

PR 6211

Compact Compression Load Cell

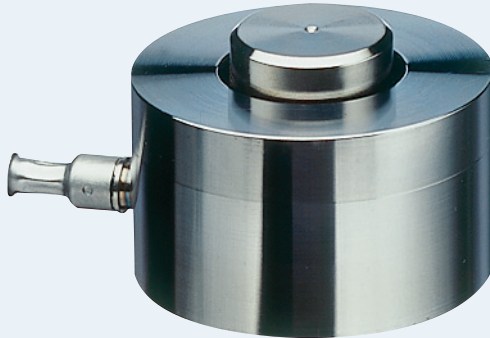
30 kg... 10 t

500 kg... 5 t

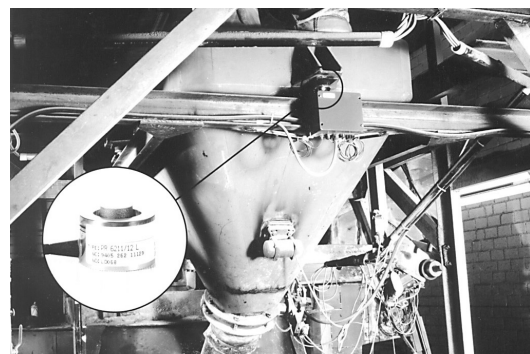
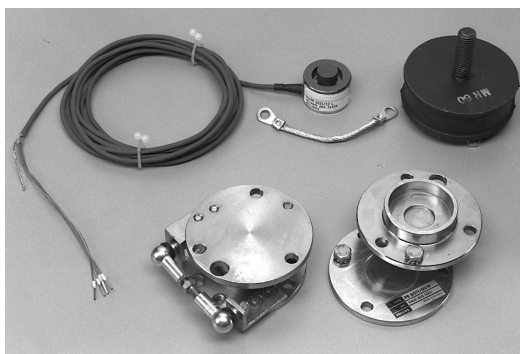
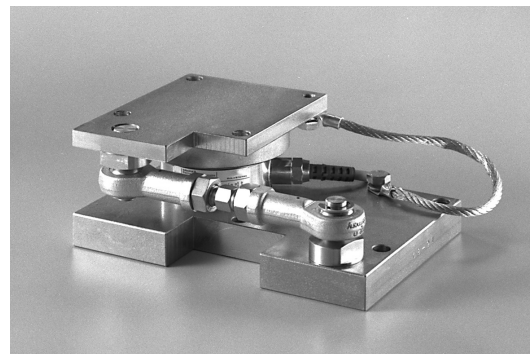
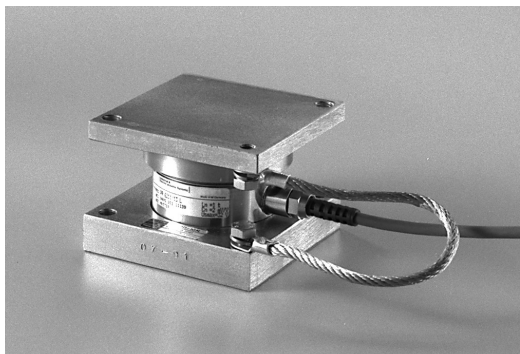
Type D1 Industrial

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	ϵ_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 ΔT 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	Ω
Output impedance	between measuring terminals	R_O 1200 \pm 6	1200 \pm 2	610 \pm 1	Ω
Insulation impedance	between measuring circuit and housing 100V _{DC}	R_{IS}	>5000 x 10 ⁶		Ω
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 mm²

3 mm, wires 4 x 0.13 mm²

length: 5 m

PR 6211 30...300 kg: 3 m

sheath: PR 6211 LT: PFA Thermoplastic

color: red

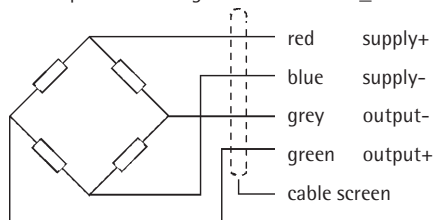
bending radius:

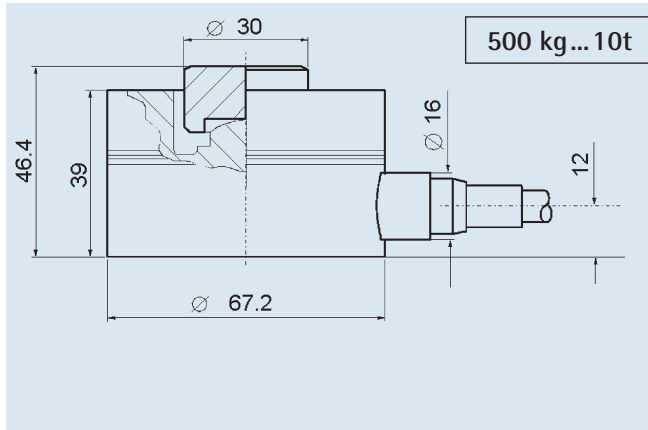
fixed installation

\geq 50 mm

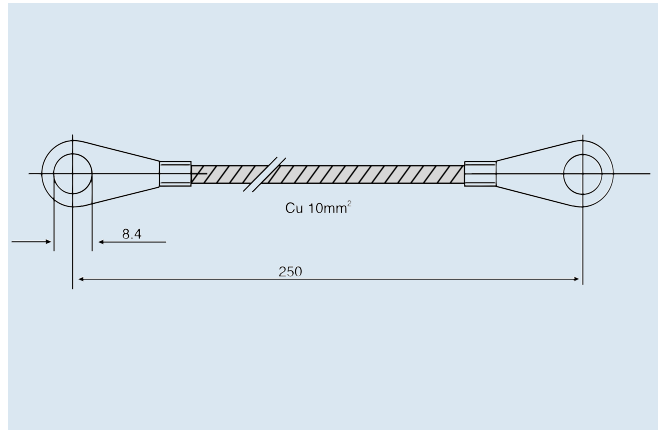
with repeated bending

\geq 150 mm



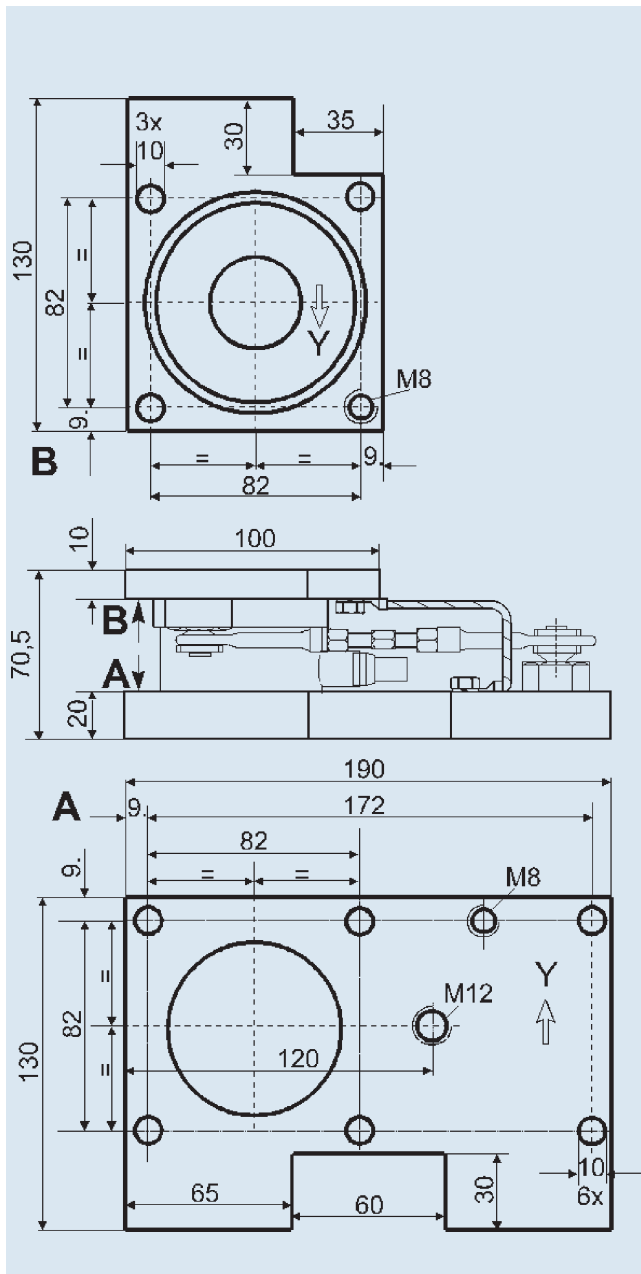


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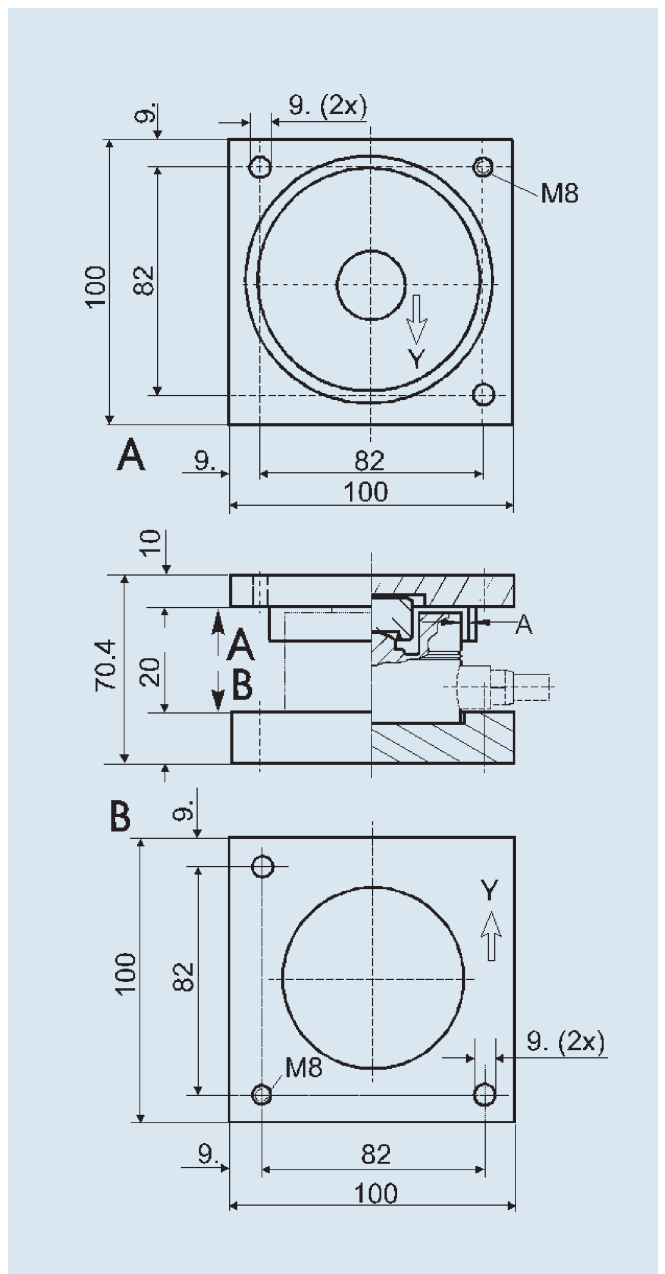


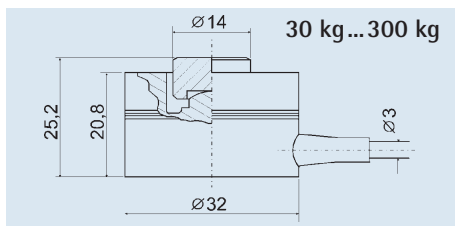
flexible copper strap, supplied with each load cell

Mini Flexlock PR 6011/30 with built-in constrainer

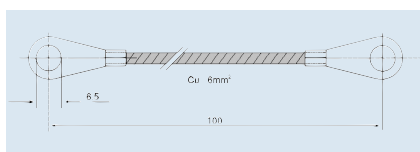
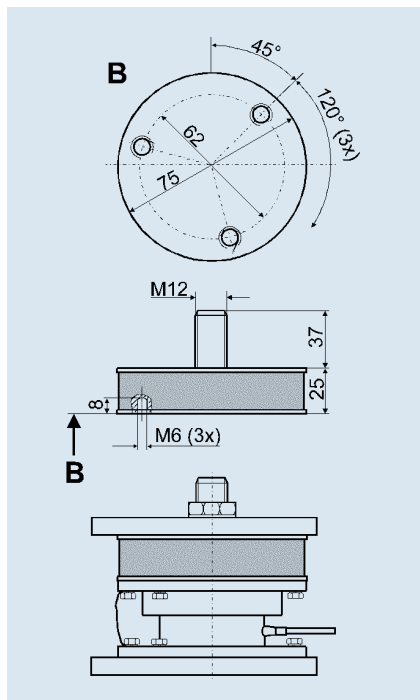


Mounting plate kit PR 6011/10



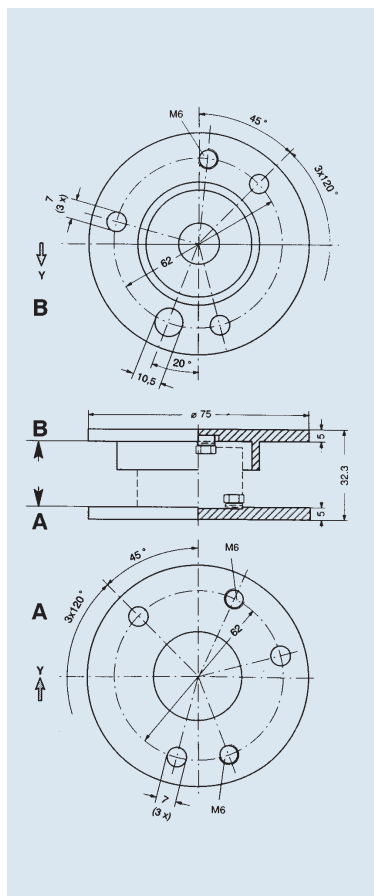


Rubber mounting kit PR 6011/03 to mount on PR 6011/00 or PR 6011/20

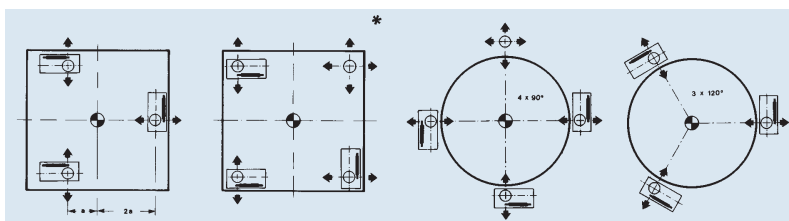
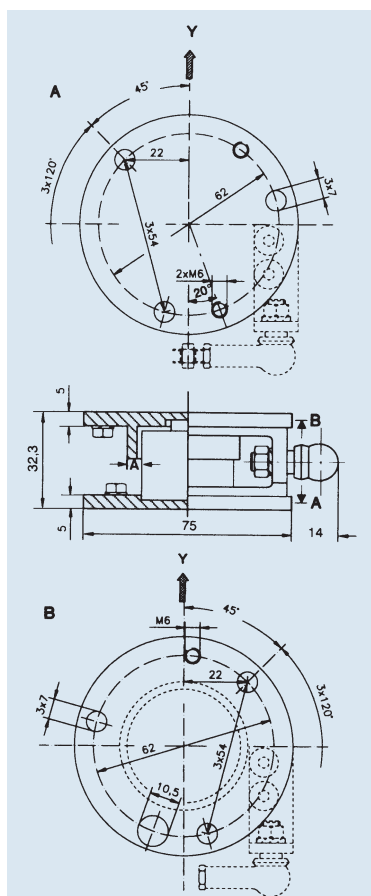


flexible copper strap, supplied with each load cell

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

