



# SIGMA AIR CONDITIONING

## OVERVIEW

**SIGMA AIR CONDITIONING** is part of the Knorr-Bremse Group, based in Munich Germany, the world's leading provider of system solutions for rail and commercial vehicles.

Sigma Air Conditioning is a leading global company in the development of bespoke Heavy Duty HVAC Systems for the Rail, Mining, Industrial and Defence markets and an OEM supplier to global brands. With over 50 years of experience in specialised HVAC solution, our products are designed & engineered in Australia for global deployment.



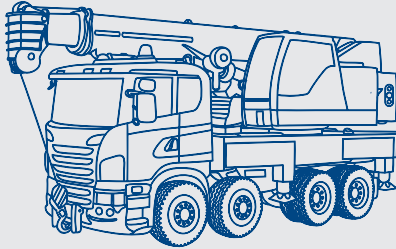
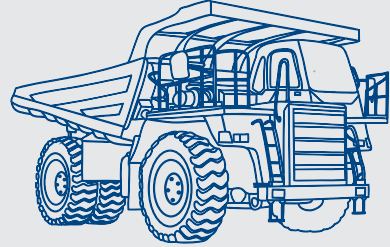
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**BUILT FOR THE TOUGHEST AIR CONDITIONS**

# INDUSTRY BASED SOLUTIONS

## MINING SYSTEMS

SIGMA mining equipment is designed to the highest of industry standards to suit the harshest of mining conditions. Designed and engineered for production critical machines to withstand extreme ambient temperatures, punishing shock & vibration loads and dust saturated atmospheres.

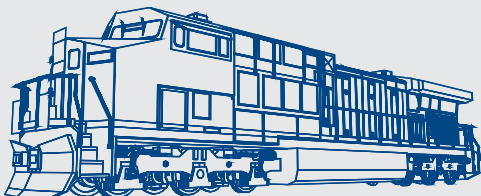
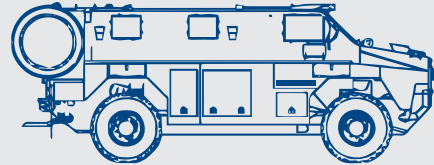


## INDUSTRIAL SYSTEMS

The SIGMA range of industrial air conditioning equipment is specifically designed to operate in dust laden corrosive atmospheres and very high ambient temperatures of up to 75°C (185°F). Environments include aluminium smelters, refinery operated cabins, earthmoving equipment, ports, construction, cranes, switch rooms and other production critical industrial equipment.

## DEFENCE SYSTEMS

The SIGMA brand comprises a complete range of bespoke air conditioning solution, with a product to suit specific defence projects and application. SIGMA offer unique equipment to suit both static and mobile applications for protected mobility and deployable health shelters with the defence industry



## TRACK MAINTENANCE

Drivers' comfort and safety is an important aspect to ensure the safe operation of rolling stock networks globally. SIGMA's track maintenance and locomotive driver's cab air conditioning systems and HEPA filtration have been designed to operate in some of the harshest conditions around the world, where outside temperatures exceed 50°C.

# HVAC SOLUTIONS



## SPLIT & PACKAGE SYSTEM

Prepackged standard systems for plug & play applications

- industry leading standard features
- easy installation
- robust ecosystem with optional upgrades



## INTEGRATED SYSTEM

Custom designed & built to suit specific OE vehicles

- seamless intergration
- customisable cooling/heating, voltage & material type



## DC HVAC TECHNOLOGY

New technology

- Simplified Anti-Idle system
- decoupling HVAC from the engine
- batteries energy management systems
- data monitoring/downloads

## FRESH AIR FILTRATION

Filtration system to ensure consistent supply for fresh air for operator comfort & safety



## ENDURANCE

MERV 15 compliance filtration systems

- 45% - 95% efficiency for particles upto 0.4  $\mu$ m

## HEPA

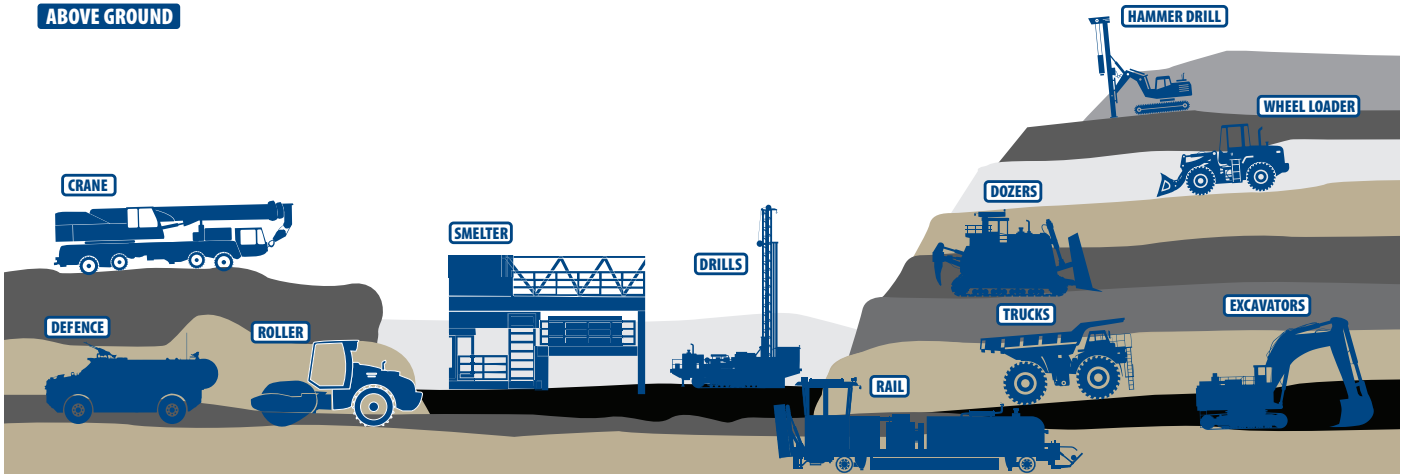
H13 compliance filtration system to ensuring cabin air is safe to breathe and free from airborne contaminates

- WHS & MSHA solution
- 99.95 - 99.97% filter efficiency for particles upto 0.3  $\mu$ m

| VEHICLES                                 | DRAGLINE & SHOVEL | DRILL | EXCAVATOR | DOZER | TRUCK | WHEEL LOADER | CONSTRUCTION | UNDERGROUND EQUIPMENT | INDUSTRIAL | SMELTERS | RAIL SPECIAL VEHICLES | DEFENCE |
|--|-------------------|-------|-----------|-------|-------|--------------|--------------|-----------------------|------------|----------|-----------------------|---------|
| STANDARD/<br>ENDURANCE<br>AIR FILTRATION | ●                 | ●     | ●         | ●     | ●     | ●            | ●            | ●                     | ●          | ●        | ●                     | ●       |
| HEPA FRESH<br>AIR FILTRATION             | ●                 | ●     | ●         | ●     | ●     | ●            | ●            | ●                     | ●          | ●        | ●                     | ●       |
| SPLIT & PACKAGE<br>SYSTEM                | ●                 | ●     | ●         | ●     | ●     | ●            | ●            | ●                     | ●          | ●        | ●                     |         |
| INTEGRATED<br>SYSTEM                     |                   | ●     | ●         |       | ●     |              |              |                       | ●          |          |                       | ●       |
| DC HVAC<br>TECHNOLOGY                    |                   |       |           | ●     | ●     |              |              |                       |            |          |                       |         |

# VEHICLE APPLICATIONS

## ABOVE GROUND



## UNDERGROUND

### UNDERGROUND WHEEL LOADER



### UNDERGROUND MINING TRUCK

## SERVICE & SPARE PARTS SUPPORT

SIGMA's Customer Support Group recognises the need for total product support and all service and spare parts facilities are geared to provide this support. Close co-operation with equipment suppliers and end users is of paramount importance; such that all equipment-running requirements are strictly compliant at all time.



### TRAINING

SIGMA provides customer service schools and training programmes. These programmes are structured to acquaint customer service personnel with the basic features, installation, operating and service of SIGMA equipment.



### QUALITY ASSURANCE

- ISO 9001:2015 certified company
- IRIS Certification ISO/TS 22163:2017

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