# **SIBRE –** the world of industrial brakes

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### STORMBRAKES

The SIBRE Siegerland Bremsen GmbH is a worldwide operating, medium-sized company

of traditions with meanwhile over 60 years of company history. From the very first the company engages in the development and production of brake systems for the industry. Right from the start value was set on technical innovation, the most modern manufacturing technology and high customer use. Production procedures are continuously supervised by a quality management system. The aim of the product development is an optimum combination of a top-quality product, the easiest use and market-driven price both for plant engineers and plant operators.

BRE-



### the world of industrial brakes



### CONCEPTION

With a Team of experienced engineers and service technicians we have the knowledge to stand behind our slogan "Sure to be Safe". Through this knowledge and experience the SIBRE Team has a complete understanding of Braking System requirements, and the consequences of an inferior or flawed product. SIBRE has the flexibility to design, build, and test in our own facility, allowing free thinking ideas and concepts to be realized.

### ENGINEERING

Based on the collective decades of experience, our engineers, technicians, and input from our customers, the SIBRE R & D department, can develop, manufacture and test products heavy industry can rely on. Using state of the art software and the latest innovative hardware, the SIBRE Team can achieve optimal products. From innovative concepts to detailed construction plans, our R & D department consistently develops reliable SIBRE Products.



### PRODUCTION

With a well-trained, long-standing team, and a newly expanded modern production hall, SIBRE is producing quality. From individual components and parts to final assembly, SIBRE stands firm on sustainable product quality.



### QUALITY

Being ISO 9001 certified, SIBRE is guaranteeing the highest quality of each individual part and the entire brake assembly. With the most currently available measuring and testing equipment, the SIBRE Team has the capability to check for raw material properties and dimensional accuracy, on each critical component. These capabilities ensure the functional reliability customers have come to depend on from SIBRE.



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### INTERNATIONAL PRESENCE

With 11 offices strategically placed on all continents, SIBRE is truly a renowned Global Player.

We pride ourselves in being a reliable partner for safety relevant components. Through our well-established sales and service locations, we have created solid cooperation, that often exceed customer expectations. Among the industries we support, Container and Material Handling, Mining and Metals, Forestry, Oil and Gas, Wastewater Treatment, Movable Bridges, and Hydropower to name a few, SIBRE's well-situated locations allow for responsive action to serve our customers.

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### CONCEPTION & ENGINEERING



### CONCEPTION

Sure to Be Safe. The SIBRE slogan and motto. Realizing People's lives depend on the safest working environments, in some of the most inhospitable places, the SIBRE Team is consistently discussing, consulting, analyzing, and verifying ideas to create new components and systems. Sure to Be Safe. The lives of real people depend on it. This ever-flowing conversation is not just an internal practice; we actively seek input from industry. We engage industry leaders, engineering and consulting firms, and the all-important persons responsible for maintaining equipment.

These cooperative discussions create a true partnership between manufacturer and user. The ability of our product developers to engage dynamic thinkers allow the best possible solutions.

### for **innovative** brake-systems



### SIBRE







### ENGINEERING

Implementing ideas and concepts belong to the dynamic engineering team at SIBRE.

This energizing team is always on the mission to safeguard people and equipment. The redesigning of our products is as important as bringing to life new concepts.

With the availability of the most modern hardware and software the engineering team has made the tried and true SIBRE range more efficient and maintenance friendly. This dynamic group of engineers is an important part of SIBRE being a global supplier in the world of industrial brakes, couplings and crane wheels.

Made in Germany, standing behind the heritage of German Engineering.

### PRODUCTION & QUALITY made in Germany



### PRODUCTION

With a steadily expanding product offering, the extending global network of offices and activities, so to the SIBRE production facilities grow. Our machining facility in Haiger/Germany and our assembly plant, just up the road in Eschenburg/Germany, have also been growing. Both facilities have seen significant modernization and expansion to accommodate the demand for highly engineered integral products. Since 2018 several new lines have been installed. Our central production plant located in Haiger, Germany boasts several stateof-the-art CNC machines. These additions allow for tighter control of production and faster response times to customer requirements. This growth has afforded SIBRE the honor of being a good steward to our local communities, and continuing the solid reputation Made in Germany has been known for the world over for.











### QUALITY

High-quality, reliable braking systems and drive components require a consistent quality standard.

With our internal development and simulation laboratory, both individual components and fully assembled systems are put through their paces. In addition to function and load simulation, we also focus on checking, reaction times, material properties and dimensional accuracy. SIBRE quality – made in Germany

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## **HYDRAULIC RAIL PUSHER**



### HYDRAULIC RAIL PUSHER RPS 200 & 300

M 1501 335 E-EN-2017-10





HYDRAULI	C DATA:
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medium:

HLP-hydraulic oil DIN 51524-T2
HLP Synth 32 standard

- temperature range: (-15°C.....+40°C)
- we recommend: SIBRE-hydraulic power packs V3.B \*) for RPS 200 V3.C \*) for RPS 300 with electronic control box acc. data sheet M 1501 264 E

\*) max. 4 brakes per power pack dimensional drawings upon request

Туре	H1 mm	H2 mm	B1 mm	+T mm	-T mm	D1 mm	D2 mm	D3 mm	D4 mm	W1	n x W
RPS 200	530	64,5	125	+9	-9	455	406	30	397	22,5°	8 x 45°
RPS 300	630	64,5	125	+9	-9	455	406	30	397	22,5°	8 x 45°
Туре	Holdin	g force	Holdi	ng force at ail toleranc	max. :e	Release	pressure	max. op pres	erating sure	Hydraulic- connection	Weight
			+T		-T			•			
RPS 200	100 kN 120 kN 75 kN					110	bar	150	bar	3/8"	395 kg
RPS 300	160 kN 180 kN 135 kN					160	bar	205	bar	3/8"	440 kg



### HYDRAULIC RAIL PUSHER RPS 450

### M 1501 354 E-EN-2017-10





### HYDRAULIC DATA:

medium:	HLP-hydraulic oil DIN 51524-T2 HLP Synth 32 standard
temperature range:	(-15°C+40°C)
we recommend:	SIBRE-hydraulic power pack V3.D *) for RPS 450 with electronic control box acc. data sheet M 1501 264 E
	*) may / brakes per nower pack

\*) max. 4 brakes per power pack dimensional drawings upon request

Туре	H1 mm	H2 mm	B1 mm	+T mm	-T mm	D1 mm	D2 mm	D3 mm	D4 mm	W1	n x W
RPS 450	700	74,5	200	+7,5	-7,5	550	500	27	457	-	8 x 45°
Туре	Holdin	g force	Holdi ra	ng force at ail toleran	t max. ce	Release	pressure	max. op	erating	Hydraulic-	Weight
			+T		-T			P1 00	Sare	connection	
RPS 450	225 kN 299 kN 148 kN				148 kN	145	bar	175	bar	1/2"	670 kg



### HYDRAULIC RAIL PUSHER RPS 610

M 1501 448 E-EN-2017-10





medium:

HLP-Hydraulic oil DIN 51524-T2
HLP Synth 32 standard

- temperature range: (-15°C.....+40°C)
- we recommend: SIBRE-hydraulic power pack V3.C \*) for RPS 610 with electronic control box acc. data sheet M 1501 264 E

\*) max. 4 brakes per power pack dimensional drawings upon request

Туре	H1 mm	H2 mm	B1 mm	+T mm	-T mm	D1 mm	D2 mm	D3 mm	D4 mm	W1	n x W
RPS 610	700	74,5	200	+7,5	-7,5	600	520	33	457	22,5°	8 x 45°
Туре	Holdin	g force	Holdi ra	ng force at ail toleranc	max. :e	Release	pressure	max. op	erating	Hydraulic-	Weight
			+T		-T			pr 00	Sure	connection	
RPS 610	275	kN	346 kN		200 kN	165	bar	205	bar	1/2"	690 kg



### HYDRAULIC RAIL PUSHER RPS 800

### M 1501 449 E-EN-2017-10





### HYDRAULIC DATA:

medium:	HLP-hydraulic oil DIN 51524-T2 HLP Synth 32 standard
temperature range:	(-15°C+40°C)
we recommend:	SIBRE-hydraulic power pack V3.C-S *) for RPS 800 with electronic control box acc. data sheet M 1501 264 E
	*) max. 2 brakes per power pack

\*) max. 2 brakes per power pack dimensional drawings upon request

Туре	H1 mm	H2 mm	B1 mm	+T mm	-T mm	D1 mm	D2 mm	D3 mm	D4 mm	W1	n x W
RPS 800	1040	94	150	+8	-8	670	610	33	530	15°	12 x 30°
Туре	Holdin	g force	Holdi ra	ng force at ail tolerand	max. ce	Release	pressure	max. op	erating	Hydraulic-	Weight
			+T		-T			pres	Surc	connection	
RPS 800	400	) kN	500 kN		300 kN	180	bar	210	bar	1/2"	1320 kg

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## **ELECTRIC RAIL PUSHER**



### ELECTRIC RAIL PUSHER RTCB 225-80/6

M 1501 361 E-EN-2009-03







8 bores Ø29 for cylinder-head screws DIN912-M27x80-10.9 MA= 1250Nm, μ0,14



#### **TECHNICAL DATA:**

- Bi-directionally acting, static storm brake for gantry travel.
- Max. holding force FH =225 KN. It is generated by a wedge clamped between clamp wheel and crane rail.
- Released by Eldro thruster.
- Thruster with lowering valve and c-spring.
- With manual release lockable in released position.
- Field replaceable brake shoes.
- Brake shoes hardened and on the area of support it is carried out with sprockets.
- Limit switch for brake "released".
- Limit switch for directional indication.
- Weight approx. 400kg.

#### INFORMATION:

- The crane can travel between 50mm and 100mm before the rail brake is engaged.
- Nominal gap between rail and released brake shoe is 12mm.
- Max. permissible deviation of rail height is +/- 6mm.
- The rail brake is designed for installation under gantry travel cross-beam.

### ELECTRIC RAIL PUSHER RTCB 225-80/6

M 1501 434 E-EN-2016-10

with protection cover



6

Technical Data:	Information:
Bi-directionally acting, static storm brake for gantry travel	The crane can travel between 50 mm and 100 mm before the rail brake is engaged
Max. holding force FH = 225 kN, it is generated by a wedge clamped between clamp wheel and crane rail	Nominal gap between rail and released brake show is 12 mm
Released with Eldro thruster	Max. permissible deviation of rail height is +/- 6 mm
Thruster with lowering valve and c-spring	The rail brake is designed for installation under gantry travel cross-beam
With manual release loackable in released position	
Field replaceable brake shoes	
Brake shoes hardened and on the are of support it is carried out with sprockets	
Limit switch for brake "released"	
Limit switch for directional indication	
Option A: steel version powdered (80 $\mu m$ ), fittings, inspection window, ventilation of stainless steel;	
weight approx. 395 kg	
Option B: stainless steel version powdered (80 µm), fittings, inspection window, ventilation of stainless steel; weight approx. 395 kg	



### ELECTRIC RAIL PUSHER RTCB 350-80/6

### M 1501 384 E-EN-2011-10



#### **TECHNICAL DATA:**

- Bi-directionally acting, static storm brake for gantry travel.
- Max. holding force FH =350 KN. It is generated by a wedge clamped between clamp wheel and crane rail.
- Released by Eldro thruster.
- Thruster with lowering valve and c-spring.
- With manual release lockable in released position.
- Field replaceable brake shoes.
- Brake shoes hardened and on the area of support it is carried out with sprockets.
- Limit switch for brake "released".
- Limit switch for directional indication.
- Weight approx. 600kg.

#### **INFORMATION:**

- The crane can travel between 50mm and 90mm before the rail brake is engaged.
- Nominal gap between rail and released brake shoe is 14mm.
- Max. permissible deviation of rail height is +/- 8mm.
- The rail brake is designed for installation under gantry travel cross-beam.

### ELECTRIC RAIL PUSHER RTCB 350-80/6

M 1501 435 E-EN-2016-10

with protection cover





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Technical Data:	Information:
Bi-directionally acting, static storm brake for gantry travel	The crane can travel between 50 mm and 90 mm before the rail brake is engaged
Max. holding force FH = 350 kN, it is generated by a wedge clamped between clamp wheel and crane rail	Nominal gap between rail and released brake show is 14 mm
Released with Eldro thruster	Max. permissible deviation of rail height is +/- 8 mm
Thruster with lowering valve and c-spring	The rail brake is designed for installation under gantry travel cross-beam
With manual release loackable in released position	
Field replaceable brake shoes	
Brake shoes hardened and on the area of support it is carried out with sprockets	
Limit switch for brake "released"	
Limit switch for directional indication	
Option A: steel version powdered (80µm), fittings, inspecti- on window, ventilation of stainless steel; weight approx. 643 kg	
Option B: stainless steel version powdered (80 µm), fittings, inspection window, ventilation of stainless steel; weight approx. 643 kg	

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### **WHEEL BRAKE** RHI 30/56/70/85/125

M 1501 307 E-EN- 2013-11







Lining	S	
material		sinter
average friction coeff	μ	0,35

	RHI-Type		30	56	70	85	125
	Br	aking Fo	rce FB (	u = 035)			
FB	@ air gap c = 1,5 mm	kN	30	56	70	85	125
		Torque	Calcula	tion			
MBr	braking torque in Nm			FB x (D	)-95]/2		
		Ну	draulic				
ΡL	req. release pressure	bar	40	65	80	90	90
Pmax	max. operating press.	bar	85	110	110	150	150
Vmax	oil volume @ c=1,5mm	ltr			0,18		
		Wheel	dimensi	ons			
b	wheel width	mm			170 - 225		
D	wheel diameter	mm			ØD		
d1	max. inner diam.	mm			d- 95 mm		
			Mass				
	Lx	W x H = ==	= x (===+b)	x === mm			
		weig	ght: 180 kg				



### WHEEL BRAKE RHI 100 FC

### M 1501 308 E-EN-2009-03





Lining	S	
material		sinter
average friction coeff	μ	0,35

606+b

	RHI-FC-Type		101	102	103	104	105
		Clampi	ing Force	e FA			
FA	ld air gap c = 1 mm	kN	29,0	45,1	55,4	74,1	83,2
FA	ld air gap c = 2 mm	kN	28,0	43,7	52,2	68,7	77,0
FA	ld air gap c = 3 mm	kN	27,0	41,3	48,8	62,7	74,4
		Torque	Calcula	tion			
MBr	braking torque in Nm		:	2 x FA x 0,3	5 x (d/2-60	)	
		Ну	/draulic				
PL	req. release pressure	bar	35	50	60	80	95
Pmax	max. operating press.	bar	85	85	110	110	150
Vmax	oil volume @ c=2,0mm	ltr			0,046		
		Wheel	dimensi	ons			
b	wheel width	mm					
d	wheel diameter	mm					
d1	max. hub diam.	mm			d-280mm		
			Mass				
	Lx	W x H = ===	= x (===+b)	x === mm			
	weight: 18	0 kg (with c	onsole and	I floating br	acket)		

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## **RAIL CLAMP**



### **RAIL CLAMP** RB







### **TECHNICAL DATA:** • Airgap per side

: 4,5 mm – 5 mm : 5 mm

: 5 s to 30 s

: 10 s to 15 s

- Max. wear rail/ jaw per side
- Ambient temperature
- Closing time setting
- Opening time
- Operating cycles
- Motor voltage
- : 230/ 400 V, 50/ 60 Hz, S3 30 % : 24 V

: 10 to 20 times per day

- Valve voltage
- \*1 At max. rail size acc. information B4. Deviations from the standard upon request.

: - 20 °C to + 50 °C

- \*2 Crane rail acc. DIN, other types of crane rails upon request
- \*3 Quantity and strength grade of the screws.

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0	RB 200-50	: 6x M20 – 10.9	Ma = 580 Nm, $\mu$ = 0,14
0	RB 400-50	: 8x M24 – 10.9	Ma = 1000 Nm, $\mu$ = 0,14
0	RB 600-50	: 8x M30 – 10.9	Ma = 2000 Nm, $\mu$ = 0,14
0	RB 800-50	: 10x M30 – 10.9	Ma = 2000 Nm, µ = 0,14
0	RB 1000-50	: 12x M30 – 10.9	Ma = 2000 Nm, $\mu$ = 0,14



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# HOLDING FORCE AND DIMENSIONS

Тур:	Holdin [k	g force N]	Weight [kg]	B1 [mm]	B2 [mm]	B3*1 [mm]	B4*2 [mm]	[mm]	C2 [mm]	[mm]	C4 [mm]	d*3 [mm]	[mm]	H2 [mm]	H3 [mm]	H4 [mm]	[mm]	[mm]	L3 [mm]	L4 [mm]
Ē	0,25	0,5																		
3 200-50	100	200	520	820	540	270	A65 A75 A100	649	785	1042	7	22	925	842	40	320	808	100	110	30
3 400-50	200	400	760	865	580	300	A75 A100	694	830	1109	17	26	997	949	40	350	863	80	105	30
3 600-50	300	600	1190	955	650	380	A100 A120 A150	784	920	1244	15	33	1157	1116	40	400	951	90	115	35
3 800-50	400	800	1550	995	700	380	A120 A150	824	960	1304	15	33	1210	1167	40	450	066	80	120	40
1000-50	500	1000	1850	1035	780	400	A120 A150	864	1030	1394	0	33	1248	1210	40	530	1046	80	120	40

# DESCRIPTION AND TECHNICAL DATA:

- The rail clamps are released electro-hydraulically and close with spring force.
- When the rail clamp is closed, the compression springs press on the pressure straps [knee lever system] in the middle, between the two clamp levers, thereby generating the clamp-ing force.
- Via this system, the ratio of the lever system is increased as the jaw/ rail wears, thereby more or less
  compensating for the decreasing spring force. Within the permissible wear range of the jaws/ rail, the
  clamping force is nearly constant.
- The rail clamp is guided on the rail by the flange wheels; this ensures the mechanics of the rail clamp is afforded horizontal freedom of movement (float) of  $\pm 30$  mm and a vertical freedom of movement (float) of  $\pm 20$  mm in the rail clamp housing. In the direction parallel to the rails, the clamp is guided with minimal play (5 mm per direction of travel) in the rail clamp housing.
- Lockable protection cover made of stainless steel and three inspections doors. The release of the rail clamp occurs via integrated hydraulic power pack (HPUI) with hy-d
- The release of the rail clamp occurs via integrated hydraulic power pack (HPU) with hy-draulic cylin der. In emergency stop operation, the rail clamp can be released via hand pump connected to the HPU.

**RAIL CLAMP** 

M 1501 450 E-EN-2017-12

RB

The functional status of the rail clamp is monitored with the signals of the limit switches: "Brake open", "Brake closed", and "wear end".

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