

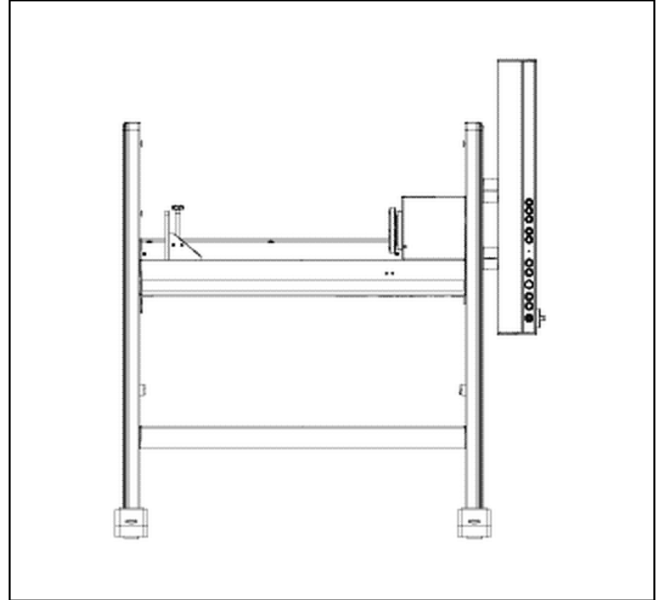
Product Information

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 very accurate high rotation angle measurement resolution over the whole torque range.
- High resolution of high rotation angle measurement resolution

- Use of maintenance-free AC servo drives
- Operation with standard PC or laptop (no additional interface card required) and testXpert® II testing software
- Designed for production, quality assurance, and research and development
- Maximum flexibility in handling and operation thanks to state-of-the-art software control
- Safety device with electrical interlock (CE compliant)
- Zwick's 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	TL 020	TL 200	TL 500	
Item No.	1026875	1026878	1026879	
Load frame				
Grip-to-grip separation with universal flanges (without specimen grips)	max. 680	max. 680	max. 680	mm
Torque (left/right)	20	200	500	Nm
Diameter of specimens/specimen holders	max. 200	max. 200	max. 200	mm
Finish	RAL 7011 and RAL 7038	RAL 7011 and RAL 7038	RAL 7011 and RAL 7038	
Ambient temperature	+10 to +35	+10 to +35	+10 to +35	°C
Relative humidity (non-condensing)	20 to 90	20 to 90	20 to 90	%
Noise level	70	70	70	dB(A)
Torsion inherent stiffness	> 1000	> 1000	> 1000	Nm/°
Axial frictional force during carriage travel (without torsion load)	approx. 4	approx. 4	approx. 4	N
Overall height with safety device	1775	1775	1775	mm
Overall width with safety cover	1475	1475	1475	mm
Overall depth	650	650	650	mm
Height of test axis	adjustable	adjustable	adjustable	
Safety device	electrically inter-locked	electrically inter-locked	electrically inter-locked	
Torque transducer anti-rotation device	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. 510	max. 510	max. 510	mm
Drive				
Rotational speed				
in revolutions	0.0005 to 180	0.0005 to 90	0.0005 to 50	r.p.m
in degrees	0.072 to 64800	0.036 to 32400	0.036 to 18000	°/min
Angle resolution of drive	3.29	1.89	0.92	arcsec/digit
Positioning repeat accuracy (w/o reversal of direction)				
at 1000 °/min	≤20	≤10	≤10	arc-seconds
Play at zero torque crossing	< 1	< 1	< 1	arc-minutes
Electrical supply data				
Electrical power supply	230 (1 Ph/N/PE)	400 (3 Ph/N/PE)	400 (3 Ph/N/PE)	V
Power consumption	2.2	5	5	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 T_{nom} [Nm]	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