



## **Datasheet**

## Quasar 2000

## 2000 kN Advanced Universal Testing Machine

The 2000 kN Quasar 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 Labtest software, which allows complete and accurate data management in accordance with European, North American and International Standard

This instrument is suitable for use 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 Quasar 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.

- □ Two-column rigid system with 2000 kN maximum capacity
- Suitable for metals, plastics, composites and other materials
- Stylish design and advanced features
- Ergonomic for intensive use; 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 Certified Company
- Excellent price-to-quality ratio

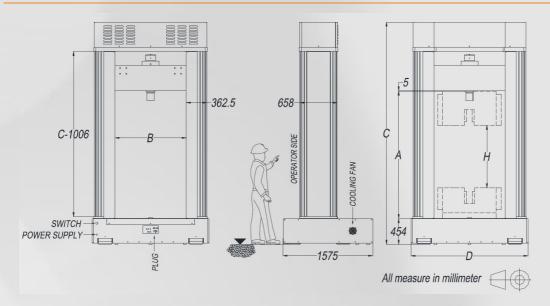


Ethernet connection



Universal testing machine Quasar 2000 with Hydraulic parallel closing grip



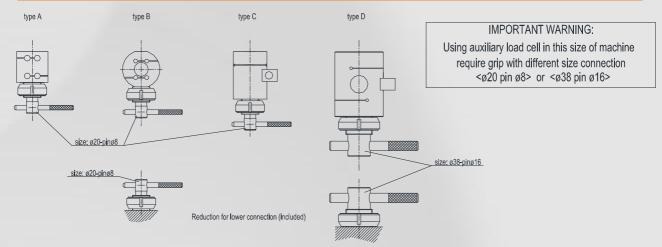


Load cell reading resolutionOver 3 million division (24 bit A/D converter)Stroke resolution0.0015 μm/impulsSpeed at maximum load (in test)0.0005 ÷ 200 mm/min.Idle speed200 mm/min.Accuracy of positioning repeatability0.002 mm (2 μm)Distance between connection (Dimension A)1,120 ÷ 2,240 mm (43.31 ÷ 88.19 in.)Distance between standard hydraulic parallel closing grip (Dimension H)0 ÷ 1,100 mm (43.31 in.)Daylight between columns (Dimension B)1,250 mm (49.21 in.)Testing area depthUnlimited (4)Power Supply400÷440V 50/60Hz three phases (other on request) (5)Power Rating11,000 WMachine weight (without accessories)10,500 Kg (23,150 lb)										
Load cell nominal size (tensile & compression)  Max accidental overload (*1) / breaking load  Standards met or exceeded  Load cell reading resolution  Stroke resolution  Stroke resolution  Over 3 million division (24 bit A/D converter)  Stroke resolution  Over 3 million division (24 bit A/D converter)  Over 3 million division (24 bit A/D converter)  Stroke resolution  Over 3 million division (24 bit A/D converter)  Over 3 million division (24 bit A/D convert	ITEM	TQ01.12 (10)								
Load cell nominal size (tensile & compression)  Max accidental overload (*1) / breaking load  Standards met or exceeded  Load cell reading resolution  Stroke resolution  Stroke resolution  Over 3 million division (24 bit A/D converter)  Stroke resolution  Over 3 million division (24 bit A/D converter)  Over 3 million division (24 bit A/D converter)  Stroke resolution  Over 3 million division (24 bit A/D converter)  Over 3 million division (24 bit A/D convert	Capacity of frame and max admissible load	2 000 kN (449 618 lbf)								
Max accidental overload (11) / breaking load  Standards met or exceeded Load cell reading resolution  Stroke resolution  Speed at maximum load (in test)  Olistance between connection (Demension A) Distance between columns (Dimension B)  Testing area depth  Power Supply  Power Rating  Machine weight (without accessories) Finishing  Ambient temperature Ambient temperature Ambient temperature Ambient assumpting rate PC data transmission rate PC interface  Height (Dimension C) ± 5 mm Width (Dimension D) Depth (6) Dimension of international shipping box – approx (7) Noise level  3,000 kN / 6,000 kN (1) ISO 7500-1, ASTM E4, EN 10002-2, JIS B97721, 6807 (18,000 kN (2) ISO 7500-1, ASTM E4, EN 10002-2, JIS B97721, 6,000 kN (1) ISO 7500-1, ASTM E4, EN 10002-2, JIS B97721, 6807 (18,000 kN (2) and other equivalen Over 3 million division (24 bit A/D converter)  0.0015 µm // instinct (24 bit A/D converter)  0.0005 pm // instinct (24 bit A/D converter)  1,120 pm // instinct (4 bit A/D converter)  1,120 pm // instinct (4 bit A/D converter)  1,120 pm // instinct (4 bit A/D convert										
Standards met or exceeded Load cell reading resolution Speed at maximum load (in test) Idle speed Accuracy of positioning repeatability  Distance between connection (Dimension B) Power Supply Power S										
Stroke resolution  Speed at maximum load (in test)  O.0015 \(\pm\)/mimpuls  Speed at maximum load (in test)  O.0005 \(\pm\) 200 \(\pm\)/min.  O.002 \(\pm\) (2 \(\pm\))  Distance between connection (\pm\)-memoral (\pm\)  Distance between standard hydraulic parallel closing grip (\pm\)-memoral (\pm\)  Distance between standard hydraulic parallel closing grip (\pm\)-memoral (\pm\)  Daylight between columns (\pm\)-memoral (\pm\)  Testing area depth  Power Supply  Power Rating  Machine weight (without accessories)  Finishing  Machine weight (without accessories)  Finishing  Ambient temperature  Air humidity (without condensing)  Internal data sampling rate  PC data transmission rate  Dimension:  Height (Dimension C) \(\pm\) 5 mm Width  (Dimension D) Depth (6)  Dimension of international shipping box - approx (7)  Noise level	Standards met or exceeded	ISO 7500-1, ASTM E4, EN 10002-2, JIS B7721, GB/T 16825.1, DIN 51221, BS 1610 and other equivalent								
Stroke resolution  Speed at maximum load (in test)  Accuracy of positioning repeatability  Distance between connection (Dimension A)  Distance between standard hydraulic parallel closing grip (Dimension H)  Daylight between columns (Dimension B)  Testing area depth  Power Supply  Auchine weight (without accessories)  Finishing  Ambient temperature  Air humidity (without condensing)  Internal data sampling rate  PC data transmission rate  Dimension:  Height (Dimension D ) Depth (6)  Dimension of international shipping box – approx (7)  Noise level  Accuracy of positioning prepatability  0.0005 ± 200 mm/min.  0.0002 mm (2 µm)  1,120 ÷ 2,240 mm (43.31 ÷ 88.19 in.)  0 ÷ 1,100 mm (43.31 in.)  0 ÷ 1,100 mm (43.31 in.)  0 ÷ 1,100 mm (43.31 in.)  0 ÷ 1,100 mm (49.21 in.)  1,250 mm (49.21 in.)  1,250 mm (49.21 in.)  1,1000 W  400÷440V 50/60Hz three phases (other on request) (6)  11,000 W  Max 80%  Internal data sampling rate  From +5 to +40 °C  Air humidity (without condensing)  Max 80%  Internal data sampling rate  Fight (Dimension of international shipping box – approx (7)  4,400x,350 H2,200 mm  72 db	Load cell reading resolution	· · · · · · · · · · · · · · · · · · ·								
Speed at maximum load (in test)  Accuracy of positioning repeatability  Distance between connection (Dimension A)  Distance between standard hydraulic parallel closing grip (Dimension H)  Daylight between columns (Dimension B)  Testing area depth  Power Supply  Machine weight (without accessories)  Finishing  Ambient temperature  Air humidity (without condensing)  Internal data sampling rate  PC data transmission rate  PC interface  Dimension:  Height (Dimension C) ± 5 mm Width (Dimension D) Depth (a)  Dimension of international shipping box – approx (7)  Noise level  1,120 + 2,240 mm (43.31 ÷ 88.19 in.)  0.002 mm (2 μm)  40.002 mm (43.31 ÷ 88.19 in.)  0.002 mm (2 μm)  1,120 + 2,240 mm (43.31 ÷ 88.19 in.)  0.002 mm (43.31 in.)  1,120 + 2,240 mm (43.31 in.)  1,120 + 2,100 mm (43.31 in.)  1,120 mm (43.31 in.)  1,100 mm (43.31 in.)  1,100 mm (43.31 in.)  1,100 mm (43.31 in.	Stroke resolution									
Accuracy of positioning repeatability   200 mm/min.	Speed at maximum load (in test)									
Distance between connection (Dimension A)  Distance between standard hydraulic parallel closing grip (Dimension H)  Daylight between columns (Dimension B)  Testing area depth  Power Supply  Power Rating  Machine weight (without accessories)  Machine weight (without accessories)  Finishing  Ambient temperature  Ambient temperature  Ambient temperature  Ambient temperature  PC data transmission rate  PC data transmission rate  PC interface  Dimension:  Height (Dimension C) ± 5 mm Width (Dimension D) Depth (6)  Dimension of international shipping box – approx (7)  Noise level  1,120 ÷ 2,240 mm (43.31 ÷ 88.19 in.)  1,250 mm (43.31 in.)  0 ÷ 1,100 mm (43.31 in.)  1,250 mm (49.21 in.)  0 ÷ 1,100 mm (43.31 in.)  1,250 mm (43.31 in.)  0 ÷ 1,100 mm (43.31 in.)  1,250 mm (49.21 in.)  1,250 m	Idle speed									
Distance between standard hydraulic parallel closing grip (Dimension H)  Daylight between columns (Dimension B)  Testing area depth  Power Supply  Power Rating  Machine weight (without accessories)  Finishing  Ambient temperature  Air humidity (without condensing)  Internal data sampling rate  PC data transmission rate  PC data transmission rate  PC interface  Dimension:  Height (Dimension C) ± 5 mm Width (Dimension D) Depth (6)  Dimension of international shipping box – approx (7)  Noise level  Dimensions of international shipping box – approx (7)  Noise level  DIMINITERIS (1,100 mm (43.31 in.)  1,250 mm (49.21 in.)  1,250 mm (49.21 in.)  1,250 mm (43.31 in.)  1,250 mm (49.21 in.)  1,000 W  1,	Accuracy of positioning repeatability	0.002 mm (2 μm)								
Distance between standard hydraulic parallel closing grip (Dimension H)  Daylight between columns (Dimension B)  Testing area depth  Power Supply  Power Supply  Machine weight (without accessories)  Finishing  Ambient temperature  Air humidity (without condensing)  Internal data sampling rate  PC data transmission rate  PC data transmission rate  PC interface  Dimension:  Height (Dimension C) ± 5 mm Width (Dimension D) Depth (6)  Dimension of international shipping box – approx (7)  Noise level  Dimensions of international shipping box – approx (7)  Noise level  DIMITIAN (A3.3 in.)  1,250 mm (49.21 in.)  1,000 W  400+440V 50/60Hz three phases (other on request) (5)  11,000 W  Silver RAL 9006 / Black RAL 9011  From +5 to +40 °C  Max 80%  Internal data sampling rate  From +5 to +40 °C  Ethercat (A dedicated Ethernet port on PC is required)  3,910 mm (153.94 in.)  2,054 mm (80.87 in.)  1,575 mm (62.00 in.)  Noise level	Distance between connection (Dimension A)	1.120 ÷ 2.240 mm (43.31 ÷ 88.19 in.)								
Daylight between columns (Dimension B)  Testing area depth  Power Supply  Power Rating  Machine weight (without accessories)  Finishing  Ambient temperature  Air humidity (without condensing)  Internal data sampling rate  PC data transmission rate  PC interface  Dimension:  Height (Dimension C) ± 5 mm Width (Dimension D) Depth (6)  Dimension of international shipping box – approx (7)  Noise level  1,250 mm (49.21 in.)  Unlimited (4)  400÷440V 50/60Hz three phases (other on request) (5)  11,000 W  11,000 W  11,000 W  10,500 Kg (23,150 lb)  Silver RAL 9006 / Black RAL 9011  From +5 to +40 °C  Max 80%  Internal data sampling rate  1,000 Hz  500 Hz  Ethercat (A dedicated Ethernet port on PC is required)  3,910 mm (153.94 in.)  2,054 mm (80.87 in.)  1,575 mm (62.00 in.)  4,400x2,350 H2,200 mm  < 72 db	Distance between standard hydraulic parallel closing grip (Dimension H)									
Testing area depth Power Supply Power Supply Power Rating Machine weight (without accessories) Pinishing Machine temperature Ambient temperature Air humidity (without condensing) Pot data transmission rate PC interface Dimension:  Height (Dimension C) ± 5 mm Width (Dimension D) Depth (6)  Dimension of international shipping box – approx (7)  Noise level  Munimited (4)  400÷440V 50/60Hz three phases (other on request) (5)  400÷440V 50/60Hz three phases (other on request) (5)  11,000 W  10,500 Kg (23,150 lb) Silver RAL 9006 / Black RAL 9011  From +5 to +40 °C  Max 80%  In,000 Hz  PC data transmission rate  Ethercat (A dedicated Ethemet port on PC is required)  3,910 mm (153.94 in.) 2,054 mm (80.87 in.) 1,575 mm (62.00 in.)  4,400x2,350 H2,200 mm  < 72 db	Daylight between columns (Dimension B)									
Power Rating 11,000 W  Machine weight (without accessories) 10,500 Kg (23,150 lb)  Finishing Silver RAL 9006 / Black RAL 9011  Ambient 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)  Dimension: Height (Dimension C) ± 5 mm Width (Dimension D) Depth (6) 1,575 mm (62.00 in.)  Dimension of international shipping box – approx (7) 4,400x2,350 H2,200 mm  Noise level	Testing area depth									
Power Rating Machine weight (without accessories)  Finishing Ambient temperature Air humidity (without condensing) Internal data sampling rate PC data transmission rate PC interface  Dimension:  Height (Dimension C) ± 5 mm Width (Dimension D) Depth (6)  Dimension of international shipping box – approx (7)  Noise level  11,000 W 10,500 Kg (23,150 lb) Silver RAL 9006 / Black RAL 9011  From +5 to +40 °C  Max 80%  Max 80%  1,000 Hz  1,000 Hz  Ethercat (A dedicated Ethernet port on PC is required)  3,910 mm (153.94 in.) 2,054 mm (80.87 in.) 1,575 mm (62.00 in.)  4,400x2,350 H2,200 mm  72 db	Power Supply	400÷440V 50/60Hz three phases (other on request) (5)								
Finishing  Ambient temperature  Air humidity (without condensing)  Internal data sampling rate  PC data transmission rate  PC interface  Dimension:  Height (Dimension C) ± 5 mm Width (Dimension D) Depth (6)  Dimension of international shipping box – approx (7)  Noise level  Silver RAL 9006 / Black RAL 9011  From +5 to +40 °C  Max 80%  1,000 Hz  500 Hz  Ethercat (A dedicated Ethernet port on PC is required)  3,910 mm (153.94 in.)  2,054 mm (80.87 in.)  1,575 mm (62.00 in.)  4,400x2,350 H2,200 mm  72 db	Power Rating									
Ambient temperature  Air humidity (without condensing)  Internal data sampling rate  PC data transmission rate  PC interface  Dimension:  Height (Dimension C) ± 5 mm Width (Dimension D) Depth (6)  Dimension of international shipping box – approx (7)  Noise level  From +5 to +40 °C  Max 80%  1,000 Hz  500 Hz  Ethercat (A dedicated Ethernet port on PC is required)  3,910 mm (153.94 in.)  2,054 mm (80.87 in.)  1,575 mm (62.00 in.)  4,400x2,350 H2,200 mm  < 72 db	Machine weight (without accessories)	10,500 Kg (23,150 lb)								
Air humidity (without condensing)  Internal data sampling rate  PC data transmission rate  PC interface  Dimension:  Height (Dimension C) ± 5 mm Width (Dimension D) Depth (6)  Dimension of international shipping box – approx (7)  Noise level  Max 80%  1,000 Hz  500 Hz  Ethercat (A dedicated Ethernet port on PC is required)  3,910 mm (153.94 in.)  2,054 mm (80.87 in.)  1,575 mm (62.00 in.)  4,400x2,350 H2,200 mm  72 db	Finishing	Silver RAL 9006 / Black RAL 9011								
Internal data sampling rate  PC data transmission rate  PC interface  Dimension:  Height (Dimension C) ± 5 mm Width (Dimension D) Depth (6)  Dimension of international shipping box – approx (7)  Noise level  1,000 Hz  Ethercat (A dedicated Ethernet port on PC is required)  3,910 mm (153.94 in.)  2,054 mm (80.87 in.)  1,575 mm (62.00 in.)  4,400x2,350 H2,200 mm  72 db		From +5 to +40 °C								
PC data transmission rate  PC interface  Dimension:  Height (Dimension C) ± 5 mm Width (Dimension D) Depth (6)  Dimension of international shipping box – approx (7)  Noise level  Ethercat (A dedicated Ethernet port on PC is required)  3,910 mm (153.94 in.)  2,054 mm (80.87 in.)  1,575 mm (62.00 in.)  4,400x2,350 H2,200 mm  72 db		Max 80%								
PC interface  Dimension: Height (Dimension C) ± 5 mm Width (Dimension D) Depth (6)  Dimension of international shipping box – approx (7)  Noise level  Ethercat (A dedicated Ethernet port on PC is required)  3,910 mm (153.94 in.)  2,054 mm (80.87 in.)  1,575 mm (62.00 in.)  4,400x2,350 H2,200 mm		,								
Height (Dimension C) ± 5 mm Width (Dimension D) Depth (6)   2,054 mm (80.87 in.)   1,575 mm (62.00 in.)		; · · · · · · · · · · · · · · · · · · ·								
Dimension:       Height (Dimension C) ± 5 mm (Viotn (Dimension D) Depth (6)       2,054 mm (80.87 in.)         1,575 mm (62.00 in.)       1,575 mm (62.00 in.)         4,400x2,350 H2,200 mm       72 db	PC interface									
Commension D   Depth (6)   2,054 mm (80.87 in.)   1,575 mm (62.00 in.)	Height (Dimension C) + 5 mm Width									
Dimension of international shipping box – approx (7)  4,400x2,350 H2,200 mm  < 72 db										
Noise level										
1 1 Z W		· · · ·								
Suggested light local level 300 lux		· - · · · · · · · · · · · · · · · · · ·								
	Suggested light local level	300 lux								

- $_{\mbox{\scriptsize (I)}}$  Data of standard 2000 kN load cell. See below for other available auxiliary load cell
- (2) Croshead deflection and elongation of lead screw drive including load cell hydraulic gripp and
- (3) Average on I second or 0.01 mm of stroke (the longer in time) without or constant load (4) Some type of extensometers or other devices may reduce this value (5) Some optional devices need a compressed air line (5 bar) or different power supply

- (6) Frame dimension. Electrical connectors on the rear of the machine. See drawing
- (7) Machine is packed and travel in lying position





AVAILABLE MAIN / AUXILIARY LOAD CELL (8)													
ITEM	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	TQ03.04.06	TQ03.04.07	TQ03.04.08	On request	On request
Nominal size	10 N	20 N	50 N	100 N	250 N	500 N	1 kN	3kN(12)	5 kN	10 kN	25 kN	50 kN	100 kN
Max accidental overload (11) / breaking load	150% of nominal size / 300% of nominal size												
Type (see drawing)			Α				В			С			D
Kit for use as auxiliary cell (sold separately) (13)	On request (depending on the configuration)												

- (8) The main load cell is always a 2000 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 2000kN load cell is included in the item of the frame machine
- (II) A new calibration of the load cell may be necessary if "max accidental overload" is exceeded.
- (12) Max load of TQ03.04.05 load cell is software limited to 2.5 kN.
- (13) The kit include female and male connection, pin and locknut (as in draw). Every auxiliary load cell need I kit. Using auxiliary cell need grip with correct connection. The kit depending from grip permanently assembled on machine (wedge, shoulder, hydraulic...)

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