

ACTIVE CHILLED BEAMS

INSTALLATION, OPERATION
& MAINTENANCE MANUAL



CBAV

CBAW / CBAB / CBAS



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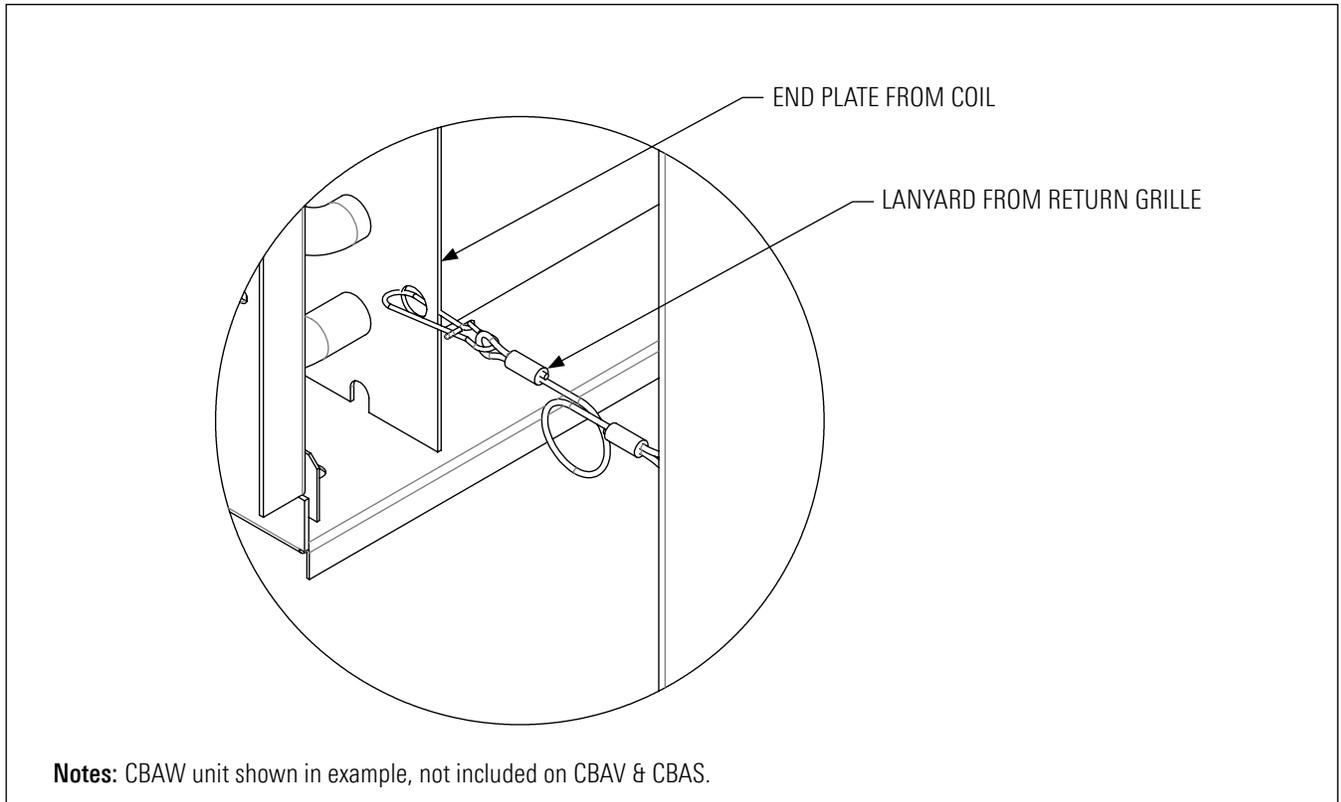
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CRITICAL OPERATIONS

To ensure optimal system performance and consistent thermal comfort for room occupants, connect Linear Active Chilled Beams in a parallel configuration to the building's water distribution system. This setup ensures each beam receives water at the same entering temperature. For improved serviceability and flexibility, install isolation valves on both the supply and return lines of each individual beam.

HANDLING WARNINGS

1. Team lift required - A minimum of two (2) people is required for safe handling and installation.
2. Safety cable - Each titus chilled beam is equipped with two factory-installed safety cables—refer to drawing below for proper usage.



3. Storage - Store beams in their original packaging in a dry, sheltered location until ready for installation.
4. Protective film - Leave the protective film on the beam face during construction to prevent dust or debris from causing damage. Remove only after the workspace is clean.
5. Code compliance - All installations must comply with local codes and regulations.
6. Pre-installation checklist
 - Before beginning, gather all required tools and materials, including:
 - Isolation valves
 - Threaded rods
 - Suspension cables or hanging wire
 - Unistrut
 - Flexible duct
 - Surface
 - Grilles (if required)

CBAV INSTALLATION

CBAV models ship with a loose inlet neck.

1. Secure the inlet neck to the back of the unit using four (4) #8 sheet metal screws (not included).
2. Seal all joints to prevent air leakage.
3. Connect the inlet collar to the main duct using flexible duct and sheet metal screws. Ensure airtight connections.

Suspension Requirements

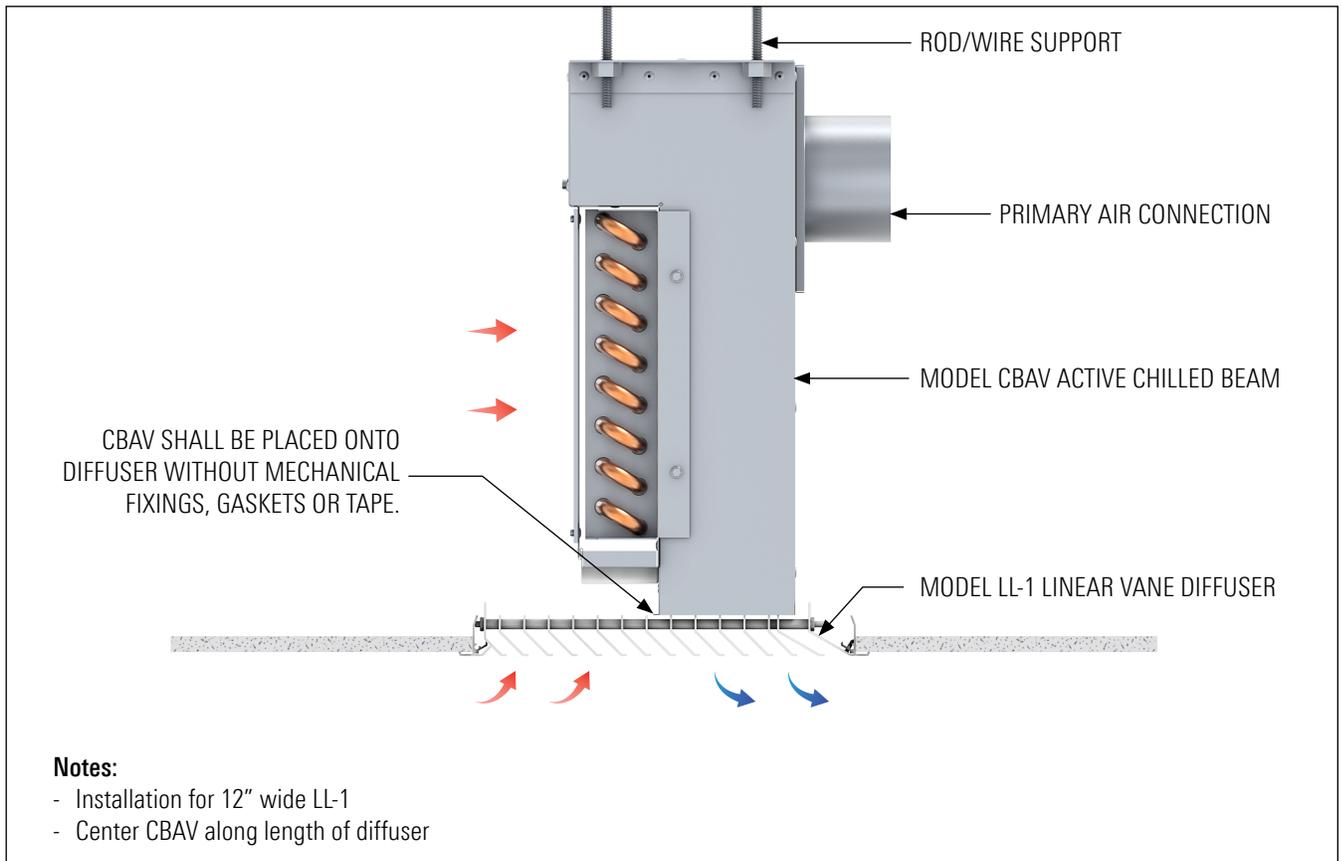
1. CBAV comes with two (2) hanger brackets on top side of plenum.
2. Mount the beam using mounting brackets, and threaded rod or hanging wire (not included).



Ceiling Integration

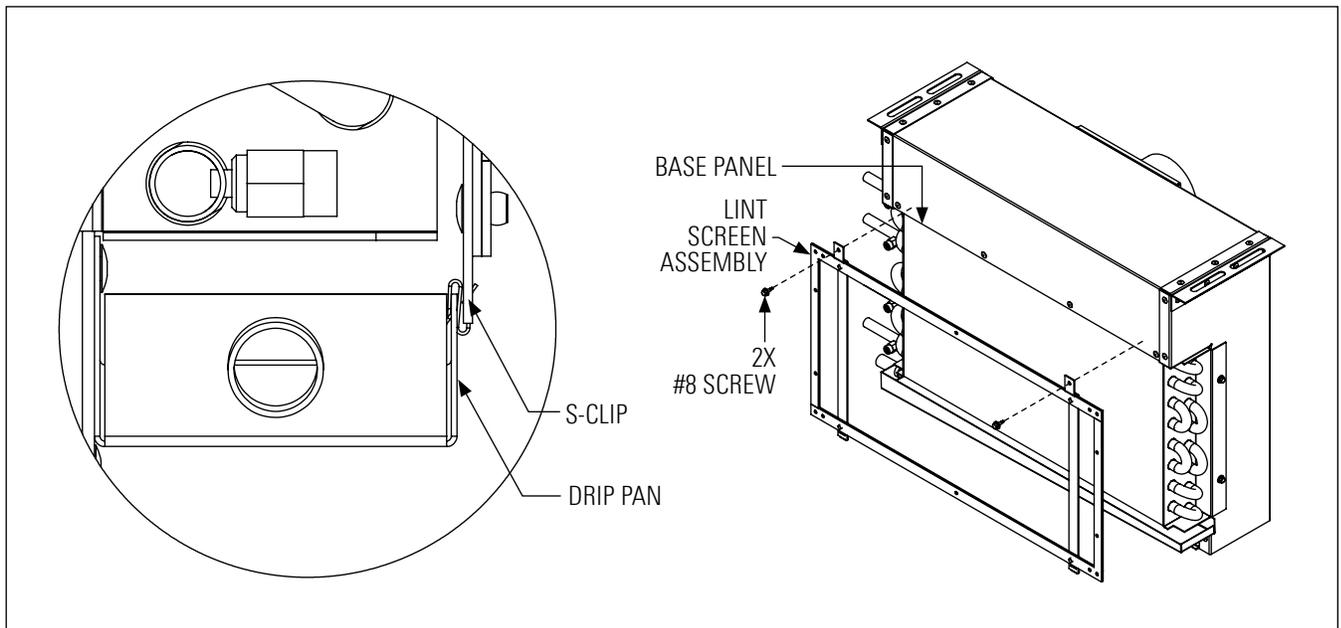
1. If LL-1 grille selected (ships separately), beam comes with 11 3/4" width linear.
2. Install LL-1 in ceiling: https://www.titus-hvac.com/file/818/LL1.2install_diffusers_2017.pdf
3. After securing to the ceiling, level the beam to rest on top the linear and verify orientation for piping and inlet placement. The CBAV should rest with the plenum just inside the LL-1 neck, coil side facing inward towards centerline of the LL-1 width. Center the CBAV along the length of the LL-1. Do not use mechanical fixing, gaskets or tape. Please note, other installations are available with additional Titus AE support.
4. Verify return side of grille allows inducted air access to the coil to avoid performance issues.

CBAV INSTALLATION

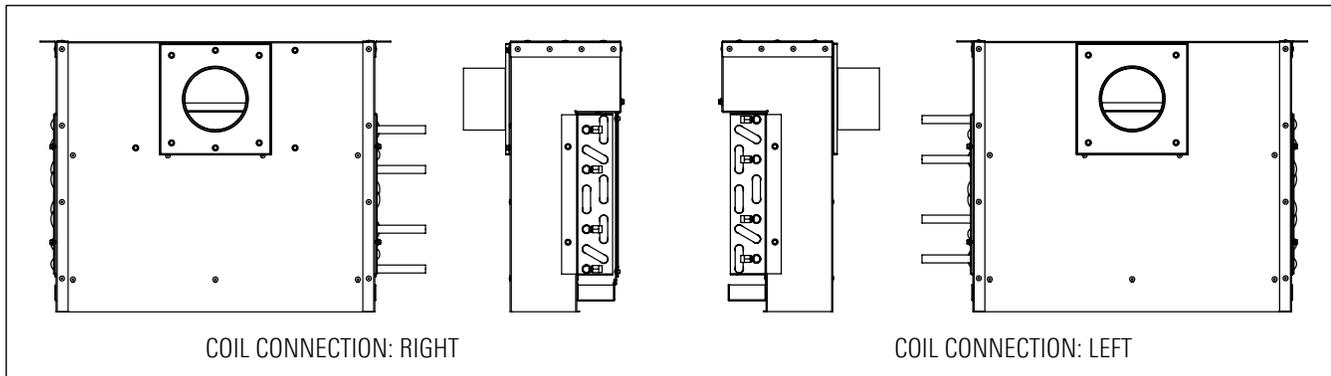
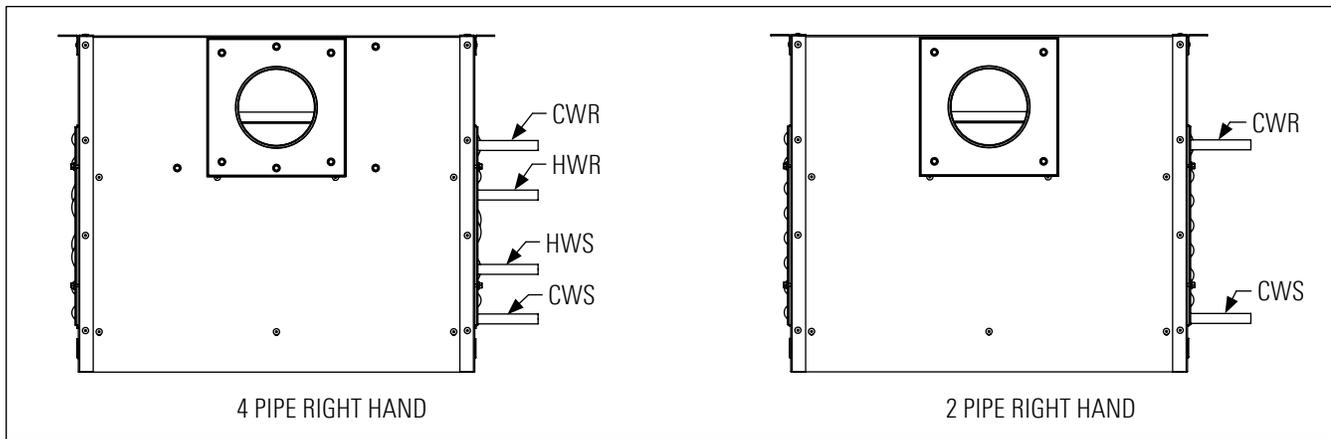
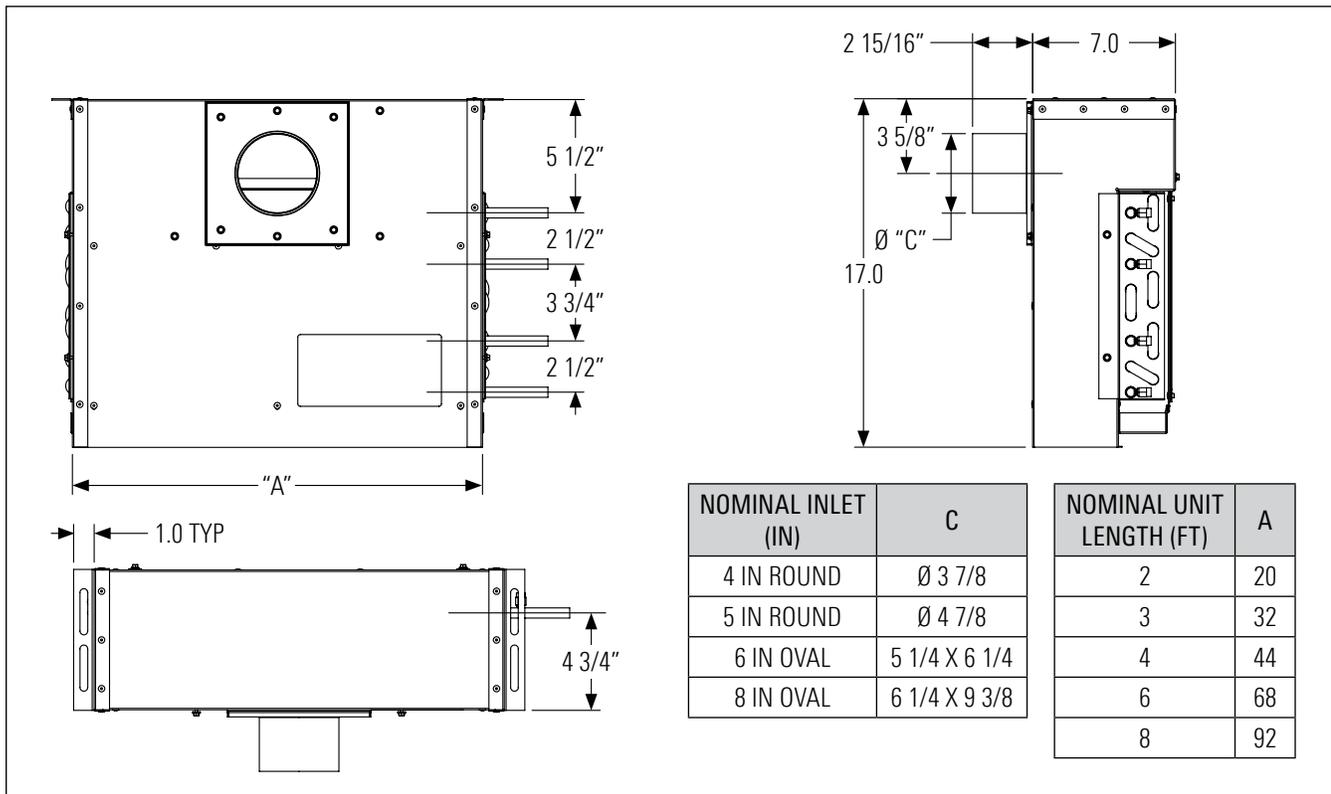


Accessory Maintenance

1. To access drip pan, disconnect from S-clip.
2. Remove screws to clean lint screen before replacing.



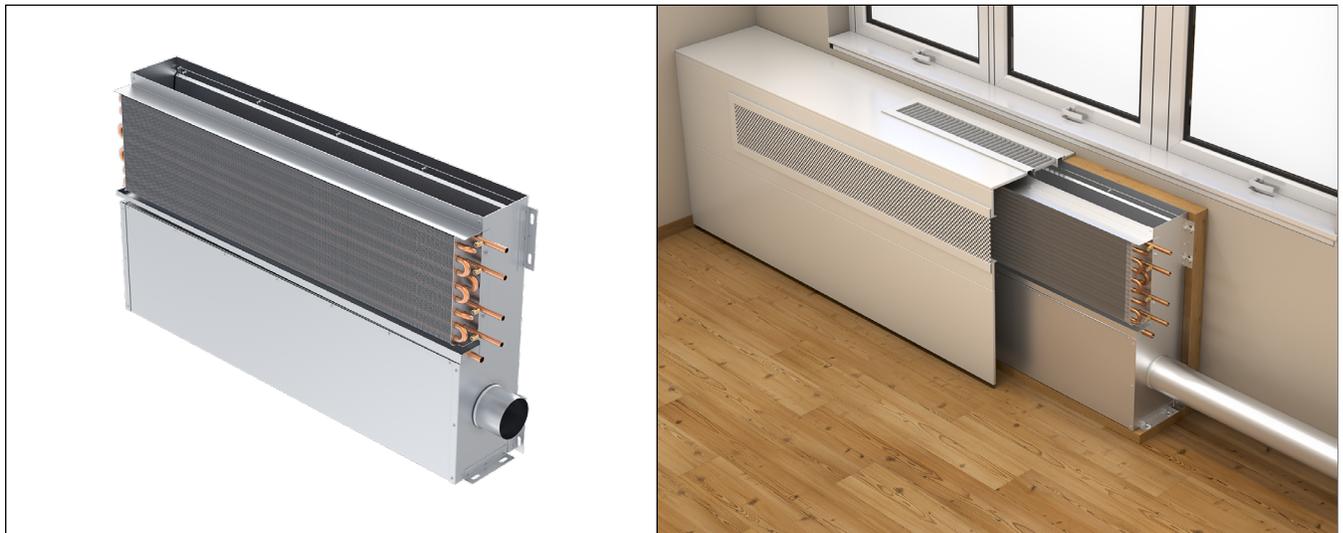
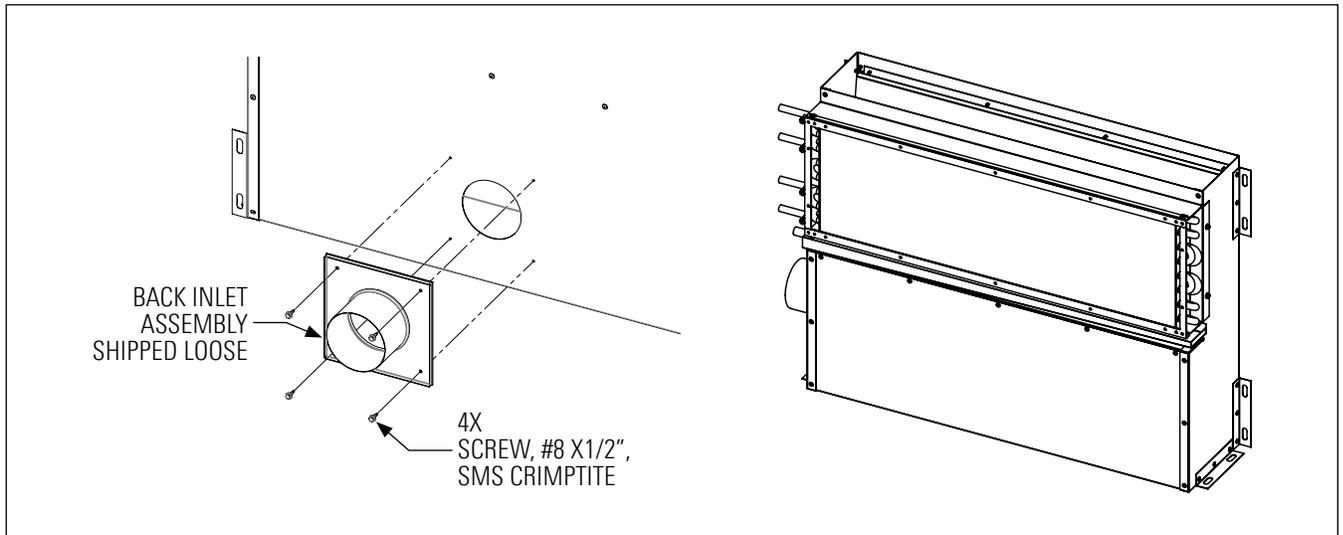
CBAV DIMENSIONS & COIL CONFIGURATIONS



CBAS INSTALLATION

CBAS models ship with a loose top inlet neck.

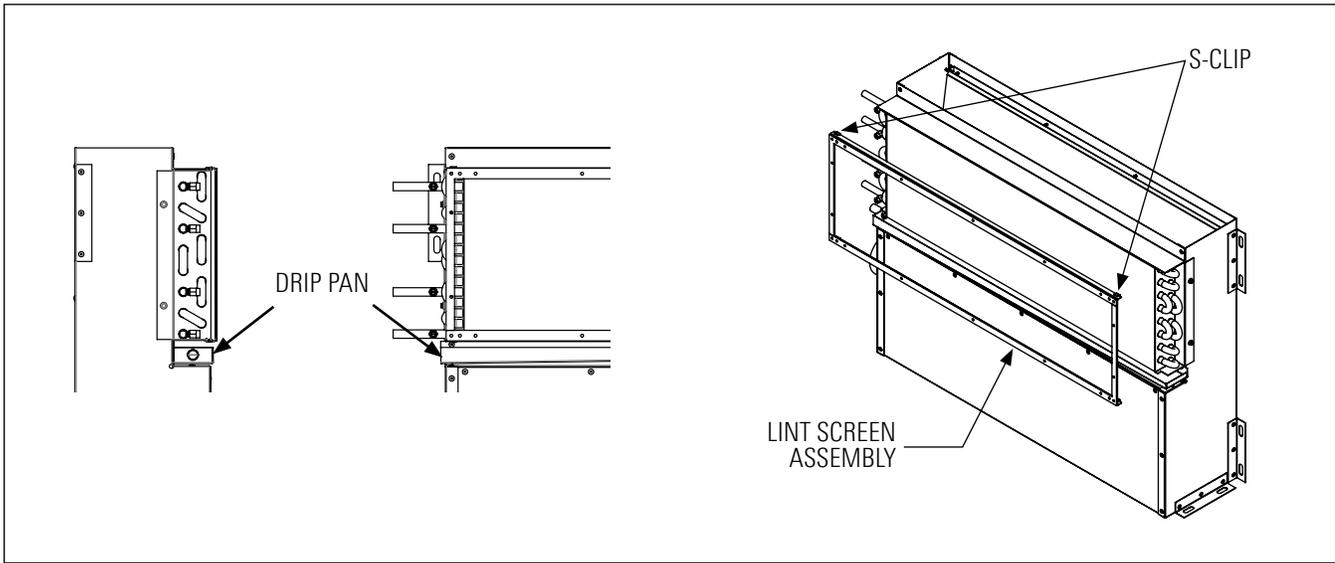
1. Secure the inlet neck to the back of the unit using four (4) #8 sheet metal screws (not included).
2. Seal all joints to prevent air leakage.
3. Connect the inlet collar to the main duct using flexible duct and sheet metal screws. Ensure airtight connections.
4. Mount the beam to framing using attached six (6) mounting brackets. Finish sill around the CBAV. Extend inlet collar to supply (not included).
5. Verify return coil access to inducted air in finished sill to avoid performance issues.



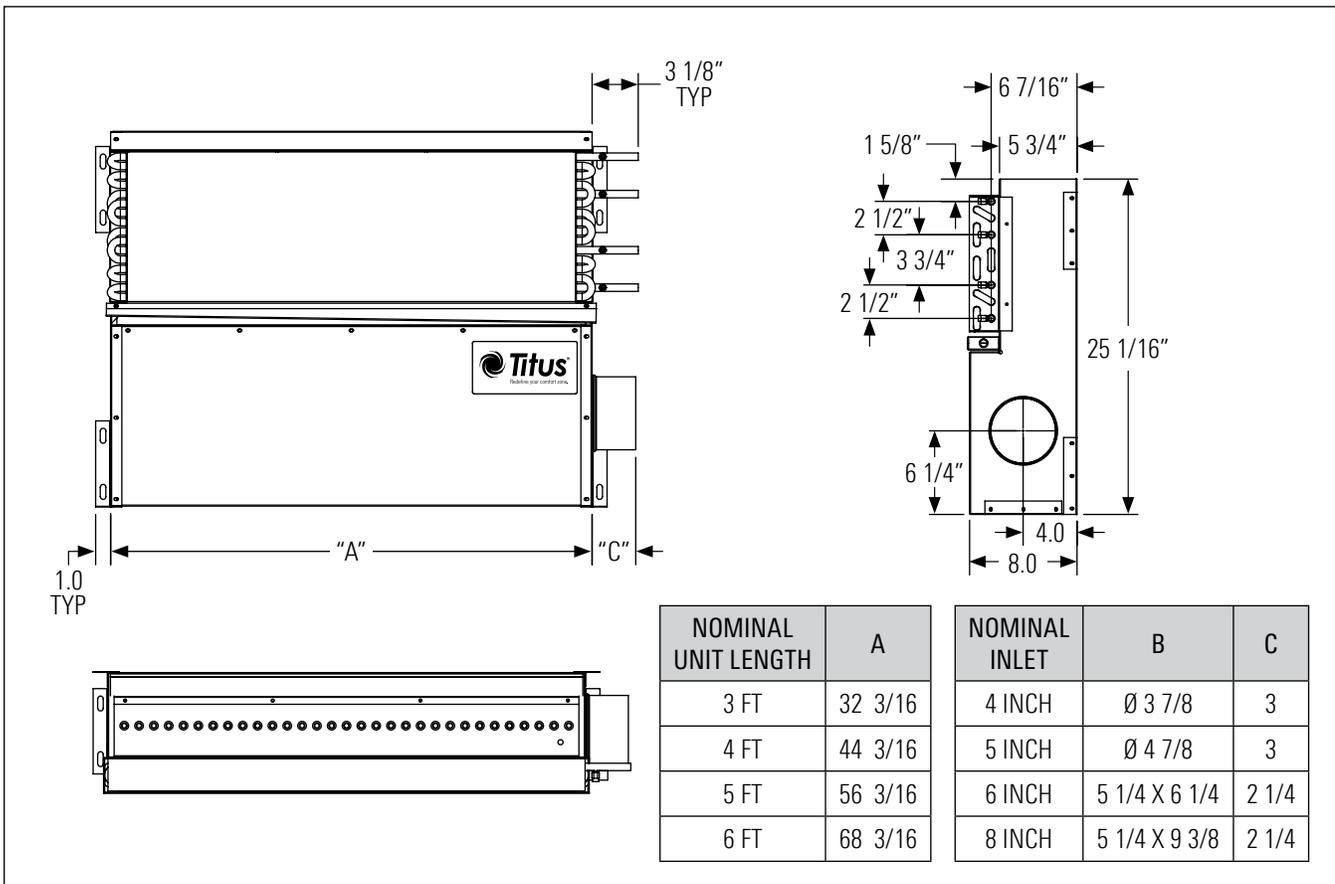
Accessory Maintenance

1. To access drip pan, see location below.
2. Remove lint screen by pulling off of S-clips attached to the coil chamber.

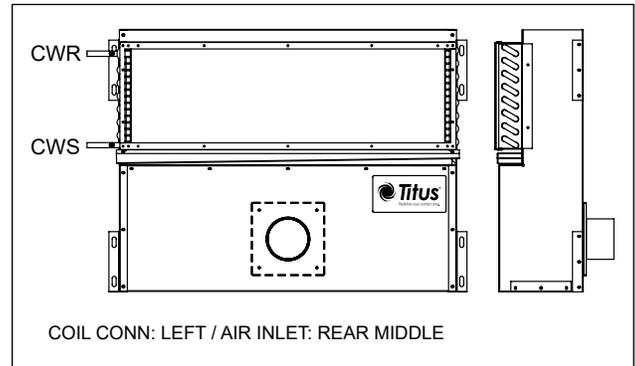
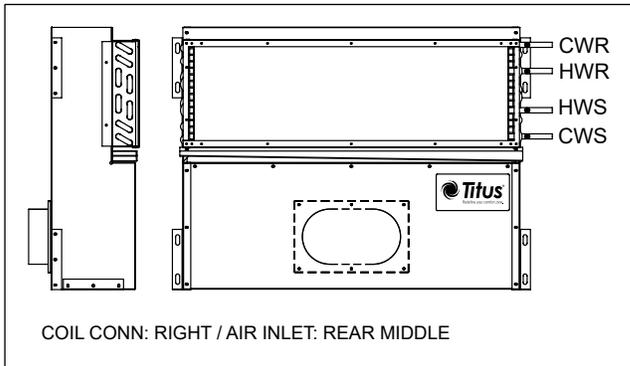
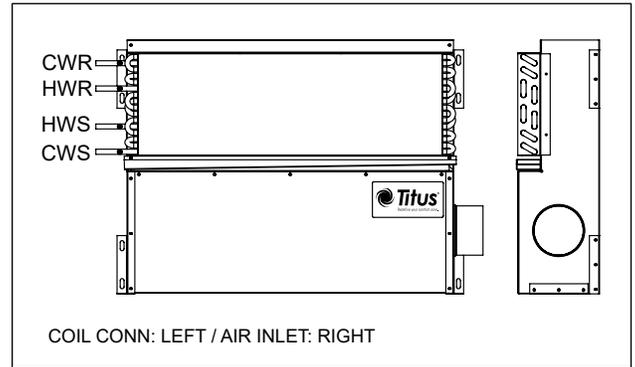
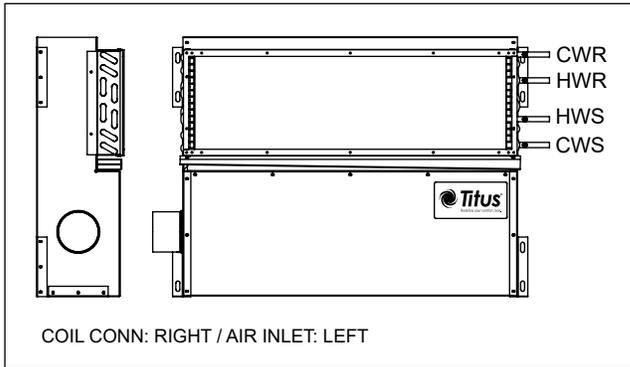
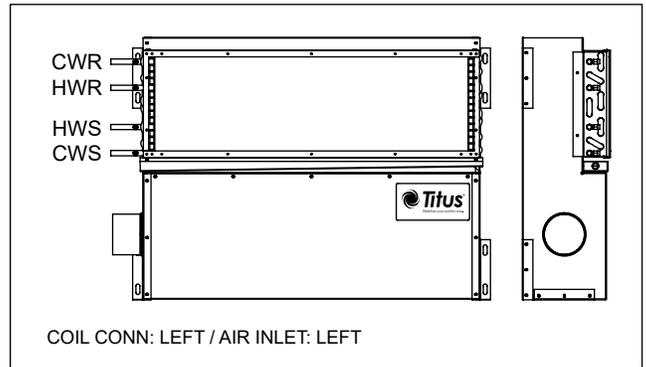
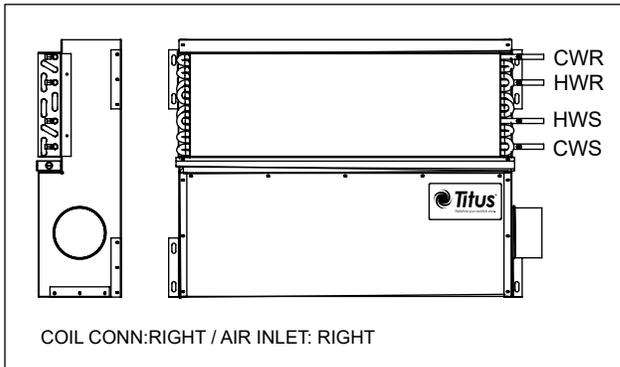
CBAS INSTALLATION



CBAS DIMENSIONS & COIL CONFIGURATIONS



CBAS DIMENSIONS & COIL CONFIGURATIONS



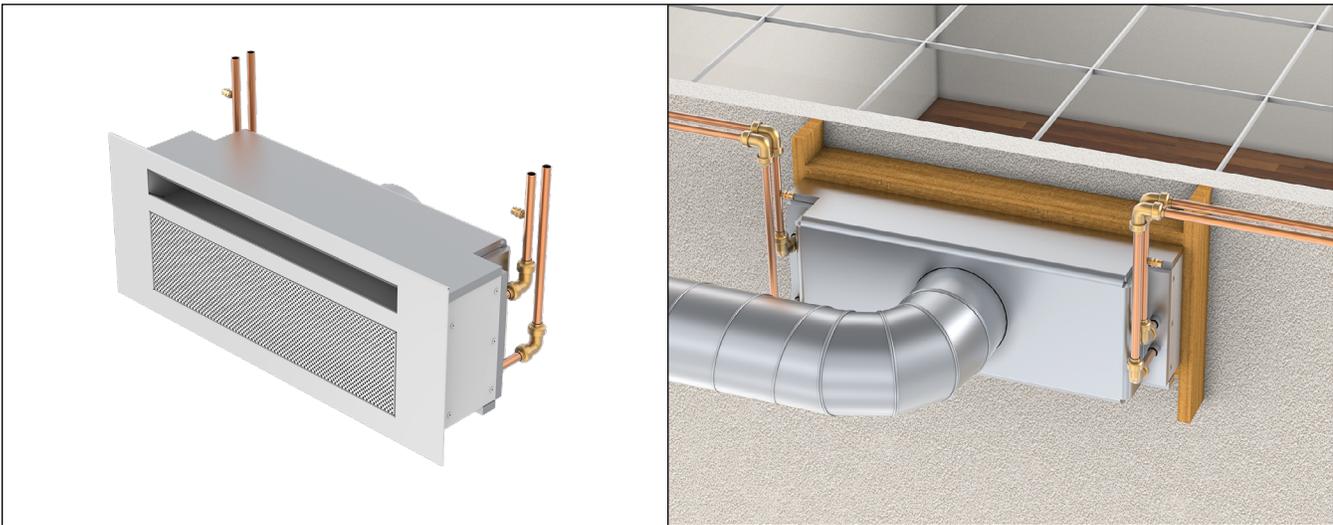
R - RETURN **S** - SUPPLY

HWR - HEATING WATER RETURN **HWS** - HEATING WATER SUPPLY

CWR - COOLING WATER RETURN **CWS** - COOLING WATER SUPPLY

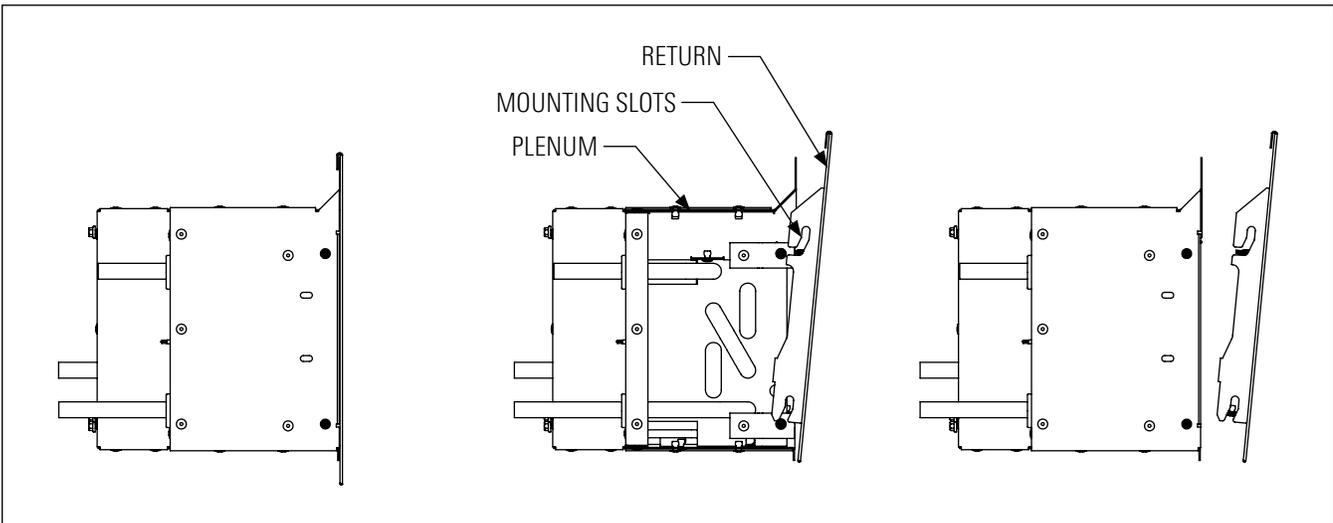
*HOT WATER CONNECTIONS ON 4-PIPE COIL ONLY

CBAW INSTALLATION

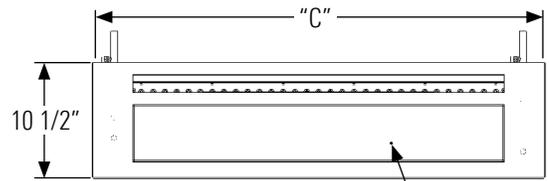
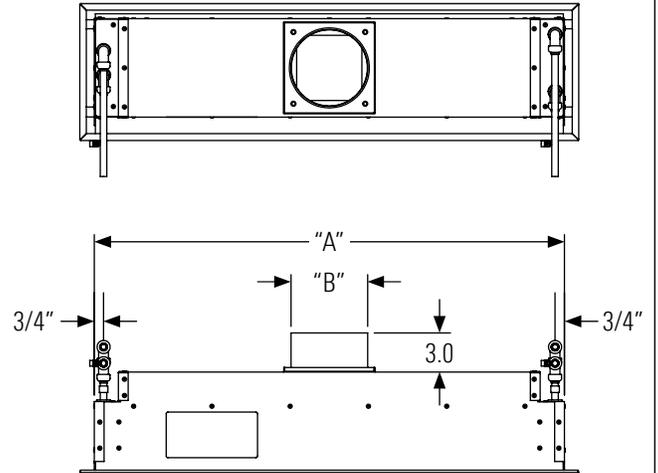
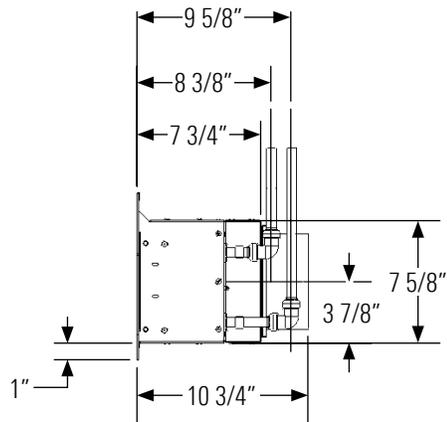


CBAW models ship with water coil adaptors loose.

1. Install the CBAW into wall framing with the slot side on top.
2. Secure water coil adapters and any braided hoses. Seal all joints to prevent air leakage.
3. Connect the inlet collar to the main duct using flexible duct and sheet metal screws. Ensure airtight connections.
4. Finish wall around chilled beam.
5. Verify return coil access to inducted air in finished sill to avoid performance issues.
6. To remove face and access coil, lift face up and out of plenum as shown below. When replacing, make sure return is resting on all four pins.



CBAW DIMENSIONS & COIL CONFIGURATIONS

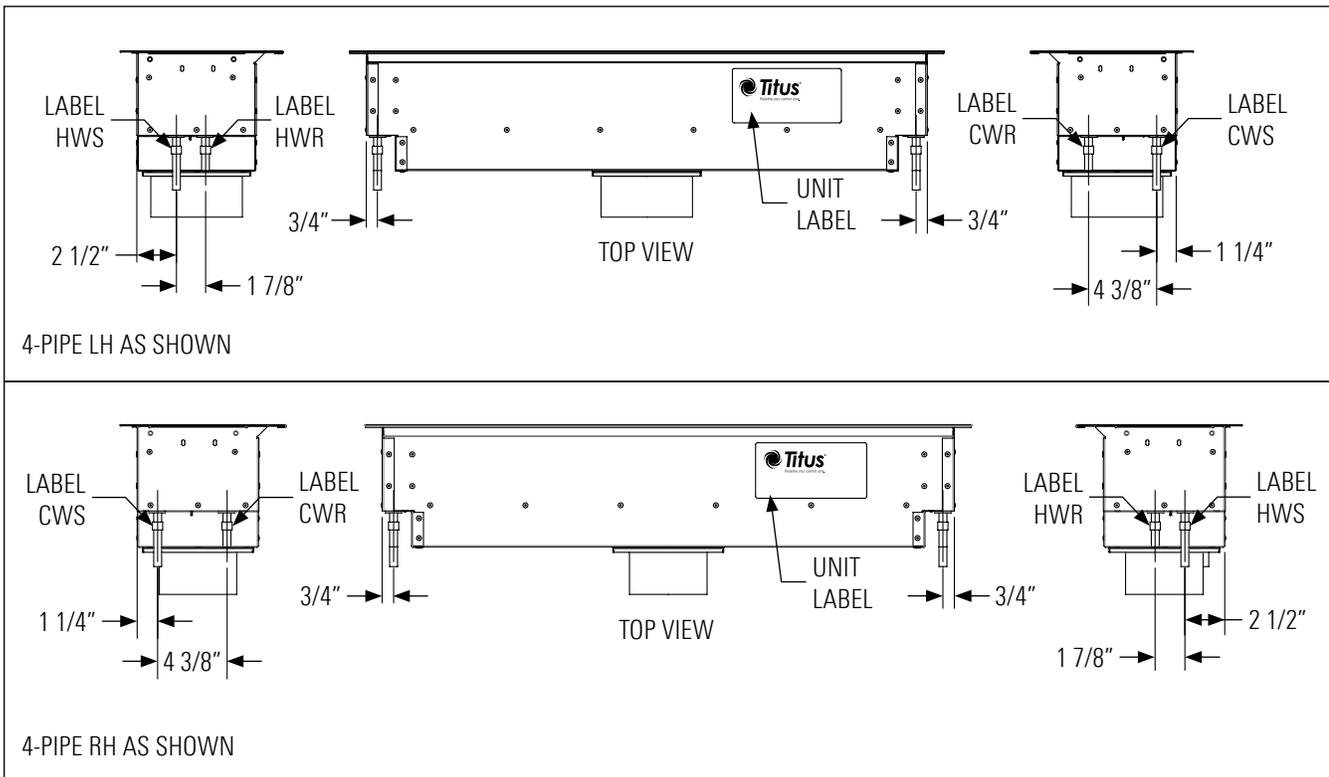


PERFORATED RETURN GRILLE

MODULE SIZE (FT)	'A' DIMENSION	'C' DIMENSION
2	24"	26 1/4"
3	36"	38 1/4"
4	48"	50 1/4"
5	60"	62 1/4"
6	72"	74 1/4"
7	84"	86 1/4"
8	96"	98 1/4"
9	108"	110 1/4"
10	120"	122 1/4"

NOMINAL INLET	'B' DIMENSION
4" ROUND	Ø 3 7/8"
5" ROUND	Ø 4 7/8"
6" ROUND	Ø 5 7/8"
8" OVAL	9 3/8" X 5 1/4"

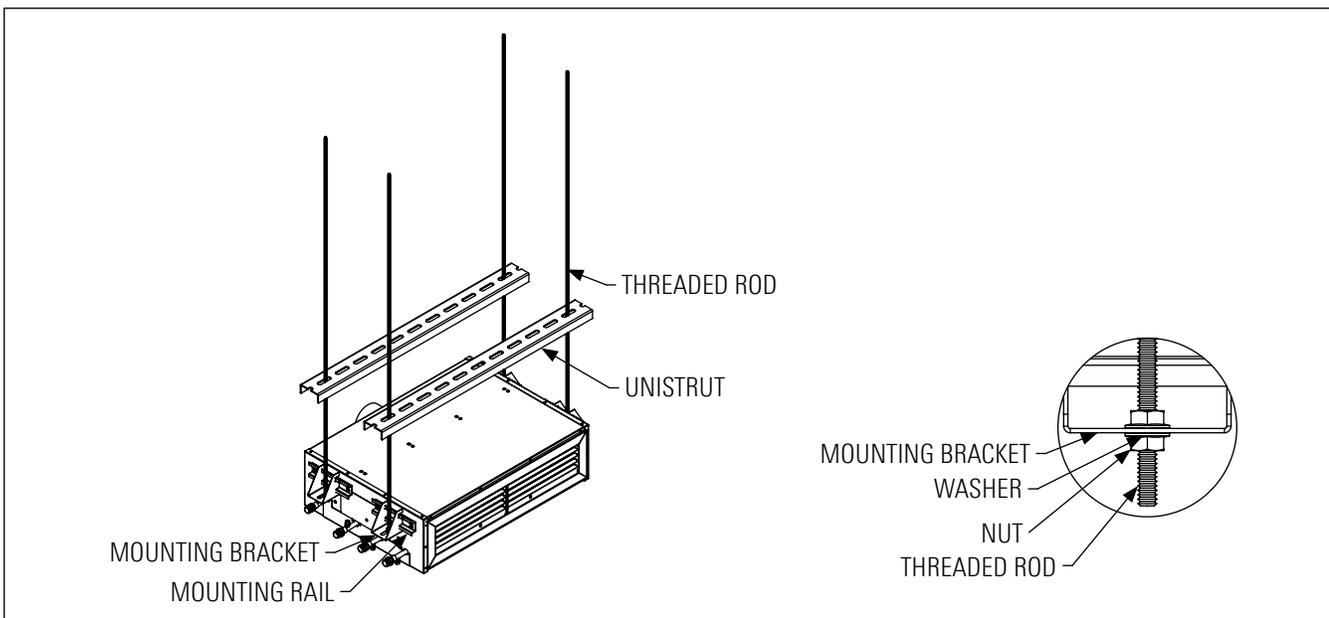
CBAB DIMENSIONS & COIL CONFIGURATIONS



CBAB INSTALLATION

CBAB models ship with optional grilles shipped separately.

1. CBAB comes with two (2) hanger brackets on top side of plenum.
2. Mount the beam using mounting brackets, and threaded rod or hanging wire (not included).
3. Connect the inlet collar to the main duct using flexible duct and sheet metal screws. Ensure airtight connections.



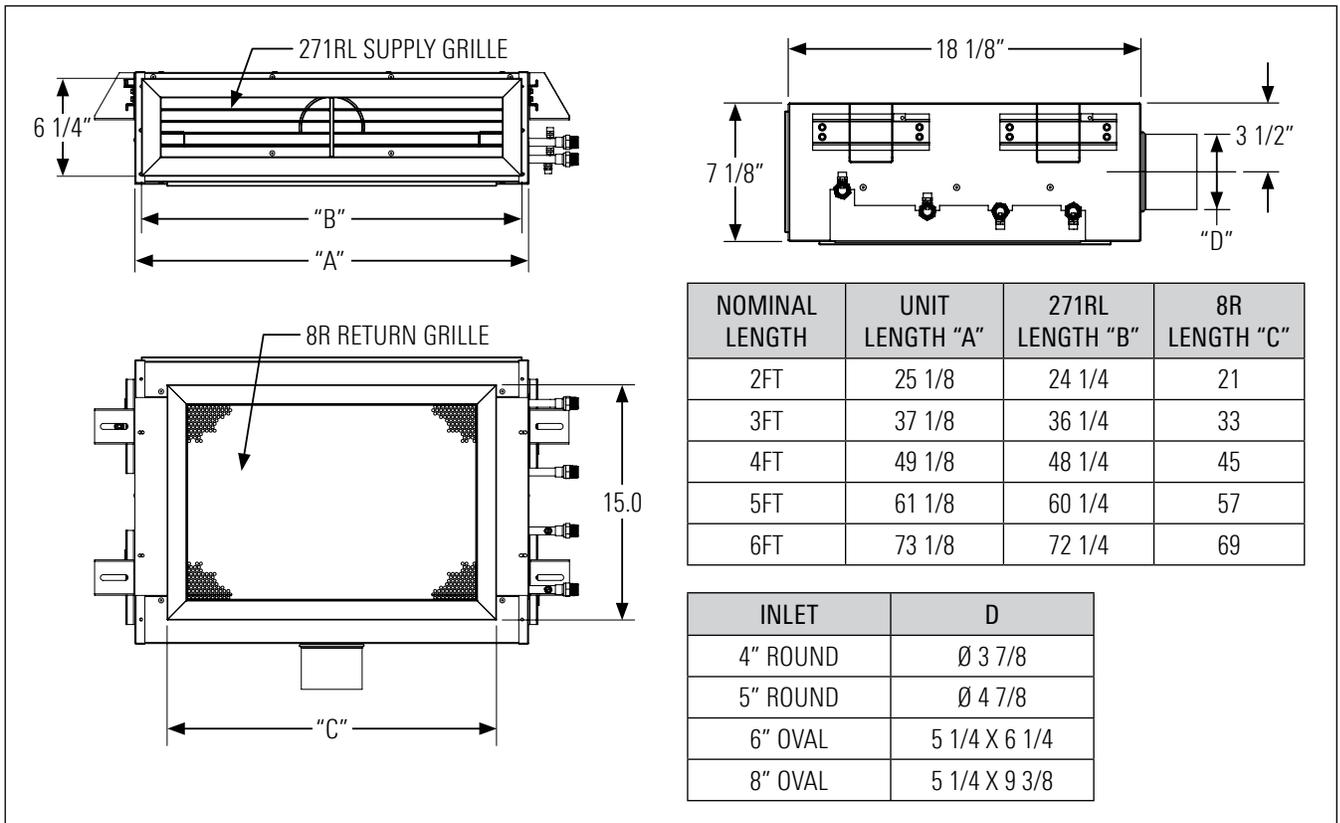
CBAB INSTALLATION

Ceiling Integration

1. If supply grille is selected (ships separately), beam comes with 271RL linear. If CP selected, 8R return grille ships separately.
2. Install supply grilles for sidewall applications: <https://www.titus-hvac.com/file/1429/271r.pdf>
3. After securing the CBAB to the ceiling, level the beam and verify orientation for piping and inlet placement. The CBAB inlet should rest inside the inlet of the supply grille with a duct sleeve if needed. Supply grille should be mounted close to ceiling with Coanda air pattern to avoid performance issues. Do not use mechanical fixing, gaskets or tape.
4. Mount induction grille under coil: <https://www.titus-hvac.com/file/407/8R-SUB.pdf>
5. Verify return side of grille allows inducted air access to the coil to avoid performance issues. Please note, other installations are available with additional Titus AE support.



CBAB DIMENSIONS



BALANCING GUIDELINES

1. Once installed, connect and secure any isolation or balancing valves.
2. Refer to unit labels to identify supply and return lines.
3. Test water flow rates and inspect for leaks. Flush the system as needed to remove contaminants.
4. Attach the inlet collar to the primary air source. Avoid sharp duct bends near the inlet. Seal all duct connections thoroughly.
5. Measure plenum static pressure using the factory-installed pressure port.
 - Remove port plug.
 - Insert a calibrated manometer (not included).
 - Use published commissioning charts for performance reference.

Water System Input	
Chilled (Water)	½" or ¾" NPT, Threaded or Sweat
Hot (Water)	½" or ¾" NPT, Threaded or Sweat

Inlet Connection Options	
Inlet Sizes	4", 5", 6", 8"
Inlet Locations	Side or Rear**

Note: Hoses ordered separately, model CBHK

**CBAB

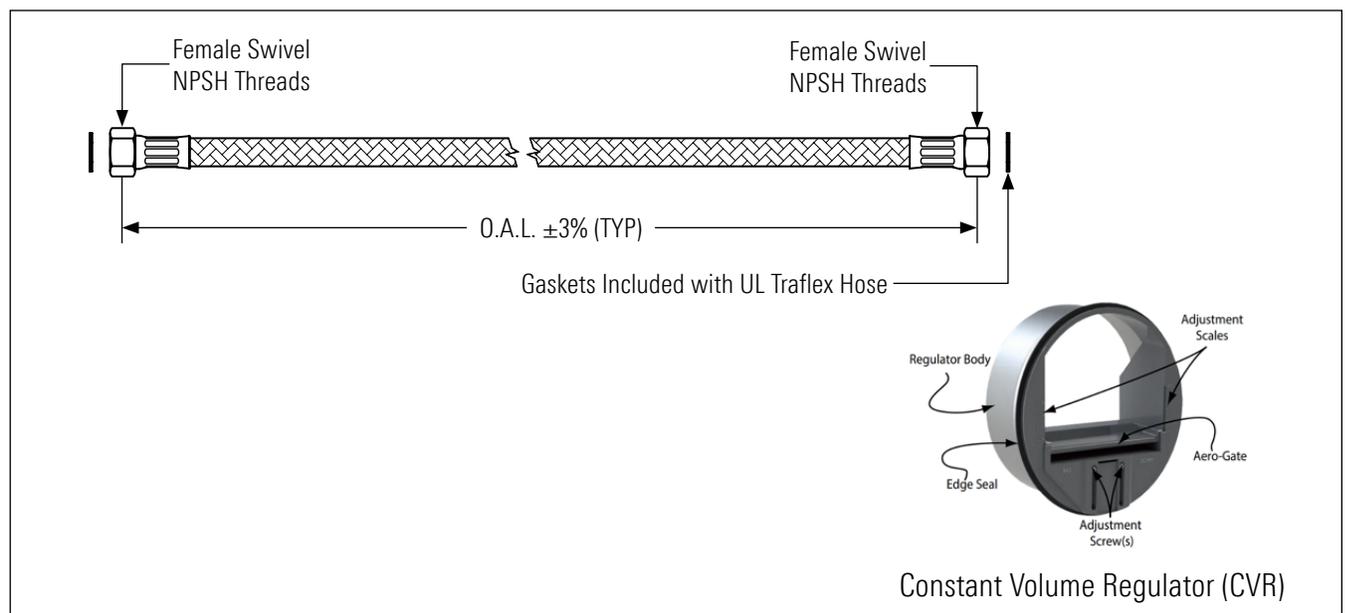
WEIGHTS - DRY COIL [LBS]

Length	CBAV	CBAS	CBAW	CBAB
2'	20	-	35	26
3'	31	36	54	36
4'	39	48	72	44
5'	-	59	86	53
6'	58	70	105	63
7'	-	-	120	-
8'	78	-	140	-
9'	-	-	160	-
10'	-	-	180	-

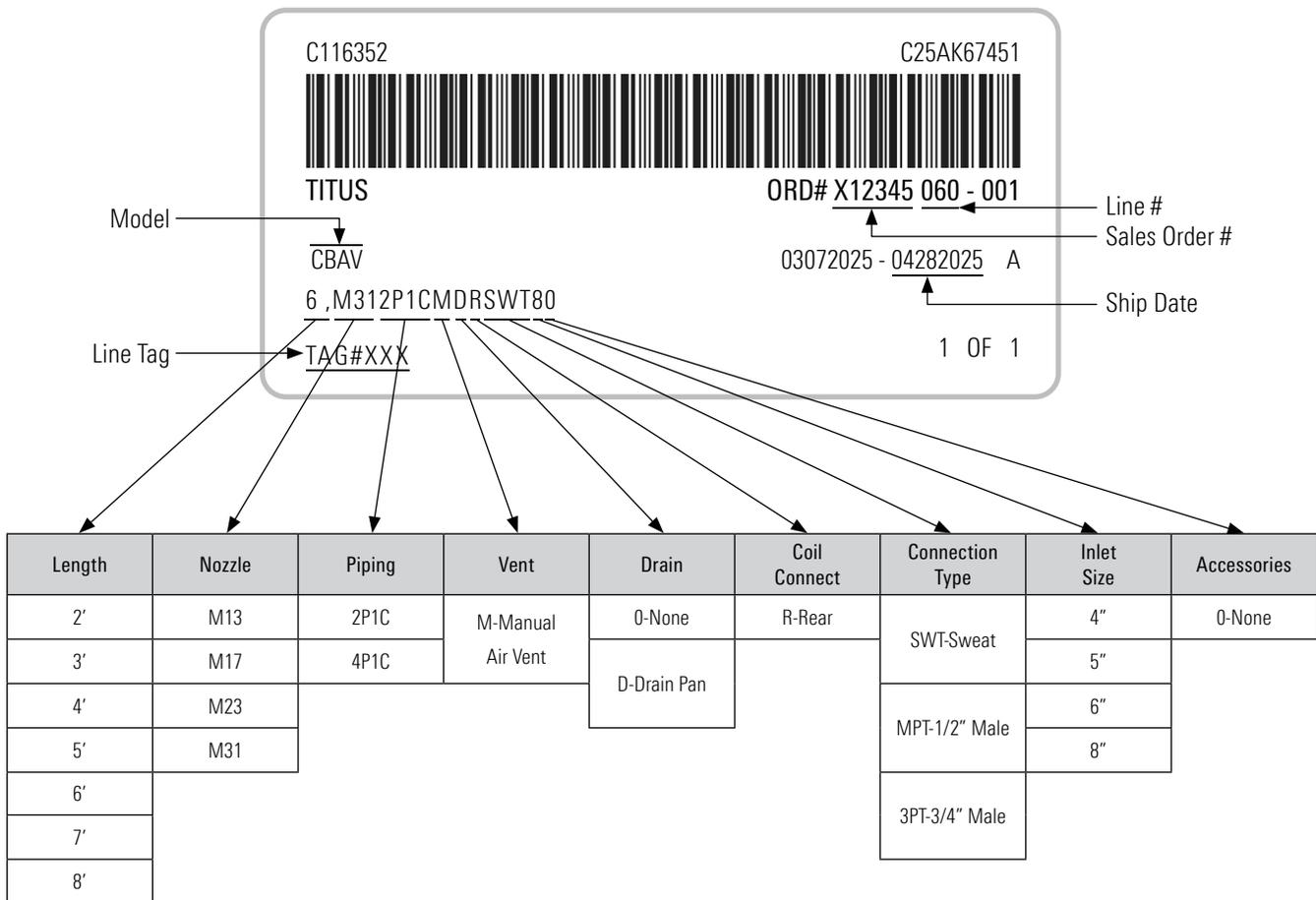
REPLACEMENT PARTS & ACCESSORIES

Beam Application	Model to Order	Beam-Size	Configuration
CBAB Supply Grille	271L	CBAB-2	22*50*4*50*NONE*1*26*N*0*0*0*0
		CBAB-3	34*50*4*50*NONE*1*26*N*0*0*0*0
		CBAB-4	46*50*4*50*NONE*1*26*N*0*0*0*0
		CBAB-5	58*50*4*50*NONE*1*26*N*0*0*0*0
		CBAB-6	70*50*4*50*NONE*1*26*N*0*0*0*0
CBAB Return Grille	8R	CBAB-2	19*25*13*25*NONE*1*26*N*0*0*0*0
		CBAB-3	31*25*13*25*NONE*1*26*N*0*0*0*0
		CBAB-4	43*25*13*25*NONE*1*26*N*0*0*0*0
		CBAB-5	55*25*13*25*NONE*1*26*N*0*0*0*0
		CBAB-6	67*25*13*25*NONE*1*26*N*0*0*0*0
CBAV Supply Grille	LL-1	CBAB-2	LL-1* 24*11-3/4*1A*26*N*0*0*0*0
		CBAB-3	LL-1* 36*11-3/4*1A*26*N*0*0*0*0
		CBAB-4	LL-1* 48*11-3/4*1A*26*N*0*0*0*0
		CBAB-6	LL-1* 72*11-3/4*1A*26*N*0*0*0*0
		CBAB-8	LL-1* 96*11-3/4*1A*26*N*0*0*0*0
CBAV w/ Return Section Grille	LL-1	CBAB-2	LL-1* 48*11-3/4*1A*26*N*0*0*0*0
		CBAB-3	LL-1* 72*11-3/4*1A*26*N*0*0*0*0
		CBAB-4	LL-1* 96*11-3/4*1A*26*N*0*0*0*0
		CBAB-6	LL-1* 144*11-3/4*1A*26*N*0*0*0*0
		CBAB-8	LL-1* 192*11-3/4*1A*26*N*0*0*0*0

ACCESSORY INSTALLATION



MANUFACTURING TAG DETAIL



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LIMITED WARRANTY

LIMITED WARRANTY:

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Version 5.0 0126

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