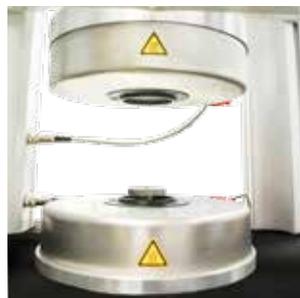
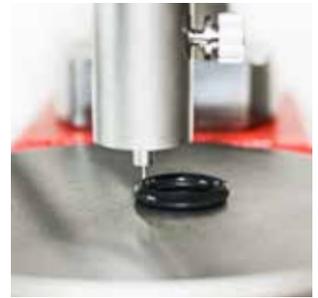
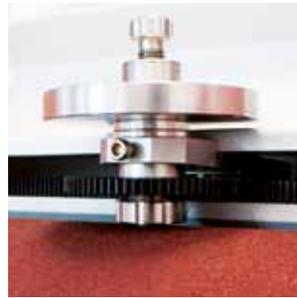
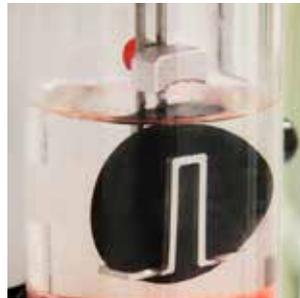


## *Compression Density*



***INNOVATIONS IN  
RUBBER TESTING***



# MonTech RD 3000

## Density Tester for uncured rubber compounds

Automatic compression density tester for uncured rubber compounds and polymers



### The RD 3000

is the simplest way to measure density and specific gravity of raw polymers, masterbatches and uncured rubber compound specimens of any geometry. Due to the extremely rugged instrument design, the RD 3000 is suited for laboratory and production environments.

The true innovation of the RD 3000 is the way it measures density. Typically, a strip of rubber is cut directly from the mill, identified at the control panel of the instrument and weighed. All air is compressed out of the sample in a compression cylinder and the volume of the material is taken. Once the density is automatically calculated, it is checked against tolerance limits and displayed along with Pass / Fail status.

For automatic acquisition and processing of all test related data, the RD 3000 is equipped with:

- an integrated precision scale
- an electronic piston measurement device
- a PLC color 5.7" touchscreen control panel system
- MonDevice PC-Software for data acquisition and storage (optional)
- an integrated printer (optional)
- a barcode scanner (optional)

### A single test only takes about 20 seconds comprising the following steps

#### ① Weighing

The sample is placed on the electronic balance which is integrated into the machine table. Therefore only stable weight readings will be accepted.

#### ② Compression of the sample

The sample material is filled into the compression cylinder barrel and the compression of the material is started. Once the piston finally reaches a stable position in the compression process, all air is removed from the sample which means that the test sample is compressed to its specific volume.

#### ③ Volume determination

The sample volume is determined by calculating the difference between the piston stroke at an empty cylinder, and the piston position with the specific test material.

#### ④ Density calculation

The density of the sample is calculated automatically from the weight and the determined volume.

#### ⑤ Displaying of test results

The calculated sample density is displayed on the control panel or in the MonDevice software along with all other results in the test sequence.

Single tests and test series results can also be directly printed by an optional built in printer.

### Technical specification

<b>Density</b>	Density range: 0.8 - 5.0 g/cm <sup>3</sup> Accuracy: 0.1 % Reproducibility: 0.03 %
<b>Sample volume</b>	Required sample volume: 40 - 120 cm <sup>3</sup> Recommended sample volume: approx. 100 cm <sup>3</sup>
<b>Integrated scale</b>	Sample weight range: 0 - 420 g Resolution: 1 mg
<b>Compression cylinder</b>	Diameter: 60 mm max. stroke: 80 mm
<b>Pneumatics</b>	Supply: 5.5 - 10 bar Pressure range for compression: 4.5 - 5.5 bar Compression force: 40.0 kN (at 5 bar) Volume of air / cycle: 64 L (= 64 dm <sup>3</sup> )
<b>Data Interface</b>	Ethernet Network (10/100 MBit), Serial RS232 (optional)
<b>Dimensions (H x W x D)</b>	1085 mm x 525 mm x 720 mm
<b>Weight</b>	approx. 190 kg net
<b>Electrical</b>	90-250 V, 1 Amp, 47-63 Hz, Single phase
<b>Environmental conditions</b>	<b>Storage:</b> Temperature - 25°C - + 55°C relative humidity 5 - 95 % <b>Operation:</b> Temperature + 5°C - + 45°C relative humidity 5 - 95 %
<b>Instrument options</b>	- Barcode scanner for Compound and Batch identification - Integrated test result and test series result printer - Serial (RS232) Output Interface - MonDevice control and data acquisition software



**RD 3000 Operating workspace**

Panel, Barcode Scanner (Opt.), Weighing and Compression cylinder



**Fully Integrated weighing system**

with automatic, guided calibration sequence



**Compression cylinder**

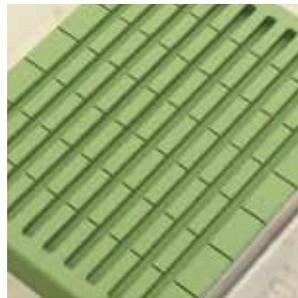
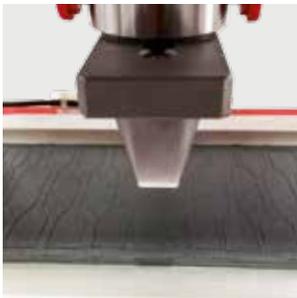
made from stainless steel, precision ground



**Stainless steel crosshead**

with integrated safety and limit switches for safe operation

## Rubber Testing Solutions



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