

# EBA INDUCTION UNIT

- Suitable for retrofits or new projects
- Low noise
- Low static pressure
- Easy maintenance

**EB AIR**  
Control Inc.



**EB AIR CONTROL INC.**

MANUFACTURERS OF INNOVATIVE HVAC PRODUCTS

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ISO 9001:2000 Certified  
KTA 1401 Certified  
(Nuclear Safety Standards)

## Function

The EBA induction units are suitable for application in 2, 3 or 4 pipe systems with capacity control on the water or secondary air side.

## Features and Benefits

Low primary air pressure and extremely low noise levels as a result of:

- Efficient nozzle configuration
- Specially constructed primary air chamber with insulated guide plate (no other insulation is required in the primary air chamber)
- Aerodynamically designed primary air connection

## Wide Range of Flexibility

- Different types, varying in lengths from 24" to 53"
- 2 basic models per type, i.e. slim, vertical model or low, deep model
- 6 different nozzle plates per type, induction ratios varying from 5.50 to 2.50
- Possibility of series connection on the primary air side
- Special kit for horizontal models available
- Suitable for any application in 2, 3 or 4 pipe systems
- Possibility of capacity control on the water or secondary air side
- Various options, i.e. filters, grille and drain connection

## Units Completely Ready for Operation, Including:

- Primary air damper
- Ventcock
- Suspension lips

## Attractive dimensions

- Minimum depth of 6.3" (slim model)
- Minimum height of 11.5" (low model)

## Robust Construction

Suitable for VAV applications.

## Component Description

### Primary air chamber:

- Insulated guide plate
- Primary air adjustment damper
- Aerodynamically shaped primary air connection (4" dia.)

### Nozzle plate

- Specially designed polyethylene nozzles
- Nozzle temperature resistance 158°F
- Bronze nozzles available with some models

### Coil

- Copper tubes with aluminum fins
- Water connection 1/2" O/D complete with vent cock
- Suitable for water pressures up to 350 psi
- Drip tray included

### Air mixing chamber

- Robust construction
- Suspension lips

### Secondary air dampers (For MK & MKM models)

- Rotating in nylon bearings
- Air tightness obtained by neoprene edge strip
- Robust construction actuating mechanism

### Pneumatic motor (For MK & MKM models)

- With neoprene diaphragm
- Operating pressure from 3 to 15psi (0.2 to 1.0 kg/cm<sup>2</sup>) for MK and 8 to 15 psi (0.6 to 1.0 kg/cm<sup>2</sup>) for MKM

### Sheet metal

- All sheet metal components electrolytically zinc plated with a layer thickness 1 mil

### Scott filter

- Cleanable, polyurethane material, 1/4" thickness

### Lintscreen filter

- Cleanable woven aluminum

### Grilles

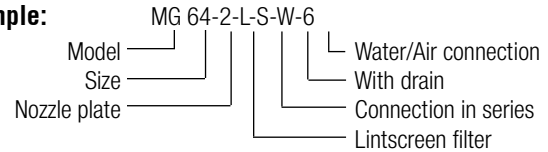
- Nylon, with curved fins, adjustable in 4 directions

## Unit Designations:

The EBA induction units are designated by model, size, nozzles, optional items and coil/air connections.

1 Model	2 Size	3 Nozzle Plate	4 Options	5 Connection Possibility
ML	48	1	F (Scott filter)	1
MLD	64	2	L (Lintscreen filter)	3
MG	88	3	H (Horizontal)	4
MGD	120	4	S (Series)	6
MK		5	W (Drain connection)	
MKM		6	R (Grille)	

### Example:



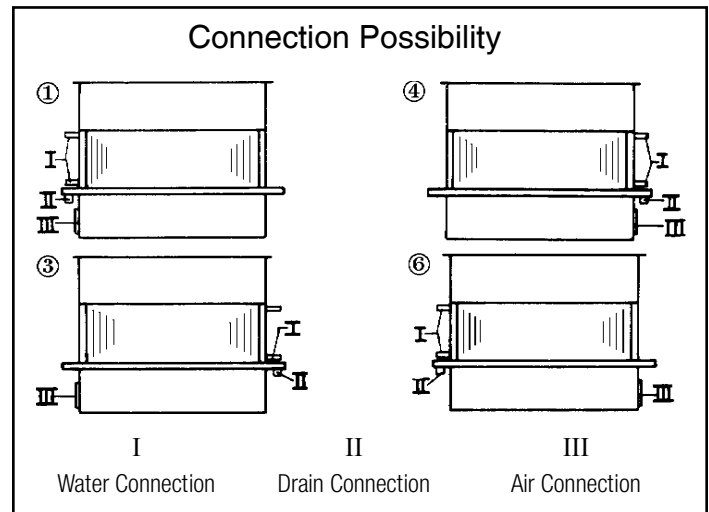
**Note:** Always follow the sequence of columns 1 to 5 when determining the unit designation.

All units (except ML and MLD models) are also available in 17<sup>3</sup>/<sub>8</sub>" (440 mm) height which is to be specified separately.

## Induction ratio

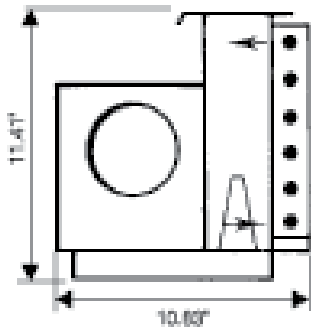
Nozzle Plate	Model			
	MG, MK MKM	MGD	ML	MLD
1	5.5	5.3	5.1	4.9
2	4.5	4.3	4.3	4.1
3	4.0	3.8	3.8	3.6
4	3.4	3.3	3.1	3.0
5	3.0	2.9	2.8	2.6
6	2.4	2.3	2.2	2.1

**Note:** Correction factor for Scott filter is 0.93

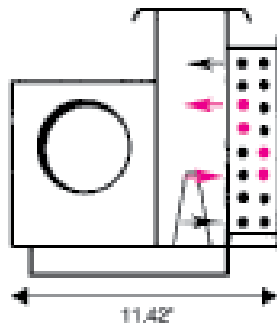


# EBA Induction Units

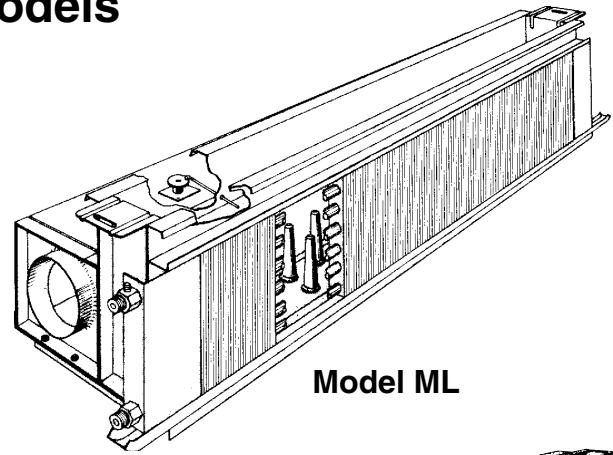
## Basic Models



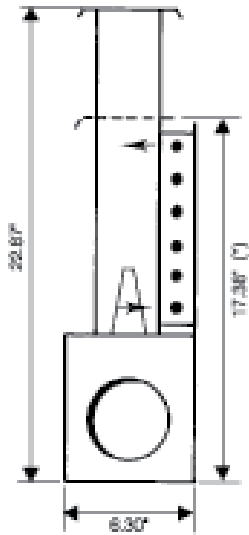
ML



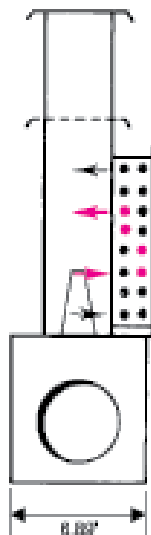
MLD



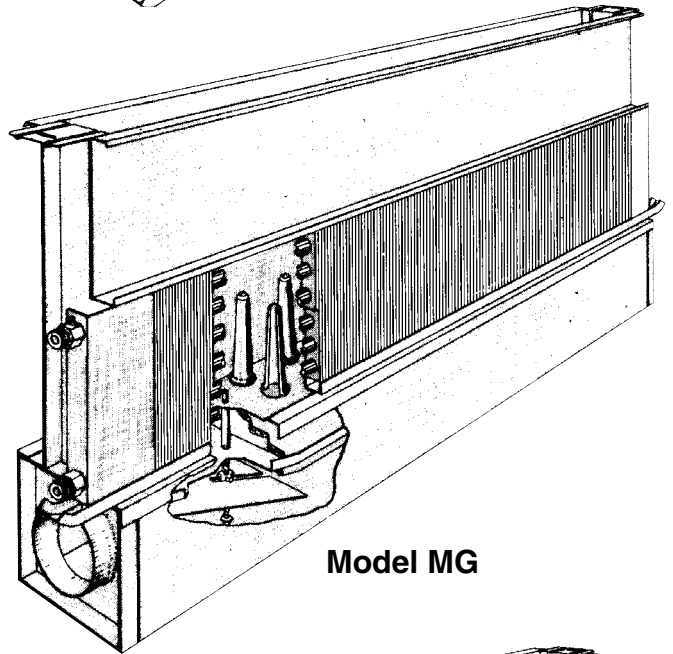
Model ML



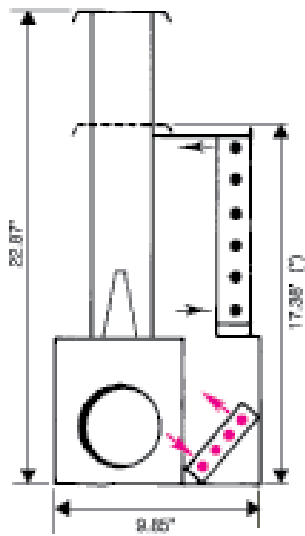
MG



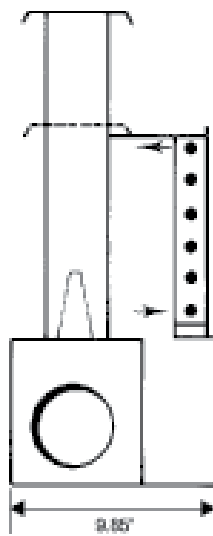
MGD



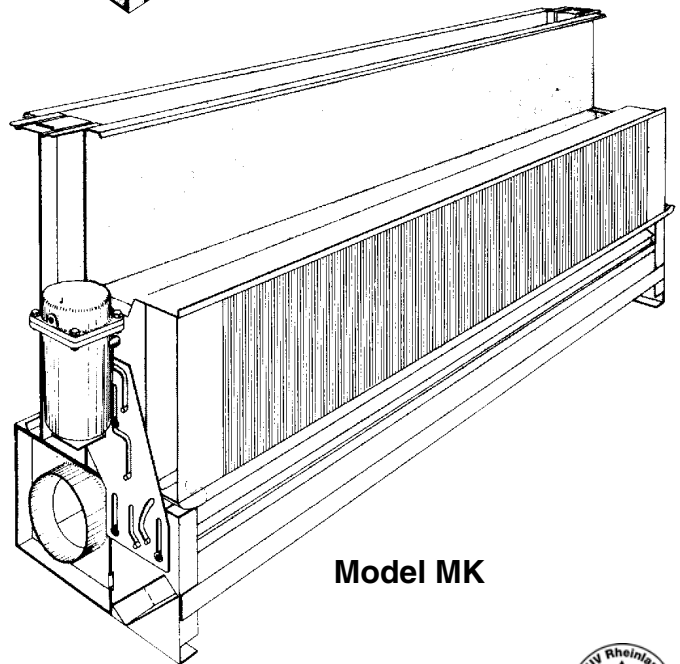
Model MG



MK



MKM



Model MK

Unit Size	Overall Length
48	24.25"
64	30.50"
88	40.00"
120	52.50"

(\* ) Optional reduced height



## Selection Tables for Two-pipe units

<b>MG 48, ML 48*, MKM 48 and MK 48 Cooling</b>																			
<b>Primary Air</b>		<b>Nozzle Plate #1</b>			<b>Nozzle Plate #2</b>			<b>Nozzle Plate #3</b>			<b>Nozzle Plate #4</b>			<b>Nozzle Plate #5</b>			<b>Nozzle Plate #6</b>		
CFM	Cap. 20°F DT (Btuh)	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water
20	432	2157	20	1.52															
25	540	2465	21	2.12															
30	648	2702	26	2.9	2488	20	1.4												
35	756				2702	22	1.95	2536	20	1.32									
40	864				2820	26	2.44	2725	22	1.64	2560	20	1.26						
45	972				2963	29	3.0	2844	26	2.12	2702	21	1.52	2512	20	0.68			
50	1080							2963	29	2.6	2844	25	1.88	2607	21	0.84			
55	1188							3082	31	3.05	2963	28	2.28	2726	21	1.06	2536	20	0.6
60	1296										3081	33	2.7	2891	26	1.24	2655	20	0.76
65	1404										3152	32	3.1	2938	28	1.44	2749	22	0.9
70	1512													3010	30	1.64	2844	24	1.0
75	1620																2892	26	1.16
80	1728																2986	28	1.28
85	1836																3081	30	1.46
90	1944																3128	31	1.6

<b>MG 64 and ML 64*, MKM 64 and MK 64 Cooling</b>																			
<b>Primary Air</b>		<b>Nozzle Plate #1</b>			<b>Nozzle Plate #2</b>			<b>Nozzle Plate #3</b>			<b>Nozzle Plate #4</b>			<b>Nozzle Plate #5</b>			<b>Nozzle Plate #6</b>		
CFM	Cap. 20°F DT (Btuh)	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water
30	648	2939	20	1.5															
35	756	3247	23	1.92															
40	864	3484	26	2.52	3247	20	1.44												
45	972	3650	32	3.2	3436	23	1.80	3318	20	1.24									
50	1080				3579	25	2.20	3413	22	1.56	3247	20	1.16						
55	1188				3745	28	2.64	3579	24	1.96	3389	21	1.40						
60	1296				3840	32	3.30	3721	27	2.36	3505	23	1.64	3271	20	0.70			
65	1404							3792	29	2.64	3602	25	1.86	3366	21	0.84	3128	20	0.51
70	1512										3745	27	2.16	3508	22	1.00	3271	20	0.56
75	1620										3816	29	2.44	3579	25	1.10	3366	21	0.64
80	1728										3887	31	2.76	3650	27	1.24	3437	22	0.74
85	1836													3769	28	1.36	3555	24	0.84
90	1944													3792	30	1.56	3650	25	1.00
95	2052													3840	31	1.80	3697	26	1.08
100	2160																3769	28	1.24
105	2268																3815	30	1.34
110	2376																3863	31	1.48
115	2484																3887	32	1.60

Notes: The coil capacities are based on:  $T_{ROOM} - T_{ENTERING WATER} = 25^{\circ}F$  (Adjust proportionately for different conditions).  
1.5 GPM water flow per coil.

(See correction factors on page 11 for water flows other than 1.5 g.p.m.)

(\*) For ML units, reduce the coil capacities shown by 6%

Standard MG, MK and MKM height is 22.8". For reduced height of 17.38", reduce coil capacity by 6%

The indicated sound pressure levels are based on fully open primary air damper.

Noise increases 1 d B (A) per 0.28" WG of damper throttling.

**Series Connection:**

- Increase noise levels by 2 d B (A)
- Primary air drop remains unaltered
- Connect maximum of 3 units in series
- Maximum air quantity supplied to first unit is 190 cfm.



<b>MG 88, ML 88*, MKM 88 and MK 88 Cooling</b>																			
<b>Primary Air</b>		<b>Nozzle Plate #1</b>			<b>Nozzle Plate #2</b>			<b>Nozzle Plate #3</b>			<b>Nozzle Plate #4</b>			<b>Nozzle Plate #5</b>			<b>Nozzle Plate #6</b>		
CFM	Cap. 20°F DT (Btuh)	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water
35	756	3626	20	1.20															
40	864	3934	20	1.48															
45	972	4124	24	1.80															
50	1080	4361	26	2.20	4053	20	1.08												
55	1188	4550	30	2.72	4314	22	1.40	4077	20	1.00									
60	1296				4503	24	1.63	4243	21	1.20	3982	20	0.84						
65	1404				4645	25	1.84	4408	23	1.40	4124	20	1.04						
70	1512				4788	27	2.12	4598	25	1.60	4266	21	1.12	3958	20	0.51			
75	1620				4954	30	2.42	4740	26	1.80	4408	23	1.26	4124	21	0.58			
80	1728							4835	27	2.04	4550	24	1.44	4219	23	0.66	3911	20	0.40
85	1836							4977	29	2.16	4693	26	1.64	4314	23	0.72	4029	20	0.44
90	1944							5073	32	2.40	4788	27	1.82	4503	24	0.82	4124	21	0.51
95	2052										4953	28	2.00	4551	25	0.88	4266	22	0.56
100	2160										5025	28	2.24	4693	27	0.97	4314	23	0.60
105	2268													4788	28	1.08	4645	24	0.66
110	2376													4882	29	1.18	4527	25	0.70
115	2484													4977	30	1.28	4645	26	0.78
120	2592																4740	28	0.84
125	2700																4835	29	0.96
130	2808																4882	30	1.02
135	2916																4977	31	1.10

<b>MG 120, ML 120*, MKM 120 and MKM 120 Cooling</b>																			
<b>Primary Air</b>		<b>Nozzle Plate #1</b>			<b>Nozzle Plate #2</b>			<b>Nozzle Plate #3</b>			<b>Nozzle Plate #4</b>			<b>Nozzle Plate #5</b>			<b>Nozzle Plate #6</b>		
CFM	Cap. 20°F DT (Btuh)	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	NC	APD Inches Water
45	972	4835	20	1.04															
50	1080	5025	20	1.28															
55	1188	5262	21	1.64	4977	20	0.88												
60	1296	5499	25	2.00	5167	20	1.02												
65	1404	5688	27	2.30	5333	21	1.16	5119	20	0.88									
70	1512	5830	29	2.64	5499	22	1.30	5238	20	1.02									
75	1620	5973	29	3.00	5665	24	1.48	5428	21	1.12									
80	1728				5830	26	1.68	5641	22	1.28	5214	20	0.94						
85	1836				5973	27	1.84	5736	23	1.42	5357	20	1.05						
90	1944				6162	29	2.08	5925	25	1.60	5570	21	1.16						
95	2052				6257	30	2.36	6020	26	1.76	5688	22	1.30						
100	2160				6352	31	2.52	6115	27	1.96	5783	23	1.44	5309	20	0.62			
105	2268							6210	28	2.08	5878	24	1.56	5403	20	0.68			
110	2376							6305	30	2.24	5973	25	1.68	5546	21	0.76			
115	2484							6400	31	2.44	6115	26	1.86	5688	22	0.80	5214	20	0.49
120	2592							6495	32	2.60	6210	27	1.96	5783	23	0.90	5404	20	0.52
125	2700										6305	28	2.16	5925	24	0.96	5475	21	0.58
130	2808										6400	30	2.30	6068	26	1.04	5617	22	0.62
135	2916										6494	30	2.44	6162	26	1.12	5712	22	0.70
140	3024										6589	31	2.60	6210	27	1.18	5807	23	0.76
145	3132													6305	28	1.26	5902	24	0.82
150	3240													6376	29	1.32	5972	25	0.84
155	3348													6423	29	1.36	6020	26	0.91
160	3456													6470	30	1.44	6139	27	0.96
165	3564													6588	31	1.56	6186	28	1.04
170	3672													6660	32	1.60	6233	28	1.08
175	3780																6328	29	1.11
180	3888																6399	30	1.15
185	3996																6447	31	1.22
190	4104																6494	31	1.30



## Selection Tables for Four-pipe Units

<b>MGD 48 and MLD 48*</b>																									
<b>Primary Air</b>		<b>Nozzle Plate #1</b>				<b>Nozzle Plate #2</b>				<b>Nozzle Plate #3</b>				<b>Nozzle Plate #4</b>				<b>Nozzle Plate #5</b>				<b>Nozzle Plate #6</b>			
CFM	Cap. 20°F DT (Btuh)	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water
20	432	2512	5840	20	1.44																				
25	540	2844	6466	21	2.16																				
30	648	3128	7071	27	3.0	2868	6570	20	1.48																
35	756					3081	7008	22	1.92	2963	6737	20	1.3												
40	864					3318	7404	27	2.52	3176	7091	22	1.7	3010	6737	20	1.28								
45	972					3508	7717	28	3.08	3366	7509	26	2.1	3129	7091	21	1.52	2844	6466	20	0.68				
50	1080									3531	7717	30	2.6	3318	7404	25	1.84	3033	6831	20	0.84				
55	1188									3697	8030	31	3.1	3508	7717	28	2.32	3176	7091	22	1.04	2963	6674	20	0.60
60	1296													3650	7926	30	2.72	3318	7404	25	1.24	3105	6883	20	0.72
65	1404													3792	8134	32	3.1	3437	7613	26	1.44	3223	7196	22	0.90
70	1512																	3579	7821	29	1.64	3318	7404	24	1.00
75	1620																					3436	7613	26	1.16
80	1728																					3555	7780	28	1.32
85	1836																					3650	7926	28	1.44
90	1944																					3745	8072	31	1.60

<b>MGD 64 and MLD 64*</b>																									
<b>Primary Air</b>		<b>Nozzle Plate #1</b>				<b>Nozzle Plate #2</b>				<b>Nozzle Plate #3</b>				<b>Nozzle Plate #4</b>				<b>Nozzle Plate #5</b>				<b>Nozzle Plate #6</b>			
CFM	Cap. 20°F DT (Btuh)	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water
30	648	3129	7925	20	1.52																				
35	756	3437	8343	21	1.92																				
40	864	3792	8802	26	2.52	3460	8343	20	1.40																
45	972	4053	9302	31	3.2	3745	8760	22	1.80	3484	8343	20	1.30												
50	1080					4006	9177	24	2.2	3745	8760	21	1.60	3413	8239	20	1.16								
55	1188					4266	9511	28	2.40	3982	9177	24	2.0	3650	8593	20	1.40								
60	1296					4503	9803	32	3.30	4172	9448	26	2.36	3840	8927	23	1.60	3460	8343	20	0.72				
65	1404									4408	9678	29	2.44	4029	9219	25	1.88	3650	8593	20	0.86	3271	8051	20	0.50
70	1512													4219	9427	26	2.12	3815	8843	23	1.00	3460	8301	20	0.60
75	1620													4408	9636	29	2.48	3934	9135	25	1.08	3602	8510	21	0.66
80	1728													4551	9803	33	2.68	4124	9344	26	1.24	3768	8760	22	0.74
85	1836																	4266	9490	28	1.40	3911	8969	24	0.86
90	1944																	4408	9699	30	1.56	4077	9240	25	1.00
95	2052																	4551	9845	31	1.76	4171	9386	27	1.10
100	2160																					4313	9594	28	1.24
105	2268																					4408	9657	29	1.36
110	2376																					4503	9761	31	1.46
115	2484																					4551	9803	32	1.52

Notes: The cooling coil capacities are based on:  $T_{ROOM} - T_{ENTERING WATER} = 25^{\circ}F$  (Adjust proportionately for different conditions).  
1.5 GPM water flow per coil.

(See correction factors on page 11 for water flows other than 1.5 g.p.m.)

The heating coil capacities are based on  $T_{ROOM} - T_{ENTERING WATER} = 110^{\circ}F$  and 0.8 GPM

(\*) For MLD units, reduce the coil capacities shown by 6%

Standard MGD, height is 22.8". For reduced height of 17.38", reduce coil capacity by 6%

The indicated sound pressure levels are based on fully open primary air damper.

Noise increases 1 dB(A) per 0.28" WG of damper throttling.

**Series Connection:**

- Increase noise levels by 2 dB(A)
- Primary air drop remains unaltered
- Connect maximum of 3 units in series
- Maximum air quantity supplied to first unit is 190 cfm.



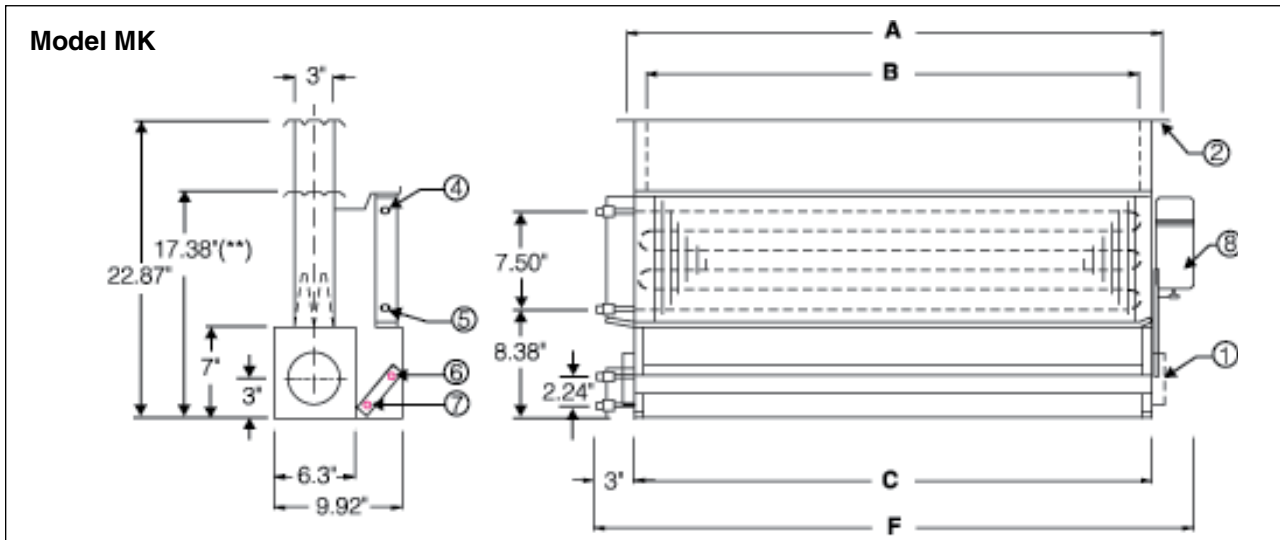
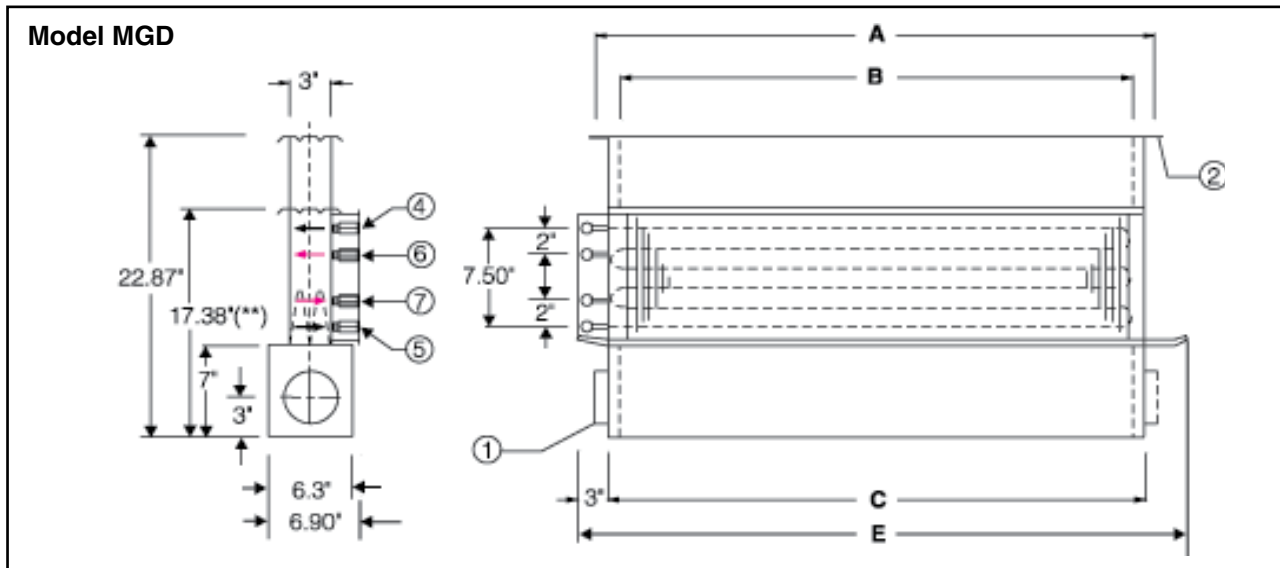
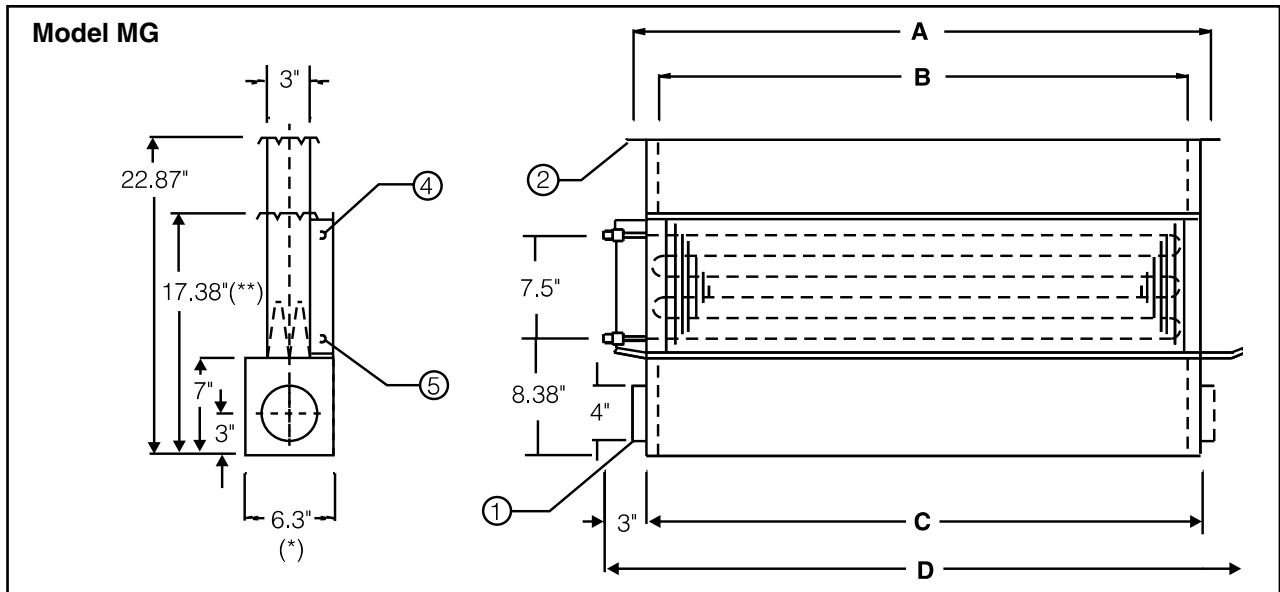
### MGD 88 and MLD 88\*

Primary Air		Nozzle Plate #1				Nozzle Plate #2				Nozzle Plate #3				Nozzle Plate #4				Nozzle Plate #5				Nozzle Plate #6			
CFM	Cap. 20°F DT (Btuh)	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water
35	756	3507	9386	20	1.14																				
40	864	3863	10137	20	1.44																				
45	972	4219	10846	24	1.80																				
50	1080	4503	11304	27	2.18	4147	10679	20	1.08																
55	1188	4740	11836	29	2.68	4456	11158	22	1.40	4124	10679	20	1.00												
60	1296					4693	11638	24	1.64	4361	11054	21	1.24	3958	10220	20	0.82								
65	1404					4858	11993	25	1.88	4598	11471	23	1.40	4219	10793	20	1.00	3650	9594	20	0.44				
70	1512					5025	12149	27	2.12	4764	11888	24	1.58	4384	11106	21	1.12	3911	10220	20	0.50				
75	1620					5238	12514	32	2.44	4977	12097	26	1.80	4598	11471	22	1.24	4077	10595	20	0.58				
80	1728									5119	12306	27	2.02	4740	11836	24	1.44	4290	10950	21	0.65	3840	9970	20	0.40
85	1836									5262	12514	29	2.12	4954	12045	25	1.60	4503	11263	23	0.72	4029	10387	20	0.44
90	1944									5451	12785	31	2.60	5072	12201	27	1.84	4621	11555	24	0.82	4219	10804	21	0.48
95	2052													5451	12514	28	2.02	4788	11888	25	0.88	4314	11211	22	0.56
100	2160													5546	12671	30	2.28	4954	12045	26	0.98	4503	11304	23	0.61
105	2268																	5025	12201	28	1.06	4621	11471	24	0.66
110	2376																	5167	12410	29	1.16	4740	11742	25	0.72
115	2484																	5451	12514	30	1.26	4835	11951	26	0.78
120	2592																								
125	2700																								
130	2808																								
135	2916																								

### MGD 120 and MLD 120\*

Primary Air		Nozzle Plate #1				Nozzle Plate #2				Nozzle Plate #3				Nozzle Plate #4				Nozzle Plate #5				Nozzle Plate #6			
CFM	Cap. 20°F DT (Btuh)	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water	Coil Cap. Cooling (Btuh)	Heat Coil Cap	NC	APD Inches Water
50	1080	5214	13557	20	1.28																				
55	1188	5570	14183	23	1.68																				
60	1296	5687	14600	25	2.00	5309	14183	20	1.00																
65	1404	5925	15017	27	2.32	5570	14391	21	1.18																
70	1512	6068	15643	29	2.72	5688	14600	22	1.32	5404	14391	20	0.96												
75	1620	6255	15851	31	3.00	5878	15017	24	1.44	5665	14600	21	1.12												
80	1728					6020	15226	29	1.64	5736	15017	22	1.24	5428	14183	20	0.96								
85	1836					6186	15643	30	1.84	5924	15643	23	1.40	5593	14600	20	1.00								
90	1944					6375	16268	30	2.04	6115	15851	24	1.60	5711	14808	21	1.12								
95	2052					6446	16686	30	2.32	6210	16060	26	1.68	5854	15226	22	1.28								
100	2160									6376	16268	27	1.80	5049	15643	23	1.40	5498	14183	20	0.60				
105	2268									6447	16686	28	2.04	6162	16060	24	1.56	5665	14391	20	0.64				
110	2376									6636	16894	29	2.12	6210	16268	26	1.62	5712	14600	22	0.75				
115	2484									6707	17311	30	2.32	6280	16477	26	1.80	5880	15017	22	0.80	5310	14183	20	0.48
120	2592													6399	16686	27	1.92	5949	15434	23	0.84	5451	14600	20	0.52
125	2700													6589	16894	29	2.06	6137	15851	24	0.96	5665	14808	21	0.58
130	2808													6683	17103	30	2.16	6210	16060	26	1.02	5736	15017	22	0.62
135	2916													6778	17311	30	2.36	6257	16268	26	1.08	5901	15226	22	0.66
140	3024													6920	17520	31	2.48	6447	16477	27	1.16	5973	15434	23	0.74
145	3132																	6541	16686	28	1.24	6115	15643	24	0.80
150	3240																	6684	16790	29	1.32	6210	15851	25	0.82
155	3348																	6707	16894	29	1.36	6257	16060	26	0.90
160	3456																	6850	17103	30	1.44	6376	16268	27	0.94
165	3564																	6920	17311	31	1.48	6423	16477	27	1.00
170	3672																	7063	17530	32	1.60	6494	16686	28	1.04
175	3780																								
180	3888																								
185	3996																								
190	4104																								





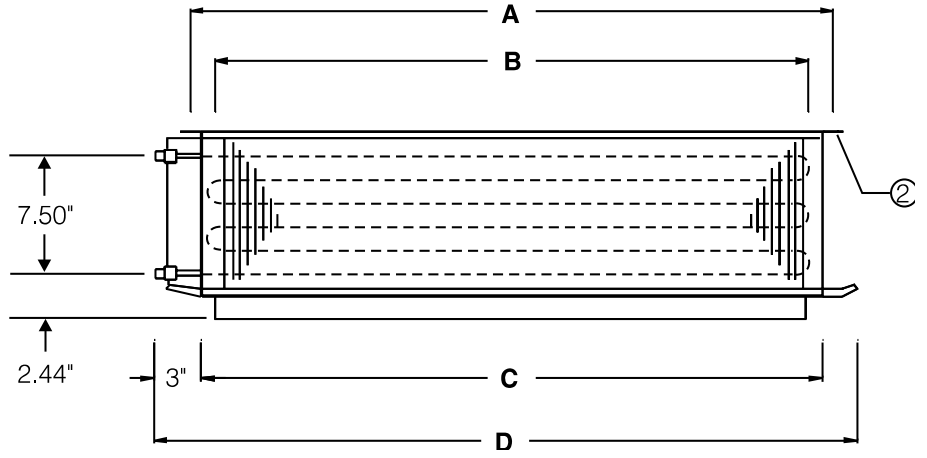
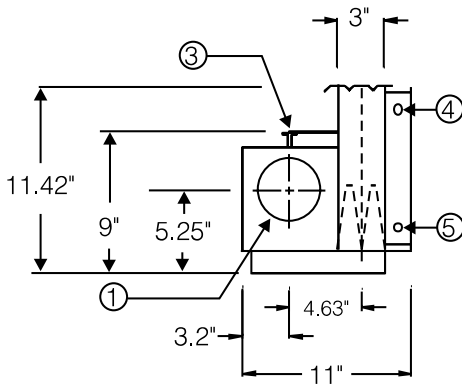
(\*) Allow 7.3" for optional two-row coil  
 (\*\*) Reduced optional height



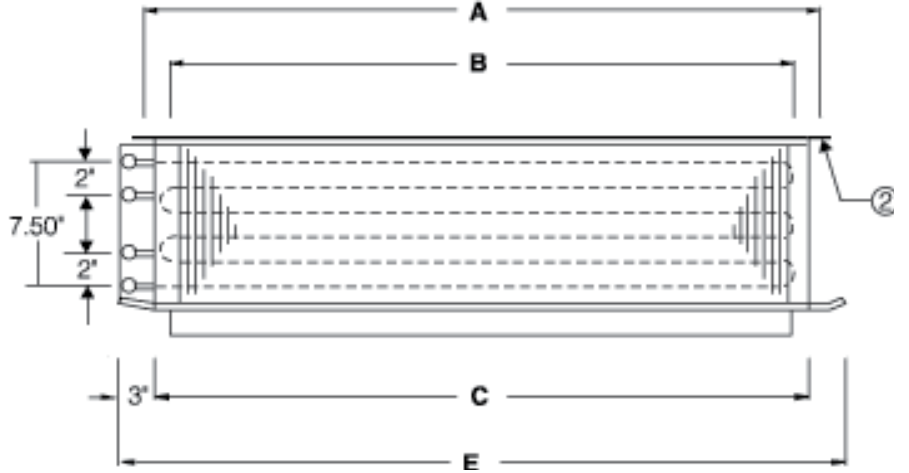
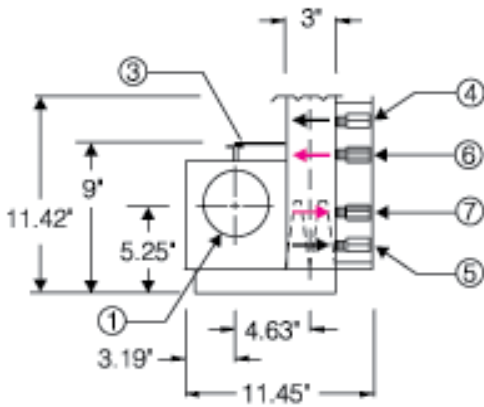
Item	Description	Item	Description
1	Primary Air Connection (4" dia.)	5	Water Inlet 1/2" NPT
2	Suspension Lip	6	Water Return 1/2" NPT
3	Primary Air Adjustment Knob	7	Water Inlet 1/2" NPT
4	Water Return 1/2" NPT	8	Pneumatic Operator



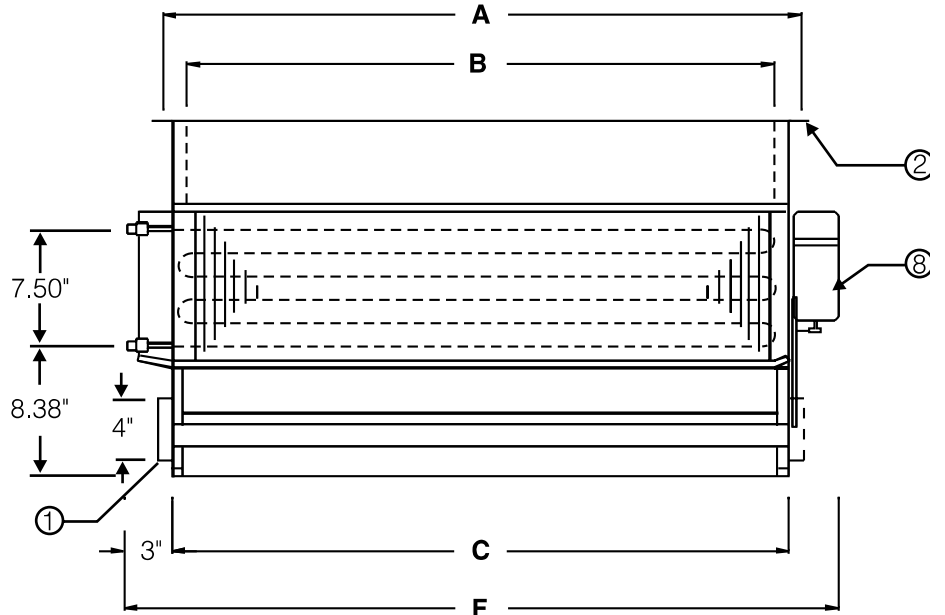
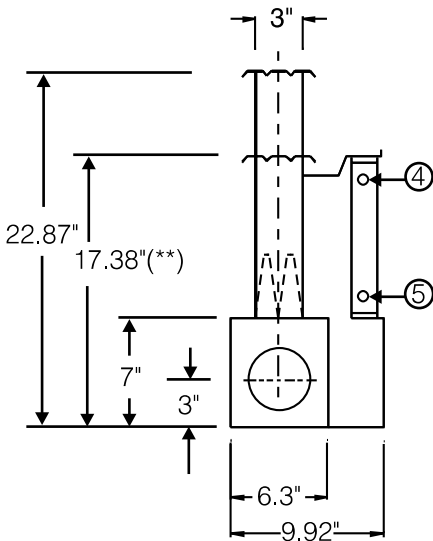
Model ML



Model MLD



Model MKM



**DIMENSIONS**

Type	A	B	C	D	E	F
48	22.13"	18.75"	20.50"	24.25"	23.25"	27.00"
64	28.50"	25.00"	26.75"	30.50"	29.63"	33.25"
88	37.87"	34.50"	36.25"	40.00"	39.00"	42.75"
120	50.50"	47.13"	48.87"	52.63"	51.63"	55.38"

(\*) Allow 7.3" for optional two-row coil  
 (\*\*) Reduced optional height



# EBA Induction Units

## Guide Specifications

Furnish and install EBA Induction Unit Type MG, (MGD, ML, MLD, etc.) size and arrangement as shown on the plans.

Base unit assembly shall consist of an aerodynamic primary air connection, air plenum, aerodynamic nozzles, water coil assembly, lint screen, air transition fitting, vent cock, non-drainable condensate pan (drain connection is optional), primary air damper (manual), polyurethane insulated guide plate.

Air plenum and mixing chamber shall be constructed of electrolytically zinc plated sheet metal with a layer thickness of 1 mil. (25 micron). Suspension lips to be fitted where required. Internal areas shall be free from neoprene coated fiberglass. Primary air chamber shall be designed for single or series connection including primary air damper directly mounted behind the air inlet and to be adjusted through the outlet opening of the mixing chamber.

Induction nozzle shall be aerodynamically designed and made of bronze or polyethylene having an inlet opening of 3/4" dia. and discharge diameter of 1/4" to 3/8" for low noise levels (NC-30).

Water Coil Assembly shall consist of a single or two row coil with copper tubes, aluminium fins, and 1/2" O.D. water connections complete with vent cock. Coils shall be suitable for working pressure of up to 350 psig. The coil shall be readily accessible as well as removable through front panel. Non-drainable condensate pan shall complete the assembly (drain connection is optional).

The primary damper shall be supported on a bronze shaft rotating in nylon bearings. Spring supported damper is not acceptable.

Lintscreen shall be made of woven aluminium and shall be easily removable.

Control valves shall be supplied under Controls and Instrumentation.

Submit a working model of each type of unit completely piped up with control valve package for approval, in addition to shop drawings showing construction and installation details. After these are approved, set up one unit with enclosure in the field completely piped. Obtain approval of this installation before installing remaining units .

Induction Unit assemblies shall be complete with self supporting enclosures and frames, including removable front panel, inlet grilles and top outlet grilles, as detailed. The top outlet grille shall be the same size as the induction unit outlet opening, to avoid any air by-pass. Enclosures shall have factory applied baked enamel finish. Colours to be determined by the consultant at the time of shop drawing submittal.

Unit assemblies shall be independent of furrings and shall be fitted with approved anchoring and levelling devices. Base unit shall be hung and supported from enclosure frame work.

Accepted Manufacturer: ***EB Air Control Inc.***

### EBA Induction Units and Corresponding Units by Other Manufacturers.

EBA Model	Carrier Model	Trane Model
MG	36SC, 36SV	HPV-A
ML	36SL	HPL-A
MGD	36SP, 36SD	HPV-AA
MLD	36SM	HPL-AA
MKM	36R	-
MG-TC	36ST	HPV-H
MG-Horizontal	36SH	HPH-A
ML-Horizontal	36SH	-
MGD-Horizontal	36SJ	HPH-AA
MLD-Horizontal	36SJ	-

**Note:** This is a quick reference list for comparison only.  
Different manufacturer's units do not match exactly.



### Correction factor for coil capacity at various flow rates

Water Flow Rate (GPM)	Type 48	Type 64	Type 88	Type 120
0.90	0.88	0.87	0.86	0.85
1.20	0.95	0.94	0.94	0.93
1.50	1.00	1.00	1.00	1.00
1.80	1.05	1.05	1.05	1.04

Multiply the coil capacity by the appropriate correction factor for water flows other than 1.5 gpm

### Convection (Gravity) Capacity:

Convection capacity (Btuh) = Capacity Factor "A" x Capacity Factor "B"

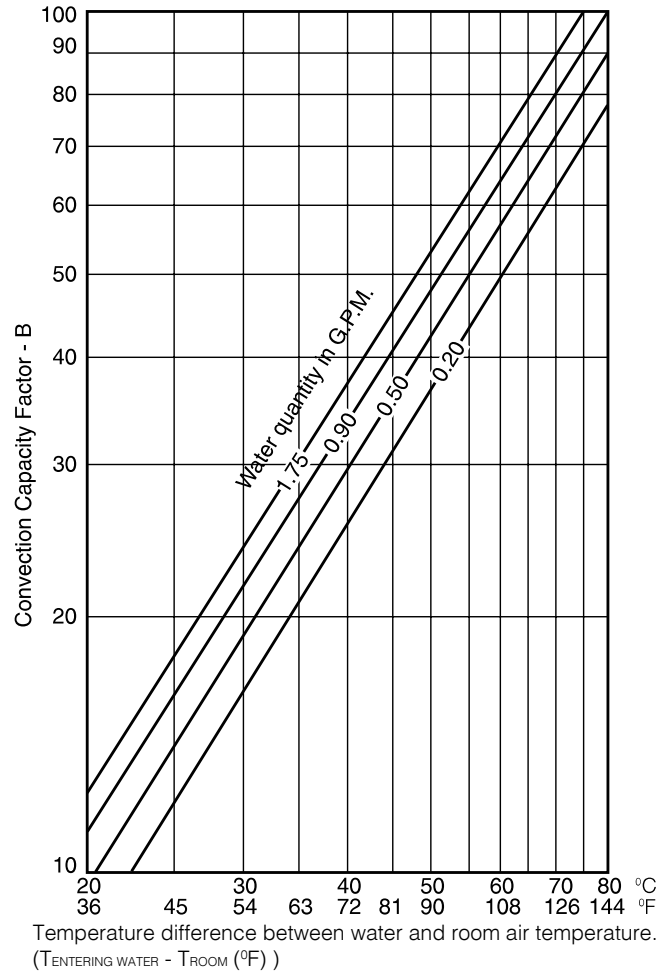
For Capacity Factor "A": As per chart below

For Capacity Factor "B": As per graph, using:

\* Temperature difference between water and room air temperature (°F)

\* Warm water quantity (GPM)

Size	Convection Factor - A		
	MG, ML	MGD, MLD	MK
48	41.8	24.0	33.6
64	52.9	28.8	43.2
88	76.9	38.4	57.7
120	93.7	54.3	79.3



### Dimensions and weights:

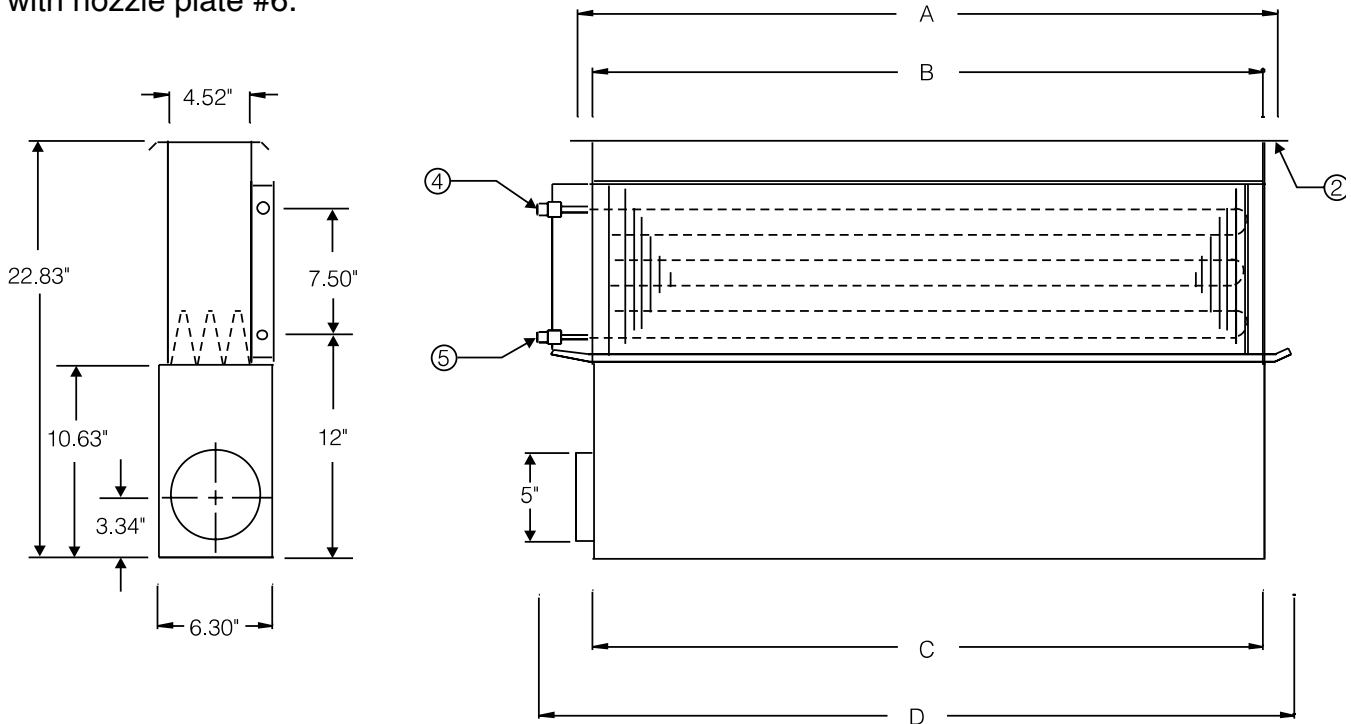
Model No.	Length (inches)	Width (inches)	Height (inches)	Weight (Lbs)	Cooling Coil Contents (inch <sup>3</sup> )	Heating Coil Contents (inch <sup>3</sup> )
<b>ML</b>						
48	24.25	11.00	11.50	22	26	-
64	30.50	11.00	11.50	31	32	-
88	40.00	11.00	11.50	35	44	-
120	52.50	11.00	11.50	46	58	-
<b>MLD</b>						
48	23.25	11.50	11.50	24	29	10
64	29.50	11.50	11.50	33	35	12
88	39.00	11.50	11.50	38	49	17
120	51.50	11.50	11.50	49	66	22
<b>MG</b>						
48	24.25	6.30	22.87/17.38	22	26	-
64	30.50	6.30	22.87/17.38	31	32	-
88	40.00	6.30	22.87/17.38	35	44	-
120	52.50	6.30	22.87/17.38	46	58	-
<b>MGD</b>						
48	23.25	6.88	22.87/17.38	24	29	10
64	29.50	6.88	22.87/17.38	33	35	12
88	39.00	6.88	22.87/17.38	38	49	17
120	55.38	6.88	22.87/17.38	49	66	22
<b>MK</b>						
48	27.00	9.92	22.87/17.38	31	26	9
64	33.25	9.92	22.87/17.38	40	32	12
88	42.75	9.92	22.87/17.38	44	44	16
120	55.38	9.92	22.87/17.38	62	58	21
<b>MKM</b>						
48	27.00	9.92	22.87/17.38	27	26	-
64	33.25	9.92	22.87/17.38	35	32	-
88	42.75	9.92	22.87/17.38	40	44	-
120	55.38	9.92	22.87/17.38	57	58	-

All water connections 1/2" NPT (1/2" flare connection is optional).

# EBA's HIGH CAPACITY AND SPECIALTY INDUCTION UNITS

## High primary volume capacity units: Model HV-MG

EBA's High Primary Volume Capacity units are designed to provide higher primary airflow capacities than provided with the standard model MG units while operating at low nozzle static pressure (less than 0.9" WG). These units are available in two sizes, HV-MG 88-6 and HV-MG 120-6. Both with nozzle plate #6.



Refer to page 8 for nomenclature  
Refer to page 9 for dimensions

### Selection Data:

Induction ratio: 1.0

Primary Air		HV-MG 88-6			HV-MG 120-6		
CFM	Cap. 20°ΔT Btuh	Coil Capacity	NC	APD Inches Water	Coil Capacity	NC	APD Inches Water
175	3780	2603	29	0.28	2848	26	0.16
200	4320	2752	29	0.37	3029	29	0.18
235	5076	2901	32	0.50	3157	30	0.28
265	5724	3050	36	0.60	3243	33	0.32
295	6372	3200	39	0.72	3370	35	0.40
325	7020	3285	42	0.88	3477	38	0.52
385	8316				3690	43	0.78
500					Special design available		

**Notes:** The cooling coil capacities are based on:  $T_{ROOM} - T_{ENTERING\ WATER} = 25^{\circ} F.$   
(Adjust proportionately for different conditions)  
1.5 gpm water flow per coil.  
(See correction factors on page 11 for water flows other than 1.5 gpm).

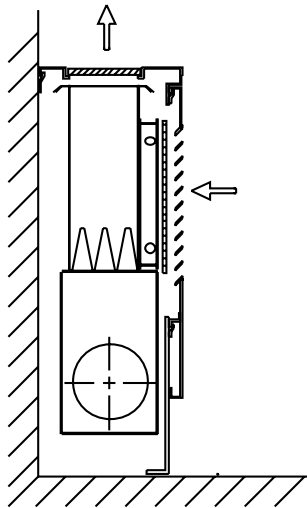
#### Unit Description:

- Enlarged primary air chamber (cross section 6.30" x 10.63") complete with acoustically lined guide vanes for even distribution over nozzles.
- Primary air balancing damper, accessible through air discharge opening.
- Primary air connection, 5" diameter.
- Air mixing chamber, complete with suspension lips.
- Nozzle plate with fitted polyethylene nozzles, specially suited for high volume primary air at low noise levels and low nozzle static pressures.
- Coil: aluminum fins and copper tubes, complete with 1/2" O.D. water connections and vent cocks.
- Drip tray underneath coil (optional drain connection).

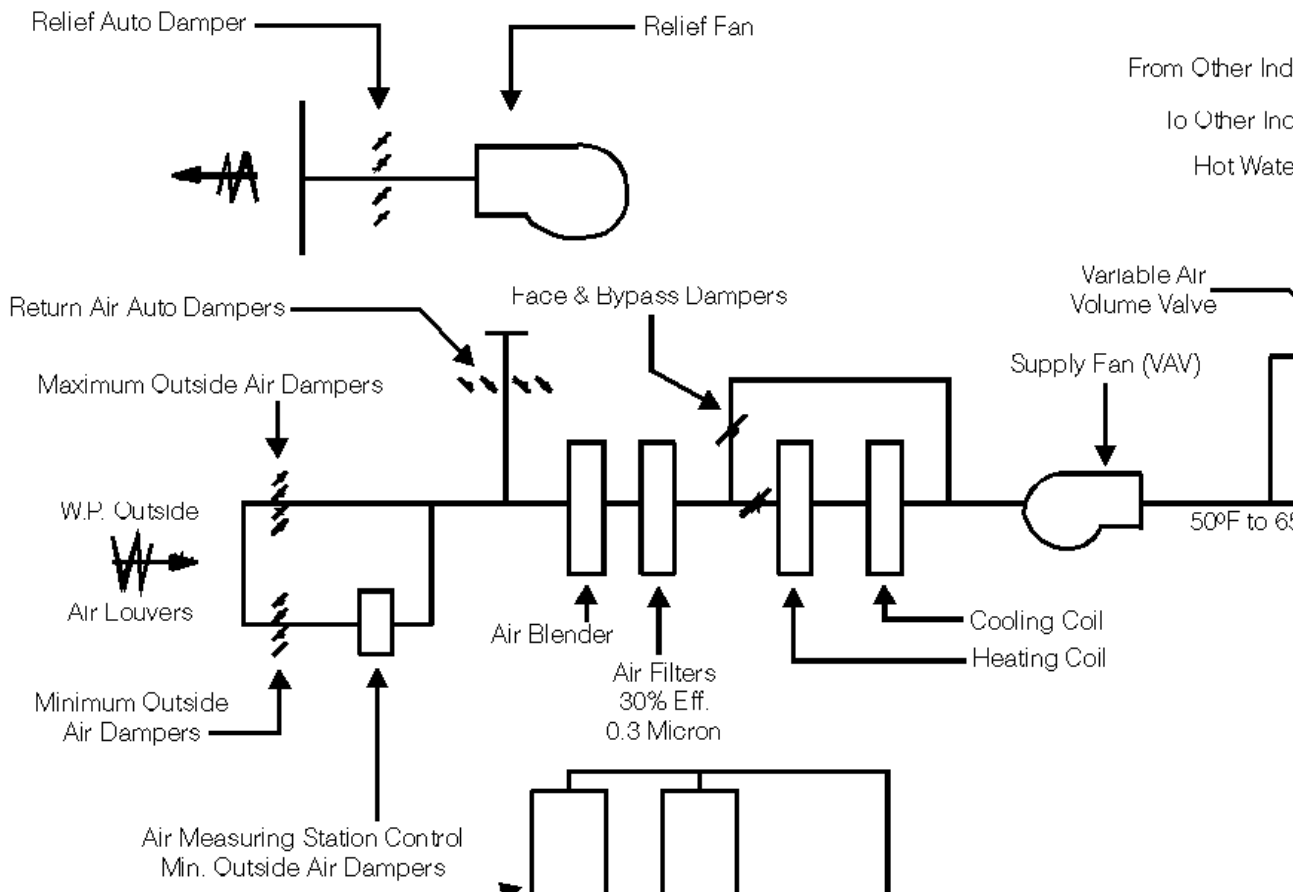
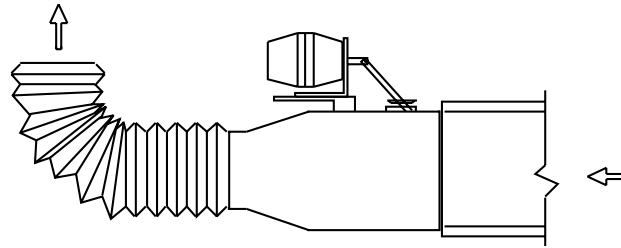


## EBA's HIGH CAPACITY AND SPECIALTY INDUCTION UNITS

EBA's Model HV-MG induction units can be used in conjunction with EBA's pressure independent VAV air valves as shown on the drawing. This system can be used to replace the unit ventilators (e.g. for schools or university classrooms) while offering the following advantages:



- Low system static pressure (less than 0.90" WG).
- Less floor space.
- Quiet, maintenance-free operation (no fans or motors).
- Smaller distribution duct and smaller air handling unit (primary air volume is 50% of total air delivered) with lower BHP.
- Less complicated control system.
- Lower installed first cost.
- Quick response to high heating/cooling load requirement.
- High (50%) outside air content.
- VAV valve (6" or 8" dia.) with max 3" S.P. for accurate air volume control.
- No wall openings/no coil freeze-up.
- Gravity heating during unoccupied periods if under window mounting.



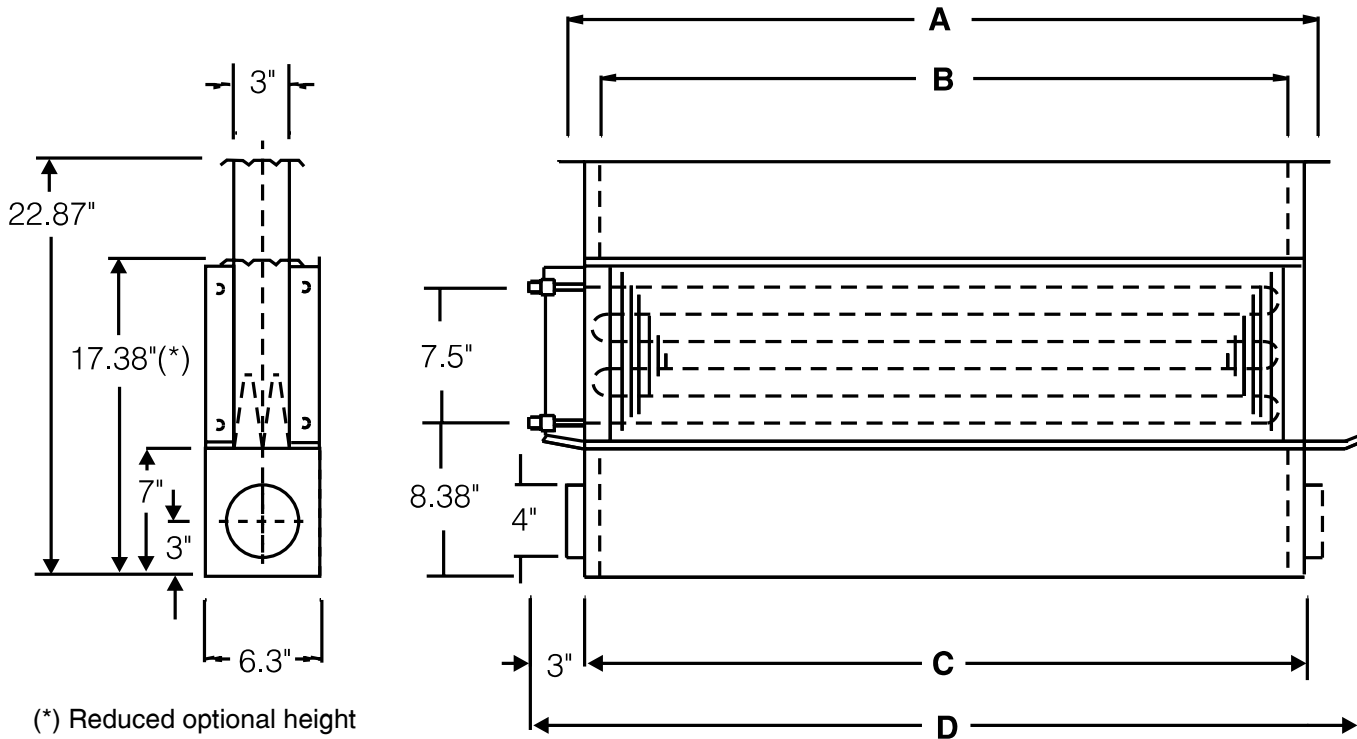
**Special designs:** Some customization of the basic induction unit models are available to suit the project requirements. Consult factory for details.



# EBA's HIGH CAPACITY AND SPECIALTY INDUCTION UNITS

## High Coil Capacity Units: Model MG-TC

This is the twin coil version (i.e. two identical one-row coils fitted on either side of the air mixing chamber) of the MG models with 22.83" or 17.32" height.



Dimensions				
Model	A	B	C	D
MG 48	22.13"	18.75"	20.50"	24.25"
MG 64	28.50"	25.00"	26.75"	30.50"
MG 88	37.87"	34.50"	36.25"	40.00"
MG 120	50.50"	47.13"	48.87"	52.63"

### Selection Data:

i) Induction ratio of MG-TC units with 22.83" height.

Nozzle plate	1	2	3	4	5	6
Induction ratio	6.3	5.2	4.6	3.9	3.4	2.7

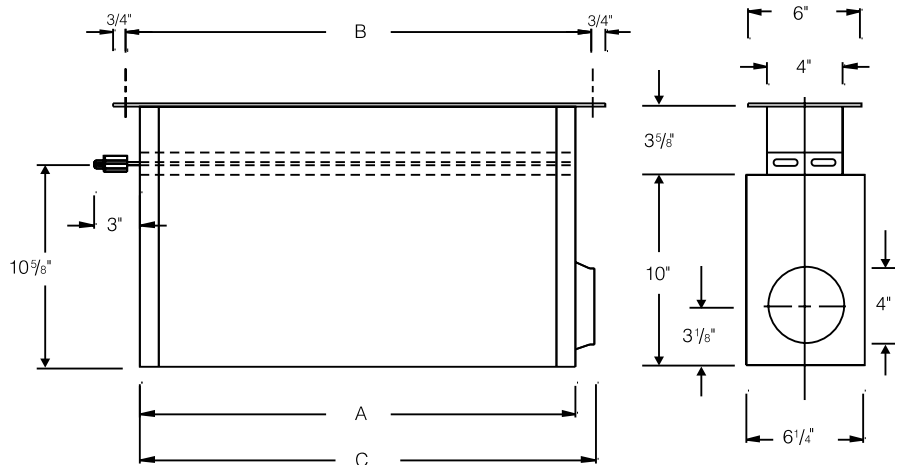
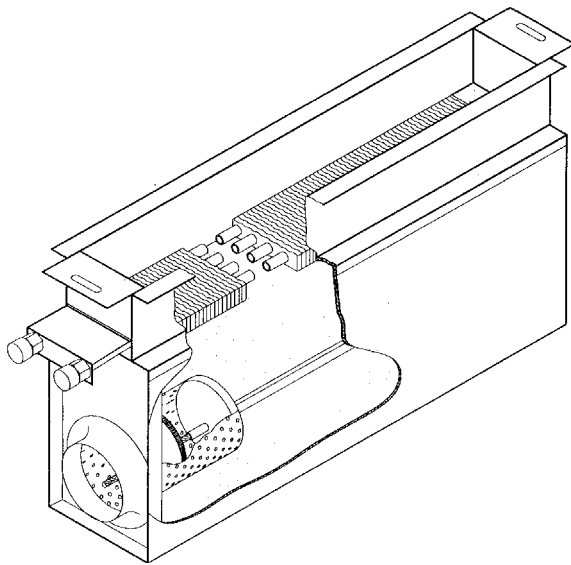
Correction factor for Scott filter: 0.93

Correction factor for 17.38" height: 0.94

ii) Capacity: Use coil capacities for standard MG models (see pages 4 & 5) and correct by multiplying with a factor of 1.48 for the MG-TC version. Water flow rates must be corrected with a factor of 2.0.



# EBA HOSPITAIR TERMINAL REHEAT UNIT

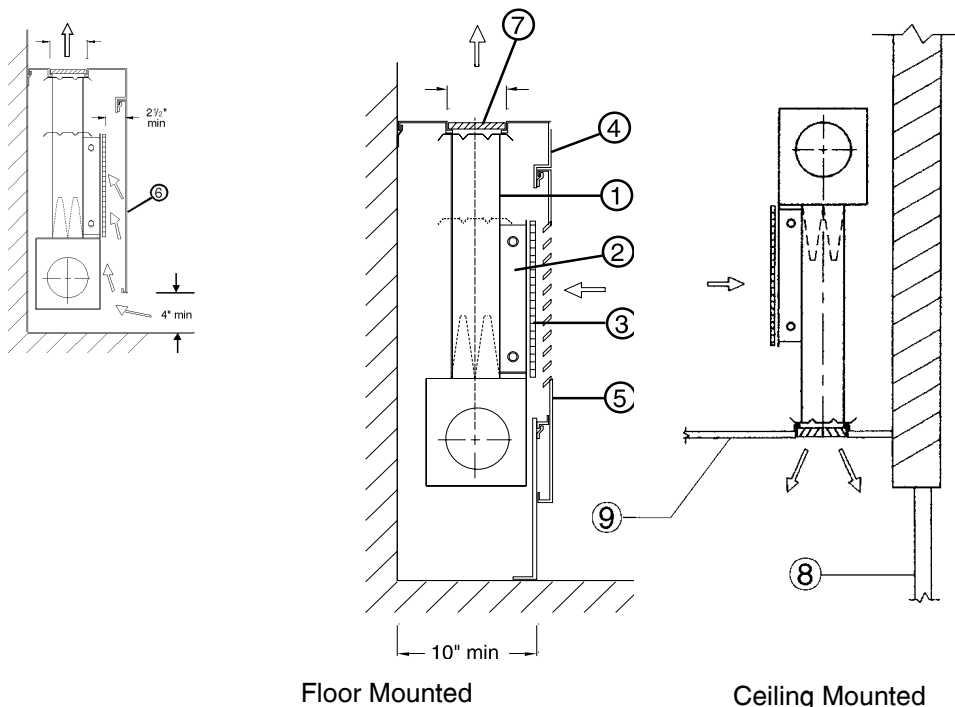


EBA Hospitair System is a complete air conditioning system with the following features:

- Extremely "low noise" level
- Particularly suitable for hospital application as return air (if incorporated) is not in contact with the coil
- Equipped with air damper balancing device
- Cooling provided using pre-conditioned primary air only
- Heating provided using hot water reheat coil
- Can be operated in conjunction with high pressure as well as low pressure duct systems.
- Diffuser nozzles can be incorporated above the heating coil to provide induction of room air.
- Optional bottom connection to primary air
- Available in three sizes

Model #	ZH250	ZH375	ZH500
Capacity (cfm)	120	165	210
A	26 3/4	36 1/4	45 5/8
B	28 1/2	37 7/8	47 3/8
C	27 5/8	37 1/8	46 1/2

## INSTALLATION EXAMPLES FOR ALL INDUCTION UNIT MODELS



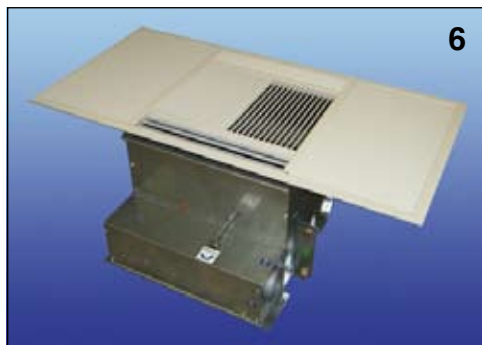
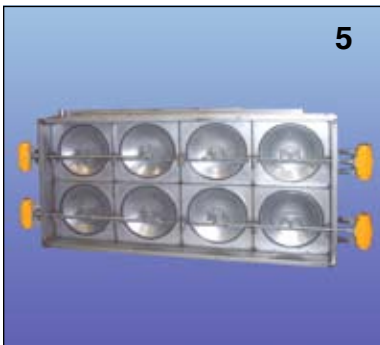
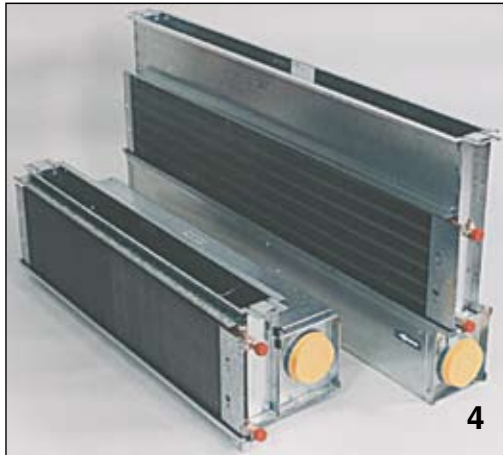
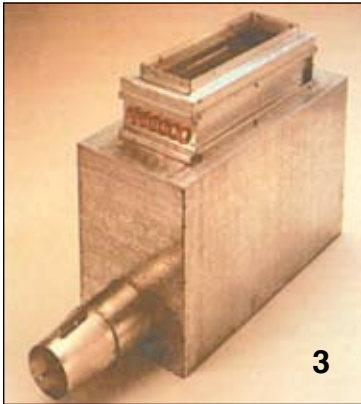
Item	Description
1	Discharge stack on induction unit
2	Coil
3	Lintscreen
4	Enclosure (16 ga.)
5	Removable front panel with louvre
6	Removable front panel with kickspace
7	Discharge grille
8	Window
9	Ceiling

Due to EBA's policy of continuous design improvements, enclosed data is subject to change without notice.



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**EB AIR**  
Control Inc.

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