

Gas-Fired Tempered Make-Up Air Unit

Model:

TK4-3PH-FF

3-Phase, 460V, 5.00 HP, Belt driven with Motorized Damper and 20" Blower. MAX 10,000 CFM's





TK4-1000 Direct Fired (1638 lbs.)

Supply Motor:

Model DTP0054, 5.000 HP, 3 Phase, 460 V, 60Hz, 6.8 FLA, ODP, Premium (E-Plus3) Eff.

Supply Motor Pulleys:

<u>Part Type</u>	<u>Qty</u>	<u>Browning #</u>	<u>Turns Out</u>
Belt	2	BX81	
Blower Pulley	1	2BK100H	
Bushing	1	H-1 7/16	
Motor Pulley	1	2VP42 x 1 1/8	3.5

Burner:

Min Output BTU: 36,667 BTU/Hr
Max Output BTU: 1,100,001 BTU/Hr
Size: 24" long
Gas Type: Natural

Supply Performance:

Volume: 10000 cfm Volume Range: 6000-10000 cfm
RPM: 615
TS: 3220 ft/min
SP: 0.645" w.g.
0.500" Ext. + 0.102" Int. + 0.043" Opt.
BHP: 4.032

Heating Schedule:

Altitude: 0'
Winter Entering Air Dry Bulb Temp: 0°F
Temp Rise: 100°F
Output BTU: 1080000
Input BTU: 1173913
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: 9.1 Amps MCA, 15 Amps MOP, 460 V, 14 AWG Wire Min.
Supply Unit Voltage: 3 phs 460 V 60Hz

Construction Features

Housing constructed of heavy duty G90 galvanized steel • Forward curved centrifugal blower wheel • Vibration isolation • Adjustable drive assemblies • Adjustable motor mount • Ball bearing motors • Heavy duty, pre-lubricated bearings rated for 200,000 hours of operation • Static resistant belts • Service doors on both sides • Horizontal & down discharge • Large intake area ensures low pressure drop across unit • Spring loaded profile plates automatically adjust for any airflow - no manual setting required! • Weatherproof safety disconnect switch • Modular design provides design flexibility • Fully insulated casing

Blower:

20" forward curved, centrifugal blower. Permanently lubricated pillow-block ball bearings. Enamel finish. 5000-18000 CFM. 1-7/16" x 37.25" Shaft. 1100 max. 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 #4 Modular Direct Fired Make-Up Air Units. 45.81" Wide x 70.05" Long x 44.00" High. Includes 2" MV EZ Kleen Metal Mesh Filter.

Filters:

10x MV EZ Kleen Metal Mesh Filter. 16"x 20"x 2" Used for heater and supply fan intakes. (3412)

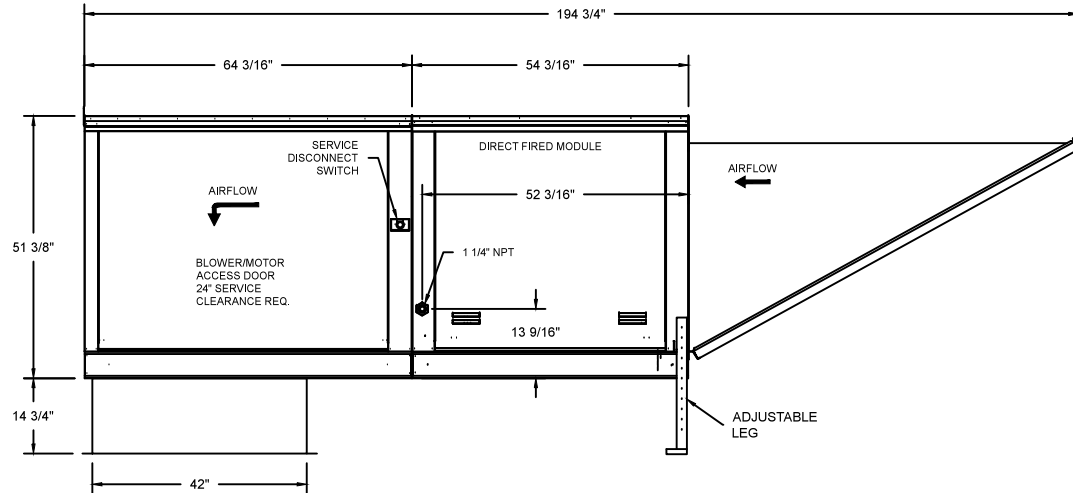
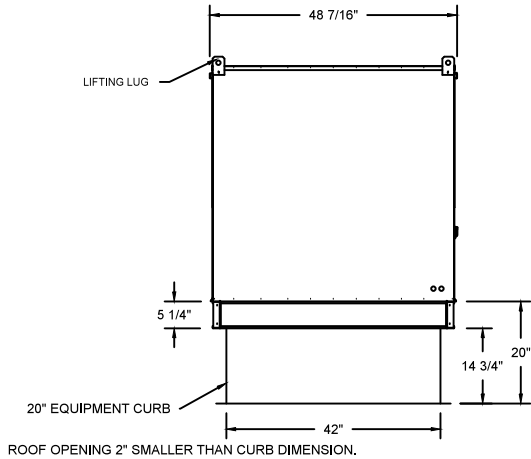
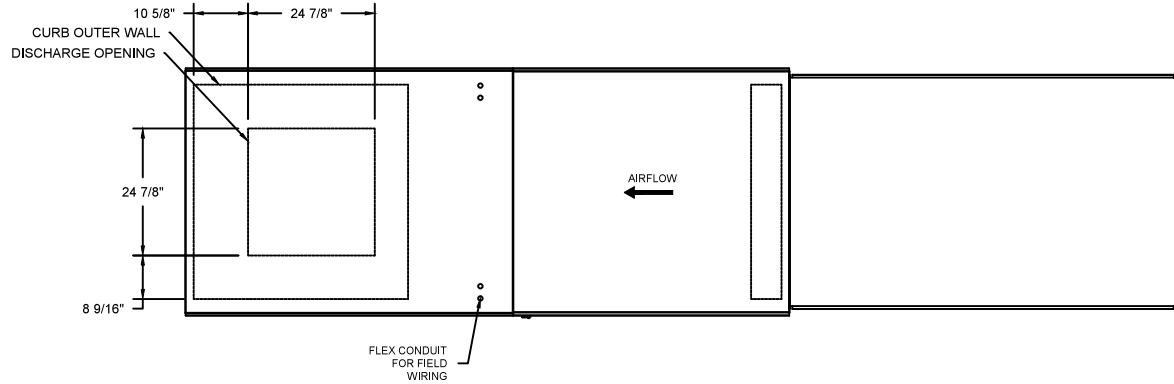
Selected Options:

- Motorized Back Draft Damper 34" X 36" for Size 4 Standard & Modular Heater Units w/Extended Shaft, Standard Galvanized Construction, 3/4" Rear Flange, Low Leakage, NFBUP-S 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

TK4 DIRECT FIRED HEATER

1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 20" BLOWER AND 24" BURNER.
2. INTAKE HOOD WITH EZ FILTERS
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT
4. MOTORIZED BACK DRAFT DAMPER 34" X 36" FOR SIZE 4 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, NFBUP-S 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

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.

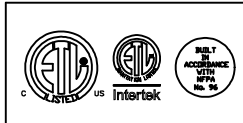
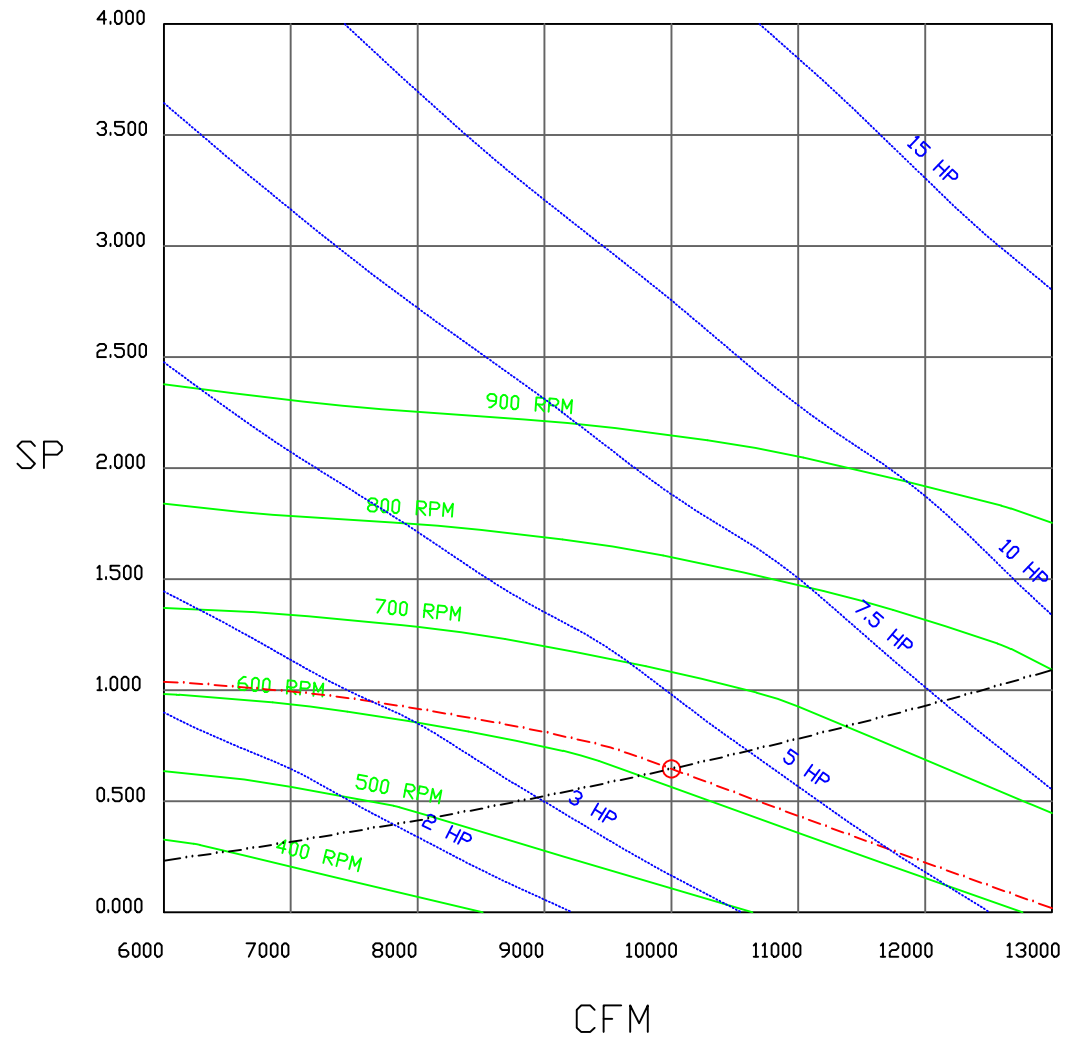


NORTH AMERICAN
 KITCHEN SOLUTIONS
 INCORPORATED

<i>JOB</i>	
<i>LOCATION</i>	
<i>DATE</i> 08/01/2018	<i>JOB #</i>
<i>DWG #</i> TK4	<i>DRAWN BY</i>
<i>REV.</i>	<i>SCALE</i>

(10000 5HP/3PH-460V) - HEATER PERFORMANCE CURVES.

10000 CFM, 0.645 SP @ 615 RPM and 4.032 BHP at 0 feet and 100 deg F
 * Please note that these curves were adjusted for job specific temperature and altitude.



JOB	
LOCATION	
DATE 8/3/2018	JOB #
DWG #	DRAWN BY
REV.	SCALE 3/8" = 1'-0"

Direct Fired Heater Wiring

JOB NAKS Direct Fired MUA

DRAWING NUMBER

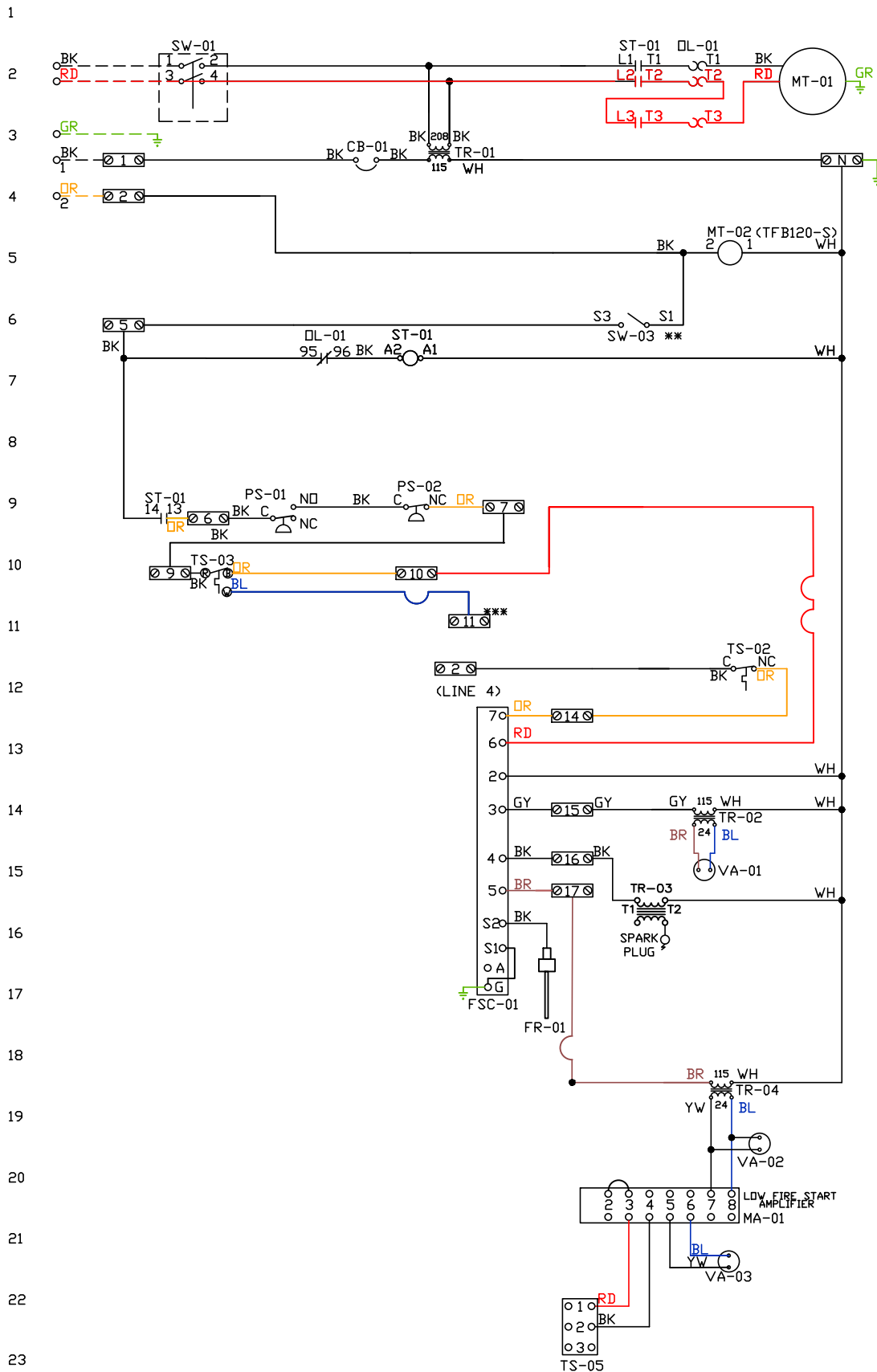
SHIP DATE

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	Fireeye 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-01	Power transformer(200v)	[3]
TR-02	Power transformer(20va)	[2]
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 5HP-460V-3P-6.8FLA
 CONTACTOR: 100-K09D10
 OVERLOAD: 193-KB75

ELECTRICAL INFORMATION
 MOTOR/CTRL CIRCUIT MCA: 91A
 MOTOR/CTRL CIRCUIT MOP: 15A

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	WH - WHITE	NC 2 1
BR - BROWN	GY - GRAY	CDL 8 7
DR - ORANGE	PR - PURPLE	CDM 6 5

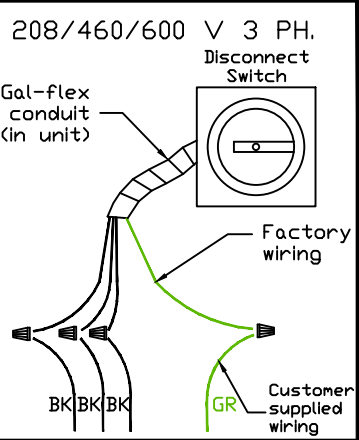
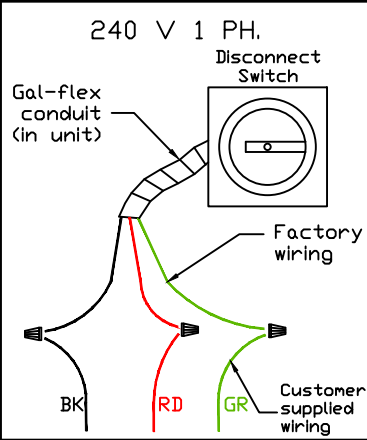
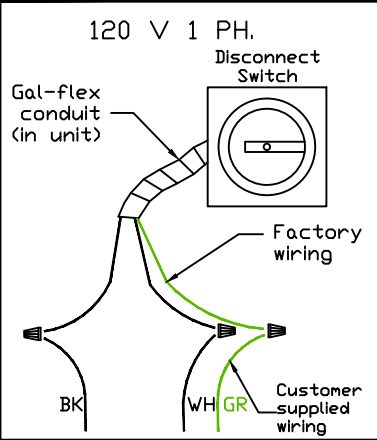
Installation Wiring

JOB *NAKS Direct Fired MUA*

DRAWING NUMBER

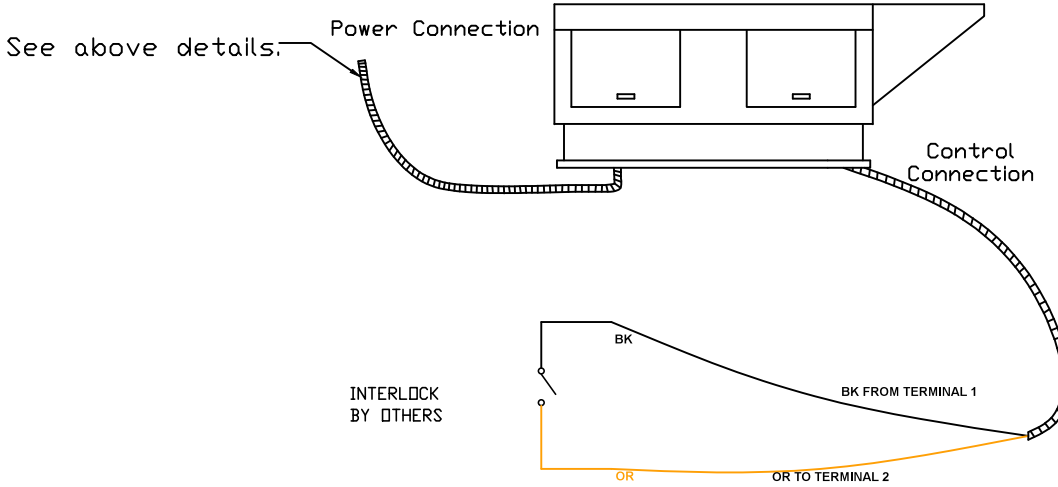
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MODEL **TK 1-5 Series**



Installed Options

Field Wired On/Off Switch



NOTES

WIRE COLOR

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