

QUANTUM 100

100 kN Advanced Universal Testing Machine

The 100 kN Quantum is the product of state of the art design, built to the highest quality levels and has many advanced technical features.

Programming tests and monitoring results can be controlled through our powerful and Intelligent LabTest test software, which allows complete and accurate data management in accordance with European, North American and International Standards.

This instrument can be used both in production lines, where the operator has to be fast and efficient and can accurately control the test with the optional remote control unit, and also laboratory environments, where the advanced software lets users analyse the test data.

LabTest allows full control of processing, filing, managing, and transmitting data to the company network, database, and performs many other functions.

This Quantum frame has a flexible and modular construction. It can be equipped with various grips and fixtures, as well as extensometers, additional load cells, temperature chambers and many more accessories, for a wide range of applications (tensile, compression, flexure, etc.).

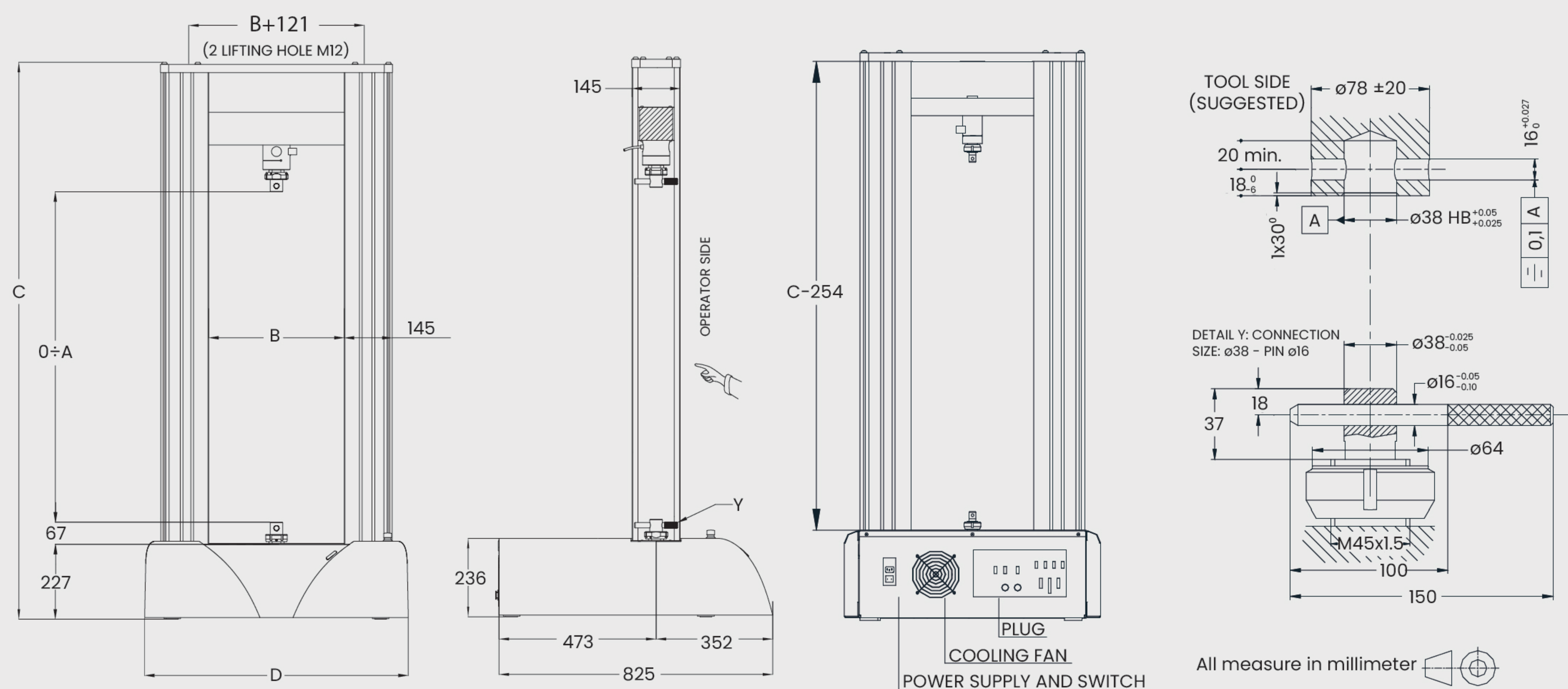
In addition, this user-friendly instrument can be fitted with additional load cells with lower capacities, providing the highest resolution and accuracy for micro-loads.



Universal testing machine Quantum 100

Features and benefits

- Two-column rigid system with 100 kN maximum capacity
- Suitable for metals, plastics, composites and other materials
- Stylish design and advanced features
- Ergonomic design; 4.0 instrument
- Flexible and modular design for easy future development
- Key technical advantages include extremely high resolution of load and stroke readings, as well as minimum test speed of 0.0005 mm/min, for the high performance and most accurate results
- Manufactured by ISO 9001 and ISO 14001 Certified Company
- Excellent price-to-quality ratio

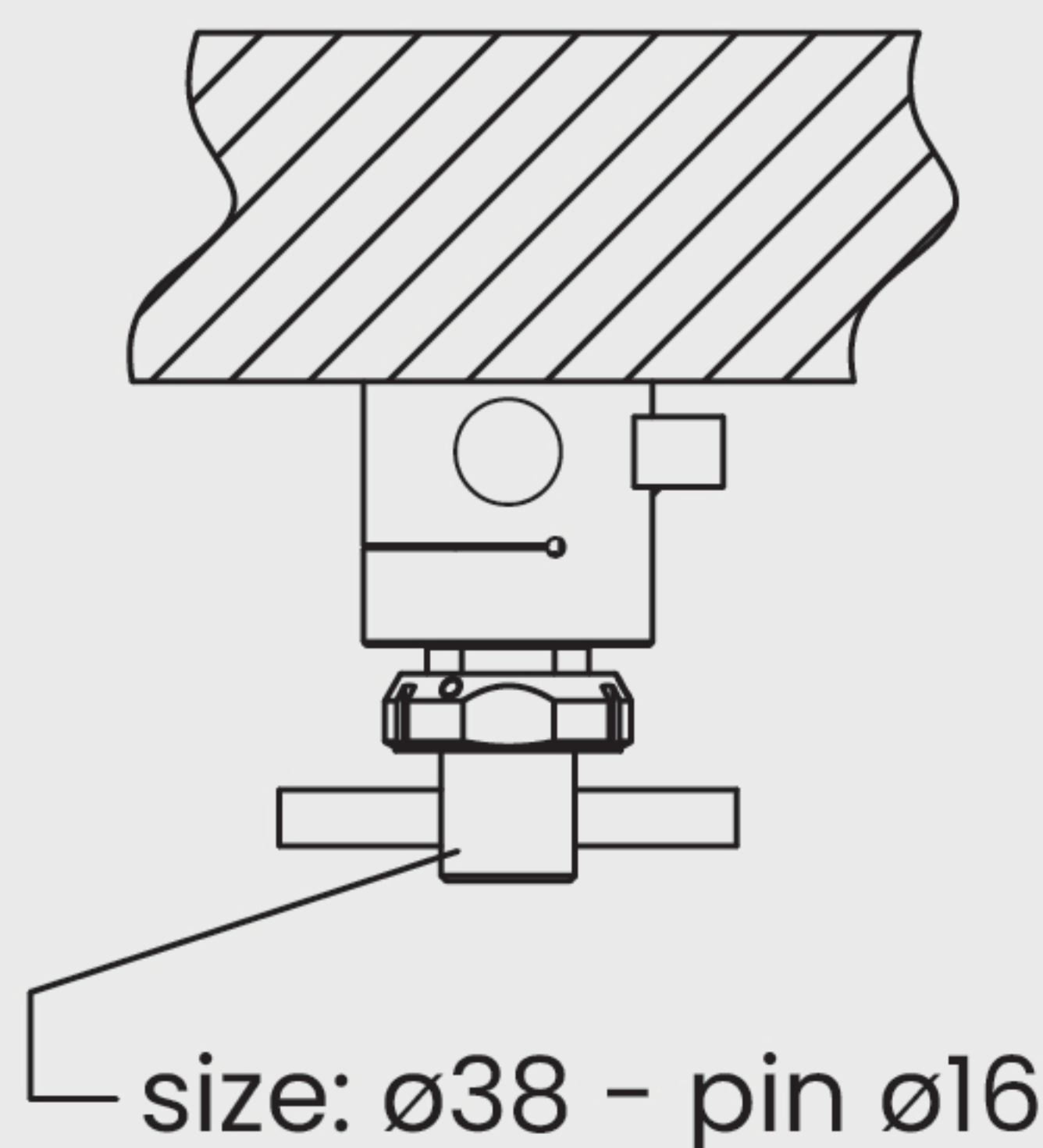


TECHNICAL SPECIFICATION

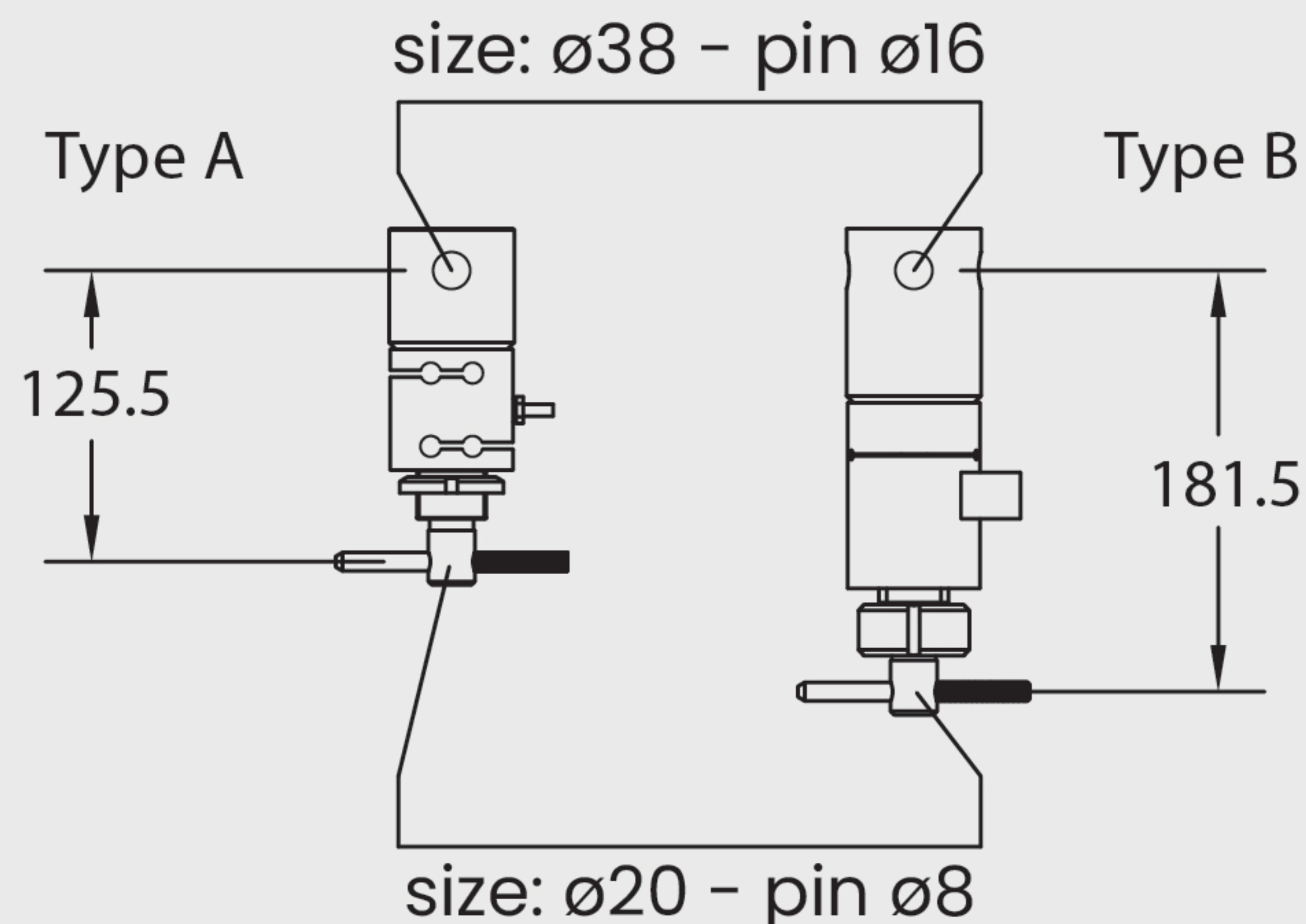
ITEM	TQ01.06	TQ01.06.01 ⁽¹⁾	TQ01.06.02 ⁽²⁾
Capacity of frame and max allowed load	100 kN (22,48 lbf)		
Load cell nominal size (tensile & compression)	100 kN ⁽³⁾		
Max accidental overload ⁽¹⁾ / breaking load (with above load cell)	150 kN / 3000 kN ⁽³⁾		
Standards met or exceeded	ISO 7500-1, ASTM E4, EN 10002-2, JIS B7721, GB/T 16825.1, DIN51221, BS 1610 and other equivalent		
Load cell reading resolution	Over 3 million division (24 bit A/D converter)		
Stroke resolution	0.041 μm		
Speed at maximum load (during test)	0.0001 ÷ 500 mm/min		
Idle speed	500 mm/min		
Accuracy of positioning repeatability	0.02 mm(20 μm)		
Accuracy of the set crosshead speed	0.5% of setting speed ⁽⁴⁾		
Total stroke (Dimension A) [mm/in.]	1,000 / 39.37	1,500 / 59.05	1,750 / 68.90
Daylight between columns (Dimension B) [mm/in.]	410 / 14.16		
Testing area depth	Unlimited ⁽⁵⁾		
Power supply	To be chosen: 220V ± 10% 50/60 Hz or 120 V ± 10% 50/60 Hz - (others on request) ⁽⁴⁾		
Power rating	1400 W ⁽⁶⁾		
Machine weight (without accessories)	360kg (794lb)	390kg (860lb)	415kg (915lb)
Finishing	Silver RAL 9006 / Black RAL 9011		
Room temperature	From +5 to +40°C		
Air humidity (without condensing)	Max 80%		
Internal data sampling rate	1,000 Hz		
PC data transmission rate	500 Hz		
PC interface	Ethercat (A dedicated Ethernet port on PC is required)		
Dimensions: Height (Dimension C) ± 3 mm Width (Dimension D) [mm/in.] Depth ⁽⁵⁾	1,682 / 66.22	2,232/ 87.87 783 / 30.83 820 / 32.28	2,482/ 97.72
Size when packed - approx ⁽⁶⁾ [mm]	1000x950 h 1,950	1000x950 h 2,550	1000x2,800 h 1,000
Noise level	< 72 db		
Suggested local light level	300 lux		



As main load cell (fixed, not removable)



As auxiliary load cell (removable)



AVAILABLE MAIN / AUXILIARY LOAD CELL ⁽⁷⁾

ITEM	TQ03.04.08 Standard ⁽¹⁰⁾	TQ03.04.01	TQ03.04.01.0A	TQ03.04.01.0B	TQ03.04.02	TQ03.04.03	TQ03.04.03.0A	TQ03.04.04	TQ03.04.05
Normal size	5 kN	10 N	20 N	50 N	100 N	250 N	500 N	1 kN	2,5 kN
Max accidental overload ⁽¹¹⁾ /breaking load		150% of nominal size / 300% of nominal size							
Type (see drawing)	Standard ⁽¹⁰⁾	A					B		
Kit for use aux. cell (sold separately) ⁽¹²⁾		TQ03.05.01 (generic code, correct load cell must be specified)							

⁽¹⁾ Load limit (only in tensile) of TQ0 1.16 .01 is set to 12.5 kN if crosshead position (Dimension A) is greater than 1,000 mm

⁽²⁾ Load limit (only in tensile) of TQ0 1.16 .02 and TQ0 1.16 .04 is set to 10 kN if crosshead position (Dimension A) is greater than 1,000 mm

⁽³⁾ Data of standard 100 kN load cell. See below for other available main/auxiliary load cell

⁽⁴⁾ Average on 1 second or 0.01 mm of stroke (longer in time) without or constant load

⁽⁵⁾ Some type of extensometers or other devices may reduce this value

⁽⁶⁾ Some optional devices need a compressed air line (5 bar) or different power supply

⁽⁷⁾ Frame dimension. Electrical connectors on the rear of the machine. See drawing

⁽⁸⁾ TQ01.06.02 is packed and travels in lying position .

⁽⁹⁾ The main load cell is always a 100 kN size. No limit in number of auxiliary load cell to be used under the main one.

All load cell can work in compression and tensile. If certification is required, every load cell (included main one) needs a different one.

⁽¹⁰⁾ Standard 100kN load is included in the item of the frame machine

⁽¹¹⁾ A new calibration of the load cell may be necessary if "max accidental overload" is exceeded.

⁽¹²⁾ The kit include female and male connection, pin and locknut (as in draw). Every auxiliary load cell need 1 kit. Using auxiliary cell need grip with connection size ø20 pin ø8.



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