

Weighbeam DWB 40 ... 200 t



NEW:

- Improved Combined Error: $\pm 0.07\%$
- Improved TK_C Error: $\pm 0.03\% / 10K$

Further Features:

- Six-wire circuit
- Service temperature up to $150^\circ C$
- Integrated sensor for temperature monitoring
- Separate mounting of connecting cable through connector

Application

- Ladle turret scales
- Ladle ferries
- Scrap bucket, roller table weighing and tundish scales
- Silo and hopper scales

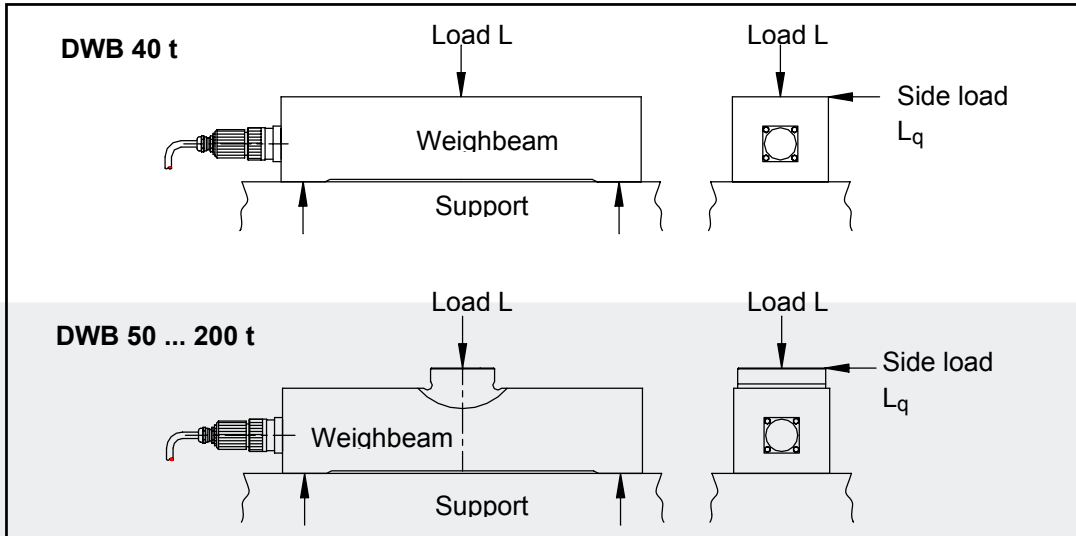
Construction

- Compact, flat design
- From 50t: Locating head for form locking absorption of side forces
- Plug-in connector

Function

- Simple and economical installation through direct screwing to the connecting structure without movable parts
- No need for additional tie-rods and hold-downs
- Virtually impervious to shock loads and unavoidable side forces
- Suitable to the construction of service free scales in severe environments
- Minimal measurement value reaction on high interferential forces and moments
- High long-term stability
- High degree of repeatability
- Separate mounting of weigh-beam and connecting cable possible
- Easy cable exchange

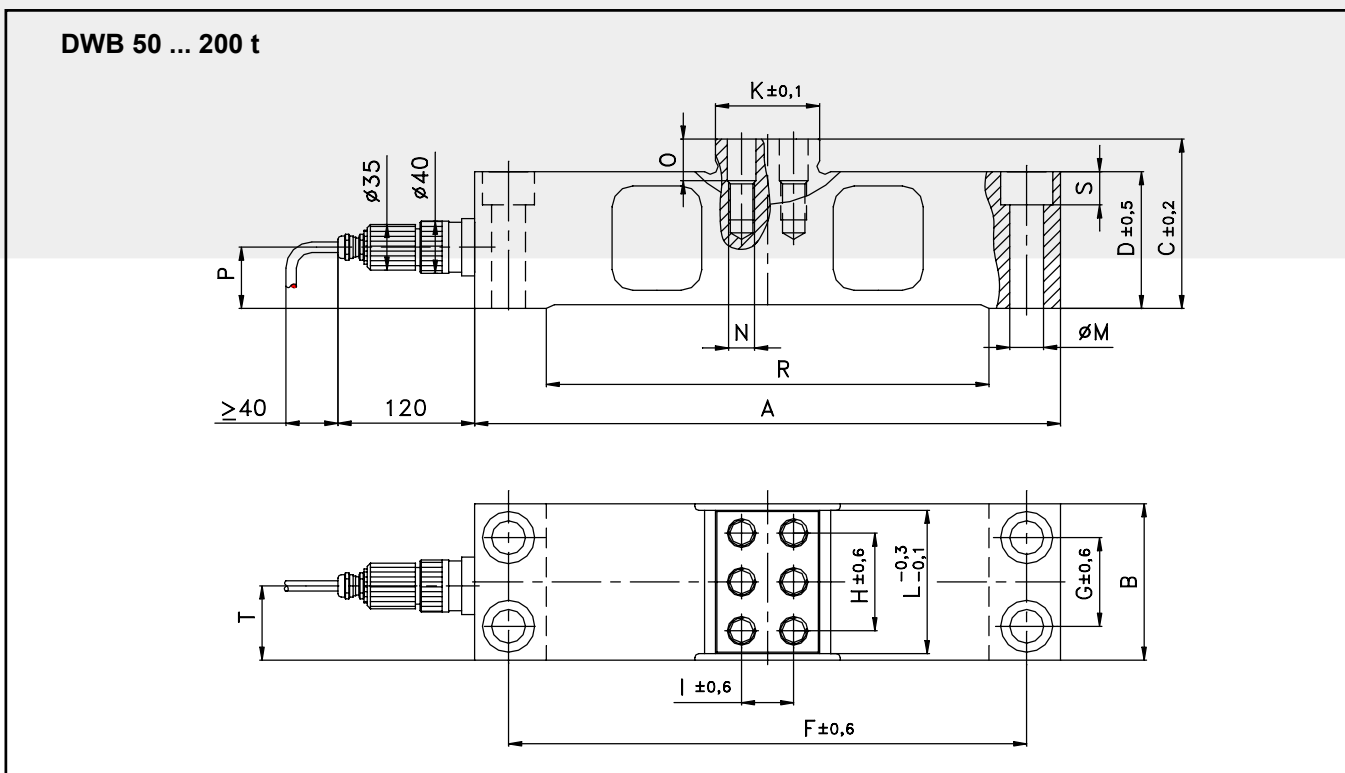
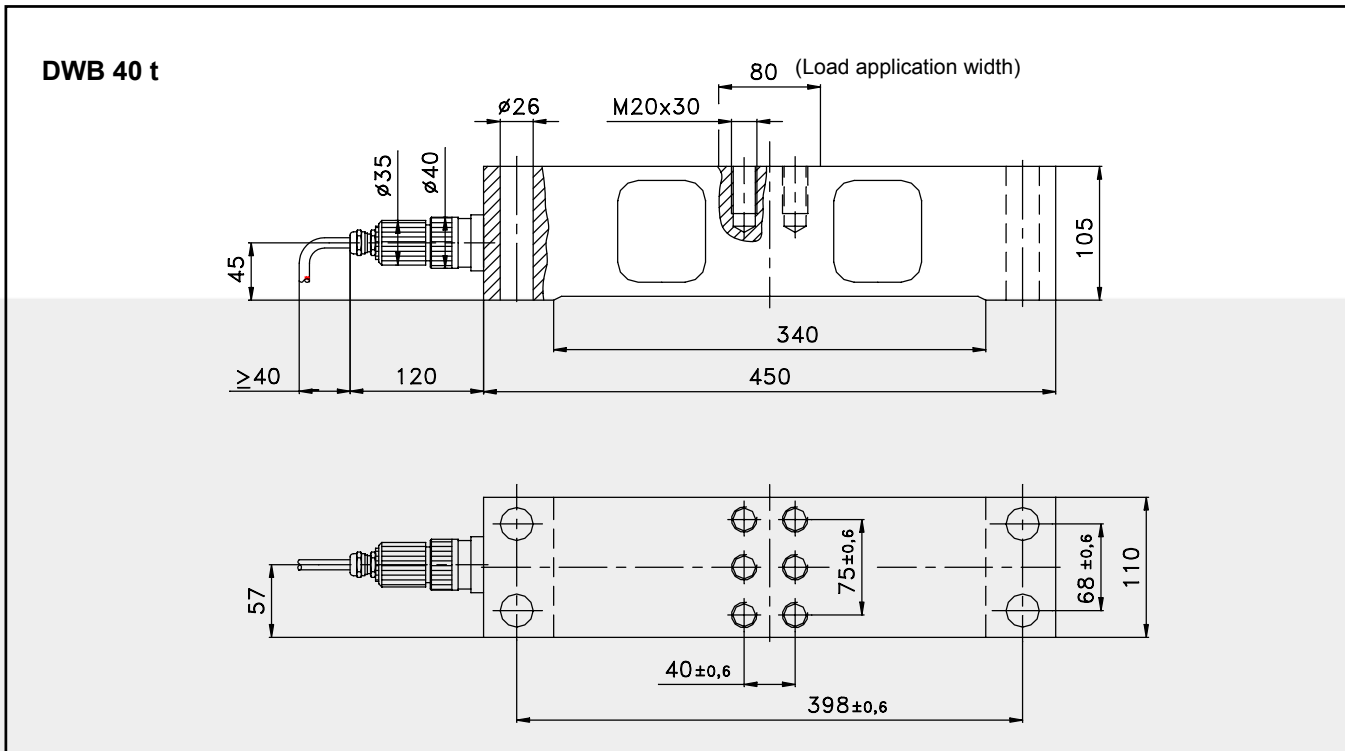
Operating principle



Technical Data

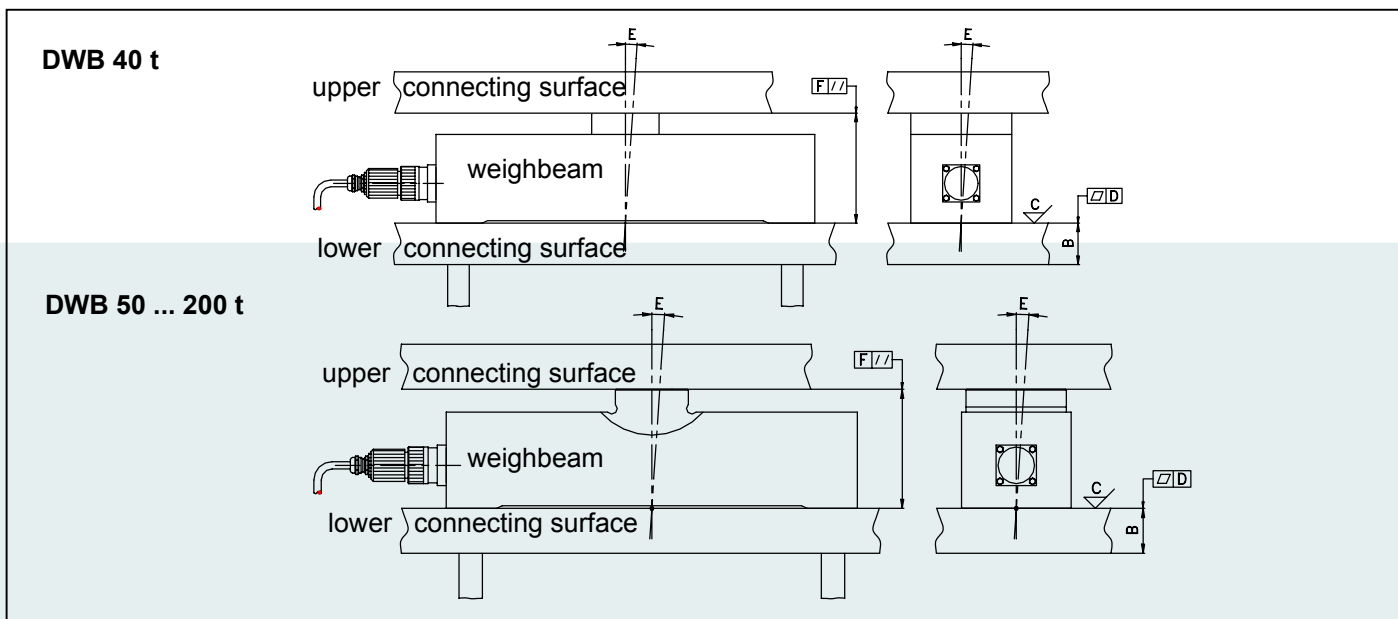
| | | DWB 40 t | DWB 50 t | DWB 100 t | DWB 150 t | DWB 200 t | Reference |
|---|------------|---|--------------|-----------|-----------|-----------|-------------------|
| Rated capacity | E_{max} | 40 t | 50 t | 100 t | 150 t | 200 t | |
| Limit load (with $L_q=0.15xL_n$) Limit load = Maximum admissible load | L_l | 100 t | 120 t | 210 t | 290 t | 360 t | |
| Rupture load (with $L_q=0.15xL_n$) | L_d | 160 t | 200 t | 350 t | 480 t | 600 t | |
| Max. admissible side load | L_{qmax} | 40 t | 50 t | 85 t | 120 t | 150 t | |
| Sensitivity | C_n | 0,95 mV/V | 1,08 mV/V | 1,38 mV/V | 1,57 mV/V | 1,63 mV/V | E_{max} |
| Combined error | F_{comb} | $\pm 0,1\%$ | $\pm 0,07\%$ | | | | C_n |
| Creeping under load (30 min) | F_{cr} | $\pm 0,05\%$ | | | | | C_n |
| Input resistance | R_e | $756 \Omega \pm 6 \Omega$ | | | | | T_r |
| Output resistance | R_a | $700 \Omega \pm 4 \Omega$ | | | | | T_r |
| Reference supply voltage | U_{sref} | 10V | | | | | |
| Max. supply voltage | U_{smax} | 36V | | | | | |
| Nominal temperature range | B_{tn} | - 10°C bis + 100°C | | | | | |
| Service temperature range | B_{tu} | - 15°C bis + 150°C | | | | | |
| Reference temperature | T_r | + 22°C | | | | | |
| Storage temperature range | B_{ts} | - 50°C bis + 180°C | | | | | |
| Temperature effect on zero signal | TK_o | $\pm 0,05\% / 10K$ | | | | | C_n in B_{tu} |
| Temperature effect on sensitivity | TK_c | $\pm 0,03\% / 10K$ | | | | | |
| Dead weight | m_e | 39 kg | 40 kg | 55 kg | 85 kg | 120 kg | |
| Corrosion protection | | hot dip galvanized | | | | | |
| Protection class | | IP 65 | | | | | |
| Cable specification | | Teflon (PTFE) \varnothing 6 mm x 15 m, screened, including plug socket; Bending radius: ≥ 40 mm, Temperature range: -50...+200°C; Wire assignment: 6 wires for measurement value; 2 wires for temperature monitoring | | | | | |
| Colour code | | Black: Input + (82) Blue: Input - (81) Red: Output + (28) White: Output - (27) Yellow: Sense + (82.1) Green: Sense - (81.1) Lila / Brown: Temperature sensor PT100 | | | | | |

Mounting Dimensions



| Variant | A mm | B mm | C mm | D mm | F mm | G mm | H mm | I mm | K mm | L mm | M mm | N | O mm | P mm | R mm | S mm | T mm |
|----------|------|------|------|------|------|------|------|------|------|------|------|--------|------|------|------|------|------|
| DWB 50t | 450 | 120 | 130 | 105 | 398 | 68 | 75 | 40 | 80 | 110 | 26 | M20x30 | 32 | 45 | 340 | 25,5 | 57 |
| DWB 100t | 500 | 140 | 143 | 118 | 444 | 80 | 90 | 44 | 90 | 130 | 30 | M24x36 | 38 | 54 | 370 | 28,5 | 62 |
| DWB 150t | 560 | 160 | 158 | 133 | 500 | 94 | 102 | 44 | 90 | 150 | 33 | M24x36 | 38 | 66 | 410 | 32 | 69 |
| DWB 200t | 620 | 180 | 175 | 150 | 560 | 114 | 110 | 44 | 90 | 160 | 33 | M24x40 | 40 | 75 | 450 | 32 | 76 |

Connecting surface quality requirements



- Material quality "A": Usually construction steel of a minimum quality S355 is used
- Plate thickness "B": Depends on stiffness of total construction. Plate thickness of connecting surface must be at least 40% of the weighbeam height
- Surface quality "C": Requisite mean roughness of the connecting surfaces is 6.3 μm
- Planeness "D": Maximum admissible planeness tolerance within every connecting surface is 0.05 mm
- Angular deviation error to vertical axis "E": Angle deviation of connecting surface to vertical axis in both planes of view must not exceed $\pm 2^\circ$
- Plane parallelism "F": Upper and lower connecting surfaces to the weighbeam have to be plane parallel to minimum 0.1 mm

| Variant | Order No. | Variant (*) | Order No. |
|--|--------------|--|--------------|
| DWB 40 t | D 726 615.01 | DWB 40 t PUR | D 726 615.06 |
| DWB 50 t | D 726 615.02 | DWB 50 t PUR | D 726 615.07 |
| DWB 100 t | D 726 615.03 | DWB 100 t PUR | D 726 615.08 |
| DWB 150 t | D 726 615.04 | DWB 150 t PUR | D 726 615.09 |
| DWB 200 t | D 726 615.05 | DWB 200 t PUR | D 726 615.10 |
| <u>Spare Part:</u> High temperature connecting cable 15 m with plug socket | D 726 614.01 | <u>Spare Part PUR:</u> (*) connecting cable for outdoor use 15 m with plug socket | D 736 003.01 |

(*) Deviant technical data of the PUR variant:
suitable for outdoor use (better protection class IP 66), max. service temperature 80 °C, a temperature sensor is not included

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