

Weighing Disc WDI 15t D1 / C1



- **Load Cell for Use in Railtracks**
- **For Direct Installation between Sleeper and Rail**
- **Transmission of Extreme Perturbation Forces**
- **German Federal Railway Authority Approved**
- **Minimal Installation Height**
- **Laser Welded to IP67, Suitable for Use in Open Air**

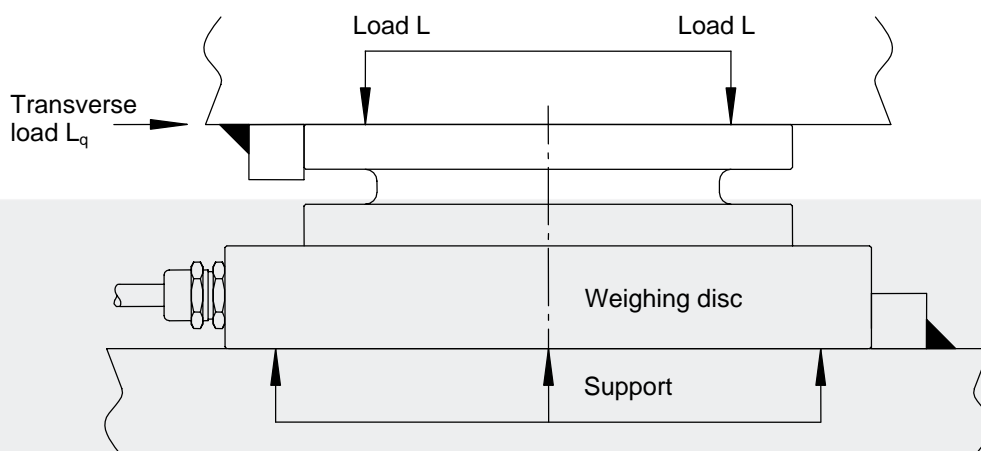
Application

- Static rail weighbridges
- Dynamic rail weighbridges
- Torpedo ferry weighbridges
- Test stands

Operation

- Simple installation; bolted directly between sleeper and rail, with no moving parts
- Robust and durable, even under impact loading and high constraining forces
- Minimal influence on measuring values from transmission of large interference forces and moments
- For maintenance-free scales operated under harsh conditions
- High overload capability
- High reproducibility
- High long-term stability
- Available in grades D1 (process applications) and C1 (legal-for-trade applications)

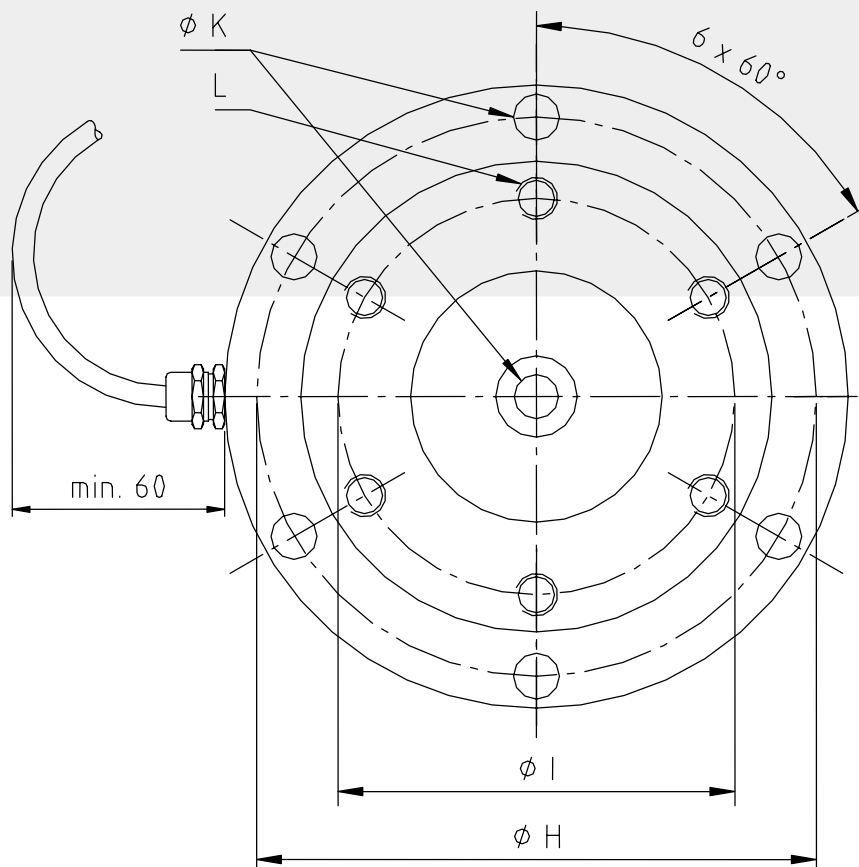
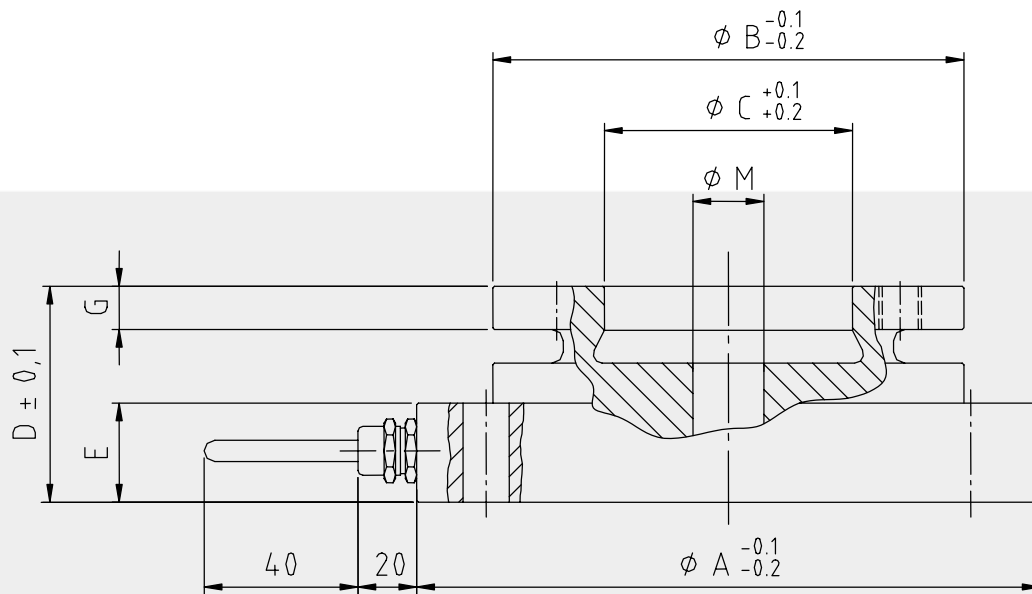
Functioning Principle WDI 15t



Technical Data

		WDI 15t D1	WDI 15t C1	Reference
Rated capacity	E_{max}	15 t	15 t	
Limit load (with $L_q = 0.15 \times L$) Limit load = maximum permissible load	L_l	35 t	35 t	
Breaking load (with $L_q = 0.15 \times L$)	L_d	50 t	50 t	
Max. perm. transverse moment	L_{qmax}	14 kNm	14 kNm	
Nominal sensitivity	C_n	0.65 mV/V		E_{max}
Combind error	F_{comb}	$\pm 0.1 \%$	$\pm 0.06 \%$	C_n
Creep under load (30 min)	F_{cr}	0.05 %	0.05 %	C_n
Input resistance	R_e	756 Ohm \pm 6 Ohm		T_r
Output resistance	R_a	700 Ohm \pm 4 Ohm		T_r
Ref- supply voltage	U_{sref}	10V		
Max. supply voltage	U_{smax}	36V		
Rated temperature range	B_{tn}	- 10°C to + 40°C		
Operating temperature range	B_{tu}	- 15°C to + 80°C		
Reference temperature	T_r	+ 22°C		
Storage temperature range	B_{ts}	- 15°C to + 8°C		
Temperature coefficient of the zero signal	TK_o	$\pm 0.07\% / 10K$	$\pm 0.028\% / 10K$	C_n in the B_{tu}
Temperature coefficient of the sensitivity	TK_c	$\pm 0.15\% / 10K$	$\pm 0.023\% / 10K$	
Weight	m_e	15 kg	15 kg	
Material		Stainless steel		
Protection class		IP 67		
Cable specification		Silicone cable 4 x 0.5 mm ² (\varnothing 6.5 mm x 10 m) rigidly attached, screened; Bend radius: ≥ 40 mm; Temperature range: -30°C ...+150°C		
Connection assignment		black: input + / blue: input - red: output + / white: output - green - yellow: screening		

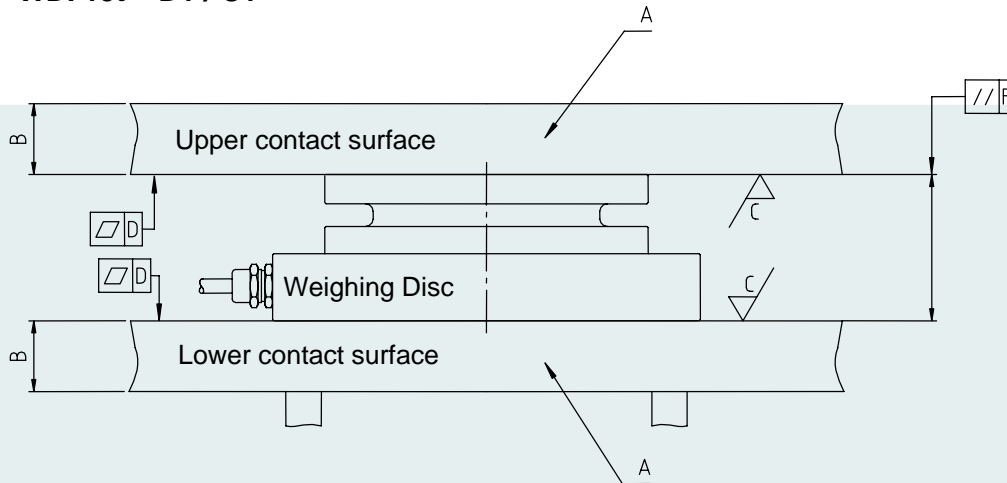
Installation Dimensions



Design	A mm	B mm	C mm	D mm	E mm	G mm	H mm	I mm	K mm	L	M mm
WDI 15t	225	174	108	55	20	16.5	201	152	17.5	M16	30

Requirements of the Quality of both Contact Surfaces

WDI 15t D1 / C1



- **Material selection "A":**
As a rule, construction steel is used of at least S235 grade
- **Plate thickness "B":**
This depends on the stiffness of the overall construction. The plate thickness of the contact surfaces must be large enough such that the deflection under the rated load is less than 0.05 mm
- **Surface quality "C":**
The average roughness required of the contact surfaces is 6.3 μm
- **Flatness "D":**
The maximum permissible tolerance of each contact surface is 0.03 mm
- **Plane parallelism "F":**
The upper and lower contact surfaces to the weighing disc must be plan parallel to each other within at least 0.1 mm

Variants	Order number
Weighing disc with attached cable 10 m	
WDI 15t D1	V 065 049.B01
WDI 15t C1	

Schenck Process GmbH
Pallaswiesenstr. 100
64293 Darmstadt, Germany
Phone: +49 6151 1531-3138
Fax: +49 6151 1531-3270
heavy@schenckprocess.com
www.schenckprocess.com