

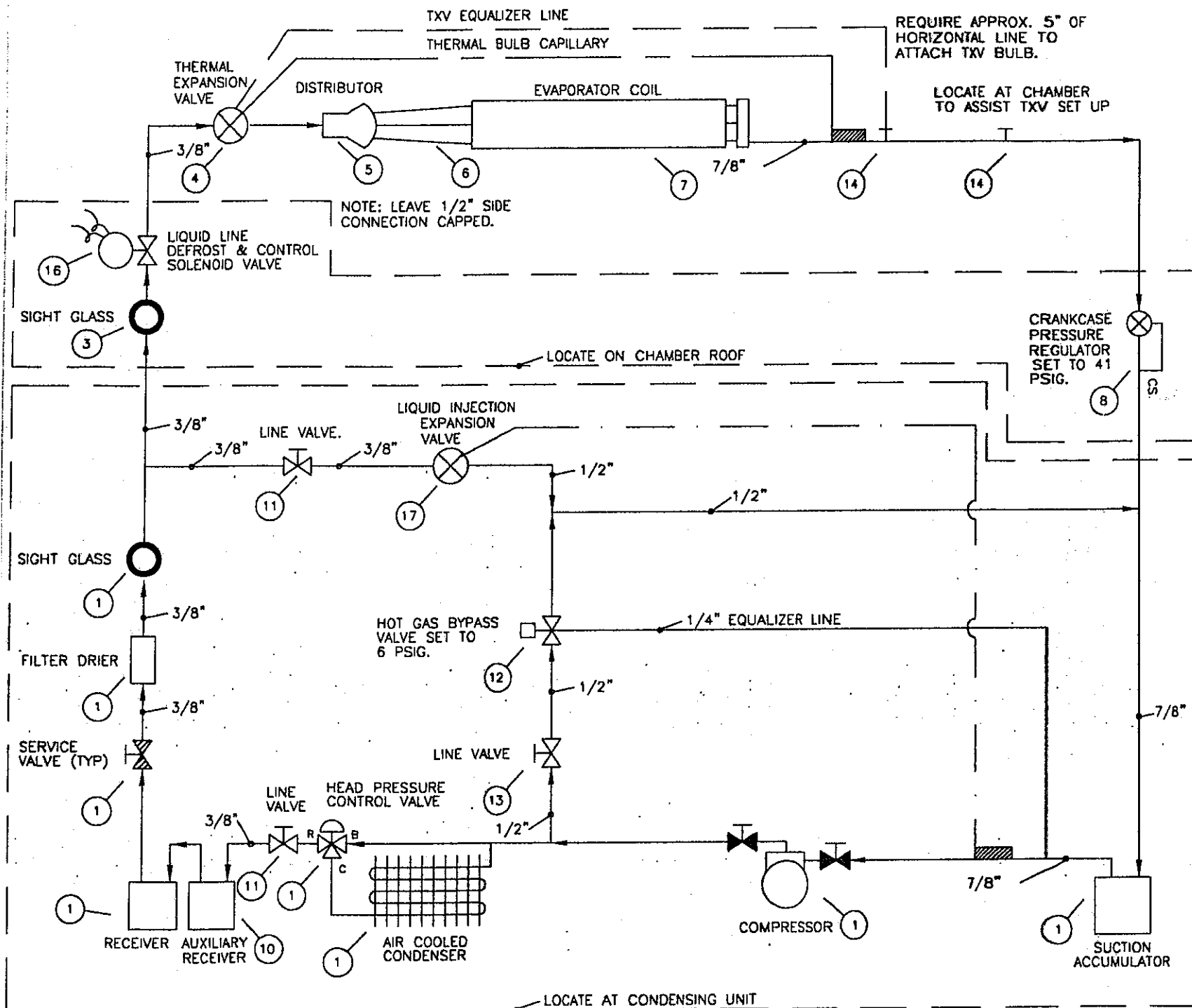
- NOTES:
- 1) DISTRIBUTOR TO BE MOUNTED VERTICALLY WITH FEEDER TUBES EXITING DOWNWARD.
 - 2) LOCATE ITEM 10 VIBRATION ELIMINATOR AS CLOSE TO SUCTION VALVE AS POSSIBLE & WITH AXIS PARALLEL TO SPIN AXIS OF COMPRESSOR.
 - 3) CAP ALL REFRIGERANT TUBING FOR SHIPMENT.
 - 4) ALL TUBING FITTINGS TO BE BRAZED WITH HARRIS STAY SILV 15 OR EQUIVALENT. PURGE LINES WITH DRY NITROGEN WHILE BRAZING.
 - 5) USE STAY BRITE OR EQUIVALENT ON COMPONENTS WHERE MANUFACTURER RECOMMENDS USE OF LOWER TEMPERATURE MATERIALS FOR JOINING.
 - 6) INSULATE HOT GAS & SUCTION LINES WITH 1/2" WALL ARMAFLEX.
 - 7) INSULATE LIQUID LINE OUTSIDE OF BUILDING WITH 1/2" WALL ARMAFLEX.
 - 8) LOCATE "P" TRAP AT BASE OF SUCTION LINE VERTICAL RISE & PUT REVERSE "P" TRAP AT TOP OF SUCTION LINE VERTICAL RISE.
 - 9) SLOPE HORIZONTAL SUCTION LINES & HOT GAS LINES 1/2" IN 10' IN THE DIRECTION OF FLOW.
 - 10) CHARGE SYSTEM WITH 16.3 POUNDS OF R-22 REFRIGERANT.

22	1	AUXILIARY RECEIVER. 10 LBS CAPACITY, 3/8" SAE	1911
		REF. RESEARCH	
21	1	LINE VALVE. 3/8" ODS	RB3S
		VIRGINIA KMP	
20	1	HOT GAS LINE SOLENOID VALVE NORMALLY CLOSED	E9S240
		1/2" ODF 120V COIL / MKC-1	
		SPORLAN	
19	1	LIQUID LINE SOLENOID VALVE NORMALLY CLOSED	E5S130
		3/8" ODF 120V COIL / MKC-1.	
		SPORLAN	
18	1	WEATHER COVER.	
		EGC	
17	1	CRANKCASE HEATER 40W 240V WITH MOUNTING	01B-0031-02
		HARDWARE.	
		COPELAND	
16	1	HEAD PRESSURE CONTROL VALVE. 3/8" ODS.	HP5T3B
		ALCO	
15	1	NOZZLE ORIFICE.	JR-1
		SPORLAN	
14	4	ACCESS FITTINGS.	AV3-346
		WATSCO	
13	1	CHECK VALVE. 1/2" ODS.	MS-8
		WATSCO	
12	1	MODULATING HOT GAS CONTROL VALVE. 5/8" ODS.	SDR-3-10-S
		SPORLAN	
11	2	LINE VALVE. 1/2" ODS.	RB4S
		VIRGINIA KMP.	
10			
9	1	SUCTION ACCUMULATOR. 7/8" ODS.	HP 373B
		REFRIGERATION RESEARCH	
8	1	CRANKCASE PRESSURE REGULATOR. 50/130 PSIG. WITH	QPR-10
		STRAINER. 7/8" ODS.	
		ALCO	
7	1	COIL. 10" H X 48" L - 6R, 8 FPI, 4 CIRCUIT,	B50491 (LH)
		ALUMINUM FINS.	
		SUPER RADIATOR	
6	4	FEEDER TUBES 1/4" SOFT COPPER.	PART OF ITEM 7
5	1	DISTRIBUTOR. 1651R-4-1/4"-* WITH ONE 1/2	PART OF ITEM 7
		SIDE CONNECTION. * SEE ITEM 15.	
		SPORLAN	
4	1	THERMAL EXPANSION VALVE. EXTERNALLY EQUALIZED.	TCLE1HW100
		3/8" X 5/8" ODS. STRAIGHT BODY. MOP 100	
		ALCO	
3	2	SIGHT GLASS. 3/8" ODS.	SA-13S
		SPORLAN	
2	1	FILTER DRIER. 3/8" ODS.	EK-163S
		ALCO	
1	1	CONDENSING UNIT. AIR COOLED, R-22, HI TEMP.	F3AD-A151
		1 1/2 HP, 208V-3-60	TFC-001
		COPELAND	
ITEM REQD		DESCRIPTION	PART NO.

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ENVIRONMENTAL GROWTH CHAMBERS
Chagrin Falls, Ohio

ENVIRONMENTAL GROWTH CHAMBERS		
SCALE None	APPROVED BY	DRAWN BY EBN
DATE 12/30/10		REVISED
REFRIGERATION SCHEMATIC		
ROOM D3-110 (5°C)		
REVISION	BY	DRAWING NUMBER
		0154RR-100



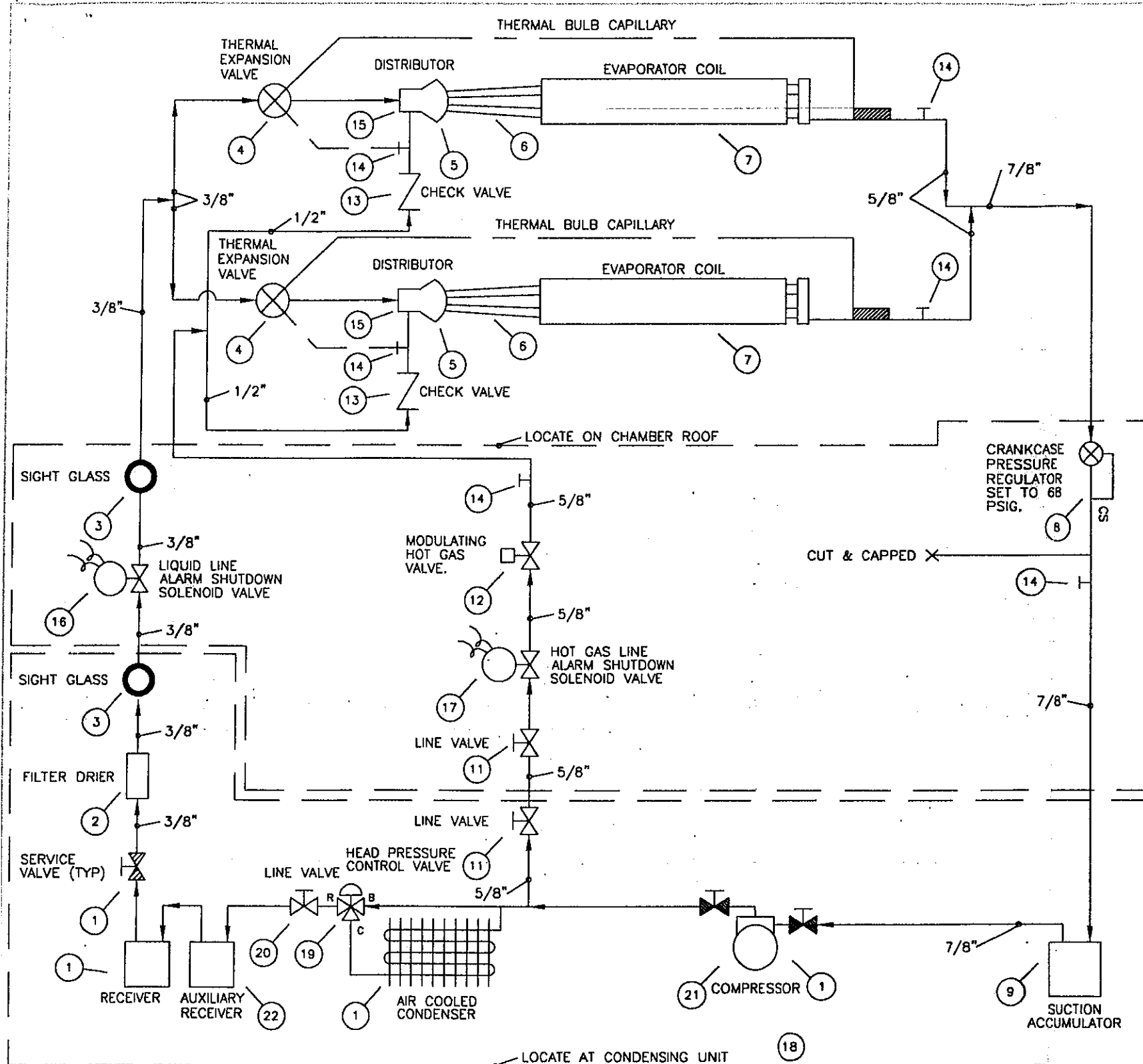
- NOTES:
- 1) DISTRIBUTOR TO BE MOUNTED VERTICALLY WITH FEEDER TUBES EXITING DOWNWARD.
 - 2) LOCATE ITEM 10 VIBRATION ELIMINATOR AS CLOSE TO SUCTION VALVE AS POSSIBLE & WITH AXIS PARALLEL TO SPIN AXIS OF COMPRESSOR.
 - 3) CAP ALL REFRIGERANT TUBING FOR SHIPMENT.
 - 4) ALL TUBING FITTINGS TO BE BRAZED WITH HARRIS STAY SILV 15 OR EQUIVALENT. PURGE LINES WITH DRY NITROGEN WHILE BRAZING.
 - 5) USE STAY BRITE OR EQUIVALENT ON COMPONENTS WHERE MANUFACTURER RECOMMENDS USE OF LOWER TEMPERATURE MATERIALS FOR JOINING.
 - 6) PRESSURE CHECK COMPLETED SUB ASSEMBLIES OR SYSTEM AT 175 PSIG WITH DRY NITROGEN.
 - 7) INSULATE LIQUID & HOT GAS LINES WITH 1/2" WALL ARMAFLEX.
 - 8) INSULATE SUCTION LINES WITH 3/4" WALL ARMAFLEX.
 - 9) CHARGE SYSTEM WITH 16.3 POUNDS OF R-404A REFRIGERANT.
 - 10) REFER TO "GENERAL NOTES FOR REFRIGERATION PIPING INSTALLATION" FOR INSTALLATION NOTES.

17	1	LIQUID INJECTION EXPANSION VALVE. INTERNALLY EQUALIZED, 3/8" X 5/8" STRAIGHT BODY. ALCO	LCL1B
16	1	LIQUID LINE SOLENOID VALVE. NORMALLY CLOSED, 3/8" ODS. 120V LOW FORCE COIL MKC-119. SPORLAN	E5S130
15			
14	4	ACCESS FITTINGS. WATSCO	AV3-346
13	1	LINE VALVE. 1/2" ODS. VIRGINIA KMP.	RB4S
12	1	HOT GAS BYPASS VALVE. 1/2" ODS. WITH 1/4" ODS EQUALIZER. SPORLAN	ADRSE-2
11	2	LINE VALVE. 3/8" ODS. VIRGINIA KMP.	RB3S
10	1	AUXILIARY RECEIVER, 6 LBS. CAPACITY, 1/4" SAE REFRIGERATION RESEARCH	1918
9	1	SUCTION ACCUMULATOR.	PURCHASE MOUNTED ON ITEM 1
8	1	CRANKCASE PRESSURE REGULATOR. 0/60 PSIG. WITH STRAINER. 7/8" ODS. ALCO	OPR-6
7	1	UNIT COOLER WITH 208 V FAN MOTORS. FOR USE WITH R-404A REFRIGERANT. CLIMATE CONTROL	LSF-070A
6	3	FEEDER TUBES 3/16" SOFT COPPER.	PURCHASE MOUNTED ON ITEM 7
5	1	DISTRIBUTOR.	PURCHASE MOUNTED ON ITEM 7
4	1	THERMAL EXPANSION VALVE. EXTERNALLY EQUALIZED. 3/8" ODF X 5/8" ODF. STRAIGHT BODY. ALCO	TCL1/2RZ
3	1	SIGHT GLASS. 3/8" ODS. SPORLAN	SA-13S
2	1	FILTER DRIER	PURCHASE MOUNTED ON ITEM 1
1	1	CONDENSING UNIT. AIR COOLED, R-404A, MED/LOW. TEMP 3 HP, 208V-3-60 COPELAND	VJAF-030H TFC-050
ITEM REQD		DESCRIPTION	PART NO.

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ENVIRONMENTAL GROWTH CHAMBERS
Chardon Falls, Ohio

ENVIRONMENTAL GROWTH CHAMBERS		
SCALE None	APPROVED BY	DRAWN BY BJN
DATE 12/30/10		REVISED
REFRIGERATION SCHEMATIC		
ROOM D3-110A (-20°C)		
V.A. MEDICAL CENTER	DRAWING NUMBER	
015499	110	



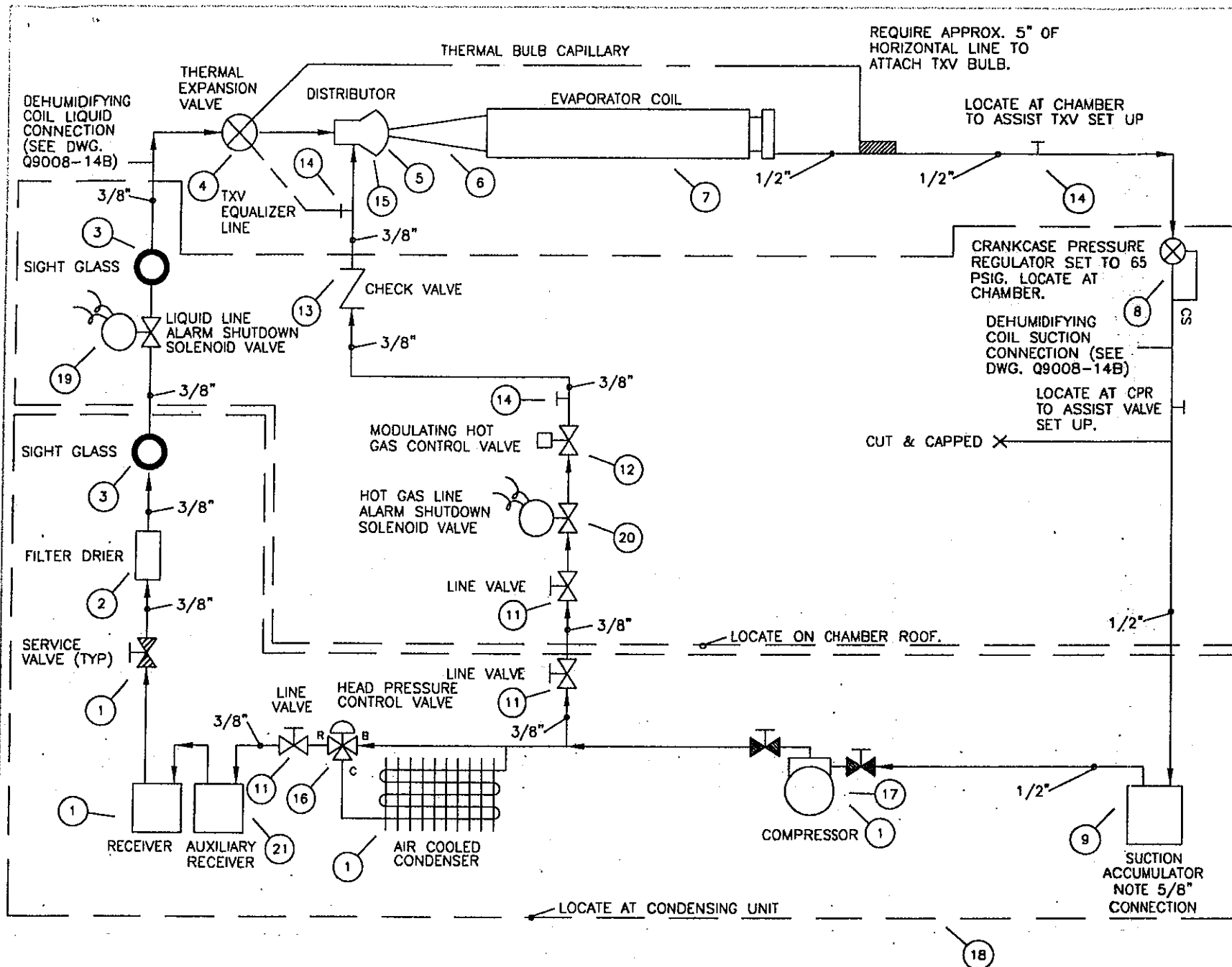
- NOTES:
- 1) DISTRIBUTOR TO BE MOUNTED VERTICALLY WITH FEEDER TUBES EXITING DOWNWARD.
 - 2) LOCATE ITEM 10 VIBRATION ELIMINATOR AS CLOSE TO SUCTION VALVE AS POSSIBLE & WITH AXIS PARALLEL TO SPIN AXIS OF COMPRESSOR.
 - 3) INSULATE SUCTION & HOT GAS LINES WITH 1/2" WALL ARMAFLEX.
 - 4) SLOPE HORIZONTAL SUCTION LINES & HOT GAS LINES TOWARDS FLOW.
 - 5) PRESSURE CHECK COMPLETED SUB ASSEMBLIES OR SYSTEM AT 175 PSIG WITH DRY NITROGEN.
 - 6) CAP ALL REFRIGERANT TUBING FOR SHIPMENT.
 - 7) CHARGE SYSTEM WITH 19.2 POUNDS OF R-22 REFRIGERANT.
 - 8) ALL TUBING FITTINGS TO BE BRAZED WITH HARRIS STAY SILV 15 OR EQUIVALENT. PURGE LINES WITH DRY NITROGEN WHILE BRAZING.
 - 9) USE STAY BRITE OR EQUIVALENT ON COMPONENTS WHERE MANUFACTURER RECOMMENDS USE OF LOWER TEMPERATURE MATERIALS FOR JOINING.
 - 10) REFER TO "GENERAL NOTES FOR REFRIGERATION PIPING INSTALLATION" FOR INSTALLATION NOTES.

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ENVIRONMENTAL GROWTH CHAMBERS
Chagrin Falls, Ohio

22	1	AUXILIARY RECEIVER. 6 LBS CAPACITY, 3/8" SAE TYPE 3	5315
		REF. RESEARCH	
21	1	CRANKCASE HEATER 40 W. @ 240V. COMPLETE WITH MOUNTING HARDWARE.	018-0031-02
		COPELAND	
20	1	LINE VALVE. 3/8" ODS.	RB3S
		VIRGINIA KMP	
19	1	HEAD PRESSURE CONTROL VALVE. 1/2" ODF	HP5T3B
		ALCO	
18	1	WEATHER COVER.	
		E.G.C.	
17	1	HOT GAS LINE SOLENOID VALVE. NORMALLY CLOSED, 1/2" ODF. 120V MKC-2 COIL.	E9S240
		SPORLAN	
16	1	LIQUID LINE SOLENOID VALVE, NORMALLY CLOSED 3/8" ODF 120V MKC-1 COIL.	E5S130
		SPORLAN	
15	2	NOZZLE ORIFICE.	JR-3/4
		SPORLAN	
14	6	ACCESS FITTINGS.	AV3-346
		WATSCO	
13	2	CHECK VALVE 1/2" ODS.	MS-8
		MAGNICHECK	
12	1	MODULATING HOT GAS VALVE. 5/8" ODS.	SDR-3-10-S
		SPORLAN	
11	2	LINE VALVE. 5/8" ODS.	RB5S
		VIRGINIA KMP.	
10			
9	1	SUCTION ACCUMULATOR. 7/8" ODS.	HP 3738
		REFRIGERATION RESEARCH	
8	1	CRANKCASE PRESSURE REGULATOR. 50/130 PSIG. WITH STRAINER. 7/8" ODS.	OPR-10
		ALCO	
7	2	COIL. 10" H X 36" L -6R, 8 FPI, 4 CIRCUITS, 1/2" TUBES, ALUMINUM FIN.	B50491 (LH)
		SUPER RADIATOR	
6	8	FEEDER TUBES 1/4" SOFT COPPER.	PART OF ITEM 7
5	2	DISTRIBUTOR, 1651R-4-1/4" - * WITH ONE 1/2" SIDE SIDE CONNECTION. * SEE ITEM 15	PART OF ITEM 7
		SPORLAN	
4	2	THERMAL EXPANSION VALVE. EXTERNALLY EQUALIZED. 3/8" ODF X 5/8" ODF. STRAIGHT BODY.	TCLE1HW100
		ALCO	
3	2	SIGHT GLASS. 3/8" ODS.	SA-13S
		SPORLAN	
2	1	FILTER DRIER. 3/8" ODS.	EK-163S
		ALCO	
1	1	CONDENSING UNIT. AIR COOLED, R-22, HI TEMP 2 HP, 208V-3-60	F3AD-A201 TFC-001
		COPELAND	
ITEM REQD		DESCRIPTION	PART NO.

REVISION		ENVIRONMENTAL GROWTH CHAMBERS	
		SCALE None	APPROVED BY
DATE 12/30/10		DRAWN BY BJN	
		REVISED	
		REFRIGERATION SCHEMATIC	
		ROOMS B4-130, E4-209 & F4-224 (5°C)	
		V.A.MEDICAL CENTER	
		DRAWING NUMBER	



NOTES:

- 1) DISTRIBUTOR TO BE MOUNTED VERTICALLY WITH FEEDER TUBES EXITING DOWNWARD.
- 2) LOCATE ITEM 10 VIBRATION ELIMINATOR AS CLOSE TO SUCTION VALVE AS POSSIBLE & WITH AXIS PARALLEL TO SPIN AXIS OF COMPRESSOR.
- 3) CAP ALL REFRIGERANT TUBING FOR SHIPMENT.
- 4) ALL TUBING FITTINGS TO BE BRAZED WITH HARRIS STAY SILV 15 OR EQUIVALENT. PURGE LINES WITH DRY NITROGEN WHILE BRAZING.
- 5) USE STAY BRITE OR EQUIVALENT ON COMPONENTS WHERE MANUFACTURER RECOMMENDS USE OF LOWER TEMPERATURE MATERIALS FOR JOINING.
- 6) INSULATE HOT GAS & SUCTION LINES WITH 1/2" WALL ARMAFLEX.
- 7) INSULATE LIQUID LINE OUTSIDE OF BUILDING WITH 1/2" WALL ARMAFLEX.
- 8) LOCATE "P" TRAP AT BASE OF SUCTION LINE VERTICAL RISE & PUT REVERSE "P" TRAP AT TOP OF SUCTION LINE VERTICAL RISE.
- 9) SLOPE HORIZONTAL SUCTION LINES & HOT GAS LINES 1/2" IN 10' IN THE DIRECTION OF FLOW.
- 10) CHARGE SYSTEM WITH 9.3 POUNDS OF R-22 REFRIGERANT.

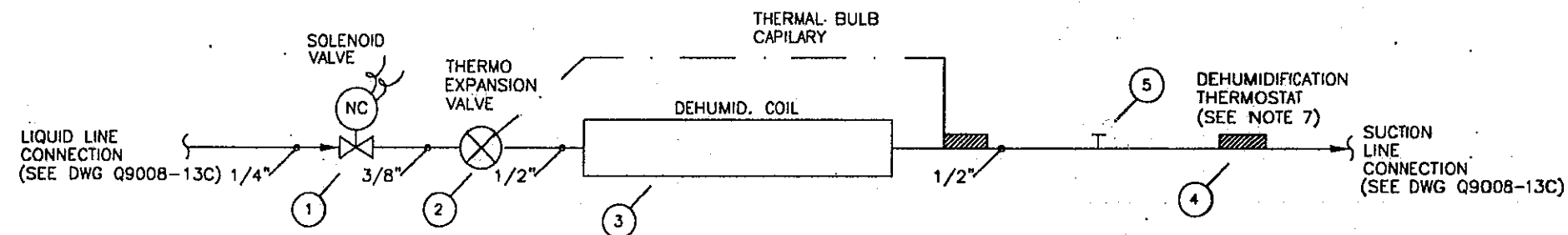
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ENVIRONMENTAL GROWTH CHAMBERS
Chagrin Falls, Ohio

21	1	AUXILIARY RECEIVER, TYPE 3, 6 LBS CAPACITY, 3/8" SAE	REF. RESEARCH	5315
20	1	HOT GAS LINE SOLENOID VALVE NORMALLY CLOSED 3/8" ODF 120V COIL # MKC-1	SPORLAN	E5S130
19	1	LIQUID LINE SOLENOID VALVE NORMALLY CLOSED 3/8" ODF 120V COIL # MKC-1.	SPORLAN	E3S130
18	1	WEATHER COVER.	EGC	
17	1	CRANKCASE HEATER 35W 240V WITH MOUNTING HARDWARE.	COPELAND	518-0020-01
16	1	HEAD PRESSURE CONTROL VALVE. 3/8" ODS.	ALCO	HP5T3B-225
15	1	NOZZLE ORIFICE.	SPORLAN	JR-1/2
14	4	ACCESS FITTINGS.	WATSCO	AV3-346
13	1	CHECK VALVE. 3/8" ODS.	WATSCO	MS-6
12	1	MODULATING HOT GAS CONTROL VALVE. 5/8" ODS.	SPORLAN	SDR-3-10-S
11	3	LINE VALVE. 3/8" ODS.	VIRGINIA KMP.	RB3S
10				
9	1	SUCTION ACCUMULATOR. 5/8" ODS.	REFRIGERATION RESEARCH	HP 3702
8	1	CRANKCASE PRESSURE REGULATOR. 50/130 PSIG. WITH STRAINER. 5/8" ODS.	ALCO	OPR-6
7	1	COIL. 10" H X 36" L - 4R, 8 FPI, 2 CIRCUIT, ALUMINUM FINS.	SUPER RADIATOR	B49139 (LH)
6	2	FEEDER TUBES 1/4" SOFT COPPER.		PART OF ITEM 7
5	1	DISTRIBUTOR. 1651R-2-1/4"-* WITH ONE 1/2 SIDE CONNECTION. * SEE ITEM 15.	SPORLAN	PART OF ITEM 7
4	1	THERMAL EXPANSION VALVE. EXTERNALLY EQUALIZED. 3/8" X 5/8" ODS. STRAIGHT BODY. MOP 100	ALCO	TCLE1HW100
3	2	SIGHT GLASS. 3/8" ODS.	SPORLAN	SA-13S
2	1	FILTER DRIER. 3/8" ODS.	ALCO	EK-083S
1	1	CONDENSING UNIT. AIR COOLED, R-22, HI TEMP. 1/2 HP, 208V-1-60	COPELAND	F3AH-A056 IAV-001
ITEM REQD		DESCRIPTION		PART NO.

ENVIRONMENTAL GROWTH CHAMBERS	
SCALE None	APPROVED BY
DATE 12/30/10	DRAWN BY BJN
REFRIGERATION SCHEMATIC	
ROOM E4-211 (37C, 20% TO 90%)	
V.A.MEDICAL CENTER	DRAWING NUMBER

- NOTES:
- 1) CAP ALL REFRIGERANT TUBING FOR SHIPMENT.
 - 2) ALL TUBING FITTINGS TO BE BRAZED WITH HARRIS STAY SILV 15 OR EQUIVALENT. PURGE LINES WITH DRY NITROGEN WHILE BRAZING.
 - 3) USE STAY BRITE OR EQUIVALENT ON COMPONENTS WHERE MANUFACTURER RECOMMENDS USE OF LOWER TEMPERATURE MATERIALS FOR JOINING.
 - 4) PRESSURE CHECK COMPLETED SUB ASSEMBLIES OR SYSTEM AT 175 PSIG WITH DRY NITROGEN.
 - 5) INSULATE SUCTION & HOT GAS LINES WITH 1/2" WALL ARMAFLEX.
 - 6) FOR INSTALL, REFER TO "GENERAL NOTES FOR REFRIGERATION PIPING INSTALLATION".
 - 7) INSTALL THERMOSTAT BULB ON FIRST VERTICAL TUBE OF SECOND PHASE OF DEHUMIDIFYING COIL & INSULATE. MOUNT THERMOSTAT ON BACK PANEL OF EVAPORATOR NEAR ACCESS HOLE FOR SCHRADER FITTING. SET THERMOSTAT TO OPEN @ 40°F.

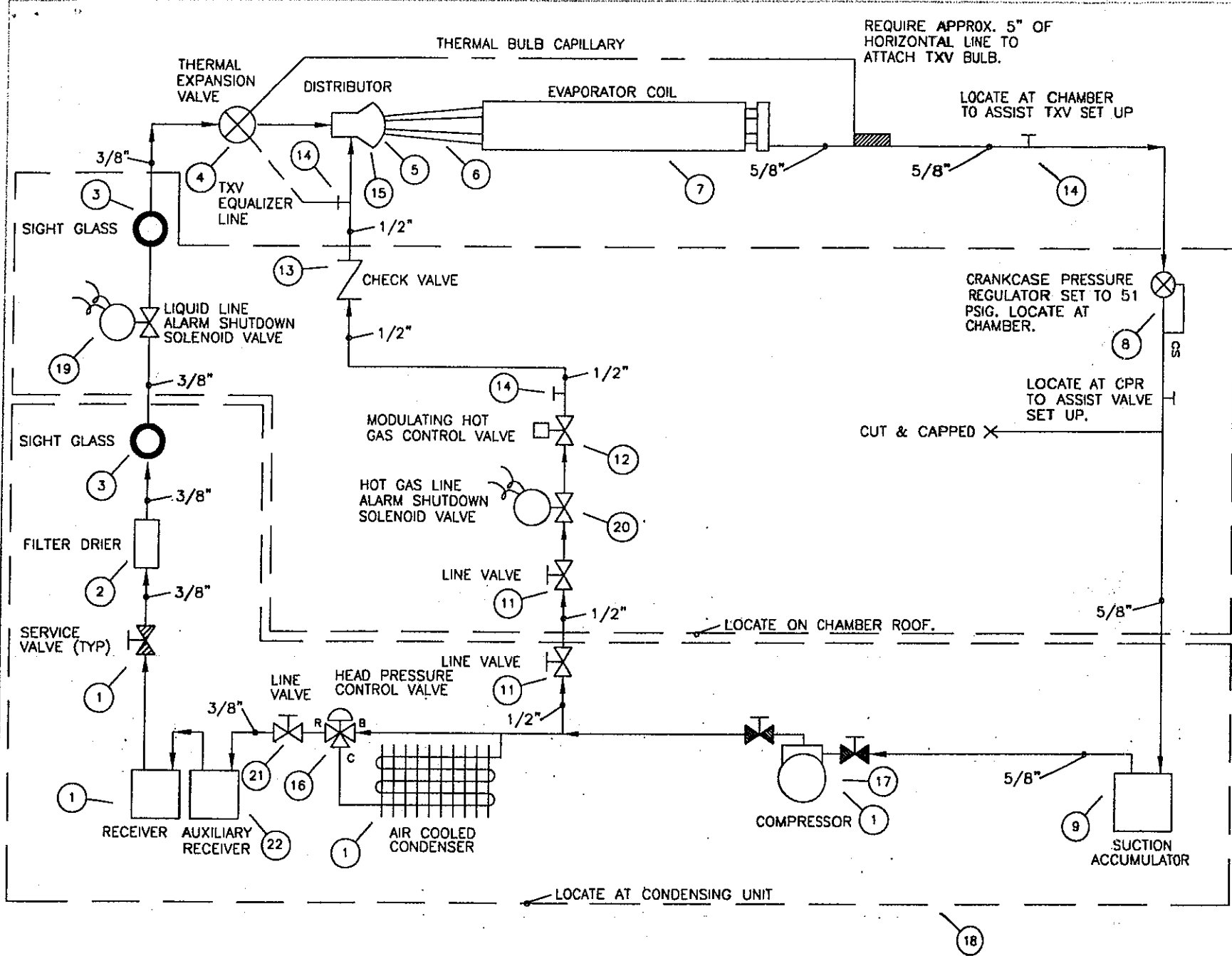


5	1	SCHRADER FITTING. E.G.C.	AV3-346
4	1	DEHUMIDIFICATION THERMOSTAT. SEE NOTE 7 BARBER COLMAN	TC-4111
3	1	DEHUMIDIFYING COIL, STAGGERED, 3 PASS 7 1/2" X 30" E.G.C.	
2	1	DEHUMID COIL TXV 3/8" X 1/2" ODS. STRAIGHT BODY ALCO	TCL1/2HW
1	1	DEHUMID COIL SOLENOID 1/4" ODF X 3/8" ODM .101" DIAM PORT, BUY WITH MKC-119 COIL (120V) SPORLAN	A3S1
ITEM	REQD	DESCRIPTION	PART NO.

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ENVIRONMENTAL GROWTH CHAMBERS
Chagrin Falls, Ohio

ENVIRONMENTAL GROWTH CHAMBERS	
SCALE None	APPROVED BY
DATE 12-28-10	DRAWN BY BJN
DEHUMIDIFICATION SCHEMATIC	
ROOM E4-211 (37°C, 20% TO 90%)	
REVISION	DRAWING NUMBER



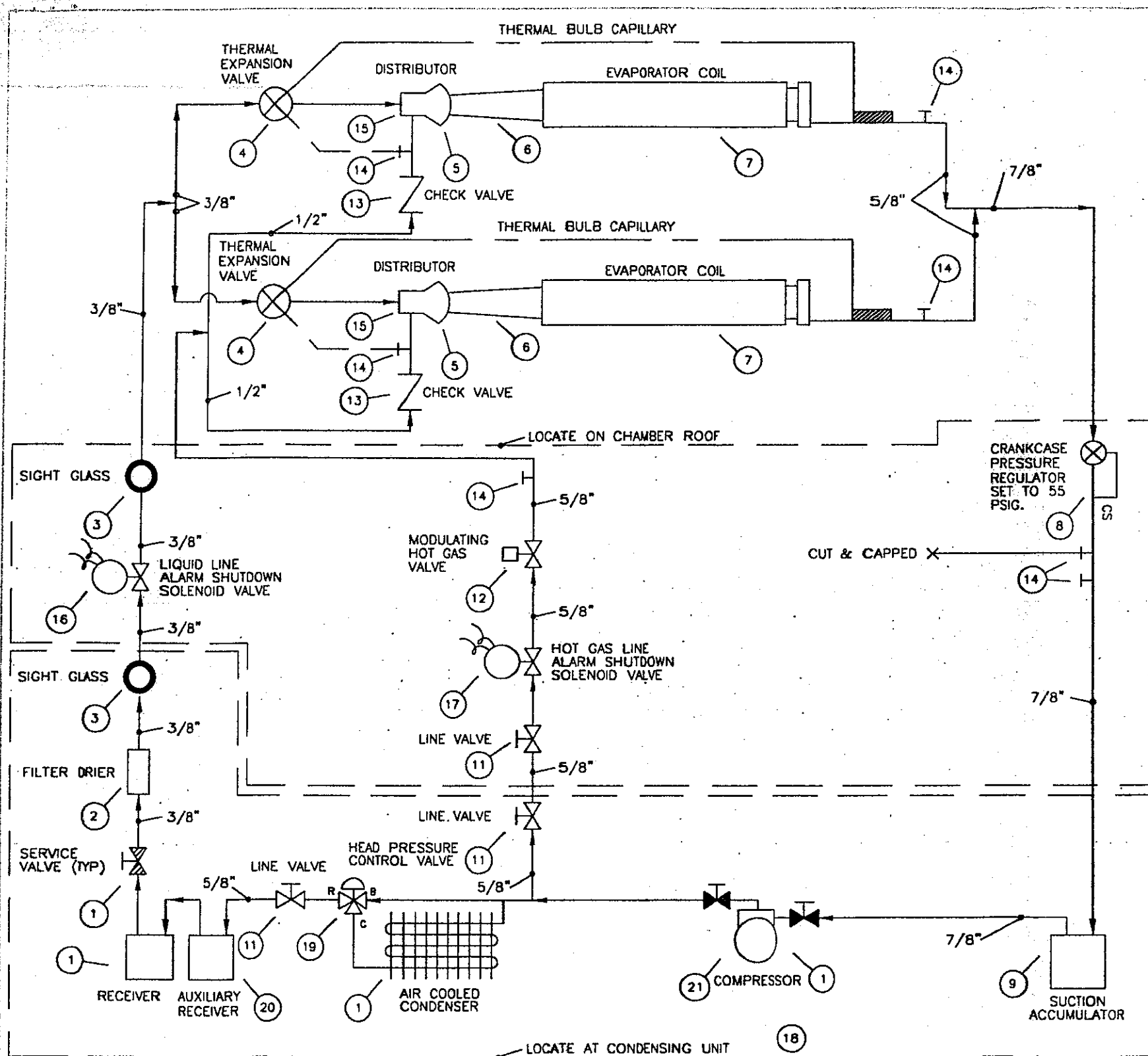
- NOTES:
- 1) DISTRIBUTOR TO BE MOUNTED VERTICALLY WITH FEEDER TUBES EXITING DOWNWARD.
 - 2) LOCATE ITEM 10 VIBRATION ELIMINATOR AS CLOSE TO SUCTION VALVE AS POSSIBLE & WITH AXIS PARALLEL TO SPIN AXIS OF COMPRESSOR.
 - 3) CAP ALL REFRIGERANT TUBING FOR SHIPMENT.
 - 4) ALL TUBING FITTINGS TO BE BRAZED WITH HARRIS STAY SILV 15 OR EQUIVALENT. PURGE LINES WITH DRY NITROGEN WHILE BRAZING.
 - 5) USE STAY BRITE OR EQUIVALENT ON COMPONENTS WHERE MANUFACTURER RECOMMENDS USE OF LOWER TEMPERATURE MATERIALS FOR JOINING.
 - 6) INSULATE HOT GAS & SUCTION LINES WITH 1/2" WALL ARMAFLEX.
 - 7) INSULATE LIQUID LINE OUTSIDE OF BUILDING WITH 1/2" WALL ARMAFLEX.
 - 8) REFER TO "GENERAL NOTES FOR REFRIGERATION PIPING INSTALLATION" FOR INSTALLATION NOTES.
 - 9) SLOPE HORIZONTAL SUCTION LINES & HOT GAS LINES 1/2" IN 10" IN THE DIRECTION OF FLOW.
 - 10) CHARGE SYSTEM WITH 12.3 POUNDS OF R-22 REFRIGERANT.

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ENVIRONMENTAL GROWTH CHAMBERS
Chagrin Falls, Ohio

22	1	AUXILIARY RECEIVER. TYPE 3, 6 LBS CAPACITY, 3/8" SAE	REF. RESEARCH	5315
21	1	LINE VALVE. 3/8" ODS	VIRGINIA KMP	RB3S
20	1	HOT GAS LINE SOLENOID VALVE NORMALLY CLOSED 1/2" ODF 120V COIL # MKC-1	SPORLAN	E6S140
19	1	LIQUID LINE SOLENOID VALVE NORMALLY CLOSED 3/8" ODF 120V COIL # MKC-1.	SPORLAN	E3S130
18	1	WEATHER COVER.	EGC	
17	1	CRANKCASE HEATER 45W 208V WITH MOUNTING HARDWARE.	COPELAND	518-0022-01
16	1	HEAD PRESSURE CONTROL VALVE. 3/8" ODS.	ALCO	HP5T3B
15	1	NOZZLE ORIFICE.	SPORLAN	JR-3/4
14	4	ACCESS FITTINGS.	WATSCO	AV3-346
13	1	CHECK VALVE. 1/2" ODS.	WATSCO	MS-8
12	1	MODULATING HOT GAS CONTROL VALVE. 5/8" ODS.	SPORLAN	SDR-3-10-S
11	2	LINE VALVE. 1/2" ODS.	VIRGINIA KMP.	RB4S
10				
9	1	SUCTION ACCUMULATOR. 5/8" ODS.	REFRIGERATION RESEARCH	HP 3702
8	1	CRANKCASE PRESSURE REGULATOR. 0/60 PSIG. WITH STRAINER. 5/8" ODS.	ALCO	QPR-6
7	1	COIL. 10" H X 36" L - 6R, 8 FPI, 4 CIRCUIT, ALUMINUM FINS.	SUPER RADIATOR	B50491 (LH)
6	4	FEEDER TUBES 1/4" SOFT COPPER.		PART OF ITEM 7
5	1	DISTRIBUTOR. 1651R-4-1/4"-* WITH ONE 1/2 SIDE CONNECTION. * SEE ITEM 15.	SPORLAN	PART OF ITEM 7
4	1	THERMAL EXPANSION VALVE. EXTERNALLY EQUALIZED. 3/8" X 5/8" ODS. STRAIGHT BODY. MOP 100	ALCO	TCLE1HW100
3	2	SIGHT GLASS. 3/8" ODS.	SPORLAN	SA-13S
2	1	FILTER DRIER. 3/8" ODS.	ALCO	EK-083S
1	1	CONDENSING UNIT. AIR COOLED, R-22, MED TEMP. 1 HP, 208V-1-60	COPELAND	F3AM-A102 TFC-001
ITEM REQD		DESCRIPTION		PART NO.

ENVIRONMENTAL GROWTH CHAMBERS			
SCALE None		APPROVED BY	DRAWN BY BJN
DATE 12/30/10			REVISED
REFRIGERATION SCHEMATIC			
ROOM E4-225 (5°C)			
V.A.MEDICAL CENTER		DRAWING NUMBER	
REVISION			



- NOTES:
- 1) DISTRIBUTOR TO BE MOUNTED VERTICALLY WITH FEEDER TUBES EXITING DOWNWARD.
 - 2) LOCATE ITEM 10 VIBRATION ELIMINATOR AS CLOSE TO SUCTION VALVE AS POSSIBLE & WITH AXIS PARALLEL TO SPIN AXIS OF COMPRESSOR.
 - 3) INSULATE SUCTION & HOT GAS LINES WITH 1/2" WALL ARMAFLEX.
 - 4) SLOPE HORIZONTAL SUCTION LINES & HOT GAS LINES TOWARDS FLOW.
 - 5) PRESSURE CHECK COMPLETED SUB ASSEMBLIES OR SYSTEM AT 175 PSIG WITH DRY NITROGEN.
 - 6) CAP ALL REFRIGERANT TUBING FOR SHIPMENT.
 - 7) CHARGE SYSTEM WITH 13.2 POUNDS OF R-22 REFRIGERANT.
 - 8) ALL TUBING FITTINGS TO BE BRAZED WITH HARRIS STAY SILV 15 OR EQUIVALENT. PURGE LINES WITH DRY NITROGEN WHILE BRAZING.
 - 9) USE STAY BRITE OR EQUIVALENT ON COMPONENTS WHERE MANUFACTURER RECOMMENDS USE OF LOWER TEMPERATURE MATERIALS FOR JOINING.
 - 10) REFER TO "GENERAL NOTES FOR REFRIGERATION PIPING INSTALLATION" FOR INSTALLATION NOTES.

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ENVIRONMENTAL GROWTH CHAMBERS

21	1	CRANKCASE HEATER 40 W. @ 240V.	018-0031-02
		COPELAND	
20	1	AUXILIARY RECEIVER. TYPE 3, 6 LBS CAPACITY, 3/8" SAE	5315
		REF. RESEARCH	
19	1	HEAD PRESSURE CONTROL VALVE. 1/2" ODF	HP5T4B
		ALCO	
18	1	WEATHER COVER.	
		E.G.C.	
17	1	HOT GAS LINE SOLENOID VALVE. NORMALLY CLOSED, 5/8" ODF. 120V MKC-2 COIL.	E10S250
		SPORLAN	
16	1	LIQUID LINE SOLENOID VALVE, NORMALLY CLOSED 3/8" ODF 120V MKC-1 COIL.	E6S130
		SPORLAN	
15	2	NOZZLE ORIFICE.	JR-3/4
		SPORLAN	
14	7	ACCESS FITTINGS.	AV3-346
		WATSCO	
13	2	CHECK VALVE 1/2" ODS.	MS-8
		MAGNICHECK	
12	1	MODULATING HOT GAS VALVE. 5/8" ODS.	SDR-3-10-S
		SPORLAN	
11	3	LINE VALVE. 5/8" ODS.	RB5S
		VIRGINIA KMP.	
10			
9	1	SUCTION ACCUMULATOR. 7/8" ODS.	HP 3738
		REFRIGERATION RESEARCH	
8	1	CRANKCASE PRESSURE REGULATOR. 50/130 PSIG. WITH STRAINER. 7/8" ODS.	OPR-10
		ALCO	
7	2	COIL. 10" H X 48" L -4R, 8 FPI, 2 CIRCUITS, 1/2" TUBES, COPPER FIN.	B45777 (LH)
		SUPER RADIATOR	
6	4	FEEDER TUBES 1/4" SOFT COPPER.	PART OF ITEM 7
5	2	DISTRIBUTOR, 1651R-2-1/4"-* WITH ONE 1/2" SIDE SIDE CONNECTION. * SEE ITEM 15	PART OF ITEM 7
		SPORLAN	
4	2	THERMAL EXPANSION VALVE. EXTERNALLY EQUALIZED. 3/8" ODF X 5/8" ODF. STRAIGHT BODY.	TGLE1HW100
		ALCO	
3	2	SIGHT GLASS. 3/8" ODS.	SA-13S
		SPORLAN	
2	1	FILTER DRIER. 3/8" ODS.	EK-163S
		ALCO	
1	1	CONDENSING UNIT. AIR COOLED, R-22, HI TEMP 3 HP, 208V-3-60	F3AD-A301 TFC-001
		COPELAND	
ITEM REQD		DESCRIPTION	PART NO.

ENVIRONMENTAL GROWTH CHAMBERS

SCALE None APPROVED BY DRAWN BY BJN

DATE 12/30/10 REVISED

REFRIGERATION SCHEMATIC

ROOM C4-110 (5°C)

V.A.MEDICAL CENTER

DRAWING NUMBER