



# BLOOD PLASMA

## Walk-in Freezers

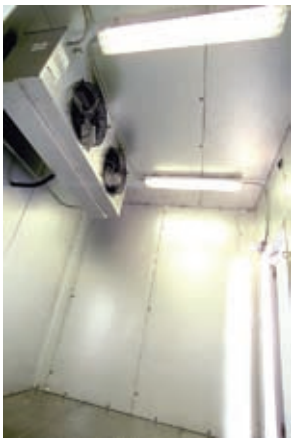
# Reliable Storage for a Vital Product

With blood plasma, creating the proper environment for rapid freezing and storage is absolutely critical. Maintaining the exact temperature range required takes a reliable storage enclosure plus a heavy-duty refrigeration system.

As a provider of dependable blood plasma freezers for over 30 years, Master-Bilt supplies a complete

package of walk-in panels and refrigeration systems. Our panels are 6" thick and insulated with CFC-free foamed-in-place polyurethane – the most efficient insulation material. The panels also feature tongue and groove construction and dual gaskets for a secure seal.

Custom designed refrigeration systems feature



**Plasma and storage freezers** maintain a consistent -40°F.

**Pressure relief ports** disperse moisture in the air to reduce frost accumulation as well as equalize air pressure throughout the walk-in to make it easier to open doors.



**6" thick panels**, featuring a standard 26 gauge stucco galvalume finish, provide maximum energy efficiency with an R-value of 48.0. Optional finishes available.

**Energy-conserving pass-thru doors** allow personnel to conveniently place product into the freezer without being exposed to the extreme cold.



two stage compressors to ensure a consistent -40°F.

To maximize efficiency, all Master-Bilt blood plasma walk-in systems are equipped with the Master Controller Reverse Cycle Defrost system. This feature boosts energy efficiency by as much as 27% over traditional refrigeration systems. Additionally, reverse cycle defrost ensures proper oil return, critical

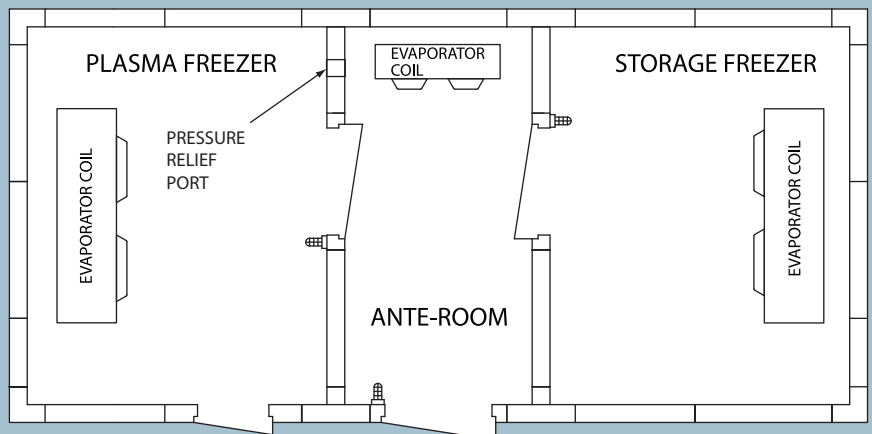
for extremely low temperature applications, to the compressor after each defrost.

Customer support is essential to the successful operation of blood plasma walk-ins and Master-Bilt representatives are ready to assist during all points of the design stage. Additional product training is available at our factory.



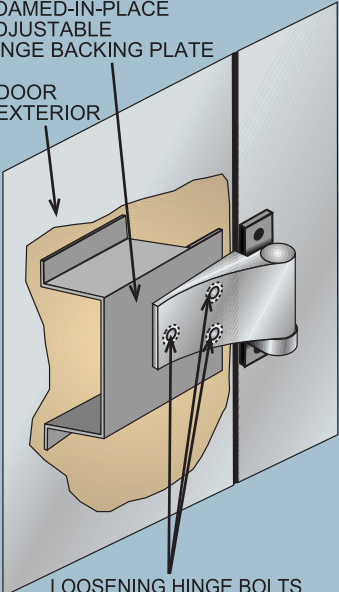
**The ante-room** reduces ice formation in plasma and storage freezers by providing a barrier between ambient air and -40°F conditions in the freezers.

**An optional remote interface** for the Master Controller system allows monitoring of the refrigeration system without entering the walk-in.



**The typical layout** of a blood plasma walk-in consists of an ante-room in the middle with a plasma freezer on one side and storage freezer on the other.

# Additional Walk-In Features



FOAMED-IN-PLACE  
ADJUSTABLE  
HINGE BACKING PLATE

DOOR  
EXTERIOR

LOOSENING HINGE BOLTS  
ALLOWS ADJUSTMENT OF  
PLATE 3/8" IN ANY DIRECTION

Master-Bilt's unique **adjustable hinge backing plate** ensures a proper fit of the door during installation and also allows for any necessary future adjustments without removal of the door or frame.

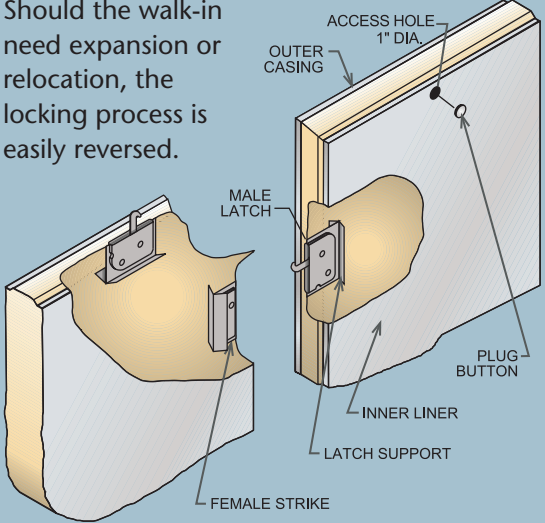


All blood plasma walk-ins are equipped with a **heavy-duty door** featuring a heavy-gauge Z-shaped structural inner frame with a full length quarter-inch thick steel hinge backing plate and inner heater wires lining the perimeter. A pre-wired spare heater wire is also included.



Master-Bilt's **standard floor finish** is an NSF listed .080 inch aluminum which is textured for added safety and covered to meet sanitation guidelines. Optional finishes, a heavy-duty floor and a structural floor capable of supporting 5000 lbs. are available.

Walk-in panels are **cam-locking** for easy assembly, requiring only a factory-supplied hex wrench to operate. Should the walk-in need expansion or relocation, the locking process is easily reversed.



ACCESS HOLE-  
1" DIA.

OUTER CASING

PLUG BUTTON

INNER LINER

LATCH SUPPORT

FEMALE STRIKE

MALE LATCH

# Refrigeration Systems

Refrigeration systems for blood plasma walk-ins consist of remote condensing units with matching evaporator coils.

Built-up condensing units with two stage compressors are used to provide the -40°F environment of the plasma and storage freezers. An M-Series unit cools the ante-room.

Condensing units feature factory pre-wired and mounted operating components for worry-free installation while E-Series evaporator coils, specially designed for ultra low temp environments, are ready to mount in position.

Back-up refrigeration systems to secure against service interruption are optionally available for each compartment.



Master-Bilt refrigeration systems consist of built-up condensing units (top) for the plasma and storage freezers, M-series units (bottom left) for the ante-rooms and matching E-Series evaporator coils.



## Master Controller Reverse Cycle Defrost

Standard on Master-Bilt blood plasma walk-in refrigeration systems, Master Controller Reverse Cycle Defrost electronic control systems replace certain mechanical parts with solid state electronic components providing a higher level of efficiency and reliability.

Lab tests show that a **Master Controller Reverse Cycle Defrost-equipped system can save up to 27% more energy** over a conventional system depending on the application.

Installation time and labor costs are significantly reduced because all electrical components are factory pre-wired.

One of the main components of the Master Controller Reverse Cycle Defrost system is the control boards mounted on the outside of the walk-in and on the evaporator coil in the ante-room. Each board controls an electric expansion valve in response to evaporator superheat and return air temperature.

Patented\* reverse cycle defrost is

also integrated into Master Controller systems. When a defrost is necessary, a reverse cycle valve switches the direction of heated refrigerant flow through the evaporator coil and completely eliminates frost buildup.

**Reverse cycle reduces defrost energy usage by up to 80% and defrost time is lessened to approximately 8-10 minutes.** Because the defrost is so rapid, there's no noticeable increase in freezer or plasma temperature.

\*U.S. patent no. 7,073,344



One Master Controller Reverse Cycle Defrost board (shown with cover off) is mounted to the evaporator coil in the ante-room.



Other boards for plasma and storage freezers are mounted on the outside of the walk-in in a protective housing.





# MMB



For the latest product information and specifications go to [www.master-bilt.com/products/products.htm](http://www.master-bilt.com/products/products.htm).

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