

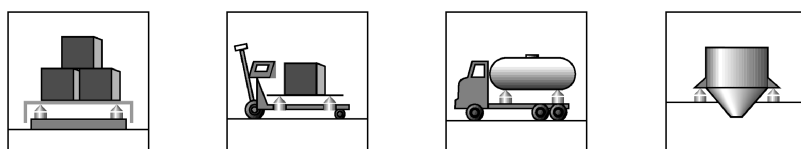
HLC...

Load cells



Special features

- Hermetically sealed (IP68)
- Stainless steel
- Low overall height
- Meets EMC/ESD requirements according to EN 45 501
- Complies with OIML R60 regulations up to 3000d for scales according to EN 45 501
- **Available option:**
Explosion proof version
EEx ib IIC T4



Dimensions (in mm; 1mm = 0.03937 inches)

HLCA...

HLCB...

Wiring code (6-wire circuit) *

(grey)	Sense (-)	[1]*
(black)	Excitation (-)	
(white)	Signal (+)	
(blue)	Excitation (+)	[2]*
(green)	Sense (+)	[1]*
(red)	Signal (-)	
(-)	Shield / wire strand	[3]*

connected with housing

* Wiring code for Maximum capacities 2.2t + 4.4t (4-wire circuit):
 [1] Sense not existing [2] Excitation (+) = green [3] Shield = yellow

Maximum capacity	A	B	C	D	E	F	G	H	J	K	Ø L	M	N
220kg; 550kg; 1.1t; 1.76t; 2t	133.4	30.2	30.7	57.7	15.4	76.2	25.4	1.7	13	3 m	20.6	M12	14.2
2.2t	171.5	36.5	36.8	76.2	19.1	95.3	38.1	2.5	20.5	6 m	30.2	M20	17.0
4.4t	171.5	42.9	42.9	76.2	19.1	95.3	38.1	2.5	20.5	6 m	30.2	M20	20.1

Technical Data



Type (see type code below)		HLC_(1) D1						HLC_(1) C3							
Accuracy class according to OIML R 60		D1						C3							
Maximum number of load cell intervals (n _{LC})		1000						3000							
Maximum capacity (E _{max})		220kg	550kg	1.1t	1.76t	2t	2.2t	4.4t	220kg	550kg	1.1t	1.76t	-	2.2t	4.4t
Minimum LC verification interval (v _{min})	% of E _{max}	0.0285						0.0100 (220kg; 1.76t; 2.2t; 4.4t) 0.0090 (550kg + 1.1t)							
Sensitivity (C _n)	mV/V	1.94		2.00		1.94		1.94							
Sensitivity tolerance	%	±0.5000						±0.1000							
Temperature effect on zero balance (TK ₀)	% of C _n	±0.0400						±0.0140 (220kg; 1.76t; 2.2t; 4.4t) ±0.0127 (550kg + 1.1t)							
Temperature effect on sensitivity (TK _C) ¹⁾	/ 10K	±0.0500						±0.0140							
Hysteresis error (d _{hy}) ¹⁾	% of C _n	±0.0500						±0.0170							
Non-linearity (d _{lin}) ¹⁾		±0.0500						±0.0170							
Creep (d _{cr}) over 30 min.		±0.0500						±0.0166							
Input resistance (R _{LC})	Ω	> 350													
Output resistance (R ₀)		350 ±2													
Reference excitation voltage (U _{ref})	V	5													
Nominal range of excitation voltage (B _U)		5 ... 15													
Insulation resistance (R _{is})	GΩ	> 5													
Nominal temperature range (B _T)	°C [°F]	-10 ... +40 [+14 ... +104]													
Service temperature range (B _{TU})		-15 ... +70 [+5 ... +158]													
Storage temperature range (B _{TI})		-15 ... +85 [+5 ... +185]													
Safe load limit (E _L)	% of E _{max}	150													
Lateral load limit (E _{lq})		100													
Breaking load (E _d)		300													
Permissible dynamic load (F _{srel}) (vibration amplitude according to DIN 50100)		70													
Deflection at E _{max} (s _{nom}), approx.	mm	0.5													
Weight (G), approx.	kg	0.9		1.6		2.2		0.9		1.6		2.2			
Protection class according to EN60529 (IEC529)		IP68													
Material: Measuring element Cable fitting ²⁾ Cable-sheath ²⁾		Stainless steel Stainless steel / Sealing: Neoprene ²⁾ PVC ²⁾													

1) The data for Non-linearity (d_{lin}), Hysteresis error (d_{hy}) and Temperature effect on sensitivity (TK_C) are typical values. The sum of these data meets the requirements according to OIML R60.

2) HLC ... / 2.2t + 4.4t: • 4-wire connection cable with colour-code **green** / black / white / red
• Sealing: perbunan; Cable-sheath: polyurethane.

Type code

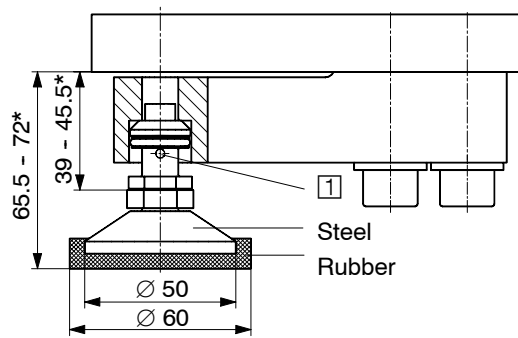
[1]	[2]	[3]	[4]	[1] = Type (Load cell)
HLC	A1 B1	D1 C3	/ 220kg; 550kg; 1.1t; 1.76t	[2] = Design (load introduction) A / A1 = thread through B / B1 = counterbore + thread
HLC	B1	D1	/ 2t	[3] = Class D1 = 1000d (OIML R 60) C3 = 3000d (OIML R 60)
HLC	A B	D1 C3	/ 2.2t; 4.4t	[4] = Maximum capacity (E _{max})
Type example: HLC B1 C3 / 1.1t = Load cell HLC with counterbore + thread, Class C3, Maximum capacity (E _{max}) 1.1t				

Option:

Explosion proof version, for use according to the declaration of conformity in intrinsically safe circuits of the group **EEx ib IIC T4**.

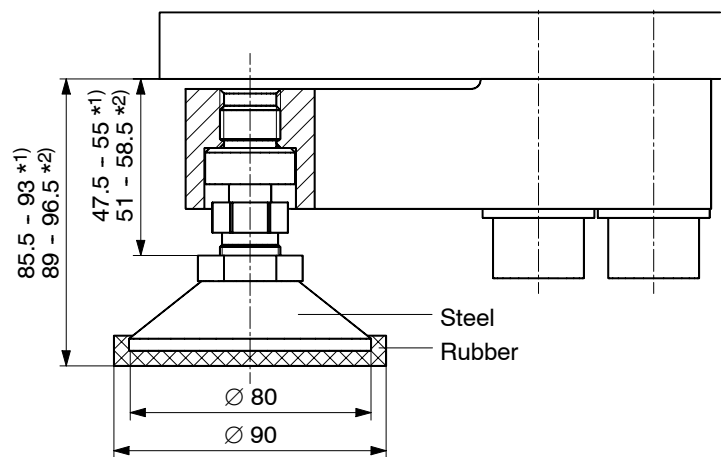
HLCB/ZFP/1.76t - Load introduction swivel foot (Stainless steel)

for HLCB / 220kg ... 2t:



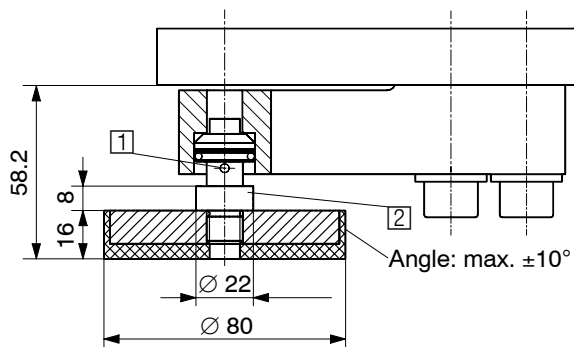
1 Foot fixed in the load cell with the enclosed spring shackle

for HLCB / 2.2t + 4.4t:



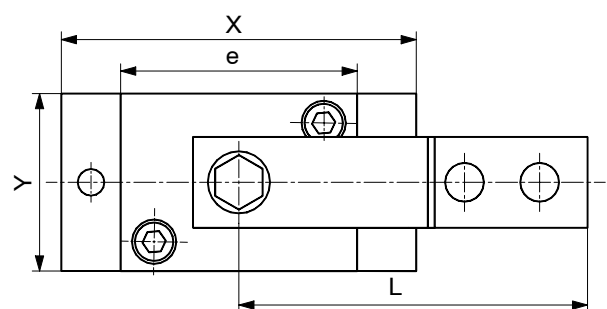
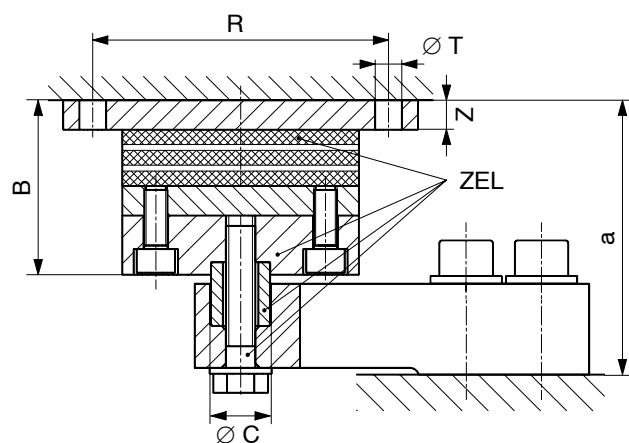
* = Height adjustment (1) = Maximum capacity 2.2t / 2) = Maximum capacity 4.4t)

HLCB/ZKP/1.76t - Load introduction swivel foot (Stainless steel) for HLCB / 220kg ... 2t



1 Foot fixed in the load cell with the enclosed spring shackle
2 width across flats 17

HLCB/...t/ZEL - Elastomer bearing (galvanized material) for HLCB

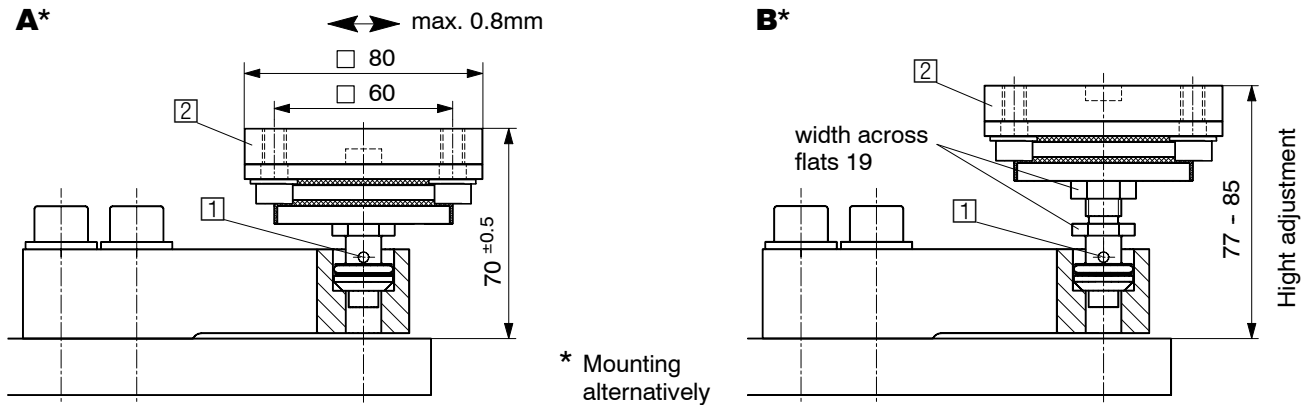


Maximum permissible lateral shift (when loaded with max. capacity):

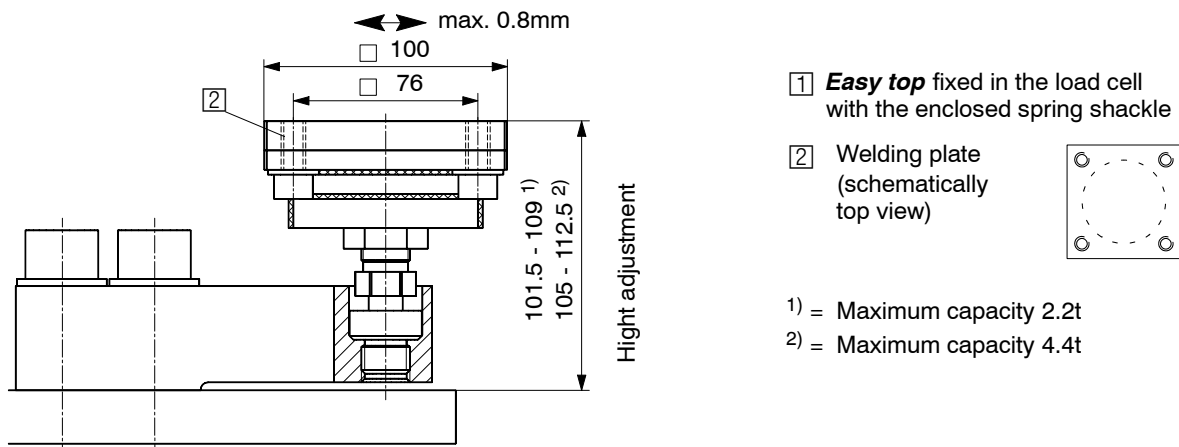
HLCB/1.76t/ZEL: 4mm
HLCB/4.4t/ZEL: 7mm

Type	Capacity	B	∅ C _{-0,1}	L	R	∅ T	X	Y	Z	a	e
HLCB/1.76T/ZEL	220kg ... 2t	58.8	20	118	100	9	120	60	10	92	80
HLCB/4.4T/ZEL	2.2t	71.2	30	152.4	125	11	150	100	10	113	100
HLCB/4.4T/ZEL	4.4t	71.2	30	152.4	125	11	150	100	10	116	100

HLCB/ZDP/1.76t Easy top - Elastomer bearing for HLCB / 220kg ... 2t
(Load introduction: stainless steel, Ironing plate: galvanized material)



HLCB/ZDP/4.4t Easy top - Elastomer bearing for HLCB / 2.2t + 4.4t
(Load introduction: stainless steel, Ironing plate: galvanized material)



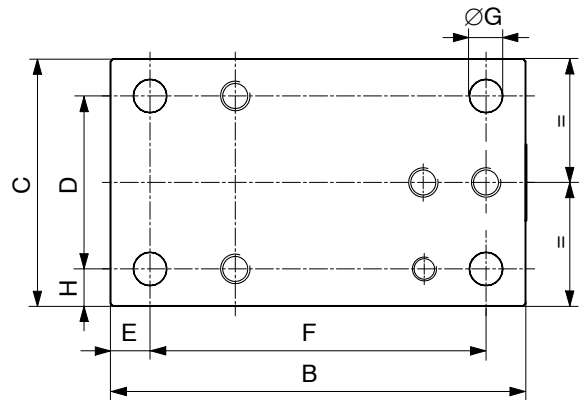
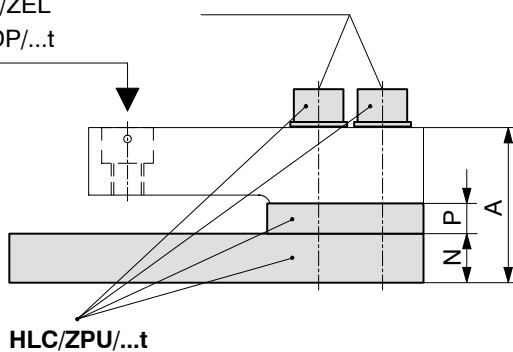
HLC/ZPU/...t - Base plate / Mounting kit (galvanized material) for HLCB

Load introduction via:

- HLCB/...t/ZEL
- HLCB/ZDP/...t

Wrench torque for screws M_A :
see table

Bottom view



Type	Capacity	Breaking load	A	B	C	D	E	F	G	N	P	M_A
HLC/ZPU/1.76t	220kg ... 2t	3.52t	60.5	168	100	70	16	136	13.5	20	10	130Nm
HLC/ZPU/2.2t	2.2t	4.4t	81.5	212	120	84	18	175	14	25	20	400Nm
HLC/ZPU/4.4t	4.4t	8.8t	88	212	120	84	18	175	14	25	20	400Nm



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