

# Howden's range of ACI mine heaters for all applications



# Howden, a Chart Industries Company, specializes in the design, manufacture, and installation of mine ventilation solutions.

**The Howden range of ACI mine air heaters are available in the following configurations: Portable, Permanent, Direct Fired, Indirect Fired, Horizontal Discharge, Vertical Discharge, Single Fan, and Multi-Fan.**

Our single-source solutions result in lower capital cost, safe and quick installations, shortened start-up times to get up to production quickly, and ease of operation and maintenance.

The secret behind the ACI range is the unique modular approach to equipment design, manufacturing and installation that is provided seamlessly from dedicated in-house resources.

Our heaters are capable of burning everything from Natural Gas and Propane to Waste Oil.





### M.I.D Heaters

Howden's ACI M.I.D (Modular Integrated Design) heaters are optimized mine air heating solutions that are designed for long life, maximum flexibility and unparalleled energy efficiency.

M.I.D heaters can be designed to accommodate airflow ranges from 100,000 CFM to 2,500,000+ CFM. The entire M.I.D solution is pre-constructed and then dismantled in minimal sections for shipment to site. Our experienced field installation team will efficiently reconstruct the entire system once on site.

Quiet, environmentally friendly operation is assured for all M.I.D heaters due to Howden's implementation of the best available technologies, clean combustion, and proprietary, noise-proof design. M.I.D configurations include: direct fired propane or natural gas, electric and indirect fired waste oil or diesel fuel - each of which can be combined with innovative waste heat recovery or geothermal inlet plenums for maximum energy efficiency, minimized fuel consumption and significantly reduced operating cost.



### Ultra Low Emission Heaters

To support mine safety, there is an emerging global trend to reduce levels of human exposure to NO<sub>2</sub> in mining workplaces.

Howden's ACI Ultra Low Emission Heaters old flame technology provides uniform temperature differential while maintaining NO<sub>2</sub> emission under 0.2 ppm, significantly reducing miner exposure.

#### Main benefits

- Provides the lowest direct-fired, mine air heating emissions available
- Can be seamlessly integrated into most existing mine ventilation systems
- Protects the existing mine fan and associated devices from potential failure caused by heat stratification
- Maximizes safety and efficiency while reducing potential downtime and the need for additional footprint/retrofitting



### SIMPLEX Heaters

Howden range of ACI SIMPLEX mine air heaters is a cost effective, pre-approved, ETL certified solution for the mining industry (no field approvals required).

SIMPLEX heaters are designed to accommodate airflow ranges from 25,000 CFM up to 350,000 CFM. SIMPLEX configurations include: direct fired propane or natural gas, electric and indirect fired diesel fuel.



With our vast range of mine heating solutions, Howden sets the standard for heating north of 60°.

### M.D.A.H Heaters

The M.D.A.H (Mine Development Air Heater) is an economical solution for temporary mine air heating. The M.D.A.H was explicitly designed for mine development and exploration sites where dependability and portability are essential. The M.D.A.H is available in three standard sizes, each with a typical temperature differential heating capacity of 90°F: (25,000 CFM, 60,000 CFM, 100,000 FCM).

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