ABO – Main Technology Service Center for grinding solutions

GMDbeat™ and GMDfit™
Rapid support and innovative monitoring
Remote diagnostic services (RDS)
Grinding service portfolio

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[Image of ABB logo]
Remote diagnostic services (RDS) Description

### GMDfit™
**Condition monitoring**
- Continuous and automated assessment of the overall operating condition of the GMD Drive system.
- Trending and forecasting the future by applying state of the art predictive methods.
- Scheduled health and condition examination of the drive systems through periodic inspections.

### GMDbeat™
**SupportLine & troubleshooting**
- Telephone SupportLine.
- 24/7 service gets the customer in immediate contact with our technical support engineers.
- ABB experts are linked to the operators’ HMI via a secure remote access connection to enable on-demand problem solving.
Remote diagnostic services (RDS)
GMDbeat™
GMDbeat™ SupportLine and troubleshooting

SupportLine

Features

- Single contact for all emergency service related calls
- Assistance by phone, e-mail and fax
- Case tracking tool
- Guaranteed response time

Benefits

- Access to ABB experts 24/7/365
- Unlimited time for emergency support
- ABB support engineer is assigned for problem resolution
- Monitored case status ensures expedient resolution
- Escalation plan
GMDbeat™ SupportLine and troubleshooting

**Troubleshooting**

**Features**

- Standard solution across our entire installed base
- Secure connection based on SSL standard
- Remote access and support by ABB engineers all over the world

**Benefits**

- Quick response and fast resolution of SupportLine calls
- Reduced overall maintenance costs
- ABB can immediately assist customer in the case of a SupportLine call by directly looking into the customer’s system
- Real-time access and support
Remote diagnostic services (RDS)
GMDfit™
GMDfit™ Condition Monitoring
Content

Periotic Maintenance Reports

Dashboard

Analytics

Past Now Future
GMDfit™ Condition Monitoring

Benefits

- Real-time access for plant managers and staff from anywhere anytime
- Continuous health monitoring and assessment – User knows the health status of the system
- More effective performance of planned downtime due to recommendations from ABB Experts
- Increase Overall Equipment Effectiveness (OEE) by reducing forced outages and increasing availability
GMDfit™ Condition Monitoring
Flow of information

- Scheduled health and condition examination of the drive systems through periodic inspections.
- More than 30 analyses running on the GMD system 24/7
- Immediate alarm notification via email and/or text message.
- Real-time access for plant managers and staff from anywhere anytime.

Flow Diagram:
- GMD → Analytics
- Alerts & Notifications
  - Periodic Maintenance
  - Lifecycle Manager
  - Reports
- Dashboard (Web Interface)
- Customer → ABB Experts
- Lifecycle Manager
GMDfit™ Condition Monitoring
User Interface: Dashboard
Remote diagnostic services (RDS)
Customer Benefit
Remote diagnostic services (RDS)
Example: Loss per day

Estimated production data for Mining Corp.
- The unitary mill will produce 22,500 ton/day
- The average mineral grade is 0.40% Cu
- The average recovery is 89.5%
- The process plant cost is 4.9 US$/ton

To evaluate 1 day loss (Roughly):
- Cathode net cost is US$/lb 1.22 $\rightarrow$ 2,689 US$/ton
- Price of Cu 3.0 US$/lb $\rightarrow$ 6,600 US$/ton
- Lost in 1 day = 22,500 x 0.40% x 89.5% x (6,600-2,689) = 315’031US$/day (net loss)

Thus if RDS services cost the customer 100kUSD/year and it reduces the
downtime by only 7.6 hours in the entire year, it would be worth it.
GMDbeat™ and GMDfit™
ABB’s condition monitoring for your drive system

Your challenge
- Need for high production efficiency
- Achieve high system availability with low maintenance effort

Our solution
- Holistic service concept using innovative technology and system expertise to help you increase the OEE of your GMD

Features
- Over 30 analyses running on your GMD 24/7
- Immediate alarm notification via email or text message
- Periodic health check and system audit by ABB experts
- Rapid 24/7 access to ABB experts all over the world

Your benefits
- Real-time access for plant managers and staff from anywhere anytime
- Continuous health monitoring and assessment
- More effective performance of planned downtime due to recommendations from ABB experts
- Increase OEE by reducing forced outages and increasing availability
Power and productivity for a better world™