



## PNEUMATIC / HYDRAULIC WEDGE GRIPS "HIGH TEMPERATURE" TENSILE TEST

MC/HT series (models from 10 kN to 250 kN)

Pneumatic or hydraulic clamping grips with wedge-type jaws, easy to use and applicable to perform **tensile tests** in thermal chambers at **high temperatures** between  $-70^{\circ}\text{C}$  ( $-180$ ) and  $+ 350^{\circ}\text{C}$  ( $500^{\circ}\text{C}$ ,  $700^{\circ}\text{C}$ ) on samples of sheet materials such as Rubber, Dumbbell type Plastic, Metallic Sheets, Aluminum Sheets, Fabrics, Textiles, Composites ..., being incorporated into a Universal Testing Machine



## GENERAL INFORMATION

Line of easy-to-use pneumatic and hydraulic wedge type grips, designed for tensile tests of sheet materials for resistance to breakage in the range between **10 kN** and **250 kN**.

The MC / HT series wedge action grips are specially designed for use within environmental chambers at different temperatures. The grips are designed so that the gripping (clamping) part is inside the chamber at operating temperature and the power cylinder (pneumatic or hydraulic) is outside, located at room temperature. Gripper heads (jaws) open and close remotely to eliminate the need to cool them before changing samples to be tested. The change of specimens is fast. Because the grip head works in the chamber, thermal gradients are minimized.

The MC / HT series pneumatic and hydraulic wedge-action grips feature gripper bodies that move vertically to open and close the wedge jaws. As the bodies move, the jaws are held in position on the specimen and open and close. Double-acting wedge-shaped grips move simultaneously relative to the centerline of the jaw, ensuring correct sample alignment and eliminating bending stresses that sometimes invalidate test results.

Both round and flat samples can be tested with the MC / HT series grips and saves a lot of time by offering quick and easy sample insertion. They have a constant clamping load that protects specimens from slipping as they are stretched during tensile testing.

### PNEUMATIC WEDGE GRIPS MC / HT series... - (N)

MHC/HT series	MC/HT-10-N	MC/HT-20-N	MC/HT-50-N	MHC/HT-100-N
<b>Load capacity:</b>	<b>10 kN</b>	<b>20 kN</b>	<b>50 kN</b>	<b>100 kN</b>
<b>Grips diameter:</b>	90 mm	150 mm	198 mm	198 mm
<b>Maximum specimen width:</b>	40 mm	50 mm	60 mm	60 mm
<b>Maximum specimen thickness:</b>	7 mm	14 mm	14 mm	15 mm
<b>Temperature range:</b>	Stainless Steel Construction -70°C to +350C			

### HYDRAULIC WEDGE GRIPS MC / HT series... - (H)

Serie MHC/HT	MC/HT-100-H	MC/HT-250-H
<b>Load capacity:</b>	<b>100 kN</b>	<b>250 kN</b>
<b>Grips diameter:</b>	198 mm	296 mm
<b>Maximum specimen width:</b>	60 mm	80 mm
<b>Maximum specimen thickness:</b>	15 mm	19 mm
<b>Temperature range:</b>	Stainless Steel Construction -70°C to +350C	



MC/HT-50-N (50kN)



MC/HT-100-N (100kN)



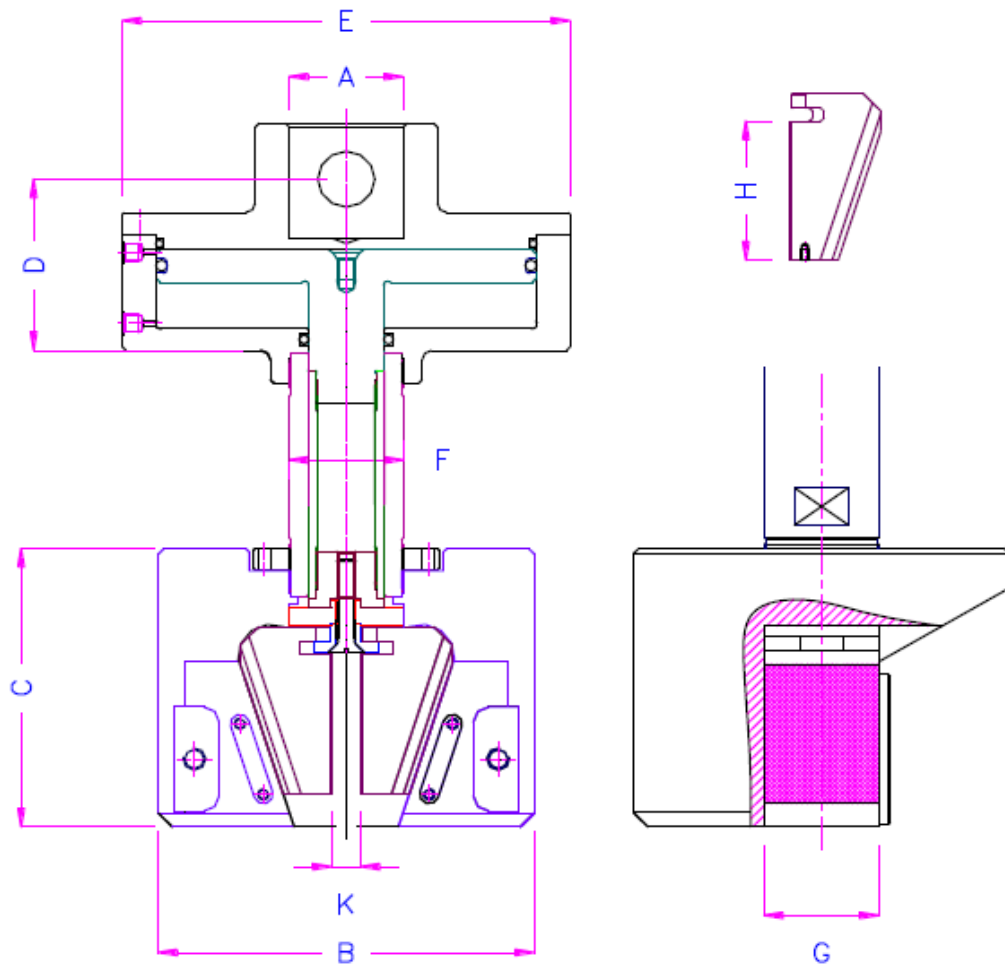
MC/HT-250-H (250kN)

**Interchangeable jaws available for size requirements**

Jaws models	Jaws type
MC/HT-XXBP	Ground (Pyramids) (0.8 mm x45) for flat specimens
MC/HT-XXBV	V-jaws for round specimens

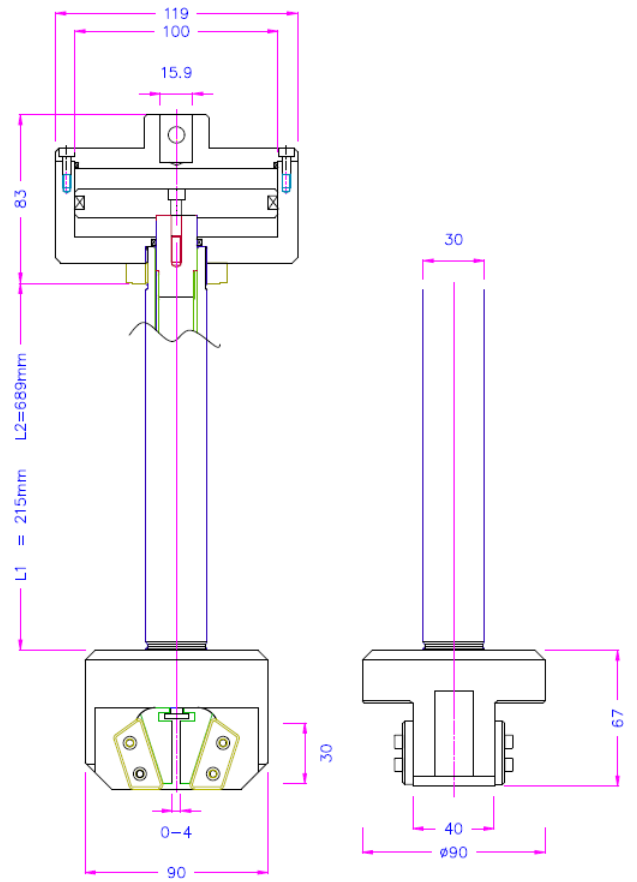
MC / HT grips are subjected to high and low temperatures and are designed for use in environmental chambers at temperatures up to + 350 ° C. Test machine adapters, push and pull rods / stems, and special sealing designs are available for a variety of test scenarios.

**As the needs in this field of testing at different temperatures with different materials can be very wide and different in each project, please contact an applications engineer to configure a solution to the requirements of your application or need.**



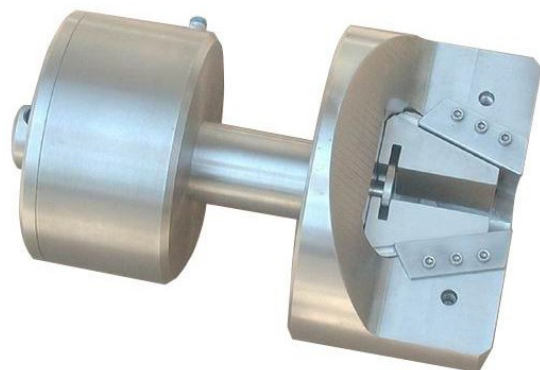
	kN	A	B	C	D	E	F	G	H	K	TYPE	WEIGHT 1 head
MODEL	kN	mm	mm	mm	mm	mm	mm	mm	mm	mm		kg
<b>MC/HT-10-N</b>	<b>10</b>	15.9	90	78	63	120	30	40	30	0-7	PNEUMATICS	
<b>MC/HT-20-N</b>	<b>20</b>	15.9	150	100	81	158	40	50	50	0-14	PNEUMATICS	
<b>MC/HT-50-N</b>	<b>50</b>	31.8	198	120	101	236	54	60	67	0-14	PNEUMATICS	
<b>MC/HT-100-N</b>	<b>100</b>	40	198	150	92	236	60	60	75	0-15	PNEUMATICS	50
<b>MC/HT-100-H</b>	<b>100</b>	40	198	150	92	236	60	60	75	0-15	HYDRAULICS	50
<b>MC/HT-250-N</b>	<b>250</b>	60	296	225	170	198	90	80	110	0-19	HYDRAULICS	120

**MC/HT-10-N-T425°C**  
10kN pneumatics



**MC/HT-50-N**

Max. Load: 50kN  
Keeping force with 7 bar : 21kN  
(max. 16 bar UN216)



**MC/HT-100-N**  
Rod dia 200mm  
Prekeeping force 30kN with 7 bar  
(64kN with 15 bar)



**MC/HT-100-H**

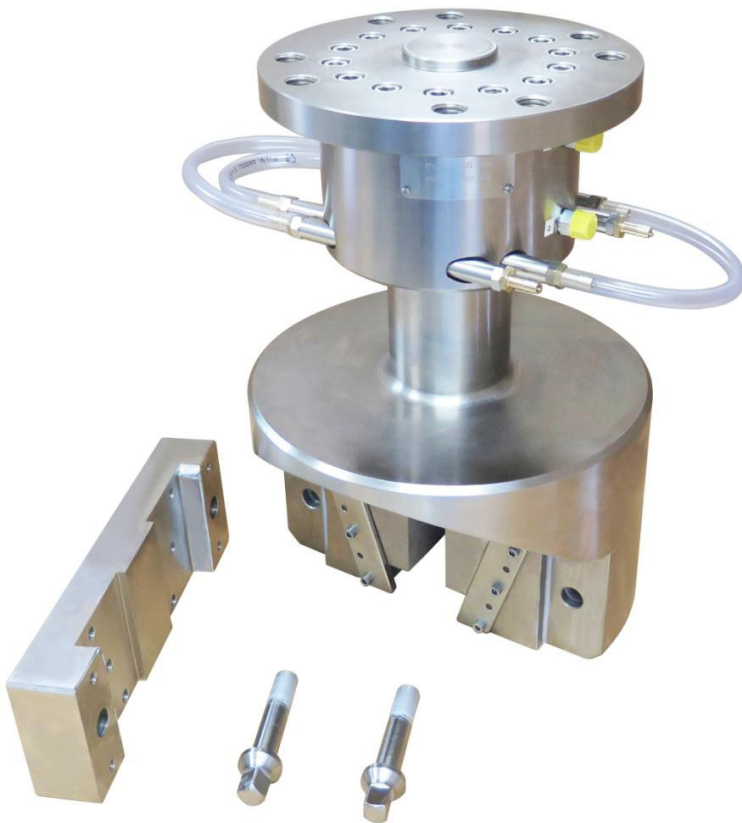
Load Capacity: 100 kN  
keeping force: 200 kN





**MC/HT-250-H**

**Hydraulic Wedge Grips** for use in  
Thermal Chambers (-180 ° C to 350 ° C)  
Clamping force: 250kN


**HYDRAULIC GRIPS WITH SPECIAL WEDGE**

- **Load capacity:** **250 kN**
- **Clamping force:** 520 kN at 260 Bar
- **Type of test specimens :** For short samples
- **Body:** Nickel plated steel
- **Jaws:** Hardened steel 58 HRC
- **Temperature range:** +180°C to + 350 ° C  
Other ranges on request
- **Coupling:** 60 mm  
( Other couplings on request )

The parallel closure body moves up and down.

- **Scope of delivery:** 1 pair of Grips (without jaws)





**PNEUMATIC ACCESSORIES:**

**UN205-1 Foot pedals**

**None-locking:** The grip jaws open by pressing the foot pedal and close after removing the foot from the pedal.

**Scope of delivery:** 1 pair of foot switches including tubes and fittings


**UN205-2 Foot pedal**

**With locking function:** The grip jaws open by pressing the foot pedal and remain opened after removing the foot from the pedal. The jaws close by pressing the pedal one more time.

**Scope of delivery:** 1 pair of foot switches including tubes and fittings


**UN205-1+PR16bar Pressure regulator**

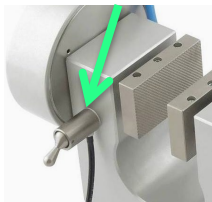
Optional for UN205-1 o UN-205-2

To adjust air pressure: 1-16 bar


**UN205-3 Hand switches**

**With locking function:** The jaws of the grip close by pulling the handle and remain closed. The jaws open by pushing the handle back.

**Scope of delivery:** 1 unit of hand switches including tubes and fittings


**UN205-4-M5 Handheld Micro-Switches**

Pneumatic manual microswitches, tubes and fittings, M5 pneumatic connection

**With lockout feature:** Manual switches mount directly to handles (1/8" couplings only), 3/2 directional valve. Only for single action rods with spring inside.

**Scope of supply:** 2 manual switches including tubes and accessories


**UN216 Silent compressor for laboratories, oil-lubricated, with pressure reducer**

Max pressure 16 bar; 230 V/50 HZ; noise level: 38 dB(A)

Motor: 0.13 kW; displacement: 17 l/min; tank size 3.5 l Dimensions: 340x290x340 mm (L x W x H); weight 18 kg

Different voltages on demand

## HYDRAULIC ACCESSORIES:

### UH-HP2-2-400

Air hydraulic pump for spring return hydraulic jaws:

- 2 valves for independent change of the handles (open - close)
- Remote control with ON / OFF switches
- Capacity: 2.75 l / min, 400 bar
- 1:61 (air pressure: oil pressure)
- Dimensions (LxWxH): 350 x 250 x 400 mm
- Weight 27.5 kg; 220 V 0.1 A. Noise level 60 dBA.
- Includes 2 tubes: 3 m and 5 m long



### UH-HP2-2-G-a-400

UH-HP2-2-400, but:

- Incl. Housing for noise reduction, noise level closed in the box 50 dBA
- With analog pressure transducer: clamping pressure can be adjusted by analog signal 1-10 volts -> 40-400 bar
- Dimensions (LxWxH): 723 x 350 x 617 mm
- Includes 2 tubes: 3 m and 5 m long



### UH-HP4-2-G-a-400

Air hydraulic pump for spring return hydraulic grips similar to UH-HP2-2-G-a-400 but:

- with 4 hydraulic valves to lock the jaws in any required position (open - stop - close)
- includes 2 tubes: 3 m and 5 m long



### UH-HP4-4-G-a-315

Air hydraulic pump for double action hydraulic jaws without spring return:

- with 4 hydraulic valves to lock the jaws in any required position (open - stop - close)
- with analog pressure transducer: clamping pressure can be adjusted by analog signal,
- max. pressure 315 bar
- Includes housing for noise reduction
- Includes 4 tubes: 2x 3 m and 2x 5 m long

