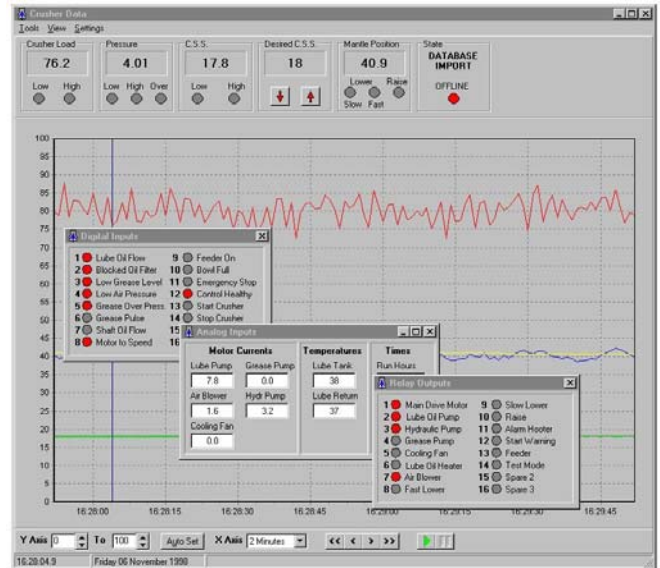


# CRUSHER MANAGEMENT SYSTEM

The new Jaques Crusher Management System has been developed to provide the optimum control and productivity for hydraulic shaft supported cone and gyratory crushers.

The Jaques Crusher Management System [CMS] is a micro-processor based control and regulation system for crushers. The CMS automatically controls the Closed Side Setting [CSS] of the crusher to maintain high productivity without the need for continuous operator intervention. Hydraulic pressure and drive motor load are monitored, and the CSS automatically adjusted to prevent overload and damage to the crusher and drive motor. Other crushing system inputs are also monitored, triggering a warning or shutdown situation as necessary.

The CMS incorporates a data logger which enables historical analysis of crushing performance and operation. CSS, drive currents, pressures and temperatures are all data logged. Three serial ports are provided to allow remote operation and monitoring of the crusher by a remote computer or PLC. Modem support is provided for remote access, enabling rapid diagnostics by service personnel. An easy-to-use Windows (GUI) program allows both



live and historical trending through a personal computer.

### CSS Monitoring

The CMS ensures that the crusher is operating at its maximum crushing pressure and power in relation to the set CSS providing improved productivity.

Features include:	Benefits of the Features
Superior control algorithms	Increase productivity through improved power utilisation and closed side setting control.
Automatic Wear Adjustment	Decreases the reliance on wear calibration by taking into account operating conditions and automatically adjusting CSS when wear occurs.
Pressure Spike Detection	Detects and protects crusher from transient spiking associated with poor feed or tramp iron.
Crushing recipes	Allows easy selection of difference combinations of CSS, pressure and motor load.
Real time trending	Easy review of feed conditions and operating utilisation
PLC protocol software	Citect V5.21 drive available to ease implementation with existing plant control systems.
Data recording	A downloadable record of performance and operating conditions facilitates planned maintenance.
Remote monitoring via modem	Facilitates superior support and remote diagnostics by Jaques service engineers

Should the recommended maximum crushing pressure or power be exceeded, the CMS will automatically adjust the setting to suit the limits. The crusher will always work towards the CSS you have set but will not close below the nominated minimum CSS.

Improved screen efficiency (reduced recirculating load) and wear life of the manganese are some of the benefits of the crusher operating efficiently.

**Extra Protection**

Pressure spikes often caused by poor feed conditions, e.g. segregation, etc. is detected and the crusher loading is managed to reduce the effects of these damaging shock loads.

**Automatic Wear Adjustment**

The CMS trends the manganese wear taking place



during actual operating hours. Adjustment of the mantle position is then made automatically to maintain the desired closed side setting.

**Data Recording – Remote Monitoring**

The CMS provides the operating data for all functions such as CSS, crusher pressure, pressure spikes, oil temperature, motor power and operating hours.

It allows you to go back in time to check operating trends :

- \* one second log 25 hour history
- \* one minute log 90 day history

The information can be in graph or table form.

**Diagnostic Assessment**

Facility exists to monitor the crusher’s operation remotely through a modem. This allows us to provide diagnostic advice on the performance or problems that may have occurred.

**Production Records**

The client can download onto his computer all the operating data to allow for performance assessment and actual crushing hours.

**Maintenance Planning**

The CMS calculates actual crushing hours based on power draw and manganese wear monitored from the auto CSS programme. Using these parameters, planned replacement of the concave and mantle is achieved; reducing unexpected downtime and reduction in parts stockholding.

**Operational Report Monitoring**

A Report Monitoring Service can be provided by Jaques to assist with optimising crusher availability and production through the CMS covering :

- Observation of crusher performance.
- Recommendations to adjust the operating parameters based on actual recorded details within the CMS to provide improved productivity.
- Maintenance Planning.
- Trend monitoring to identify reasons for crusher downtime.
- Feed monitoring to optimise performance.

Reporting is carried out without affecting the day-to-day operation and is prepared using data reports from the CMS at the Terex|Jaques Service Centre followed by on-site inspection.

**PLC Protocol**

The CMS can be incorporated into a new or existing CITECT system.

**Touch Screen Test Panel**

The test touch station screen allows the operator to run and stop the crusher separate from the PLC.

**Automation provides the most efficient method to obtain the optimum performance from your crushers.**

For further information:	
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