



Order # 3710407 - NAKS DD TK-RE Utility Sets

Fan #6 TK-RE18DD (277 lbs.)

Tag: 3000 2hp/1ph-VFD

Direct Drive Upblast Restaurant-Duty Utility Set with a 18.750" Wheel. Includes interlocked disconnect safety switch.

**Exhaust Motor:**

Model 00218OT3E56Z-S48PP, 2.000 HP, 3 Phs, 208 V, 60Hz, 5.9 FLA, ODP (Open Drip Proof)

**Exhaust Performance:**

Volume: 3000 cfm

RPM: 1316

TS: 6460 ft/min

SP: 1.200" w.g.

BHP: 1.301

Discharge Velocity: 1740 FPM

Altitude: 0'

Ambient Temp: 70°F

**Exhaust Installation Information:**

Unit Main Input: 16.7 Amps MCA, 25 Amps MOP, 208 V, 12 AWG Wire Min.

Exhaust Unit Voltage: 1 phs 208 V 60Hz

**Selected Options:**

- Grease Cup for Utility Sets. Option for Utility Sets.
- VAV (Variable-Air-Volume) Wiring Package for Commercial Fans. Manual Speed Control Variable Frequency Drive Included
- Exhaust Variable Frequency Drive - 2 HP Max., 200/240 V, Single or Three Phase Input, 7.0 A Max., NEMA 1 Enclosure, (Default is Shipped Loose for Field Installation) PART NEEDS PROGRAMMING
- VFD factory mounted and wired in unit control vestibule.
- VFD/ Line Reactor Mounting Plate for CASRE18DD.

***EXHAUST FAN INFORMATION***

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	B.H.P.	Ø	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS.)	SDNES
1	3000 2hp/1ph-VFD	TK-RE18DD	3000	1.200	1316	2.000	1.3010	3	208	5.9	1740 FPM	277	18.8

***FAN OPTIONS***

FAN UNIT NO.	TAG	OPTION (Qty. - Descr.)
1	3000 2hp/1ph-VFD	1 - Utility Set Grease Cup
		1 - VAV Package w/ Manual Control (VFD Included)
		1 - VFD factory mounted and wired in Exhaust Fan.
		1 - VFD Mounting Bracket for TK-RE18DD.

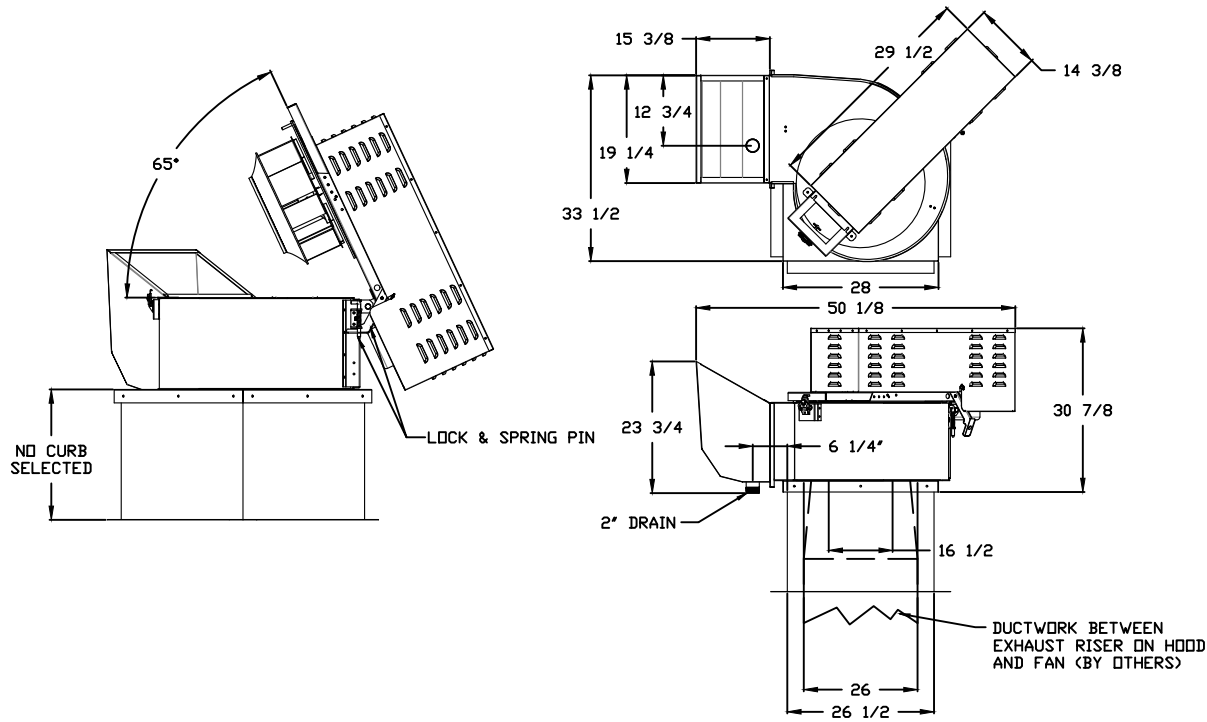
***FAN ACCESSORIES***

FAN UNIT NO.	TAG	EXHAUST		
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT
1	3000 2hp/1ph-VFD	YES		



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

(3000 2HP/1PH-VFD) - TK-RE18DD EXHAUST FAN



**FEATURES:**

- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL762 AND ULC-S645
- HIGH HEAT OPERATION DIRECT DRIVE 500°F (149°C)
- HIGH HEAT OPERATION BELT DRIVE 500°F (260°C)
- HEAT SLINGER
- GREASE CLASSIFICATION TESTING
- TILT OUT WHEEL
- LOCKING PIN FOR POWER PACK
- MOTOR WEATHER COVER
- INTERLOCKED DISCONNECT SWITCH

**NORMAL TEMPERATURE TEST DIRECT DRIVE**  
 EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

**ABNORMAL FLARE-UP TEST BELT & DIRECT DRIVE**  
 EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

**OPTIONS**

UTILITY SET GREASE CUP.  
 VAV PACKAGE W/ MANUAL CONTROL (VFD INCLUDED).  
 VFD FACTORY MOUNTED AND WIRED IN EXHAUST FAN.  
 VFD MOUNTING BRACKET FOR CASRE18DD.

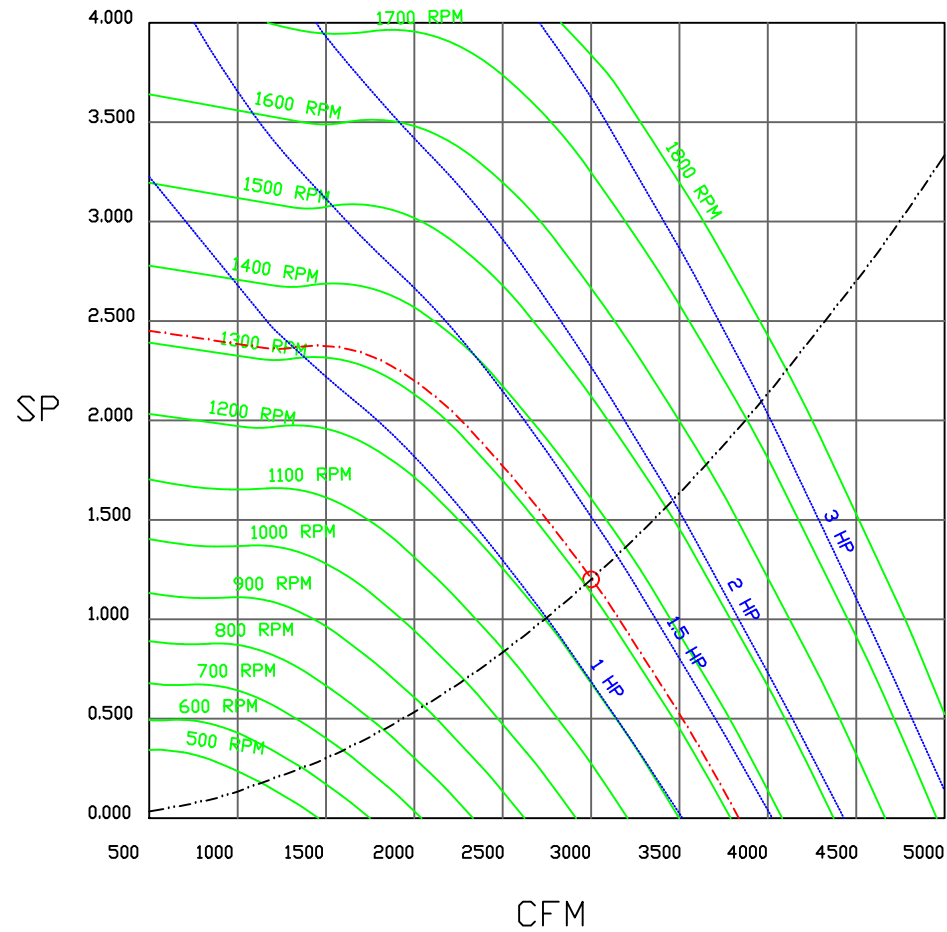
	<b>JOB</b>	
	<b>LOCATION</b>	
	<b>DATE</b>	<b>JOB #</b>
	<b>DWG #</b>	<b>DRAWN BY</b>
	<b>REV.</b>	<b>SCALE 3/8" = 1'-0"</b>

**naKS** NORTH AMERICAN KITCHEN SOLUTIONS INCORPORATED

(3000 2hp/1ph-VFD) - EXHAUST PERFORMANCE CURVES.

3000 CFM, 1.2 SP @ 1316 RPM and 1.301 BHP at 0 feet and 70 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"

# Exhaust Fan Wiring

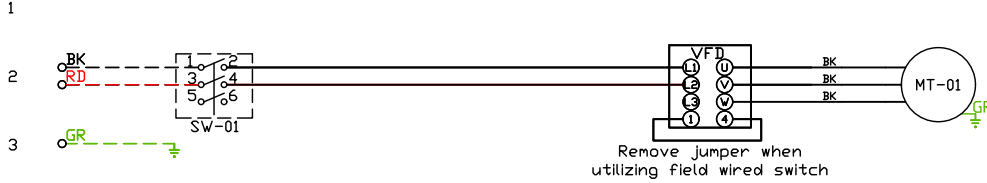
JOB NAKS DD TK-RE Utility Sets

DRAWING NUMBER

SHIP DATE

MODEL **TK-RE18DD**

## Installed Options



Component Identification		
Label	Description	Location
MT-01	Fan Motor	[2]
MT-02	Damper Motor	[2]
SW-01	Main disconnect switch	[2]

**MOTOR INFO**  
 EXHAUST 2HP-208V-3P-5.9FLA  
 VFD PART: ESV152N02YXB

**ELECTRICAL INFORMATION**  
 MOTOR/CTRL MCA: 16.7A  
 MOTOR/CTRL MCB: 25A

**NOTES**  
 - - - - DENOTES FIELD WIRING  
 \_\_\_\_\_ DENOTES INTERNAL WIRING

**WIRE COLOR**

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

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23

VFD Wiring

JOB NAKS DD TK-RE Utility Sets

DRAWING NUMBER

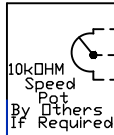
SHIP DATE

MODEL TK-RE18DD

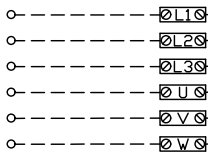
SMV SERIES VARIABLE FREQUENCY DRIVE

Installed Options  
Manual Control

TERMINAL	FUNCTION
1	Digital Input(Start/Stop)
2	Analog Common
5	Analog Input: 0-10 VDC
6	Internal DC Supply for Speed Pot: +10 VDC
25	Analog Input: 4-20 mA
30	Analog Output
4	Digital Reference/Common
11	Internal DC Supply for External Devices
13A	Digital Input: Configurable with P121
13B	Digital Input: Configurable with P122
13C	Digital Input: Configurable with P123
14	Digital Output: Configurable with P142
30	Analog Output: Configurable with P150...P155
16	Relay Output: Configurable with P140
17	
PE	Ground Terminal
L1	3 Phase Input or Single Phase Input
L2	3 Phase Input or Single Phase Input
L3 (N)	3 Phase input (Neutral for 120v)
U	3 Phase AC Motor
V	3 Phase AC Motor
W	3 Phase AC Motor



NOT USED FOR EXHAUST FANS OR NON-HEATED SUPPLY FANS  
BURNER CIRCUIT CONTACT



TERMINAL BLOCKS LOCATED IN HEATER UNIT (IF SINGLE PHASE INPUT, UNIT MAY NOT CONTAIN ALL TERMINAL BLOCKS)

EXHAUST FANS AND NON-HEATED UNITS DO NOT HAVE TERMINALS

All external control wires to motor speed control should be 16-20 AWG shielded multiconductor cables and must not be run in the same conduit or raceway with any high power wiring. Ground Shielded Cable at the drive chassis ONLY.

PG. 11 OF THE DRIVE MANUAL DESCRIBES THE PROPER INSTALLATION PROCEDURE

PG. 19 OF THE DRIVE MANUAL DESCRIBES THE PROGRAMMING PROCEDURE OF THE DRIVE

PG. 23 OF THE DRIVE MANUAL DESCRIBES THE PARAMETER SETTINGS OF THE DRIVE

NOTE: THE DEFAULT PASSWORD FROM THE FACTORY REQUIRED TO PROGRAM THE DRIVE IS '225'.

SUPPLY DRIVE PARAMETER SETTINGS\*

EPH PROGRAM: VAV\_MAKUSE LG\_HP EPH IF >= 15HP)  
 P100 (Start Source) = 01 (Terminal Strip)  
 P102 = ##Minimum Frequency (Hz)  
 P103 = ##Maximum Frequency (Hz)  
 (P103 is based on max wheel RPM)  
 P110 (Start Method) = 03 (Auto Re-start)  
 P140 (Form A (NO) Relay) = 01 (Run)  
 P144 (Relay Inversion) = 00 (None)  
 P166 (Carrier Frequency) = 00 (4 kHz)  
 P171 (Current Limit) = 150 (% of Max I)

Adjust manually on all drives  
 P107 = 00 (If 120 or 208 VAC) or 01 (If 230, 480 or 575 VAC)  
 P108 = Motor FLA x 100 / Drive Output Rating  
 P165 (Base Voltage) = Set to Motor Voltage (Preset@230V) P165 FOR STANDARD DRIVE ONLY  
 P167 (Base Frequency) = Calculated Per Fan  
 FOR KB PCU ONLY: P300 = 0

When Speed POT is Required the Following Parameters Must be Set:  
 P101 (Reference Source) = 01 (0-10 VDC)  
 P160 (Speed @ 0 VDC Signal) = Min Frequency  
 P161 (Speed @ 10 VDC Signal) = Max Frequency

IT MAY BE REQUIRED TO FULLY POWER DOWN THE DRIVE AND TURN BACK ON IN ORDER TO INITIATE NEW PARAMETER SETTINGS.

##Min. and Max. Frequency Settings override all other Preset speeds/Parameters.

GENERAL NOTES

Component Identification

MOTOR INFO  
 EXHAUST 2HP-208V-3P-5.9FLA  
 VFD PART: ESV152N02YXB

ELECTRICAL INFORMATION  
 MOTOR/CTRL MCA: 16.7A  
 MOTOR/CTRL MDP: 25A

NOTES  
 - - - - DENOTES FIELD WIRING  
 \_\_\_\_\_ DENOTES INTERNAL WIRING  
 WIRE COLOR  
 BK - BLACK YW - YELLOW  
 BL - BLUE GR - GREEN  
 BR - BRDNW GY - GRAY  
 OR - ORANGE PR - PURPLE  
 RD - RED PK - PINK  
 WH - WHITE