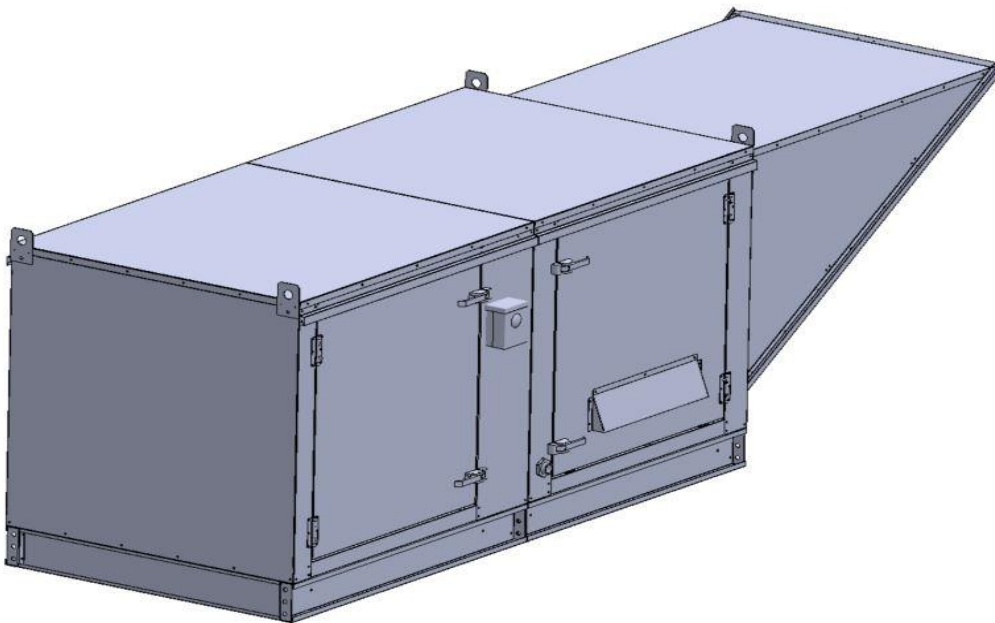


## Gas-Fired Tempered Make-Up Air Unit

Model:

**TK3ECDD-3PH-FF**

3-Phase, 230V, 4.80 HP, Direct Drive, ECM Motor with Motorized Damper and 25" Blower. MAX 6600 CFM's



TK3-750-25Z Direct Fired Direct Drive (988 lbs.)



Direct Gas Fired Heated Make Up Air Unit with 25" Direct Drive Fan and 18" Burner.

**Supply Motor:**

Model 163904/A01-ECM-60-240-25, 4.800 HP, 3 Phase, 230 V, 60Hz, 10.4 FLA, ODP-ECM (Open Drip Proof Electronically Commutated Motor)

**Burner:**

Min Output BTU: 27,500 BTU/Hr  
Max Output BTU: 825,000 BTU/Hr  
Size: 18" long  
Gas Type: Natural

**Supply Performance:**

Volume Range: 3500-6600 cfm  
RPM: 1540  
TS: 10079 ft/min  
SP: 0.657" w.g.  
0.500" Ext. + 0.123" Int. + 0.034" Opt.  
BHP: 4.207

**Heating Schedule:**

Altitude: 0'  
Winter Entering Air Dry Bulb Temp: 0°F  
Temp Rise: 100°F  
Output BTU: 712800  
Input BTU: 774783  
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: 14.1 Amps MCA, 20 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:**

25 Inch Plenum Fan for size 3 MOD. Motor integral to Wheel. Max RPM = 1580.

**Temp Control:**

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

**Intake:**

Sloped Filtered Intake for Size #3 Modular Heater. 37.25" Wide X 51.625" Long X 35.188" High. Includes 2" MV EZ Kleen Metal Mesh Filter.

**Filters:**

6x MV EZ Kleen Metal Mesh Filter. 16"x 20"x 2" Used for heater and supply fan intakes. (3412)

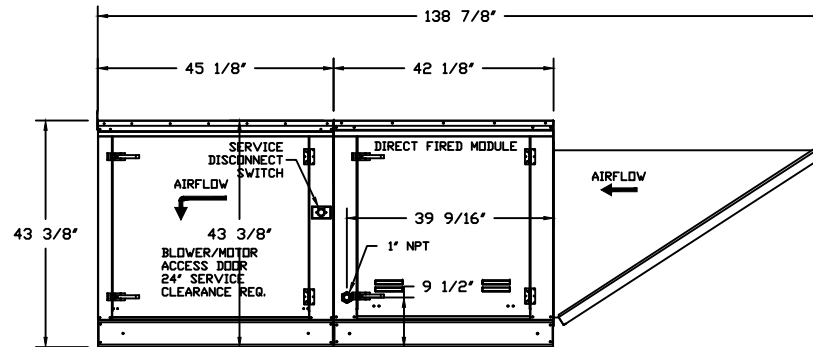
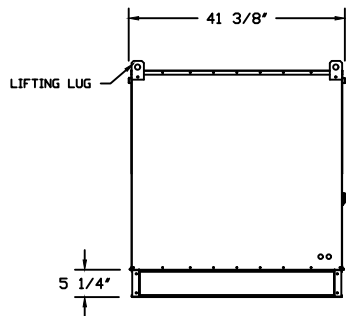
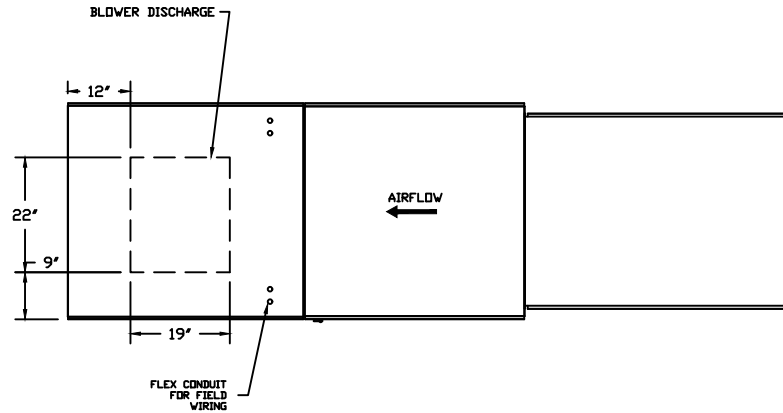
**Selected Options:**

- Motorized Back Draft Damper 30" X 30" for Size 3 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
- ECM Wiring Package and Manual or 0-10 VDC Control for Supply EC Ziehl Fans. RTC Controller

**TK3-D.750-25Z DIRECT FIRED HEATER**

1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 25" DIRECT DRIVE FAN AND 18" BURNER.
2. INTAKE HOOD WITH EZ FILTERS
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT
4. MOTORIZED BACK DRAFT DAMPER 30" X 30" FOR SIZE 3 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, NF8UP-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
8. ECM WIRING PACKAGE AND MANUAL OR 0-10 VDC CONTROL FOR SUPPLY EC ZIEHL FANS. RTC CONTROLLER

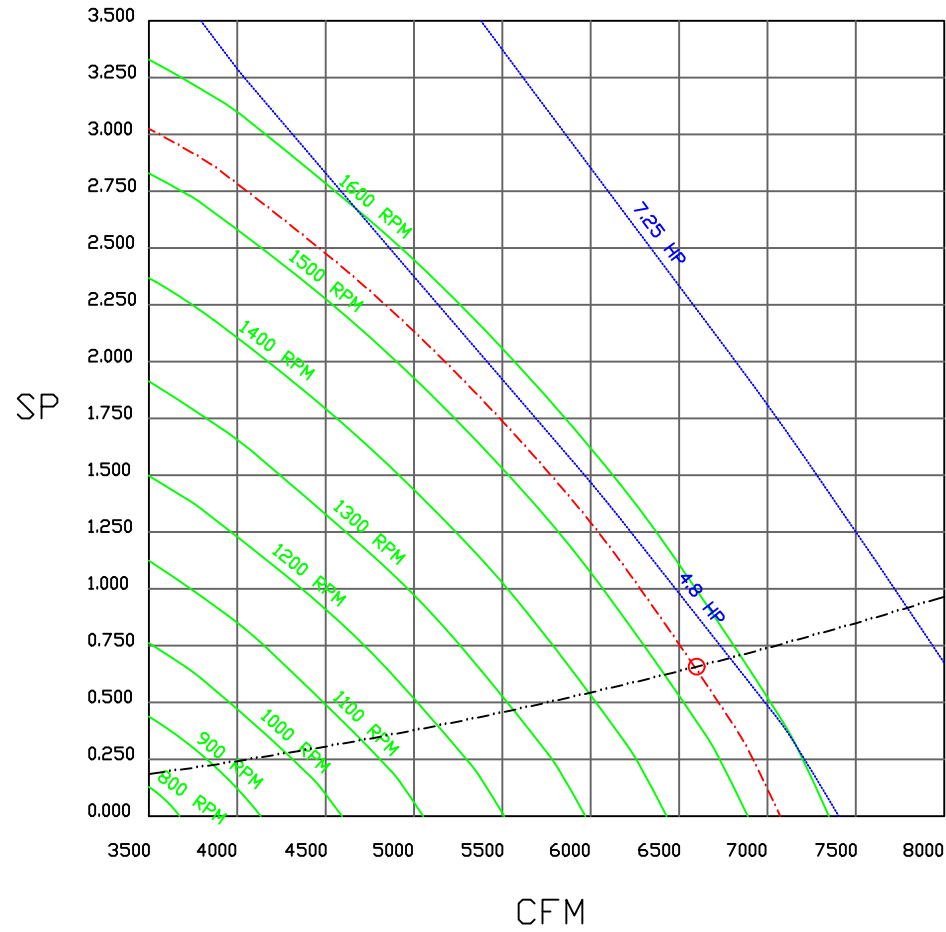
NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE UNLESS OTHERWISE SPECIFIED. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF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



  		JOB	
		LOCATION	
		DATE	JOB #
		DWG #	DRAWN BY
		REV.	SCALE 1/4" = 1'-0"

(6600 4.8HP/3PH-230V) - HEATER PERFORMANCE CURVES.

6600 CFM, 0.657 SP @ 1540 RPM and 4.207 BHP at 0 feet and 100 deg F  
 \* Please note that these curves were adjusted for job specific temperature and altitude.



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

# Direct Fired Heater Wiring

JOB NAKS Direct Fired Direct Drive MUA

DRAWING NUMBER

SHIP DATE

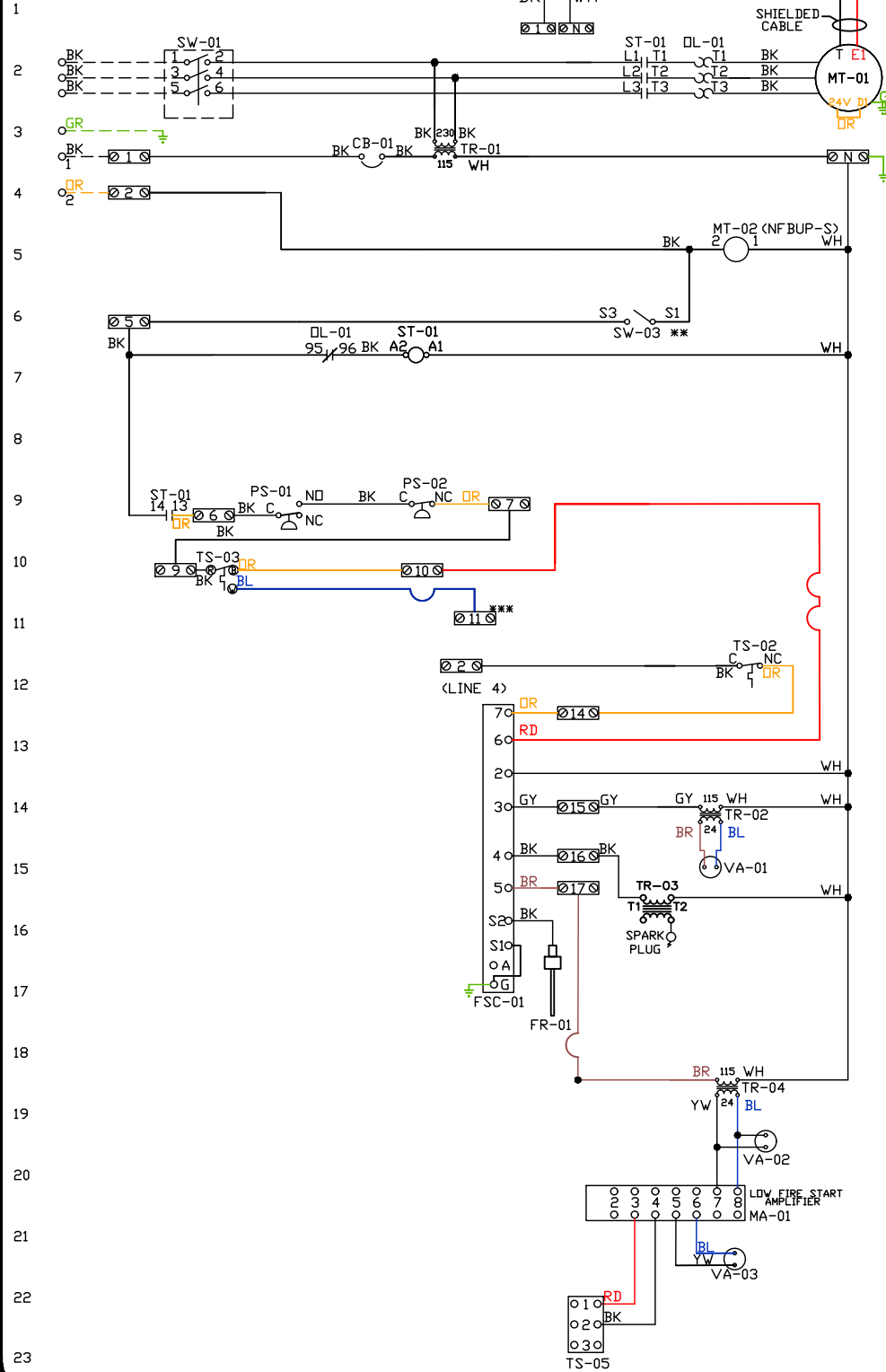
MODEL TK 1-5 Series Direct Drive ECM

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

OPTIONAL 0-10VDC  
SPEED REFERENCE  
INPUT

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][9]
PS-01	Low Air-Flow Switch	[9]
PS-02	High Air-Flow Switch	[9]

SC-01	RTC-FSC-1	[1]
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(200va)	[12]
TR-02	Power transformer(20va)	[12]
TR-03	Ignition transformer	[14]
TR-04	Power transformer(20va)	[17]
TR-06	24VAC 20VA Transformer	[1]
TS-02	High temp limit switch	[10]
TS-03	Intake Air Sensor	[10]
TS-05	Discharge Air Sensor	[21]

MOTOR INFO	
SUPPLY	4.8HP-230V-3P-10.4FLA
CONTACTOR	100-CJ6D10
OVERLOAD	193-TIAC12

ELECTRICAL INFORMATION	
MOTOR/CTRL CIRCUIT MCB	14.1A
MOTOR/CTRL CIRCUIT MDP	20A

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	RELAY
BK-BLACK	NO	4 1 3
BL-BLUE	NC	2 1 1
GR - GREEN	COM	8 7 7
BR - BROWN	COM	6 1 5
GY - GRAY		
OR - ORANGE		
PR - PURPLE		
RD - RED		
WH - WHITE		
PK - PINK		

# Installation Wiring

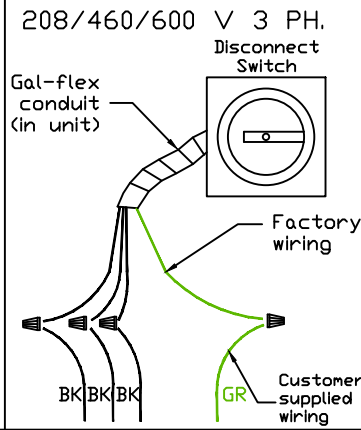
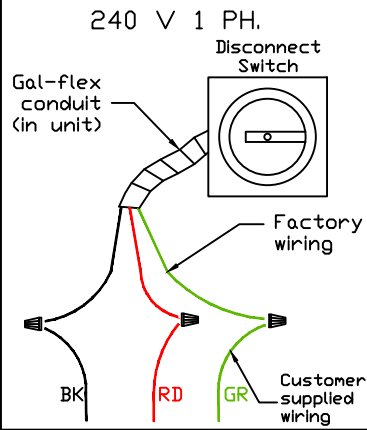
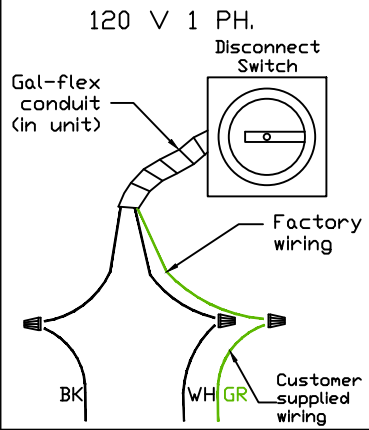
JOB *NAKS Direct Fired MUA*

DRAWING NUMBER

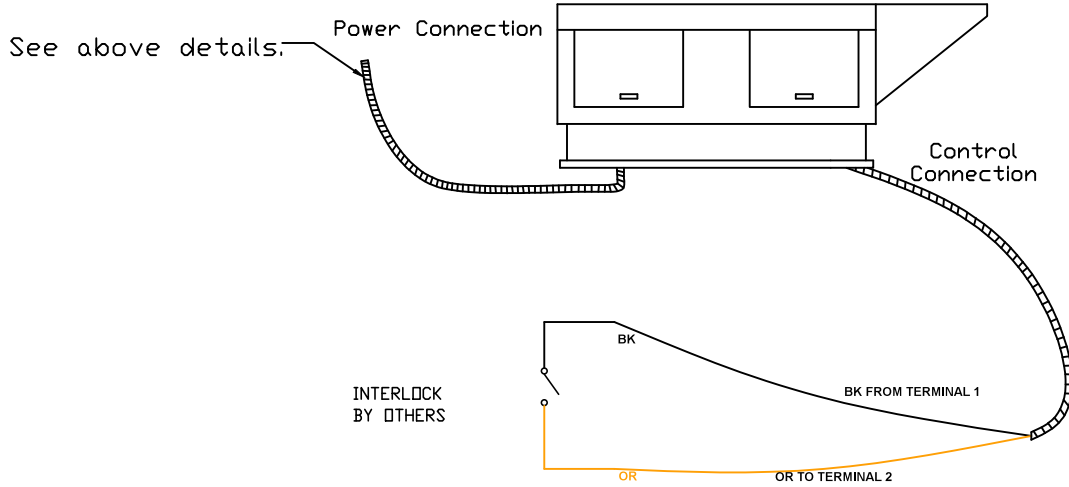
SHIP DATE

MODEL **TK 1-5 Series**

Installed Options



Field Wired On/Off Switch



NOTES

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