



Tear and Fatigue Analyzer

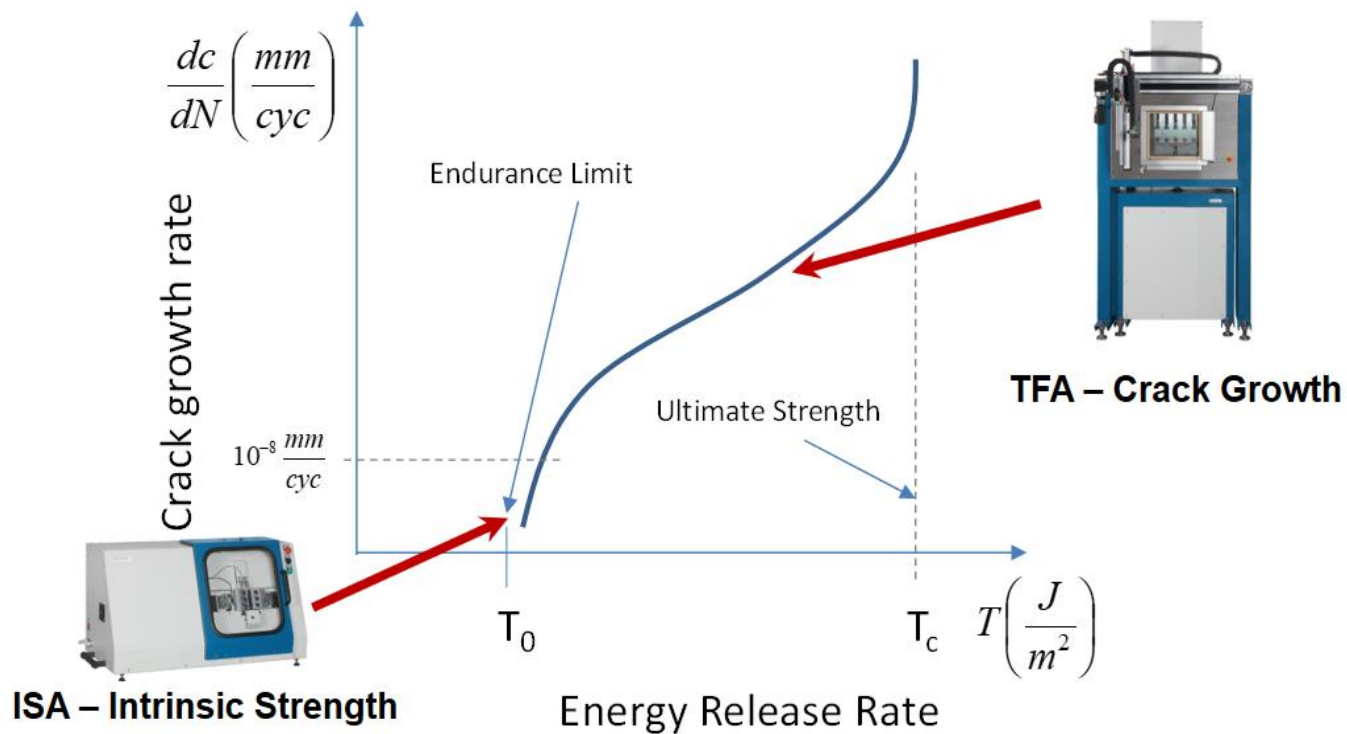
Measurement of Crack Growth Rate on Rubber

www.coesfeld.com

Measurement Goal

Prediction of operational lifetime of rubber products

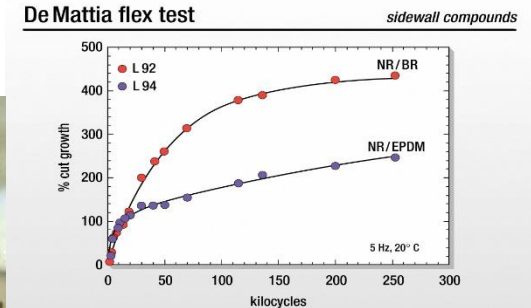
by **measurement of crack growth rate**, which is a characteristic material constant.



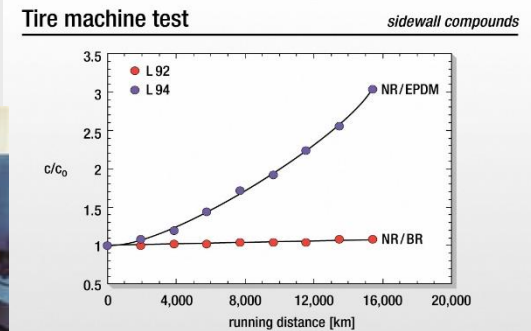
Proofed Correlation

TFA vs Tire Crack Growth Measurement

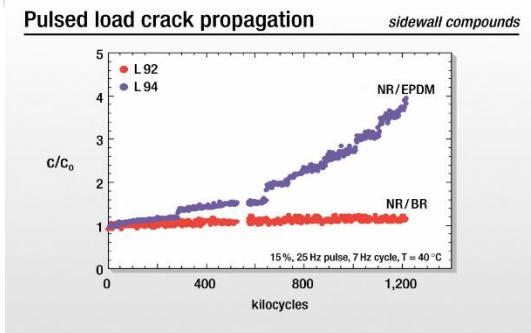
- Alternative Lab Tests - DeMattia



- Tire Drum Lab Test



- TFA Lab Test



System Features

Automatic crack growth measurement



- Direct Electro Drive
 - high dynamics
 - programmable loading sequences
 - low energy consumption, ~1/10 of hydraulic

- Multi-Station Control of Stress-Level

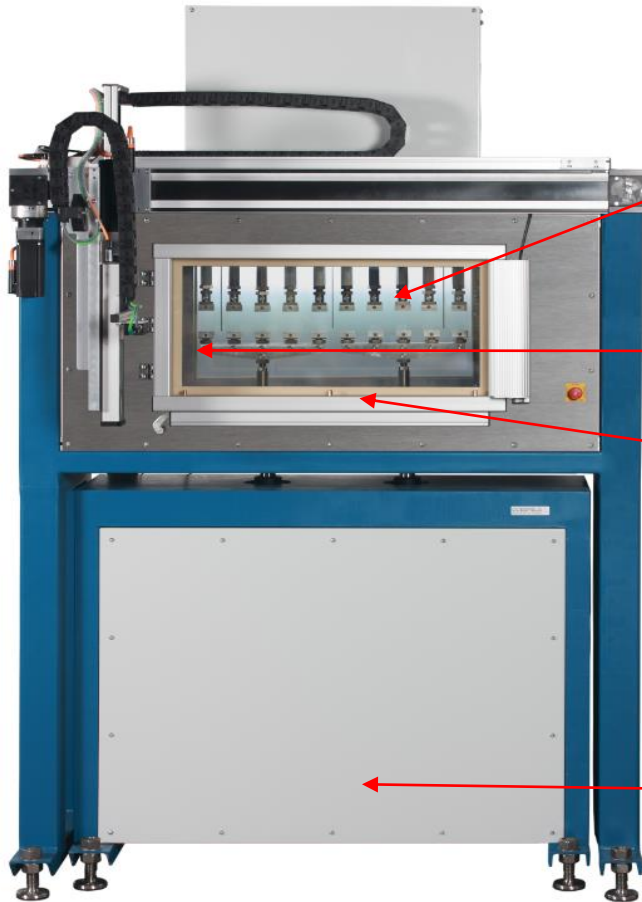
- Automatic Digital Crack Measurement

- Temperature Chamber
 - Tight sealings for N2 or O3 atmospheres

- Efficient Endurica Test Protocols

System Features

Automatic crack growth measurement

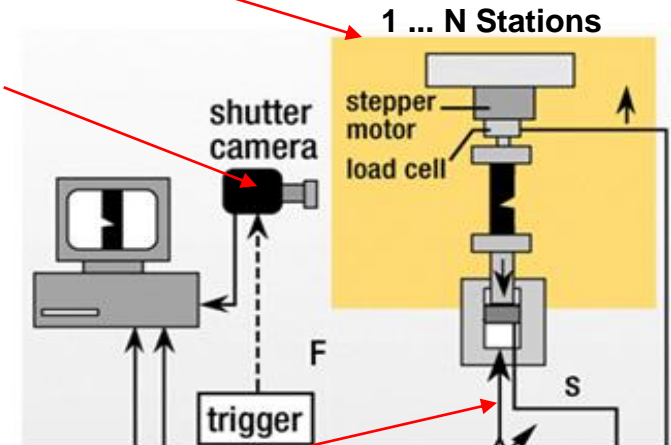


Multi-Station
Load Control
up to 10

Automatic
Crack Measurement

Tempering Chamber

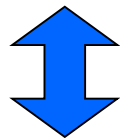
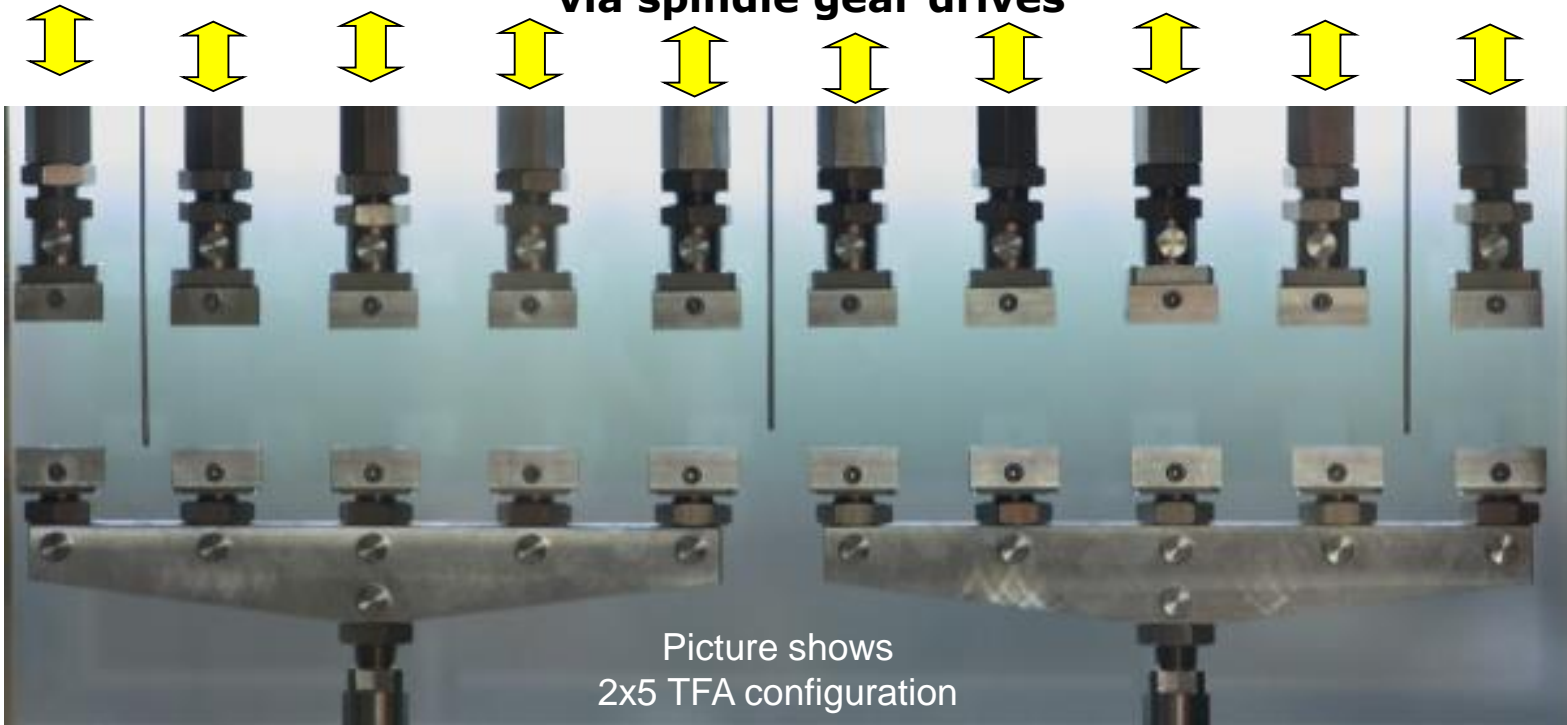
Highly
Dynamic Drive
up to 3



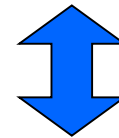
Multi-Station Set-Up

1 x Dynamic Loading with up to 10 x Measuring Station per Dynamic Drive

**Individual Stress-Control per Station
via spindle gear drives**

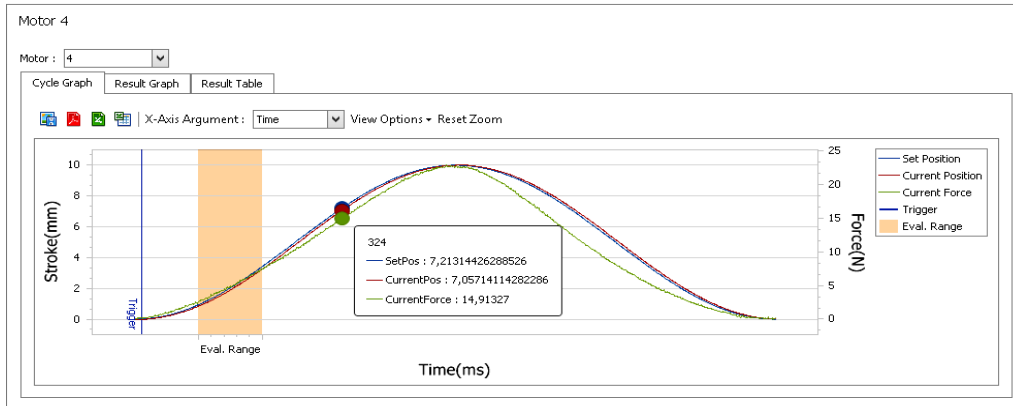


**Universal Dynamic Loading
via dynamic drive**

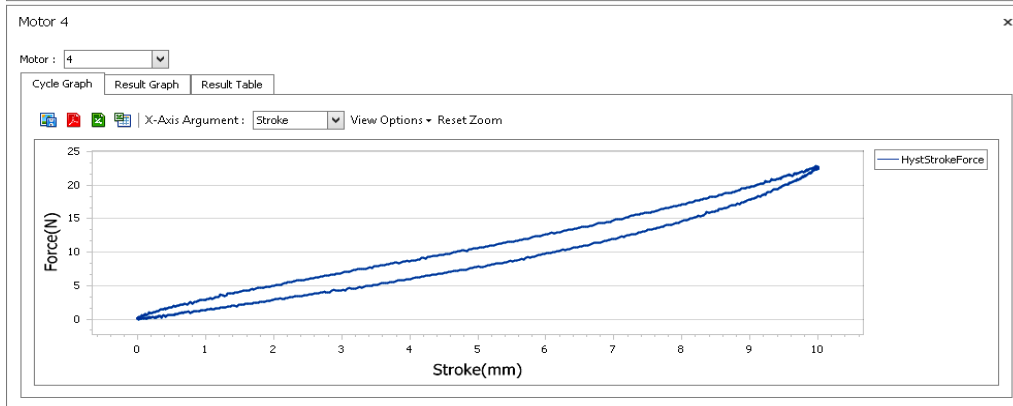


Windows Software

PC controlled application and digital data recording



- Data Recording
 - Strain
 - Stress
 - Temperature
 - Crack Length

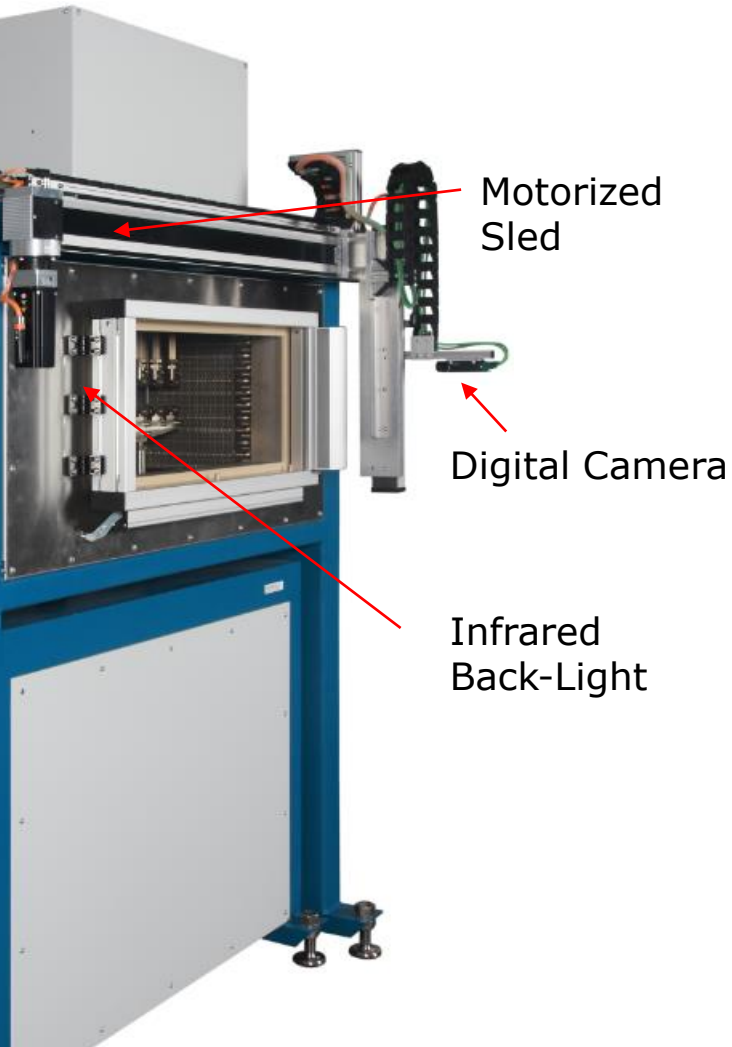


- Data Evaluation
 - Energy
 - Phase Shift / Loss Angle
 - Frequency Spectrum

- Full Raw Data Export

Online Crack Measurement

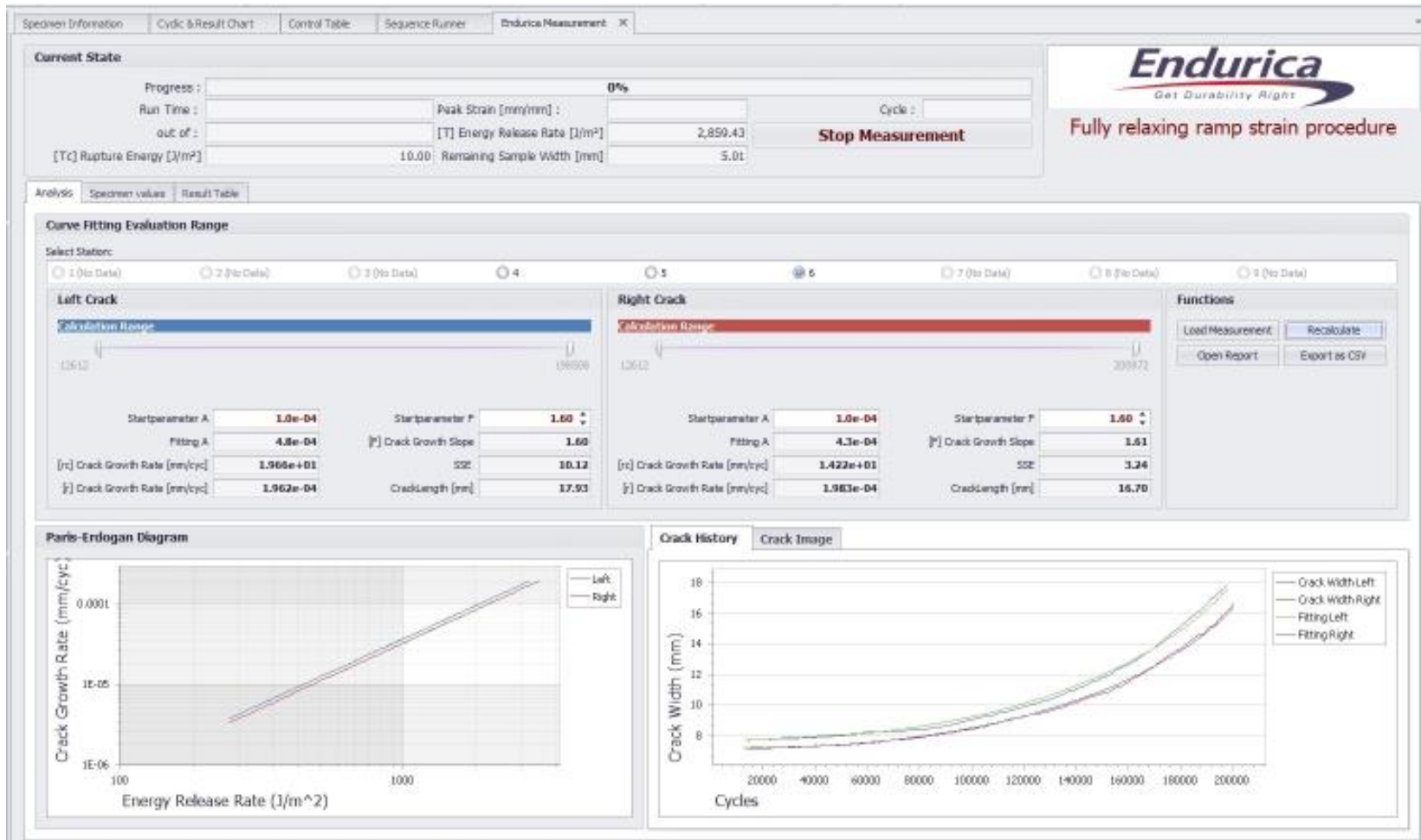
1x Camera -> up to 20 x automatically captured pictures



Automatic Evaluation

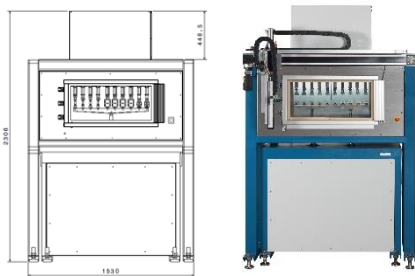
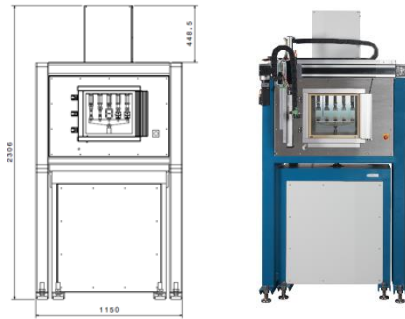
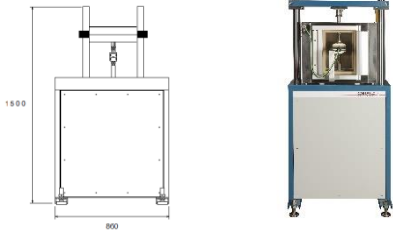


Online Built of Thomas/ Paris-Erdogan Diagram



Picture shows
Optional Endurica Software ADD-IN

Configurations



Technical Data			
Specimen	SEN 65x15/ PS 15x120/ Mini-PS 4x40 mm (hwx)		
Load per station	200 N		
Span distance	1 to 65 mm		
Dynamic Stroke	up to 50 mm		
Frequency	0 to 50 Hz		
Temperature	(-30°C)* / +35 to +150°C * with external cooling supply		
Stations	1 to 10		
Dimensions and Connection			
Mains	3 ~ 400 V / 50 Hz N/PE		
Power	1 station	3/5 station	10 station
	18 kVA	30 kVA	40 kVA
Dimensions (h x w x d)	2.3x0.9x1.1 m	2.3x1.2x1.1 m	2.3x1.6x1.1 m
Weight	800 kg	1500 kg	1900 kg

COESFELD

MATERIALTEST



MATERIAL TESTING EQUIPMENT

for plastics and rubber

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