

Electrification, drives and automation worldwide

ABB Building Material Industries (BMI) is a global leader in providing state-of-the-art drives, process control and optimisation systems, and distribution equipment, and services to the mining and mineral processing industries. ABB provides complete support throughout the life of the installation, including engineering, training, commissioning and service. Extensive global resources enable ABB to supply BMI customers with either a single product or a fully integrated electrical and process automation solution.

The corporate headquarters overseeing BMI's world operations is based in Baden, Switzerland. Supporting the effort are seven Centers of Excellence, two specialty areas for Drives and Automation, and regional BMI offices. The Centers of Excellence include those for cement, mineral processing and alumina processing in Switzerland, the underground mining one in Sweden and open-pit mining in Germany.

Cost effective, energy efficient drive solutions help achieve higher productivity levels. ABB's drive applications include gearless drives for ball and SAG mills (including one of 11,120 kW, the largest in gold mining, recently installed for Newmont Gold's Carlin mine), materials handling systems, high impact idlers, mine hoist and electric ramp haulage systems (Kiruna Electric trucks), and roller mill pulverisers.

Process control and optimisation applications include the proven technology of ABB Master and MOD 300



In-cab display and print-out for VEI's weighing system.

PRODUCT & PROCESS NEWS

Further details on all items mentioned in this section can be obtained by using the reader service card inside the back cover.

Distributed Control Systems, Advant System Platform Technology and knowledge-based (expert) systems, like LINKman which optimises energy-intensive and operator-critical processes, providing autopilot functionality. Other products include mine hoist and ventilation controls, and control and supervisory systems for opencast mining.

Efficient and reliable power is also part of ABB's total plant solutions. Transformers, rectifiers, switchgear, emergency power generation, UPS and power factor correction are just a few of the power-related applications offered.

ABB BMI's worldwide headquarters are, for underground mining - ABB Industrial Systems, Västerås, Sweden. Tel: (+46 21) 340330. Fax: 185890.

Circle RSC No. 209

For opencast mining - ABB Automatisierungsanlagen, Cottbus, Germany. Tel: (+49 355) 629251. Fax: 629306.

Circle RSC No. 210

For ore concentration, processing and refining - ABB Industrie, Baden, Switzerland. Tel (+41 56) 768444. Fax: 767333.

Circle RSC No. 211

Weighing technology for mobile machines

VEI has ten years experience in the application of weighing technologies to mobile equipment. Its systems can be applied across a broad spectrum of activities and equipment, providing solutions for controlling lifted loads and better optimisation of truck loading.

VEI's products include the Helper, a compact, functional digital indicator

which is simple to use. This small unit includes a printer, LCD display and multi-function keypad. The Dumper Load, versatile and fully automatic, provides a convenient means of both monitoring the daily work programme of each truck and of providing useful output and resource control data. It features include: display of weight being discharged into the truck, with audio and visual signal on completion of the load; automatic memory of load hauled, time of completion of load and machine from which the truck was loaded; control of 20 different loading points; automatic weight-to-volume conversion; programming of maximum load allowable in transit; sequential print-out of all loads completed, including time at end of load; print-out of total for each loading point and aggregate daily total; each total converted to cubic metres; and diagnostics.

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Circle RSC No. 212

New, improved Cummins engine line

The new Q19, which covers the 391-559 kW power range is an all-new diesel engine from Cummins, replacing the highly successful K19. It is the first in the new Quantum Series, which, over a two-year period, will eventually include engines up to 4,470 kW.

At the same time as meeting 1996 emissions legislation, Cummins has devoted the design of this new series to customer demands for even lower operating costs. The operational benefits from the Q19 include a 30% improvement in durability, 5% improvement in fuel consumption and the capability to meet emission legislation beyond 2001.

To achieve these objectives, which Cummins claims make the Q19 the most durable engine in its class, the company adopted a clean-sheet design approach. This resulted in redesigns for the crankshaft, cylinder kit, camshaft, engine top-end, gear train, air management system, lubrication system and cooling system. As a result, the only components carried over from the K19 were the connecting rods.

The range of advanced engineering features on the Q19 include: articulated steel pistons to increase durability and reduce oil consumption; micro-finished, larger diameter camshaft; high contact gear train to allow higher loadings and reduce gear noise; new ring pack to reduce oil consumption and extend liner life; low temperature aftercooling (using one pump, two loop technology) to reduce air intake temperature without