HAEHNE

Web Tension Sensor BZA

Scope of supply
Force sensor in flange design
with 5 m cable (PVC) and
connection variant S:
Plug connection, right-angled, MIL

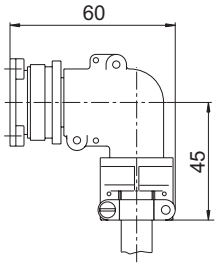
Variants
S1: Plug connection, right-angled,
M12, metal
S2: Plug connection right-angled,
M12, moulded

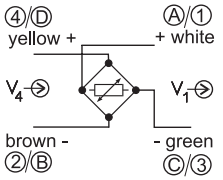
Additional Options
F: For use in explosive areas,
incl. J-Box

Additional Accessories
Sealing ring*not in explosive areas
Self-aligning ball bearing
2 Snap rings
Bearing support blocks

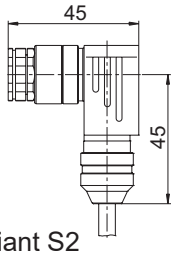
Connections

Variant S



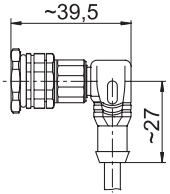


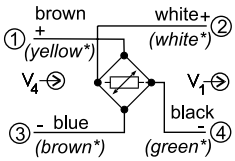
Variant S1



V_4 Supply voltage
V_1 Signal voltage

Variant S2

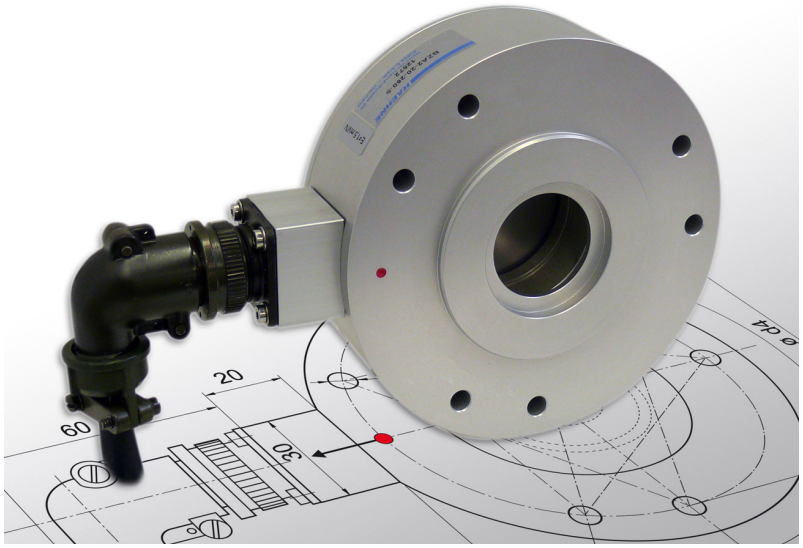




* Alternative color coding

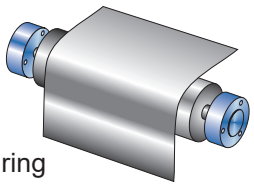
Ordering example
BZA1-15-400-SF

Type
Size
Shaft- ø
Nom. force
Variants/ Options



Special Features

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

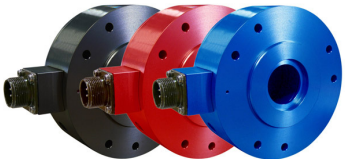


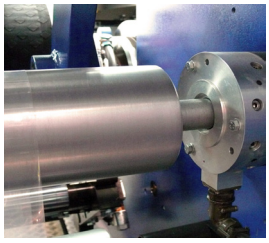
The force sensors of the BZA series are suitable for the direct measurement of front tension forces which occur in the manufacturing and further processing of web shaped materials.

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.

Individual coloring on request





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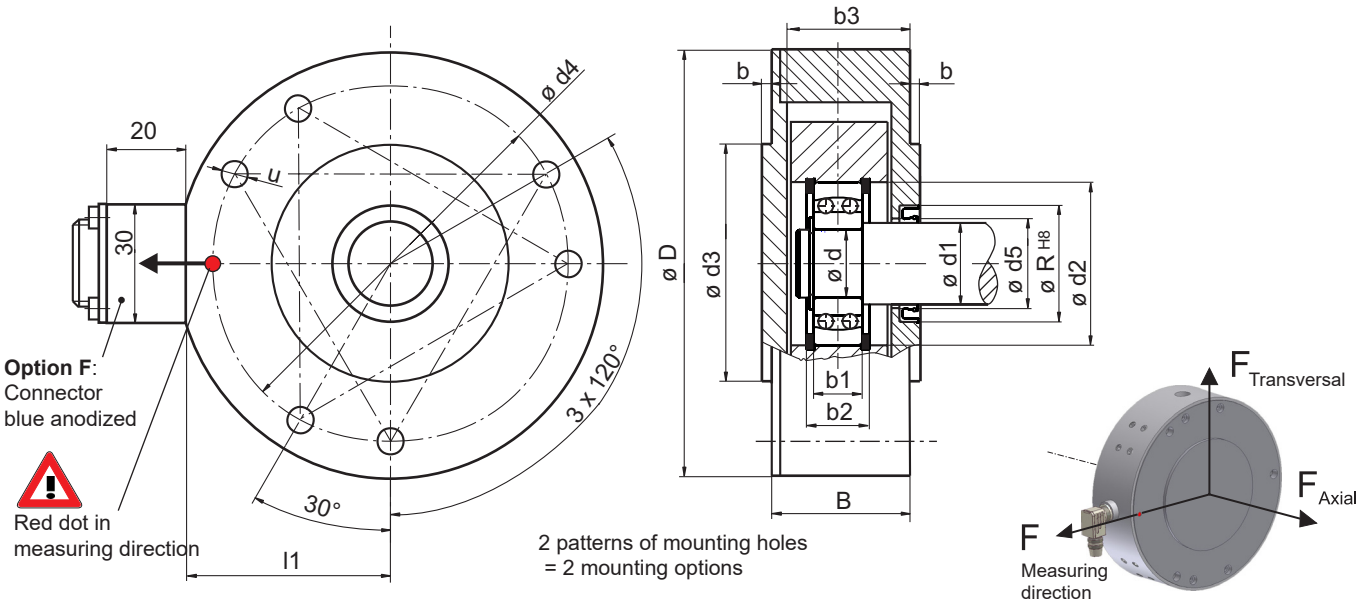
BZA

HAEHNE

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 (+50...+140° F)
*Operational temperature range	-10... +70° C (+14... +158° F)
*) A cable in motion reduce the value to 50° C (122 °F)	
Nominal resistance of strain gauge bridge	1000 Ω
Max. bridge supply voltage	10 VDC
Sensor cable (standard)	PVC grey, 4 x 0,34 mm²
Protection class with sealing ring	Variant S - IP50
	Variants S1, S2 - IP67



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	100 160 250 400 630 1000	15	20	35G7	60f7	90	22,5	108	35	2,5	10	14,2	30	51,9	6,6	26	1202
		17	22	40G7			25				11	15,8				28	1203
		20	24	35G7			28				10	15,2				32	GE20
2	160 250 400 630 1000 1600	20	25	47G7	70f7	105	25,5	125	42	3,0	13	17,7	36	60,6	6,6	32	1204
		25	32	52G7			32,5				14	19,3				42	1205
		30	35	47G7			38				17	21,7				45	GE30
3	500 1000 2000 3000	30	40	72F7	100g6	167	42	186	60	4	19	24,3	52	91,7	9	52	1306
		35	45	80F7			47				21	26,3				55	1307
		40	50	80F7			52				18	23,3				62	1208
4	1000 2000 5000	40	50	90F7	130g7	221	52	242	72	4	23	31,4	63	119,1	11	70	1308
		45	60	100F7			62				25	33,4				80	1309
		50	65	110F7			66				27	35,4				85	1310
		55	68	100F7			69				25	33,4				85	2211
		60	70	110F7			71				28	36,4				90	2212

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