BY JOHNSON CONTROLS

PRODUCT DRAWING

NEW RELEASE Form 155.21-W3 (310)

WIRING DIAGRAM FIELD CONNECTIONS MODEL YIA CHILLER (STYLE D) WITH OPTIVIEW CONTROL PANEL

CONTRACTOR _____
ORDER NO. _____
YORK CONTRACT NO. _____
YORK ORDER NO. _____

PURCHASER _____
JOB NAME _____
LOCATION _____
ENGINEER _____

☐ REFERENCE DATE _____ ☐ APPROVAL DATE _____ ☐ CONSTRUCTION DATE _____

JOB DATA:

CHILLER MODEL NO. _____ CHILLER MODEL NO. _____

NO. OF UNITS _____ NO. OF UNITS _____

YIA MODEL NO.	TYPE
YIA-ST-1A1 thru 14F3	STEAM
YIA- HW-1A1 thru 14F3	HOT WATER

IMPORTANT!
READ BEFORE PROCEEDING!
GENERAL SAFETY GUIDELINES

This equipment is a relatively complicated apparatus. During installation, operation, maintenance or service, individuals may be exposed to certain components or conditions including, but not limited to: refrigerants, oils, materials under pressure, rotating components, and both high and low voltage. Each of these items has the potential, if misused or handled improperly, to cause bodily injury or death. It is the obligation and responsibility of operating/service personnel to identify and recognize these inherent hazards, protect themselves, and proceed safely in completing their tasks. Failure to comply with any of these requirements could result in serious damage to the equipment and the property in which it is situated, as well as severe personal injury or death to themselves and people at the site.

This document is intended for use by owner-authorized operating/service personnel. It is expected that this individual possesses independent training that will enable them to perform their assigned tasks properly and safely. It is essential that, prior to performing any task on this equipment, this individual shall have read and understood this document and any referenced materials. This individual shall also be familiar with and comply with all applicable governmental standards and regulations pertaining to the task in question.

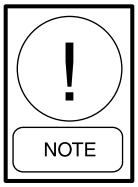
SAFETY SYMBOLS

The following symbols are used in this document to alert the reader to areas of potential hazard:

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

CAUTION identifies a hazard which could lead to damage to the machine, damage to other equipment and/or environmental pollution. Usually an instruction will be given, together with a brief explanation.

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



NOTE is used to highlight additional information which may be helpful to you.

External wiring, unless specified as an optional connection in the manufacturer's product line, is NOT to be connected inside the equipments cabinet. Devices such as relays, switches, transducers and controls may NOT be installed inside the equipments panel. NO external wiring is allowed to be run through the panel. All wiring must be in accordance with YORK/ Johnson Controls published specifications and must be performed ONLY by qualified YORK/ Johnson Controls personnel. Johnson Controls will not be responsible for damages/problems resulting from improper connections to the controls or application of improper control signals. Failure to follow this will void the manufacturer's warranty and cause serious damage to property or injury to persons.

CHANGEABILITY OF THIS DOCUMENT

In complying with Johnson Controls policy for continuous product improvement, the information contained in this document is subject to change without notice. While YORK/Johnson Controls makes no commitment to update or provide current information automatically to the manual owner, that information, if applicable, can be obtained by contacting the nearest Johnson Controls Service office.

It is the responsibility of operating/service personnel as to the applicability of these documents to the equipment in question. If there is any question in the mind of operating/service personnel as to the applicability of these documents, then, prior to working on the equipment, they should verify with the owner whether the equipment has been modified and if current literature is available.

TABLE OF CONTENTS

TABLE 1 – YIA ELECTRICAL DATA

CHILLER MODEL	VOLT-HZ	SOLUTION PUMP		REFRIGERANT PUMP		PURGE PUMP		PANEL 1 KVA amps	TOTAL AMPS	DISC SW	MAX FUSE
		FLA	LRA	FLA	LRA	FLA	LRA				
1A1	200V-60HZ	12.5	51.0	12.5	51.0	2.10	14.2	5.0	32.1	60	45
	230V-60HZ	12.0	55.0	12.0	55.0	2.20	12.8	4.3	30.5	60	45
	380V-50HZ	6.5	23.0	6.5	23.0	1.10	5.4	2.6	16.7	30	20
	400V-50HZ	6.3	24.5	6.3	24.5	1.05	5.1	2.5	16.2	30	20
	460V-60HZ	6.0	27.5	6.0	27.5	1.10	6.2	2.2	15.3	30	20
	575V-60HZ	4.9	24.0	4.9	24.0	0.90	4.9	1.7	12.4	30	15
1A2	200V-60HZ	12.5	51.0	12.5	51.0	2.10	14.2	5.0	32.1	60	45
	230V-60HZ	12.0	55.0	12.0	55.0	2.20	12.8	4.3	30.5	60	45
	380V-50HZ	6.5	23.0	6.5	23.0	1.10	5.4	2.6	16.7	30	20
	400V-50HZ	6.3	24.5	6.3	24.5	1.05	5.1	2.5	16.2	30	20
	460V-60HZ	6.0	27.5	6.0	27.5	1.10	6.2	2.2	15.3	30	20
	575V-60HZ	4.9	24.0	4.9	24.0	0.90	4.9	1.7	12.4	30	15
2A3	200V-60HZ	12.5	51.0	12.5	51.0	2.10	14.2	5.0	32.1	60	45
	230V-60HZ	12.0	55.0	12.0	55.0	2.20	12.8	4.3	30.5	60	45
	380V-50HZ	6.5	23.0	6.5	23.0	1.10	5.4	2.6	16.7	30	20
	400V-50HZ	6.3	24.5	6.3	24.5	1.05	5.1	2.5	16.2	30	20
	460V-60HZ	6.0	27.5	6.0	27.5	1.10	6.2	2.2	15.3	30	20
	575V-60HZ	4.9	24.0	4.9	24.0	0.90	4.9	1.7	12.4	30	15
2A4	200V-60HZ	12.5	51.0	12.5	51.0	2.10	14.2	5.0	32.1	60	45
	230V-60HZ	12.0	55.0	12.0	55.0	2.20	11.2	4.3	30.5	60	45
	380V-50HZ	6.5	23.0	6.5	23.0	1.10	5.4	2.6	16.7	30	20
	400V-50HZ	6.3	24.5	6.3	24.5	1.05	5.1	2.5	16.2	30	20
	460V-60HZ	6.0	27.5	6.0	27.5	1.10	6.2	2.2	15.3	30	20
	575V-60HZ	4.9	24.0	4.9	24.0	0.90	4.9	1.7	12.4	30	15

TABLE 1 (CONT'D) – YIA ELECTRICAL DATA

CHILLER MODEL	VOLT-HZ	SOLUTION PUMP		REFRIGERANT PUMP		PURGE PUMP		PANEL 1 KVA amps	TOTAL AMPS	DISC SW	MAX FUSE
		FLA	LRA	FLA	LRA	FLA	LRA				
2B1	200V-60HZ	12.5	51.0	12.5	51.0	2.10	14.2	5.0	32.1	60	45
	230V-60HZ	12.0	55.0	12.0	55.0	2.20	12.8	4.3	30.5	60	45
	380V-50HZ	6.5	23.0	6.5	23.0	1.10	5.4	2.6	16.7	30	20
	400V-50HZ	6.3	24.5	6.3	24.5	1.05	5.1	2.5	16.2	30	20
	460V-60HZ	6.0	27.5	6.0	27.5	1.10	6.2	2.2	15.3	30	20
	575V-60HZ	4.9	24.0	4.9	24.0	0.90	4.9	1.7	12.4	30	15
3B2	200V-60HZ	20.0	78.00	12.5	51.0	2.10	14.2	5.0	39.6	60	60
	230V-60HZ	19.0	80.00	12.0	55.0	2.20	12.8	4.3	37.5	60	60
	380V-50HZ	6.5	23.0	6.5	23.0	1.10	5.4	2.6	16.7	30	20
	400V-50HZ	6.3	24.5	6.3	24.5	1.05	5.1	2.5	16.2	30	20
	460V-60HZ	9.5	40.0	6.0	27.5	1.10	6.2	2.2	18.8	30	30
	575V-60HZ	7.8	33.0	4.9	24.0	0.90	4.9	1.7	15.3	30	25
3B3	200V-60HZ	20.0	78.00	12.5	51.0	2.10	14.2	5.0	39.6	60	60
	230V-60HZ	19.0	80.00	12.0	55.0	2.20	12.8	4.3	37.5	60	60
	380V-50HZ	9.5	38.0	6.5	23.0	1.10	5.4	2.6	19.7	30	30
	400V-50HZ	10.4	39.0	6.3	24.5	1.05	5.1	2.5	20.3	30	30
	460V-60HZ	9.5	40.0	6.0	27.5	1.10	6.2	2.2	18.8	30	30
	575V-60HZ	7.8	33.0	4.9	24.0	0.90	4.9	1.7	15.3	30	25
4B4	200V-60HZ	20.0	78.00	12.5	51.0	2.10	14.2	5.0	39.6	60	60
	230V-60HZ	19.0	80.00	12.0	55.0	2.20	12.8	4.3	37.5	60	60
	380V-50HZ	9.5	38.0	6.5	23.0	1.10	5.4	2.6	19.7	30	30
	400V-50HZ	10.4	39.0	6.3	24.5	1.05	5.1	2.5	20.3	30	30
	460V-60HZ	9.5	40.0	6.0	27.5	1.10	6.2	2.2	18.8	30	30
	575V-60HZ	7.8	33.0	4.9	24.0	0.90	4.9	1.7	15.3	30	25

TABLE 1 (CONT'D) – YIA ELECTRICAL DATA

CHILLER MODEL	VOLT-HZ	SOLUTION PUMP		REFRIGERANT PUMP		PURGE PUMP		PANEL 1 KVA amps	TOTAL AMPS	DISC SW	MAX FUSE
		FLA	LRA	FLA	LRA	FLA	LRA				
4C1	200V-60HZ	20.0	78.00	12.5	51.0	2.10	14.2	5.0	39.6	60	60
	230V-60HZ	19.0	80.00	12.0	55.0	2.20	12.8	4.3	37.5	60	60
	380V-50HZ	9.5	38.0	6.5	23.0	1.10	5.4	2.6	19.7	30	30
	400V-50HZ	10.4	39.0	6.3	24.5	1.05	5.1	2.5	20.3	30	30
	460V-60HZ	9.5	40.0	6.0	27.5	1.10	6.2	2.2	18.8	30	30
	575V-60HZ	7.8	33.0	4.9	24.0	0.90	4.9	1.7	15.3	30	25
5C2	200V-60HZ	20.0	78.00	12.5	51.0	2.10	14.2	5.0	39.6	60	60
	230V-60HZ	19.0	80.00	12.0	55.0	2.20	12.8	4.3	37.5	60	60
	380V-50HZ	9.5	38.0	6.5	23.0	1.10	5.4	2.6	19.7	30	30
	400V-50HZ	10.4	39.0	6.3	24.5	1.05	5.1	2.5	20.3	30	30
	460V-60HZ	9.5	40.0	6.0	27.5	1.10	6.2	2.2	18.8	30	30
	575V-60HZ	7.8	33.0	4.9	24.0	0.90	4.9	1.7	15.3	30	25
5C3	200V-60HZ	20.0	78.00	12.5	51.0	2.10	14.2	5.0	39.6	60	60
	230V-60HZ	19.0	80.00	12.0	55.0	2.20	12.8	4.3	37.5	60	60
	380V-50HZ	9.5	38.0	6.5	23.0	1.10	5.4	2.6	19.7	30	30
	400V-50HZ	10.4	39.0	6.3	24.5	1.05	5.1	2.5	20.3	30	30
	460V-60HZ	9.5	40.0	6.0	27.5	1.10	6.2	2.2	18.8	30	30
	575V-60HZ	7.8	33.0	4.9	24.0	0.90	4.9	1.7	15.3	30	25
6C4	200V-60HZ	20.0	78.00	12.5	51.0	2.10	14.2	5.0	39.6	60	60
	230V-60HZ	19.0	80.00	12.0	55.0	2.20	12.8	4.3	37.5	60	60
	380V-50HZ	14.00	65.00	6.5	23.0	1.10	5.4	2.6	24.2	30	40
	400V-50HZ	14.30	64.00	6.3	24.5	1.05	5.1	2.5	24.2	30	40
	460V-60HZ	9.5	40.0	6.0	27.5	1.10	6.2	2.2	18.8	30	30
	575V-60HZ	7.8	33.0	4.9	24.0	0.90	4.9	1.7	15.3	30	25

TABLE 1 (CONT'D) – YIA ELECTRICAL DATA

CHILLER MODEL	VOLT-HZ	SOLUTION PUMP		REFRIGERANT PUMP		PURGE PUMP		PANEL 1 KVA amps	TOTAL AMPS	DISC SW	MAX FUSE
		FLA	LRA	FLA	LRA	FLA	LRA				
7D1	200V-60HZ	20.0	78.00	12.5	51.0	2.10	14.2	5.0	39.6	60	60
	230V-60HZ	19.0	80.00	12.0	55.0	2.20	12.8	4.3	37.5	60	60
	380V-50HZ	14.00	65.00	6.5	23.0	1.10	5.4	2.6	24.2	30	40
	400V-50HZ	14.30	64.00	6.3	24.5	1.05	5.1	2.5	24.2	30	40
	460V-60HZ	9.5	40.0	6.0	27.5	1.10	6.2	2.2	18.8	30	30
	575V-60HZ	7.8	33.0	4.9	24.0	0.90	4.9	1.7	15.3	30	25
7D2	200V-60HZ	33.00	107.00	12.5	51.0	2.10	14.2	5.0	52.6	100	90
	230V-60HZ	30.00	118.00	12.0	55.0	2.20	12.8	4.3	48.5	60	80
	380V-50HZ	14.00	65.00	6.5	23.0	1.10	5.4	2.6	24.2	30	40
	400V-50HZ	14.30	64.00	6.3	24.5	1.05	5.1	2.5	24.2	30	40
	460V-60HZ	15.00	59.00	6.0	27.5	1.10	6.2	2.2	24.3	30	40
	575V-60HZ	12.00	47.00	4.9	24.0	0.90	4.9	1.7	19.5	30	30
8D3	200V-60HZ	33.00	107.00	12.5	51.0	2.10	14.2	5.0	52.6	100	90
	230V-60HZ	30.00	118.00	12.0	55.0	2.20	12.8	4.3	48.5	60	80
	380V-50HZ	14.00	65.00	6.5	23.0	1.10	5.4	2.6	24.2	30	40
	400V-50HZ	14.30	64.00	6.3	24.5	1.05	5.1	2.5	24.2	30	40
	460V-60HZ	15.00	59.00	6.0	27.5	1.10	6.2	2.2	24.3	30	40
	575V-60HZ	12.00	47.00	4.9	24.0	0.90	4.9	1.7	19.5	30	30
8E1	200V-60HZ	33.00	107.00	12.5	51.0	2.10	14.2	5.0	52.6	100	90
	230V-60HZ	30.00	118.00	12.0	55.0	2.20	12.8	4.3	48.5	60	80
	380V-50HZ	14.00	65.00	9.5	38.0	1.10	5.4	2.6	27.2	60	40
	400V-50HZ	14.30	64.00	10.4	39.0	1.05	5.1	2.5	28.3	60	45
	460V-60HZ	15.00	59.00	6.0	27.5	1.10	6.2	2.2	24.3	30	40
	575V-60HZ	12.00	47.00	4.9	24.0	0.90	4.9	1.7	19.5	30	30

TABLE 1 (CONT'D) – YIA ELECTRICAL DATA

CHILLER MODEL	VOLT-HZ	SOLUTION PUMP		REFRIGERANT PUMP		PURGE PUMP		PANEL 1 KVA amps	TOTAL AMPS	DISC SW	MAX FUSE
		FLA	LRA	FLA	LRA	FLA	LRA				
9E2	200V-60HZ	40.70	118.00	21.00	78.00	2.10	14.2	5.0	68.8	100	110
	230V-60HZ	36.80	130.00	19.00	80.00	2.20	12.8	4.3	62.3	100	100
	380V-50HZ	14.00	65.00	14.00	65.00	1.10	5.4	2.6	31.7	60	45
	400-50HZ	14.30	64.00	14.30	64.00	1.05	5.1	2.5	32.2	60	50
	460V-60HZ	18.40	65.00	9.50	40.00	1.10	6.2	2.2	31.2	60	50
	575V-60HZ	15.00	52.00	7.8	33.00	0.90	4.9	1.7	25.4	30	40
10E3	200V-60HZ	40.70	118.00	33.00	107.00	2.10	14.2	5.0	80.8	100	125
	230V-60HZ	36.80	130.00	30.00	118.00	2.20	12.8	4.3	73.3	100	110
	380V-50HZ	14.00	65.00	14.00	65.00	1.10	5.4	2.6	31.7	60	45
	400-50HZ	14.30	64.00	14.30	64.00	1.05	5.1	2.5	32.2	60	50
	460V-60HZ	18.40	65.00	15.00	59.00	1.10	6.2	2.2	36.7	60	50
	575V-60HZ	15.00	52.00	12.00	47.00	0.90	4.9	1.7	29.6	60	45
12F1	200V-60HZ	33.00	107.0	33.00	107.00	2.10	14.2	5.0	73.1	100	110
	230V-60HZ	30.00	118.0	30.00	118.0	2.20	12.8	4.3	66.5	100	100
	380V-50HZ	14.00	65.00	14.00	65.00	1.10	5.4	2.6	31.7	60	45
	400V-50HZ	14.30	64.00	14.30	64.00	1.05	5.1	2.5	32.2	60	50
	460V-60HZ	15.00	59.00	15.00	59.00	1.10	6.2	2.2	33.3	60	50
	575V-60HZ	12.00	47.00	12.00	47.00	0.90	4.9	1.7	26.6	60	40
13F2	200V-60HZ	40.70	118.0	33.00	107.0	2.10	14.2	5.0	80.8	100	125
	230V-60HZ	36.80	130.0	30.00	118.0	2.20	12.8	4.3	73.3	100	110
	380V-50HZ	14.00	65.00	14.00	65.00	1.10	5.4	2.6	31.7	60	45
	400V-50HZ	14.30	64.00	14.30	64.00	1.05	5.1	2.5	32.2	60	50
	460V-60HZ	18.40	65.00	15.00	59.00	1.10	6.2	2.2	36.7	60	50
	575V-60HZ	15.00	52.00	12.00	47.00	0.90	4.9	1.7	29.6	60	45

TABLE 1 (CONT'D) – YIA ELECTRICAL DATA

CHILLER MODEL	VOLT-HZ	SOLUTION PUMP		REFRIGERANT PUMP		PURGE PUMP		PANEL 1 KVA amps	TOTAL AMPS	DISC SW	MAX FUSE
		FLA	LRA	FLA	LRA	FLA	LRA				
14F3	200V-60HZ	40.70	118.0	33.00	107.0	2.10	14.2	5.0	80.8	100	125
	230V-60HZ	36.80	130.0	30.00	118.0	2.20	12.8	5.0	74.0	100	110
	380V-50HZ	14.00	65.00	14.00	65.00	1.10	5.4	2.6	31.7	60	45
	400V-50HZ	14.30	64.00	14.30	64.00	1.05	5.1	2.5	32.2	60	50
	460V-60HZ	18.40	65.00	15.00	59.00	1.10	6.2	2.2	36.7	60	50
	575V-60HZ	15.00	52.00	12.00	47.00	0.90	4.9	1.7	29.6	60	45

NOTES

1. All field wiring shall be in accordance with the National Electrical Code (N.E.C.) as well as all other applicable codes and specifications.
2. Unit shall be grounded in accordance with N.E.C. (Table 250-95) for equipment grounding, using copper conductor only. Power panel is furnished with ground lug (wire range #14 - I/O AWG is furnished) for grounding electrical equipment.
3. Wiring, electrical conduit, junction boxes, fused disconnect switches (FDS), starters (M), push-button stations (PB), manual-off-automatic switch (S), flow switch (FLS), control relays, furnished by others unless otherwise specified.
4. Items marked * furnished by YORK/Johnson Controls.
5. Items marked ** furnished by YORK/Johnson Controls at additional cost.
6. Chilled and condenser flow switch is required on all units.
7. Control power supply 115V, 50/60 Hz, 10 ampere capacity for Control Center only, is supplied by a control power transformer (CPT) located in the power panel (Factory Installed).
8. TABLE 1 is provided for field switch gear and power wiring requirements. Single point power wiring is provided for customer connection. If multiple conduits are used, they should contain an equal number of wires from each phase in each conduit to prevent overheating. Use copper conductors only; do not use aluminum conductors. Flexible conduit for final connection to power panel should be used to provide vibration isolation.
9. Wiring diagram for OptiView Control Center, Form 155.21-W1 for steam/hot water units. Field wiring modifications per Form 155.21-W2.
10. Wire #14 AWG copper for one way distance of less than 175 feet. Wire #12 AWG copper for one way distance of more than 175 feet, but less than 300 feet.
11. Power factor correction capacitors, when utilized, must be sized to meet the N.E.C. and verified through the local YORK/Johnson Controls office. Improperly installed or sized capacitors may result in equipment malfunction or damage.
12. Automatic control of the chilled and condenser water pumps by the Control Center is shown. Chilled and condenser water pump motor starter holding coils to be furnished for 115V, 50/60 Hz. The total power requirements for the water pump starters (7M, 8M) must be a maximum of 1.0 amp inductive at 115 VAC. If power requirements exceed this value furnish coil for line voltage, and control relays with 115V coil.
13. Each 115VAC field-connected inductive load, i.e., relay coil, motor starter coil, etc. shall have a transient suppressor wired (by others) in parallel with its coil, physically located at the coil. Spare transient suppressors are factory supplied in a bag attached to the fuse holder bracket in the Millennium Control Center.

FIELD CONNECTIONS

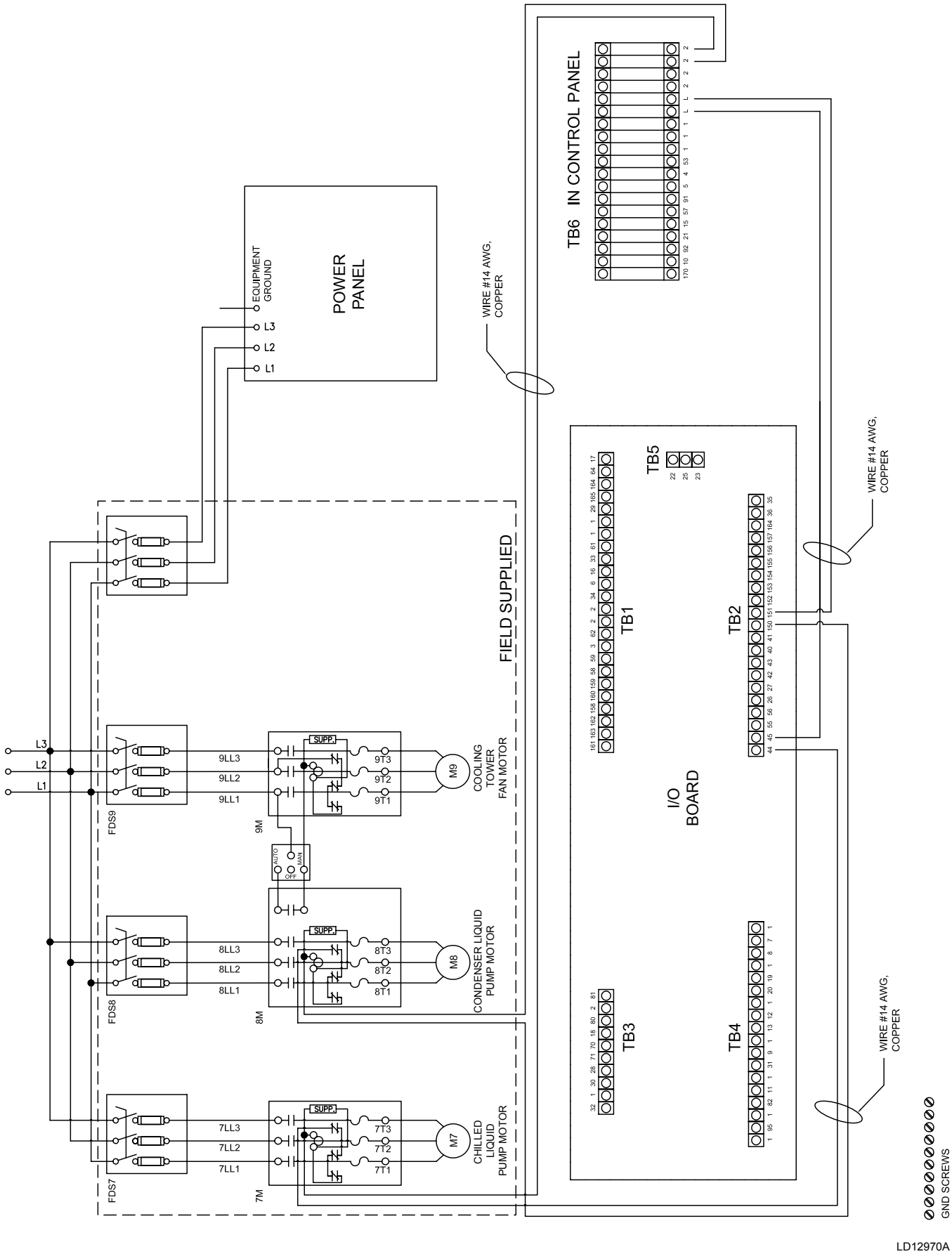
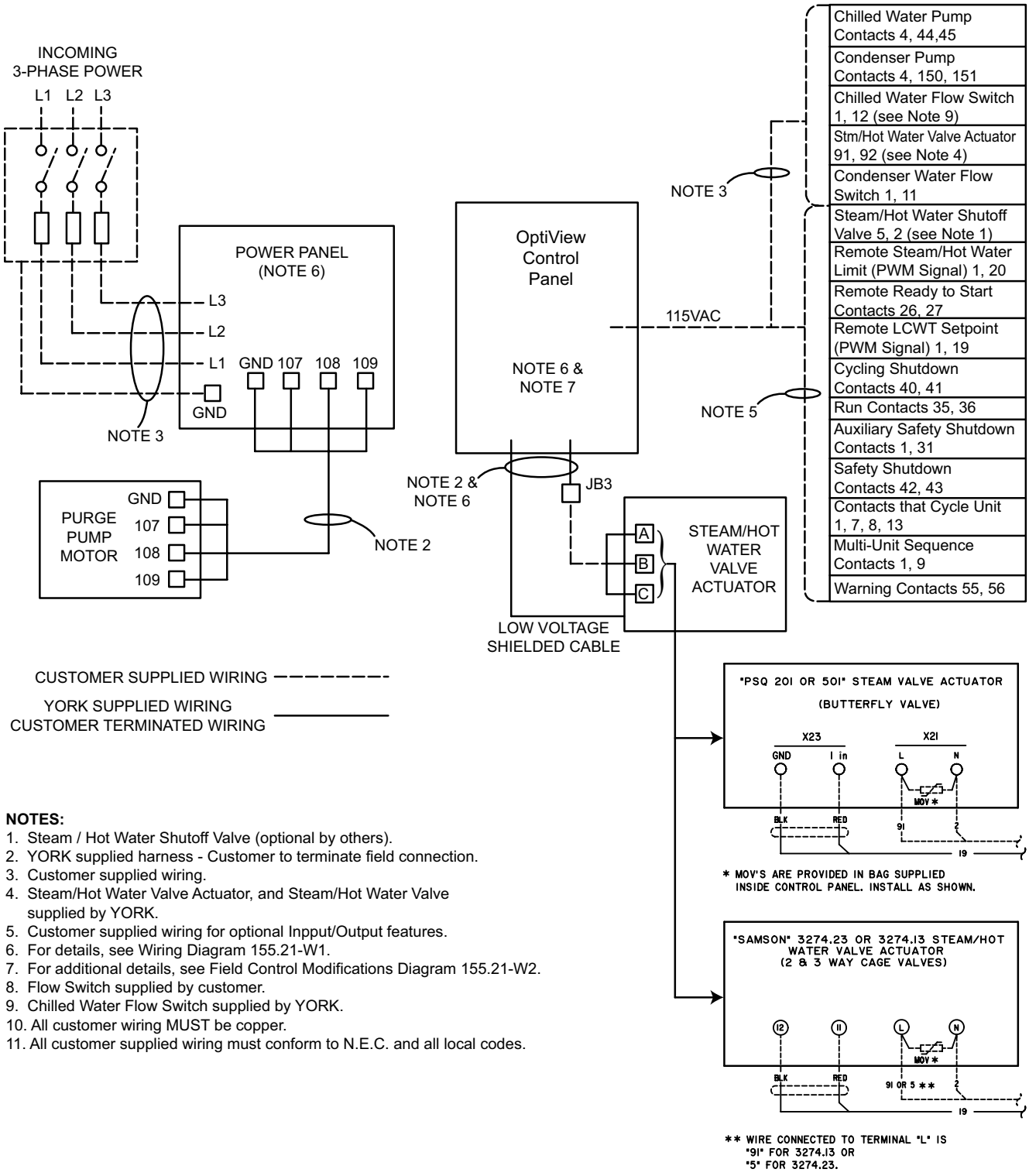


FIGURE 1 – FIELD CONNECTIONS

STEAM/HOT WATER FIELD WIRING



NOTES:
1. Steam / Hot Water Shutoff Valve (optional by others).
2. YORK supplied harness - Customer to terminate field connection.
3. Customer supplied wiring.
4. Steam/Hot Water Valve Actuator, and Steam/Hot Water Valve supplied by YORK.
5. Customer supplied wiring for optional Inpput/Output features.
6. For details, see Wiring Diagram 155.21-W1.
7. For additional details, see Field Control Modifications Diagram 155.21-W2.
8. Flow Switch supplied by customer.
9. Chilled Water Flow Switch supplied by YORK.
10. All customer wiring MUST be copper.
11. All customer supplied wiring must conform to N.E.C. and all local codes.

LD12970A

FIGURE 2 – STEAM/HOT WATER FIELD CONNECTIONS

BY JOHNSON CONTROLS

P.O. Box 1592, York, Pennsylvania USA 17405-1592
Tele. 800-861-1001
www.york.com

Form 155.21-W3 (310)
NEW RELEASE