

Compression ring load cell (BR)

Compact, low profile measuring unit made of stainless steel

- ✓ Hermetically sealed, conforming to EEC protection standard IP69k
- ✓ High insensitivity to lateral forces
- Also suitable for legal-for-trade scales of class III; OIML R60/PTB test report up to 4000d
- Universally applicable due to matching elastomeric bearings & rocker pins





Advantages

The compression ring load cells from EHP Wägetechnik GmbH, which are manufactured exclusively in Germany, are among the highest quality on the market. The durable, stainless steel housing is fully welded and the unique encapsulation of the cable entry guarantees reliable operation compared to conventional cable glands - even under the most extreme operating conditions, such as those found in the food and chemical industries.

The BR load cell meets the strict European requirements for use in Class III legal-for-trade scales. The BR load cell is excellently suited for installation in platform, hopper and vehicle scales, as well as in process engineering systems.

Product details



Hermetically sealed housing, suitable for high pressure cleaning



Matching installation kits available



Universally applicable, optionally also in EEx(i) version





Elastomer bearing for compression ring load cells (BR)



The load measuring unit BR load cell with an elastomer bearing represents a particularly robust and yet highly accurate weighing component for universal use with all industrial scales.



The load is reconciled to the BR weighing cell via a self-centering elastomer bearing. This dampens load shocks, absorbs transverse forces and provides the necessary horizontal mobility with high restoring forces. Project planning and installation of the BR load cell with elastomer bearing is particularly easy.

Advantages

- Self-centering, independent of the weight force applied
- Best suited for highest accuracy requirements, even under unfavourable ambient conditions
- Large deflections possible
- Insensitive to contamination; maintenance-free
- Height adjustable in nominal loads from 0.5t to 3t
- Quasi-static bearing arrangement for four or multi-point bearings
- Shock absorbing due to low vertical deflection
- High overturning safety; usually no additional end stops necessary

Rocker-Pin for compression ring load cells (BR)

The reduction to essential elements enables a cost-efficient solution that can also be easily integrated into your design. The pressure stilt has an exact, self-righting function due to the coordinated radius geometries.

The user receives maximum design freedom with high functional reliability and the highest accuracy requirements. The BR pressure stilt is ideally suited for use in truck and hopper scales.

Advantages

- Self aligning function
- Low, compact design made of hardened stainless steel
- Easy installation
- Low dead weight
- Easy adaptation to existing customer-side scale construction
- No twist locks required
- Can be used under extreme ambient conditions





Compression ring load cell (BR) - Dimensions

Nominal load [t]	ØA [mm]	B [mm]	ØC [mm]	D [mm]	E E	ØF [mm]	[mm]	Cable* [m]
0,5 1	52	43	10	7,6	15,6	36,5	25	3
2 3	70	55	15	10	18	48,2	28	6
5	92	80	18	11	20	72,5	32	10
10	92	80	28	18,4	33,4	75,3	33	10
30	120	108	29	24	29	101	50	10
50	130	120	40	30,4	50,4	112	60	16



Compression ring load cell 0,5-5t



Compression ring load cell 10t





Compression ring load cell 30-50t

Elastomer bearing for Compression Ring load cell (BR) - dimensions

Nominal load [t]	E _h [mm]	ØE _d [mm]	G [mm]	H [mm]	□O ØO [mm]	⊐Z [mm]	s _{max} [mm]	F _{vertical} [kN/mm]	F _{horizontal} [N/mm]
0,5 1	17	70	54-62	67-75	90	90	2	30	500
2 3	17	70	54-62	67-75	90	90	2	30	500
5	32	-	71	91	160	100	4	65	400
10	59	125	114	134	125	-	6	119	320
30	83	180	143	176	145	-	10	165	800
50	83	180	151,6	194	145	_	12	290	950







Elastomer bearing BR 5t

Elastomer bearing BR 10-50t

Rocker-Pin for compression ring load cells (BR) - dimensions

Nominal load [t]	E _h [mm]	ØE _d [mm]	G [mm]	H [mm]	□O ØO [mm]	s _{max} [mm]	F _{rel} [%/mm]
0,5 1	15	58	46	59	90	± 2,5	4,9
2 3	20	78	58	71	90	± 3,0	3,9
5	25	98	74	94	125	± 4,3	2,8
10	26	55	94	142,4	125	± 8,0	2,9
30	33	100	167,7	200	145	± 11,0	1,9
50	47	100	188	230	145	± 13,5	2,1



Technical data

The following data apply in the nominal temperature range. All percentages refer to the signal at nominal load.

Nominal load (= Emax)	L _n t 0,5/1/2/3/5/10/30/50							
Type / Accuracy class according to OIML R60			BR/D1	BR/C1	BR/C2	BR / C3	BR / C4	
Maximum number of verification	n		1000	1000	2000	3000	4000	
intervals	max		1000	1000	2000	3000	4000	
Minimum verification interval	V _{min}		E _{max} /3500	E _{max} /7000	E _{max} /14000	Emax/14000	Emax/17500	
Temperature coefficient sensitivity	тк _с	%/10K	<0,035	<0,025	<0,012	<0,012	<0,009	
Temperature coefficient zero	TK ₀	%/10K	<0,040	<0,020	<0,010	<0,010	<0,008	
Combined error	F _{comb}	%	<0,080	<0,040	<0,025	<0,018	<0,014	
Hysteresis	Fu	%	<0,050	<0,050	<0,025	<0,017	<0,012	
Minimum dead load output return	C _{MDLOR}	%	<0,050	<0,050	<0,025	<0,017	<0,012	
Maximum permissible change		%	< 0.0420	< 0.0420	< 0.0210	< 0.0210	< 0.0158	
(mpc) for creep: 0 – 30 minutes		%	<0,0090	<0,0090	< 0,0045	<0,0045	< 0,0034	
: 20 – 30 minutes	6				2			
		mv/v			2			
Sensitivity tolerance	2	%	< +1					
Input resistance	R _e	Ohm	1160 ± 60					
Output resistance	R _a	Ohm	1015 ± 65					
Insulation resistance	R _{is} G Ohm				>20			
Reference input voltage	U _{sr} V 10							
Maximum voltage supply	U _{smax}	V 30						
Minimum dead load	L _{De,min}	e,min %E _{max} 0						
Maximum load with damage	L _I %E _{max} 150							
Destructive load	L _d %E _{max} >500							
Rel.static limit concentric & eccentric	L _{lq}	%E _{max}			75			
Load cell deflection at nominal load	h _n	mm	<0,08 ± 0,02					
Reference temperature	t _r	t _r °C 23						
Nominal temperature range	B _{tn} °C -10 +40							
Temperature range	B _t	°C -30 +85						
Storage temperature range	B _{ts} °C -50 +95							
EEC protection class	Hermetically sealed, laserwelded housing 1m water pressure, 1000hours,							
(DIN 40050 & EN 60529)	IP69K (water under high pressure)							
Material	Stainless steel, corrosion behaviour comparable with 1.4305 steel							
Cable	6-wir-PUR-cable Ø 6,5 mm, screened, free ends tinned							

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Über uns

EHP is a medium-sized german company with representations all over the world. We are crane scales and load cell specialists with own development, production and a comprehensive service area - all made in Germany since 1979. With more than 24,000 scales in active use worldwide, we are one of the market leaders. Our customers appreciate our quick response and the willingness to find always the right weighing solution.



www.ehp.de

Technical variations may cause the specifications to change

References



Our EHP load cells and scales are used by the following companies:

