PCCI
Hyperbaric Systems

Saturation System for Tunneling
S-7800D Series

PCCI Hyperbaric System Series Saturation (SAT) Systems are highly engineered to meet our customer needs and are capable of performing saturation dives at pressures up to 300 psig (~20 bar). Our SAT Systems can be designed for fixed locations or containerized for easy transportability and environmental protection. System entry doorways can be customized to have industry standard couplers (NATO, Tube Turns, or similar) for easy connection to a shuttle chamber, TUP (Transfer Under Pressure) or other chambers.

NOTEABLE FEATURES of a PCCI Hyperbaric Systems (PHS) 7800D-SAT Saturation System for Tunneling

- *Aesthetically designed interiors.*
- *Easy to use controls, that require no electric power for operation in case of emergency.*
- *Most daily control functions can be accomplished from the control console.*
- *If containerized option is taken, the system comes completed in a 25' x 40' long dry container for protection of the system and controls during hazardous environments.*
- *Equipped with NFPA 99 compliant water based fire suppression deluge and handline system.*
- *Designed for easy handling & transportation.*
- *Battery and electrically operated dual lock communication system with sound power phones as backup.*
- *Equipped with silencers on inlet air supply and exhaust lines inside & outside for adequate noise attenuation.*
- *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.*

www.PCCIHyperbarics.com
RDixit@pccii.com

S-7800D-SAT
Saturation System for Tunneling

SPECIFICATIONS for Living Chamber

Chamber Capacity:
- Inner/Main Lock: 8 to 12 Bunks for Supine Persons
- Outer/Entry Lock: 2 Persons Seated

System Performance:
- Max allowable working pressure: Up to 650 fsw (approx. 290 psig or 19.7 bar)
- Press/depress rates: Up to 20 psi/min (1.38 bar/min)

Internal Diameter: 78 inches (2.0 meters) inside diameter (both locks)

Overall Length:
- Vessel Only: 30 to 36 feet (9 to 11 meters) depending on required occupancy.
- Container: 40 feet (12.19 meters) -if used

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

Clear Head Room: 72 inches (1.84 meters)

Windows/Viewports: 9 (nine), 10 inches (254 mm) diameter viewports, 5 viewports provided in doors and 4 in shell

Lighting:
- Type: Internal 12 VDC LED lights or equivalent.
- Quantity: 6 lights in Main Lock, 2 in Entry Lock (2 lights installed on control console for console area illumination). 1 utility light at each bunk.

Standard Seating: Flip-up type bench/bunk set

Weight: 20,000 to 30,000 lbs (9,072 to 13,608 kg)
30,000 to 40,000 lbs (13,608 to 18,144 kg) installed in a dry container

Control Console: Attachable or detachable type

BIBS Stations (Oxygen Inhalation Equipment):
8 to 12 in Main Lock, 2 in Entry Lock

Air Conditioning: Standard RSI high performance system. Throughput controllable from 100 to 800 cubic feet/min (2.83 to 22.65 cubic meters/fmin). Provides excellent temperature and humidity control.

O2 Analysis: Dedicated oxygen analyzer monitor for each lock.

CO Analysis: Dedicated carbon monoxide monitor for each lock.

CO2 Control: Carbon dioxide scrubber and monitor in Main Lock, optional in Entry Lock.

Fire Fighting/Suppression System:
- Deluge System (Primary): NFPA 99 compliant water based deluge system provided in both locks
- Handline System (Backup): NFPA 99 compliant water based handline system provided in both locks. The Main Lock is fitted with two spray lines and the Entry Lock with one.

Communications:
- Primary: Single-channel 3-station system for console operator and inside attendants. Includes a helium voice processor. 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.
- Backup: Sound powered phone in both locks and on control console.

Optional Items:
- 8.3 inches (211 mm) ID Food Lock (Utility Service Lock).
- Clamp type quick coupler (24 or 30 inches) for quick and easy connection with a shuttle chamber.
- Caisson gauges inside both locks to monitor the lock pressures from inside. Gauges have dual scales, PSIG and Bar or ATA as per

All PCCI Hyperbaric 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 I, "Unfired Pressure Vessels" latest edition
OSHA Guideline for COmpressed Air (per 1926-803 Standards) and (pers 296-36 WAC Standards)
CA/OSHA CLASS 1, Div. 2 requirements where applicable.

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

PCCI Hyperbaric Systems
300 North Lee Street • Suite 201
Alexandria, Virginia 22314

Telephone 703-229-1096
rdixit@pccii.com
www.pccihyperbarics.com

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