

Product Information

Wedge grips type 8504, Fmax 100 kN body over wedge

CTA: 184039 184039



Wedge grips type 8504, Fmax 100 kN up to 250 °C



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Applications

- Specimen material:
Metal, wood, fiber-reinforced composite
- Specimen shape:
Round and flat specimens
- Type of loading:
Tensile

Function description

The body over wedge grip is a symmetrically closing and robust specimen grip. A manually operated cross handle facilitates smooth opening and closing.

The gripping force is generated via wedge action and is proportional to the tensile force. The ratio is determined by the wedge angle.

With specimen grips from the body over wedge series, the position of the jaws remains constant in the test direction as the specimen is gripped. This means that the grip-to-grip separation does not depend on the specimen thickness.

The specimen grip can be used for tests at ambient temperature and for tests in a temperature chamber with extensions.

Advantages and features

Reliable test results

- The grips always close symmetrically to the tensile axis regardless of specimen thickness.
- No parasitic forces are generated when gripping the specimen.

- The specimen grip is ideally suited for alignment-critical applications and specimens sensitive to transverse tensile forces.
- Due to the same direction of rotation above and below as well as precise guidance, the specimen is gripped with minimal torsion.

High operating comfort

- A unique design featuring weight force compensation ensures smooth opening and closing throughout the entire application range.
- Markings on the jaws and centering stops allow for accurate and fast specimen centering.
- Fast and easy insertion of the specimen is achieved through the ergonomic and open design.

Maximum efficiency and time savings

- Symmetrical closing ensures identical grip-to-grip separation independent of the specimen diameter.
- The compact design allows for minimal heating and cooling times in the temperature chamber.
- When performing tests in a temperature chamber, extensions are used. Installing the extensions is quick and easy.
- For tests under ambient temperature (without extensions), a large crosshead travel is available.
- Specific adapters enable you to easily and quickly switch to compression and flexure testing, without dismantling the specimen grip.

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Technical data

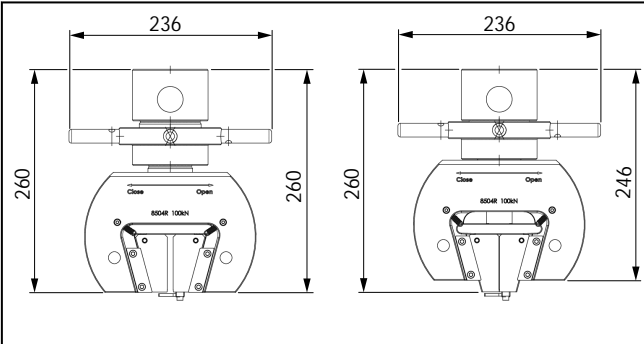
Type	8504	8504	
Item No.	080384 ¹⁾²⁾	1091813 ¹⁾²⁾	
Test load F _{max}	100	100	kN
Operating principle/identification	Wedge action (symmetrically closing)	Wedge action (symmetrically closing)	
Dimensions			
Height	260	260	mm
Width	200	200	mm
Width with actuation lever	236		mm
Depth	94	94	mm
Depth with actuation lever	236		mm
Widthwith actuation lever		334	
Depthwith actuation lever		334	
Clamping surface			
Height	60	60	mm
Width	35/60	35/60	mm
Opening width with jaws	22	22	mm
Gripping of the specimen, min.	30	30	mm
Weight per specimen grip, approx.	18	18	kg
Connection, stud	Ø 60	Ø 60	mm
Ambient temperature	-70 ... +250	-80 ... +360	°C
Scope of delivery	2	2	pieces

- 1) Recommended and approved for strain rate control to standards DIN EN ISO 6892-1:2009 and ASTM E8-09.
2) A load cell with a limit torque of at least 200 Nm is required (e.g. type K or type P).

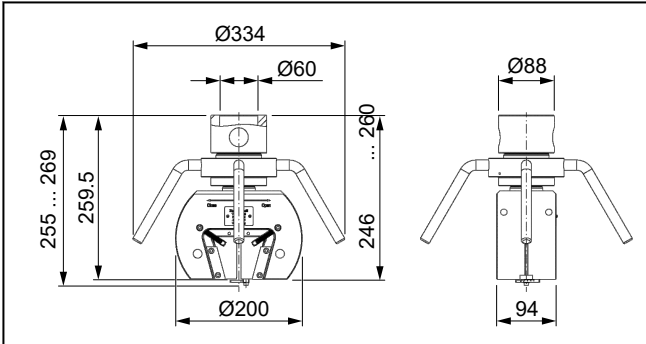
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NOTE

For use with the door with additional opening of the temperature chamber, the specimen insertion aid is required.



Wedge grips type 8504, Fmax 100 kN up to 250 °C, overview



Wedge grips type 8504, Fmax 100 kN up to 360°C, overview

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Accessories required

Jaws

To use the sample holder, **1 set of jaws is required.**

Flat jaws

Scope of delivery: 1 set (= 4 pieces)

Version	Specimen dimensions Flat specimen, thickness [mm]	Clamping surface		Ambient temperature [°C]	Hardness	Item No.
		Height [mm]	Width [mm]			
Steel, fsc ¹⁾ 0.75 mm	0 ... 6.5	60	35	-70 ... +250	61 HRC	086971
Steel, fsc ¹⁾ 0.75 mm	0 ... 6.5	60	60	-70 ... +250	61 HRC	088568
Steel, fsc ¹⁾ 0.75 mm	0 ... 6.5	60	60	-80 ... +360	61 HRC	1091817
Steel, fsc ¹⁾ 0.75 mm	6.5 ... 12	60	35	-70 ... +250	61 HRC	086975
Steel, fsc ¹⁾ 0.75 mm	6.5 ... 12	60	60	-70 ... +250	61 HRC	088570
Steel, fsc ¹⁾ 0.75 mm	6.5 ... 12	60	60	-80 ... +360	61 HRC	1091818
Steel, fsc ¹⁾ 0.75 mm	12 ... 17.5	60	35	-70 ... +250	61 HRC	086976
Steel, fsc ¹⁾ 0.75 mm	12 ... 17.5	60	60	-70 ... +250	61 HRC	088571
Steel, fsc ¹⁾ 0.75 mm	12 ... 17.5	60	60	-80 ... +360	61 HRC	1091819
Steel, fsc ¹⁾ 0.75 mm	17.5 ... 22	60	35	-70 ... +250	61 HRC	086977
Steel, fsc ¹⁾ 0.75 mm	17.5 ... 22	60	60	-70 ... +250	61 HRC	088573
Steel, fsc ¹⁾ 0.75 mm	17.5 ... 22	60	60	-80 ... +360	61 HRC	1091820

1) Fsc = fish scale

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Prism jaws

Scope of delivery. 1 set (= 4 pieces)

Version	Specimen dimensions Round specimen, Ø [mm]	Clamping height [mm]	Ambient temperature [°C]	Hardness	Item No.
Steel, St ¹⁾ 1.5 mm	4 ... 7.5	60	-70 ... +250	61 HRC	086980
Steel, St ¹⁾ 1.5 mm	4 ... 7.5	60	-80 ... +360	61 HRC	1091821
Steel, St ¹⁾ 1.5 mm	7.5 ... 11.5	60	-70 ... +250	61 HRC	086981
Steel, St ¹⁾ 1.5 mm	7.5 ... 11.5	60	-80 ... +360	61 HRC	1091822
Steel, St ¹⁾ 1.5 mm	11.5 ... 14	60	-70 ... +250	61 HRC	086982
Steel, St ¹⁾ 1.5 mm	11.5 ... 14	60	-80 ... +360	61 HRC	1091823
Steel, St ¹⁾ 1.5 mm	14 ... 16.5	60	-70 ... +250	61 HRC	086983
Steel, St ¹⁾ 1.5 mm	14 ... 16.5	60	-80 ... +360	61 HRC	1091824
Steel, St ¹⁾ 1.5 mm	16.5 ... 19	60	-70 ... +250	61 HRC	086984
Steel, St ¹⁾ 1.5 mm	16.5 ... 19	60	-80 ... +360	61 HRC	1091825

1) St= saw tooth

Optional accessories

Description	ArticleNumber
Centering stops for centered clamping of specimen with variable height adjustment Scope of delivery: 2 pieces, sufficient for 2 grip units	086985
Adapter plate For attaching fixtures up to 100 kN (e.g. compression and flexure test kits).	086986

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Specimen insertion aid

Consisting of:

Holder for specimen insertion aid: **1x required**

Specimen insertion aid: **1x required**

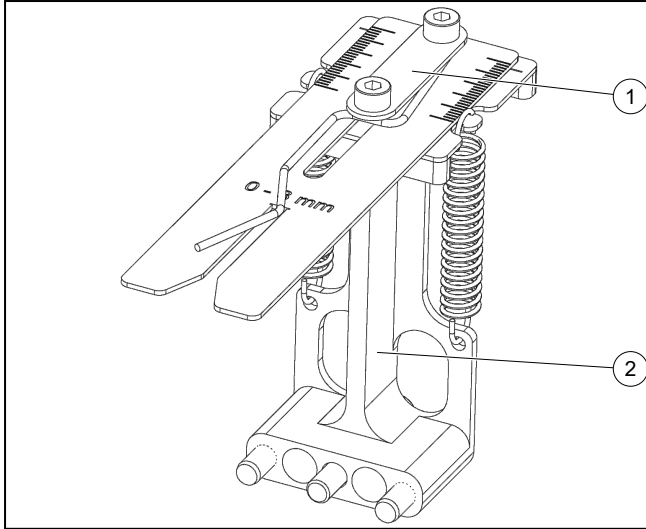
The specimen insertion aid is used to accurately position the specimen in the specimen grip and secure the specimen in the insertion position. After the specimens have been inserted, the specimen grips can be conveniently closed manually. This allows for operation of the specimen grips with just one hand, which may be necessary for example, if the specimens are loaded via the door with additional opening when operating with a temperature chamber. The specimen insertion aid is mounted on both the upper and the lower specimen grip and remains there during the test. The specimen insertion aid also includes an adjustable depth stop for adjustment of the shoulder width of the respective specimen.

Description	ArticleNumber
Holder for specimen insertion aid (1x required)	
For attachment of the specimen insertion aid onto the mechanical body over wedge grip 100 kN Scope of delivery: 2 pieces	1103503
Specimen insertion aid (1x required)	
For holding and centering specimens with specimen thicknesses of 0 ... 3 mm With adjustable depth stop for shoulder widths of 0 ... 50 mm Scope of delivery: 2 pieces	1103504
For holding and centering specimens with specimen thicknesses of 3...6 mm With adjustable depth stop for shoulder widths of 0...50 mm Scope of delivery: 2 pieces	1103505
For holding and centering specimens with specimen thicknesses of 6...9 mm With adjustable depth stop for shoulder widths of 0...50 mm Scope of delivery: 2 pieces	1103506
For holding and centering specimens with specimen thicknesses of 9...12 mm With adjustable depth stop for shoulder widths of 0...50 mm Scope of delivery: 2 pieces	1103507
For holding and centering specimens with specimen thicknesses of 12...15 mm With adjustable depth stop for shoulder widths of 0...50 mm Scope of delivery: 2 pieces	1103508

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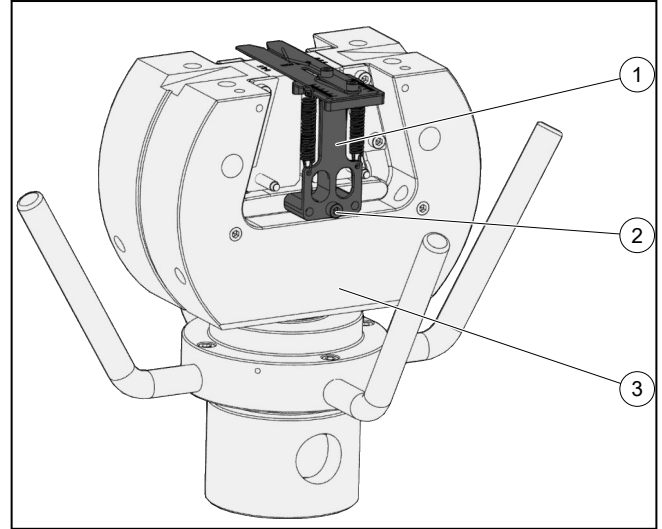
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CTA: 269509 269534



Insertion aid mounted in holder for insertion aid, overview

- 1** Insertion aid (accessory)
- 2** Holder for insertion aid



Mounting the holder for insertion aid on the specimen grip, overview

- 1** Holder for insertion aid
- 2** Screw M5
- 3** Specimen grips



NOTE

For use with the door with additional opening of the temperature chamber, the specimen insertion aid is required.