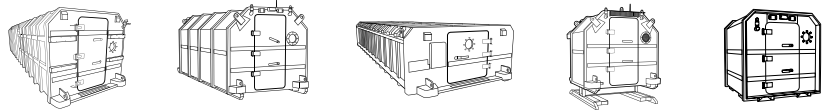


MineARC® Systems

Hard Rock Mine-Extra Low Voltage Portable (HRM-ELVP) Refuges

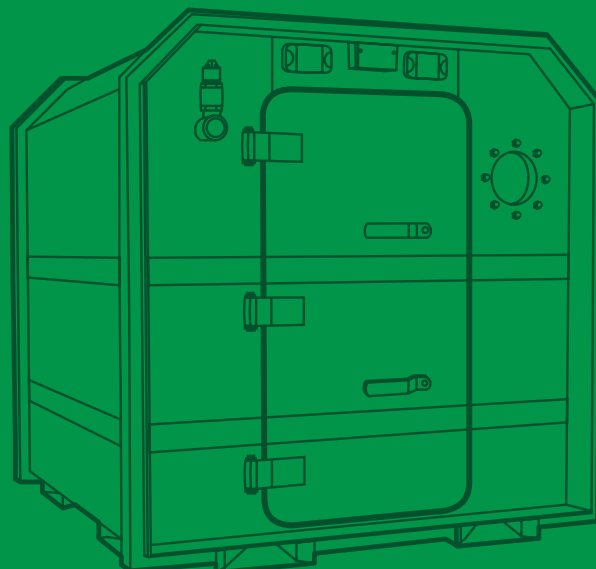
Designed to provide a refuge or 'safe-haven' for miners suddenly trapped in a hazardous or toxic environment.



The world's leading manufacturer of emergency life-saving refuge
Mining Safe. MineARC®.



MineARC® HRM-ELVP Refuges



Configurations

HRM4-ELVP (4 Person) Chambers

| Standard Model | | | | |
|--------------------|---------------|--------------|---------------|-----------------|
| Capacity (persons) | Height (m/ft) | Width (m/ft) | Length (m/ft) | Weight (kg/lbs) |
| 4 | 2.0 / 6' 6" | 2.0 / 6' 6" | 2.0 / 6' 6" | 2200 / 4850 |



Standard Model



Blast Resistant With Upper Forklift Slots

HRM6-ELVP (6 Person) Chambers

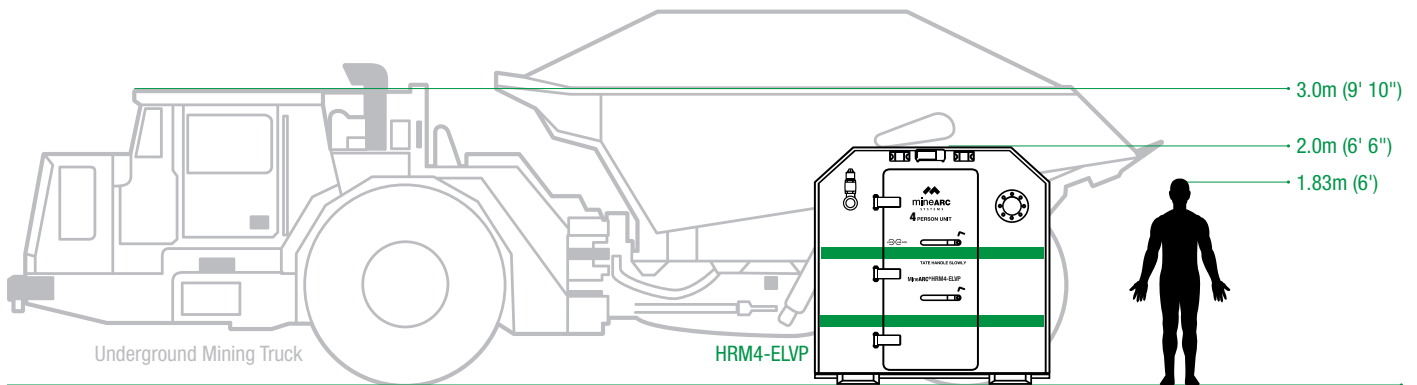
| Standard Model | | | | |
|--------------------|---------------|--------------|---------------|-----------------|
| Capacity (persons) | Height (m/ft) | Width (m/ft) | Length (m/ft) | Weight (kg/lbs) |
| 6 | 2.0 / 6' 6" | 2.0 / 6' 6" | 2.4 / 7' 10" | 2350 / 5180 |



Standard Model



With Base Frame



Portable Flexibility

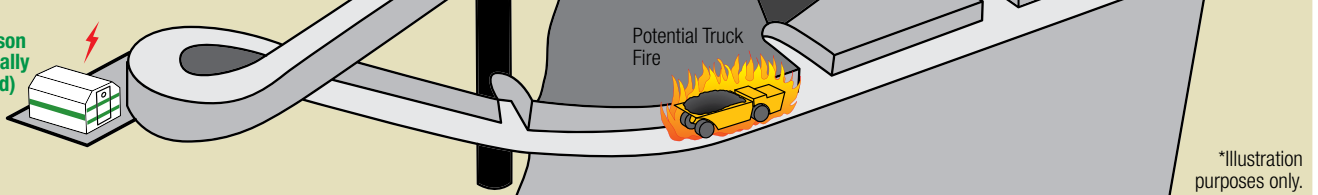
The ELVP range was developed in response to industry's request for a small, highly portable refuge chamber suitable for tight mining confines (such as single entry headings) where work carries on in front of loaders, boggers and other heavy units. Should a vehicle catch fire or a fall of ground occur behind them, personnel at the working face could potentially become cut off from a place of safe refuge.

With their compact, ultra-portable design together with the added flexibility of MineARC's unique extra low voltage life support technology, the HRM4-ELVP and HRM6-ELVP are perfectly suited to this type of scenario:

Both the HRM4-ELVP and 6ELVP offer a minimum 36hrs of life support; **requiring no external electrical power to operate during an emergency.**

With connection to 'mains' (mine) power no longer required, the units can be repositioned with ease to virtually any location underground.

HRM20
(20 Person
Electrically
Powered)



*Illustration purposes only.

Features Summary

MineARC® HRM4-ELVP Refuge Chamber

- ▶ 4 / 6 Person Occupancy
- ▶ 5mm (1/4") Steel
- ▶ 36 to 96 Hours Safe Refuge
- ▶ Primary & Secondary Air Supplies
- ▶ CO and CO₂ Scrubbing
- ▶ Air Conditioning
- ▶ Gas Monitoring
- ▶ Complies with West Australian DMP Guidelines
(Refuge Chambers in Metalliferous Mines, 2010)



Standard HRM4-ELVP Pictured



Extra-Low-Voltage CO/CO₂ Scrubbing Systems and Air Conditioning

The HRM-ELVP range of refuge chambers feature an Extra Low Voltage electrical system to power the chamber's internal life-support systems, including CO / CO₂ scrubbing and air conditioning / dehumidifying. Both systems ensure a safe internal environment for occupants over prolonged entrapment durations.

Because of the extra low voltage system, the refuge can be left on 'stand-by' for extended periods (up to 3 months) without the need to charge battery banks via connection to mains (mine) power. When on standby the refuge's external strobe lights and siren will still operate, alerting personnel to the refuge chamber position.



Service and Maintenance

MineARC HRM-ELVP refuges are easy to inspect and maintain, requiring minimum preparation and ongoing maintenance. The scrubbing system uses specially designed pre-packaged chemical cartridges that are easy to handle and can store for long periods.

Secure UPS Storage

The rear of the HRM-ELVP refuge is fitted with a secure compartment housing the chamber's uninterruptable power supply (UPS). During an emergency these batteries provide enough power to operate the chamber's life support systems for between 36 to 96 hours, standalone.





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