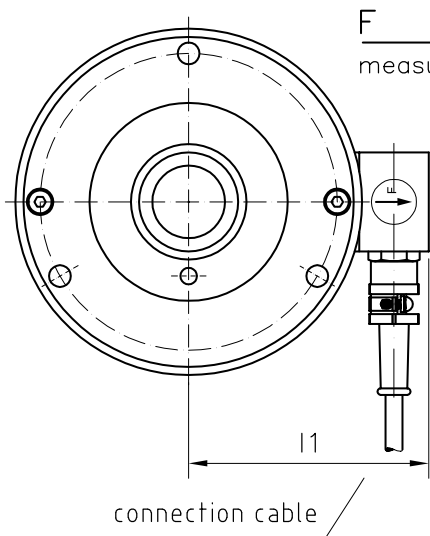


Web Tension Sensor WTS

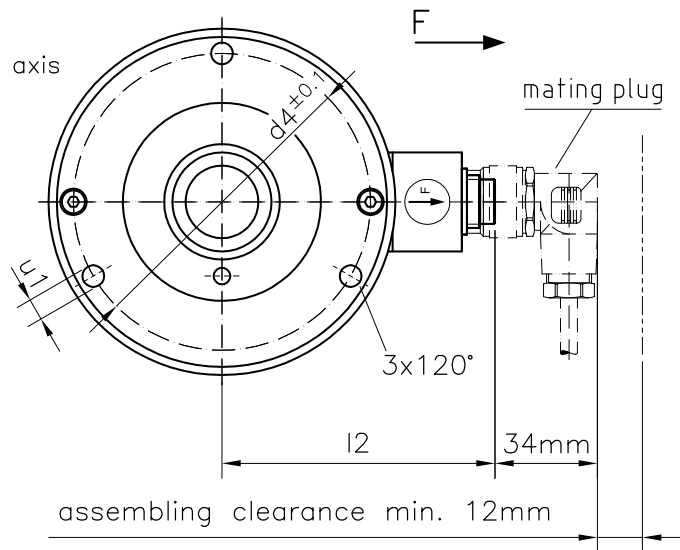
Construction size 1 to 4

Scale drawing

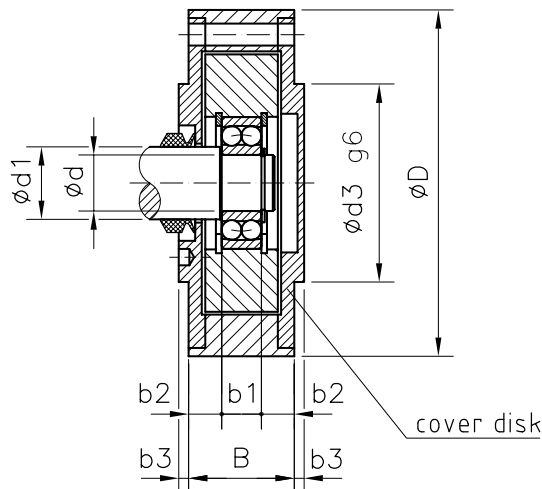
Connection K
with fixed cable



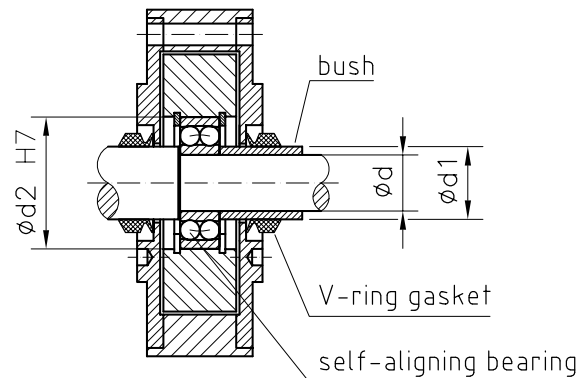
Connection S
with male socket



Design A
open cover disk on one side



Design B
open cover disk on both sides



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Web Tension Sensor WTS

Construction size 1 to 4

Rated measuring ranges

Size	Nominal force [N]								
1	50	100	200	500	1000				
2			200	500	1000	2000			
3				500	1000	2000	3000	4000	
4					1000	2000	3000	4000	5000

The measuring range of the sensor begins at force's zero point.
Nominal forces differing from the list are available.

Dimensions and weights

Size	Assembly dimensions [mm]													Weight [kg]
	d	d1	d2	d3	d4	D	b1	b2	b3	B	l1	l2	u1	
1	12	16	32	60	90	105	10	11	3	32	73	87	6,6	1,8
	15	20	35				11	10,5						
	* 17	22	40				12	10						
2	20	25	47	70	105	125	14	13	4	40	83	97	6,6	3,2
	* 25	32	52				15	12,5						
3	30	40	72	100	150	175	19	19	4	57	109	123	9	8,3
	* 35	45	80				21	18						
4	40	50	90	130	190	225	23	22	4	67	130	144	11	16,0
	* 45	55	100				25	21						
	55	65	100				25	21						

* Preferred construction size

Order code

		WTS	1	17	A	100	K5
Sensor type							
Construction size							
Shaft Ød [mm]							
Design	A open cover disk at one side B open cover disk at both sides						
Nominal force [N]							
Connection	K with fixed cable, standard: 5m option: required length [m] S with male socket						

Scope of supply

- sensor
- spring rings
- V-ring gasket

Web Tension Sensor WTS

Construction size 1 to 4

Recommended rolling bearings

Size	Inner-Ø d	Outer-Ø D	Width	Bearing short cut
	[mm]	[mm]	[mm]	DIN 630 / 635
1	12	32	10	1201
	15	35	11	1202
	17	40	12	1203
2	20	47	14	1204
	25	52	15	1205
3	30	72	19	1306 / 21306
	35	80	21	1307 / 21307
4	40	90	23	1308 / 21308
	45	100	25	1309 / 21309
	55	100	25	2211 / 22211

The bearings **are not included** in the scope of supply, but they can be ordered separately.

Options

- length of connection cable differing from standard
- seal gas protection
- special connection cable, e.g. oil-resistant or for use in Ex-protection areas

Special designs

- nominal forces differing from standard
- sensor housing and measuring cell made out of stainless steel, for use in humid environment
- bearing seating without spring ring groove for the bearing in non-locating position, esp. for use at large linear expansion of the fitted measuring roll
- angle situation of the mounting holes
- advanced temperature range
- for measurement in vacuum

Accessories

- female angled connector as mating plug
- adjusting collar with fixing pin
- rolling bearings
- for Ex-protection, e.g. Zener-barrier

Web Tension Sensor WTS

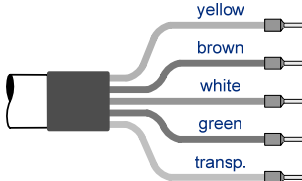
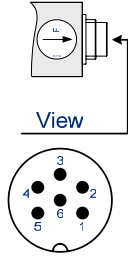
Construction size 1 to 4

Technical data

Rated measuring ranges (F_N) for construction size BG1 to BG4	N	0 to 50...0 to 5000
Measuring principle		full strain gauge bridge
Rated output	mV/V	1,0
Rated output tolerance	%	< $\pm 0,2$
Accuracy class		0,1
Excitation voltage max.	V	12
Reference excitation voltage	V	10
Input resistance	Ω	350 ± 3
Output resistance	Ω	350 ± 1
Isolation resistance	GΩ	> 10
Rated temperature range	$^{\circ}\text{C}$	5 to 50, option: -10 to 70
Operational temperature range		
- sensor	$^{\circ}\text{C}$	-10 to 70
- connection cable	$^{\circ}\text{C}$	-30 to 80
Storage temperature range	$^{\circ}\text{C}$	-30 to 70
Reference temperature	$^{\circ}\text{C}$	23
Temperature influence per 10 K		
- on the zero point (TK0)	% F_N	< $\pm 0,1$
- on the calibration (TKC)	% F_N	< $\pm 0,15$
Creep after 30 minutes	% F_N	< $\pm 0,05$
Linear output signal up to	% F_N	approx. 150
Mech. overload protection takes effect at	% F_N	approx. 180
Overload protected ¹	% F_N	400-800 (depending on nominal force)
Ultimate side load	% F_N	200
Deflection at nominal force	mm	0,10 $\pm 20\%$
Connection cable		5 m long, flexible, shielded, 4 x 0,25 mm ² , total- \varnothing 4,7 mm
Sensor housing		high-tensile steel, black finishing
Protection class		IP 54

¹ radial incoming force without additional bending or tilting moment

Connections

Connection type „K“		Connection type „S“																									
	<table border="1"> <tbody> <tr> <td>+ U_{Br}</td> <td rowspan="2">Excitation</td> </tr> <tr> <td>- U_{Br}</td> </tr> <tr> <td>+ U_{Sig}</td> <td rowspan="2">Output</td> </tr> <tr> <td>- U_{Sig}</td> </tr> <tr> <td>Shield (not connected to housing)</td> <td></td> </tr> </tbody> </table>	+ U_{Br}	Excitation	- U_{Br}	+ U_{Sig}	Output	- U_{Sig}	Shield (not connected to housing)			<table border="1"> <tbody> <tr> <td>1</td> <td>+ U_{Br}</td> <td rowspan="2">Excitation</td> </tr> <tr> <td>2</td> <td>- U_{Br}</td> </tr> <tr> <td>3</td> <td>Shield (not connected to housing)</td> <td></td> </tr> <tr> <td>4</td> <td>+ U_{Sig}</td> <td rowspan="2">Output</td> </tr> <tr> <td>5</td> <td>- U_{Sig}</td> </tr> <tr> <td></td> <td>Reserved</td> <td></td> </tr> </tbody> </table>	1	+ U_{Br}	Excitation	2	- U_{Br}	3	Shield (not connected to housing)		4	+ U_{Sig}	Output	5	- U_{Sig}		Reserved	
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