

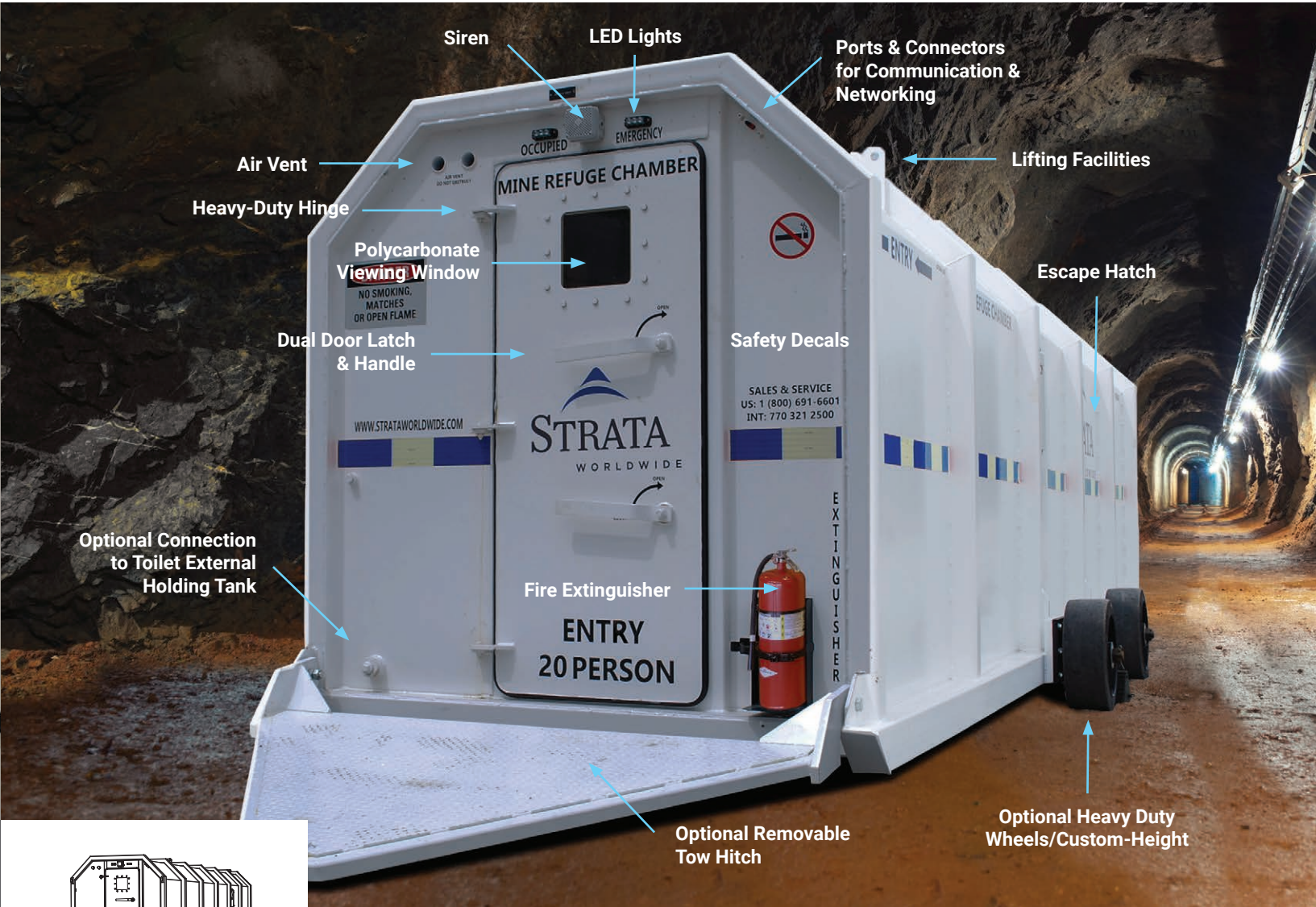
/strata protect



Strata Emergency Refuge Chamber ERCX

Including the Latest in Advanced Technology





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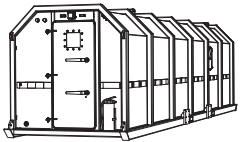
Emergency Refuge Shelters are complete safety systems built for the critical purpose of providing a safe-to-breathe, isolated atmosphere when the breathing air in the working section has become compromised. They are ideal for incidents such as a fire outbreak, ventilation failure, sudden release of toxic gas or a gas-related explosion. They are intended for use when self-escape is not possible.

Strata's chambers are easily tailored to meet local, federal and industry regulations.

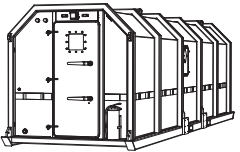
DIMENSIONS

Occupancy/Size	ERCX-8	ERCX-12	ERCX-20	ERCX-26
Length m/feet	4.9 / 16	6.4 / 21	7.9 / 26	9.5 / 31
Width m/feet	2.3 / 7.5	2.3 / 7.5	2.3 / 7.5	2.3 / 7.5
Height m/feet	2.3 / 7.5	2.3 / 7.5	2.3 / 7.5	2.3 / 7.5

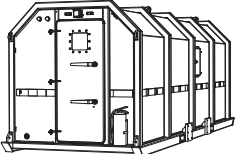
*Final weights differ depending on selected time duration



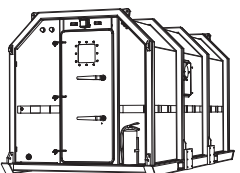
ERCX-26-PERSON



ERCX-20-PERSON



ERCX-12-PERSON



ERCX-8-PERSON

EXTERIOR COMPONENTS - FRONT

Airlock Compartment *Optional

- Separate compartment sectioned off from main chamber to help minimize entrance of air contaminants.
- Selection of heavyweight PVC curtain or secondary steel door.
- Includes switch panel for chamber powering, lights and siren.
- *OPTIONAL purge air system to flush potential air contaminants.
- *OPTIONAL wall mounted CO gas detector.

Connection to Mine Network

- Bulkhead ports and connectors for connection to facility networks and communication devices.
- Custom communication and remote monitoring devices, including Wi-Fi access, VoIP phones, mine phones, cameras,

gas detectors, atmospheric monitoring systems and more.

* **OPTIONAL** integration of Strata IMACC System (pg 5)

Wheels and Towing Package *Optional

- Wheels and towing package to facilitate maneuverability and minimal wear-and-tear.
- Heavy duty axles and solid, highly resistant rubber wheels.

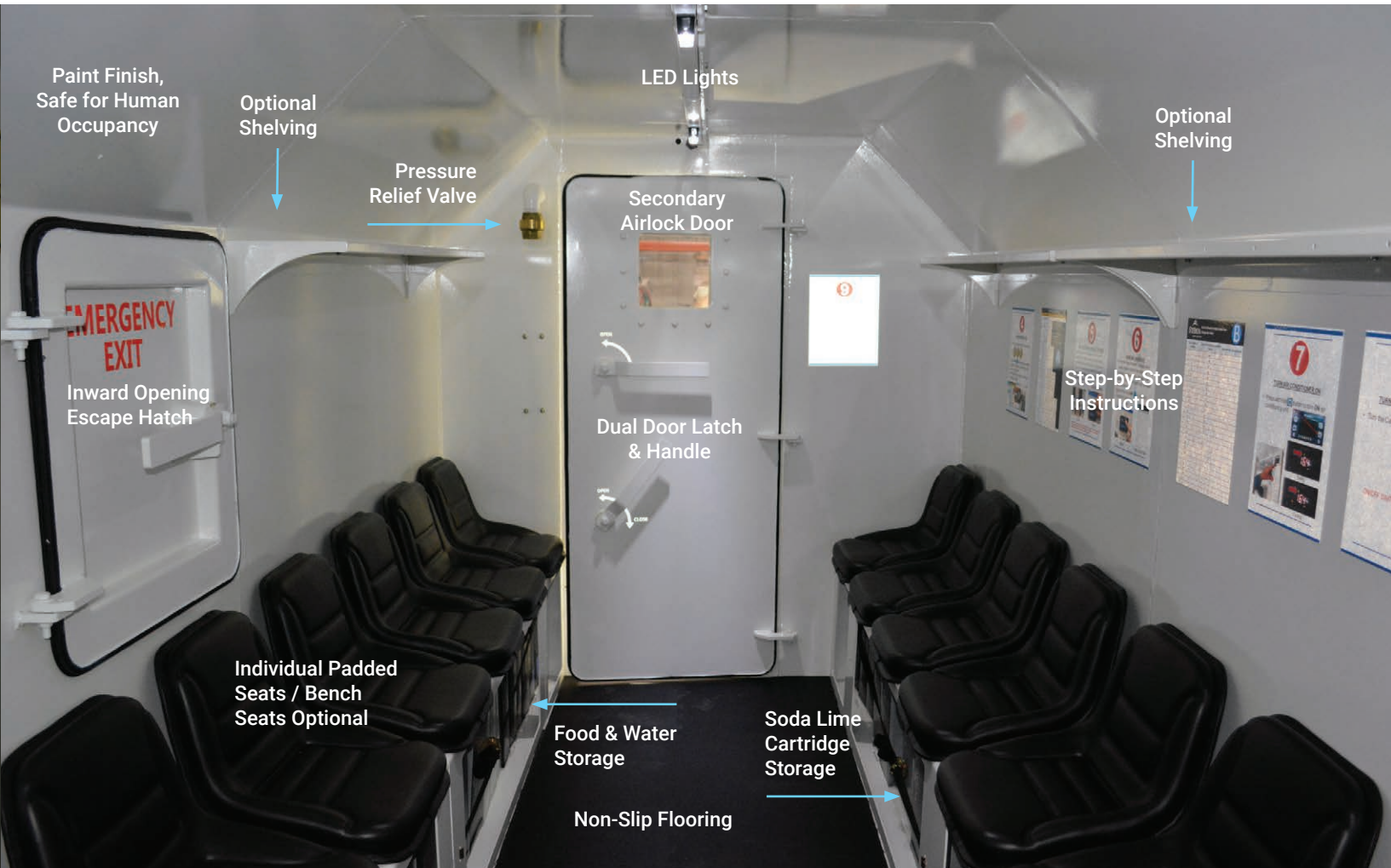
***OPTIONAL** upgrade to high clearance wheels.

***OPTIONAL** upgrade to extreme duty wheels.

Fire Extinguisher

20lb (9kg) ABC dry chemical fire extinguisher.

***OPTIONAL** additional units



/equipment /interior components

BREATHING AIR SYSTEM

Onboard Stand-Alone Breathable Air System

- Strata ActiveAir™ carbon dioxide scrubber equipped with a built-in fan system actively circulates air through soda lime to remove the CO2.
- Soda lime packaged in spill-proof cartridges for easy handling and elimination of airborne dust.
- Built-in automated timer with audio visual alarms for cartridge change-out schedule. Back-up chart provided.
- Individual cylinder, valve-mounted regulators with flow meters, to provide regulated O2 supply.

* **OPTIONAL** built in O2 and CO2 gas detectors with digital read-outs

OPTIONAL COMPONENTS

Air Conditioning and Dehumidifier

- Highly efficient Mitsubishi 220/230 VAC 50/60 hz air conditioning unit.
- Heat produced by humans and CO2 scrubbing over a long period could create an uncomfortable and hazardous environment for the occupants.

Automated Oxygen System

Strata's automated O2 system automatically adjusts cylinder flow rates and keeps O2 concentration at safe levels. This eliminates the need for a person to monitor levels and make adjustments manually. Periodic monitoring is still required.



Multi-Gas and Environmental Monitoring Station *Optional

- Sentro8 SensorStation is a complete, integrated environmental sensing system placed inside the chamber.
- Up to eight channels for gas, environmental and power supply monitoring.
- LED display, AV alarms, control relays, datacomms.
- Flexible options with simple changing of compatible Sentro sensing modules or remote sensors.

Carbon Monoxide Conversion System *Optional

The Strata CO Converter is a battery-operated, self-contained catalytic CO remover that is magnetic mounted to the chamber wall.

Food and Water

Individually packaged emergency water and food provided.
2.25 quarts (2.1L) water and a 2000kcal food bar per person per day are stored under the seats and have a 6-year shelf life.

First Aid

First aid kit to suit the number of occupants, and a foldable stretcher for transporting injured persons are stored under the seats.

Private Sanitation

Lavatory situated in the airlock or concealed with an opaque privacy curtain.
Portable chemical toilet with a 5.5-gallon (21L) water reserve tank and tissue paper.

***OPTIONAL** external storage tank

IMACC System for Smart Safety

Intelligent Monitoring, Alert, Communication and Control System

Upgrade emergency safety and preparedness with Strata’s IMACC system. An intelligent connection between chambers and the surface.

STRATA IMACC BASICS – Connectivity between the Chamber and Surface

Real-time emergency communication and monitoring

- VoIP Phone
- Video Streaming with multiple views
- Sensor Data for Monitoring
 - Internal gas levels
 - Internal temperature & humidity
 - External power supply
 - External air supply flow and pressure
 - Battery voltage
 - Door open/closed

Long-term remote maintenance and sensor monitoring

- Battery Voltages
- Battery Charger Function
- External Power Source Voltage
- Chamber Tampering/Access

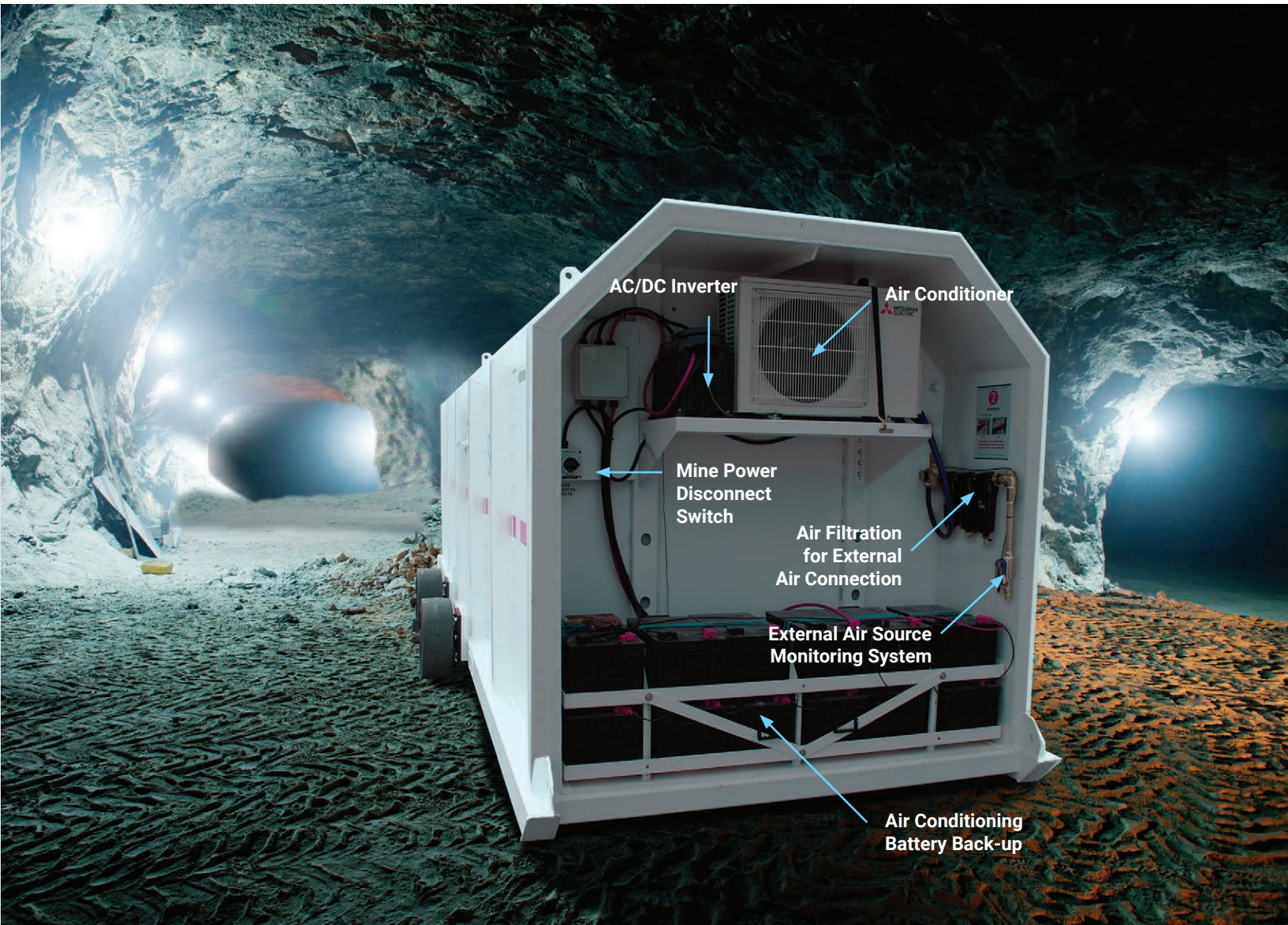
STRATA IMACC ADVANCED – Achieve the BASICS and add full integration into operation network for Remote Control, Custom Viewing, Data Logging and History Reporting

Place and identify chambers on interactive mine map

- Select individual chamber for detailed view and status monitoring
- Video streaming with multiple views. Full or split screens
- Remote control of systems and equipment with sophisticated input capabilities
 - Sensor alarm thresholds
 - Air conditioner settings
 - Consumable's expiration dates and change-out scheduling

Log data and view history within custom date ranges

- Alarm histories
- Sensor readings
- Recorded video
- Custom report generation



IMACC System for Smart Safety – The Basics

Gasess

CO2 0-5%

0.05

O2 0-25%

20.9

CO 0-500ppm

-999.9

Life Support

Battery 0 - 100%

80.2

Battery Voltage

25.2

Entry Door

Inside Climate

Relative Humidity

21.5

Inside Temp F

73.6

Flow Meter

Flow SCFM

0.0

Pressure PSI

0.0

Flow Temp F

80.8

Outback

AC Output Voltage

234.0

Battery Temp C

19.0

Operating Mode

2.0

Output kW

0.0

Battery Voltage

50.4

External Power

0.0

A/C

Drive Mode

3.0

Room Temp C

20.0

Run Mode

0.0

A/C Drive Mode Key

0 = Recirculation

2 = Humidity reduction

3 = Cooling

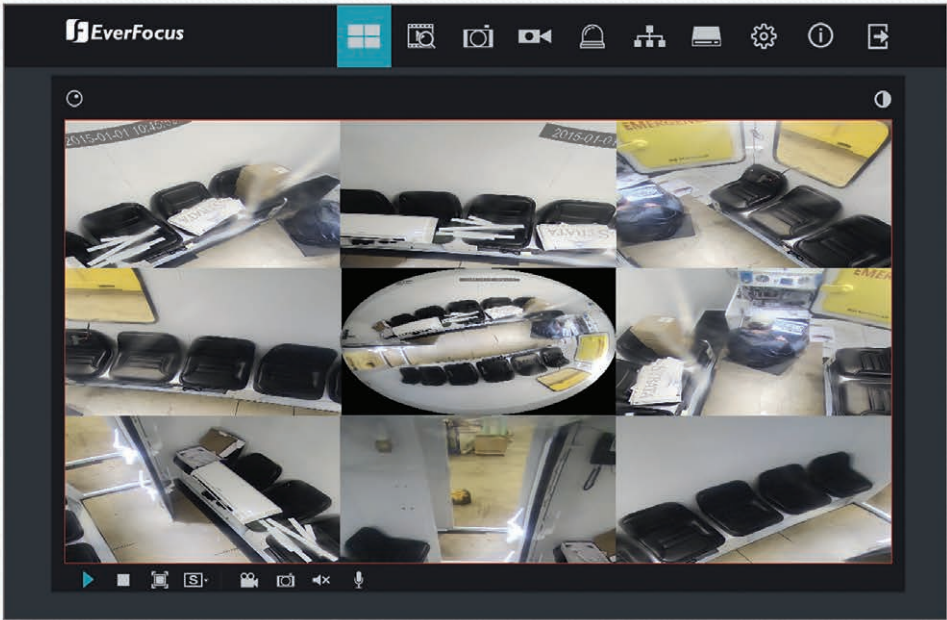
7 = Ventilation

8 = Auto

9 = 1 speed heating

10 = 1 speed Humidity reduction

11 = 1 speed Cooling



EXTERIOR COMPONENTS - REAR



OPTIONAL COMPONENTS

Compressed External Air Connected through Filter System

Chambers can be connected to external main air lines for an indefinite supply of air. Air flows through a high-quality filter system to clean the air and remove potential oil, water, odor and organic compounds (taste).

The air flows through a silencer to reduce noise level at the release point inside the chamber.

CO Detection & Diversion Line

A solenoid valve incorporated into the filter system to detect carbon monoxide

in the external air source. If detected, an audible alarm sounds, and the air is automatically re-routed to be released outside the chamber.

External Air Source Monitoring System

Measures the flow rate and pressure of compressed air entering the from the external air lines.

More than a Supplier...

Strata works closely with customers to fully understand individual operation and project needs. On-site and remote service capabilities ensure ongoing customer support during and following installation.

/strata protect



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