

HLC...

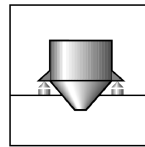
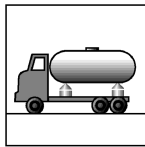
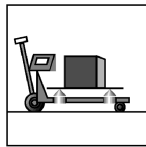
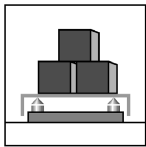
Load cells



↓
↓
Max. capacities:
220kg ... 4.4t

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]*

* 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 _{Tl})		-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

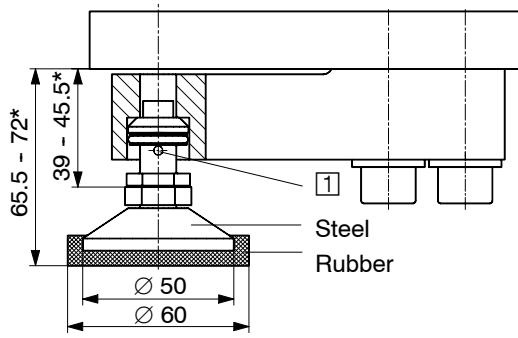
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">1</td> <td style="border: 1px solid black; padding: 2px;">2</td> <td style="border: 1px solid black; padding: 2px;">3</td> <td style="border: 1px solid black; padding: 2px;">4</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">HLC</td> <td style="border: 1px solid black; padding: 2px;">A1 B1</td> <td style="border: 1px solid black; padding: 2px;">D1 C3</td> <td style="border: 1px solid black; padding: 2px;">/ 220kg; 550kg; 1.1t; 1.76t</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">HLC</td> <td style="border: 1px solid black; padding: 2px;">B1</td> <td style="border: 1px solid black; padding: 2px;">D1</td> <td style="border: 1px solid black; padding: 2px;">/ 2t</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">HLC</td> <td style="border: 1px solid black; padding: 2px;">A B</td> <td style="border: 1px solid black; padding: 2px;">D1 C3</td> <td style="border: 1px solid black; padding: 2px;">/ 2.2t; 4.4t</td> </tr> </table>	1	2	3	4	HLC	A1 B1	D1 C3	/ 220kg; 550kg; 1.1t; 1.76t	HLC	B1	D1	/ 2t	HLC	A B	D1 C3	/ 2.2t; 4.4t	<p>1 = Type (Load cell)</p> <p>2 = Design (load introduction) A / A1 = thread through B / B1 = counterbore + thread</p> <p>3 = Class D1 = 1000d (OIML R 60) C3 = 3000d (OIML R 60)</p> <p>4 = Maximum capacity (E_{max})</p>
1	2	3	4														
HLC	A1 B1	D1 C3	/ 220kg; 550kg; 1.1t; 1.76t														
HLC	B1	D1	/ 2t														
HLC	A B	D1 C3	/ 2.2t; 4.4t														
<p>Type example: HLC B1 C3 / 1.1t = Load cell HLC with counterbore + thread, Class C3, Maximum capacity (E_{max}) 1.1t</p>																	

Option:

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

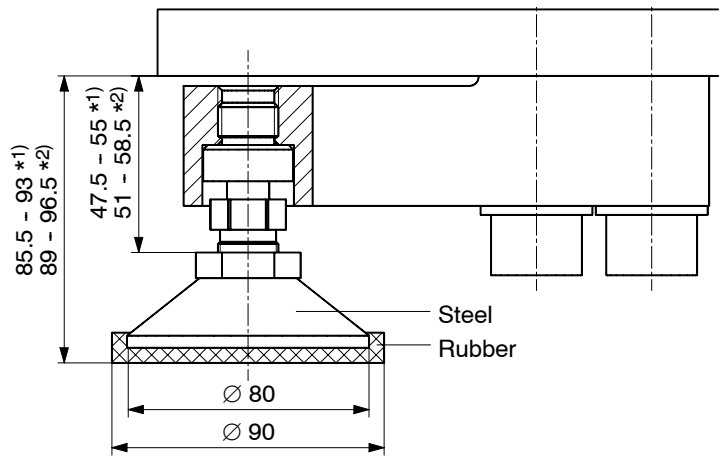
HLCB/ZFP/1.76t - Load introduction swivel foot (Stainless steel)

for HL CB / 220kg ... 2t:



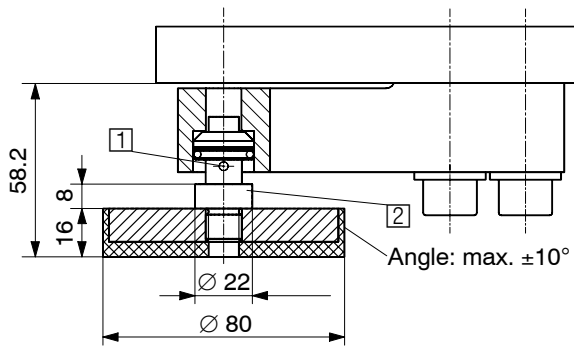
① Foot fixed in the load cell with the enclosed spring shackle

for HL CB / 2.2t + 4.4t:



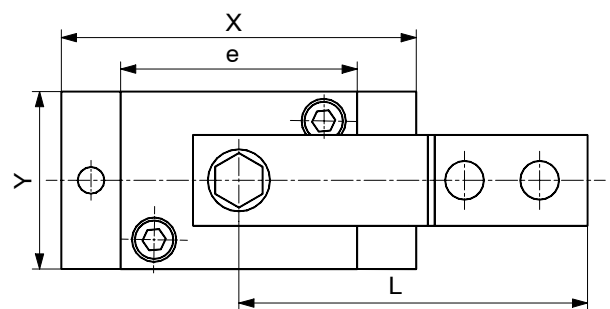
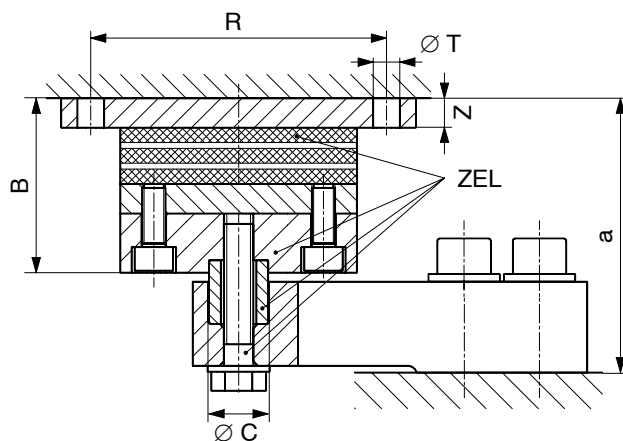
* = Height adjustment (1) = Maximum capacity 2.2t / (2) = Maximum capacity 4.4t

HLCB/ZKP/1.76t - Load introduction swivel foot (Stainless steel) for HL CB / 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 HL CB

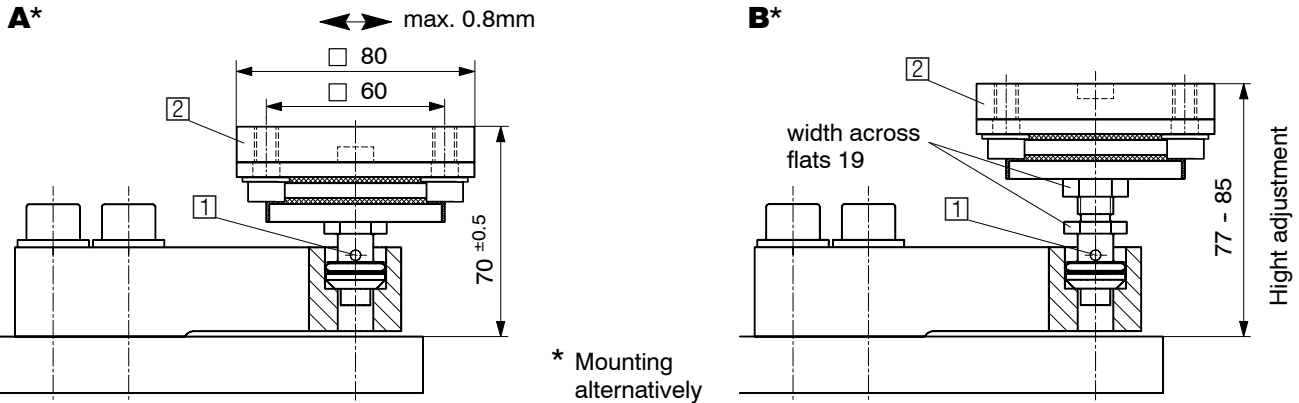


Maximum permissible lateral shift (when loaded with max. capacity):

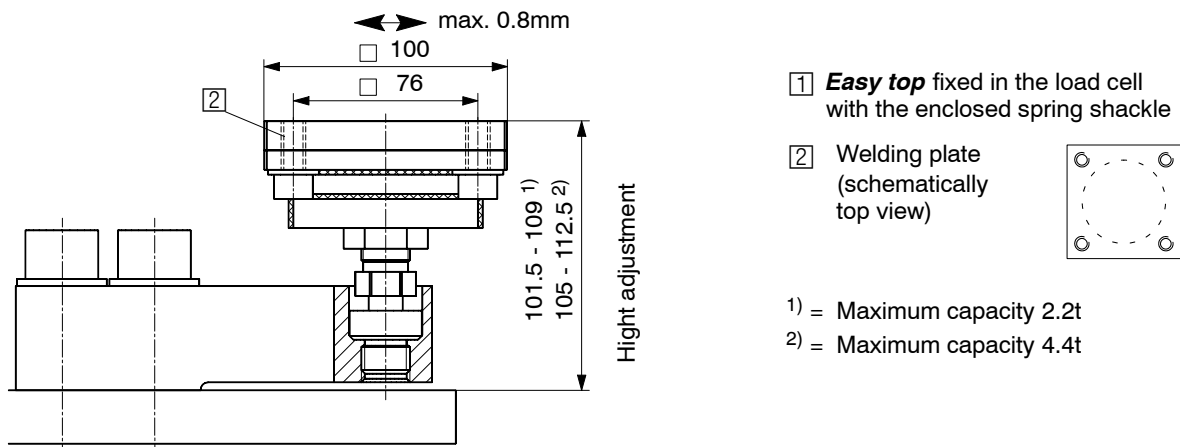
HLCB/1.76t/ZEL: 4mm
HLCB/4.4t/ZEL: 7mm

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)



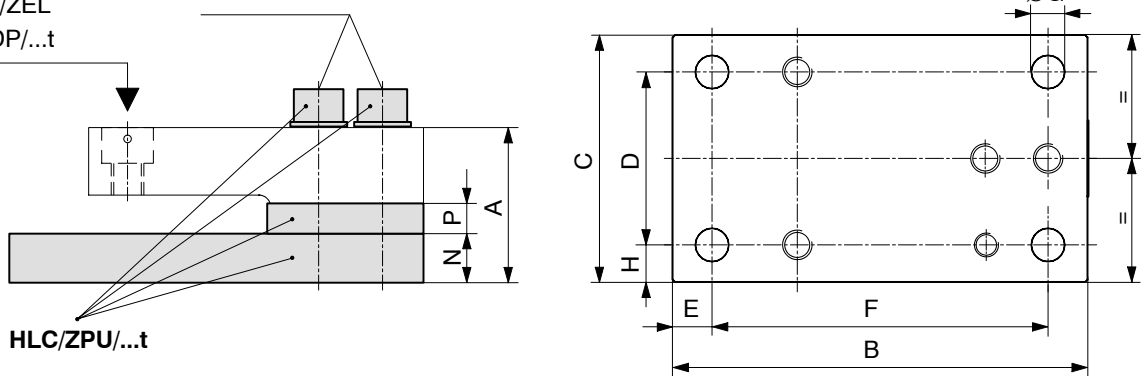
HLC/ZPU/...t - Base plate / Mounting kit (galvanized material) for HLCB

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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