



## ACB 20 Guide Specification

Active Chilled Beams

## **ACTIVE CHILLED BEAM CEILING-MOUNTED CASSETTE MODELS GUIDE SPECIFICATION**

The Active Chilled Beams shall be DADANCO ACB20 ceiling-mounted cassette model(s) or approved equal in configurations as detailed on the drawings with performance per the unit schedule.

### **CASING**

Construct the Active Chilled Beam from minimum 0.8mm galvanized steel with a primary air plenum, secondary water coil frame, mixing chamber, grille assembly and mounting bracket support provisions.

All sheet metal joints in the primary air plenum are sealed airtight.

### **PRIMARY AIR CONNECTION**

Provide a round or equivalent oval primary air inlet connection at the end or side of the unit in the sizes as shown on the drawings.

### **NOZZLES**

Primary air shall be discharged into the mixing chamber through induction nozzles. Provide the number and size of nozzles required to provide the primary and secondary airflows for each unit at the inlet static pressure and noise levels specified. The nozzle plate shall be painted with a flat black finish.

### **SECONDARY COOLING (/HEATING) WATER COIL**

Provide two 2 or 4--pipe secondary water coils with capacities as shown on the unit schedule constructed of galvanized steel frame with ½" copper tubes mechanically expanded into aluminum fins. Provide ½" OD stubbed coil connections suitable for brazed connections to the coil at the end of the unit as shown on the drawings.

The secondary water coil shall be rated for maximum operating pressure of not less than 20 bar, burst tested at 31 bar (air under water) and leak tested at 20 bar.

### **DRAIN PAN**

Provide integral drain pan below the vertically mounted coils to enable the capture of condensation. Provide a plastic capped ½" copper tube connection. The welded drain pan shall be constructed from a minimum 0.80mm galvanized steel and coated with a corrosion resistant baked-on powder coating..

### **GRILLE ASSEMBLY**

The secondary is to be induced directly from the room.

Provide a powder coat baked-on enamel finish on the grille assembly integral to the unit. Paint color shall be bone white PSP4186J. The supply air discharge shall be a linear slots constructed of extruded aluminum along the longitudinal side(s) of the unit and the return air grille is constructed of perforated steel.

The return air grille is hinged to allow the return air grille to swing-down providing access to the coil by one person without removal of the grille. The return air grille when closed is secured to the unit casing with spring loaded latches accessible through the linear slot discharge.

The border of the grille assembly shall be compatible for mounting in standard T-bar lay-in ceilings as shown on the plans and unit schedule.

The supply/return grille assemblies shall be of the lengths shown on the drawings and unit schedule.

## PACKAGING AND LABELING

The units shall be palletized on wooden skids, and wrapped in plastic for protection before and after installation prior to installation of the ceiling.

Each unit and crate be labeled with identification tagging as required, and each unit's labeling shall also include its airflow commissioning information.

## OPTIONS

- 1/2 inch thick UL -181 approved thermal insulation shall be applied to the interior of the primary air plenum to prevent condensation from forming on the outside of the unit casing.
- Lint screen shall be provided and installed within the unit casing before the coil. The lint screen shall be easily removable through the swing-down perforated return air grille.
- The entire grille assembly shall be constructed of all aluminum.
- The entire unit casing, nozzle plate and grille assembly shall be constructed of all aluminum.
- 1/2 inch NPT male threaded connections to the secondary water coil.
- 1/2 inch NPT female threaded male connections to the secondary water coil.
- The units shall be compatible for mounting in a (specify) ceiling design.
- Grille assembly shall be special color (specify)

## ACCESSORIES

- 1/2 inch diameter 450 mm long flexible hose coil connectors constructed of Teflon hose with stainless steel braiding rated for a maximum operating pressure of not less than 20 bar (with sweat or NPT threaded) connections as shown on the drawings.
- Galvanized steel round primary air balancing dampers with manual locking quadrant for installation upstream of the unit.
- Trim kit for installation in dry wall or plaster ceilings.

## INSTALLATION

To properly install the Active Chilled Beams, ensure that the unit is level and properly supported from above.

Connection to the main primary air duct with straight or a gentle radius flexible duct in accordance with local codes.

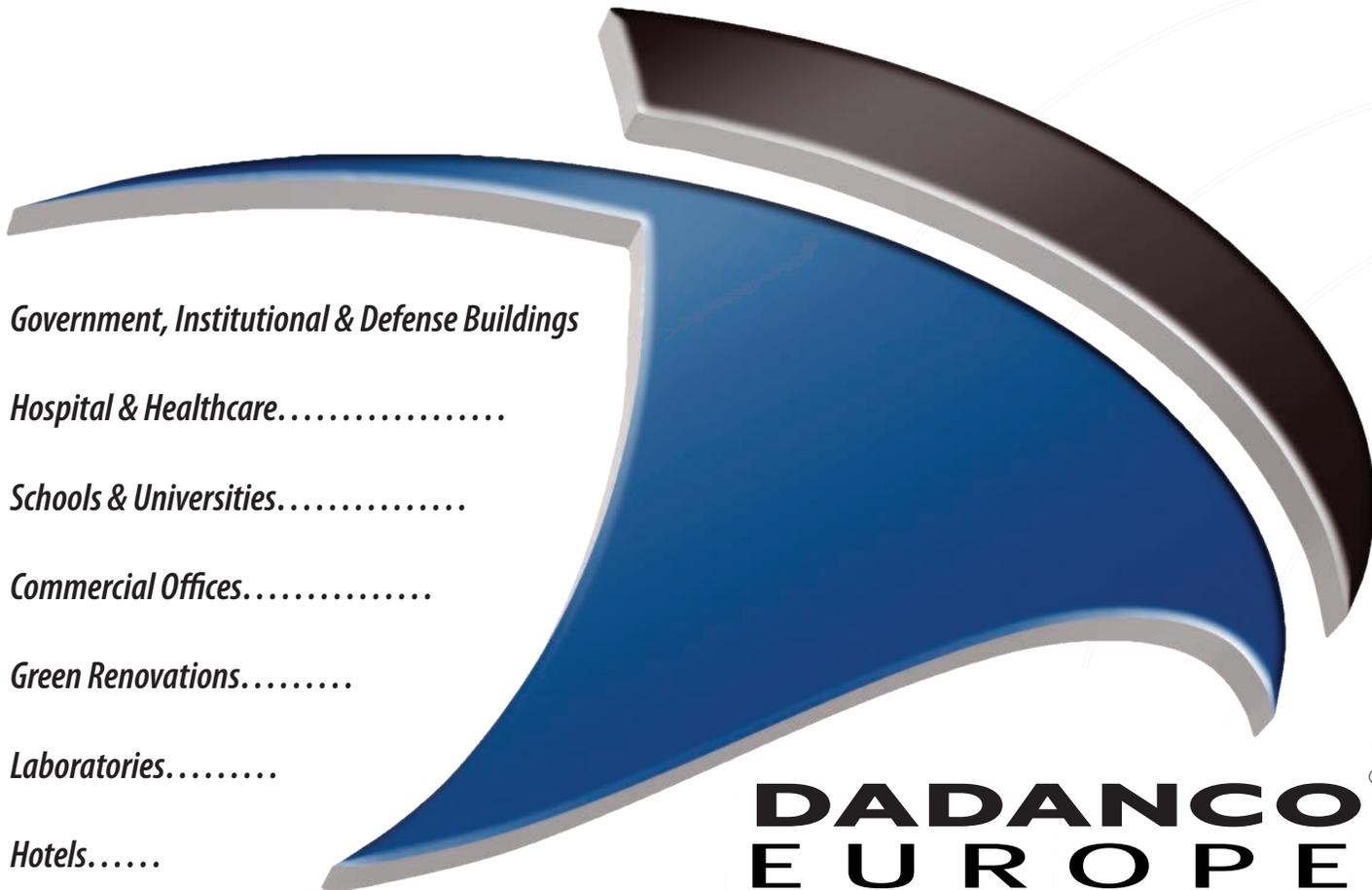
Make all joints airtight.

Connect the water inlet and outlet piping to the secondary water coil, including installation of isolating, balancing and control valves as specified.

(Refer and conform to the recommendations in the manufacturer's Installation, Operation and Maintenance manual).

## COMMISSIONING

The unit shall incorporate a commissioning tube to measure the static pressure in the primary air plenum for adjustment of the primary airflow in accordance with the commissioning chart provided with each unit. The tube is to be sealed airtight to the unit's primary air plenum and capped.



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