

Service Insights

Hydrodynamic Couplings | Mining | Retrofit | AMERICAS

Application	Conveyor Belt – Loading and Deloading Terminal
Product	Voith constant fill T-Coupling, Type 866DTVVN-X
Country	Brazil
Operator	One of the three biggest mining companies worldwide, coast of Brazil

Operational stability only after consulting and retrofitting

Only after seven years with problems of two important conveyor belts in 24/7 operation the operator of a loading and unloading terminal decided to replace the installed start-up components with Voith products. This was preceded by a long lasting consultation, technical discussions and support with simulations. Since then, the belt conveyors have been running smoothly.

Viewpoint of the customer: In 2007, the operator of a loading and unloading terminal complex for raw materials located on the coast of Brazil started a retrofit of two belt conveyors. A competitor of Voith supplied the start-up components in 2009 with installation in 2010. Only one year later, technical problems arose. The problems could not get solved by the manufacturer and later by the operator himself. In 2016, a total of 21 shutdowns of one hour each within six months were registered for the ship loader belt conveyor. Over six years (2011-2017) all shutdowns accumulated up to 157 cases! Every hour of downtime meant that a value of 1.3 million USD could not be loaded or unloaded. As early as 2011, Voith conducted a technical study for the customer which recommended a fill-controlled coupling for both belt conveyors, but the customer wanted to go in the direction of a

constant-filled start-up coupling. For this, Voith carried out several simulations during the study with its own TurboSim software.



Loading & deloading terminal with conveyor belt

Order:

After all, the customer was convinced by the Voith solution. For the more important belt conveyor (ship loader), which is responsible for the loading of 65% of the production of 100-120 million tons per year, the customer ordered six Voith start-up couplings at the end of 2016, two of them as spare units.

Insights:

After the delivery in 2017, the Brazilian Voith service team conducted assembly training for the customer. Temperature sensors for the coupling (BTM) were also installed on the product and both load-free and load tests were carried out several days before the final commissioning. Since the commissioning of the Voith couplings there were no unplanned operational interruptions any more.



During test of the Voith start-up components

Technical Details:

During commissioning, the customer was made aware of the different diameters of the belt conveyor drive pulleys and their different coating materials. Those also may have caused previous problems in terms of a difference in motor currents. At the next planned shutdown, the customer adapted the diameters and different coating materials according to Voith's recommendations early in 2017.



Voith constant-fill coupling 866DTVVN

Since the customer had not yet experienced the benefits of the BTM temperature sensor, its application was another significant gain for its operational control. Now he could monitor the production values, motor current and coupling temperature online on a screen through the interconnection of signals.

How we make the difference...

Three months after commissioning, the customer confirmed: „**The result was better than expected. VOITH demon-**

strated its partnership since the projects beginning till after sales and keeps its technical assistance.” Maintenance and Engineering Manager, BRA.

Update 12/2018:

Extremely satisfied with the situation of the belt conveyor for ship loading, the customer ordered three more couplings of the same type with temperature sensors for the other important belt conveyor at the end of 2017. The latter is re-

sponsible for handling material from the warehouse. The three couplings were assembled in March 2018. Both conveyors have also been running without any problems so far.

More about this Voith product at:

www.voith.com/fluid-couplings

More about the Voith Service at:

www.voith.com/turbo-industry-service

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