

Pressure Mate

Cutting force measurement on rotary die cutters



Technical data sensor AFS®

Rated measuring range (F_N)	kN	0...10
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 \pm 3
Output resistance	Ω	350 \pm 1
Isolation resistance	GΩ	> 10
Rated temperature range	$^{\circ}\text{C}$	5...50
Operational temperature range	$^{\circ}\text{C}$	-10...70
Storage temperature range	$^{\circ}\text{C}$	-30...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	< $\pm 0,1$
Linear output signal up to	% F_N	approx. 125
Deflection at nominal force	mm	< 0,005
Natural frequency of the sensor	kHz	> 40 (depending on nominal force)
Weight	kg	approx. 1
Sensor housing	high-tensile steel, black finishing	
Protection class	IP 65	

Rated measuring range

Nominal force [kN]			
10			

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

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Technical data measuring amplifier DMV 05

Design	Desktop unit with LCD displays for 2 channels	
Display per channel	3½ -digit LCD display, Increment 10 kg, optional 1 kg	
Sensor connection	female socket, 6-pole 270°, gold-plated contacts	
Nominal measuring range U_{sig}	mV	±10
Nominal gain G_{nom}		1000
Accuracy class		0,1
Bridge excitation voltage	V DC	10, highly stable
Adjustment range zero	% v.E.¹	approx. ±45
Voltage output V_{out} per channel	V	0 to ±10; $R_L \geq 10 \text{ k}\Omega$
Cut-off frequency (-3dB) output signal	Hz	approx. 70
Nominal temperature range	°C	5 to 50
Operation temperature range	°C	0 to 50
Storage temperature range	°C	-30 to 70
Temperature influence per 10 K		
- on zero at amplifier output	mV	< 10
- on calibration	% v.E.¹	< 0,05
Supply voltage	V AC	230 / 115 ±10%, switchable
Frequency	Hz	45 to 60
Power consumption	VA	approx. 3
Housing		robust aluminium die cast housing with antislip housing feet
Dimensions (L x W x H)	mm	172 x 115 x 135
Weight	kg	approx. 1,5
Protection class		IP 40

¹ v.E. ⇒ of final value

Scope of supply

- 2 threaded spindles with built-in force sensors
- measuring amplifier
- 2 sensor connection cables, length 2 m
- mains cable

Option

- display with increment 1 kg

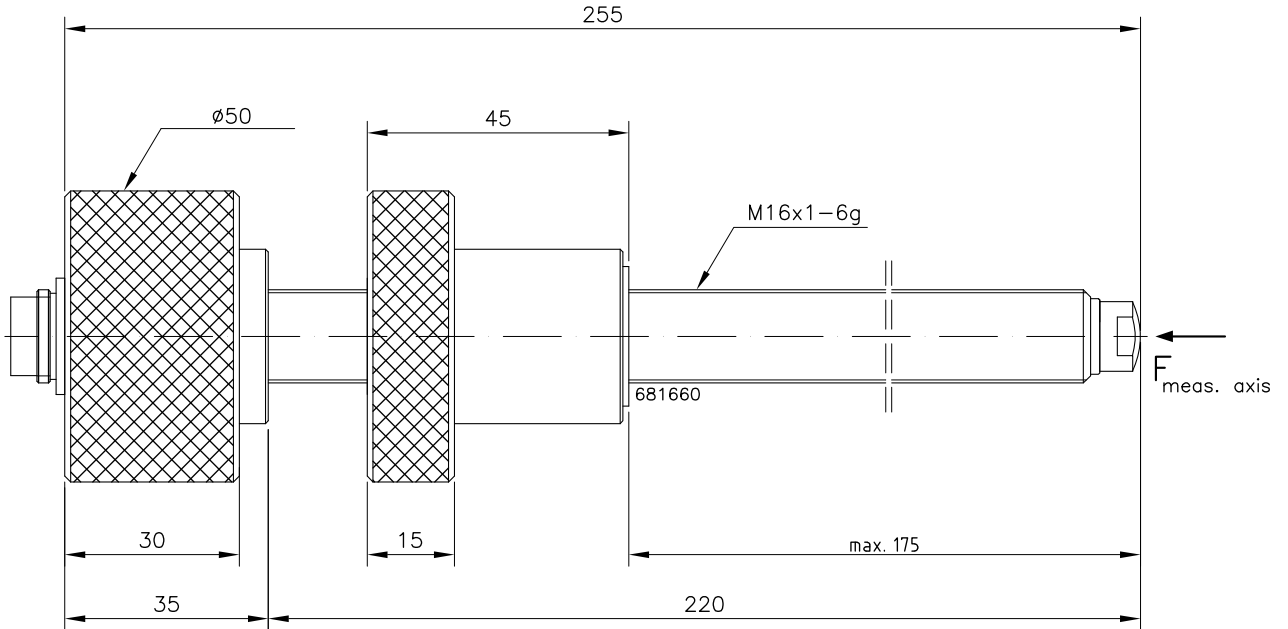
Special designs

- further nominal force ranges
- dimensions for thread, spindle length and spindle adjusting range differing from standard

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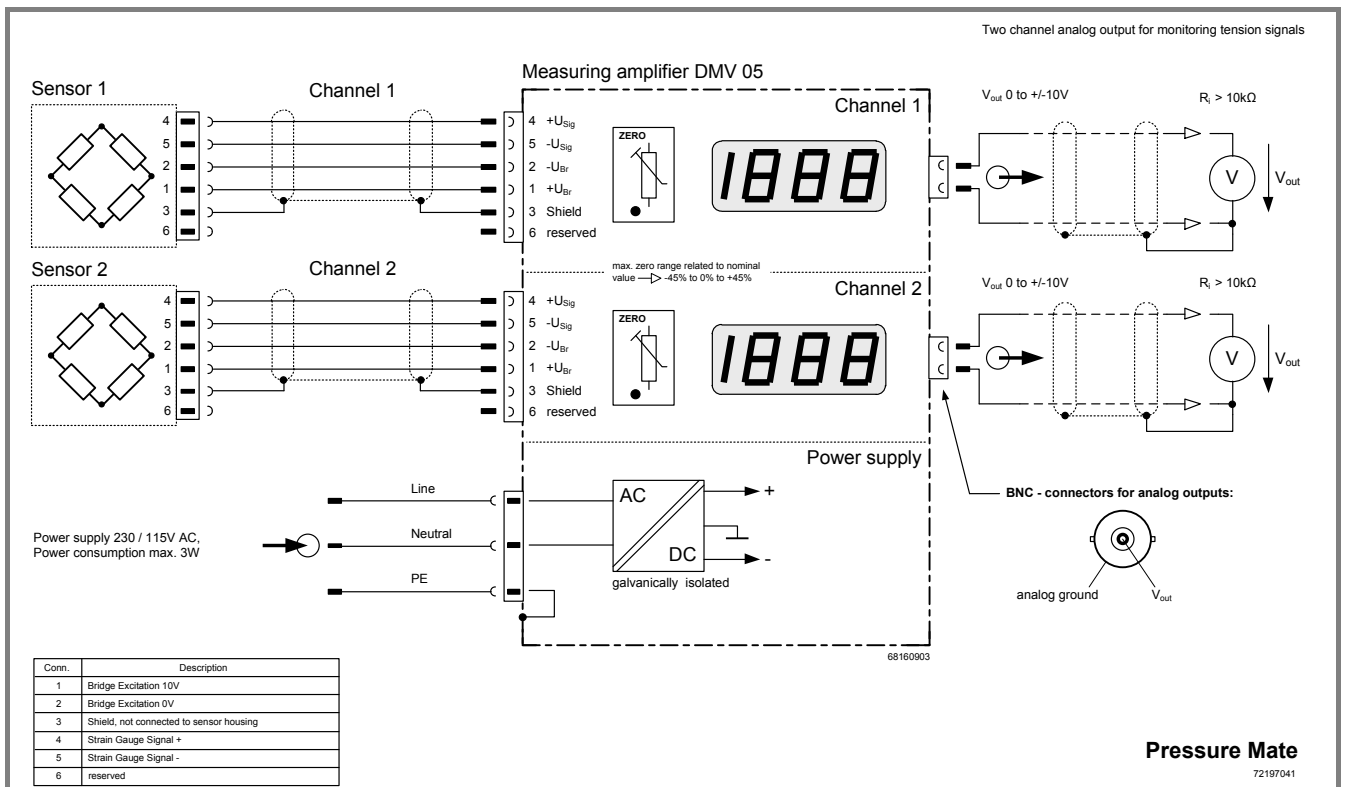
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Scale drawing of sensor



All dimensions in mm

Block diagram



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