

## Multiplace Hyperbaric Chamber Systems



*Innovation and Excellence in Hyperbarics*



[www.pccihyperbarics.com](http://www.pccihyperbarics.com)

# PCCI Multiplace Chambers Key Advantages

Intuitive touchscreen or pneumatic computer control system with manual backups: easy to use and maintain

Simple to operate reliable doors, sealed with pressure, without "DOGS"

Communication system with high-definition sound quality-wireless or wired

Venturi Boost on chamber exhaust for quicker depress near surface pressure

Aesthetically pleasing appearance

Custom design chambers

After sales customer support with 18 months warranty

Minimal maintenance cost

Highly efficient & effective air conditioning system for maximum patient comfort

Fire suppression system equipped w/bypass circuit to avoid wetting interior during testing



HBO safe, high definition patient entertainment system

HBO safe, LED lighting

BIBS with "set and forget" controls for automatic flow adjustment at depth.

Quiet chambers: proprietary sound attenuating system for maximum patient comfort

BIBS operate on standard 50 psig hospital oxygen supply.

Comfortable & versatile patient seating



Clean interiors for maximum infections disease control

# PCCI Multiplace Chambers Advantages

Multiplace Chambers offer major advantages over monoplace chambers including increased facility capacity, the ability to provide critical care treatment, increased patient safety and comfort, transfer under pressure, and the ability to accommodate a wider variety of decompression protocols. PCCI Hyperbaric Systems builds on these advantages to offer a wide range of multiplace chamber products that provide:



Unsurpassed quality and compliance with U.S. and international standards including U.S. FDA CFR 21, Part 820 Good Manufacturing Practices and the guidelines of ISO 13484 and 9001 standards

Unsurpassed safety. Compliant with ASME PVHO-1, NFPA 99 - Chapter 14, US FDA 510(k) clearance

Provisions for custom-tailoring and versatility to meet customer specific requirements

Occupant Safety and Comfort incorporating aesthetics and ergonomics for maximum functionality.

Operational Simplicity and Reliability

BIBS Panels come with "Set and Forget" controls that do not require tampering at various treatment depths. Panels operate on Standard Hospital based Oxygen Supply

Competitive Pricing

Longer Warranty and excellent After Sales Support

## PCCI Hyperbarics Background

PCCI Hyperbaric Systems and our predecessor companies have been manufacturing multiplace chambers since 1973, with innovative, cost-effective and code-compliant Hyperbaric facilities that range from small to large sizes, and treat up to 30 Patients at a time.

- PCCI has developed and overseen the design and fabrication of the majority of U.S. military based multiplace hyperbaric systems built in the U.S. since the 1990s.

- Multiple PCCI Senior engineers have contributed to the development of industry codes and standards (ASME-PVHO-1, 2, NFPA 99, UHMS Safety Guidelines), that are being used for manufacturing, operation and maintenance of Hyperbaric and Hypobaric chambers in U.S.A and overseas.

- PCCI Senior engineers have served on UHMS HBO equipment safety committee for many years promoting overall safety of clinical and diving hyperbaric chambers safety in U.S.A. and overseas.

- PCCI predecessor Reimers Systems won multiple awards from U.S. Government clients for its product design and engineering.

## Dedication to Customer Care

It is our mission to exceed industry standards by providing global clients with innovative hyperbaric products and service solutions that exhibit the most current technology, and compliance with the most stringent safety standards and regulations.

PCCI Hyperbaric Systems has achieved its enviable level of repeat business and long-term clientele by virtue of its exceptional products and service quality, safety, customer service and after sales support. We will gladly provide customer references upon request, including:

Area Hospitals

Naval Sea Systems Command

University Medical Centers

University Medical Systems

## Compliance with Codes and Standards

PCCI chamber systems and related products are designed to comply with best industry practices and standards. Our chamber system designs, manufacturing, installation and maintenance services are performed in accordance with US FDA CFR 21, Part 820 Good Manufacturing Practices and the guidelines of ISO 13484 and 9001 standards. In addition, PCCI systems comply with the following codes and standards:



ASME PVHO-1, Safety Standards for Pressure Vessels for Human Occupancy



ASME Boiler and Pressure Vessel Codes, Section VIII, Division 1 & Division 2 for Pressure Vessels Design and fabrication.



NFPA 99, Health Care Facilities Code, Chapter 14 (Hyperbaric Facilities)



Registered with the National Board of Boiler & Pressure Vessel Inspectors



U.S. FDA Requirements, 21 CFR, Part 820

# PCCI Multiplace Chamber Products and Services



## 12000 Series

Our 12000 Series dual or triple-lock cylindrical chamber system can accommodate up to 30 occupants. Door sills are made flush with the adjoining building floors. The chamber can be either made from a segmented PVHO shell that permits installation in spaces with limited access or from conventional single-piece shells. Our chambers come equipped with our state-of-the-art Touchscreen Computer Controls System (TSCS) with manual backups for key life-supporting functions. Chambers are outfitted with reclining chairs, high efficiency climate control and sound attenuation systems that warrants maximum safety and occupant comfort. See specifications on page 9

## 9600 Series

9600 series chambers are 96 inches internal diameter (or 8-ft x 9-ft rectangular), dual or triple lock, rated for 8 to 12 occupants. The 9600 offers all the safety and comfort features of the 12000 series system but are economical, relatively quicker to manufacture and install. See specifications on page 9



## 8400 Series

This is our most versatile and economically designed chamber system that can be installed in a stand-alone hospital building or a portable modular building. 8400 series chambers are 84 inches internal diameter rated for 6 to 10 occupants. Chamber comes with walk-in rectangular doors and can be made in a single or dual lock cylindrical format. Rectangular door sills can be flush with the adjoining building floors. This system is typically equipped with PCCI pneumatic controls for operation but can be outfitted with PCCI Touchscreen Computer Control System (TSCS) if needed. See specifications on page 9



## 7200 Series

Our 7200 series chambers are 72 inches internal diameter single or dual lock, typically rated for 4 to 8 occupants. This is our smallest clinical Multiplace chamber system that still offers key premium features for maximum patient comfort and safety. Despite its smaller internal diameter, the system comes equipped with walk-in rectangular doors for ease of patient ingress/egress. See specifications on page 9

# Innovative Features

Major Advantages of PCCI systems compared to others are listed below:



**Occupant Safety and Comfort:** Facility and occupant safety and comfort are the top most priority during development of PCCI multiplace chamber products.

**Quiet Chambers:** PCCI chamber systems provide a quiet and comfortable patient experience. The operation of the chamber does not interfere with normal voice communications. Ear defenders are not required with PCCI Chamber Systems. PCCI uses its proprietary, custom designed sound attenuating system to muffle air rush noise during chamber pressurization and depressurization.

**Highly Efficient and Effective Air Conditioning System:** PCCI's high-performance air conditioning system provides excellent temperature and humidity control and keeps the internal atmosphere "well stirred", thereby reducing the possibility of localized high oxygen concentrations and enhancing chamber safety.

**Patient Seating:** PCCI Chambers provide versatile patient seating systems with hospital grade, hyperbaric safe, swivel mount patient chairs or recliners.

**HBO Safe, High Definition, Patient Entertainment System:** Very capable high definition video projection system or OLED TVs inside the chamber. Unlike other manufacturers, PCCI TVs are enclosed inside a fire-safe enclosure that is continuously purged to maintain temperature during treatment. This ensures maximum occupant and chamber safety.

**Intuitive Touchscreen or Pneumatic Computer Control System with manual backups: Easy to use and maintain:** Easy to use and maintain- PCCI provides simple and intuitive controls that are designed ergonomically and placed aesthetically for maximum user functionality and interface. Our proprietary Touch Screen Computer Control System (TSCS) provides an easy and safe user interface. All critical life safety system controls are equipped with manual overrides.

**Custom Design:** Chambers can be purchased either as an individual unit or as part of a larger bid package. PCCI chambers can be tailored to user specifications as needed.

**Aesthetically Pleasing Appearance:** We build chambers with an aesthetically pleasing appearance while providing maximum patient safety and comfort. Chamber are designed with customer input, where needed to match the building aesthetic appearances.

**Simple to Operate and Reliable Doors:** All doors close with pressure and do not require "dogs" (latches) to help keep them closed until an initial seal is made. This reduces costs and improves safety as it makes it impossible to create a pressure differential across a door in the wrong direction.

**Unique Built in Breathing System (BIBS) Designs:** PCCI BIBS Panels are the only ones in the industry with a separate US FDA 510(k) clearance. These panels accurately indicate the rate of oxygen delivery to the patients. Patient gas flow is automatically adjusted to chamber depth and does not require constant adjustment by attendant.

**BIBS panel Operates on 50 psig Hospital Oxygen Supply:** This feature permits our hyperbaric chambers systems to be supplied by any medical grade oxygen service with sufficient flow rate capacity. This can be a major cost saving in large medical centers by avoiding the need for a bulk-tank oxygen service dedicated to the hyperbaric chamber.

**Warranty and After Sale Support:** Unlike others, PCCI multiplace chamber systems come with an 18-month warranty. Our systems are designed to provide years of trouble-free service and that's that reason PCCI provides a longer warranty at no additional cost. Our in-person customer care team is quick to respond in the shortest possible timeframe to avoid or minimize facility downtime.

**HBO Safe LED lighting:** PCCI systems come equipped with LED lighting that is rated safe for use with Multiplace hyperbaric chambers.

**Communication system with High-Definition Sound Quality:** Unlike others, PCCI uses unique technology for their communication system to provide a very clear and high-definition sound quality for effective communication between chamber occupants and console operator.



# Technical Specs

| PCCI Product Model # (Shape)  | 7200 (Cylindrical)   | 8400 (Cylindrical)  | 9600 (Cylindrical)   | 9600 (Square/Rectangular)  | 12000 (Cylindrical)   |
|---|--|---|--|--|---|
| <b>Maximum Design Pressures psig (ATA, bar)</b>                         | 80 psig (6.44 ATA, 5.44 bar)   | 80 psig (6.44 ATA, 5.44 bar)  | 80 psig (6.44 ATA, 5.44 bar)   | 35 psig (3.38 ATA, 2.38 bar)   | 80 psig (6.44 ATA, 5.44 bar)  |
| <b>Maximum Operating Pressures psig (ATA, bar)</b>                      | Up to 73 psig (6 ATA, 5 bar)   | Up to 73 psig (6 ATA, 5 bar)  | Up to 73 psig (6 ATA, 5 bar)   | 30 psig (3 ATA, 2 Bar), 6 ATA System optional  | 30 psig (3 ATA, 2 bar), (6 ATA System optional)   |
| <b>Main Lock, Diameter x Length, cm (in)</b>                            | 183 X 396 (72 X 156)   | 213 X 381 (84 X 150)  | 244 X 762 (96 X 300)   | WxHxL 244 x 244 X 579 (96 X 96 X 228)  | 305 X 579 (120 X 228)   |
| <b>Overall Dimensions (approx. depending on configuration), cm (in)</b> | 533 (210)  | 610 (240)   | 915 (360)  | 731 (288)  | 1402 (552)  |
| <b>PCCI Notable Features</b>  | Rectangular doors available as an option, External canty or internal LED lights are provided throughout the chamber. | Door sills can be flush with the chamber exterior building floors, External canty or internal LED lights are provided throughout the chamber. | Door sills are flush with the chamber exterior building floors, External canty or internal LED lights are provided throughout the chamber. | Optional 3rd lock, Door sills are flush with the chamber exterior building floors, Internal NFPA compliant LED lights throughout chamber, Optional sink with hot and cold running water. | Optional 3rd lock, Door sills are flush with the chamber exterior building floors, Segmented PVHO shell fabrication permits installation in spaces with limited access, Optional sink with hot and cold running water, Optional shower and toilet system. |

**All PCCI Medical Chambers are:** US FDA 510k cleared, made using ASME Pressure Vessel Grade Steel- SA 516-Gr 70, require 50-125 psig Air Supply Pressure, Chamber Ventilation Rate 3-20 scfm, Pressurization Rate 1-5 psi/min (higher rate available upon request), Equipped with Emergency Fast Exhaust Valve, Main Pressure Gauge 0-3 ATA or 0-6 ATA, Gas Supply Gauge 0-300 psig, IV and Monitor Ports, PVHO-1 Complaint Round View Ports, 2-Way wireless Intercom Ports, Backup Sound Powered Phones, Treatment Override Controls, Line Power 110,230,460 VAC., Fire Suppression System Certification and Compliance with ASME PVHO-1, NFPA 99, and ISO

**Industries Served** PCCI chambers are used in the following industries in commercial and Government settings.

Medical/Clinical Healthcare

Diving

Tunneling

## Available Ancillary Systems Include:

- ❖ Oil-less or oil-free air compressors
- ❖ BOSE patient entertainment system
- ❖ BIBS Panels with set-and -forget controls (with stand alone FDA clearance)
- ❖ AC System with Temperature/Humidity Control
- ❖ Wireless (or wired) Patient Communication System
- ❖ Recliner seating with fire retardant material for maximum patient safety & comfort
- ❖ Noise attenuating muffler system providing quiet atmosphere
- ❖ PCCI Touchscreen computer control system and chamber interior panel for providing key pressure and treatment information to the chamber attendant
- ❖ Exterior sheet metal of chamber can be customized to match customer desired architectural look or graphics

## Contact Us

PCCI Hyperbaric Systems is located in Alexandria, Virginia, U.S.A. Our management and engineering offices are headquartered at:



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