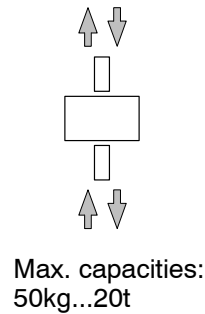


# U2A...

Load cell

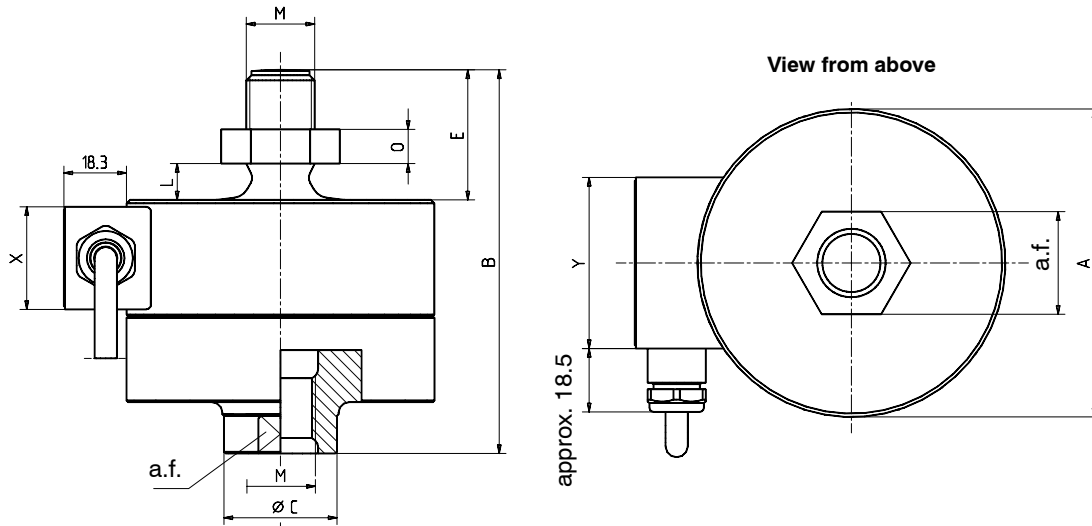


## Special features

- Load cells made of corrosion-resistant materials
- Suitable for scales according to OIML R60 up to 1000d
- Six wire circuit
- Low profile
- For tensile loads
- Meets EMC requirements according to EN 45 501
- Options available:
  - Explosion-proof model
  - Service temperature range up to 120°C [ 248°F]

## Dimensions (in mm; 1mm = 0.03937 inches)

U2A, Max. capacities 50kg...20t; U2-E, Max. capacities 100kg...20t



Max. cap. [t]	A <sub>0,2</sub>	B	C	E	K	L <sub>min</sub>	M	O	a.f.	X	Y
0.05...1	50	72	21	24	22	5*)	M12	6	19	20	35
2	90	112	33	38	25	10.6	M20x1.5	10	30	30	50
5	100	141	40	47	25	13.2	M24x2	12	36	30	50
10	135	197	68	67	26	19	M39x2	19	60	30	50
20	155	232	82	85	26.5	24.2	M48x2	22	70	30	50

\*) with U2A/1t: 7.4mm

## Technical Data

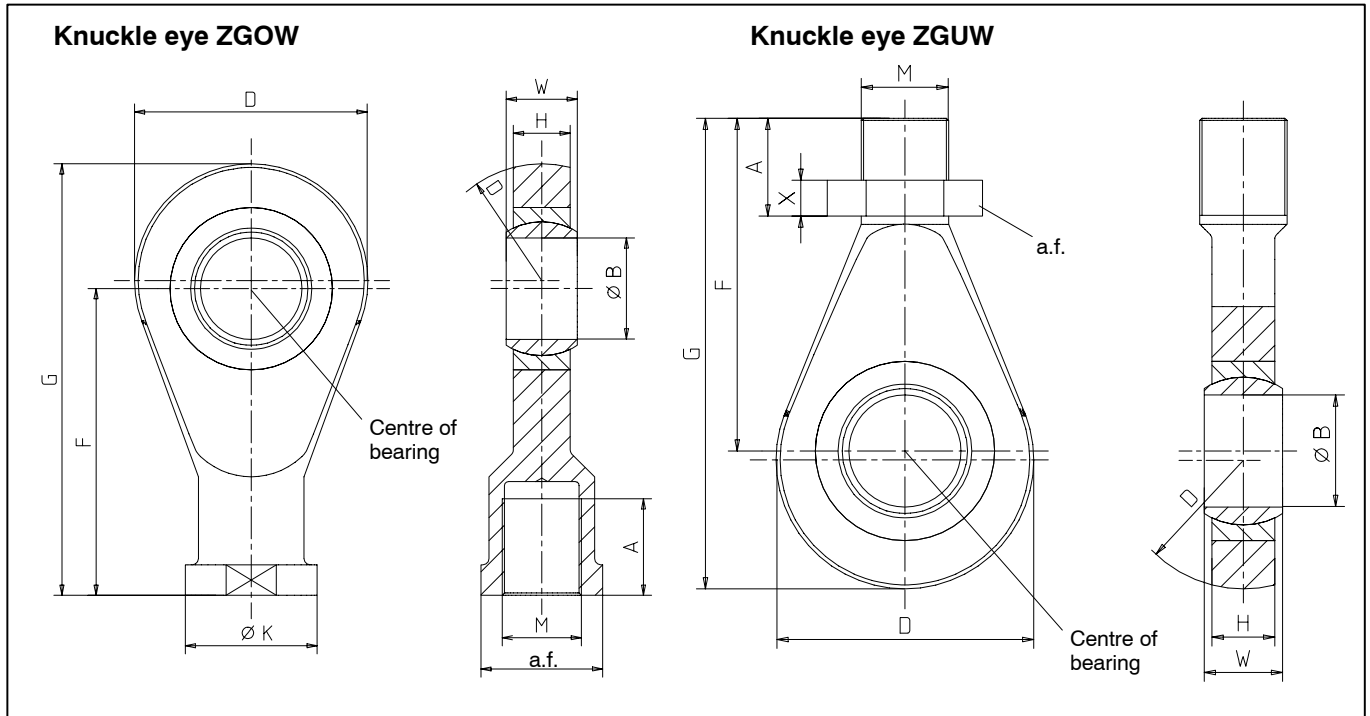
Type		U2A		
Accuracy class		0.2	0.1	D1
Max. numbers of load cell verific. interv. ( $n_{LC}$ )		-	-	1000
Max. capacity ( $E_{max}$ )	kg t	50 -	100, 200, 500 10, 20	500 1, 2, 5
Minimum load cell verification interval ( $v_{min}$ )		-	-	0.0286
Sensitivity ( $C_n$ )	mV/V	2		
Tolerance on sensitivity with tensile loads	%	< $\pm$ 0.20		< $\pm$ 0.20
with compressive loads	%	< $\pm$ 1.50	< $\pm$ 0.50	< $\pm$ 0.50
Temperature effect on sensitivity ( $TK_C$ ) in nominal temperature range	%/10K	< $\pm$ 0.05		< $\pm$ 0.05
in service temperature range	%/10K	< $\pm$ 0.10		< $\pm$ 0.10
Temperature effect on zero balance ( $TK_0$ ) in nominal temperature range	%/10K	< $\pm$ 0.05		< $\pm$ 0.04
in service temperature range	%/10K	< $\pm$ 0.10		< $\pm$ 0.10
Hysteresis error ( $d_{hy}$ )	%	< $\pm$ 0.15		< $\pm$ 0.05
Non-linearity ( $d_{lin}$ )	%	< $\pm$ 0.20	< $\pm$ 0.10	< $\pm$ 0.05
Creep ( $d_{cr}$ ) over 30 min.	%	< $\pm$ 0.06		< $\pm$ 0.05
Input resistance ( $R_{LC}$ )	$\Omega$		340...450	
Output resistance ( $R_0$ )	$\Omega$		356 $\pm$ 0.2	
Reference excitation voltage ( $U_{ref}$ )	V		5	
Nominal range of excitation voltage ( $B_U$ )	V	0.5...10		0.5...12
Insulation resistance ( $R_{iso}$ )	G $\Omega$		>5	
Nominal temperature range ( $B_T$ )	$^{\circ}$ C [ $^{\circ}$ F]		-10...+40 [14...104]	
Service temperature range ( $B_{tu}$ )	$^{\circ}$ C [ $^{\circ}$ F]		-30...+85 (-30...+120) <sup>1)</sup> [-22...185] [-22...248]	
Storage temperature range ( $B_{tl}$ )	$^{\circ}$ C [ $^{\circ}$ F]		-50...+85[-58...185]	
Safe load limit ( $E_L$ )	% from max. capac.	130		150
Breaking load ( $E_d$ )	% from max. capac.		300	
Lateral load limit ( $E_{lq}$ )	% from max. capac.		25	
Permissible dynamic load ( $F_{srel}$ ) (peak to peak according to DIN 50100)	% from max. capac.	100		160
Protection class (IP) to EN 60 529 (IEC 529)		IP67		
Material: Measuring body		Stainless steel		
Cable gland		Nickel plated brass, Silicone		
Cable sheath		Thermoplast. elasomere		

<sup>1)</sup> Optionally available with extended service temperature range.

## Mechanical values

Max. capacity [t]	Deflection at max. capacity ( $s_{nom}$ ), approx. [mm]	Weight (G), approx. [kg]	Cable length [m]
0.05	< 0.1	0.8	3
0.1	< 0.1	0.8	3
0.2	< 0.1	0.8	3
0.5	< 0.1	0.8	3
1	< 0.1	0.8	3
2	< 0.07	2.9	6
5	< 0.07	4.3	6
10	< 0.09	10.7	12
20	< 0.09	15.9	12

## Mounting accessories (in mm; 1mm = 0.03937 inches)



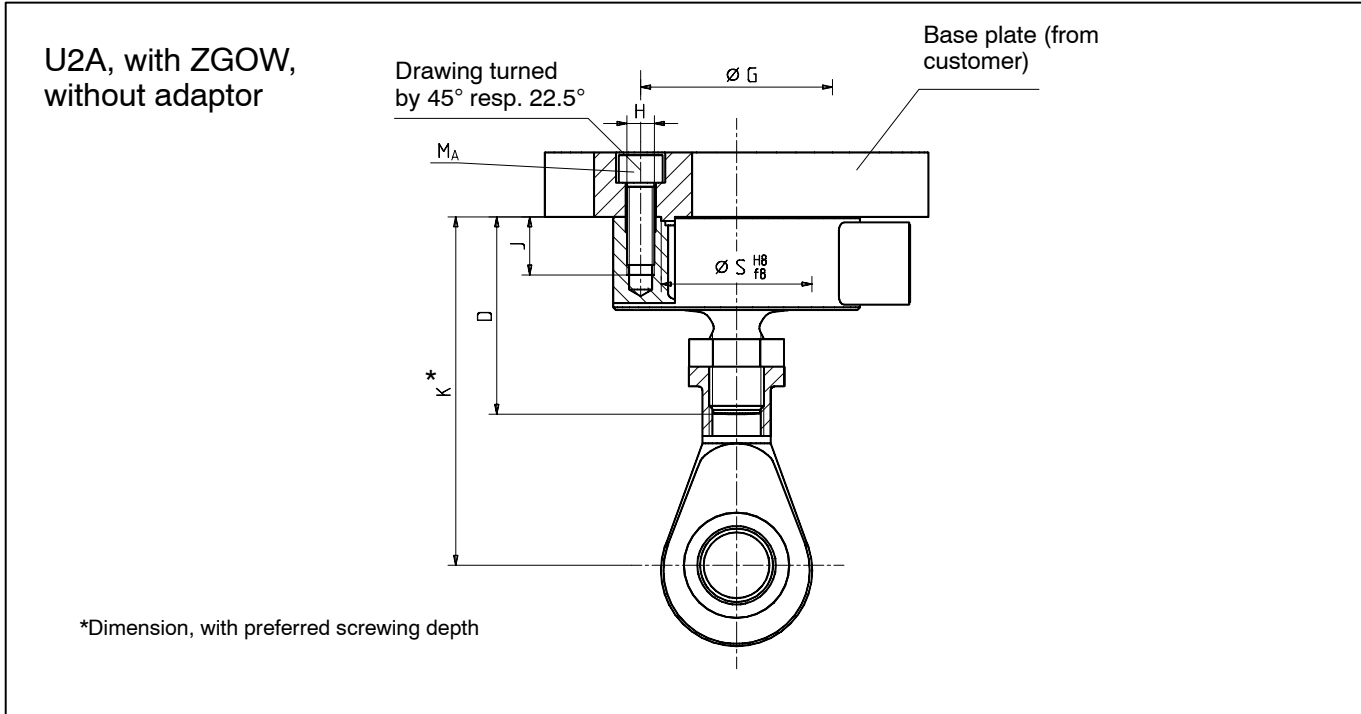
Max. cap. [t]	Knuckle eye ZGOW	Weight [kg]	A	ØB	D	F	G	H	ØK	M	a.f.	W
0,05...1	U2A/1t/ZGOW	0,2	22	12 <sup>H7</sup>	32	50	66	12	22	M12	19	16
2	U2A/2t/ZGOW	0,5	33	20 <sup>H7</sup>	50	77	102	18	34	M20x1,5	32	25
5	U2A/5t/ZGOW	0,8	42	25 <sup>H7</sup>	60	94	124	22	42	M24x2	36	31
10	U2A/10t/ZGOW	3,2	50	50 <sup>+0,002 -0,014</sup>	115	151	212,5	28	65	M39x2	60	35
20	U2A/20t/ZGOW	4,8	60	60 <sup>+0,003 -0,018</sup>	126	167	235	36	82	M48x2	70	44

Max. cap. [t]	Knuckle eye ZGUW	Weight [kg]	A	ØB	D	F	G	H	M	a.f.	W	X
0,05...1	U2A/1t/ZGUW	0,1	33	12 <sup>H7</sup>	32	54	70	12	M12	19	16	7
2	U2A/2t/ZGUW	0,2	47	20 <sup>H7</sup>	50	78	103	18	M20x1,5	32	25	9
5	U2A/5t/ZGUW	0,4	57	25 <sup>H7</sup>	60	94	124	22	M24x2	36	31	10
10	U2A/10t/ZGUW	1,1	65,5	50 <sup>+0,002 -0,014</sup>	115	148,5	210	28	M39x2	60	35	16
20	U2A/20t/ZGUW	3,2	80	60 <sup>+0,003 -0,018</sup>	126	168	236	36	M48x2	70	44	18

### Load cell U2A with monted knuckle eyes ZGOW, ZGUW

Max. capacity [t]	A <sub>min</sub>	A <sub>max</sub>	F <sub>min</sub>	F <sub>max</sub>	Min. depth for screwing	
					B	C
0,05...0,5	139	156	171	188	9,6	9,6
1	141	156	173	188	9,6	9,6
2	212	234	262	284	16	16
5	260	288	320	348	19,2	19,2
10	418	436	541	559	27	31,2
20	466	489	602	625	36,6	38,4

## Mounting accessories, Continuation (in mm; 1mm = 0.03937 inches)



Max. capacity [t]	D	ØG	H	J	K	ØS	MA [Nm]
0,05...0,5	47	42	4xM5	13	84...86,4	34	5
1	47	42	4xM5	13	86,4	34	5
2	72	70	4xM10	20,5	131,6	55	35
5	86	78	4xM12	19	158,2	61	60
10	122	105	8xM12	16	244	79	60
20	142	125	8xM16	26	270,2	97	150

### Options

- Explosion-proof models
  - For use in intrinsically safe circuits of class EEx ia IIC T4
  - Flameproof enclosure (Ex) d3n G5 (PTB-no. III B/E-3007) for rated capacities from 100kg, type designation U2-E
- Service temperature range extended to 120°C [248°F]

### Accessories, to be ordered separately:

Knuckle eye U2A, above,                      U2A/.../ZGOW  
Knuckle eye U2A, lower,                      U2A/.../ZGUW



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