



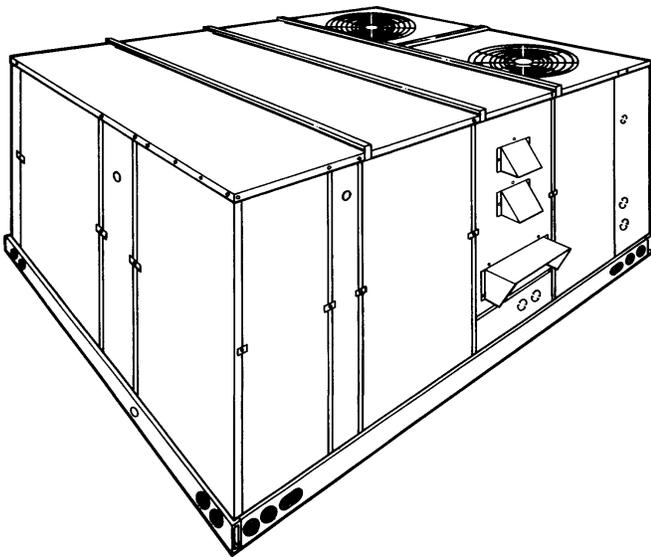
Heating and Air Conditioning

## TECHNICAL GUIDE

### SINGLE PACKAGE GAS/ELECTRIC UNITS AND SINGLE PACKAGE AIR CONDITIONERS

DM 180, 240 & 300

15, 20 & 25 NOMINAL TONS



## DESCRIPTION

YORK Sunline 2000™ units are convertible single package high efficiency rooftops. All models have independent dual refrigerant circuits for efficient part load operation. Although the units are primarily designed for curb mounting on a roof, they can also be slab-mounted at ground level or set on steel beams above a finished roof.

All units include:

- Powder Paint finish that meets ASTM-B-117 1000 hour salt spray standards
- Two-stage cooling provided by dual independent refrigeration circuits with expansion valves, filter-driers, high and low pressure/loss of charge switches and freezestats
- Scroll compressors (25T model only)
- Two-stage heating provided by dual independent heat exchangers with aluminized steel tubes, redundant gas valves, spark ignition with induced draft logic
- Permanently lubricated motors
- Bottom or side air discharge configuration capability (field convertible)
- Belt Drive Blower Motor with high static drive option
- Manufactured under the quality standards of ISO9001
- Simplicity® Control Board
- Zero-25% fixed air damper with hood
- Copper tube/aluminum fin coils
- Hinged filter access and toolless latched doors
- Rigging holes in base rails for lifting
- Single point power connection
- Complete factory package - tested, charged and wired
- CSA agency approvals on all units

## WARRANTY

- One-year parts warranty
- A Five-year parts warranty on the compressors and electric heat elements
- Ten-year parts warranty on the gas-fired heat exchangers

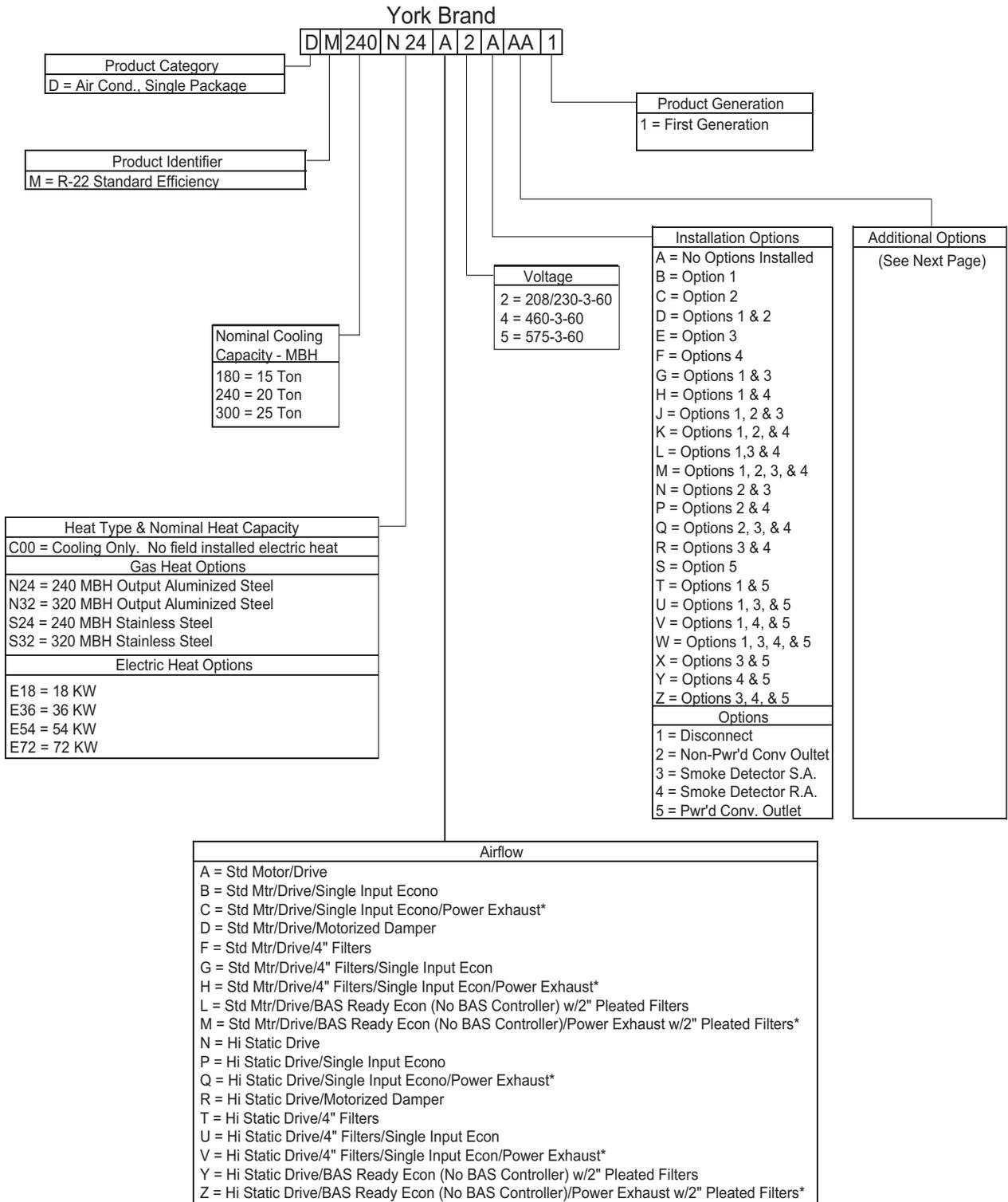


## TABLE OF CONTENTS

<b>DESCRIPTION</b> .....	<b>1</b>	<u>Tbl. #</u>		<u>Pg. #</u>	
<b>PRODUCT NOMENCLATURE</b> .....	3	5	DM 240 COOLING CAPACITIES (20 TON) .....	17	
<b>FEATURES</b> .....	11	6	DM 300 COOLING CAPACITIES (25 TON) .....	18	
<b>FACTORY-INSTALLED OPTIONS</b> .....	12	7	ALTITUDE CORRECTION FACTORS .....	19	
<b>FIELD-INSTALLED ACCESSORIES</b> .....	14	8	SUPPLY AIR BLOWER PERFORMANCE (15 TON) - COOLING ONLY 180 MBH - BOTTOM DUCT CONNECTIONS .....	21	
<b>GUIDE SPECIFICATIONS</b> .....	36	9	SUPPLY AIR BLOWER PERFORMANCE (20 TON) - COOLING ONLY 240 MBH - BOTTOM DUCT CONNECTIONS .....	22	
<b>LIST OF FIGURES</b>					
<u>Fig. #</u>		<u>Pg. #</u>			
1	UNIT CUTAWAY .....	12	10	SUPPLY AIR BLOWER PERFORMANCE (15 TON) - GAS HEAT 180 MBH - BOTTOM DUCT CONNECTIONS .....	23
2	ALTITUDE/TEMPERATURE CONVERSION FACTOR .....	20	11	SUPPLY AIR BLOWER PERFORMANCE (20 TON) - GAS HEAT 240 MBH - BOTTOM DUCT CONNECTIONS .....	24
3	DM FIELD WIRING DIAGRAM .....	30	12	SUPPLY AIR BLOWER PERFORMANCE (25 TON) - GAS HEAT 300 MBH - BOTTOM DUCT CONNECTIONS .....	25
4	UNIT DIMENSIONS & CLEARANCES 15, 20 & 25 TON .....	31	13	BLOWER MOTOR AND DRIVE DATA .....	26
5	TYPICAL UNIT APPLICATIONS .....	33	14	STATIC RESISTANCES .....	26
6	FOUR AND SIX POINT LOADS .....	33	15	POWER EXHAUST PERFORMANCE .....	26
7	UNIT ROOF CURB DIMENSIONS .....	34	16	DM ELECTRICAL DATA WITHOUT POWERED CONVENIENCE OUTLET .....	27
8	ROOF CURB DUCT OPENINGS DIMENSION ...	35	17	DM ELECTRICAL DATA WITH POWERED CONVENIENCE OUTLET .....	28
9	CUT AWAY OF ROOF CURB .....	35	18	DM VOLTAGE LIMITATIONS .....	29
10	SIMPLICITY® CONTROL WIRING DIAGRAM ...	35	19	PHYSICAL DATA .....	29
<b>LIST OF TABLES</b>					
<u>Tbl. #</u>		<u>Pg. #</u>			
1	SOUND POWER RATING .....	15	20	ELECTRIC HEAT CORRECTION FACTORS ....	30
2	CAPACITY RATINGS - (ARI 360) .....	15	21	FOUR AND SIX POINT LOADS .....	34
3	GAS HEAT RATINGS .....	15			
4	DM 180 COOLING CAPACITIES (15 TON) .....	16			

# PRODUCT NOMENCLATURE

## 15-25T Sunline 2000™ Model Number Nomenclature



**PRODUCT NOMENCLATURE - Continued**

## 15-25T Sunline™ 2000 Model Number Nomenclature

Standard Cabinet	
AA	None
AB	Phase Monitor
AC	Coil Guard
AD	Dirty Filter Switch
AE	Phase Monitor & Coil Guard
AF	Phase Monitor & Dirty Filter Switch
AG	Coil Guard & Dirty Filter Switch
AH	Phase Monitor, Coil Guard, & Dirty Filter Switch
AJ	SS Drain Pan
AK	SS Drain Pan & Phase Monitor
AL	SS Drain Pan & Coil Guard
AM	SS Drain Pan & Dirty Filter Switch
AN	SS Drain Pan, Phase Monitor, Coil Guard & Dirty Filter Switch
CA	CPC Controller with Dirty Filter Switch & Air Proving Switch
CB	CPC Controller, DFS, APS & Phase Monitor
CC	CPC Controller, DFS, APS & Coil Guard
CD	CPC Controller, DFS, APS, Phase Monitor, & Coil Guard
CE	CPC Controller, DFS, APS & Technicoat Cond. Coil
CF	CPC Controller, DFS, APS, Technicoat Cond. Coil, & Phase Monitor
CG	CPC Controller, DFS, APS, Technicoat Cond. Coil, & Coil Guard
CH	CPC Controller, DFS, APS, Technicoat Cond. Coil, Phase Monitor, & Coil Guard
CJ	CPC Controller, DFS, APS & Technicoat Evap. Coil
CK	CPC Controller, DFS, APS, Technicoat Evap. Coil, & Phase Monitor
CL	CPC Controller, DFS, APS, Technicoat Evap. Coil, & Coil Guard
CM	CPC Controller, DFS, APS, Technicoat Evap. Coil, Phase Monitor, & Coil Guard
CN	CPC Controller, DFS, APS & Technicoat Evap. & Cond Coils
CP	CPC Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Phase Monitor
CQ	CPC Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Coil Guard
CR	CPC Controller, DFS, APS, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard
CS	CPC Controller, DFS, APS, SS Drain Pan
CT	CPC Controller, DFS, APS, SS Drain Pan, Phase Monitor, & Coil Guard
CU	CPC Controller, DFS, APS, SS Drain Pan, & Technicoat Cond Coils
CV	CPC Controller, DFS, APS, SS Drain Pan, & Technicoat Evap Coil
CW	CPC Controller, DFS, APS, SS Drain Pan, & Technicoat Evap and Cond Coils
CX	CPC Controller, DFS, APS, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils
JA	Johnson UNT Controller with Dirty Filter Switch & Air Proving Switch
JB	Johnson UNT Controller, DFS, APS & Phase Monitor
JC	Johnson UNT Controller, DFS, APS & Coil Guard
JD	Johnson UNT Controller, DFS, APS, Phase Monitor, & Coil Guard
JE	Johnson UNT Controller, DFS, APS & Technicoat Cond. Coil
JF	Johnson UNT Controller, DFS, APS, Technicoat Cond. Coil, & Phase Monitor
JG	Johnson UNT Controller, DFS, APS, Technicoat Cond. Coil, & Coil Guard
JH	Johnson UNT Controller, DFS, APS, Technicoat Cond. Coil, Phase Monitor, & Coil Guard
JJ	Johnson UNT Controller, DFS, APS & Technicoat Evap. Coil
JK	Johnson UNT Controller, DFS, APS, Technicoat Evap. Coil, & Phase Monitor
JL	Johnson UNT Controller, DFS, APS, Technicoat Evap. Coil, & Coil Guard
JM	Johnson UNT Controller, DFS, APS, Technicoat Evap. Coil, Phase Monitor, & Coil Guard
JN	Johnson UNT Controller, DFS, APS & Technicoat Evap. & Cond Coils
JP	Johnson UNT Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Phase Monitor
JQ	Johnson UNT Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Coil Guard
JR	Johnson UNT Controller, DFS, APS, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard

Standard Cabinet	
JS	Johnson UNT Controller, DFS, APS, SS Drain Pan
JT	Johnson UNT Controller, DFS, APS, SS Drain Pan, Phase Monitor, & Coil Guard
JU	Johnson UNT Controller, DFS, APS, SS Drain Pan, & Technicoat Cond Coils
JV	Johnson UNT Controller, DFS, APS, SS Drain Pan, & Technicoat Evap Coil
JW	Johnson UNT Controller, DFS, APS, SS Drain Pan, & Technicoat Evap and Cond Coils
JX	Johnson UNT Controller, DFS, APS, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils
HA	Honeywell Excel 10 Controller with Dirty Filter Switch & Air Proving Switch
HB	Honeywell Excel 10 Controller, DFS, APS & Phase Monitor
HC	Honeywell Excel 10 Controller, DFS, APS & Coil Guard
HD	Honeywell Excel 10 Controller, DFS, APS, Phase Monitor, & Coil Guard
HE	Honeywell Excel 10 Controller, DFS, APS & Technicoat Cond. Coil
HF	Honeywell Excel 10 Controller, DFS, APS, Technicoat Cond. Coil, & Phase Monitor
HG	Honeywell Excel 10 Controller, DFS, APS, Technicoat Cond. Coil, & Coil Guard
HH	Honeywell Excel 10 Controller, DFS, APS, Technicoat Cond. Coil, Phase Monitor, & Coil Guard
HJ	Honeywell Excel 10 Controller, DFS, APS & Technicoat Evap. Coil
HK	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. Coil, & Phase Monitor
HL	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. Coil, & Coil Guard
HM	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. Coil, Phase Monitor, & Coil Guard
HN	Honeywell Excel 10 Controller, DFS, APS & Technicoat Evap. & Cond Coils
HP	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Phase Monitor
HQ	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Coil Guard
HR	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard
HS	Honeywell Excel 10 Controller, DFS, APS, SS Drain Pan
HT	Honeywell Excel 10 Controller, DFS, APS, SS Drain Pan, Phase Monitor, & Coil Guard
HU	Honeywell Excel 10 Controller, DFS, APS, SS Drain Pan, & Technicoat Cond Coils
HV	Honeywell Excel 10 Controller, DFS, APS, SS Drain Pan, & Technicoat Evap Coil
HW	Honeywell Excel 10 Controller, DFS, APS, SS Drain Pan, & Technicoat Evap and Cond Coils
HX	Honeywell Excel 10 Controller, DFS, APS, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils
NA	Novar ETC-3 Controller with Dirty Filter Switch & Air Proving Switch
NB	Novar ETC-3 Controller, DFS, APS & Phase Monitor
NC	Novar ETC-3 Controller, DFS, APS & Coil Guard
ND	Novar ETC-3 Controller, DFS, APS, Phase Monitor, & Coil Guard
NE	Novar ETC-3 Controller, DFS, APS & Technicoat Cond. Coil
NF	Novar ETC-3 Controller, DFS, APS, Technicoat Cond. Coil, & Phase Monitor
NG	Novar ETC-3 Controller, DFS, APS, Technicoat Cond. Coil, & Coil Guard
NH	Novar ETC-3 Controller, DFS, APS, Technicoat Cond. Coil, Phase Monitor, & Coil Guard
NJ	Novar ETC-3 Controller, DFS, APS & Technicoat Evap. Coil
NK	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. Coil, & Phase Monitor
NL	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. Coil, & Coil Guard
NM	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. Coil, Phase Monitor, & Coil Guard
NN	Novar ETC-3 Controller, DFS, APS & Technicoat Evap. & Cond Coils
NP	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Phase Monitor
NQ	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Coil Guard
NR	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard
NS	Novar ETC-3 Controller, DFS, APS, SS Drain Pan
NT	Novar ETC-3 Controller, DFS, APS, SS Drain Pan, Phase Monitor, & Coil Guard
NU	Novar ETC-3 Controller, DFS, APS, SS Drain Pan, & Technicoat Cond Coils
NV	Novar ETC-3 Controller, DFS, APS, SS Drain Pan, & Technicoat Evap Coil
NW	Novar ETC-3, DFS, APS, SS Drain Pan, & Technicoat Evap and Cond Coils
NX	Novar ETC-3 Controller, DFS, APS, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils
TA	Technicoat Condenser Coil
TB	Technicoat Condenser Coil & Phase Monitor
TC	Technicoat Condenser Coil & Coil Guard
TD	Technicoat Condenser Coil & Dirty Filter Switch

Standard Cabinet	
TE	Technicoat Condenser Coil, Phase Monitor, & Coil Guard
TF	Technicoat Condenser Coil, Phase Monitor, & Dirty Filter Switch
TG	Technicoat Condenser Coil, Coil Guard, & Dirty Filter Switch
TH	Technicoat Condenser Coil, Phase Monitor, Coil Guard, & Dirty Filter Switch
TJ	Technicoat Evaporator Coil
TK	Technicoat Evaporator Coil & Phase Monitor
TL	Technicoat Evaporator Coil & Coil Guard
TM	Technicoat Evaporator Coil & Dirty Filter Switch
TN	Technicoat Evaporator Coil, Phase Monitor, & Coil Guard
TP	Technicoat Evaporator Coil, Phase Monitor, & Dirty Filter Switch
TQ	Technicoat Evaporator Coil, Coil Guard, & Dirty Filter Switch
TR	Technicoat Evaporator Coil, Phase Monitor, Coil Guard, & Dirty Filter Switch
TS	Technicoat Evaporator & Condenser Coils
TT	Technicoat Evaporator & Condenser Coils & Phase Monitor
TU	Technicoat Evaporator & Condenser Coils & Coil Guard
TV	Technicoat Evaporator & Condenser Coils & Dirty Filter Switch
TW	Technicoat Evaporator & Condenser Coils, Phase Monitor, & Coil Guard
TX	Technicoat Evaporator & Condenser Coils, Phase Monitor, & Dirty Filter Switch
TY	Technicoat Evaporator & Condenser Coils, Coil Guard, & Dirty Filter Switch
TZ	Technicoat Evaporator & Condenser Coils, Phase Monitor, Coil Guard, & Dirty Filter Switch
T1	Technicoat Condenser & SS Drain Pan
T4	Technicoat Evaporator & SS Drain Pan
T7	Technicoat Evaporator & Condenser Coils & SS Drain Pan
LA	Simplicity Intelli-Comfort Controller
LB	Simplicity Intelli-Comfort Controller, & Phase Monitor
LC	Simplicity Intelli-Comfort Controller, & Coil Guard
LD	Simplicity Intelli-Comfort Controller, Phase Monitor, & Coil Guard
LE	Simplicity Intelli-Comfort Controller, & Technicoat Cond. Coil
LF	Simplicity Intelli-Comfort Controller, Technicoat Cond. Coil, & Phase Monitor
LG	Simplicity Intelli-Comfort Controller, Technicoat Cond. Coil, & Coil Guard
LH	Simplicity Intelli-Comfort Controller, Technicoat Cond. Coil, Phase Monitor, & Coil Guard
LJ	Simplicity Intelli-Comfort Controller, & Technicoat Evap. Coil
LK	Simplicity Intelli-Comfort Controller, Technicoat Evap. Coil, & Phase Monitor
LL	Simplicity Intelli-Comfort Controller, Technicoat Evap. Coil, & Coil Guard
LM	Simplicity Intelli-Comfort Controller, Technicoat Evap. Coil, Phase Monitor, & Coil Guard
LN	Simplicity Intelli-Comfort Controller, & Technicoat Evap. & Cond Coils
LP	Simplicity Intelli-Comfort Controller, Technicoat Evap. & Cond Coils, & Phase Monitor
LQ	Simplicity Intelli-Comfort Controller, Technicoat Evap. & Cond Coils, & Coil Guard
LR	Simplicity Intelli-Comfort Controller, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard
LS	Simplicity Intelli-Comfort Controller, SS Drain Pan
LT	Simplicity Intelli-Comfort Controller, SS Drain Pan, Phase Monitor, & Coil Guard
LU	Simplicity Intelli-Comfort Controller, SS Drain Pan, & Technicoat Cond Coils
LV	Simplicity Intelli-Comfort Controller, SS Drain Pan, & Technicoat Evap Coil
LW	Simplicity Intelli-Comfort Controller, SS Drain Pan, & Technicoat Evap and Cond Coils
LX	Simplicity Intelli-Comfort Controller, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils
WA	Intelli-Comfort w/ModLINC Controller
WB	Intelli-Comfort w/ModLINC Controller, & Phase Monitor
WC	Intelli-Comfort w/ModLINC Controller, & Coil Guard
WD	Intelli-Comfort w/ModLINC Controller, Phase Monitor, & Coil Guard
WE	Intelli-Comfort w/ModLINC Controller, & Technicoat Cond. Coil
WF	Intelli-Comfort w/ModLINC Controller, Technicoat Cond. Coil, & Phase Monitor
WG	Intelli-Comfort w/ModLINC Controller, Technicoat Cond. Coil, & Coil Guard
WH	Intelli-Comfort w/ModLINC Controller, Technicoat Cond. Coil, Phase Monitor, & Coil Guard
WJ	Intelli-Comfort w/ModLINC Controller, & Technicoat Evap. Coil

Standard Cabinet	
WK	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. Coil, & Phase Monitor
WL	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. Coil, & Coil Guard
WM	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. Coil, Phase Monitor, & Coil Guard
WN	Intelli-Comfort w/ModLINC Controller, & Technicoat Evap. & Cond Coils
WP	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. & Cond Coils, & Phase Monitor
WQ	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. & Cond Coils, & Coil Guard
WR	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard
WS	Intelli-Comfort w/ModLINC Controller, SS Drain Pan
WT	Intelli-Comfort w/ModLINC Controller, SS Drain Pan, Phase Monitor, & Coil Guard
WU	Intelli-Comfort w/ModLINC Controller, SS Drain Pan, & Technicoat Cond Coils
WV	Intelli-Comfort w/ModLINC Controller, SS Drain Pan, & Technicoat Evap Coil
WW	Intelli-Comfort w/ModLINC Controller, SS Drain Pan, & Technicoat Evap and Cond Coils
WX	Intelli-Comfort w/ModLINC Controller, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils

Hinged Filter Door & Toolless Access Cabinet	
BA	Hinged Filter Door & Toolless Access Panels
BB	Phase Monitor, Hinged Filter Door & Toolless Access Panels
BC	Coil Guard, Hinged Filter Door & Toolless Access Panels
BD	Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
BE	Phase Monitor & Coil Guard, Hinged Filter Door & Toolless Access Panels
BF	Phase Monitor & Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
BG	Coil Guard & Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
BH	Phase Monitor, Coil Guard, & Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
BJ	SS Drain Pan & Hinged Filter Door & Toolless Access Panels
BK	SS Drain Pan & Phase Monitor, Hinged Filter Door & Toolless Access Panels
BL	SS Drain Pan & Coil Guard, Hinged Filter Door & Toolless Access Panels
BM	SS Drain Pan & Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
BN	SS Drain Pan & Phase Monitor & Coil Guard, Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
DA	CPC Controller with Dirty Filter Switch & Air Proving Switch, Hinged Filter Door & Toolless Access Panels
DB	CPC Controller, DFS, APS & Phase Monitor, Hinged Filter Door & Toolless Access Panels
DC	CPC Controller, DFS, APS & Coil Guard, Hinged Filter Door & Toolless Access Panels
DD	CPC Controller, DFS, APS, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
DE	CPC Controller, DFS, APS & Technicoat Cond. Coil, Hinged Filter Door & Toolless Access Panels
DF	CPC Controller, DFS, APS, Technicoat Cond. Coil, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
DG	CPC Controller, DFS, APS, Technicoat Cond. Coil, & Coil Guard, Hinged Filter Door & Toolless Access Panels
DH	CPC Controller, DFS, APS, Technicoat Cond. Coil, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
DJ	CPC Controller, DFS, APS & Technicoat Evap. Coil, Hinged Filter Door & Toolless Access Panels
DK	CPC Controller, DFS, APS, Technicoat Evap. Coil, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
DL	CPC Controller, DFS, APS, Technicoat Evap. Coil, & Coil Guard, Hinged Filter Door & Toolless Access Panels
DM	CPC Controller, DFS, APS, Technicoat Evap. Coil, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
DN	CPC Controller, DFS, APS & Technicoat Evap. & Cond Coils, Hinged Filter Door & Toolless Access Panels
DP	CPC Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
DQ	CPC Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Coil Guard, Hinged Filter Door & Toolless Access Panels
DR	CPC Controller, DFS, APS, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
DS	CPC Controller, DFS, APS, SS Drain Pan Hinged Filter Door & Toolless Access Panels
DT	CPC Controller, DFS, APS, SS Drain Pan, Phase Monitor, & Coil Guard Hinged Filter Door & Toolless Access Panels
DU	CPC Controller, DFS, APS, SS Drain Pan, & Technicoat Cond Coils Hinged Filter Door & Toolless Access Panels
DV	CPC Controller, DFS, APS, SS Drain Pan, & Technicoat Evap Coil Hinged Filter Door & Toolless Access Panels
DW	CPC Controller, DFS, APS, SS Drain Pan, & Technicoat Evap and Cond Coils Hinged Filter Door & Toolless Access Panels
DX	CPC Controller, DFS, APS, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils Hinged Filter Door & Toolless Access Panels
EA	Johnson UNT Controller with Dirty Filter Switch & Air Proving Switch, Hinged Filter Door & Toolless Access Panels
EB	Johnson UNT Controller, DFS, APS & Phase Monitor, Hinged Filter Door & Toolless Access Panels
EC	Johnson UNT Controller, DFS, APS & Coil Guard, Hinged Filter Door & Toolless Access Panels

Hinged Filter Door & Toolless Access Cabinet	
ED	Johnson UNT Controller, DFS, APS, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
EE	Johnson UNT Controller, DFS, APS & Technicoat Cond. Coil, Hinged Filter Door & Toolless Access Panels
EF	Johnson UNT Controller, DFS, APS, Technicoat Cond. Coil, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
EG	Johnson UNT Controller, DFS, APS, Technicoat Cond. Coil, & Coil Guard, Hinged Filter Door & Toolless Access Panels
EH	Johnson UNT Controller, DFS, APS, Technicoat Cond. Coil, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
EJ	Johnson UNT Controller, DFS, APS & Technicoat Evap. Coil, Hinged Filter Door & Toolless Access Panels
EK	Johnson UNT Controller, DFS, APS, Technicoat Evap. Coil, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
EL	Johnson UNT Controller, DFS, APS, Technicoat Evap. Coil, & Coil Guard, Hinged Filter Door & Toolless Access Panels
EM	Johnson UNT Controller, DFS, APS, Technicoat Evap. Coil, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
EN	Johnson UNT Controller, DFS, APS & Technicoat Evap. & Cond Coils, Hinged Filter Door & Toolless Access Panels
EP	Johnson UNT Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
EQ	Johnson UNT Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Coil Guard, Hinged Filter Door & Toolless Access Panels
ER	Johnson UNT Controller, DFS, APS, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
ES	Johnson UNT Controller, DFS, APS, SS Drain Pan Hinged Filter Door & Toolless Access Panels
ET	Johnson UNT Controller, DFS, APS, SS Drain Pan, Phase Monitor, & Coil Guard Hinged Filter Door & Toolless Access Panels
EU	Johnson UNT Controller, DFS, APS, SS Drain Pan, & Technicoat Cond Coils Hinged Filter Door & Toolless Access Panels
EV	Johnson UNT Controller, DFS, APS, SS Drain Pan, & Technicoat Evap Coil Hinged Filter Door & Toolless Access Panels
EW	Johnson UNT Controller, DFS, APS, SS Drain Pan, & Technicoat Evap and Cond Coils Hinged Filter Door & Toolless Access Panels
EX	Johnson UNT Controller, DFS, APS, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils Hinged Filter Door & Toolless Access Panels
GA	Honeywell Excel 10 Controller with Dirty Filter Switch & Air Proving Switch, Hinged Filter Door & Toolless Access Panels
GB	Honeywell Excel 10 Controller, DFS, APS & Phase Monitor, Hinged Filter Door & Toolless Access Panels
GC	Honeywell Excel 10 Controller, DFS, APS & Coil Guard, Hinged Filter Door & Toolless Access Panels
GD	Honeywell Excel 10 Controller, DFS, APS, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
GE	Honeywell Excel 10 Controller, DFS, APS & Technicoat Cond. Coil, Hinged Filter Door & Toolless Access Panels
GF	Honeywell Excel 10 Controller, DFS, APS, Technicoat Cond. Coil, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
GG	Honeywell Excel 10 Controller, DFS, APS, Technicoat Cond. Coil, & Coil Guard, Hinged Filter Door & Toolless Access Panels
GH	Honeywell Excel 10 Controller, DFS, APS, Technicoat Cond. Coil, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
GJ	Honeywell Excel 10 Controller, DFS, APS & Technicoat Evap. Coil, Hinged Filter Door & Toolless Access Panels
GK	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. Coil, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
GL	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. Coil, & Coil Guard, Hinged Filter Door & Toolless Access Panels
GM	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. Coil, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
GN	Honeywell Excel 10 Controller, DFS, APS & Technicoat Evap. & Cond Coils, Hinged Filter Door & Toolless Access Panels
GP	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
GQ	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Coil Guard, Hinged Filter Door & Toolless Access Panels
GR	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
GS	Honeywell Excel 10 Controller, DFS, APS, SS Drain Pan
GT	Honeywell Excel 10 Controller, DFS, APS, SS Drain Pan, Phase Monitor, & Coil Guard
GU	Honeywell Excel 10 Controller, DFS, APS, SS Drain Pan, & Technicoat Cond Coils
GV	Honeywell Excel 10 Controller, DFS, APS, SS Drain Pan, & Technicoat Evap Coil
GW	Honeywell Excel 10 Controller, DFS, APS, SS Drain Pan, & Technicoat Evap and Cond Coils
GX	Honeywell Excel 10 Controller, DFS, APS, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils
PA	Novar ETC-3 Controller with Dirty Filter Switch & Air Proving Switch, Hinged Filter Door & Toolless Access Panels
PB	Novar ETC-3 Controller, DFS, APS & Phase Monitor, Hinged Filter Door & Toolless Access Panels
PC	Novar ETC-3 Controller, DFS, APS & Coil Guard, Hinged Filter Door & Toolless Access Panels
PD	Novar ETC-3 Controller, DFS, APS, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
PE	Novar ETC-3 Controller, DFS, APS & Technicoat Cond. Coil, Hinged Filter Door & Toolless Access Panels
PF	Novar ETC-3 Controller, DFS, APS, Technicoat Cond. Coil, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
PG	Novar ETC-3 Controller, DFS, APS, Technicoat Cond. Coil, & Coil Guard, Hinged Filter Door & Toolless Access Panels
PH	Novar ETC-3 Controller, DFS, APS, Technicoat Cond. Coil, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels

Hinged Filter Door & Toolless Access Cabinet	
PJ	Novar ETC-3 Controller, DFS, APS & Technicoat Evap. Coil, Hinged Filter Door & Toolless Access Panels
PK	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. Coil, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
PL	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. Coil, & Coil Guard, Hinged Filter Door & Toolless Access Panels
PM	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. Coil, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
PN	Novar ETC-3 Controller, DFS, APS & Technicoat Evap. & Cond Coils, Hinged Filter Door & Toolless Access Panels
PP	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
PQ	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Coil Guard, Hinged Filter Door & Toolless Access Panels
PR	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
PS	Novar ETC-3 Controller, DFS, APS, SS Drain Pan
PT	Novar ETC-3 Controller, DFS, APS, SS Drain Pan, Phase Monitor, & Coil Guard
PU	Novar ETC-3 Controller, DFS, APS, SS Drain Pan, & Technicoat Cond Coils
PV	Novar ETC-3 Controller, DFS, APS, SS Drain Pan, & Technicoat Evap Coil
PW	Novar ETC-3, DFS, APS, SS Drain Pan, & Technicoat Evap and Cond Coils
PX	Novar ETC-3 Controller, DFS, APS, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils
UA	Technicoat Condenser Coil, Hinged Filter Door & Toolless Access Panels
UB	Technicoat Condenser Coil & Phase Monitor, Hinged Filter Door & Toolless Access Panels
UC	Technicoat Condenser Coil & Coil Guard, Hinged Filter Door & Toolless Access Panels
UD	Technicoat Condenser Coil & Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
UE	Technicoat Condenser Coil, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
UF	Technicoat Condenser Coil, Phase Monitor, & Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
UG	Technicoat Condenser Coil, Coil Guard, & Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
UH	Technicoat Condenser Coil, Phase Monitor, Coil Guard, & Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
UJ	Technicoat Evaporator Coil, Hinged Filter Door & Toolless Access Panels
UK	Technicoat Evaporator Coil & Phase Monitor, Hinged Filter Door & Toolless Access Panels
UL	Technicoat Evaporator Coil & Coil Guard, Hinged Filter Door & Toolless Access Panels
UM	Technicoat Evaporator Coil & Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
UN	Technicoat Evaporator Coil, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
UP	Technicoat Evaporator Coil, Phase Monitor, & Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
UQ	Technicoat Evaporator Coil, Coil Guard, & Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
UR	Technicoat Evaporator Coil, Phase Monitor, Coil Guard, & Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
US	Technicoat Evaporator & Condenser Coils, Hinged Filter Door & Toolless Access Panels
UT	Technicoat Evaporator & Condenser Coils & Phase Monitor, Hinged Filter Door & Toolless Access Panels
UU	Technicoat Evaporator & Condenser Coils & Coil Guard, Hinged Filter Door & Toolless Access Panels
UV	Technicoat Evaporator & Condenser Coils & Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
UW	Technicoat Evaporator & Condenser Coils, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
UX	Technicoat Evaporator & Condenser Coils, Phase Monitor, & Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
UY	Technicoat Evaporator & Condenser Coils, Coil Guard, & Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
UZ	Technicoat Evaporator & Condenser Coils, Phase Monitor, Coil Guard, & Dirty Filter Switch, Hinged Filter Door & Toolless Access Panels
U1	Technicoat Condenser & SS Drain Pan, Hinged Filter Door & Toolless Access Panels
U4	Technicoat Evaporator & SS Drain Pan, Hinged Filter Door and Toolless Access Panels
U7	Technicoat Evaporator & Condenser Coils & SS Drain Pan, Hinged Filter Door & Toolless Access Panels
QA	Simplicity Intelli-Comfort Controller with Hinged Filter Door & Toolless Access Panels
QB	Simplicity Intelli-Comfort Controller, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
QC	Simplicity Intelli-Comfort Controller, & Coil Guard, Hinged Filter Door & Toolless Access Panels
QD	Simplicity Intelli-Comfort Controller, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
QE	Simplicity Intelli-Comfort Controller, & Technicoat Cond. Coil, Hinged Filter Door & Toolless Access Panels
QF	Simplicity Intelli-Comfort Controller, Technicoat Cond. Coil, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
QG	Simplicity Intelli-Comfort Controller, Technicoat Cond. Coil, & Coil Guard, Hinged Filter Door & Toolless Access Panels
QH	Simplicity Intelli-Comfort Controller, Technicoat Cond. Coil, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access
QJ	Simplicity Intelli-Comfort Controller, & Technicoat Evap. Coil, Hinged Filter Door & Toolless Access Panels
QK	Simplicity Intelli-Comfort Controller, Technicoat Evap. Coil, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
QL	Simplicity Intelli-Comfort Controller, Technicoat Evap. Coil, & Coil Guard, Hinged Filter Door & Toolless Access Panels
QM	Simplicity Intelli-Comfort Controller, Technicoat Evap. Coil, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access

Hinged Filter Door & Toolless Access Cabinet	
QN	Simplicity Intelli-Comfort Controller, & Technicoat Evap. & Cond Coils, Hinged Filter Door & Toolless Access Panels
QP	Simplicity Intelli-Comfort Controller, Technicoat Evap. & Cond Coils, & Phase Monitor, Hinged Filter Door & Toolless Access Pan
QQ	Simplicity Intelli-Comfort Controller, Technicoat Evap. & Cond Coils, & Coil Guard, Hinged Filter Door & Toolless Access Panels
QR	Simplicity Intelli-Comfort Controller, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless
QS	Simplicity Intelli-Comfort Controller, SS Drain Pan Hinged Filter Door & Toolless Access Panels
QT	Simplicity Intelli-Comfort Controller, SS Drain Pan, Phase Monitor, & Coil Guard Hinged Filter Door & Toolless Access Panels
QU	Simplicity Intelli-Comfort Controller, SS Drain Pan, & Technicoat Cond Coils Hinged Filter Door & Toolless Access Panels
QV	Simplicity Intelli-Comfort Controller, SS Drain Pan, & Technicoat Evap Coil Hinged Filter Door & Toolless Access Panels
QW	Simplicity Intelli-Comfort Controller, SS Drain Pan, & Technicoat Evap and Cond Coils Hinged Filter Door & Toolless Access Panels
QX	Simplicity Intelli-Comfort Controller, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils Hinged Filter Door & Toolless Access Panels
XA	Intelli-Comfort w/ModLINC Controller, Hinged Filter Door & Toolless Access Panels
XB	Intelli-Comfort w/ModLINC Controller, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
XC	Intelli-Comfort w/ModLINC Controller, & Coil Guard, Hinged Filter Door & Toolless Access Panels
XD	Intelli-Comfort w/ModLINC Controller, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access Panels
XE	Intelli-Comfort w/ModLINC Controller, & Technicoat Cond. Coil, Hinged Filter Door & Toolless Access Panels
XF	Intelli-Comfort w/ModLINC Controller, Technicoat Cond. Coil, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
XG	Intelli-Comfort w/ModLINC Controller, Technicoat Cond. Coil, & Coil Guard, Hinged Filter Door & Toolless Access Panels
XH	Intelli-Comfort w/ModLINC Controller, Technicoat Cond. Coil, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access
XJ	Intelli-Comfort w/ModLINC Controller, & Technicoat Evap. Coil, Hinged Filter Door & Toolless Access Panels
XK	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. Coil, & Phase Monitor, Hinged Filter Door & Toolless Access Panels
XL	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. Coil, & Coil Guard, Hinged Filter Door & Toolless Access Panels
XM	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. Coil, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless Access
XN	Intelli-Comfort w/ModLINC Controller, & Technicoat Evap. & Cond Coils, Hinged Filter Door & Toolless Access Panels
XP	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. & Cond Coils, & Phase Monitor, Hinged Filter Door & Toolless Access Pan
XQ	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. & Cond Coils, & Coil Guard, Hinged Filter Door & Toolless Access Panels
XR	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard, Hinged Filter Door & Toolless
XS	Intelli-Comfort w/ModLINC Controller, SS Drain Pan Hinged Filter Door & Toolless Access Panels
XT	Intelli-Comfort w/ModLINC Controller, SS Drain Pan, Phase Monitor, & Coil Guard Hinged Filter Door & Toolless Access Panels
XU	Intelli-Comfort w/ModLINC Controller, SS Drain Pan, & Technicoat Cond Coils Hinged Filter Door & Toolless Access Panels
XV	Intelli-Comfort w/ModLINC Controller, SS Drain Pan, & Technicoat Evap Coil Hinged Filter Door & Toolless Access Panels
XW	Intelli-Comfort w/ModLINC Controller, SS Drain Pan, & Technicoat Evap and Cond Coils Hinged Filter Door & Toolless Access Panels
XX	Intelli-Comfort w/ModLINC Controller, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils Hinged Filter Door & Toolless Access Panels

## FEATURES

All models are available with a wide variety of factory-mounted options such as stainless steel heat exchangers, phase monitor, dirty filter switch, and coil guard to make them suitable for almost every application.

All units are self-contained and assembled on full perimeter base rails with holes in the four corners for overhead rigging. Every unit is completely piped, wired, charged and tested at the factory to simplify the field installation and to provide years of dependable operation.

All models (including those with an economizer) are suitable for either bottom or horizontal duct connections. **Models with factory installed power exhaust are suitable for bottom duct connections only.** For bottom duct, you remove the sheet metal panels from the supply and return air openings through the base of the unit. For horizontal duct, you replace the supply and return air panels on the rear of the unit with a side duct flange accessory.

All models are available with these “factory mounted” outdoor air damper options:

- Single enthalpy economizer
- Single enthalpy economizer with power exhaust
- Motorized outdoor air damper

A fixed outdoor air intake assembly will be shipped in the return air compartment of all units ordered without an economizer or motorized outdoor air damper option. The assembly includes a rain hood with a damper that can be set for 10, 15 or 25% outdoor air. With bottom duct connections, the intake damper assembly should be mounted over the opening in the return air panel. With horizontal ductwork, it should be mounted on the return air duct.

All supply air blowers are equipped with a belt drive that can be adjusted to meet the exact requirements of the job. A high static drive option is available for applications with a higher CFM and/or static pressure requirement.

All compressors include scroll compressors and internal pressure relief. Every refrigerant circuit includes an expansion valve, a liquid line filter-drier, a discharge line high pressure switch and a suction line with a freeze-stat and low pressure/loss of charge switch to protect all system components.

- **Simplicity® Controls** - Simplicity® control boards have standardized a number of features previously available only as options or by utilizing additional controls.
  - **Low Ambient** - An integrated low-ambient control allows all units to operate in the cooling mode down to 0°F outdoor ambient without additional assistance. Optionally, the control board can be programmed to lockout the compressors when the outdoor air temperature is low or when free cooling is available.

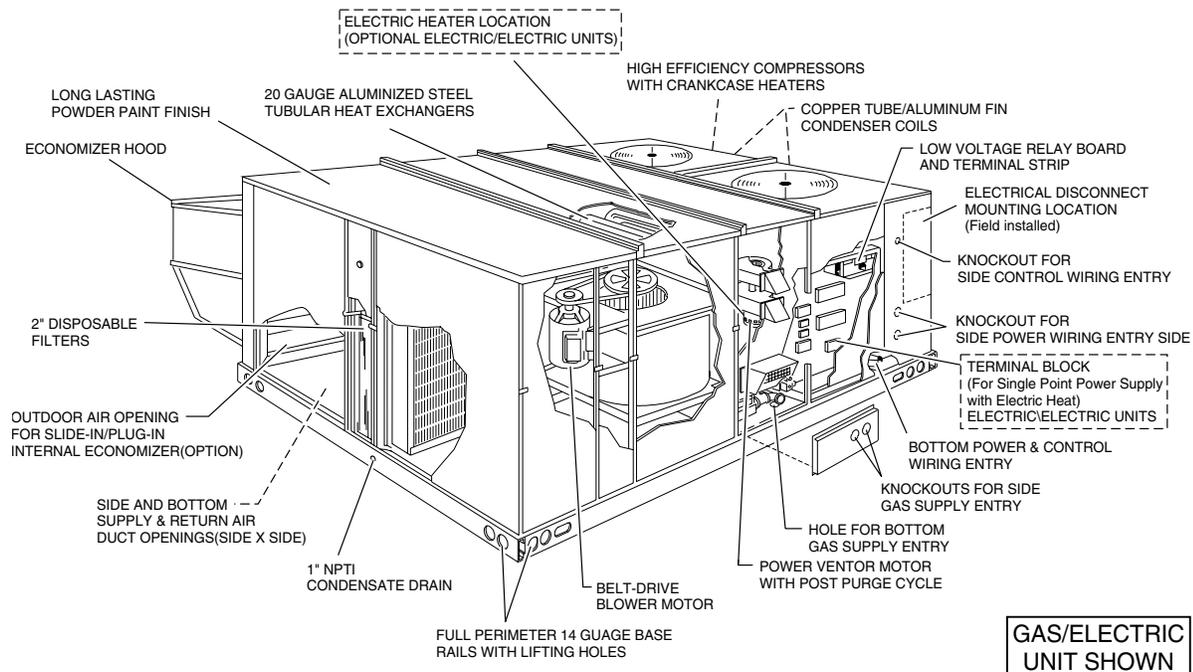
- **Anti-Short Cycle Protection** - To aid compressor life, an anti-short cycle delay is incorporated into the standard controls. Compressor reliability is further ensured by programmable minimum run times. For testing, the anti short cycle delay can be temporarily overridden with the push of a button.
- **Fan Delays** - Fan on and fan off delays are fully programmable. Furthermore, the heating and cooling fan delay times are independent of one another. All units are programmed with default values based upon their configuration of cooling and heat.
- **Safety Monitoring** - The control board monitors the high and low-pressure switches, the freeze-stats, the gas valve, if applicable, and the temperature limit switch on gas and electric heat units. The unit control board will alarm on ignition failures, compressor lockouts and repeated limit switch trips.
- **Nuisance Trip Protection and Strikes** - To prevent nuisance trouble calls, the control board uses a “three times, you’re out” philosophy. The high and low-pressure switches and the freeze-stats must trip three times within two hours before the unit control board will lock out the associated compressor.
- **On Board Diagnostics** - Each alarm will energize a trouble light on the thermostat, if so equipped, and flash an alarm code on the control board LED. Each high and low-pressure switch alarm as well as each freeze-stat alarm has its own flash code. The control board saves the five most recent alarms in memory, and these alarms can be reviewed at any time. Alarms and programmed values are retained through the loss of power.

All units have long lasting powder paint cabinets with 1000 hour salt spray test approval under ASTM-B117 procedures.

All models are CSA approved.

- **Warranty** - All models include a one-year limited parts warranty on the complete unit. Compressors and electric heater elements carry a five-year warranty. Gas heat exchangers carry a 10-year parts warranty.
- **Gas Heat Operation** - All gas heat units are built with two heating sections for two equal stages of capacity control. Each section includes a durable heat exchanger with aluminized steel or optional stainless steel tubes, a redundant gas valve, spark ignition, power venting, an ignition module for 100% shut-off and all of the safety controls required to meet the latest ANSI standards.

The gas supply piping can be routed into the heating compartment through a hole in the base pan of the unit or through a knockout in the piping panel on the front of the unit.



**FIGURE 1 - UNIT CUTAWAY**

- **Electric Heat Operation** - All electric heat models (factory installed only) are wired for a single power source and include a bank of nickel chromium elements mounted at the discharge of the supply air blower to provide a high velocity and uniform distribution of air across the heating elements. Every element is fully protected against excessive current and temperature by fuses and two thermal limit switches.

The power supply wiring can be routed into the control box through a threaded pipe connection in the base pan of the unit or through a knockout in the wiring panel on the front of the unit.

- **BAS Controls** - York's Sunline™ series units offer factory mounted BAS controls such as Simplicity® INTELLI-Comfort™, Novar, Honeywell, Johnson, and CPC.

## FACTORY-INSTALLED OPTIONS

- **SINGLE INPUT ELECTRONIC ENTHALPY ECONOMIZERS** - Includes a slide-in / plug-in damper assembly with fully modulating spring-return motor actuator capable of introducing up to 100% outdoor air with nominal 1% leakage type dampers.

The enthalpy system contains one sensor that monitors the outdoor air and determines when the air is cool enough and dry enough to provide free cooling.

The rainhood is painted to match the basic unit and must be field-assembled before installing.

**Power exhaust is not available as a field installed option.**

- **POWER EXHAUST** - Our single economizer options are available with power exhaust. Whenever the outdoor air intake dampers are opened for free cooling, the exhaust fan will be energized to prevent the conditioned space from being over-pressurized during economizer operation.

The exhaust fan, motor and controls are installed and wired at the factory. The rain hood and the back-draft damper need to be assembled and installed in the field.

**The power exhaust option can only be used on bottom duct configurations.**

- **MOTORIZED OUTDOOR AIR INTAKE DAMPER** - Includes a slide-in / plug-in damper assembly with a 2-position, spring return motor actuator which opens to a pre-set position whenever the supply air blower is operating and will drive fully closed when the blower unit shuts down.

The rain hood is painted to match the basic unit and must be field assembled before installing.

- **PHENOLIC COATED EVAPORATOR AND CONDENSER COILS** - Special coating process that utilizes Technicoat 10-1" processes. Coating is applied by total immersion of the complete coil for maximum protection.
- **ELECTRIC HEATERS** wired for single point power supply. These nickel chromium heater elements are provided with limit and automatic reset capability to prevent operation at excessive temperatures.

- **FILTER OPTIONS** - Standard units are shipped with 2" throw-away filters installed. 2" pleated and 4" pleated filters are offered as a factory installed option.
  - **CONVENIENCE OUTLET** - This 110 volt outlet can be "powered" by the unit with a stepdown transformer or you may order the unit with a "non-powered" convenience outlet that can be wired in the field.
  - **DISCONNECT SWITCH** - For gas heat units and cooling units with electric heat, a HACR breaker sized to the unit is provided. For cooling only units, a switch sized to the largest electric heat available for the particular unit is provided. Factory installed option only.
  - **BAS - Building Automation System Controls**  
**Simplicity® INTELLI-Comfort™ CONTROL** - The York® Simplicity® INTELLI-Comfort™ control is factory installed. It includes a supply air sensor, a return air sensor, and an outside air sensor. There are provisions for a field installed dirty filter indicator switch, an air-proving switch, an Outside Air Humidity sensor, a Return Air Humidity sensor, an Inside IAQ sensor, and an Outside Air IAQ sensor. Construction mode operation, 365-day real time clock with 7 day programming plus holiday scheduling is built-in. Two different modes of demand ventilation are achieved through the INTELLI-Comfort™ using CO<sub>2</sub> sensors. It uses an inside CO<sub>2</sub> sensor to perform Demand Ventilation. It can also use an Outside CO<sub>2</sub> sensor to perform Differential Demand Ventilation. It uses a Patented Comfort Ventilation algorithm to provide comfortable ventilation air temperature. The patented economizer-loading algorithm will protect the equipment when harsh operating conditions exist. Humidity in the occupied space or return duct can be monitored and controlled via humidity sensors and the on-board connection for hot gas re-heat system. It uses the INTELLI-Start™ algorithm to maximize energy savings by recovering the building from the Unoccupied Setpoints to the Occupied Setpoints just in time for the Occupied Time Period to begin. The Simplicity® INTELLI-Comfort™ balances space temperature, ventilation air temperature, CO<sub>2</sub> and humidity for ultimate comfort.
  - **Simplicity® INTELLI-Comfort™ with ModLINC CONTROL** - The York® Simplicity® INTELLI-Comfort™ with ModLINC control is factory installed. It includes all the features of the INTELLI-Comfort™ control with an additional control to translate communications from MOD-BUS to the BACnet MSTP protocol.
  - **Novar® BAS CONTROL** - The Novar® ETC-3 building automation system controller is factory installed.
- Includes supply air sensor, return air sensor, dirty filter indicator switch, and air proving switch.
- **JOHNSON CONTROLS BAS CONTROL** - The Johnson Control YK-UNT-1126 building automation system controller is factory installed. Includes supply air sensor, return air sensor, dirty filter indicator switch, and air proving switch.
  - **CPC BAS CONTROL** - The Computer Process Controls Model 810-3060 ARTC Advanced Rooftop building automation system controller is factory installed. Includes supply air sensor, return air sensor, dirty filter indicator switch and air proving switch.
  - **HONEYWELL BAS CONTROL** - The Honeywell W7750C building automation system controller is factory installed. Includes air supply sensor, return air sensor, dirty filter indicator switch, and air proving switch.
  - **SMOKE DETECTORS** - (supply air & return air) The smoke detectors stop operation of the unit by interrupting power to the control board if smoke is detected within the air compartment.
  - **COIL GUARD** - Customers can purchase a coil guard kit to protect the condenser coil from damage. This is not a hail guard kit.
  - **STAINLESS STEEL HEAT EXCHANGER** - For applications in corrosive environments, this option provides a full stainless steel heat exchanger assembly.
  - **STAINLESS STEEL DRAIN PAN** - An optional rust-proof stainless steel drain pan is available to provide years of trouble-free operation in corrosive environments.
  - **PHASE MONITORS** - Designed to prevent unit damage. The phase monitor will shut the unit down in an out-of-phase condition.
  - **HIGH SPEED DRIVE** - Includes a belt and blower pulley upgrade to enhance blower performance.
  - **DIRTY FILTER SWITCH** - This kit includes a differential pressure switch that energizes the fault light on the unit thermostat, indicating that there is an abnormally high pressure drop across the filters. Factory installed option or field installed accessory.
  - **HINGED FILTER DOOR/"TOOLESS" BLOWER AND ACCESS PANELS (not hinged)** - This option allows for easy access and maintenance.
- NOTE:** Knobs are shipped separately within the unit to prevent shipping damage. These must be field installed for tool-less operation.

## FIELD-INSTALLED ACCESSORIES

- **SINGLE INPUT ELECTRONIC ENTHALPY ECONOMIZERS** - Includes a slide-in / plug-in damper assembly with fully modulating spring-return motor actuator capable of introducing up to 100% outdoor air with nominal 1% leakage type dampers.

The enthalpy system contains one sensor that monitors the outdoor air and determines when the air is cool enough and dry enough to provide free cooling.

The rainhood is painted to match the basic unit and must be field-assembled before installing.

Power exhaust is not available as a field installed option.

- **MOTORIZED OUTDOOR AIR INTAKE DAMPER** - Includes a slide-in / plug-in damper assembly with a 2-position, spring return motor actuator which opens to some pre-set position whenever the supply air blower is operating and will drive fully closed when the blower unit shuts down.

The rain hood is painted to match the basic unit and must be field assembled before installing.

Power exhaust is not available as a field installed option.

- **ROOF CURBS** - Fourteen-inch high roof curbs provide a water-tight seal between the unit and the finished roof. These full perimeter curbs meet the requirements of the National Roofing Contractors Association (NRCA) and are shipped knocked-down for field assembly.

They're designed to fit inside the base rails of the unit and include both a wood nailing strip and duct hanger supports.

- **HIGH ALTITUDE NATURAL GAS** - Burner orifices and pilot orifices are provided for proper furnace operation at altitudes up to 6,000 feet.
- **PROPANE** - Burner orifices, pilot orifices and gas valve parts are provided to convert a natural gas furnace to propane.
- **HIGH ALTITUDE PROPANE** - Burner orifices and pilot orifices are provided for proper furnace operation at altitudes up to 6,000 feet. This accessory supplements the basic propane conversion kit.

- **SIDE DUCT FLANGES** - One-inch flanges replace the supply and return air panels on the rear of the unit to accommodate horizontal duct connections. These flanges can also be used individually for bottom supply/horizontal return or horizontal supply/bottom return. They cannot be used on units with power exhaust.
- **BAROMETRIC RELIEF DAMPER** - This damper accessory can be used to relieve internal building air pressure on units with an economizer without power exhaust. This accessory includes a rain hood, a bird screen and a fully assembled damper. With bottom duct connections, the damper should be mounted over the opening in the return air panel. With horizontal ductwork, the accessory should be mounted on the return air duct.
- **HIGH SPEED DRIVE** - A smaller blower pulley and a shorter belt increase the speed of the supply air blower for applications with a higher CFM and/or static pressure requirements.
- **ENTHALPY ACCESSORY CONTROL KIT** - This kit contains the required components to convert a single enthalpy economizer to dual enthalpy.
- **BURGLAR BARS** - Mount in the supply and return openings to prevent entry into the duct work.
- **FLUE EXHAUST EXTENSION KIT** - In locations with wind or weather conditions which may interfere with proper exhausting of furnace combustion products, this kit can be installed to prevent the flue exhaust from entering nearby fresh air intakes.
- **WOOD SKID** - Allows unit to be handled with 90" forks.
- **CO<sub>2</sub> SENSOR** - Senses CO<sub>2</sub> levels and automatically overrides the economizer when levels rise above the present limits.
- **COIL GUARD** - Customers can purchase a coil guard kit to protect the condenser coil from damage. This is not a hail guard kit.
- **PHASE MONITORS** - Designed to prevent unit damage. The phase monitor will shut the unit down in an out-of-phase condition.

**TABLE 1: SOUND POWER RATING<sup>1</sup>**

UNIT SIZE	CFM	ESP	BLOWER		SOUND POWER (db 10 <sup>-12</sup> Watts)									SWL dB(A)	dB(A) @ 10Ft. <sup>2</sup>
					Octave Band Centerline Frequency (Hz)										
					IWG	RPM	BHP	63	125	250	500	1,000	2,000		
180	6,000	1.00	1,080	4.60	99	99	89	82	84	77	72	67	89	56	
240	8,000	1.00	1,120	6.65	102	102	92	85	87	80	75	70	92	59	
300	10,000	1.30	1160	12.5	108	108	98	91	93	86	81	76	98	65	

1. These values have been accessed using a model of sound propagation from a point source into the hemispheric/free field. The dBA values provided are to be used for reference only. Calculation of dBA values cover matters of system design and the fan manufacture has no way of knowing the details of each system. This constitutes an expectation to any specification or guarantee requiring a dBA value or sound data in any other form than sound power level ratings.
2. At a distance of 10 feet from the blower.

**TABLE 2: CAPACITY RATINGS - (ARI 360)<sup>1</sup>**

MODEL	MBH	EER <sup>2</sup>	IPLV <sup>3</sup>
<b>COOLING ONLY</b>			
DM180C/E00	176	8.7	9.2
DM240C/E00	234	8.6	8.05
DM300C/E00	290	8.5	8.7
<b>COOLING WITH GAS HEAT</b>			
DM180N/S	176	8.5	9.0
DM240N/S	232	8.5	8.05
DM300N/S	290	8.5	8.3
<b>COOLING WITH ELECTRIC HEAT</b>			
DM180E18	176	8.7	9.2
DM180E36	176	8.6	9.1
DM180E54	174	8.5	8.7
DM180E72	174	8.5	8.7
DM240E18	234	8.5	8.05
DM240E36	234	8.5	8.05
DM240E54	232	8.5	8.05
DM240E72	232	8.5	8.05
DM300E18	290	8.5	8.6
DM300E36	290	8.5	8.6
DM300E54	287	8.5	8.2
DM300E72	284	8.5	8.2

1. Certified in accordance with the Unitary Large Equipment certification program which is based on ARI Standard 340/360.
2. EER = Energy Efficiency Ratio at full load - the cooling capacity in Btu's per hour (Btuh) divided by the power input in watts, expressed in Btuh per watt (Btuh/watt).
3. IPLV = Integrated Part Load Value.

**TABLE 3: GAS HEAT RATINGS**

MODEL	MBH INPUT	MBH OUTPUT
DM180N/S24	300	240
DM180N/S32	400	320
DM240N/S24	300	240
DM240N/S32	400	320
DM300N/S24	300	240
DM300N/S32	400	320

NOTE: All gas units are two-stage heating.

First stage is 50% of total.

S.S.E. = Steady State Efficiency (80%) - output divided by input.

**TABLE 4: DM 180 COOLING CAPACITIES (15 TON)**

AIR ON EVAPORATOR COIL		TEMPERATURE OF AIR ON CONDENSER COIL																	
		85°F									95°F								
		TOTAL CAP. <sup>1</sup> MBH	POWER INPUT <sup>2</sup> KW	SENSIBLE CAPACITY <sup>1</sup> , MBH								TOTAL CAP. <sup>1</sup> MBH	POWER INPUT <sup>2</sup> KW	SENSIBLE CAPACITY <sup>1</sup> , MBH					
				ENTERING DRY BULB, °F										ENTERING DRY BULB, °F					
CFM	WB °F	86	83	80	77	74	71	68	86	83	80	77	74	71	68				
7200	72	227	17.5	176	154	132	110	88	-	-	213	18.4	169	147	125	102	80	-	-
	67	202	16.8	202	187	165	143	121	99	-	189	17.7	189	180	158	136	114	92	-
	62	187	16.2	187	187	167	143	121	99	-	175	17.0	175	175	153	131	109	87	-
	57	187	16.1	187	187	165	143	121	99	-	175	17.0	175	175	153	131	109	87	-
6750	72	220	17.3	162	142	122	102	82	-	-	208	18.3	157	136	116	96	76	-	-
	67	199	16.7	192	175	155	135	115	94	-	186	17.6	183	169	149	129	109	89	-
	62	181	16.1	181	181	160	139	119	99	-	170	16.9	170	170	150	130	110	90	-
	57	181	16.0	181	181	161	141	121	101	-	170	16.9	170	170	150	130	110	90	-
6000	72	213	17.2	149	131	113	95	77	-	-	202	18.1	144	126	108	90	72	-	-
	67	195	16.5	181	163	145	127	108	90	-	184	17.4	177	159	141	123	104	86	-
	62	176	16.0	176	176	154	136	118	100	-	166	16.8	166	166	147	129	111	93	-
	57	176	15.9	176	176	158	139	121	103	-	166	16.7	166	166	148	130	111	93	-
5250	72	207	17.0	137	121	105	89	73	-	-	196	17.9	132	116	100	84	68	-	-
	67	187	16.3	165	149	133	118	102	86	-	176	17.2	161	145	129	113	97	81	-
	62	170	15.8	170	169	161	145	129	113	97	161	16.6	161	160	153	137	121	105	89
	57	170	15.7	170	170	164	148	132	116	100	161	16.5	161	161	154	138	122	106	90
4500	72	200	16.8	125	111	98	84	70	-	-	189	17.6	119	106	92	78	65	-	-
	67	179	16.1	149	136	122	108	95	81	-	168	17.0	144	130	117	103	90	76	-
	62	165	15.6	165	163	149	135	122	108	94	156	16.3	156	154	141	127	113	100	86
	57	165	15.5	165	165	152	138	125	111	97	156	16.3	156	156	141	128	114	100	87

AIR ON EVAPORATOR COIL		TEMPERATURE OF AIR ON CONDENSER COIL																	
		105°F									115°F								
		TOTAL CAP. <sup>1</sup> MBH	POWER INPUT <sup>2</sup> KW	SENSIBLE CAPACITY <sup>1</sup> , MBH								TOTAL CAP. <sup>1</sup> MBH	POWER INPUT <sup>2</sup> KW	SENSIBLE CAPACITY <sup>1</sup> , MBH					
				ENTERING DRY BULB, °F										ENTERING DRY BULB, °F					
CFM	WB °F	86	83	80	77	74	71	68	86	83	80	77	74	71	68				
7200	72	199	19.3	164	142	120	98	76	-	-	185	20.2	159	137	115	93	71	-	-
	67	176	18.5	176	172	153	131	109	87	-	164	19.3	164	164	148	125	103	81	-
	62	165	17.9	165	165	165	143	121	99	77	155	18.7	155	155	155	133	111	89	67
	57	165	17.9	165	165	165	143	121	99	77	155	18.8	155	155	155	134	112	90	68
6750	72	194	19.1	152	131	111	91	71	-	-	180	20.0	147	127	106	86	66	-	-
	67	174	18.3	172	162	144	124	104	83	-	161	19.1	161	155	138	118	98	78	-
	62	161	17.7	161	161	161	140	120	100	80	151	18.6	151	151	151	131	111	90	70
	57	161	17.8	161	161	161	141	121	101	80	151	18.7	151	151	151	131	111	91	71
6000	72	188	19.0	139	121	103	85	67	-	-	174	19.8	134	116	98	80	61	-	-
	67	171	18.2	168	153	135	117	98	80	-	158	18.9	158	147	129	111	92	74	-
	62	156	17.6	156	156	156	137	119	101	83	146	18.4	146	146	146	128	110	92	73
	57	156	17.6	156	156	156	138	120	102	84	146	18.5	146	146	146	128	110	92	74
5250	72	183	18.8	127	111	95	80	64	-	-	170	19.6	123	107	91	75	59	-	-
	67	164	18.0	153	139	123	108	92	76	-	152	18.8	146	134	118	102	86	70	-
	62	152	17.4	152	151	144	128	112	97	81	143	18.2	143	142	136	120	104	88	72
	57	152	17.4	152	152	145	129	113	97	81	143	18.3	143	143	136	120	104	88	72
4500	72	177	18.5	115	102	88	74	61	-	-	165	19.4	111	97	84	70	56	-	-
	67	157	17.8	139	126	112	98	85	71	-	147	18.6	135	121	107	94	80	66	-
	62	147	17.2	147	147	133	119	106	92	78	139	18.0	139	139	125	111	98	84	70
	57	147	17.2	147	147	133	120	106	92	79	139	18.1	139	139	125	112	98	85	71

1. These capacities are gross ratings. For net capacity, deduct the heat of the supply air blower motor, MBH = 3.415 x KW. Refer to the appropriate Blower Performance Table for the KW of the supply air blower motor.
2. These ratings include the condenser fan motors (Total 1.5 KW) and the compressor motors but not the supply air blower motor.

NOTE: 1st stage of cooling capacity is 66% of total values shown above.

Nominal Rating

**TABLE 5: DM 240 COOLING CAPACITIES (20 TON)**

AIR ON EVAPORATOR COIL		TEMPERATURE OF AIR ON CONDENSER COIL																	
		85°F									95°F								
		TOTAL CAP. <sup>1</sup> MBH	POWER INPUT <sup>2</sup> KW	SENSIBLE CAPACITY <sup>1</sup> , MBH								TOTAL CAP. <sup>1</sup> MBH	POWER INPUT <sup>2</sup> KW	SENSIBLE CAPACITY <sup>1</sup> , MBH					
				ENTERING DRY BULB, °F										ENTERING DRY BULB, °F					
CFM	WB °F	86	83	80	77	74	71	68	86	83	80	77	74	71	68				
9400	72	308	23.5	243	213	183	153	123	-	-	290	25.2	235	205	175	145	116	-	-
	67	270	22.5	270	254	225	195	165	135	-	259	23.8	259	246	216	186	156	126	-
	62	240	21.9	240	240	240	210	180	150	120	230	23.2	230	230	230	200	170	140	110
	57	240	21.3	240	240	240	210	180	150	120	230	22.6	230	230	230	200	170	140	110
9000	72	299	23.3	224	197	170	143	116	-	-	282	24.9	216	189	162	135	108	-	-
	67	266	22.3	258	238	211	184	158	131	-	254	23.6	247	229	202	175	148	121	-
	62	233	21.7	233	233	231	204	177	150	123	223	23.0	223	223	220	193	166	139	112
	57	233	21.2	233	233	233	207	180	153	126	223	22.4	223	223	223	196	169	142	116
8000	72	290	23.1	205	181	157	133	109	-	-	273	24.6	196	172	148	125	101	-	-
	67	262	22.1	246	222	198	174	150	127	-	250	23.3	235	211	188	164	140	116	-
	62	227	21.5	227	227	221	197	173	150	126	216	22.7	216	216	209	186	162	138	114
	57	227	21.0	227	227	227	203	179	155	131	216	22.1	216	216	216	193	169	145	121
7000	72	285	23.0	189	167	146	125	104	-	-	267	24.4	182	160	139	118	97	-	-
	67	254	22.0	224	203	182	161	140	119	-	241	23.1	216	195	174	153	132	110	-
	62	223	21.5	223	218	206	185	163	142	121	211	22.5	211	209	196	175	154	133	112
	57	223	20.9	223	220	211	190	169	148	126	211	21.9	211	211	203	182	161	139	118
6000	72	280	22.9	172	154	135	117	98	-	-	260	24.2	167	148	130	111	93	-	-
	67	246	21.9	203	185	166	148	129	111	-	232	22.9	197	179	160	142	123	105	-
	62	219	21.4	219	209	190	172	153	135	116	206	22.3	206	202	183	165	146	128	109
	57	219	20.8	219	214	195	177	158	140	121	206	21.7	206	206	189	171	152	134	115

AIR ON EVAPORATOR COIL		TEMPERATURE OF AIR ON CONDENSER COIL																	
		105°F									115°F								
		TOTAL CAP. <sup>1</sup> MBH	POWER INPUT <sup>2</sup> KW	SENSIBLE CAPACITY <sup>1</sup> , MBH								TOTAL CAP. <sup>1</sup> MBH	POWER INPUT <sup>2</sup> KW	SENSIBLE CAPACITY <sup>1</sup> , MBH					
				ENTERING DRY BULB, °F										ENTERING DRY BULB, °F					
CFM	WB °F	86	83	80	77	74	71	68	86	83	80	77	74	71	68				
9400	72	269	26.4	224	194	164	134	104	-	-	248	27.6	213	183	153	123	93	-	-
	67	241	24.9	241	234	206	176	146	116	-	222	26.0	222	222	195	165	135	105	-
	62	218	24.2	218	218	218	189	159	129	99	207	25.3	207	207	207	177	147	118	88
	57	218	23.6	218	218	218	189	159	129	99	207	24.7	207	207	207	177	147	118	88
9000	72	263	26.1	206	179	152	126	99	-	-	243	27.3	197	170	143	116	89	-	-
	67	237	24.7	234	219	193	166	139	112	-	221	25.8	221	210	184	157	130	103	-
	62	213	24.0	213	213	210	183	156	129	102	203	25.1	203	203	200	173	146	119	92
	57	213	23.4	213	213	213	186	159	132	106	203	24.5	203	203	203	176	149	122	95
8000	72	256	25.9	188	164	140	117	93	-	-	238	27.1	180	156	132	109	85	-	-
	67	234	24.5	227	204	180	156	133	109	-	219	25.6	219	197	173	149	125	102	-
	62	208	23.8	208	208	201	177	153	129	106	199	24.8	199	199	192	168	145	121	97
	57	208	23.2	208	208	208	184	160	136	112	199	24.3	199	199	199	175	151	127	103
7000	72	249	25.7	175	153	132	111	90	-	-	232	27.1	168	146	125	104	83	-	-
	67	226	24.3	210	189	168	147	125	104	-	210	25.6	203	183	162	141	119	98	-
	62	202	23.7	202	201	189	168	147	126	104	194	24.8	194	194	182	161	140	118	97
	57	202	23.1	202	202	195	174	153	132	111	194	24.2	194	194	188	167	146	124	103
6000	72	243	25.6	161	143	124	106	87	-	-	226	27.0	155	137	118	100	81	-	-
	67	217	24.2	192	174	155	137	118	100	-	202	25.5	187	169	150	132	113	95	-
	62	197	23.6	197	195	177	159	140	122	103	189	24.8	189	189	171	153	134	116	97
	57	197	23.0	197	197	183	165	146	128	109	189	24.2	189	189	177	159	140	122	103

1. These capacities are gross ratings. For net capacity, deduct the heat of the supply air blower motor, MBH = 3.415 x KW. Refer to the appropriate Blower Performance Table for the KW of the supply air blower motor.
2. These ratings include the condenser fan motors (Total 2.3 KW) and the compressor motors but not the supply air blower motor.

  Nominal Rating

**TABLE 6: DM 300 COOLING CAPACITIES (25 TON)**

AIR ON EVAPORATOR COIL		TEMPERATURE OF AIR ON CONDENSER COIL																	
		85°F									95°F								
		TOTAL CAP. <sup>1</sup> MBH	POWER INPUT <sup>2</sup> KW	SENSIBLE CAPACITY <sup>1</sup> , MBH								TOTAL CAP. <sup>1</sup> MBH	POWER INPUT <sup>2</sup> KW	SENSIBLE CAPACITY <sup>1</sup> , MBH					
				ENTERING DRY BULB, °F										ENTERING DRY BULB, °F					
CFM	WB °F	86	83	80	77	74	71	68	86	83	80	77	74	71	68				
12000	72	371	27.1	277	240	203	167	130	-	-	354	28.8	268	231	195	158	122	-	-
	67	340	26.1	335	299	262	226	189	152	116	325	27.7	324	288	251	214	178	141	105
	62	329	25.5	329	329	329	293	256	219	183	315	27.1	315	315	315	278	241	205	168
11000	57	329	25.5	329	329	329	292	256	219	183	314	27.1	314	314	314	278	241	205	168
	72	365	27.0	260	226	193	159	125	-	-	348	28.6	257	223	189	155	122	-	-
	67	336	25.9	317	283	249	216	182	148	114	321	27.5	312	279	245	211	178	144	110
10000	62	324	25.3	324	324	313	279	245	212	178	309	26.9	309	309	309	273	239	206	172
	57	324	25.3	324	324	315	281	247	214	180	309	26.9	309	309	309	275	242	208	174
	72	359	26.8	244	213	182	151	120	-	-	342	28.5	245	214	184	153	122	-	-
9000	67	332	25.7	298	268	237	206	175	144	113	317	27.4	301	270	239	208	177	146	115
	62	318	25.2	318	318	296	265	235	204	173	304	26.8	304	304	299	268	237	207	176
	57	318	25.1	318	318	301	270	239	208	177	304	26.7	304	304	304	273	242	211	180
8000	72	354	26.6	229	201	173	145	117	-	-	338	28.2	228	200	172	144	116	-	-
	67	326	25.5	280	252	224	196	168	141	113	312	27.1	279	251	223	195	167	139	111
	62	314	25.0	314	306	282	254	226	198	170	300	26.5	300	295	280	253	225	197	169
7000	57	314	25.0	314	308	286	258	230	203	175	300	26.5	300	297	285	257	229	201	173
	72	349	26.4	215	190	165	140	115	-	-	334	28.0	211	186	161	136	111	-	-
	67	321	25.3	262	237	212	187	162	137	112	307	26.9	257	232	207	182	157	132	107
6000	62	310	24.8	310	293	268	243	218	193	168	297	26.3	297	287	262	237	212	187	162
	57	310	24.8	310	297	272	247	222	197	172	297	26.3	297	291	266	241	216	191	166
	72	318	25.2	186	167	148	129	110	-	-	304	26.8	177	158	138	119	100	-	-
5000	67	290	24.0	226	206	187	168	149	130	111	277	25.5	213	194	175	156	137	118	99
	62	282	23.7	277	258	240	221	201	192	163	270	25.2	262	243	225	206	187	167	148
	57	282	23.7	281	262	243	224	205	186	167	270	25.2	266	247	228	209	190	171	152

AIR ON EVAPORATOR COIL		TEMPERATURE OF AIR ON CONDENSER COIL																	
		105°F									115°F								
		TOTAL CAP. <sup>1</sup> MBH	POWER INPUT <sup>2</sup> KW	SENSIBLE CAPACITY <sup>1</sup> , MBH								TOTAL CAP. <sup>1</sup> MBH	POWER INPUT <sup>2</sup> KW	SENSIBLE CAPACITY <sup>1</sup> , MBH					
				ENTERING DRY BULB, °F										ENTERING DRY BULB, °F					
CFM	WB °F	86	83	80	77	74	71	68	86	83	80	77	74	71	68				
12000	72	337	30.7	264	228	191	155	118	-	-	320	32.6	261	224	188	151	114	-	-
	67	310	29.5	309	283	246	210	173	137	100	294	31.3	294	278	242	205	169	132	95
	62	300	28.8	300	300	300	263	226	190	153	285	30.5	285	285	285	248	212	175	138
11000	57	299	28.8	299	299	299	263	226	190	153	285	30.5	285	285	285	248	211	175	138
	72	331	30.5	254	221	187	153	119	-	-	315	32.3	252	218	185	151	117	-	-
	67	306	29.3	302	276	242	208	174	141	107	291	31.0	291	273	239	205	171	138	104
10000	62	295	28.5	295	295	294	260	226	192	159	280	30.3	280	280	280	246	213	179	145
	57	294	28.5	294	294	294	261	227	193	160	280	30.3	280	280	280	246	213	179	145
	72	326	30.2	244	213	183	152	121	-	-	310	32.1	243	212	181	151	120	-	-
9000	67	302	29.0	294	268	237	206	176	145	114	287	30.8	287	267	236	205	174	143	112
	62	290	28.3	290	290	287	256	226	195	164	276	30.0	276	276	276	245	214	183	152
	57	290	28.2	290	290	290	259	228	197	166	275	29.9	275	275	275	244	214	183	152
8000	72	322	30.0	228	200	172	144	116	-	-	306	31.8	228	200	172	144	116	-	-
	67	297	28.8	276	251	223	195	167	139	111	283	30.5	274	251	223	195	167	139	111
	62	286	28.1	286	284	271	243	215	187	159	272	29.8	272	272	262	234	206	178	150
7000	57	286	28.1	286	285	273	245	217	189	161	272	29.7	272	272	261	234	206	178	150
	72	319	29.8	212	187	162	137	112	-	-	303	31.6	213	188	163	138	113	-	-
	67	293	28.6	259	234	209	184	159	134	109	278	30.3	260	235	210	185	160	135	110
6000	62	283	28.0	283	278	255	230	205	180	155	269	29.6	269	269	248	223	198	173	148
	57	283	28.0	283	280	257	232	207	182	157	269	29.6	269	269	248	223	198	173	148
	72	290	28.3	180	161	141	122	103	-	-	276	30.0	183	164	145	125	106	-	-
5000	67	264	26.9	224	200	181	162	142	123	104	251	28.5	222	203	194	165	146	127	108
	62	258	26.6	258	241	223	204	184	165	146	245	28.2	245	239	220	201	182	163	144
	57	258	26.6	258	242	224	205	186	167	148	245	28.2	245	240	221	202	182	163	144

1. These capacities are gross ratings. For net capacity, deduct the heat of the supply air blower motor, MBH = 3.415 x KW. Refer to the appropriate Blower Performance Table for the KW of the supply air blower motor.
2. These ratings include the condenser fan motors (Total 2.3 KW) and the compressor motors but not the supply air blower motor.

Nominal Rating

## CFM, STATIC PRESSURE, AND POWER - ALTI-TUDE AND TEMPERATURE CORRECTIONS

The information below should be used to assist in application of product when being applied at altitudes at or exceeding 1000 feet above sea level.

The air flow rates listed in the standard blower performance tables are based on standard air at sea level. As the altitude or temperature increases, the density of air decreases. In

order to use the indoor blower tables for high altitude applications, certain corrections are necessary.

A centrifugal fan is a "constant volume" device. This means that, if the rpm remains constant, the CFM delivered is the same regardless of the density of the air. However, since the air at high altitude is less dense, less static pressure will be generated and less power will be required than a similar application at sea level. Air density correction factors are shown in Table 7 and Figure 2.

**TABLE 7: ALTITUDE CORRECTION FACTORS**

AIR TEMP	ALTITUDE (FEET)										
	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000
40	1.060	1.022	0.986	0.950	0.916	0.882	0.849	0.818	0.788	0.758	0.729
50	1.039	1.002	0.966	0.931	0.898	0.864	0.832	0.802	0.772	0.743	0.715
60	1.019	0.982	0.948	0.913	0.880	0.848	0.816	0.787	0.757	0.729	0.701
70	1.000	0.964	0.930	0.896	0.864	0.832	0.801	0.772	0.743	0.715	0.688
80	0.982	0.947	0.913	0.880	0.848	0.817	0.787	0.758	0.730	0.702	0.676
90	0.964	0.929	0.897	0.864	0.833	0.802	0.772	0.744	0.716	0.689	0.663
100	0.946	0.912	0.880	0.848	0.817	0.787	0.758	0.730	0.703	0.676	0.651

The examples below will assist in determining the airflow performance of the product at altitude.

**Example 1:** What are the corrected CFM, static pressure, and BHP at an elevation of 5,000 ft. if the blower performance data is 6,000 CFM, 1.5 IWC and 4.0 BHP?

**Solution:** At an elevation of 5,000 ft the indoor blower will still deliver 6,000 CFM if the rpm is unchanged. However, Table 7 must be used to determine the static pressure and BHP. Since no temperature data is given, we will assume an air temperature of 70°F. Table 7 shows the correction factor to be 0.832.

$$\text{Corrected static pressure} = 1.5 \times 0.832 = 1.248 \text{ IWC}$$

$$\text{Corrected BHP} = 4.0 \times 0.832 = 3.328$$

**Example 2:** A system, located at 5,000 feet of elevation, is to deliver 6,000 CFM at a static pressure of 1.5". Use the unit

blower tables to select the blower speed and the BHP requirement.

**Solution:** As in the example above, no temperature information is given so 70°F is assumed.

The 1.5" static pressure given is at an elevation of 5,000 ft. The first step is to convert this static pressure to equivalent sea level conditions.

$$\text{Sea level static pressure} = 1.5 / .832 = 1.80"$$

Enter the blower table at 6000 sCFM and static pressure of 1.8". The rpm listed will be the same rpm needed at 5,000 ft.

Suppose that the corresponding BHP listed in the table is 3.2. This value must be corrected for elevation.

$$\text{BHP at 5,000 ft} = 3.2 \times .832 = 2.66$$

# Altitude/Temperature Conversion Factor

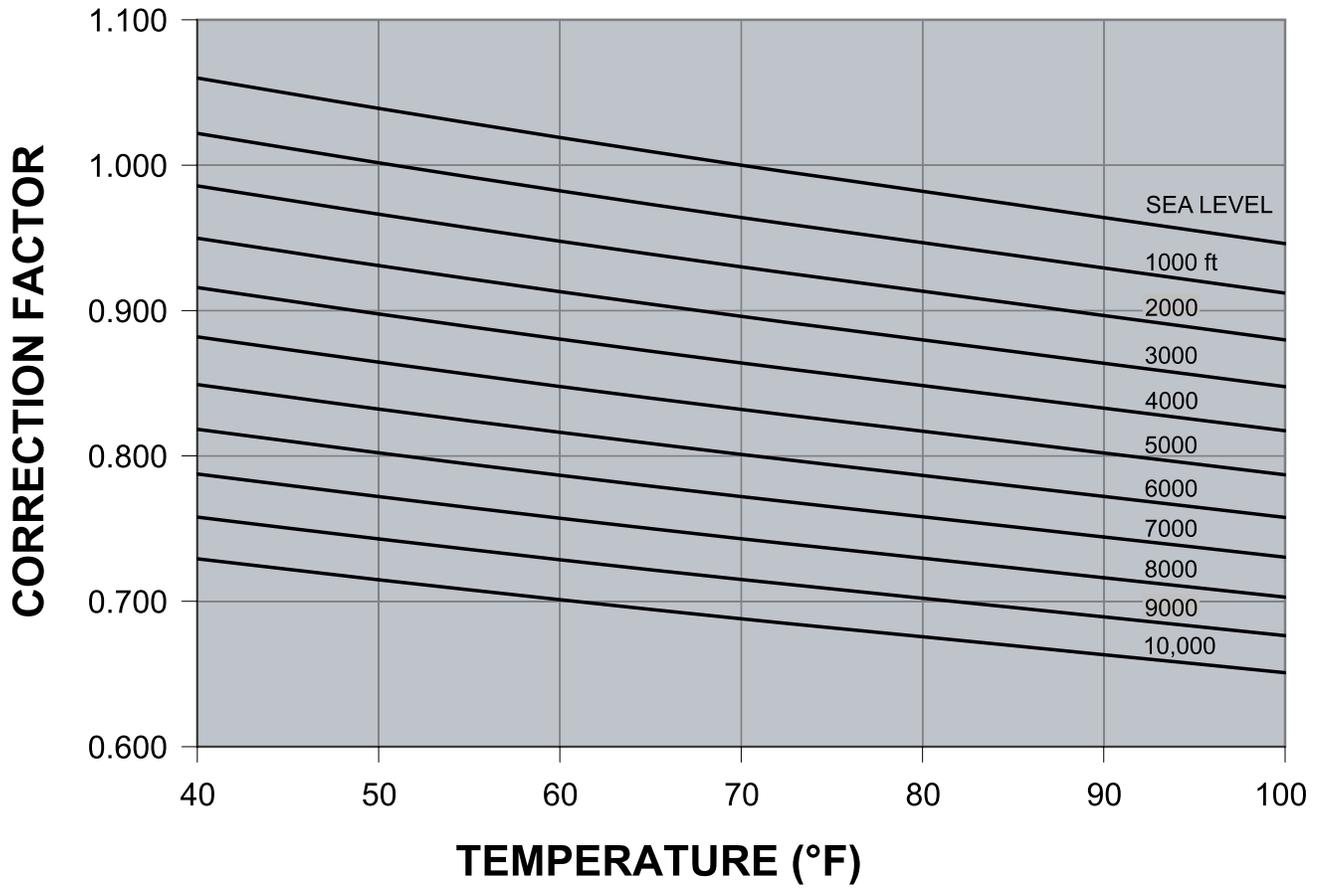


FIGURE 2 - ALTITUDE/TEMPERATURE CONVERSION FACTOR

**TABLE 8: SUPPLY AIR BLOWER PERFORMANCE (15 TON) - COOLING ONLY  
180 MBH - BOTTOM DUCT CONNECTIONS**

BLOWER SPEED, (RPM)	MOTOR PULLEY (TURNS OPEN)*	CFM														
		4500			5250			6000			6750			7200		
		ESP	BHP	KW												
<b>208 VOLT AND STANDARD DRIVE</b>																
850	6.0**	0.9	2.4	2.2	0.7	3.0	2.7	0.5	3.2	2.9	-	-	-	-	-	-
870	5.5	1.0	2.5	2.3	0.8	3.1	2.8	0.6	3.5	3.1	0.2	4.1	3.7	-	-	-
915	4.5	1.1	2.6	2.4	0.9	3.4	3.0	0.7	3.7	3.3	0.3	4.4	3.9	0.2	4.5	4.0
965	3.5	1.2	2.9	2.6	1.0	3.6	3.2	0.8	4.0	3.6	0.5	4.7	4.2	0.4	4.9	4.4
980	3.0	1.3	3.0	2.7	1.1	3.7	3.3	0.9	4.1	3.7	0.6	4.8	4.3	0.5	5.1	4.6
1010	2.0	1.4	3.1	2.8	1.2	3.8	3.4	1.0	4.2	3.8	0.7	5.0	4.5	0.6	5.4	4.8
1040	1.0	1.5	3.2	2.9	1.3	3.9	3.5	1.1	4.5	4.0	0.9	5.2	4.7	0.7	5.7	5.1
<b>208 VOLT AND HIGH SPEED DRIVE</b>																
965	6.0	1.2	2.9	2.6	1.0	3.6	3.2	0.8	4.0	3.6	0.5	4.7	4.2	0.4	5.0	4.4
980	5.5	1.3	3.0	2.7	1.1	3.7	3.3	0.9	4.1	3.7	0.6	4.8	4.3	0.5	5.1	4.6
1025	4.5	1.5	3.2	2.9	1.3	3.9	3.5	1.1	4.5	4.0	0.8	5.1	4.6	0.7	5.6	5.0
1065	3.5	1.6	3.4	3.0	1.4	4.0	3.6	1.2	4.7	4.2	1.0	5.5	4.9	-	-	-
1095	3.0	1.7	3.5	3.1	1.5	4.2	3.8	1.3	4.9	4.4	1.2	5.7	5.1	-	-	-
1130	2.0	1.9	3.7	3.3	1.7	4.5	4.0	1.5	5.1	4.6	-	-	-	-	-	-
1170	1.0	2.1	3.9	3.5	2.0	4.7	4.2	1.8	5.5	4.9	-	-	-	-	-	-
<b>230/460/575 VOLT AND STANDARD DRIVE</b>																
870	6.0**	1.0	2.4	2.2	0.8	3.1	2.8	0.6	3.5	3.1	0.2	4.1	3.7	-	-	-
915	5.0	1.1	2.6	2.4	0.9	3.3	3.0	0.7	3.7	3.3	0.3	4.4	3.9	0.2	4.5	4.0
965	4.0	1.2	2.9	2.6	1.0	3.6	3.2	0.8	4.0	3.6	0.5	4.7	4.2	0.4	5.0	4.4
980	3.5	1.3	3.0	2.7	1.1	3.7	3.3	0.9	4.1	3.7	0.6	4.8	4.3	0.5	5.1	4.6
1040	2.0	1.5	3.2	2.9	1.3	3.9	3.5	1.1	4.5	4.0	0.9	5.3	4.7	0.7	5.7	5.1
1065	1.0	1.6	3.3	3.0	1.4	4.0	3.6	1.2	4.7	4.2	1.0	5.5	4.9	-	-	-
<b>230/460/575 VOLT AND HIGH SPEED DRIVE</b>																
980	6.0	1.3	2.9	2.6	1.1	3.7	3.3	0.9	4.1	3.7	0.6	4.8	4.3	0.5	5.1	4.6
1040	4.5	1.5	3.2	2.9	1.3	3.9	3.5	1.1	4.5	4.0	0.9	5.3	4.7	0.7	5.7	5.1
1065	4.0	1.6	3.4	3.0	1.4	4.0	3.6	1.2	4.7	4.2	1.0	5.5	4.9	-	-	-
1095	3.5	1.7	3.5	3.1	1.5	4.2	3.8	1.3	4.9	4.4	1.2	5.7	5.1	-	-	-
1130	2.5	1.9	3.7	3.3	1.7	4.5	4.0	1.5	5.1	4.6	-	-	-	-	-	-
1170	1.5	2.1	3.9	3.5	2.0	4.7	4.2	1.8	5.5	4.9	-	-	-	-	-	-
1190	1.0	2.2	4.0	3.6	2.1	4.8	4.3	2.0	5.7	5.1	-	-	-	-	-	-

- NOTES: 1. Blower performance includes fixed outdoor air, 2" T/A filters, a dry evaporator coil and no electric heat.  
2. Refer to Table 13 for additional static resistances.  
ESP = External Static Pressure available for the supply and return air duct system. All internal unit resistances have been deducted from the total static pressure of the blower.  
\* Do NOT close the pulley below 1 turn open.  
\*\* Factory setting.

**TABLE 9: SUPPLY AIR BLOWER PERFORMANCE (20 TON) - COOLING ONLY  
240 MBH - BOTTOM DUCT CONNECTIONS**

BLOWER SPEED, (RPM)	MOTOR PULLEY (TURNS OPEN)*	CFM														
		6000			7000			8000			9000			9400		
		ESP	BHP	KW												
<b>208 VOLT AND STANDARD DRIVE</b>																
870	6.0**	0.4	2.1	1.8	0.1	2.3	2.0	-	-	-	-	-	-	-	-	-
900	5.0	0.8	3.2	2.7	0.5	3.5	2.9	0.2	3.8	3.2	-	-	-	-	-	-
930	4.0	1.1	4.1	3.4	0.9	4.5	3.8	0.6	4.9	4.1	0.1	5.1	4.3	-	-	-
950	3.0	1.3	4.6	3.9	1.1	5.1	4.3	0.8	5.5	4.6	0.4	5.9	5.0	-	-	-
980	2.0	1.6	5.3	4.5	1.4	5.8	4.9	1.2	6.3	5.3	0.7	6.9	5.8	0.2	7.3	6.1
1015	1.0	1.9	5.9	5.0	1.7	6.5	5.5	1.5	7.0	5.9	1.0	7.7	6.5	0.6	8.2	6.9
<b>208 VOLT AND HIGH SPEED DRIVE</b>																
950	6.0	1.3	4.6	3.9	1.1	5.1	4.3	0.8	5.5	4.6	0.4	5.9	5.0	-	-	-
980	5.0	1.6	5.3	4.5	1.4	5.8	4.9	1.2	6.3	5.3	0.7	6.9	5.8	0.2	7.3	6.1
1010	4.0	1.8	5.8	4.9	1.7	6.3	5.3	1.5	6.9	5.8	1.0	7.5	6.3	0.5	7.9	6.7
1020	3.5	1.9	6.1	5.1	1.8	6.5	5.5	1.6	7.1	6.0	1.1	7.8	6.6	0.6	8.3	7.0
1035	3.0	2.0	6.2	5.2	1.9	6.8	5.7	1.7	7.4	6.2	1.2	8.1	6.8	0.7	8.6	7.3
1050	2.5	2.1	6.4	5.4	2.0	7.0	5.9	1.8	7.6	6.4	1.3	8.3	7.0	-	-	-
1075	2.0	2.3	6.6	5.5	2.1	7.2	6.0	1.9	7.8	6.6	1.5	8.6	7.2	-	-	-
1100	1.0	2.4	6.7	5.6	2.2	7.3	6.1	2.1	7.9	6.7	-	-	-	-	-	-
<b>230/460/575 VOLT AND STANDARD DRIVE</b>																
870	6.0**	0.4	2.1	1.8	0.1	2.3	2.0	-	-	-	-	-	-	-	-	-
900	5.0	0.8	3.2	2.7	0.5	3.5	2.9	0.2	3.8	3.2	-	-	-	-	-	-
930	4.0	1.1	4.1	3.4	0.9	4.5	3.8	0.6	4.9	4.1	0.1	5.1	4.3	-	-	-
950	3.5	1.3	4.6	3.9	1.1	5.1	4.3	0.8	5.5	4.6	0.4	5.9	5.0	-	-	-
980	2.5	1.6	5.3	4.5	1.4	5.8	4.9	1.2	6.3	5.3	0.7	6.9	5.8	0.2	7.3	6.1
1015	1.5	1.9	5.9	5.0	1.7	6.5	5.5	1.5	7.0	5.9	1.0	7.7	6.5	0.6	8.2	6.9
1025	1.0	2.0	6.1	5.1	1.8	6.6	5.6	1.6	7.3	6.1	1.1	7.9	6.7	0.7	8.6	7.3
<b>230/460/575 VOLT AND HIGH SPEED DRIVE</b>																
950	6.0	1.3	4.6	3.9	1.1	5.1	4.3	0.8	5.5	4.6	0.4	5.9	5.0	-	-	-
980	5.0	1.6	5.3	4.5	1.4	5.8	4.9	1.2	6.3	5.3	0.7	6.9	5.8	0.2	7.3	6.1
1015	4.0	1.9	5.9	5.0	1.7	6.5	5.5	1.5	7.0	5.9	1.0	7.7	6.5	0.6	8.2	6.9
1035	3.5	2.0	6.2	5.2	1.9	6.8	5.7	1.7	7.4	6.2	1.2	8.1	6.8	0.7	8.6	7.3
1050	3.0	2.1	6.4	5.4	2.0	7.0	5.9	1.8	7.6	6.4	1.3	8.3	7.0	-	-	-
1080	2.0	2.3	6.6	5.5	2.1	7.2	6.0	1.9	7.8	6.6	1.5	8.6	7.2	-	-	-
1100	1.5	2.4	6.7	5.6	2.2	7.3	6.1	2.1	7.9	6.7	-	-	-	-	-	-
1120	1.0	2.5	6.8	5.7	2.3	7.4	6.2	2.2	8.1	6.8	-	-	-	-	-	-

- NOTES: 1. Blower performance includes fixed outdoor air, 2" T/A filters, a dry evaporator coil and no electric heat.  
2. Refer to Table 13 for additional static resistances.  
ESP = External Static Pressure available for the supply and return air duct system. All internal unit resistances have been deducted from the total static pressure of the blower.  
\* Do **NOT** close the pulley below 1 turn open.  
\*\* Factory setting.

**TABLE 10: SUPPLY AIR BLOWER PERFORMANCE (15 TON) - GAS HEAT  
180 MBH - BOTTOM DUCT CONNECTIONS**

BLOWER SPEED, (RPM)	MOTOR PULLEY (TURNS OPEN)*	CFM														
		4500			5250			6000			6750			7200		
		ESP	BHP	KW												
<b>208 VOLT AND STANDARD DRIVE</b>																
850	6.0**	0.9	2.4	2.1	0.6	2.9	2.6	0.3	3.4	3.0	-	-	-	-	-	-
870	5.5	1.0	2.5	2.2	0.7	3.0	2.7	0.4	3.5	3.1	-	-	-	-	-	-
915	4.5	1.1	2.6	2.4	0.8	3.1	2.8	0.5	3.6	3.2	0.2	4.1	3.7	-	-	-
965	3.5	1.2	2.7	2.5	0.9	3.2	2.9	0.6	3.7	3.3	0.4	4.4	3.0	0.2	5.0	4.5
980	3.0	1.3	2.9	2.6	1.0	3.4	3.0	0.7	3.8	3.4	0.5	4.5	4.0	0.3	5.1	4.6
1010	2.0	1.4	3.0	2.7	1.1	3.6	3.2	0.8	4.0	3.6	0.6	4.7	4.2	0.4	5.4	4.8
1040	1.0	1.6	3.2	2.9	1.3	3.8	3.4	1.0	4.4	3.9	0.8	5.0	4.5	0.6	5.6	5.0
<b>208 VOLT AND HIGH SPEED DRIVE</b>																
965	6.0	1.2	2.7	2.5	0.9	3.2	2.9	0.6	3.7	3.3	0.4	4.4	3.9	0.2	5.0	4.5
980	5.5	1.3	2.9	2.6	1.0	3.4	3.0	0.7	3.8	3.4	0.5	4.5	4.0	0.3	5.1	4.6
1025	4.5	1.4	3.1	2.8	1.2	3.6	3.2	0.9	4.1	3.7	0.7	4.8	4.3	0.4	5.5	4.9
1065	3.5	1.6	3.4	3.0	1.4	3.9	3.5	1.1	4.5	4.0	0.9	5.1	4.6	-	-	-
1125	2.0	1.9	3.6	3.2	1.7	4.4	3.9	1.4	5.0	4.5	1.2	5.8	5.2	-	-	-
1170	1.0	2.1	3.9	3.5	1.9	4.7	4.2	1.6	5.5	4.9	-	-	-	-	-	-
<b>230/460/575 VOLT AND STANDARD DRIVE</b>																
870	6.0**	1.0	2.5	2.2	0.7	3.0	2.7	0.4	3.5	3.1	-	-	-	-	-	-
915	5.0	1.1	2.6	2.4	0.8	3.1	2.8	0.5	3.6	3.2	0.2	4.1	3.7	-	-	-
965	4.0	1.2	2.7	2.5	0.9	3.2	2.9	0.6	3.7	3.3	0.4	4.4	3.9	0.2	5.0	4.5
980	3.5	1.3	2.9	2.6	1.0	3.4	3.0	0.7	3.8	3.4	0.5	4.5	4.0	0.3	5.1	4.6
1015	2.5	1.4	3.0	2.7	1.1	3.6	3.2	0.8	4.0	3.6	0.6	4.7	4.2	0.4	5.4	4.8
1050	1.5	1.5	3.1	2.8	1.2	3.7	3.3	0.9	4.2	3.8	0.7	4.9	4.4	0.5	5.7	5.1
1065	1.0	1.6	3.4	3.0	1.4	3.9	3.5	1.1	4.5	4.0	0.9	5.1	4.6	-	-	-
<b>230/460/575 VOLT AND HIGH SPEED DRIVE</b>																
980	6.0	1.3	2.9	2.6	1.0	3.4	3.0	0.7	3.8	3.4	0.5	4.5	4.0	0.3	5.1	4.6
1045	4.5	1.6	3.2	2.9	1.3	3.8	3.4	1.0	4.4	3.9	0.8	5.0	4.5	0.6	5.6	5.0
1065	4.0	1.7	3.4	3.0	1.4	3.9	3.5	1.1	4.5	4.0	0.9	5.1	4.6	-	-	-
1125	2.5	1.9	3.6	3.2	1.7	4.4	3.9	1.4	5.0	4.5	1.2	5.8	5.2	-	-	-
1170	1.5	2.1	3.9	3.5	1.8	4.7	4.2	1.6	5.5	4.9	-	-	-	-	-	-
1190	1.0	2.2	4.0	3.6	1.9	4.8	4.3	1.7	5.6	5.0	-	-	-	-	-	-

- NOTES: 1. Blower performance includes a gas-fired heat exchanger, fixed outdoor air, two-inch T/A filters and a dry evaporator coil.  
2. Refer to the additional Static Resistances table.  
ESP = External Static Pressure available for the supply and return air duct system. All internal unit resistances have been deducted from the total static pressure of the blower.  
\* Do **NOT** close the pulley below 1 turn open.  
\*\* Factory setting.

**TABLE 11: SUPPLY AIR BLOWER PERFORMANCE (20 TON) - GAS HEAT  
240 MBH - BOTTOM DUCT CONNECTIONS**

BLOWER SPEED, (RPM)	MOTOR PULLEY (TURNS OPEN)*	CFM														
		6000			7000			8000			9000			9400		
		ESP	BHP	KW												
<b>208 VOLT AND STANDARD DRIVE</b>																
870	6.0**	1.3	3.6	3.0	0.7	4.3	3.7	0.2	5.1	4.3	-	-	-	-	-	-
900	5.0	1.4	3.8	3.2	0.9	4.7	4.0	0.4	5.6	4.7	-	-	-	-	-	-
930	4.0	1.6	4.1	3.4	1.1	5.0	4.2	0.6	5.9	5.0	0.1	6.7	5.7	-	-	-
950	3.0	1.7	4.2	3.6	1.3	5.1	4.3	0.8	6.0	5.1	0.2	6.9	5.8	-	-	-
980	2.0	1.9	4.5	3.8	1.5	5.4	4.5	1.0	6.3	5.3	0.4	7.2	6.1	0.1	8.5	7.1
995	1.5	2.1	4.6	3.9	1.6	5.5	4.7	1.1	6.4	5.4	0.5	7.5	6.3	0.2	8.6	7.3
1015	1.0	2.2	4.8	4.0	1.7	4.7	4.8	1.2	6.6	5.6	0.7	7.8	6.6	-	-	-
<b>208 VOLT AND HIGH SPEED DRIVE</b>																
950	6.0	1.7	4.2	3.6	1.3	5.1	4.3	0.8	6.0	5.1	0.2	6.9	5.8	-	-	-
980	5.0	1.9	4.5	3.8	1.5	5.4	4.5	1.0	6.3	5.3	0.4	7.2	6.1	0.1	8.5	7.1
995	4.5	2.1	4.5	3.9	1.6	5.5	4.7	1.1	6.4	5.4	0.5	7.5	6.3	0.2	8.6	7.3
1025	3.5	2.3	4.9	4.1	1.8	5.8	4.9	1.3	6.7	5.7	0.7	8.0	6.7	-	-	-
1050	2.5	2.5	5.1	4.3	2.0	6.1	5.1	1.4	7.1	6.0	0.9	8.4	7.0	-	-	-
1065	2.0	2.6	5.3	4.4	2.1	6.3	5.3	1.5	7.3	6.2	1.0	8.6	7.2	-	-	-
1100	1.0	2.9	5.6	4.7	2.3	6.8	5.7	1.8	7.9	6.6	-	-	-	-	-	-
<b>230/460/575 VOLT AND STANDARD DRIVE</b>																
870	6.0**	1.3	3.6	3.0	0.7	4.3	3.7	0.2	5.1	4.3	-	-	-	-	-	-
900	5.0	1.4	3.8	3.2	0.9	4.7	4.0	0.4	5.6	4.7	-	-	-	-	-	-
930	4.0	1.6	4.1	3.4	1.1	5.0	4.2	0.6	5.9	5.0	0.1	6.7	5.7	-	-	-
950	3.5	1.7	4.2	3.6	1.3	5.1	4.3	0.8	6.0	5.1	0.2	6.9	5.8	-	-	-
965	2.5	1.9	4.5	3.8	1.5	5.4	4.5	1.0	6.3	5.3	0.4	7.2	6.1	0.1	8.5	7.1
995	2.0	2.1	4.6	3.9	1.6	5.5	4.7	1.1	6.4	5.4	0.5	7.5	6.3	0.2	8.6	7.3
1015	1.5	2.2	4.8	4.0	1.7	5.7	4.8	1.2	6.6	5.6	0.6	7.8	6.6	-	-	-
1025	1.0	2.3	4.9	4.1	1.8	5.8	4.9	1.3	6.7	5.7	0.7	8.0	6.7	-	-	-
<b>230/460/575 VOLT AND HIGH SPEED DRIVE</b>																
950	6.0	1.7	4.2	3.6	1.3	5.1	4.3	0.8	6.0	5.1	0.2	6.9	5.8	-	-	-
980	5.0	1.9	4.5	3.8	1.5	5.4	4.5	1.0	6.3	5.3	0.4	7.2	6.1	0.1	8.5	7.1
995	4.5	2.1	4.6	3.9	1.6	5.5	4.7	1.1	6.4	5.4	0.5	7.5	6.3	0.2	8.6	7.3
1015	4.0	2.2	4.8	4.0	1.7	5.7	4.8	1.2	6.6	5.6	0.6	7.8	6.6	-	-	-
1025	3.5	2.3	4.9	4.1	1.8	5.8	4.9	1.3	6.7	5.7	0.7	8.0	6.7	-	-	-
1050	3.0	2.5	5.1	4.3	2.0	6.1	5.1	1.4	7.1	6.0	0.9	8.4	7.0	-	-	-
1065	2.5	2.6	5.3	4.4	2.1	6.3	5.3	1.5	7.3	6.2	1.0	8.6	7.2	-	-	-
1100	1.5	2.9	5.6	4.7	2.3	6.8	4.7	1.8	7.9	6.6	-	-	-	-	-	-
1120	1.0	3.1	5.8	4.9	2.5	7.0	5.9	1.9	8.3	6.9	-	-	-	-	-	-

- NOTES: 1. Blower performance includes a gas-fired heat exchanger, fixed outdoor air, two-inch T/A filters and a dry evaporator coil.  
2. Refer to the additional Static Resistances table.  
ESP = External Static Pressure available for the supply and return air duct system. All internal unit resistances have been deducted from the total static pressure of the blower.  
\* Do **NOT** close the pulley below 1 turn open.  
\*\* Factory setting.

**TABLE 12: SUPPLY AIR BLOWER PERFORMANCE (25 TON) - GAS HEAT  
300 MBH - BOTTOM DUCT CONNECTIONS**

BLOWER SPEED, (RPM)	MOTOR PULLEY (TURNS OPEN)*	CFM														
		7500			8750			10000			11250			12500		
		ESP	BHP	KW	ESP	BHP	KW	ESP	BHP	KW	ESP	BHP	KW	ESP	BHP	KW
<b>208 VOLT AND STANDARD DRIVE</b>																
975	6.0	1.2	5.9	4.9	5.0	7.3	6.0	-	-	-	-	-	-	-	-	-
1005	5.0	1.4	6.2	5.1	0.7	7.7	6.3	-	-	-	-	-	-	-	-	-
1040	4.0	1.6	6.6	5.4	0.9	8.1	6.7	0.2	9.7	8.0	-	-	-	-	-	-
1070	3.0	1.8	6.9	5.7	1.1	8.5	7.0	0.4	10.2	8.3	-	-	-	-	-	-
1100	2.0	2.0	7.3	6.0	1.3	8.9	7.3	0.6	10.6	8.7	-	-	-	-	-	-
1135	1.0	2.2	7.7	6.3	1.6	9.3	7.6	0.8	11.1	9.1	-	-	-	-	-	-
1165	0.0	2.4	8.0	6.6	1.8	9.7	8.0	1.0	11.6	9.5	0.2	13.5	11.0	-	-	-
<b>208 VOLT AND HIGH SPEED DRIVE</b>																
1140	6.0	2.2	7.7	6.3	1.6	9.4	7.7	0.9	11.2	9.2	-	-	-	-	-	-
1180	5.0	2.5	8.2	6.7	1.9	9.9	8.1	1.2	11.8	9.7	0.3	13.7	11.2	-	-	-
1215	4.0	2.7	8.6	7.0	2.1	10.4	8.5	1.4	12.3	10.1	0.6	14.3	11.7	-	-	-
1255	3.0	3.0	9.1	7.4	2.4	11.0	9.0	1.7	12.9	10.6	0.9	15.0	12.3	-	-	-
1290	2.0	3.2	9.5	7.8	2.7	11.5	9.4	2.0	13.5	11.1	1.2	15.6	12.8	-	-	-
1330	1.0	3.5	10.0	8.2	3.0	12.0	9.9	2.3	14.1	11.6	1.5	16.4	13.4	-	-	-
1365	0.0	3.7	10.5	8.6	3.2	12.6	10.3	2.6	14.7	12.1	1.8	17.0	13.9	-	-	-
<b>230/460/575 VOLT AND STANDARD DRIVE</b>																
975	6.0*	1.4	5.9	4.9	1.0	7.3	6.0	0.5	8.8	7.2	-	-	-	-	-	-
1005	5.0	1.6	6.2	5.1	1.2	7.7	6.3	0.7	9.2	7.6	0.1	10.9	8.9	-	-	-
1040	4.0	1.8	6.6	5.4	1.4	8.1	6.7	0.9	9.7	8.0	0.3	11.4	9.4	-	-	-
1070	3.0	2.0	6.9	5.7	1.6	8.5	7.0	1.1	10.2	8.3	0.6	11.9	9.8	-	-	-
1100	2.0	2.1	7.3	6.0	1.8	8.9	7.3	1.3	10.6	8.7	0.8	12.4	10.2	0.2	14.3	11.7
1135	1.0	2.4	7.7	6.3	2.0	9.3	7.6	1.6	11.1	9.1	1.0	13.0	10.6	0.4	14.9	12.2
1165	0.0	2.6	8.0	6.6	2.2	9.7	8.0	1.8	11.6	9.5	1.3	13.5	11.0	0.7	15.5	12.7
<b>230/460/575 VOLT AND HIGH SPEED DRIVE</b>																
1140	6.0	2.4	7.7	6.3	2.1	9.4	7.7	1.6	11.2	9.2	1.1	13.1	10.7	0.5	15.0	12.3
1180	5.0	2.7	8.2	6.7	2.3	9.9	8.1	1.9	11.8	9.7	1.4	13.7	11.2	0.8	15.8	12.9
1215	4.0	2.9	8.6	7.0	2.6	10.4	8.5	2.2	12.3	10.1	1.7	14.3	11.7	1.1	16.4	13.5
1255	3.0	3.2	9.1	7.4	2.9	11.0	9.0	2.5	12.9	10.6	2.0	15.0	12.3	1.4	17.2	14.1
1290	2.0	3.4	9.5	7.8	3.1	11.5	9.4	2.7	13.5	11.1	2.2	15.6	12.8	-	-	-
1330	1.0	3.7	10.0	8.2	3.4	12.0	9.9	3.0	14.1	11.6	2.6	16.4	13.4	-	-	-
1365	0.0	3.9	10.5	8.6	3.7	12.6	10.3	3.3	14.7	12.1	2.9	17.0	13.9	-	-	-

- NOTES: 1. Blower performance includes a gas-fired heat exchanger, fixed outdoor air, two-inch T/A filters and a dry evaporator coil.  
2. Refer to the additional Static Resistances table.  
ESP = External Static Pressure available for the supply and return air duct system. All internal unit resistances have been deducted from the total static pressure of the blower.  
\* Do **NOT** close the pulley below 1 turn open.  
\*\* Factory setting.

**TABLE 13: BLOWER MOTOR AND DRIVE DATA**

MODEL SIZE	DRIVE	BLOWER RANGE (RPM)	MOTOR <sup>1</sup>			ADJUSTABLE MOTOR PULLEY				FIXED BLOWER PULLEY				BELT (NOTCHED)		
			HP	FRAME	EFF. (%)	DESIG-NATION	OUTSIDE DIA. (IN.)	PITCH DIA. (IN.)	BORE (IN.)	DESIG-NATION	OUTSIDE DIA. (IN.)	PITCH DIA. (IN.)	BORE (IN.)	DESIG-NATION	PITCH LENGTH (IN.)	QTY.
15 TON	Standard	850/1065	5	184 T	83	1VP56	5.35	4.3-5.3 <sup>2</sup>	1-1/8	BK90	8.75	8.4	1	BX81	82.8	1
	High Speed Access	965/1190								BK80	7.75	7.4	1	BX68	69.8	1
20 TON	Standard	870/1025	7.5	213 T	89	1VP68	6.75	5.5-6.5 <sup>2</sup>	1-3/8	BK120	11.75	11.4	1-3/16	BX83	84.8	1
	High Speed Access	950/1120								BK110	10.75	10.4	1-3/16	BX81	82.8	1
25 TON	Standard	975/1165	15	254 T	91	1VP75X	7.5	6.2-7.4	1-5/8	1B5V110	11.3	11.1	1-7/16	5VX860	86.0	1
	High Speed Access	1140/1365								1B5V94	9.7	9.5	1-7/16	5VX840	84.0	1

- All motors have a nominal speed of 1800 RPM, a 1.15 service factor and a solid base. They can operate to the limit of their service factor because they are located in the moving air, upstream of any heating device.
- Do **NOT** close this pulley below 1 turn open.

**TABLE 14: STATIC RESISTANCES<sup>1</sup>**

DESCRIPTION	RESISTANCE, IWG								
	CFM								
	15 TON			20 TON			25 TON		
	4500	6000	7200	6000	8000	9400	7500	10000	12500
WET INDOOR COIL	0.1	0.1	0.1	0.1	0.1	0.1	0.11	0.11	0.11
ELECTRIC HEAT OPTIONS	18 KW	0.1	0.1	0.1	0.1	0.1	0.31	0.56	0.87
	36 KW	0.1	0.2	0.3	0.1	0.2	0.38	0.68	1.07
	54 KW	0.2	0.3	0.4	0.2	0.3	0.62	1.10	1.72
	72 KW	0.2	0.4	0.6	0.2	0.4	0.68	1.21	1.90
ECONOMIZER OPTION	0.1	0.1	0.1	0.1	0.1	0.1	0.06	0.11	0.18
HORIZONTAL DUCT CONNECTIONS <sup>2</sup>	0.1	0.2	0.3	0.2	0.3	0.5	0.36	0.32	0.46

- Deduct these resistance values from the available external static pressures shown in the respective Blower Performance Table (See Note 2 for exception.)
- Since the resistance to air flow will be less for horizontal duct connections than for bottom duct connections, add these pressures to the ESP values on the respective unit's blower performance table.

**TABLE 15: POWER EXHAUST PERFORMANCE**

MOTOR SPEED <sup>1</sup>	STATIC RESISTANCE OF RETURN DUCTWORK, IWG									
	0.2		0.3		0.4		0.5		0.6	
	CFM	kW	CFM	kW	CFM	kW	CFM	kW	CFM	kW
HIGH <sup>2</sup>	5250	0.83	4500	0.85	4200	0.88	3750	0.93	3000	0.99
MEDIUM	4900	0.77	3900	0.79	3500	0.82	2900	0.85	-	-
LOW	4400	0.72	3700	0.74	3000	0.78	-	-	-	-

- Power exhaust motor is a 3/4 HP, PSC type with sleeve bearings, a 48 frame and inherent protection.
- The factory setting.

**TABLE 16: DM ELECTRICAL DATA WITHOUT POWERED CONVENIENCE OUTLET**

MODEL TONNAGE	VOLTAGE	COMPRESSORS		OD FAN MOTORS FLA EACH	ID BLOWER MOTOR FLA	CONV OUTLET AMPS	HEATER OPTION				MIN. CIRCUIT AMPACITY (AMPS)	MAX. FUSE/ BRKR <sup>1</sup> SIZE (AMPS)
		RLA EACH	LRA EACH				MODEL	KW	STAGES	AMPS		
15	208	19.2	124	4.5	14.0	0.0	None	0.0	-	-	85.4	100
							E18	13.5	1	37.5	85.4	100
							E36	27.0	2	75.1	111.2	125
							E54	40.6	2	112.6	158.4	175
							E72	54.1	2	150.1	167.7	200
	230	19.2	124	4.3	14.0	0.0	None	0.0	-	-	85.0	100
							E18	18.0	1	43.3	85.0	100
							E36	36.0	2	86.6	125.8	150
							E54	54.0	2	129.9	147.4	175
							E72	72.0	2	173.2	190.7	225
	460	9.6	62	2.2	7.0	0.0	None	0.0	-	-	42.6	50
							E18	18.0	1	21.7	42.6	50
							E36	36.0	2	43.3	62.9	70
							E54	54.0	2	65.0	73.7	90
							E72	72.0	2	86.6	95.4	110
	575	7.7	50	1.7	5.3	0.0	None	0.0	-	-	33.7	40
E18							18.0	1	17.3	33.7	40	
E36							36.0	2	34.6	49.9	50	
E54							54.0	2	52.0	58.6	70	
E72							72.0	2	69.3	75.9	90	
20	208	19.2	124	4.5	19.6	0.0	None	0.0	-	-	110.3	125
							E18	13.5	1	37.5	110.3	125
							E36	27.0	2	75.1	118.2	125
							E54	40.6	2	112.6	165.4	175
							E72	54.1	2	150.1	174.7	200
	230	19.2	124	4.3	19.6	0.0	None	0.0	-	-	109.9	125
							E18	18.0	1	43.3	109.9	125
							E36	36.0	2	86.6	132.8	150
							E54	54.0	2	129.9	154.4	175
							E72	72.0	2	173.2	197.7	225
	460	9.6	62	2.2	9.8	0.0	None	0.0	-	-	55.1	60
							E18	18.0	1	21.7	55.1	60
							E36	36.0	2	43.3	66.4	70
							E54	54.0	2	65.0	77.2	90
							E72	72.0	2	86.6	98.6	110
	575	7.7	50	1.7	8.2	0.0	None	0.0	-	-	44.5	50
E18							18.0	1	17.3	44.5	50	
E36							36.0	2	34.6	53.6	60	
E54							54.0	2	52.0	62.2	70	
E72							72.0	2	69.3	79.5	90	
25	208	20.7	156	4.5	38.6	0.0	None	0.0	-	-	140.1	175
							E18	13.5	1	37.5	140.1	175
							E36	27.0	2	75.1	141.9	175
							E54	40.6	2	112.6	189.1	200
							E72	54.1	2	150.1	198.4	225
	230	20.7	156	4.3	38.6	0.0	None	0.0	-	-	139.7	175
							E18	18.0	1	43.3	139.7	175
							E36	36.0	2	86.6	156.5	175
							E54	54.0	2	129.9	178.2	200
							E72	72.0	2	173.2	221.5	250
	460	10.0	75	2.2	19.3	0.0	None	0.0	-	-	68.5	80
							E18	18.0	1	21.7	68.5	80
							E36	36.0	2	43.3	78.3	80
							E54	54.0	2	65.0	89.1	100
							E72	72.0	2	86.6	110.7	125
	575	8.2	108	1.7	16.2	0.0	None	0.0	-	-	56.5	70
E18							18.0	1	17.3	56.5	70	
E36							36.0	2	34.6	63.6	70	
E54							54.0	2	52.0	72.2	80	
E72							72.0	2	69.3	89.5	100	

NOTE 1: HACR Type per NEC.

**TABLE 17: DM ELECTRICAL DATA WITH POWERED CONVENIENCE OUTLET**

MODEL TONNAGE	VOLTAGE	COMPRESSORS		OD FAN MOTORS FLA EACH	ID BLOWER MOTOR FLA	CONV OUTLET AMPS	HEATER OPTION				MIN. CIRCUIT AMPACITY (AMPS)	MAX. FUSE/ BRKR <sup>1</sup> SIZE (AMPS)
		RLA EACH	LRA EACH				MODEL	KW	STAGES	AMPS		
15	208	19.2	124	4.5	14.0	10.0	None	0.0	-	-	95.4	110
							E18	13.5	1	37.5	95.4	110
							E36	27.0	2	75.1	123.7	125
							E54	40.6	2	112.6	170.9	175
	230	19.2	124	4.3	14.0	10.0	E72	54.1	2	150.1	180.2	200
							None	0.0	-	-	95.0	110
							E18	18.0	1	43.3	95.0	110
							E36	36.0	2	86.6	138.3	150
	460	9.6	62	2.2	7.0	5.0	E54	54.0	2	129.9	159.9	175
							E72	72.0	2	173.2	203.2	225
							None	0.0	-	-	47.6	50
							E18	18.0	1	21.7	47.6	50
	575	7.7	50	1.7	5.3	4.0	E36	36.0	2	43.3	69.1	70
							E54	54.0	2	65.0	80.0	90
							E72	72.0	2	86.6	101.6	110
							None	0.0	-	-	37.7	45
20	208	19.2	124	4.5	19.6	10.0	E18	18.0	1	17.3	37.7	45
							E36	36.0	2	34.6	54.9	60
							E54	54.0	2	52.0	63.6	70
							E72	72.0	2	69.3	80.9	90
	230	19.2	124	4.3	19.6	10.0	None	0.0	-	-	120.3	125
							E18	13.5	1	37.5	120.3	125
							E36	27.0	2	75.1	130.7	150
							E54	40.6	2	112.6	177.9	200
	460	9.6	62	2.2	9.8	5.0	E72	54.1	2	150.1	187.2	200
							None	0.0	-	-	119.9	125
							E18	18.0	1	43.3	119.9	125
							E36	36.0	2	86.6	145.3	150
	575	7.7	50	1.7	8.2	4.0	E54	54.0	2	129.9	166.9	175
							E72	72.0	2	173.2	210.2	225
							None	0.0	-	-	60.1	70
							E18	18.0	1	21.7	60.1	70
25	208	20.7	156	4.5	38.6	10.0	E36	36.0	2	43.3	72.6	80
							E54	54.0	2	65.0	83.5	90
							E72	72.0	2	86.6	105.1	110
							None	0.0	-	-	48.5	50
	230	20.7	156	4.3	38.6	10.0	E18	18.0	1	17.3	48.5	50
							E36	36.0	2	34.6	58.6	60
							E54	54.0	2	52.0	67.2	70
							E72	72.0	2	69.3	84.5	90
	460	10.0	75	2.2	19.3	5.0	None	0.0	-	-	150.1	175
							E18	13.5	1	37.5	150.1	175
							E36	27.0	2	75.1	154.4	175
							E54	40.6	2	112.6	201.6	225
	575	8.2	108	1.7	16.2	4.0	E72	54.1	2	150.1	210.9	225
							None	0.0	-	-	149.7	175
							E18	18.0	1	43.3	149.7	175
							E36	36.0	2	86.6	169.0	175
208	20.7	156	4.3	38.6	10.0	E54	54.0	2	129.9	190.7	225	
						E72	72.0	2	173.2	234.0	250	
						None	0.0	-	-	73.5	90	
						E18	18.0	1	21.7	73.5	90	
230	20.7	156	4.3	38.6	10.0	E36	36.0	2	43.3	84.5	90	
						E54	54.0	2	65.0	95.3	110	
						E72	72.0	2	86.6	117.0	125	
						None	0.0	-	-	60.5	70	
460	10.0	75	2.2	19.3	5.0	E18	18.0	1	17.3	60.5	70	
						E36	36.0	2	34.6	68.6	70	
						E54	54.0	2	52.0	77.2	90	
						E72	72.0	2	69.3	94.5	100	

NOTE 1: HACR Type per NEC.

**TABLE 18: DM VOLTAGE LIMITATIONS<sup>1</sup>**

VOLTAGE LIMITATIONS			
VOLTAGE LIMITATIONS	POWER SUPPLY	VOLTAGE	
		MIN.	MAX.
	208/230-3-60	187	253
	460-3-60	414	506
575-3-60	518	630	

1. Utilization Range "A" in accordance with ARI Standard 110.

**TABLE 19: PHYSICAL DATA**

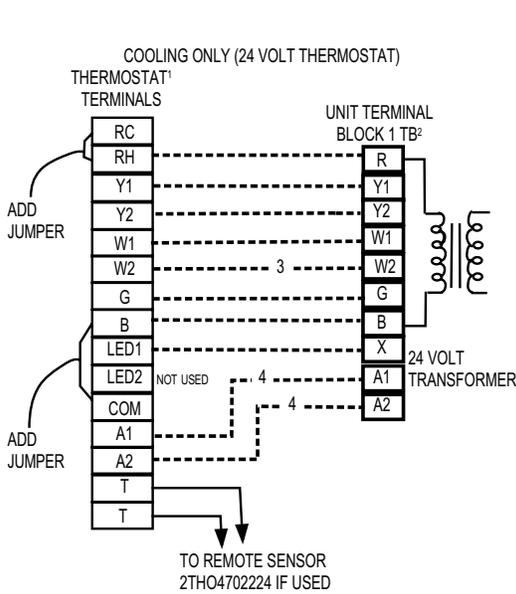
MODELS				DM180	DM240	DM300
EVAPORATOR BLOWER	CENTRIFUGAL BLOWER (Dia. x Wd.)			15x15	18x15	18x15
	FAN MOTOR HP			5.0	7.5	15
EVAPORATOR COIL	ROWS DEEP			3	3	4
	FINS PER INCH			13.5		
	FACE AREA (Sq. Ft.)			15.5	20	25
CONDENSER FAN (Two Per Unit)	PROPELLER DIA. (In.) (Each)			30		
	FAN MOTOR HP (Each)			1		
	NOM. CFM TOTAL (Each)			6,500	7,200	7,200
CONDENSER COIL	ROWS DEEP			2	2	3
	FINS PER INCH			13	20	15
	FACE AREA (Sq. Ft.)			36	43.3	43.3
COMPRESSOR (Qty. Per Unit)	5 TON HERMETIC (RECIP.)			1	-	-
	10 TON TANDEM (RECIP.)			1 <sup>1</sup>	2	-
	12.5 TON TANDEM (SCROLL)			-	-	2
FILTERS	QUANTITY PER UNIT (12" X 24" X 2" or 4")			-	-	12
	QUANTITY PER UNIT (16" X 20" X 2" or 4")			-	4	-
	QUANTITY PER UNIT (16" X 25" X 2" or 4")			-	4	-
	QUANTITY PER UNIT (18" X 24" X 2" or 4")			5	-	-
	TOTAL FACE AREA (Sq. Ft.)			15	20	24
CHARGE	REFRIGERANT 22 (Lb./Oz.)	SYSTEM No.1		17/8	18/0	20/8
		SYSTEM No. 2		8/8	18/0	23/8
OPERATING WEIGHTS (LBS.)	BASIC UNIT	COOLING ONLY		1900	2100	2730
		GAS / ELECTRIC	N24	2100	2300	2930
			N32	2140	2340	2970
		OPTIONS	ECONOMIZER		160	
	ECONOMIZER WITH POWER EXHAUST		245			
	MOTORIZED DAMPER		150			
	ELECTRIC HEATER		18 KW	25		
			36 KW	30		
			54 KW	35		
		72 KW	40			
	ACCESSORIES	ROOF CURB		175	185	185
		BAROMETRIC DAMPER		45		
		ECONOMIZER / MOTORIZED DAMPER RAIN HOOD		55		
ECONOMIZER / POWER EXHAUST RAIN HOOD		90				
WOOD SKID		200	220	220		

1. This compressor will be energized first.

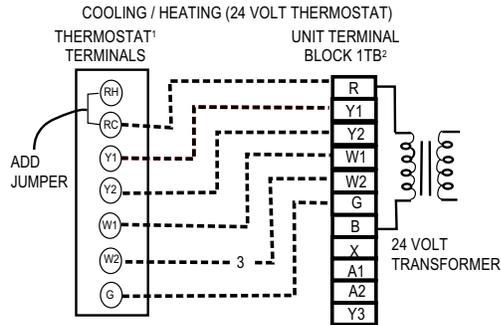
**TABLE 20: ELECTRIC HEAT CORRECTION FACTORS**

NOMINAL VOLTAGE	VOLTAGE	KW CAP. MULTIPLIER
208	208	1.00
240	230	0.92
480	460	0.92
600	575	0.92

**CONTROL WIRING**

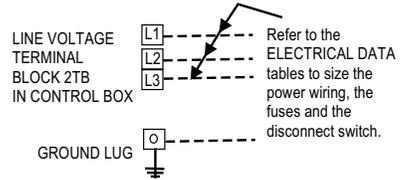


<sup>1</sup>Electronic programmable thermostat 2ET04700224 (includes subbase).  
<sup>2</sup>Terminal block 1TB- located on relay board in 24-volt section of the unit control box.  
<sup>3</sup>Second stage heating is not required on units with a single stage electric heater.  
<sup>4</sup>Terminals A1 and A2 provide a relay output to close the outdoor economizer dampers when the thermostat switches to the set-back position.  
**NOTE: Fans switch must be in "ON" position for minimum ventilation during heater operation.**

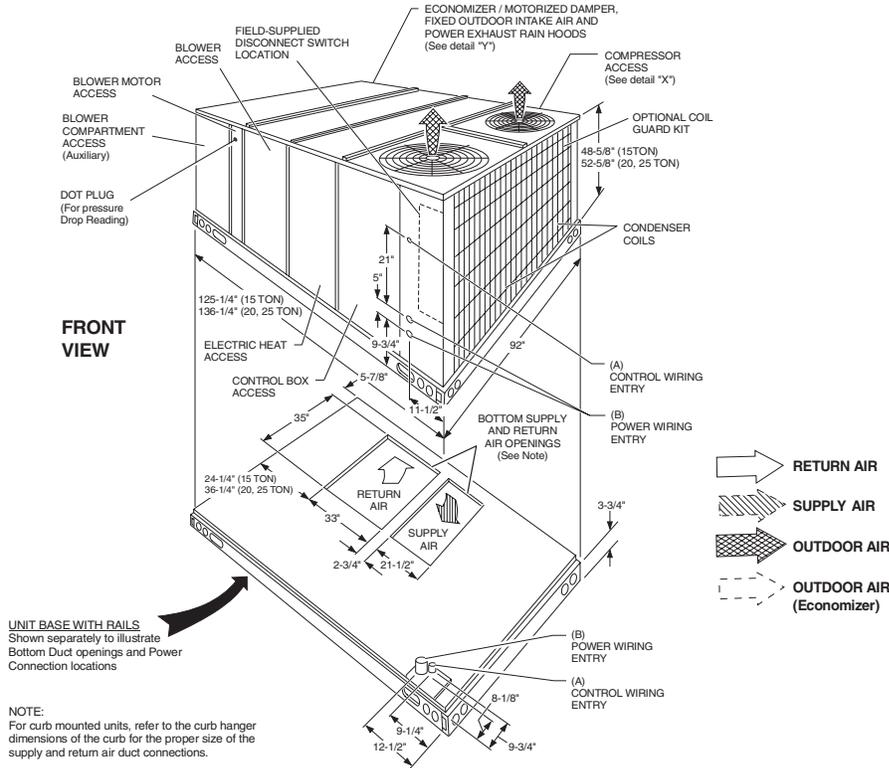


<sup>1</sup>24 Volt Thermostat 2TH04701024 or 2TH04701524 (with Subbase 2TB04700324).  
<sup>2</sup>Terminal strip 1TB - located on relay board in 24-volt section of the unit control box.  
<sup>3</sup>Second stage heating is not required on units with a single stage electric heater.

**POWER WIRING**



**FIGURE 3 - DM FIELD WIRING DIAGRAM**



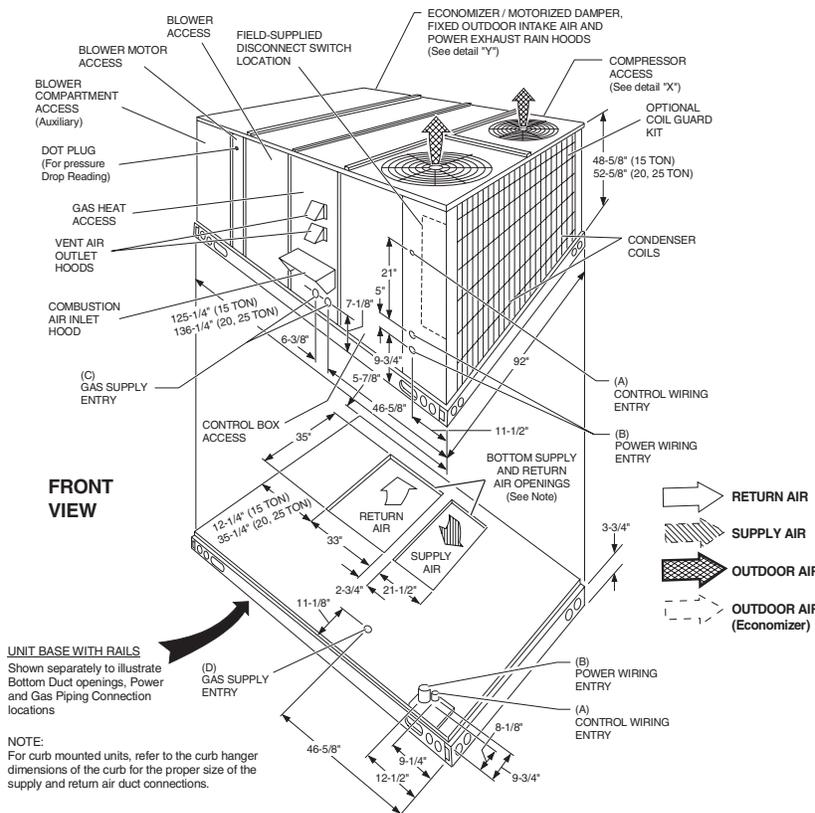
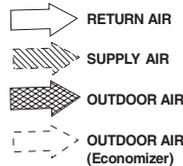
All dimensions are in inches. They are subject to change without notice. Certified dimensions will be provided upon request.

UTILITIES ENTRY DATA

HOLE	OPENING SIZE (DIA.)	USED FOR	
A	1-1/8" KO	Control Wiring	Front
	3/4" NPS (Fem.)	Control Wiring	Bottom
B	3-5/8" KO	Power Wiring	Front
	3" NPS (Fem.)	Power Wiring	Bottom
C	2-3/8" KO	Gas Piping (Front) <sup>1</sup>	
D	1-11/16" Hole	Gas Piping (Bottom) <sup>1,2</sup>	

<sup>1</sup>1" piping MPT required.

<sup>2</sup>Opening in the bottom of the unit can be located by the slice in the insulation.



CLEARANCES

Front	36"
Back	24" (Less Economizer) 49" (With Economizer)
Left Side (Filter Access)	24" (Less Economizer) 36" (With Economizer)
Right Side (Cond. Coil)	36"
Below Unit <sup>1</sup>	0"
Above Unit <sup>2</sup>	72" With 36" Maximum Horizontal Overhang (For Condenser Air Discharge)

<sup>1</sup>Units (applicable in U.S.A. only) may be installed on combustible floors made from wood or class A, B or C roof covering material.

<sup>2</sup>Units must be installed outdoors. Overhanging structures or shrubs should not obstruct condenser air discharge out let.

NOTE:  
ELEC/ELEC Models: Units and duct work are approved for zero clearance to combustible materials when equipped with electric heaters.

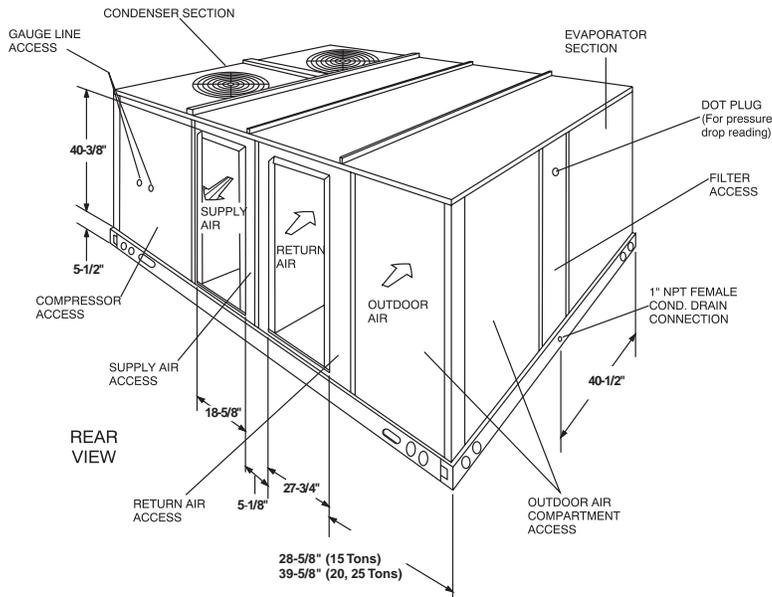
GAS/ELEC Models: A 1" clearance must be provided between any combustible material and the supply air ductwork for a distance of 3 feet from the unit.

The products of combustion must not be allowed to accumulate within a confined space and recirculate.

Locate unit so that the vent air outlet hood is at least:

- Three (3) feet above any forced air inlet located within 10 horizontal feet (excluding those integral to the unit).
- Four (4) feet below, 4 horizontal feet from, or 1 foot above any door or gravity air inlet into the building.

FIGURE 4 - UNIT DIMENSIONS & CLEARANCES 15, 20 & 25 TON



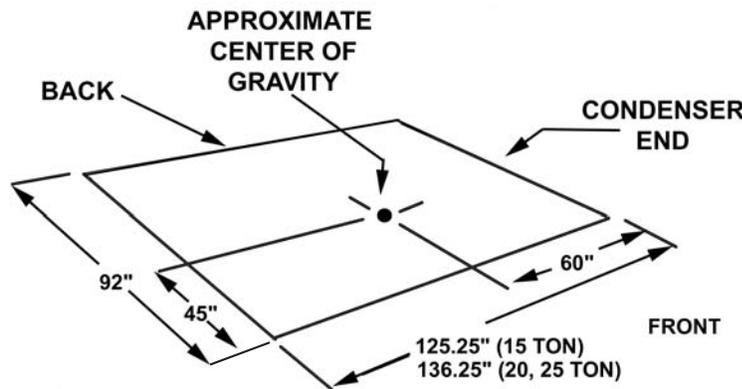
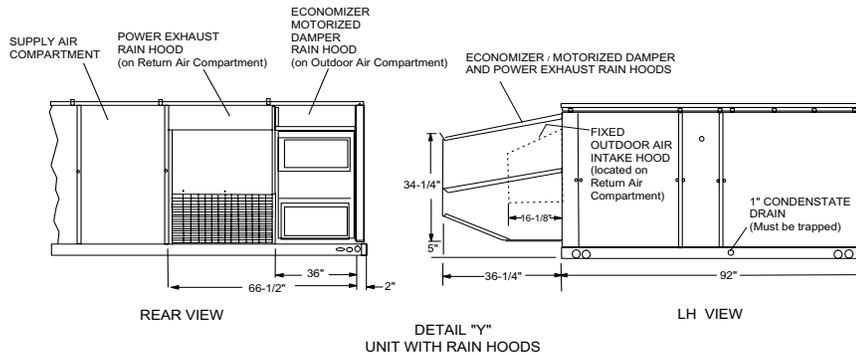
**DUCT COVERS** - Units are shipped with the bottom duct openings covered. An accessory flange kit is available for connecting side ducts.

For bottom duct applications:

- 1 Remove the side panels from the supply and return air compartments to gain access to the bottom supply and return air duct covers.
- 2 Remove and discard the bottom duct covers. (Duct openings are closed with sheet metal covers except when the unit includes a power exhaust option. The covering consists of a heavy black paper composition.)
- 3 Replace the side supply and return air compartment panels.

For side duct applications;

- 1 Replace the side panels on the supply and return air compartments with the accessory flange kit panels.
- 2 Connect ductwork to the duct flanges on the rear of the unit.



**FIGURE 4 - UNIT DIMENSIONS & CLEARANCES 15, 20 & 25 TON (CONT'D)**

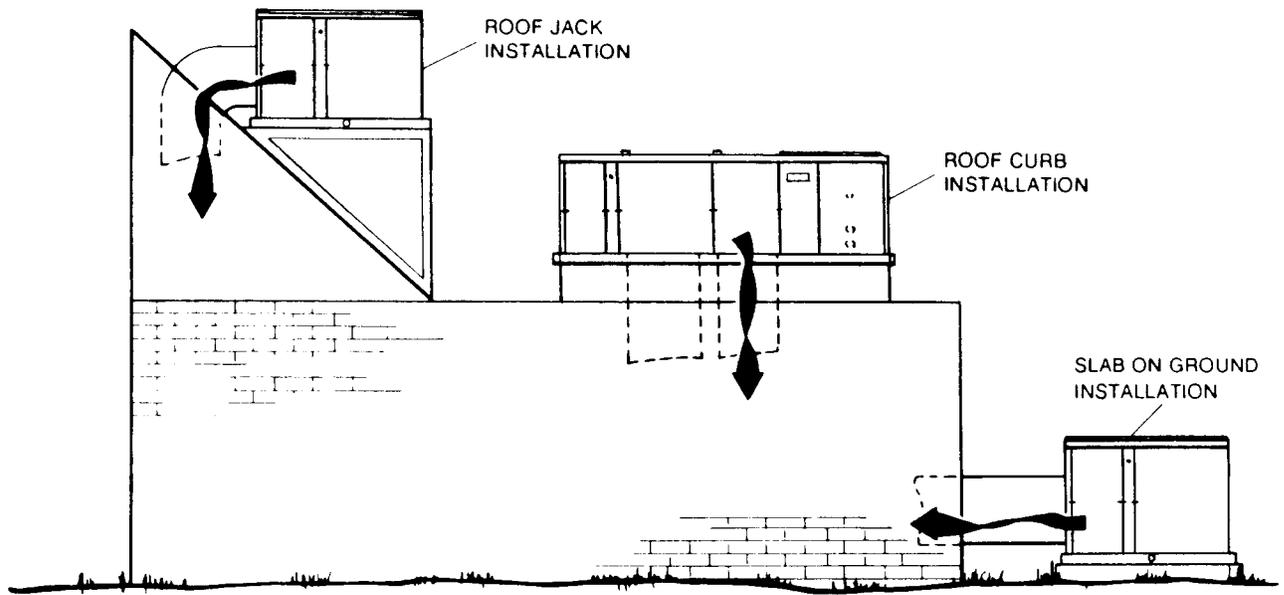


FIGURE 5 - TYPICAL UNIT APPLICATIONS

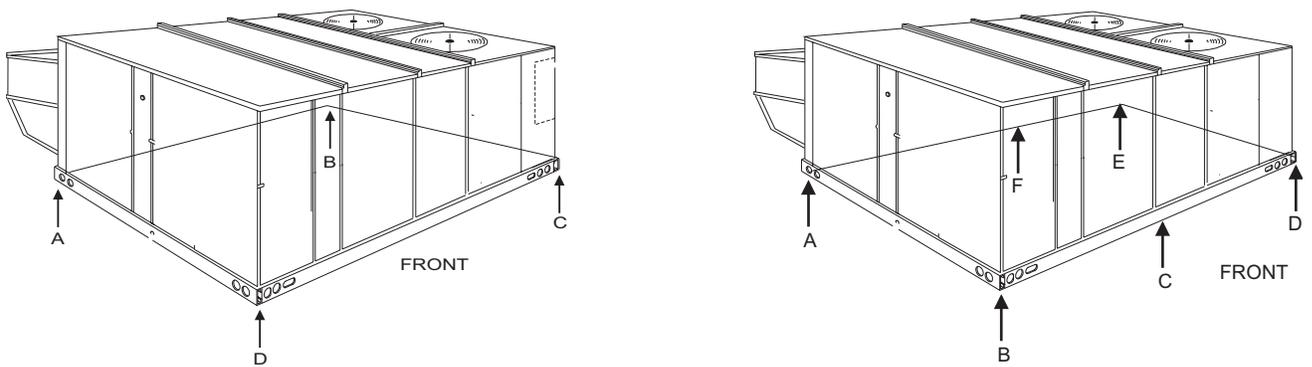
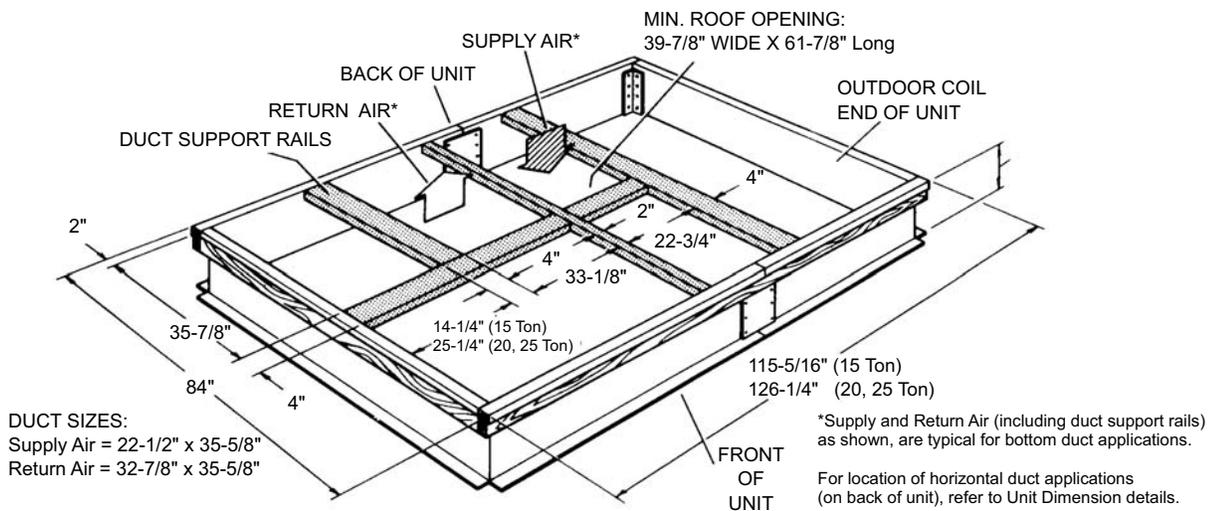


FIGURE 6 - FOUR AND SIX POINT LOADS

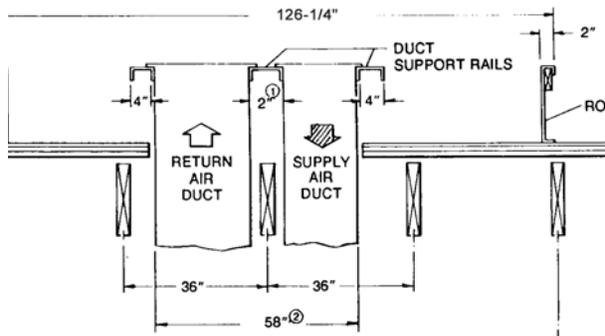
**TABLE 3: FOUR AND SIX POINT LOADS**

Unit Size	Total Shipping Weight	4 Point Loads (lbs)			
		A	B	C	D
180 Gas	2300	539	563	612	586
240 Gas	2500	538	563	715	684
300 Gas	3130	615	671	962	882
180 Elec	2100	492	514	558	536
240 Elec	2300	295	517	658	630
300 Elec	2890	487	619	646	508

Unit Size	Total Shipping Weight	6 Point Loads (lbs)					
		A	B	C	D	E	F
180 Gas	2300	351	367	392	416	399	375
240 Gas	2500	334	350	426	502	481	407
300 Gas	3130	418	438	533	628	603	510
180 Elec	2100	320	335	358	380	364	343
240 Elec	2300	307	322	392	462	442	375
300 Elec	2890	415	471	528	551	492	433



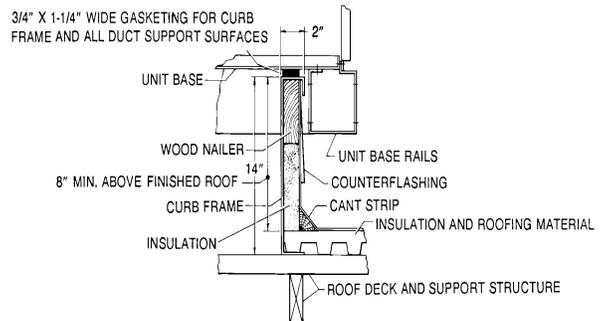
**FIGURE 7 - UNIT ROOF CURB DIMENSIONS**



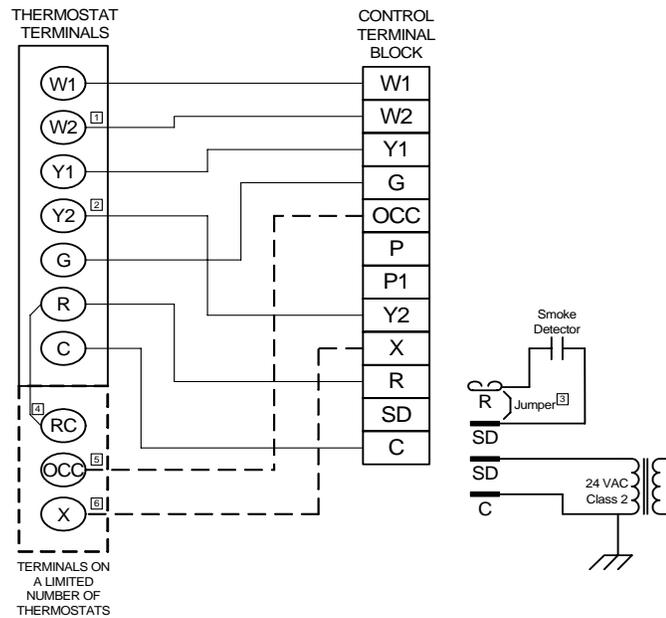
**FIGURE 8 - ROOF CURB DUCT OPENINGS DIMENSION**

1. The 2" space between the ducts allows for "jumping" an existing roof joist.
2. The 58-1/2" overall dimension of the ducts allows duct-work penetration between roof joists that are spaced on 72" centers.

**NOTE:** Ducts can be installed into the curb from the roof. All electrical and gas line connections can be made inside the curb.



**FIGURE 9 - CUT AWAY OF ROOF CURB**



- ① Second stage heating not required on single stage heating units.
- ② Second stage cooling not required on single stage cooling units.
- ③ Jumper is required if there is no Smoke Detector circuit.
- ④ Jumper is required for any combination of R, RC, or RH.
- ⑤ OCC is an output from the thermostat to indicate the Occupied condition.
- ⑥ X is an input to the thermostat to display Error Status conditions.

**FIGURE 10 - Simplicity® CONTROL WIRING DIAGRAM**

## GUIDE SPECIFICATIONS

### GENERAL

Units shall be manufactured by York International Unitary Products Group in an ISO 9001 certified facility.

York's Sunline 2000™ units are convertible single package units. All models have dual independent refrigerant circuits for efficient part load operation and maximum comfort control. Although the units are primarily designed for curb mounting on a roof, they can also be slab-mounted at ground level or set on steel beams above a finished roof. Cooling only, cooling with gas heat and cooling with electric heat models are available with a wide variety of factory-mounted options and field-installed accessories to make them suitable for almost every application. All units are self-contained and assembled on full perimeter base rails with holes in the four corners for overhead rigging. Every unit is completely piped, wired, charged and tested at the factory to simplify the field installation and to provide years of dependable operation. All models (including those with an economizer) are suitable for either bottom or horizontal duct connections. Models with power exhaust are suitable for bottom duct connections only. For bottom duct, remove the sheet metal panels from the supply and return air openings through the base of the unit. For horizontal duct, replace the supply and return air panels on the rear of the unit with a side duct flange accessory. All supply air blowers are equipped with a belt drive that can be adjusted to meet the exact requirements of the job.

Each unit shall have 2 condenser fan motors. A high speed drive accessory is available for applications with a higher CFM and/or static pressure requirement. All compressors include crankcase heat and internal pressure relief. Every refrigerant circuit includes an expansion valve, a liquid line filter-drier, a discharge line high pressure switch and a suction line with a freeze-stat and low pressure/loss of charge switch. The unit control circuit includes a 75 VA transformer, a 24-volt circuit breaker and a relay board with two compressor lockout circuits, a terminal strip for thermostat wiring, plus an additional set of pin connectors to simplify the interface of additional field controls. All units have long lasting powder paint cabinets with 1000 hour salt spray test approval under ASTM-B117 procedures. All models are CSA approved. All models include a 1-year limited warranty on the complete unit. Compressors and electric heater elements carry an additional 4-year warranty. Aluminized steel tubular heat exchangers carry an additional 9-year warranty.

### DESCRIPTION

Units shall be factory-assembled, single packaged, DM\*\*\*N Electric Cooling/Gas Heat, DM\*\*\*C/E Electric Cooling/Optional Electric Heat, designed for outdoor mounted installation. The 15, 20 and 25 ton units shall have minimum EER ratings of 8.5.

They shall have built-in field convertible duct connections for down discharge supply/return or horizontal discharge supply/return, and be available with factory installed options or field installed accessories. The units shall be factory wired, piped,

charged with R-22 refrigerant and factory tested prior to shipment. All unit wiring shall be both numbered and color coded. All units shall be manufactured in a facility certified to ISO 9001 standards and the cooling performance shall be rated in accordance with DOE and ARI test procedures. Units shall be CGA listed, classified to ANSI Z21.47 standards, UL 1995/CAN/CSA No. 236-M90 conditions.

### UNIT CABINET

Unit cabinet shall be constructed of G90 galvanized steel, with exterior surfaces coated with a non-chalking, powdered paint finish, certified at 1000 hours salt spray test per ASTM-B117 standards. Indoor blower section shall be insulated with a minimum 1/2" thick insulation, coated on the airside. Aluminum foil faced insulation shall be used in the furnace compartment and be fastened with ridged fasteners to prevent insulation from entering the air stream. Cabinet panels shall be "large" size, easily removable for servicing and maintenance. Full perimeter base rails shall be provided to assure reliable transit of equipment, overhead rigging and proper sealing on roof curb applications. Disposable 2" filters shall be furnished and be accessible through a removable access door, sealed airtight. Units filter track shall be designed to accommodate either 2" or 4" filters. Fan performance measuring ports shall be provided on the outside of the cabinet to allow accurate air measurements of evaporator fan performance without removing panels or creating air by-pass of the coils. Condensate pan shall be internally sloped and conform to ASHRAE 62-89 self-draining standards. Condensate connection shall be a minimum of 1" I.D. female and be a ridged mount connection. Unit shall incorporate a fixed outdoor air damper with an outdoor air intake opening covered with a bird screen and a rain hood painted to match the exterior of the unit.

### INDOOR (EVAPORATOR) FAN ASSEMBLY

Fan shall be a belt drive assembly and include an adjustable-pitch motor pulley. Job site selected (B.H.P.) brake horsepower shall not exceed the motors nameplate horsepower rating, plus the service factor. Units shall be designed not to operate above service factor. Fan wheel shall be double-inlet type with forward-curved blades, dynamically balanced to operate smoothly throughout the entire range of operation. Airflow design shall be constant air volume.

### OUTDOOR (CONDENSER) FAN ASSEMBLY

The outdoor fans shall be of the direct-driven propeller type, discharge air vertically, have aluminum blades riveted to corrosion resistant steel spider brackets and shall be dynamically balanced for smooth operation. The 2 outdoor fan motors shall be totally enclosed with permanently lubricated bearings, internally protected against overload conditions and staged independently.

### REFRIGERANT COMPONENTS

Compressors:

- a. Shall be Scroll (25T only) compressors internally protected with internal high-pressure relief and over temperature protection.

- b. Shall have internal spring isolation and sound muffling to minimize vibration and noise, and be externally isolated on a dedicated, independent mounting.

#### Coils:

- a. Evaporator and condenser coils shall have aluminum plate fins mechanically bonded to seamless internally enhanced copper tubes with all joints brazed. Special Phenolic coating shall be available as a factory option.
- b. Evaporator and Condenser coils shall be of the direct expansion, draw-thru, design.

#### Refrigerant Circuit and Refrigerant Safety Components shall include:

- a. Balance-port thermostatic expansion valve with independent circuit feed system.
- b. Filter drier/strainer to eliminate any moisture or foreign matter.
- c. Accessible service gage connections on both suction and discharge lines to charge, evacuate, and measure refrigerant pressure during any necessary servicing or troubleshooting, without losing charge.
- d. The refrigeration system shall provide at least 15° F of sub-cooling at design conditions.
- e. All models shall have two independent circuits.

#### UNIT CONTROLS

- a. Unit shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24-volt transformer side.
- b. Unit shall incorporate a lockout circuit which provides reset capability at the space thermostat or base unit, should any of the following standard safety devices trip and shut off compressor.
- c. Loss-of-charge/Low-pressure switch.
  - 1. High-pressure switch.
  - 2. Freeze-protection thermostat, evaporator coil. If any of the above safety devices trip, a LED (light-emitting diode) indicator shall flash a diagnostic code that indicates which safety switch has tripped.
- d. Unit shall incorporate "AUTO RESET" compressor over temperature, over current protection.
- e. Unit shall operate with conventional thermostat designs and have a low voltage terminal strip for easy hook-up.
- f. Unit control board shall have on-board diagnostics and fault code display.
- g. Standard controls shall include anti-short cycle and low voltage protection, and permit cooling operation down to 0 °F.

- h. Control board shall monitor each refrigerant safety switch independently.
- i. Control board shall retain last 5 fault codes in non volatile memory, which will not be lost in the event of a power loss.

#### GAS HEATING SECTION (DM\*\*\*N MODELS)

Shall be designed with induced draft combustion with post purge logic and energy saving direct spark ignition, redundant main gas valve. Ventor wheel shall be constructed of stainless steel for corrosion resistance. The heat exchanger shall be of the tubular type, constructed of T1-40 aluminized steel for corrosion resistance and allowing minimum mixed air entering temperature of 25° F. Burners shall be of the in-shot type, constructed of aluminum coated steel and contain air mixture adjustments. All gas piping shall enter the unit cabinet at a single location through either the side or curb, without any field modifications. An integrated control board shall provide timed control of evaporator fan functioning and burner ignition. Heating section shall be provided with the following minimum protection:

- a. Primary and auxiliary high-temperature limit switches.
- b. Induced draft motor speed sensor.
- c. Flame roll out switch (automatic reset).
- d. Flame proving controls. Unit shall have two independent stages of capacity.

#### ELECTRIC HEATING (DM\*\*\*C/E MODELS)

Nickel chromium electric heating elements shall be provided as required by the application with 1 or 2 stage control, as required, from 13.5 KW to 72 KW capacities. The heating section shall have a primary limit control(s) and automatic reset to prevent the heating element system from operating at an excessive temperature. Units with Electric Heating shall be wired for a single point power supply with branch circuit fusing (where required).

#### UNIT OPERATING CHARACTERISTICS

Unit shall be capable of starting and running at 125° F outdoor temperature, exceeding maximum load criteria of ARI Standard 210/240. The compressor, with standard controls, shall be capable of operation down to 0° F outdoor temperature. Unit shall be provided with fan time delay to prevent cold air delivery before heat exchanger warms up (Gas heat only).

#### ELECTRICAL REQUIREMENTS

All unit power wiring shall enter unit cabinet at a single factory provided location and be capable of side or bottom entry, to minimize roof penetrations and avoid unit field modifications. Separate side and bottom openings shall be provided for the control wiring.

#### STANDARD LIMITED WARRANTIES

- Compressor 5 Years
- Heat Exchanger 10 Years

- Electric Heat Element 5 Years
- Other Parts 1 Year

**OPTIONAL OUTDOOR AIR** (Shall be made available by either/or):

- **ELECTRONIC ENTHALPY AUTOMATIC ECONOMIZER** - Outdoor and return air dampers that are interlocked and positioned by a fully-modulating, spring-return damper actuator. The maximum leakage rate for the outdoor air intake dampers shall not exceed 2% when dampers are fully closed and operating against a pressure differential of 0.5 IWG. A unit-mounted potentiometer shall be provided to adjust the outdoor and return air damper assembly to take in CFM of outdoor air to meet the minimum ventilation requirement of the conditioned space during normal operation. During economizer operation, a mixed-air temperature control shall modulate the outdoor and return air damper assembly to prevent the supply air temperature from dropping below 55°F. Changeover from compressor to economizer operation shall be provided by an integral electronic enthalpy control that feeds input into the basic module. The outdoor intake opening shall be covered with a rain hood that matches the exterior of the unit. Water eliminator/filters shall be provided. Simultaneous economizer/compressor operation is also possible. Dampers shall fully close on power loss.
- **MOTORIZED OUTDOOR AIR DAMPERS** - Outdoor and return air dampers that are interlocked and positioned by a 2-position, spring-return damper actuator. The maximum leakage rate for the outdoor air intake dampers shall not exceed 2% when dampers are fully closed and operating against a pressure differential of 0.5 IWG. A unit-mounted potentiometer shall be provided to adjust the outdoor and return air damper assembly to take in the design CFM of outdoor air to meet the ventilation requirements of the conditioned space during normal operation. Whenever the indoor fan motor is energized, the dampers open up to one of two pre-selected positions - regardless of the outdoor air enthalpy. Dampers return to the fully closed position when the indoor fan motor is de-energized. Dampers shall fully close on power loss.

#### **OTHER PRE-ENGINEERED ACCESSORIES AVAILABLE**

- **ROOF CURB** - 14" high, full perimeter curb with wood nailer (shipped knocked-down).
- **100% BAROMETRIC RELIEF DAMPER** - Contains a rain hood, air inlet screen, exhaust damper and mounting hardware. Used to relieve internal air pressure through the unit.
- **PROPANE CONVERSION KIT** - Contains new orifices and gas valve parts to convert from natural to L.P. gas. One per unit required.

- **HIGH ALTITUDE - NATURAL GAS** - Contains orifices required for applications between 2000 and 6000 feet altitude.
- **HIGH ALTITUDE - PROPANE GAS** - Contains orifices required for applications between 2000 and 6000 feet altitude. Must be used with propane conversion kit.
- **BURGLAR BARS** - Designed to work with above roof curbs, depending on unit model. Fits duct openings of curb supply and return air openings.
- **SIDE DUCT FLANGE** - Supply and return air duct flanges for side duct applications. Do not use on units with power exhaust.
- **HIGH SPEED DRIVE** - Includes blower pulley and belt for higher CFM and/or static pressure requirements.
- **WOOD SKID** - Allows unit to be handled with 90" forks.
- **ECONOMIZER/MOTORIZED DAMPER RAIN HOOD (DMN/E/C300 only)** - Contains all hood panels and the hardware for assembling.
- **ANTI-RECYCLE TIMER** - Assures 5-minute off time between compressor cycles.
- **COIL GUARD KIT** - Guard for cooling coil.

#### **OTHER FACTORY INSTALLED OPTIONS**

- **POWER EXHAUST OPTION** - To work in conjunction with economizers.
- **STAINLESS STEEL HEAT EXCHANGER**
- **STAINLESS STEEL DRAIN PAN**
- **TECHNICOAT PHENOLIC COATED CONDENSER AND EVAPORATOR COIL**
- **ELECTRONIC SINGLE ENTHALPY ECONOMIZER**
- **DIRTY FILTER SWITCH**
- **PHASE MONITOR**
- **COIL GUARD**
- **POWERED GFI CONVENIENCE OUTLET**
- **NON-POWERED GFI CONVENIENCE OUTLET**
- **BAS CONTROLS** (Simplicity® INTELLI-Comfort™ CPC, JOHNSON, HONEYWELL, NOVAR)
- **BAS READY ECONOMIZER** (BELIMO ACTUATOR WITHOUT A CONTROLLER)
- **HINGED FILTER DOOR ACCESS AND TOOLLESS ACCESS PANELS**
- **HIGH SPEED DRIVE**
- **2" THROW AWAY FILTERS**
- **4" PLEATED FILTERS**
- **DISCONNECT SWITCH**
- **SUPPLY AIR SMOKE DETECTOR**
- **RETURN AIR SMOKE DETECTOR**



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