JK SimFloat

JKTech JKMRC Technology Transfer

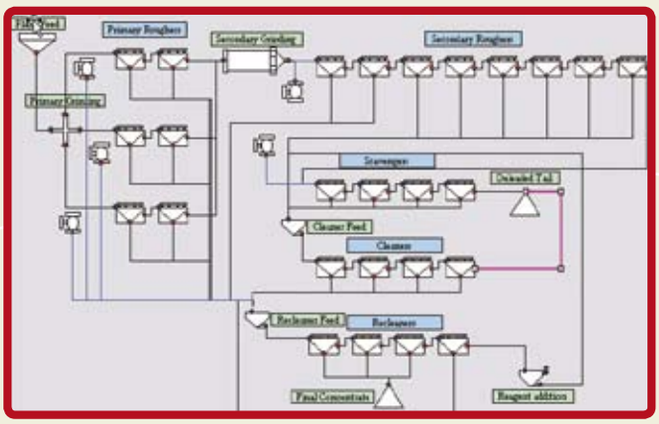
# Simulating Flotation Circuits with JKSimFloat

## What is JKSimFloat?

JKSimFloat is a general purpose computer software package for the simulation of flotation plant operations. The package is designed to service the diverse needs of plant metallurgists, operators, researchers and consultants.

JKSimFloat integrates tasks associated with data analysis, plant design and optimisation as well as circuit simulation in one software package. It is fully interactive and operates with high-resolution colour graphics. These graphics facilitate the display of detailed flotation flowsheets and accompanying information, allowing for easy interpretation of simulation data.

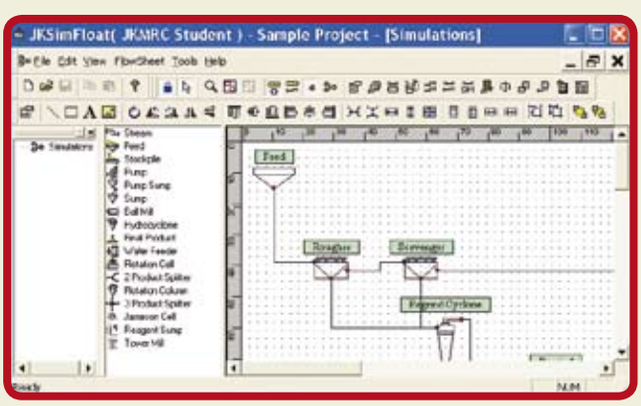
The model behind JKSimFloat has been applied to over 50 flotation operations world-wide in commodities including base metals (eg lead, zinc, copper, nickel) and precious metals (eg gold, platinum). The JKSimFloat modelling package has helped users improve plant operating performance with significant increases in recoveries and grades.



The program is Windows-based and has been coded to maximise speed. The most complicated circuit simulated to date included over 80 flotation cells (all with individual operating conditions), numerous floatability components, size fractions and minerals.

JKSimFloat simulations of highly complex circuits may only require a few seconds to converge, compared to previous spreadsheet-based methods where simulation times of several hours were common.

JKSimFloat incorporates selected flotation outcomes of the Australian Minerals Industry Research Association (AMIRA) P9 project, titled 'The Optimisation of Mineral Processes by Modelling and Simulation'. This is a collaborative research project between the Julius Kruttschnitt Mineral Research Centre (JKMRC) at the University of Queensland in Australia, the University of Cape Town in South Africa and McGill University in Canada.

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*Delivering world class solutions to the minerals industry*

# The Complete Flotation Simulation Solution

## JKSimFloat Allows the User to:

- Build a graphic-based flowsheet of the processing plant
- Assign machine criteria and model parameters to each plant case study
- Simulate the effect of changes in the flowsheet to predict the flows, size distributions and element distributions
- Determine optimum grade and recovery via simulation
- Adjust floatability components to estimate the effect of regrinding and reagent addition

## Standard Features

- Graphical user interface
- Flowsheet created interactively on the graphics screen
- Models selected from a built-in library
- Model parameters can be specified by the user
- Range of data output displays and printed reports
- Simple data transfer to other Windows-based packages

## Operating Requirements

Intel Pentium or compatible PC, 400 MHz with:

- 128Mb minimum - recommend 512Mb
- CD-ROM drive
- Hard drive with 100 Mb free space
- SVGA video card

## Models Available

- AMIRA P9 flotation model
- Conventional, column, Jameson cells
- Hydrocyclone
- Size redistribution (regrind)
- Floatability transfer (reagent)
- Splitter
- Combiner

## Other JKTech Services

- Consulting (comminution, flotation, mine-to-mill)
- Quantitative Mineralogy (MLA and JKMineralogy)
- Specialist Software (JKSimMet, JKSimFloat, JKSimBlast)
- Metallurgical Laboratory Services
- Training Courses

JK SimFloat

www.jksimfloat.com

*JKTech's range of technologies is supported by the ongoing research activities of the world renowned JKMRC.*

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