

Weighdisc WDI 15 t ... 200 t



- Load transducer for direct fitting
- No bearing elements required
- Transmission of high interferential forces
- High load application and output area
- Minimal installation space required
- Service temperature up to 125 °C

Application

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

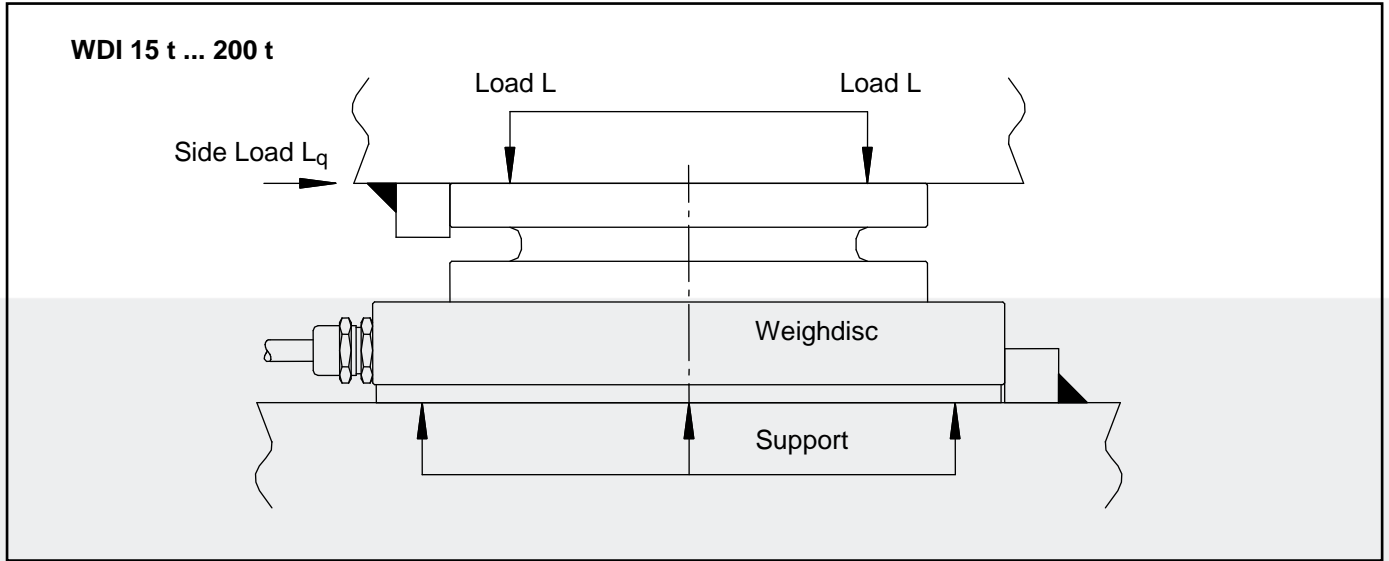
Construction

- Rotationally symmetrical design
- Two fastening flanges
- Rugged measuring body without diaphragm
- Very low headroom and installation space
- Optional: Connection of cable and Weighdisc through a connector

Function

- Simple and economical installation through direct screwing to the connecting structure without movable parts
- Virtually impervious to shock loads and side forces
- Minimal measurement value reaction on high interferential forces and moments
- Suitable to the construction of service free scales in severe environments
- High overload capability
- High degree of repeatability
- High long-term stability

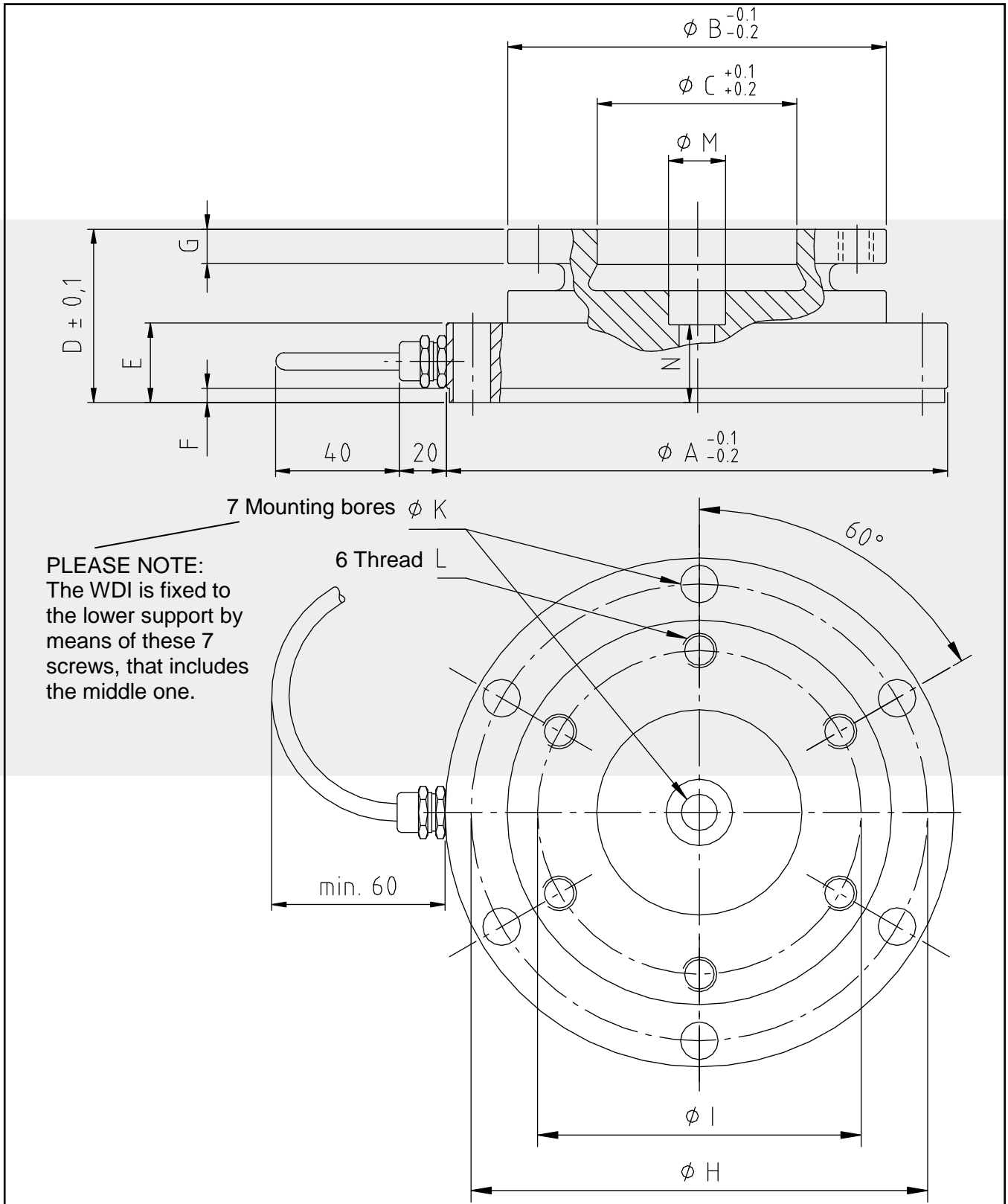
Operating principle



Technical Data

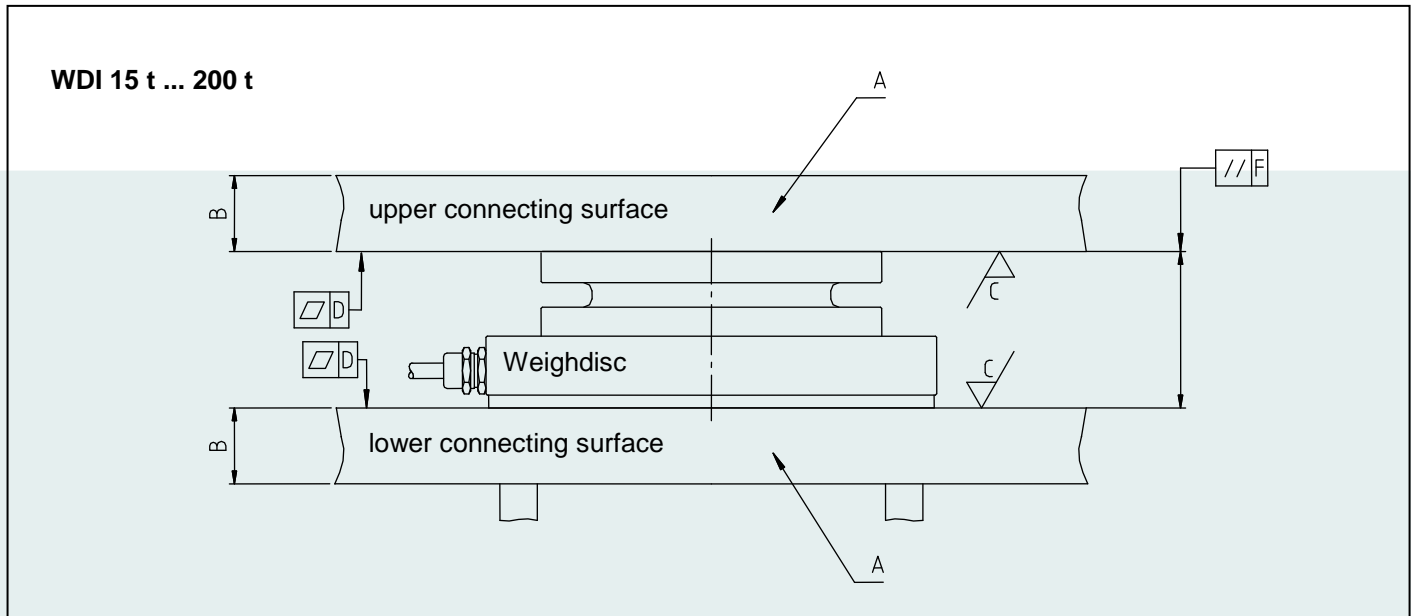
		WDI 15 t	WDI 25 t	WDI 50 t	WDI 100 t	WDI 200 t	Reference
Rated capacity	E_{max}	15 t	25 t	50 t	100 t	200 t	
Limit load (with $L_q = 0.15 \times L$) Limit load = Maximum admissible load	L_l	75 t	75 t	150 t	300 t	600 t	
Rupture load (with $L_q = 0.15 \times L$)	L_d	125 t	125 t	250 t	500 t	1000 t	
Max. admissible side load	L_{qmax}	12 t	12 t	25 t	50 t	100 t	
Sensitivity	C_n	0.54 mV / V		0.9 mV / V			E_{max}
Combined Error	F_{comb}	±0.2 %					C_n
Creeping under load (30 min)	F_{cr}	0.05 %					C_n
Input resistance	R_e	778 Ω ± 6 Ω					T_r
Output resistance	R_a	700 Ω ± 4 Ω					T_r
Reference supply voltage	U_{sref}	10 V					
Max. supply voltage	U_{smax}	36 V					
Nominal temperature range	B_{tn}	-10 °C to +80 °C					
Service temperature range	B_{tu}	-15 °C to +125 °C					
Reference temperature	T_r	+22 °C					
Storage temperature range	B_{ts}	-50 °C to +130 °C					
Temperature effect on zero signal	TK_o	±0.07 % / 10 K					C_n in B_{tu}
Temperature effect on sensitivity	TK_c	±0.15 % / 10 K					
Dead weight	m_e	10 kg	10 kg	10 kg	20 kg	47 kg	
Corrosion protection		hot dip galvanized					
Protection class		IP67					
Cable specification		<p><i>Standard:</i> silicon cable (∅ 6.5 mm x 15 m), hardwired, screened; <u>Bending radius:</u> ≥ 40 mm; <u>Temperature range:</u> -30 °C ... +150 °C</p> <p><i>Optional:</i> same silicon cable (∅ 6.5 mm x 15 m) with plug (∅ 30 mm x 160 mm) 200 mm distance from Weighdisc</p>					
Colour code		black:	input +	/	blue:	input -	
		red:	output +	/	white:	output -	
		black / yellow :	screening				

Mounting Dimensions



Variant	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	K mm	L	M mm	N mm
WDI 15 t / 25 t	192	136	70	65	28	5	16	168	115	17,5	M16	26	20
WDI 50 t	192	136	70	65	28	5	16	168	115	17,5	M16	26	24
WDI 100 t	265	195	100	88	36	8	23	234	164	22	M20	32	32
WDI 200 t	350	263	140	120	54	8	25	310	220	26	M24	38	53,5

Connecting surface quality requirements



- **Material quality „A“:**
Usually construction steel of a minimum quality S235 is used
- **Plate thickness „B“:**
Depends on stiffness of total construction. Plate thickness of connecting surface must be such high, that maximum deflection is less than 0.05 mm
- **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 0.03 mm
- **Plane parallelism „F“:**
Upper and lower connecting surfaces to the Weighdisc have to be plane parallel to minimum 0.1 mm

Variant	Order No.
<i>Weighdisc with hardwired cable (15 m)</i>	
WDI 15 t	V023456.B10
WDI 25 t	V023456.B05
WDI 50 t	V023456.B06
WDI 100 t	V023456.B07
WDI 200 t	V023456.B08
<i>Weighdisc with plug and cable (15 m)</i>	
WDI 25 t – K	V031984.B01
WDI 50 t – K	V031984.B02
WDI 100 t – K	V031984.B03
WDI 200 t – K	V031984.B04
<i>Spare Part:</i>	
15 m connecting cable with plug	V023643.B01

Mounting advice:

It is recommended to mount the WDI not directly on the lower support surface, but to use an intermediate plate. Doing so, the whole unit can be easily removed. Otherwise, it may be necessary to dismount the load on the WDI in order to get access to the middle screw.