



MAKE-UP AIR SYSTEMS DIRECT GAS FIRED—LLB SERIES

Indoor or Outdoor Models Available
120,000 to 11,660,000 Btuh Input
2,000 to 75,000 cfm Air Volume Range

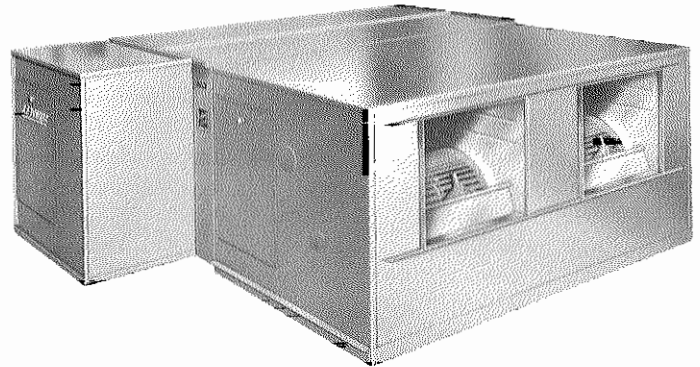
ENGINEERING DATA
HEATING UNITS

GAS

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January 15, 1972
Supersedes 10-1-70

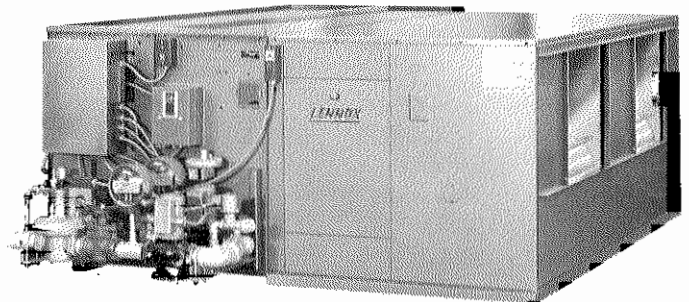
- Eliminates uncomfortable drafts
- 25 to 1 turndown ratio (standard)
- Completely assembled wired and plumbed
- Stainless steel burner
- Electronic flame safeguard system
- Power supply choice
- Complete line of accessories
- 100% outdoor air required in all applications



Outdoor Model
LLB-6 Thru LLB-20 shown
See dimension drawings for sizes of all models.

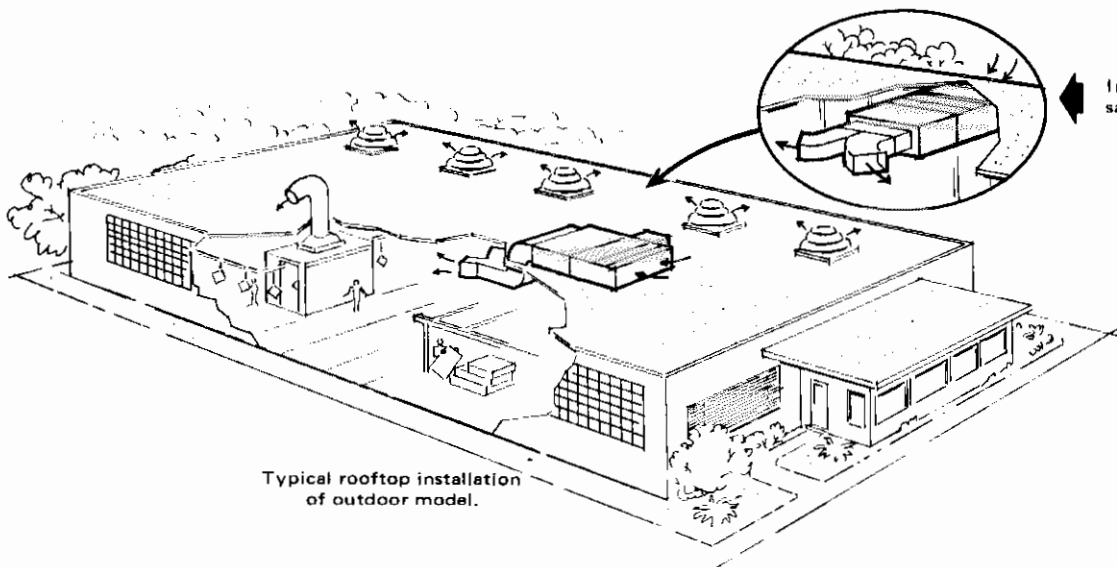
Make-Up Air Systems Give More Comfort And Important Cost Savings!

Industrial — commercial buildings which have large air exhaust requirements are quite often difficult and costly to heat and even hard to exhaust properly. Lennox make-up air systems eliminate negative air pressures within these structures. This allows the existing heating system to keep comfortable air temperatures throughout the entire building. Drafts in areas along the outside walls are completely eliminated. The heating system need not overwork to keep a warm comfortable temperature along outside walls while at the same time literally cooking occupants in other areas. This needless, expensive overworking of heating equipment is not necessary when easy to install, low cost Lennox make-up air systems are used. See selector on next page.



Indoor Model
LLB-6 Thru LLB-20 shown
See dimension drawings for sizes of all models

TYPICAL APPLICATION



Typical rooftop installation
of outdoor model.

FEATURES

Stainless steel burners—All vital burner parts are constructed of stainless steel making burner practically service free. No moving parts will wear out or fail. No cleaning, service or adjustments are normally required. Standard unit is equipped with Maxon burner which provides 25 to 1 turndown ratio. Electric reignition pilot is standard. An optional 30 to 1 turndown ratio is available. A Maxon pre-mix burner is available as optional equipment.

Safe Operation—Even under conditions of improper adjustment, carbon monoxide content cannot exceed 10 parts per million. The U.S. Public Health Service considers 50 parts per million as safe for continuous exposure. This means Lennox make-up air systems have a safety operating factor of 500%. Safe operation is further insured by a Honeywell Electronic Flame Safeguard System. Consult local codes before installing.

Sequence of operation (standard unit)—Blower starts operation (manual or automatic) and blower proving switch energizes the control circuit. Spark igniter reignites intermittent pilot and Honeywell flame safeguard system proves pilot flame and energizes the main gas valve. The adjustable discharge air temperature switch modulates the main gas valve to provide a constant leaving air temperature. Safety and limit controls will prevent burner operation if the outdoor air temperature is warm, the discharge temperature exceeds 130° F, the blower is not operating or the pilot fails to reignite.

Optional accessories—A complete line of accessories are available and they must be ordered extra. See Ordering Data.

Standard control system—Consists of modulating gas valve, motorized safety shut-off valve, discharge air temperature cutout switch, high limit temperature control, Honeywell flame safeguard system and a gas blower proving switch. A remote control panel is also furnished and may be installed in a convenient location. It is equipped with switches for remote operation of blower and burner system. Neon signal lights indicate correct or faulty operation.

Rugged durable cabinet—Constructed of heavy gauge steel. Indoor models have an exterior finish of baked-on high heat enamel. This finish bonds perfectly to the specially treated and prepared panels. The interior surfaces of the indoor and outdoor models are Zincilate coated marking the entire unit corrosion proof. The exterior of the outdoor models are also Zincilate coated to resist the elements thus making the entire outdoor unit non-corrosive.

Powerful blowers—Extra large blowers deliver huge air volumes quietly and with low power consumption. Permanently lubricated ball bearings. Special Stream Line Silencers insure satisfactory operation at all discharge velocities listed. Motors have permanently lubricated ball bearings.

Completely assembled—Models thru LLB-20 are shipped completely assembled ready to install. Larger sizes are shipped in separate completely assembled sections for ease in handling and are easily bolted together. In addition each unit is test operated at the factory before shipment. Local codes must be consulted prior to installation.

SYSTEM SELECTOR

- 1- Determine the required Air Volume (cfm) by computing the total amount of air exhausted and add 10% to slightly pressurize the building.
- 2- Determine the required Temperature Rise (TR) by subtracting the design outdoor temperature from the room temperature.
- 3- Select the make-up unit Model No. for the required Air Volume

(cfm) and add the correct suffix (A, B, C, D, E, F, G, H or I) to designate the desired Temperature Rise.

Example: For 20,000 cfm at 80 F TR order Model LLB-20-D.

- 4- If the Standard Motor is not large enough order the optional High Static Motor.

| Model No. | Air Volume (cfm) | Gas Input (Btuh) In Thousands | | | | | | | | | | Outlet Velocity (fpm) | Standard Motor | | | High Static Motor | | | Blower Wheel Nominal Diam. x Width (in.) | Std. Unit Approx. Shipping Weight (lbs) |
|-----------|------------------|-------------------------------|-------|-------|-------|-------|-------|-------|--------|--------|------|-----------------------|----------------|-----------------------------|------|-----------------------------|------|-----------------------------|--|---|
| | | 120 | 144 | 168 | 192 | 216 | 240 | 264 | 288 | 312 | 336 | | hp | Max. External S.P. (in. wg) | hp | Max. External S.P. (in. wg) | hp | Max. External S.P. (in. wg) | | |
| LLB-2 | 2,000 | 120 | 144 | 168 | 192 | 216 | 240 | 264 | 288 | 312 | 889 | 3/4 | .50 | 1 | .75 | 1-1/2 | 1.25 | 1-14 x 14 | 800 | |
| LLB-3 | 3,000 | 180 | 216 | 252 | 288 | 324 | 360 | 396 | 432 | 468 | 1333 | 1 | .50 | 1-1/2 | 1.00 | 2 | 1.25 | 1-14 x 14 | 850 | |
| LLB-4 | 4,000 | 240 | 288 | 336 | 384 | 432 | 480 | 528 | 576 | 624 | 1778 | 1-1/2 | .50 | 2 | .75 | 3 | 1.25 | 1-14 x 14 | 900 | |
| LLB-5 | 5,000 | 300 | 360 | 420 | 480 | 540 | 600 | 660 | 720 | 780 | 2223 | 2 | .25 | 3 | .75 | 5 | 1.25 | 1-14 x 14 | 950 | |
| LLB-6 | 6,000 | 360 | 430 | 502 | 574 | 645 | 720 | 793 | 860 | 932 | 1333 | 1-1/2 | .25 | 2 | .625 | 3 | 1.25 | 2-14 x 14 | 1150 | |
| LLB-8 | 8,000 | 480 | 574 | 670 | 767 | 860 | 960 | 1,054 | 1,148 | 1,244 | 1778 | 3 | .625 | 5 | 1.25 | --- | --- | 2-14 x 14 | 1200 | |
| LLB-10 | 10,000 | 600 | 718 | 838 | 960 | 1,076 | 1,200 | 1,318 | 1,436 | 1,556 | 1815 | 3 | .375 | 5 | 1.00 | 7-1/2 | 1.25 | 2-16 x 16 | 1450 | |
| LLB-12 | 12,000 | 720 | 860 | 1,005 | 1,150 | 1,290 | 1,440 | 1,580 | 1,720 | 1,865 | 2175 | 5 | .50 | 7-1/2 | 1.25 | --- | --- | 2-16 x 16 | 1500 | |
| LLB-14 | 14,000 | 840 | 1,050 | 1,180 | 1,340 | 1,505 | 1,680 | 1,890 | 2,100 | 2,230 | 2535 | 5 | .25 | 7-1/2 | .75 | 10 | 1.25 | 2-16 x 16 | 1600 | |
| LLB-16 | 16,000 | 958 | 1,150 | 1,340 | 1,530 | 1,720 | 1,916 | 2,108 | 2,300 | 2,490 | 2350 | 7-1/2 | .75 | 10 | 1.25 | --- | --- | 2-18 x 18 | 2200 | |
| LLB-18 | 18,000 | 1,076 | 1,290 | 1,505 | 1,720 | 1,936 | 2,152 | 2,366 | 2,580 | 2,795 | 2640 | 7-1/2 | .50 | 10 | 1.00 | 15 | 1.25 | 2-18 x 18 | 2250 | |
| LLB-20 | 20,000 | 1,195 | 1,436 | 1,675 | 1,915 | 2,150 | 2,390 | 2,631 | 2,872 | 3,111 | 2935 | 10 | .625 | 15 | 1.25 | --- | --- | 2-18 x 18 | 2300 | |
| LLB-22 | 22,000 | 1,315 | 1,580 | 1,840 | 2,105 | 2,365 | 2,630 | 2,895 | 3,160 | 3,420 | 2415 | 7-1/2 | .25 | 10 | .625 | 15 | 1.25 | 2-21 x 21 | 2850 | |
| LLB-24 | 24,000 | 1,435 | 1,720 | 2,007 | 2,295 | 2,580 | 2,870 | 3,155 | 3,440 | 3,727 | 2636 | 10 | .375 | 15 | 1.25 | --- | --- | 2-21 x 21 | 2900 | |
| LLB-26 | 26,000 | 1,555 | 1,866 | 2,175 | 2,490 | 2,795 | 3,110 | 3,421 | 3,732 | 4,041 | 2855 | 15 | .75 | 20 | 1.25 | --- | --- | 2-21 x 21 | 3000 | |
| LLB-28 | 28,000 | 1,675 | 2,010 | 2,345 | 2,685 | 3,010 | 3,350 | 3,685 | 4,020 | 4,355 | 3075 | 15 | .50 | 20 | 1.25 | --- | --- | 2-21 x 21 | 3050 | |
| LLB-30 | 30,000 | 1,795 | 2,160 | 2,510 | 2,870 | 3,230 | 3,590 | 3,955 | 4,320 | 4,670 | 3295 | 15 | .25 | 20 | .75 | 25 | 1.25 | 2-21 x 21 | 3100 | |
| LLB-35 | 35,000 | 2,090 | 2,510 | 2,930 | 3,345 | 3,765 | 4,180 | 4,600 | 5,020 | 5,440 | 2565 | 15 | .50 | 20 | 1.00 | 25 | 1.25 | 3-21 x 21 | 3600 | |
| LLB-40 | 40,000 | 2,390 | 2,870 | 3,350 | 3,825 | 4,300 | 4,780 | 5,260 | 5,740 | 6,220 | 2930 | 20 | .50 | 25 | 1.00 | 30 | 1.25 | 3-21 x 21 | 3700 | |
| LLB-45 | 45,000 | 2,690 | 3,230 | 3,770 | 4,300 | 4,835 | 5,380 | 5,920 | 6,460 | 7,000 | 3295 | 25 | .375 | 30 | .75 | 40 | 1.25 | 3-21 x 21 | 3800 | |
| LLB-50 | 50,000 | 2,990 | 3,590 | 4,180 | 4,780 | 5,380 | 5,980 | 6,580 | 7,175 | 7,775 | 3665 | 30 | .375 | 40 | 1.25 | --- | --- | 3-21 x 21 | 3900 | |
| LLBX-50 | 50,000 | 2,990 | 3,590 | 4,180 | 4,780 | 5,380 | 5,980 | 6,580 | 7,175 | 7,775 | 2390 | 20 | .75 | 25 | 1.25 | --- | --- | 2-33 x 33 | 5400 | |
| LLB-55 | 55,000 | 3,290 | 3,950 | 4,600 | 5,270 | 5,920 | 6,580 | 7,240 | 7,895 | 8,555 | 2630 | 20 | .375 | 25 | .75 | 30 | 1.25 | 2-33 x 33 | 5500 | |
| LLB-60 | 60,000 | 3,590 | 4,320 | 5,020 | 5,740 | 6,460 | 7,180 | 7,900 | 8,615 | 9,335 | 2870 | 25 | .50 | 30 | 1.00 | 40 | 1.25 | 2-33 x 33 | 5600 | |
| LLB-65 | 65,000 | 3,885 | 4,670 | 5,435 | 6,215 | 7,000 | 7,770 | 8,545 | 9,325 | 10,100 | 3110 | 30 | .50 | 40 | 1.25 | --- | --- | 2-33 x 33 | 5700 | |
| LLB-70 | 70,000 | 4,180 | 5,020 | 5,850 | 6,690 | 7,530 | 8,360 | 9,195 | 10,030 | 10,870 | 3345 | 40 | .75 | 50 | 1.25 | --- | --- | 2-33 x 33 | 5900 | |
| LLB-75 | 75,000 | 4,485 | 5,375 | 6,275 | 7,170 | 8,065 | 8,970 | 9,865 | 10,765 | 11,660 | 3585 | 40 | .375 | 50 | 1.25 | --- | --- | 2-33 x 33 | 6000 | |

| Add suffix to Model No. | A | B | C | D | E | F | G | H | I |
|------------------------------|----|----|----|----|----|-----|-----|-----|-----|
| Temperature rise (degrees F) | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 |

SHIPPING INFORMATION

Standard Units

| | |
|-----------------|---|
| LLB-2 thru 20 | Shipped by truck or rail, fully assembled in one crate. Shipped by flatbed rail fully assembled in one crate. |
| LLB-22 thru 50 | Shipped by flatbed truck or closed rail car assembled in two crates: (1) Blower-Burner-Motor Base and (2) Motor. Shipped by truck assembled in three crates: (1) Blower-Base Rail (KD)-Motor Base, (2) Burner and (3) Motor. |
| LLBX-50 thru 75 | Shipped by flatbed rail assembled in two crates: (1) Blower-Burner-Base Rail and (2) Motor and Base. Shipped by truck or closed rail assembled in three crates: (1) Blower-Base Rail (KD)-Motor Base (2) Burner and (3) Motor. |

HOW SHIPPED

Major Accessories

| Accessories | LLB-2 thru LLB-5 | | | | †LLB-6 thru LLB-14 | | | | †LLB-16 thru LLB-20 | | | | †LLB-22 thru LLB-50 | | | | †LLBX-50 thru LLB-75 | | | | |
|--------------------------|------------------|------|-------|------|--------------------|------|-------|------|---------------------|------|-------|------|---------------------|------|-------|------|----------------------|------|-------|------|---|
| | Truck | | Rail | | Truck | | Rail | | Truck | | Rail | | Truck | | Rail | | Truck | | Rail | | |
| | Truck | Rail | Truck | Rail | Truck | Rail | Truck | Rail | Truck | Rail | Truck | Rail | Truck | Rail | Truck | Rail | Truck | Rail | Truck | Rail | |
| Filter Section | A | A | A | A | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S |
| Intake Hood with Screen | A | A | A | A | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S |
| Louvers & Outlet Dampers | A | A | A | A | S | A | A | A | S | A | S | A | S | S | A | S | S | S | S | S | S |
| Inlet Dampers | A | A | A | A | S | A | A | A | S | A | S | A | S | S | S | S | S | S | S | S | S |

†—Filter Section and Intake Hood w/Birdscreen may be shipped in one crate. A—Attached S—Separate

GUIDE SPECIFICATIONS AND ORDERING DATA

Furnish and install the following Lennox "LLB" Direct-fired Gas Make-up Air Heaters:

| Item No. | Model No. | Btu/Hr Input | CFM | Temp. Rise | Ext. S. P. | Type of Gas | Line Gas Pressure | Motor H. P. | Motor Volts & Phase |
|----------|-----------|--------------|-----|------------|------------|-------------|-------------------|-------------|---------------------|
| — | LLB | — | — | — | — | — | — | — | — |

Each unit shall be (suspended) (set) in place according to plans, connected to 100% fresh air intake, and inter-locked with an exhaust system of approximately equal air capacity.

Each Make-up Air Heater shall be factory test-fired and consist of the following components:

Blower Section. This section shall include one or more forward curved, double-width, double-inlet, squirrel cage blowers with self aligning, permanently lubricated ball bearings, "streamline" air silencers to insure efficient operation, a () volt, 3 phase, 60 cycle ball bearing motor and appropriate drive parts for the specified air delivery and external static pressure.

Burner Section. This section shall include a Maxon Wide Range Line Burner, suitable for complete combustion of the specified gas without the aid of a pre-mixer, and having a turndown ratio of at least 25 to 1. The equipment manufacturer shall select the burner best suited to the CFM, temperature rise and type of fuel specified. The burner shall have stainless steel combustion baffles, non-clogging gas ports, spark-ignited intermittent pilot and flame safeguard proving rod. Profile plates to control proper air velocity across burner shall be factory installed, adjusted during an actual firing test and locked in place before shipment. A sight glass shall be provided in burner cabinet.

Gas Control System shall include the following: Main manual gas cock, gas pressure regulator, motorized safety shut-off valve, modulating gas valve, gas pressure gauge, and pilot cock, regulator and solenoid valve.

Electrical Control System shall include the following: Remote control wall panel, motor starter with overload, blower proving switch, entering air temperature switch, ignition and flame safeguard, ignition transformer, modulating outlet air temperature controller, high limit control, safety shut-off alarm relay, and control panel box.

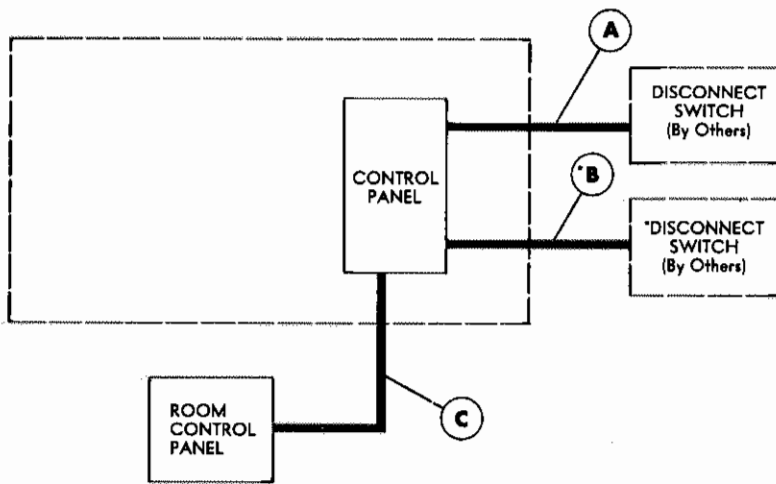
Optional Controls and Accessories. The following shall be furnished and installed:

| | | |
|--|---|---|
| FIA or FM approved controls | Auxiliary starter contact | J. I. C. Controls |
| Weatherproof unit | Blocked instake switch & signal light (If filter section not ordered) | Maxitrol "Selectra" control system |
| Intake hook w/birdscreen | Circuit analyzer | Indoor-Outdoor reset control (**) |
| Filter section w/cleanable filters and clogged filter switch | Control circuit transformer | Over-riding room thermostat |
| (Outlet) or (Inlet) air shut-off damper, motor, linkage and switch | Duplicate control switches at main Panel of unit | Pre-purge cycle |
| Down or up discharge — Horizontal unit | High gas pressure switch (*) | Ultra Violet flame safeguard—RA 890G |
| Vertical unit with legs | Low gas pressure switch (*) | Fused disconnect switch |
| Discharge louver assembly | Extra safety shut-off valve & vent valve (**) | Combination start w/fused disconnect |
| Vibration Isolators | Guaranteed low fire start | Totally enclosed motor (TEFC—"B") |
| Service platform w/guard rail | Low outlet temperature shut-off w/cold start time delay | Encapsulated motor |
| Insulated blower section | Oil tight remote control | Two speed (1800/ RPM) motor and starter with Special Burner |
| Motor and controls on opposite side | | Dual fuel manifold (Nat. gas & LPG) |
| Evaporative cooling section — Rooftop only | | Maxon "pre-Mix" burner |

*Included with FIA or FM approved controls

**Included with FIA or FM approved controls over 1,000,000 Btuh.

FIELD WIRING



A—Three wire power - sized to blower motor

*B—Two wire power - 16 ga. minimum

C—Seven or eight wire control - 16 ga. minimum

*Not required if optional transformer is ordered with unit.
All wiring must conform to NEC and local electrical codes.

GAS MANIFOLD CHARTS MAXON BURNERS

Standard Type Modulation

| Maximum Btu/Hr. Input | Modulating Valve Body (inches) | Gas Pressure 7 thru 28 (in.) W.C. | | Gas Pressure Over 28 (in.) W.C. | |
|-----------------------|--------------------------------|-----------------------------------|------------|---------------------------------|------------|
| | | Manifold | Vent Valve | Manifold | Vent Valve |
| 502,000 | 3/4 | ††1 | 3/4 | 1 | 3/4 |
| 1,000,000 | 1 | *1-1/4 | 3/4 | 1 | 3/4 |
| 1,720,000 | 1-1/4 | *1-1/2 | 3/4 | 1-1/4 | 3/4 |
| 1,840,000 | 1-1/2 | *1-1/2 | 3/4 | 1-1/4 | 3/4 |
| 3,010,000 | 1-1/2 | *2 | 1 | 1-1/2 | 3/4 |
| 4,300,000 | 2 | *2-1/2 | 1-1/4 | †2 | 1 |
| 5,440,000 | 2 | **3 | 1-1/4 | †2 | 1 |
| 6,200,000 | 2-1/2 | **3 | 1-1/4 | †2-1/2 | 1-1/4 |

Selectra Type Modulation

| Maximum Btu/Hr. Input | Selectra Valve Body (inches) | Minimum Gas Pressure (in. w.c.) | Manifold | Vent Valve | ††Manifold | ††Vent Valve |
|-----------------------|------------------------------|---------------------------------|----------|------------|------------|--------------|
| 635,000 | 1 | 7 | 1 | 3/4 | 1 | 3/4 |
| 1,000,000 | 1-1/4 | 8 | 1-1/4 | 3/4 | †1 | 3/4 |
| 1,840,000 | 1-1/2 | 9 | 1-1/2 | 3/4 | †1-1/4 | 3/4 |
| 3,010,000 | 2 | 10 | †2 | 1 | †1-1/2 | 3/4 |
| 3,870,000 | 2 | 10 | †2-1/2 | 1-1/4 | *2 | 1 |
| 4,300,000 | 2-1/2 | 10 | †2-1/2 | 1-1/4 | †*2 | 1 |
| 6,350,000 | 3 | 11 | ††3 | 1-1/4 | †**2-1/2 | 1-1/4 |

††7" W.C. minimum gas pressure required.

*8" W.C. minimum gas pressure required.

**9" W.C. minimum gas pressure required.

††† inlet gas pressure 5 lbs. or greater—gas cock and pressure regulator will be one size smaller.

*If inlet gas pressure 5 lbs. or greater—gas cock and pressure regulator will be one size smaller.

**If inlet gas pressure 5 lbs. or greater consult factory for sizes.

†Selectra valve body will be the same as manifold sizes shown.

††NOTE—Gas pressure required † lb. minimum to 40 lbs. maximum.

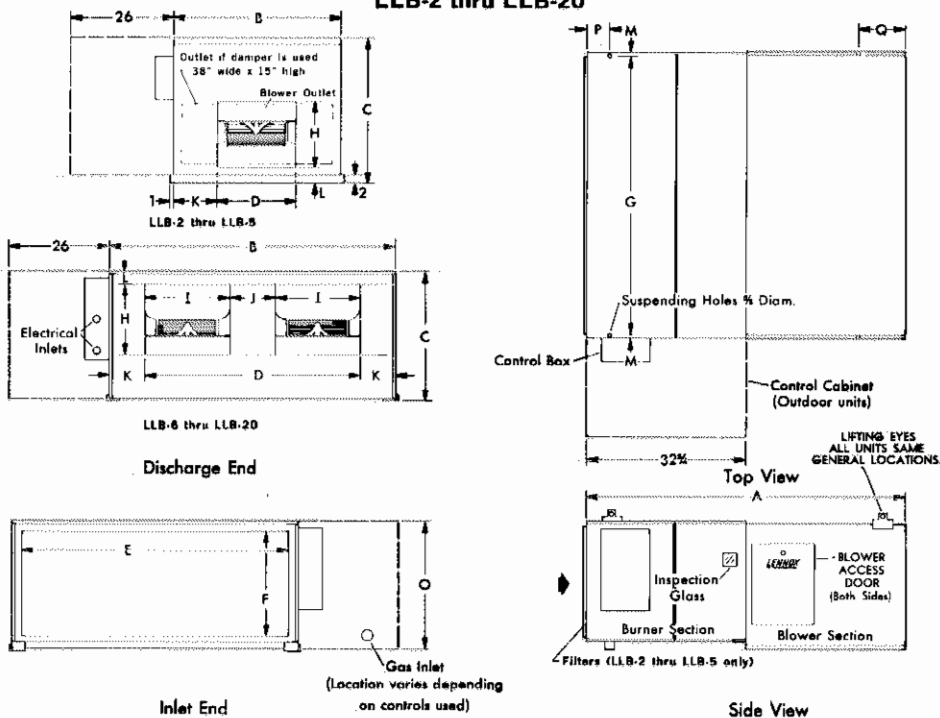
ACCESSORIES

OPTIONAL EQUIPMENT PRESSURE DROP AND WEIGHTS

| Model No. | No. & size of Filters (in.) | Filter Section | | Discharge Louvers | | Discharge Dampers | | Inlet Dampers | | Intake Hood | |
|-----------|------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | | Static Pressure Drop (in. wg.) | Approx. Shipping Weight (lbs.) | Static Pressure Drop (in. wg.) | Approx. Shipping Weight (lbs.) | Static Pressure Drop (in. wg.) | Approx. Shipping Weight (lbs.) | Static Pressure Drop (in. wg.) | Approx. Shipping Weight (lbs.) | Static Pressure Drop (in. wg.) | Approx. Shipping Weight (lbs.) |
| LLB-2 | (4) 16 x 20 x 1 | .02 | ---- | .02 | 70 | .01 | 100 | .02 | 150 | .01 | 85 |
| LLB-3 | (4) 16 x 20 x 1 | .05 | ---- | .04 | 70 | .03 | 100 | .04 | 150 | .02 | 85 |
| LLB-4 | (4) 16 x 20 x 1 | .09 | ---- | .08 | 70 | .04 | 100 | .08 | 150 | .04 | 85 |
| LLB-5 | (4) 16 x 20 x 1 | .17 | ---- | .11 | 70 | .07 | 100 | .13 | 150 | .07 | 85 |
| LLB-6 | (2) 20 x 20 x 2 (4) 25 x 20 x 2 | .06 | 205 | .06 | 125 | .03 | 150 | .01 | 200 | .03 | 125 |
| LLB-8 | (2) 20 x 20 x 2 (4) 25 x 20 x 2 | .10 | 205 | .10 | 125 | .05 | 150 | .02 | 200 | .04 | 125 |
| LLB-10 | (9) 25 x 20 x 2 | .06 | 260 | .09 | 155 | .07 | 175 | .02 | 235 | .05 | 160 |
| LLB-12 | (9) 25 x 20 x 2 | .09 | 260 | .12 | 155 | .10 | 175 | .02 | 235 | .06 | 160 |
| LLB-14 | (9) 25 x 20 x 2 | .12 | 260 | .17 | 155 | .13 | 175 | .03 | 235 | .09 | 160 |
| LLB-16 | (18) 20 x 15 x 2 | .12 | 365 | .14 | 180 | .10 | 200 | .02 | 270 | .06 | 200 |
| LLB-18 | (18) 20 x 15 x 2 | .15 | 365 | .18 | 180 | .13 | 200 | .03 | 270 | .07 | 200 |
| LLB-20 | (18) 20 x 15 x 2 | .19 | 365 | .22 | 180 | .15 | 200 | .03 | 270 | .08 | 200 |
| LLB-22 | (18) 16 x 25 x 2 | .13 | 690 | .08 | 300 | .12 | 225 | .02 | 300 | .02 | 220 |
| LLB-24 | (18) 16 x 25 x 2 | .15 | 690 | .09 | 300 | .14 | 225 | .03 | 300 | .03 | 220 |
| LLB-26 | (18) 16 x 25 x 2 | .17 | 690 | .11 | 300 | .16 | 225 | .03 | 300 | .03 | 220 |
| LLB-28 | (18) 16 x 25 x 2 | .18 | 690 | .12 | 300 | .18 | 225 | .04 | 300 | .04 | 220 |
| LLB-30 | (18) 16 x 25 x 2 | .20 | 690 | .14 | 300 | .21 | 225 | .04 | 300 | .04 | 220 |
| LLB-35 | (21) 25 x 20 x 2 | .13 | 800 | .10 | 450 | .11 | 345 | .03 | 460 | .03 | 300 |
| LLB-40 | (21) 25 x 20 x 2 | .18 | 800 | .13 | 450 | .14 | 345 | .03 | 460 | .04 | 300 |
| LLB-45 | (21) 25 x 20 x 2 | .24 | 800 | .16 | 450 | .17 | 345 | .04 | 460 | .04 | 300 |
| LLB-50 | (21) 25 x 20 x 2 | .30 | 800 | .20 | 450 | .22 | 345 | .05 | 460 | .05 | 300 |
| LLBX-50 | (42) 20 x 25 x 2 | .07 | 1300 | .15 | 630 | .14 | 485 | .02 | 645 | .02 | 540 |
| LLB-55 | (42) 20 x 25 x 2 | .09 | 1300 | .19 | 630 | .17 | 485 | .03 | 645 | .03 | 540 |
| LLB-60 | (42) 20 x 25 x 2 | .11 | 1300 | .22 | 630 | .21 | 485 | .03 | 645 | .04 | 540 |
| LLB-65 | (42) 20 x 25 x 2 | .13 | 1300 | .26 | 630 | .23 | 485 | .04 | 645 | .04 | 540 |
| LLB-70 | (42) 20 x 25 x 2 | .15 | 1300 | .30 | 630 | .28 | 485 | .04 | 645 | .05 | 540 |
| LLB-75 | (42) 20 x 25 x 2 | .17 | 1300 | .35 | 630 | .30 | 485 | .05 | 645 | .05 | 540 |

DIMENSIONS (in.)

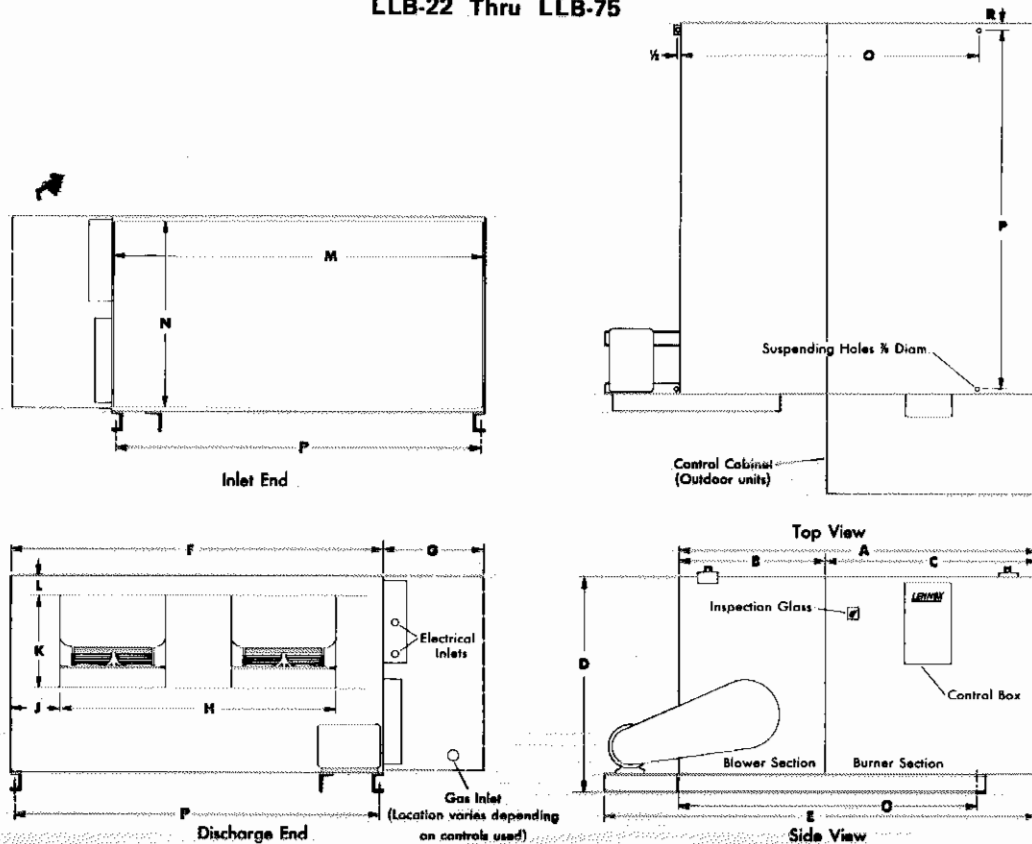
LLB-2 thru LLB-20



NOTE—Up flow or down flow supply air discharge may be obtained by rotating blower section on LLB-6 thru 20 models only.

| Model No. | A | B | C | D | E | F | G | H | I | J | K | L | M | O | P | Q |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|----------|--------|---------|--------|-------|--------|-------|----|
| LLB-2, 3, 4 & 5 | 80-1/2 | 42 | 36-1/2 | 19-3/4 | 38 | 30 | 23-3/4 | 16-1/2 | ---- | ---- | 11-1/8 | 3-1/2 | 9-1/8 | 34-1/2 | 8 | 1" |
| LLB-6 & 8 | 80 | 71-3/4 | 31-5/8 | 54-3/8 | 67 | 27-1/8 | 71-1/4 | 18-1/8 | 21-1/16 | 12-1/8 | 8-5/8 | 1-9/16 | 1/4 | 30-3/8 | 5-3/4 | 12 |
| LLB-10, 12 & 14 | 82 | 76-3/4 | 36-1/8 | 56-3/4 | 72 | 31-1/4 | 76-1/4 | 18-5/8 | 21-15/16 | 13 | 9-5/16 | 2-3/8 | 1/4 | 34-3/8 | 5-3/4 | 12 |
| LLB-16, 18 & 20 | 84 | 95-3/4 | 40 | 66-5/8 | 91-1/4 | 35 | 94-1/2 | 20-3/4 | 24-9/16 | 17-5/8 | 14-9/16 | 2-5/16 | 5/8 | 38-1/4 | 5-3/4 | 12 |

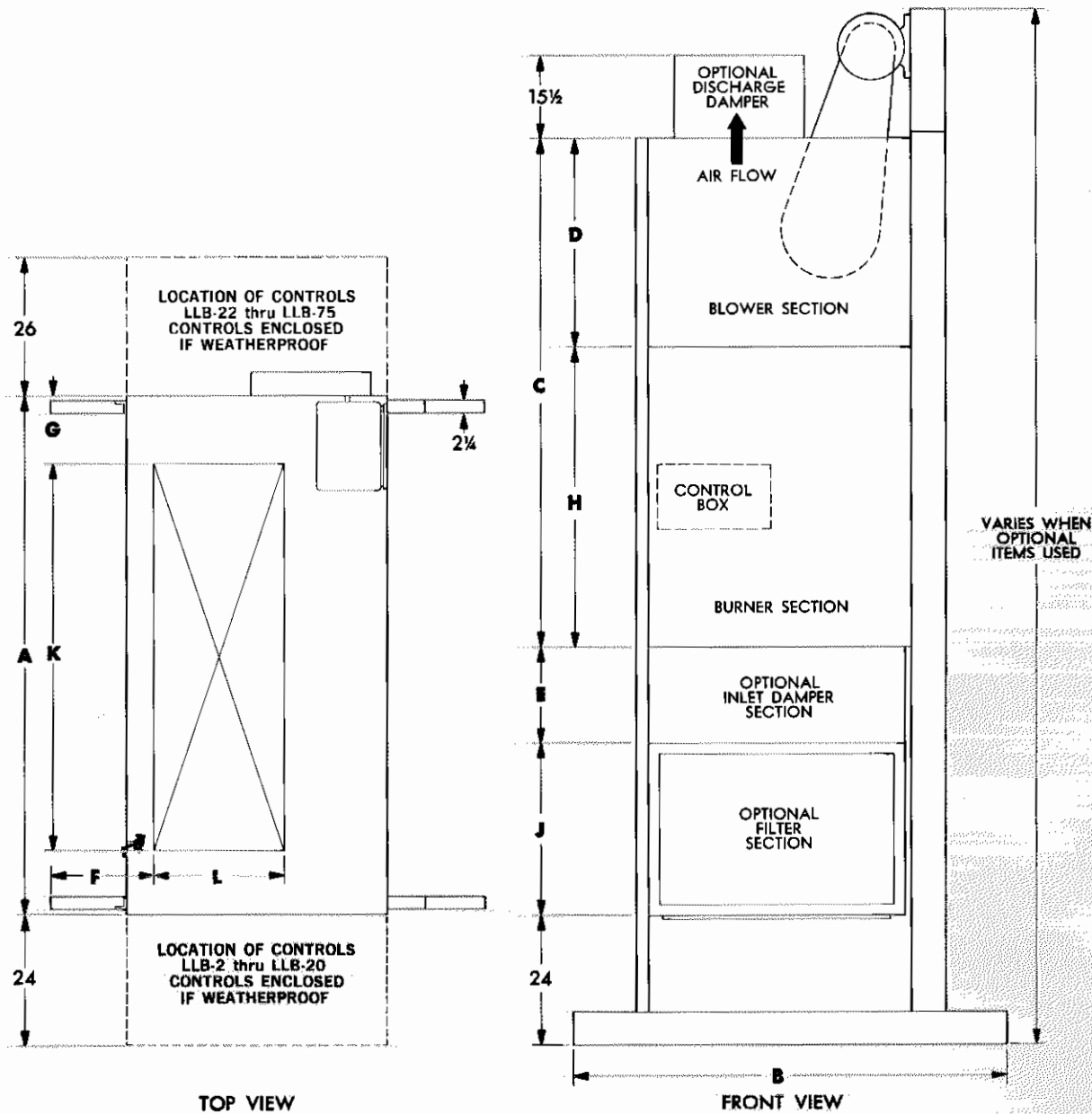
LLB-22 Thru LLB-75



| Model No. | A | B | C | D | E | F | G | H | J | K | L | M | N | O | P | R |
|---------------------|-----|--------|--------|--------|---------|---------|----|---------|--------|--------|---|--------|--------|---------|--------|-------|
| LLB-22 thru LLB-30 | 94 | 38-1/4 | 55-3/4 | 55-1/4 | 112-1/2 | 96-3/4 | 26 | 72 | 12-1/2 | 24 | 5 | 94-1/2 | 44-7/8 | 78 | 90-1/2 | 3-1/8 |
| LLB-35 thru LLB-50 | 94 | 38-1/4 | 55-3/4 | 55-1/4 | 112-1/2 | 141-1/4 | 26 | 116-1/2 | 12-1/2 | 24 | 5 | 139 | 44-7/8 | 78 | 135 | 3-1/8 |
| LLBX-50 thru LLB-75 | 120 | 60 | 60 | 76 | 144-1/2 | 141-1/4 | 30 | 112-1/2 | 13-1/4 | 34-1/4 | 4 | 139 | 68 | 120-3/4 | 135 | 1-1/8 |

DIMENSIONS (in.)

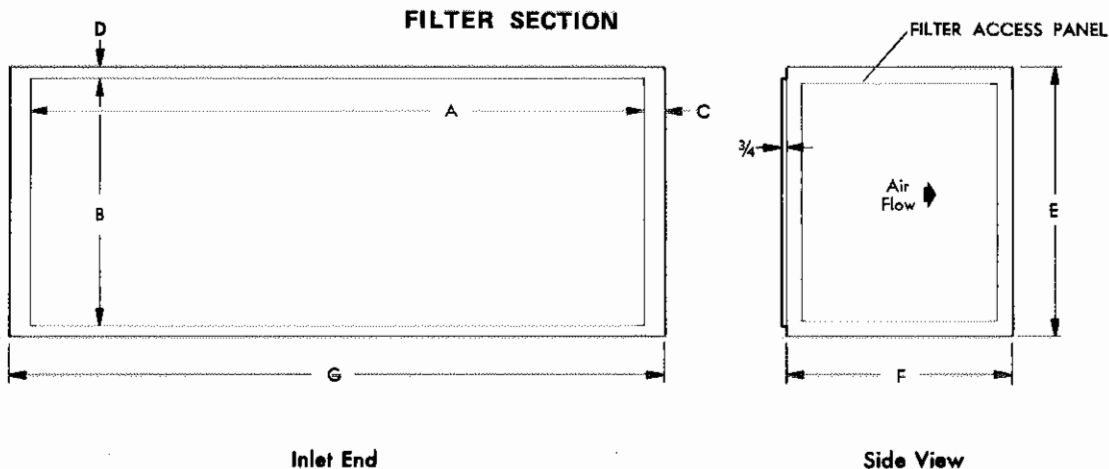
VERTICAL UNITS LLB-2 thru LLB-75



| Model No. | A | B | C | D | E | F | G | H | J | K | L |
|------------------------|---------|--------|-----|--------|--------|--------|--------|--------|--------|---------|--------|
| *LLB-2 thru LLB-5 | 46 | 58-1/2 | 80 | 38 | 20-3/4 | 28-1/2 | 13 | 42-1/2 | --- | 19-3/4 | 16-1/2 |
| LLB-6 thru 8 | 75-3/4 | 55-3/4 | 80 | 39-3/4 | 20 | 14-1/4 | 10-3/4 | 40 | 24 | 54-3/8 | 18 |
| LLB-10 thru 14 | 80-3/4 | 60 | 82 | 41-3/4 | 20 | 15-1/4 | 12 | 40 | 27-3/4 | 56-3/4 | 18-3/8 |
| LLB-16 thru 20 | 99-3/4 | 64 | 84 | 43-3/4 | 20 | 15-1/4 | 16-1/2 | 40 | 28-1/2 | 66-5/8 | 20-5/8 |
| LLB-22 thru 30 | 96-3/4 | 80 | 94 | 38-3/4 | 18 | 19 | 12-1/2 | 55-3/4 | 32 | 72 | 24 |
| LLB-35 thru 50 | 141-1/4 | 80 | 94 | 38-3/4 | 18 | 19 | 12-1/2 | 55-3/4 | 32 | 116-1/2 | 24 |
| LLBX-50 thru LLB-75 | 141-1/4 | 102 | 120 | 60 | 18 | 18 | 14-1/2 | 60 | 32 | 112-1/2 | 34-1/4 |

*NOTE—Filters mount in Gas Heating Section on LLB-2 thru LLB-5 models.

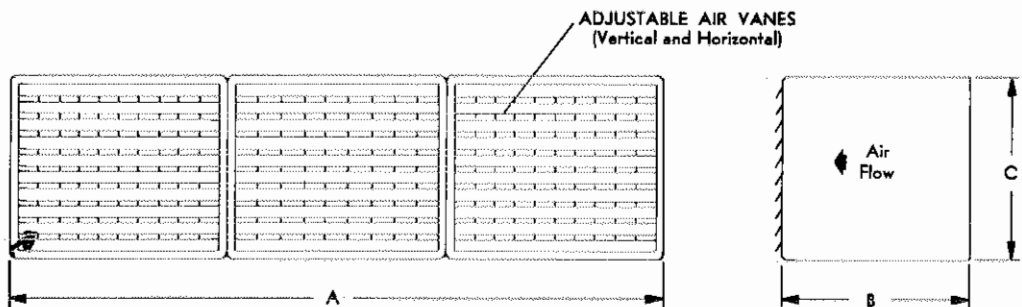
DIMENSIONS (in.)



| Model No. | A | B | C | D | E | F | G |
|---------------------|--------|--------|--------|--------|--------|--------|---------|
| LLB-6 thru 8 | 67 | 27-1/4 | 2-5/16 | 1-1/8 | 29-1/2 | 24 | 71-5/8 |
| LLB-10 thru 14 | 72 | 31-1/4 | 2-5/16 | 1-1/8 | 33-1/2 | 27-1/2 | 76-5/8 |
| LLB-16 thru 20 | 91-1/4 | 35 | 2-1/4 | 1-3/16 | 37-3/8 | 28-1/4 | 95-3/4 |
| LLB-22 thru 30 | 87-1/2 | 42 | 4-5/8 | 2-3/4 | 47-1/2 | 32-1/8 | 96-3/4 |
| LLB-35 thru 50 | 132 | 42 | 4-5/8 | 2-3/4 | 47-1/2 | 32-1/8 | 141-1/4 |
| LLBX-50 thru LLB-75 | 132 | 66 | 4-5/8 | 1-1/8 | 68-1/4 | 32-1/8 | 141-1/4 |

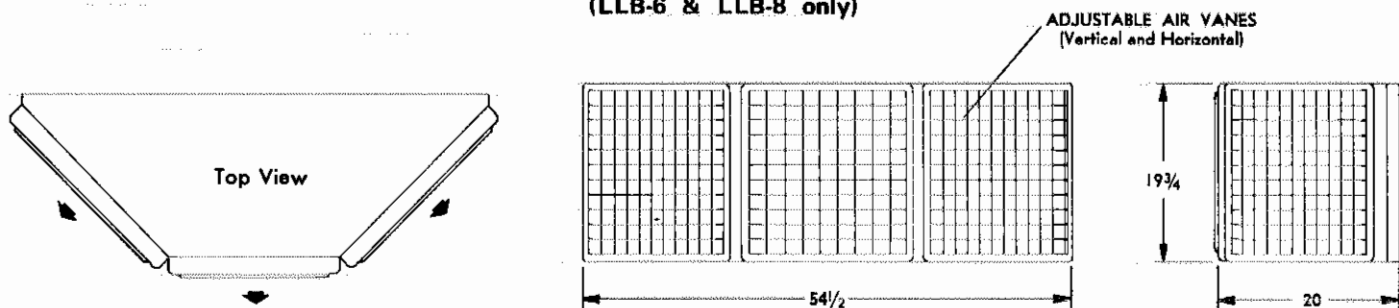
NOTE—Filter section not required on LLB-2 thru 5 models. Filters install in air inlet opening of furnace section on these models. See dimension drawing of units.

IN LINE DISCHARGE DIFFUSERS (LLB-2 thru LLB-75)



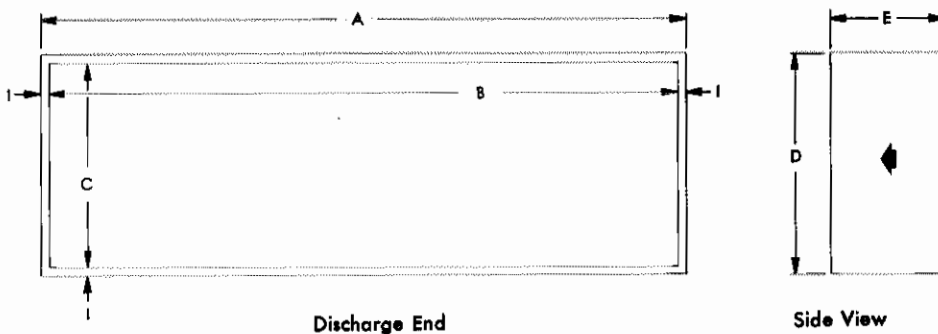
| Model No. | Type | A | B | C |
|---------------------|---------------|---------|--------|--------|
| LLB-2 thru 5 | One-In-Line | 40 | 12-1/2 | 16-1/2 |
| LLB-6 thru 8 | Three-In-Line | 70 | 16 | 19-1/4 |
| LLB-10 thru 14 | Four-In-Line | 75-1/4 | 15 | 20-1/2 |
| LLB-16 thru 20 | Five-In-Line | 94-1/2 | 15 | 20-1/2 |
| LLB-22 thru 30 | Three-In-Line | 96-3/4 | 20 | 34-1/2 |
| LLB-35 thru 50 | Four-In-Line | 141-1/4 | 20 | 34-1/2 |
| LLBX-50 thru LLB-75 | Four-In-Line | 141-1/4 | 20 | 40 |

THREE WAY DISCHARGE DIFFUSERS (LLB-6 & LLB-8 only)



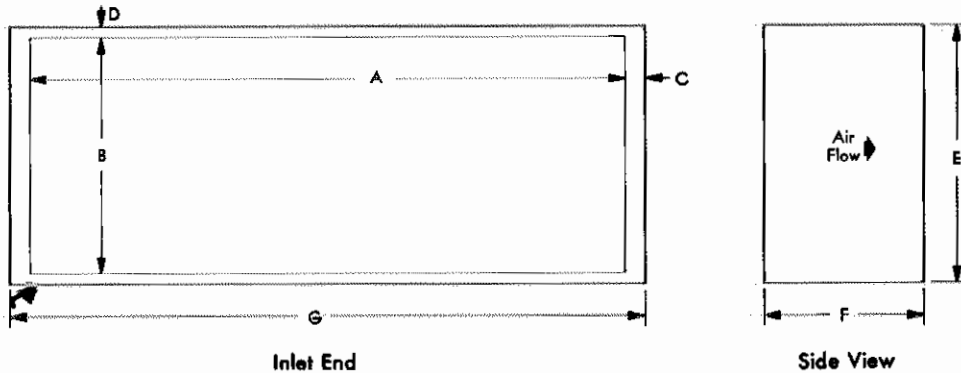
DIMENSIONS (in.)

DISCHARGE DAMPERS



| Model No. | A | B | C | D | E |
|---------------------|---------|---------|--------|--------|--------|
| LLB-2 thru 5 | 38 | 36 | 14-1/2 | 16-1/2 | 12-1/2 |
| LLB-6 thru 8 | 54-3/8 | 52-3/8 | 16 | 18 | 15-1/2 |
| LLB-10 thru 14 | 56-3/4 | 54-3/4 | 16-3/8 | 18-3/8 | 15-1/2 |
| LLB-16 thru 20 | 66-5/8 | 64-5/8 | 18-5/8 | 20-5/8 | 15-1/2 |
| LLB-22 thru 30 | 72 | 70 | 22 | 24 | 15-1/2 |
| LLB-35 thru 50 | 116-1/2 | 114-1/2 | 22 | 24 | 15-1/2 |
| LLBX-50 thru LLB-75 | 112-1/2 | 110-1/2 | 31-1/4 | 34-1/4 | 15-1/2 |

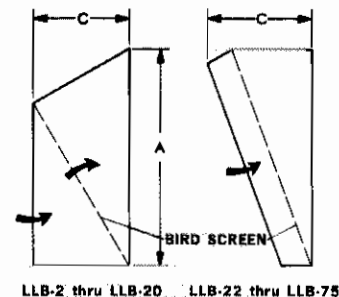
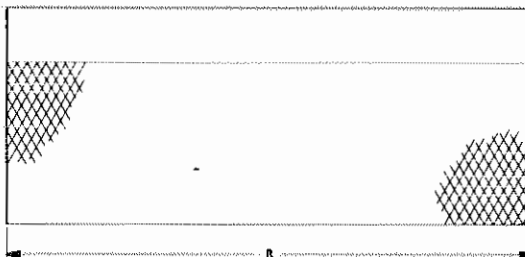
INLET DAMPERS



| Model No. | A | B | C | D | E | F | G |
|---------------------|--------|--------|-------|--------|--------|--------|---------|
| LLB-2 thru 5 | 38 | 30 | --- | --- | 30 | 20-3/4 | 38 |
| LLB-6 thru 8 | 67 | 27-1/8 | 2-3/8 | 1-3/16 | 29-1/2 | 20 | 71-3/4 |
| LLB-10 thru 14 | 72 | 31-1/4 | 2-3/8 | 1-1/8 | 33-1/2 | 20 | 76-3/4 |
| LLB-16 thru 20 | 91-1/4 | 35 | 2-1/4 | 1-3/16 | 37-3/8 | 20 | 95-3/4 |
| LLB-22 thru 30 | 94-1/2 | 44-7/8 | 1-1/8 | 2-5/16 | 47-1/2 | 18 | 96-3/4 |
| LLB-35 thru 50 | 139 | 44-7/8 | 1-1/8 | 2-5/16 | 47-1/2 | 18 | 141-1/4 |
| LLBX-50 thru LLB-75 | 139 | 68 | 1-1/8 | 1/8 | 68-1/4 | 18 | 141-1/4 |

INTAKE HOOD & BIRD SCREEN

| Model No. | A | B | C |
|---------------------|--------|---------|--------|
| LLB-2 thru 5 | 30 | 38 | 15 |
| LLB-6 thru 8 | 29-1/2 | 71-3/4 | 13 |
| LLB-10 thru 14 | 33-1/2 | 76-3/4 | 15 |
| LLB-16 thru 20 | 37-3/8 | 95-3/4 | 17-1/2 |
| LLB-22 thru 30 | 47-1/2 | 96-3/4 | 38 |
| LLB-35 thru 50 | 47-1/2 | 141-1/4 | 38 |
| LLBX-50 thru LLB-75 | 68-1/4 | 141-1/4 | 30 |



LLB-2 thru LLB-20 LLB-22 thru LLB-75