

# MonTech VP 3000

## Pneumatic low force laboratory press

### The small and compact pneumatic laboratory press VP 3000

is used for fast and easy moulding, curing and preparation of rubber samples.

The VP 3000 tabletop press is equipped with a 5.7" Color Touchscreen Display for setting Cure times, Temperatures, Degassing cycles and more, making the press with its single button control the ideal tool for small scale laboratory sample production in various shapes and thicknesses.



**VP 3000**  
Small tabletop laboratory press

The VP 3000 lab press features a pneumatic closing unit, electric PID-controlled heating systems, a pneumatic safety front shield and a full protection around the press frame.

Various standards and customer specific press moulds are optionally available.

The VP 3000 can be tailored to specific sample and trial moulding needs as per specific customer and applications requirements.

### Online sample preparation

The MonTech VP and LP 3000 laboratory press series, along with optional sample moulds, are the ideal tools for online sample preparation in the production environment. The precise temperature control and homogenous temperature distribution ensure perfect samples for hardness, tensile, density, filler dispersion and abrasion testing.



# MonTech LP 3000

## High-precision hydraulic laboratory press series

The MonTech LP 3000 laboratory press series is specifically designed for rubber applications and have evolved into the international standard in precision laboratory presses in the rubber industry.

As sample preparation plays a key role in the testing process and - proven by ISO initiated interlab tests - sample preparation provides a significant influence to tests performed on cured rubber samples the ISO committee as well as the ASTM task group have defined strict standard for sample preparation processes in the laboratory. This especially covers the moulding processes in laboratory presses along with moulds and tools to be utilized:

**ISO 2393** "Rubber test mixes- Preparation, mixing and vulcanization- Equipment and procedures" and

**ASTM D 3182** "Standard Practice for Rubber - Materials, Equipment and Procedures for Mixing Standard Compounds and Preparing Standard Vulcanized Sheets"

have formulated strict specifications for the laboratory curing presses - which specifically include the following requirements:

- An evenly distributed closing force of at least 3.5 MPa ( $=N/mm^2$ ), automated degassing cycles and precision timing
- Superior platen parallelism better than 0.25mm/meter
- Extremely high thermal uniformity within  $\pm 0.5^\circ C$  on the press platen surface and between adjacent platens

Based on these standards MonTech has developed the hydraulic laboratory press series LP 3000 presses to fulfill these rubber industry specific press requirements. MonTech presses stand for quality, reliability, high performance and easy operation with over 2500 installation all over the world.

All LP 3000 press models fully comply to the stringent requirements of ISO 2393 as well as ASTM D 3182 in all points, including press force, thermal stability and platen parallelism as well as of course CE and EN 289 requirements.

### Key features of the LP 3000 laboratory press series:

- Enclosed 4-column press frame for high rigidity
- Stainless steel press platens and tension bars
- Electric heating with superior temperature distribution and digital PID temperature control
- Pneumatic front shield with 2-hand safety control
- Integrated 5.7" color touchscreen press control
- High efficiency low-noise hydraulics



**LP 3000 - 1500kN**

Large hydraulic laboratory press with single daylight and 596 x 596mm press platens.

Here shown with optional fixed press table.

## Hydraulic laboratory press series LP 3000

With 6 different models available which compromise dimensions ranging from 196 x 196 mm to 596 x 596 mm and maximum press forces of 20 to 150 tons (200 to 1500kN) a matching system is available for almost any application and capacity requirement.

All LP 3000 presses are equipped with the latest, high energy efficient hydraulic drive and control technology, featuring rigid 4-column press frames, precision electric heating, stainless steel press platens, a full color touchscreen interface (with optional program step sequencing and data acquisition), software proximity switches as well as digital PID temperature control.

The core of each press is a closed circuit, low-noise integrated hydraulic system requiring as low as 8 to 20 Liters of oil in the whole press, operating at a pressure of up to 400 Bars, making the press very durable and energy efficient at the same time.

In combination with precision electric PID controlled heating systems, pneumatic safety front shield, and 5.7" Color Touchscreen Display for setting Cure times, Temperatures, Degassing / lifting cycles, closing speeds and switching points, these LP series presses are simple to use, reliable and rugged at the same time.

Each press can additionally be equipped with integrated data acquisition systems with up to 12 additional temperature channels, Ethernet, USB interfaces or the MonPress Computer Software, allowing users to record full press cycles including press times, forces, control temperatures, mould temperatures, degassing and more for mould-flow and cure simulation purposes or even small-scale trial production.



**LP 3000 - 200kN**  
Medium size benchtop hydraulic laboratory press



**LP 3000 - 400kN**  
Floorstanding hydraulic laboratory press with single daylight



**LP 3000 - 600kN**  
Hydraulic laboratory press  
Here shown in single layer configuration  
with optional frontmounted mould handling table.



**LP 3000 - 1000kN**  
Hydraulic laboratory press  
Here shown with optional second daylight with a total of  
4 heated plates and height-adjustable press table.

## Lab Press Series / Model type

	VP 3000	LP 3000 - 200kN	LP 3000 - 400kN	LP 3000 - 600kN	LP 3000 - 1000kN	LP 3000 - 1000kN L	LP 3000 - 1500kN
<b>Type</b>	Pneumatic tabletop	Hydraulic tabletop	Hydraulic floorstanding	Hydraulic floorstanding	Hydraulic floorstanding	Hydraulic floorstanding	Hydraulic floorstanding
<b>Closing Force</b> <b>kN</b>	40	200	400	600	1000	1000	1500
<b>Press platen size</b> <b>mm</b>	ø 180	196 x 196	296 x 296	446 x 446	446 x 446	596 x 596	596 x 596
<b>Cylinder stroke</b> <b>mm</b>	100	100	300	200	300	300	300
<b>Specific platen pressure N/mm<sup>2</sup></b>	1.05	5.21	4.57	3.02	5.03	2.82	4.22
<b>Heating type</b>	electrical	electrical	electrical	electrical	electrical	electrical	electrical
<b>Capacity per platen</b> <b>kW</b>	1.6	2.8	4.0	6.0	6.0	10.0	10.0
<b>Max. temperature</b> <b>°C</b>	200	250	250	250	250	250	250
<b>Temperature accuracy</b> <b>°C</b>	+/- 0.5	+/- 0.5	+/- 0.5	+/- 0.5	+/- 0.5	+/- 0.5	+/- 0.5

## Options &amp; accessories

<b>2-Hand safety control with user modes</b>	X	X	X	X	X	X	X
<b>Pneumatic safety front shield</b>	X	X	X	X	X	X	X
<b>PLC Control with 5.7" color Touchscreen</b> <small>Program storage is standard (up to 100), Cycle programs optional</small>	X	X	X	X	X	X	X
<b>LED Status Signal tower with buzzer</b>	-	0	0	0	0	0	0
<b>LED interior worklight for press platens</b>	-	-	-	0	0	0	0
<b>Fully enclosed work area with ventilation</b>	-	0	0	0	0	0	0
<b>Data acquisition system</b> <small>offline / Ethernet or USB or online with MonPress software with 4, 8 or 12 additional PT 100 temperature channels</small>	-	0	0	0	0	0	0
<b>Proportional high precision force control</b>	-	-	X	X	X	X	X
<b>Cooling systems</b> (air / water open or closed loop)	0	0	0	0	0	0	0
<b>Enlarged ram strokes and platens</b>	-	0	0	0	0	0	0
<b>High-temperature version</b> (300°C / 400°C)	-	0	0	0	0	0	0
<b>Second daylight - totally 4 heated platens</b>	-	-	0	0	0	0	0
<b>Third daylight - totally 6 heated platens</b>	-	-	-	0	0	0	0
<b>Press table</b> (fixed / height adjustable)	-	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
<b>Mould cart</b> (movable) / <b>Mould rack</b> (stationary)	-	-	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
<b>Dimensions (HxWxD)</b> <b>mm</b> <small>(net, single layer machine without options)</small>	930 x 560 x 480	970 x 790 x 550	1695 x 800 x 590	1750 x 1250 x 800	1750 x 1250 x 800	1950 x 1450 x 900	1950 x 1450 x 900
<b>Weight</b> (approx. net, single layer machine without options)	105 kg	450 kg	800 kg	1.100 kg	1.400 kg	2.350 kg	2.500 kg

- = not available    X = Standard    0 = Option

# MonTech Laboratory curing moulds for rubber, plastics, foam, wires and trial moulding

## MonTech Precision Curing moulds - General Overview and Introduction

In our inhouse mould-making shop MonTech manufactures a comprehensive range of precise and durable sample curing moulds according to ISO, DIN, ASTM and GB standards in various different versions. MonTech curing moulds guarantee easy handling and accurate moulding results.

The molds are available with single or multiple cavities, hardened or polished stainless steel. Every type of sample preparation for any kind of material can be covered with more than 500 different types of standard curing mould designs, over 20 different material types, and more than 20 different surface finishings and coatings. Of course moulds can also be engineered, designed and machined per customer individual requirements and specifications.

## Advanced curing mould design

Every MonTech curing mould system is a precise toolset to ensure the highest sample preparation precision and optimal results.

All MonTech mould and cover plates are exclusively made from high strength stainless steel, withstanding even highly aggressive compounds and materials.

The fabrication of every mould plate includes tempering to relieve all strains from the material, coplanar grinding for highest parallelism, machining with a dimensional precision of up to 0.002 mm, polishing, final inspection and quality control.

In addition to this, moulds can optionally be fitted with sensors for force, flow and temperature distribution measurement, allowing simple sample preparation, production trials and simultaneous data acquisition for tests like cure simulation.

## MonTech moulds are

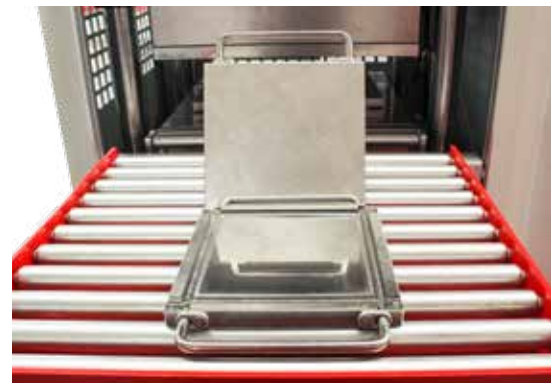
- Precisely FEM engineered and modelled
- Designed with advanced 3D solid modeling;
- CNC 5axis machined
- Precision ground
- Expertly honed
- Finely polished
- Made from High carbon content A2 mold steel
- thick, tempered mould plates resist warping, distribute heat and pressure evenly
- machined with deep overflow recesses (flash pockets) reduce overflow problems
- feature precision locator pins & receivers that assure precise mould plate alignment
- equipped with High strength fasteners which resist the effects of strain and stress and thermal fatigue

## Standard surface finishes:

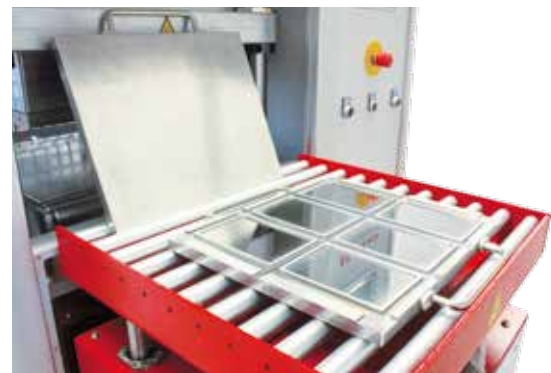
- Precision ground and fine-finished ( $<Ra\ 0,4$ ) [STANDARD]
- Nitriding and black oxidizing
- Precision ground and mirror polished
- Tack reducing PTFE (Teflon) coating
- Wear-resistant TiN (Titanium Nitride) coating
- Chrome plating
- ...



Tire / Fabric cord adhesion mould "H-Test"  
according ASTM D 4776 Type 2a  
Supplied including weight set  
Part no.: MT 218-18009



ISO 2393 / ASTM D 3182 Single cavity sheet mould (150x150x2mm) Part no.: MT 218-02000



Six cavity sheet mould (6x 150x80x2mm)

Part no.: MT 218-01000



Two cavity sheet mould (2x 200x95x2mm)

Part no.: MT 218-05004



# MonTech standard laboratory curing moulds

MonTech stocks standard curing moulds for immediate delivery as well as - due to extensive in-house machining capabilities as well as a own mould making shop - can produce required curing moulds within a few days after technical clarification and drawing approval.

With over 800 moulds - solely for rubber lab applications - produced annually and wether moulds according to standards, customer adapted or individually designed moulds, MonTech is your competent partner for any sort of curing mould and mould fixture requirement.

Mould type / class	Application	No. of cavities	Cavity dimensions mm	Overall dimensions mm + cover	Remark	Part - No
Sheet mould 6 Cav	Flat sheet moulding according ISO 2393 / ASTM D 3182	6	120x80x2	346x300x17 + 12	Hinged	MT 218-01000
Sheet mould 4 Cav		4	150x150x2	396x396x17 + 12		MT 218-03000
Sheet mould 4 Cav		4	150x150x2	396x396x17 + 10		MT 218-13000
Sheet mould 2 Cav		2	95x180x2	246x246x17 + 12		MT 218-05000
Sheet mould 2 Cav		2	95x200x2	246x246x17 + 12		MT 218-05004
Sheet mould 2 Cav		2	150x150x2	346x196x17 + 12		MT 218-05005
Sheet mould 2 Cav		2	105x105x2	158x296x17 + 12		MT 218-05007
Sheet mould 1 Cav		1	150x150x2	196x196x17 + 12		MT 218-02000
Sheet mould 1 Cav		1	150x150x6	196x196x17 + 12		MT 218-02009
Sheet mould 1 Cav		1	250x250x2	296x296x17 + 12		MT 218-02005
Sheet mould 1 Cav		1	200x200x2	246x246x17 + 12		MT 218-02008
Sheet mould 80x40+40x20		4+3	80x30x2, 40x40x2	196x196x17 + 12		MT 218-24001
Multi cavity mould Small 1		various e.g.	6 / 6 / 8 / 1	Ø29x12.5 / Ø16x8 / Ø13x6.3 / 25x70x6		246x246x22 + 12
Multi cavity mould Small 2	Hardness,	6 / 6 / 8 / 1	Ø40x6 / Ø29x12.5 / Ø13x6.3 / 96x82x6	246x246x22 + 12		MT 218-06003
Multi cavity mould 3	Density,	12 / 24 / 14 / 24	Ø44x6 / Ø29x12 / Ø16x8 / Ø13x6.3	396x396x22 + 12		MT 218-06007
Multi cavity mould 4	Abrasion,	24 / 16 / 1	Ø40x4 / Ø8x4 / 72x208x4	396x396x17 + 12		MT 218-06010
Multi cavity mould 5	Rebound,	24 / 16 / 1	Ø40x6 / Ø8x6 / 72x208x6	396x396x17 + 12		MT 218-06011
Multi cavity mould 6	Compr. set,	11 / 18 / 18	Ø42x6 / Ø16x6 / Ø13x6	296x296x17 + 12		MT 218-06012
Multi cavity mould 7	Dispersion,	5 / 2	Ø43x6 / 150x150x2	346x260x17 + 12		MT 218-06017
Multi cavity mould 8	...	4 / 8	150x150x2 / Ø43x6	446x446x17 + 12		MT 218-06019
Circular button mould 2 plate	Rebound	9	Ø29x12.7	196x196x17 + 12		MT 218-06008
Circular button mould 2 plate	Rebound	16	Ø29x12.7	246x246x22 + 12		MT 218-10004
Circular button mould 2 plate	Hardness / SG	16	Ø40x6	246x246x17 + 12		MT 218-11000
Circular button mould 2 plate	Hardness / SG	9	Ø42x6	196x196x17 + 12		MT 218-11003
Circular button mould 2 plate	Ring cutting	9	Ø60x6	246x246x17 + 12		MT 218-11002
Circular button mould 2 plate	Ring cutting	20	Ø65x4	396x396x17 + 12		MT 218-06015
Circular button mould 3 plate	Compr. set	16	Ø10x10	230x160x10 + 2x10		MT 218-14004
Circular button mould 3 plate	Abrasion	16	Ø16x10	230x160x10 + 2x10		MT 218-14001
Circular button mould 3 plate	Flexometry	9	Ø18x25.4	156x156x25.4 + 2x12		MT 218-15013
Circular button mould 3 plate	Rebound small	16	Ø29x12.7	246x246x12.7 + 2x12		MT 218-10000
Circular button mould 3 plate	Hardness / SG	1	Ø39x6	Ø108x6 + 2x10		MT 218-07001
Circular button mould 3 plate	Hardness / SG	33	Ø42x6	396x396x6 + 2x10		MT 218-15003
Circular button mould 3 plate	Hardness / SG	36	Ø43x6	396x396x8 + 2x12		MT 218-15000
Circular button mould 3 plate	Hardness / SG	12	Ø50x6	346x296x6 + 2x12	fixed handles	MT 218-15015
Circular button mould 3 plate	Rebound large	9	Ø50x20	246x246x20 + 2x12		MT 218-09000
Circular button mould 3 plate	Rebound large	9	Ø50x12	246x246x12 + 2x12		MT 218-15011
Square button mould 2 plate	Hard / SG / Abr	20 / 18	51x51x6 / Ø16x6	396x296x17 + 12		MT 218-24003
Square button mould 2 plate		4	120x60x6.5	346x196x17 + 12		MT 218-03014
Square button mould 2 plate	DMA	9	70x70x0.85	310x310x21 + 11	Grid mould	MT 218-25000
Square button mould 2 plate		6 / 3	130x175x2x6 / 130x30x8	446x446x17 + 17	Mould rail	MT 218-16001
Square button mould 3 plate	Dispersion	24	30x8x6	296x296x6 + 2x10	fixed handles	MT 218-22015
Square button mould 3 plate	Dispersion	24	50x12x6	296x296x6 + 2x10		MT 218-22000
Square button mould 3 plate	Plastics sheets	4	100x100x0.5-4.5	296x296x0.5-4.5 + 2x17		MT 218-22011
Square button mould 3 plate	Foam / Sponge	1	130x130x20 conical	196x196x20 + 2x12	conical cavity	MT 218-22017
De-Mattia Fatigue	ISO 132	5	25x150x6.3 with kink	346x206x17 + 17		MT 218-04000
Fatigue to failure FTFT	ASTM D 4482	2	Strips with flanges and marks	296x346x17 + 17		MT 218-08000
Positive mould Ø50	Plastics	1	Ø200x2 / 4 / 10	246x246x27 + 17-27		MT 218-23005
Positive mould 150x150	Fabric adhesion	1	150x150x4	196x196x15 + 15		MT 218-17015
Cord adhesion H-Test 2B	ASTM D 4776 2B	10	177.8x6.4x9.52 Slot width 1.17	~450x196.8x25.4 + 12	incl. weights	MT 218-18006
Cord adhesion H-Test 2A	ASTM D 4776 2A	10	177.8x6.4x6.35 Slot width 1.17	~430x196.8x25.4 + 12	incl. weights	MT 218-18009
Cord and wire adhesion 25	ASTM D 1871	1	200x25x12.5 with 12 slots 1.15	246x146x12.5 + 12+10		MT 218-21001
Cord and wire adhesion 12.5	ASTM D 1871	1	200x12.5x12.5 with 12 slots 1.15	246x146x12.5 + 12+10		MT 218-21002
Cord and wire adhesion 50	ASTM D 1871	1	200x50x12.5 with 12 slots 1.15	246x146x12.5 + 12+10		MT 218-21003
Beadwire adhesion 50	ASTM D 1871	1	200x50x12.5 with 12 slots 1.20	246x146x12.5 + 12+10		MT 218-21004
Steel cord adhesion	ASTM D 2229	4	200x12.5x12.5 with 15 slots 1.80	300x300x12.5 + 2x10		MT 218-21020
Cord adhesion H-Test ISO	ISO 4647	8	100x6.4x3.2 with 4 slots 1.2x3 (opt. 0.8x3)	~400x145x15 + 12	incl. weights	MT 218-21061

All moulds are supplied with handles and cover platen unless otherwise noted. Stated overall dimensions do not include handles (~120mm add.), hinges or rails. Hinges or rails are optionally available for each mould type. Mould calibration and certification is optionally available. Detailed specification and approval drawings for standard moulds available upon request.