

# JK Rotary Breakage Tester®

*The JK Rotary Breakage Tester® is a new generation of tool for the rapid production of accurate and reliable ore impact breakage characterisation data.*



## The Device

The JK Rotary Breakage Tester® (JKRBT®) is built and serviced by the Australian specialist mining equipment manufacturer Russell Mineral Equipment (RME).

The system consists of a hand operated rotary feeder, a rotor-stator impacting device with its drive system, and an operation control unit. The 450 mm diameter, which can reach speeds of 5,000 rpm, has three guiding radial channels.

Particles of the selected size are fed into the rotor via the feeder and are randomly distributed into one of the guiding channels. The particles are accelerated in the channel and ejected from the circumference of the rotor.

The particles impact the surrounding anvils at a known velocity, from which the specific impact breakage energy can accurately be determined. After all particles in a sample batch are broken, the product is recovered from the collection bin underneath the rotor for sizing and  $t_{10}$  determination. Customised data analysis software facilitates the capture and analysis of all relevant test data.

## The JK Rotary Breakage Test

The JK Rotary Breakage Test represents the new generation of breakage characterisation designed for rapid generation of reliable impact breakage data. This data can be used in the design of AG/SAG mills and crushers for new projects and also in optimisation projects for existing plants.

The JK Rotary Breakage Test and the new breakage model have undergone rigorous industrial testing and validation, at the JK Centre and selected in-house mining company laboratories around the world, for use in characterising ore under AG/SAG milling conditions.

JKRBT® data is also ideally suited to geometallurgical applications such as ore hardness variability testing and mine planning.

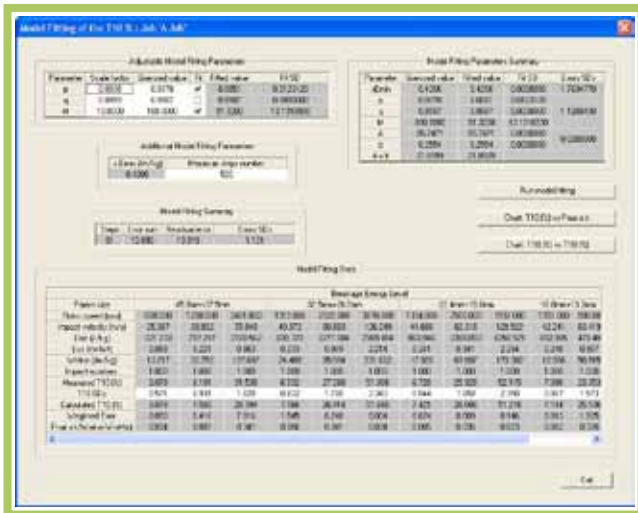
## The JKRBT® is delivered with:

- A JKTech technology licence to perform JK Rotary Breakage Tests
- Spare parts kit
- JKTech's JKRBT® Data Analysis Software
- Operation and maintenance manuals
- Commissioning and operator training



## JKRBT® Data Analysis Software

JKTech's specialist JKRBT® data analysis software provides for easy test data entry and analysis and also facilitates data transfer to JKTech for breakage parameter calculation and validation as required.



## JKRBT® Support Contract

JKTech offers a support contract that provides clients with a range of services to ensure JKRBT® data integrity and maximum value from the investment.

The contract includes:

- Annual site visit
- Remote support
- QA/QC via database audits
- Round-robin testing participation
- Access to JKRBT® developments and software updates
- Refresher training as required

## Key Device Specifications

Weight: 1775 kg

Space requirements: 1.93m x 1.98m x 2.30m high

Flywheel speed: 100 to 5000 rpm

Noise: 85dB

Possible power supplies: 380V/50Hz, 415V/50Hz, 480V/50Hz, 525V/50Hz, 600V/60Hz

Pneumatic requirements: 100 psi (7 bar)

Particle sizes: 2 to 45mm

Breakage energies: 0.001 to 3.8 kWh/t

The JKRBT® is manufactured by Russell Mineral Equipment under licence to JKTech.

Patent Pending - Application Number 2007252278 (Apparatus & Method) & 2007272296 (Method)



## JKTech Services

- Consulting (comminution, flotation, mineralogy, mining & metallurgy)
- Process mineralogy and in-house instrument analysis
- Specialist Software (JKSimMet, JKSimFloat, JKMultiBal, JKSimBlast)
- Specialist Equipment (ore breakage characterisation, flotation characterisation)
- Metallurgical Laboratory Services
- SMI Knowledge Transfer

## JKTech Benefits

- Access to cutting edge technology via the Sustainable Minerals Institute (SMI)
- World class specialists working to maximise the potential of your project lifecycle
- Innovative and proven techniques developed by leading industry experts
- Measurable increases in productivity and recovery

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