

## Product Description

### Force Sensor BZA

#### Special Features

- Very cost effective solution
- Light weight design made of special aluminium
- Nominal force ranges follow the geometric progression
- Up to tenfold overloading

#### Scope of Supply

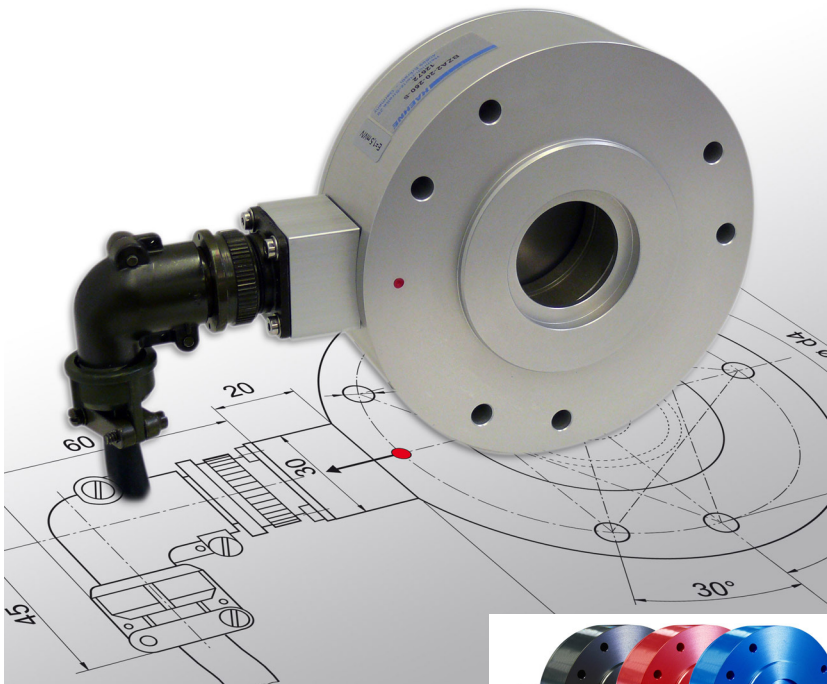
Force sensor with quick disconnect plug and socket with 5 meters cable (Connection S)

#### Version

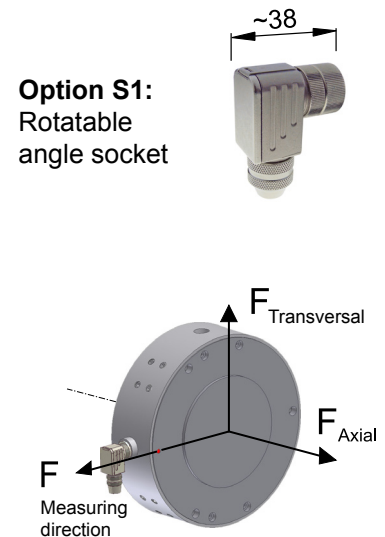
- **Option S1:** Rotatable angle socket

#### Additional Accessories

- **Radial Shaft Seal Ring (IP50)**
- **Ball bearings**
- **Bearing support blocks**
- **Option F:**  
Use in potentially explosive atmospheres (Adaption Modul J-Box contained in the scope of supply)



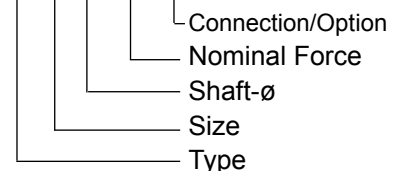
Individual coloring on request



**Option S1:**  
Rotatable  
angle socket

#### Ordering Data

**BZA1-15-250-S**



#### Application

The force sensors of the **BZA** series are suitable for the direct measurement of front tension forces which occur in the manufacturing and further processing of web shaped materials.

The sensors are used like any common flange house bearings for the measurement of tension forces. Depending on the flow of the web and the distribution of the load, the sensors can be used single sided or as a pair of sensors.

The **radial force sensors of the series BZA** are manufactured very cost effectively in a proprietary process. They consist primarily of three parts: a flange housing, the inner seat of bearing, and a closed cover disk. The inner seat of bearing serves also as double beam measuring element of high linearity and stiffness. The strain gauges wired as full bridges deliver a signal proportional to the force.

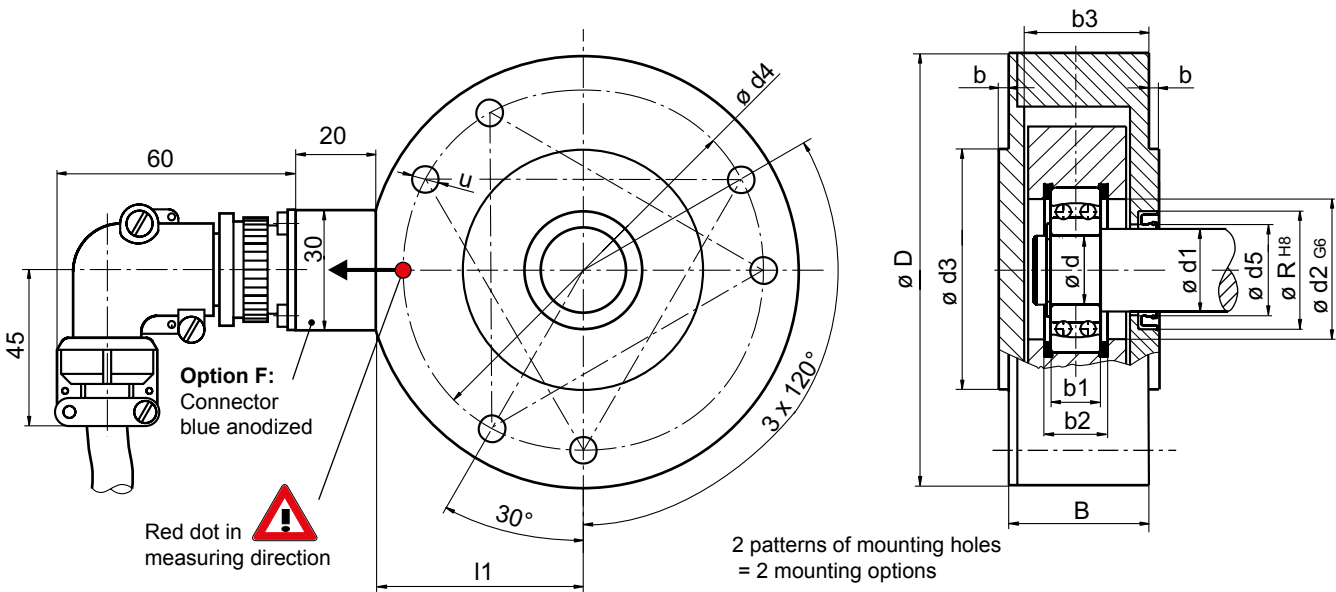
**HAEHNE** offers for all its sensors a corresponding range of amplifiers to condition the measuring signal and deliver the bridge voltage supply.

**Technical Data**

Values (%) based on nominal force

Max. operating force		160 %
Absolute max. force	Size 1 u. 2 Size 3 u. 4	1000 % 700 %
Max. axial force		50 %
Max. transversal force		100 %
Nominal rating:	Size 1 u. 2 Size 3 u. 4	1,5 mV/V 1,0 mV/V
Combined error		0,5 %

*Nominal ambient temperature	+ 10...+ 60° C
*Operational temperature range	- 10...+ 70° C
*) A cable in motion reduce the value to 50° C	
Nominal resistance of strain gauge bridge	700 Ω
Max. bridge supply voltage	10 VDC
Sensor cable (standard)	PVC grey, 4 x 0,34 mm <sup>2</sup>
Sensor cable (option F)	PUR blue, 2 x 2 x 0,34 mm <sup>2</sup>



Installation notice (floating-/fixed bearing) and lead colors of sensor cable see "Practice Guide"

Size	Nominal Force [N]	d	d1	d2	d3	d4	d5	D	B	b	b1	b2	b3	l1	u	R	Recomm. bearing				
1	100	15	20	35	60f7	90	22,5	108	35	2,5	10	14,2	30	51,9	6,6	26	1202				
	160						25														
	250	17	22	40			25											11	15,8	28	1203
	400	20	24	35			28											10	15,2	32	GE20
2	160	20	25	47	70f7	105	25,5	125	42	3,0	13	17,7	36	60,6	6,6	32	1204				
	250						32											52	32,5	14	19,3
	400	25	32	52			38											17	21,7	45	GE30
	630	30	35	47																	
3	500	30	40	72	100g6	167	42	186	60	4	19	24,3	52	184,7	9	52	1306				
	1000						47											21	26,3	55	1307
	2000	35	45	80			52											18	23,3	62	1208
	3000	40	50	80																	
4	1000	40	50	90	130g7	221	52	242	72	4	23	31,4	63	240,1	11	70	1308				
		45	60	100			62				25	33,4				80	1309				
		2000	50	65			110				66	27				35,4	85	1310			
		5000	55	68			100				69	25				33,4	85	2211			
		60	70	110			71				28	36,4				90	2212				