



Product

Braking Systems and Backstops

Application

Gold Mine Conveyors

Highlights

**Svendborg Brakes
Caliper Disc Braking
Systems**

including hydraulic power units manufactured in-house and unique soft braking control (SOBO iQ)

**Marland Clutch
BC Backstops**

optimized to provide longer operating life

**Ameridrives Couplings
Amerigear Rigid Hubs**
special heat treated alloy steel

Altra Industrial Motion brands recently supplied braking systems and backstops for use on a variety of conveyors installed at a new open pit heap-leach gold mine in Siberia. When fully operational, the mine is expected to output an average of 230,000 ounces of gold annually.

The mine conveyor OEM initially contacted Svendborg Brakes for braking solutions based on many previous successful collaborations. Svendborg Brakes engineers worked extensively with the conveyor OEM to design custom braking systems that could withstand the extreme year-round conditions at the mine location, including temperatures of -55° to 35°C (-67° to 95°F).

Series BSFH 500 and BSFI 200 dual-spring, hydraulically-released caliper disc brakes were manufactured using special low-temp steel and seals. The dual-spring brakes provide parking and emergency stopping functionality in case of power failure.

Svendborg Brakes' industry-leading SOBO iQ (soft-braking) controller combines cutting-edge technologies to provide significant flexibility, safety and durability on mine conveyors. The controller features three-state digital modulation and a revolutionary dual-loop PI control (pressure/speed).

Customized hydraulic power units (HPU) were designed and manufactured in-house. The HPUs featured special hydraulics and unique heat dissipation panels mounted to the sides and top of the enclosures.

Ameridrives Couplings provided keyed rigid hubs in heat treated low-temp alloy for secure disc mounting. Special low-temp Marland Clutch BC-90MA backstops with a continuous torque rating of 122,024 Nm (90,000 ft.lbs.) were also supplied. Units feature full-contact Taconite seals, positive triple sealing and long service life.

Continued



Altra components were incorporated on the following mine conveyor applications

Overland Decline Conveyors

Single BSFH 500 dual spring brakes are installed on 3 different 1200 mm wide overland conveyors with decline drops from -17.8 m (-58 ft.) to -101.9m (-334 ft.). The conveyors range in length from 677m (.4 mile) to 1474 m (.9 mile) with belt speeds of approx. 2.6 m/s. The BSFH Series brakes are mounted on the low-speed side of the tail pulleys to dynamically stop the conveyors during an emergency or power failure and function as a parking brake when the conveyors are not in use. SOBO iQ controls, special HPU's, discs and low-temp Ameridrives Amerigear keyed rigid hubs were also supplied.



Overland Incline Reclaim Conveyor

A BSFI 200 dual spring brake is installed on a 1200 mm wide, 1333 m (.8 mile) long overland reclaim conveyor with a belt speed of approx. 2.6 m/s and an 8 m (26 ft.) lift. The brake is mounted on the high-speed side of the head pulley to dynamically stop the conveyor during an emergency or power failure and function as a parking brake when the conveyor is not in use. A special two-stage HPU and disc were also included.



Incline Conveyors

Marland BC-90MA backstops are installed on two 1200 mm wide incline conveyors. The backstops are designed to provide positive protection against reverse torque runaways of inclined conveyors or elevated installations.



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