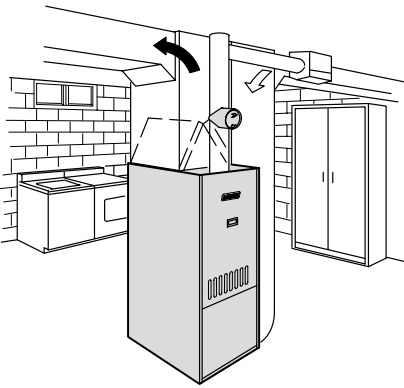
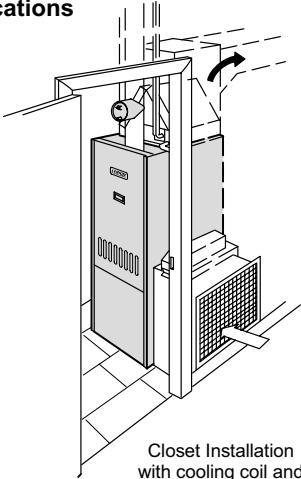


Typical Applications

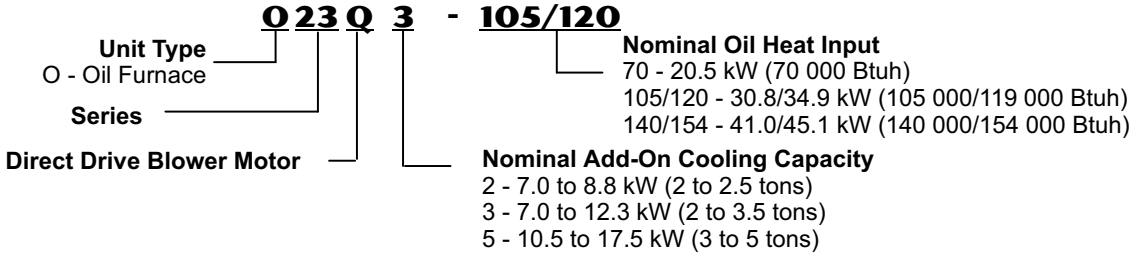


Basement Installation with cooling coil and automatic humidifier



Closet Installation with cooling coil and electronic air cleaner

MODEL NUMBER IDENTIFICATION



FEATURES

- Applications**
- Suitable for installation in a residence, small business or commercial establishment.
 - Compact, rugged cabinet with side or bottom return air entry, will allow installation in a basement, closet, recreation or utility room.
 - Approved for reduced clearances to combustibles.
 - Lennox add-on evaporator coils, electronic air cleaners and humidifiers can be added to the furnace.
 - Quiet operating blowers have sufficient capacity to handle add-on cooling air volume requirements.
 - All units are shipped factory assembled including the oil burner, with all controls installed and wired.
 - Each unit is factory test operated insuring proper operation after shipment.

- EZ Clean Heat Exchanger**
- Streamlined drum type heat exchanger exposes maximum surface area to the air stream with minimum air resistance.
 - Constructed of heavy gauge steel for long life.
 - Strategically placed ports allow easy cleaning.
 - Heavy gauge mounting channels are provided in cabinet base for support of heat exchanger.

- Combustion Chamber**
- All models have a factory installed, specially designed alumina silica ceramic fiber combustion chamber.
 - Combustion chamber can withstand temperatures of up to 1260°C (2300°F) resulting in more complete combustion and higher efficiencies.

FEATURES

Beckett Flame-Retention Oil Burner

- Smooth operating, high-pressure atomizing type burner blends oil and air to attain maximum efficiency.
- Heavy duty motor drives quiet operating blower wheel and fuel pump.
- Air turbo injector directs combustion air for smooth ignition.
- Flame retention head is designed to agitate and mix oil and air for complete combustion and highest efficiency.
- Burner design features 102 mm (4 in.) connection to air inlet for optional outdoor combustion air.
- Oil pump located on opposite side of air inlet to prevent any dirt accumulation from inlet air.
- Burner has 10 000 volt ignition transformer and ceramic glazed electrodes which provide a safe continuous flame.
- Equipped with a factory installed cadmium sulfide cell flame detector and primary safety control that provides complete shutdown in case of flame failure.
- All burner parts are easily removable for servicing.
- Burner is factory installed in the unit, wired and fire tested.
- Units are shipped for lower heating capacity operation. Nozzle must be field provided for field conversion to higher heating capacity.

Cabinet

- Constructed of heavy gauge steel with a pre-painted, textured finish.
- Entire heating section is lined with foil faced fiberglass insulation keeping cabinet surface temperatures low.
- Removal of louvered heating section door allows access to oil burner, inspection door and control compartment.
- Door is equipped with handhold for ease of removal.
- Control compartment is totally enclosed to provide a safe, compact and clean area.
- Large blower access door gives complete service access to blower.
- Blower compartment is completely insulated.
- Blower assembly easily slides completely out of unit for service.
- Oil line and electrical inlet openings are provided in sides of cabinet, see dimension drawing.
- Return air entry is possible on either side or bottom of cabinet.

Flame Inspection Tube

- Conveniently located at the front of the unit.
- Opening is large enough for normal inspection mirror.

Fan and Limit Control

- Factory installed.
- Fan control is temperature actuated to control blower operation, 54°C (130°F) on/38°C (100°F) off temperature settings.
- Limit protects unit from abnormal operating conditions and has a fixed temperature setting.

Limit Control

- Factory installed on vestibule panel.
- Protects unit from abnormal operating conditions and has a fixed temperature setting.

Barometric Draft Control

- Furnished as standard equipment and field installed in flue pipe.

Blower

- All models are equipped with three speed direct drive motors.
- Each blower assembly is statically and dynamically balanced.
- Multiple-speed motor is resiliently mounted.
- A choice of blower speeds is available on each blower. See blower performance charts.
- Change in blower speed is easily accomplished by simple wiring change.

Transformer

- 24 volt (40VA) control transformer is furnished as standard and factory installed.

Side Filter Adaptor Kit

- Furnished with the unit and field installed.
- Adaptor is completely assembled and can be installed on either side of the cabinet.
- A large cleanable frame type filter is also furnished and slides in the rack.
- Adaptor has flanges for ease of duct connection. See dimension drawing.

OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

Oil Filter

- Recommended for proper oil filtration. See Specifications table for order number.

Thermostat

- See Thermostats bulletin in Thermostats and Controls section and Lennox Price Book.

INSTALLATION CLEARANCES

Approved for closet or alcove installation. When installing in a confined space, two ventilation openings must be provided into the the space; one 152 mm (6 in.) from the top and one 152 mm (6 in.) from the bottom. Each opening should be 203 x 406 mm (8 x 16 in.).

Top of Cabinet	51 mm	2 in.	Sides of Plenum	76 mm	3 in.
Sides & Rear of Cabinet	0 mm	0 in.	Horizontal Warm Air Duct within 1 m (3 feet) of furnace	51 mm	2 in.
Front of Cabinet	102 mm	4 in.	Flue Pipe Vertical or Horizontal	178 mm	7 in.
Service Clearance (Front)	610 mm	24 in.	Floor	Combustible	Combustible
Top of Plenum	51 mm	2 in.			

SPECIFICATIONS				
Oil Heating Performance	Model Number	O23Q2-70	O23Q3-105/120	O23Q5-140/154
	Input - kW (Btuh)	Low 20.5 (70 000)	30.8 (105 000)	41.0 (140 000)
		High ---	④34.9 (119 000)	④45.1 (154 000)
	Output - kW (Btuh)	Low 16.7 (58 000)	24.9 (85 000)	33.1 (113 000)
		High ---	④28.4 (97 000)	④36.6 (125 000)
	Flue Size Diameter - mm (in.)	152 (6)	152 (6)	152 (6)
	Temperature rise range	28 - 45°C (50 - 80°F)	28 - 45°C (50 - 80°F)	31 - 47°C (55 - 85°F)
Oil Burner	Nozzle rating - L/hr (US gph) - Low	1.9 (.50)	2.5 (.65)	3.2 (.85)
		High ---	④2.8 (.75)	④3.8 (1.00)
	Nozzle spray angle - Low	80° hollow	80° solid	80° solid
		High ---	④80° solid	④80° solid
	Oil Burner Pump	1 Stage	1 Stage	1 Stage
	Oil Burner Pump Pressure - Pa (psig)	690 (100)	965 (140)	965 (140)
Indoor Blower	Blower Motor Output - W (hp)	249 (1/3)	249 (1/3)	560 (3/4)
	Nominal add-on cooling - kW	7.0 thru 8.8	7.0 thru 12.3	10.6 thru 17.6
	Tons	2 thru 2.5	2 thru 3.5	3 thru 5
	Blower wheel nominal diameter x width - mm	254 x 152	254 x 203	305 x 229
	in.	10 x 6	10 x 8	12 x 9
② Filter	Number of filters	1	1	③2
	Size of filters	mm 406 x 635 x 25 in. 16 x 25 x 1	406 x 635 x 25 16 x 25 x 1	406 x 635 x 25 16 x 25 x 1
Shipping weight — kg (lbs.) 1 package		102 (225)	102 (225)	125 (275)
Electrical	Characteristics	220/240V-50hz-1ph	220/240V-50hz-1ph	220/240V-50hz-1ph
OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA				
Oil Filters	10 micron without mounting bracket	81P89	81P89	81P89
	10 micron with mounting bracket	53P92	53P92	53P92
	Replacement cartridge - 10 micron, 0.35 L/s (45 gph)	53P93	53P93	53P93
	Filter restriction indicator gauge	53P90	53P90	53P90

② Cleanable frame type filters. Furnished with unit in Side Filter Adaptor Kit for field installation external to the cabinet.

③ Requires return air from both sides of cabinet.

④ Nozzle must be field provided for field conversion to higher heating input.

BLOWER DATA															
O23Q2-70 BLOWER PERFORMANCE					O23Q3-105/120 BLOWER PERFORMANCE										
External Static Pressure		Air Volume at Various Blower Speeds						External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low				High		Medium		Low	
Pa	in. w.g.	L/s	cfm	L/s	cfm	L/s	cfm	Pa	in. w.g.	L/s	cfm	L/s	cfm	L/s	cfm
50	.20	520	1100	460	975	405	860	50	.20	660	1400	565	1195	485	1025
75	.30	505	1075	445	940	390	825	75	.30	640	1355	550	1165	470	1000
100	.40	490	1035	430	910	380	800	100	.40	625	1325	530	1125	455	965
125	.50	470	1000	415	880	355	750	125	.50	610	1290	510	1085	440	935
150	.60	455	965	395	840	340	725	150	.60	580	1235	500	1060	420	895

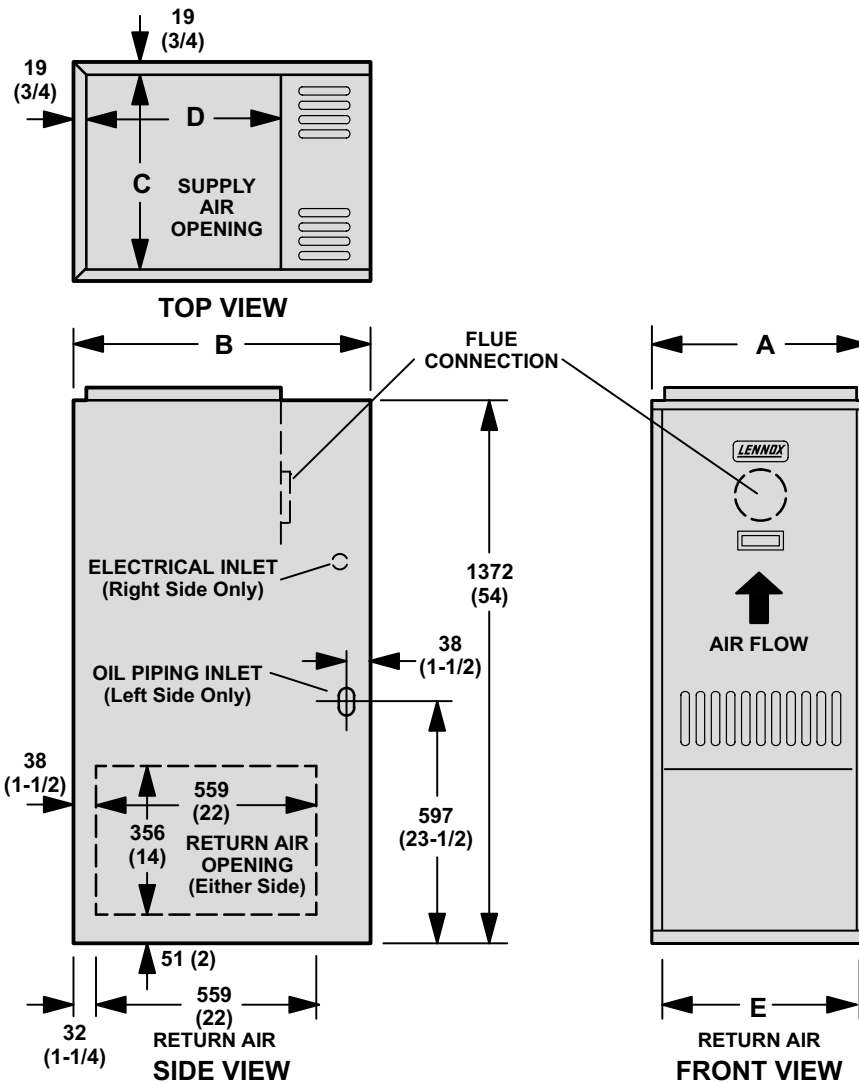
NOTE — All air data is measured external to the unit with the air filter in place.

NOTE — All air data is measured external to the unit with the air filter in place.

O23Q5-140/154 BLOWER PERFORMANCE							
External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
Pa	in. w.g.	L/s	cfm	L/s	cfm	L/s	cfm
50	.20	855	1815	770	1630	685	1455
75	.30	835	1770	755	1600	675	1435
100	.40	820	1735	745	1575	660	1400
125	.50	815	1730	730	1550	645	1370
150	.60	800	1690	710	1500	630	1330

NOTE — All air data is measured external to the unit with the air filter in place.

DIMENSIONS - MM (INCHES)



Model No.	A		B		C		D		E	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
O23Q2-70/90	495	19-1/2	778	30-5/8	457	18	498	19-5/8	406	16
O23Q3-105/120										
O23Q5-140/154	572	22-1/2	841	33-1/8	533	21	562	22-1/8	457	18

SIDE FILTER ADAPTOR KIT - Furnished With Unit

