Belt Conveyor Systems
Portfolio overview
Installed base 2022 (since 1960)
BL Mining

>300 conveyors, all climates, >800km
Full scope delivery – conveyor system

BL Mining

Productized solutions – stand alone or integrated in system:
- Gearless Conveyor Drive (GCD) package with PM motor
- Data driven solutions (SEC, performance analytics)
- Process control (Minerals Library)
- Drives control (MCCP)

Engineered conveying system:
- High altitude solution
- Power distribution
- HV/LV switchgears
- Drives and motors
- Instrumentation
- E-Houses
- Cables
- Air conditioning/cooling
- Installation and commissioning
Fully engineered EC&I system package

Container solutions

Pre-Installed and tested

All out of one hand

Container for Electrical Room
- Drives system
- Resistors
- Air-conditioning/cooling
- DCS system
- Power distribution and PFC
- MV + LV switchgear
- Fire protection
- Grounding concept
- Lighting and emergency light
- Batteries for emergency / UPS

turn key delivery
## Conveyor Drive solutions

### Overview

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Gearless Conveyor Drive (GCD) classification

High Power

Medium to low power

per conveyor

3 – 10MW

>10MW

<4MW

per motor

2,5 – 9MW

50 – 60rpm/ 400 – 1700kNm

0,1 – 5MW

10 – 600kNm

0,1 – 1MW
Gearless Conveyor Drive for medium power

Add value to your conveyor system

Key facts

- Permanent Magnet Motor for mining conveyors
- more than 50% lower failure rate
- 6 to 10% reduced energy / carbon reduction
- The most sustainable conveyor drive
- Lowest OPEX/ lowest cost per ton

permanent magnet torque motor replaces gearbox and induction motor
Conveyor control system

Automation portfolio

- Hardware infrastructure
- ABB Minerals Library
  - Conveyor line interlocking
  - Material tracking
  - Optimal conveyor speed
  - Integration of field devices
  - Conveyor monitoring
- Drives control with MCCP (Mining Conveyor Control)
Mining Conveyor Control Program - MCCP
Load share and conveyor drives control software

AC600
AC800
AC880
AC1000
AC2000
AC6000

Master – Follower, coming with standard software, does mostly not fulfill the requirements

Solution: Drives control with MCCP.

- Load observer, stress-free starting and operation
- Conveyor typical start ramps (S-Shape or dwell)
- Safe brake control and no roll-back-starting
- Accurate torque distribution to each drive
- Automatic compensation of pulley and gearbox tolerances
- Synchronization of head and tail drives
- Monitoring of drives system

Running in hundreds of conveyor drives.
ABB Ability™ Performance Analyzer for Material Handling

Material Handling assets:
- Belt Conveyor
- Motor
- Excavator
- Stacker
- Stockyard
- Ship Loader

Integration Layer:
- OPC Server
- History Database
  - cpmPlus
  - Oracle
  - PGIM

Analysis Services Studio:
- Basic Analysis
- Runtime Analysis
- Low Load Analysis
- Event L1 Analysis
- Trip Analysis
- Correlation Analysis
- ...

Visualization Layer:
- Public Web API
- User Management
- Dashboards
- Drag & Drop
ABB Ability™ Condition Monitoring for belts

The solution comes with features to facilitate the condition monitoring of your conveyor’s belt:

- Trending
- Alarms/events
- Data logging
- Single/multiple conveyors
- SMS/e-mail messaging
- Remote connection

The solution can work as stand-alone option or can be integrated in any control system.

The platform is flexible and enables interoperability between existent maintenance tools and control systems without changes in customer’s infrastructure.

Easy to install and to maintain.

Monitored failure modes:

- Speed
- Misalignment
- Damage
- Thickness/wear
- Slippage
- Temperature