
ZM Series Force Transducers

NOTE: Not available in U.S.

FEATURES

- 500 N to 100 kN
- Low assembly dimensions
- Made of special steel
- Hermetically-sealed case (IP 67)



DESCRIPTION

The transducers in the ZM series are designed for the measurement of static and dynamic pressure forces. They are characterised by their small dimensions. As they are manufactured in stainless steel with a high protection degree, they can be used everywhere without limitations. The sensor element is a diaphragm body fitted with metal foil strain gauges, that forms an hermetically sealed chamber filled with dry nitrogen. The transducers are fitted with the help of four screw taps on a flat surface.

Force is introduced with no transverse force over a hardened plate on the universal ball joint. As a standard, the transducers are supplied with a 1.5 m long connection cable with free ends. Moreover, these can be supplied with an integrated amplifier (model designation ZM-E). The output signals (0 to 10) V or (0/4 to 20) mA can be selected.

Accuracy class *		0.5	0.2	0.1
Nominal force (=F _N)	kN	0.5 / 1 / 2 / 5 / 10 / 20 / 50 / 100		20 / 50 / 100
Max. permissible force	%F _N		150	
Ultimate overload	%F _N		>300	
Max. transverse force/load	%F _N		20	
Reference temperature	°C		+23	
Nominal temperature range	°C		-20 to +60	
Storage temperature range	°C		-30 to +70	
Enclosure protection (DIN 40050)			IP 67	
Nominal sensitivity (=S)	mV/V		1.000 ±0.005	
Zero tolerance band	%S		≤3	
Max. supply voltage	V		10	
Input resistance	Ω		380 ±30	
Output resistance	Ω		352 ±1.5	
Insulation resistance	Ω		>5 ×10 ⁹	
Linearity error *	%S	≤0.5	≤0.2	0.1
Width of backlash *	%S	≤0.5	≤0.2	0.1
TC of zero per 10 K	%S	≤0.5	≤0.2	0.1
TC of sensitivity per 10 K	%S	≤0.5	≤0.2	0.1
Creepage error (30 min)	%S	≤0.5	≤0.2	0.1

* According to VDI 2637

PIN CONNECTIONS

Pin	To DIN
Supply voltage (+)	brown
Supply voltage (-)	yellow
Measuring voltage (+)	green
Measuring voltage (-)	white
Shield	black
Cable length	1.5 m

Note : In the ZM-E type cells, the pins for supply voltage (-) and measuring voltage (-) are interconnected internally.

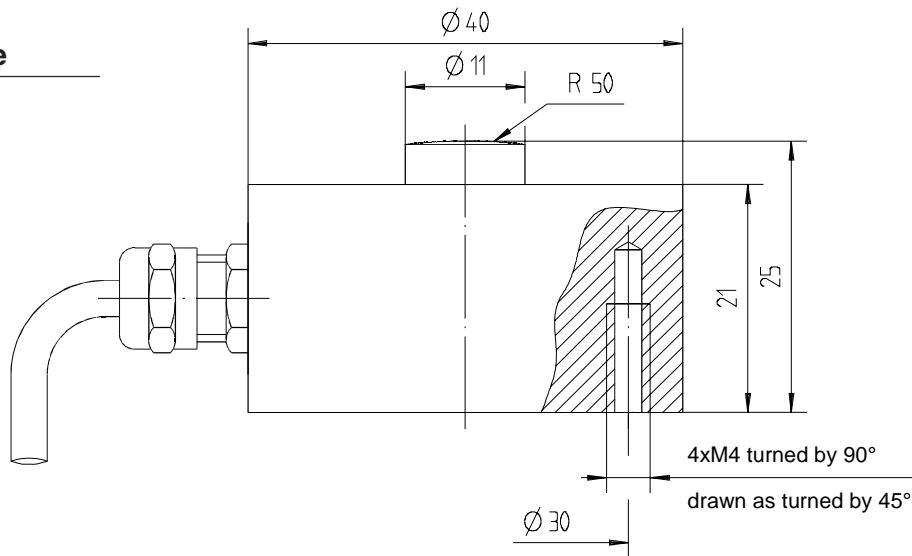
ZM 0.5 kN to 10 kN

MODELS

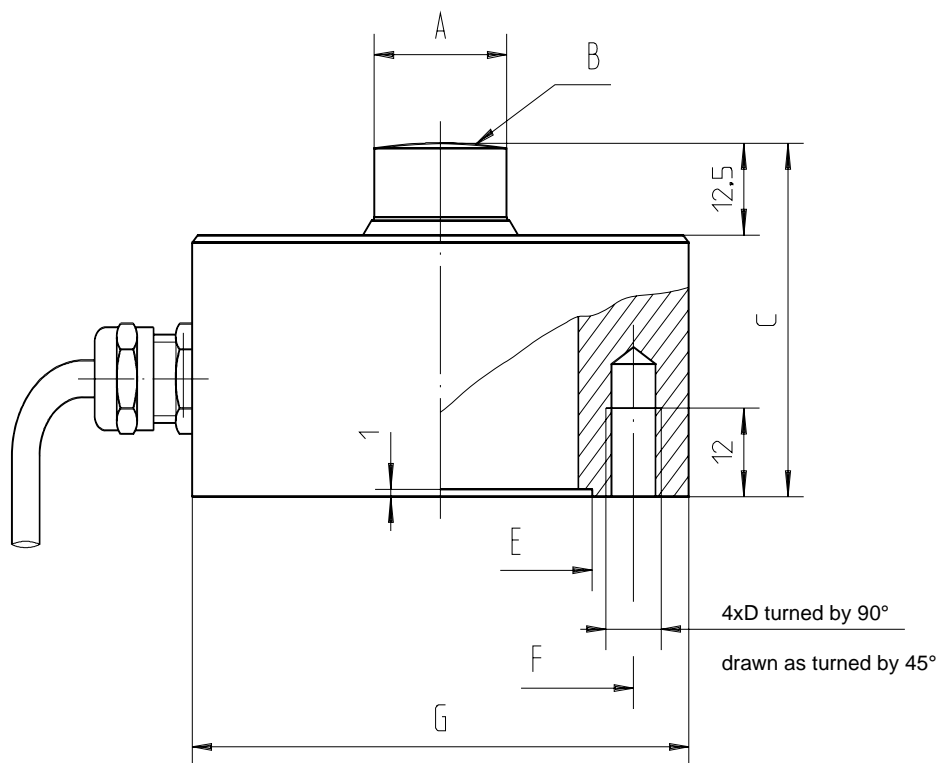
Nominal force

- 0.5 kN
- 1 kN
- 2 kN
- 5 kN
- 10 kN

Weight: 0.25 kg

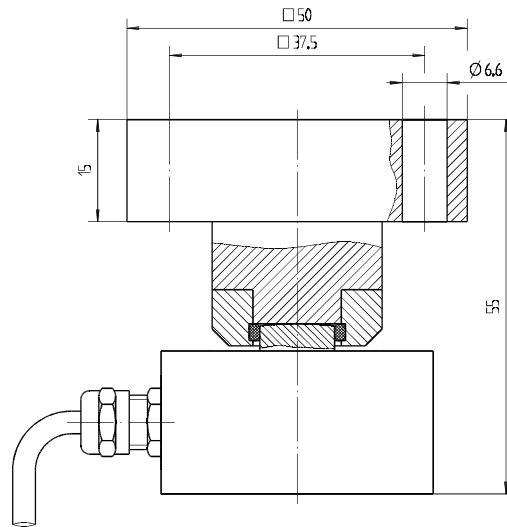


ZM 20 kN to 100 kN

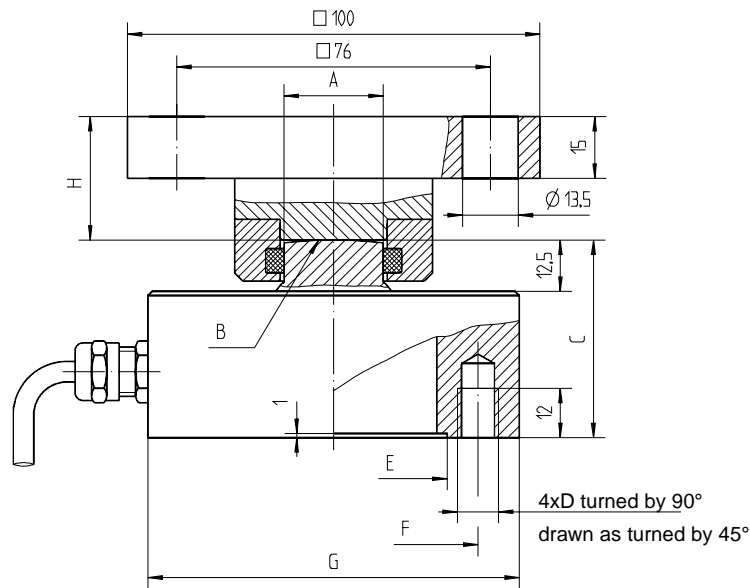


Model	A	B	C	D	E	F	G	Weight
ZM 20 kN/50 kN	Ø24-0.1	R100	48	M10	Ø55 H8	Ø70	Ø90	1.8 kg
ZM 100 kN	Ø32-0.1	R160	60	M12	Ø68 H8	Ø90	Ø115	3.2 kg

ZM 0.5 kN to 10 kN with pendulum support, above AM 072



ZM 20 kN to 100 kN with pendulum support, above AM 070 (20 kN, 50 kN) or AM 071 (100 kN)



Model	A	B	C	D	E	F	G	H
ZM 20 kN/50 kN with AM 070	Ø24-0.1	R100	48	M10	Ø55 H8	Ø70	Ø90	30
ZM 100 kN with AM 071	Ø32-0.1	R160	60	M12	Ø68 H8	Ø90	Ø115	30

ORDERING INFORMATION FOR MECHANICAL ACCESSORIES

ZM 0,5 kN to 100 kN

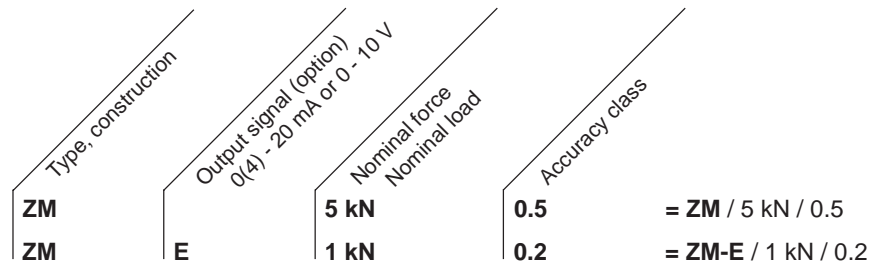
- AM 072 Pendulum support, above for ZM 0.5 kN to 10 kN
- AM 070 Pendulum support, above for ZM 20 kN to 50 kN
- AM 071 Pendulum support, above for ZM 100 kN

ORDERING INFORMATION

Explanation of Type Code (Ordering Example)

for Force Transducers

for Force Transducers with
integrated amplifier



SYSTEM OPTIONS

Model No.	Product Description	Ordering Number
LMU 112	Load monitoring unit containing 2 level detectors, 1 current and 1 voltage O/Ps	224-112-000-XXX
LMU 116	Load monitoring unit containing 4 level detectors, taring and 4 summer functions	224-116-000-XXX
LMU 117	Dual channel load monitoring unit (2 x LMU 112)	224-117-000-XXX
AN 2000 C	Digital process monitor for strain gauge transducers	AN 2000 C /X/X/XX/XX/X

Due to the continual development of our products, we reserve the right to modify specifications without forewarning.



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