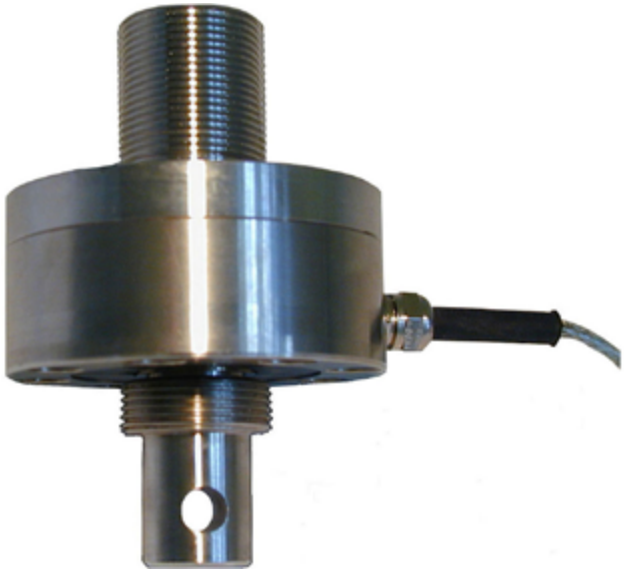
AST Gruppe
Angewandte System Technik

KAF-W
Force Transducer

Applications

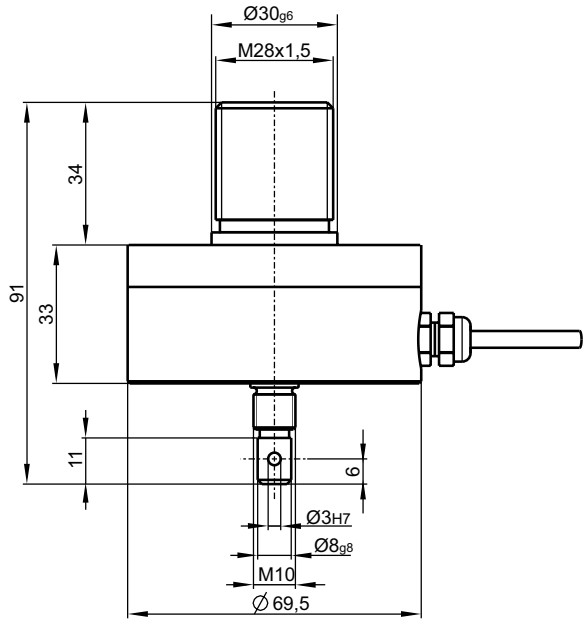
- Measuring of tension and compression forces in units and systems
- Ideal for material testing machines



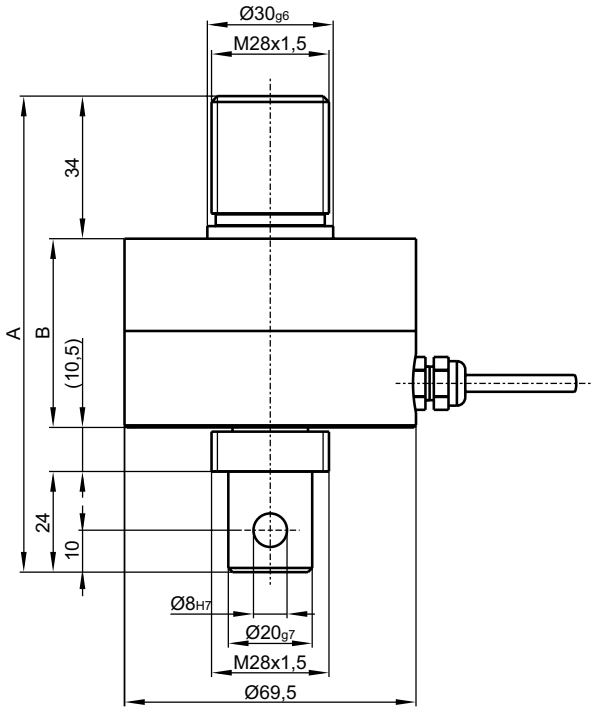
Features

- 200 N to 10 kN
- Insensitive to bending moments and lateral force
- Made of stainless steel and aluminium (<1 kN)
- Environmental protection IP 53

Dimensions



KAF-W 200 N to 1 kN (Aluminium)

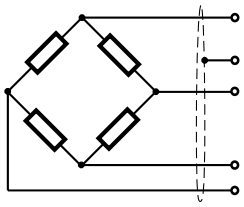


KAF-W 2.5 kN to10 kN (Stainless steel)

Rated Load	A (mm)	B (mm)
2.5 kN	101.5	33
5 kN	101.5	33
10 kN	113.5	45

Rated Load	Measured displacement (mm)	Weight (kg)
200 N	0.05	approx. 0.5
500 N	0.11	approx. 0.5
1 kN	0.10	approx.0.5
2.5 kN	0.19	approx.1.0
5 kN	0.33	approx. 1.0
10 kN	0.40	approx. 1.4

Wiring Code
Cable length 3m



excitation voltage +	(+EX)	brown
shield	(SHI)	black
signal +	(+SI)	green
excitation voltage -	(-EX)	yellow
signal -	(-SI)	white

Compressive load is a positive change of signal.
Shield to ground (housing)

Specifications

Accuracy Class	**% F_{nom}**	**0.05**
Rated (nominal) force (F_{nom})	kN	0.2 / 0.5 / 1 / 2.5 / 5 / 10
Maximum operating force (F_G)	% F_{nom}	150
Breaking force (F_B)	% F_{nom}	> 300
Lateral force limit (F_Q)	% F_{nom}	100
Lateral force effect (d_Q)		0.02
Rated characteristic value (C_{nom})	mV/V	2.00 ± 0.04
Zero signal tolerance	%	≤ 1
Reference excitation voltage (U_{ref})	VDC	20
Operating range of excitation voltage (B_{UG})	VDC	
Input resistance (R_e)	Ω	780 ± 40
Output resistance (R_a)	Ω	702 ± 2
Insulation resistance (R_{is})	Ω	> 5 x 10^9
Relative linearity error (d_{lin})	%	
Relative reversibility error (v)	%	≤ 0.05
Temperature effect on zero signal (TK_0)	%/ 10K	≤ 0.025
Temp. effect on characteristic value (TK_c)	%/ 10K	≤ 0.04
Relative creep over 30 minutes ($d_{cr, F+E}$)	%	≤ 0.025
Reference temperature (T_{ref})	°C	+23
Rated temperature range ($B_{T, nom}$)	°C	-20 ... +60
Operating temperature range ($B_{T, G}$)	°C	-20 ... +60
Storage temperature range ($B_{T, S}$)	°C	-30 ... +70
Environmental protection (EN 60529)		IP 53
Minimum capacity for testing machines according to ISO 7500-1:		
Class 1	% F_{nom}	0.2
Class 0.5	% F_{nom}	1

All data according to VDI/VDE/DKD 2638

Order Example

Type Code	**Description**
KAF-W/1kN/0.05	Force transducer 1 kN with 0.05 % accuracy
	Accuracy class
	Rated load
	Model

Options

	Type Code	**Description**
Cable extension	XKC 042	cable extension (total length per unit: m)