



## ETM 1 - ETM 5

ETM 1 and ETM 5 bench type double column version with compact design.

- Best solution for the operator who needs a small force but the stability of double column frame.
- Wide range of test accessories allows to meets test requirements of different standards and for different materials.
- ETM series is suitable to test: metals, reinforced plastics, wires, textiles, small components, adhesive materials, etc.



Model		ETM 1	ETM 5
Load cell			
Load capacity	kN	1	5
	kgf	100	500
Calibration standard	-	ISO 7500	
Accuracy grade	%	0.5 of reading	
Testing load accuracy	%		
Deformation accuracy	%		
Displacement accuracy	%		
Force range	FS	0.2%-100%	
Force resolution	FS	1/500000	
Force accuracy	%	0.5 of reading	
Controller			
Sampling frequency	Hz	Up to 1000	
Closed loop control frequency	Hz	Up to 1000	
Resolution	bit	20	
Software			
Software	-	echoTestPilot	
Crosshead			
Position resolution	µm	0.027	
Crosshead speed	mm/min	0.001-500	
Crosshead speed accuracy	%	±1.0/±0.5 of set speed	
Crosshead travel (without grip)	mm	1000	
Main frame			
Frame type	-	Bench top double column	
Test width	mm	420	
Fixture adapter	mm	ø20	
Grip pin	mm	ø10	
Motor power	kW	0.4	
Power supply	V-Hz-ph	230-50/60-1	
Dimensions	mm	728x470x1520	
Weight	kg	150	

## Accessories

### Mechanical wedge action tensile grips

Model	Description	Max. force applied	Grip pin	Application
JW310B	Grip body	10kN	ø10mm	For metal and non-metal specimen
JW310F1	Tensile grip for flat specimens 0-20mm			
JW310R1	Tensile grip for round specimens ø4-9mm			
JW310R2	Tensile grip for round specimens ø9-14mm			
JW120B	Grip body	20kN	ø10mm	For metal and non-metal specimen
JW120F1	Tensile grip for flat specimens 0-6mm			
JW120F2	Tensile grip for flat specimens 6-12mm			
JW120F3	Tensile grip for file specimens 0-6mm			
JW120R1	Tensile grip for round specimens ø4-9mm			
JW120R2	Tensile grip for round specimens ø9-14mm			
JW130B	Grip body	30kN	ø10mm	For metal and non-metal specimen
JW130F1	Tensile grip for flat specimens 0-7mm			
JW130F2	Tensile grip for flat specimens 7-14mm			
JW130F3	Tensile grip for file specimens 14-21mm			
JW130R1	Tensile grip for round specimens ø4-9mm			
JW130R2	Tensile grip for round specimens ø9-14mm			
JW130R3	Tensile grip for round specimens ø14-19mm			

### Pneumatic tensile grips

Model	Description	Max. force applied	Grip pin	Application
PNJ3001	Tensile grip for sample diameter ≤1mm	500N	ø10mm	For low force test of non-metal specimen
PNJ3002	Tensile grip for sample diameter ≤1mm (nylon cord)	500N	ø10mm	For nylon cord
PNJ3003	Tensile grip with clamping width ≤25mm Sample thickness ≤6.5mm, no liner	500N	ø10mm	For low force test of non-metal specimen
PNJ3005	Tensile grip with clamping width ≤30mm Sample thickness ≤4mm, with liner	500N	ø10mm	For low force test of non-metal specimen
PNJ3010	Tensile grip with clamping width ≤150mm Sample thickness ≤7mm, no liner	1kN	ø10mm	For low force test of non-metal specimen
PNJ3004	Tensile grip with clamping width ≤25mm Sample thickness ≤6.5mm, no liner	1kN	ø10mm	For low force test of non-metal specimen
PNJ3006	Tensile grip for sample diameter ≤3mm	2kN	ø10mm	For low force test of non-metal specimen
PNJ3008	Tensile grip jaw 25x50mm Sample thickness ≤9mm with liner	2kN	ø10mm	For low force test of non-metal specimen
PNJ3009	Tensile grip for sample diameter ≤3mm	3kN	ø10mm	For low force test of non-metal specimen
PNJ3011	Tensile grip for flat specimens 0-4mm	3kN	ø10mm	For glass fiber specimen
PNJ3007	Tensile grip for flat specimens 0-10mm, width 50mm	5kN	ø10mm	For low force test of non-metal specimen
PNJ3012	Tensile grip with rubber coated jaw 25.4x25.4mm Sample thickness ≤14mm	10kN	ø10mm	For textile tensile test
PNJ3013	Tensile grip with rubber coated jaw 50.8x76.2mm Sample thickness ≤14mm	10kN	ø10mm	For textile tensile test
PNJ3014	Tensile grip with diamond jaw 25.4x25.8mm Sample thickness ≤14mm	10kN	ø10mm	For textile tensile test
PNJ3015	Tensile grip with diamond jaw 25.4x70mm Sample thickness ≤14mm	10kN	ø10mm	For textile tensile test

### Compression fixtures

Model	Description	Max. force applied	Grip pin	Application
CP1200	Platen ø100mm	20kN	ø10mm	For compression test
CP1201	Platen ø200mm	20kN	ø10mm	For compression test

## ETM 1 - ETM 5

### Bending fixtures

Model	Description	Max. force applied	Grip pin	Application
BD2002	Bending nose R5mm	10kN	ø10mm	For bending test
	Support roller R2mm			
	Maximum span 160mm, adjustable			
	3-point bending, support roller exchangeable			
BD2003	Bending nose R3mm	10kN	ø10mm	For bending test
	Upper span 110mm adjustable			
	Lower span maximum 220mm adjustable			
	4-point bending, support roller fixed			
BD2004	Bending nose R5mm	20kN	ø10mm	For bending test
	Support roller R2mm			
	Maximum span 200mm, adjustable			
	3-point bending, support roller exchangeable			
BD2005	Bending nose R5mm	20kN	ø10mm	For bending test
	Support roller R2mm			
	Maximum span 200mm, adjustable			
	3-point bending, support roller exchangeable			
	Micrometer included			

### Lever grips

Model	Description	Max. force applied	Grip pin	Application
LVG021	Lever grip with clamping width <22mm	2kN	ø10mm	For rubber tensile test
	Max. opening 10mm			
LVG022	Lever grip with clamping width <40mm	2kN	ø10mm	For rubber tensile test
	Max. opening 7mm			
LVG023	Lever grip with clamping width <40mm	5kN	ø10mm	For rubber tensile test
	Max. opening 12mm			

### Peeling grips

Model	Description	Max. force applied	Grip pin	Application
PLG971	Grip for stainless steel composite pipe ID-OD 12-16; 16-20; 20-25; 26-32; 33-40	2kN	ø10mm	For stainless steel compopsite pipe peeling test
PLG972	Grip for metal bond sample width <20mm	3kN	ø10mm	For metal bond specimen 90° peeling test

### Vice grips

Model	Description	Max. force applied	Grip pin	Application
VG3201	Sample thickness ≤8mm	500N	ø10mm	For plastic and film tensile and peeling test
	Vice grip with clamping width <32mm			
VG3202	Sample thickness ≤13.5mm	1kN	ø10mm	For wire, foil, film, fiber, rubber tensile test
	Vice grip with clamping width <25mm			
VG3203	Sample thickness ≤12mm	5kN	ø10mm	For sheet metal, fiber, plastic, rubber tensile test
	Vice grip with clamping width <70mm			

#### Wire, cord tensile grips

Model	Description	Max. force applied	Grip pin	Application
CWG021	Wire grip for sample diameter $\leq 1\text{mm}$	500N	$\varnothing 10\text{mm}$	For wire tensile test
CWG022	Wire grip for sample diameter $\leq 0.5\text{mm}$	500N	$\varnothing 10\text{mm}$	For wire tensile test
CWG023	Wire grip for sample diameter $\leq 1.5\text{mm}$	2kN	$\varnothing 10\text{mm}$	For wire tensile test
CWG024	Wire grip for sample diameter $\leq 1.5\text{mm}$	5kN	$\varnothing 10\text{mm}$	For wire tensile test

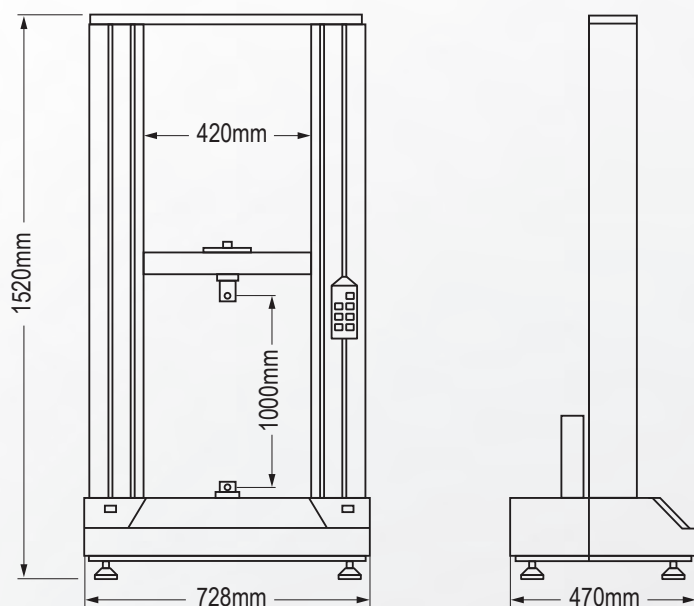
Other special grips are available on request

#### Computer System

Computer System	ECHOCS01	Computer
	ECHOCS02	Monitor
	ECHOCS03	Color printer
	ECHOCS04	Mouse
	ECHOCS05	Keyboard

#### Optional accessories

01ETM002	Front protection shield
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**DEVCO S.r.l.**

Via Marzabotto, 59 20037 Paderno Dugnano (MI)  
Tel +39 0283591153 - Fax. +39 0295441300  
[www.devcosrl.it](http://www.devcosrl.it) - e-mail: [info@devcosrl.it](mailto:info@devcosrl.it)

[www.echo-lab.it](http://www.echo-lab.it)