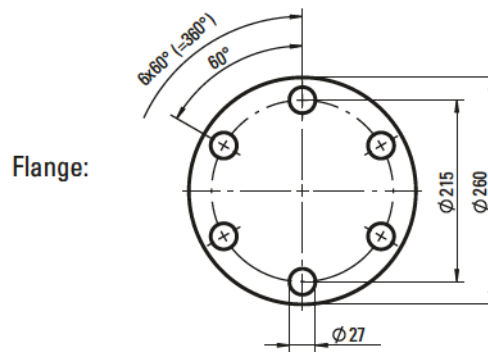
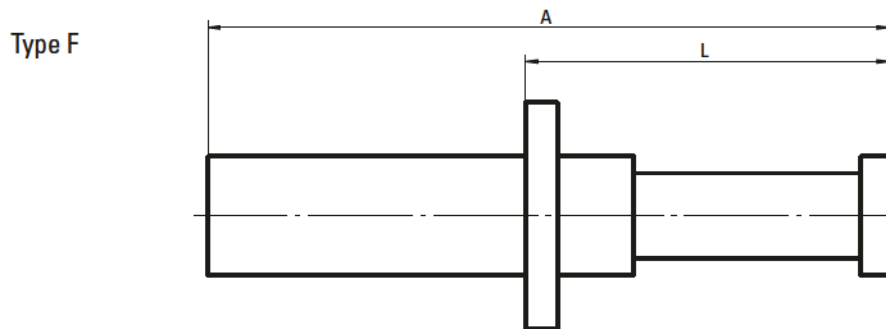
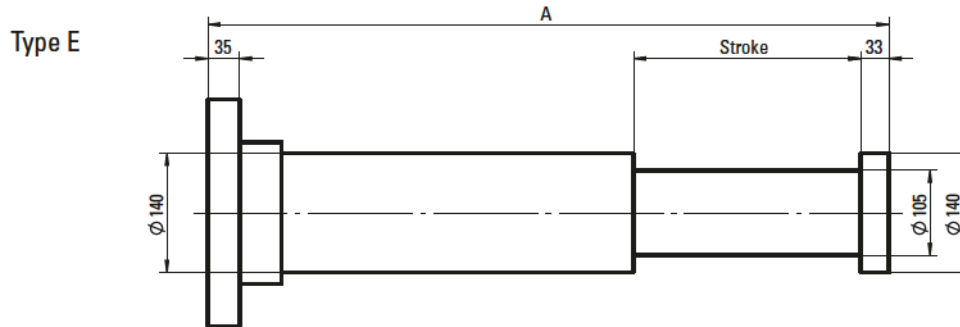
** Relating to the max. permissible damping force

Buffer Type BP 110

Dimensions and technical data



Rev. 05-14



E = Back mounted
F = Front mounted

All dimensions in mm
Alterations reserved without notice

Stroke mm	Energy / Stroke E / F kJm (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

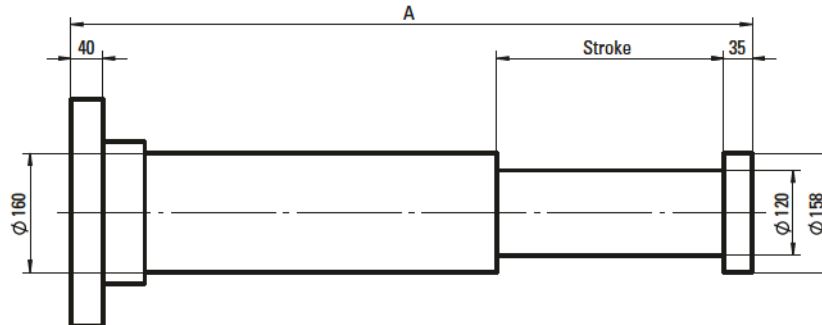
Buffer Type BP 125

Dimensions and technical data

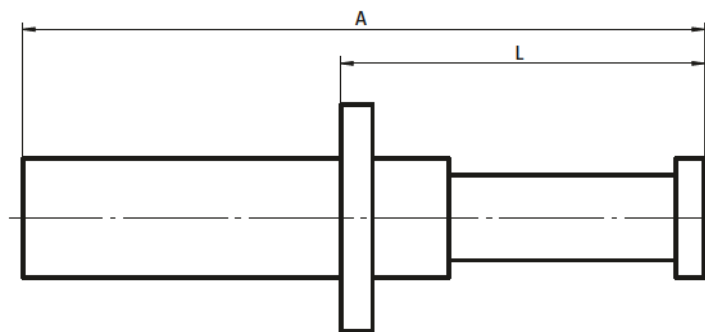


Rev. 05-14

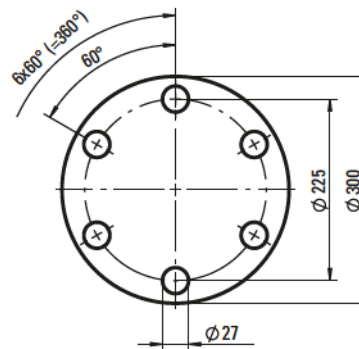
Type E



Type F



Flange:



E = Back mounted
F = Front mounted

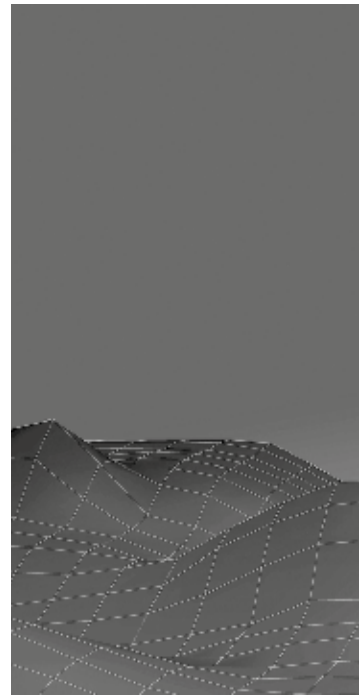
All dimensions in mm
Alterations reserved without notice

Stroke mm	Energy / Stroke E / F kJm (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.

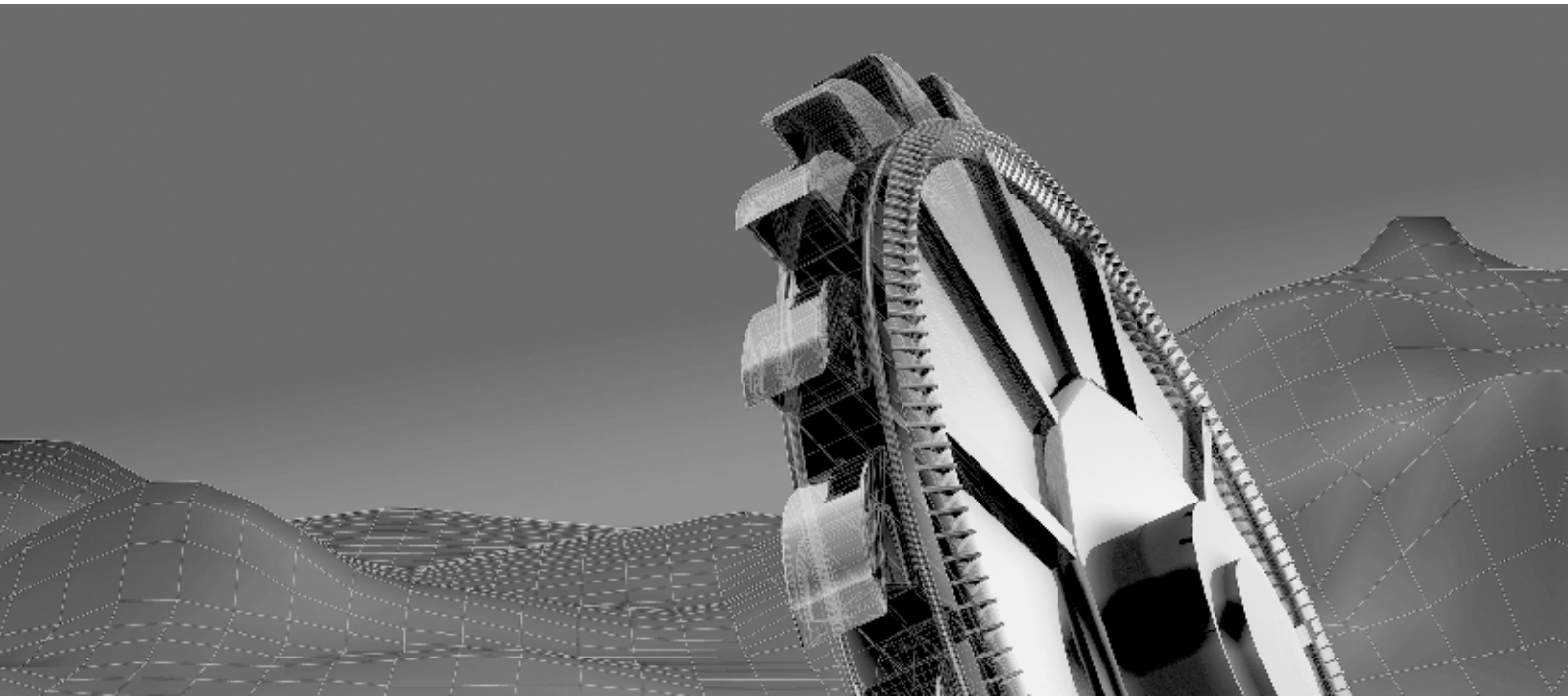
** Relating to the max. permissible damping force



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3rd edition

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