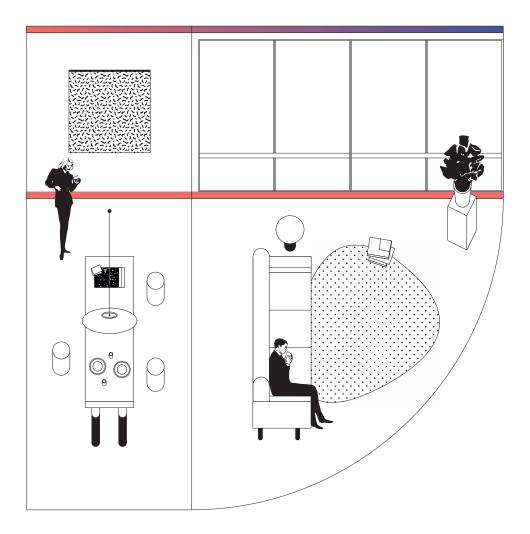


# RADIANT SKIRTING BOARD, CEILING AND FALSE CEILING





TECHNICAL DATA SHEET ST3749\_03 MORE BELT

# **CEILING MOUNTED, FALSE CEILING AND SKIRTING BOARD RADIANT CLIMATE CONTROL SYSTEMS**

The first radiant cooling system in the world that does not require a dehumidifier.



# COOLING

- No ventilation and noises: it cools noiselessly unlike conventional air conditioning systems.
- Easy and quick to install
- Healthy environment: it does not create microbiological contamination and guarantees an even temperature in the environment.
- It naturally curbs humidity in the environment without using any dehumidifiers.

#### **CEILING INSTALLATION**

#### FEATURES

The system spreads a feeling of wellbeing throughout the environment:

MORE BELT cools the walls evenly and steadily while insulating the environment from external heat. Ideal for any type of environment, MORE BELT is quick and easy to install and does not need any dehumidification systems while maintaining a constant degree of humidity.

#### **OPERATING METHOD**

Moving downwards and adhering to the walls as a result of the Coanda effect, the air cools the environment while immediately producing a feeling of wellbeing.

The system is noiseless and healthy: it does not create any air movement and ensures constant temperature without climate fluctuations.

The system is installed in the upper part of the wall (floor slab soffit), in keeping with the design style of the room.

#### FALSE CEILING INSTALLATIONFEATURES

The system spreads a feeling of wellbeing throughout the environment:

MORE BELT cools the walls evenly and steadily while insulating the environment from external heat.

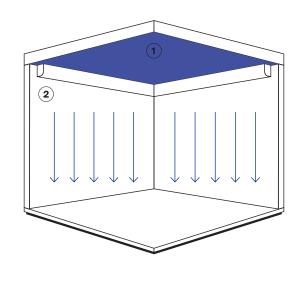
Ideal for any type of environment, MORE BELT is quick and easy to install and does not need any dehumidification systems while maintaining a constant degree of humidity.

#### **OPERATING METHOD**

Moving downwards and adhering to the walls as a result of the Coanda effect, the air cools the environment while immediately producing a feeling of wellbeing.

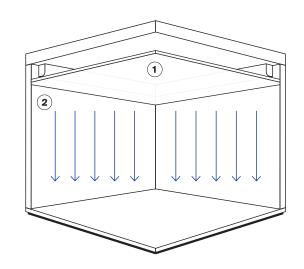
The system is noiseless and healthy: it does not create any air movement and ensures constant temperature without climate fluctuations.

The system is installed in the upper part of the wall (floor slab soffit), in keeping with the design style of the room.





MORE BELT (2)



False ceiling (2)

MORE BELT



### **HEATING**

- Steady temperature, evenly distributed in the room.
- Low water content.
- Prevents formation of mould and dust microparticles in the room, which is kept steadily healthy and clean.
- Customisation options by choosing from a line of products which is designed to meet the most varied design style requirements.

#### **SKIRTING BOARD INSTALLATION**

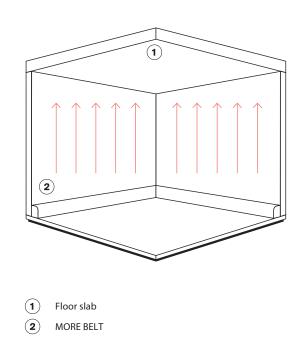
#### **FEATURES**

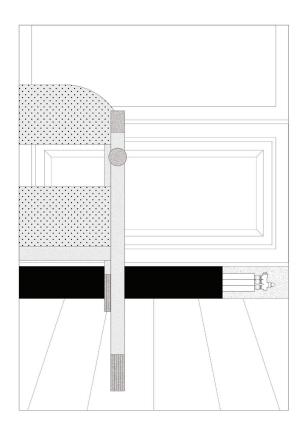
- Easy to mount
- High heat radiation
- Energy savings
- Can be connected to different energy sources
- The radiator system can be replaced
  effortlessly

#### **OPERATING METHOD**

By heating the wall on which it is installed, the radiant skirting board heating system turns the wall into an energy source spreading heat throughout the room. The heated water runs in the high induction pipes; the air is heated up

and conveyed out of the upper slot of the skirting board; while moving upwards, it heats the wall, and the heat is evenly spread (by radiation) throughout the room. The skirting board is applied as an external plinth or embedded in the wall.





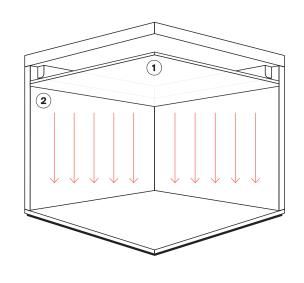
#### FALSE CEILING INSTALLATION

#### FEATURES

- Easy to mount
- High heat radiation
- Energy savings
- Can be connected to different energy sources

#### **OPERATING METHOD**

The hot air builds up in the false ceiling, which becomes a radiant surface evenly spreading the heat and providing excellent climate comfort. MORE BELT is installed recessed into the false ceiling, in keeping with the design style of the room.



False ceiling
 MORE BELT

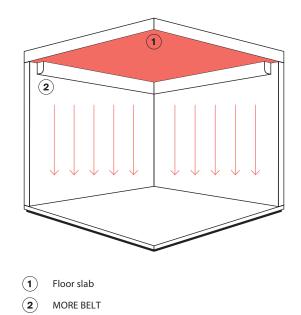
**CEILING INSTALLATION** 

#### **FEATURES**

- Easy to mount
- High heat radiation
- Energy savings
- Can be connected to different energy sources

#### **OPERATING METHOD**

The system heats the ceiling, which becomes a radiant surface evenly spreading the heat and providing excellent climate comfort.





# MORE BELT HEATING INSTALLATION ON SKIRTING BOARD



OUTSIDE WALL SKIRTING BOARD



SEMI-RECESSED WALL SKIRTING BOARD

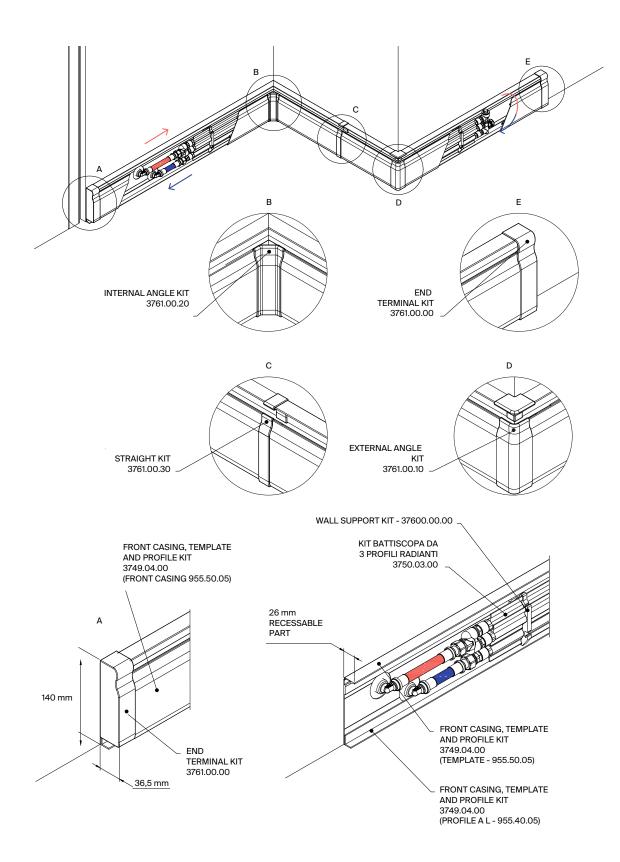


## SINGLE-SIDED SKIRTING BOARD INSTALLATION

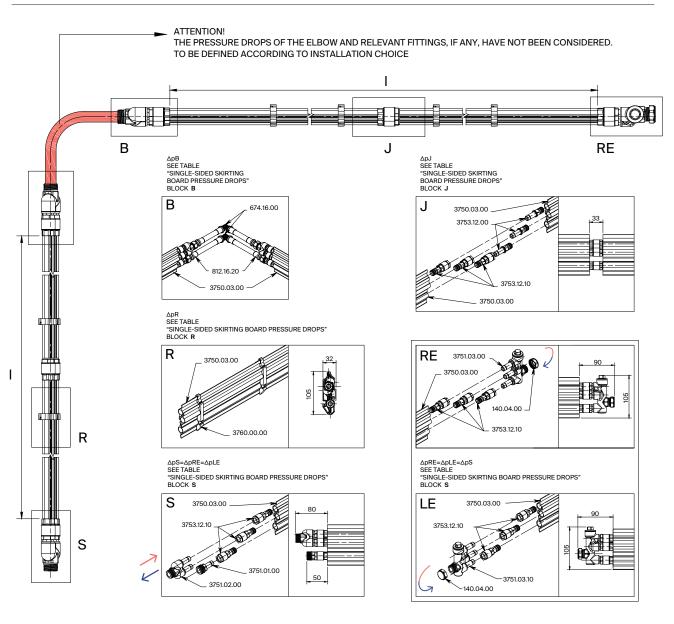
The heat transfer pipes are close to each other in single-sided installation; the delivery pipe is connected to the system through a two-way manifold that feeds two radiant profiles.

After crossing any joints and elbows, if included in the design, the system ends with a three-way manifold; this makes it possible to bypass the two supply pipes in the return pipe, made up of a single radiant profile.

A suitably connected one-way manifold provides a return way to the system.



7



 $\Delta p = \Delta pS + \Delta pB \ x \ nB + \Delta pJ \ x \ nJ + \Delta pR \ x \ I + (\Delta pRE = \Delta pLE)$ 

#### • BLOCK S: Connection to the system

3750.03.00 3 radiant profile kit L= 3500 mm 3753.12.10 M-F fitting for radiant /manifold profile connection 3751.01.00 return manifold 3751.02.00 delivery manifold

#### BLOCK J: Intermediate joint

3750.03.00 3 radiant profile kit L= 3500 mm 3753.12.00 M-M fitting for connection 3753.12.10 M-F fitting for radiant/manifold profile connection

#### BLOCK LE: Left-hand installation terminal (LH)

3750.03.00 3 radiant profile kit L= 3500 mm 3753.12.10 M-F fitting for radiant /manifold profile connection 3751.03.10 LH deflection manifold 3 140.04.00 End of line plug G 1/2"

#### • BLOCK RE: Right-hand installation terminal (RH)

3750.03.00 3 radiant profile kit L= 3500 mm 3751.03.00 RH deflection manifold 3 140.04.00 end of line plug G 1/2" 3753.12.10 M-F fitting for radiant /manifold profile connection

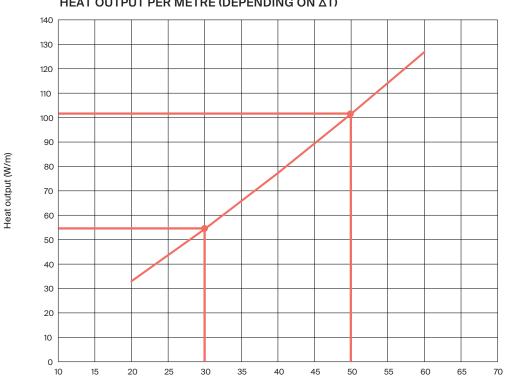
#### BLOCK B: Curved angle joint

3750.03.00 3 radiant profile kit L= 3500 mm 674.16.00 angle fitting 812.16.20 straight fitting (Use multilayer pipes RBM TITAFIX 16x2)

#### BLOCK R: Radiant profiles

3750.03.00 3 radiant profile kit L= 3500 mm 3760.00.00 wall support kit

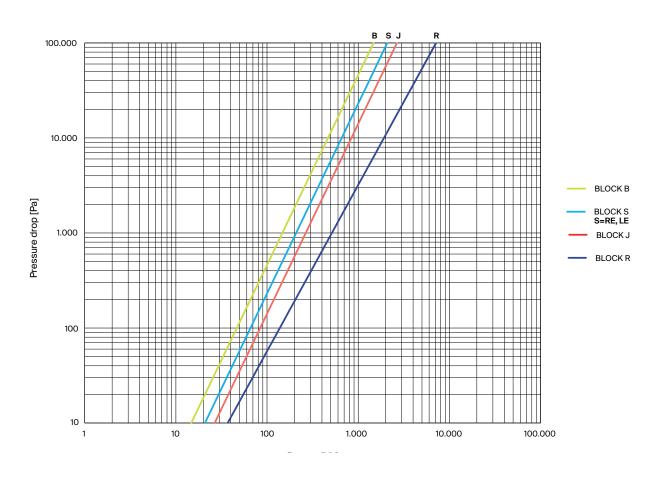




HEAT OUTPUT PER METRE (DEPENDING ON △T)

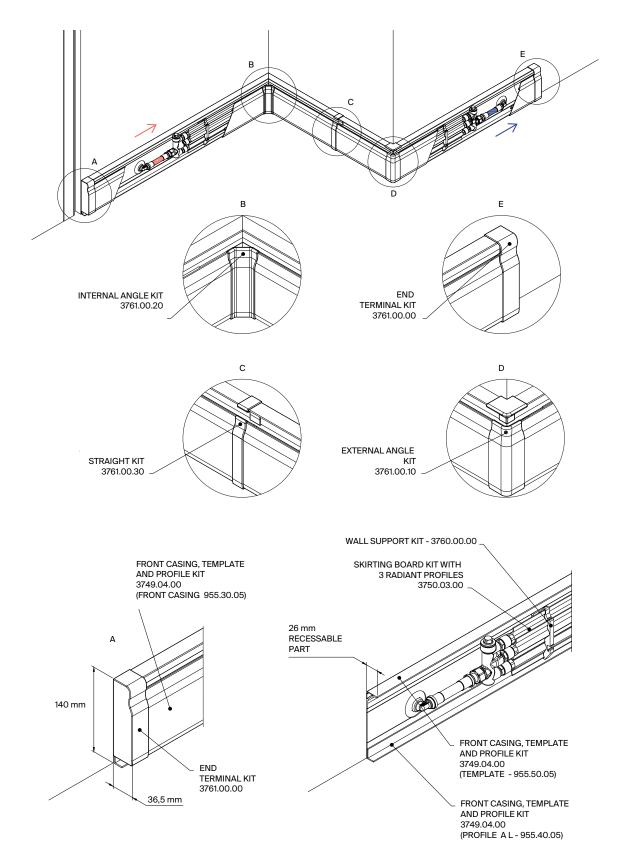
 $\Delta T$  = Taverage H<sub>2</sub>O - ambient air T

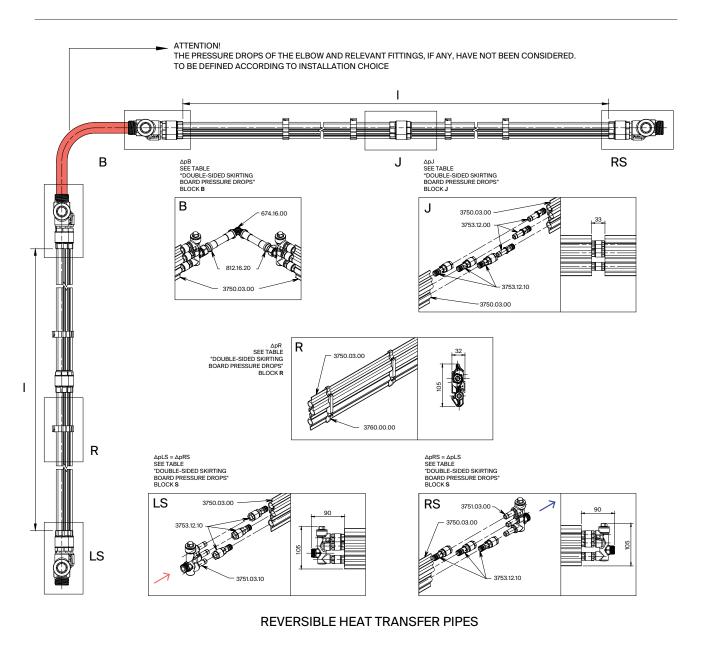
#### SINGLE-SIDED SKIRTING BOARD PRESSURE DROPS



# DOUBLE-SIDED SKIRTING BOARD INSTALLATION

The heat transfer pipes are apart from each other in double-sided installation; the delivery pipe is connected to the system through a three-way manifold that feeds the radiant profiles. After crossing any joints and elbows, if provided for in the design, the system ends with a three-way manifold suitably connected to the return pipe.





 $\Delta p = \Delta pLS + \Delta pR \times I + \Delta pB \times nB + \Delta pJ \times nJ + \Delta pRS$ 

#### • BLOCK LS: Connection to the system (LH)

3750.03.00 3 radiant profile kit L= 3500 mm 3753.12.10 M-F fitting for radiant /manifold profile connection 3751.03.10 LH return manifold 3

#### BLOCK J: Intermediate joint

3750.03.00 3 radiant profile kit L= 3500 mm 140.04.00 End of line plug G 1/2" 3753.12.10 M-F fitting for radiant /manifold profile connection 3753.12.00 M-M fitting for connection

#### BLOCK R: Radiant profiles

3750.03.00 3 radiant profile kit L= 3500 mm 3760.00.00 wall support kit

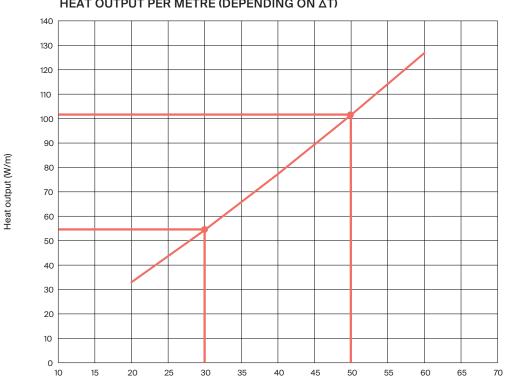
#### • BLOCK RS: Connection to the system (RH)

3750.03.00 3 radiant profile kit L= 3500 mm 3751.03.00 RH deflection manifold 3 140.04.00 end of line plug G 1/2" 3753.12.10 M-F fitting for radiant /manifold profile connection

#### BLOCK B: Curved angle joint

3750.03.00 3 radiant profile kit L= 3500 mm 674.16.00 angle fitting 812.16.20 straight fitting (Use multilayer pipes RBM TITAFIX 16x2)

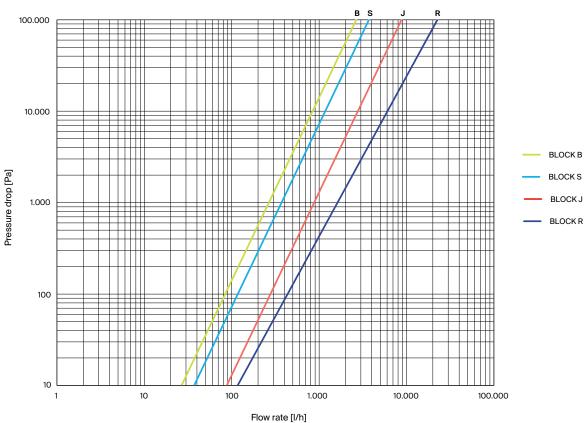




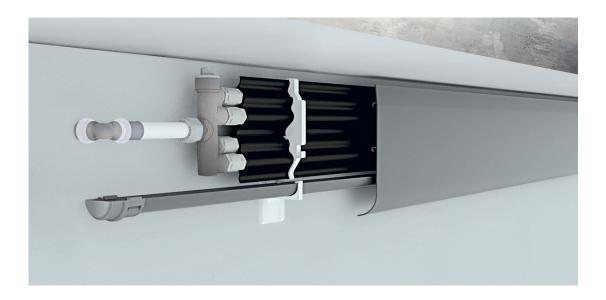
#### HEAT OUTPUT PER METRE (DEPENDING ON △T)

 $\Delta T\text{=} Taverage \ H_2O \ \text{-} \ ambient \ air \ T$ 

#### DOUBLE-SIDED SKIRTING BOARD PRESSURE DROPS



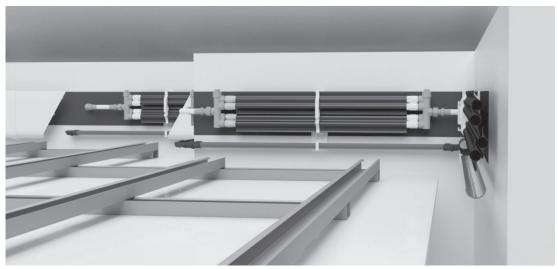
# MORE BELT HEATING AND COOLING **CEILING/FALSE CEILING INSTALLATION**



#### CEILING



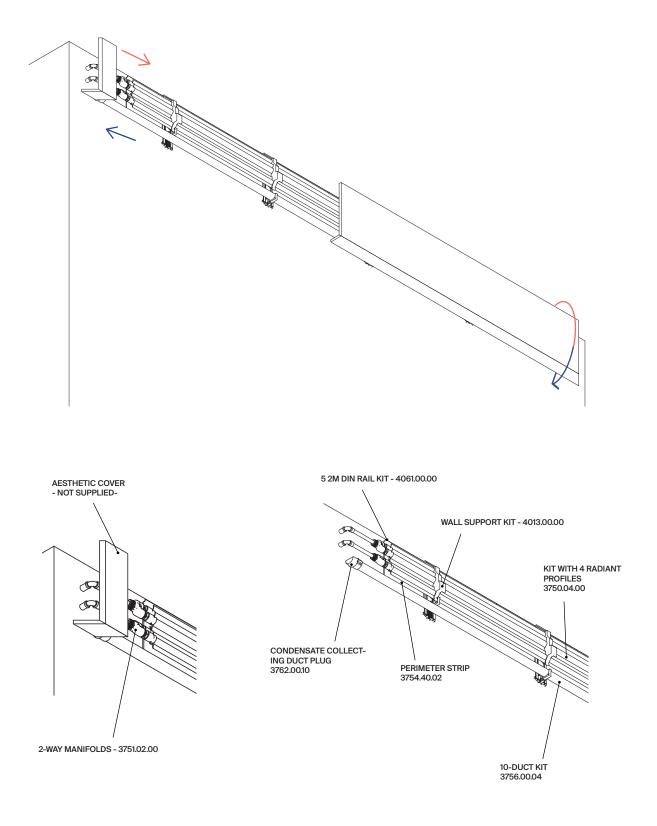
#### FALSE CEILING



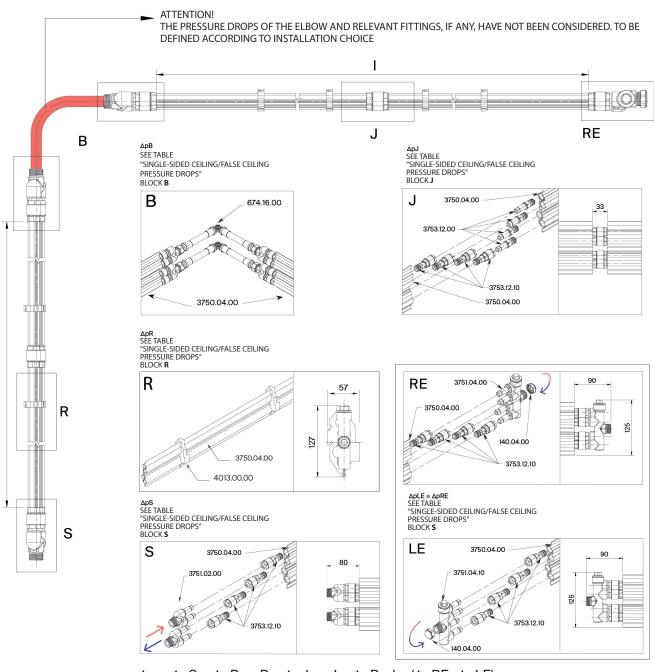
# ONE-SIDED CEILING/FALSE CEILING INSTALLATION HEATING AND COOLING

The heat transfer pipes are close to each other in ceiling and false ceiling installation; the delivery pipe is connected to the system through two 2-way manifolds that feed the radiant profiles. After crossing any junctions and elbows, if included in the design, the system ends with a four-way manifold.

An ad hoc condensate collecting system (duct and specific fittings) needs to be connected to the drain network by interposing suitable siphons (siphons and drains not supplied) in the cooling version only.



L



 $\Delta p = \Delta pS + \Delta pB \times nB + \Delta pJ \times nJ + \Delta pR \times I + (\Delta pRE = \Delta pLE)$ 

#### • BLOCK S: Connection to the system

3750.04.00 4 radiant profile kit L= 3500 mm 3753.12.10 M-F fitting for radiant /manifold profile connection 3751.02.00 return manifold 3751.02.00 delivery manifold

#### BLOCK J: Intermediate joint

3750.04.00 4 radiant profile kit L= 3500 mm 3753.12.00 M-M fitting for connection 3753.12.10 M-F fitting for radiant/manifold profile connection

#### BLOCK LE: Left-hand installation terminal (LH)

3750.04.00 4 radiant profile kit L= 3500 mm 3753.12.10 M-F fitting for radiant /manifold profile connection 3751.04.10 LH deflection manifold 4 140.04.00 End of line plug G 1/2"

#### • BLOCK RE: Right-hand installation terminal (RH)

3750.04.00 4 radiant profile kit L= 3500 mm 3751.04.00 RH deflection manifold 4 140.04.00 end of line plug G 1/2" 3753.12.10 M-F fitting for radiant /manifold profile connection

#### BLOCK B: Curved angle joint

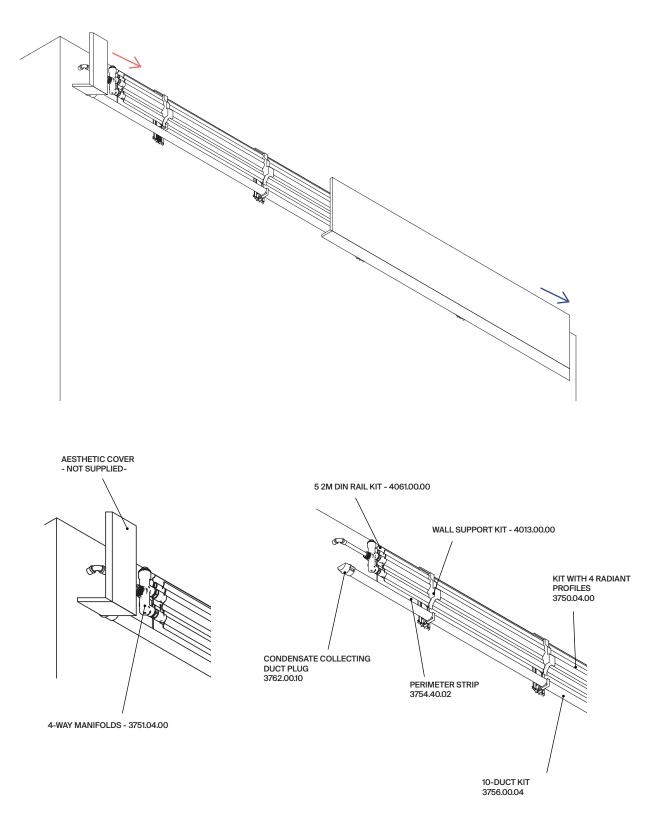
3750.04.00 4 radiant profile kit L= 3500 mm 674.16.00 angle fitting 812.16.20 straight fitting (Use multilayer pipes RBM TITAFIX 16x2)

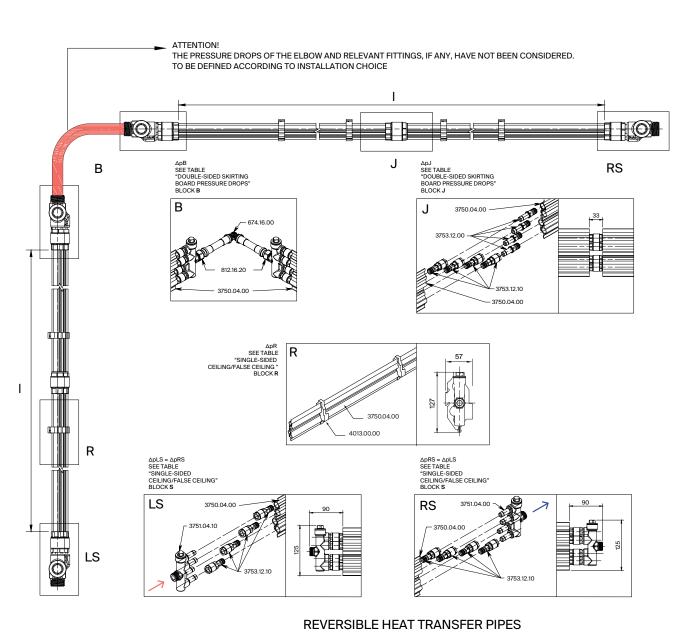
#### BLOCK R: Radiant profiles

3750.04.00 kit with 4 radiant profiles L= 3500 mm 4013.00.00 wall support kit

# DOUBLE-SIDED CEILING/FALSE CEILING INSTALLATION HEATING AND COOLING

The heat transfer pipes are apart from each other in double-sided installation; the delivery pipe is connected to the system through a four-way manifold that feeds the radiant profiles. After crossing any junctions and elbows, if included in the design, the system ends with a four-way manifold suitably connected to the return pipe. An ad hoc condensate collecting system (duct and specific fittings) needs to be connected to the drain network by interposing suitable siphons (siphons and drains not supplied) in the cooling version only.





 $\Delta p = \Delta pLS + \Delta pR x I + \Delta pB x nB + \Delta pJ x nJ + \Delta pRS$ 

#### • BLOCK LS: Connection to the system (LH)

3750.04.00 4 radiant profile kit L= 3500 mm 3751.04.10 LH delivery manifold 4 3753.12.10 M-F fitting for radiant /manifold profile connection

#### BLOCK J: Intermediate joint

3750.04.00 4 radiant profile kit L= 3500 mm 3753.12.00 M-M fitting for connection 3753.12.10 M-F fitting for radiant /manifold profile connection

#### BLOCK R: Radiant profiles

3750.04.00 4 radiant profile kit L= 3500 mm 4013.00.00 wall support kit

#### • BLOCK RS: Connection to the system (RH)

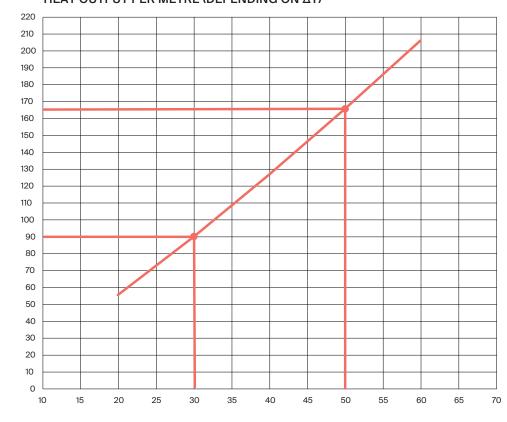
3750.04.00 4 radiant profile kit L= 3500 mm 3751.04.00 RH return manifold 4 3753.12.10 M-F fitting for radiant /manifold profile connection

#### BLOCK B: Curved angle joint

3750.04.00 4 radiant profile kit L= 3500 mm 674.16.00 angle fitting 812.16.20 straight fitting (Use multilayer pipes RBM TITAFIX 16x2)

#### **HEAT OUTPUT / CEILING - HEATING\***

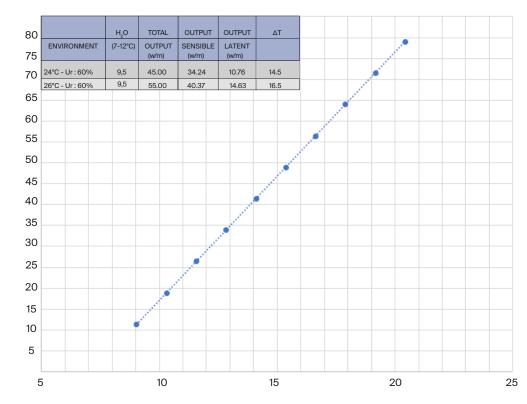




HEAT OUTPUT PER METRE (DEPENDING ON △T)

 $\Delta T{=}\ Taverage\ H_2O\ {-}\ ambient\ air\ T$ 





#### HEAT OUTPUT PER METRE

# Heat output (W/m)

Heat output (W/m)

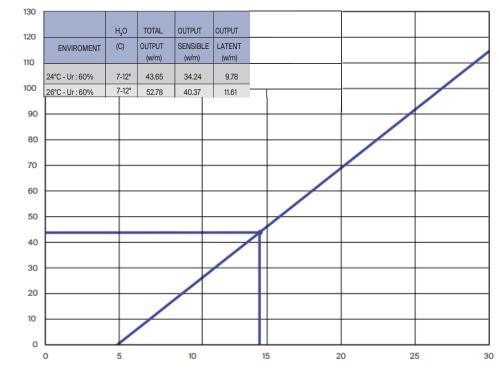
#### HEAT OUTPUT / FALSE CEILING - HEATING



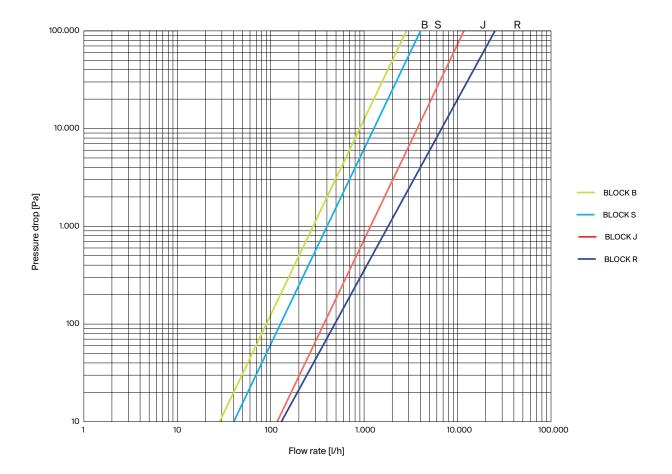
 $\Delta T$  = Taverage H<sub>2</sub>O - ambient air T

#### HEAT OUTPUT / FALSE CEILING - COOLING

#### HEAT OUTPUT PER METRE

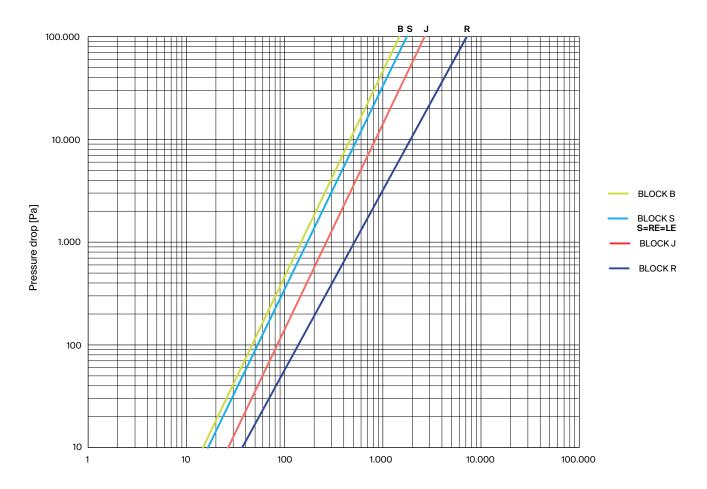


Heat output (W/m)



#### PRESSURE DROP - CEILING AND FALSE CEILING / DOUBLE-SIDED

PRESSURE DROP - CEILING AND FALSE CEILING / SINGLE-SIDED



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# **CEILING/FALSE CEILING INSTALLATION CLEARANCES**

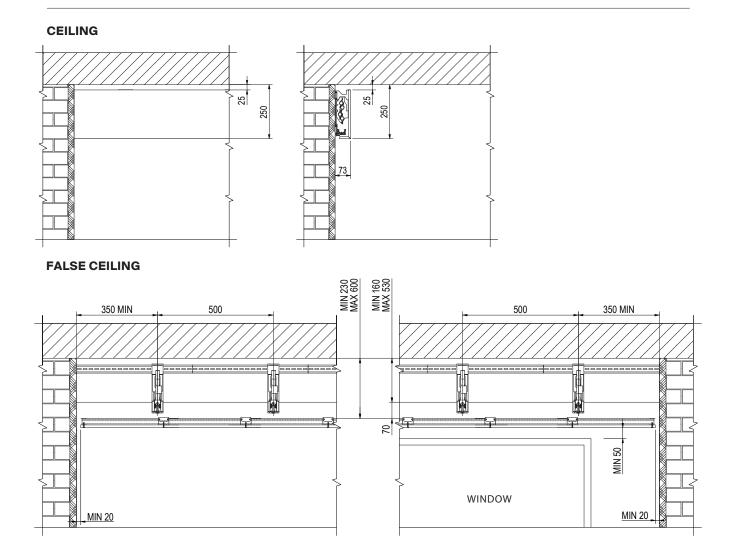
#### CAN BE INSTALLED AS FOLLOWS

#### • In ceiling

Where the casing size is equal to the system overall dimensions. To ensure proper operation, it is necessary to maintain a distance from the ceiling to the edge of the casing greater than or equal to 25 mm.

#### In false ceiling

Where no front casing needs to be applied; the false ceiling must be installed after the ceiling has been insulated and the system assembled, and no encumbrances or obstruction should prevent proper air circulation between the floor slab and the structure. A distance of about 70 mm must be maintained between the lower edge of the perimeter insulating strip (a reference for the system and the first item to be installed) and the plasterboard sheet. In this case, a free opening of at least 20 mm must be provided (see drawing below) throughout the perimeter of the room, between the false ceiling plasterboard and the wall, to properly operate the system especially in summer, when it is running in cooling mode.



#### 

DO NOT PLACE THE INSULATION INSIDE THE FALSE CEILING AND IN CONTACT WITH THE BELT SYSTEM.

# SPECIFICATIONS

#### MORE BELT SKIRTING BOARD SYSTEM - HEATING

Supply and installation of MORE BELT 3750 series skirting board perimeter heating system.

A (excluding masonry work, electrical connections and anything else not specified).

MORE BEL is a patented system for skirting board installation, whose operating principle is based on radiant wall heating as a result of the Coanda effect. It is 140 mm high and 34 mm thick, and is installed in a special support casing to be mounted externally on a flat wall, or semi-recessed into the wall, with a overhang of only 8 mm from it.

The system consists of 3 aluminium profiles superimposed in a staggered way and suitably shaped with specific wing profiles to obtain maximum heat conduction performance.

The profiles are fixed together with polymer brackets and connected to the heat transfer circuit, derived from the main manifold or directly from a radiator outlet connection, where possible, through specific nickel-plated brass 1-/2-/3-way manifolds enabling one- or two-sided distribution.

#### The system consists of:

# • Casing kit + recessed template + L-shaped profile 37490400.

The kit consists of an EN AW 6060 aluminium alloy recessed profile, painted white RAL 9010 (HxL=140 mm x 4000 mm, thickness 2mm), to be fastened to the wall providing a base for the profiles of the MORE BELT system to be applied to the skirting board; an L-shaped EN AW 6060 aluminium alloy profile, painted white RAL 9010 (HxBxL 15mm x 20 mm x 4000 mm), to be used as finishing solution between the floor and the wall; an EN AW 6060 aluminium alloy casing, painted white RAL 9010 (HxL=107 mm x 4000 mm thickness 1.5mm), applied to the front of the skirting board as a closure of the system and open both at the bottom and at the top to foster heat exchange and the Coanda effect on the wall. • **Kit with 3 radiant profiles code 37500300.** Kit

consisting of 3 radiant wing-shaped tube profiles with internal diameter 14 mm, 3500 mm long, made of extruded EN AW 6060 aluminium with Enox aluminium galvanic treatment.

• 1-way manifold 37510100. One-way manifold made of nickel-plated brass with 1/2 "M connection; it is used as a return connection in the single-sided skirting board system.

• **2-way manifold 37510200.** Two-way manifold made of nickel-plated brass with 1/2"M connection; it is used as a delivery connection in the single-sided skirting board system.

• **RH 3-way manifold 37510300.** RH 3-way manifold made of nickel-plated brass with 1/2" M connection; it is used as a delivery or return manifold in the double-sided system, and as a return terminal manifold of the circuit in the single-sided system.

• LH 3-way manifold 37510310. RH 3-way manifold made of nickel-plated brass with 1/2" M connection; it is used as a delivery or return manifold in the double-sided system, and as a return terminal manifold of the circuit in the single-sided system.

• **M/M fitting 37531200.** Polymer M/M quick coupling fitting Ø14x3 mm with double external sealing O-ring for joining several radiant profiles together.

• **M/F fitting 37531210.** Polymer M/F quick coupling fitting with double external sealing O-ring to enable the quick coupling of M/F fittings when connecting several radiant profiles together.

• Plug for manifold 1400400. Nickel-plated brass 1/2"F plug; it must be applied to 3-way manifolds to divert the flow in case of conversion from a double-sided 3-way manifold to a return one for the single-sided system.

• **Support bracket 37600000.** PA6-20% F.V.V2 polymer bracket used for wall mounting the profiles.

• RH-LH terminal kit, finishing 37610000. Terminal kit consisting of 2 parts made of white ABS RAL9010+ additive for UV stabilisation, used as aesthetic terminal ends for aluminium profiles.

• External angle kit 37610010. Terminal kit consisting of 2 parts made of white ABS RAL9010+ additive for UV stabilisation, used as aesthetic connections in the external angles created on the walls by the system.

• Internal angle kit 37610020. Terminal kit consisting of 2 parts made of white ABS RAL9010+ additive for UV stabilisation, used as aesthetic connections in the internal angles created on the walls by the system.

• Joining sleeve kit 37610030. Terminal kit consisting of 2 parts made of white ABS RAL9010+ additive for UV stabilisation, used as aesthetic connections on metal casing straight parts.

• **Perimeter strip 37540002.** Adhesive polyethylene perimeter strip (130 mm x 3 mm x 20 m) preventing heat from being dispersed on the wall, it is applied at the back of the recessed profile, between the wall and the MORE BELT system.

• **Reflective strip 37550002.** Aluminised adhesive rubber reflective strip (50 mm x 3 mm x 22 m), containing and channelling heat into the casing, it is applied to the internal part of the aesthetic closing casing.

#### MORE BELT CEILING / FALSE CEILING SYSTEM -HEATING AND COOLING

Supply and installation of a MORE BELT perimeter ceiling or false ceiling heating system series 3750.B (excluding masonry, any false ceilings and floor slab insulation, electrical connections and anything else not specified). MORE BELT is a patented ceiling/false ceiling installation system, providing respectively radiant heating by means of stratified heat in contact with the ceiling, and cooling as a result of the Coanda effect.

The system consists of 4 aluminium profiles superimposed in a staggered way and suitably shaped with specific wing profiles specifically designed to optimise performance.

Thanks to its conformation, the MORE BELT system, unlike conventional radiant systems, does not require special machines for dehumidification and specific temperature control. Summer dehumidification is performed by the system itself, through surface condensation of humid air in contact with the metal profiles, whose shape enables and optimises this effect in addition to promoting heat conduction. The profiles are fastened together with polymer brackets equipped with lower slide to support the condensate collection and drain duct.

A sliding sled is assembled with the system to quickly set the gradient of the condensate drain. The profiles are connected to the heat transfer circuit, derived from the main manifold, through specific nickel-plated brass 4-way manifolds. The profiles are installed around the perimeter, on the wall and near the floor slab soffit, in the quantities and lengths required to cover the heating requirements of the room. It is advisable to provide the floor slab soffit with suitable heat insulation, in order to reduce any heat dispersion of the system upwards. In the case of ceiling installation, the system is equipped with a special plastic finishing casing.

In the case of false ceiling installation, the closing plasterboard layer must be fitted at a predetermined maximum distance from both the floor slab and the MORE BELT system, and a 2 to 3 cm slot be provided along the whole perimeter where the system is installed in order to enable operation as a result of the Coanda effect. The overall dimensions will also result, among other things, from the thickness of the floor slab soffit insulation, and from the positioning of any plasterboard sheet with respect to the radiant profile.

#### The system consists of:

• **Kit with 4 radiant profiles 37500400.** Kit consisting of 4 radiant wing-shaped tube profiles with internal diameter 14 mm, 3500 mm long, made of extruded N AW 6060 aluminium with Enox aluminium galvanic treatment.

• **M/M fitting 37531200.** Polymer M/M quick coupling fitting Ø14x3 mm with double external sealing O-ring for joining several radiant profiles together.

• **M/F fitting 37531210.** Polymer M/F quick coupling fitting with double external sealing O-ring to enable the quick coupling of M/F fittings when connecting several radiant

profiles together.

• RH 4-way manifold 37510400. RH 4-way manifold made of nickel-plated brass with 1/2" M connection; it is used as a delivery or return manifold of the system.

• LH 4-way manifold 37510410. LH 4-way manifold made of nickel-plated brass with 1/2" M connection; it is used as a delivery or return manifold of the system.

• Insulation for RH 4-way manifold 37520400. Thermal insulation for RH 4-way manifold consisting of expanded polyethylene half shells with external anti-scratch coating.

• Insulation for LH 4-way manifold 37520410. Thermal insulation for LH 4-way manifold consisting of expanded polyethylene half shells with external anti-scratch coating.

Kit with condensate collecting ducts 37560400.

The condensate collecting duct is used to convey the condensate naturally falling from the extruded profiles and drain it through a preset slope. PVC material, length 4000 mm. This detail is only necessary when the system is designed for operation in summer cooling mode as well.

#### • Duct intermediate sleeve 37620000.

Black polymer PA66-25% FV V0 sleeve for joining condensate ducts, with gaskets for duct sealing.

Duct plug and gasket 37620010.

Condensate collecting duct plug made of polymer material PA66-25% FV V0 Black.

• Multifunctional condensate collecting duct fitting and gaskets 37620020. Black polymer PA66-25% FV V0 multifunctional fitting.

By appropriately removing the internal bulkheads, it can be used as an angle or as a connector between the duct and the wall-mounted drain.

• Wall support kit (bracket and support) 40130000. Kit with wall bracket (173 mm x 40 mm) made of natural PA6-20% FV V2 polymer; it is used to fasten the system to the wall and contain 4 radiant profiles while spacing them out at the same distance from each other, in addition to providing fastening for any condensate drain duct and adjusting its rate.

• **Perimeter strip 37540002.** Adhesive polyethylene perimeter strip (130 mm x 3 mm x 20 m);

it is used to prevent heat from being dispersed and applied between the wall and the wall support brackets. • 5 2m DIN rail kit 40610000.

- Cover coupling bracket 10171005.
- Belt bar joint insulation 37520420.
- Insulation of 2-way manifolds 37520200.

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