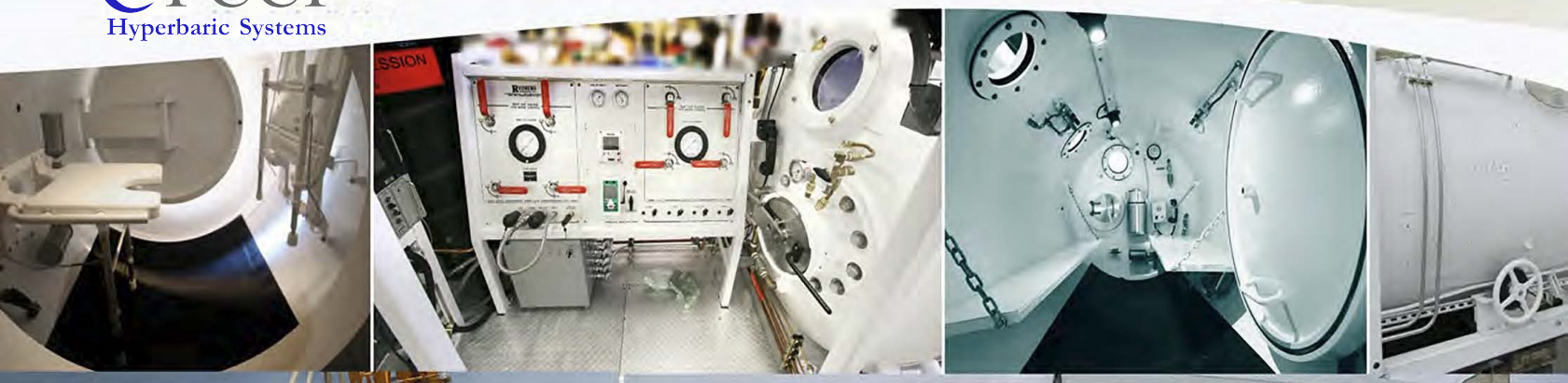
Shuttle Chamber System for Tunneling Applications
Model 5406D

PCCI
Hyperbaric Systems



The PHS **Model 5406D Shuttle chamber is a dual lock system designed for transporting tunnel workers from TBM Manlock to a topside Medical Air Lock or SAT system.**
The Shuttle System can be equipped to perform short duration SAT dives if needed.
The system comes with an attached or detached type control console that can be placed on a side or rear of the shuttle.
The system entry doorway is equipped with industry standard coupler to accomodate industry standard couplers (NATO, Tube Turns, or similar) for easy connection to a shuttle chamber, TUP (Transfer Under Pressure) or other chambers.

Model 5406D Shuttle system is equipped with a detachable type console comes enclosed in a ruggedly built 5′ X 5′ frame for easy handling and transportability. This configuration is convenient for smaller diameter tunnels where access is minimal and working with a side mounted control console is difficult.

NOTEABLE FEATURES of a PCCI Hyperbaric Systems (PHS) Model 5406D Shuttle Chamber System

- *Spacious & aesthetically designed interiors.*
- *Easy to use controls, that don't require electric power for operation in case of emergency.*
- *Equipped with attachable or detachable type control console options.*
- *Most daily control functions can be accomplished from the control console.*
- *Comes with 5' x 5' frame ruggedly built around the system and control console for protection during use in hazardous environments.*
- *Designed for easy handling and transportation using standard rail car tracks or crane.*
- *Provided with optional coupler for quick and easy mating with TBM air locks and top side Medical Air Lock or SAT System.*
- *Battery and electrically operated dual lock communication system with sound power phones as backup.*
- *Mirror/Override controls and indicators for pressurization and depressurization from inside the lock.*
- *Equipped with silencers on inlet air supply and exhaust lines inside & outside for adequate noise attenuation.*
- *Control console equipped with aluminum protective cover to keep dirt away from the controls.*
- *Control console provided with emergency battery operated illumination for operation in dark if necessary.*
- *System is designed & constructed to last and requires very minimal maintenance.*
- *Standard system comes with detachable type control console (attached type can also be provided upon request)*

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Shuttle Chamber System

SPECIFICATIONS

Chamber Capacity:
- Inner/Main Lock : 6 Persons, Seated or 2 Persons Supine
- Outer/Entry Lock: 2 Persons, Seated

System Performance:
- Max allowable working pressure: 135 psig (9 bar)
- Pressurization rate: 1 to 20 psi/min

Internal Diameter: 54 inches (1.38 meters) inside diameter (both locks)

Overall Length: approx. 17 feet (5.24 meters).

All Doors: Round, 30 inches (762 mm) diameter clear opening

Clear Head Room: 54 inches (1.38 meters)

Windows/Viewports: 5 (five), 8 inches (203 mm) diameter viewports, 2 viewports provided in doors and 3 in shell

Lighting:
- Type: Internal BIRNS 12 VDC lights or equivalent.
- Quantity: 3 lights in Main Lock, 1 in Entry Lock (2 lights installed on control console for console area illumination)

Standard Seating: flip up bench seat

Weight: 10,000 lbs (4,536 kg)
12,000 lbs (5,443 kg) with protective support frame

Control Console: Attachable or detachable type. Detachable console is useful for use with smaller diameter tunnels where access to side mounted control console is normally not available. System permits the chamber to be operated from both the outside of the chamber and the inside of the chamber.

Press and Depress Rate: controllable from 0 to 20 cubic feet per minute

BIBS Stations (Oxygen Inhalation Equipment):
6 in Main Lock, 2 in Entry Lock

Fire Fighting/Suppression System:
A pressurized water type, hand operated fire extinguishers will be provided in each lock.
Optional NFPA 99 compliant water based deluge and handline system

O2 Analysis: Dedicated oxygen analyzer monitor Oxygen levels in both locks.

Communications:
- Primary: Single-channel 3-station system for console operator and inside attendants. Each interior station includes a talk-back speaker with a parallel fitting for a push-to-talk (PTT) headset for use by an inside attendant

All PHS systems are designed to fully meet the current edition of all applicable codes including:

ASME-PVHO-1; "Safety Standards for Pressure Vessels for Human Occupancy" (latest edition)
ASME Section VIII, Division 1, "Unfired Pressure Vessels" (latest edition)
OSHA Guideline for Compressed Air Quality Standards 1926-803 and WAC 296-36
CAOSHA, CLASS 1, Div. 2 requirements where applicable.

**It is the policy of Reimers Systems, to operate in conformance with ISO 9001:2008 Quality Management System (QMS) and to provide for continual improvement to the QMS.*

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**Note: Specifications are subject to change without prior notice.*

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