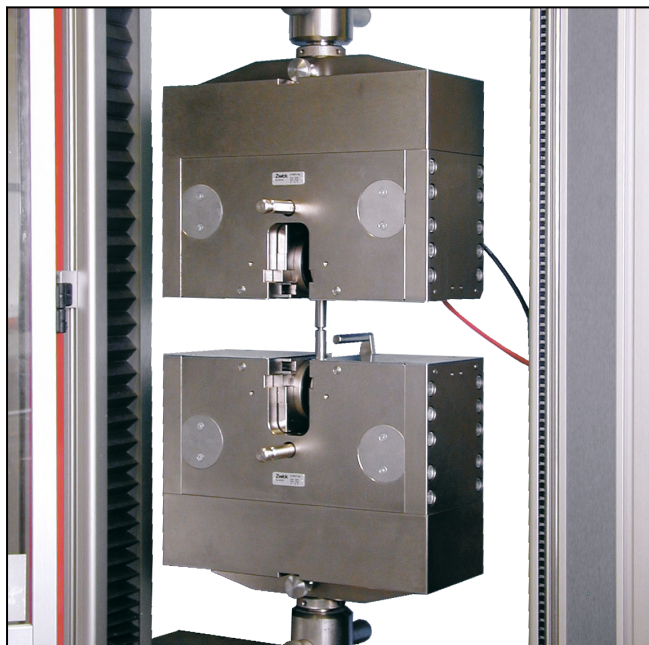


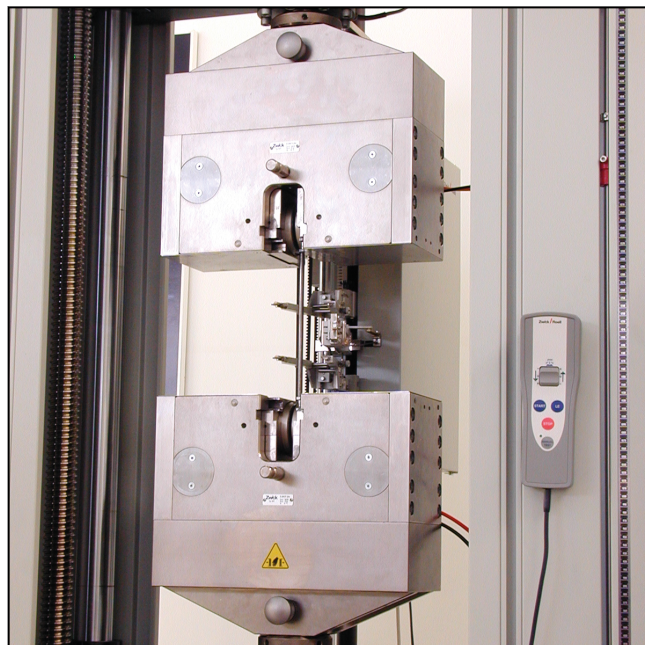
Product Information

Pneumatic grips, Type 8497 (Fmax 50 kN) and Type 8597 (Fmax 100 kN)

CTA: 39595 39596



Pneumatic grips, type 8497, Fmax 50 kN



Pneumatic grips, type 8597, Fmax 100 kN

Applications

- Specimen material:
Metals, plastics, textiles, wood
- Specimen shape:
Round and flat specimens
- Type of loading:
Tensile, compression, alternating load

Function description

Pneumatic grips are double acting and can be used for symmetrical gripping.

Pneumatic specimen grips are ideal for clamping-sensitive materials or if a high specimen throughput is required. The gripping force always remains constant, regardless of test load.

The gripping pressure for the specimen grip can be set steplessly and reproducibly via pneumatic control unit and optionally via the testXpert III testing software. The specimen is held securely and jaw breaks are prevented during the test.

The specimen grip is opened and closed via buttons on the testing machine. The optional foot pedal unit or machine remote control can be used for additional operating convenience.

Double-actuator pneumatic grips always close symmetrically with respect to the tensile axis. This means the

specimen is clamped in a precise axial position. It is not necessary to set the specimen thickness.

The closing force is initialized via a centrally positioned pneumatic actuator. It transfers the closing movement via a steering lever to the symmetrical closing jaws.

A position-independent switching device is integrated into the specimen grips, which automatically switches the transmission ratio to apply the gripping force as soon as the jaws hit the specimen. It switches from a small transmission to a large transmission, thus, reaching very large gripping forces in instances in which sizes are compact. The gripping distance varies depending on specimen thickness and the current opening width. There is a resulting linear relationship (see diagram).

Advantages and features

- The symmetrically closing jaws save time required for adjusting to varying specimen thicknesses and ensure that the specimen is held exactly in the test axis.
- The jaws can be changed easily for different applications.
- Precise test results combined with high number of cycles achieved through centric insertion of specimen using easily adjustable centering stop.
- Constant gripping force enables repeatable test results to be achieved.

Product Information

Pneumatic grips, Type 8497 (F_{max} 50 kN) and Type 8597 (F_{max} 100 kN)

- Constant pneumatic pressure allows even specimens prone to shrinkage to be held securely.
- Save time by attaching small specimen grips and test fixtures to large specimen grips quickly and easily via T-slot systems. The precise alignment ensures reliable test results.

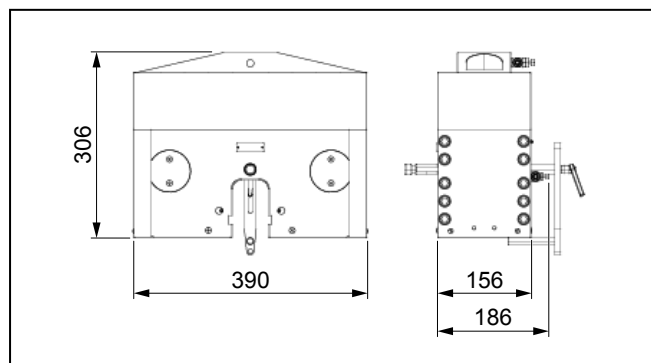
Technical data

| Item No. | 1106801 ¹⁾ | 1106802 ¹⁾ | |
|--|---|-----------------------|----------|
| Type | 8497 | 8597 | |
| Test load F _{max} | 50 | 100 | kN |
| Operating pressure | 1 ... 10 | 1 ... 10 | bar |
| The operating pressure depends on the upstream components. | | | |
| Gripping force at 6 bar | 60 | 110 | kN |
| Gripping force at 10 bar | 100 | 170 | kN |
| Opening width with jaws | See Jaws table | See Jaws table | |
| Gripping travel ²⁾ | 21 | 15 | mm |
| Gripping of the specimen | The specimen must be gripped with at least 2/3 of the jaw height. | | |
| Dimensions | | | |
| Height | 306 | 341 | mm |
| Width | 390 | 390 | mm |
| Depth | 156 | 156 | mm |
| Depth with connection unit | 206 | 206 | mm |
| Connection, hole | Ø 36 | Ø 60 | mm |
| Weight per specimen grip, approx. | 57 | 53 | kg |
| Ambient temperature | +10 ... +35 | +10 ... +35 | °C |
| Scope of delivery | 2 | 2 | piece(s) |

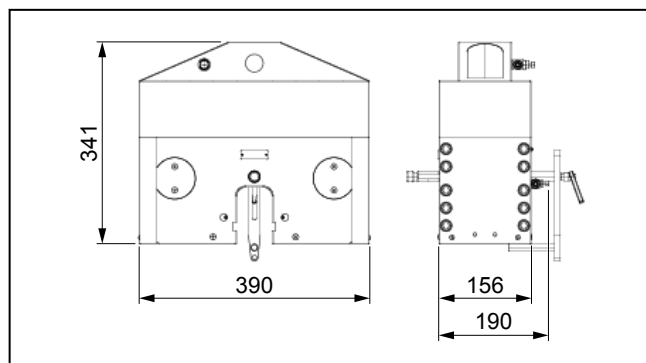
1) Recommended and approved for strain rate control compliant to standards DIN EN ISO 6892-1:2009 and ASTM E8-09.

2) See the diagram that depicts the correlation between the gripping travel and the specimen thickness/opening width

CTA: 39600 39601



Pneumatic grips type 8497, F_{max} 50 kN, dimensions

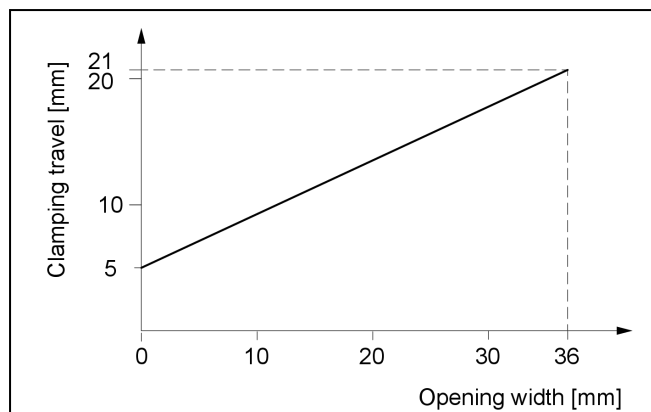


Pneumatic grips type 8597, F_{max} 100 kN, dimensions

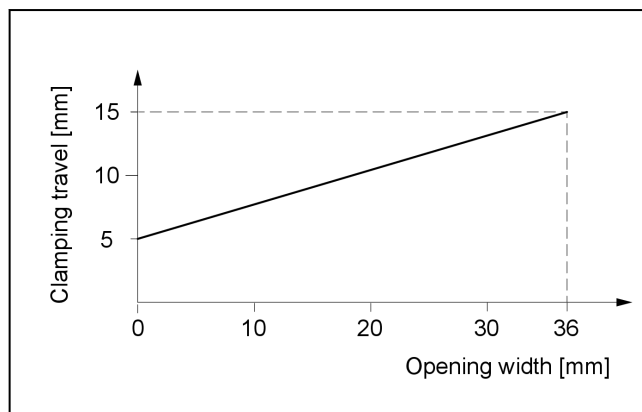
Product Information

Pneumatic grips, Type 8497 (Fmax 50 kN) and Type 8597 (Fmax 100 kN)

CTA: 39605 39606



Pneumatic grips type 8497, ratio gripping travel / opening width



Pneumatic grips type 8597, ratio gripping travel / opening width

Accessories required

Pneumatic hoses (1x required)

| Description | ArticleNumber |
|---|----------------|
| Set of pneumatic hoses for connecting a pair of pneumatic grips | 1112640 |

Pneumatic control unit

See section 4.6 Accessories

Flat jaws

Scope of delivery: 2 pieces each

| Application | Version | Specimen dimensions Flat specimen, thickness [mm] | Clamping surface Diameter [mm] | Ambient temperature [°C] | Hardness | Item No. |
|--|--|--|-----------------------------------|--------------------------|----------|----------|
| Flat jaws for metal strip and shoulder-end specimens, reinforced plastics (flat specimens) | Steel, concentric Grooves, distance 1mm | 0 ... 59 ¹⁾ | 74 ²⁾ | -70 ... +250 | 58 HRC | 314046 |
| Flat jaws for metal strip and shoulder-end specimens, reinforced plastics (flat specimens) | Steel, pr ³⁾ 0.35 mm | 0 ... 59 ¹⁾ | 74 ²⁾ | -70 ... +250 | 58 HRC | 316139 |
| Flat jaws for metal strip and shoulder-end specimens, reinforced plastics (flat specimens) | Steel, pr ³⁾ 0.75 mm | 0 ... 59 ¹⁾ | 74 ²⁾ | -70 ... +250 | 58 HRC | 320618 |
| Flat jaws for metal strip and shoulder-end specimens, reinforced plastics (flat specimens) | Steel, pr ³⁾ 1.5 mm | 0 ... 59 ¹⁾ | 74 ²⁾ | -70 ... +250 | 58 HRC | 320620 |
| Flat jaws for metal strip and shoulder-end specimens | Steel, concentric | 0 ... 59 | 74 ²⁾ | -70 ... +250 | 58 HRC | 317244 |

Product Information

Pneumatic grips, Type 8497 (Fmax 50 kN) and Type 8597 (Fmax 100 kN)

| Application | Version | Specimen dimensions Flat specimen, thickness [mm] | Clamping surface Diameter [mm] | Ambient temperature [°C] | Hardness | Item No. |
|---|------------------------|--|-----------------------------------|--------------------------|----------|----------|
| mens, reinforced plastics (flat specimens) | Grooves, distance 2 mm | | | | | |
| Thin metal strips, CFRP/ GFRP strip specimens | Steel, smooth, ground | 0 ... 59 ¹⁾ | 74 ²⁾ | -70 ... +250 | 58 HRC | 317246 |

1) When using specimen grips type 8497, a specimen thickness of 0 ... 35 mm is possible. For type 8597 a specimen thickness of 0 ... 29 mm is possible.

2) With shatter protection shield

3) Pr = pyramid grid

Scope of delivery: 1 set (= 4 pieces). 1 set required.

| Application | Version | Specimen dimensions Flat specimen, thickness [mm] | Clamping surface Height [mm] Width [mm] | | Ambient temperature [°C] | Hardness | Item No. |
|----------------|-------------------|--|---|-----|--------------------------|----------|----------|
| Flat specimens | Steel, smooth | 0 ... 20 ¹⁾ | 110 | 110 | +10 ... +35 | 55 HRC | 320354 |
| Flat specimens | Steel, corrugated | 0 ... 18 ¹⁾ | 110 | 110 | -70 ... +250 | 55 HRC | 320356 |

1) When using specimen grips type 8497, a specimen thickness of 0 ... 18 mm is possible. For type 8597 a specimen thickness of 0 ... 12 mm is possible.

Prism jaws

Scope of delivery: 2 pieces

4x jaws and 4x jaw mountings required.

| Application | Version | Specimen dimensions Round specimen, Ø [mm] | Clamping surface Height [mm] | Ambient temperature [°C] | Hardness | Item No. |
|---|-----------------------------|---|---------------------------------|--------------------------|----------|----------------------|
| Round specimens with and without shoulders, tubes with stoppers | Steel, V-notch, corrugated, | 3 ... 15 ¹⁾ | 74 | -70 ... +250 | 58 HRC | 314050 ²⁾ |

Product Information

Pneumatic grips, Type 8497 (Fmax 50 kN) and Type 8597 (Fmax 100 kN)

| Application | Version | Specimen dimensions Round specimen, Ø [mm] | Clamping surface Height [mm] | Ambient temperature [°C] | Hardness | Item No. |
|---|---|---|---------------------------------|--------------------------|----------|----------------------|
| | distance 1 mm | | | | | |
| Round specimens with and without shoulders, tubes with stoppers | Steel, V-notch, corrugated, distance 1 mm | PH 50 kN 10 ... 35, PH 100 kN 10 ... 29 ³⁾ | 74 | -70 ... +250 | 58 HRC | 314052 ²⁾ |

- 1) When using specimen grips type 8802, a specimen diameter of 3 ... 15 mm is possible. For type 8594 a specimen diameter of 6 ... 15 mm is possible.
- 2) Suitable jaw mountings for the prism jaws (required for prism jaws): Item No. 314048
- 3) PH = specimen grips

Jaw mounting (required for prism jaws)

| Description | ArticleNumber |
|---|---------------|
| Suitable jaw mounting for prism jaws Scope of delivery: 2 pieces | 314048 |

Optional accessories

Pressure amplifier

| Description | ArticleNumber |
|--|---------------|
| Pressure amplifier for increasing operating pressure, max. input pressure 10 bar, pressure ratio 1:2, flow rate 900l/min, output pressure 2 - 10 bar. For installation in control unit line. | 315016 |
| Pressure amplifier for increasing operating pressure, max. input pressure 10 bar, pressure ratio 1:2, flow rate 400l/min, output pressure 2 - 20 bar. For installation in control unit line. | 315018 |

Connection and mounting options

| Description | ArticleNumber |
|--|---------------|
| T-slotted shoe connector for pneumatic and wedge screw grips with: Connectors with M28x1 x 5 thread for connecting Ø8, 20, 36 mm mounting studs or load cells, centering gauge, Ø 30 H7, for connecting mounting unit, mounting flange or Ø 60 mm mounting stud Scope of delivery: 2 pieces | 320252 |
| T-slotted shoe connector for load cell calibration, Fmax 100 kN, hole Ø 64/48 mm, and for specimen grips 8306/8406/8506/8497/8597 | 029093 |
| Mounting unit for attaching compression test kits (fmax 250 kN) ¹⁾ , rigid upper anvil holder (Fmax 250 kN) ¹⁾ , rocking upper anvil holder (Fmax 20 kN) ¹⁾ , Type A/B flexure table (20 kN) ¹⁾ Scope of delivery: 1 piece | 314058 |
| Mounting flange for attaching flexure tables (Fmax 250 kN) ¹⁾ , preferably for installation in lower grip Scope of delivery: 1 piece | 314060 |

- 1) Fmax may be limited by a lower Fmax for the test kit.