

SENSiQ[®] Weighbeam

WB 11,5 t ... 600 t

- The original, proven over more than 30 years, optimized to the latest state of technology
- Expanded to an operating temperature from -40 °C ... +180 °C
- High precision with a maximum combined error of up to ±0.07 %
- Extremely robust and maintenance-free, up to IP68
- 6-wire circuit
- Integrated sensor for temperature monitoring and compensation, and integrated overvoltage protection
- Separate installation of the connecting cable through plug connection on the Weighbeam, also available as hinged plug outlet



Application

- Ladle turret scale
- Ladle transfer car
- Scrap basket, roller and tundish scales
- Silo and bin weighers

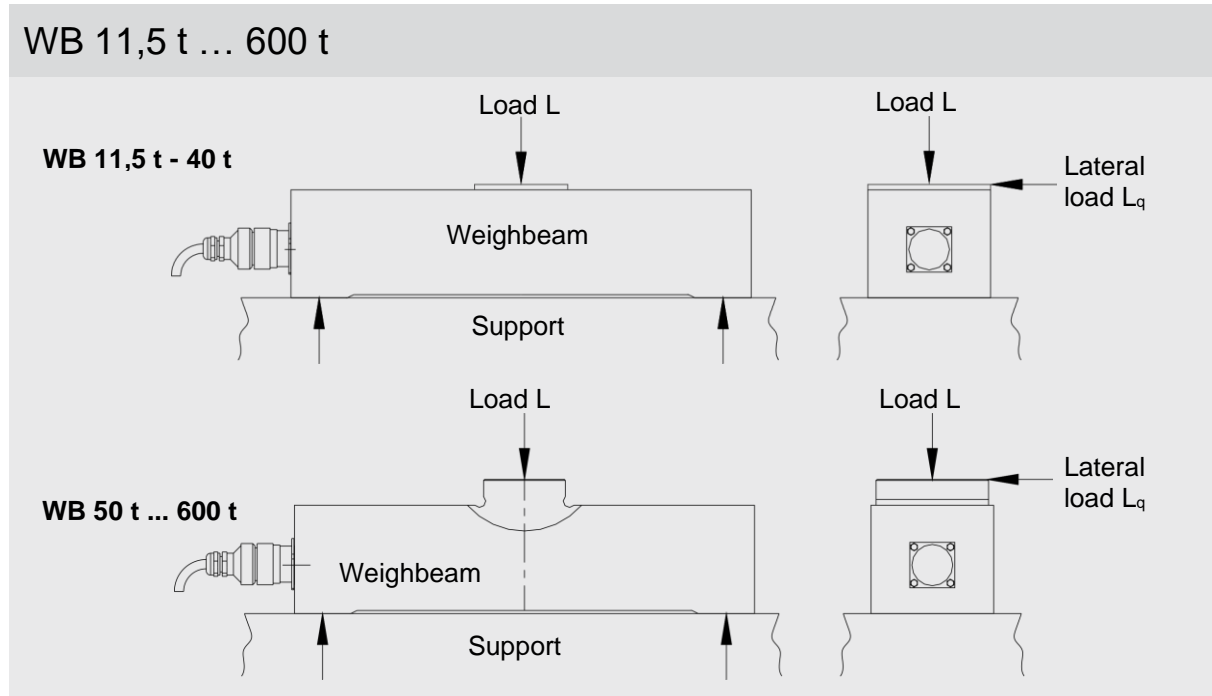
Function

- Simple and cost-effective installation through direct bolted joint with the connecting structure without moving parts
- No additional straps or hold down bolts required
- High functional safety and availability, even with frequently unavoidable impact loads and constraining forces
- For maintenance-free scales operated under harsh conditions

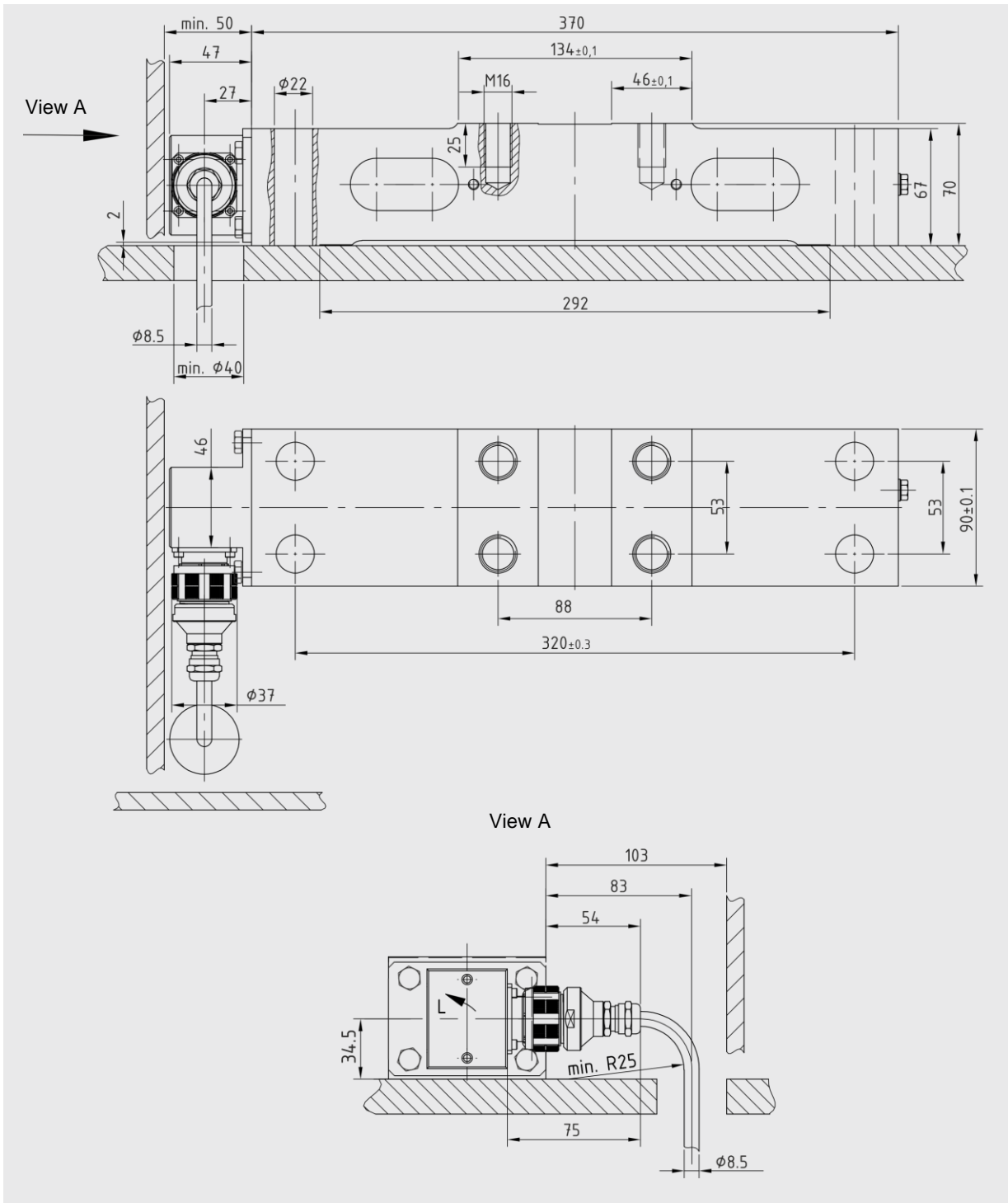
Construction

- Compact, flat design
- From WB 50 t: Fit head for form-locking take-up of lateral forces
- Plug connection, also available as hinged plug outlet (WB 40 t - WB 600 t)
- Transfer of high disturbance forces and torques with minimum measuring value interference
- High long-term stability
- High reproducibility
- Separate installation of Weighbeam and connecting cable possible
- Cable change without problems
- Connection dimensions and electrical data are compatible with the earlier design of the weighbeam DWB according to data sheet BV-D2059 and BV-D2058

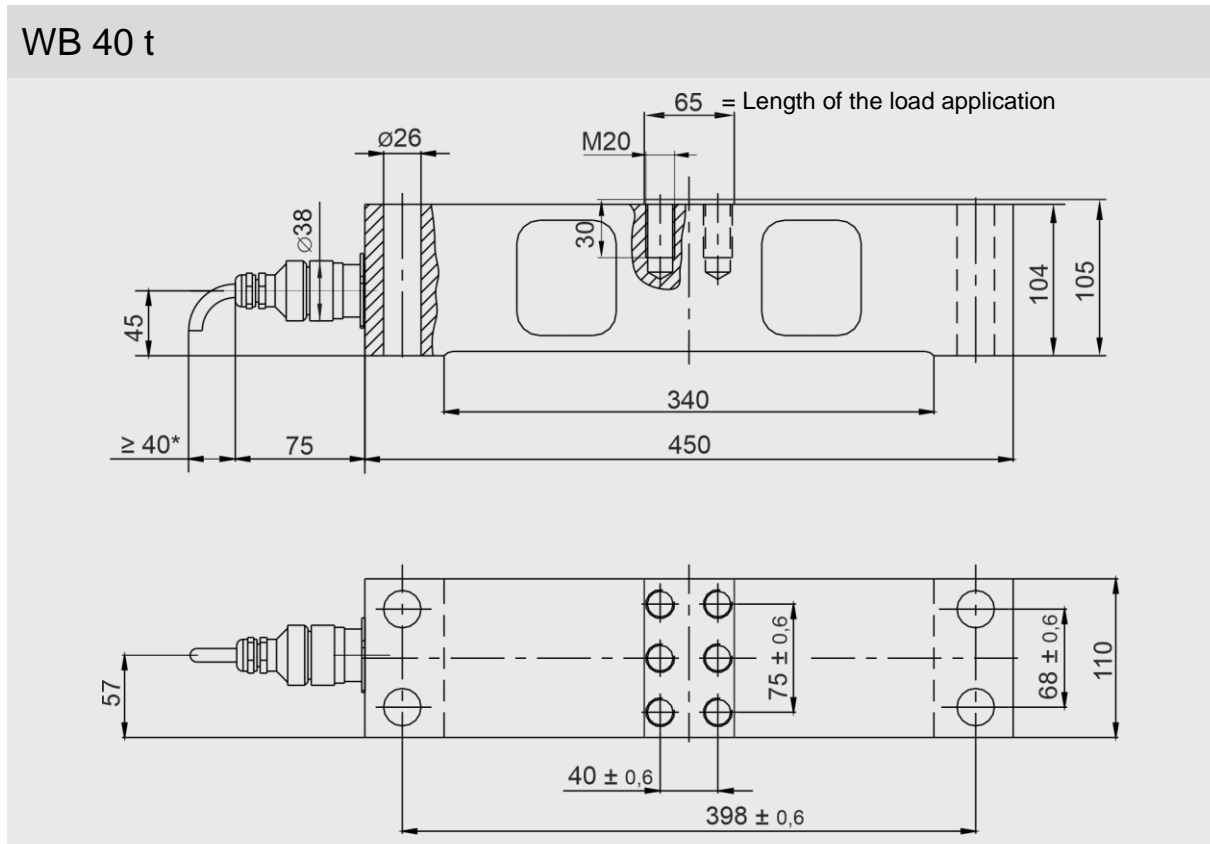
Operating Principle



Installation dimensions WB 11,5 t ... 25 t as hinged plug outlet

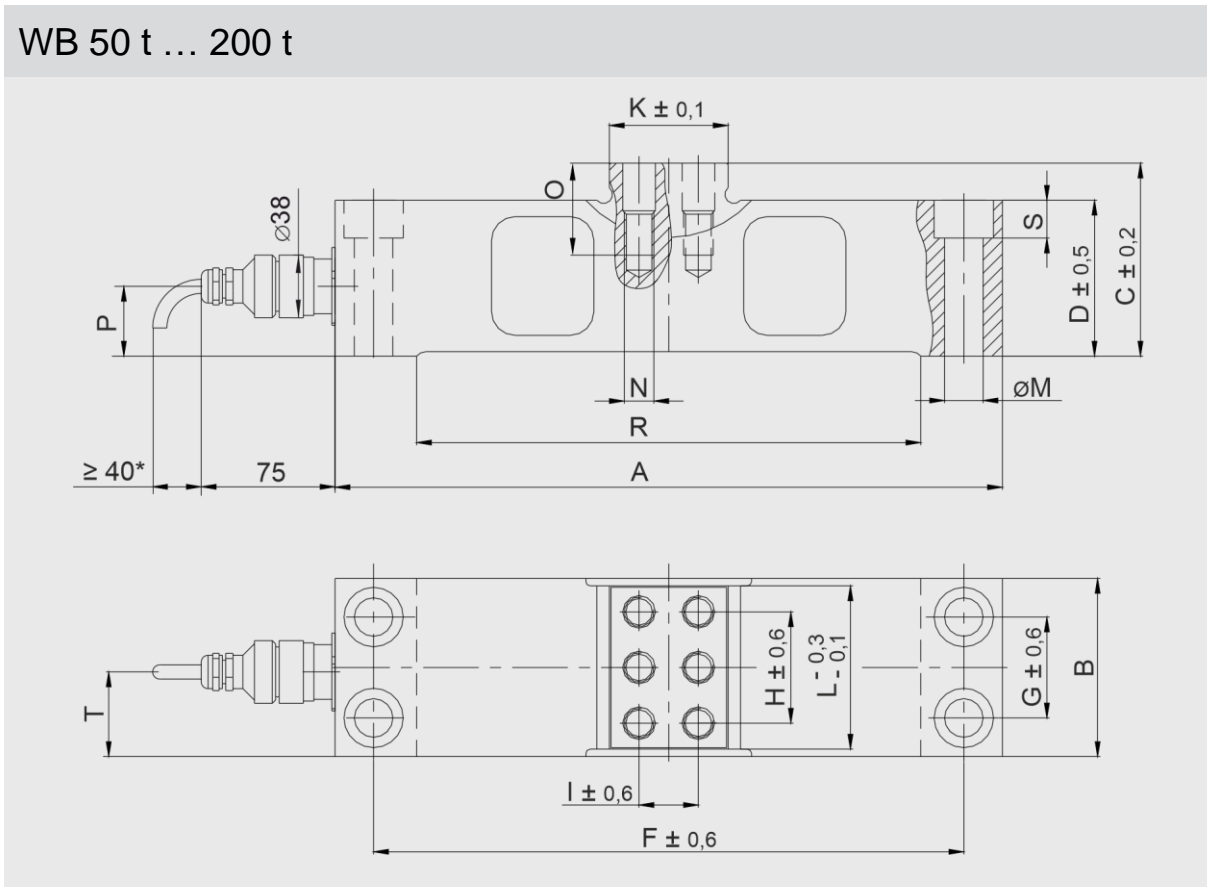


Fitting dimension when connecting with a straight plug connection



* Another 15 mm are needed for isolating the plug connection.

WB 50 t ... 200 t



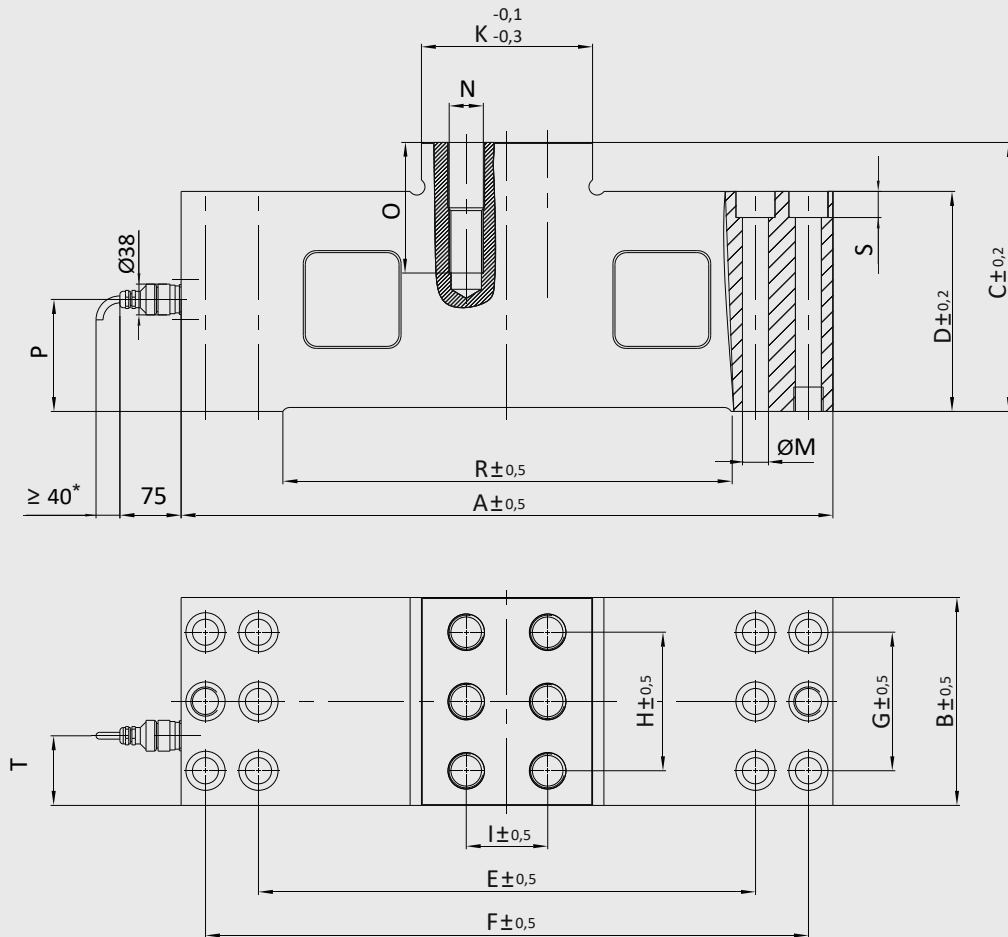
* Another 15 mm are needed for isolating the plug connection.

[mm]

Design	A	B	C	D	F	G	H	I	K	L	M (**)	N	O	P	R	S	T
WB 50 t	450	120	130	105	398	68	75	40	80	110	26 (M24)	M20	62	45	340	25,5	57
WB 100 t	500	140	143	118	444	80	90	44	90	130	30 (M27)	M24	74	54	370	28,5	63
WB 150 t	560	160	158	133	500	94	102	44	90	150	33 (M30)	M24	74	66	410	32	69
WB 200 t	620	180	175	150	560	114	110	44	90	160	33 (M30)	M24	80	75	450	32	76

(**) Screw size

WB 600 t



* Another 15 mm are needed for isolating the plug connection.

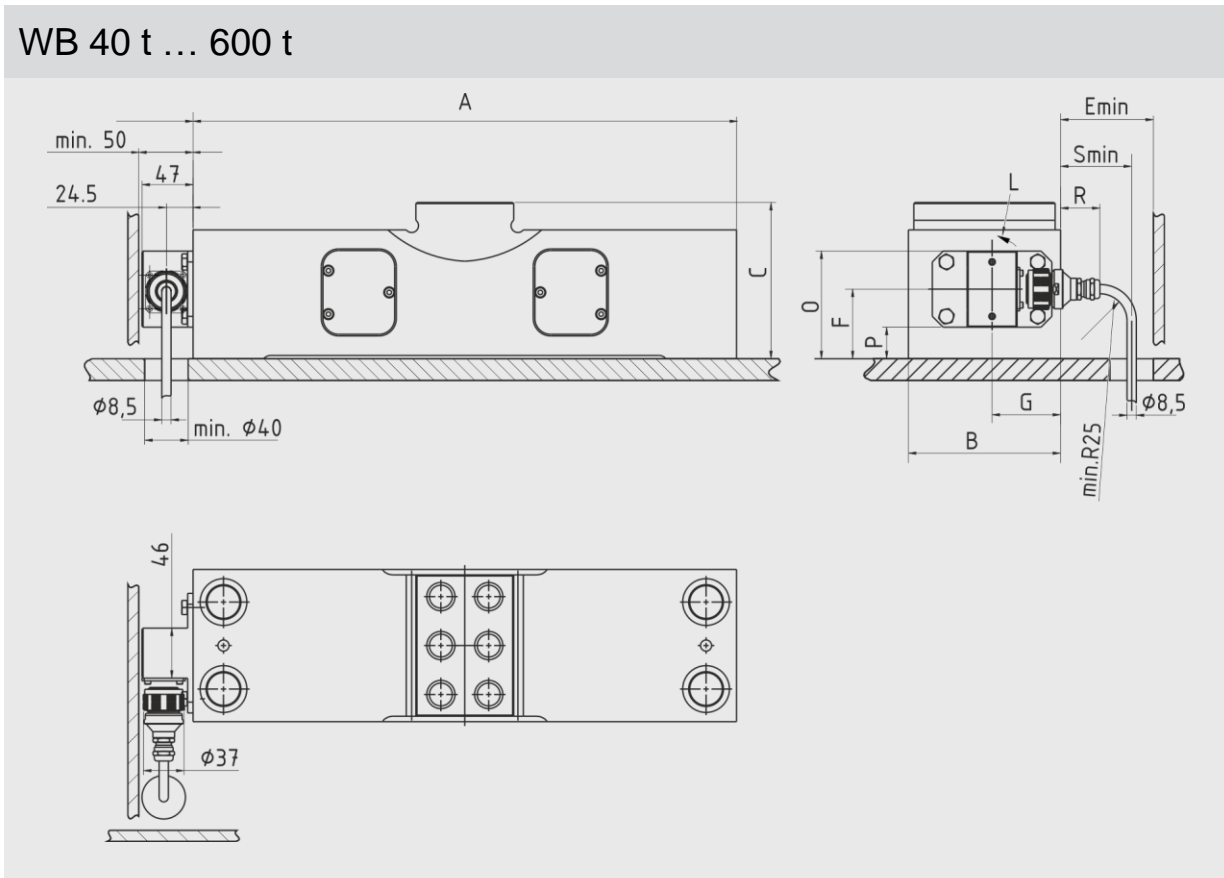
[mm]

Design	A	B	C	D	E	F	G	H	I	K	M (**)	N	O	P	R	S	T
WB 600 t	800	255	330	270	610	740	170	170	100	210	32 (M30)	M42	160	137.5	550	32	85.5

(**) Screw size

Fitting dimension when connecting with hinged plug connection

WB 40 t ... 600 t



Design	A	B	C	E	F	G	L *)	O	R	S	P
WB 40 t	450	110	105	96	45	57	0°/180°	80	47	76	10
WB 50 t	450	120	130	91	45	57	0°/180°	80	42	71	10
WB 100 t	500	140	143	85	54	63	0°/180°	89	36	65	19
WB 150 t	560	160	158	79	66	69	0°/180°	101	30	59	31
WB 200 t	620	180	175	74	75	76	0°/180°	110	25	54	40
WB 600 t	800	255	330	64	137.5	85.5	0°/180°	172.5	15	44	102.5

- *) Cable outlet possible on both sides.
 0°: Cable outlet on the right
 180°: Cable outlet on the left
 Standard: Cable outlet on the right

Technical Data

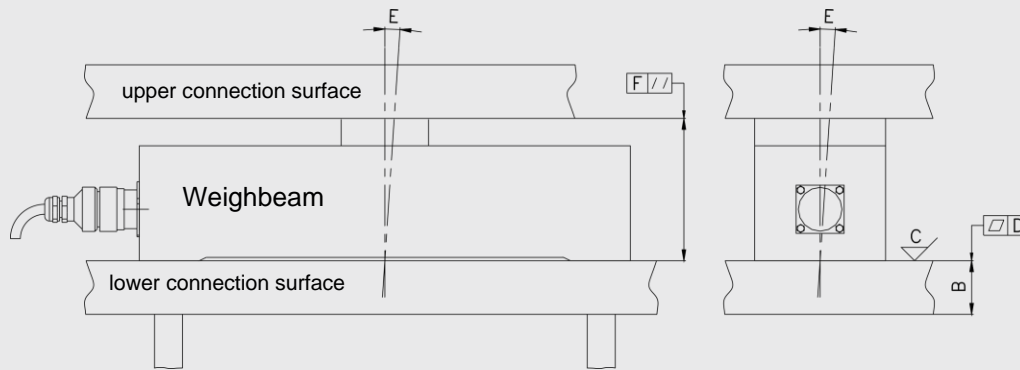
		WB 11,5 t	WB 15 t	WB 25 t	WB 40 t	WB 50 t	WB 100 t	WB 150 t	WB 200 t	WB 600 t	Ref	
Accuracy class ¹⁾		-				D0,7						
Nominal load	E _{max}	11,5 t	15 t	25 t	40 t	50 t	100 t	150 t	200 t	600 t		
Limit load (with L _q = 0.15 x L _i) Limit load = max. safe load	L _i	23 t	26 t	35 t	100 t	120 t	210 t	290 t	360 t	1000 t		
Breaking load (with L _q = 0.15 x L _d)	L _d	35 t	38 t	40 t	160 t	200 t	350 t	480 t	600 t	1200 t		
Max. permitted lateral load	L _{q, max}	15 t	18 t	25 t	40 t	50 t	85 t	120 t	150 t	400 t		
Nominal characteristic value ± 0,2 %	C _n	0,90 mV/V	1,16 mV/V	1,40 mV/V	0,95 mV / V	1,08 mV / V	1,38 mV / V	1,57 mV / V	1,63 mV / V	1,40 mV/V	E _{max}	
Compound error	F _{comb}	±0,2 % ²⁾			±0,1 % ²⁾		±0,07 % ²⁾			±0,1 % ²⁾	C _n	
Creepage under load (30 min)	F _{cr}	±0,05 %										C _n
max. admissible no. of legal- for-trade scale intervals ¹⁾	n _{LC}	-				700						
Smallest scale interval ¹⁾	V _{min}	-				E _{max} / 700						
Input resistance	R _e	694 Ω ±8 Ω									T _r	
Output resistance	R _a	700 Ω ±4 Ω									T _r	
Ref- supply voltage	U _{sref}	10 V										
Max. supply voltage	U _{smax}	36 V										
Nominal temperature	B _{tn}	-10 °C ... +100 °C										
Operating temperature (and storage temperature range)	B _{tu}	-40 °C ... +180 °C										
Temperature	T _r	+22 °C										
Temperature coefficient of the zero signal	TK _o	±0,05 % / 10 K ²⁾									C _n in B _{tu}	
Temperature coefficient of the characteristic value	TK _c	±0,05 % / 10 K ²⁾				±0,03 % / 10 K ²⁾						
Self-weight	m _e	18 kg			39 kg	40 kg	55 kg	85 kg	120 kg	400 kg		
Surface		galvanized										
Protection class		IP67				IP68						
Cable specification		<p>The weighbeam has a plug connection. A separate, shielded cable (Ø 8.5 mm x 15 m) is also supplied with suitable plug socket.</p> <p>The following applies to the cable: Silicon cable, bend radius: > 40 mm; temperature range: -50 °C ...+180 °C</p>										
Cable connection allocation		Black: input + (82)		Blue: Input - (81)		Red: Output + (28)		White: Output - (27)				
		Yellow: sense + (82.1)		Green: sense - (81.1)		Black/yellow: shielding		Purple/brown: temperature sensor Pt100				
		(Not connected sense line – lines have to be insulated)										

¹⁾ for information only

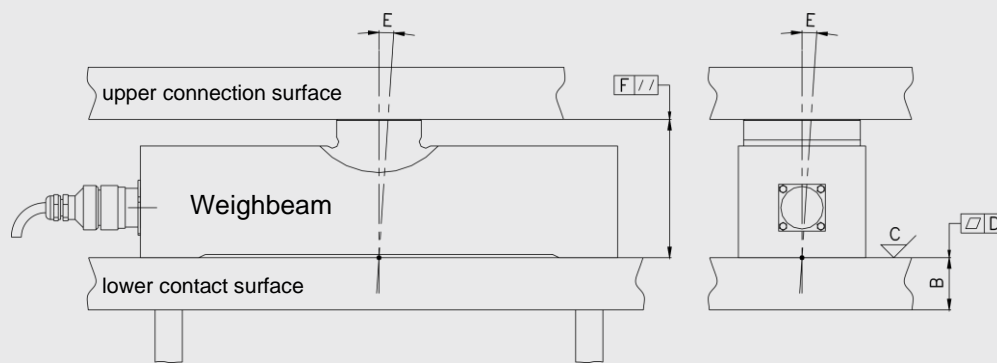
²⁾ in isothermic state

Requirements of the Quality of both Contact Surfaces

WB 11,5 t ... 40 t



WB 50 t ... 600 t



- **Material selection "A"**: Construction steel is used of at least S355 grade must be used.
- **Operating thickness "B"**: This depends on the stiffness of the overall construction. The operating thickness of the connect surfaces must be at least 40% of the the weighbeam height.
- **Surface quality "C"**: The average peak-to-valley height required of the contact surfaces is 6.3 μm .
- **Flatness "D"**: The maximum permissible flatness tolerance of each contact surface is 0.05 mm.
- **Angle error to the vertical axis "E"**: The permitted maximum value for the angle deviation of the contact surface to the vertical axis is $\pm 2^\circ$ in both planes.
- **Plane parallelism "F"**: The upper and lower contact surfaces to the weighbeam must be plan parallel to each other within at least 0.1 mm.

Order Numbers

Design	Order number with straight plug outlet (see drawing above)	Order number with lateral plug outlet on the right (cf. page 7) *)
WB11,5 t	not available	V711375.B73
WB 15 t	not available	V711375.B83
WB 25 t	not available	V711375.B93
WB 40 t	V711375.B03	V758596.B01
WB 50 t	V711375.B13	V758596.B11
WB 100 t	V711375.B23	V758596.B21
WB 150 t	V711375.B33	V758596.B31
WB 200 t	V711375.B43	V758596.B41
WB 600 t	V711375.B53	V758596.B51
<u>Spare part:</u> Connecting cable 15 m with plug connection		V090162.B01
<u>High-temperature cable:</u> 15 m with plug socket		V090162.B07
Constant operation of the cable is permitted at - 65 °C ... +300 °C .		
Operation is permitted at +700 °C for a period of up to 90 minutes .		

*) Plug outlet in the other direction possible on request

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