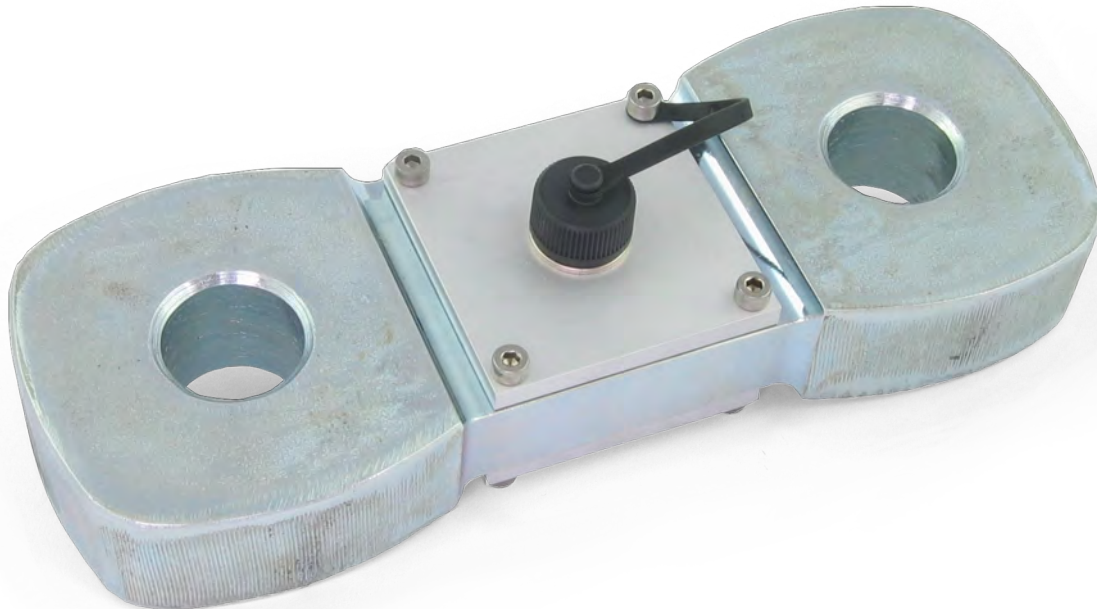


Tension Bar ZK-3 [1...200 t / 10...2000 kN]



Purpose

Weighing; measuring of tension force

Operating

The deformation of a central hole is measured by strain gauges

Advantages

- High safety, dynamic strength and small hysteresis owing to undivided design from high-strength material
- Measuring area compounded and sealed
- Durable protection against corrosion by using special steel, or coatings.
- Load inducing eyes fit for the bolts of usual shackles

Application

Simple mobile crane scale with 2 shackles and amplifiers or indicating amplifier.

Supervising +limiting of tension force or torque combined with our LMS-System.

Measuring of tractive force: cars, ships, belt conveyers, craneropes, mast ropes, chains, winches.

Construction

The bar — from special steel — has two load inducing eyes for bolts, especially for shackle bolts.

A middle transverse hole, being applied with the strain-gauge-bridge and the adjusting elements for resistance, ZERO, GAIN, perhaps drift is compounded, sealed and protected by covers.

Connection is made by a flange receptacle or by a measuring cable.

Attention: Calibration is valid only for bolts with diameter as prescribed!

Further Tension Bars:

ZKG with radial rocker bearings
(data sheet E 04.5),

ZKA-3 = crane scale with digital display
(Data sheet E 32.4).

Electrical Data

Resistance, nominal	4 x 350 Ω
" actual value	see test certificate
Flange connector	BINDER Ser.723, 7p
Option: Cable	2 m LiYCY 4 x 0.5
" with CAL-resistance	2 m LiYCY 5 x 0.5
Exciting voltage	10...15 V

Output signal full load	1 mV/V nominal
Tolerance (+20°C)	1 %; Option 0.25 %

Combined error(+20°C)	0.25 % f.s.
ZERO-signal(+20°C)	< 1 % f.s.
= Output signal at ZERO load	
" Temp.- drift/10K	< 0.4 %; "K": 0.1 %
Output " "	< 0.3 %; "K": 0.1 %
Nominal temp.-range	- 20°C...+ 60°C
Tolerated range	- 30°C...+ 80°C
Limiting range	- 50°C...+120°C

with flange connector or special cable

Mechanical Data

Working load	2 x nominal load
Limiting load	2.5 x nominal load
Breaking load	> 5 x nominal load
Endurance	> 10 ⁷ < 0.5 nom.l.
Calibration	t; Option kN

Accessories:

At bars with flange connector the cable connector is part of delivery. On request we deliver suitable high-strength shackles.

Data sheet E 04.4 page 2

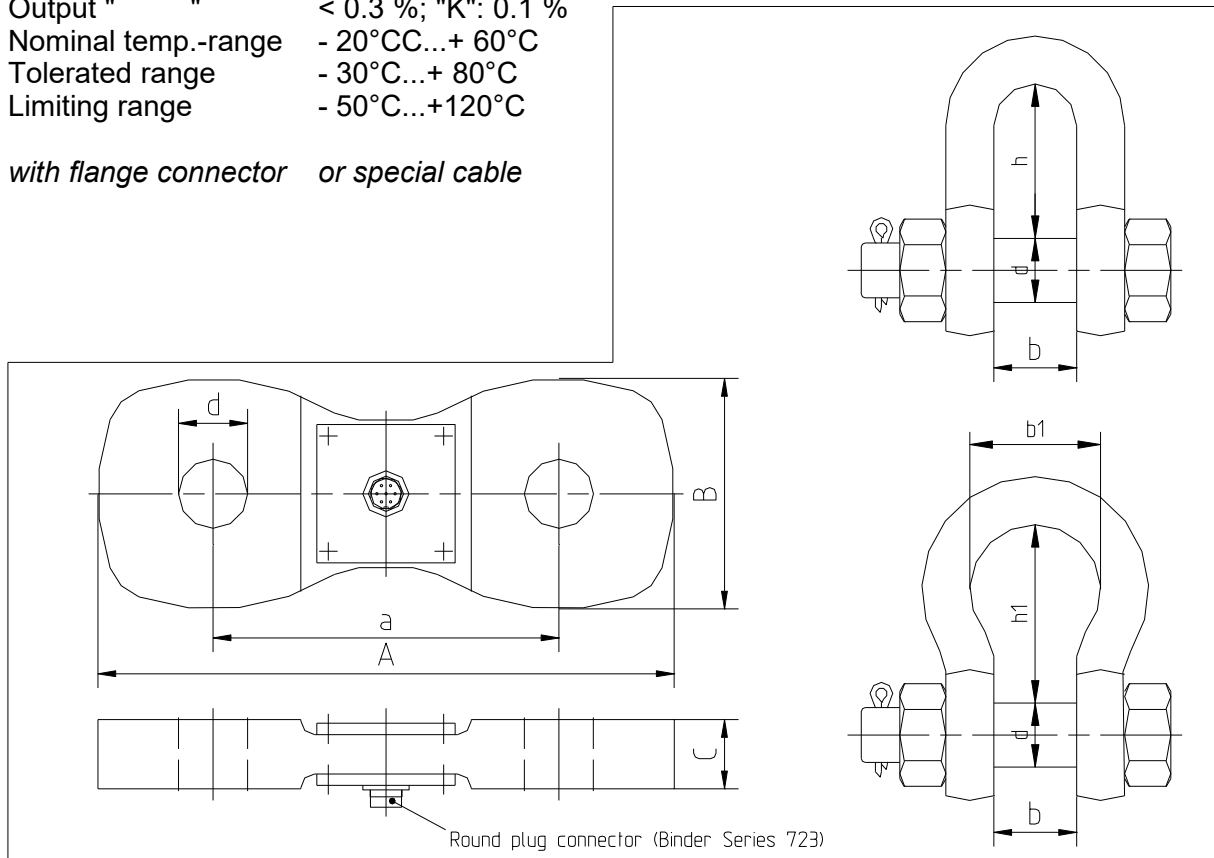


Table of dimensions (mm) and weights (kg)

Tension bar							Straight shackle				curved shackle			
Load (t)	A	a	B	C	D	Wgt.	Load (t)	d	b	h	Wgt.	b1	h1	Wgt
1	170	110	60	20	17	1.5	2	16	21	41	0.3	33	48	0.4
2	170	110	60	20	17	1.5	2	16	21	41	0.3	33	48	0.4
3	220	140	80	30	26	3.1	6.5	25	36	71	1.6	58	84	1.8
5	220	140	80	30	26	3.1	6.5	25	36	71	1.6	58	84	1.8
7.5	220	140	80	30	26	3.1	6.5	25	36	71	1.6	58	84	1.8
10	250	160	90	40	33	5	9.5	32	46	90	3.2	74	108	3.5
20	350	200	150	70	52	20	25	51	73	146	12.8	127	178	14
30	350	200	150	70	52	20	25	51	73	146	12.8	127	178	14
50	470	280	190	100	72	47	55	70	105	203	38	184	267	42
100	670	400	260	140	97	130	120	95	146	267	98	230	381	112
150	780	450	330	140	110	195	150	108	165	305	140	260	432	162
200	860	450	400	140	107	300	200	105	150	-	-	275	480	227