

Sechrist Model 3600E Hyperbaric Chamber with Electronic Control Module

Sechrist Industries, Inc., the world's leading manufacturer of monoplace hyperbaric chambers, is pleased to announce its newest chamber design, the Model 3600E. The 3600E incorporates features which enhance patient comfort, patient safety, provide better operator convenience and lower operational costs.

Derived from our Model 3200, the industry "gold standard" since 1995, the 3600E incorporates an Electronic Control Module to control the compression rates and pressure. The ECM allows control of the Pressure Set and the Rate Set in the same manner as the proven Model 3200. In addition, the sophisticated electronics provide:

- An **Oxygen Conservation System** that provides the following benefits:
 1. Up to **65% less oxygen consumption** per treatment compared to conventional chambers
 2. **Reduced supply requirements** when providing oxygen for multiple chamber installations
 3. **95% oxygen level within 10 minutes** in the chamber under any operating conditions
 4. **Greatly reduced noise levels** during the pressure plateau.
- A **Comfort Profile** that compresses the chamber at a variable rate that allows more comfortable ear pressure equalization rates.
- Other **features** include;
 1. The ability to monitor the internal chamber temperature in Celsius or Fahrenheit.
 2. Accurate selection of pressures and rates with a resolution of 0.1 psig.
 3. Operator selected pressure values of ATA, psig, kPa or MPa.
 4. Built-in up and down timers with audible reminder beeps.
 5. Two built-in internal nozzles located on the inside of the chamber door that direct gas flow to the patient.

Further beneficial characteristics **which are unique to this design:**

1. a new chamber/stretcher design that will be able to support patient weights up to 700lbs (318kg).
2. a new larger blank plug located on the chamber door face which can be utilized by clinicians to adapt to different HBO monitoring systems.
3. larger internal diameter (35.5 inches/.90 meters) pressure cylinder, which **increases the internal volume (space) by 20%** from our Model 3200. This additional volume greatly enhances the clinician's ability to handle a growing population of **patients considered very obese.**

The **Comfort Profile** automatically adjusts the compression rate throughout the compression phase of a treatment cycle. It provides a slow compression rate during the first one-third of the compression phase. This allows the patient to accommodate for initial changes in inner-ear pressure gradually. The Comfort Profile then smoothly ramps up the rate to reach the desired Pressure Set. This method allows for maximum patient saturation exposure without exposure to possibly discomforting compression rates.

The **Oxygen Conservation Mode** can significantly reduce the amount of oxygen consumed during a treatment. A monoplace hyperbaric oxygen treatment that begins under ambient air conditions requires a high purge flow in order to eliminate the presence of nitrogen within the chamber. Once the nitrogen has been purged from the chamber and the internal oxygen concentration has exceeded 95%, high flows are no longer needed to maintain the patient's saturation level. The Model 3600E automatically switches from an initial high flow purge rate system to a potentially lower plateau purge system. The initial high purge flow cannot be set to less than 300 lpm to assure the nitrogen purge. The plateau purge flow can be set to 80 lpm. **Using a lower sustaining purge flow can allow savings of ~65% of the oxygen that would normally be consumed.** The lower sustaining flow also provides the benefit of lower noise levels for the patient.

The Electronic Control Module provides additional unique safety features. In the unlikely event that any of the electronic or pneumatic systems fail, the ECM will automatically create a **Safe State** environment. This **Safe State**, announced by audible and visual alarm Indicators, will terminate the treatment and safely decompress the chamber at the purge flow rate in effect at the time of the safe state condition. In addition, the ECM monitors the system for safe operation and will alert the operator to any unusual operating characteristics or system errors.



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Technical Specifications

Internal Diameter:

35.50 inches (0.90 m)

Internal Length:

90.00 inches (2.29 m)

External Length:

105.90 inches (2.7 m)

External Height:

61.00 inches (1.55 m)

External Width:

49.00 inches (1.25 m)

Chamber Weight:

2,211 pounds (1,003 kg)

Patient Stretcher Dimensions:

30.5 inches (77.5 cm) wide by 91.5 inches (232.4 cm) long

Supported Patient Weight:

700 pounds (318 kg) maximum

Maximum Operating Pressure:

30.0 pounds/square inch gauge (psig)
3.04 atmospheres absolute (ATA)
0.207 megapascal (MPa)
206.8 kilopascal (kPa)

Environmental Conditions

Operating Temperature:

50° to 100° F (10° to 38° C)

Storage and Transportation:

Temperature: 32° to 113° F (0° to 45° C)
Atmospheric Pressure: 7.3 to 15.4 psi (500 to 1060 hPa)
Relative Humidity: 10 to 100%, including condensation

Supply Pressure:

45.0 to 70.0 psig

Purge Rate (compression phase):

300 to 400 liters per minute (lpm) (at a chamber pressure of 15 psig)

Purge Rate (plateau phase):

80 to 400 liters per minute (lpm) (at a chamber pressure of 15 psig)

Emergency Vent Rate:

Chamber pressure < 0.5 psig, achieved in < 90 seconds

Relief Valves:

Two; set at 36.0 psig

Codes and Standards

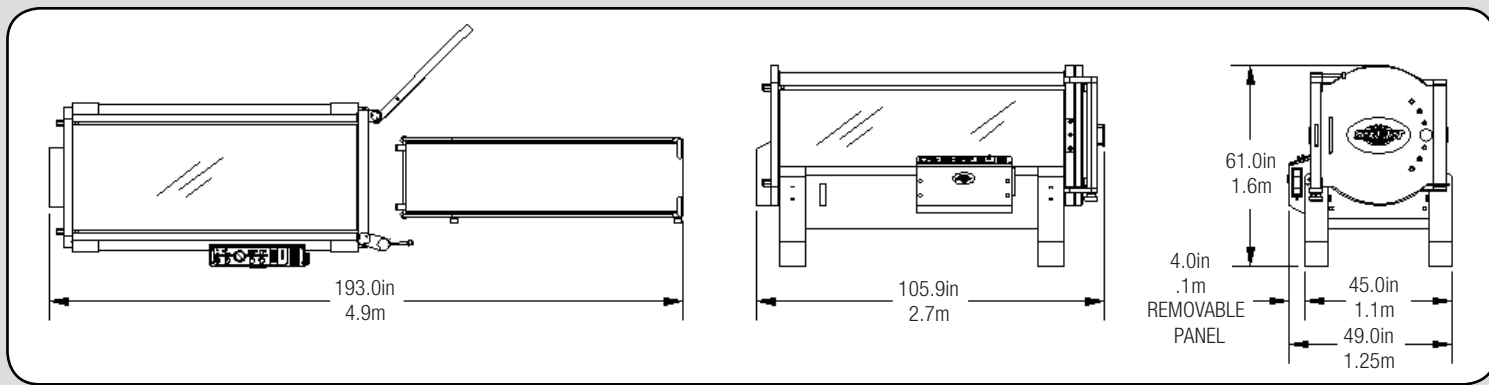
Sechrist Industries' design, manufacturing, services and installation systems are certified to ISO 13485 Quality Assurance Standard for Medical Devices. In addition, the Model 3600E system is designed, fabricated, assembled, tested, and installed in accordance with the following codes and standards, current editions:

- ASME PVHO-1, Safety Standards for Pressure Vessels for Human Occupancy
- ASME Boiler and Pressure Vessel Codes, Section VIII, Division I, Pressure Vessels
- NFPA 99 Health Care Facilities
- Registered with the National Board of Boiler and Pressure Vessel Inspectors
- U.S. FDA Requirement, 21 Code of Federal Regulations, Part 820
- ISO 13485: 2003 Quality Assurance Standard for Medical Devices
- CMDCAS – Canadian Medical Conformity Assessment System
- CAN/CSA Std. 22.2, No. 601.1
- UL 60601-1

3600E Chamber System Physical Dimensions

Model Designation:

3600E: control panel on left side of door, door opens left to right. 3600ER: reverse control panel on right side of door, door opens right to left.



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