

## Gas-Fired Tempered Make-Up Air Unit

Model:

TK1-P1H-FF

1-Phase, 115V, 1.50 HP, Belt driven with Motorized Damper and 10" Blower. MAX 2500 CFM's





TK1-250 Direct Fired (615 lbs.)

**Supply Motor:**

Model 00158OT1BA056-S40PK, 1.500 HP, 1 Phase, 115 V, 60Hz, 13.6 FLA, ODP (Open Drip Proof)

**Supply Motor Pulleys:**

<u>Part Type</u>	<u>Qty</u>	<u>Browning #</u>	<u>Turns Out</u>
Blower Pulley	1	AK46 x 3/4	
Motor Pulley	1	1VL40 x 5/8	2.5

**Burner:**

Min Output BTU: 18,000 BTU/Hr  
Max Output BTU: 275,000 BTU/Hr  
Size: 6" long  
Gas Type: Natural

**Supply Performance:**

Volume: 2500 cfm Volume Range: 1000-2500 cfm  
RPM: 1236  
TS: 3236 ft/min  
SP: 0.620" w.g.  
0.500" Ext. + 0.071" Int. + 0.049" Opt.  
BHP: 1.364

**Heating Schedule:**

Altitude: 0'  
Winter Entering Air Dry Bulb Temp: 0°F  
Temp Rise: 100°F  
Output BTU: 270000  
Input BTU: 293478  
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: 19.1 Amps MCA, 30 Amps MOP, 115 V, 12 AWG Wire Min.  
Supply Unit Voltage: 1 phs 115 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:**

10" forward curved, centrifugal blower. Permanently lubricated ball bearings. Galvanized finish. 3/4" x 19" Shaft. 0-4000 CFM. 2500 max. RPM. 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 #1 Modular Heater. 21.813" Wide x 44.375" Long x 23.375" High. Includes 2" MV EZ Kleen Metal Mesh Filters.

**Filters:**

3x MV EZ Kleen Metal Mesh Filter. 16"x 20"x 2" Used for heater and supply fan intakes. (3412)

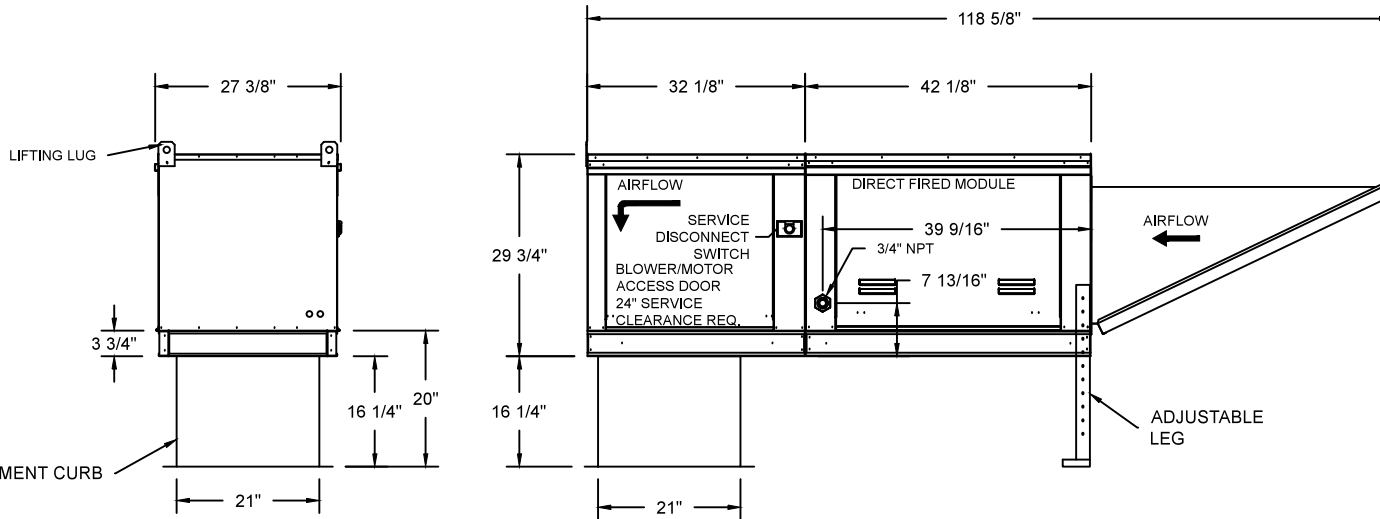
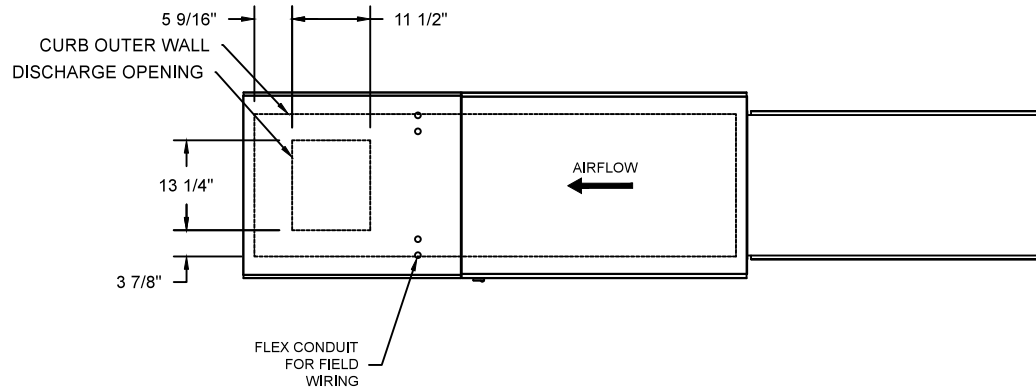
**Selected Options:**

- Motorized Back Draft Damper 16" X 18" for Size 1 Standard & Modular Heater Units w/Extended Shaft, Standard Galvanized Construction, 3/4" Rear Flange, Low Leakage, TFB120S 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

**TK1 DIRECT FIRED HEATER**

1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 10" BLOWER
2. INTAKE HOOD WITH EZ FILTERS
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT
4. MOTORIZED BACK DRAFT DAMPER W/ STANDARD GALVANIZED CONSTRUCTION, LOW LEAKAGE, TFB120S ACTUATOR 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"
7. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC.

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.



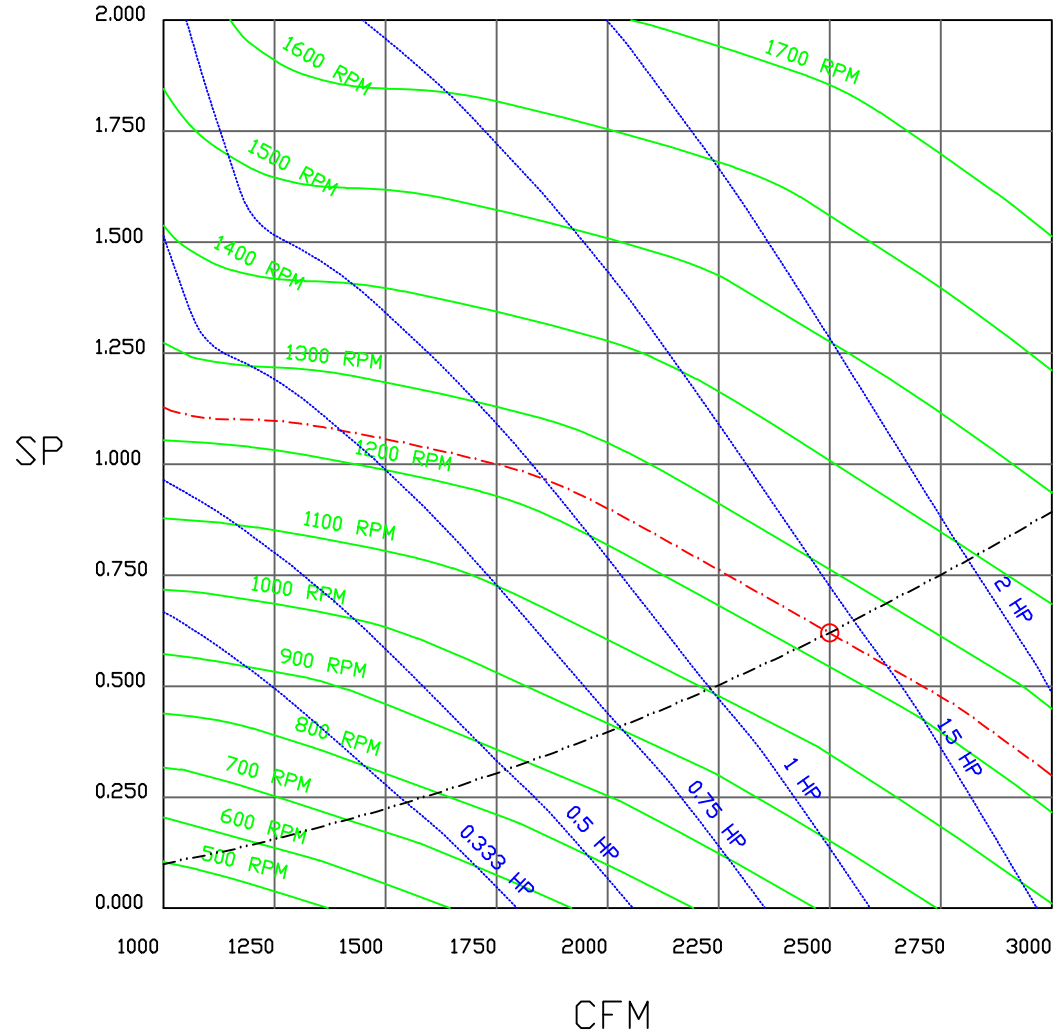
ROOF OPENING 2" SMALLER THAN CURB DIMENSION.



<b>JOB</b>	
<b>LOCATION</b>	
<b>DATE</b> 08/01/2018	<b>JOB #</b>
<b>DWG #</b> TK1	<b>DRAWN BY</b>
<b>REV.</b>	<b>SCALE</b>

(2500 1.5HP/1PH-115V) - HEATER PERFORMANCE CURVES.

2500 CFM, 0.62 SP @ 1236 RPM and 1.364 BHP at 0 feet and 100 deg F  
 \* Please note that these curves were adjusted for job specific temperature and altitude.



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

# Direct Fired Heater Wiring

JOB NAKS Direct Fired MUA

DRAWING NUMBER

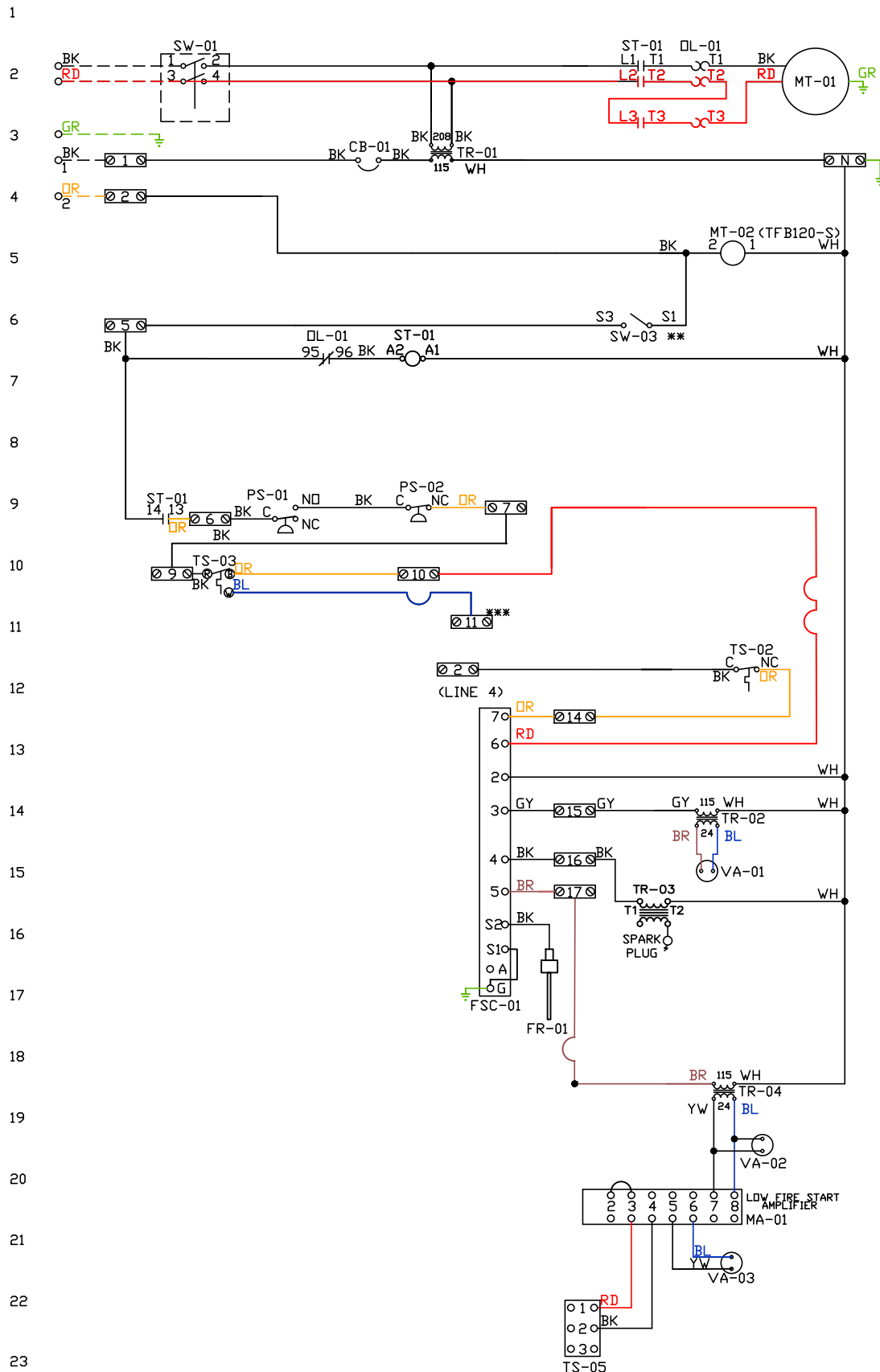
SHIP DATE

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	Component Identification 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 1.5HP-115V-1P-13.6FLA  
 CONTACTOR: 100-C23D10  
 OVERLOAD: 193-T1AC16

**ELECTRICAL INFORMATION**  
 MOTOR/CTRL CIRCUIT MCA: 19.1A  
 MOTOR/CTRL CIRCUIT MDP: 30A

**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	ND 4 3
BL-BLUE	NC 2 1
BR - BROWN	CDL 8 7
DR - ORANGE	CDM 6 5
GY - GRAY	
GR - GREEN	
WH - WHITE	
PK - PINK	
PR - PURPLE	

# Installation Wiring

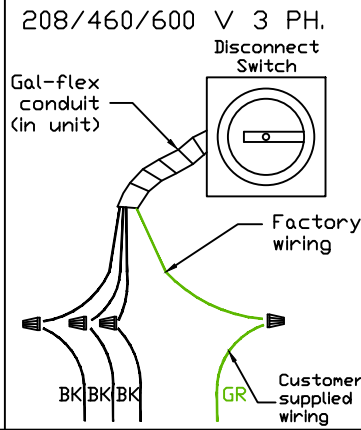
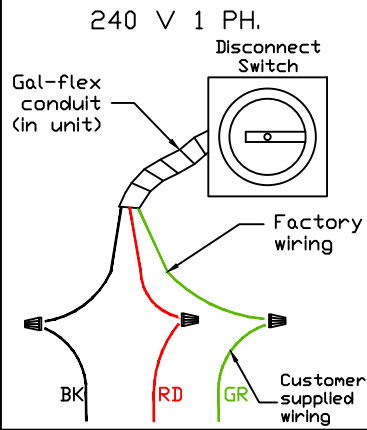
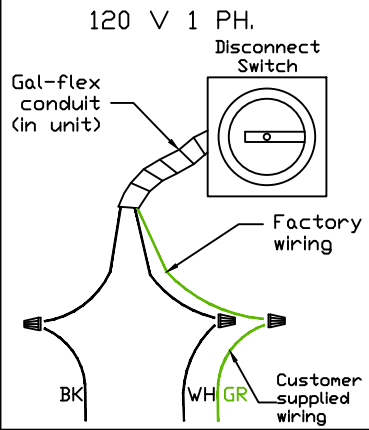
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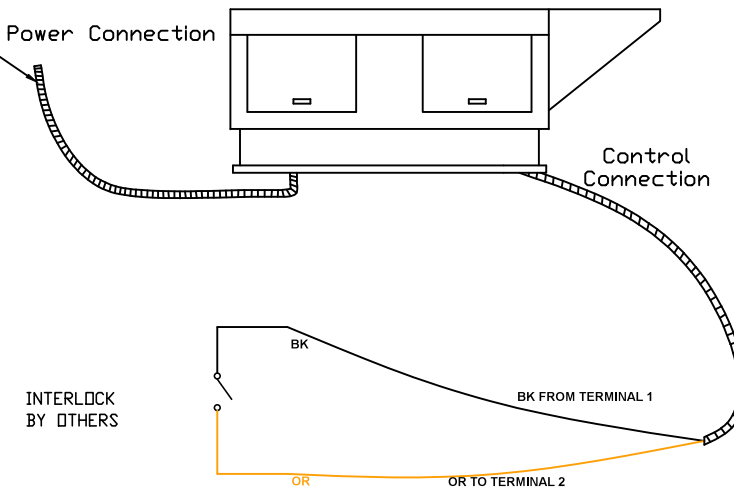
MODEL TK 1-5 Series

Installed Options



Field Wired On/Off Switch

See above details. Power Connection



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  |             |