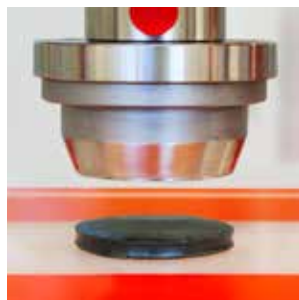


Specimen preparation



***INNOVATIONS IN
RUBBER TESTING***



MonTech Sample cutters for specimen preparation

MonTech offers a wide range of sample cutters and specimen preparation equipment for every need.

MonTech Sample Cutters

Cutting of uncured specimens and preforms

- **R-VS 3000**
Rheometer Volume sample cutter
- **M-VS 3000**
Mooney Volume sample cutter
- **VS 3000**
Universal sample cutter for preforms



R-VS 3000 constant volume sample cutter

Cutting of Polymers and rubber sheets / bales:

- **CP 3000**
Laboratory guillotine shear cutter
- **CP 3000 Auto**
Fully automatic bale cutter
- **CP 3000 compact**
Small size guillotine shear cutter



CP 3000 laboratory tabletop bale cutter

Die and universal cutting of cured rubber specimens and sheets

- **P-VS 3000 M**
Manual die cutter
- **P-VS 3000**
Universal clicker press
- **P-VS 3000 plus 15 kN / 40kN**
High force universal clicker presses
- **Cutting dies and knives**
- **NC 3000**
Nick cutter



P-VS 3000 Universal dumbbell sample cutting press

MonTech R-VS 3000

Rheometer - constant volume sample cutter



The R-VS 3000 Rheometer volumetric sample cutter

With an all new C-frame design accessibility to the cutting area along with the overall stability of the cutter has been improved. The completely new design allows loading of long rubber sheets and strips without the need for making any pre-cuts. Endless rubber strips and can be simply fed through the cutter.

The reinforced C-frame consists of a single cast iron part making the R-VS 3000 the most stable and reliable volumetric sample cutter in the market.

The cutting mechanism consists of a double-acting pneumatic system, ensuring a constant, user-defined specimen volume - even on toughest materials.

The cutting sequence is simply started by simultaneously pressing the two operation buttons. Initially the material is compressed to a constant volume and in a second step after the compression time is elapsed the sample is cut automatically by a knife sliding upwards from the bottom onto the upper compression piston.

Key features and advantages of the R-VS 3000 sample cutter:

- Integral C-frame design for easy accessibility and highest rigidity
- Longer lifetime of the knife due to compression piston / sliding knife design
- No consumables / cutting plates needed > no possibility of material contamination
- Easy and simple to operate > just keep the 2 pushbuttons pressed for the duration of the cutting sequence
- The R-VS 3000 uses only compressed air and is equipped with a two-handed safety



Technical specification

Cutting diameter	35 mm (others optional)
Max. thickness	18 mm
Reproducibility	0.1 %
Sample volume	2 cm ³ to 12 cm ³ (adjustable)
Compression - time	1 sec to 15 sec (adjustable)
Dimensions (H x W x D)	600 mm x 430 mm x 380 mm
Weight	approx. 80 kg net
Electrical	90-250 V, 1 Amp, 47-63 Hz
Pneumatics	min. 5.0 Bar



MonTech M-VS 3000

Mooney - constant volume sample cutter

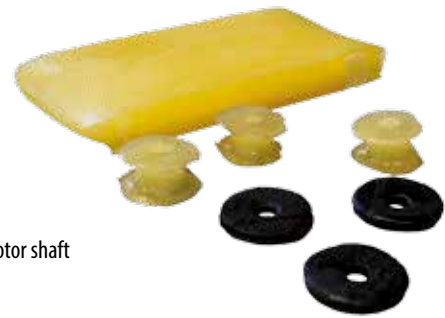


The M-VS 3000 Mooney volumetric sample cutter

enables higher accuracy, repeatability and optimized testing results in Mooney Scorch and Viscosity testing by preparing constant volume test samples. The M-VS 3000 features an automatic cut of a center hole for the rotor shaft along with a time delay for compressing the material before cutting. This guarantees the highest sample preparation reproducibility.

Therefore the M-VS 3000 volume cutter is fitted with a double acting pneumatic system which is controlled by a two-hand safety control system with anti-tiedown.

The M-VS 3000 sample cutter increases operator safety, reduces operational variability, and totally eliminates the need for manual sample cutting.

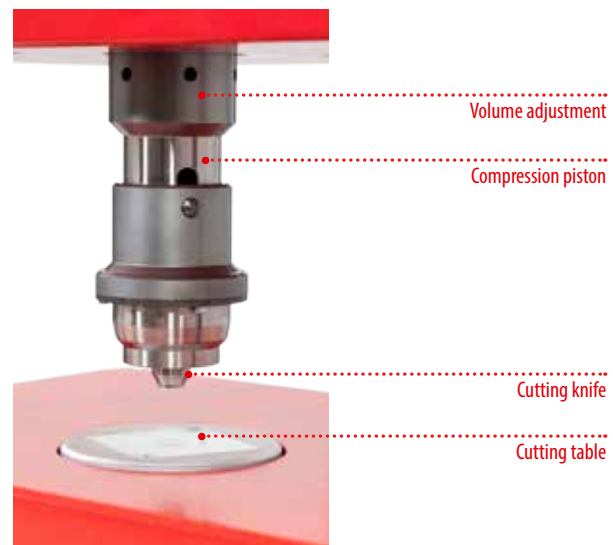


The cutting process is a controlled 2 step sequence:

- Compression of the material to a constant volume and cutting of an inner borehole for the rotor shaft
- After a set time delay the test sample is cut to the die diameter

Technical specification

Cutting diameter	45 mm
Max. thickness	20 mm
Reproducibility	0.1 %
Sample volume	about 15 cm ³
Compression time	1 sec to 15 sec (adjustable)
Dimensions (H x W x D)	600 mm x 430 mm x 380 mm
Weight	approx. 50 kg net
Pneumatics	min. 5.0 Bar



MonTech VS 3000

The most universal sample cutter for preforms



The VS 3000 universal constant volume cutter

is the ideal and reliable sample preparation tool for applications that require constant volume samples such as preforms for moulding operations.

The VS 3000 cutter works with a two stage pneumatic cylinder assembly which first compresses the material with an upper piston until a specific volume is reached, then cutting out the specimen in a second step.

This whole sequence is monitored and controlled to ensure precisely cut samples. The cutter is equipped with a pneumatic two-hand anti-tie down control, guaranteeing operator safety and simple operation.

The VS 3000 sample cutter can be fitted with knives of any diameter between 20 and 60 mm per customers requirements, making the cutter an ideal tool for easy preform preparation in lab or production environments.

Technical specification

Cutting diameter	per customer requirement 20 to 60 mm
Max. thickness	18 mm
Reproducibility	0.1 %
Sample volume	2 cm ³ to 80 cm ³ (adjustable) (depending on knife)
Compression time	1 sec to 30 sec (adjustable)
Dimensions (H x W x D)	1120 mm x 400 mm x 390 mm
Weight	approx. 90 kg net
Pneumatics	min. 5.0 Bar



MonTech P-VS 3000 M Manual sample cutter

The P-VS 3000 M Lever Press

assures constant accuracy and precise cutting results. The cutter can conveniently be used for all types of ASTM, ISO, DIN, JIS cutting dies for all kind of samples made from rubber, leather and paper.

It allows easy, quick and convenient sampling with simplified operation.

The base as well as head of the P-VS 3000M cutter is made from precisely machined cast steel ensuring highest rigidity and best cutting results. An integrated height adjustment spindle allows a quick set-up and adjustment of the cutter to any height of cutting dies. Once a specific cutting height is the cutting head can easily be clamped and fixed in the particular position.

Cutting dies can easily be inserted in the precisely guided piston rod and simply clamped by a central locking screw.

The cutting table is built from durable PTFE material and fixed to a T-slot groove in the machine base. This design preserves the cutting dies from excessive wear as well as provides a solid work area.

Selection of various optionally available cutting dies for P-VS 3000 cutters:



Technical specification

Cutting force	3.8 kN
Cutting stroke	30 mm
Die height	20 - 150 mm
Throat depth	70 mm
Cutting area	120 x 80 mm
Max. material thickness / hardness	6 mm / 95 Shore A
Compatible cutting knives	Any ISO, DIN, ASTM and other standard die types
Dimensions (H x W x D)	380 mm x 120 mm x 180 mm
Weight	approx. 14 kg net

MonTech P-VS 3000

Universal sample cutter



Universal sample cutter

for fast and precise preparation of sample test specimens for tensile tests and all other DIN, ISO and ASTM standard sample shapes from rubber, elastomers, foam rubber, plastic films, foils and paper.

The machine cuts the exact shape of the test samples using a powerful, direct pneumatic piston ram system.

For safe and easy operation, the universal P-VS 3000 sample cutter is equipped with a two-hand safety operation system.

Any type of cutting knife can be used with the P-VS 3000 sample cutter. Knives can be changed in seconds and cutting height can easily be adjusted on the upper piston ram.

Technical specification

Cutting force	8 kN
Cutting stroke	30 mm
Max. material thickness / hardness	8 mm / 95 Shore A
Reproducibility	0.1 %
Compatible cutting knives	Any ISO, DIN, ASTM and other standard die types
Dimensions (H x W x D)	440 mm x 300 mm x 380 mm
P-VS Sliding Dimensions (H x W x D)	460 mm x 300 mm x 1050 mm
Weight	approx. 50 kg net
Pneumatics	min. 5.0 Bar



P-VS Options: Sliding table and multiple knife stations

Designed to simultaneously cut multiple samples from the same rubber sheet for increased productivity.



MonTech P-VS 3000 Plus

High force sample cutting press



Direct actuated sample cutter

for multiple-blade cutting station knives or tough materials requiring high cutting forces.

Whenever there is a need to save time and increase productivity by cutting multiple samples at the same time, P-VS 3000 is the ideal sample cutter.

Equipped with 2-hand anti-tie down control and completely pneumatic operation, sample cutting is made easy and safe.

The cutting force can be preset on the regulator unit, allowing enough cutting force to ensure precise and repeatable results while maintaining a long lifetime for the cutting knife.

By eliminating any need for electric or hydraulic supplies, the cutter can easily be hooked up almost anywhere, and can even be used in cleanroom environments because of the fully enclosed design.

Multi-station cutting knife - Three samples ISO 37 Type 2 in one cut



For more details on cutting dies and knives in various configurations, please have a look at our dedicated sample preparation brochure!

Technical specification

Cutting force	15 kN or 40kN
Cutting stroke	30 mm
Max. material thickness / hardness	10 mm / 98 Shore A (15kN) 10 mm / 70 Shore D (40kN)
Reproducibility	0.1 %
Compatible cutting knives	Any ISO, DIN, ASTM and other standard die types
Dimensions (H x W x D)	690 mm x 300 mm x 380 mm
Weight	approx. 72 kg / 86 kg net
Pneumatics	min. 5.0 Bar



Multi-station cutting knife

Machine table

MonTech Cutting knives, dies and moulds

Universal sample cutting knives and dies

MonTech's range of cutting knives and dies are durable and built to last, machined from a solid piece of steel, precision ground and hardened. MonTech cutting knives guarantee optimal dimensional stability, form accuracy and a long lifetime. All are available with automatic ejectors.



Standard	Type	Application	l_3 mm	l_1 mm	b_2 mm	b_1 mm	h mm	L_0 mm	L mm	Shape	Part - No
ISO 37	1	Preferred size	>115	33±2	25±1	6+0.4	2±0.2	25±0.5	-		MC 1.1010
ISO 37	1A	Smaller size	100	20+2	25±1	5±0.1	2±0.2	20±0.5	-		MC 1.1011
ISO 37	2	Smaller preferred size	>75	25±1	12.5±1	4±0.1	2±0.2	20±0.5	-		MC 1.1012
ISO 37	3	Smaller size	>50	16±1	8.5±0.5	4±0.1	2±0.2	10±0.5	-		MC 1.1013
ISO 37	4	Very small size	>35	12±0.5	6±0.5	2±0.1	1±0.1	10±0.5	-		MC 1.1014
DIN 53504	S1	Larger size	115	33±2	25±1	6+0.4	2±0.2	25	-		MC 1.1020
DIN 53504	S2	Preferred size	75	25±1	12.5±1	4±0.1	2±0.2	20	-		MC 1.1021
DIN 53504	S3a	Smaller size	50	16	8.5	4	2±0.2	10	-		MC 1.1022
DIN 53504	S3	Very small size	35	12±0.5	6±0.5	2±0.05	1±0.1	10	-		MC 1.1023
ASTM D 412	C	Preferred size	>115	33	25±1	6+0.05	1.3...3.3	25±0.25	-		MC 1.1030
ASTM D 412	A	Possible size	>140	59±2	25±1	12+0.05	1.3...3.3	50±0.5	-		MC 1.1031
ASTM D 412	B	Possible size	>40	59±2	25±1	6+0.05	1.3...3.3	50±0.5	-		MC 1.1032
ASTM D 412	D	Possible size	>100	33±2	16±1	3+0.05	1.3...3.3	25±0.25	-		MC 1.1033
ASTM D 412	E	Possible size	>125	59±2	16±1	3+0.05	1.3...3.3	50±0.5	-		MC 1.1034
ASTM D 412	F	Possible size	>125	59±2	16±1	6+0.05	1.3...3.3	50±0.5	-		MC 1.1035
ISO 37	A	Normal size	52.6	44.6±0.2	-	-	4±0.2	152.7	-		MC 1.1016
ISO 37	B	Small size	10	8±0.1	-	-	1±0.1	28.26	-		MC 1.1017
DIN 53504	R1	Preferred size	52.6	44.6	-	-	4±0.2	152.7	-		MC 1.1025
DIN 53504	R2	Small size	44.6	36.6	-	-	4±0.2	127.5	-		MC 1.1026
ASTM D 412	1	Preferred size	17.9	15.9	-	-	1...3.3	50	-		MC 1.1037
ASTM D 412	2	Larger size	35.8	31.8	-	-	1...3.3	100	-		MC 1.1038
ISO 34-1	A	Tear test, trouser preferred size	>100	-	15±1	-	2±0.2	-	-		MC 1.1050
ISO 34-1 and ASTM D 624	B	Tear test, angle with/ without nick	>100	-	19±0.05	12.7±0.05	2±0.2	-	-		MC 1.1055(.N) MC 1.1056(.N)
ISO 34-1 and ASTM D 624	C	Tear test, crescent with/ without nick	>110	-	25±0.5	10.5±0.05	2±0.2	-	-		MC 1.1057(.N) MC 1.1058(.N)
ASTM D 624		cutting die A	42	-	-	10.2	-	-	-		MC 1.1060

1) Cutting is only possible for specimen showing a hardness less than 85 Shore A. Harder materials shall be machined by use of milling machines or other convenient machinery acc. to ISO 2818.

2) This specimen shape is specially designed for moulding. Cut specimens do not correspond to any standard.

3) Value indicates the upper and lower tolerances.

MonTech CP 3000

The innovative tabletop laboratory bale cutter



The laboratory bale cutter CP 3000

is the ideal tool for sample preparation in the laboratory environment, particularly for cutting polymer bales, blocks and rubber sheets.

Operation made easy, safe and reliable:

The bale is placed on the conveyor at the rear of the machine, and the desired portion / cut size is pushed into the bale cutter onto the lower striker plate. The cutting blade is guided by hardened, precision-ground ball bearing guides. This ensures a smooth movement of the blade and precise cuts.

The CP 3000 is quiet, pneumatically operated, requires minimal maintenance, and does not require any electrical connection.

All MonTech bale cutters feature the unprecedented monoblock cutting knife which is machined from a solid block of high-strength, corrosion proof tool steel and entirely hardened.

This means to you: Frequent re-grinding or re-sharpening of the cutting knife - that's a thing of the past!

The CP 3000 is available in two different sizes: Standard and Compact.

In addition smaller and larger bale cutters as well as various semi or fully automatic material feeding options are available upon request.



CP 3000 Compact

The CP 3000 compact is the most compact and versatile bale cutter available. The machine is designed for small scale laboratory applications and is ideally suited to prepare pre-cut blocks and slices of polymers for further sample preparation, such as cutting Mooney test samples with an M-VS 3000 volumetric sample cutter

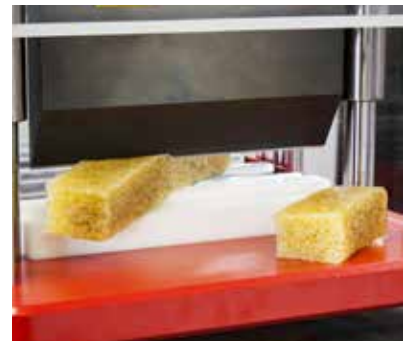
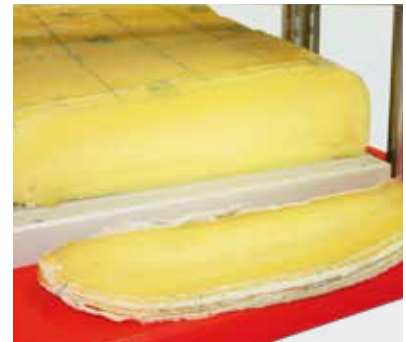
The CP 3000 compact is the ideal tool for small scale and trial mixing applications where the bale cutter is typically located in close proximity to the mixer feeding - to always have to right amount of polymer available when needed.

Safety two-hand control with anti-tiedown, transparent windows at all sides and a fully enclosed top-section of the CP 3000 make it also the safest laboratory bale cutter in the market.

Like all other MonTech cutters the CP 3000 series operates free from hydraulics, meaning that operation is extremely ergonomic and bale contamination is simply impossible.

Contact us today for
a demonstration of the
CP 3000 bale cutter!

Technical specification	CP 3000 Standard	CP 3000 Compact
International Standards	BE EN 242 Part 2, ASTM D 7050	
Operation	Up to 12 cuts / minute	
Bale width / cutting width	max. 520 mm	max. 285 mm
Bale height / cutting height	max. 240 mm	max. 148 mm
Cutting force (adjustable)	Min: 0.6 tons @ 2.0 bar Max: 4.6 tons @ 10.0 bar	Min: 0.3 tons @ 2.0 bar Max: 2.5 tons @ 10.0 bar
Cutting knife	hardened and precision ground	
Cutting block	Teflon, exchangeable	
Material supply	roller conveyor, total length 750 mm	roller conveyor, total length 400 mm
Safety equipment	pneumatic safety 2-hand operation (anti-tiedown), transparent safety shields at both sides as well as front and backside of the machine	
Required supplies	Compressed air with min. 2 bars (5 bars recommended), No electrical connection required!	
Dimensions (H x W x D)	1085 x 900 x 700 mm	940 x 480 x 560 mm
Weight	approx. 225 kg net	approx. 120 kg net
Optional items	<ul style="list-style-type: none"> - High speed version with increased cutting speed - Various cutting block designs - Increased cutting width and/or height - Safety lid for knife edge - Stainless steel / hygienic / medical / food version - Frontside conveyor - Frontside safety shield with / without conveyor - Backside feeding tunnel - Backside safety shield - Pneumatic downholder - Heated cutting knife (ambient to + 80°C) - Cutting line laser - Setup table or cart - Rubber bale lifting and handling systems 	



MonTech CP 3000 Auto Automated bale cutting system

Highly efficient automatic cutting system for polymer and rubber bales

The CP 3000 Auto is the most efficient way to get your sample preparation and cutting done!

Whether for synthetic or natural rubber bales this cutting system is the most efficient solution for sample feeding and preparation.

The system features a long infeed conveyor line on which bales can be buffered and fed into the machine. A PLC controlled sequence allows definition of the exact required cutting length and number of cuts.

The automatic feeding paired with a specific downholder systems ensures accurate cuts at high speed. Quick and automatic cycles ensure an optimum cutting efficiency allowing to cut a full rubber bale in less than 3 minutes. All cut material is buffered in a discharge conveyor which can be linked to storage bins or further conveying systems. For operator safety the unit is equipped with tunnels in the loading and discharge area, with a supervised maintenance door and safety light guards. Optionally ergonomic vacuum bale handling systems are available and for an increased productivity the CP 3000 Auto system can be directly linked to mixing line feeding and control, equipped with automatic bale and cut measurement sensors as well as robotic depalletizers.





Technical specification

CP 3000 Auto

please refer to CP 3000 for technical details on the bale cutter itself

Bale dimensions (LxWxH)

max. 800 x 520 x 240 mm

Conveyor lines

Loading: total length 1750 mm (940mm open)
 Discharge: total length 1550 mm (1000mm open)

Safety equipment

front- and backside feeding tunnel with light guards, supervised safety maintenance door

Pneumatics

Compressed air with min. 5 bars (65 psi)

Dimensions (H x W x D)

1920 x 3280 x 700 mm (incl. support table and conveyors)

Weight

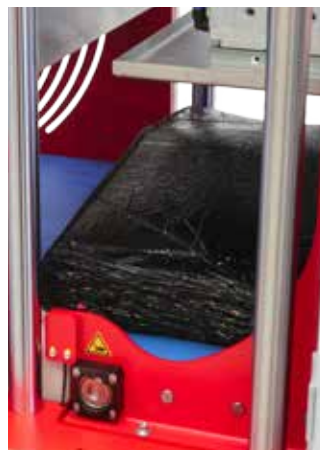
approx. 560 kg net

Electrical

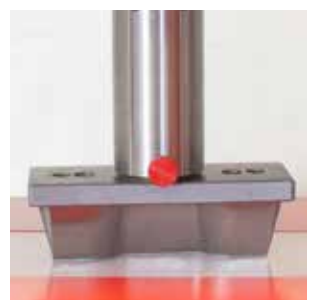
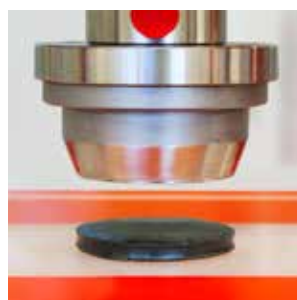
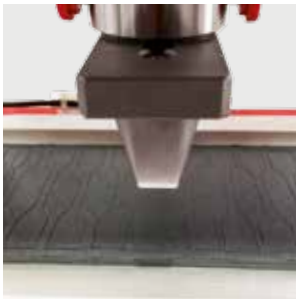
90-250 V, 3 Amps, 47-63 Hz, Single phase

Optional items

- Heated cutting knife (ambient to + 80°C)
- Rubber bale lifting and handling systems



Specimen preparation



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