

Product Information

Alignment Fixtures for zwickiLine and AllroundLine Table-Top Testing Machines, Fmax 5 kN to 250 kN

CTA: 200637 200543



Alignment fixture for axial offset and angle correction with adjustment rod, Fmax 5 kN

Applications

Precise axial alignment of the test axis of the testing system is a basic requirement for achieving reliable test results values. Alignment must be performed with great care and precision, particularly when testing brittle materials such as glass, fiber composites, or certain metals.

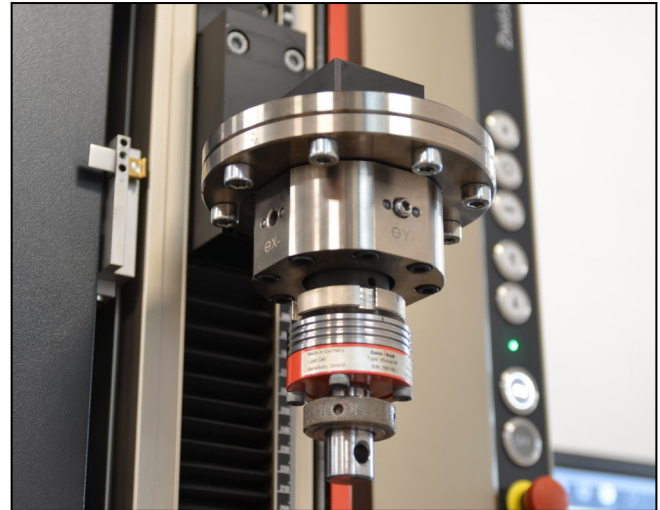
Alignment fixture for axial offset and angle correction

The alignment fixture is used to accurately compensate for angular and offset errors in the test arrangement.

The alignment fixture is an alignment element and is mounted directly on the testing system's base crosshead. The adjustment screws are used first to adjust the angular error and then the axial offset. The screw configuration for making adjustments in the X and Y direction makes it possible to correct errors in their respective working direction. The alignment can take place in the loading state.

Advantages and features

- Reliable test results through precise alignment of the test axes
- Accurate positioning, reproducible and play-free adaption in each axis guarantees reliable test results
- Angle and offset errors can be set independently from each other easily and quickly
- Secure gripping of the alignment fixture for long-term retention of any adjustments



Alignment fixture for angle correction, Fmax 5 kN

- Adapting to top crossheads, moving crossheads, and base crossheads enables a flexible range of application
- At a force level of 250 kN, there is an option that includes a flange interface, which allows for shorter test arrangements and a higher degree of stiffness

Adjustment rod and test sleeve for alignment fixture for axial offset and angle correction (Fmax 5 kN)

The test axis can be aligned precisely using the adjustment rod and the test sleeve. The adjustment rod is placed on the alignment fixture and if the arrangement is correctly aligned, the test sleeve can be slid relatively smoothly between the stud on the load cell and adjustment rod.

In addition, the adjustment rod has a ground, level surface to which the probe of a dial gauge (optional) can be attached. The adjustment rod is attached to the alignment fixture and the dial gauge holder with the dial gauge is mounted to the moving crosshead for example. Using the dial gauge and both surfaces, an angle offset can be easily corrected in two planes.

Advantages and features

- Short set-up time and significant reduction in time and effort required for adjustment
- Accurate checking of the offset due to the 100 mm test length of the adjustment rod

PI 851 0619

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Alignment fixture for angle correction

The alignment fixture for angle correction makes it possible to correct an angular error in the test arrangement.

The alignment fixture is mounted underneath the testing system's moving crosshead. The load cell is mounted to the alignment fixture. Usually, the angle alignment fixture is used in conjunction with the alignment fixture for axial offset and angle correction to correct an angular error for the moving crosshead. The alignment fixture for axial offset and angle correction is mounted on the base or the base crosshead.

Notes on alignment measurement

Precise guidelines regarding maximum permissible transverse loads are established in the respective application standards.

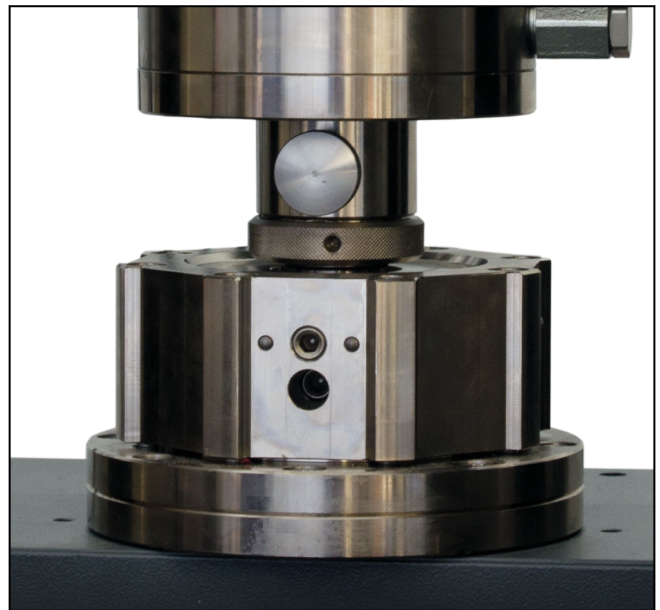
To verify machine accuracy, adjustment must take place in a loaded state using optionally available strain-gauged alignment specimens, measurement amplifiers, and ZwickRoell testXpert III testing software. The calculation routines comply with ASTM E1012.

Purely mechanical adjustment in an unloaded state can be performed via the mounting studs or via a divided specimen clamped in the specimen grips.

CTA: 40772 40773

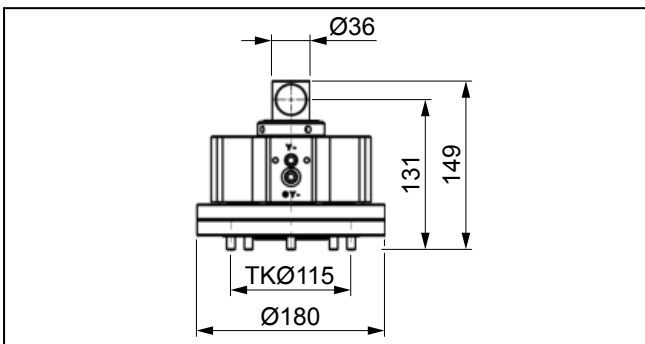


Alignment fixture Fmax 250 kN mounted between load cell and specimen grips via flange

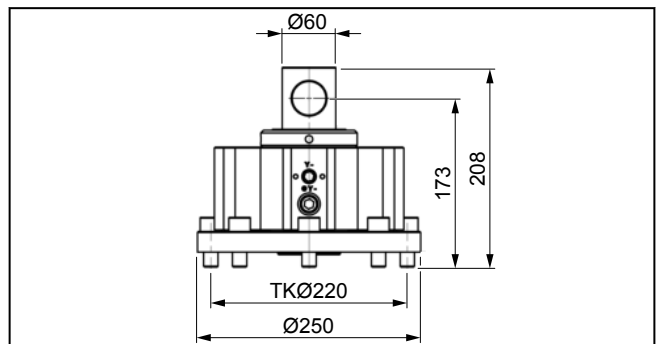


Alignment fixture Fmax 250 kN mounted directly onto the crosshead via studs

CTA: 40778 40779



Overview 50 kN studs



Overview 250 kN studs

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Alignment Fixtures for zwickiLine and AllroundLine Table-Top Testing Machines, F_{max} 5 kN to 250 kN

Technical data

Alignment Fixture for Axial Offset and Angle Correction F_{max} 5 kN

Item No.	3006208	
Test load F _{max}	5	kN
Offset correction (X/Y)	±2	mm
Attainable accuracy with offset correction	0.01	mm
Angle correction	±1	°
Attainable accuracy with angle correction	0.008	°
Dimensions		
Diameter	133	mm
Height, tensile/compression	80.5	mm
Height, torsion	115.5	mm
Attachment		
Tensile/compression		
Centering gauge	Ø 30	mm
Pitch circle	Ø 40 mm (4 x M6)	
Stud	Ø 20	mm
Torsion		
Centering gauge	Ø 8	mm
Pitch circle	Ø 75 mm (4 x M6)	Ø 40 mm (4 x M4)
Stud	Ø 20	mm
Connection to zwicki		
Centering gauge	Ø 30	mm
Threaded holes		
On a pitch circle	Ø 40 mm (4x M6)	
Connection to table-top testing machine		
Centering gauge	Ø 70	mm
Threaded holes		
On a pitch circle	Ø 115 mm (8x M8)	
Torque T _{max}	20	Nm
Approx. weight	5.3	kg
Ambient temperature	+10 ... +35	°C

Optional accessories

Description	Item number
Adjustment rod and test sleeve for alignment fixture (F _{max} 5 kN) Using a test sleeve, the alignment and the angle accuracy can be checked and adjusted.	1072687

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Alignment Fixtures for zwickiLine and AllroundLine Table-Top Testing Machines, F_{max} 5 kN to 250 kN

Technical data

Alignment fixture for angle correction F_{max} 5 kN

Item No.	1072686 ¹⁾	
Test load F _{max}	5	kN
Angle correction	±1	°
Attainable accuracy with angle correction	0.008	°
Attachment		
Connection thread	M28x1.5	
Connection		
Pitch circle on alignment fixture	Ø 115 mm (8 x M8)	
Pitch circle on flange for zwickiLine	Ø 40 mm (4 x M6)	
Dimensions		
Diameter	133	mm
Height	74	mm
Weight, approx.	3.9	kg
Ambient temperature	+10 ... +35	°C

1) The alignment fixture for axial offset and angle correction F_{max} 5 kN is required.

Technical data

Alignment fixtures F_{max} 50 kN and 250 kN

Item No.	058005	058006	068902	
Test load F _{max}	50	250	250	kN
In conjunction with	AllroundLine and symmetrical specimen grips	AllroundLine and symmetrical specimen grips	AllroundLine and symmetrical specimen grips	
Load types (symmetric force application)	Tensile/compression/alternating load (static)	Tensile/compression/alternating load (static)	Tensile/compression/alternating load (static)	
Permissible bending moment on the mounting stud/flange, max.	1	7.5	30	kNm
Offset correction (X/Y)	±3	±3	±3	mm
Attainable accuracy with offset correction	± 0.01	±0.01	±0.01	
Angle correction	±1	±0.7	±0.35	°
Attainable accuracy with angle correction	± 0.006	±0.004	±0.002	°
Attachment	Stud Ø 36	Stud Ø 60	Flange connection	mm
Centering gauge	-	-	Ø 70	
Pitch circle	-	-	Ø 220 mm (8 x M16)	mm
Connection				
Centering gauge	Ø 70	Ø 70	Ø 70	mm
Pitch circle	Ø 115 mm (8 x M8)	Ø 220 mm (8 x M16)	Ø 220 mm (8 x M16) ¹⁾	

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Item No.	058005	058006	068902	
Test load F _{max}	50	250	250	kN
Dimensions				
Overall height	152	211	145	mm
Installation space height	111	138	142	mm
Diameter	180	250	290	mm
Weight, approx.	14	34	49	kg
Ambient temperature	+10 ... +35	+10 ... +35	+10 ... +35	°C

1) With intermediate flange (optional unit in Item No.)

Optional accessories

Description	Item number
Alignment measurement / alignment (in tensile axis) to ASTM E1012 in-house before delivery, with 12x strain-gauged measuring equipment (round, 100 kN), threaded attachment, issuance of ZwickRoell calibration certificate	1012722