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# ***Electro-HELPS I***

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## **ELECTRO-MATE®** PLENUM HEATERS

*A complete product line to fit all your application needs*

The Electro-Mate® has been heating America's homes and businesses since 1979. We take pride in our craftsmanship and we use only the best materials to ensure a high quality product. We are committed to you and we are confident that you will be completely satisfied with the Electro-Mate.

### GENERAL PRODUCT FEATURES

- ◆ Spin finned rod elements (20-year warranty)
- ◆ 2-year parts warranty
- ◆ All inclusive controls
- ◆ Quiet operation with individual DC relays
- ◆ Circuit breakers
- ◆ Electric utility control (heat and cool)
- ◆ Single thermostat control
- ◆ Stat override safety timer (SOT)



**ELECTRO**  
**INDUSTRIES**

## WarmFlo® Select SL1 Series - Wiring & Specifications

### SL1 Series

This unit can be used in conjunction with a single stage heat pump, with one or two-stage air conditioning, or without air conditioning. This unit is compatible with single or multi-stage gas or oil furnaces with or without variable speed blowers. This unit includes automatic dual fuel control, with manual override switch. A **conventional 4-wire thermostat** must be used when installing with a heat pump.

### Features

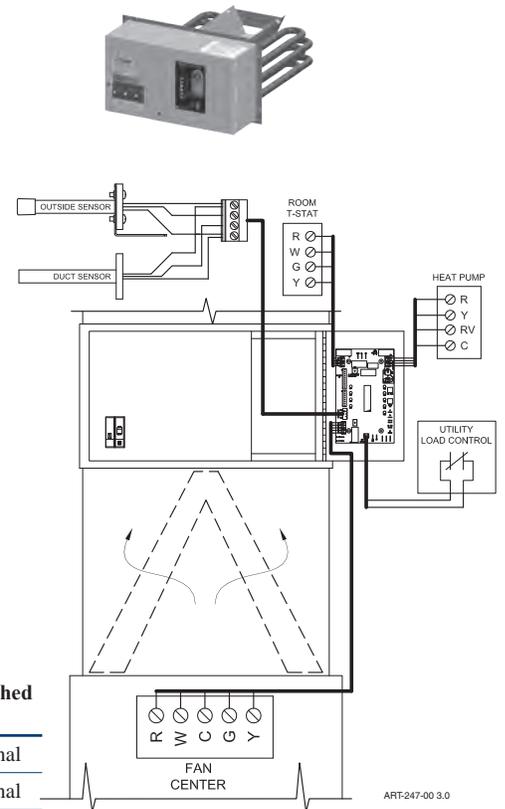
- Application selection dial - HP or non-HP
- All-inclusive controls, can be used with either heat pump or air conditioning
- Modulates electric elements to maintain precise output temperature
- Quiet operation with individual DC relays
- Energy control selector
- Load shed

### Support Documents

- Literature sheet - EL703
- Installation manual - EI709
- Wiring diagrams - EH709, EH712

Upflow	Downflow	kW @ 240VAC	Btu/h	Amps	Circuit Breakers	Load Shed CT
EM-WU102S <sup>†</sup> -SL1	EM-WD102S <sup>†</sup> -SL1	10	34,000	21-21	60	Optional
EM-WU153S <sup>†</sup> -SL1	EM-WD153S <sup>†</sup> -SL1	15	51,000	21-21-21	60-30	Optional
EM-WU204S <sup>†</sup> -SL1	EM-WD204S <sup>†</sup> -SL1	20	68,000	21-21-21-21	60-60	Optional
EM-WU254S <sup>†</sup> -SL1	EM-WD254S <sup>†</sup> -SL1	25	85,000	21-21-32-32	60-60-30	Optional

<sup>†</sup> 5 = 15" Wide    8 = 18" Wide



ART-247-00 3.0

## WarmFlo® Select SL2 Series - Wiring & Specifications

### SL2 Series

This unit is specifically designed to be used in conjunction with 2-stage heat pump systems. This unit is compatible with single or multi-stage gas or oil furnaces, with or without variable speed blowers. This unit includes dual fuel control, with manual override switch. This unit uses a **conventional 4-wire thermostat** and can be configured to be used in 1H/1C or 2H/2C mode. This unit will not work with a heat pump thermostat. This unit does not apply to 1 or 2-stage air conditioning, use WarmFlo Select SL1 Series.

### Features

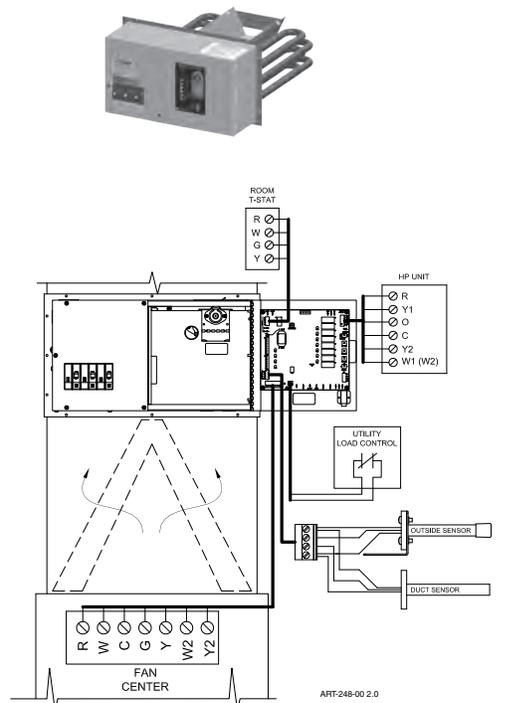
- Application selection dial - HP
- All-inclusive controls, can be used with 2-stage heat pump
- Modulates electric elements to maintain precise output temperature
- Quiet operation with individual DC relays
- Energy control selector
- Load shed

### Support Documents

- Literature sheet - EL703
- Installation manual - EI710
- Wiring diagram - EH710

Upflow	Downflow	kW @ 240VAC	Btu/h	Amps	Circuit Breakers
EM-WU102D <sup>†</sup> -SL2	EM-WD102D <sup>†</sup> -SL2	10	34,000	21-21	60
EM-WU153D <sup>†</sup> -SL2	EM-WD153D <sup>†</sup> -SL2	15	51,000	21-21-21	60-30
EM-WU204D <sup>†</sup> -SL2	EM-WD204D <sup>†</sup> -SL2	20	68,000	21-21-21-21	60-60
EM-WU254D <sup>†</sup> -SL2	EM-WD254D <sup>†</sup> -SL2	25	85,000	21-21-32-32	60-60-30

<sup>†</sup> 5 = 15" Wide    8 = 18" Wide



ART-248-00 2.0

## EZ-Mate™ Series - Wiring & Specifications

### EZ-Mate Series

This unit can be used in conjunction with a single stage heat pump, with one or two-stage air conditioning, or without air conditioning. This unit is compatible with single or multi-stage gas or oil furnaces with or without variable speed blowers. This unit includes automatic dual fuel control, with manual override switch. A conventional 4-wire thermostat must be used when installing with a heat pump.

### Features

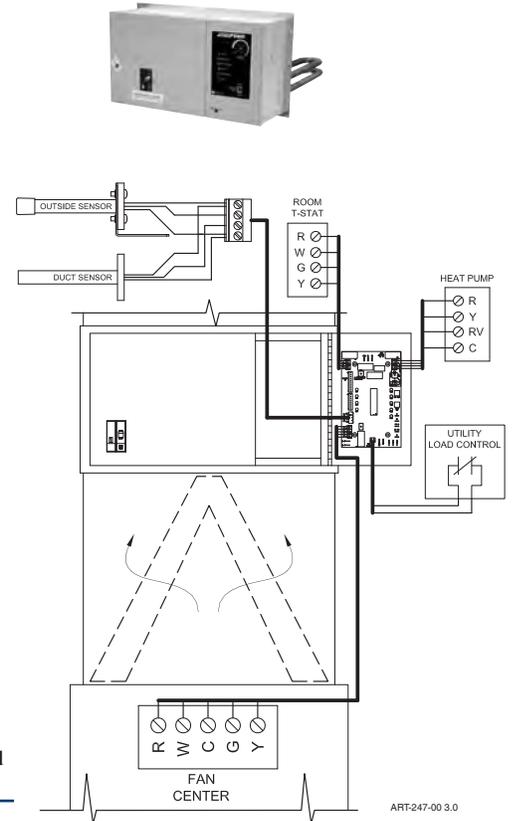
- Load shed
- Application selection dial - HP or non-HP
- All-inclusive controls, can be used with either heat pump or air conditioning
- Stages electric elements to maintain precise output temperature
- Quiet operation with individual DC relays
- Energy control selector

### Support Documents

- Literature sheet - EL830
- Installation manual - EI820
- Wiring diagrams - EH808, EH810, EH811

Upflow	Downflow	kW @ 240VAC	Btu/h	Amps	Circuit Breakers	Load Shed CT
EM-LV104L†	EM-LD104L†	10	34,000	21-21	60	Yes
EM-LV104Z†	EM-LD104Z†	10	34,000	21-21	60	No

† 5 = 15" Wide    8 = 18" Wide



## HeatChoice® II Series - Wiring & Specifications

### HeatChoice II Series

This unit is compatible to be used with single or multi-stage gas or oil furnaces, with or without variable speed blowers. This unit can be installed with or without air conditioning. The air conditioning can be either single stage or two stage. This unit includes dual fuel control, with manual override switch. This unit **cannot** be used with heat pumps.

### Features

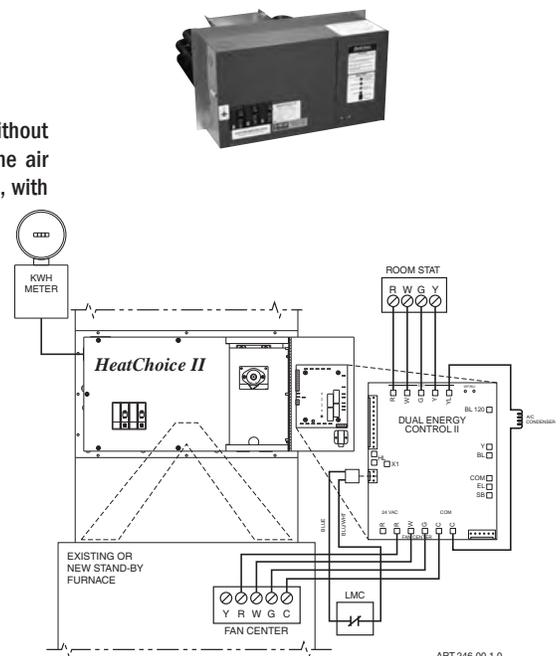
- Energy control selector (dual fuel)
- Stat override timer (SOT) 90/180 minutes or disable
- All inclusive controls
- Variable speed blower connection
- Automatic switch to backup during load control

### Support Documents

- Literature sheet - EL201
- Installation manual - EI204

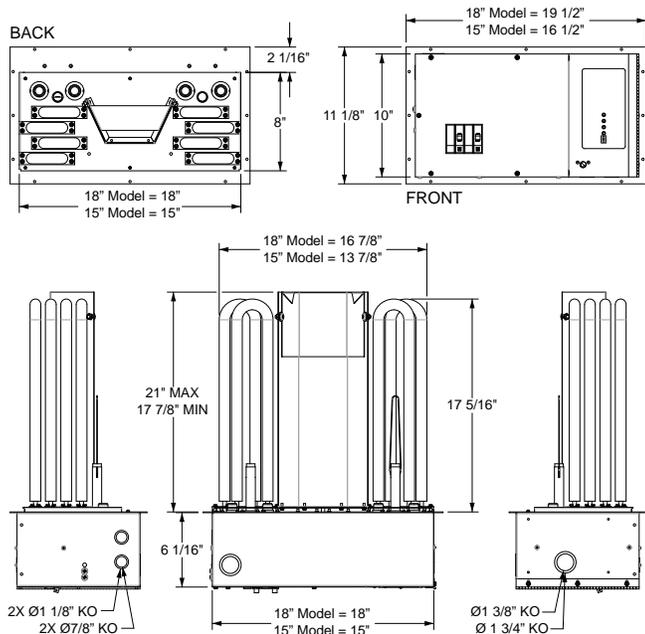
Upflow	Downflow	kW @ 240VAC	Btu/h	Amps	Circuit Breakers
EH-U10-†	EH-D10-†	10	34,000	21-21	60
EH-U15-†	EH-D15-†	15	51,000	21-21-21	60-30
EH-U20-†	EH-D20-†	20	68,000	21-21-21-21	60-60
EH-U25-8	-	25	85,000	21-21-32-32	60-60-30

† 5 = 15" Wide    8 = 18" Wide



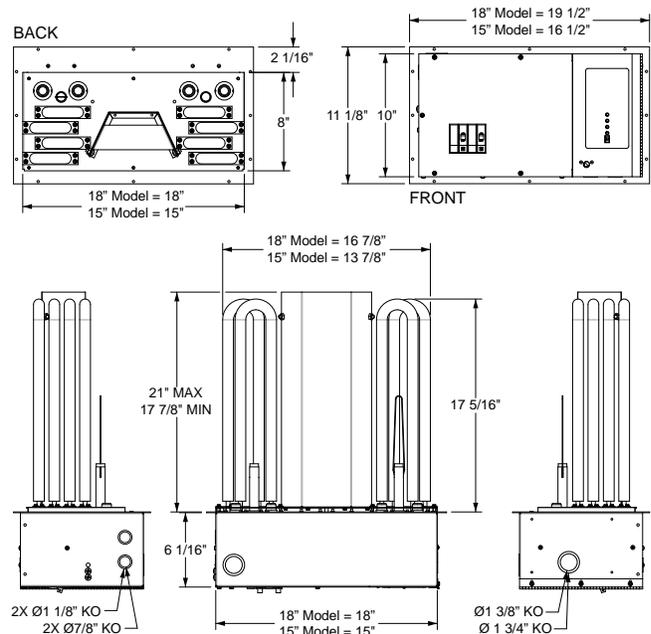
# Plenum Heater Product Dimensions

## Upflow



ART-126-00 2.0

## Downflow



ART-125-00 2.0

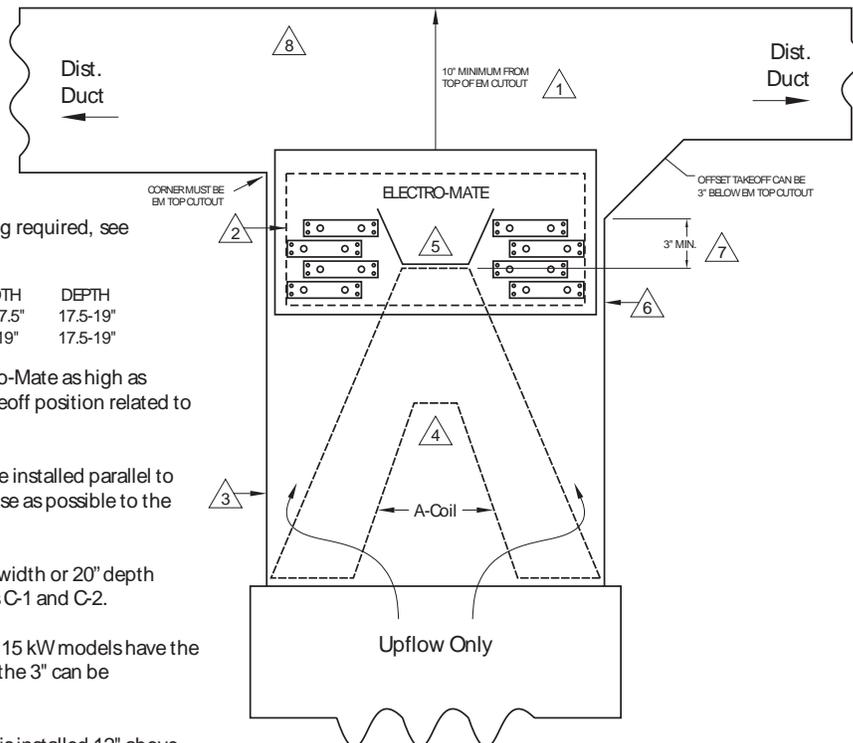
## Basic Mechanical, Upflow

### Notes:

1. If horizontal distribution is not equal, increase to 14".
2. Electro-Mate hole opening - 8" x 15" or 8" x 18".
3. Plenum size - if larger baffling required, see figure C-1 or C-2.
 

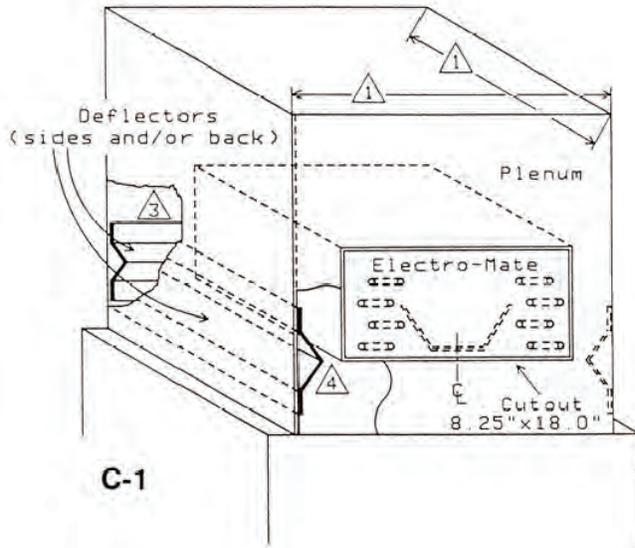
	WIDTH	DEPTH
15" MODEL	15-17.5"	17.5-19"
18" MODEL	18-19"	17.5-19"
4. Without A-coil, install Electro-Mate as high as possible but maintain side takeoff position related to the elements.
5. The Electro-Mate "V" must be installed parallel to "A" frame of the coil and as close as possible to the A-coil top.
6. Any plenum larger than 19" width or 20" depth requires deflectors, see figures C-1 and C-2.
7. Shown is 20 kW model. 10 & 15 kW models have the element stack 1.5" lower, thus the 3" can be considered 1" min (25 kW, 5").

8. WarmFlo supply sensor (ST) is installed 12" above Electro-Mate enclosure, directly above elements.



$$CFM = \frac{AMPS \times VOLTS \times 3.414}{1.08 \times TEMP. DIFF.}$$

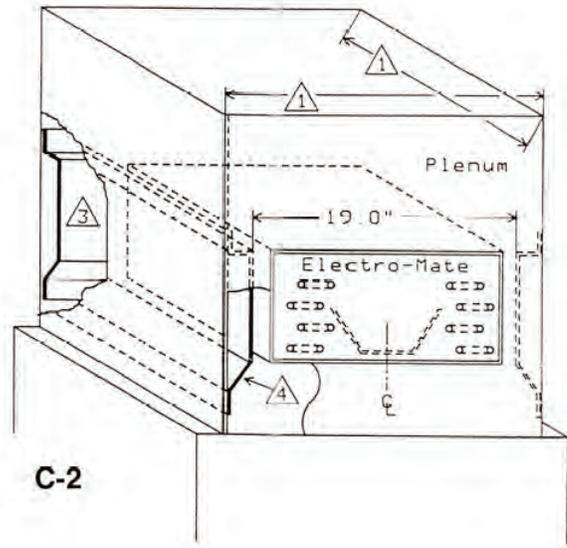
## Large Plenums, Required Baffling



C-1

NOTES:

- Any plenum larger than 19" width or 20" depth requires special deflectors. Use the following:
  - Any side 19" to 20 1/2", use kit A, P/N **EM-5750**.
  - Any side 21" to 22 1/2", use kit B, P/N **EM-5751**.
  - Any side larger than 23", refer to C-2.
- Side deflectors are extremely important for A-coil installations.
- Space behind the elements must be closed.
- Deflector points to bottom element.
- The above relates to 18" model, for 15" model reduce by 3".

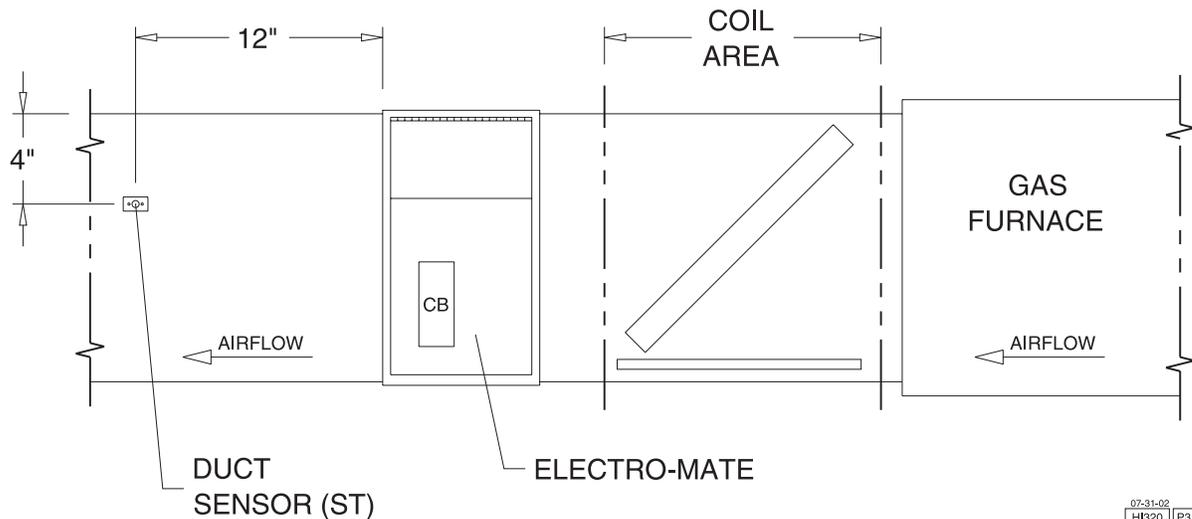


C-2

NOTES:

- Any plenum larger than 23" (width or depth) requires special deflectors. These must be field constructed to provide an internal 19" x 19" box.
- Side deflectors are extremely important for A-coil installations.
- Space behind the elements must be closed.
- Note angled slope (45°).

## Horizontal



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HI320 P3

**HeatChoice II** - must use EH-D\* model, instruction manual outlines installation details, extra HL sensor probe (shipped loose) installed in discharge top.

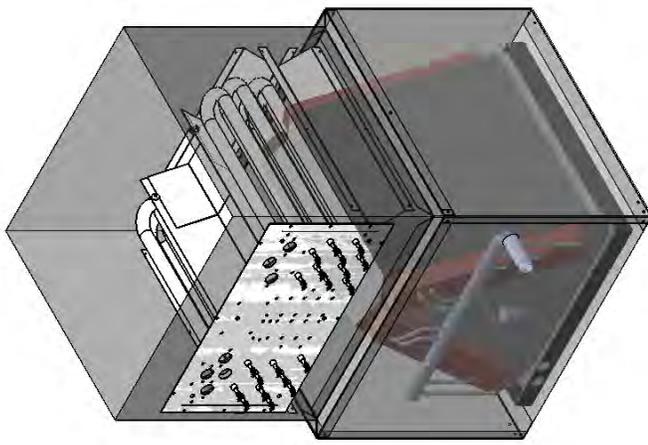
**WarmFlo Select** (EM-WU Series) - upflow model is approved, but position sensitive. CB's must be down, hi-limit probe must be at top. Install WarmFlo sensor as shown.

**Airflow arrangements must be as shown** - furnace/refrigerant coil/Electro-Mate.

If 90° turn A-coil, Electro-Mate center deflector must be in line with "top of A".

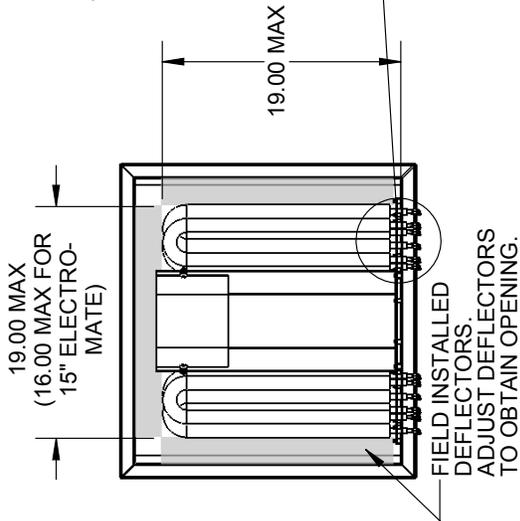
### Spacing

- 90° A-coil, Electro-Mate center deflector close to coil end
- Slant or horizontal coil, maximum allowable spacing between EM and coil

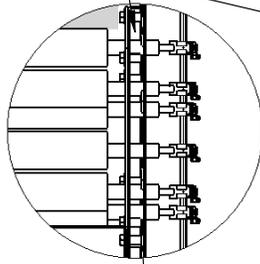


- NOTES:
1. ANY PLENUM LARGER THAN 19" WIDTH OR 20" DEPTH REQUIRE SPECIAL DEFLECTORS.
  2. SIDE DEFLECTORS ARE EXTREMELY IMPORTANT FOR A-COIL INSTALLATIONS.
  3. SPACE BEHIND THE ELEMENTS MUST BE CLOSED.
  4. DEFLECTORS POINT TO THE BOTTOM OF THE ELEMENTS.
  5. DEFLECTORS ARE TO BE FIELD CONSTRUCTED.

TOP VIEW OF DEFLECTORS (SEE NOTES)

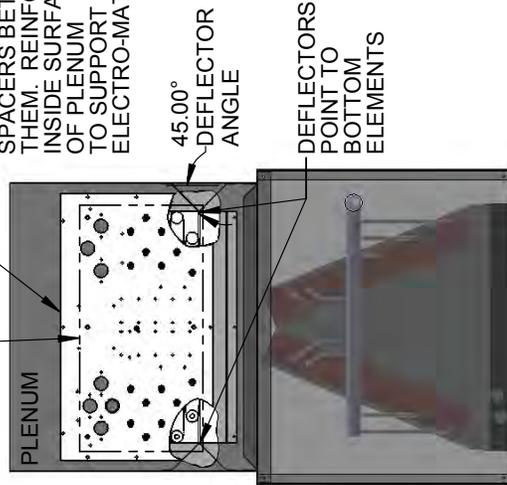


AIR MUST FLOW THROUGH SPACE BETWEEN DOUBLE PLATE. DO NOT OBSTRUCT.

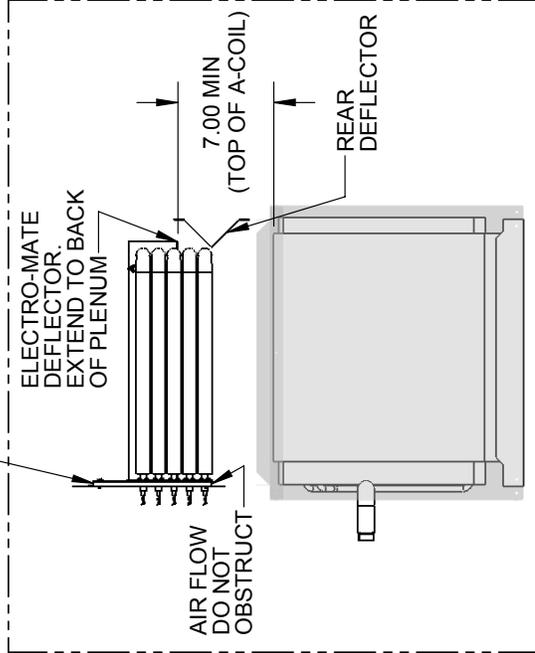


ELECTRO-MATE HOLE OPENING- 15" X 9" OR 18" X 9"

FASTEN ELECTRO-MATE PLATE DIRECTLY TO PLENUM WITH NO SPACERS BETWEEN THEM. REINFORCE INSIDE SURFACE OF PLENUM TO SUPPORT ELECTRO-MATE.

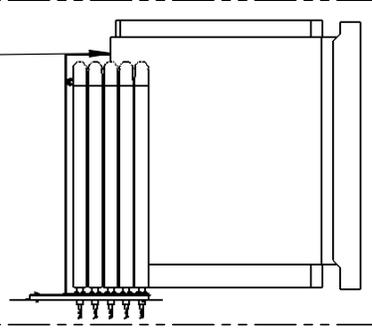


**CASED COIL**



**STANDARD A-COIL**

ELECTRO-MATE DEFLECTOR MAY REST ON TOP OF A-COIL. SPACING CANNOT BE BETWEEN 2"-5".



ART-441  
VFIX-128  
Rev 01

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