

## Compression Force Sensor K-14 with Nominal Force from 0.05 ... 100 kN



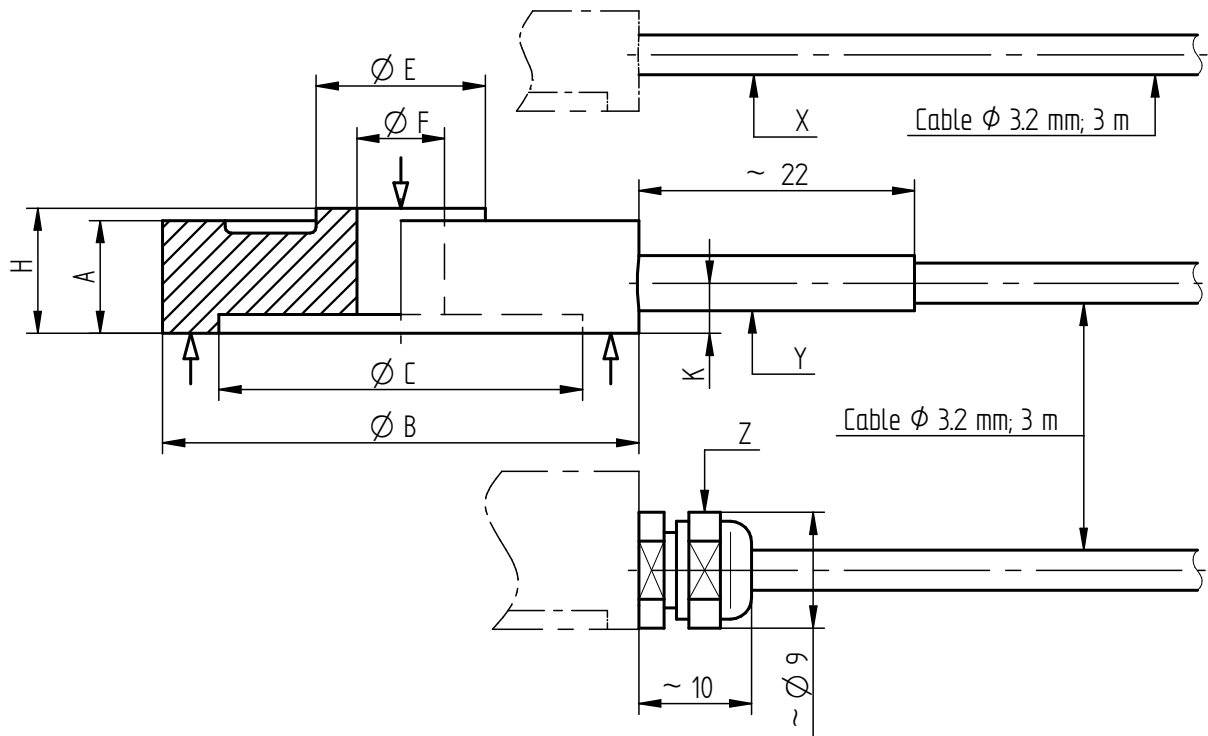
### Performance Features

- Measurement of the static and dynamic forces
- Simple handling and assembly
- Stainless steel
- Level of protection IP60
- Long-term stability
- Special versions on request

### Application

- Equipment engineering
- Automotive industry
- Measuring and control devices
- Fully automated machining centres
- Tool engineering
- Special mechanical engineering

## Dimensions of K-14 in mm



Article-No.	Nominal Force [kN]	Dimensions [mm]										Weight [kg]
		A	$\phi B$	$\phi C$	$\phi E$	$\phi F$	H	K	X	Y	Z	
100588	0.05	8	30	25	9	5.2	9.5	4.5	X	-	-	0.2
100589	0.1											
100590	0.2											
100591	0.5											
100592	1	9	38	29	13.5	7	10	4	-	X	-	0.2
100593	2											
100594	5											
100595	10											
100596	20	15	49	41	23	14	16	4.5	-	-	X	0.3
100597	50											
100598	100											
		24	78	60	42	27	25	7.5	-	-	X	0.8

## Connection Assignment

### Electrical connection

Excitation (-)	green	●
Excitation (+)	brown	●
Signal (+)	yellow	●
Signal (-)	white	○
Control signal (option)	grey	●
Shield	shield	⊕

## Technical Data acc. to VDI/VDE/DKD 2638

### Compression Force Sensor with Through Hole K-14

Nominal force <b>F<sub>nom</sub></b>	kN	0.05	0.1	0.2	0.5	1	2	5	10	20	50	100
Accuracy class	% F <sub>nom</sub>	0.5										
Rel. repeatability error in unchanged mounting position <b>b<sub>rg</sub></b>	% F <sub>nom</sub>	0.2										
Relative creep	% F <sub>nom</sub> /30 min	<±1										
Rated characteristic value <b>C<sub>nom</sub></b>	mV/V	1.00 ±20%										
Input/output resistance <b>R<sub>e</sub>/R<sub>a</sub></b>	Ω	350										
Insulation resistance <b>R<sub>is</sub></b>	Ω	>2*10 <sup>9</sup>										
Rated range of excitation voltage <b>B<sub>U, nom</sub></b>	V	2 ... 12 [≤0.5 kN; 2 ... 6]										
Electrical connection		Cable, PURS, 3 m with free strands										
Reference temperature <b>T<sub>ref</sub></b>	°C	23										
Rated temperature range <b>B<sub>T, nom</sub></b>	°C	-10 ... 70										
Operating temperature range <b>B<sub>T, G</sub></b>	°C	-30 ... 80										
Storage temperature range <b>B<sub>T, S</sub></b>	°C	-50 ... 95										
Temperature effect on zero signal <b>TK<sub>0</sub></b>	% F <sub>nom</sub> /10 K	±0.2										
Temperature effect on characteristic value <b>TK<sub>C</sub></b>	% F <sub>nom</sub> /10 K	±0.2										
Maximum operating force <b>F<sub>G</sub></b>	% F <sub>nom</sub>	130										
Force limit <b>F<sub>L</sub></b>	% F <sub>nom</sub>	150										
Breaking force <b>F<sub>B</sub></b>	% F <sub>nom</sub>	>300										
Permissible oscillation stress <b>F<sub>rb</sub></b>	% F <sub>nom</sub>	70										
Rated displacement <b>S<sub>nom</sub></b>	mm	<0.15										
Material		Stainless steel										
Level of protection		IP60										

### Options

Article-No.	Description	
100218	Control signal	100 % F <sub>nom</sub>
100896	Nominal sensitivity adjustment	
42828	Extended temperature range	-30 °C ... 100 °C
42829	Extended temperature range	-30 °C ... 120 °C [≥0.2 kN]
42830	Extended temperature range	-40 °C ... 150 °C [≥0.2 kN]
103954	Calibration in kg or t	
107592	6-wire connection	

### Calibrations

Article-No.	Description	
400628	Linearity diagram in accordance to factory standard	25 % steps
400170	Linearity diagram in accordance to factory standard	10% steps
400960	Proprietary calibration acc. to DIN EN ISO 376 and DAkkS-DKD-R 3-3	3 steps
400652	Proprietary calibration acc. to DIN EN ISO 376 and DAkkS-DKD-R 3-3	5 steps
400640	Proprietary calibration acc. to DIN EN ISO 376 and DAkkS-DKD-R 3-3	8 steps
	DAkkS-Calibration / Standard on request	

## Accessories

### Electrical Connection

Article-No.	Description
10323	Cable connector KS6 (6-pin series 581) incl. sensor mounting
10320	Cable connector KSSH15 (15-pin) incl. sensor mounting
43418	Input connector ZA9612FS (ALMEMO) incl. sensor mounting and connector calibration
49205	Input connector ZKD712FS (ALMEMO 202) incl. sensor mounting and connector calibration

### Amplifiers

Examples of suitable amplifiers for the compression force sensor K-14:

LCV	SI-USB	GM 40	GM 80	GM 80-PA
				

