



Customer: SKM / Rio Tinto
Location: Cape Lambert, WA
Product: Iron Ore
Date: 2014
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Requirements:

Rio Tinto needed a method of checking the quality of the iron ore being shipped overseas and samples had to be taken from the main belt loading the ships every few minutes until the ship was fully loaded.

The new conveyors were required to:

- Process samples of material taken from the main ship loading conveyor and produce "sample" sizes for the at the correct conveyor speed for the sample to be taken.
- The conveyors had to be able to sense iron ore was present on the belts at the start and finish of the belts.
- The system also needed the ability to process the ore, and either reject the material or send it back to the main ship loading conveyor.
- The conveyors required the option of storage of the iron ore samples should the main ship loading belt be stood for any reason.



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Technical Information

Conveyors:	9
Belt width:	650mm
Length:	14/47m
Inclination:	6 to 10°
Capacity:	25 / 95 tph
Belt speed:	0.4 / 2.4 m/s
Drive Power:	11 / 15 kW
Fan Power:	11 kW
Prod. Density:	2.6 t/m ³



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Solution:

All the conveyors had the ability to have a speed range from 0.4 m/s for material storage, and run at 1 m/s for product sampling, and then up to a maximum speed of 2.24 m/s to stretch the material prior to a sample being taken.

All conveyors were fitted with either one or two Hawke infrared detection units. They located the precise position of the ore on the belts and some conveyors were reversing. This function was used to discharge any reject material from the system prior to taking the next sample.

The conveyors were required to have the reliability and performance to run 24 hours per day to load the ships, and take samples every 90 seconds while the ship was being loaded until the ship was fully loaded.



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