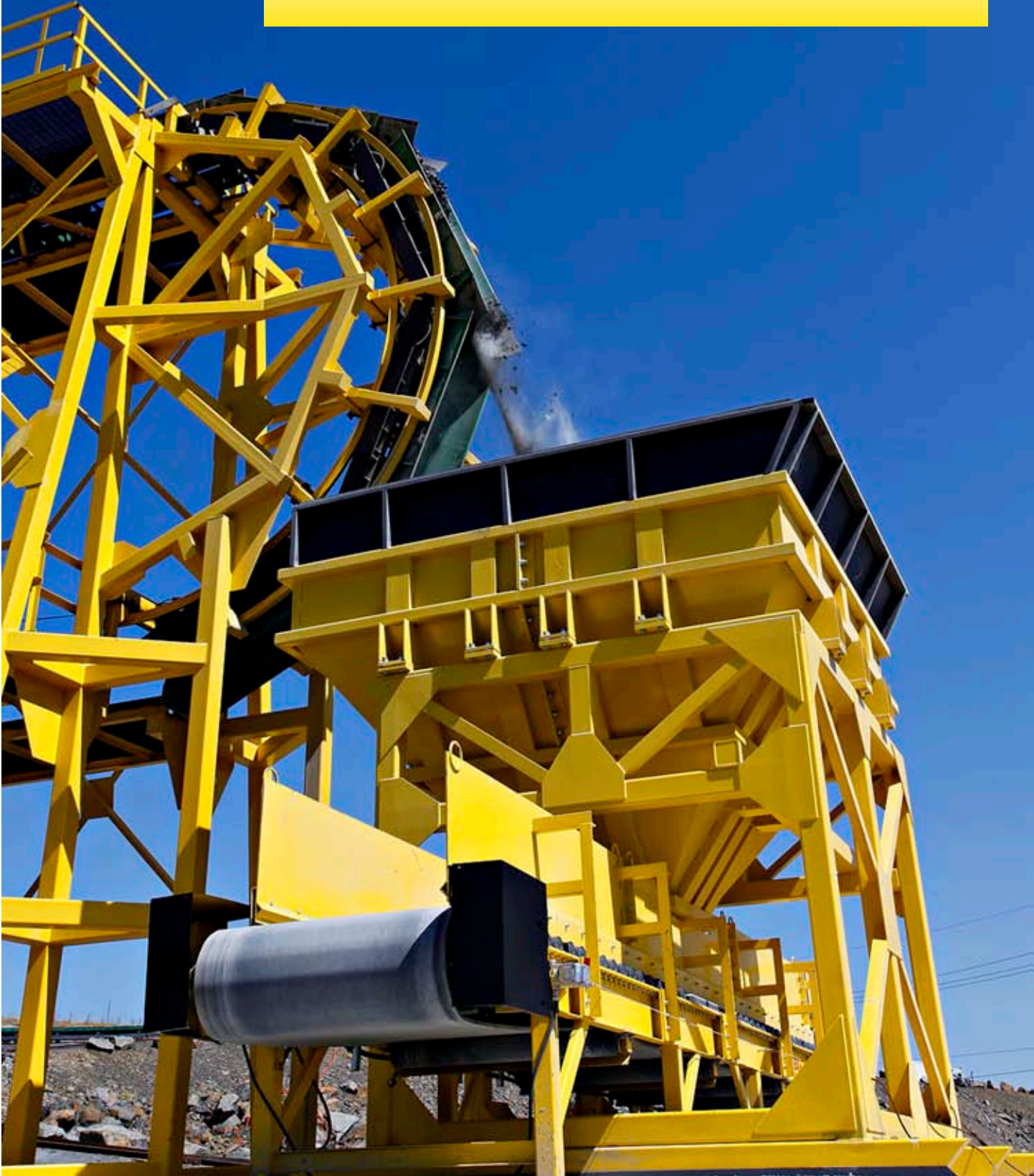


Rail-Veyor[®]

TECHNOLOGIES GLOBAL INC.

Material Haulage

www.railveyor.com





System Overview and Description

The Rail-Veyor® system combines the best of conventional railroads and conveyors to create a unique and practical alternative for materials transport. Systems are scalable and flexible and can economically move materials over distances of a few hundred meters to hundreds of kilometers.

To accomplish this, the Rail-Veyor® system incorporates the use of light rail track with a series of interconnected two-wheeled cars creating an open trough capable of continuous movement. The cars are connected to allow articulated movement for curves and dumping. Trough lengths are designed to meet tonnage requirements. Sealing of the gaps between cars is achieved using flexible flaps which prevent leakage of materials and forms a chute for product discharge.

Energy efficiency is achieved through a unique drive system incorporating stationary drive stations consisting of dual motors and gear reducers driving tires which contact the car side plates providing forward thrust. Speed is controlled by an inverter, which allows for both forward and reverse movement and provides sufficient power to start loaded trains from any position on the track. Drive stations are spaced based on train length and track grades. Additional energy savings are achieved by shutting down drives not in contact with trains through the use of a sensor system.

As a result, only drives in contact with trains are in operation at any given time. The use of sensors and drive station spacing allows for a fully automated system that can run on a continuous basis in either loop configuration or forward and reverse on a single track.

Train safety and emergency stops are achieved through dedicated brake systems on the drive stations.

The car design, track and drive systems are capable of operating the car in both an upright and inverted position. With this feature, trains can be easily dumped and continuously loaded and unloaded using this unique technology. In one common configuration the train enters the dump in the upright position on a horizontal plane and as it moves through a loop the product is discharged by gravity and the inverted car is then returned to the upright position and directed down the track to be reloaded.

Rail-Veyor® systems are also a cost-effective alternative to conventional conveyors and rail with operating cost savings. This is based on the fact that it provides an almost continuous material throughput rate, while it operates on a very lightweight rail track, which is significantly cheaper to construct and maintain than conventional railways. The system is fully automated and is controlled from a central





control room minimizing operator requirements. The operating costs, dominated by energy charges, are significantly reduced by shutting down the drive stations when they are not in use. Based on the fact that each loaded car weighs less than 3t, the maintenance charges on the fixed infrastructure is also significantly reduced.

The optimum operating conditions for the Rail-Veyor® system would be similar to those of a conventional conveyor or rail system, with the advantage that it can operate at inclines of up to 20% and it can negotiate corners within a

30 meter radius. The small scale and lightweight system also allows for relatively simple bridging and tunneling over and under roadways, rivers and other obstructions.

There are no theoretical limits on the size of the Rail-Veyor® cars, which means that the unit train lengths and the number of trains on the system will directly influence capacity. The maximum operational speed has not been established, but based on torque, gear ratios and drive tire diameters, speeds of up to 10 m/s or 32 km/h are realistic.

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