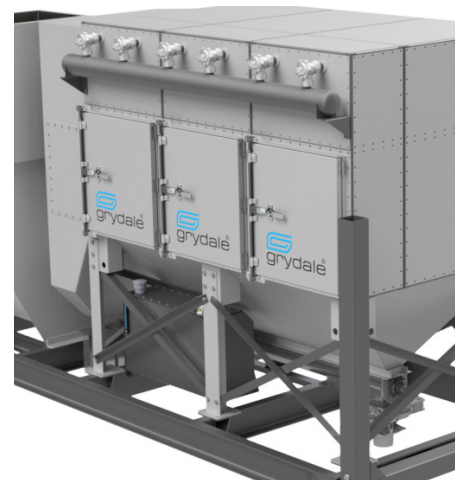
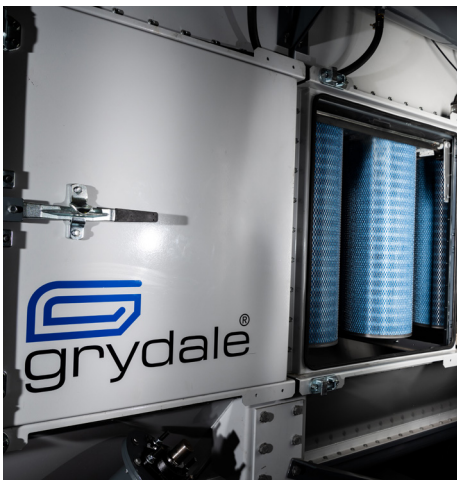


Dust Extraction System for Bulk Storage Shed

JMS 60 Dust Collection System



GLENCORE


grydale®

Glencore Case Study

Ventilation Design & Dust Collection System

Project Summary

Client	Glencore McArthur River Mine
Location	Bing Bong, NT, Australia
Application	Dust Collection System for Bulk Storage Shed
Dust Type	Zinc
Project Summary	Design, Manufacture & Install: JMS 60 F-Series Dust Collection System



Client Overview

Glencore is one of the world's largest global diversified natural resource companies and is one of the biggest companies within the FTSE 100 Index. Their diversified operations comprise of over 150 mining and metallurgical sites, offshore oil production assets, farms and agricultural facilities.

Situated in the remote Gulf of Carpentaria, the McArthur River Mine (MRM) is a world-class zinc-lead mine that has been operating since 1995. MRM is one of the world's largest zinc resources and a key operation in Glencore's global portfolio. Glencore are committed to running a safe, responsible, sustainable and competitive mining operations.

Client Challenge

MRM produces zinc, lead and silver from the open cut mine which is then processed and stored onsite before being transported to Bing Bong Loading Facility and shipped to customers all over the world.

At Glencore's loading facility at Bing Bong, Zinc is stored in a bulk storage shed which needs to be fully contained to protect against spillage and ensure environmental security and prevent loss of valuable product.

Our Solution

Grydale was commissioned to design, manufacture and install a dust collection system to manage dust within the Zinc Bulk Storage Shed.

A Grydale JMS 60 Dust Collector was used to place the zinc storage shed under negative pressure. A plenum was used on either side of the access door to feed air into a common duct running back to the dust collection system.

If there is insufficient air flow entering the storage shed, the air flow meter on the Dust Collector turns up the Variable Speed Drive (VSD) to generate more air volume. Equally the air flow meter will turn down the VSD so the Dust Collector uses less kW for the same amount of volume depending on the temperature and conditions. This results in significant power savings.

The JMS 60 Dust Collector has a filtration efficiency of 99.99% at 0.067microns and air is exhausted via the clean air stack. Zinc dust is discharged through the hoppers to product recovery drums and then returned back to the storage facility. This not only minimises health, safety and environmental risks but also ensures that operational efficiency is maintained by recovering product.

The following table outlines the key technical specification of the Grydale JMS 60 dust collection system installed on site by our expert technical team.

Technical Specification

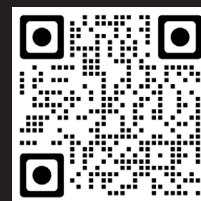
JMS-60-Dust Collection System

Overview		Dust Discharge System	
Air Volume	60m ³ /s	Hydraulic Reversible Auger	1
Power	Volvo PentaT4F/5 160kW Diesel	Main Screw Conveyor Auger	1 - Front Discharge
Fuel Tank	220L Diesel Fuel Tank 45L Adblue Fuel Tank	Incline Screw Conveyor Auger	Option: Front or Side Incline Discharge
Mobility	Track Mounted with Remote Control Operation	Stainless Steel Rotary Valves	2
Fabrication	3mm and 5mm Mild Steel International Two Pack Paint	Instrumentation	
Air Intake Ø	1 x 1372mm plus 4 x 508mm Ø	PLC	Allen Bradley
Filter Technical Data		HMI	7" Touch Button Display Option: 12" Touchscreen Display
Air Volume	38m ³ /s	Control System	CANBus
Number of High Efficiency Filters	48	Static and Differential Pressure Gauges	Yes
Filter Cleaning Efficiency	99.99% at 0.067 micron	Emissions Monitoring Probe	Yes – 24V
Total Filter Surface Area	896m ²	Operational Lights and Alarms	Yes
Filter Temperature Limit	82°C (179.6°F)	Work Safety Lights	12 x 24VDC Lights
Method of Changing Filters	Via 4 Filter Doors	Fuel Level Indicator Lights	Yes
Estimate Filter Change Time	Two technicians x 2hrs	Amber Rotating Beacons	2
Pre-Cleaning of Air Prior to Hitting Filters	Yes - Via Patented Drop Out Box	Velocity Probe	No
Centrifugal Fan		Proximity Sensors	Optional Upgrade
Maximum Pressure Drop Across Filters	-3kPa *	Auto Greasing System	Optional Upgrade
Variable Air Flow Control	Yes	Safety Features	
Fan Silencer	Yes Option: to supply square to round attachment to allow vent bag to be attached to exhaust	Risk Assessment	Available on Request
Reverse Pulse Cleaning System		Emergency Stops	1 E-Stop plus Safety Lanyard System Around the Perimeter
Reverse Pulse Cleaning Solenoids	16	Amber Rotating Beacons	2
On-board Compressor	Yes - 37 CFM Compressor	Split Isolators	Split Starter and Battery Isolator
Plant Air Attachment	Onsite Plant Air	Fire Suppression System	Optional Upgrade
Adjustable Pressure and Frequency Rate	Yes		
Auto Drains	Yes		

* Alternative centrifugal fans can be utilised to optimise air volume and pressure to suit site conditions and specific applications.

Grydale. Experts in Dust Control

Our team has over 15 years' experience designing and manufacturing industrial dust collection and extraction solutions. We focus on adding value through a total service offering, providing ventilation design, manufacture, implementation, ongoing project management and on-site maintenance and technical support.



e: enquiries@grydale.com.au
w: grydale.com.au
t: +61 1300 929 349

Scan for more information



Grydale Solutions Pty Ltd.

Building 2, 15 Pinnacle Street,
Brendale, QLD 4500
+61 1300 929 349
enquiries@grydale.com.au
www.grydale.com.au
ABN: 73 653 676 665