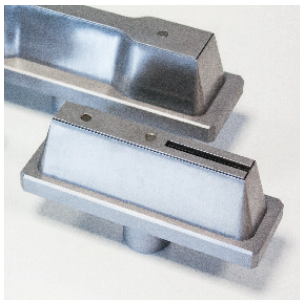
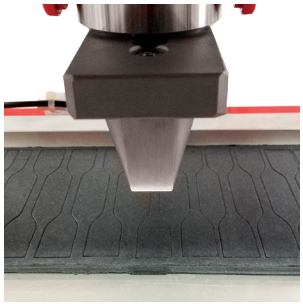
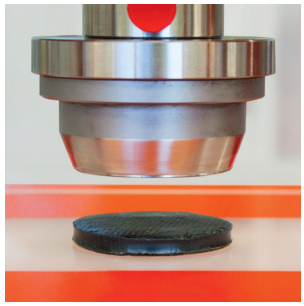
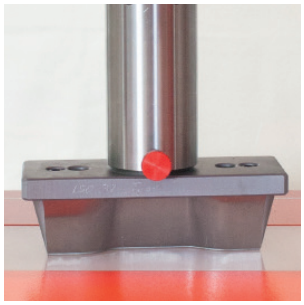
MonTech®
Rubber Testing Solutions

Specimen preparation










...Innovative testing solutions
made in Germany!

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

Cutting of Polymers and rubber sheets / bales:

→ **CP 3000**
Laboratory guillotine shear cutter

→ **CP 3000 compact**
Small size guillotine shear 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**
High force universal clicker press

→ **Sliding table for P-VS Series**

→ **Cutting dies and knives**

R-VS 3000 constant volume sample cutter

CP 3000 laboratory tabletop bale 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

is designed for the fast, safe and easy preparation of Rheometer test samples, significantly reducing operational variability and increasing test result reproducibility.

The cutter features a rugged double-acting pneumatic system, ensuring a constant, user-defined specimen volume.

The operator needs just to push both control buttons simultaneously to start the cutting sequence. First, the material is compressed to the required sample volume by a compression piston from the top, then after a set compression time the sample is cut automatically by the high force cutting system from the bottom.

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

- → Free, open 270° cutting area for easy accessibility
- → 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
Max. thickness	18 mm
Reproducibility	0.1 %
Sample volume (adjustable)	2 cm^3 to 12 cm^3
Compression - time (adjustable)	1 sec to 15 sec
Dimensions (H x W x D)	600 mm x 430 mm x 380 mm
Weight	50 kg
Pneumatics	min. 5.0 Bar

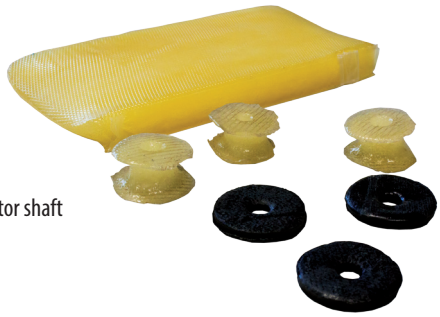
MonTech M-VS 3000
Mooney - constant volume sample cutter

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.



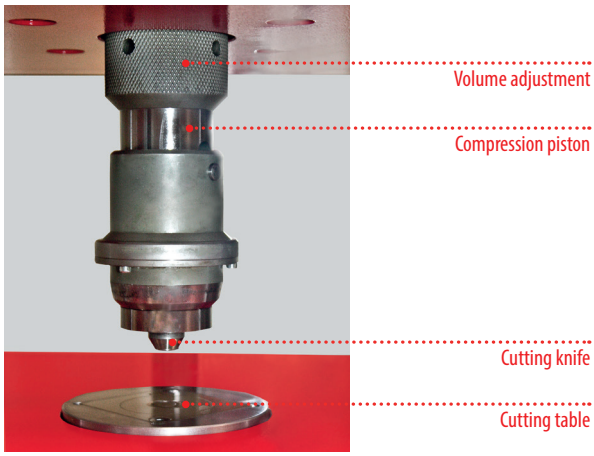
The cutting process is a controlled sequence comprising 2 steps:

→ 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 (adjustable)	1 sec to 15 sec
Dimensions (H x W x D)	600 mm x 430 mm x 380 mm
Weight	50 kg
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 (adjustable)	2 cm^3 to 80 cm^3 (depending on knife)
Compression time (adjustable)	1 sec to 30 sec
Dimensions (H x W x D)	1120 mm x 400 mm x 390 mm
Weight	90 kg
Pneumatics	min. 5.0 Bar

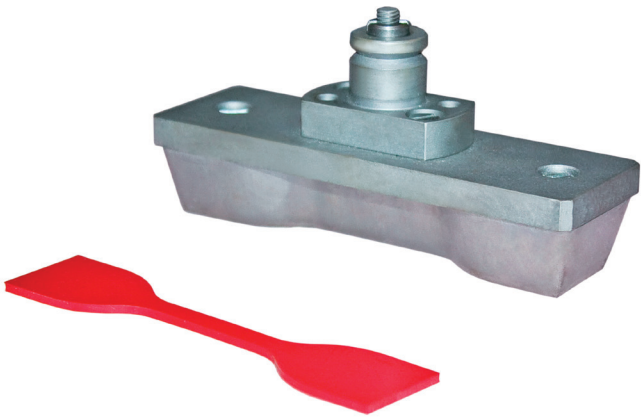
MonTech P-VS 3000 M
Manual sample cutter

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.



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	14 kg

MonTech P-VS 3000
Universal sample cutter

Universal sample cutter

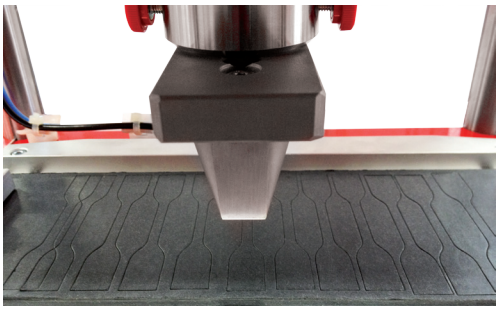
for fast and precise preparation of sample test specimens for tensile tests and all other DIN, ISO and ASTM standard sample shapes from rubber, elastomers, foam rubber, plastic films, foils and paper.

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.

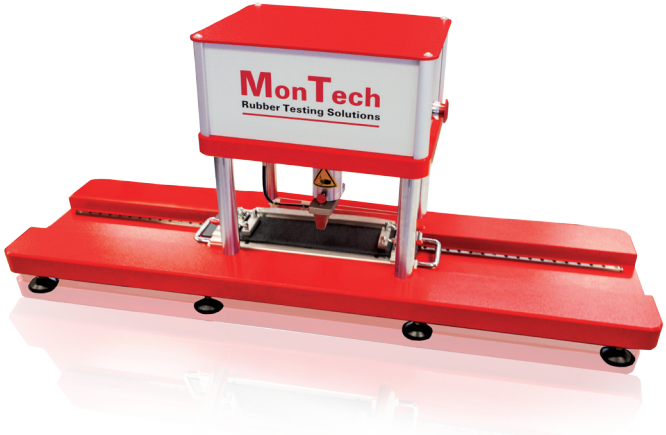
Technical specification

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	50 kg
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 15 kN
High force sample cutting press

Universal 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 (S2) 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
Cutting stroke	30 mm
Max. material thickness / hardness	10 mm / 98 Shore A
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	72 kg
Pneumatics	min. 5.0 Bar

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 C	Tear test, angle with/ without nick	>100	-	19±0.05	12.7±0.05	2±0.2	-	-		MC 1.1055 MC 1.1056
ISO 34-1 and ASTM D 624	C B	Tear test, crescent with/ without nick	>110	-	25±0.5	10.5±0.05	2±0.2	-	-		MC 1.1057 MC 1.1058
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.

Cut & Chip Tester CC 3000

The MonTech CC 3000 Cut and Chip Test provides a simple, quick laboratory method to evaluate cutting and chipping resistance of rubber compounds subjected to harsh mechanical environments.

The Cut and Chip Tester was developed to predict the service performance of passenger, truck, OTR, farm, mining and industrial solid tires, tank tracks and bogey wheels, as well as industrial products such as conveyor belts that are subjected to contacting surfaces containing sharp objects (rocks, gravel, glass, metal, etc.).
The test is designed to be quick, inexpensive and furnish a high level of confidence in predictive testing of actual product performance.
The Cut and Chip Test is performed on acured rubber disc specimen mounted on a rotating spindle. The disc is impacted by a tungsten carbide knife with a precision ground cutting edge. An eccentric cam applies the knife at a specified frequency for a specified time, both of which can be set according to the application requirements.

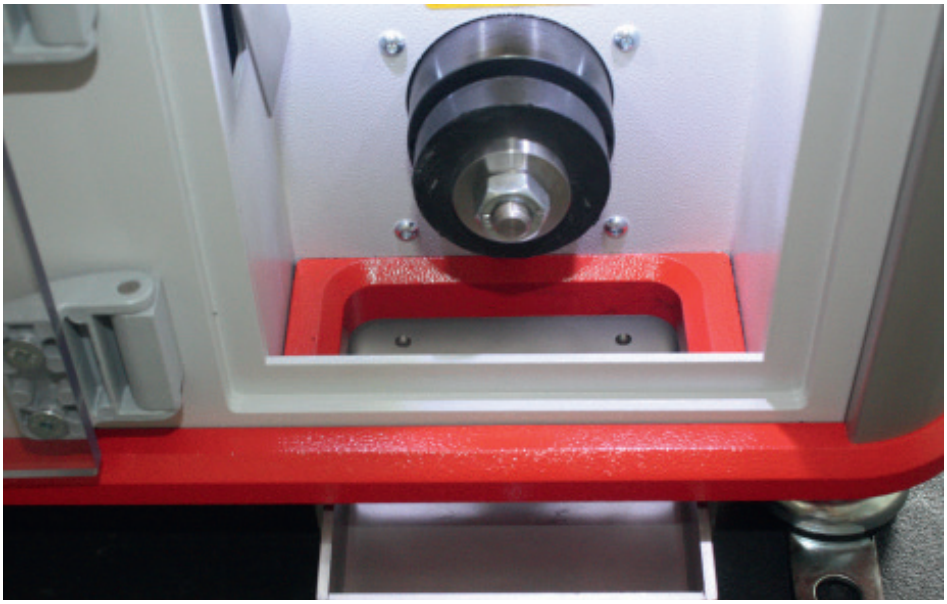
The CC 3000 is conveniently controlled by a integrated 7" Touchscreen panel with a preselection of 11 different spindle speeds and 7 different chipping cycles providing the operator with quick and easy test setup possibilities. All speeds are digitally controlled by servo motors - for safety the instrument is fitted with a supervised safety door. The motorized cam conveniently lifts the knife support arm at the completion of the pre-selected test time.
The resistance to cutting and chipping is based upon the loss of material (mass and reduction of disk diameter) over the duration of the test.

Sample:

51 mm Ø, 13 mm (thickness), 13 mm (center hole)

Technical data:

Specimen Size:	51 mm Ø, 13 mm Thickness, 13 mm Ø Center hole
Specimen Rotation:	180 - 2880 Revolutions per minute
Test Cycle:	0.1 - 999 Minutes
Cut/Chip Cycle:	15 - 150 Cycles per minute
Mass @ Knife Edge:	454 gram (others optional)
Main Unit (W x L x H):	560 x 400 x 370mm
Electrical:	200 - 250VAC, 50/60 Hz, 1 ph, 8 Amp
Net Weight:	49kg



Dirt removal and cleaning:

In the standard configuration the CC 3000 is equipped with a integrated stainless steel tray for collecting any rubber dirt or risidue from the working area that is produced during testing.

Optionally the CC 3000 is also available with a automatic cleaning unit. This system consists of a special hopper mounted below the working area and a special vacuum cleaning device extracting all dirt and rubber particles immediately. The cleaning unit is controlled by the Touchpanel and automatically switched on any during the testing sequence.

Consumables, reference samples and sample preparation accessories (optional):

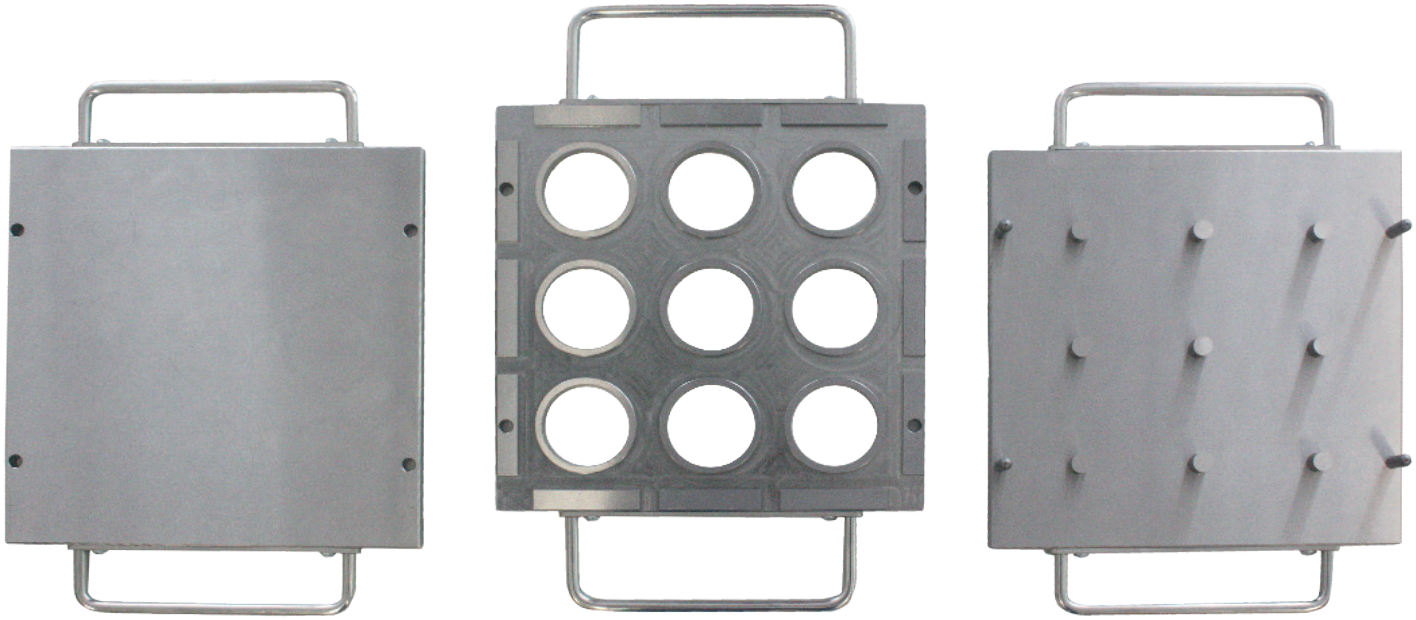
Set of control samples
Set of 5 certified control samples including test certificate

Set of Tungsten carbide knifes
Set of 5 certified Tungsten carbide knife inserts for the CC 3000

Precision scale with 1mg or 0.1mg resolution

For weighing of samples before and after the testing process

9-cavity cut and chip mould:
Mould dimensions 296 x 296mm x 50mm, Precision machined from Stainless steel
Nine cavity three piece mould with centering pins and handles
Specifically designed for cut and chip samples with 51 mm Ø, 13 mm Thickness, 13 mm Ø Center hole



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

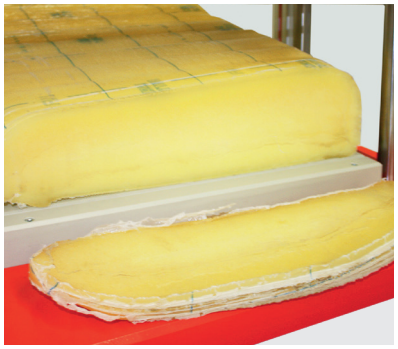
The CP 3000 compact is the most compact and versatile bale cutter available. The machine is designed for small scale laboratory applications and is ideally suited to prepare pre-cut blocks and slices of polymers for further sample preparation, such as cutting Mooney test samples with an M-VS 3000 volumetric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

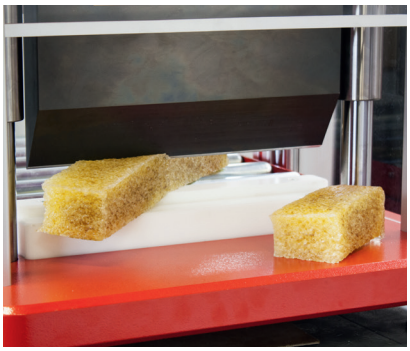
The CP 3000 compact is the ideal tool for small scale and trial mixing applications where the bale cutter is typically located in close proximity to the mixer feeding - to always have to right amount of polymer available when needed.

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 scale 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.

Technical specification	CP 3000 Standard	CP 3000 Compact
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 pressure (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	280 kg Gross / 225 kg Net	140 kg Gross / 120 kg Net
Optional items	- High speed version with increased cutting speed - Various cutting block designs - Different cutting width and bale length designs - Safety lid for knife edge - Frontside conveyor - Frontside safety shield with / without conveyor - Backside feeding tunnel - Backside safety shield - Heated cutting knife (ambient to + 80°C) - Cutting line laser - Setup table or cart - Rubber bale lifting and handling systems	





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

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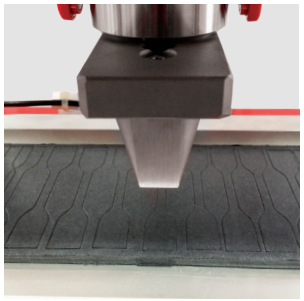
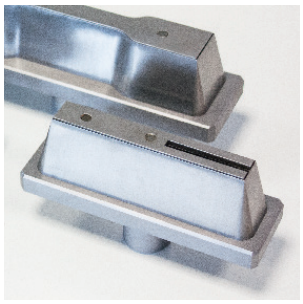
Rubber Testing Solutions

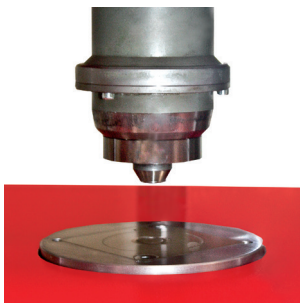
Specimen preparation

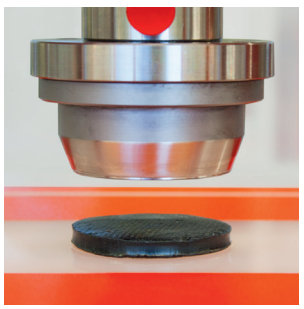
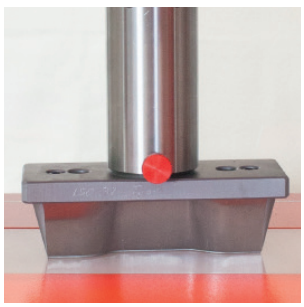










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