FORCE TRANSDUCER

COMPRESSION



- STAINLESS STEEL
- COMBINED ERROR:
  ≤ ±0.07 %FS (2.5 kN – 1 MN)
  ≤ ±0.14 %FS (2 MN – 5 MN)
- IP67 PROTECTION RATING

CE · RoHS COMPLIANT · REACH COMPLIANCE · IP67 · Stainless Steel · Dynamic Measurement · Fully Laser Welded · ISO 17025 ACCREDITED LABORATORY · ISO 376 REFERENCE STANDARD · mV/V

NOMINAL LOAD (FS)

kg	kN	NET WEIGHT (kg)	COMBINED ERROR	ACCURACY CLASS AC1	RoHS	Fully Laser Welded	ISO 376	Rated Output (mV/V)
250	2.5	1.6	≤±0.07 %	•	•	•	•	2.0 ±0.1 %
500	5.0	1.6	≤±0.07 %	•	•	•	•	2.0 ±0.1 %
1 000	10	1.6	≤±0.07 %	•	•	•	•	2.0 ±0.1 %
2 500	25	1.6	≤±0.07 %	•	•	•	•	2.0 ±0.1 %
5 000[2]	50	1.6	≤±0.07 %	•	•	•	•	2.0 ±0.1 %
5 000	50	2.5	≤±0.07 %	•	•	•	•	2.0 ±0.1 %
10 000	100	2.5	≤±0.07 %	•	•	•	•	2.0 ±0.1 %
20 000	200	5.8	≤±0.07 %	•	•	•	•	2.0 ±0.1 %
30 000	300	5.8	≤±0.07 %	•	•	•	•	2.0 ±0.1 %
50 000	500	6.8	≤±0.07 %	•	•	•	•	2.0 ±0.1 %
75 000	750	16.5	≤±0.07 %	•	•	•	•	2.0 ±0.1 %
100 000	1 000	16.5	≤±0.07 %	•	•	•	•	2.0 ±0.1 %
200 000[1]	2 000	35	≤±0.14 %	•	•	•	•	2.0 ±0.1 %
300 000[3]	3 000[3]	63	≤±0.14 %	•	•	•	•	2.0 ±0.1 %
500 000[3]	5 000[3]	63	≤±0.14 %	•	•	•	•	2.0 ±0.1 %

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TECHNICAL DATA

PRECISION

Rated Output (C_n)	2.0 mV/V[4] ≤ ±0.1 %FS
Zero Balance	< ±1.0 %FS
Combined error	≤ ±0.07 %FS (2.5kN – 1MN)
	≤ ±0.14 %FS (2MN – 5MN)
Non-linearity	≤ ±0.05 %FS (2.5kN – 1MN) ≤ ±0.10 %FS (2MN – 5MN)
Hysteresis	≤ ±0.05 %FS (2.5kN – 1MN) ≤ ±0.10 %FS (2MN – 5MN)
Creep	≤ ±0.10 %FS (at 30 min FS)
Temperature coefficient on zero	≤ ±0.028 %FS
Temperature coefficient on span	0.024 %FS/°C
Compensated temperature range	-10...+40 °C
Operating temperature range	-20...+70 °C
Reference Temperature	23 °C

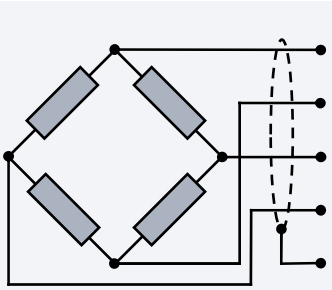
MECHANICAL PROPERTIES

Material	STAINLESS STEEL
Deflection at FN	~ 0.4 mm

ELECTRICAL PROPERTIES

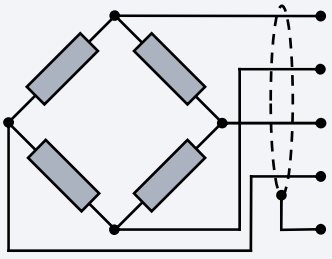
Bridge configuration	– Full Wheatstone bridge, 4-wire: 2.5 kN - 1 Mn – Full Wheatstone bridge, 6-wire: 2 MN - 5 MN
Input resistance	800 ± 20 Ω (2.5 - 500 kN) 430 ± 20 Ω (750 - 50 000 kN)
Output resistance	705 ± 2Ω (2.5 - 500 kN) 352 ± 2 Ω (750 - 50 000 kN)
Insulation resistance	≥ 5 GΩ at 100 V
Recommended excitation voltage	max. 18 V
Cable diameter	5.2 mm
Cable length	5 m (on request 10 m)

ELECTRICAL CONNECTION (4-wire)



+ EXCITATION	RED
– EXCITATION	BLACK
+ SIGNAL	WHITE
– SIGNAL	YELLOW
SHIELD	

ELECTRICAL CONNECTION (6-wire)

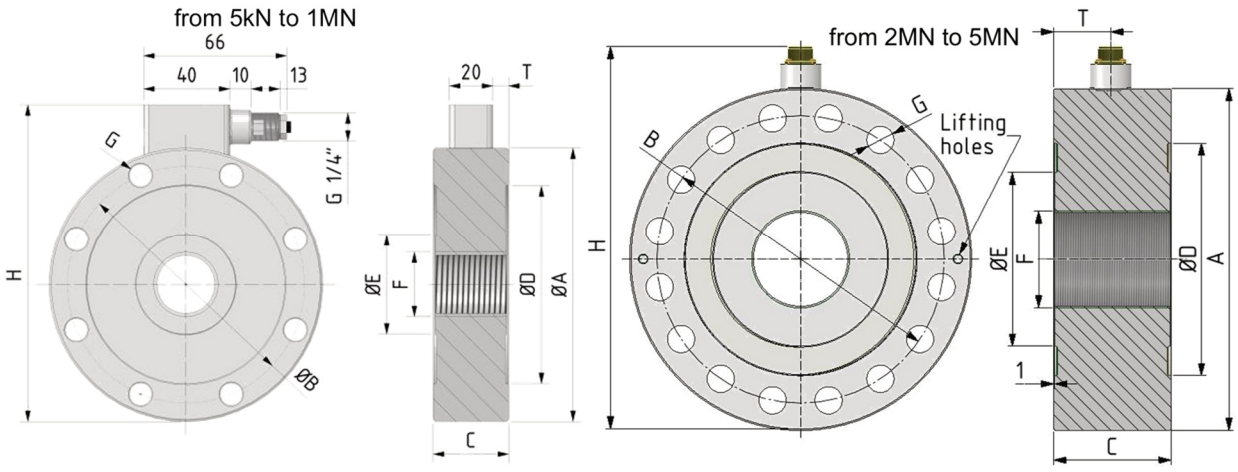


+ EXCITATION	RED
+ REF./SENSE	ORANGE
– EXCITATION	BLACK
– REF./SENSE	BLUE
+ SIGNAL	WHITE
– SIGNAL	YELLOW
SHIELD	

MECHANICAL LIMITS

Service load	120 %FS	Load without any permanent deformation or change in calibration.
Safe overload	150 %FS	The highest static load that may be applied once or briefly without mechanical damage.
Breaking load	> 300 %FS	Load at which permanent deformation or mechanical failure (fracture) occurs.
Max. transverse load (side)	100 %FS	Maximum lateral or shear load that can be applied (e.g. due to misalignment or friction).
Max. permissible dynamic load	75 % FS[5]	For cyclic or oscillating loads, the amplitude should not exceed this load to prevent fatigue failure.

DIMENSIONS



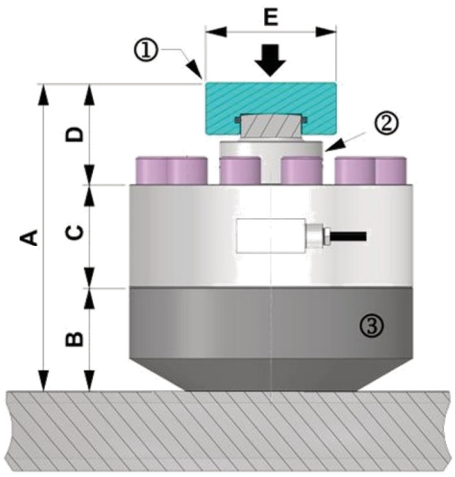
Load	Ø A	B	C	Ø D	Ø E	F	G	N°G	H	T
2.5 - 25 kN	100	86	35	72	32	M20 x 1.5	9	6	121	7.5
50 kN[2]	100	86	35	72	32	M20 x 1.5	9	6	121	7.5
100 kN	127	110	35	92	47	M30 x 2	10.5	8	149	7.5
200 - 300 kN	165	138	50	108	62	M42 x 3	17	12	188	15
500 kN	165	138	60	108	62	M42 x 3	17	12	188	20
750 kN – 1 MN	230	182	80	145	98	M60 x 3	25	12	254	30
2 MN[1]	300	250	100	198	132	M100 x 3	25	16	339	50
3 MN[1],[3]	350	294	120	238	178	M100 x 3	28	16	389	60
5 MN[1],[3]	350	294	130	238	178	M100 x 3	28	16	389	65

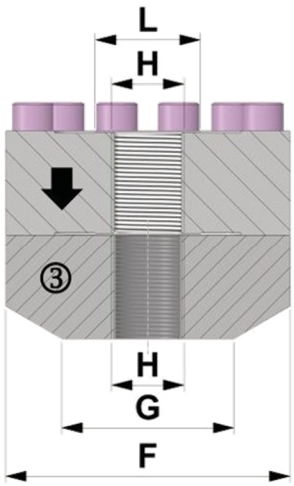
COMPLIANCE AND CERTIFICATION

Protection Rating	IP67	
Compliance	CE, RoHS, REACH	
Calibration	Factory-calibrated, ISO 17025 calibration available on request	
HS-CODE	9031.80.80	
Certifications	ISO 376	LAT Accredia calibration certificate ISO 376 or ASTM E74 for capacities from 1000 kg to 10000 kg
Certifications (on request)	✓	Accredia traceable calibration report

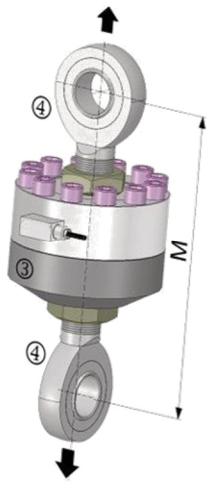
APPLICATIONS

COMPRESSION





TENSION



WARNING:
Check that the fixing screws and the accessories are correctly

Accessories execution material:
from 2.5 to 200 kN
from 300 kN to 5 MN

Stainless Steel
Rm ≥ 90 kg/mm²
Rm ≥ 130 kg/mm²

Dimensions, mm

LLAA	A	B	C	D	E	F	G	H	L	M
2.5, 5, 10, 25, 50 kN	108	37	35	36	Ø57	Ø100	Ø70	M20 x 1.5	Ø32	~ 170
50, 100 kN	108	37	35	36	Ø76	Ø127	Ø100	M30 x 2	Ø47	~ 200
200 kN	169	60	50	59	Ø76	Ø165	Ø100	M42 x 3	Ø62	~ 224
300 kN	169	60	50	59	Ø76	Ø165	Ø100	M42 x 3	Ø62	~ 465
500 kN	179	60	60	59	Ø76	Ø165	Ø100	M42 x 3	Ø62	~ 513
750 kN, 1 MN	252	85	80	87	Ø126	Ø230	Ø180	M60 x 3	Ø98	/
2 MN	309	85	100	124	Ø129	Ø300	Ø250	M100 x 3	Ø132	/
3 MN	384	120	120	144	Ø168	Ø350	Ø330	M100 x 3	Ø178	/
5 MN	394	120	130	144	Ø168	Ø350	Ø330	M100 x 3	Ø178	/

(1) **ACCREDIA** certification in **TENSION** can NOT be performed by LAT n° 93 Laboratory, on request it can be ordered to other accredited laboratories.

(2) The force transducer 50 kN Ø100 is guaranteed in **TENSION** up to 25 kN.

(3) The force transducers 3 MN and 5 MN are guaranteed in **TENSION** up to 2,5 MN

(4) Tests and calibrations performed in **COMPRESSION** with the transducer mounted on a bearing support with correctly tightened clamping screws

(5) The dynamic load must be applied to the transducer central thread and not to the external fixing rim.

OPTIONS (to be purchased separately)

CMIL6MF

- Direct output connector **MIL6M**



CMIL6FV5

- Female 6 poles straight **MIl6M** CONNECTOR complete PVC **CABLE**, shielded, length 5 m



CONNM12MF

- Direct output connector **M12**



CONNM12FV5

- Female 5 poles straight **M12x1** CONNECTOR complete PVC molded **CABLE**, shielded, length 3 m



CMIL7FV5

- Female 7 poles straight MIL7M CONNECTOR complete PVC Cable Shielded, 6 wires, length 5m.



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