

## Abbott Point-of-Care Cartridge Assembly 1 & 2

Ottawa, Ontario

### Project Statistics

Description:	Class 10,000 Clean Rooms
Area size	11,500 & 8,500 sq. ft.
Project budget	\$2,300,000

### Responsibilities

Complete design of a close temperature and humidity controlled, class 10,000 cleanroom for the assembly of this company's various blood gas analyzer cartridges.

Services Provided:

- ▣ Design management
- ▣ Architectural design
- ▣ Mechanical design
- ▣ Electrical design
- ▣ Project commissioning

### Project Objectives

To provide a class 10,000 cleanroom area for the assembly of cartridge components.

Provide redundant systems to support uninterrupted, 24/7 operation of the assembly lines that produce a high value, medical device product.

To adhere to strict temperature and humidity specifications that would pass Abbott's strict validation requirements.

### Challenges

To build a class 10,000 cleanroom area with strict temperature and humidity requirements using existing building HVAC equipment.

To design systems and select materials capable of maintaining humidities of 11.5% +/- 2% relative humidity and close temperature control during the most humid of outdoor conditions (140 gr/lb).

Devising a system of utilities racks and service drops that could be added to the cleanroom as assembly lines were moved into place, without breaking the room envelope.

Ensuring that the methods, materials and systems operation all met the very strict and exacting requirements of Abbott's Global Standards, The Food and Drug Administration and Factory Mutual.



### Solutions and Successes

Provided finished space in strict timeline constraints to enable the client to start assembly of final product .

Used close tolerance design to ensure proper fit in the very restricted space of the ceiling.

Used non-permeable materials of construction and sealing techniques to limit humidity gains.

Developed a comprehensive commissioning plan to test and prove each system individually and as an integrated system prior to releasing space for validation. This process helped ensure that the design conditions were met and operational efficiencies were at their best.