

Product Information

Wedge grips type 8304, Fmax 10 kN and 20 kN, body over wedge

CTA: 244012 244012



Pneumatic grips type 8304, Fmax 20 kN with pneumatic operation, temperature chamber



Pneumatic grips type 8304, Fmax 20 kN with pneumatic operation, temperature chamber

Applications

- Specimen material:
metals, plastics, wood
- Specimen shape:
round and flat specimens
- Type of loading:
tensile

Function description

One set of grips, two gripping principles. The modular design of the grips allows them to be configured for manual or pneumatic actuation according to requirements. Both versions close symmetrically.

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 manual version offers a cost-efficient, simple, and robust solution. Opening and closing occurs via a cross handle.

is available right from the start, so that the static jaws transfer the test speed directly to the specimen.

For use in temperature chambers, extensions are required. The pneumatic actuator is located outside the temperature chamber.

Advantages and features

- The grips always close symmetrically to the tensile axis regardless of specimen thickness.
- Centering stops enable fast, accurate specimen centering.
- 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.
- Comparable, reproducible test results. Thanks to their parallel-clamping operation the grips transmit the test speed directly to the specimen.

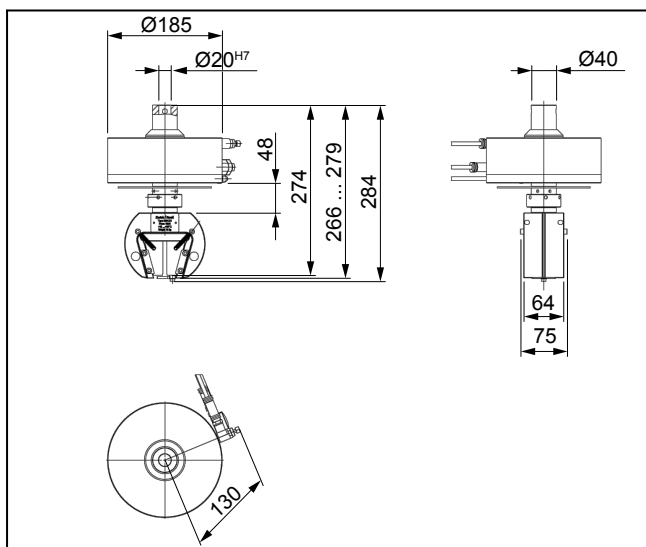
PI 535 223 With the pneumatic version emphasis is on fast, reproducible and, most importantly, parallel gripping. Opening and closing is pneumatic. Full gripping force

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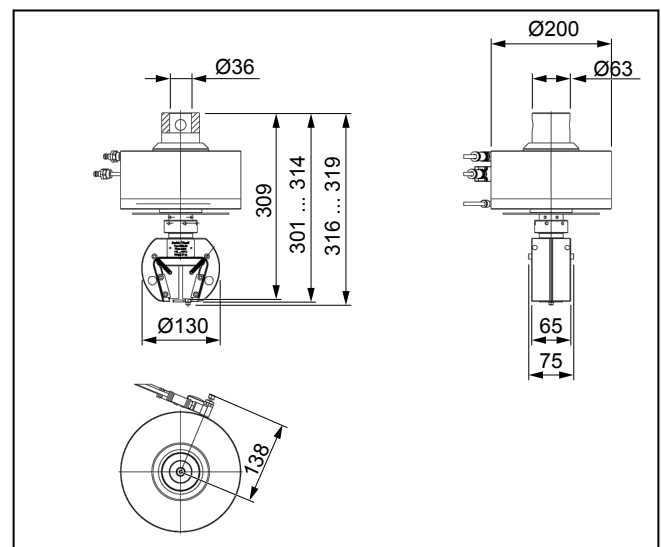
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- The modular design of these grips allows easy changeover between operation with and without extensions. Therefore, tests can also be performed in a temperature chamber. A long travel distance is available for tests without a temperature chamber and without extensions. Special adapters also make it possible to easily and quickly change to flexure testing, in which case the pneumatics can remain in the machine.
- The specimen grip is ideally suited for alignment-critical applications and specimens sensitive to transverse tensile forces.
- Jaws can be changed quickly without the use of a tool to accommodate different specimens.
- Whether you are testing sensitive specimens or specimens with short clamping-lengths, these grips guarantee optimum clamping.

CTA: 243291 243292



Pneumatic grips type 8304, Fmax 10 kN with pneumatic operation, overview



Pneumatic grips type 8304, Fmax 20 kN with pneumatic operation, overview

Product Information

Wedge grips type 8304, F_{max} 10 kN and 20 kN, body over wedge

Technical data

Item No. Type	1106795 ¹⁾²⁾ 8304	1106796 ¹⁾²⁾ 8304	
Operating principle/identification	Wedge action (pneumatic, symmetrically closing)	Wedge action (pneumatic, symmetrically closing)	
Test load F _{max}	10	20	kN
Operating pressure, min. The operating pressure depends on the upstream components.	1 ... 8	1 ... 8	bar
Gripping force at 6 bar	19	38	kN
Gripping force at 8 bar	25	50	kN
Opening width with jaws	6.5	6.5	mm
Clamping surface			
Height	55	55	mm
Width	35	35	mm
Clamping length	Min. 20	Min. 20	mm
Dimensions			
Height	115 (284) ³⁾	111 (292) ⁴⁾	mm
Width	185	185	mm
Depth	185	255	mm
Depthwith connection unit	210	210	mm
Connection, hole	Ø 20	Ø 36	mm
Weight per specimen grip, approx.	15	20.5	kg
Ambient temperature	+10 ... +35 ²⁾	+10 ... +35 ²⁾	°C
Ambient temperaturewith extension piece	-80 ... +360	-80 ... +360	°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) In connection with an extension piece for temperature chambers, the specimen grips can be used at temperatures from -80 ... 360 °C (pneumatic actuator is located outside the temperature chamber).

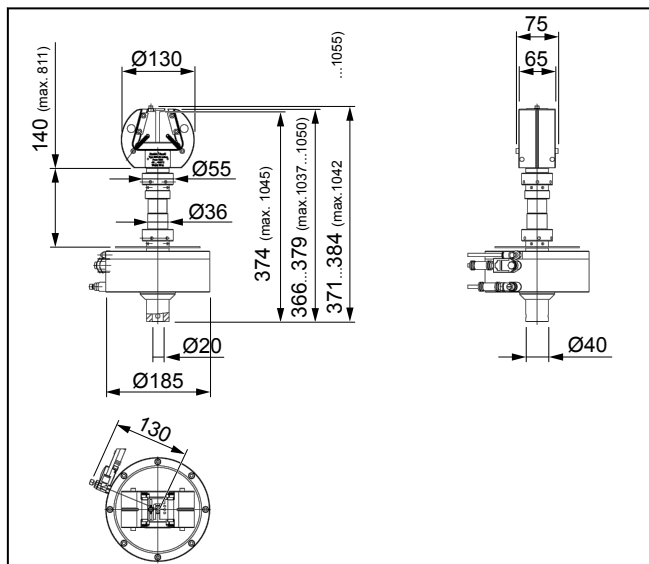
3) For use in temperature chamber: Height 384 mm

4) For use in temperature chamber: Height 392 mm

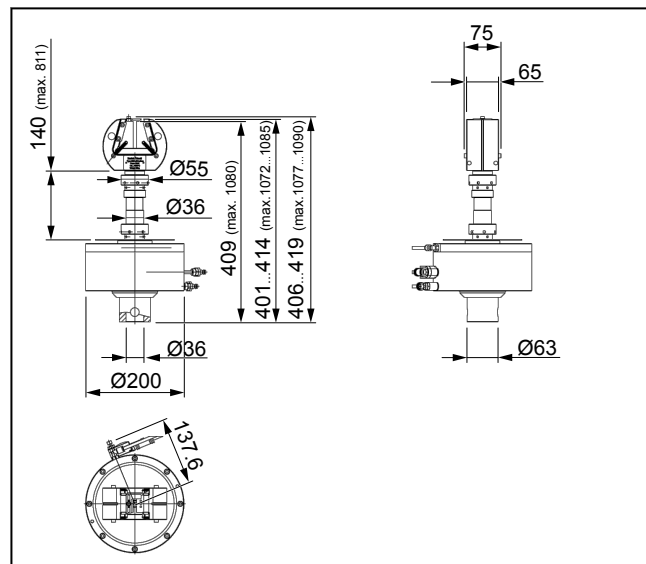
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CTA: 243311 243312



Pneumatic grips type 8304, Fmax 10 kN with pneumatic operation in temperature chamber, overview



Pneumatic grips type 8304, Fmax 20 kN with pneumatic operation in temperature chamber, overview

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

Jaws

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

Flat jaws

Scope of delivery: 1 set (= 4 pieces)

Version [mm]	Specimen dimensions Flat speci- men, thick- ness [mm]	Clamping surface		Ambient temperature [°C]	Hardness	Item No.
		Height [mm]	Width [mm]			
Steel, fsc ¹⁾ 0.4	0 ... 6	55	35	-70 ... +250	61 HRC	1005224
Steel, fsc ¹⁾ 0.4	0 ... 6	55	35	-80 ... +360	61 HRC	1091800
Steel, fsc ¹⁾ 0.75	0 ... 6	55	35	-70 ... +250	61 HRC	1005225
Steel, fsc ¹⁾ 0.75	0 ... 6	55	35	-80 ... +360	61 HRC	1091801
Steel, fsc ¹⁾ 1.25	0 ... 6	55	35	-70 ... +250	61 HRC	1005226

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 surface Height [mm]	Ambient temperature [°C]	Hardness	Item No.
Steel, St ¹⁾ 1.5 mm	4 ... 6	55	-70 ... +250	61 HRC	1099696
Steel, St ¹⁾ 1.5 mm	4 ... 6	55	-80 ... +360	61 HRC	1099697

1) St= saw tooth

Extension pieces for use of the pneumatic grips in temperature chambers up to 360 °C

Extension piece (1 x required)

Dimensions Length [mm]	Attachment	Weight, approx. [kg]	Item No.
100	M48x1.5	1	1091803

Extension piece (1 x required)

For TEE e.g. [mm]	Dimensions Length [mm]	Attachment	Weight, approx. [kg]	Item No.
H = 500	371	M48x1.5	3.1	1091804
H = 650	421	M48x1.5	3.5	1091810
H = 650	521	M48x1.5	4.2	1091808
H = 700	571	M48x1.5	4.6	1091805
H = 850	721	M48x1.5	5.7	1091806
H = 900	621	M48x1.5	5.0	1091809
H = 900	671	M48x1.5	5.4	1091811
H = 900	771	M48x1.5	6.1	1091807

Optional accessories

Centering stops

Description	ArticleNumber
Centering stops for centered clamping of specimen with variable height adjustment ¹⁾²⁾ Scope of delivery: 2 pieces, sufficient for 2 grip units	1005245

1) Note: check suitability for use with specimen shape and initial gauge-length.

2) For use in tests at room temperature only.

E.g. for connecting flexure fixtures to the extension pieces or pneumatic actuator.

Description	ArticleNumber
Adapter for attaching various dies via 16 ^{H7} hole	1008923

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Description	ArticleNumber
Adapter for attaching additional accessories via 20 ⁹⁶ mm mounting stud	1008924
Connector for attaching flexure tables and additional accessories via M28x1.5 / 30 ^{H7} / 2M6, BC40	1008925