

Product summary

# emcotherm convectors

emcobad

emcobau

emcoklima

**EMCO**

emcotherm **convectors** – general

emco Klima started out more than 30 years ago, manufacturing a range of sturdy air outlets that was suitable for requirements at that time.

Specific developments for different air ducting systems, flexibility when dealing with individual problem solutions and on-time delivery have created a trusting relationship between emco Klima and its specialist partners.

Nowadays emco provides a comprehensive range

of air and water ducting systems, and services such as performing calculations using our own computer programs and laboratory testing.

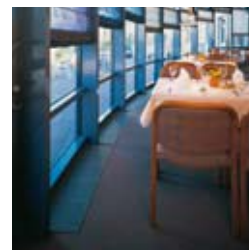
Operational reliability and economic viability provide the basis for an optimum climate, even during the planning phase.

Heating, cooling and ventilating with convectors is becoming increasingly important in air conditioning engineering. Transporting energy via water has advantages with regard

to installation and routing, and allows a certain amount of design flexibility in the architecture.

Furthermore, much less electrical power is needed to transport the energy than in classical systems.

The financial and environmental advantages are therefore just as obvious as increased comfort and well-being.



- emcotherm **floor convectors**
- emcotherm **parapet convectors**
- emcotherm **floor-mounted convectors**
- emco **gratings**





Building: Puma, Herzogenaurach



Building: Paul-Löbe-Haus, Berlin



Building: Sony-Center, Berlin



Building: Westfälisch-Lippische Sparkasse, Münster



Building: Tech Gate, Vienna



Building: Technology Park, Karlsruhe

# A suitable system for floors, walls and ceilings in all cases

Meaningful use can be made of emcotherm convectors for heating, cooling or supplying fresh air in an economic and convenient way without restricting individual room usage with radiators or other installations.

emcotherm floor convectors perform these tasks in an ideal way.

The combination of the modular design of the emcotherm convector systems and a wide selection of property-specific solutions makes the systems easy to integrate in architectural specifications.

## Heating secondary air.

emcotherm floor convector models K ①, KXs, KMs (for narrow installation situations) ① and KQ ② can be discreetly integrated in floors and false floors in an optimum way.

## Cooling secondary air.

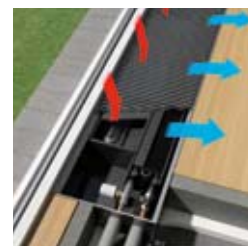
High, sensitive loads, particularly in closed office equipment such as PC's, are removed using the EKO floor-mounted secondary cooling air convector.



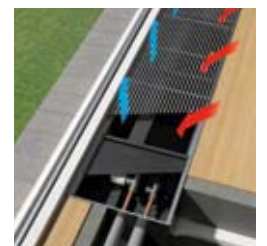
① emcotherm KXs/KMs/K



② emcotherm KQ/KQs



③ emcotherm KQK



④ emcotherm KQKL



### Heating and cooling secondary air.

If perfect room temperatures have to be guaranteed all year round with a single system, emcotherm and KQK ③, KQKL ④ and BKQ ⑥ can be used, covering the required performance range with 2-wire or 4-wire technology.



### Heating, cooling and ventilation.

emcotherm KIQ ⑤ convectors are used to provide a comfortable climate during summer and winter, and air quality that is both hygienic and enjoyable using fresh air.

### Easy to control.

All emcotherm systems have optional bus capability. The emcotherm K ① and KQ models and (if a restricted amount of installation room is available) the KQs ② model can be equipped with special control programs.



As well as the range of convectors, emcocool air conditioning ceiling systems and ceiling convectors ⑦ and ⑧ also offer additional ways of providing perfect, silent and invisible air conditioning. Please request the separate documents.

⑤ emcotherm **KIQ**

⑥ emcotherm **BKQ**

Functions		Method	Performance range W/run. m <sup>1)</sup>	Control options and control combinations	Usage areas
	 <p><b>Model KXs</b> <b>Model KMs</b></p>	Free convection	117 - 182 W/m at $\Delta\vartheta_m = 50\text{ K}$	<ul style="list-style-type: none"> <li>• RT (Room thermostat)</li> <li>• emcoTIME II</li> </ul>	Winter gardens, office and administration rooms, exhibition rooms, business rooms, residential areas
		<b>extremely narrow version</b>			
	 <p><b>Model K</b></p>	Free convection	209 - 436 W/m at $\Delta\vartheta_m = 50\text{ K}$	<ul style="list-style-type: none"> <li>• RT (Room thermostat)</li> <li>• emcoTIME II</li> </ul>	Winter gardens, office and administration rooms, exhibition rooms, business rooms, residential areas
 	 <p><b>Model KQs</b></p>	Forced convection with cross-flow fan (secondary air)	618 - 1156 W/m at $\Delta\vartheta_m = 50\text{ K}$	<ul style="list-style-type: none"> <li>• RT (Room thermostat) + DZR (speed controller)</li> <li>• emcoTIME II + DZR (speed controller)</li> <li>• emcoTRONIC II</li> <li>• Building management system</li> </ul>	Winter gardens, reception areas, foyers, office and administration rooms, exhibition rooms, business rooms, residential areas, rooms with rapid heating requirement
		<b>extremely narrow version</b>			
 	 <p><b>Model KQ</b></p>	Forced convection with cross-flow fan (secondary air)	1016 - 2247 W/m at $\Delta\vartheta_m = 50\text{ K}$	<ul style="list-style-type: none"> <li>• RT (Room thermostat) + DZR (speed controller)</li> <li>• emcoTIME II + DZR (speed controller)</li> <li>• emcoTRONIC II</li> <li>• Building management system</li> </ul>	Winter gardens, reception areas, foyers, office and administration rooms, exhibition rooms, business rooms, residential areas, rooms with rapid heating requirement

**Product performance**



Heating



Cooling



Secondary air



Ventilation

<sup>1)</sup> PWW 75 / 65 °C, room temperature 20 °C (heating)  
 PKW 16 / 18 °C, room temperature 27 °C (cooling)

Functions		Method	Performance range W/run. m <sup>-1</sup>	Control options and control combinations	Usage areas
  	 <p><b>Model KQK</b></p>	Forced convection with cross-flow fan	900 - 1900 W/m at $\Delta\vartheta_m = 50K$ (heating) 200 - 470 W/m at $\Delta\vartheta_m = 10K$ (cooling)	<ul style="list-style-type: none"> <li>• RT (Room thermostat) + DZR (speed controller)</li> <li>• emcoTIME II + DZR (speed controller)</li> <li>• emcoTRONIC II</li> <li>• Building management system</li> </ul>	Winter gardens, reception areas, foyers, office and administration rooms, exhibition rooms, business rooms, rooms with rapid heating or cooling requirement
    <p>(optional)</p>	 <p><b>Model KQKL</b></p>	Forced convection with cross-flow fan, primary air connection (optional)	1400 - 4500 W/m at $\Delta\vartheta_m = 50K$ (heating) 300 - 1040 W/m at $\Delta\vartheta_m = 10K$ (cooling)	<ul style="list-style-type: none"> <li>• RT (Room thermostat) + DZR (speed controller)</li> <li>• emcoTIME II + DZR (speed controller)</li> <li>• emcoTRONIC II</li> <li>• Building management system</li> </ul>	Reception areas, foyers, office and administration rooms, exhibition rooms, business rooms, rooms with rapid heating or cooling requirement
  	 <p><b>Model KIQ</b></p>	Integrated displacement flow volumetric heating air outlet with primary air connection (cooling function exclusively via primary air)	380 - 610 W/m at $\Delta\vartheta_m = 50K$ and 60 m <sup>3</sup> /h Primary air supply (heating)	<ul style="list-style-type: none"> <li>• RT (Room thermostat)</li> <li>• emcoTIME II</li> </ul>	Rooms with increased outside air requirement, rooms in which no windows can be opened, rooms in which appearance and layout are not to be interfered with by heating and ventilation components
  	 <p><b>Model BKQ</b></p>	Free and forced convection with cross-flow fan (secondary air)	570 - 980 W/m at $\Delta\vartheta_m = 50 K$ (heating) 180 - 340 W/m, at $\Delta\vartheta_m = 10 K$ (cooling)	<ul style="list-style-type: none"> <li>• RT (Room thermostat) + DZS (speed controller)</li> <li>• emcoTIME II + DZS (speed controller)</li> <li>• emcoTRONIC II</li> <li>• Building management system</li> </ul>	Comfort areas with the usual cooling and heating loads, office rooms, conference rooms, hotel rooms, living rooms, rooms with varying loads
 	 <p><b>Model EKO</b></p>	Forced convection (secondary air)	max. 1800 W (450 m <sup>3</sup> /Δ $\vartheta_m$ = 15K) max. 3000 W (800 m <sup>3</sup> /Δ $\vartheta_m$ = 15K) max. 4000 W (1100 m <sup>3</sup> /Δ $\vartheta_m$ = 15K) (cooling)	Integrated	self-contained room and cabinet units, in which permissible maximum temperatures must not be exceeded for persons and technical equipment.

emcotherm **control equipment** – extract

**The emcotherm junction box**



The emcotherm junction box was developed in-house for emcotherm convector systems. The junction box is compatible with all emcotherm floor convectors and is wired to the electrical components that are built into the floor convectors in the factory. The junction box with integrated electronic control board is suitable for individual room control and actuation using building management systems.

**emcotime II room thermostat**



Programmable room temperature controller (250 V) as digital clock thermostat for flush mounting with changeover contact for heating or cooling operation. The emcotime II is suitable for use in all emcotherm convector systems in conjunction with the emco DZR speed controller.

The emcotime II is used to control the room temperature in conjunction with emcotherm convectors. The preferred usage area is in closed rooms such as offices, apartments, schools, auditoriums, workshops etc. with a normal environment.

Installed in normal commercial flush-mounted box; can be combined with dual frame

**emcotronic II room thermostat**



Electronic climate controller for fixed value control; (PI control, continuous) for use with emcotherm convectors (for heating and cooling).

- Housing with dial +/- and adjustable stops for setpoint limitation
- Presence button on front (green LED on = presence)
- Two additional LED's for indicating the operating status (red = heating, yellow = cooling)

The preferred usage area is in closed rooms such as offices, apartments, schools, auditoriums, workshops etc. with a normal environment.

Surface mounting

emco **gratings**



emco gratings made from different materials cover the majority of usage areas. Different lateral and load-bearing profiles with free cross-sections of between 44% and 74% depending on requirements with bearing surfaces in appropriate colours provide a multitude of technical and visual variants. We can provide frames and accessories in suitable materials and colours in accordance with requirements. Please request separate documents.