

# PR 6211

## Compact Compression Load Cell

30 kg... 10 t

500 kg... 5 t

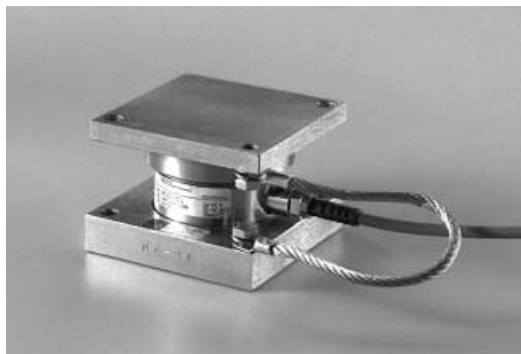
Type D1 Industrial

Type LT High Temperature

global weighing technologies



- Easy to install in limited space
- Full stainless steel construction
- Hermetically sealed, to IP68 (can be submerged in water to a depth of 1.5 m for 10,000 hrs.)
- CENELEC Ex-version available (500 kg...10 t)
- Wide temperature range
- Resistant against vibration
- Weights and Measures approval (OIML R 60)
- Integrated overload protection for up to 300 kg capacity
- Easy corner adjustment by matched D1 load cell outputs





Nominal Load $E_{max}$ (2 mV/V)	Order Codes		Packing Size mm	Weight net	shipping
	Type	Versions			
30 kg	PR 6211/31..	/..D1	230 x 165 x 65	0.14 kg	0.31 kg
50 kg	PR 6211/51..	/..D1	230 x 165 x 65	0.14 kg	0.31 kg
100 kg	PR 6211/12..	/..D1	230 x 165 x 65	0.14 kg	0.31 kg
200 kg	PR 6211/22..	/..D1	230 x 165 x 65	0.14 kg	0.31 kg
300 kg	PR 6211/32..	/..D1	230 x 165 x 65	0.14 kg	0.31 kg
500 kg	PR 6211/52..	/..LT /..D1 /..D1E	220 x 215 x 135	1.0 kg	1.3 kg
1 t	PR 6211/13..	/..LT /..D1 /..D1E	220 x 215 x 135	1.0 kg	1.3 kg
2 t	PR 6211/23..	/..LT /..D1 /..D1E	220 x 215 x 135	1.0 kg	1.3 kg
3 t	PR 6211/33..	/..LT /..D1 /..D1E	220 x 215 x 135	1.0 kg	1.3 kg
5 t	PR 6211/53..	/..LT /..D1 /..D1E	220 x 215 x 135	1.0 kg	1.3 kg
10 t	PR 6211/14..	/..D1 /..D1E	220 x 215 x 135	1.0 kg	1.3 kg

### Technical Data

LT D1

		500 kg...5 t		30...300 kg	500 kg...10 t	
Accuracy class		0.25	0.05	0.04	% $E_{max}$	
Minimum dead load	lowest limit of specified measuring range	$E_{min}$	0	0	0	% $E_{max}$
Maximum capacity	highest limit of specified measuring range	$E_{max}$		s.table		
Max. usable load	upper limit for measurements	$E_u$	150	150	150	% $E_{max}$
Max. load without damage	highest limit without irreversible effects	$E_L$	-	500	-	kg
Destructive load	danger of mechanical destruction	$E_d$	>300	-	>300	% $E_{max}$
Max. side load	highest limit of static load in the horizontal direction	$E_{lq}$	5	2	5	kN
Min. LC verification interval	minimum load cell verification interval, $v_{min} = E_{max} / Y$	$v_{min}$	-	$E_{max} / 3333$	$E_{max} / 5000$	
	$E_{max} = 30\text{kg}$	$v_{min}$	-	$E_{max} / 2500$	-	
Rated output	relative output at nominal load	$C_n$	2.0	2.0	2.0	mV/V
Tolerance on rated output	permissible deviation from rated output	$d_c$	<0.25	<0.25	<0.25	% $C_n$
Zero output signal	load cell output signal under unloaded condition	$S_{min}$	<0...2	<0...2	<0...2	% $C_n$
Repeatability error	max. change in load cell output for repeated loading	$\epsilon_R$	<0.1	<0.01	<0.01	% $C_n$
Creep, during 30 min	max. change in load cell output under nominal load	$d_{cr}$	<0.1	<0.03	<0.035	% $C_n$
Non - Linearity	max. deviation from best straight line through zero	$d_{lin}$	<0.25	<0.05	<0.03	% $C_n$
Hysteresis	max. difference in load cell output when loading from zero to nominal load and unloading back to zero	$d_{hy}$	<0.25	<0.05	<0.04	% $C_n$
Temperature effect $S_{min}$	max. change of $S_{min} / 10K \Delta T$ over $B_T$ referred to $C_n$	$TK_{Smin}$	<0.1	<0.042	<0.028	% $C_n / 10K$
Temperature effect C	max. change of C / 10K $\Delta T$ over $B_T$ referred to $C_n$	$TK_c$	<0.07	<0.03	<0.03	% $C_n / 10K$
Input impedance	between supply terminals	$R_{LC}$	1200 $\pm$ 200	1300 $\pm$ 12	650 $\pm$ 6	$\Omega$
Output impedance	between measuring terminals	$R_O$	1200 $\pm$ 6	1200 $\pm$ 2	610 $\pm$ 1	$\Omega$
Insulation impedance	between measuring circuit and housing 100V <sub>DC</sub>	$R_{IS}$		>5000 x 10 <sup>6</sup>		$\Omega$
Insulation voltage	between circuit and housing, special for PR 6211 /..D1E	-	-	-	500	V
Recommended supply voltage	to hold the specified performance	$B_u$		4...24		V
Max. supply voltage	permissible for continuous operation without damage	$U_{max}$		32		V
Nominal ambient temp. range	to hold the specified performance	$B_T$	-10...+155	-10...+85	-10...+55	$^{\circ}C$
Usable ambient temp. range	permissible for continuous operation without damage	$B_{Tu}$	-30...+180	-30...+95	-30...+95	$^{\circ}C$
Storage temperature range	Transportation and storage	$B_{Tl}$	-40...+180	-40...+95	-40...+95	$^{\circ}C$
Permissible eccentricity	permissible displacement from nominal load line	$S_{ex}$		3		mm
Vibration resistance	resistance against oscillation (IEC 68-2-6 Fc)	-		20g, 100h, 10...150Hz		
Air pressure effects	influence of ambient air pressure on $S_{min}$	$PK_{Smin}$	$\leq 70$	$\leq 12$	$\leq 60$	g/10h Pa
Nominal deflection	max. elastic deformation under nominal load	Index		up to 300 kg < 0.1 / 10 t < 0.2		mm

Definitions acc. to VDI / VDE 2637

The technical data given here serve only as a product description and must not be interpreted as guaranteed characteristics in the legal sense.

### Horizontal force

The actual horizontal force has to be always smaller than the vertical load, otherwise the construction will fall over or lift off.

### Load cell construction

Hermetically sealed, welded stainless steel construction, filled with polyurethane and inert gas

Material; 1.4542 (DIN 17 440) acc. to S604, S622 (B.S.)

### Certificate of conformity (500 kg...10 t)

EEx ib IIC T6 (PTB Nr. Ex-92.C.2137)

II 1G EEx ia IIC T6 (PTB 02 ATEX 2059)

### Protection

IP68, IEC 529 (equivalent to NEMA 6). The load cell can be submerged in water to a depth of 1.5m for 10,000 hours.

### Cable

robust, flexible, screened

sheath: Thermopl. Elastomer, PR 6211 /..D1E,

color: grey  
color: blue

diameter: PR 6211 30...300 kg:  
5 mm, wires 4 x 0.35 mm<sup>2</sup>  
3 mm, wires 4 x 0.13 mm<sup>2</sup>

length: 5 m

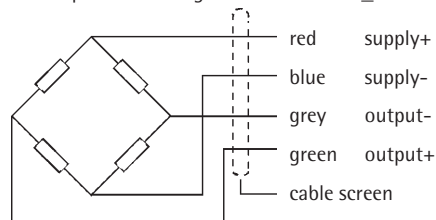
PR 6211 30...300 kg: 3 m

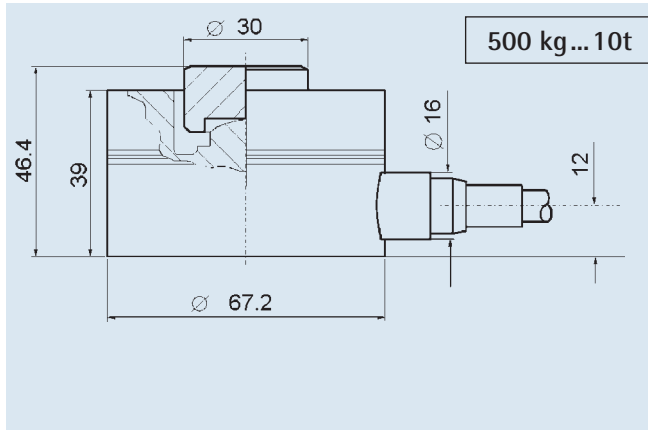
sheath: PR 6211 LT: PFA Thermoplastic  
color: red

bending radius:

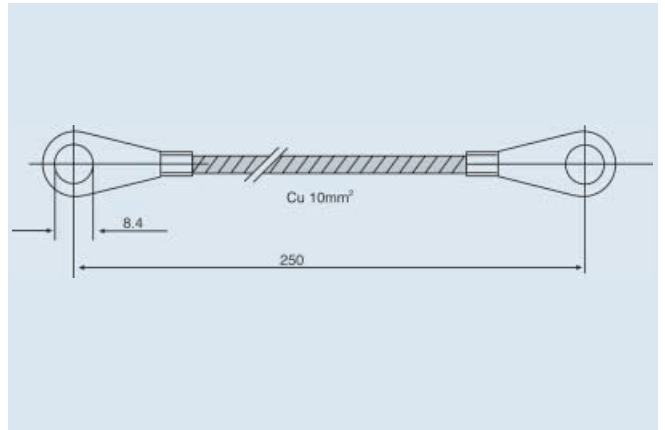
fixed installation  $\geq 50$  mm

with repeated bending  $\geq 150$  mm



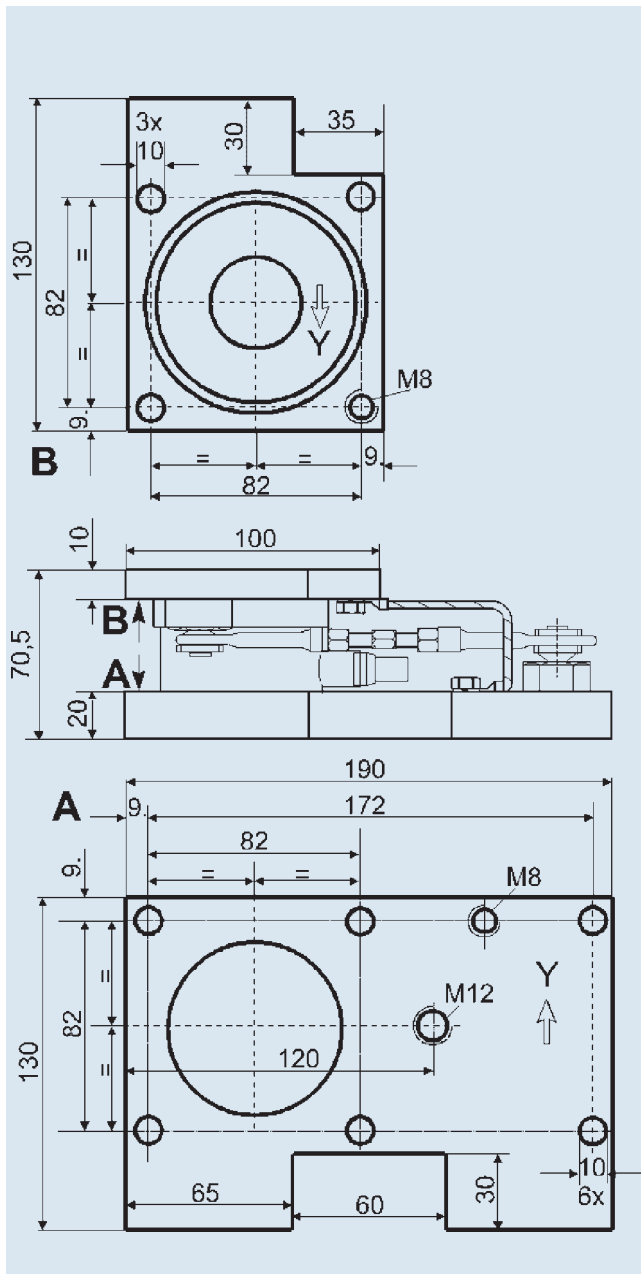


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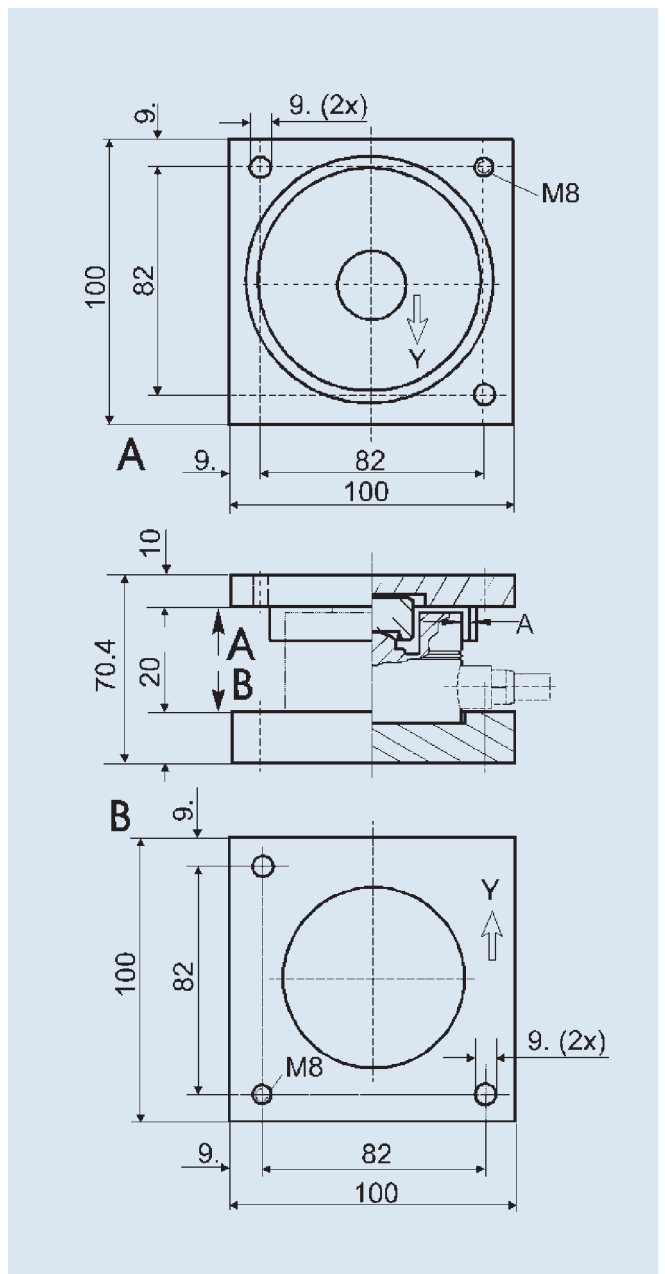


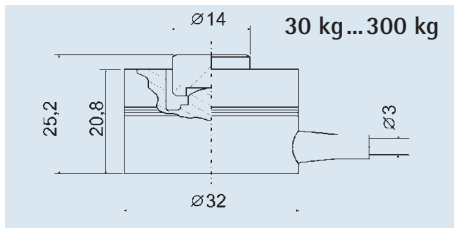
flexible copper strap, supplied with each load cell

Mini Flexlock PR 6011/30 with built-in constrainer

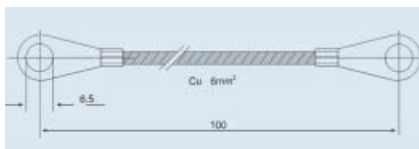
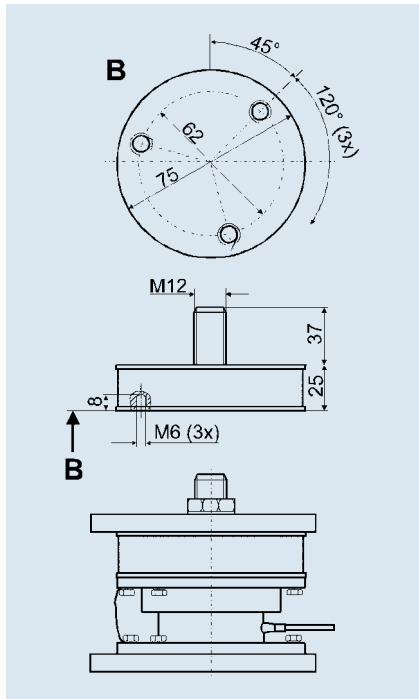


Mounting plate kit PR 6011/10



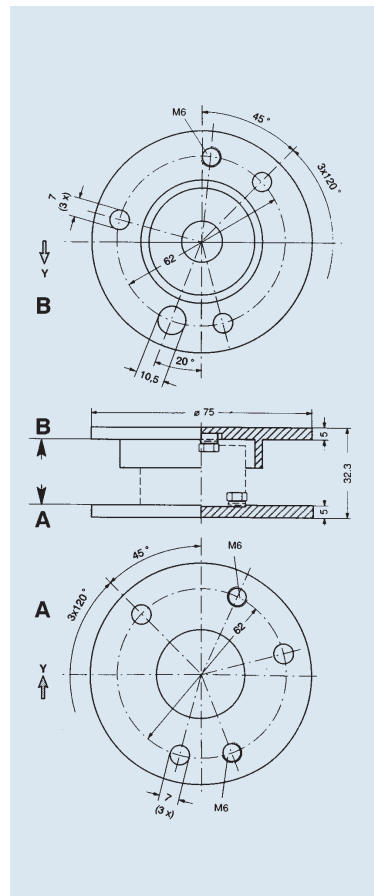


Rubber mounting kit PR 6011/03 to mount on PR 6011/00 or PR 6011/20

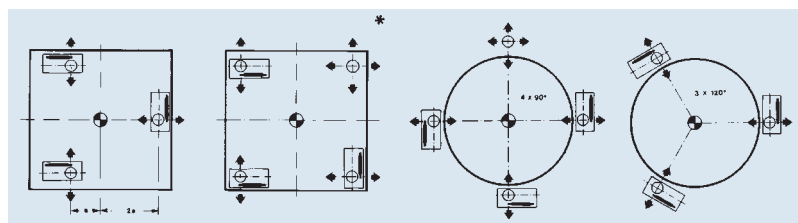
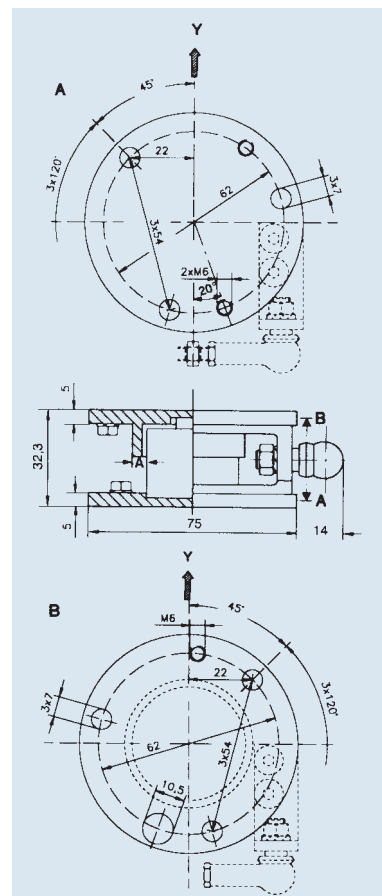


flexible copper strap, supplied with each load cell

## Mounting kit PR 6011/00



## Mini Flexlock PR 6011/20 with built-in constrainer



Location of load cells and constrainers (examples)

\*) This weighing point must not be constrained, use mounting plate kit PR 6011/10 or PR 6011/00

Further options		Dimensions WxHxD	Type	Order Number
Plastic cable junction box	for all industrial applications	(200x120x75) mm	PR 6130/08	9405 361 30081
Cable junction box	for all industrial, intrinsically safe, W&M applications	(200x160x100) mm	PR 6130/60N	9405 361 30604
Stainless steel cable junction box	material 1.4404 for all industrial, intrinsically safe, W&M applications	(228x196x74) mm	PR 6130/60S	9405 361 30602
Extension cable	for all applications	D = 11 mm	PR 6135	9405 361 35. . 2
Extension cable	for all Ex applications	D = 11 mm	PR 6136	9405 361 36. . 1
Mounting kit	steel plates to mount all PR 6211 500kg...10t nominal load		PR 6011/10N	9405 360 11101
Stainless steel mounting kit	stainless steel version of PR 6011/10N		PR 6011/10S	9405 360 11102
MiniFLEXLOCK	mounting kit for PR 6211 500 kg...10 t with built in constrainer up to 5 kN horizontal forces		PR 6011/30N	9405 360 11301
Stainless steel MiniFLEXLOCK	stainless steel version of PR 6011/30N		PR 6011/30S	9405 360 11302
SeismoFLEX	mounting kit for 6211 500 kg...10 t with built in constrainer up to 20 kN side forces and lift-off-protection		PR 6011/40N	9405 360 11401
Stainless steel SeismoFLEX	stainless steel version of PR 6011/40N		PR 6011/40S	9405 360 11402
Mounting kit	steel plate kit to mount PR 6211 30 kg...300 kg		PR 6011/00N	9405 360 11001
Stainless steel mounting kit	stainless steel version of PR 6011/00N		PR 6011/00S	9405 360 11002
Rubber mounting kit	vibration absorbent rubber with steel plates for mounting on PR 6011/00N and PR 6011/20N		PR 6011/03	9405 360 11031
MiniFLEXLOCK	mounting kit for PR 6211 30 kg...300 kg with built in constrainer up to 450 N horizontal forces		PR 6011/20N	9405 360 11201
Stainless steel MiniFLEXLOCK	stainless steel version of PR 6011/20N		PR 6011/20S	9405 360 11202

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