Data Sheet

U9B

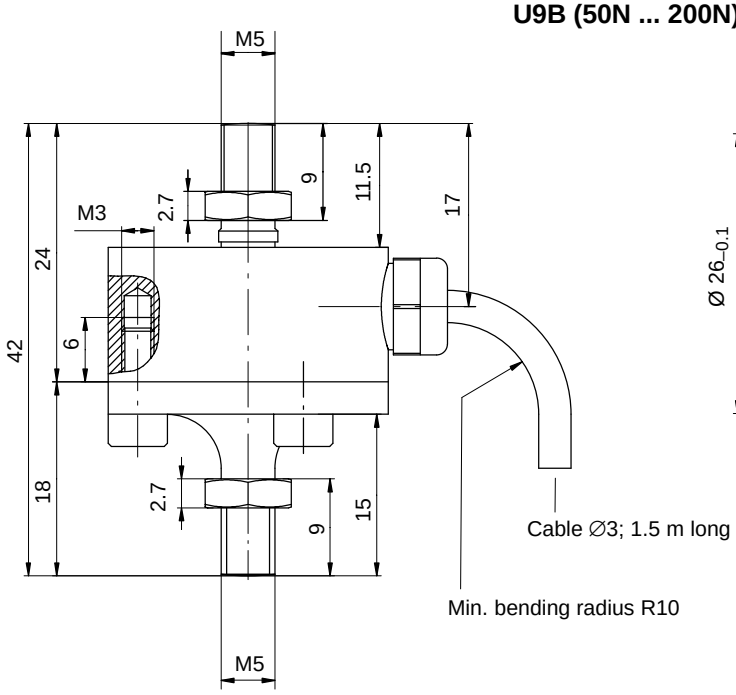
Force Transducers

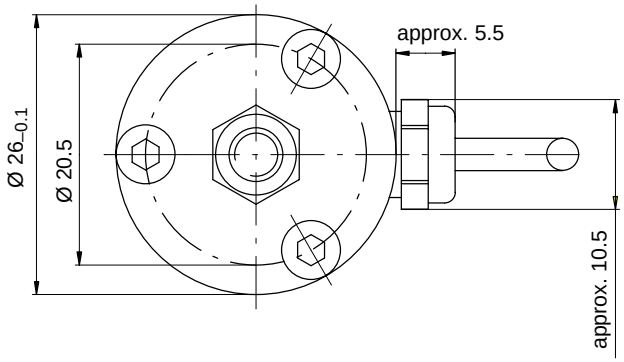
Special features

- **Tensile / compressive force transducer in non-rusting material**
- **Nominal (rated) forces 50 N ... 50 kN**
- **Small size**
- **Accuracy class 0.5**
- **Maintenance-free knuckle eye as force-introduction aid**

Dimensions (in mm; 1 mm= 0.03937 inches)

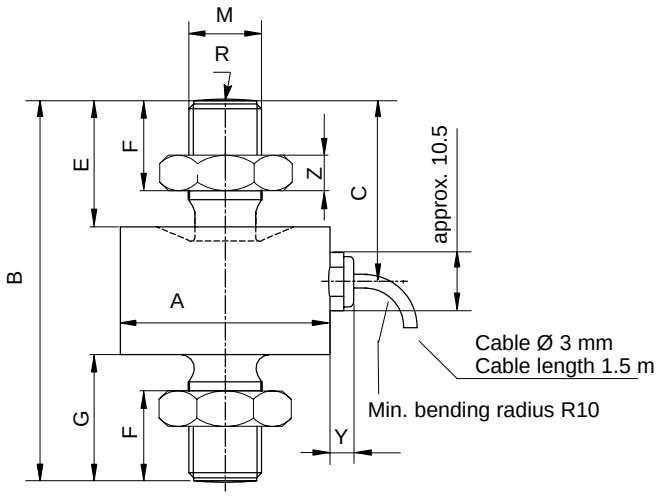
U9B (50N ... 200N) **NEW**



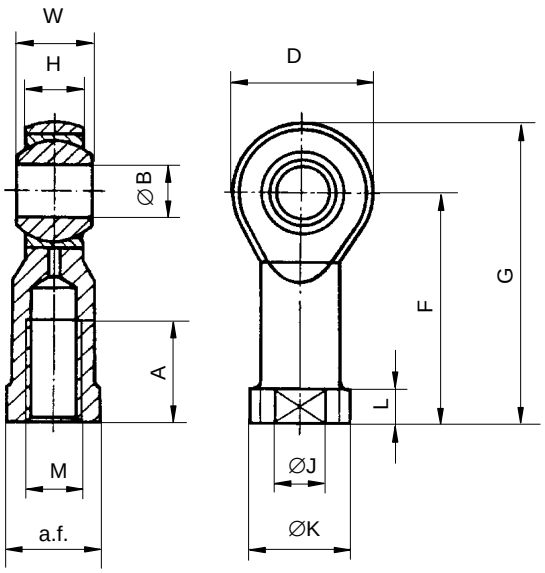


Bottom view

U9B (0.5 ...50kN)



Knuckle eye ZGW



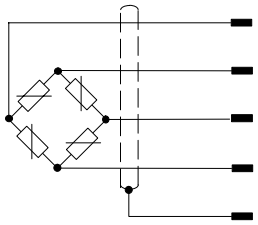
All dimensions in mm

Nominal (rated) force U9B	$A_{-0.1}$	B	C	E	F	G	M	R	Y	Z
0.5...1 kN	26	44.5	20.5	13	9.5	13.5	M5	20	approx. 5.5	2.5
2...20 kN	26	60	28.5	21	16	21	M10	40	approx. 5.5	5
50 kN	46	84	40	28	21.5	28	M16x1.5	80	approx. 5.5	8

Knuckle eye:

Nominal (rated) force ZGW	A	B	D	F	G	H	J	K	L	M	a.f.	W
50 N...1 kN	10	5^{H7}	18	27	36	6	9	11	4	M5	9	8
2...20 kN	20	10^{H7}	28	43	57	10.5	15	19	6.5	M10	17	14
50 kN	28	16^{H7}	42	64	85	15	22	27	8	M16x1.5	22	21

Cable assignment (Four wire-circuit)



WH (white)	Measuring signal (+) U_A
BK (black)	Excitation voltage (–) U_B
RD (red)	Measuring signal (–) U_A
BU (blue)	Excitation voltage (+) U_B
YE (yellow)	Cable shielding, connected with housing

Accessories (to be ordered separately)**:**

Knuckle eye	50 N...1 kN	1-Z8/100kg/ZGW
Knuckle eye	2 kN...20 kN	1-U9/20KN/ZGWR
Knuckle eye	50 kN	1-U9A/50KN/ZGW

Specifications

Type			**U9B**										
Nominal (rated) force	F_{nom}	N	50	100	200								
		kN				0.5	1	2	5	10	20	50	
Accuracy class			0.5										
Nominal (rated) sensitivity	C_{nom}	mV/V	1										
Rel. sensitivity deviation	d_c	%	≤ ±1 tension / ≤ ±2 compression										
Temperature effect on the sensitivity per 10K	TK_C												
in the nominal (rated) temperature range		%	≤ ±0.5										
in the operating temperature range		%	≤ ±0.8										
Temperature effect on the zero signal per 10K	TK_0												
in the nominal (rated) temperature range		%	≤ ±0.5										
in the operating temperature range		%	≤ ±0.8										
Linearity	d_{lin}	%	≤ ±0.5										
Rel. reversibility error	U	%	≤ ±0.5										
Rel. repeatability error without rotation	brg	%	≤ ±0.5										
Creep	d_{crF+E}												
over 30 min		%	≤ ±0.2										
Input resistance	R_e	Ω	> 345										
Output resistance	R_a	Ω	300–400										
Insulation resistance	R_{Is}	GΩ	> 1 x10^9										
Operating range of supply voltage	$B_{U,G}$	V	0.5...12										
Reference supply voltage	U_{ref}	V	5										
Reference temperature	t_{ref}	°C [°F]	+ 23 [+73.4]										
Nominal (rated) temperature range	$B_{t,nom}$	°C [°F]	–10...+70 [+14...+158]										
Operating temperature range	$B_{t,G}$	°C [°F]	–30...+85 [–22...+185]										
Storage temperature range	$B_{t,S}$	°C [°F]	–30...+85 [–58...+185]										
Protection to DIN EN 60 529			IP 67										
Nominal (rated) measuring displacement ±15 %	S_{nom}	mm	< 0.1										
Natural frequency ±15 %		kHz	6.3	9.2	14.5	15.5	23.7	18.7	20	23	27.8	20	
Working force	(F_G)	%	300			120							
Breaking force	(F_B)	%	> 500			> 200							
Relative static lateral limit force [1]	(F_Q)	%	100			40		20					
Permissible vibration amplitude to DIN 50 100	Frb	%	70									40	
Weight, approx.		g	75			65	100					400	
Cable length		m	1.5										

[1] referred to the 2 mm force introduction point above diaphragm

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