

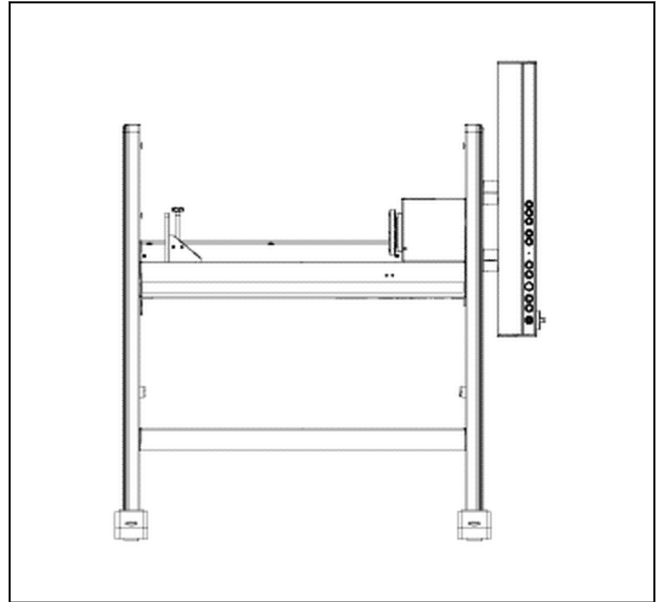
Product Information

TorsionLine TL 020 / TL 200 / TL 500 Torsion Testing Machines

CTA: 118031 117571



TorsionLine torsion testing machine with testControl II



Drawing: TorsionLine with testControl II

Range of application

TorsionLine TL020, TL200 and TL500 torsion testing machines are used to test torsional influence on materials and components. The torsion testing axis is horizontally orientated.

Main areas of use

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- Plastics
- Metallic materials, e.g. reverse torsion test on wire, EN 2002-13
- Medical engineering products, e.g. metal bone-screws, ISO 6475
- Fasteners and connectors
- Bolts/screws in general
- Composites
- Drive shafts
- Motor/engine bearings

Advantages and Features

- Maximum stiffness ensures precise rotation angle measurement over the entire torque range.
- High resolution of rotation angle measurement

- Use of maintenance-free AC servo drives
- Operation with standard PC (no additional interface card required) and testXpert III testing software
- Designed for production, quality assurance, and research and development
- Maximum flexibility in handling and operation through state-of-the-art software control
- Safety device with electromechanical guard locking (CE compliant)
- ZwickRoell comprehensive range of optional accessories
- Mechanical overload protection for small torque transducers during specimen installation
- Large test speed range for high specimen throughput
- Optional static weight loading unit (tensile and compression) for application of axial forces up to max. 500 N

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Type Item No.	TL 020 1026875	TL 200 1026878	TL 500 1026879	
Load frame				
Torque (left/right)	20	200	500	Nm
Total height with safety device	1775	1775	1775	mm
Total width with safety cover	1475	1475	1475	mm
Total depth	650	650	650	mm
Height of test axis	Adjustable	Adjustable	Adjustable	
Safety device	Electrically inter-locked	Electrically inter-locked	Electrically inter-locked	
Anti-rotation device of torque transducer	Manually operated, electrically monitored	Manually operated, electrically monitored	Manually operated, electrically monitored	
Weight with electronics, safety cover, torque transducer	185	188	188	kg
Grip to grip separation with 4-jaw chuck, max.	491	491	491	mm
Grip-to-grip separation with universal flanges (without specimen grip), max.	680	680	680	mm
Diameter of specimens/specimen holders, max.	200	200	200	mm
Finish	RAL 7011 and RAL 7038	RAL 7011 and RAL 7038	RAL 7011 and RAL 7038	
Ambient temperature	+10 ... +35	+10 ... +35	+10 ... +35	°C
Relative humidity (non-condensing)	20 ... 90	20 ... 90	20 ... 90	%
Noise level	70	70	70	dB(A)
Torsion inherent stiffness	> 1000	> 1000	> 1000	Nm/°
Axial frictional force when driving the carriage (without torsion load), approx.	4	4	4	N
Drive				
Rotational speed				
In turns	0.0005 ... 180	0.0005 ... 90	0.0005 ... 50	rpm
In degrees	0.072 ... 64800	0.036 ... 32400	0.036 ... 18000	°/min
Angle resolution of the drive	3.29	1.89	0.92	Rotational second/minute
Positioning repeatability (without reversing directions)				
At 1000 °/min	≤20	≤10	≤10	Rotational seconds
Play at zero torque crossing	< 1	< 1	< 1	Rotational minutes
Power specifications				
Electrical connection	230V, 1 Ph/N/PE	400V, 3 Ph/N/PE	400V, 3 Ph/N/PE	
Power consumption	2.2	7	7	kVA
Frequency	50/60	50/60	50/60	Hz

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Torque transducer

Anti-rotation device included in delivery

For TorsionLine	Nominal torque M_{nom} [Nm]	Measurement range/ measurement travel Accuracy Class 1 ¹⁾ [Nm]	Item No.
TL 020, TL 200	2	≥ 0.02	623682
TL 020, TL 200	5	≥ 0.05	050251
TL 020, TL 200	20	≥ 0.2	623681
TL 200	200	≥ 2	623680
TL 500	500	≥ 5	631051

1) Based on ISO 7500-1