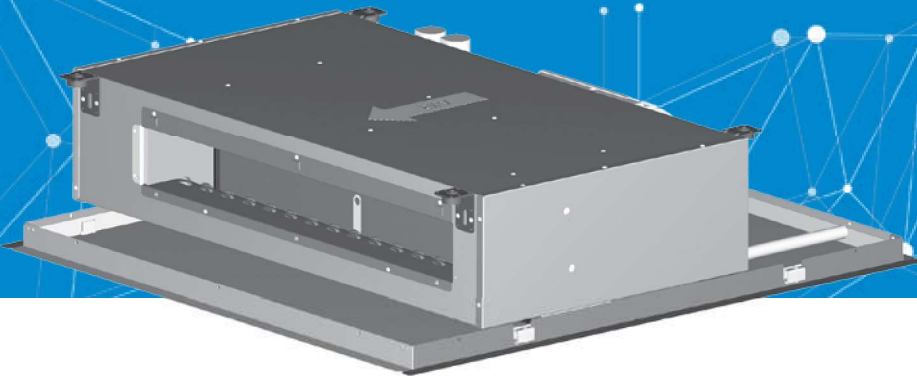


**NEW**

## HYBRID TERMINAL



- Thermal and acoustical comfort
- Full system design flexibility
- Energy savings
- Improved indoor air quality
- Ease of control and integration

# 36XH

Cooling capacity 0.4-1.8 kW

Specially designed for the hotel market, the 36XH meets low energy building requirements whilst delivering highest guest room comfort standards.

The hybrid solution offers all the benefits of the traditional systems with none of the disadvantages. The hybrid generate energy efficiency improvements over standard fan coil solutions and offering whenever applicable, the same free cooling and increased ventilation air benefits of chilled beam solutions.

As with all hydraulic solutions the elimination of sudden and rapid air temperature swings, typically the 'bane' of refrigerant based systems, contributes to better room temperature control and avoids cold drafts.

## PERFORMANCES IN COOLING MODE

### Conditions:

Room temperature : 26°C/19.5°CWB - Water temperature: 7°C/12°C

Fresh air: air flow : 60 m<sup>3</sup>/h - Temperature : 24°C

Air flow m <sup>3</sup> /h	Fan voltage V	Total cooling capacity W	Sensible cooling Capacity W	Fan consumption W	Pressure Sound level* dB(A)**
48	0	368	278	0	28
100	2	685	493	4	30
250	3.5	1351	972	11	34
400	6	1822	1338	29	45

#### Preliminary data

\* Theoretical acoustic attenuation 9dB

\*\* Tolerance on value is +/-2dB(A)

## FEATURES AND BENEFITS

### Features

- Fully integrated concept including the base unit and integrated supply & return grille, drain pan / filter options (if required) and all necessary controls and valves
- Operation as a chilled beam, a fan coil unit OR in a mixed mode combining the benefits of both
- Integrated unit, grille & all control elements within design simplifies installation and saves time & money
- Ability to operate with low water temperatures if required and manage latent loads
- Capability to respond to rapid load changes
- Use of EC unit fan only when there is a peak demand in the occupied space offers energy savings for up to 80% of the annual building occupancy period
- Low noise performance
- Low height profile (<200mm) unit facilitates installation in low height ceiling voids allowing increased room heights for new and refurbishment projects
- Supply air diffuser ensures excellent air distribution with no 'dumping' in both cooling and heating modes over the full range of operating airflows
- Adaptable design to suit customer project aesthetics needs (specific ceiling layouts, colour schemes and return air grille design)

- A CO<sub>2</sub> sensor (optional) mounted in the secondary (room) air flow provides the controls the information required to modulate the supply of primary ventilation air depending on room occupancy. Hence primary ventilation air volume can be controlled based on room CO<sub>2</sub> levels to maximise comfort and minimise system energy consumption whenever possible.

### NORMAL: NIGHT TIME / SLEEP PERIOD / DAY USE (early mornings)

- This mode builds upon the comfort being supplied already in the ECO mode by energising the unit cooling / heating valve to deliver increased cooling / heating via the integrated coil.
- Unit cooling / heating output is thus boosted according to operating conditions chosen.

### BOOST: DAY USE (afternoon/early evenings with solar gains etc.)

- Should loads change rapidly in the space and/or exceed that supplied by the normal modes due to increased occupancy and or other thermal gains (ex: solar) then the unit fan is energised increasing secondary air flow over the unit coil rapidly boosting cooling / heating output.
- Unit fan is a variable speed fan (EC motor) & the required extra air flow / capacities are thus managed accordingly.

### Occupant comfort

The 36XH offers flexibility of operation to deliver the right amount of cooling or heating as needed minimising energy consumption and acoustic level whilst maximising comfort at the unit.

### Occupant control

The three different control operating modes operate seamlessly to offer flexibility for hotels where the three modes could be customised to meet room occupant needs and address issues of noise particular at 'sleep periods' for example:

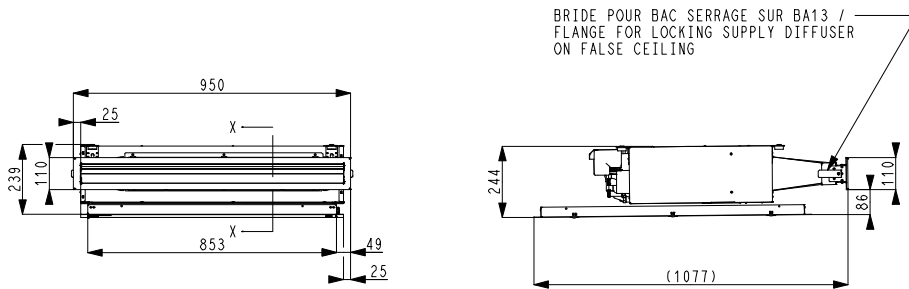
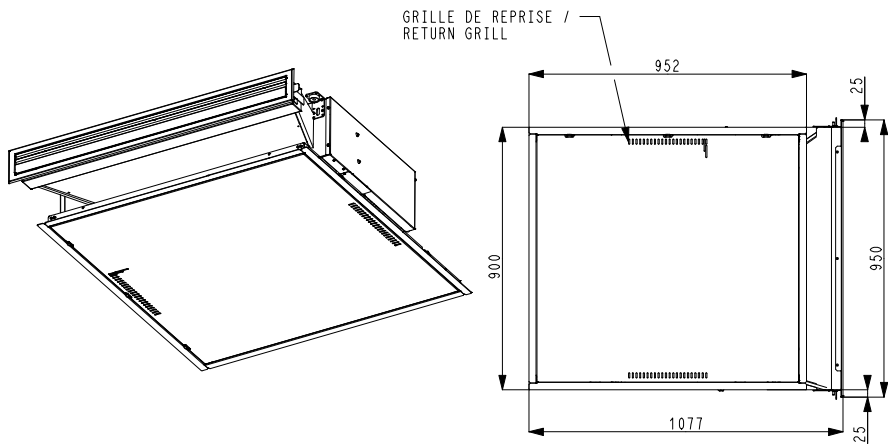
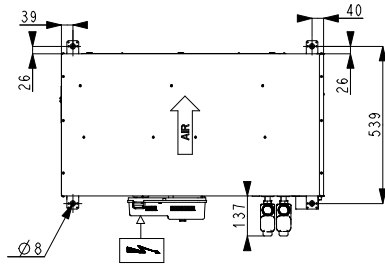
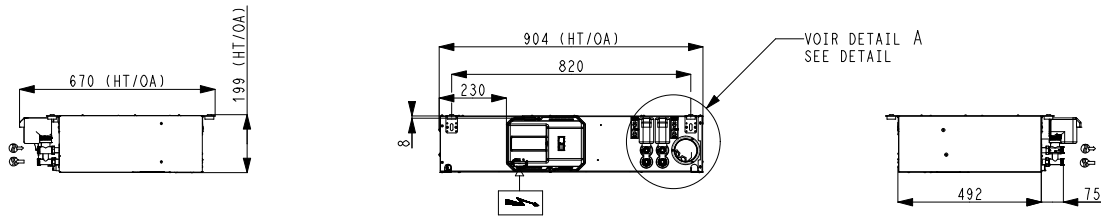
#### ECO: NIGHT TIME / SLEEP PERIOD

- Primary ventilation air is supplied to each unit inducing and mixing with secondary (room) to be diffused into the occupied space.
- The cooling/heating is supplied by the pre-treated ventilation air that unlike a fan coil system design can be increased to the same quantities as for a chilled beam system providing the possibility of improved IAQ air quality and when outdoor conditions allow maximising the potential of primary free cooling.

### System energy savings

A system based upon the 36X hybrid terminal offers energy savings over fan coil and chilled beam systems in areas of fan energy (terminal & ventilation systems), heating & cooling of ventilation air etc. that ultimately depend in quantity upon final system design requirements however system analysis and comparisons suggest between 8-15% savings may be expected.

**DIMENSIONS/CLEARANCE**



- = RACCORDEMENT ELECTRIQUE / ELECTRICAL CONNECTION
- (AN/FA) = AIR NEUF EN OPTION, SELON CONFIGURATION CLIENT / FRESH AIR IN OPTION, POSITION ACCORDING TO CUSTOMER REQUIREMENTS
- (HT/OA) = HORS TOUS / OVER ALL
- = SORTIE EAU / OUTLET WATER
- = ENTREE EAU / INLET WATER