Electric Furnace

FEATURES

- NEW (Revision C) – more efficient DC contactors
- NEW (Revision C) – full disconnection when off
- Galvanized insulated sheet metal cabinet enclosure
- Can be converted to a duct heater
- Magnetic de-energizing contactors for each element
- Line level auto limit primary safety set @ 165 °F (74 °C)
- Line level fuse link back-up safety
- Fan interlock control, fan signal proving switch
- Low air flow pressure switch
- Circuit breakers on all units
- Time delay sequencers for a gradual "stepped" power draw (softer start)
- Low voltage terminal strip (24 volt control)
- Specially designed tight cabinet for small duct, high velocity systems
- Single Supply (all units) or dual supply (15 and 20kW)

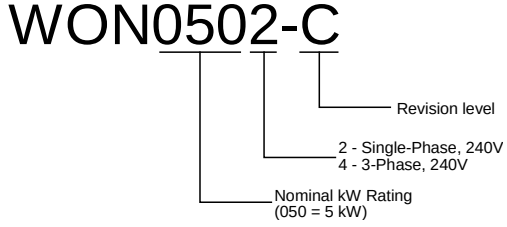
GENERAL

The electric furnace is designed to provide primary or auxiliary heating. The furnace is available in both single and three phase at various capacities. The single phase models range in size from 2 to 20 kW and the three phase units range from 5 to 15 kW.

Each furnace includes a 10-inch (254-mm) round plenum adapter and a 9½ × 9½-inch (241 × 241-mm) square plenum adapter to connect to the supply duct. Other plenum adapter sizes are available separately.

The electric duct furnace is approved for attic, closet, or alcove installation, with "0" clearance to combustible materials. It can be mounted directly to the blower module or in the main supply duct as a duct heater.

Model Number Key

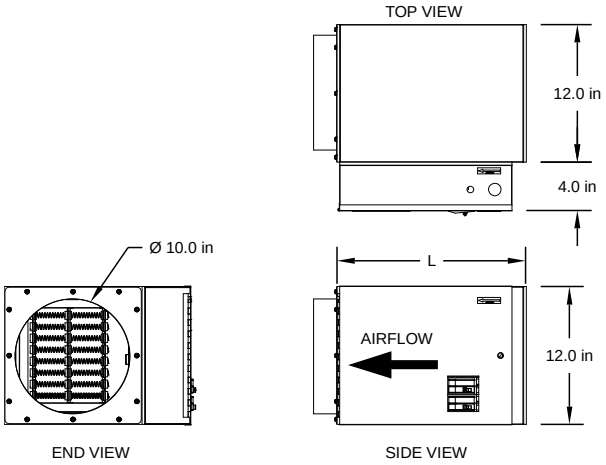


SPECIFICATIONS

Electric Furnace Models

Model Number	Nominal kW Rating	*Unico System* Match-up	Min. Airflow, CFM (m³/s)
WON0202-C	2	All sizes	200 (0.10)
WON0502-C WON0504-C	5		250 (0.12)
WON0752-C WON0754-C	7.5		300 (0.14)
WON1002-C WON1004-C	10	2430, 3642 and 4860	500 (0.24)
WON1502-C WON1504-C	15		600 (0.28)
WON2002-B	20	3642 and 4860	800 (0.38)

Dimensions



10.0 in. Round plenum adapter shown attached (Supplied). Optional: 9.5 in. x 9.5 in. square plenum adapter (Supplied) is shipped loose.

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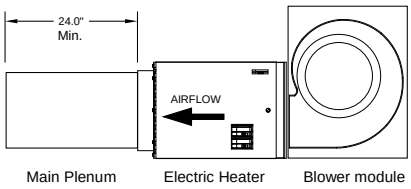
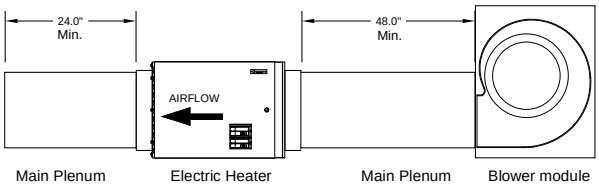
Model	L inch	Rated Capacity kW @240V	Amperage @ 240V
WON0202-C	13	2.0	8.30
WON0502-C	13	4.8	20.00
WON0752-C	16	7.2	31.25
WON1002-C	16	9.6	40.00
WON1502-C	21	14.4	60.00
WON2002-C	24	19.2	80.00
WON0504-C	21	4.8	11.54
WON0754-C	21	7.2	18.04
WON1004-C	21	9.6	23.09
WON1504-C	21	14.4	34.64

Clearances

Electric furnace application



Duct heater application



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Allow at least 25-inches (610-mm) in front of the control for servicing. External insulation is required for high humidity applications (refer to the installation bulletin for more information).

Limits and Settings	
Maximum Outlet Temperature, °F (°C)	160 (70)
Maximum External Static Pressure, in. wc (Pa)	3 (745)
Auto Limit set point, °F (°C)	165 (74)
Fuse Link Setting, °F (°C)	250 (121)

Wiring

The electric furnace has includes a power connection and circuit breaker for the air handler blower motor which can be used as a service disconnect. For the single phase models, the air handler circuit breaker can be connected to the same power cable as the heater using an optional jumper bar (COMBINED), or it can be powered with a separate power cable (SEPARATE). For three phase models, the air handler circuit breaker is always connected to the load side of the heater circuit breaker and cannot have a separate power cable (it is always COMBINED). Jumper bars are included with the single phase models to allow for a COMBINED wiring configuration.

The 15 and 20 kW single phase models have two heater circuit breakers. This allows the use of two smaller power cables (DUAL CIRCUIT) instead of one larger power cables (SINGLE CIRCUIT). Often the residential building code has a maximum allowable power cable so DUAL circuits are required. Check the local code before attempting to connect as a SINGLE circuit.

Note: Circuit breakers installed in this device are for short-circuit protection of internal wiring and to serve as a service disconnect. Circuit breakers installed within this device DO NOT provide over current protection of the supply wiring.

Model	Nom. Capacity, kW	Rated Output*, kW	Power Supply	No. of Heater Supply Circuits	No. Steps	Control Power (VA)	Overall Dimensions, inch
WON0202-C	2	2.0	1 ph – 60 Hz – 240V	1	1	14	12 H x 16 W x 13 L
WON0502-C	5	4.8	1 ph – 60 Hz – 240V	1	1	14	12 H x 16 W x 13 L
WON0752-C	7.5	7.5	1 ph – 60 Hz – 240V	1	2	17	12 H x 16 W x 16 L
WON1002-C	10	9.6	1 ph – 60 Hz – 240V	1	2	17	12 H x 16 W x 16 L
WON1502-C	15	14.4	1 ph – 60 Hz – 240V	1 or 2	3	23	12 H x 16 W x 21 L
WON2002-C	20	19.2	1 ph – 60 Hz – 240V	1 or 2	3	26	12 H x 16 W x 24 L
WON0504-C	5	4.8	3 ph – 60 Hz – 240V	1	1	17	12 H x 16 W x 21 L
WON0754-C	7.5	7.5	3 ph – 60 Hz – 240V	1	1	17	12 H x 16 W x 21 L
WON1004-C	10	10	3 ph – 60 Hz – 240V	1	1	17	12 H x 16 W x 21 L
WON1504-C	15	15	3 ph – 60 Hz – 240V	1	2	23	12 H x 16 W x 21 L

*at rated voltage

SINGLE Heater Circuit Power Supply											
Model	SEPARATE Heater Circuit				SEPARATE Air Handler Circuit				COMBINED* Heater and Motor Circuit		
	Heater Amps	MCA	MOP	Wire Size	Max. Fan Amps	MCA	MOP	Wire Size	MCA	MOP	Wire Size
WON0202-C	8.3	10.4	15	12	6.5	8.2	15	14	18.5	20	12
WON0502-C	20	25	25	10	6.5	8.2	15	14	33.1	35	10
WON0752-C	31.25	39	40	8	6.5	8.2	15	14	47.2	50	8
WON1002-C	40	50	50	6	6.5	8.2	15	14	58.1	60	6
WON1502-C	60	75	80	3	6.5	8.2	15	14	83.1	90	3
WON2002-C	80	100	100	2	6.5	8.2	15	14	108.1	110	2
WON0504-C	11.54				6.5				22.6	25	10
WON0754-C	18.04				6.5				30.7	35	8
WON1004-C	23.09				6.5				37	40	8
WON1504-C	34.6				6.5				51.4	60	6
DUAL Heater Circuit Power Supply											
Model	SEPARATE Heater (Circuit 1/Circuit 2)				SEPARATE Air Handler Circuit				COMBINED* Heater and Motor Circuit		
WON1502-C	20/40	25/50	25/50	6/8	6.5	8.2	15	14	33.1/50	35/50	6/8
WON2002-C	40/40	50/50	50/50	6/6	6.5	8.2	15	14	58.1/50	60/50	6/6

MCA = Minimum circuit ampacity.

MOP = Maximum overcurrent protection. Use FUSE or "HACR TYPE" circuit breaker

* Combined Single supply includes 6.5 A motor load with the first heater circuit, included with all heaters. For single power supply, WON1502 and WON2002 requires 3-pole jumper bar, p/n: A01241-002 (not included).

Required wire size is based on 75°C copper. For other wire types refer to NEC code.