

TECHNICAL SPECIFICATIONS

DF6SF Series Rev B

Two-Stage Heat/Two-Stage Cool with Variable Speed Blower iHybrid™ Dual Fuel Package Units

**DF6SF 15 SEER, 81% AFUE, 8.0 HSPF
2 Ton thru 5 Ton Units**

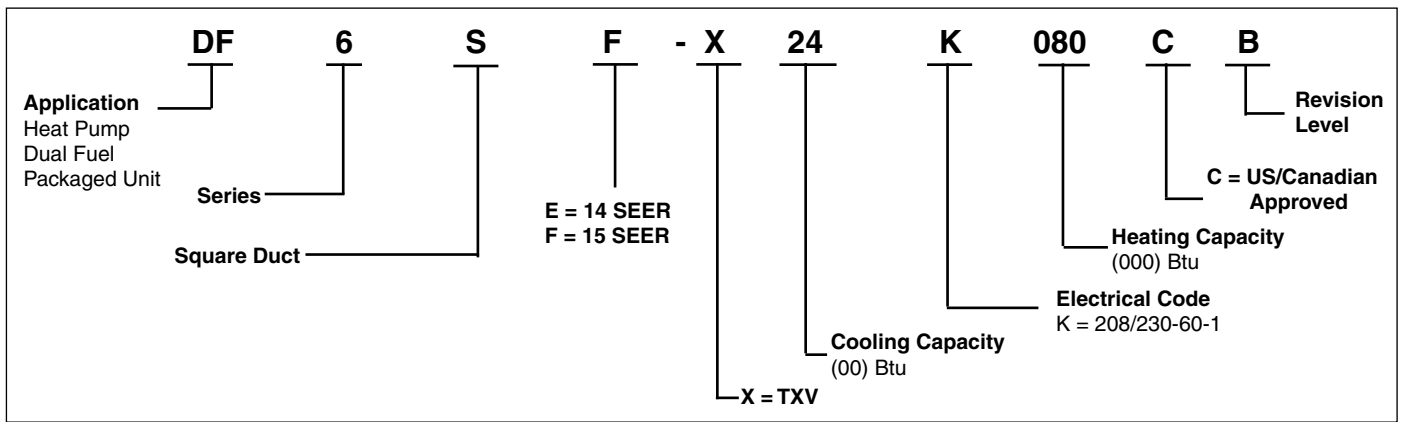
These dual fuel package units are high efficiency self contained heating and cooling systems that can be installed on the roof or on a slab. The convertible unit design makes installations simple in all applications. Units are ETL and ETLc listed.



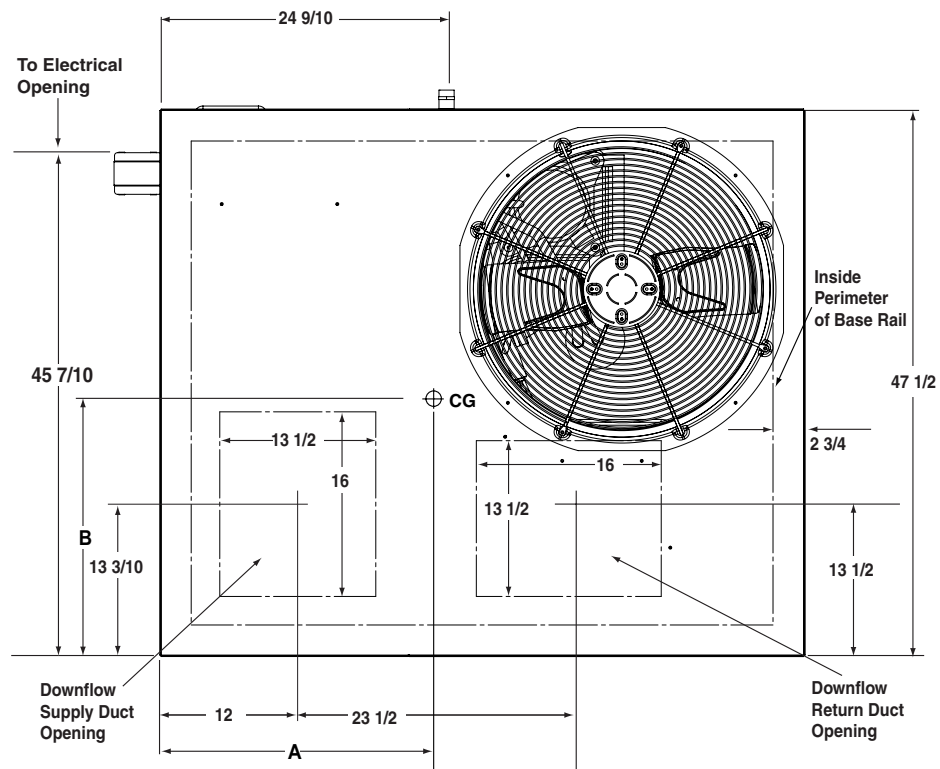
FEATURES and BENEFITS

- **Copeland Ultra-Tech Scroll Compressor:** State of the art two stage compressor is standard equipment.
- **Quiet Operation and Low Vibration:** Swept-wing fan blade combined with custom venturi condenser fan.
- **Compressor Sound Blanket:** Is standard equipment.
- **Wire Guard Coated with Earth Friendly Epoxy and Plastic Mesh Hail Guard:** A guard that will never rust and protects the units coil from being damaged.
- **Anteater® Coil Technology:** For increased resistance against formicary corrosion, the number one cause of evaporator coil failures.
- **Designed using Galvanized Steel:** With a polyester urethane coat finish. The 950 hour salt spray finish is 1.5 mil thick and resists corrosion 50% better than comparable units.
- **Smaller Panels, Great Fit and Finish, Total Seal:** Well-designed, quality construction.
- **One Piece Top Pan:** With drip edge on top panels whisks away rainwater.
- **Embossed Bottom Pan:** Keeps blower component compartment dry.
- **Permanently Lubricated Condenser Motor:** A heavy duty PSC motor for long lasting reliability and quiet operation. Requires no maintenance and is protected from rain and snow.
- **Thermostatic Expansion Valve:** Factory installed externally equalized thermostatic expansion valves provides precise refrigerant control under varying load conditions in heat pump or cooling mode.
- **Hi/Low Pressure Switches:** Ensure long compressor life.
- **Externally Accessible, High Flow Service Ports:** Quick access to refrigeration system.
- **Liquid Line Filter Drier:** Factory installed at a convenient location for service.
- **Suction Accumulator:** Protection from liquid flood back and future compressor failures.
- **Two-Stage Gas Heat Operation:** Featuring a two-stage gas valve and two speed inducer motor.
- **Choice of Heating Control:** Two stage thermostat or single stage heat thermostat with on the control board timing of 5 or 10 minute delay for second stage of heat.
- **Low voltage Transformer:** Includes 5 Amp fuse to protect low voltage circuit.
- **Corrosion-Resistant Drain Pan:** Quickly drains away evaporator condensate.
- **ECM Variable Speed Blower Motor:** Advanced technology allows the motor to automatically adjust to different static loads. The variable speed motor allows for extra quiet operation and improved air quality.
- **Extra Dehumidification in Cooling Mode:** The blower motor can adjust speed, allowing more moisture removal from the home's air, providing better comfort.
- **Demand Defrost Standard:** Provides additional energy savings in heating by defrosting only when necessary.
- **Three Minute Restart Time Delay:** When the unit shuts down, a three minute delay keeps the unit from restarting, eliminating the highest cause for compressor failure.
- **Heavy-Gauge, Full Perimeter Base Rails:** Facilitates forklift handling and curb mounting.
- **Convertible Air Delivery:** Horizontal or downflow to accommodate rooftop or horizontal applications.
- **Easy Compressor and Control Access:** Designed to make servicing easier for the contractor, access panels are provided to all controls and the compressor from the side of the unit.
- **Removable Top Grille Assembly:** Allows ease of service to the fan motor.
- **Duct Flanges:** Reduce installation costs.
- **Proven, Industry Standard Components:** Easier service and availability.
- **SmartLite® Control Board:** Provides extended life to igniters using hot surface ignition technology. Programmed to learn the heat-up characteristics of the igniter, then adapt the ignition time to the characteristics of the furnace so the igniter is energized appropriately.
- **Accessories:** Roof curbs and more.

MODEL IDENTIFICATION CODE

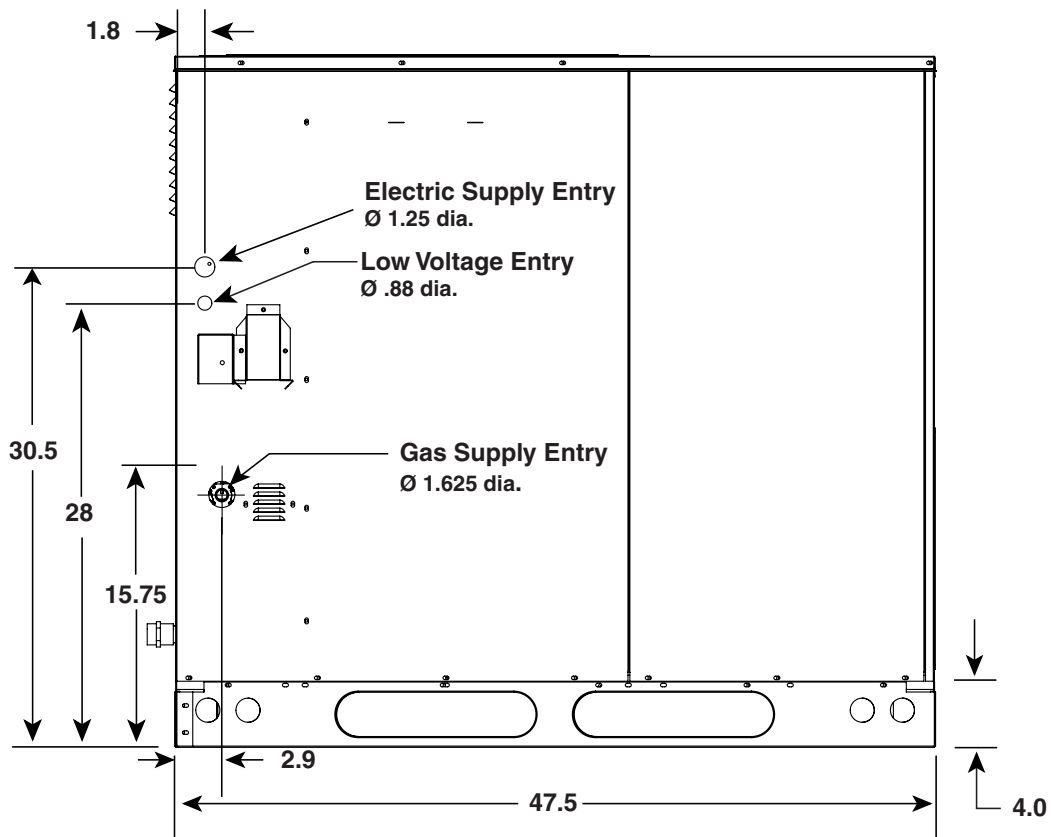


DIMENSIONS

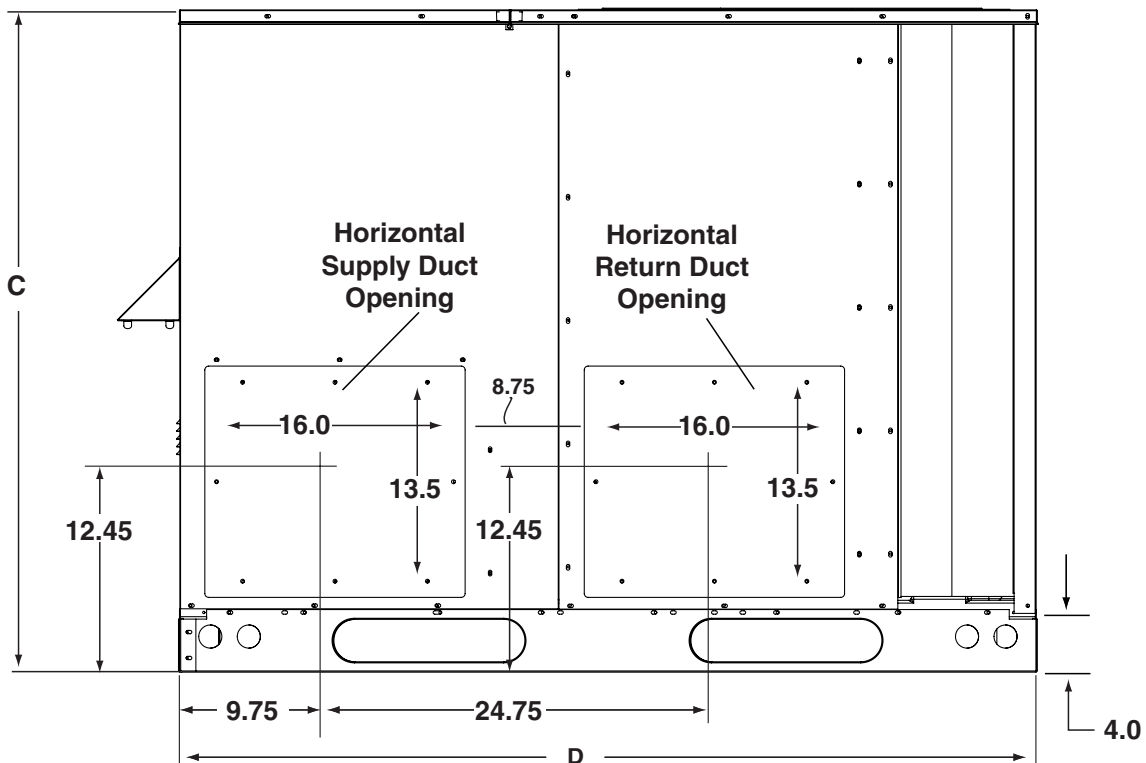


Model Number DF6SF	Unit Weight	Shipping Weight	Center of Gravity		Height (in inches) C		D Length
			A	B	with base rails	without base rails	
X24K***CB	480	490	26.0	27.0	39.0	35.3	55.8
X36K***CB	480	490	26.0	27.0	43.0	39.3	55.8
X48K***CB	612	622	27.0	26.5	43.0	39.3	55.8
X60K***CB	612	622	30.0	26.5	47.0	43.3	63.6

DIMENSIONS (Continued)



Side View



Back View

SPECIFICATIONS AND ELECTRICAL DATA

SINGLE PHASE

MODEL	DF6SF-X24K080CB	DF6SF-X36K100CB	DF6SF-X48K120CB	DF6SF-X60K120CB
Performance (Gas)				
Heating Input High/Low Btuh	80,000 / 52,000	100,000/65,000	120,000 /78,000	120,000/78,000
Heating Output High/Low Btuh	64,800 / 42,120	81,000/52,650	97,200 / 63,180	97,200/63,180
AFUE	81	81	81	81
Performance (Electric)				
Efficiency -- SEER	15.00	15.0	15.00	15.00
Efficiency -- EER (Btuh/Watt)	12.0	12.0	12.0	12.0
Capacity - Heating	22,000	32,000	45,000	56,000
Efficiency - HSPF	8.0	8.0	8.0	8.0
Capacity - Cooling	24,000	35,000	46,000	55,500
Electrical Rating - 60 Hz				
Phase	1	1	1	1
Operating Voltage Range	187 - 253	187-253	187 - 253	187-253
Minimum Circuit Ampacity	20.8	29	38.6	47
Max. Overcurrent Protection	30	40	50	70
Compressor Data				
Volts	208 / 230	208/230	208 / 230	208/230
Rated Load Amps	11.7	15.3	21.2	28.8
Lock Rotor Amps	58.3	83	104	152.9
Indoor Blower				
Wheel Diameter	10 x 10	10 x 10	11 x 10	11 x 10
Motor Type	Variable Speed	Variable Speed	Variable Speed	Variable Speed
Motor HP	1/2	3/4	1	1
Motor Amps	4.3	6.8	9.1	9.1
Outdoor Fan				
Motor HP	1/8	1/3	1/3	1/4
Motor Amps	.9	2.6	2.6	1.46
Fan Diameter/CFM	24" / 3200	24" / 4000	24" / 4000	24"/4000
Refrigerant Charge (oz)	128	160	240	272
Sound Ratings db	77	76	76	78

AIRFLOW DATA

Nominal Airflow Rates and Temperature Rise for Gas Heating

Model Number	Heating Input (Btuh)	Heating Output (Btuh)	CFM Range	Heating Rise Range (°F)	Cooling Output (Btuh)	Blower Size	Motor (HP)
X24K080CB	80,000	64,800	1100 - 1350	35-65	24,000	10 X 10	1/2
	52,000	42,120	750 - 1050				
X36K100CB	100,000	81,000	1200 - 1600	40-70	35,000	10 X 10	1/2
	65,000	52,650	900 - 1200				
X48K120CB	120,000	97,200	1350 - 2000	40-70	46,000	11 X 10	1
	78,000	63,180	950 - 1300				
X60K120CB	120,000	97,200	1350 - 2000	40-70	55,500	11 X 10	1
	78,000	63,180	950 - 1300				

NOTE: CFM and Rise are independent of ESP in a variable speed blower.

Airflow Settings for Cooling

2 TON UNITS				3 TON UNITS				4 - 5 TON UNITS				
BLOWER SELECTOR SETTING		RECOMMENDED A/C AIRFLOW RATE (CFM)		BLOWER SELECTOR SETTING		RECOMMENDED A/C AIRFLOW RATE (CFM)		BLOWER SELECTOR SETTING		RECOMMENDED A/C AIRFLOW RATE (CFM)		
COOL	ADJUST			COOL	ADJUST			COOL	ADJUST			
TAP "A"	-10%	2 TON	685	TAP "A"	-10%	3 TON	840	TAP "A"	-10%	4 TON	5 TON	1485
	Normal		760		Normal		930		Normal			1650
	+10%		835		+10%		1025		+10%			1815
TAP "B"	-10%		840	TAP "B"	-10%		975	TAP "B"	-10%			1620
	Normal		930		Normal		1080		Normal			1800
	+10%		1025		+10%		1190		+10%			1980
TAP "C"	-10%	975	TAP "C"	-10%	1110	TAP "C"	-10%	1665				
	Normal	1080		Normal	1230		Normal	1850				
	+10%	1190		+10%	1350		+10%	2035				
TAP "D"	-10%	1110	TAP "D"	-10%	1290	TAP "D"	-10%	1800				
	Normal	1230		Normal	1430		Normal	2000				
	+10%	1350		+10%	1575		+10%	2200				

NOTE: Blower "ADJUST" tap non-functional in Heating mode.

Airflow Settings for Gas Heating

Blower HEAT Selector Setting	2 TON				3 TON				4 & 5 TON			
	Low Input		High Input		Low Input		High Input		Low Input		High Input	
	52,000		80,000		65,000		100,000		78,000		120,000	
	CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise
TAP "A"	750	51	1100	55	900	53	1200	63	950	61	1350	67
TAP "B"	850	45	1150	53	1000	48	1300	58	1050	55	1500	61
TAP "C"	950	41	1250	49	1100	44	1400	54	1150	50	1700	54
TAP "D"	1050	37	1350	45	1200	40	1600	47	1300	44	2000	46

NOTES:

1. Recommended temperature rises are highlighted in **bold**. Use of any other setting may result in nuisance trips.
2. Temperature rises in the table are approximate. Actual temperature rises may vary.

DF6SF ACCESSORIES

Description	Part Number
Roof Curb (8")	547830A
Roof Curb (14")	547831A
Roof Curb (18")	547850A
Roof Curb (24")	547851A
Cap, Duct Adapter, 12" Round	913811A
Cap, Duct Adapter, 14" Round	913812A
Low Ambient Kit	918837
U.S. LP Gas Conversion Kit (0 ft to 10,000 ft above sea level)	904404A
Canadian LP Gas Conversion Kit (0 to 4,500 ft above sea level)	904405A
Universal Hard Start Kit	912933
Dual Fuel Capable Thermostat (outdoor sensor required)	919766
Thermostat - Outdoor Sensor	919008
Skirt Trim Kit 24, 36, 48	919729
Skirt Trim Kit 60	920936
Freezestat Kit	917108
Supply/Return Transition, 16"	547834
Supply/Return Transition, 18"	547835
Concentric Diffuser, Flush, 16"	547836
Concentric Diffuser, Flush, 18"	547837
Concentric Diffuser, Step Down 16"	547838
Concentric Diffuser, Step Down 18"	547839
Duct Smoke Detector Photo Elec	558863
Sampling Tube DST3, 2-4ft	558864
Sampling Tube DST5, 4-8ft	558865
Hood Type Hail Guard Coil Dim 35x76 2 Ton	547846
Hood Type Hail Guard Coil Dim 35x76 3-5 Ton	547847



GENERAL TERMS OF LIMITED WARRANTY

Nortek Global HVAC, LLC will furnish a replacement for any part of this product which fails in normal use and service within the terms and conditions of the warranty.

For complete details of the Limited Warranty, including applicable terms and conditions, see your local installer or contact the Nortek Global HVAC, LLC warranty department for a copy.

Before purchasing this appliance, read important energy cost and efficiency information available from your retailer. Specifications and illustrations subject to change without notice and without incurring obligations. Printed in U.S.A (05/2018)