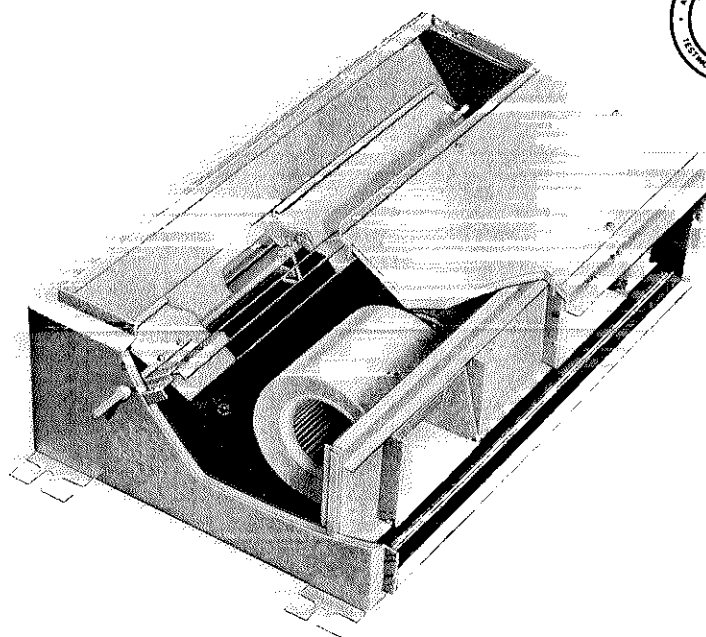
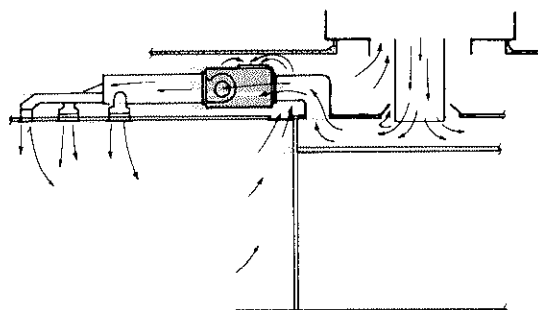


LENNOX[®]

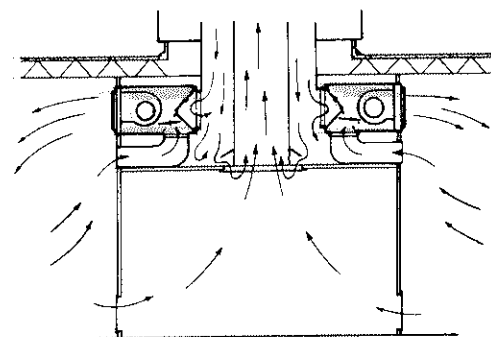
ZDB1-SERIES HORIZONTAL BLOWER POWERED MIXING DAMPER BOXES



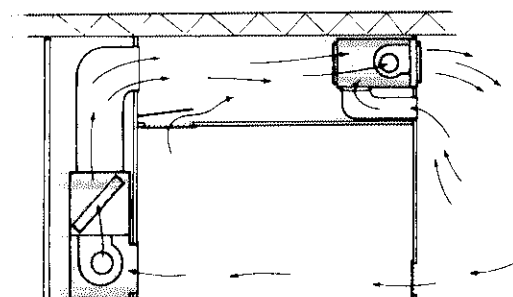
Typical Applications



Mixing box over the control space.



Mixing boxes in the supply trunk.



Blower-coil unit supplying a mixing box in the supply trunk.

Blower Powered Zone Control Mixing Damper Boxes Are Available In Several Sizes

Lennox ZDB1 blower powered mixing damper boxes provide individual zone temperature control with continuous air circulation at constant air volume. Additionally, direct heat of light reclaim may be utilized and downstream auxiliary duct heaters may be applied. Mixing boxes are connected to the supply air duct and the dampers regulate type of air supply required, 100% conditioned air, 100% room return air or mixed conditioned and room return air. These compact horizontal mixing boxes may be suspended from a ceiling, installed in a space above a suspended ceiling or any other convenient indoor location applicable. The cabinet is constructed of heavy gauge galvanized steel. The interior of the cabinet is lined with thick 1-1/2 lb. black matte faced fiberglass insulation. The conditioned air, return air and supply air openings in the cabinet have flanges for ease of duct connections. Filter rack is provided in return air opening for field furnished filter. Large removable service access panels are provided in top and bottom of the cabinet. A wiring junction box is furnished and knockouts are provided in the cabinet for electrical line entry. Mounting brackets are furnished on the cabinet for ease of installation. Dual direct drive blowers (single blower on ZDB1-400) efficiently and quietly provide supply air requirements. A choice of three blower speeds is available. A motor speed selector switch is furnished and factory installed. The mixing damper blades are linked together to coordinate conditioned and return air resulting in the type of supply air desired. Damper blades rotate on delvin bearings. Lubrication of bearings is not required. Thermostat controls operation of damper actuator. Damper actuator and thermostat are not included with the unit and must be ordered extra. A choice of factory or field installed damper actuator kits are provided, see specification table. Kit includes a damper actuator, low voltage transformer (bimetal and modulating kits only), linkage and fasteners. Mixing boxes are shipped factory assembled and must be specified right or left hand air discharge when ordering. Units are U.L. listed.

NOTE: Specifications, ratings and dimensions subject to change without notice.

SPECIFICATIONS

Model Number		ZDB1-400	ZDB1-800	ZDB1-1200	ZDB1-1600
Air volume range (cfm)		270 – 600	550 – 1000	1000 – 1600	1300 – 1900
Blower wheel nominal diameter x width (in.)		5-3/4 x 5-3/4	(2) 5-3/4 x 5-3/4	(2) 7-1/2 x 7	(2) 7-1/2 x 9
Blower motor horsepower		1/15	1/5	1/4	1/4
Shipping weight (lbs.)		66	91	123	134
No. of packages in shipment		1 (*2)	1 (*2)	1 (*2)	1 (*2)
Electrical characteristics		120 volts – 60 hertz – 1 phase			
		277 volts – 60 hertz – 1 phase			
**Damper Actuator Kit and Shipping Weight	Bimetal Actuator	120v	LB-51012DA (3 lbs.)		
		277v	LB-51015DA (3 lbs.)		
	Modulating Motor	120v	LB-50927DA (11 lbs.)		
		277v	LB-50930DA (11 lbs.)		
Pneumatic Actuator		LB-50931DA (1 lb.)			
†Thermostat Optional	For Bimetal Actuator		P-8-7988		
	For Modulating Actuator		P-8-9678		
	For Pneumatic Actuator	Thermostat	P-8-8592		
		Cover	P-8-8595		

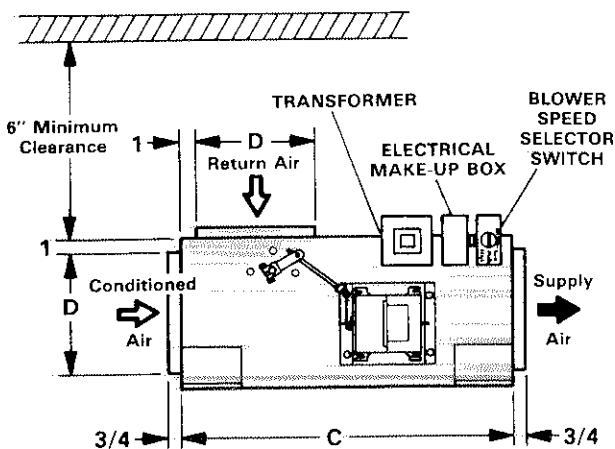
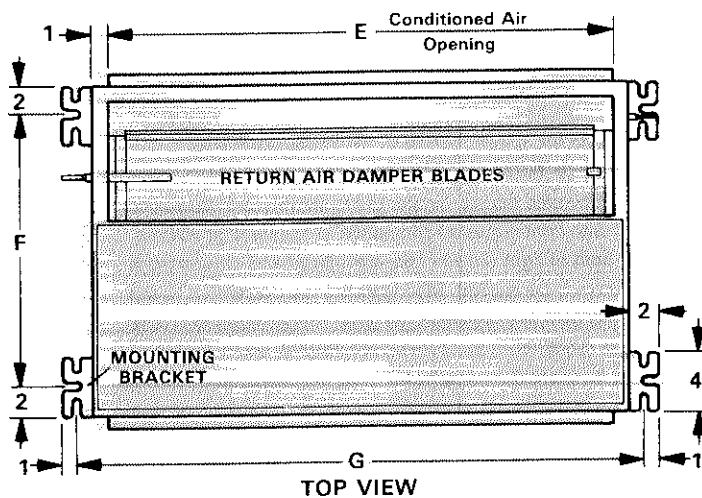
*Package 1 is mixing damper box, Package 2 is optional and consists of field installed damper actuator, 24 volt transformer (not included with pneumatic actuator) linkage and fasteners.

**Available factory or field installed. Specify left or right hand side control mounting when ordering.

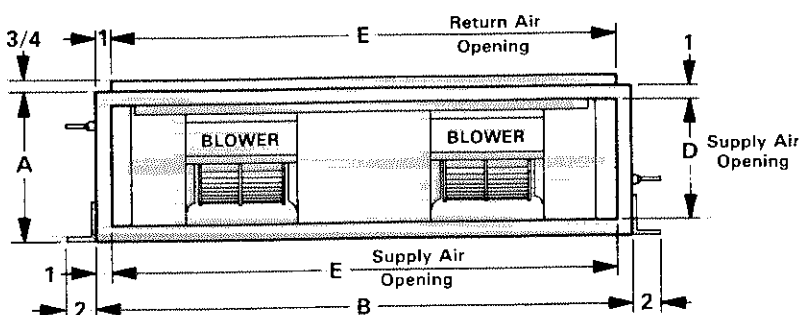
† Thermostat is not furnished and must be ordered extra.

DIMENSIONS (inches)

Model No.	ZDB1-400	ZDB1-800	ZDB1-1200	ZDB1-1600
A	10	10	14	14
B	24	36	36	42
C	22	22	27	27
D	8	8	12	12
E	22	34	34	40
F	18	18	23	23
G	26	38	38	44



SIDE VIEW
(Right Hand Air Discharge
With Modulating Damper Motor)



SUPPLY AIR END VIEW

BLOWER DATA

ZDB1-400 BLOWER PERFORMANCE
(100% Conditioned Supply Air)

†Differential Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds		
	High	Medium	Low
-.10	463	412	357
-.05	446	396	343
0	430	380	329
+.05	410	360	310
+.10	390	340	290

†Discharge air static pressure minus conditioned air duct static pressure.

ZDB1-400 BLOWER PERFORMANCE
(100% Room Return Air)

External Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds		
	High	Medium	Low
0	450	396	341
.05	436	384	328
.10	421	372	316
.15	405	359	302
.20	389	345	288
.25	372	330	273

ZDB1-800 BLOWER PERFORMANCE
(100% Conditioned Supply Air)

†Differential Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds		
	High	Medium	Low
-.10	824	768	672
-.05	795	738	646
0	769	712	625
+.05	735	680	595
+.10	705	650	570

†Discharge air static pressure minus conditioned air duct static pressure.

ZDB1-800 BLOWER PERFORMANCE
(100% Room Return Air)

External Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds		
	High	Medium	Low
0	870	790	665
.05	842	763	640
.10	815	737	617
.15	786	712	593
.20	756	685	567
.25	726	655	540

ZDB1-1200 BLOWER PERFORMANCE
(100% Conditioned Supply Air)

†Differential Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds		
	High	Medium	Low
-.10	1375	1298	1220
-.05	1352	1274	1195
0	1330	1250	1170
+.05	1300	1215	1135
+.10	1280	1195	1110

†Discharge air static pressure minus conditioned air duct static pressure.

ZDB1-1200 BLOWER PERFORMANCE
(100% Room Return Air)

External Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds		
	High	Medium	Low
0	1400	1282	1165
.05	1364	1257	1145
.10	1326	1225	1115
.15	1284	1181	1085
.20	1235	1135	1040
.25	1180	1082	995

ZDB1-1600 BLOWER PERFORMANCE
(100% Conditioned Supply Air)

†Differential Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds		
	High	Medium	Low
-.10	1775	1565	1350
-.05	1730	1525	1325
0	1680	1490	1295
+.05	1655	1462	1265
+.10	1635	1442	1245

†Discharge air static pressure minus conditioned air duct static pressure.

ZDB1-1600 BLOWER PERFORMANCE
(100% Room Return Air)

External Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds		
	High	Medium	Low
0	1775	1525	1275
.05	1750	1485	1245
.10	1705	1445	1215
.15	1650	1390	1175
.20	1580	1330	1130
.25	1500	1265	1075