



Order # 3710407 - NAKS DD TK-RE Utility Sets

Fan #10 TK-RE24DD (467 lbs.)

Tag: 5000 5hp/1ph-VFD

Direct Drive Upblast Restaurant-Duty Utility Set with a 24.750" Wheel. Includes interlocked disconnect safety switch.

Exhaust Motor:

Model DTP0056, 5.000 HP, 3 Phs, 208 V, 60Hz, 15.8 FLA, ODP, Premium (E-Plus3) Eff.

Exhaust Performance:

Volume: 5000 cfm

RPM: 1153

TS: 7471 ft/min

SP: 1.250" w.g.

BHP: 3.291

Discharge Velocity: 1698 FPM

Altitude: 0'

Ambient Temp: 70°F

Exhaust Installation Information:

Unit Main Input: 19.8 Amps MCA, 35 Amps MOP, 208 V, 12 AWG Wire Min.

Exhaust Unit Voltage: 3 phs 208 V 60Hz

Construction Features

Housing constructed of heavy gauge painted steel • Fan scroll & discharge continuously welded to prevent grease leakage • Fan scroll has bolted, gasketed access door for cleaning & inspection • Integral hinges at the base so unit can swing away for cleaning • Centrifugal, backward inclined, non-overloading wheel • Weatherproof safety disconnect switch • Vibration isolators • Adjustable pitch drive assemblies • Adjustable motor mount • Heavy duty ball bearing motors • Vented motor & drive compartment • Fan bearing are heavy duty, pre-lubricated, rated for 200,000 hours of operation • Durable base with welded corners • Non-static belts are oil & heat resistant • Grease drain is 2" NPT steel pipe, continuously welded

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 - 10 HP Max., 200/240 V, Three Phase, 29.0 A Max., NEMA 1 Enclosure, (Default Shipped Loose for Field Installation) PART NEEDS PROGRAMMING

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	5000 5hp/1ph-VFD	TK-RE24DD	5000	1.250	1153	5.000	3.2910	3	208	15.8	1698 FPM	467	28

FAN OPTIONS

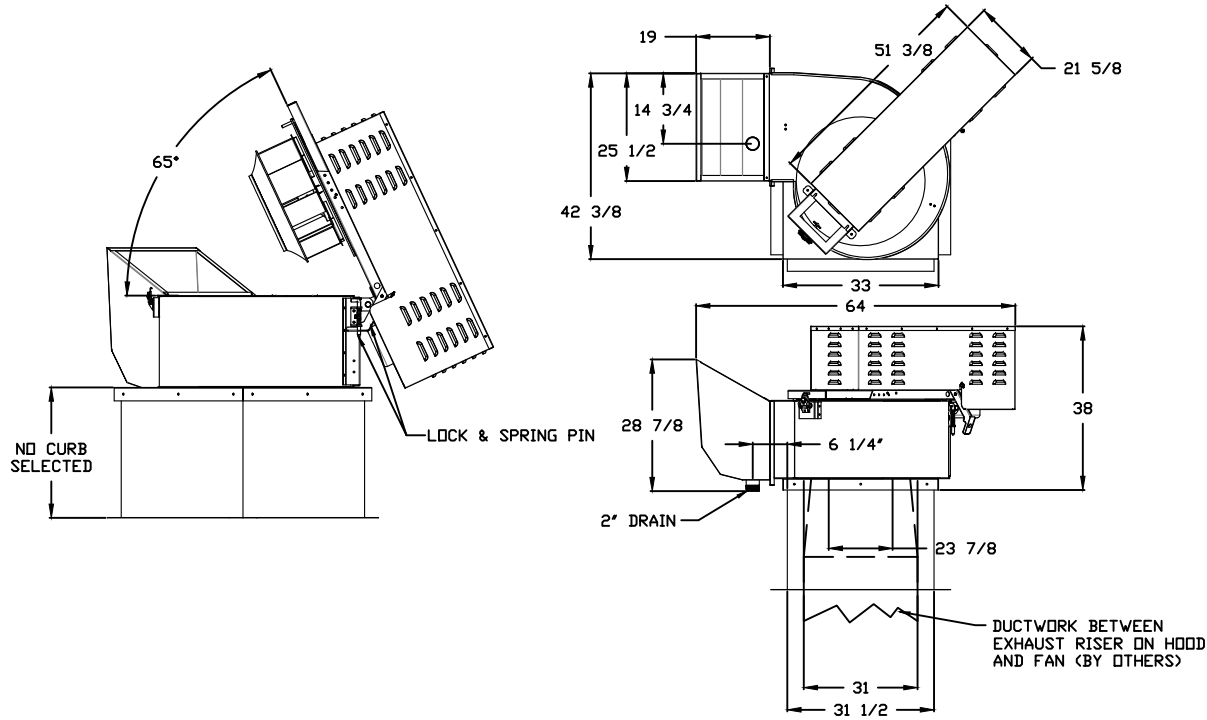
FAN UNIT NO.	TAG	OPTION (Qty. - Descr.)
1	5000 5hp/1ph-VFD	1 - Utility Set Grease Cup
		1 - VAV Package w/ Manual Control (VFD Included)

FAN ACCESSORIES

FAN UNIT NO.	TAG	EXHAUST		
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT
1	5000 5hp/1ph-VFD	YES		

  	 NORTH AMERICAN KITCHEN SOLUTIONS INCORPORATED	<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>

(5000 5HP/1PH-VFD) - TK-RE24DD 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

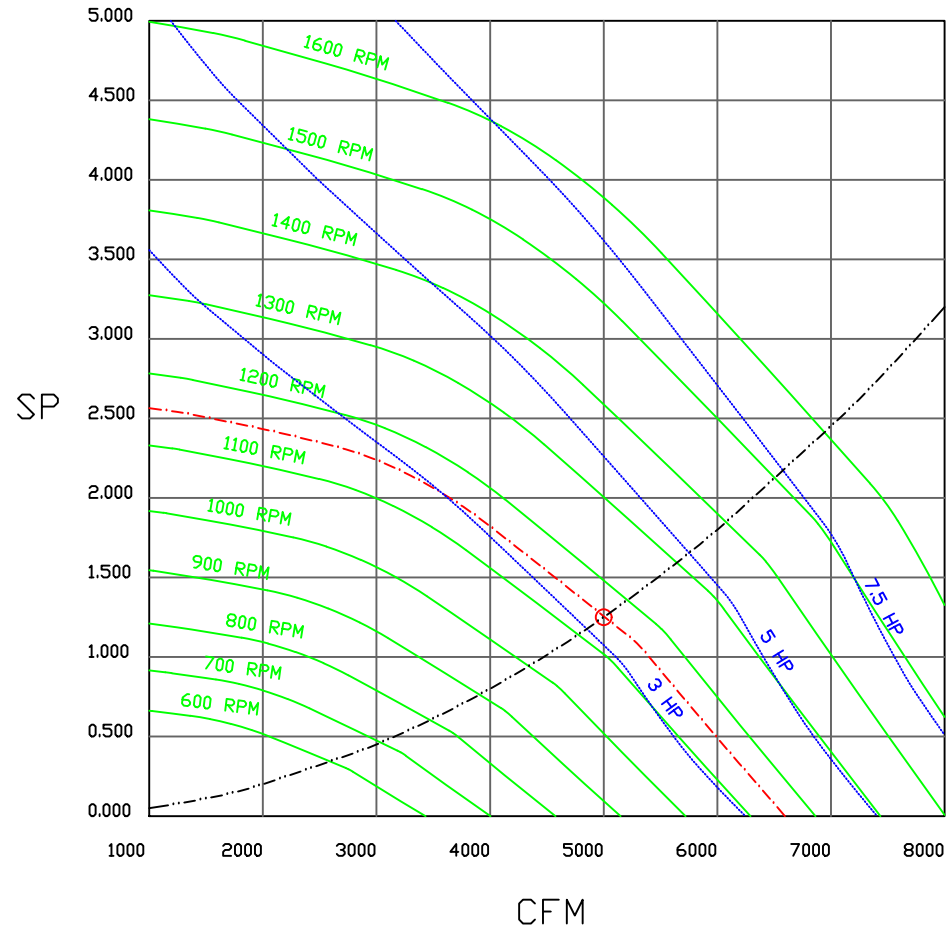
UTILITY SET GREASE CUP,
 VAV PACKAGE W/ MANUAL CONTROL (VFD INCLUDED).



JOB	
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(5000 5hp/1ph-VFD) - EXHAUST PERFORMANCE CURVES.

5000 CFM, 1.25 SP @ 1153 RPM and 3.291 BHP at 0 feet and 70 deg F
 * Please note that these curves were adjusted for Job specific temperature and altitude.



JOB	
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Exhaust Fan Wiring

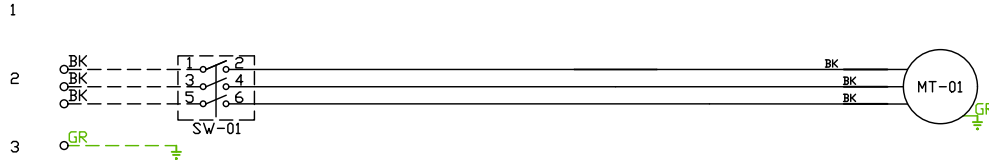
JOB NAKS DD TK-RE Utility Sets

DRAWING NUMBER

SHIP DATE

MODEL **TK-RE24DD**

Installed Options



VFD Ships Loose

Component Identification

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

MOTOR INFO

EXHAUST 5HP-208V-3P-15.8FLA
VFD PART: ESV752N02TXB

ELECTRICAL INFORMATION

MOTOR/CTRL MCA: 19.8A
MOTOR/CTRL MDP: 35A

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	

VFD Wiring

JOB NAKS DD TK-RE Utility Sets

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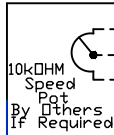
SHIP DATE

MODEL TK-RE24DD

SMV SERIES VARIABLE FREQUENCY DRIVE

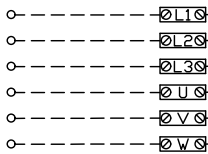
Installed Options
Manual Control

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

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