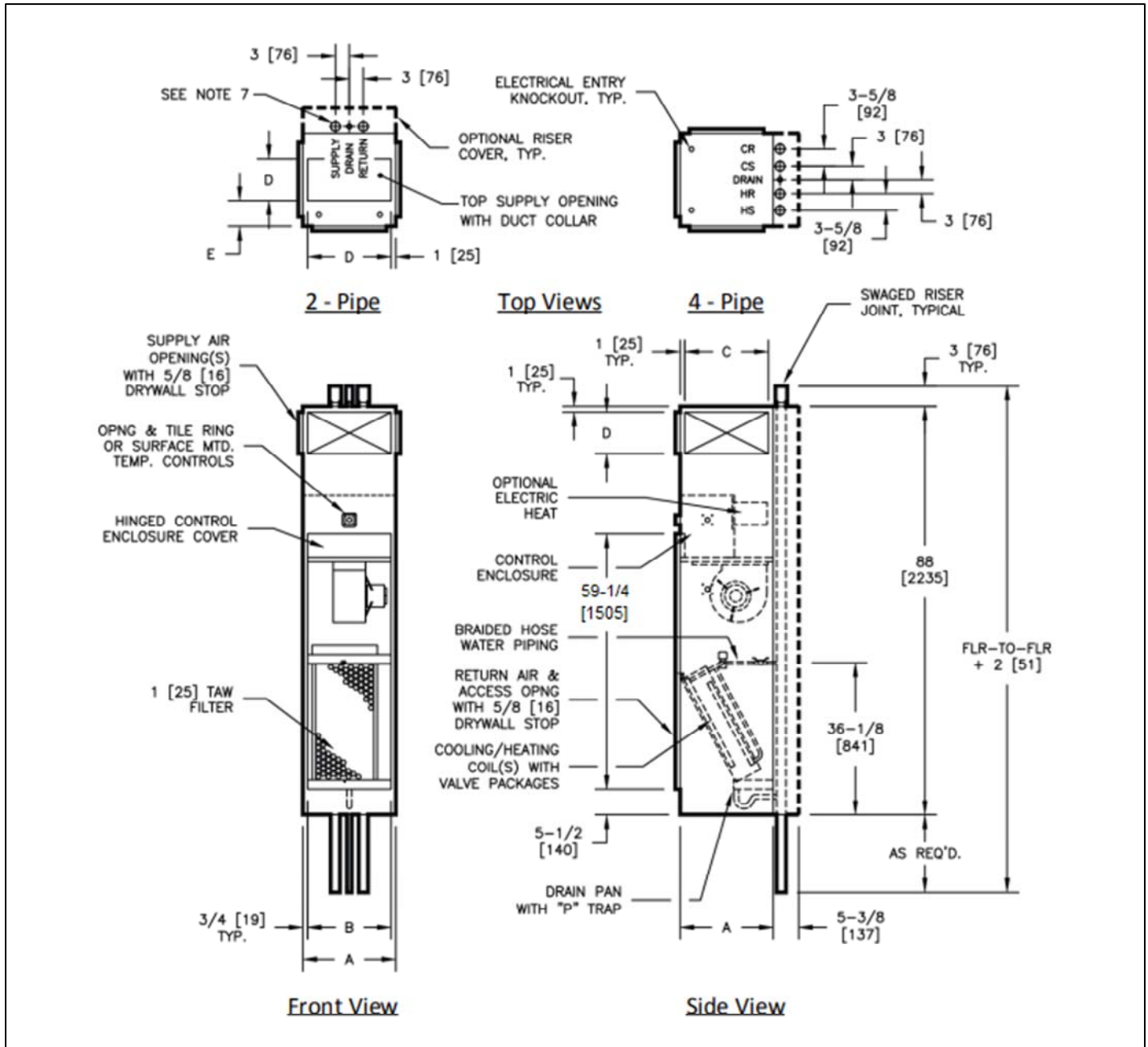


## RAVS

Vertical High Rise Recessed Stand Alone Fan Coil Unit  
(Do not Include Risers)



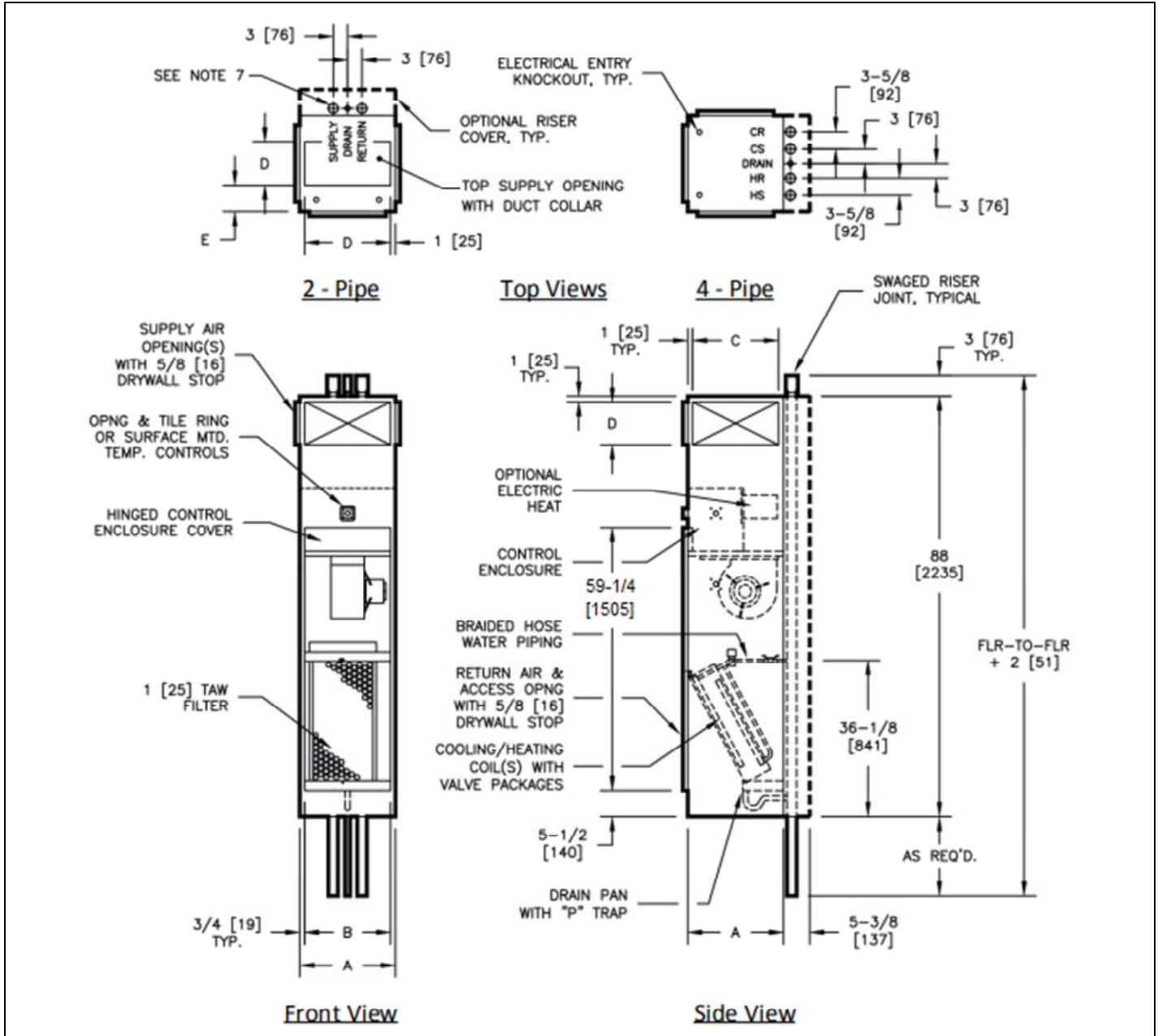
Unit Size	A	B	SINGLE/DOUBLE SUPPLY		E
			C	D	
03 & 04	18 [457]	16 1/2 [419]	16 [406]	8 [203]	6 [152]
06 & 08	20 [508]	18 1/2 [470]	18 [457]	12 [305]	6 [152]
10 & 12	24 [610]	22 1/2 [572]	22 [559]	14 [356]	8 [203]

### NOTES:

1. All dimension are Inches [mm]. Metric values are soft conversions.
2. All dimensions are ±1/4 [6mm].
3. The ring is installed on front of unit as shown, and maybe moved to left or right side of unit in field. The ring omitted on units with "ADA" control mounting location.
4. Wiring from electrical entry point to control enclosure is furnished and installed by others in field.
5. Risers available from 3/4 " [19mm] to 3" [76mm] diameter with 1/2 " [13mm] thick insulation, and 3/4 " [19mm] to 2 1/2 "[64mm] diameter with 3/4 " [19mm] thick insulation.
6. Riser length is 120" [3048mm] max, 100" [2540mm] min.
7. Back riser location shown. See arrangement drawings for available unit configurations.
8. Factory mounted risers shown. RAVS do not include Risers. For Risers order RARP
9. For Primary-Secondary shipped separate units order RARM and RARS.

**RARM**

Vertical High Rise Primary Shipped Separate Unit  
(Do not Include Risers)



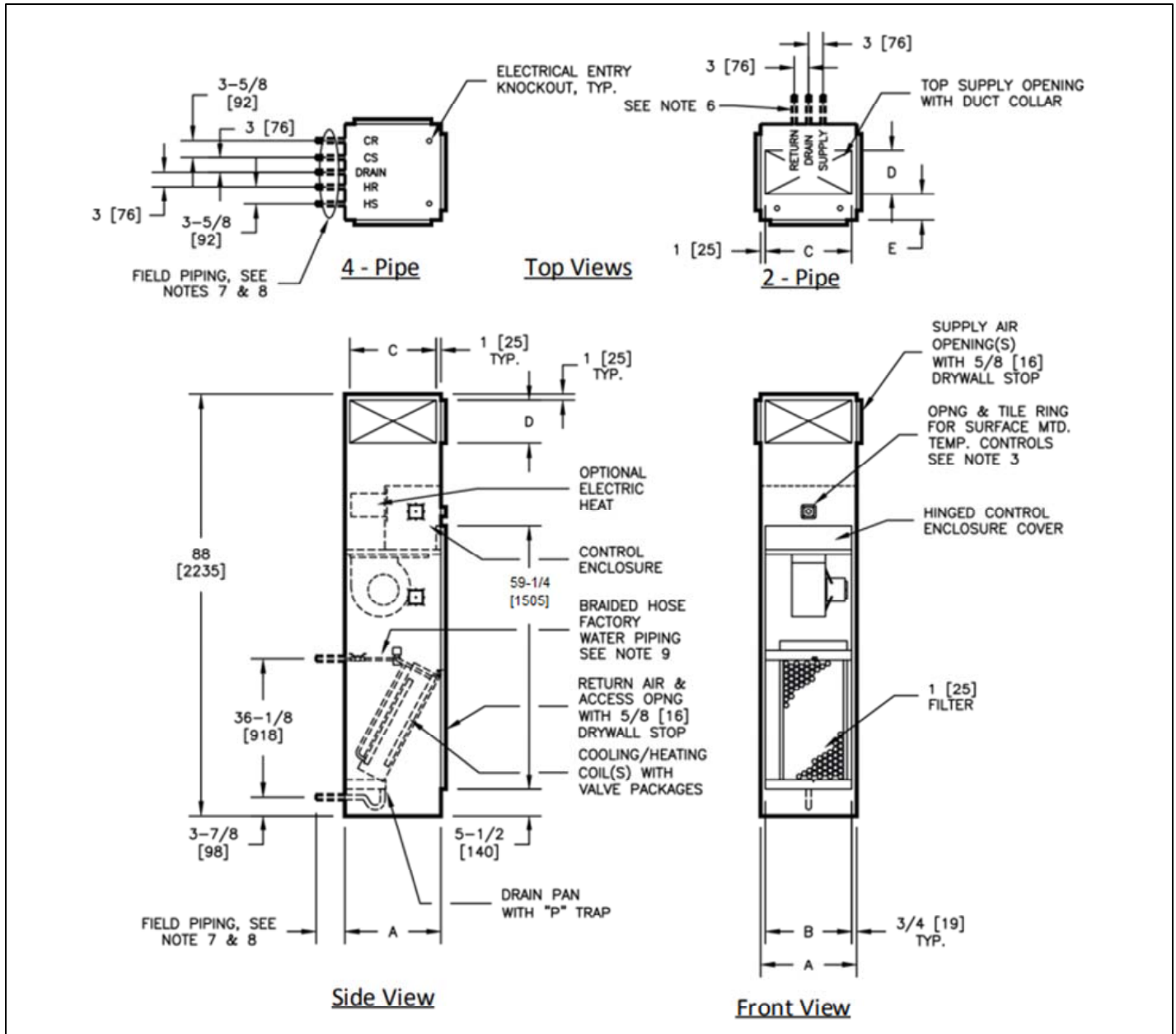
Unit Size	A	B	SINGLE/DOUBLE SUPPLY		E
			C	D	
03 & 04	18 [457]	16 1/2 [419]	16 [406]	8 [203]	6 [152]
06 & 08	20 [508]	18 1/2 [470]	18 [457]	12 [305]	6 [152]
10 & 12	24 [610]	22 1/2 [572]	22 [559]	14 [356]	8 [203]

**NOTES:**

1. All dimension are Inches [mm]. Metric values are soft conversions.
2. All dimensions are ±1/4 [6mm] .
3. The ring is installed on front of unit as shown, and maybe moved to left or right side of unit in field. The ring omitted on units with "ADA" control mounting location.
4. Wiring from electrical entry point to control enclosure is furnished and installed by others in field.
5. Risers available from 3/4 " [19mm] to 3" [76mm] diameter with 1/2 " [13mm] thick insulation, and 3/4 " [19mm] to 2 1/2 "[64mm] diameter with 3/4 " [19mm] thick insulation.
6. Riser length is 120" [3048mm] max, 100" [2540mm] min.
7. Back riser location shown. See arrangement drawings for available unit configurations.
8. Factory mounted risers shown. RARM do not include Risers. For Risers order RARP
9. For Primary-Secondary shipped separate units order RARM and RARS.

**RARS**

Vertical High Rise Secondary Shipped Separate Unit  
(Do not Include Risers)



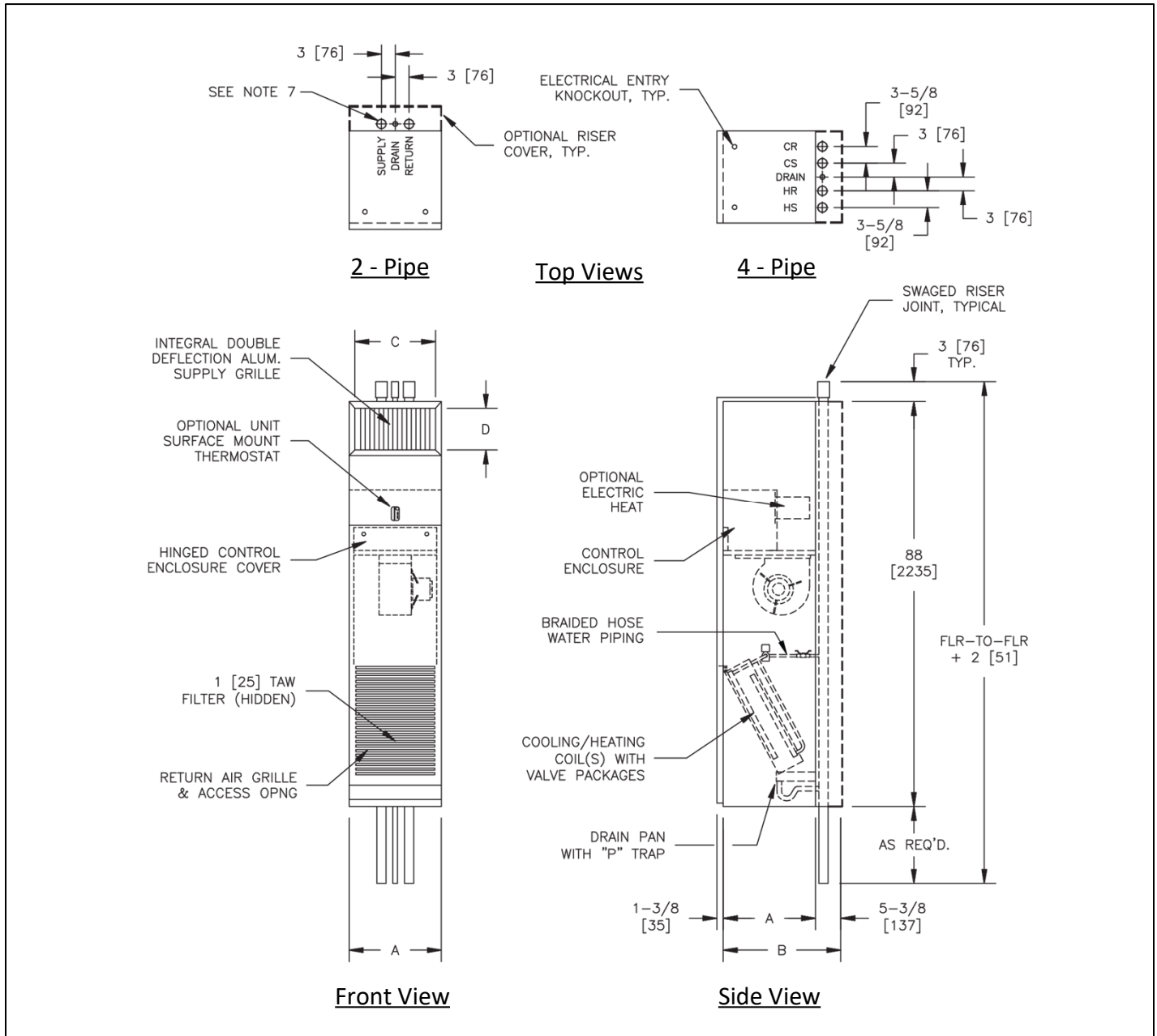
Unit Size	A	B	SINGLE SUPPLY		E
			C	D	
03 & 04	18 [457]	16 ½ [419]	16 [406]	8 [203]	6 [152]
06 & 08	20 [508]	18 ½ [470]	18 [457]	12 [305]	6 [152]
10 & 12	24 [610]	22 ½ [572]	22 [559]	14 [356]	8 [203]

**NOTES:**

1. All dimension are Inches [mm]. Metric values are soft conversions.
2. All dimensions are ±¼ [6mm].
3. Tile ring is installed on front of unit as shown, and may be moved to left or right side of unit in field. The ring omitted on units with "ADA" control mounting location.
4. Wiring from electrical entry point to control enclosure is furnished and installed by others in field.
5. All piping and insulation between Primary and secondary units is furnished and installed in the field by others.
6. Back riser location shown. See arrangement drawings for available unit configurations.
7. All coil and drain connections are "retracted" and braced internally for shipment.
8. Coil connections are 5/8" [16mm] O.D. female sweat. Drain "P-trap" is designed to accept 7/8" [22mm] O.D copper tube.
9. Secondary units are furnished with factory installed shutoff valves and field connection tubes, unless Primary unit risers are shipped loose. Risers may be shipped separately.
10. RARS do not include Risers.
11. RARS must be mated with RARM units.

## RAVE

Vertical High Rise Exposed Fan Coil Unit  
(Do not Include Risers)



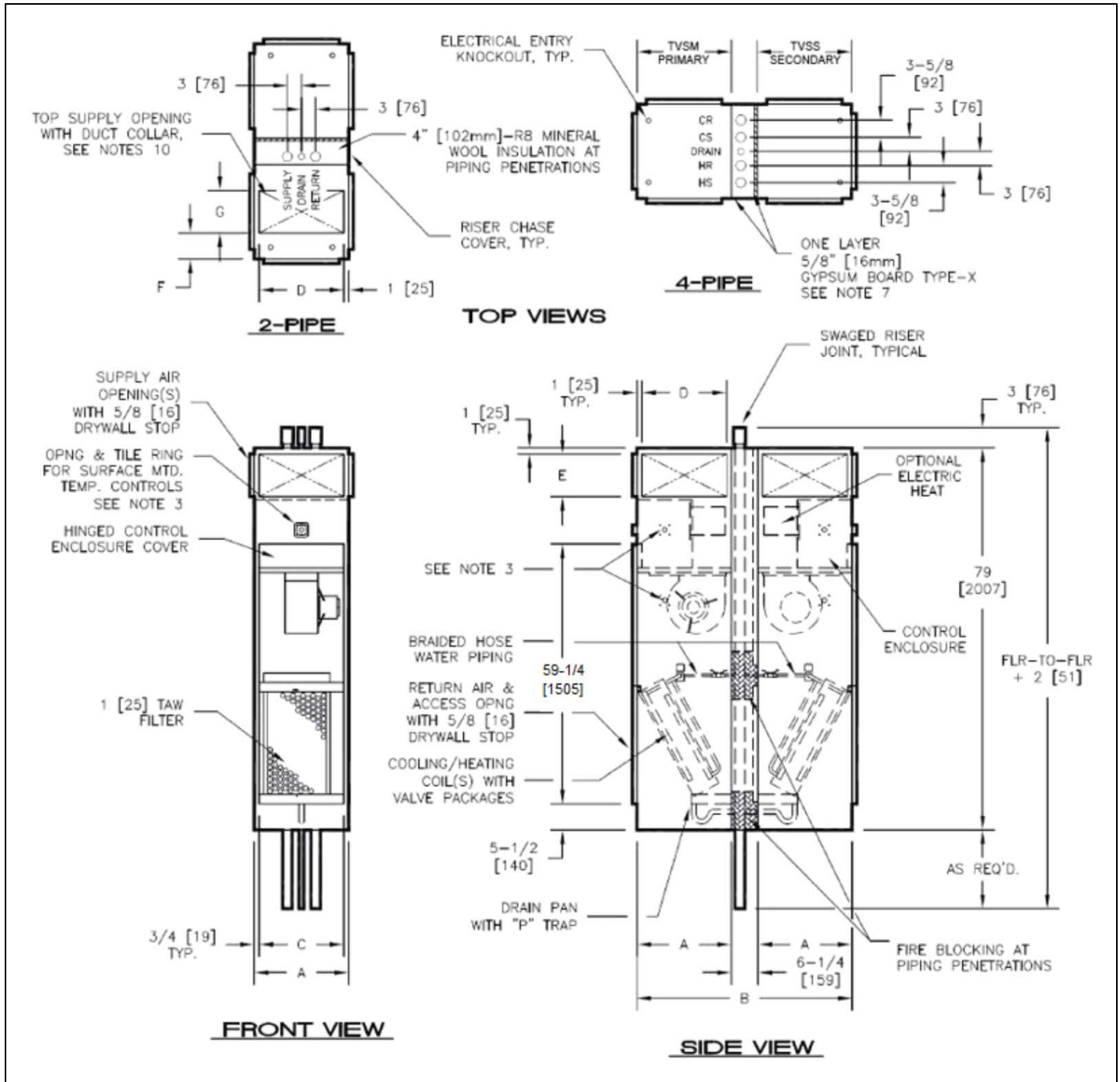
Unit Size	A	B	C	D
03 & 04	18 [457]	23 3/8 [594]	16 [406]	8 [203]
06 & 08	20 [508]	25 3/8 [645]	18 [457]	12 [305]
10 & 12	24 [610]	29 3/8 [746]	22 [559]	14 [356]

**NOTES:**

- All dimension are Inches [mm]. Metric values are soft conversions.
- All dimensions are  $\pm 1/4$  [6mm] .
- Tile ring is installed on front of unit as shown, and may be moved to left or right side of unit in field. The ring omitted on units with "ADA" control mounting location.
- Wiring from electrical entry point to control enclosure is furnished and installed by others in field.
- All piping and insulation between Primary and secondary units is furnished and installed in the field by others.
- Back riser location shown. See arrangement drawings for available unit configurations.
- All coil and drain connections are "retracted" and braced internally for shipment.
- Coil connections are 5/8" [16mm] O.D. female sweat. Drain "P-trap" is designed to accept 7/8" [22mm] O.D copper tube.
- RAVE do not include Risers. For Riser order RARP.

**RAVM/RAVL**

Vertical High Rise Twin Pack Fan Coil Unit  
(Do not include Risers)



**NOTES:**

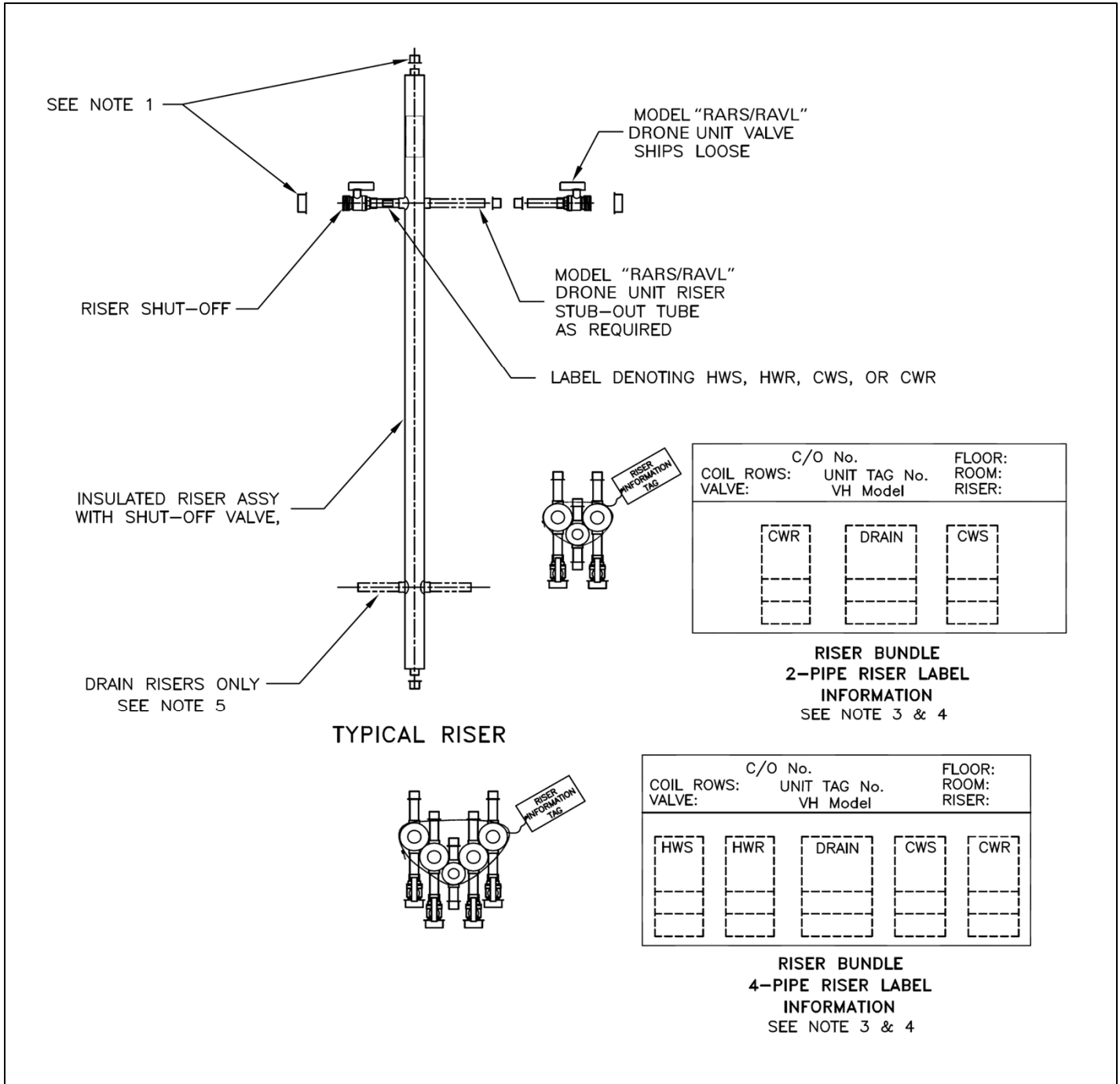
1. All dimension are Inches [mm]. Metric values are soft conversions.
2. All dimensions are ±1/4 [6mm].
3. Thermostat mounting -Tile ring is installed on front of unit as shown, and may be moved to left or right side of unit in field.
4. Wiring from electrical entry point to control enclosure is furnished and installed by others in field.
5. Risers available from 3/4" [19mm] to 2 1/2" [64mm] diameter with 1/2" [13mm] or 3/4" [19mm] thick insulation.
6. Riser length is 120" [3048mm] max, 100" [2540mm] min.
7. RAVM/RAVL do not include Risers. For Risers order RARP.
8. NON-FIRE RATED unit shown with type-x gypsum board at back of secondary unit. FIRE RATED units have type-x gypsum board at back of both secondary and Primary units. FIRE RATED unit design has been tested in accordance with UL1479 – Fire Test Of Through Penetration Fire Stops, and is approved to bear ETL listing mark for Through Penetration Fire Stops Assemblies.
9. For further fire rating information refer to the Installation Instructions
10. Refer to page 15 for Vertical High Rise Twin Pack configurations.
11. See Next page for dimensions.

## TWIN PACK UNITS CABINET DIMENSIONS

RAVM (Primary)	RAVL (secondary)	A	B	C	D	SUPPLY AIR		
						SINGLE/DOUBLE	TOP	
						E	F	G
03 or 04	03 or 04	18 [457]	42 ¼ [1073]	16 ½ [419]	16 [406]	8 [203]	6 [152]	8 [203]
03 or 04	06 or 08	20 [508]	46 ¼ [1175]	18 ½ [470]	18 [457]	12 [305]	6 [152]	12 [305]
03 or 04	10 or 12	24 [610]	54 ¼ [1378]	22 ½ [572]	22 [559]	14 [356]	8 [203]	14 [356]
06 or 08	03 or 04	20 [508]	46 ¼ [1175]	18 ½ [470]	18 [457]	12 [305]	6 [152]	12 [305]
06 or 08	06 or 08							
06 or 08	10 or 12	24 [610]	54 ¼ [1378]	22 ½ [572]	22 [559]	14 [356]	8 [203]	14 [356]
10 or 12	03 or 04	24 [610]	54 ¼ [1378]	22 ½ [572]	22 [559]	14 [356]	8 [203]	14 [356]
10 or 12	06 or 08							
10 or 12	10 or 12							

**RARP Riser**

Vertical High Rise Riser Assembly

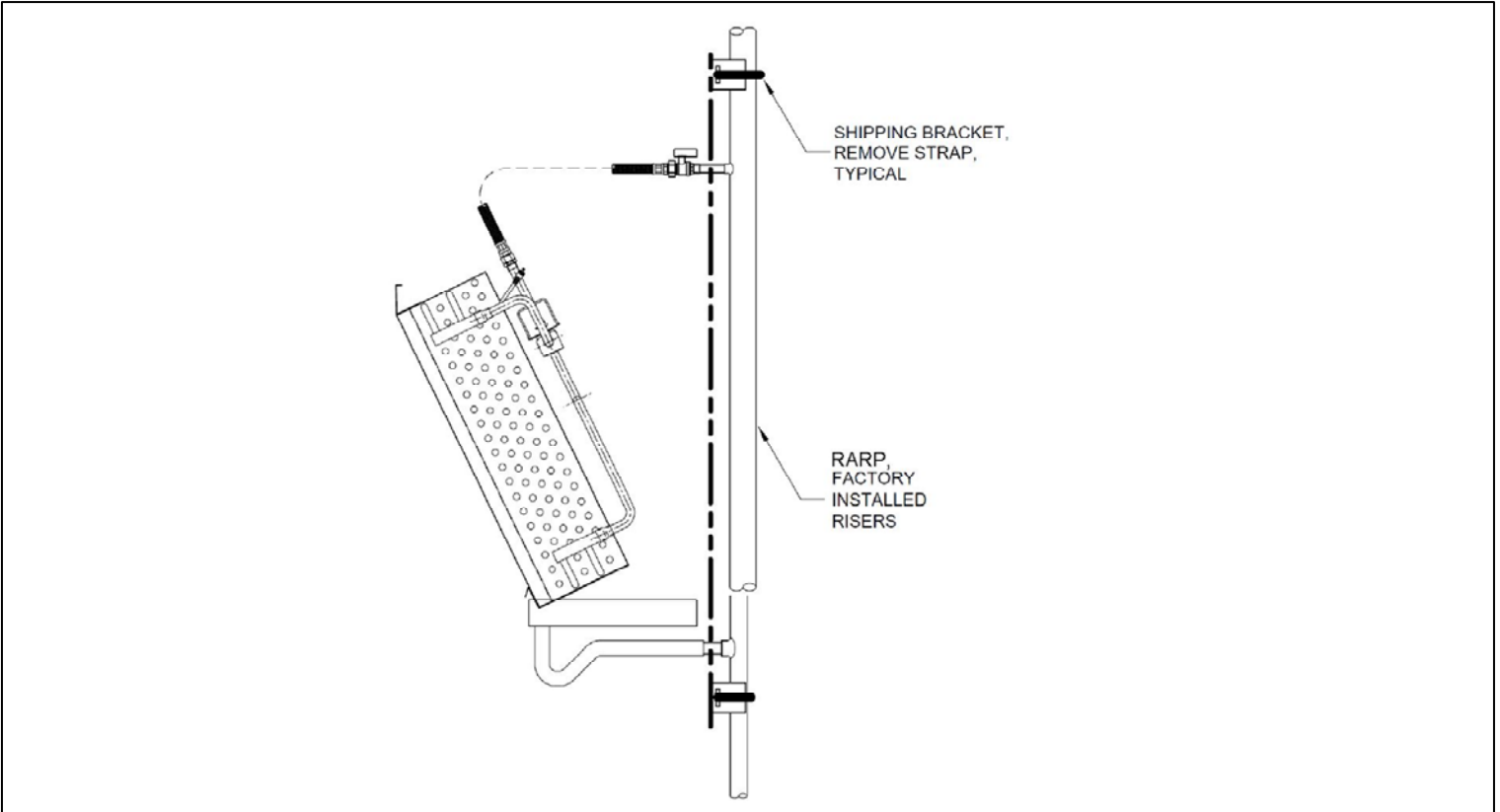


**NOTES:**

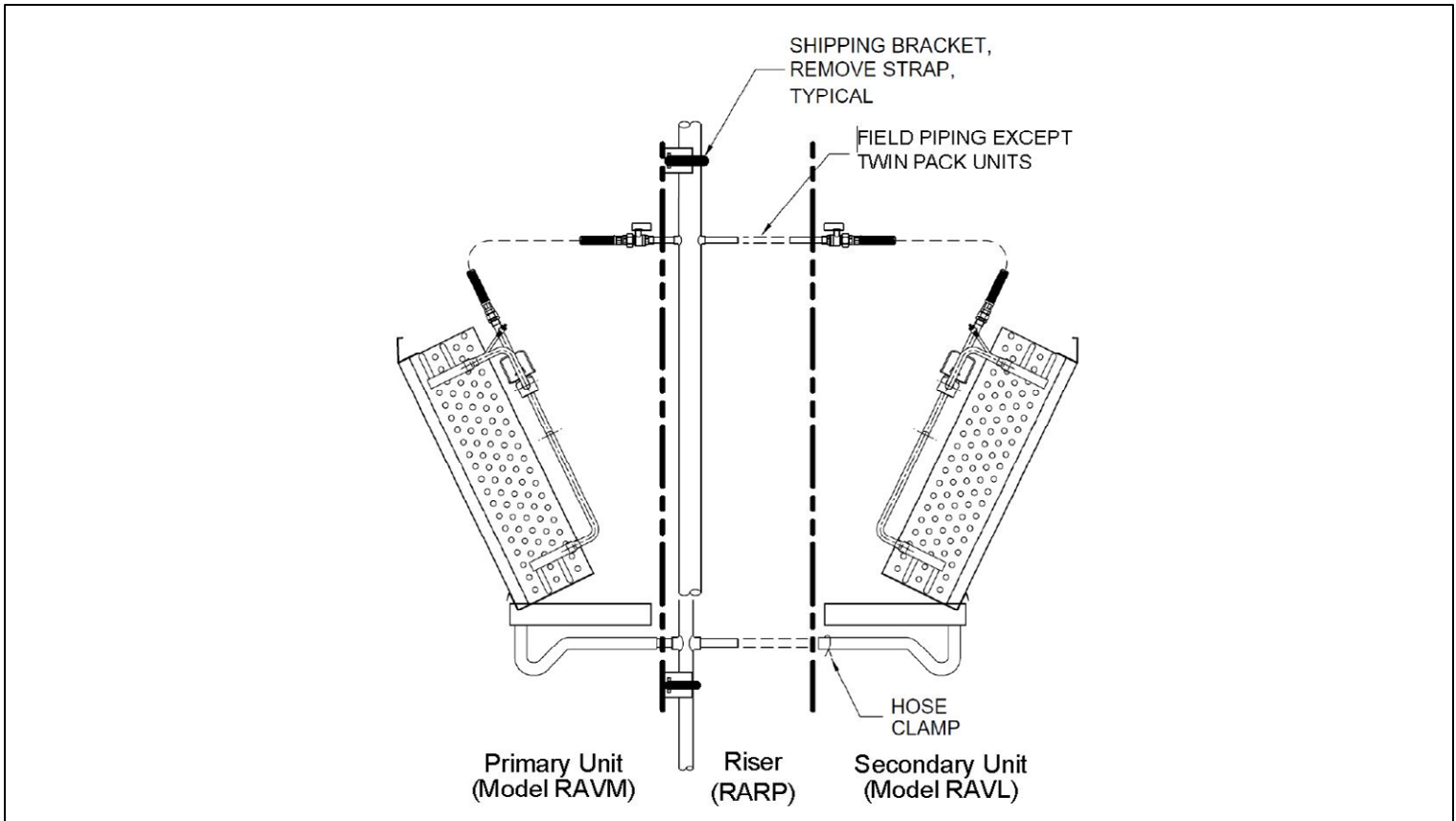
1. All risers and valves are shipped with protective caps. These caps should remain in place until installation of the unit.
2. Each valve is supplied with an O-ring that is bagged and shipped loose for field installation by others.
3. All risers are factory tested, and guaranteed to be leak free at the time of shipment.
4. Riser information shown shall reflect matching unit identification labels.
5. RAVL/RARS, Secondary Units will mirror image orientation and will be labeled in units.
6. Condensate P-Trap and hose clamps ships installed in unit for field connection to drain riser.

## FACTORY INSTALLED RISERS

### RAVS + RARP RISER



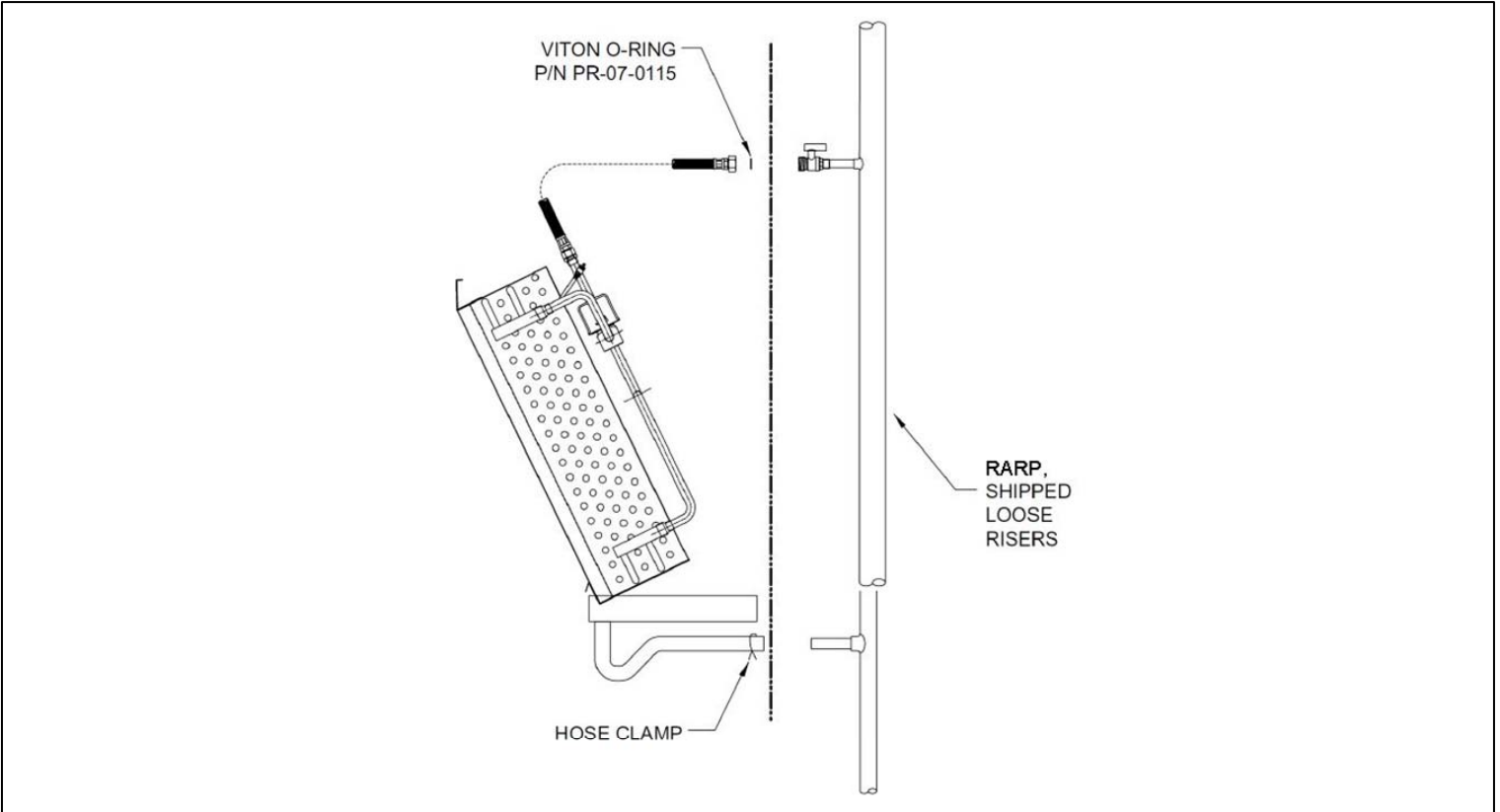
### RAVM/RAVL + RARP RISER



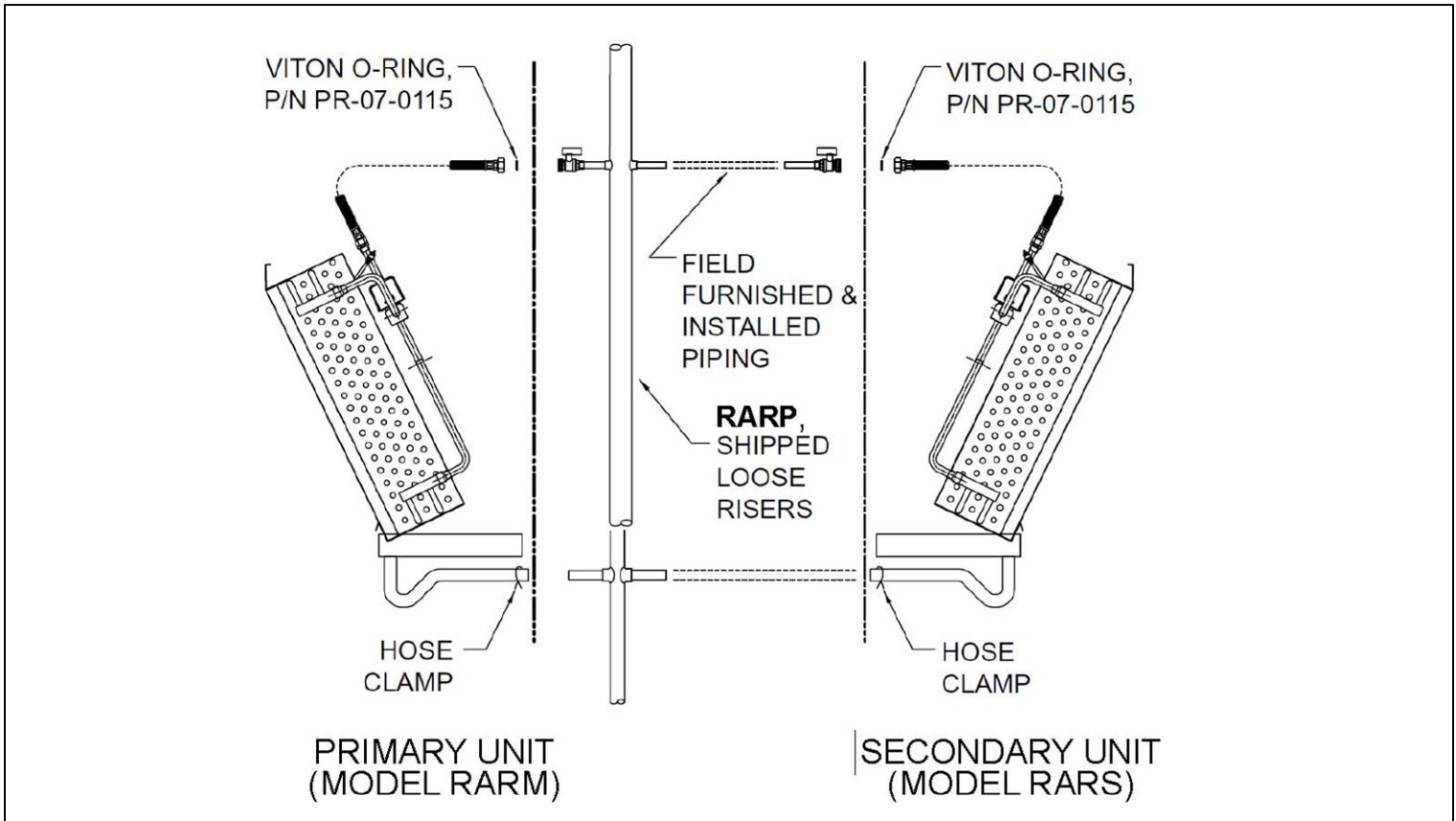


## FACTORY FURNISHED – FIELD INSTALLED RISERS (Shipped Loose Riser)

### RAVS + RARP RISER

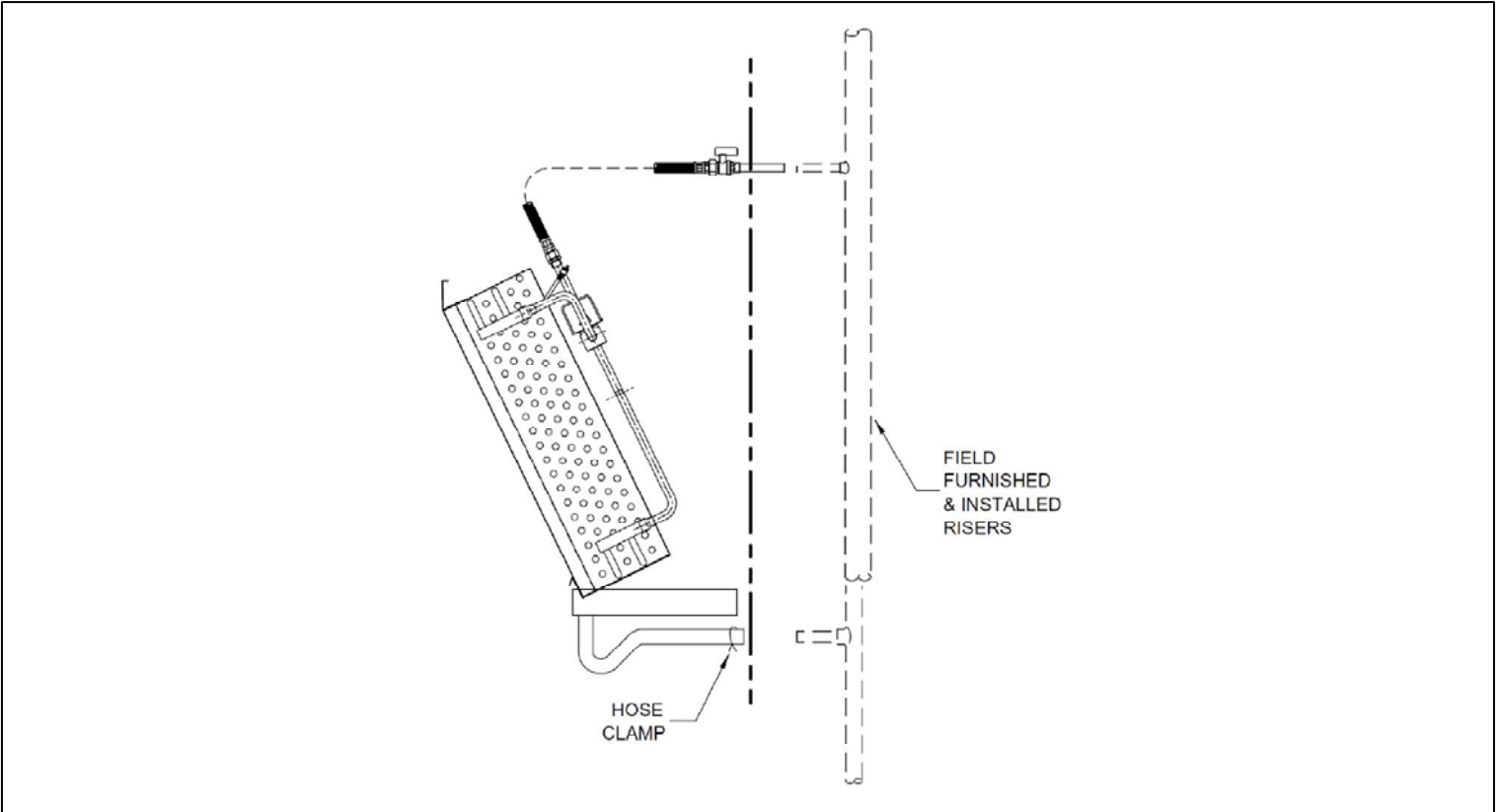


### RARM/RARS + RARP RISER

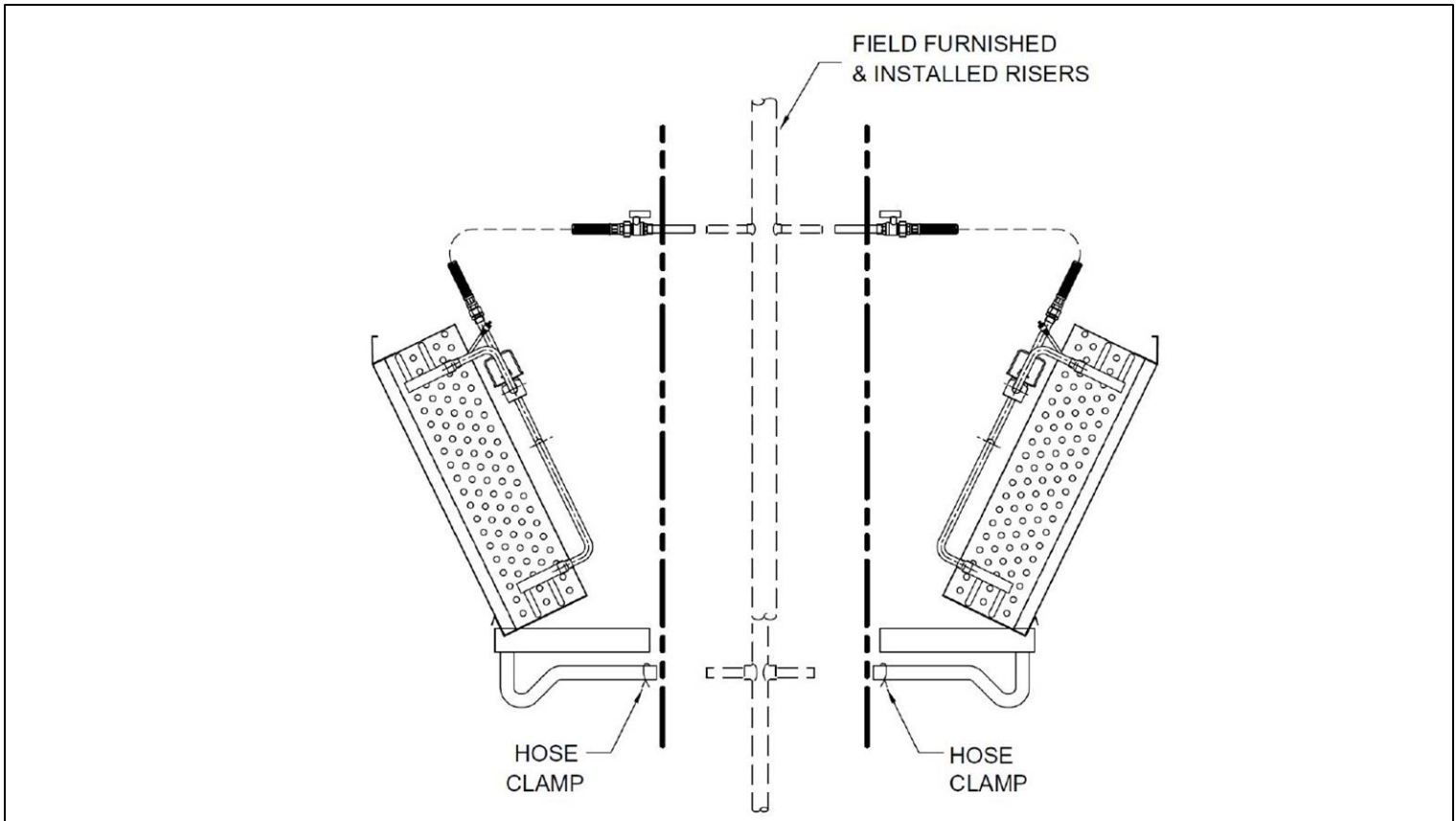


## FIELD FURNISHED & INSTALLED RISERS

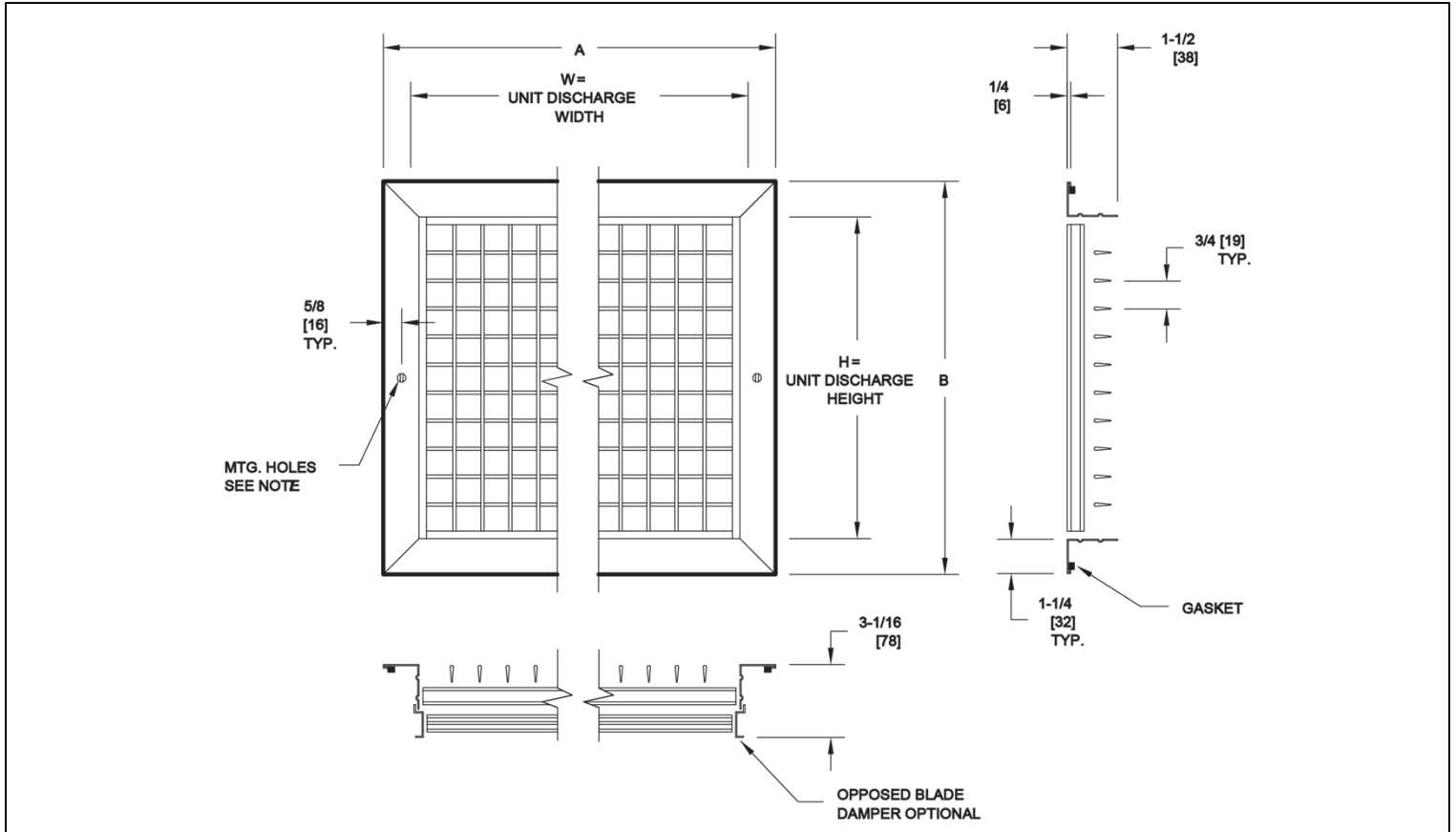
### RAVS + Field Furnished Risers



### RARM/RARS + Field Furnished Risers



**DOUBLE DEFLECTION ALUMINUM DISCHARGE GRILLE**



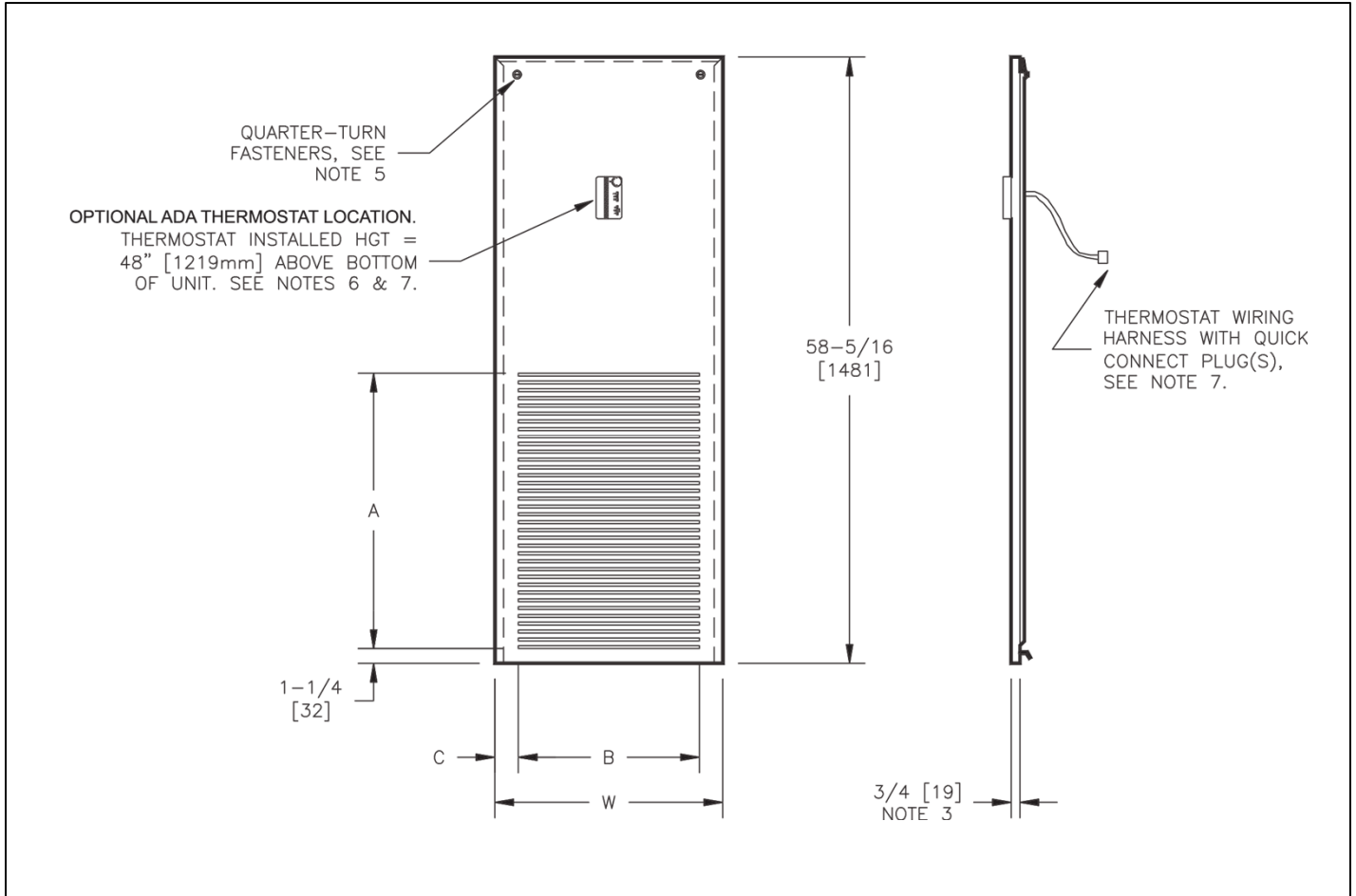
MODEL TYPE	Unit Size	CABT. HGT.	SINGLE/DOUBLE SUPPLY			
			W	H	A	B
VERTICAL HIGH RISE TWIN PACK SAME SIZE UNITS	03 or 04	STD	16	8	17 11/16	9 11/16
		79" CABT.	[406]	[203]	[449]	[246]
	06 or 08	STD	18	12	19 11/16	13 11/16
		79" CABT.	[457]	[305]	[500]	[348]
	10 or 12	STD	22	14	23 11/16	15 11/16
		79" CABT.	[559]	[356]	[602]	[398]

**NOTES:**

1. All dimension are Inches [mm]. Metric values are soft conversions.
2. All dimensions are ±¼ [6mm].
3. Discharge grilles are shipped loose for field installation.
4. Construction is aluminum frame and blades.
5. Standard finish is powder coat baked enamel. Color is "British White".
6. Installation of grille on adjacent unit sides may require furring one side away from unit to prevent interference of frames.
7. Mounting hardware included.

MODEL TYPE	Unit Size	CABT. HGT.	SINGLE/DOUBLE SUPPLY			
			W	H	A	B
VERTICAL HIGH RISE TWIN PACK UP SIZED UNITS	03 or 04	STD	18	12	19 11/16	13 11/16
		79" CABT.	[457]	[305]	[500]	[348]
	06 or 08	STD	18	8	19 11/16	9 11/16
		79" CABT.	[457]	[203]	[500]	[246]
	10 or 12	STD	22	14	23 11/16	15 11/16
		79" CABT.	[559]	[356]	[602]	[398]

**STAMPED LOUVER FRONT RETURN AIR PANEL**



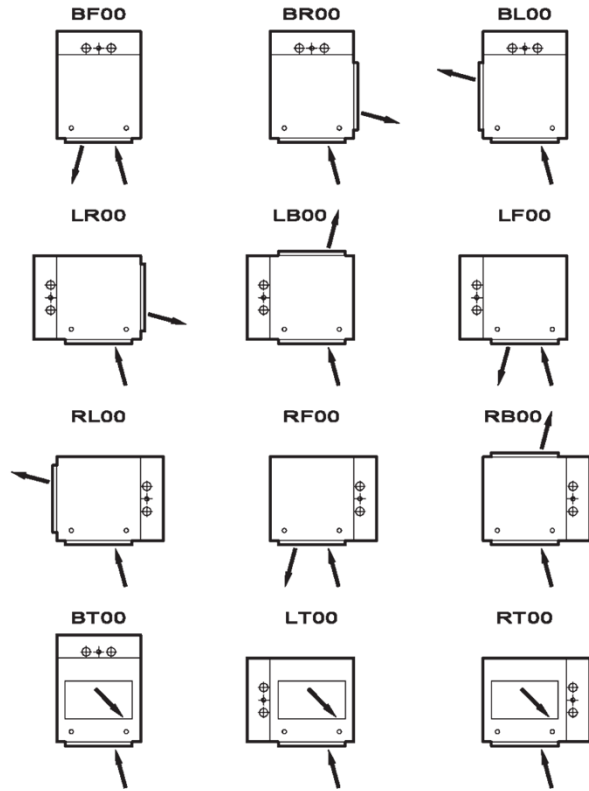
Unit Size	W	A	B	C	Unit Size(8)	W	A	B	C
03/04	17 1/2 [445]	24 1/8 [613]	15 [381]	1 1/4 [32]	0306-0408	19 1/2 [495]	24 1/8 [613]	15 [381]	2 1/4 [57]
06/08	19 1/2 [495]	24 1/8 [613]	15 [381]	2 1/4 [57]	0310-0412	23 1/2 [597]	24 1/8 [613]	21 [533]	1 1/4 [32]
10/12	23 1/2 [597]	28 1/2 [724]	21 [533]	1 1/4 [32]	0610-0812	23 1/2 [597]	24 1/8 [613]	21 [533]	1 1/4 [32]

**NOTES:**

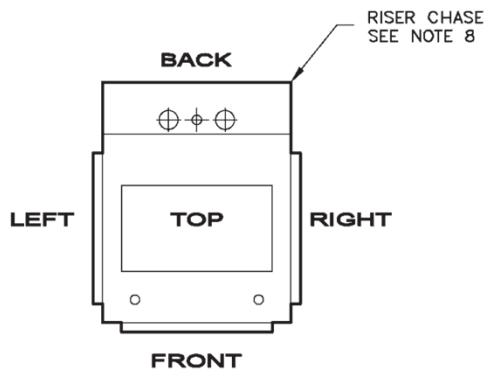
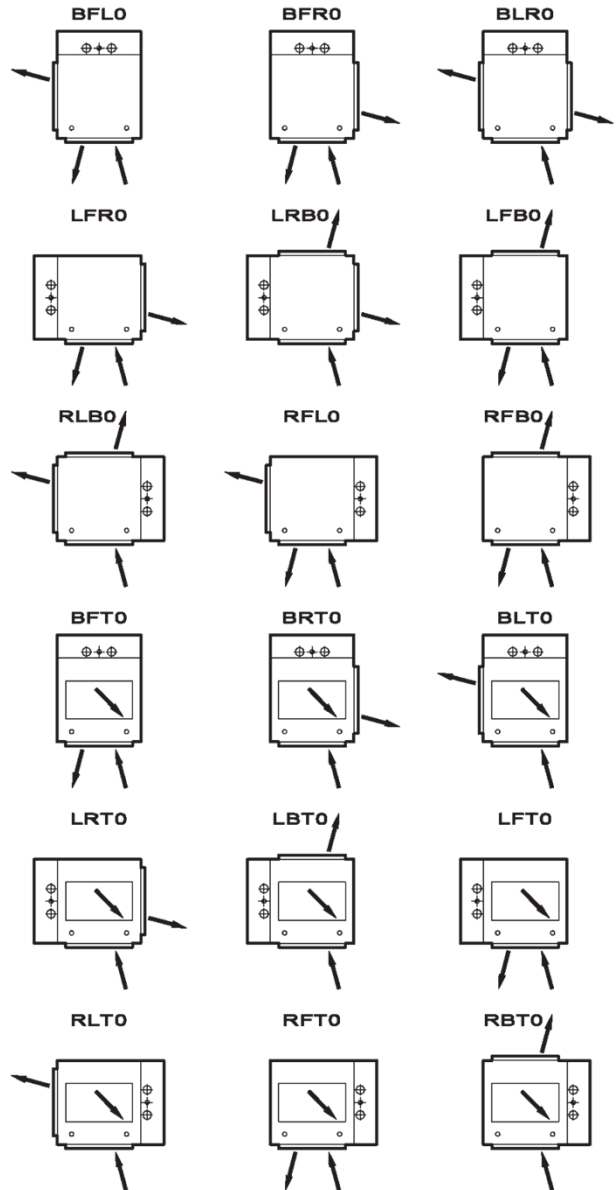
- All dimension are Inches [mm]. Metric values are soft conversions.
- All dimensions are ±1/4 [6mm].
- Installed wall panels extend approximately 3/4" [19mm] from finished wall surface.
- Standard finish is powder coat baked enamel. Color is "British White".
- Mounting hardware is factory installed.
- Actual installed thermostat height is determined by unit installation method and may vary.
- Thermostat is shipped loose for field installation by others.
- Sizes shown are for "up-sized" cabinet units used in Twin Pack Primary & Secondary pairs.

## ARRANGEMENT DRAWING

### SINGLE SUPPLY



### DOUBLE SUPPLY



F = FRONT      L = LEFT  
 T = TOP        R = RIGHT  
 B = BACK        O = NONE



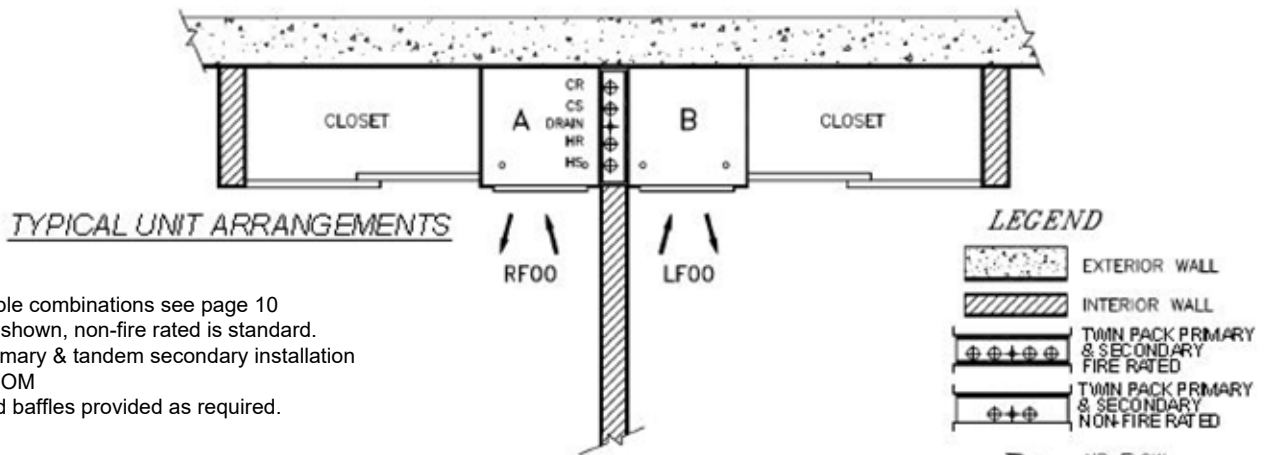
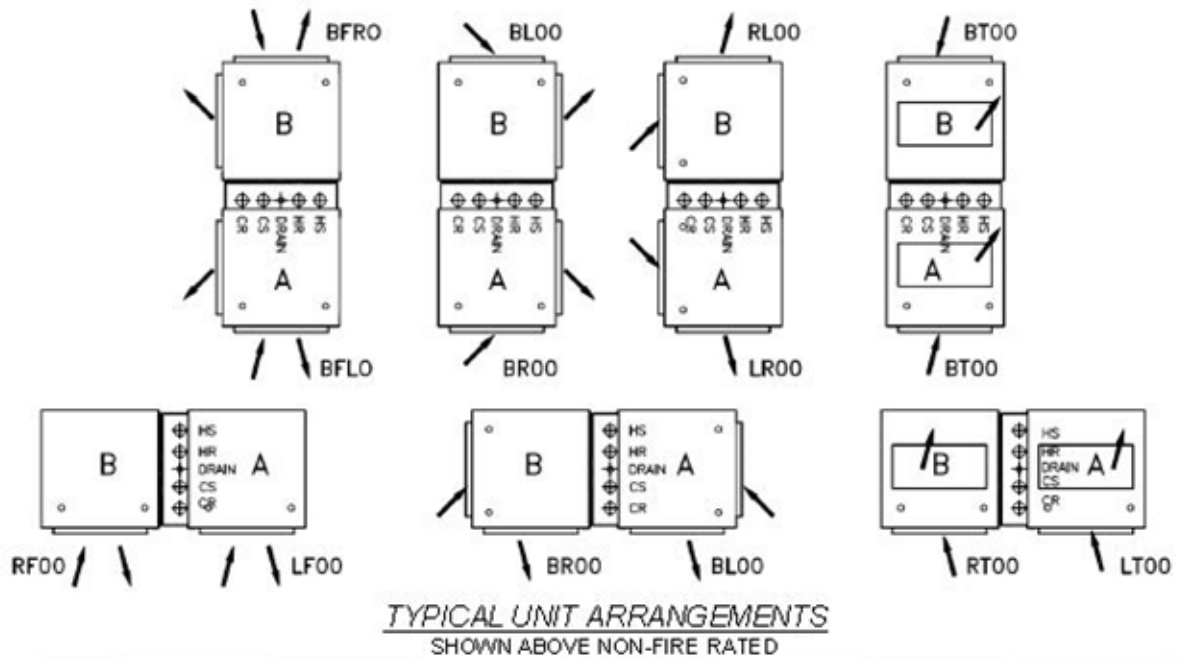
### UNIT SIDE DESIGNATIONS

(UNIT ARRANGEMENTS TYPICAL FOR ALL MODELS)

#### NOTES:

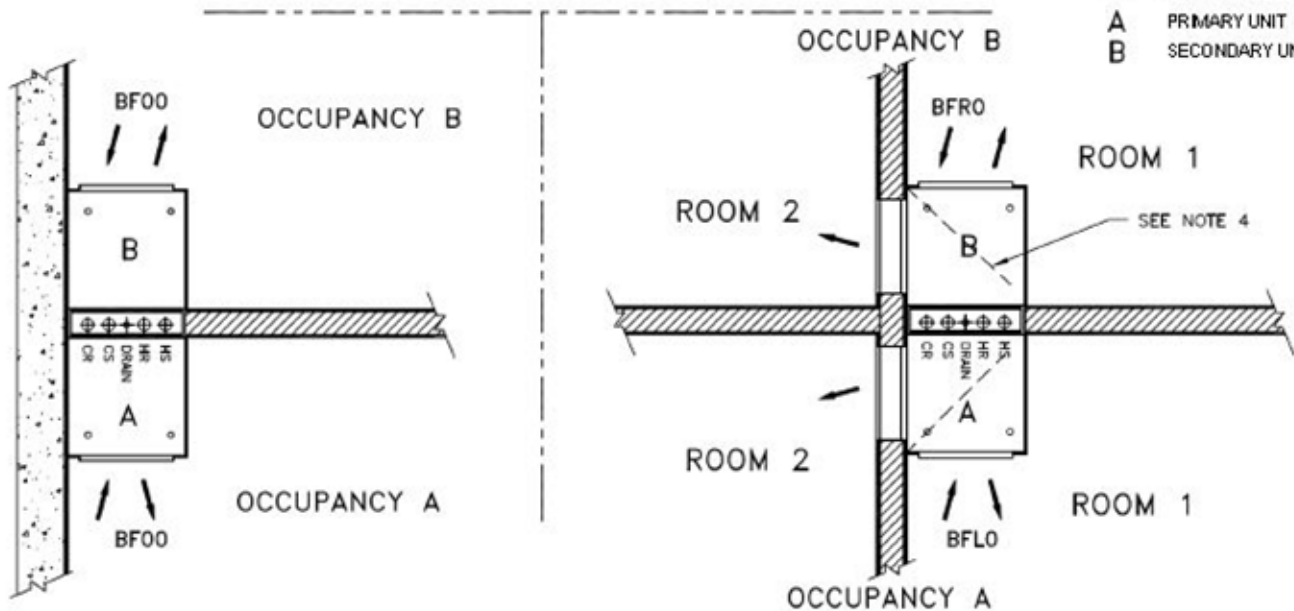
1. All drawings subject to change with prior notice.
2. Return air and access are always on front of unit.
3. Sight and sound baffle provided as required.
4. Sight and sound baffle not available on units with top supply outlet
5. Opposed blade damper is optional on one supply grille for units with double supply outlets.
6. This drawing applies to single and Primary units.
7. Fourth character indicates outside air location see page 11 for details.
8. Model RAVS unit show above with optional riser chase. Riser chase not available on RARM units. RAVM units must be mated to RAVL units.

## TWIN PACK UNIT CONFIGURATION

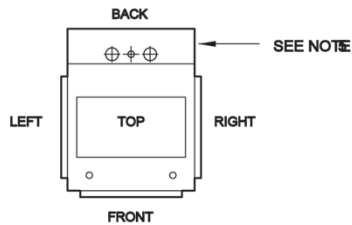
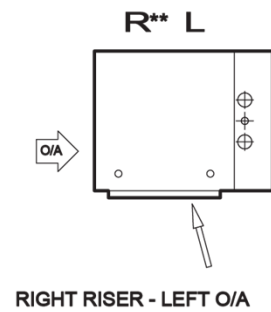
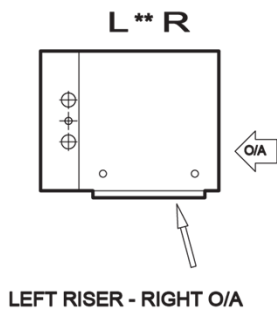
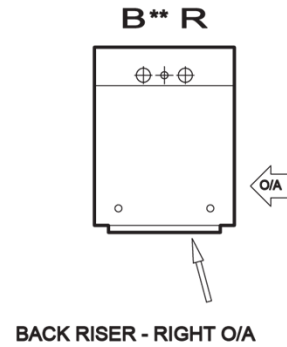
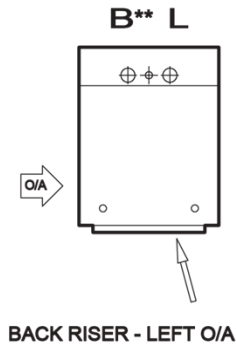


**NOTES:**

1. For other possible combinations see page 10
2. Fire rated units shown, non-fire rated is standard.
3. See tandem Primary & tandem secondary installation instructions, in IOM
4. Sight and sound baffles provided as required.



**OUTSIDE AIR INLET DESIGNATIONS**

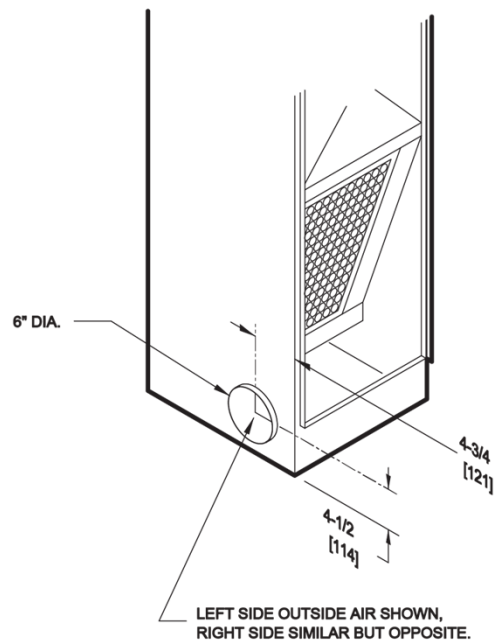


F = FRONT  
T = TOP  
B = BACK

L = LEFT  
R = RIGHT  
0 = NONE



**UNIT SIDE DESIGNATIONS**



**NOTES:**

1. Return air and access are always on front of unit.
2. This drawing shows available return and outside air inlet locations.
3. See arrangement drawings for complete unit riser, supply, and return configuration details
4. Outside air inlet location is always last character in arrangement code.
5. RAVS unit with optional riser chase shown. Outside air location designations are typical for all RAV models.

## General Notes - Piping Packages

1. All the packages and components described in this brochure are optional, extra cost features. Consult your Superior Rex sales representative for details. Not all components are available on all unit models. See valve package code charts.
2. All standard valve packages and piping components described in this catalog are for chilled and hot water applications. They may also be used with ethylene and propylene glycol solutions up to 50% concentration.
3. RBH, RAH AND RBV fan coil unit packages – are factory assembled and shipped loose for field installation and wiring. All RAV fan coil unit packages are factory assembled, installed, and wired.
4. RBH, RAH AND RBV unit valve packages are designed to mount directly onto the coil connections.
5. Control valve actuators are removable, and may be serviced or replaced without removal of the valve body.
6. Control valves are piped normally closed to the coil. For hot water coils, control valves are available normally open.
7. 3-Way control valves are piped as mixing valves.
8. All ball isolation valves are furnished with an adjustable memory stop feature and may be used as a balancing valve.
9. When ordered, unions are installed at the water coil, and are available on all fan coil units except RAV. Unions must be ordered on both coils of 4-pipe units. Unions are not available separately.
10. All RAV units include two flexible stainless steel braided hoses and ball isolation valves per coil. This hose/valve combination provides a "union" type connection to allow coil removal.
11. Pressure/temperature (P/T) ports are located to monitor the pressure and temperature across the coil.
12. Automatic fixed flow controls (FC, FCN, FCS) are available in flow (GPM) ratings as follows:
  - 1/2" = 0.5 to 4.0 GPM in 0.5 GPM increments
  - >4.0 to 6.0 GPM in 1.0 GPM increments
  - 3/4" = 3.0 to 4.0 GPM in 0.5 GPM increments
  - >4.0 to 12.0 GPM in 1.0 GPM increments
  - 1" = 5.0 to 10.0 GPM in 1.0 GPM increments
  - >10.0 to 20.0 GPM in 2.0 GPM increments
 Individual coil GPM requirements must be specified at time of order.
13. Component performance ratings such as Cv, maximum close-off pressure, operating temperature and pressure, are shown in Component Specifications.
14. Valve and component performance ratings shown are maximum values. Appearance and actual ratings may vary with individual vendor and component size.
15. Adjustable flow setter (AFS) is rated for full shut-off and replaces the return line ball isolation valve on all products except the RAV fan coil unit.
16. 2-Pipe "change-over" units using a 2-way control valve and factory thermostat must be ordered with a "E" "bleed" line to assure proper changeover thermostat (aquastat) operation. The "E" "bleed" line is optional on 2-pipe "changeover" units with field provided thermostats.
17. Some piping packages may extend beyond the unit drain pan and/or factory auxiliary drip pan. Requirements for field furnished and installed valve package and piping insulation must be determined by others on an individual application basis.

**The valve package piping and component details shown in this catalog are for standard valves and components. The suitability of all valve packages and components must be determined by others based on individual application requirements.**

**Superior Rex assumes no responsibility for selection and/or application of valve packages and components.**

**Modulating cooling valve control can increase part load space relative humidity. Superior Rex does not encourage or endorse modulating valve control for fan coil cooling systems, and is not liable for high humidity problems that may result.**

**Modulating heating valve control may result in low leaving air temperatures while the valve reduces flow and as setpoint is approached.**

Contact Superior Rex for any requirements not shown in this catalog.

## CONTROL DEVICE LEGEND

MANUAL BALL VALVE WITH MEMORY STOP (BVMS)		2-WAY CONTROL VALVE		3-WAY CONTROL VALVE	
FIXED FLOW CONTROL VALVE (FC)		AUTOMATIC CARTRIDGE FLOW CONTROL WITHOUT SCREEN		AUTOMATIC CARTRIDGE FLOW CONTROL WITH SCREEN	
ADJUSTABLE FLOW CIRCUIT SETTER (AFS)		BYPASS BALANCE VALVE (BPV)		PRESSURE-TEMPERATURE TEST PORT (PT)	
Y-STRAINER (Y-STR)		Y-STRAINER W/CLEANOUT VALVE (YCO)		UNION	
FLEXIBLE HOSE (FH)		AQUA-THERMOSTAT		SCHRADER FITTING	



## STANDARD FEATURES

### Construction

- AHRI 440 certified and labeled
- Galvanized steel construction
- 1/2" thick fiberglass insulation
- Integral filter rack with 1" throwaway filter
- Riser slot knockouts
- Supply air knockouts

### Decorator Front Panel

- Stamped louver return air grille
- Durable powder coat paint
- Quarter-turn cam lock fasteners

### Supply Air

- Single outlet
- Front, side or top outlets

### Coils

- Cooling - Chilled water
- Heating - Hot water - reheat position
- 5 total rows of cooling and heating coils maximum
- 3/8" O.D. seamless copper tubes
- 0.012" tube wall thickness
- High efficiency aluminum fin surface for optimizing heat transfer, pressure drop and carryover
- Easily removable for service
- Manual air vents

### Drain Pans

- Single wall, galvanized steel, externally insulated – fire retardant and anti microbial closed cell foam
- Positively sloped to drain connection
- 7/8" O.D. drain connection
- P-trap factory installed

### Fan Assemblies

- Forward curved, DWDI centrifugal type blowers
- 115 volt, single phase, three tap PSC motors
- Quick disconnect motor connections
- Easily removable fan/motor deck for service

### Electrical

- cETL listed for safety compliance
- Electrical enclosure with access door for field wiring terminations
- Terminal block for field connections

### Electric Heat

- ETL listed as an assembly for safety compliance
- Integral electric heat assembly with removable elements for easy service
- Automatic reset primary and back-up secondary thermal limits
- Single point power connection

## OPTIONAL FEATURES

### Construction

- Primary/secondary arrangements
- Foil faced fiberglass insulation
- Elastomeric closed cell foam insulation
- Eco-Shield insulation
- Foil faced Eco-Shield Insulation
- 1" pleated filter (MERV 8)
- Manual or motorized outside air damper
- Blower shield

### Decorator Front Panel

- Recessing frame • Full faced aluminum grille

### Supply Air

- Double deflection discharge grille(s)
- Double outlets
- Sight and sound baffles for double outlet units
- Opposed blade damper

### Coils

- Automatic air vents • Stainless steel coil casings

### Drain Pans

- Stainless steel construction with external insulation
- Removable for cleaning

### Fan Assemblies

- 208-230 & 277 volt, single phase, three tap PSC motors
- ECM motors

### Electrical

- SCR fan speed controller
- Fan relay packages
- Silent solid state fan relays
- Toggle disconnect switch
- Condensate overflow switch (drain pan)
- Main fusing
- Unit and remote mounted three speed fan switches

### Electric Heat

- Manual reset secondary thermal limit
- Silent relay/contactors
- Door interlocking disconnect switches
- Main fusing

### Piping Packages

- Factory assembled and installed
- 1/2" 2-way and 3-way normally closed, two position electric motorized valves
- Stainless steel braided hoses (threaded swivel connections) for thermal expansion including isolation ball valves with memory stop
- Fixed and adjustable flow control devices
- P/T ports and Y-strainers
- Modulating control valves
- High pressure close-off actuators (50 PSIG max)

### Thermostats

- Analog, digital display, or programmable
- Unit and wall mounted
- 2 and 4-pipe control sequences
- Automatic and manual changeover
- Integral three speed fan switches
- ADA mounting location on front panel or unit sides

### Risers

- Type-M or L copper with swaged connections
- 3/4" to 3" diameters
- 1/2" and 3/4" closed cell insulation
- Type-M copper condensate riser
- Riser extensions • Riser cover
- Ship in advance risers

Revision Date	Version Date	Initiated By	Description
03/09/20	03/01/18	J.Letterman	corrected return louvered panel overall height from 56-1/4 to 59-1/4 due to fan deck assembly interference inside unit