

## Dual-action Pneumatic Grips MSN/2.4 (2,4 kN)

**Symmetric clamping.** Dual-action for self centring of the specimen which allows its quick and easy loading.

Each grip is supplied with a specimen alignment device, which can be mounted directly on the jaws.

### Ordering information

MSN/2.4 are supplied in pairs, but can also be ordered as single grip (0.5 pair).

Jaw faces need to be ordered separately.



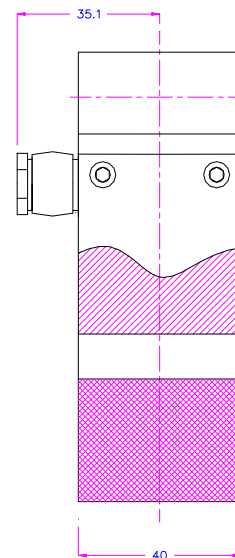
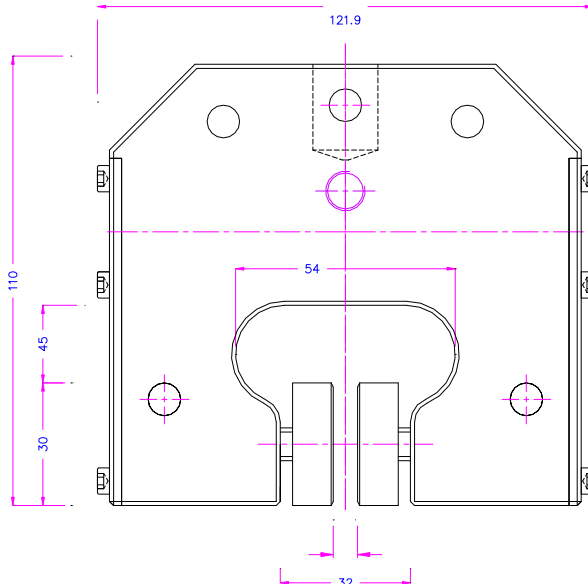
Item number	TH149
Clamping force	2.4 kN at 7bar
Temperature range	0°C - +70°C Other temperature ranges on request
Body	Aluminium
Pneumatic connection	Internal thread coupling 1/8"
Weight	1.21kg each grip (without jaws)

### Jaws for MSN/2.4: Scope of delivery 1 set = 4 jaws

Item No.	Surface	Clamping surface H x W	Opening	Weight per pair
MSN/2.4-B	Blank jaws	30 x 50mm	0 - 7mm*	0.22kg
MSN/2.4-BG	Rubber jaws	30 x 50mm	0 - 5mm*	0.22kg
MSN/2.4-BP	Pyramid jaws	30 x 50mm	0 - 7mm*	0.22kg
MSN/2.4-BV	V-jaws	30 x 40mm	4 - 7mm Ø*	0.18kg
MSN/2.4-BW	Wave jaws	30 x 50mm	0 - 7mm*	0.20kg
MSN/2.4-BD	Diamond jaws	30 x 50mm	0 - 7mm*	0.22kg

\* Other opening widths (up to 12 mm) and jaw faces with differing dimensions and surface coatings are also available on request

	<b>Blank jaws</b> • Suitable for own further treatments • Steel-blanks without coating
	<b>Rubber jaws</b> • 1 mm rubber coating (NBR) • Nickel-plated
	<b>Pyramid jaws</b> • pyramids 1.2x45 • hardened steel 58HRC • Nickel-plated
	<b>V-jaws</b> • For all kinds of round samples • Tooth pitch 1.2 mm • hardened steel 58HRC • Nickel-plated
	<b>Wave jaws</b> • For flexible materials • Wave 5 mm • hardened steel 58HRC • Nickel-plated
	<b>Diamond jaws</b> • Clamping surface coated with synthetic diamonds • Nickel-plated



**Applications** - Pneumatic grips use air pressure to actuate cylinders to provide constant clamp loads to test specimens of a wide variety. They are best suited to the following mechanical testing needs:

- High volume tests where opening and closing actions are repetitive for operators.
- Sensitive or fragile test samples where clamping can cause failure or where multiple tests are performed. Many times, it can be desirable to test all samples under constant clamping conditions.
- High elongation tests where the samples shrink as they are pulled. If the sample stretches (e.g. plastics and rubber), the sample can pull out of mechanical action clamps. Air cylinders can adjust to the changing conditions and hold -- regardless of sample deformation.

### Testing materials such as

- Textiles & Geotextiles
- Sheets, Thin Films, Foils - Flat samples
- Thread, wire, rope – Round shapes
- Soft materials
- Lap Shear samples
- Soft Tissues & Medical Devices
- Peel and adhesion tests
- Films, polymers & woven fabrics

### General Notes

- Clamp Force Ratings are based on 7 bar (100 psi) air pressure
- Standard grips may be used in chambers from -40C to 70C. Optional seals are available to increase the range to 190C and 280C.
- Anti-corrosion coatings available on all grips and recommended in low temperature applications to protect grip from corrosion damage.

### Air Grip Accessories

**Interchangeable Jaws or Faces** are available on all grips. All jaws are hardened steel (excluding rubber faced jaws or unless noted). Non-standard surfaces and sizes are made to order.

**Blank Jaws** – for smooth surfaced materials.

**Pyramid (serrated) Jaws** – also called 'pyramid', 'diamond cut' or 'knurled' - for materials requiring a 'bite' such as paper, aluminum, copper, board, steel, wire and soft steels.

**Rubber Faced Jaws** – for relatively fragile samples weakened by pinching at the edge of the grip face - monofilaments, wire, film, single fibers, and aluminum.

**Diamond Jaws** – aggressive surface for soft steels, rigid plastic and wood.

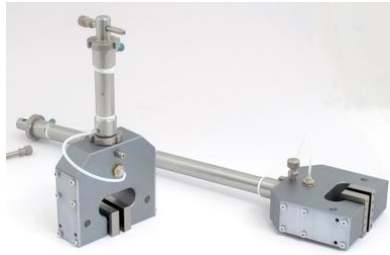
**Grab Tests** – for grabbing textiles, leather and fabrics per ASTM D2208, D5034, D1683 and D4632.

**Wave Jaws** – provide a deeper bite (5 mm typical) for testing 'slippery' test samples including tissues, textiles, and fabrics.

**V-Jaws** – round test bars, wire, tubing and rod.

**Line Contact** – testing thin films (ASTM D882) and foils where a gage section is important.

## Examples for special requirements solutions



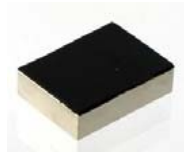
MSN/2.4+V+2R



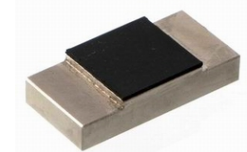
MSN/2.4+V+2R



MSN/2.4BG20x50  
Height 20 mm x Width 50 mm



MSN/2.4-BG30x40  
Height 30 mm x Width 40mm



MSN/2.4-BG25x25  
Height x Width 25 mm



MSN/2.4-BP30x25-0.7x45  
Height 30mm x Width 200 mm – small pyramids 0.7x45



MSN/2.4-GT  
Inset jaws carrier



MSN/2.4-EBP  
Pyramid inset jaws

## Accessories:



### UN205-1 Foot pedals

None locking: The jaws of the grip 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 pedals

With locking function: The jaws of the grip 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,+PR Pressure Regulator

Optional for UN205-1 or UN205-2  
To adjust air pressure: 1-10 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 Hand switches

With locking function (see UN205-3)  
The hand switches are directly mounted at the grips. 3/2 directional valve  
Scope of supply: 2 hand switches including tubes and fittings



### UN216 Compressor for laboratories, oil-lubricated

Max pressure 16 bar, 230V, noise level: 38dB(A)/1m  
Displacement 5 l/min, tank size 3.1 litre (0.82 gallon)  
Dimensions: 340x290x340 mm (L x W x H); weight 16 kg  
Different voltages available on request