



**30GXN-1SB**

**30GXN,R080-450  
AIR-COOLED LIQUID CHILLERS  
WITH *COMFORTLINK*<sup>™</sup> CONTROLS  
50/60 Hz**

- **PERFORMANCE DATA**
- **CERTIFIED DIMENSION PRINTS**
- **FIELD WIRING DIAGRAMS**



|                                |             |                                                            |           |       |
|--------------------------------|-------------|------------------------------------------------------------|-----------|-------|
| Date:                          | Supersedes: | <b>30GXN,R080-450</b><br><b>AIR-COOLED LIQUID CHILLERS</b> | 30GXN,R   | Rev:  |
| JOB NAME:                      |             | LOCATION:                                                  |           |       |
| BUYER:                         |             | BUYER P.O. #                                               | CARRIER # |       |
| UNIT NUMBER:                   |             | MODEL NUMBER:                                              |           |       |
| PERFORMANCE DATA CERTIFIED BY: |             |                                                            |           | DATE: |

**DESCRIPTION**

Packaged air-cooled liquid chiller factory wired, refrigerant piped, and charged with HFC-134a. Upward discharge airflow minimizes directional sound and dissipates heat away from surrounding areas.

**FEATURES**

Cooler is mechanically cleanable "flooded" shell-and-tube type with removable heads. It is tested and stamped in accordance with ASME Code for a refrigerant working side pressure of 220 psig (1517 kPa) and a maximum fluid side pressure of 300 psig (2068 kPa) 250 psig [1724 kPa] in Canada) and is insulated with 3/4-in. (19 mm) closed-cell polyvinyl chloride foam.

Cooler can be equipped with electric heater to help protect against cooler freeze-up (use of inhibited glycol anti-freeze required for freeze protection).

Compressor is semi-hermetic twin screw design with refrigerant gas cooled motor and integral oil filter and discharge gas muffler.

Complete thermal and electrical protection is provided.

Air-cooled condenser is constructed of fins mechanically bonded to seamless copper tubes. Coils are leak and pressure tested at 450 psig (3103 kPa).

Condenser fans are direct driven 11-blade, shrouded axial type, statically and dynamically balanced, discharging air vertically upward, protected by coated steel wire safety guards.

Condenser fan motors are totally enclosed 3-phase with permanently lubricated bearings and Class F insulation (except speed control motors).

Each refrigerant circuit includes oil separator, high side pressure relief device, liquid and discharge line shutoff valve, filter drier, moisture indicating sight glass, expansion/level control device.

Microprocessor control includes keypad with diagnostic display displaying set points, time, system status (including temperatures, pressures and % loading) and the alarm conditions.

Capacity control based on leaving chilled water temperature with return water temperature sensing.

7-Day time scheduling of pump(s) and chiller.

60-Hz Models:

|     |     |     |     |     |
|-----|-----|-----|-----|-----|
| 080 | 125 | 174 | 264 | 350 |
| 090 | 135 | 204 | 281 | 390 |
| 106 | 150 | 225 | 301 | 415 |
| 114 | 160 | 249 | 325 | 450 |

50-Hz Models:

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| 080 | 135 | 220 | 281 | 350 | 440 |
| 090 | 150 | 225 | 300 | 365 |     |
| 106 | 160 | 240 | 320 | 370 |     |
| 115 | 175 | 264 | 325 | 395 |     |
| 125 | 205 | 275 | 345 | 410 |     |

**PERFORMANCE DATA**

**UNIT**

Capacity \_\_\_\_\_

Compressor Input Power \_\_\_\_\_ kW

Unit Power Input \_\_\_\_\_ kW

Minimum Outdoor Operating Temperature \_\_\_\_\_

Capacity Control Steps \_\_\_\_\_

Minimum Capacity % \_\_\_\_\_ %

EER \_\_\_\_\_

Entering Air Temperature \_\_\_\_\_

Weight \_\_\_\_\_

**COOLER**

Cooling Fluid \_\_\_\_\_

Entering Water Temperature \_\_\_\_\_

Leaving Water Temperature \_\_\_\_\_

Flow Rate \_\_\_\_\_

Pressure Drop \_\_\_\_\_

Fouling Factor \_\_\_\_\_

**ELECTRICAL DATA**

Power Supply to Unit \_\_\_\_\_ Volts \_\_\_\_\_ Phase \_\_\_\_\_ Hz

Power Supply to Control Circuit \_\_\_\_\_ Volts \_\_\_\_\_ Phase \_\_\_\_\_ Hz

Maximum Fuse Amps \_\_\_\_\_

Unit Power Input at Design \_\_\_\_\_ kW

Control Circuit Fuse Amps \_\_\_\_\_ Amps

Maximum Instantaneous Current Flow \_\_\_\_\_ Amps

Minimum Amps Circuit 2 \_\_\_\_\_ Amps

Maximum Fuse Amps Circuit 2 \_\_\_\_\_ Amps

**OPTIONS**

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☐ \_\_\_\_\_

CUT ALONG DOTTED LINE

### DETAIL "A" NOZZLE CONNECTIONS (080-090 SIZES)

FLOW SWITCH POINT -  
"INLET" END OF COOLER  
(102) 4" (080-090)  
COMES PRE-ASSEMBLED  
TO BOLT ON FLANGE.  
NOZZLE JACKBOLTS  
INSTALLED ON "RIGHT"  
END OF COOLER.  
FIELD INSTALLATION IS  
REQUIRED FOR "LEFT"  
END OF STANDARD COOLER.  
(25.4) 1" FLANGE THICKNESS (REF)

(152.4) 6" REF

COOLER HEAD

### DETAIL "A" NOZZLE CONNECTIONS (220B SIZE)

FLOW SWITCH POINT -  
"INLET" END OF COOLER  
(203.2) 8" (220B)  
COMES PRE-ASSEMBLED  
TO BOLT ON FLANGE.  
NOZZLE JACKBOLTS  
INSTALLED ON "RIGHT"  
END OF COOLER.  
FIELD INSTALLATION IS  
REQUIRED FOR "LEFT"  
END OF COOLER.  
(25.4) 1" FLANGE THICKNESS (REF)

(203.2) 8" (220B) REF

COOLER HEAD

### DETAIL "B" NOZZLE CONNECTIONS (220B SIZE)

(199.5) 4" - 3" CENTER OF GRAVITY SEE NOTE 3

(178) 2" - 7" CENTER OF GRAVITY SEE NOTE 3

(2413) 7" - 11" TUBE REMOVAL CLEARANCE EITHER END

(2413) 7" - 11" TUBE REMOVAL CLEARANCE EITHER END

### DETAIL "A" NOZZLE CONNECTIONS (080-090 SIZES)

(156) 6" 1/8" FIELD POWER SUPPLY

CONTROL BOX

### DETAIL "A" NOZZLE CONNECTIONS (220B SIZE)

(156) 6" 1/8" FIELD POWER SUPPLY

CONTROL BOX

### DETAIL "B" NOZZLE CONNECTIONS (220B SIZE)

(156) 6" 1/8" FIELD POWER SUPPLY

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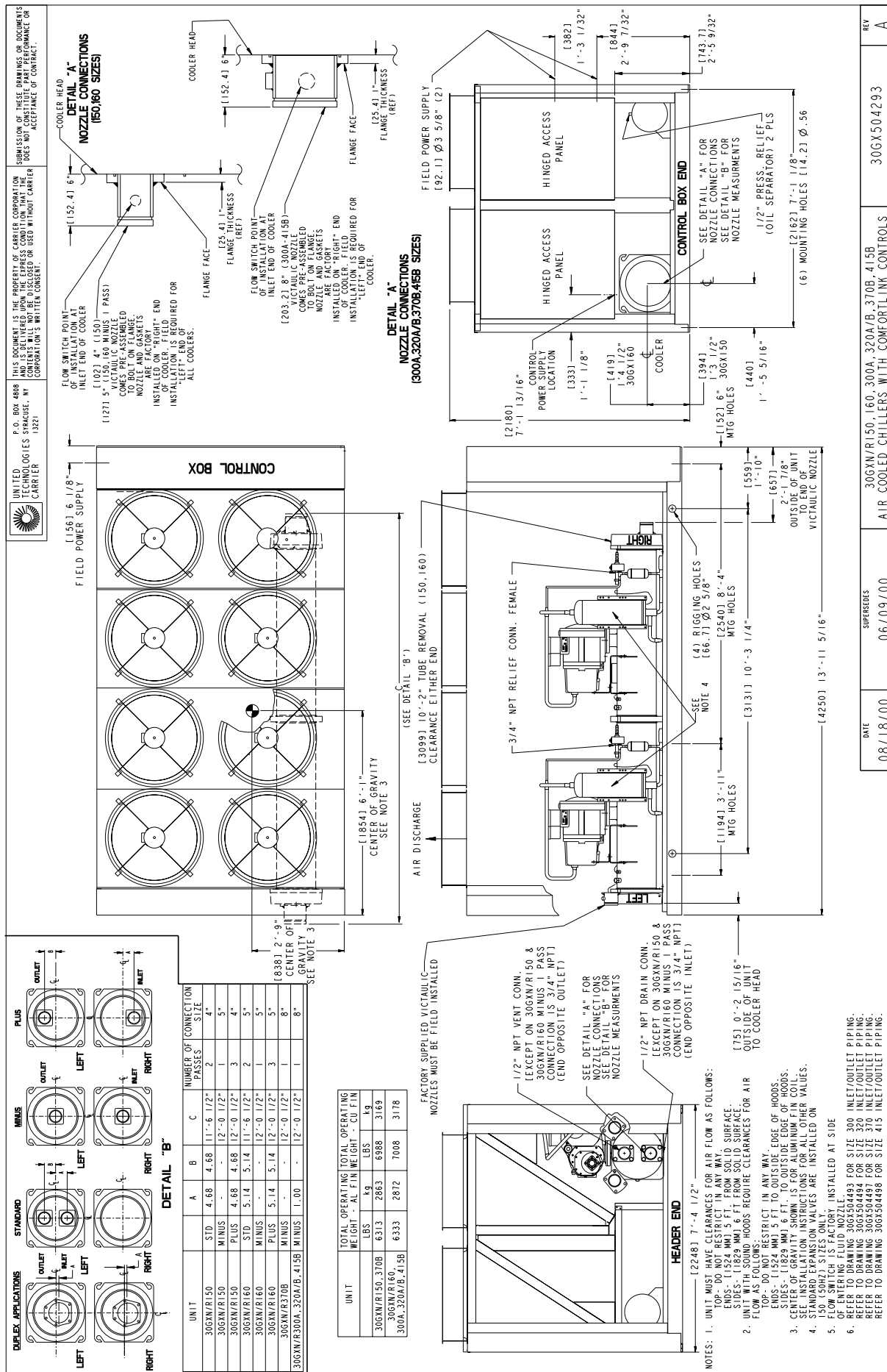
CONTROL BOX

### DETAIL "A" NOZZLE CONNECTIONS (080-090 SIZES)



CUT ALONG DOTTED LINE

**CERTIFIED DIMENSION PRINT**

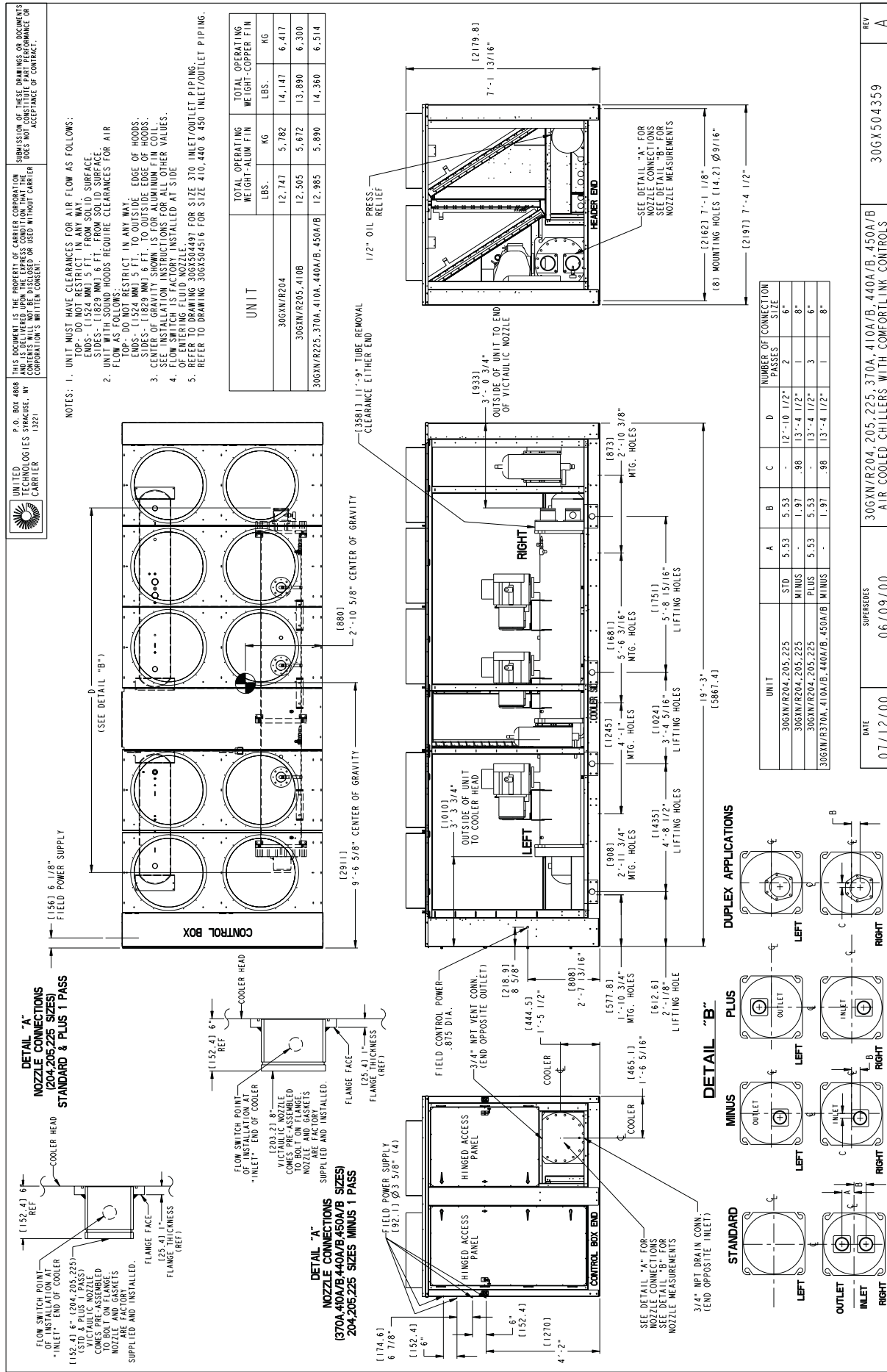


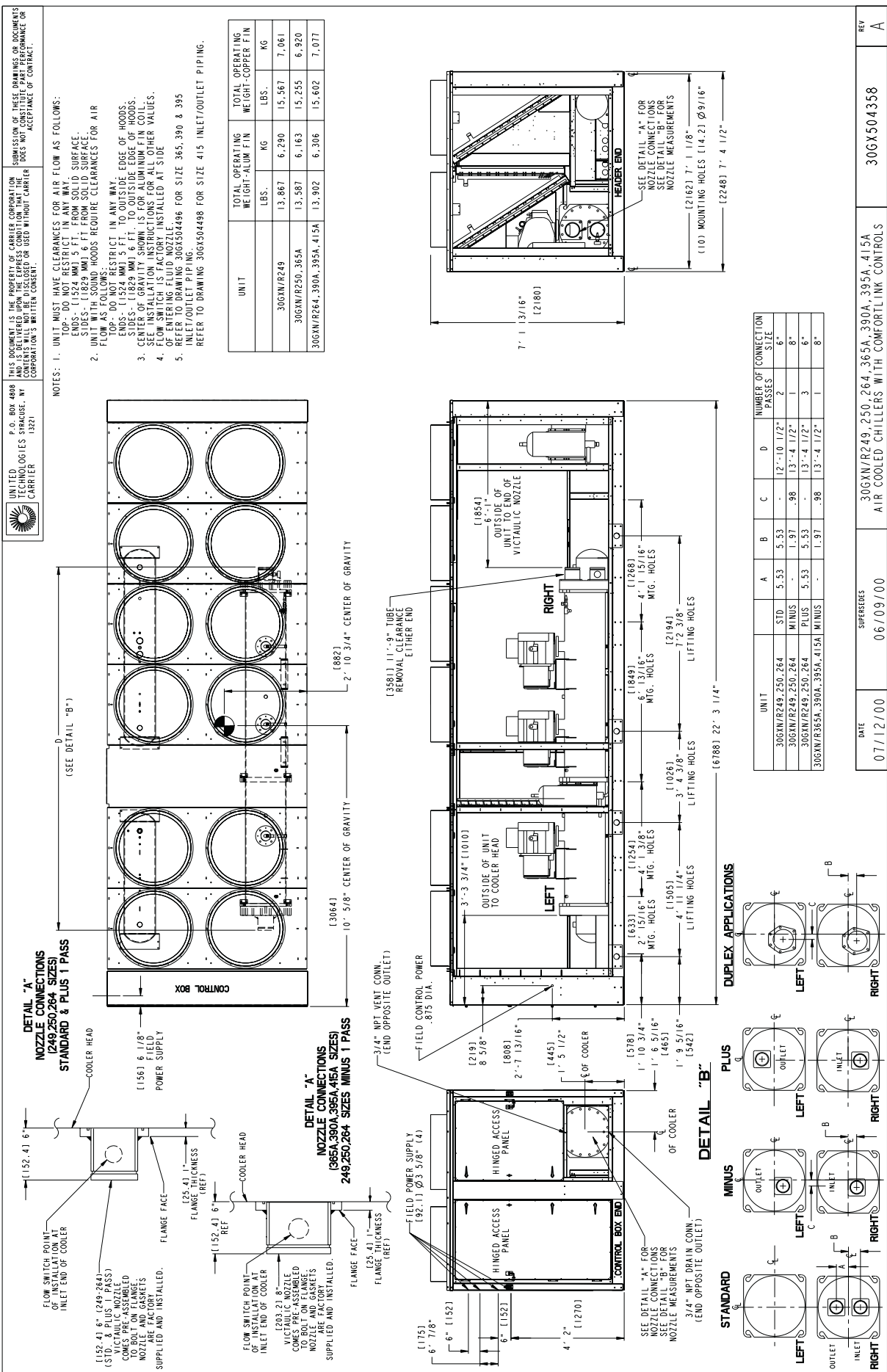
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CUT ALONG DOTTED LINE

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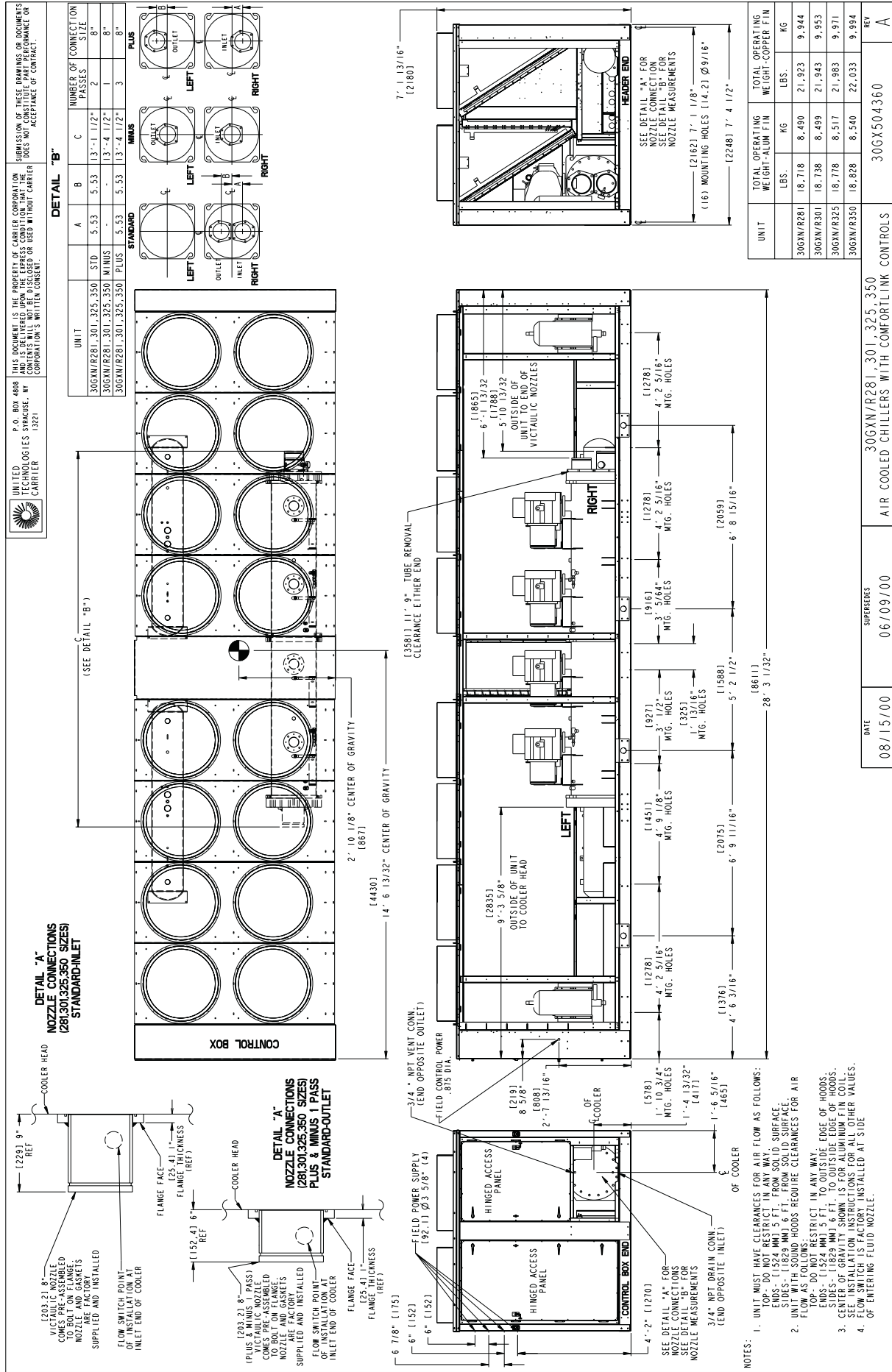




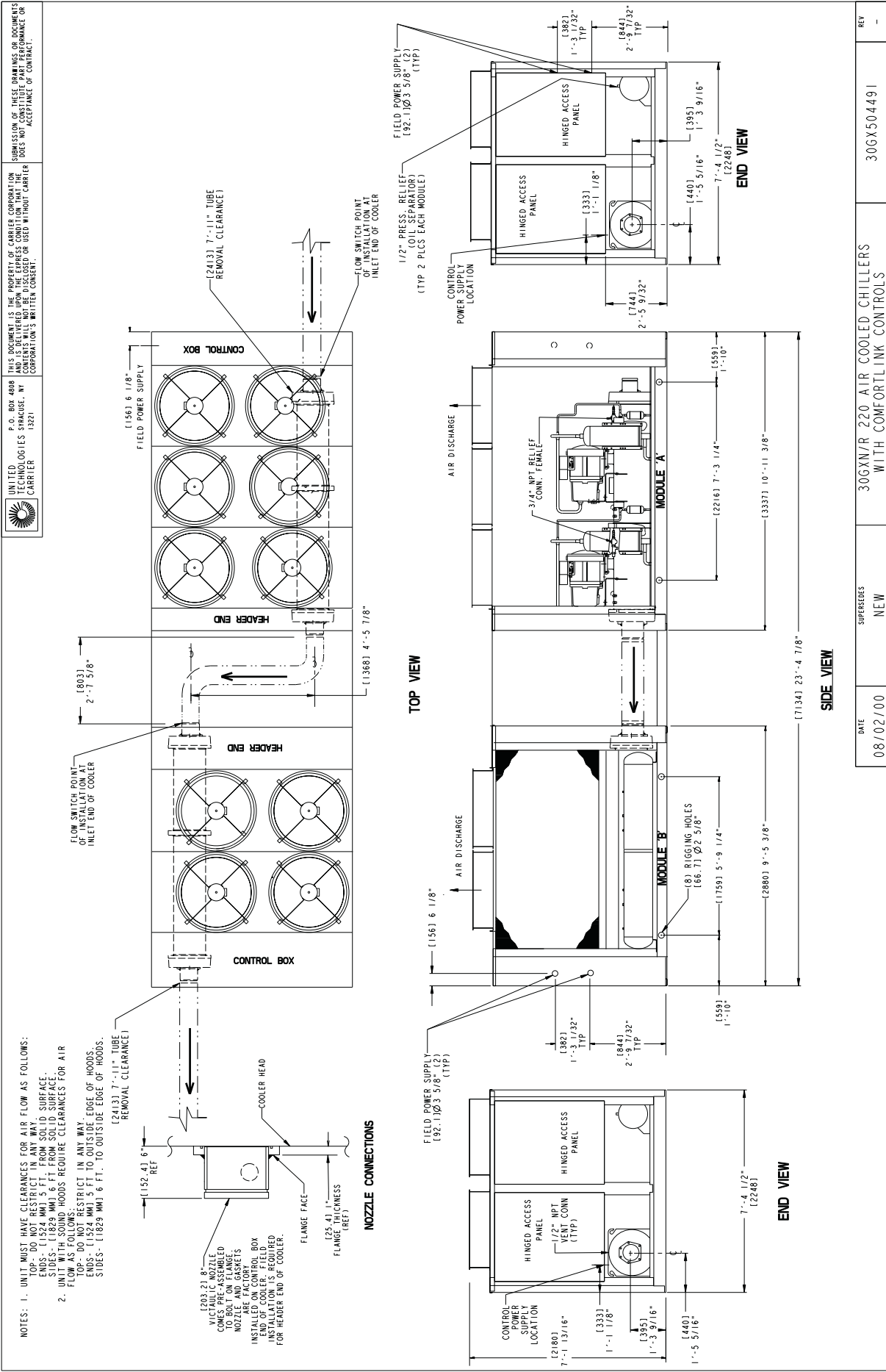
CUT ALONG DOTTED LINE

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CERTIFIED DIMENSION PRINT

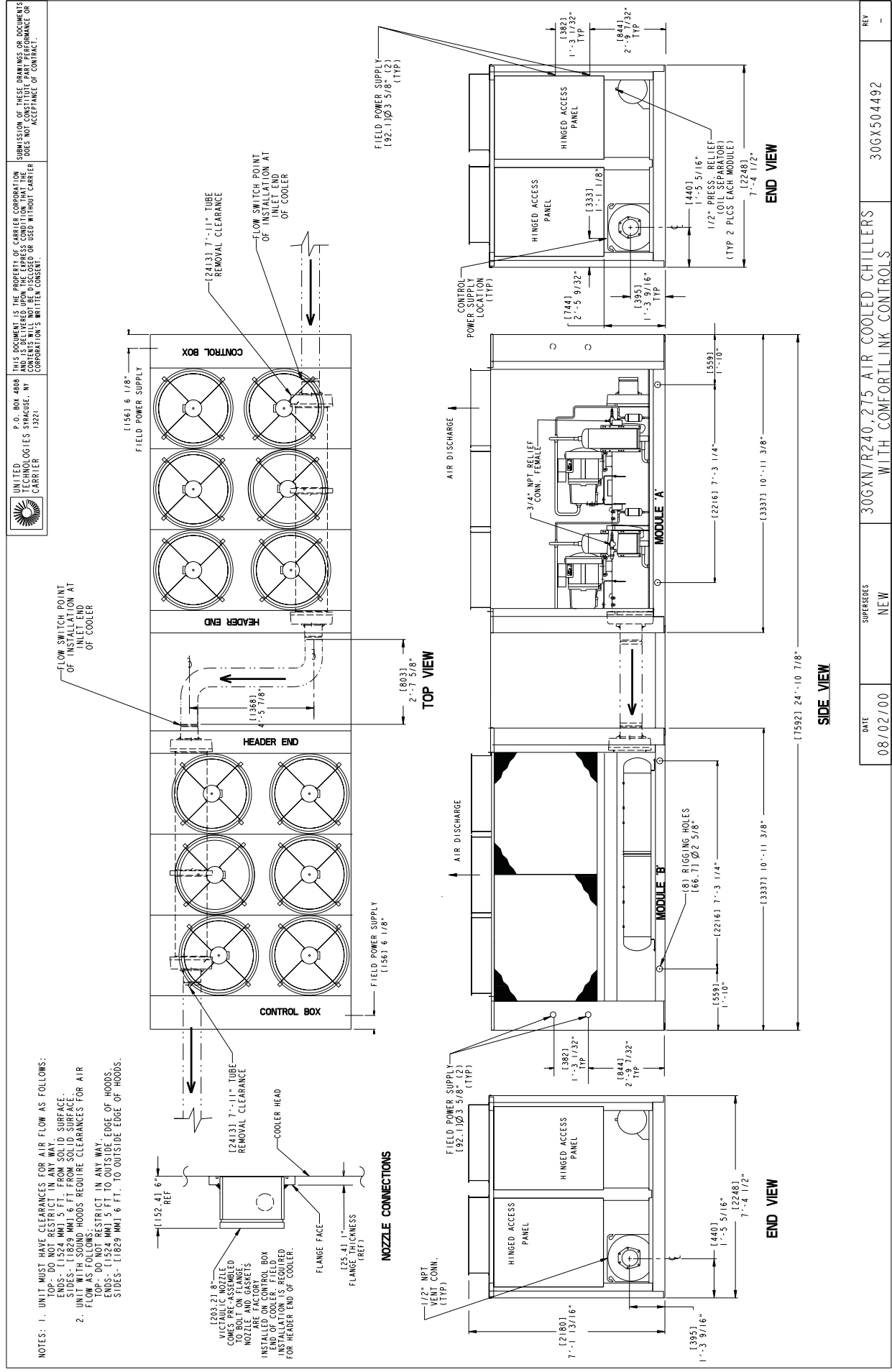


# CERTIFIED DIMENSION PRINT



CUT ALONG DOTTED LINE

**CERTIFIED DIMENSION PRINT**

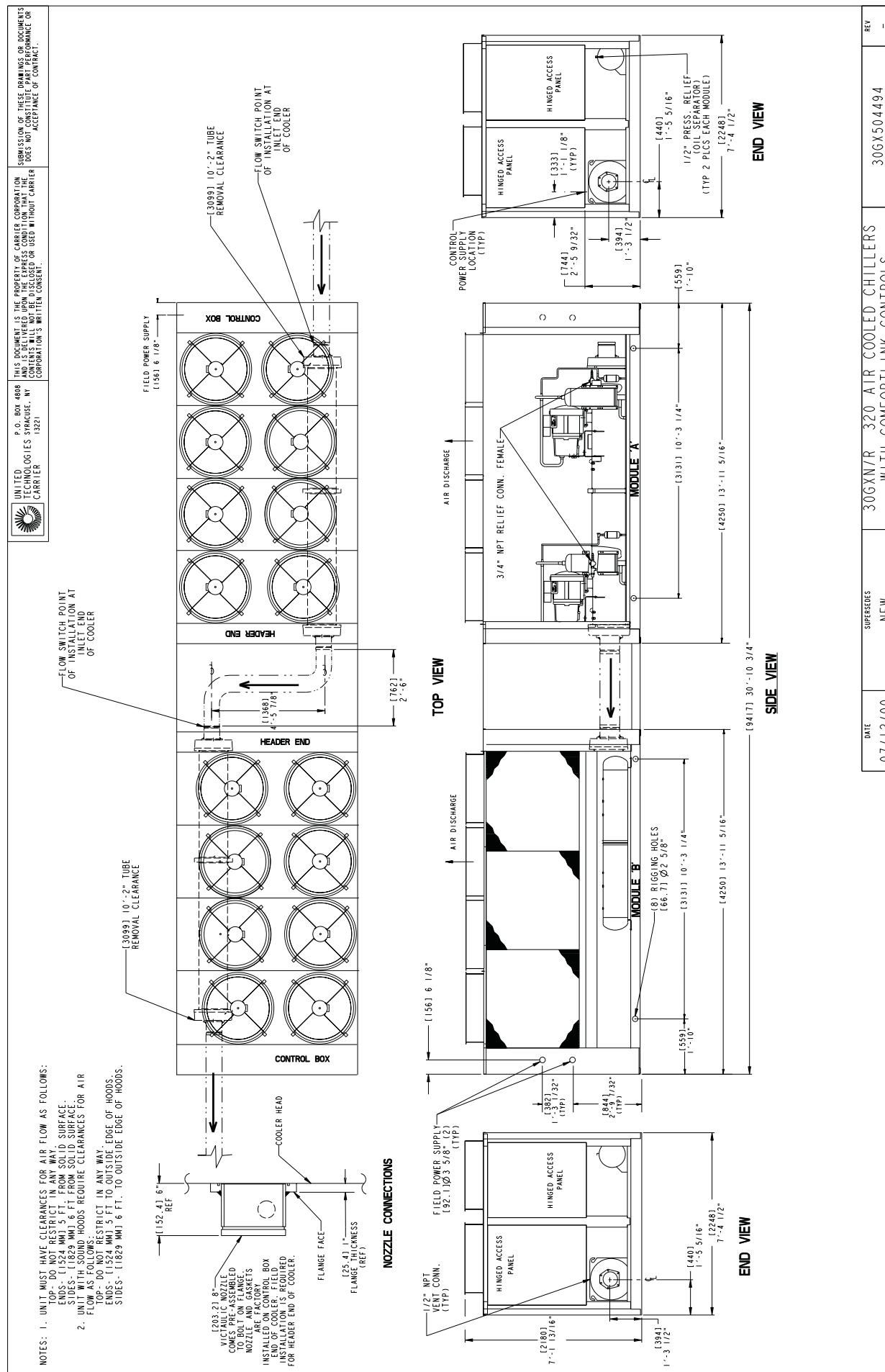


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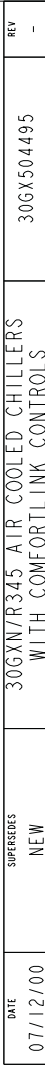


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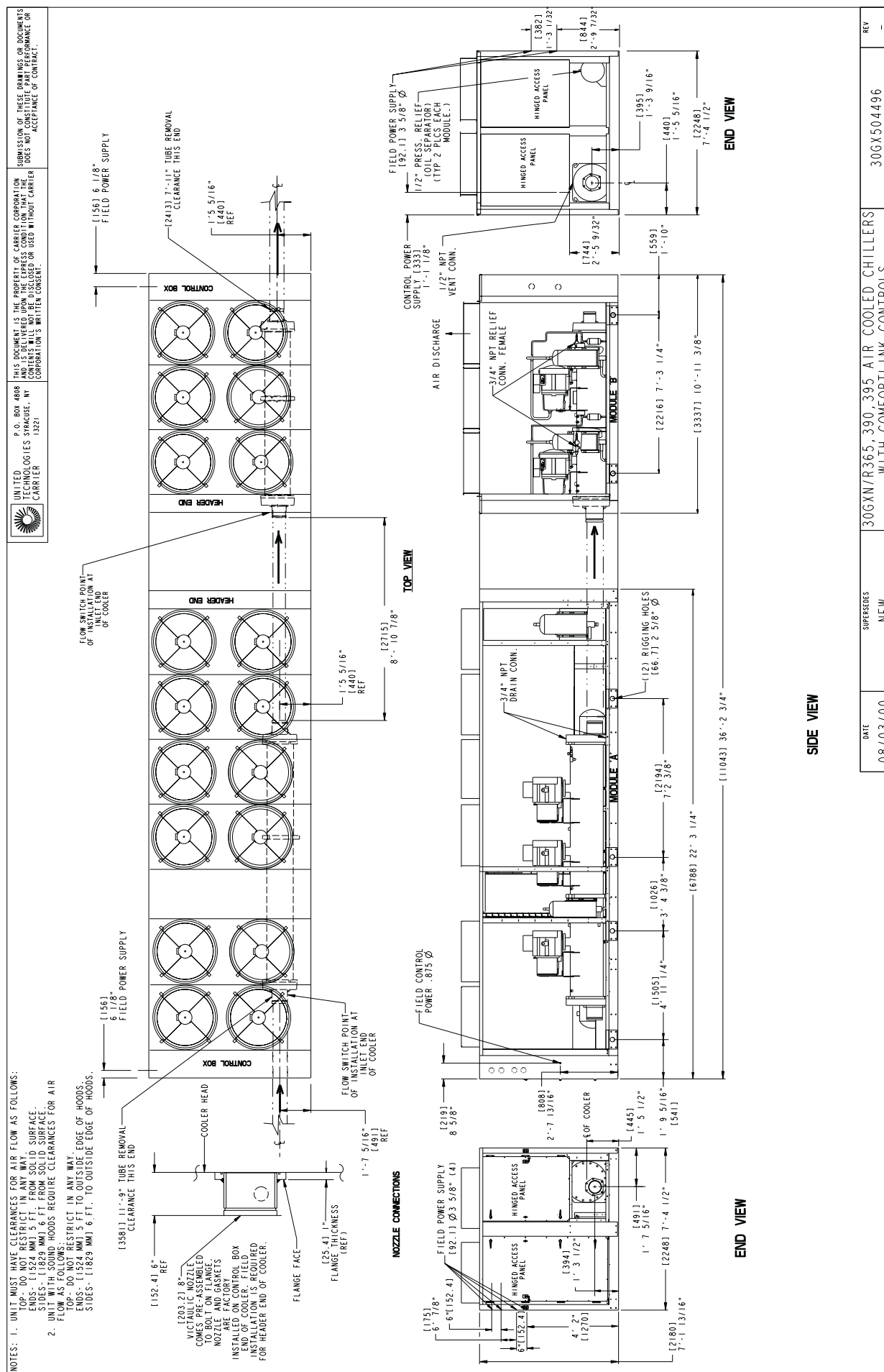


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CUT ALONG DOTTED LINE

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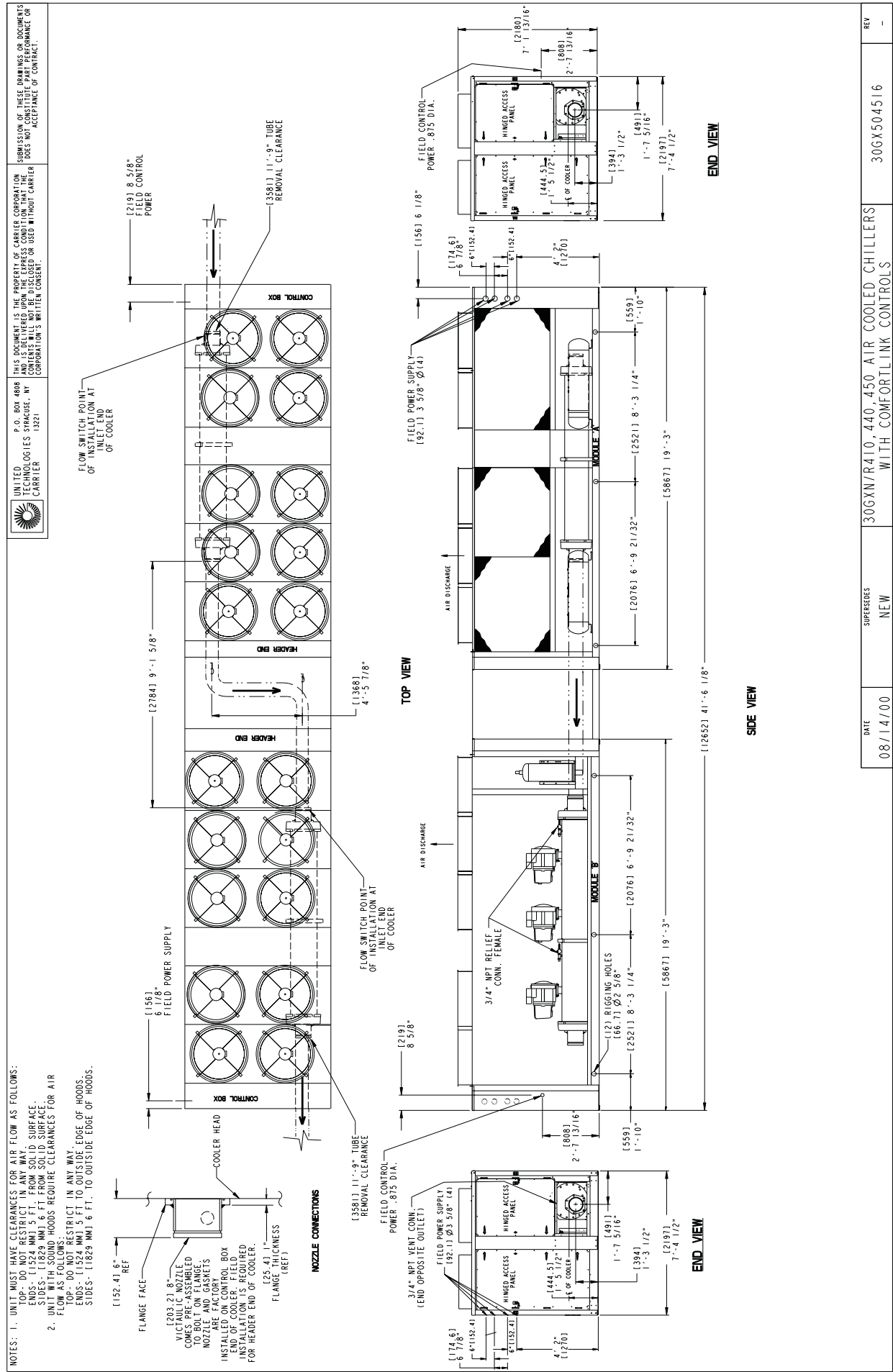


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CUT ALONG DOTTED LINE

**CERTIFIED DIMENSION PRINT**



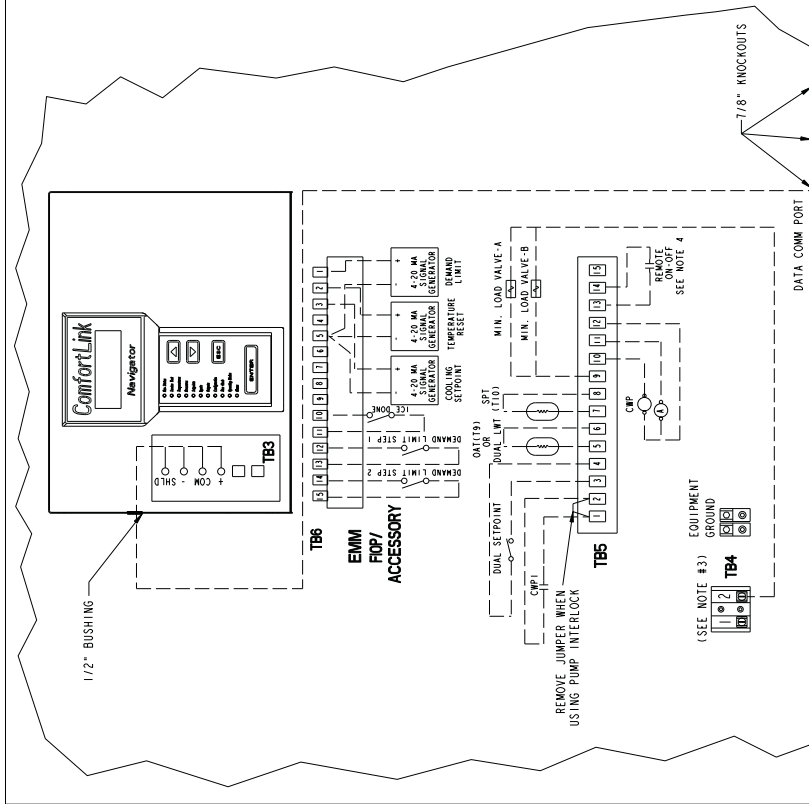
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CUT ALONG DOTTED LINE

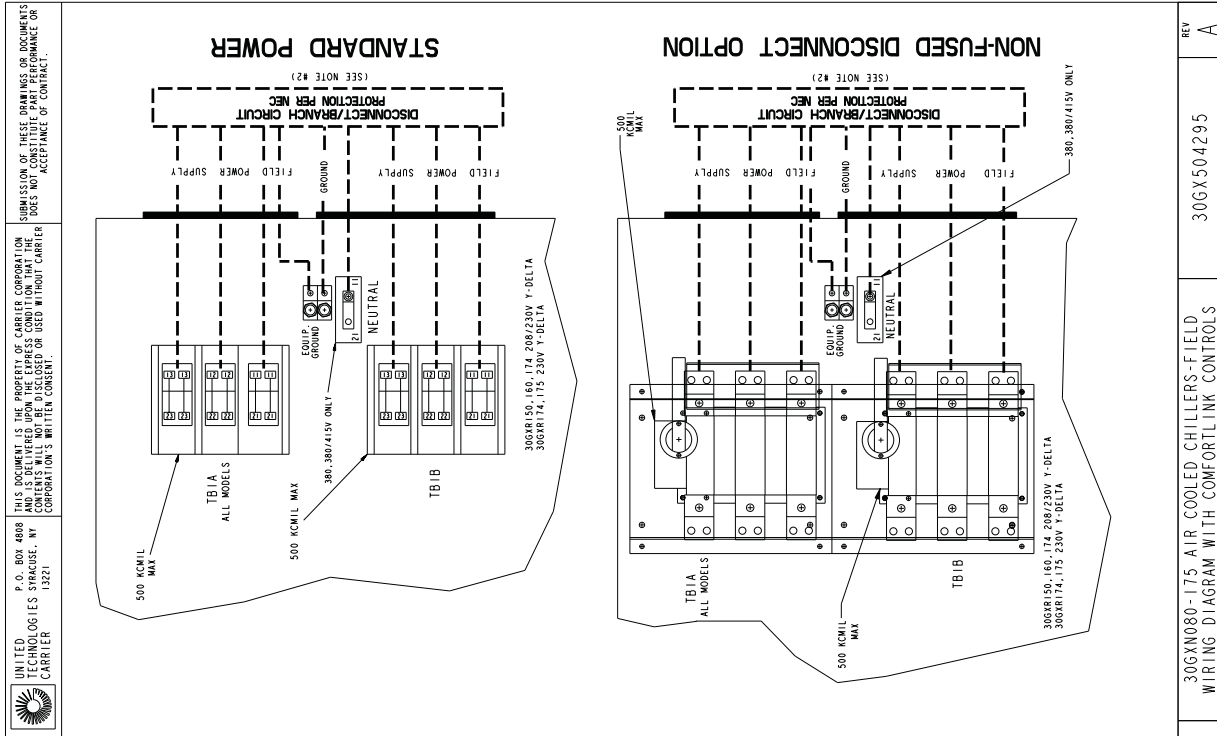
CUT ALONG DOTTED LINE

## FIELD WIRING DIAGRAM



1. FACTORY WIRING IS IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE (NEC). FIELD MODIFICATIONS OR ADDITIONS MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
2. MAXIMUM WIRING LENGTH FOR FIELD WIRING IS 100 FEET. WIRING MUST BE COPPER FOR ALL UNITS.
3. POWER FOR CONTROL CIRCUIT SHOULD BE SUPPLIED FROM A SEPARATE SOURCE (EXCEPT 380-380V/415V UNITS) THROUGH A FIELD SUPPLIED DISCONNECT WITH 30 AMP MAXIMUM PROTECTION FOR 115 VOLT CONTROL CIRCUITS AND 15 AMP MAXIMUM PROTECTION FOR 230 VOLT CONTROL CIRCUIT. CONNECT CONTROL CIRCUIT POWER TO TERMINALS 1 AND 2 OF TB4. CONTROL CIRCUIT CONDUCTORS FOR ALL UNITS MUST BE COPPER ONLY. CONTROL CIRCUIT POWER IS FACTORY WIRED FOR 380-380V/415V UNITS.
4. TERMINALS 13 AND 14 OF TB5 ARE FOR FIELD EXTERNAL CONNECTION FOR REMOTE ON-OFF. THE CONTACTS MUST BE RATED FOR DRY CIRCUIT APPLICATION CAPABLE OF HANDLING 12.24VAC LOAD UP TO 50 MA.
5. TERMINALS 15 AND 16 OF TB5 ARE FOR CHILLED WATER PUMP INTERLOCK (CWP) FUNCTIONS. IF RATED, CHILLED WATER PUMP INTERLOCK CONTACTS MUST BE WIRED IN SERIES WITH FLOW SWITCH CONTACTS. THE CONTACTS MUST BE RATED FOR DRY CIRCUIT APPLICATION CAPABLE OF HANDLING A 24VAC LOAD UP TO 50 MA LOAD. CHILLED WATER FLOW SWITCH (CWFS) IS FACTORY INSTALLED.
6. TERMINALS 10 & 12 OF TB5 ARE FOR CONTROL OF CHILLED WATER PUMP STARTER. THE MAXIMUM LOAD ALLOWED FOR THE CHILLED WATER PUMP RELAY IS 75 VA SEALED, 360 VA INRUSH AT 115 OR 230 VOLT. FIELD POWER SUPPLY IS NOT REQUIRED.
7. TERMINALS 11 & 12 OF TB5 ARE FOR ALARM RELAY. THE MAXIMUM LOAD ALLOWED FOR THE ALARM RELAY IS 75 VA SEALED, 360 VA INRUSH AT 115 OR 230 VOLT. FIELD POWER SUPPLY IS NOT REQUIRED.
8. MAKE APPROPRIATE CONNECTIONS TO TB6 AS SHOWN FOR ENERGY MANAGEMENT BOARD OPTIONS. THE CONTACTS FOR DEMAND LIMIT AND ICE DONE OPTIONS MUST BE RATED FOR DRY CIRCUIT APPLICATION CAPABLE OF HANDLING A 24VAC LOAD UP TO 50 MA.

- LEGEND:
- A - ALARM
  - CCN - CARRIER COMFORT NETWORK
  - CWFS - CHILLED WATER FLOW SWITCH
  - CWP - CHILLED WATER PUMP
  - CWPI - CHILLED WATER PUMP INTERLOCK
  - TB - TERMINAL BLOCK
  - FIELD POWER WIRING
  - FIELD CONTROL WIRING
  - FACTORY INSTALLED WIRING

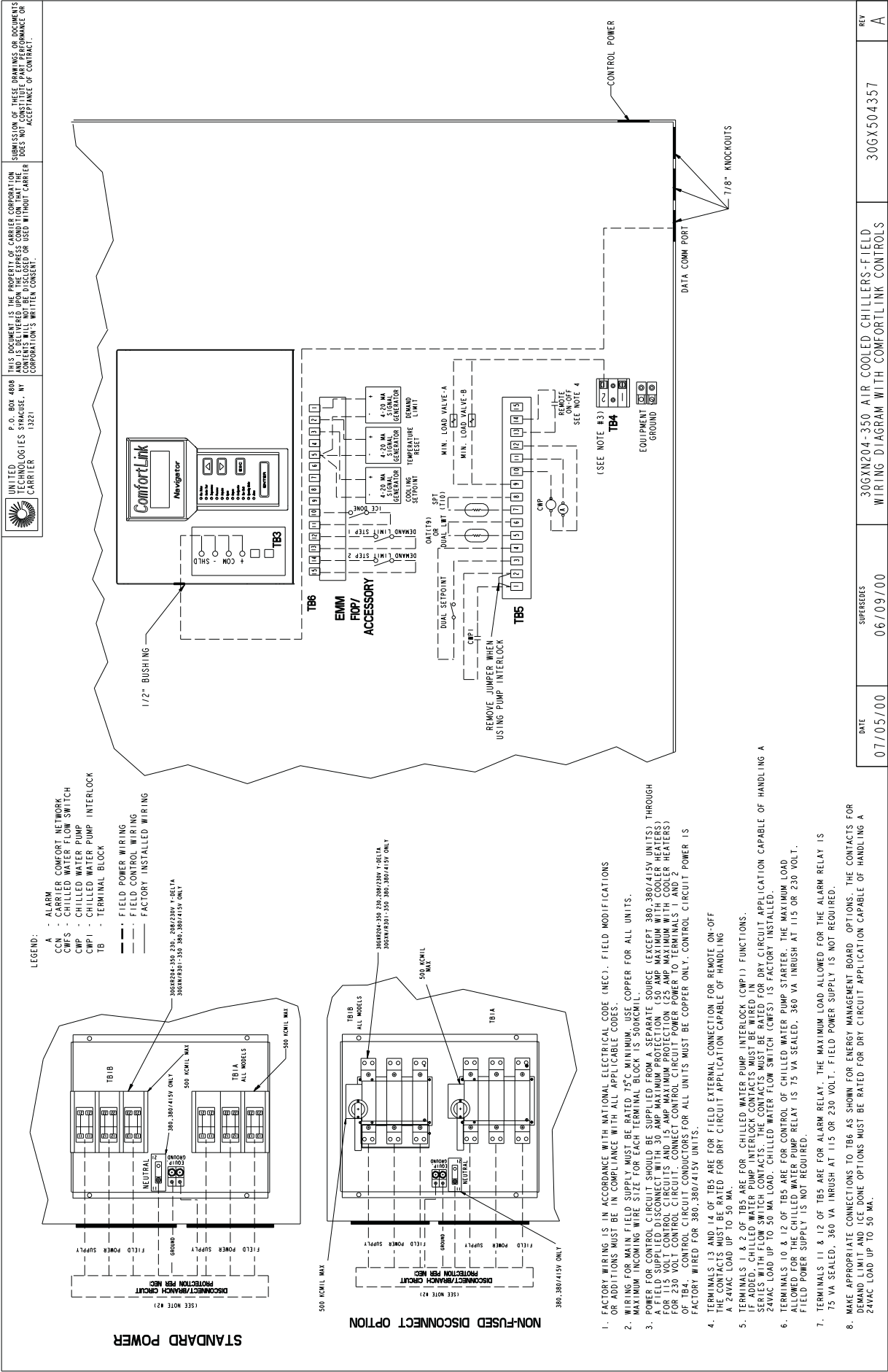


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| DATE     | SUPPESSES | 306X504295 | REV |
|----------|-----------|------------|-----|
| 07/05/00 | 06/09/00  | 306X504295 | A   |

FIELD WIRING DIAGRAM



|                                                                                 |                                          |                     |                                                                                                                                                                                         |                                                                                                           |
|---------------------------------------------------------------------------------|------------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
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| DATE                                                                            | 07/05/00                                 | SUPERSEDES          | 06/09/00                                                                                                                                                                                | REV                                                                                                       |
| 306XN204-350 AIR-COOLED CHILLERS-FIELD WIRING DIAGRAM WITH COMFORTLINK CONTROLS |                                          |                     | 306X504357                                                                                                                                                                              | A                                                                                                         |