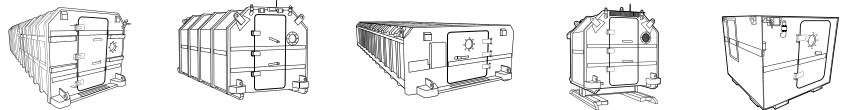


MineARC® Systems

Hard Rock Mine-Powerless Portable (HRM-PLP) Refuges

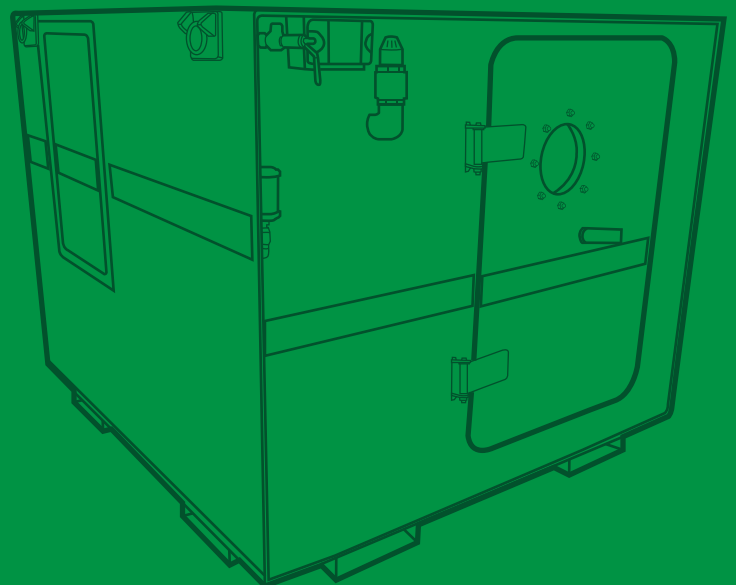
Designed to provide a refuge or 'safe-haven' for miners suddenly trapped in a hazardous or toxic environment.



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



MineARC® HRM-PLP Refuges



Configurations

HRM4-PLP (4 Person) Chambers

Standard Model				
Capacity (persons)	Height (m/ft)	Width (m/ft)	Length (m/ft)	Weight (kg/lbs)
4	1.5 / 4' 11"	1.8 / 5' 11"	1.8 / 5' 11"	1500 / 3300 *Includes cylinders



Standard Model



With Raised Skirts and 15psi Blast Resistance

HRM6-PLP (6 Person) Chambers

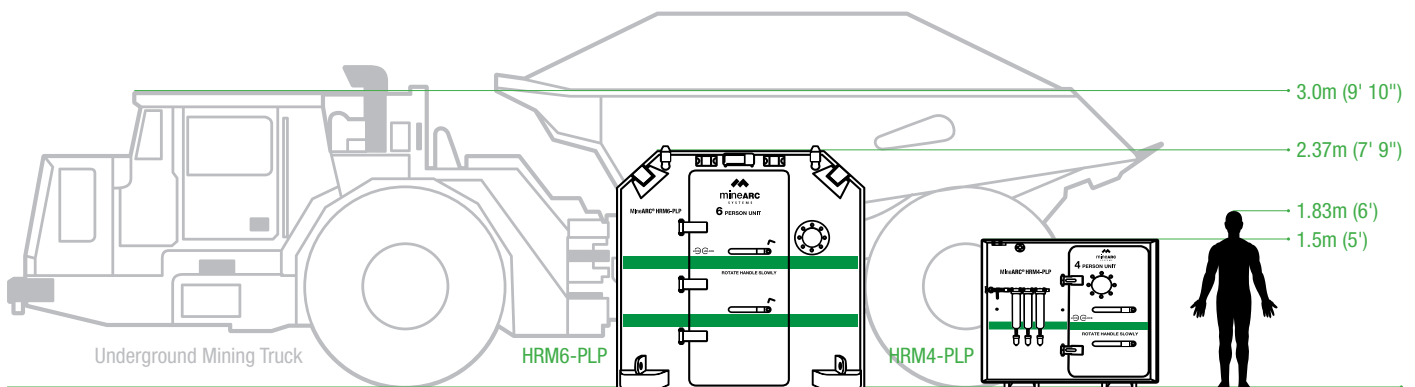
Standard Model				
Capacity (persons)	Height (m/ft)	Width (m/ft)	Length (m/ft)	Weight (kg/lbs)
6	2.37 / 7' 9"	2.31 / 7' 7"	3.1 / 10' 2"	2600 / 5720 *Includes cylinders



Standard Model



With I.T. Hitch



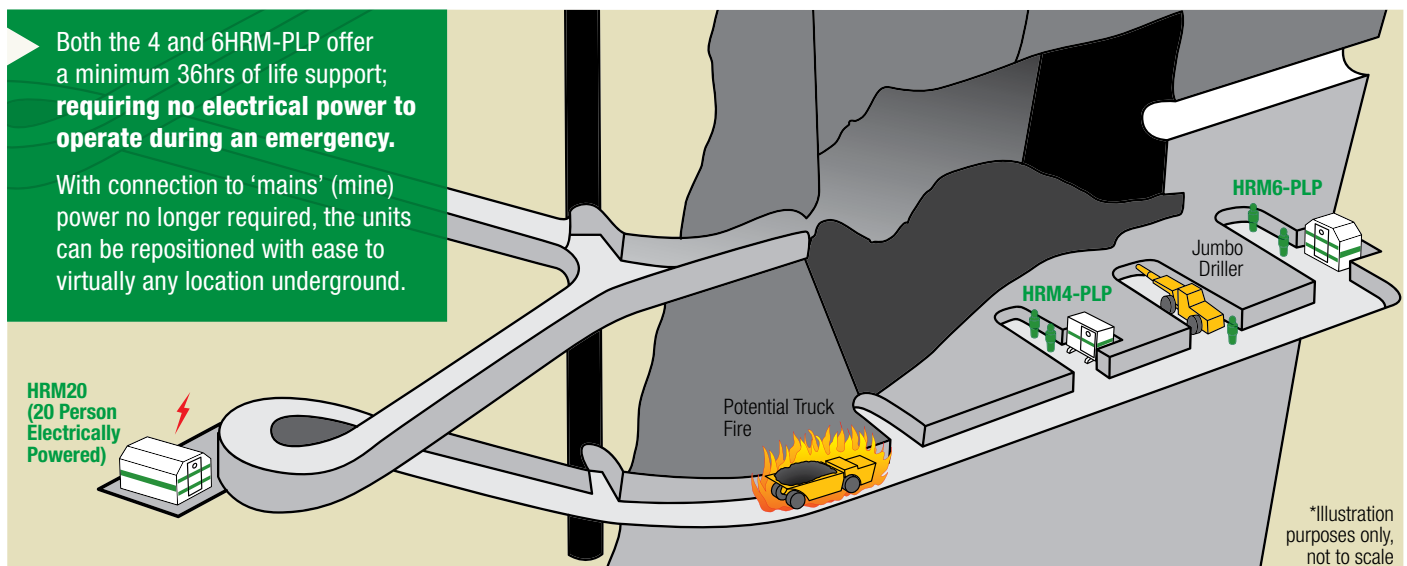
Powerless-Portable Flexibility

The PLP 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 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 powerless life support technology, the HRM4-PLP and HRM6-PLP are perfectly suited to this type of scenario:

Both the 4 and 6HRM-PLP offer a minimum 36hrs of life support; **requiring no 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.



Features Summary

MineARC Powerless Portable Refuge Chamber

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



HRM4-PLP with Optional
I.T. Hitch, Raised Skids and
15psi Blast Resistance



The MARCis® Powerless CO/CO₂ Scrubbing with Integrated Air Conditioning

The MARCis is the world's first non-electrically powered (intrinsically safe) CO/CO₂ scrubber with integrated air conditioning and dehumidifying - representing a breakthrough in safe refuge technology. Under normal circumstances the HRM-PLP is connected to a mine's main air supply. Mine air automatically flushes the refuge of harmful CO/CO₂ gases and cools the refuge as it passes through a special vortex.

Should mine air suddenly be disrupted or unavailable, the MARCis is activated - scrubbing the air of CO/CO₂ whilst also cooling and dehumidifying the refuge. Powered by liquid CO₂, the MARCis is easy to operate and features four levels of scrubbing/cooling capacity. To maintain internal oxygen levels, medical grade oxygen cylinders and oxygen candles are activated once inside the refuge.

Service and Maintenance

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

Secure Cylinder Storage

Should mine air supply be disrupted or unavailable, the MineARC HRM-PLP refuge uses liquid CO₂ cylinders to power its internal life support systems (the MARCis). The secure cylinder compartment at the rear of the refuge can house enough CO₂ cylinders to power the MARCis for a minimum of 36hrs.





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