

REVISIONS				
REV	DATE	BY	APP	DESCRIPTION OF REVISION
01	14 FEB 22	GH		DRAWING CREATED

**NOTES**

**OVERVIEW**

**TEMPERATURE:** -40°C TO -80°C ± 5.0°C VOL. UNIFORMITY  
-20°C ± 5.0°C VOL. UNIFORMITY UNCONDITIONED ANTEROOM

**PRODUCT:** PRODUCT AT TEMPERATURE WHEN LOADED INTO FREEZER. NO PRODUCT LOAD ASSUMED

**L.T. FREEZER:** 106 FT<sup>3</sup> PER SIDE 212 FT<sup>3</sup> TOTAL 848 FT<sup>3</sup> PER SIDE, 1,696 FT<sup>3</sup> TOTAL AT 8'-0" (HEIGHT) OF STORAGE

**CONDENSERS:** WATER-COOLED

**DOOR OPENING:** -20°C = 15 SECONDS  
L.T. FREEZER = 30 SECOND

**DOOR RECOVER TIME:** -20°C = 3 MINUTES (OPEN TO ANTEROOM)  
L.T. FREEZER = 3 MIN. (OPEN TO -20°C)

**ARCHITECTURAL**

**PANEL FINISH:** INTERIOR/EXTERIOR = EMBOSSED GALVANIZED STEEL PRE-PAINTED WHITE

**DOOR SIZE:** 3'-0" WIDE X 7'-6" TALL (ANTEROOM)  
3'-0" WIDE X 7'-6" TALL (-20°C CORRIDOR)  
3'-6" WIDE X 8'-0" TALL (LOW TEMP STORAGE FREEZER)

**FM 4880:** OUTSIDE CHAMBER ONLY (4" PANELS)

**FLOOR RATING:** 600 LBS/SQ.FT.

**CEILING RATING:** 15 LBS/SQ.FT. (5 LBS/SQ.FT. DEAD LOAD/ 10 LBS/SQ.FT. LIVE LOAD)

**MECHANICAL**

**REFRIGERATION:** REDUNDANT MECHANICAL REFRIGERATION SYSTEM FOR -20°C AND LOW TEMP. FREEZER

**PIPING:** MAX. DISTANCE FROM SKID TO CHAMBER NOT TO EXCEED 50' HORIZ./50' VERTICAL

**ELECTRICAL**

**CONTROLS:** ALLEN-BRADLEY COMPACTLOGIX PLC (NON-REDUNDANT)

**CONTROL PANELS:** NEMA 412 (GRAY)

**LIGHTING:** LED LIGHTING

**SAFETY PERSON-IN-BOX:** TIMED OCCUPANCY ALARM OF CORRIDOR

**PERSONNEL ALARM:** EMERGENCY PUSH-BUTTON LOCATED IN THE CORRIDOR AT THE DOOR LOCATION 16" A.F.F.

**OPTIONS**

**PANEL FINISH:** 304 STAINLESS STEEL INTERIOR OR EXTERIOR

**FLOOR RATING:** 1,000 LBS/SQ.FT. (OVERLAY)

**RAMP:** DIAMOND TREAD OR NON-SKID STRIPS

**CEILING RATING:** 20 LBS/SQ.FT.

**FM 4880:** OPTION TO NOT INCLUDE

**SHELVING:** CUSTOMER TO SPECIFY NUMBER OF TIERS & IF COIL GUARD IS PREFERRED.

**AIR-COOLED CONDENSERS:** OPTIONAL IF WATER IS NOT AVAILABLE.

**LOW RISE DEFROST:** OPTIONAL FOR CORRIDOR (-20°C) ONLY.

**CONDENSATE PUMP:** OPTIONAL

**LN2:** TERTIARY BACKUP INCLUDES OXYGEN MONITOR INSIDE THE CORRIDOR AND AT THE LN2 VALVE RACK.

**CONTROL PANEL:** NEMA 41X

**UPS BACKUP:** CONTROLS ONLY (20 MINUTE)

**EMERGENCY LIGHTING:** BATTERY BACKUP YOKOGAWA

**RECORDER:** YOKOGAWA

**ALARM CONTACTS - FORM-C (N.C./N.O.) CONNECTION BY OTHERS**

**-20°C CORRIDOR**

- HIGH TEMPERATURE DEVIATION
- LOW TEMPERATURE DEVIATION
- HIGH TEMPERATURE LIMIT
- LOW TEMPERATURE LIMIT
- DOOR ALARM
- EVAPORATOR FAN FAILURE (SYSTEM 1')
- EVAPORATOR FAN FAILURE (SYSTEM 2')
- CONDENSER FAILURE (SYSTEM 1')
- CONDENSER FAILURE (SYSTEM 2')
- PERSONNEL/PERSON-IN-BOX ALARM

**LOW TEMP. FREEZER**

- HIGH TEMPERATURE DEVIATION
- LOW TEMPERATURE DEVIATION
- HIGH TEMPERATURE LIMIT
- LOW TEMPERATURE LIMIT
- DOOR ALARM
- CONDENSER FAILURE (SYSTEM 1')
- CONDENSER FAILURE (SYSTEM 2')

LN2 (OPTION)

- O2 ALARM
- LN2 EMERGENCY VALVE CLOSED
- LN2 ACTIVE
- LN2 OFFLINE

**NOTES:**

1. THE MAXIMUM DESIGN NOISE LEVEL OF THE EQUIPMENT MAY EXCEED 80 DBA, MEASURED AT 3'-0" AWAY.
2. REFRIGERANT RELIEF PIPING IF REQUIRED IS BY OTHERS.
3. CONDENSATE DRAIN CONNECTION TO BE WITHIN 10' OF THE CHAMBER.

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THIS DRAWING IS TO BE USED IN CONJUNCTION WITH PROJECT SUBMITTAL TEXT FOR COMPLETE CHAMBER DETAILS.

**BAHNSON ENVIRONMENTAL SPEC.**

DATE: 4412 TRYON RD., RALEIGH, NC 27806 DRAWN BY: HERR SCALE: 3/8" = 1'-0"

**STANDARD MODEL 10 DOOR ULTRA-LOW**

APPROVED BY: DATE CREATED: 14 FEB 22 DRAWING NUMBER: BAHN - 10D 00

