

# Providing energy savings with Howden Uptime

Installing Howden  
Uptime at **Ningtiaota  
Mine in China** resulted  
in energy savings of  
up to **\$10,000**



**Ningtiaota Mine is a large coal mine in Yulin City, northern Shaanxi, China.**

## The challenge

The Ningtiaota mine has two Howden VARIAX variable pitch axial fans installed for ventilation.

While one fan is in operation, the other is used as a stand-by in the event the primary fan breaks down.

It is essential to have a constant flow of air in the mine to ensure underground safety. If one fan fails, the stand-by needs to start up within 10 minutes to ensure clean air is flowing through the mine. This means the reliability of these fans are vital.

According to the customer's operation practice, these two fans need to shift once per month to ensure they are in a condition to be operated at any time. During this time they will test the fans and look for any potential operational issues that may cause a breakdown.

## The solution

After only 6 months of operating the axial fans, Ningtiaota Mine decided to install Howden Uptime; a unique digital solution for equipment monitoring and performance optimisation.

The constant recording of these parameters via the Howden Uptime online platform provides insight into the overall health status of the fans and prompts operational adjustments where beneficial, to maximise performance.

Instead of shifting the fans every month to check the condition, they now receive regular report which highlights the key parameters and health of the equipment. This allows the maintenance team, at a glance, to see the overall performance of the fans without having to be on-site.



## The outcome

After several months of having Howden Uptime installed, a monthly report identified a flow gap of 650m<sup>3</sup>/min and an inlet negative pressure gap of 100Pa between the two fans under the same blade angle setting.

Howden experts flagged this issue to Ningtiaota and recommended they adjust the blade angle down by 3%

for the higher flow fan and let it operate under the same parameter with the lower flow fan.

As a result of this operational change, the maintenance team were able to reduce the motor power by 15-20kW while still meeting the demand of ventilation.



This resulted in energy savings of between **\$8,000 – \$10,000 USD** per annum



**For further information get in touch with our team today:**

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