

Compression load cell Inteco[®], converter Connexx[®], mounting kits PR 6001, PR 614x

The versatile, innovative weighing solution for silo and vessel weighing



Digital Assistance
Technology



German Quality

The load cell Inteco[®] represents a consistent enhancement to the well-known PR 6201. With an output signal of 2 mV/V, additional load levels of up to 75 t, higher accuracy classes (C6) and high-quality stainless steel, it has a wider range of potential applications. As a digital weighing solution with the converter Connexx[®], the load cell Inteco[®] offers fast signalling times and optimal transparency in dosing and weighing processes. The Minebea Intec mounting kits FLEXLOCK minimise the effect of movements on the weighing result at the same time.

The right solution for all of these applications:



Weighing



Filling and
dosing



Fill quantity
control

Technical specifications

Compression load cell Inteco® (500 kg – 75 t)						
Parameter	Description	Abbr.	D1/N	C3	C6	Unit
Accuracy class			0.04	0.015	0.008	%E _{max}
Minimum dead load	Lowest limit of specified measuring range	E _{min}	0			%E _{max}
Maximum capacity	Highest limit of specified measuring range	E _{max}	See Ordering information table			kg
Safe load limit	Maximum load without irreversible damage	E _{lim}	For 500 kg... 50 t: 150 For 60 t: 125 For 75 t: 100			%E _{max}
Destructive load	Danger of mechanical destruction	E _d	For 500 kg... 50 t: >300 For 60 t: >250 For 75 t: >200			%E _{max}
Minimum LC verification	Minimum load cell verification interval (V _{min} =E _{max} /Y)		See Accuracy classes and minimum verification interval, V _{min} table			
	For E _{max} = 500 kg	Y	2,500	n.a.	n.a.	
	For E _{max} = 1 t	Y	5,000	n.a.	n.a.	
	For E _{max} = 2 t	Y	5,000	10,000	n.a.	
	For E _{max} = 3 t...75 t	Y	5,000	14,000	20,000	
Deadload output return	Factor for deadload output return after load (DR=1/2*E _{max} /Z)	Z	1,000	3,000	6,000	
Rated output	Relative output at maximum capacity	C _n	2	2	2	mV/V
Tolerance on rated output	Permissible deviation from rated output	d _c	<0.25	<0.07	<0.07	%C _n
Zero output signal	Load cell output signal under unloaded condition	S _{min}	<1.0	<1.0	<1.0	%C _n
Reproducibility	Max. change in load cell output for repeated loading	ε _R	<0.02	<0.02	<0.02	%C _n
Creep	Max. change of output signal at E _{max} for 30 min.	d _{cr}	<0.03	<0.015	<0.008	%C _n
Non-linearity	Max. deviation from best straight line through zero	d _{lin}	<0.03	<0.01	<0.01	%C _n
Hysteresis	Max. difference in LC output between loading and unloading	d _{hy}	<0.04	<0.015	<0.008	%C _n
Temperature effect (TK) on S _{min}	Max. change of S _{min} in B _T	TK _{Smin}	<0.028	<0.010	<0.007	%C _n /10 K
Temperature effect (TK) on parameter	Max. change of C in B _T	TK _C	<0.03	<0.010	<0.005	%C _n /10 K
Input impedance	Between supply terminals	R _{LC}	650 ±6	650 ±6	650 ±6	Ω
Output impedance	Between supply terminals	R _O	610 ±1	610 ±0.5	610 ±0.5	Ω
	For E _{max} = 60 t	R _O	510 ±1	510 ±0.5	510 ±0.5	Ω
	For E _{max} = 75 t	R _O	410 ±1	410 ±0.5	410 ±0.5	Ω
Insulation impedance	Between measuring circuit and housing at 100 V _{DC}	R _{IS}	>5,000 × 10 ⁶			Ω
Insulation voltage	Between circuit and housing (PR 62../..E only)		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 (Ex versions: 25)			V
Nominal ambient temp. range	To hold the specified performance	B _T	-10...+40	-10...+40	-10...+40	°C
Usable temperature range	Permissible for continuous operation without damage	B _{Tu}	-40...+95	-40...+95	-40...+95	°C
Storage temperature range	Without electrical and mechanical stress	B _{Tt}	-40...+95	-40...+95	-40...+95	°C
Permissible eccentricity	Permissible displacement from nominal load line	S _{ex}	10	10	10	mm
Vibration resistance	Resistance against oscillations (IEC 68-2-6 Fc)		20 g, 100 h, 10... 150Hz			
Barometric pressure influence	Influence of barometric pressure on output	PK _{Smin}	500 kg... 3 t: 200 5 t... 10 t: 330 20 t... 75 t: 420			g/kPa
Nominal deflection	Max. elastic deformation under maximum capacity	S _{nom}	≤5 t: ≤0.3/≤20 t: ≤0.5/≤50 t: ≤0.8/ 60 t... 75 t: ≤1.2			mm

Accuracy classes and minimum verification interval, v_{\min}

	OIML			NTEP Class III Multiple			NTEP Class IIIIL Multiple		
	D1/D1E	C3/C3E	C6/C6E	D1/D1E	C3/C3E	C6/C6E	D1/D1E	C3/C3E	C6/C6E
Maximum number of verification intervals, n_{\max}	1,000	3,000	6,000	1,000	5,000	10,000	2,000	10,000	10,000
500 kg	0.2 kg	n.a.	n.a.	0.2 kg	n.a.	n.a.	n.a.	n.a.	n.a.
1 t	0.2 kg	n.a.	n.a.	0.2 kg	n.a.	n.a.	n.a.	n.a.	n.a.
2 t	0.4 kg	0.2 kg	n.a.	0.4 kg	0.2 kg	n.a.	0.2 kg	0.2 kg	n.a.
3 t	0.6 kg	0.22 kg	0.22 kg	0.6 kg	0.22 kg	0.22 kg	0.2 kg	0.2 kg	0.2 kg
5 t	1 kg	0.36 kg	0.36 kg	1 kg	0.36 kg	0.36 kg	0.34 kg	0.2 kg	0.2 kg
10 t	2 kg	0.72 kg	0.72 kg	2 kg	0.72 kg	0.72 kg	0.67 kg	0.24 kg	0.24 kg
20 t	4 kg	1.43 kg	1 kg	4 kg	1.43 kg	1 kg	1.34 kg	0.48 kg	0.34 kg
30 t	6 kg	2.15 kg	1.5 kg	6 kg	2.15 kg	1.5 kg	2 kg	0.72 kg	0.5 kg
50 t	10 kg	3.58 kg	2.5 kg	10 kg	3.58 kg	2.5 kg	3.34 kg	1.2 kg	0.84 kg
60 t	12 kg	4.29 kg	3 kg	12 kg	4.29 kg	3 kg	4 kg	1.43 kg	1 kg
75 t	15 kg	5.36 kg	3.75 kg	15 kg	5.36 kg	3.75 kg	5 kg	1.79 kg	1.25 kg



Easy replacement:

All the accessories and mounting kits for the load cell PR 6201 are still compatible with the Inteco®!

Mounting kit PR 6001																	
500 kg – 10 t	PR 6001/00N	Steel electrogalvanised, chromated and sealed (RoHS compliant)	Mounting disc incl. upper load disc	M12-8.8	190.5	/	20	±5	25 t	1.5 t	Yes						
	PR 6001/00S	Stainless steel 1.4301 (AISI 304)	Mounting kit incl. upper and lower load disc	M12-A2-70							/						
	PR 6001/10N	Steel electrogalvanised, chromated and sealed (RoHS compliant)	MaxiFLEXLOCK	M12-8.8							Yes						
	PR 6001/10S	Stainless steel 1.4301 (AISI 304)	MaxiFLEXLOCK	M12-A2-70							/						
	PR 6001/20N	Steel electrogalvanised, chromated and sealed (RoHS compliant)	MaxiFLEXLOCK	M16-8.8							Yes						
	PR 6001/20S	Stainless steel 1.4301 (AISI 304)	MaxiFLEXLOCK	M16-A2-70							/						
	PR 6001/30N	Steel electrogalvanised, chromated and sealed (RoHS compliant)	High-load mounting kit incl. upper load disc	M20-8.8							250.5	200	180	±5	25 t	1.5 t	Yes
20 t – 75 t	PR 6001/01N	Steel electrogalvanised, chromated and sealed (RoHS compliant)	Mounting kit including upper load disc	M12-8.8	190.5	/	30	±5	25 t	/	Yes						
	PR 6001/01S	Stainless steel 1.4301 (AISI 304)	Mounting kit incl. upper and lower load disc	M12-A2-70							/						
	PR 6001/11N	Steel electrogalvanised, chromated and sealed (RoHS compliant)	MaxiFLEXLOCK	M12-8.8							Yes						
	PR 6001/11S	Stainless steel 1.4301 (AISI 304)	MaxiFLEXLOCK	M12-A2-70							/						
	PR 6001/21N	Steel electrogalvanised, chromated and sealed (RoHS compliant)	MaxiFLEXLOCK	M16-8.8							Yes						
	PR 6001/21S	Stainless steel 1.4301 (AISI 304)	MaxiFLEXLOCK	M16-A2-70							/						
	PR 6001/26N	Steel electrogalvanised, chromated and sealed (RoHS compliant)	MaxiFLEXLOCK	M20-8.8							250.5	50	180	±5	25 t	/	Yes
	PR 6001/31N	Steel electrogalvanised, chromated and sealed (RoHS compliant)	High-load mounting kit incl. upper load disc	M20-8.8							200	Yes					

Mounting kit PR 6143

500 kg – 10 t	PR 6143/24S	Stainless steel 1.4542	Base	/	/	/	/	/
20 t – 75 t	PR 6143/54S	Stainless steel 1.4542	Base	/	/	/	/	/
500 kg – 75 t	PR 6143/50N	Steel electrogalvanised, chromated and sealed (RoHS compliant)	Upper load disc	/	/	/	/	/
	PR 6143/50S	Stainless steel 1.4542	Upper load disc	/	/	/	/	/
	PR 6143/00N	Steel electrogalvanised, chromated and sealed (RoHS compliant)	MiniFLEXLOCK incl. upper load disc	M12-8.8	190.5	25	50	Yes
	PR 6143/00S	Stainless steel 1.4301 (AISI 304)	MiniFLEXLOCK incl. upper and lower load disc*	M12-A2-70				/
	PR 6143/10N	Steel electrogalvanised, chromated and sealed (RoHS compliant)	MiniFLEXLOCK incl. upper load disc	M16-8.8	190.5	50	60	Yes
	PR 6143/10S	Stainless steel 1.4301 (AISI 304)	MiniFLEXLOCK incl. upper and lower load disc*	M16-A2-70				/

* Lower load disc only for 0.5 t–10 t,
for 20 t–75 t please order base PR 6143/54S separately

** With separate threaded bolt of strength class 8.8 or A2-70

Mounting kit PR 6144

5 t – 75 t	PR 6144/54N	Steel electrogalvanised, chromated and sealed (RoHS compliant)	Seismic Mount incl. load cell dummy	M30-8.8	217	370	400	16 t	Yes
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Mounting kit PR 6145

500 kg – 75 t	PR 6145/00N	Steel electrogalvanised, chromated and sealed (RoHS compliant)	Plate mounting kit incl. upper load disc	M12-8.8	190.5	Yes
	PR 6145/00S	Stainless steel 1.4301 (AISI 304)	Plate mounting kit incl. upper and lower load disc*	M12-A2-70		/

* Lower load disc only for 0.5 t–10 t,
for 20 t–75 t please order base PR 6143/54S separately

Fixed bearing PR 6101

5 t	PR 6101/53N	Steel electrogalvanised, chromated and sealed (RoHS compliant)	M12-8.8	190.5	5 t	15
					10 t	12
	PR 6101/53S	Stainless steel 1.4301 (AISI 304)	M12-A2-70		5 t	10
					10 t	8.5
20 t	PR 6101/24N	Steel electrogalvanised, chromated and sealed (RoHS compliant)	M12-8.8	190.5	20 t	45
					40 t	35
	PR 6101/24S	Stainless steel 1.4301 (AISI 304)	M12-A2-70		20 t	30
					40 t	20
75 t	PR 6101/54N	Steel electrogalvanised, chromated and sealed (RoHS compliant)	M12-8.8	190.5	50 t	100
					75 t	80
	PR 6101/54S	Stainless steel 1.4301 (AISI 304)	M12-A2-70		50 t	50
					75 t	20

Converter Connexx®

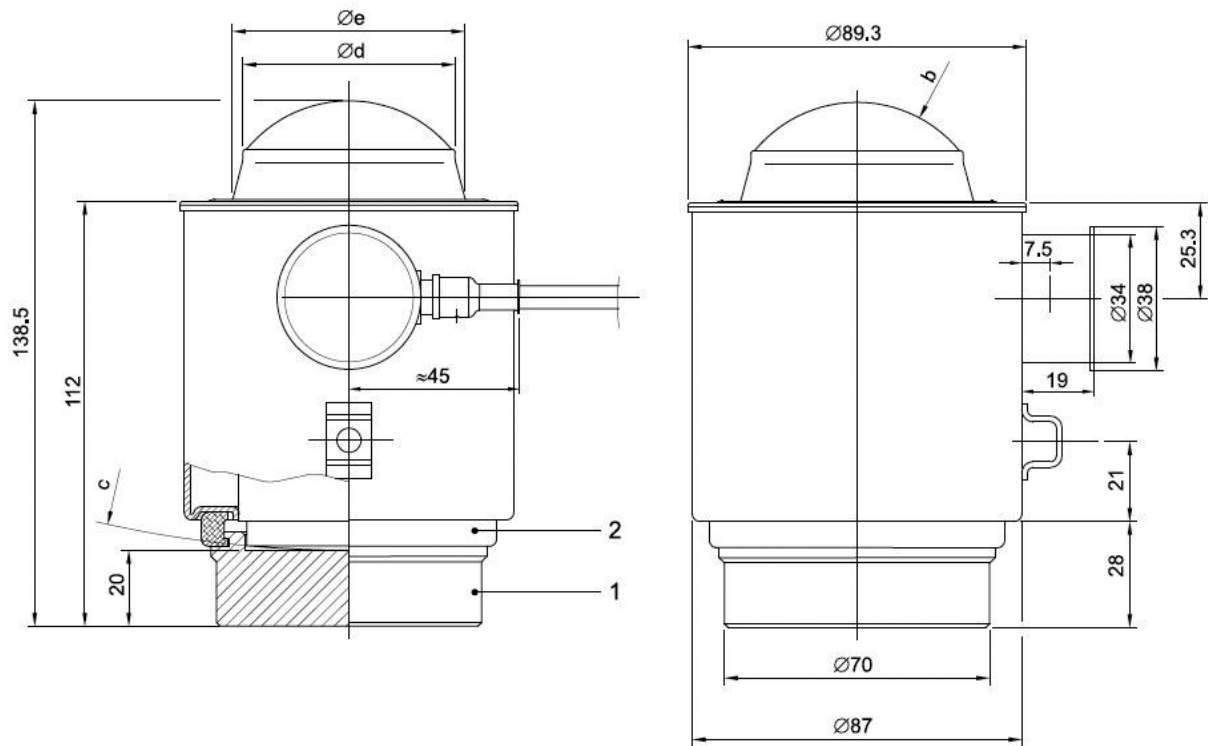


Fitted with the converter Connexx®, the load cell Inteco® offers a whole host of possibilities:

- The digital version guarantees fast signalling times for reliable dosing processes.
- Thanks to the use of field bus communication, the cable junction box is no longer needed.
- The standard interface CANopen ensures straightforward installation and calibration.
- CANopen allows for extra-long communication paths of up to 200 m.
- Weight values can also be generated individually – per load cell – meaning that defective load cells can be identified more easily.

Technical diagrams

Load cells Inteco®

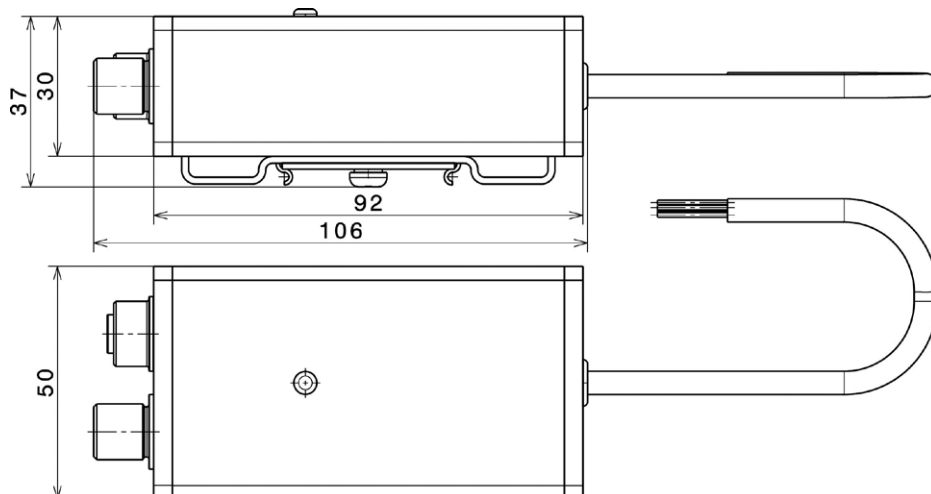


1	Lower load disc
2	Support ring

Model	b Spherical radius	c Spherical radius	d	e
Inteco®/500 kg...3 t	15	150	24	32
Inteco®/5 t...10 t	15	150	34	44
Inteco®/20 t...75 t	35	220	56	62

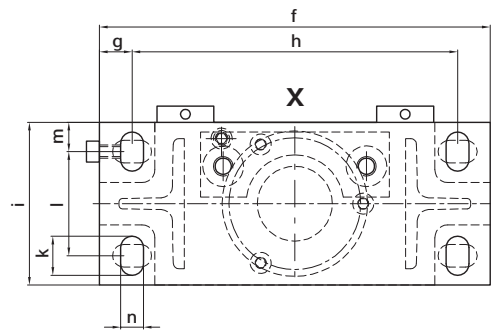
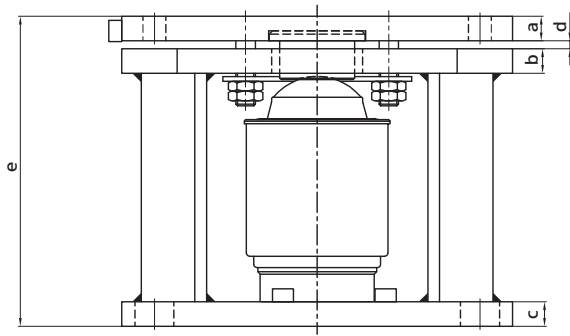
Load cell Inteco®

Converter Connex®



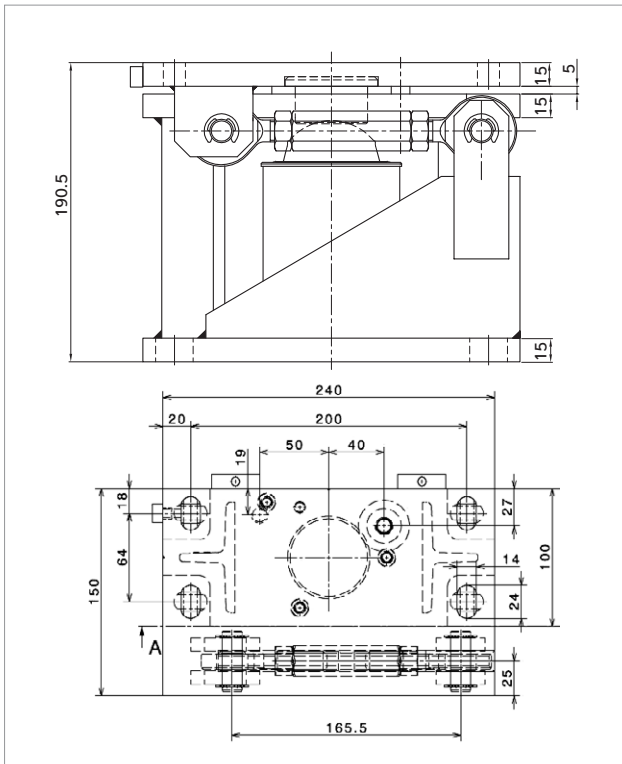
Converter Connex®

Mounting kit PR 6001

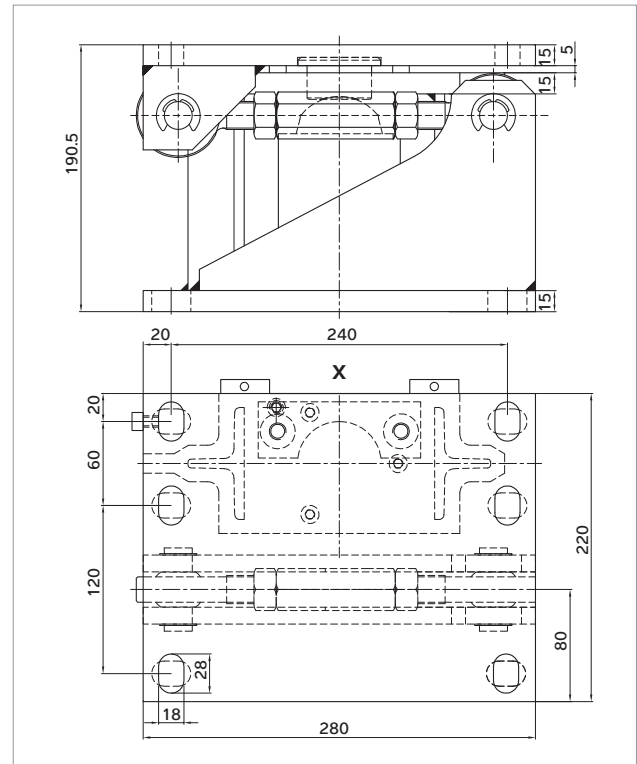


PR 6001/00	15	15	15	5	190.5	240	20	200	100	24	64	18	14
PR 6001/01	15	15	15	5	190.5	240	20	200	100	24	64	18	14

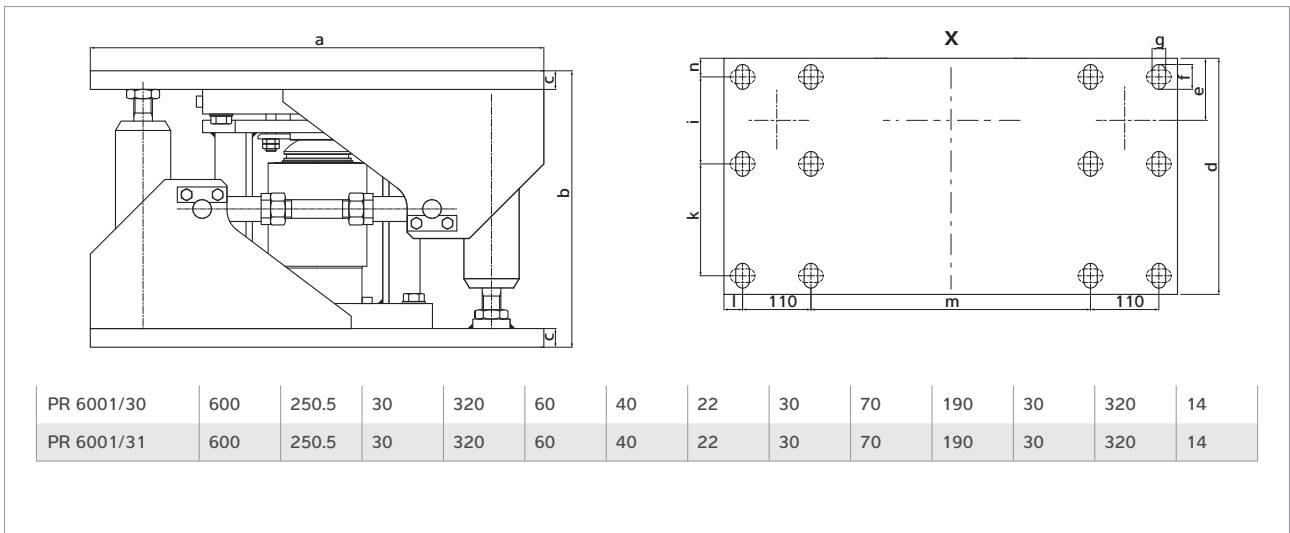
Mounting kits PR 6001/00N+S, PR 6001/01N+S



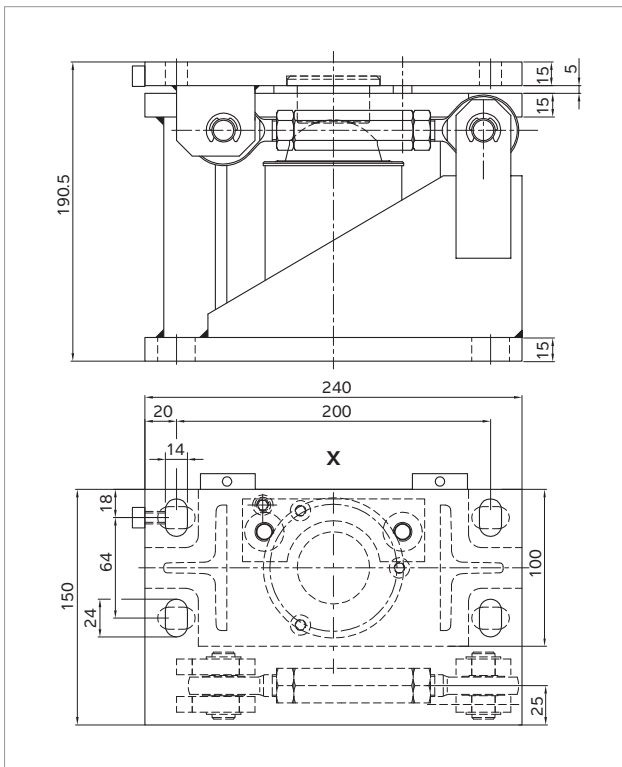
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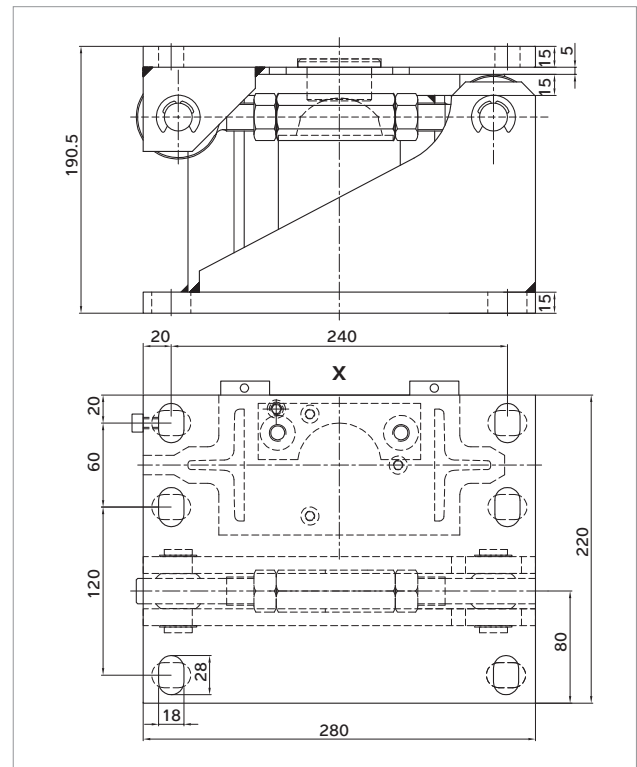
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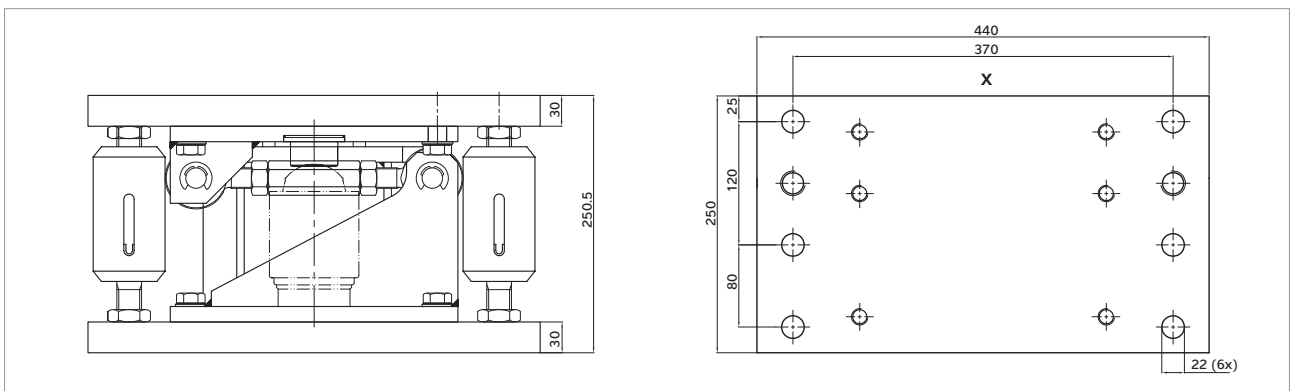
Mounting kits PR 6001/30N, PR 6001/31N



Mounting kit PR 6001/11N+S

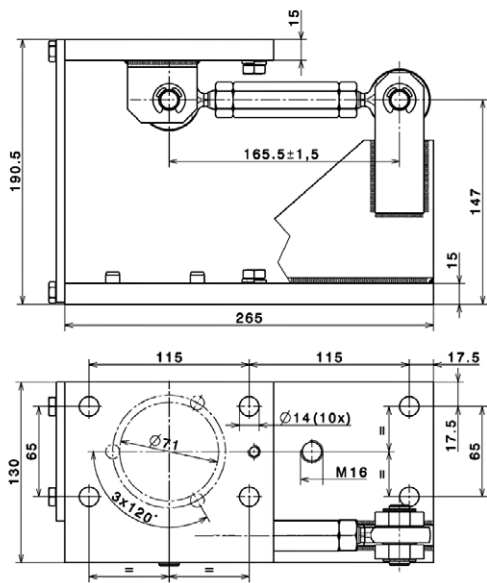


Mounting kit PR 6001/21N+S

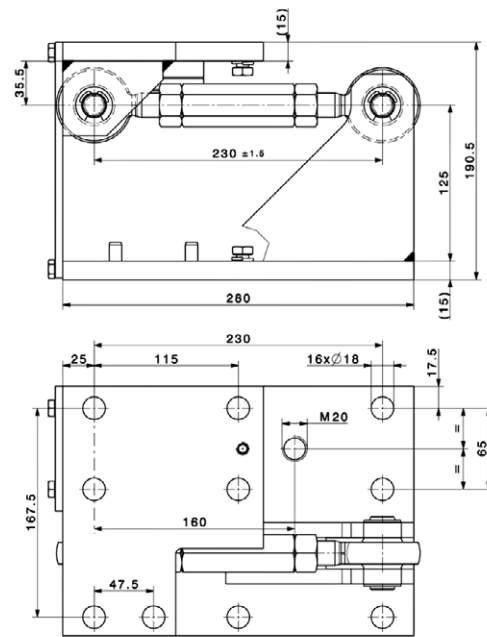


Mounting kit PR 6001/26N

Mounting kit PR 6143

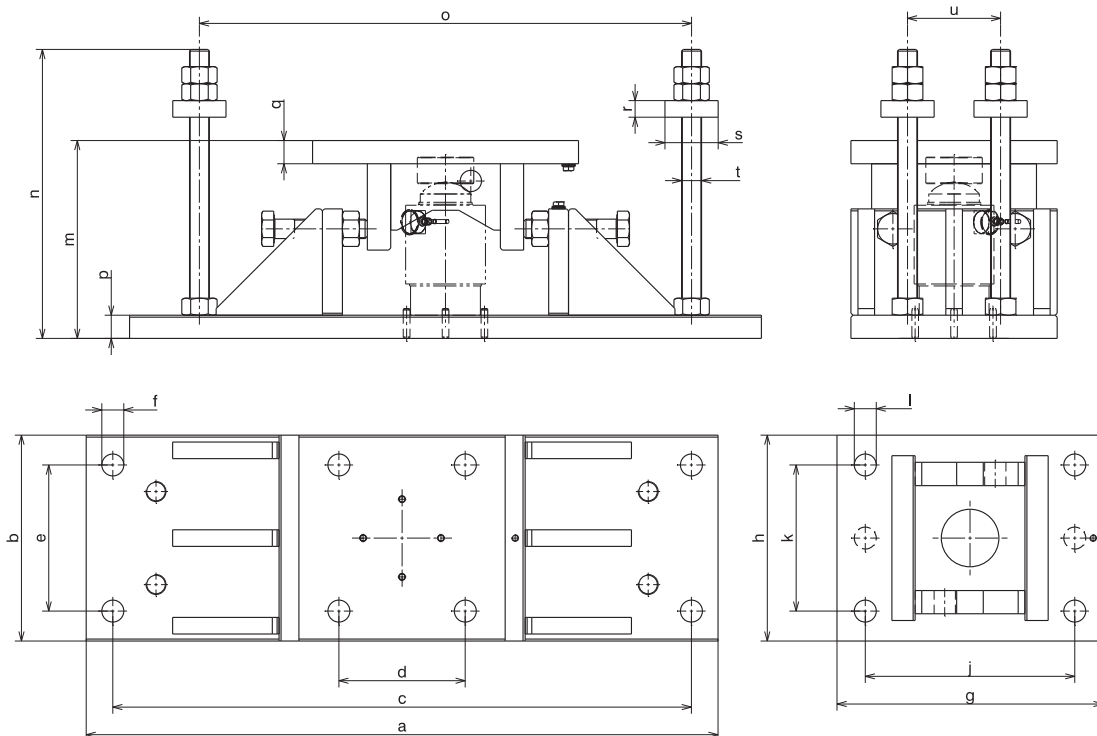


Mounting kit PR 6143/00N+S



Mounting kit PR 6143/10N+S

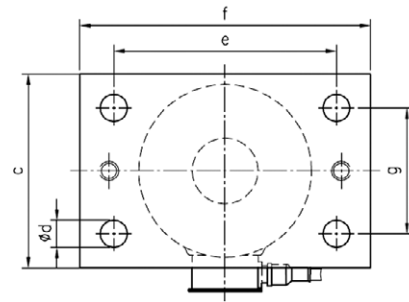
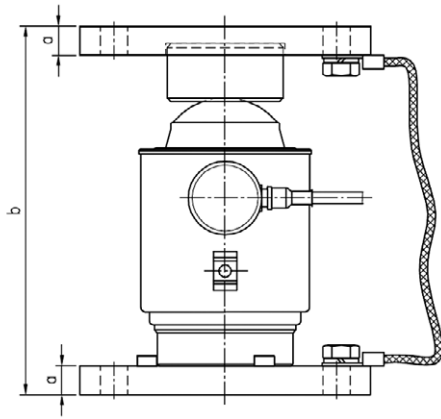
Mounting kit PR 6144



PR 6144/54	820	240	740	160	160	Ø33	380	240	300	160	Ø33	217	350	620	30	30	25	Ø80	M30	120
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Mounting kit PR 6144/54N

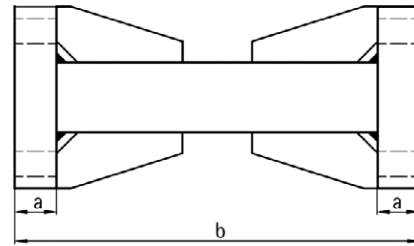
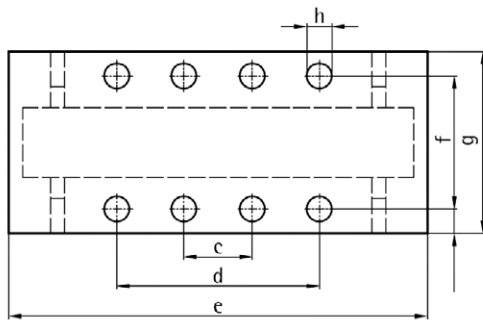
Mounting kit PR 6145/xx



PR 6145/00	15	190.5	100	14	115	150	65
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Mounting kit PR 6145/00

Fixed bearing PR 6101/xx



PR 6101/53	15	190.5	-	115	150	65	100	14 (4×)
PR 6101/24	15	190.5	-	115	150	65	100	14 (4×)
PR 6101/54	15	190.5	115	199	250	65	100	14 (8×)

Fixed bearing PR 6101/53, PR 6101/24, PR 6101/54

Ex approval

Scope of validity:

Inteco® (0.5 t – 75 t)



Explosion protection

Certificates precision compression load cell Inteco®

Zone	Labelling	Certificate number	For
0 and 1	II 1G Ex ia IIC T6 Ga Ex ia IIC T6 Ga	BVS 17 ATEX E 111X IECEX BVS 17.0092X	Inteco®/..E only
20 and 21	II 1D Ex ta IIIC T160°C Da Ex ta IIIC T160°C Da	TÜV 03 ATEX 2301X IECEX TUN 17.0025X	All Inteco® without /..E
2	II 3G Ex nA IIC T6 Gc	Manufacturer's declaration	All Inteco® without /..E
22	II 3D Ex tc IIIC T85°C Dc	Manufacturer's declaration	All Inteco® without /..E
FMus	IS CL I, II, DIV 1, GP A, B, C, D, E, F, G Entity - 4012 101 5688 NI CL I, II, DIV 2, GP A, B, C, D, E, F, G NIFW - 4012 101 5688 T4A Ta= -30°C to 70°C; T5 Ta= -30°C to 55°C	FM17US0276	All Inteco® without /..E
FMca	IS CL I, II, DIV 1, GP A, B, C, D, E, F, G Entity - 4012 101 5688 NI CL I, II, DIV 2, GP A, B, C, D, E, F, G NIFW - 4012 101 5688 T4A Ta= -30°C to 70°C; T5 Ta= -30°C to 55°C	FM17CA0138	All Inteco® without /..E



Ordering information



Compression load cell Inteco [®] , OIML R60 accuracy class D1 = 0.05%			
Type	Load stage	Order number	Converter Connexx [®] as an option*
Inteco [®] /500 kg D1	500 kg	940520301150	•
Inteco [®] /1t D1	1 t	940520301210	•
Inteco [®] /2t D1	2 t	940520301220	•
Inteco [®] /3t D1	3 t	940520301230	•
Inteco [®] /5t D1	5 t	940520301250	•
Inteco [®] /10t D1	10 t	940520301310	•
Inteco [®] /20t D1	20 t	940520301320	•
Inteco [®] /30t D1	30 t	940520301330	•
Inteco [®] /50t D1	50 t	940520301350	•
Inteco [®] /60t D1	60 t	940520301360	
Inteco [®] /75t D1	75 t	940520301375	

Compression load cell Inteco [®] , OIML R60 accuracy class D1 = 0.05%, Ex version			
Type	Load stage	Order number	Converter Connexx [®] as an option*
Inteco [®] /500 kg D1E	500 kg	940560301150	
Inteco [®] /1t D1E	1 t	940560301210	
Inteco [®] /2t D1E	2 t	940560301220	
Inteco [®] /3t D1E	3 t	940560301230	
Inteco [®] /5t D1E	5 t	940560301250	
Inteco [®] /10t D1E	10 t	940560301310	
Inteco [®] /20t D1E	20 t	940560301320	
Inteco [®] /30t D1E	30 t	940560301330	
Inteco [®] /50t D1E	50 t	940560301350	

Compression load cell Inteco [®] , OIML R60 accuracy class C3 = 0.015%			
Type	Load stage	Order number	Converter Connexx [®] as an option*
Inteco [®] /2t C3	2 t	940520303220	•
Inteco [®] /3t C3	3 t	940520303230	•
Inteco [®] /5t C3	5 t	940520303250	•
Inteco [®] /10t C3	10 t	940520303310	•
Inteco [®] /20t C3	20 t	940520303320	•
Inteco [®] /30t C3	30 t	940520303330	•
Inteco [®] /50t C3	50 t	940520303350	•
Inteco [®] /60t C3	60 t	940520303360	
Inteco [®] /75t C3	75 t	940520303375	

* In combination with the converter Connexx[®], the load cell is also available as a digital version

Compression load cell Inteco[®], OIML R60 accuracy class C3=0.015%, Ex version

Type	Load stage	Order number	Converter Connexx [®] as an option*
Inteco [®] /2t C3E	2 t	940560303220	
Inteco [®] /3t C3E	3 t	940560303230	
Inteco [®] /5t C3E	5 t	940560303250	
Inteco [®] /10t C3E	10 t	940560303310	
Inteco [®] /20t C3E	20 t	940560303320	
Inteco [®] /30t C3E	30 t	940560303330	
Inteco [®] /50t C3E	50 t	940560303350	

Compression load cell Inteco[®], OIML R60 accuracy class C6=0.008%

Type	Load stage	Order number	Converter Connexx [®] as an option*
Inteco [®] /3t C6	3 t	940520306230	
Inteco [®] /5t C6	5 t	940520306250	
Inteco [®] /10t C6	10 t	940520306310	
Inteco [®] /20t C6	20 t	940520306320	•
Inteco [®] /30t C6	30 t	940520306330	•
Inteco [®] /50t C6	50 t	940520306350	
Inteco [®] /60t C6	60 t	940520306360	
Inteco [®] /75t C6	75 t	940520306375	

Compression load cell Inteco[®], OIML R60 accuracy class C6=0.008%, Ex version

Type	Load stage	Order number	Converter Connexx [®] as an option*
Inteco [®] /3t C6E	3 t	940560306230	
Inteco [®] /5t C6E	5 t	940560306250	
Inteco [®] /10t C6E	10 t	940560306310	
Inteco [®] /20t C6E	20 t	940560306320	
Inteco [®] /30t C6E	30 t	940560306330	
Inteco [®] /50t C6E	50 t	940560306350	
Inteco [®] /60t C6E	60 t	940560306360	
Inteco [®] /75t C6E	75 t	940560306375	

Compression load cell Inteco[®], Converter Connexx[®]

Type	Description	Order number
Converter Connexx [®]	The converter Connexx [®] can only be ordered with the above-mentioned load cells from the Inteco [®] series. When ordering, both order numbers need to be given.	940510300000

Additional information:

The converters Connexx[®] can be used with the Indicator X3.

To do this, the indicator X3 must be equipped with a CANopen interface card PR 5510/05 (940535510051).



* In combination with the converter Connexx[®], the load cell is also available as a digital version

Mounting kit PR 6145 without constrainer

PR 6145/00N	940536145001
PR 6145/00S	940536145002

MiniFLEXLOCK with integrated constrainer

PR 6143/00N	940536143001
PR 6143/00S	940536143002
PR 6143/10N	940536143101
PR 6143/10S	940536143102

Constrainer for compression load cell Inteco®

PR 6143/80	940536143801
PR 6143/83	940536143831
PR 6143/02	940536152021

Load discs for compression load cell Inteco®

PR 6143/50N	940536143501
PR 6143/50S	940536143502

Bases for compression load cell Inteco®

PR 6143/24S	940536143242
PR 6143/54S	940536443542

Fixed bearing

PR 6101/53N	940556101531
PR 6101/53S	940556101532
PR 6101/24N	940556101241
PR 6101/24S	940556101242
PR 6101/54N	940556101541
PR 6101/54S	940556101542

Compact mounting kits

PR 6001/00N	940536001001
PR 6001/00S	940536001002
PR 6001/01N	940536001011
PR 6001/01S	940536001012



MaxiFLEXLOCK with integrated constrainer

PR 6001/10N	940536001101
PR 6001/10S	940536001102
PR 6001/11N	940536001111
PR 6001/11S	940536001112
PR 6001/20N	940536001201
PR 6001/20S	940536001202
PR 6001/21N	940536001211
PR 6001/21S	940536001212
PR 6001/26N	940536001261

High-load MaxiFLEXLOCK with a permissible horizontal force of 200 kN

PR 6001/30N	940536001301
PR 6001/31N	940536001311

Seismic Mount for compression load cell PR 6201

PR 6144/54N	940536144541
PR 6144/15N	940536144151
PR 6144/35N	940536144351
PR 6144/55N	940536144551

Weld-on plate kits

PR 6001/90N	940536001901
PR 6001/90S	940536001902
PR 6001/91N	940536001911
PR 6001/91S	940536001912
PR 6001/92N	940536001921
PR 6001/92S	940536001922
PR 6001/96N	940536001961
PR 6001/98N	940536001981

The products and solutions presented in this data sheet make major contributions in the following sectors:



Food and beverages



Chemistry



Agribusiness



Building materials



Machinery (OEM)

The technical data given serves as a product description only and should not be understood as guaranteed properties in the legal sense.

Specifications subject to change without notice.
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