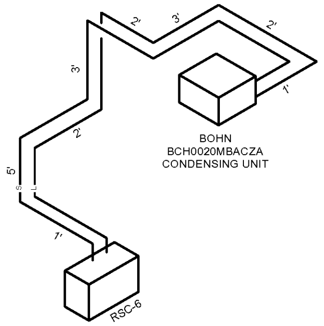
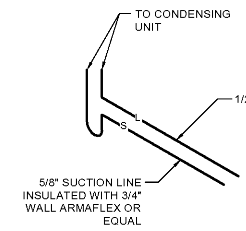




SANDWICH CASE LIQUID AND SUCTION
REFRIGERANT LINE LENGTHS

DESIGN NOTES:
- REFRIGERATION LINESETS ARE PROVIDED BY THE VENDOR, IN 50' SECTIONS, WITH 5/8"S & 1/2"L (EF-1 #656)
- DESIGN LINE LENGTH = 19'
- HORIZONTAL SUCTION LINES SHOULD SLOPE DOWNWARD FROM THE EVAPORATOR TOWARD THE COMPRESSOR AT THE RATE OF 1/4 INCH PER 10 FEET FOR GOOD OIL RETURN TO THE COMPRESSOR.

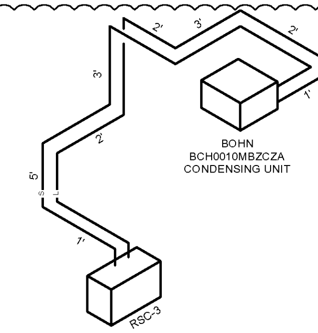
PIPING DIAGRAM FOR THE R-448-A MEDIUM TEMPERATURE (+20°F SST) COOLER REFRIGERATION SYSTEM

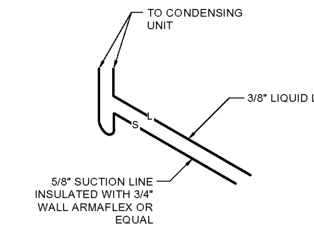
ENLARGED INTERIOR SANDWICH CASE LIQUID AND
SUCTION REFRIGERANT LINE SIZES AND CONNECTIONS

INSTALLATION NOTES:
- MAXIMUM LINE LENGTH SHALL NOT EXCEED 50'
- LINE SETS SHALL BE MEASURED AND CUT TO FIT TOTAL DEVELOPED LENGTH AS TO NOT HAVE ANY REMAINING COIL OF TUBING ON-SITE
- CASE DESIGN INCORPORATES INTERNAL OIL RETURN TRAP

REFER TO RSC & HEATCRAFT INSTALLATION MANUALS.
HTTPS://DOCS.WIXSTATIC.COM/UGD/E49953_09281B1D737B44DB9083ACBD77A1F612.PDF
HTTP://WWW.HEATCRAFTRPD.COM/PDF/I&O/H-IM-CU.PDF

8 SANDWICH CASE (6')
N.T.S.





SANDWICH CASE LIQUID AND SUCTION
REFRIGERANT LINE LENGTHS

DESIGN NOTES:
- REFRIGERATION LINESETS ARE PROVIDED BY THE VENDOR, IN 50' SECTIONS, WITH 5/8"S & 3/8"L (EF-1 #656)
- DESIGN LINE LENGTH = 19'
- HORIZONTAL SUCTION LINES SHOULD SLOPE DOWNWARD FROM THE EVAPORATOR TOWARD THE COMPRESSOR AT THE RATE OF 1/4 INCH PER 10 FEET FOR GOOD OIL RETURN TO THE COMPRESSOR.

PIPING DIAGRAM FOR THE R-448-A MEDIUM TEMPERATURE (+20°F SST) COOLER REFRIGERATION SYSTEM

ENLARGED INTERIOR SANDWICH CASE LIQUID AND
SUCTION REFRIGERANT LINE SIZES AND CONNECTIONS

INSTALLATION NOTES:
- MAXIMUM LINE LENGTH SHALL NOT EXCEED 50'
- LINE SETS SHALL BE MEASURED AND CUT TO FIT TOTAL DEVELOPED LENGTH AS TO NOT HAVE ANY REMAINING COIL OF TUBING ON-SITE
- CASE DESIGN INCORPORATES INTERNAL OIL RETURN TRAP

REFER TO RSC & HEATCRAFT INSTALLATION MANUALS.
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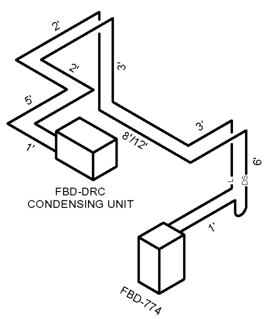
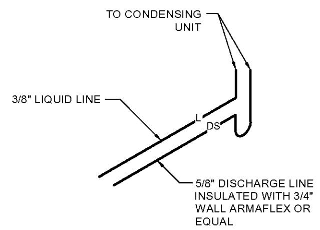
HTTP://WWW.HEATCRAFTRPD.COM/PDF/I&O/H-IM-CU.PDF

7 SANDWICH CASE (3')
N.T.S.





OVERALL SLURPEE MACHINE (EACH) LIQUID
AND DISCHARGE REFRIGERANT LINE LENGTHS

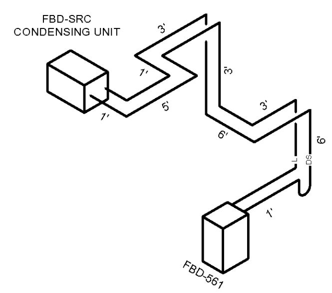
DESIGN NOTES:
- PRE-CHARGED REFRIGERATION LINESETS ARE PROVIDED BY THE VENDOR, IN 50' SECTIONS, WITH 5/8"DS & 3/8"L (EF-1 #295)
- DESIGN LINE LENGTH = 31'/35'
- COMPRESSOR LOCATED IN FBD UNIT

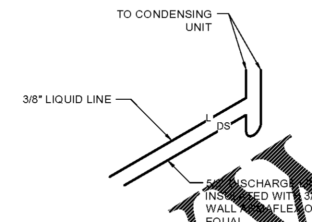
ENLARGED INTERIOR SLURPEE MACHINE (EACH) LIQUID AND
DISCHARGE REFRIGERANT LINE SIZES AND CONNECTIONS

INSTALLATION NOTES:
- MAXIMUM LINE LENGTH SHALL NOT EXCEED 50'
- LINE SETS SHALL BE MEASURED AND CUT TO FIT TOTAL DEVELOPED LENGTH AS TO NOT HAVE ANY REMAINING COIL OF TUBING ON-SITE

REFER TO FBD INSTALLATION MANUAL.
HTTPS://DOWNLOADS.FBDFROZEN.COM/DOWNLOADS/DOWNLOAD/272

6 SLURPEE MACHINE (EACH)
N.T.S.





OVERALL LEMONADE MACHINE LIQUID AND
DISCHARGE REFRIGERANT LINE LENGTHS

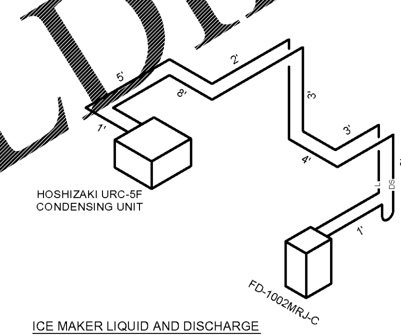
DESIGN NOTES:
- PRE-CHARGED REFRIGERATION LINESETS ARE PROVIDED BY THE VENDOR, IN 50' SECTIONS, WITH 5/8"DS & 3/8"L (EF-1 #295)
- DESIGN LINE LENGTH = 29'
- COMPRESSOR LOCATED IN FBD UNIT

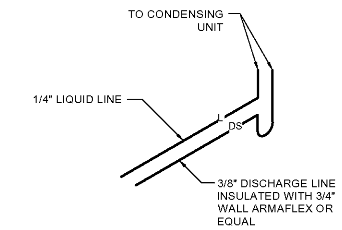
ENLARGED INTERIOR LEMONADE MACHINE LIQUID AND
DISCHARGE REFRIGERANT LINE SIZES AND CONNECTIONS

INSTALLATION NOTES:
- MAXIMUM LINE LENGTH SHALL NOT EXCEED 50'
- LINE SETS SHALL BE MEASURED AND CUT TO FIT TOTAL DEVELOPED LENGTH AS TO NOT HAVE ANY REMAINING COIL OF TUBING ON-SITE

REFER TO FBD INSTALLATION MANUAL.
HTTPS://DOWNLOADS.FBDFROZEN.COM/DOWNLOADS/DOWNLOAD/272

5 LEMONADE MACHINE
N.T.S.





ICE MAKER LIQUID AND DISCHARGE
REFRIGERANT LINE LENGTHS

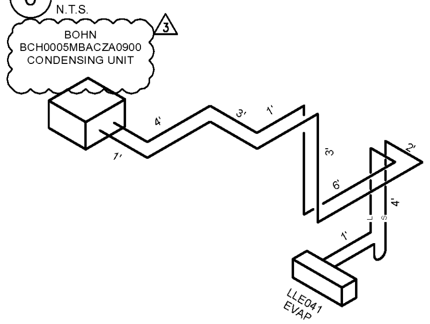
DESIGN NOTES:
- PRE-CHARGED REFRIGERATION LINESETS ARE PROVIDED BY THE VENDOR, IN 35' SECTIONS, WITH 3/8"DS & 1/4"L (EF-1 #112)
- DESIGN LINE LENGTH = 30'
- COMPRESSOR LOCATED IN ICE MAKER

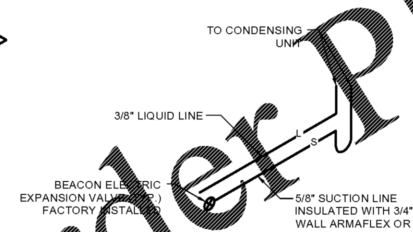
ENLARGED INTERIOR ICE MAKER LIQUID AND DISCHARGE
REFRIGERANT LINE SIZES AND CONNECTIONS

INSTALLATION NOTES:
- MAXIMUM LINE LENGTH SHALL NOT EXCEED 50'
- LINE SETS SHALL BE MEASURED AND CUT TO FIT TOTAL DEVELOPED LENGTH AS TO NOT HAVE ANY REMAINING COIL OF TUBING ON-SITE
- MAXIMUM RISE IS 33'

REFER TO HOSHIZAKI INSTALLATION MANUAL.
HTTP://WWW.HOSHIZAKI.COM/DOCS/MANUALS/FLAKER_IS_BC_INST.PDF

4 FD-1002MRJ-C ICE MAKER
N.T.S.





OVERALL VAULT ICE MERCHANDISER LIQUID
AND SUCTION REFRIGERANT LINE LENGTHS

DESIGN NOTES:
- LINE SIZING TABLE 24 FROM THE MANUAL SHOWS 9,0 BTUH REQUIRES A 5/8" SUCTION FOR UP TO 50' OF EQUIVALENT LINE LENGTH.
- HORIZONTAL SUCTION LINES SHALL SLOPE AWAY FROM THE EVAPORATOR TOWARD THE COMPRESSOR AT THE RATE OF 1/4" PER 10' FOR SUFFICIENT OIL RETURN.

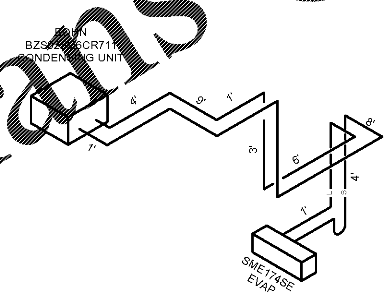
PIPING DIAGRAM FOR THE R-448-A LOW TEMPERATURE (+20°F SST) FREEZER REFRIGERATION SYSTEM

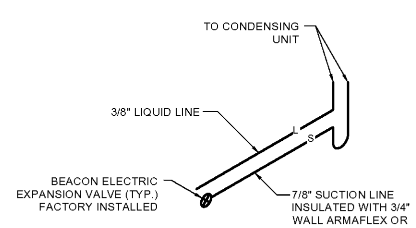
ENLARGED INTERIOR VAULT ICE MERCHANDISER LIQUID
AND SUCTION REFRIGERANT LINE SIZES AND CONNECTIONS

LINE SIZING - 6,290 BTUH @ +20°F:
- (9) 1/2" ELBOWS: EQUIVALENT LINE LENGTH = 9'
- PIPING LENGTH = 25'
- TOTAL DEVELOPED LENGTH = 34'
- SUCTION LINE SIZE = 5/8"
- LIQUID LINE SIZE = 3/8"

REFER TO REFRIGERATION INSTALLATION MANUAL FOR LONGER LINE RUNS.
HTTP://WWW.HEATCRAFTRPD.COM/PDF/I&O/H-IM-CU.PDF

3 VAULT ICE MERCHANDISER
N.T.S.





BEER CAVE LIQUID AND SUCTION
REFRIGERANT LINE LENGTHS

DESIGN NOTES:
- LINE SIZING TABLE 24 FROM THE MANUAL SHOWS 18,000 BTUH REQUIRES A 7/8" SUCTION FOR UP TO 50' OF EQUIVALENT LINE LENGTH.
- HORIZONTAL SUCTION LINES SHALL SLOPE AWAY FROM THE EVAPORATOR TOWARD THE COMPRESSOR AT THE RATE OF 1/4" PER 10' FOR SUFFICIENT OIL RETURN.

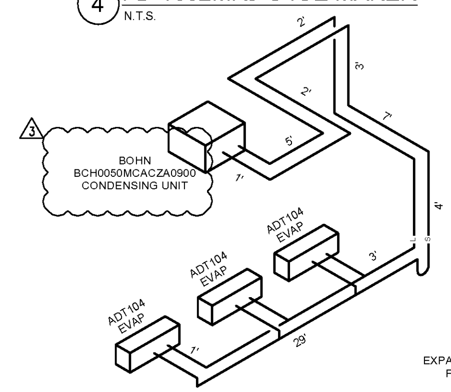
PIPING DIAGRAM FOR THE R-448-A LOW TEMPERATURE (+20°F SST) BEER CAVE REFRIGERATION SYSTEM

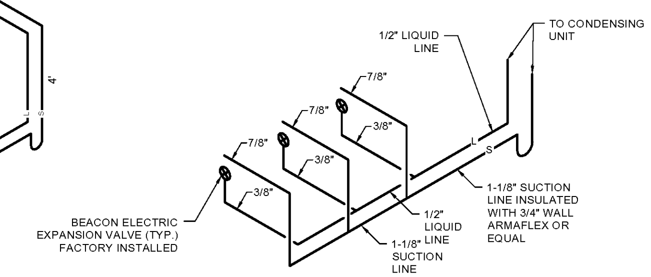
ENLARGED BEER CAVE LIQUID AND SUCTION
REFRIGERANT LINE SIZES AND CONNECTIONS

LINE SIZING - 17,020 BTUH @ +20°F:
- (8) 7/8" ELBOWS: EQUIVALENT LINE LENGTH = 16'
- PIPING LENGTH = 37'
- TOTAL DEVELOPED LENGTH = 53'
- SUCTION LINE SIZE = 7/8"
- LIQUID LINE SIZE = 3/8"

REFER TO REFRIGERATION INSTALLATION MANUAL FOR LONGER LINE RUNS.
HTTP://WWW.HEATCRAFTRPD.COM/PDF/I&O/H-IM-CU.PDF

2 BEER CAVE
N.T.S.





OVERALL VAULT COOLER LIQUID AND
SUCTION REFRIGERANT LINE LENGTHS

DESIGN NOTES:
- LINE SIZING TABLE 24 FROM THE MANUAL SHOWS 36,000 BTUH REQUIRES A 1-1/8" SUCTION FOR UP TO 100' OF EQUIVALENT LINE LENGTH.
- HORIZONTAL SUCTION LINES SHALL SLOPE AWAY FROM THE EVAPORATOR TOWARD THE COMPRESSOR AT THE RATE OF 1/4" PER 10' FOR SUFFICIENT OIL RETURN.
- FOR MULTIPLE EVAPORATORS CONNECTED IN SERIES USING A COMMON SUCTION LINE, THE BRANCH SUCTION LINES MUST ENTER THE TOP OF THE COMMON SUCTION LINE.

PIPING DIAGRAM FOR THE R-448-A MEDIUM TEMPERATURE (+20°F SST) COOLER REFRIGERATION SYSTEM

ENLARGED INTERIOR VAULT COOLER LIQUID AND
SUCTION REFRIGERANT LINE SIZES AND CONNECTIONS

LINE SIZING - 32,900 BTUH @ +20°F:
- (7) 1-1/8" ELBOWS: EQUIVALENT LINE LENGTH = 21'
- (2) 1-1/8" TEES: EQUIVALENT LINE LENGTH = 6'
- (2) 7/8" ELBOWS: EQUIVALENT LINE LENGTH = 4'
- PIPING LENGTH = 57'
- TOTAL DEVELOPED LENGTH = 88'
- SUCTION LINE SIZE = 1-1/8"
- LIQUID LINE SIZE = 1/2"

REFER TO REFRIGERATION INSTALLATION MANUAL FOR LONGER LINE RUNS.
HTTP://WWW.HEATCRAFTRPD.COM/PDF/I&O/H-IM-CU.PDF

1 VAULT COOLER
N.T.S.

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PROJECT MANAGEMENT

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FOR BIDDING ONLY 09/03/2020

FOR INFORMATION ONLY

NO	DATE	REMARKS
3	08.28.20	PEER COMMENTS
1	04.27.20	PEER REVIEW

REVISIONS

7-ELEVEN
STORE #41559

1245 S. VOLUSIA AVENUE
Orange City, FL 32763

PROJECT NO: 2019.0743
DATE: APRIL 7, 2020

M1.2
REFRIGERATION PIPING RISER DIAGRAM

CHECKED: JL DRAWN: JR

JONLOP - 09/02/2020 3:35:01 PM

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P:\7-Eleven\2019.0743 - RKM - 7-Eleven - Volusia Ave & Rhode Island Ave, Orange City, FL\3 CAD & Drawings\2 Construction Documents\2019.0743 - M1.2.dwg, REFRIGERATION PIPING RISER DIAGRAM, 9/2/2020 2:41:55 PM, JARRUS, AutoCAD PDF (General Documentation).pc3, ARCH full bleed D (36.00 x 24.00 Inches), 1:1