

## Gas-Fired Tempered Make-Up Air Unit

Model:

TK5-3PH-FF

3-Phase, 230V, 7.50 HP, Belt driven with Motorized Damper and 20" Blower. MAX 14,300 CFM's





TK5-2000 Direct Fired (2079 lbs.)

**Supply Motor:**

Model DTP7/54, 7.500 HP, 3 Phase, 230 V, 60Hz, 19.1 FLA, ODP, Premium (E-Plus3) Eff.

**Supply Motor Pulleys:**

<u>Part Type</u>	<u>Qty.</u>	<u>Browning #</u>	<u>Turns Out</u>
Blower Pulley	1	2B5V154	
Bushing	1	B-2 3/16	
Motor Pulley	1	2VP60 x 1-3/8	3.5

**Burner:**

Min Output BTU: 73,333 BTU/Hr  
Max Output BTU: 2,200,000 BTU/Hr  
Size: 48" long  
Gas Type: Natural

**Supply Performance:**

Volume: 14300 cfm Volume Range: 10000-14300 cfm  
RPM: 582  
TS: 3809 ft/min  
SP: 0.660" w.g.  
0.500" Ext. + 0.123" Int. + 0.037" Opt.  
BHP: 7.15

**Heating Schedule:**

Altitude: 0'  
Winter Entering Air Dry Bulb Temp: 0°F  
Temp Rise: 100°F  
Output BTU: 1544400  
Input BTU: 1678696  
BTUs BASED OFF STANDARD AIR DENSITY

**Supply Installation Information:**

Gas Inlet Pressure: 7 in. w.c. - 14 in. w.c.  
Insurance: No Insurance Requirement (ANSI)  
Unit Main Input: 25.0 Amps MCA, 40 Amps MOP, 230 V, 10 AWG  
Wire Min.  
Supply Unit Voltage: 3 phs 230 V 60Hz

**Blower:**

25" forward curved, centrifugal blower. Permanently lubricated pillow block ball bearings. Enamel finish. 10000-25000 CFM. 2 3/16" x 54-1/2" Shaft. 1000 maximum RPM. Heavy duty angle iron frame. Used in heated and non-heated supply fans.

**Temp Control:**

RTC Solutions • 40-90°F Discharge Temp Control • Field Wired On/Off Start Command

**Intake:**

Sloped Filtered Intake for Size #5 Modular Heater. 55.81" Wide X 70.05" Long X 51.00" High. Includes 2" MV EZ Kleen Metal Mesh Filter.

**Filters:**

8x MV EZ Kleen Metal Mesh Filter. 20"x 25"x 2" Used for heater and supply fan intakes. (3416)

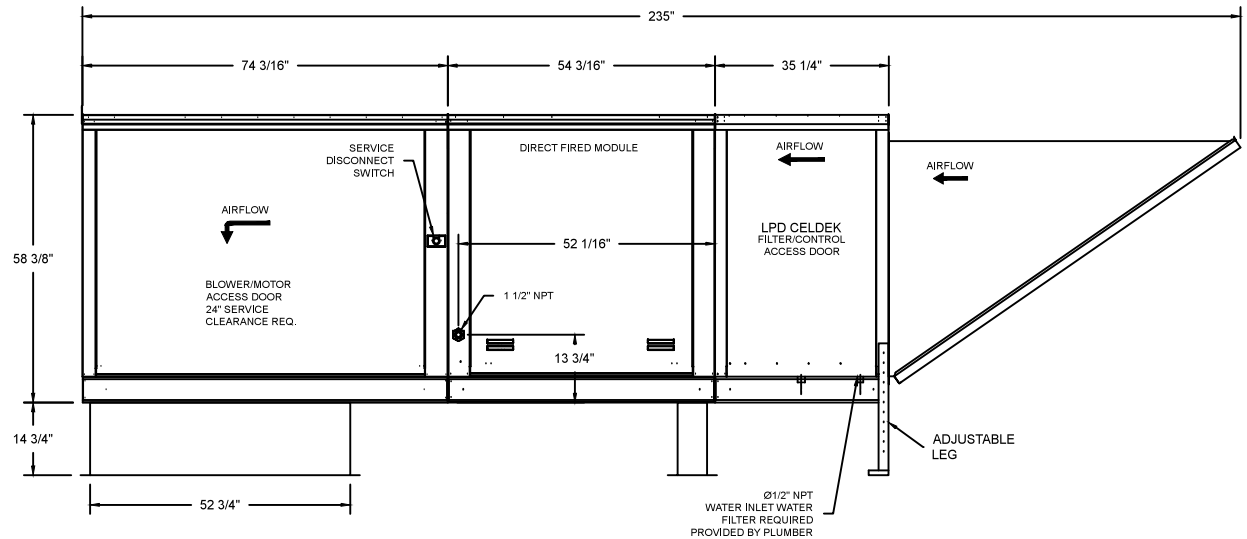
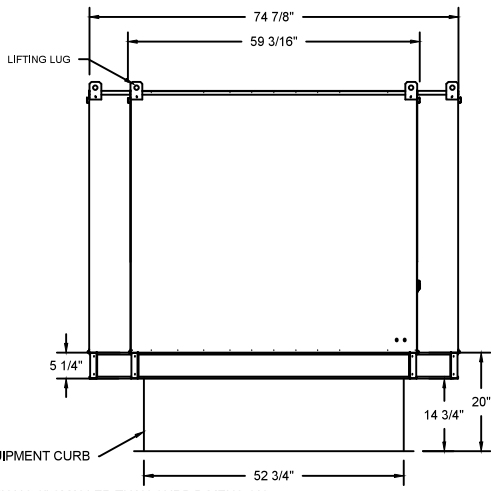
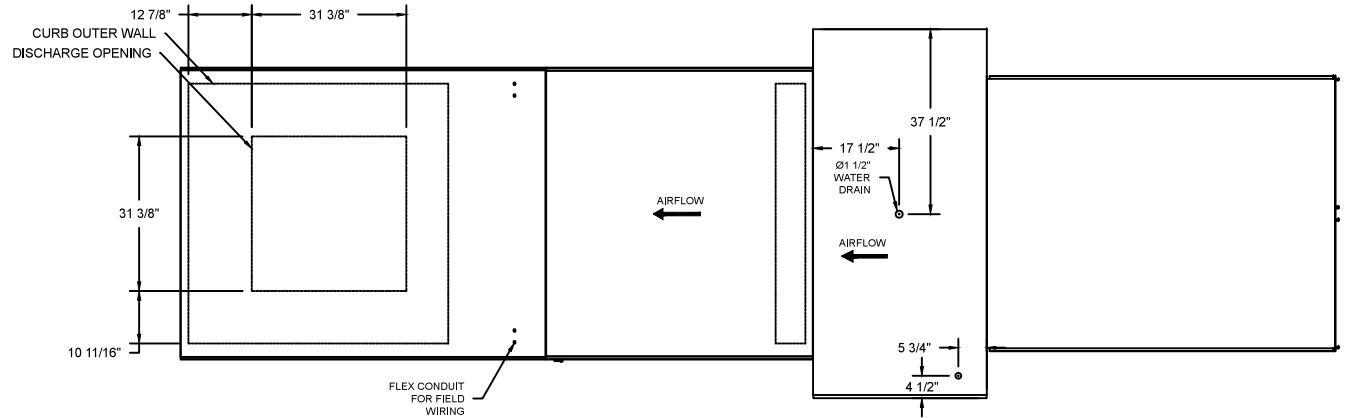
**Selected Options:**

- Motorized Back Draft Damper 43" X 43" for Size 5 Standard & Modular Heater Units w/Extended Shaft, Standard Galvanized Construction, 3/4" Rear Flange, Low Leakage, NFBUPS Actuator Included
- Low Fire Start. Allows the burner circuit to energize when the modulation control is in a low fire position.
- Gas Pressure Gauge, 0-35", 2.5" Diameter, 1/4" Thread Size
- Gas Pressure Gauge, -5 to +15 Inches Wc., 2.5" Diameter, 1/4" Thread Size

TK5 DIRECT FIRED HEATER WITH EVAP

1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 25" BLOWER AND 48" BURNER
2. EVAP COOLER (LPD CELDEK) – W/INTAKE HOOD W/EZ FILTERS
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT
4. MOTORIZED BACK DRAFT DAMPER 43" X 43" FOR SIZE 5 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, NFBUPS ACTUATOR INCLUDED
5. LOW FIRE START. ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.
6. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE
7. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC., 2.5" DIAMETER, 1/4" THREAD SIZE
8. FREEZE PROTECTION DRAIN CONTROL KIT FOR EVAPORATIVE COOLERS. INCLUDES 3-WAY WATER SOLENOID VALVE 8316G064 (SHIPPED LOOSE), PRESSURE SWITCH INSTALLED UPSTREAM OF 2WAY SOLENOID IN UNIT. BRASS TEE, 2 NPT HALF INCH NIPPLES, AND TWO STAGE THERMOSTAT T678A1361. FIELD WIRING REQUIRED BY OTHERS FOR 3-WAY VALVE, FOR BOTH CELDEK AND STANDARD V-BANK TYPE CONFIGURATIONS.

NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE UNLESS OTHERWISE SPECIFIED. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT.

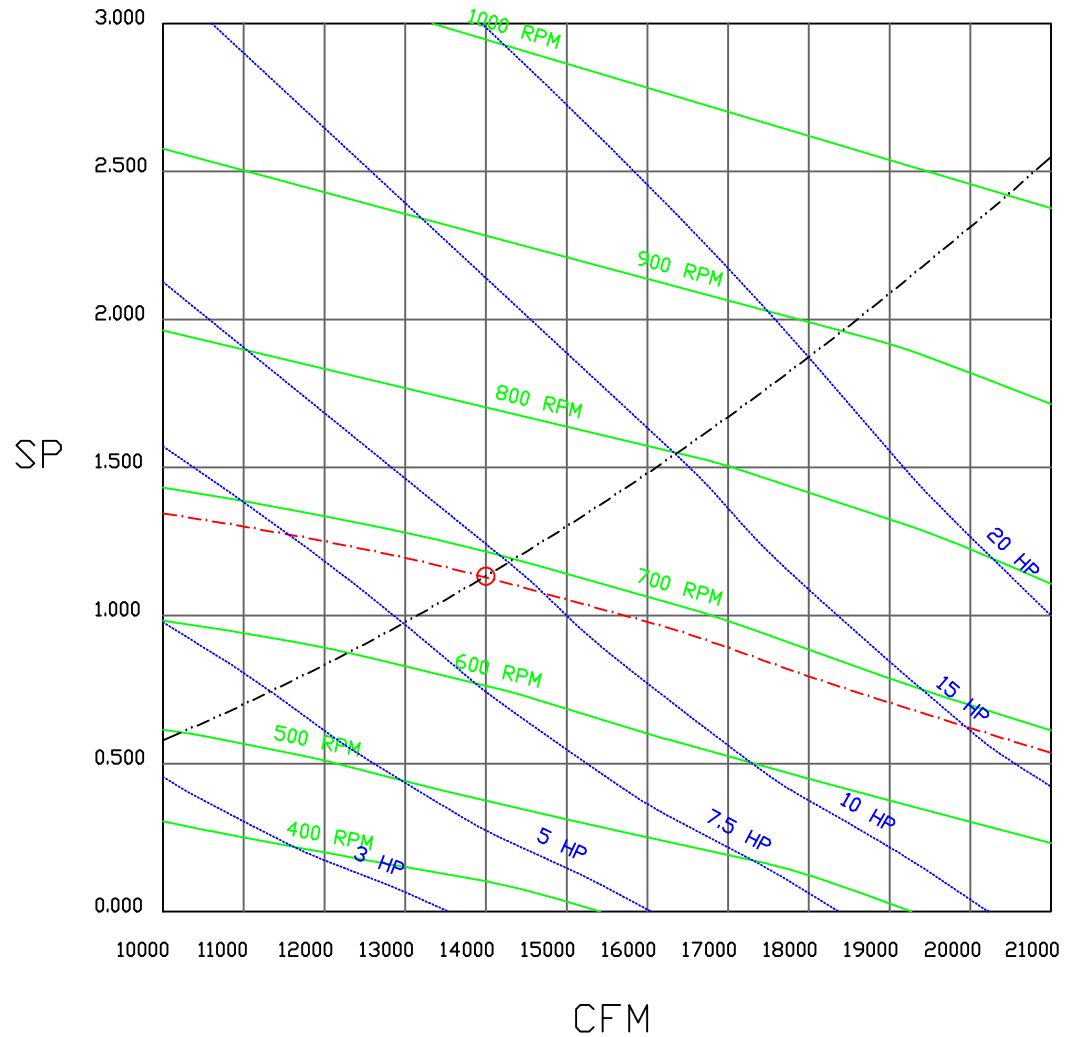


JOB	
LOCATION	
DATE	08/01/2018
DWG #	JOB #
REV.	DRAWN BY
	SCALE

(EVAP 14000 10HP/3PH-230V) - HEATER PERFORMANCE CURVES.

14000 CFM, 1.133 SP @ 682 RPM and 9.258 BHP at 0 feet and 100 deg F

\* Please note that these curves were adjusted for job specific temperature and altitude.



	<b>NORTH AMERICAN KITCHEN SOLUTIONS INCORPORATED</b>	<b>JOB</b>	
		LOCATION	
		DATE 8/3/2018	JOB #
		DWG #	DRAWN BY
		REV.	SCALE 3/8" = 1'-0"

# Direct Fired Heater Wiring

JOB NAKS DIRECT FIRED MUA EVAP

DRAWING NUMBER

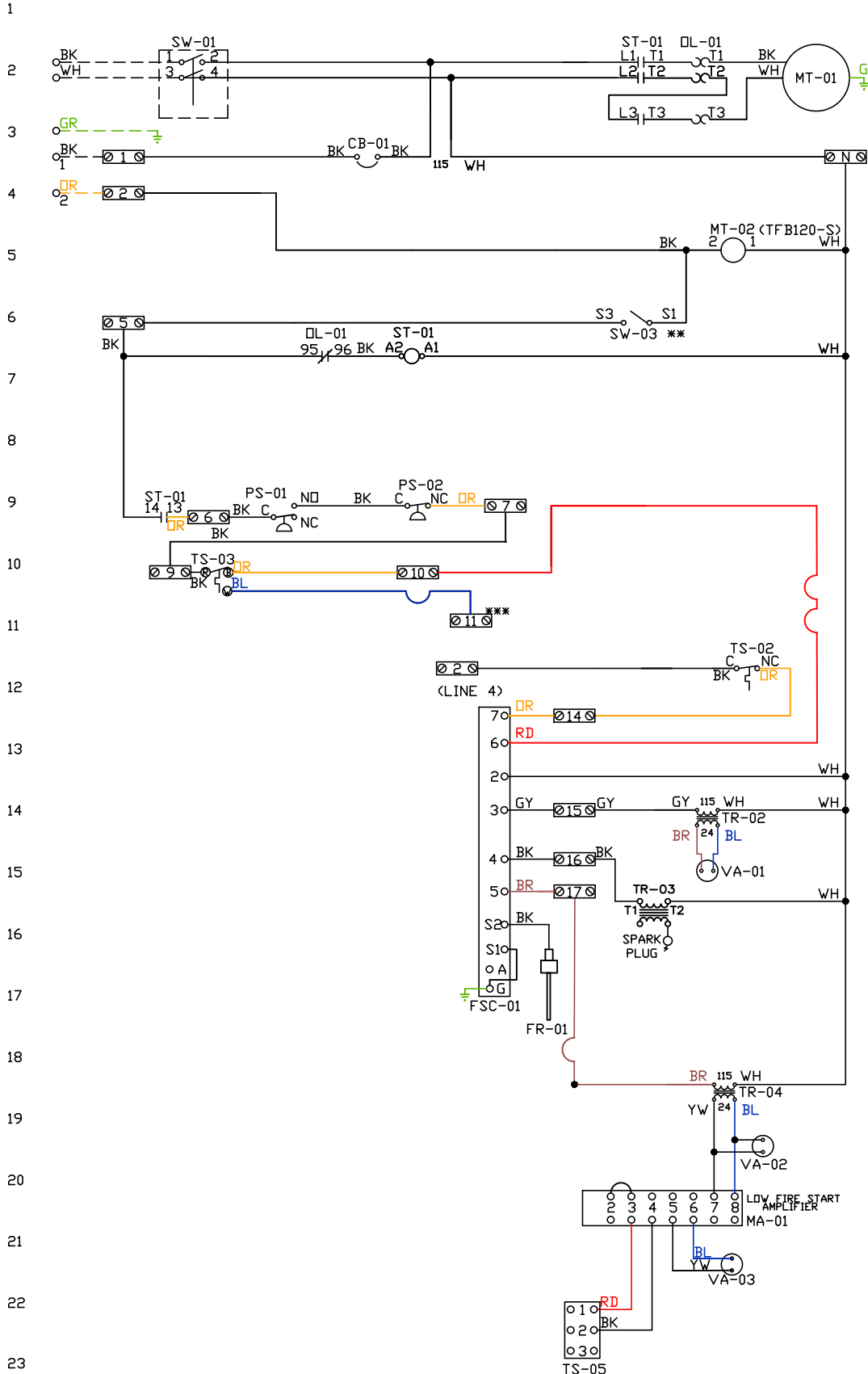
SHIP DATE

MODEL TK 1-5 Series

ATTENTION ELECTRICIAN!  
 DROP FOR DISCONNECT CONNECTION  
 IS FACTORY SUPPLIED  
 CONNECT POWER TO THE DROP

Installed Options  
 Field Wired Single Switch Control  
 Motorized Back Draft Damper

Discharge Temp. Control



Label	Description	Location
CB-01	Circuit breaker (2amp)	[3]
FR-01	Flame rod	[16]
FSC-01	Fireye FSC	[11-14]
MA-01	Modulating amplifier	[19]
MT-01	Supply motor	[2]
MT-02	Damper motor	[5]
DL-01	Supply motor overload	[2][7]
PS-01	Low AirFlow Switch	[9]
PS-02	High AirFlow Switch	[9]

ST-01	Supply motor contactor	[2][7][9]
SW-01	Main disconnect switch	[2]
SW-03	Damper end limit switch	[4]
TR-02	Power transformer(20va)	[12]
TR-03	Ignition transformer	[14]
TR-04	Power transformer(20va)	[17]
TS-02	High temp limit switch	[10]
TS-03	Intake Air Sensor	[10]
TS-05	Discharge Air Sensor	[21]
VA-01	Pilot gas valve	[13]
VA-02	Main gas valve	[18]
VA-03	Modulating gas valve	[20]

MOTOR INFO	
SUPPLY CONTACTOR:	10HP-230V-3P-24.4FLA
OVERLOAD:	100-C30D10
	193-T1BC25

ELECTRICAL INFORMATION  
 MOTOR/CTRL CIRCUIT MCA: 31.6A  
 MOTOR/CTRL CIRCUIT MOP: 50A

NOTES  
 --- DENOTES FIELD WIRING  
 ——— DENOTES INTERNAL WIRING

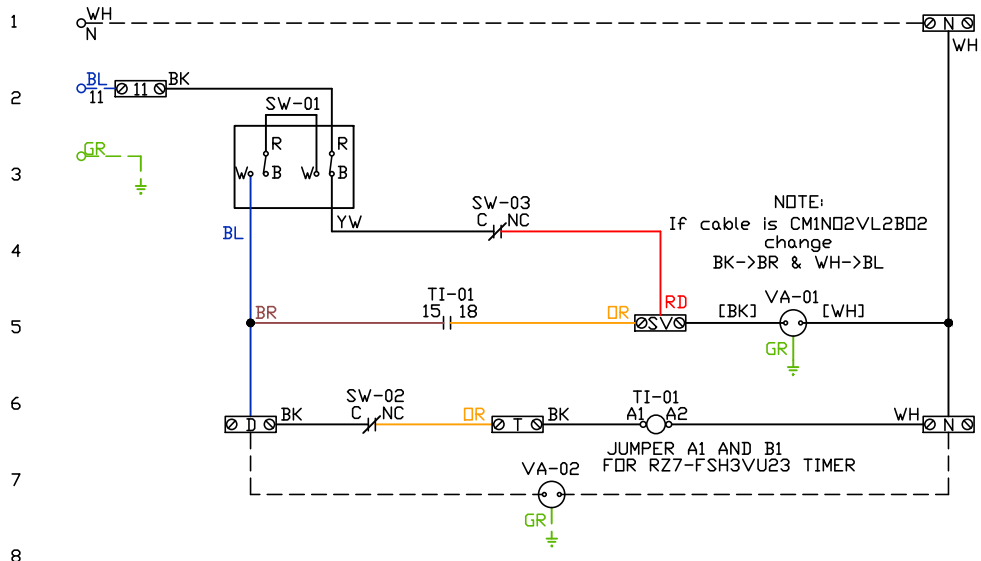
\*\* TERMINALS S4 AND S6 USED ON NF & AF SERIES ACTUATORS  
 \*\*\* TERMINAL 11 PROVIDES COOLING CONNECTION

WIRE COLOR		SOCKET STYLE	
BK-BLACK	GR - GREEN	ND	4 3
BL-BLUE	GY - GRAY	NC	2 1
BR - BROWN	PR - PURPLE	CDL	8 7
DR - ORANGE		CDM	6 5

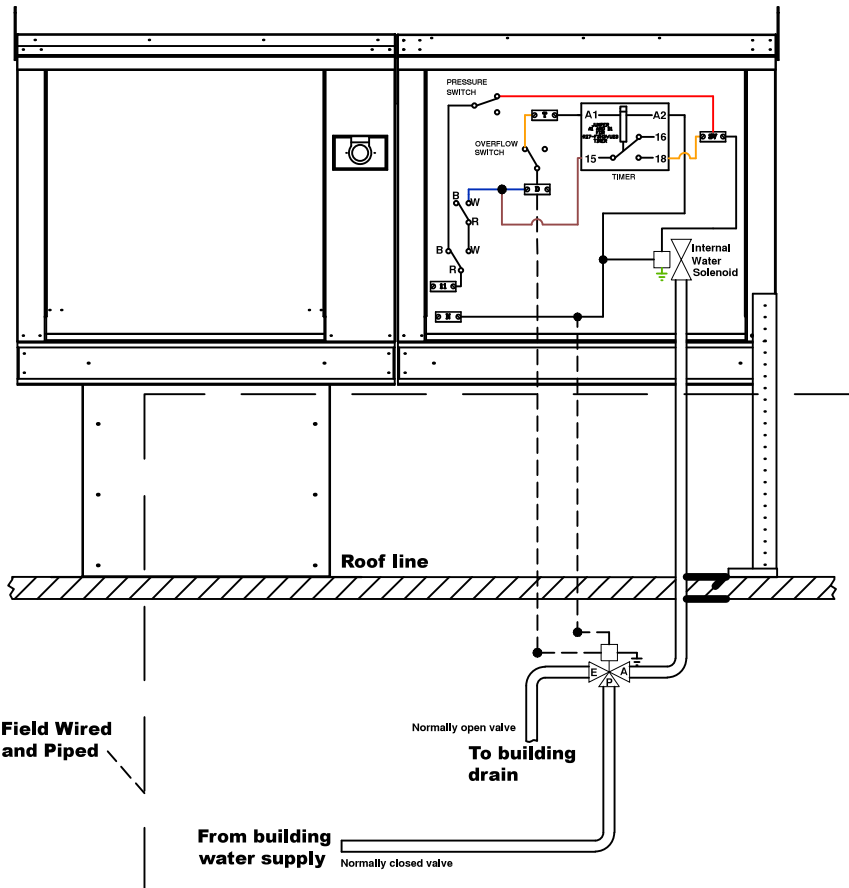
Installed Options

Component Identification

Label	Description	Location
SW-01	Thermostat	[2]
SW-02	Overflow Switch	[6]
SW-03	Pressure Switch	[3]
TI-01	Spray Timer	[5-7]
VA-01	Internal Solenoid Valve	[5]
VA-02	3-Way Solenoid Valve	[7]



POINT-TO-POINT SUMMARY OF DRAIN CONNECTION



NOTES

- DENOTES FIELD WIRING
- DENOTES INTERNAL WIRING

WIRE COLOR

- BK - BLACK
- BL - BLUE
- BR - BROWN
- DR - ORANGE
- RD - RED
- WH - WHITE
- YW - YELLOW
- GR - GREEN
- GY - GRAY
- PR - PURPLE
- PK - PINK

# Installation Wiring

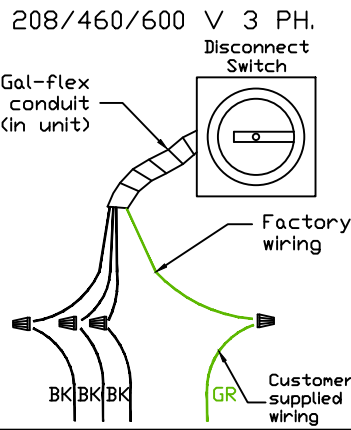
JOB *NAKS Direct Fired MUA*

DRAWING NUMBER

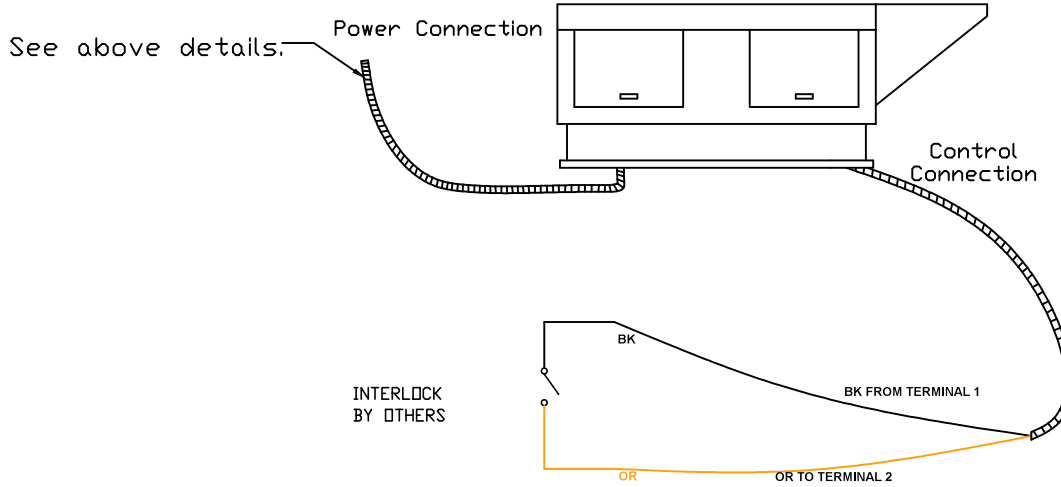
SHIP DATE

MODEL **TK-76**

Installed Options



Field Wired On/Off Switch



NOTES

- WIRE COLOR
- BK - BLACK
  - BL - BLUE
  - BR - BROWN
  - OR - ORANGE
  - RD - RED
  - WH - WHITE
  - YW - YELLOW
  - GR - GREEN
  - GY - GRAY
  - PR - PURPLE
  - PK - PINK