



**PRODUCT DRAWING**

Supersedes: Nothing

Form 160.65-PA4.1 (1289)

(1 OF 6)

**CODEPAK ROTARY SCREW CHILLER  
FIELD CONTROL MODIFICATIONS DIAGRAM  
FOR MICROCOMPUTER CONTROL CENTER  
MODEL YS NN NN S7**

YORK INTERNATIONAL CORPORATION  
P.O. Box 1592, York, PA 17405

CONTRACTOR \_\_\_\_\_  
ORDER NO. \_\_\_\_\_  
YORK CONTRACT NO. \_\_\_\_\_  
YORK ORDER NO. \_\_\_\_\_

PURCHASER \_\_\_\_\_  
JOB NAME \_\_\_\_\_  
LOCATION \_\_\_\_\_  
ENGINEER \_\_\_\_\_

REFERENCE      DATE \_\_\_\_\_

APPROVAL      DATE \_\_\_\_\_

CONSTRUCTION      DATE \_\_\_\_\_

**JOB DATA:**

CODEPAK MODEL NO. \_\_\_\_\_

NO. OF UNITS \_\_\_\_\_

TYPE OF STARTER \_\_\_\_\_

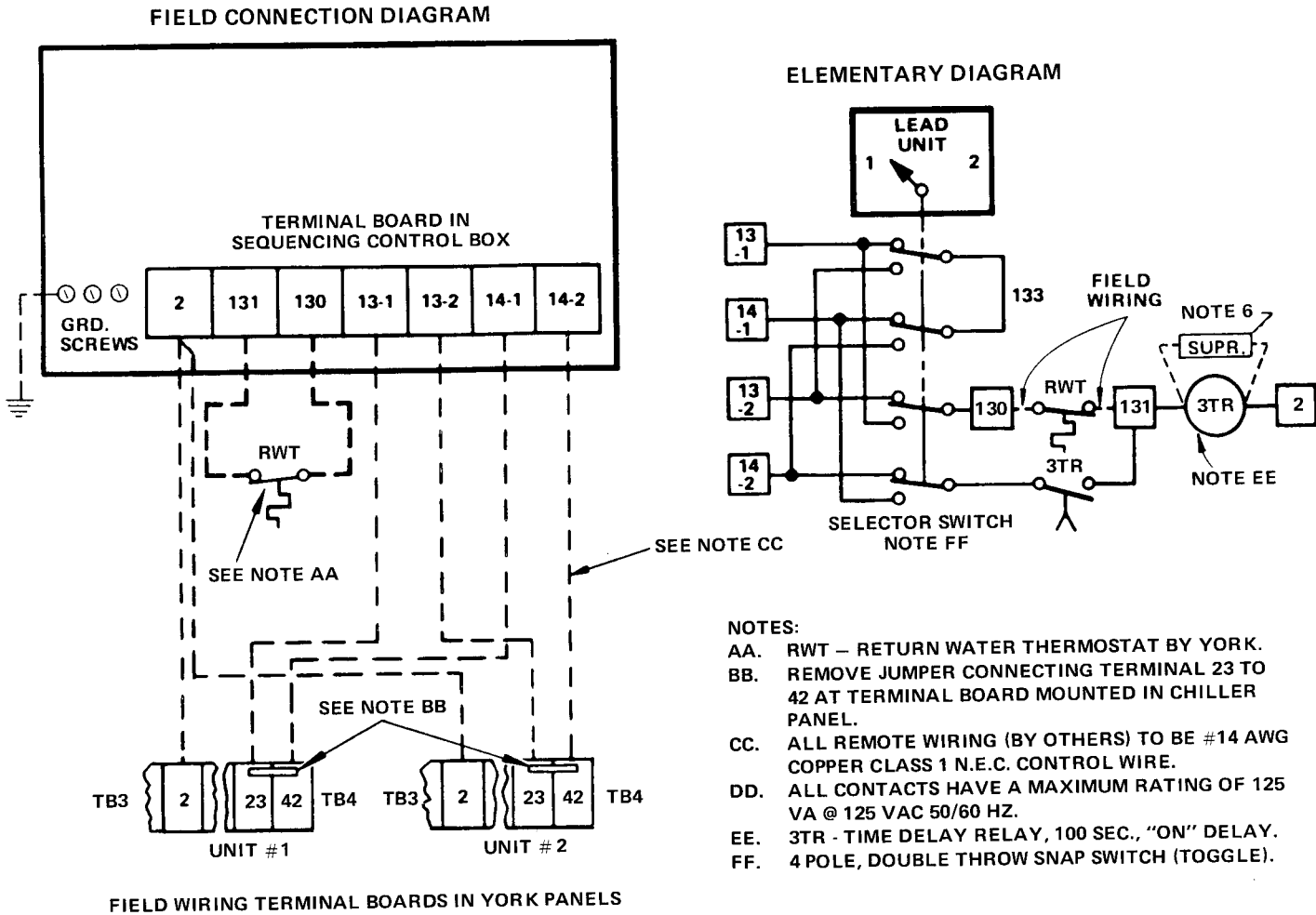
**SEE FIGURES:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Included by York for Field Installation (by others) are:**

	YES	NO
Two unit sequence control kit, Part No. 466-61597	<input type="checkbox"/>	<input type="checkbox"/>
Three unit sequence control kit, Part No. 366-44684	<input type="checkbox"/>	<input type="checkbox"/>
Four unit sequence control kit, Part No. 366-52529	<input type="checkbox"/>	<input type="checkbox"/>
Flow switch control (150 DWP), Part No. 024-15793	<input type="checkbox"/>	<input type="checkbox"/>
Flow switch control (300 DWP), Part No. 024-12144	<input type="checkbox"/>	<input type="checkbox"/>

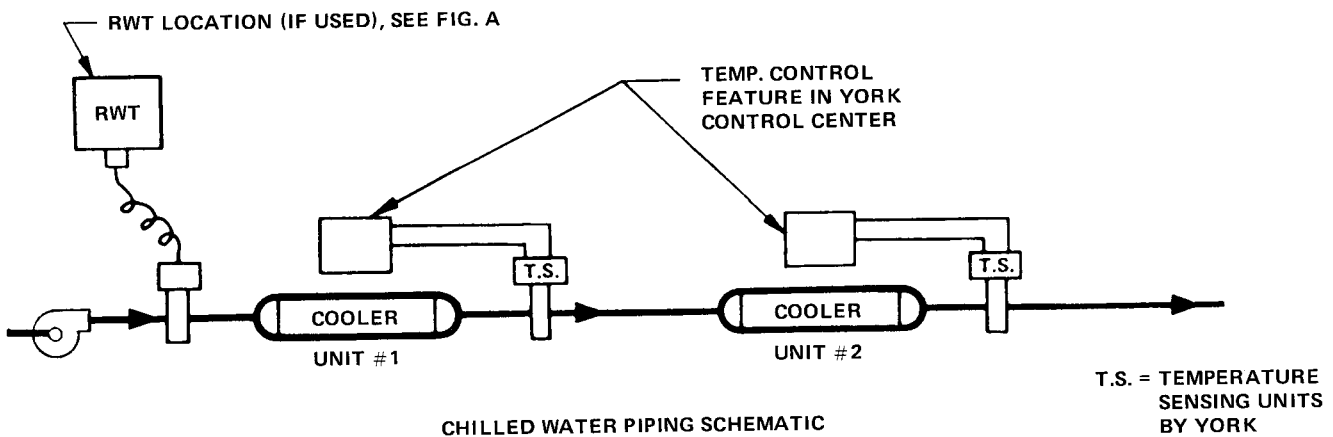
## NOTES:

1. This drawing shows recommended field control wiring modifications (by others) to the standard electronic control center wiring diagram. Refer to electronic control center wiring diagram: Product Drawing Form 160.65-PA2.1, units having a Remote Electro-Mechanical compressor-motor starter.
2. If more than one of these modifications is to be utilized with a particular unit, additional consideration must be given to the application to insure proper functioning of the control system. Contact your nearest York office.
3. The additional controls and wiring for these modifications are to be furnished and installed in the field (by others).
4. The controls specified are recommended for use, but other controls of equal specifications are acceptable.
5. All wiring shall be in accordance with the National Electrical Code, and applicable State and Local Codes.
6. Two (2) unit control schemes are suitable for 8-12°F water range. Constant chilled water flow is assumed at all loads. For other requirements, contact your York representative.
7. Figure A provides that cycling thermostat RWT will automatically cycle either #1 or #2 unit. Timer 3TR is an additional feature which prevents simultaneous starting of lead and lag unit following a power failure and eliminates nuisance starting of lag unit due to periodic fluctuations in temperature. For two unit sequence control kit, order York accessory Kit No. 466-61597 (U.L. listed - File SA5827) for controls as specified with NEMA I enclosure. See Form 150.50-NM2.2 for Installation and Operation Instructions. (Do not use wiring diagrams on the last page of Form 150.50-NM2.2. Use Fig. A, page 3 of 6 of Form 160.65-PA4.1.) RWT has 20°F to 80°F range with adjustable differential of 3-1/2 to 14°F; 6 Ft. of capillary with 3/8" x 5" bulb and 1/2" NPT brass well (maximum liquid DWP 300 psig). The thermostat is drawn to indicate its operation closes on rise. A 1/2" pipe coupling in the return chilled water line from the building must be furnished (by others) for RWT control well.
8. Lead selector and cycling control to provide similar lead selection and cycling of lag units for three (3) units is available: Kit No. 366-44684 (see Product Drawing Form 160.00-PA1.1) in NEMA I enclosure; for four (4) units, Kit No. 366-52529 (see Product Drawing Form 160.00-PA1.2) in NEMA I enclosure. Consult your York representative. (Refer to page 3 of 6 for proper wiring connections.)
9. Figure B for series operation, when lead selector position is #1 Unit, the supply chilled water temperature to the building will be the temperature control set point on Unit #1 electronic control center. If a lower temperature is desired, manually adjust the temperature control set point for Unit #1.
10. Sequence control kits (see Notes 7 and 8) assume a constant chilled water flow and a constant leaving chilled water temperature to sense the cooling load. Sequence control kits are not designed for variable chilled water flow.
11. For field wiring connections of the chilled water flow switch (by others), see wiring diagram — Field Connections, Form 160.65-PA3.2 (units having a Remote Electro-Mechanical starter).
12. For details of factory supplied automatic restart after power failure option with undervoltage protection, see standard electronic control center Wiring Diagram, Form 160.65-PA2.1 (Note 1).



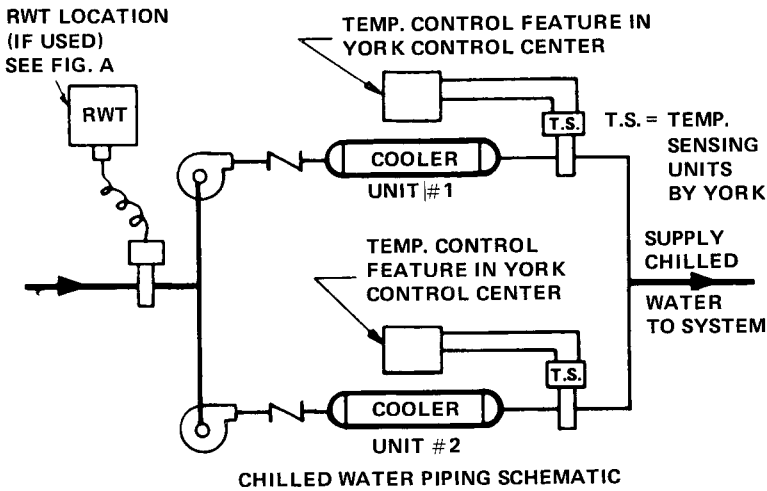
**TWO UNIT SEQUENCE CONTROL - PARALLEL OR  
SERIES WATER FLOW - LEAD SELECTOR AND  
CYCLING THERMOSTAT (NOTES 2, 7, 8 & 10)**

FIG. A - MULTIPLE UNITS (TWO)



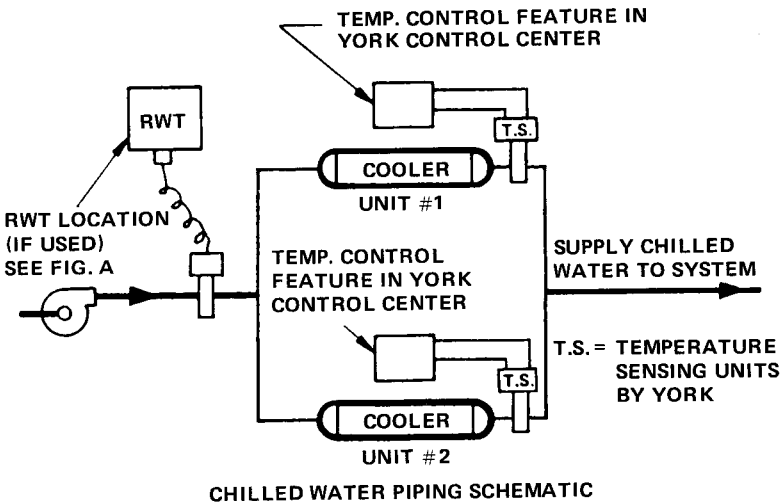
**MULTIPLE UNITS - SERIES OPERATION (NOTES 6, 9, & 10)**

FIG. B - MULTIPLE UNITS (TWO)



**MULTIPLE UNITS – PARALLEL OPERATION:**  
IN THIS ARRANGEMENT, THE INDIVIDUAL CHILLED WATER PUMP IS STOPPED WHEN THE ONE UNIT IS SHUT DOWN AT APPROXIMATELY 40% SYSTEM LOAD. LEAVING CHILLED WATER TEMPERATURE IS CONSTANT ( $\pm 1/2^\circ\text{F}$ ) AT ALL LOADS. (NOTES 6 & 10)

FIG. C – MULTIPLE UNITS (TWO)



**MULTIPLE UNITS – PARALLEL OPERATION:**  
IN THIS ARRANGEMENT, WHEN ONE UNIT IS SHUT DOWN AT APPROXIMATELY 40% LOAD, THE CHILLED WATER TEMPERATURE SUPPLY TO THE SYSTEM RISES TO THE MIXED TEMPERATURE OF THE CHILLED WATER LEAVING BOTH UNITS, FOR ALL LOADS DOWN TO MINIMUM CAPACITY. LEAVING CHILLED WATER TEMPERATURE IS CONSTANT ( $\pm 1/2^\circ\text{F}$ ) AS LONG AS BOTH UNITS ARE IN OPERATION. (NOTES 6 & 10)

FIG. D – MULTIPLE UNITS (TWO)

THERMOSTAT CYCLING SWITCH, PROGRAM TIMER CONTACT, ETC. REMOTE START-STOP SWITCH (MAINTAINED) (MINIMUM CONTACT RATING 1.2 VA @ 115 VAC)

REMOVE JUMPER BETWEEN 5 & 42 AND REINSERT BETWEEN 5 & 23.

REMOVE 44 TO 42 JUMPER. REMOVE 42 TO 23 JUMPER AND REINSERT BETWEEN 44 & 23.

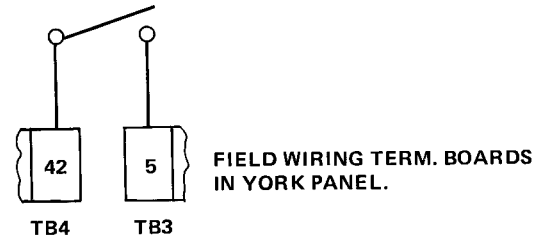


FIG. E – INTERLOCKS TO CYCLE UNIT

EMERGENCY STOP SWITCH  
KEY LOCKOUT SWITCH  
SAFETY CONTROLS  
(CONTACT RATING 1.2 VA @ 115 VAC)

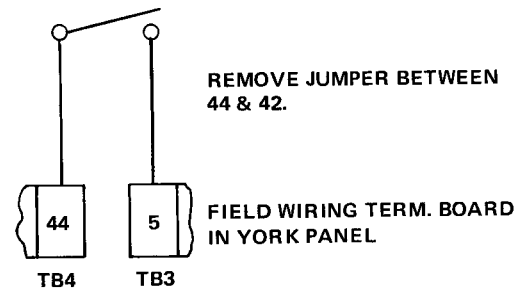


FIG. F – INTERLOCKS WHICH STOP UNIT AND PREVENT RESTARTING

## ENERGY MANAGEMENT SYSTEMS

CodePak can be interlocked as required with an Energy Management System per Figures E and F. The CodePak should not be cycled by the Energy Management System because the large motor used to drive the compressor is limited to one start per 30 minutes. Instead, it is possible to limit the compressor motor amp draw indirectly or directly by the following methods:

1. Application of Sequence Control Kit, so only one unit is running, when a single unit can carry the cooling load – see Figure A and Notes 7 and 8.
2. Reduce the compressor-motor KW input (and thus amps), by raising the leaving chilled water temperature through remote temperature control point reset via the RS-422 communications part.

