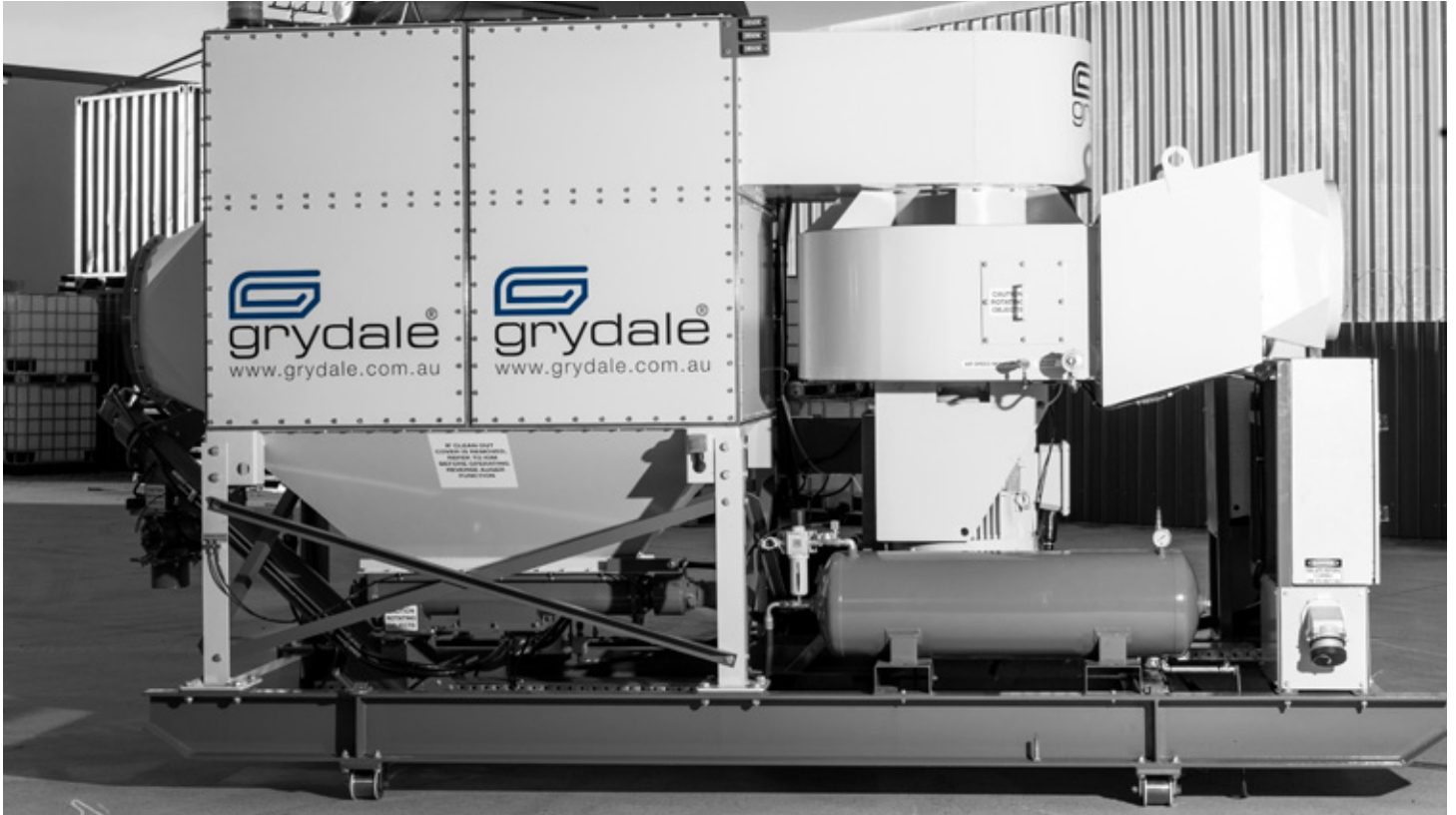


# JMS-6-MEC

Mobile Electric Castor Wheel Dust Collector





# Grydale

Original Equipment Manufacturer (OEM) of fixed and mobile dust collection equipment

## Health and Safety. Driving Demand for Effective Dust Control Solutions

Market demand for dust control solutions is increasing globally and Health and Safety experts are focusing on increasing dust control regulations due to the potentially hazardous consequences on health and safety of workers.

Dusts that can cause diseases when inhaled are found in a large number of industries. Hazardous dusts include but are not limited to: Asbestos, Crystalline Silica, Hard Metals, Aluminium, Bagasse, Cotton, Hay, Straw and Grains.

Workplace dust can be inhaled when the dust is created, usually when cutting, sanding, drilling or grinding, for example during demolition, construction or earthworks.

The risk of dust related diseases increases with increased exposure. Workplace Health and Safety legislation now places strict requirements for the management of dust through Workplace Exposure Limits (WEL). Globally, the WEL for specific dust types do vary, but regulations are being periodically reviewed and updated to take into account current scientific evidence linking exposure to disease.

## Grydale JMS M-Series. Mobile Dust Collectors

Grydale JMS M-Series Dust Collectors are complete dust collection systems that feature a centrifugal exhaust fan, dirty air intake, patented drop out box, high efficiency filters, reverse pulse filter cleaning system, dust discharge system, clean air exhaust and fan silencer. All components are mounted on a single mobile base to create 6m<sup>3</sup>/s to 60m<sup>3</sup>/s of air flow.

Grydale JMS M-Series mobile dust collectors feature our proprietary technology that sets the units apart as pioneering dust collection solutions.

The JMS M-Series is a full range of mobile dust collection units. Units are available powered by diesel, electric or hybrid systems. A full range of mobility options are available including the internationally patented Track mounted units, Hydraulic Stepping Systems, Drag Skids, Trailer Mounted and Castor Wheel (Tow-able) units.

Mobility combined with compact integrated design provides significant advantages on construction sites.

In addition to the control of harmful dust, Grydale mobile dust collectors can also be used to recover valuable product in a range of industrial processes.



MINING



TUNNELLING



ABRASIVE  
BLASTING



BULK STORAGE  
HANDLING

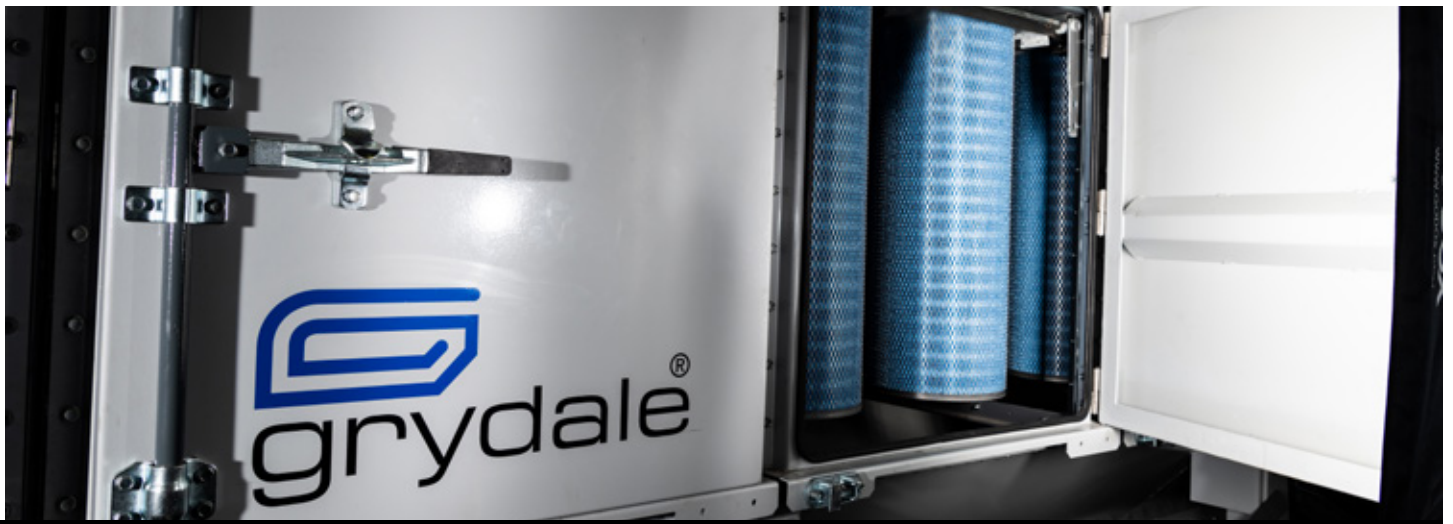


SOURCE  
EXTRACTION



CIVIL  
CONSTRUCTION

Grydale mobile dust collection units are being used to manage dust and fume exposures within a wide range of industries.



# JMS-6-MEC

Designed for tunnel cross passage construction and sites with restricted access

## Overview

The **JMS-6-MEC** (Mobile, Electric, Castor Wheel) is a complete dust collection system mounted on a compact, castor wheel base. It features a 37kW centrifugal exhaust fan to create **6m<sup>3</sup>/s @-2.5kPa**.

## Mobility

When units need to be repositioned there is limited downtime in construction works as the complete unit can be moved easily using one of the two available options:

- **Sliding** – the dust collector features compressed rigid castor wheels to allow ease of movement.
- **Lifting** – the dust collector also has four designated lifting lugs at each corner of the machine allowing the units to be lifted into position.

## Power

The **JMS-6-MEC** uses 380-480V to power the centrifugal exhaust fan, whilst hydraulics are used to power the auger and rotary valve discharge system.

The standard configuration for the **JMS-6-MEC** includes a Variable Speed Drive (VSD). The VSD is used in conjunction with a high precision Air Velocity Probe to minimise the power needed to achieve the air volume required. This makes the units power efficient and allows projects to reduce their power consumption by up to 40%.

## Air Intake

Flexible couplings allow the 600mm ø dirty air intake to connect effectively to ducting on uneven surfaces.

## Filters

12 High efficiency filter cartridges provide filtration of both dust and diesel particulates. Baffle plates distribute air throughout the dust collector ensuring an even wear of filters.

## Filtration Efficiency

Independent, NATA certified Air Flow Performance and Filtration Testing has been conducted both above and below ground as part of rigorous Performance Verification and Certification processes and shows a collection efficiency of 99.99% at 0.067 micron.

## Filter Maintenance

The filters can be easily accessed through the two filter access doors to allow efficient filter maintenance to maximise machine up-times.

Changing the filters at the optimum time ensures the dust collector does not draw more kW than required to maintain air flows.





# Key Features

NATA certified air flow performance and filtration tested

## Reverse Pulse Cleaning System

The **JMS-6-MEC** is connected to an external compressor to provide air for the on-board reverse pulse filter cleaning system, using the plant air receiver tank and attachment kit fitted to the unit.

Jet tubes direct air inside the filters which blasts air from the inside of each filter, effectively removing dust build-up and prevents the filters from clogging. The adjustable timer allows the pressure and frequency of pulse cleaning to be set to the application and dust loading. This reduces the number of filter changes required.

**Configuration option:** There is an option to include an on-board compressor if plant air is not readily available.

## Centrifugal Fan

Centrifugal fans offer superior energy efficiency and enhanced durability, allowing them to operate in even the most corrosive environments. The standard configuration for the **JMS-6-MEC** features a 37kW centrifugal fan to provide **6m<sup>3</sup>/s at -2.5kPa** using one motor and one impeller to develop system pressure.

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

## Fan Silencer

Exhausted air passes through silencers to reduce noise pollution. Units can be supplied with a square to round attachment allowing a vent bag to be attached to the exhaust side if required.

**Configuration option:** Custom exhaust silencers can be designed and manufactured to meet site acoustic requirements.

## Dust Discharge System

The standard configuration for the **JMS-6-MEC** includes a hydraulic reversible incline auger and stainless steel rotary valve dust discharge system. The incline auger discharges dust particles to a 1T bulker bag.

The use of hydraulics to power the augers and rotary valves maximises their efficiency, whilst the ability to reverse the augers and force material through clean out hatches is key to increasing uptime in the event of product build up in the hopper and auger. This reduces the maintenance effort and the requirement to have LV and HV electricians servicing a mechanical component.

**Configuration options:** There are alternative dust discharge configurations if required to meet space restrictions on site:

- **Front facing auger** to discharge product to the site floor.
- **Side incline auger** if there are length space constraints.



# Key Features

Sophisticated instrumentation combined with CANbus technology

## Programmable Logic Computer (PLC) with HMI Interface

A simple one button start-up / shut-down sequence starts / stops all critical components in a programmed order which increases the efficiency of the unit and provides additional safety for workers.

A 7" button dashboard display facilitates ease of operation. On-screen instructions and warnings display error codes which provide a powerful diagnostic tool to support service and maintenance staff.

**Configuration option:** There is the option to upgrade to a 12" touch-screen display.

## CANbus System

The CANbus system enhances the speed, flexibility, and reliability in communication along with supporting effective troubleshooting and maintenance from off-site. The system retains key alarm logs so that system performance and troubleshooting can be undertaken as required.

Key instruments that use the CANbus system include:

### Air Flow Meter

The air flow meter monitors the air flow from the exhaust, to help dynamically control the VSD.

### RealTime Emissions Monitoring

Real time particle detectors examine emissions coming out of the clean air exhaust and can be tuned to meet the requirements of any given site. The unit can be programmed to alarm when levels are being approached and exceeded.

## Static and Differential Pressure Gauges

The static pressure monitor alerts the operator if it is necessary to turn the system volume up due to a long duct run or if there's a blockage in the ducting.

The differential pressure monitor alerts the operator if filters are blocked or if there are higher than normal dust loads.

## Safety Features

Grydale JMS M-Series Dust Collectors offer a number of features that focus on maximising the health and safety of workers along with providing a safe working environment by controlling dust and fumes.

The key safety features on the **JMS-6-MEC** include:

### Emergency Stop System

Two emergency stop buttons are located on the front and rear of the **JMS-6-MEC**.

### Operation & Maintenance Lights

Operational and maintenance lights have been fitted in key locations on the unit giving operators and maintenance workers clear visibility of components and / or to illuminate working spaces.

# Technical Specification

## JMS-6-MEC

### Overview

Power	415V Electric
Variable Speed Drive	37kW 3 Phase VSD
Mobility	4 x Castor Wheels (1.8T Capacity Each) Plus: 4 x Lifting Lugs, 4 x Rigging Mounts
Fabrication	3mm & 5mm Mild Steel International Two Pack Paint
Air Intake Ø	1 x 600mm Ø

### Filter Technical Data

Air Volume	6m <sup>3</sup> /s
Number of High Efficiency Filters	12
Filter Cleaning Efficiency	99.99% at 0.067 micron
Total Filter Surface Area	252m <sup>2</sup>
Filter Temperature Limit	82°C (179.6°F)
Method of Changing Filters	Via 2 Filter Doors
Estimate Filter Change Time	Two Technicians x 1hr

### Centrifugal Fan

Maximum Pressure Drop Across Filters	-2.5kPa *
Electric Motor	37kW-2P
Hydraulic Motor	4kW
Variable Air Flow Control	Yes
Fan Silencer	Yes
Exhaust Outlet Ø	600mm Ø

### Reverse Pulse Cleaning System

Reverse Pulse Cleaning Solenoids	4
Filter Pulse Cleaning System	Plant Air Receiver Tank (180L) and Attachment Kit
Adjustable Pressure & Frequency Rate	Yes
Auto Drains	Yes

### Discharge System

Main Screw Conveyor Auger	1
Incline Screw Conveyor Auger	1 - With Swivel Connection Option: Front / Side Incline Auger
Stainless Steel Rotary Valves	1



### Instrumentation

PLC	Yes
HMI	7" Touch Button Display Option: 12" Touch Screen Display
Control System	CANBus
Static & Differential Pressure Gauges	Yes
Velocity Probe	Yes
Emissions Monitoring Probe	Yes – 24V

### Electrical System and Wiring

Single Cubicle for Power Distribution and Control	Yes
Complies to AU / NZ / EU / CE Standards	Yes
Double Door Enclosure	800x800x300 IP 65 1.5mm
Receptacle	150 AMP
Starter and Protection	1 x 37kW VFD
Control Wiring and Relays	24VDC

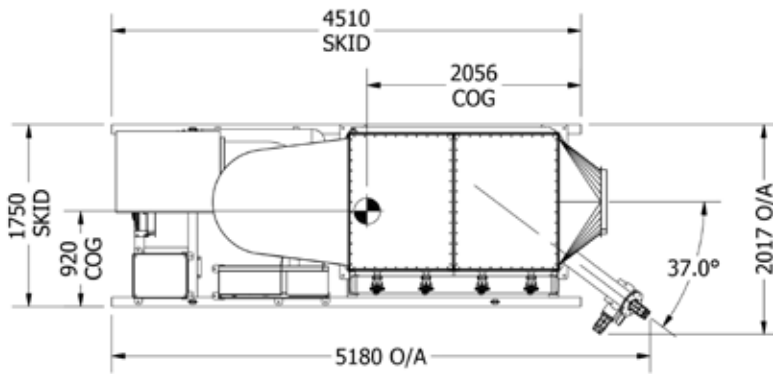
### Safety Features

Risk Assessment	Available on Request
Isolator	Mains Isolator
Emergency Stops	2
Operation & Maintenance	Yes
Amber Rotating Beacons	2

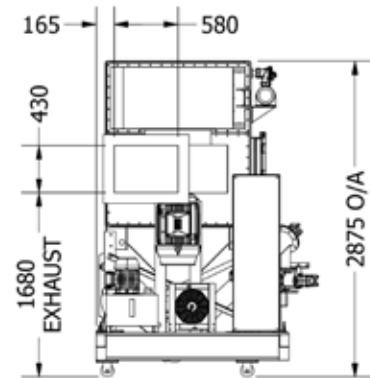
\* Alternative centrifugal fans can be utilised to optimise air volume and pressure to suit site conditions and specific applications.

# Technical Specification

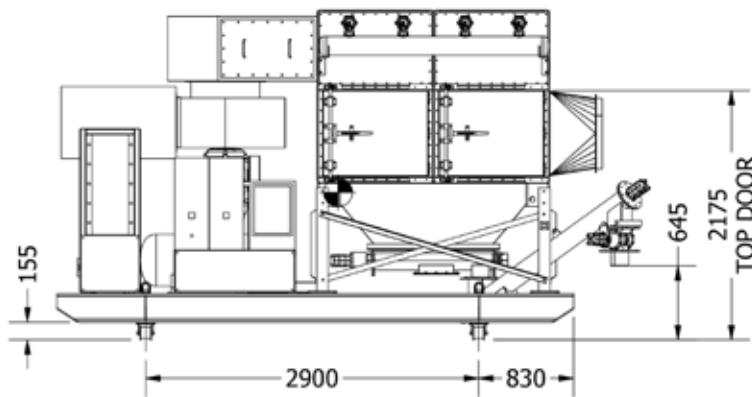
## JMS-6-MEC



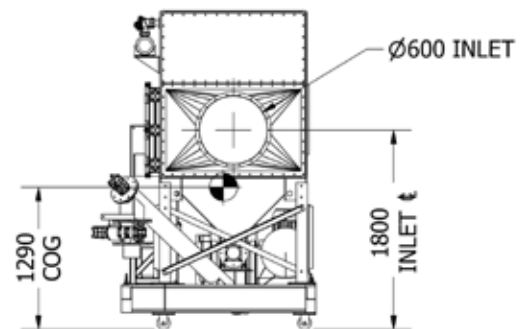
TOP VIEW



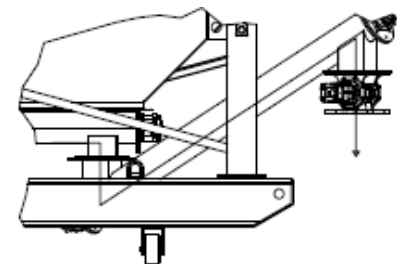
LEFT VIEW



FRONT VIEW



RIGHT VIEW



DUST DISCHARGE SYSTEM

### Key Dimensions

Maximum Height	2875mm
Maximum Width	1750mm (skid) 2017mm (with rear discharge auger)
Maximum Length	5180mm (with rear side discharge auger) 5645mm (with rear discharge auger)
Mass	4.5T

### JMS 6 M-Series. Product Range

6m<sup>3</sup>/s air volume, available as:

- **JMS-6-MES** - mobile, electric, skid dust collector

### Grydale. Experts in Dust Control

Our team have 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.

**Contact us** for more information.



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