

Product Information

Torsion testing machine TorsionLine TL 1000 / TL 2000



Figure: Torsion testing machine TorsionLine

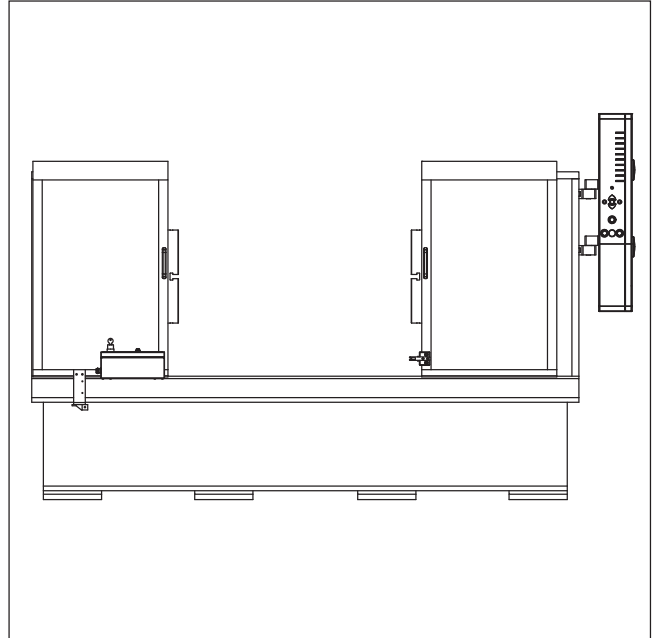


Figure: Drawing of TorsionLine

Application range

The torsion testing machines TorsionLine TL1000 and TL2000 are fitted for research of the torsional influence on materials and components. The torsion testing axis is located in horizontal direction.

Main applications

- Testing of plastics
- Testing of metallic materials
- Products of medical engineering
- Fixture systems
- Compound materials
- Cardan shafts
- Motor bearings
- Camshafts

Advantages and features

- The maximum amount of stiffness guarantees an very accurate angle measurement in the complete torsional range
- High resolution of rotation angle measurement
- Use of maintenance-free AC-servo-motor
- Operation with standard PC or laptop (no special interface card required) and *testXpert® II* application software
- Using for production, quality assurance, research and development
- Maximum of application flexibility and operation by modern software control
- Safety device with electrical interlock (conform to CE)
- Wide range of optional Zwick accessories

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TorsionLine

Type	TL 1000	TL 2000
Mmax [Nm]	1000	2000
Total height [mm]	approx. 1650	approx. 1650
Total width [mm]	approx. 2580	approx. 2580
Total depth [mm]	approx. 900	approx. 900
Operation height (middle of test area) approx. [mm]	approx. 950	approx. 950
Safety device	electrical interlock ¹	electrical interlock ¹
Weight [kg]	1400	1400
(with electronics console, torque cell)		
Clamping length with face plate, [mm]	1000	1000
(without specimen grips)		
Max. diameter of specimen/specimen grips [mm]	600	600
Diameter of specimen grips flange [mm]	400	400
Finish	RAL 7011 and RAL 7038	RAL 7011 and RAL 7038
Electrical Connection [V]	3Ph/PE/N 400V AC 50/60Hz	3Ph/PE/N 400V AC 50/60Hz
Input power [kVA]	5	5
Ambient temperature [°C]	+10 ... +35	+10 ... +35
Humidity	20 – 90 %	20 – 90 %
Max. noise level [dB(A)]	62	62
Torsional stiffness [Nm/°]	> 11500	> 11500
Torsion drive		
Turning speed [U/min]	0.0005 – 20	0.0005 – 10
[°/min]	0.18 – 7200	0.18 – 3600
Angle resolution of the motor [angular second/digit]	0.5	0.2397
Positioning, repetition accuracy [angular minute]	≤ 5	≤ 5
(without inversion of the direction) at 1000°/min		
Backlash in the moment zero crossing [angular minute]	< 5	< 5
Item no.	• 631068 (BPC-T1000SN.A4K)	• 630180 (BXC-T2000SN.A4K-004)

¹ protective screen: two-parts, opening to the left and to the right

Torque cells

For TorsionLine	Mmax [Nm]	Accuracy grade 1 ¹ [Nm]	Item no.
TL 1000	1000	≥ 10	• 631053 (BPC-TC1000NM.G01)
TL 2000	2000	≥ 20	• 631052 (BPC-TC2000NM.G01)

¹ according ISO 7500-1