

New generation ceiling with  
integrated cooling and heating system

# B+M GP - Cool Speed



- ✓ robot-assisted pipe laying
- ✓ quick and easy
- ✓ budget-friendly
- ✓ patented system

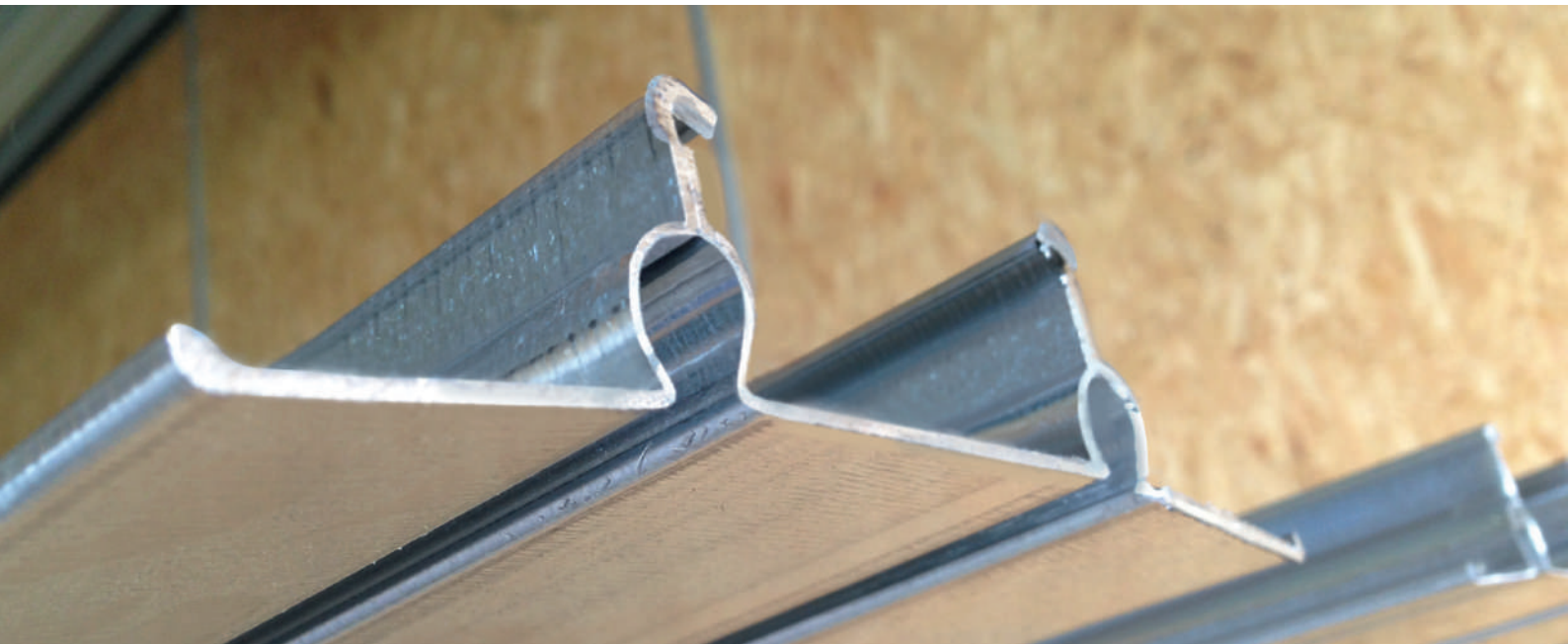


**COOL SPEED**

Unternehmenszweig der Baustoff + Metall Gruppe



## Unique: The B+M GP-Cool Speed cooling and heating ceiling system



Ceilings with integrated cooling and heating systems use radiant energy and therefore offer a cooling and heating system without dehumidification and draught.

### And this is how it works:

Inside the ceiling panel either cold or warm water is transported by plastic pipes that are pressed into special heat-conducting profiles. The ceiling boards serve as power distribution system here. In the cooling mode, heat is absorbed by the ceiling system via radiation, passed on to the circulating water and removed from the room. As water is by far a better heat conductor than air, energy costs can be reduced to up to 50 %.

### Cool Speed ceilings meet key customer requirements:

- robot-assisted pipe laying
- quick and easy
- budget-friendly
- patented system

### The GP-Cool Speed System is the solution:



Cool Racer 2.0

### Profiles instead of complex installation planning with prefabricated registers:

Flexible installation is possible as profiles can be shortened and lengthened to your needs locally and therefore no production times have to be considered.

### Endless pipes instead of connectors & fittings:

Due to on-site pipe laying, no costly connectors and fittings are needed for the ceiling mounting and installation duration can be reduced.

# The B+M GP-Cool Speed technology makes comfort affordable!



In times where economically and ecologically meaningful heating and cooling technologies become increasingly important when buildings are considered in the light of an overall economic view (i.e. because of energy performance certificates), greater significance is also placed on effective heating and cooling systems that combine profitability and comfort. In order to establish the best possible thermal comfort for people, B+M offers ceiling systems with integrated heating and cooling that ensure most favourable indoor climate control. These systems, which, above all, take advantage of radiation energy, resemble the good old tiled stove and can be used to heat or chill a room.

### Economic efficiency

They profit from low flow temperatures and, as a result, are substantially more economic than comparable heating and cooling systems: If the ceiling is used to heat a room, flow temperatures of about 30 – 35 °C are sufficient. If it is used as cooling ceiling, flow temperatures of around 16 – 17 °C are usual. These low flow temperatures also make it possible to use alternative and environmentally friendly energy sources (i.e. carbon dioxide-neutral sources like heat pumps, solar power installations, groundwater or wood chip heating etc) in order to guarantee cosy

radiant heating in winter as well as efficient cooling in summer.

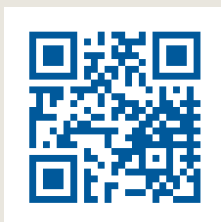
### Comfort and Cosiness

Ordinary air-conditioning and heating systems are often perceived as unpleasant and annoying. This can be traced back to the draught and the resulting swirling up of dust as well as excessive noise. These factors are proven to have a negative impact on health and are known throughout the world under the buzzword “sick-building syndrome”. In order to establish the best possible comfort for people, B+M offers ceiling systems which ensure optimal and cost-effective climate control.

According to the current state of science and technology, this is only the case if the heat can be removed from the room via cooled components, namely by means of radiation transmission. As a result, the temperature can be distributed equally throughout the room, even in the heating mode in winter.

### Health

- high proportion of radiation heat, no draught
- no swirling up of dust
- aggravated living conditions for bacteria, mould and mites
- ideal indoor climate
- balanced temperature gradient



## More details on the B+M GP-Cool Speed ceiling heating and cooling system

Scan the QR-code and you will be referred directly to the product details. Additionally you will have the chance to see the system presented in a product film that

shows you how quick and easy the system is. Enjoy!

[www.gpcoolspeed.com](http://www.gpcoolspeed.com)

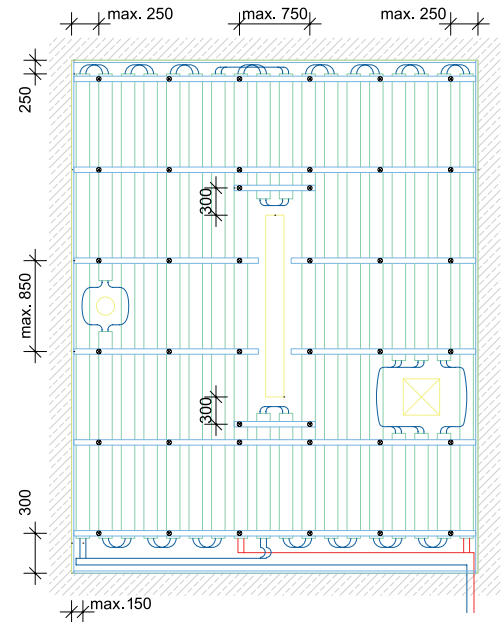


# Performance information & details

## Performance overview

	Cooling and heating board – 10 mm with graphite, perforated or unperforated	Cooling and heating board – 10 mm, perforated or unperforated	Gypsum plaster board – 12,5 mm, perforated or unperforated	Cooling and heating board – 10 mm, perforated with acoustic plaster
Cooling performance	W/m <sup>2</sup>	W/m <sup>2</sup>	W/m <sup>2</sup>	W/m <sup>2</sup>
DIN EN 14240 active surface $\Delta T = 10$ K	78,1	69,2	59,9	60,0
DIN EN 14240 active surface $\Delta T = 8$ K	61,5	54,5	47,6	47,8
Heating performance	W/m <sup>2</sup>	W/m <sup>2</sup>	W/m <sup>2</sup>	W/m <sup>2</sup>
DIN EN 14037-5 active surface $\Delta T = 15$ K	95,5 *	87,2	77,5 *	77,7 *

Calculated by FTT Zwickau  
(\* calculation value according to measurements)



## The system convinces

### Architects and professional engineers

- ✓ profiles are available within a short time and therefore only minimal preparation time is required
- ✓ carrying out of architectural demands and requirements is possible (ceiling design with either perforated or unperforated boards)
- ✓ acoustically effective
- ✓ tested and patented system
- ✓ low construction height
- ✓ retrofittable in existing buildings
- ✓ mounting of substructure and cooling and heating technology separate from planking
- ✓ low-cost system for complete cooling and heating system
- ✓ technical support from planning to mounting
- ✓ gypsum as natural resource has a positive effect on indoor climate

### Investors and building contractors

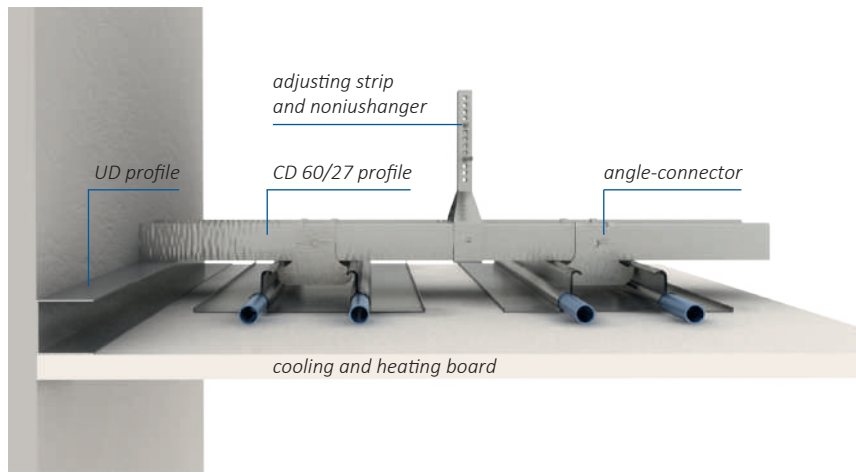
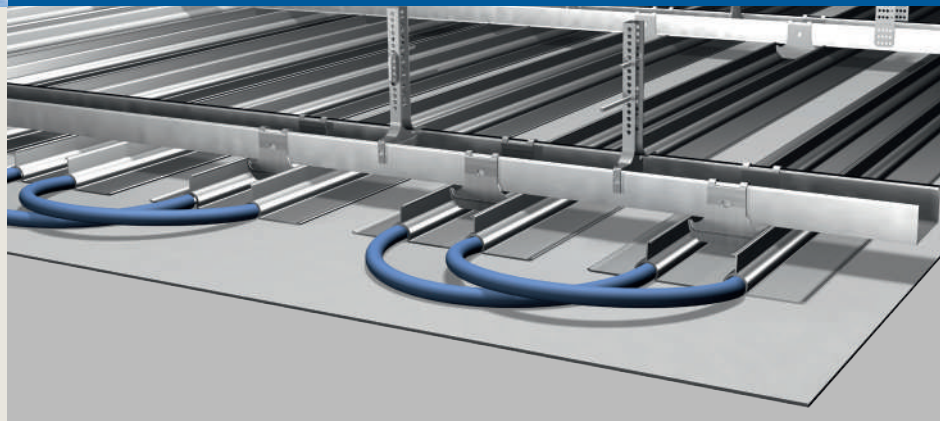
- ✓ low-priced and tested ceiling cooling and heating system
- ✓ almost maintenance-free system, adaptable with minimal effort (no change of filters, no cleaning or disinfection necessary)
- ✓ high thermal conductivity of gypsum boards allows energy-saving climate control
- ✓ buildings and apartments are easier to let, as tenants and users benefit from high comfort





### Possible suspension of GP-Cool Speed profiles – in rigid compression

- adjusting strip and noniushanger, CD 60/27 profile, angle-connector
- adjusting strip and slotted suspension hanger
- adjusting strip and noniushanger stirrup
- direct hanger, CD 60/27 profile, clip
- low hang height by means of Cool Spin



### B+M GP-Cool Speed System

- hot-dip galvanized substructure
- standard CD 60/27 support profile
- suspension with noniussystem or direct suspension
- B+M GP-Cool Speed profile (distance between profiles freely adjustable)
- direct screw connections between gypsum plaster board and heat-conducting

### Assembling firms

- ✓ robot-assisted pipe laying
- ✓ without physical effort, quick and accurate
- ✓ simple substructure ensures smooth mounting of cooling and heating ceiling system
- ✓ professional support and planning as well as pipe laying by constantly trained partner firms
- ✓ counseling and delivery of all system components (including pipe installation and control) from one source
- ✓ Cool Racer 2.0 also for rent
- ✓ easy installation of different built-in fittings (e.g. spots)

### Tenants and users

- ✓ soundless cooling and heating system
- ✓ no sick-building syndrome
- ✓ positive effects on health

### Cool Racer 2.0

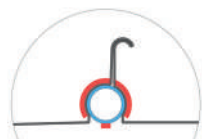
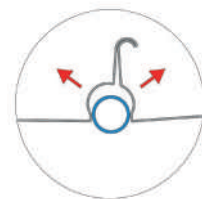
*without physical effort, quick and accurate*

*also for rent*



### “Clamping effect”

The clamping effect generates a high contact force between the pipe and the profile. This B+M GP-Cool Speed patent guarantees excellent cold and heat transmission.



### Large contact surface of pipes

With our B+M GP-Cool Speed profile the transfer surface between pipe and profile amounts to approximately 70%. Additionally, the direct contact of pipe and gypsum board enlarges the transfer surface still more, which enhances the profile performance.

### Direct screw connections

Direct mounting ensures the best possible contact of board and heat-conducting profile. Like this, it is assured that the profile performance is also transmitted to the room.

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