

Gas-Fired Tempered Make-Up Air Unit

Model:

TK2-3PH-FF

3-Phase, 230V, 2.00 HP, Belt driven with Motorized Damper and 15" Blower. MAX 3800 CFM's





TK2-500 Direct Fired (790 lbs.)

Supply Motor:

Model 00218OT3E56Z-S48PP, 2.000 HP, 3 Phase, 230 V, 60Hz, 5.3 FLA, ODP (Open Drip Proof)

Supply Motor Pulleys:

<u>Part Type</u>	<u>Qty</u>	<u>Browning #</u>	<u>Turns Out</u>
Belt	1	AX48	
Blower Pulley	1	AK66H	
Motor Pulley	1	1VL40 x 7/8	1.5

Burner:

Min Output BTU: 18,000 BTU/Hr
Max Output BTU: 550,000 BTU/Hr
Size: 12" long
Gas Type: Natural

Supply Performance:

Volume: 3800 cfm Volume Range: 2000-3800 cfm
RPM: 887
TS: 3483 ft/min
SP: 0.591" w.g.
0.500" Ext. + 0.060" Int. + 0.031" Opt.
BHP: 1.822

Heating Schedule:

Altitude: 0'
Winter Entering Air Dry Bulb Temp: 0°F
Temp Rise: 100°F
Output BTU: 410400
Input BTU: 446087
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: 7.7 Amps MCA, 15 Amps MOP, 230 V, 14 AWG Wire Min.
Supply Unit Voltage: 3 phs 230 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:

15" forward curved, centrifugal blower. Pillow Block ball bearings. Galvanized finish. 1" x 27-1/8" Shaft. 2000-7500 CFM. 1800 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 #2 Modular Heater. 26.813" Wide X 53.625" Long X 31.313" High. Includes 2" MV EZ Kleen Metal Mesh Filters.

Filters:

3x MV EZ Kleen Metal Mesh Filter. 20"x 25"x 2" Used for heater and supply fan intakes. (3416)

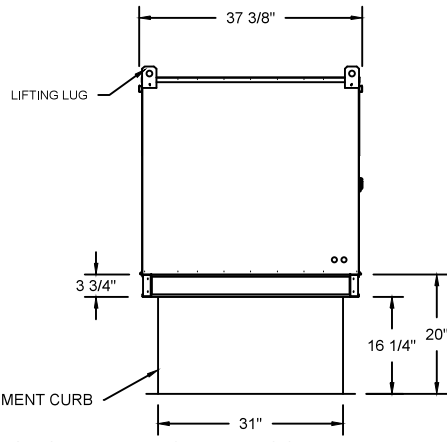
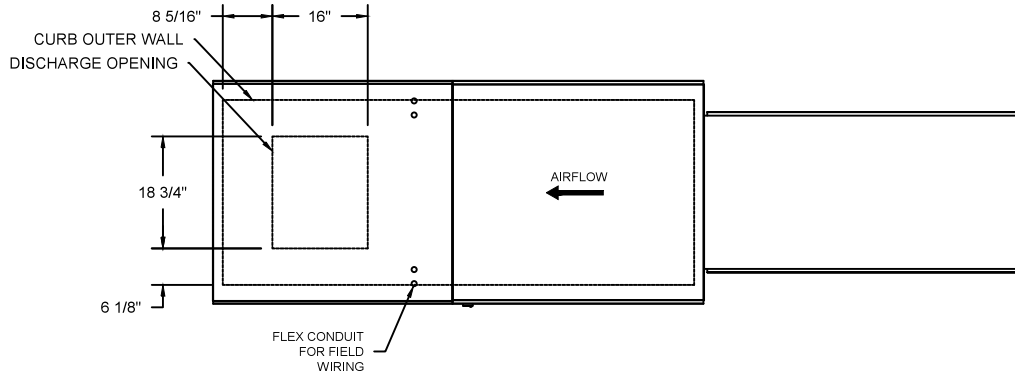
Selected Options:

- Motorized Back Draft Damper 22.75" X 24" for Size 2 Standard & Modular Heater Units w/Extended Shaft, Standard Galvanized Construction, 3/4" Rear Flange, Low Leakage, LF120S 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

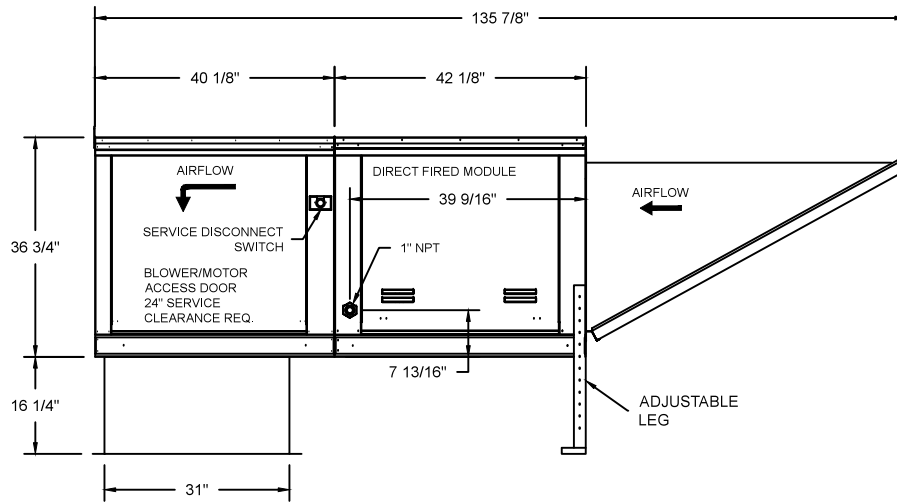
TK2 DIRECT FIRED HEATER

1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 15" 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, LF120S 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.



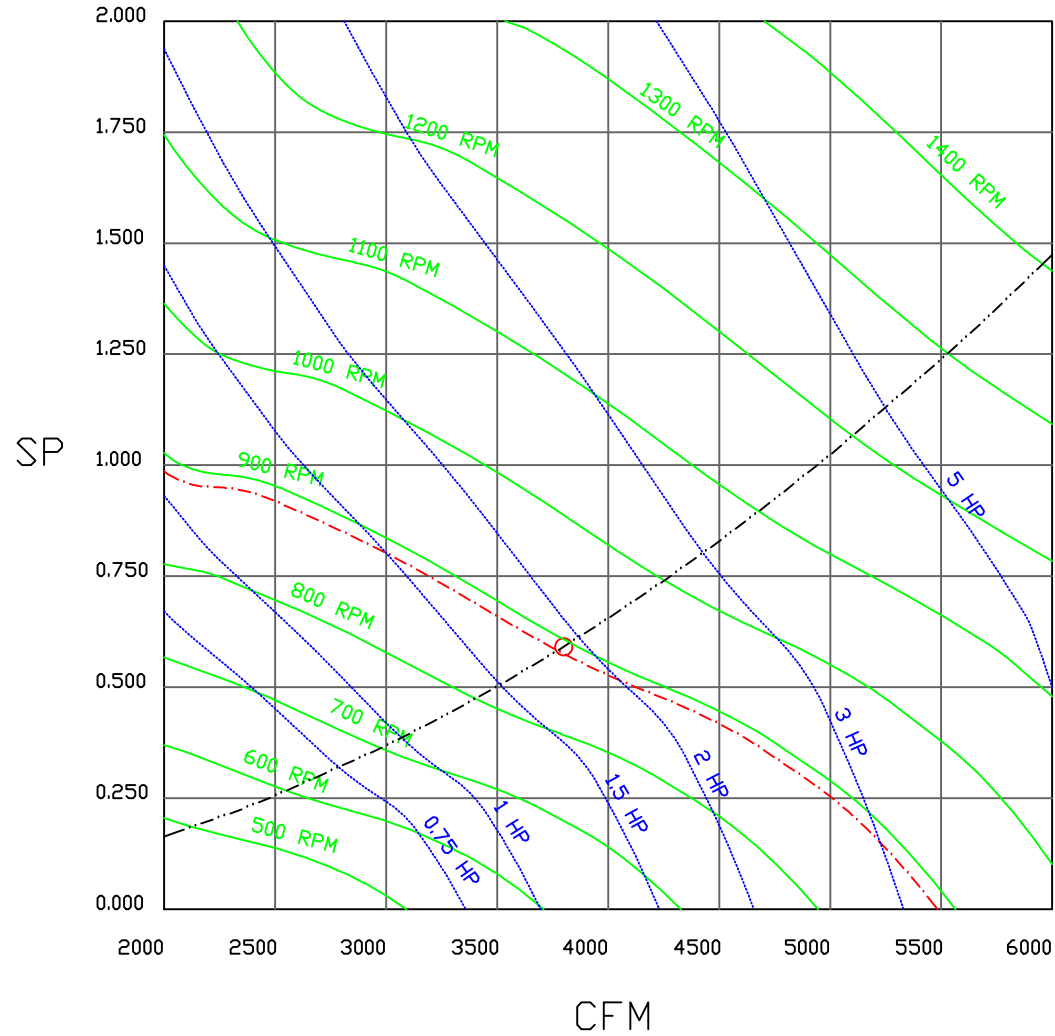
ROOF OPENING 2" SMALLER THAN CURB DIMENSION.



JOB	
LOCATION	
DATE 08/01/2018	JOB #
DWG # TK2	DRAWN BY
REV.	SCALE

(3800 2HP/3PH-230V) - HEATER PERFORMANCE CURVES.

3800 CFM, 0.591 SP @ 887 RPM and 1.822 BHP at 0 feet and 100 deg F
 * Please note that these curves were adjusted for job specific temperature and altitude.



	naKS NORTH AMERICAN KITCHEN SOLUTIONS INCORPORATED		<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

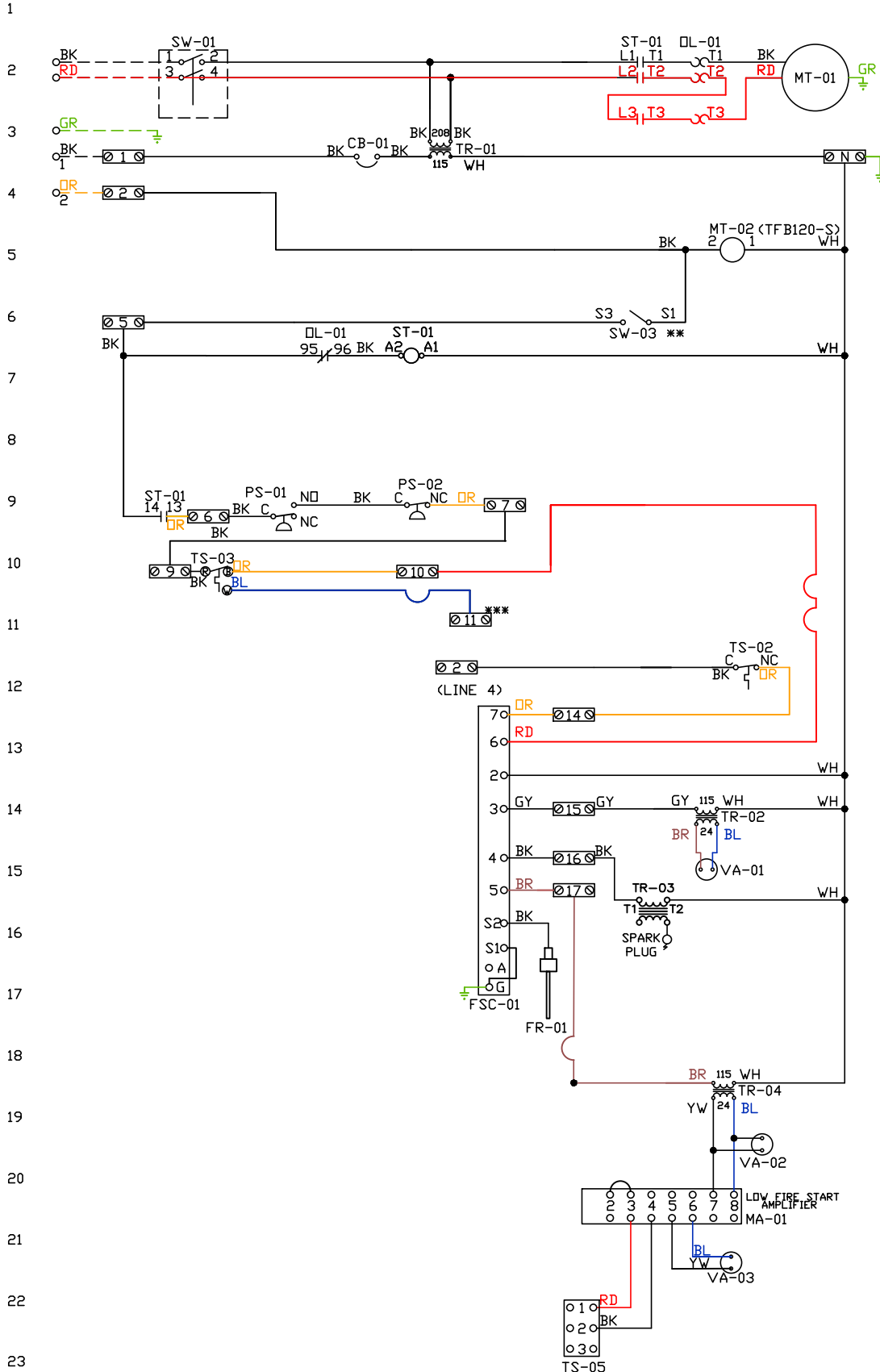
SHIP DATE

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	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	2HP-230V-3P-5.3FLA
CONTACTOR:	100-K09D10
OVERLOAD:	193-KB63

ELECTRICAL INFORMATION
 MOTOR/CTRL CIRCUIT MCA: 7.7A
 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	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	
YW - YELLOW	

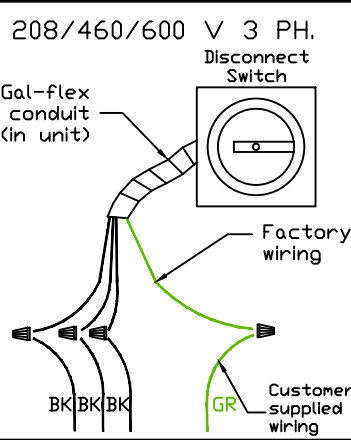
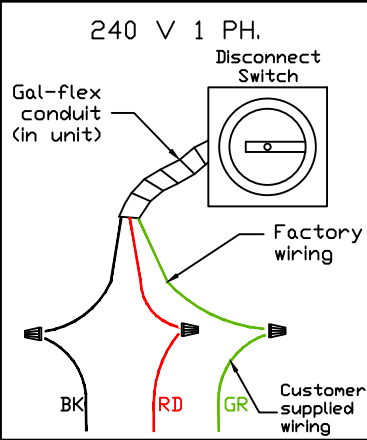
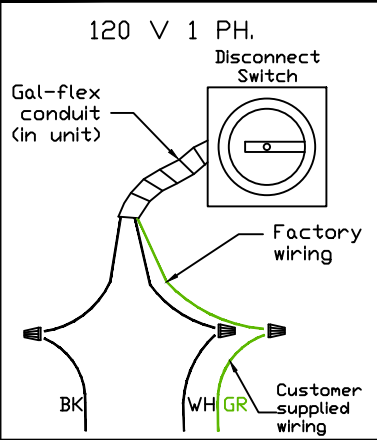
Installation Wiring

JOB *NAKS Direct Fired MUA*

DRAWING NUMBER

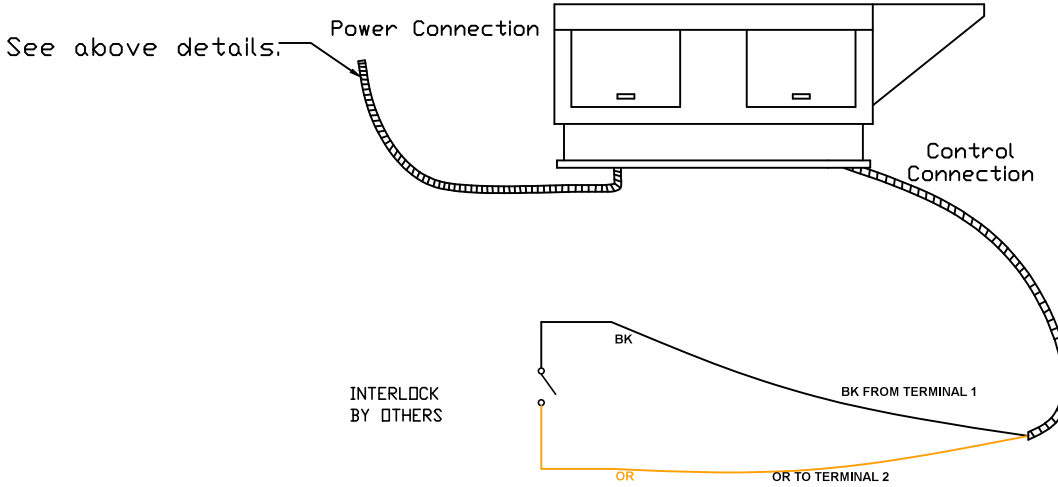
SHIP DATE

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 | |