

SECTION TWO

Advantages of DiaNorm Panel Radiators

Here are some important advantages of DiaNorm panel radiators versus other hydronic heat emitters.

- **DiaNorm radiators require much less wall space in comparison to fin-tube baseboard.** This reduces restrictions on furniture placement and improves appearance.

There are many installation locations where a panel radiator can be accommodated but the length of fin-tube baseboard required for equivalent heat output will not fit. There is simply not enough wall space available for the baseboard.

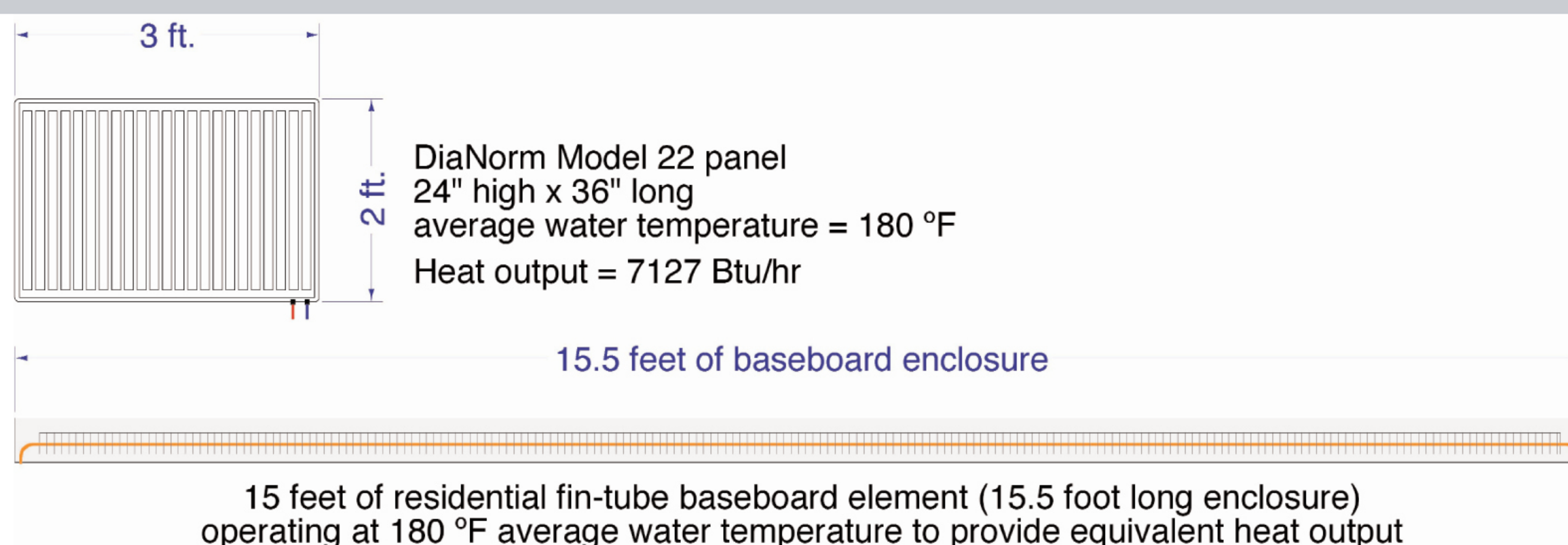
For example, a 24-inch high by 36-inch long model 22 DiaNorm radiator provides heat output equivalent to a residential fin tube baseboard 15.5 feet long. The size comparison is shown below.

- **DiaNorm radiators contain very little water and are relatively light.** This results in very low thermal mass allowing the panels to respond almost instantly to variations in room air temperature or internal heat gains.

The possibility of temperature overshoot in rooms with high internal heat gains from sunlight, lights, people, or heat generating equipment gains is far less likely relative to systems that use high thermal mass heat emitters such as radiant slab heating.



Because of their large metal and water content, cast-iron radiators are slow to respond to changes in room temperature. Lightweight DiaNorm radiators respond quickly and thus ensure better comfort.



- **DiaNorm panels are wall-mounted and not affected by floor coverings.** Changes in floor coverings can have a major impact on the thermal performance of radiant floor heating, but it's not an issue with panel radiators.

- **DiaNorm panels can operate with a larger temperature drop than is commonly used with other heat emitters.** This allows relatively small tubing to carry a substantial amount of heat to the panel.

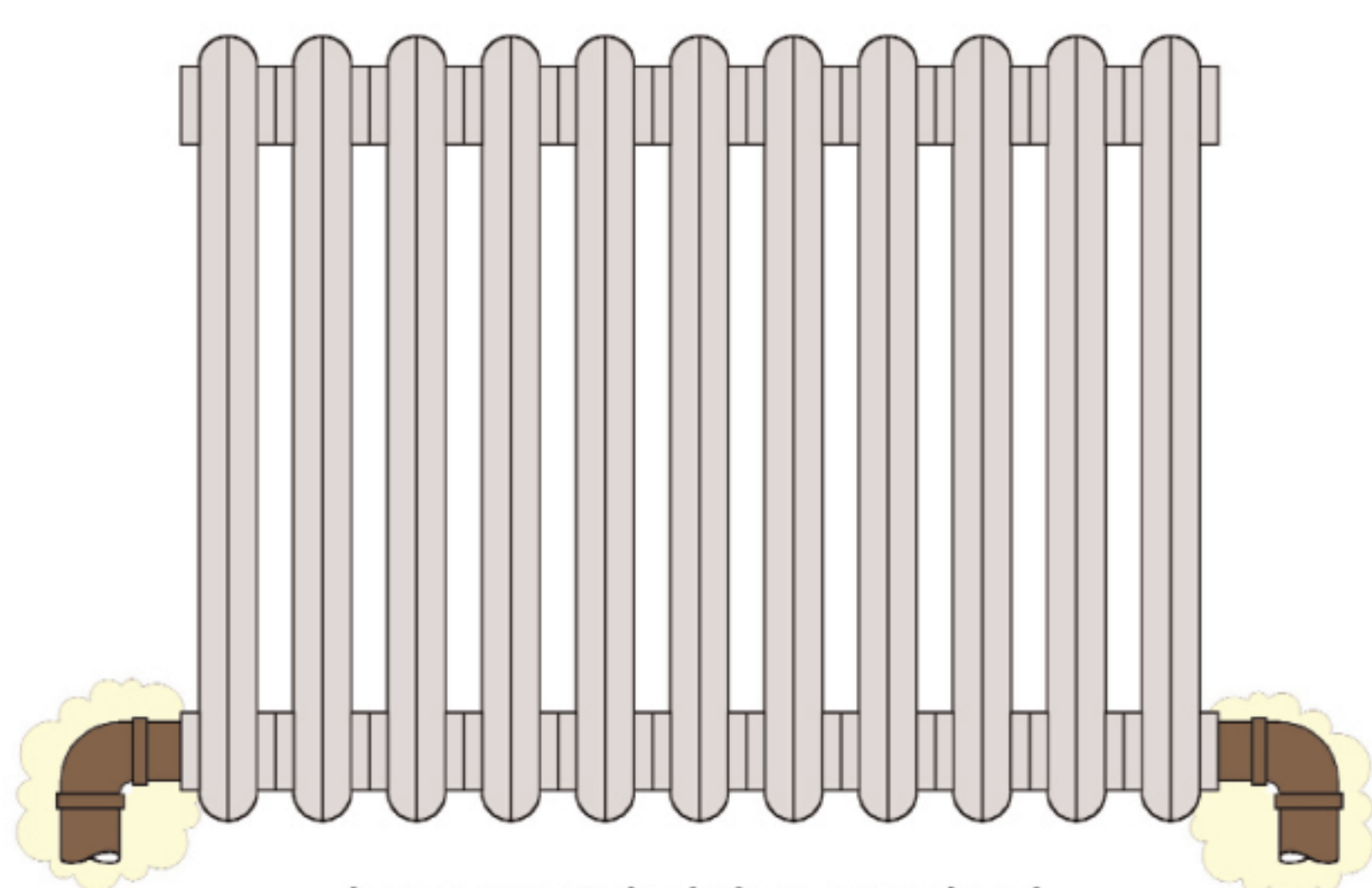
continued on next page...

Advantages of DiaNorm Panel Radiators

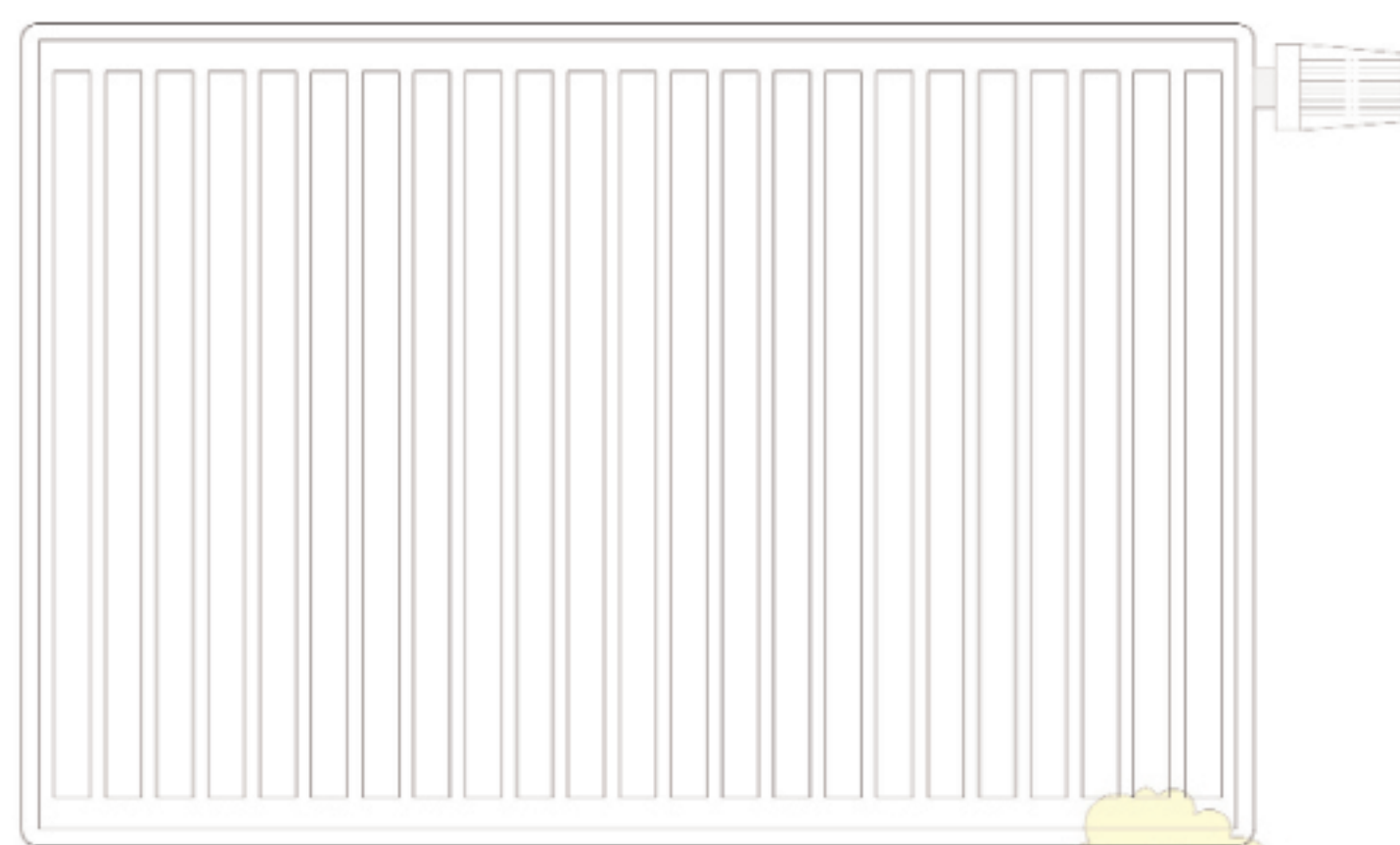
For example: A DiaNorm radiator operating with a temperature drop of 30 °F releases about 15,000 Btu/hr for each gallon per minute (gpm) of water flow. Under such conditions, a 1/2-inch size PEX tube could supply 38,000 Btu/hr of heat flow to the radiator.

In contrast, a radiant floor heating circuit in a residential system should not operate with a temperature drop over 15 °F to ensure acceptable variations in floor surface temperature. The same 1/2-inch tubing is only able to carry about 19,000 Btu/hr under such conditions.

There are many circumstances where 3/8" PEX or PEX-AL-PEX tubing can supply DiaNorm panel radiators. The small tubing is less expensive and easier to install, especially in retrofit applications.

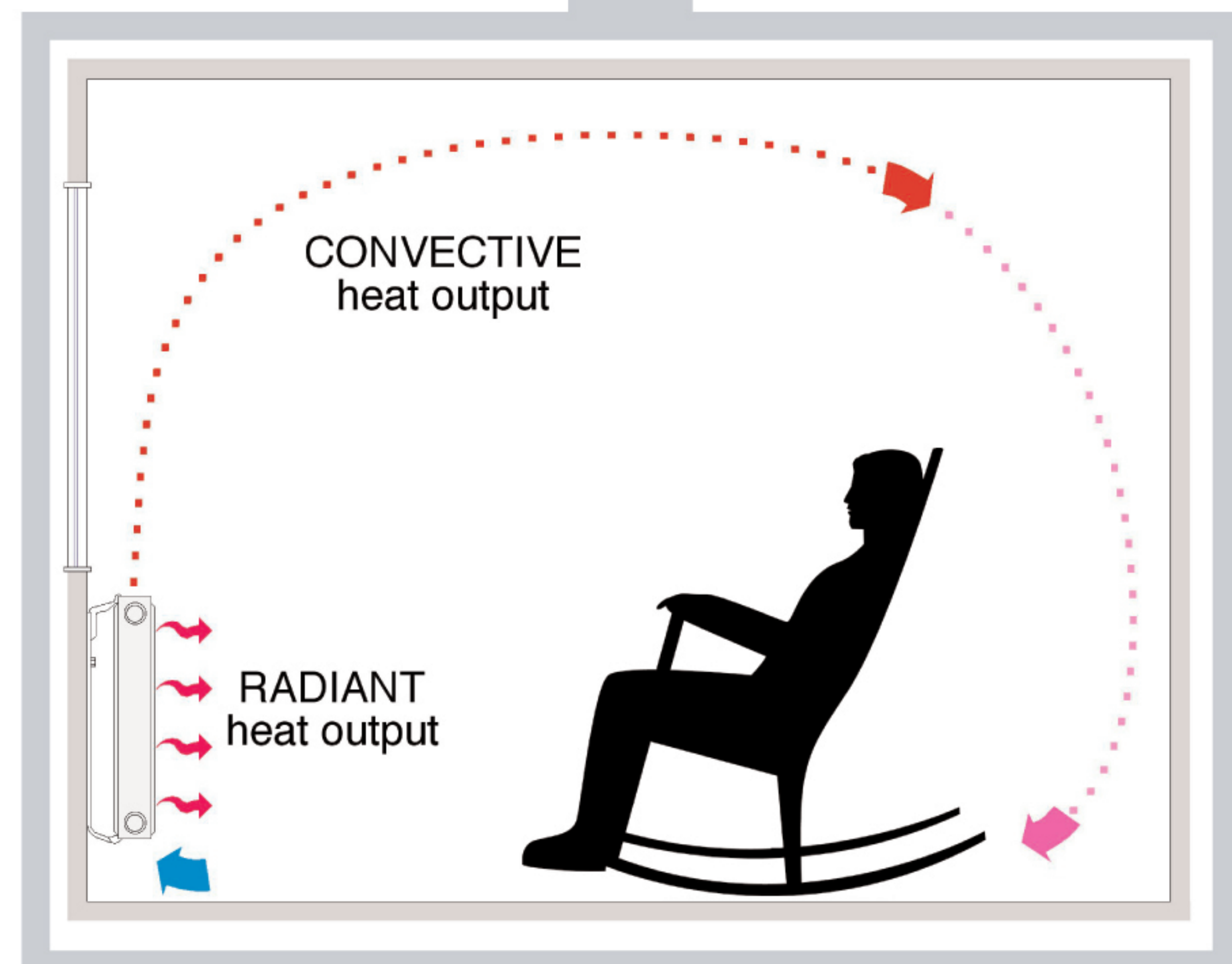


large metal piping required
extending out side of radiator



Small (3/8" or 1/2")
PEX, or PEX-AL-PEX tubing
for supply & return connections
under radiator

- **DiaNorm panel radiators release a significant portion of their heat output as radiant heat.** This improves comfort and reduces room air stratification. In contrast, fin-tube baseboard releases almost all heat by warm air convection. This can lead to room temperature stratification (e.g. warm air accumulating near the ceiling while cool air settles at floor level). Such stratification reduces comfort and increases heat loss from the room.



- **DiaNorm panel radiators have a high quality white powder coat epoxy finish.** This finish provides excellent aesthetics as well as high resistance to scratches or exterior corrosion when mounted in humid spaces such as bathrooms. This finish also provides an ideal base if the panels need to be painted a different color.

- **DiaNorm panels can be quickly attached to most types of walls using special spring-loaded mounting brackets.** These same brackets make it easy to detach the panel from the wall if necessary.

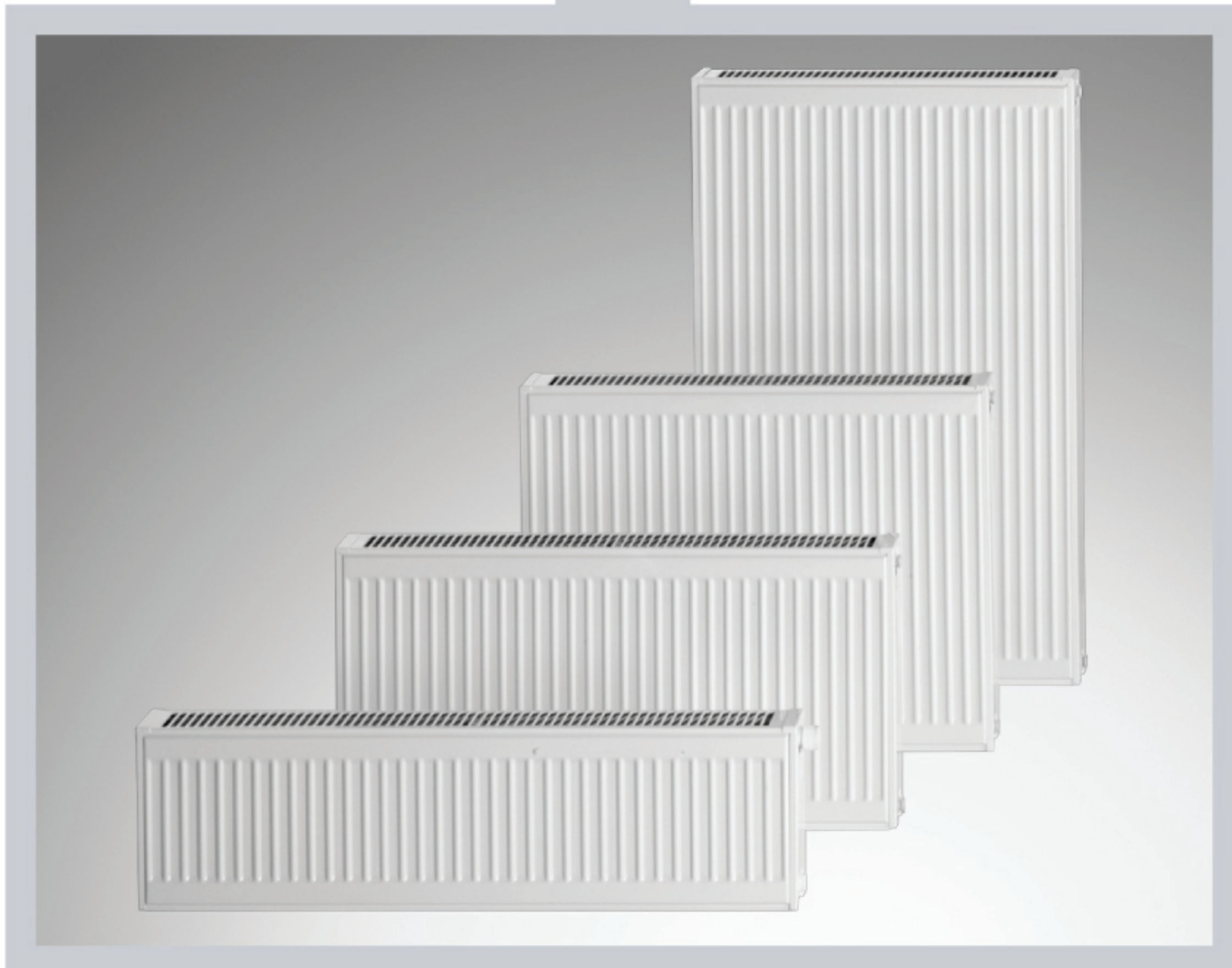
SECTION TWO

7

Advantages of DiaNorm Panel Radiators

- **DiaNorm panel radiators are available in a large variety of widths and heights.**

This allows them to be integrated into buildings with different windowsill heights and wall widths. The narrow wall spaces often found in kitchens and bathroom can use narrow but tall panel radiators.



- **Model 11 DiaNorm panel radiators are only 2.6 inches deep.**

The outer surface of the panel is approximately 3.7 inches from the wall surface. This minimizes the room space loss, and reduces the chance of objects or people bumping into the radiators.



- **DiaNorm panel radiators have integral balancing valves.**

This allows the flow rate through each panel as well as the heat output to be individually adjusted. In combination with thermostatic operators, these valves allow each panel to automatically monitor the desired room temperature and respond as needed to maintain comfort. *The comfort level of each room in the building can be individually controlled.*



- **DiaNorm panels can be accessorized with shelf brackets.**

If the owner would like a shelf above the panel for drying gloves or boots it can easily be attached directly to the radiator using optional brackets available from DiaNorm.



Advantages of DiaNorm Panel Radiators

- **DiaNorm panel radiators can be easily cleaned of any internal dust.** A special brush specifically shaped to match the fluted design of the panel allows the panel to be quickly and thoroughly cleaned.



- **DiaNorm radiators can be operated at lower water temperatures than are typical for fin-tube baseboard systems.** Lower water temperatures improves the efficiency of the boiler and distribution system resulting in fuel saving. It also increases the percentage of radiant heat output from the panel. In many systems, the water temperature supplied to the radiators can be automatically controlled based on outside temperature.

- **DiaNorm radiators can be easily isolated from the piping circuit.** Special valves are available that allow the supply and return piping to each radiator to be temporarily turned off if that radiator ever needs to be removed for wall painting or other maintenance. In some systems these valves allow the other radiators to remain in operation while one or more panels are temporarily removed.



Isolation valves on supply and return piping

- **DiaNorm radiators, when properly installed, make no operating sound.** Because of their design and all-steel construction, DiaNorm panels do not make the expansion sounds often associated with fin-tube baseboard as heated water begins flowing through.

- **DiaNorm radiators resist denting.** The design and all-steel construction of DiaNorm panel make them more resistant to physical damage than are most fin-tube baseboards. They can be applied with confidence in commercial as well as residential applications.

SECTION TWO

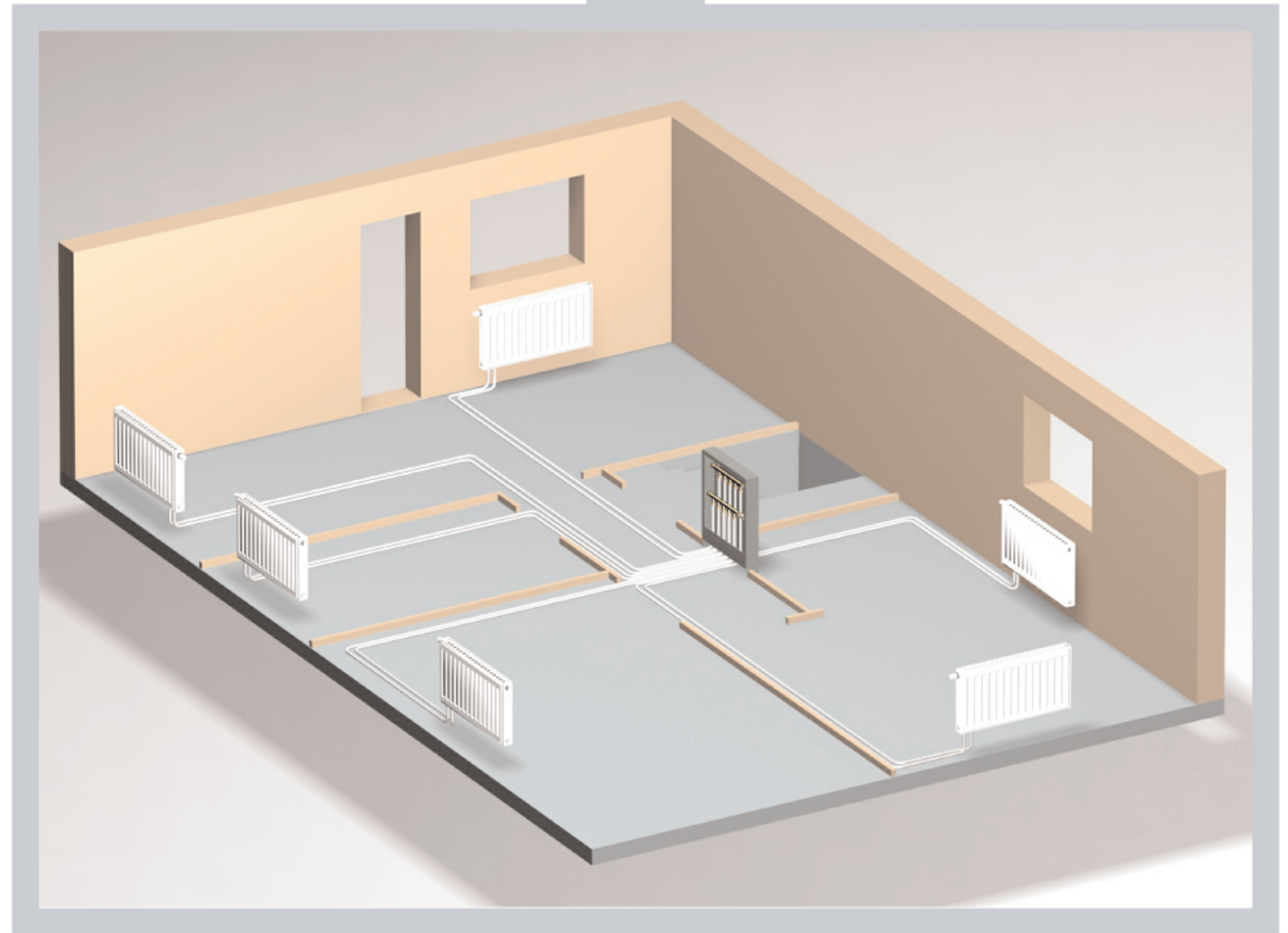
Advantages of DiaNorm Panel Radiators

- **DiaNorm radiators are aesthetically clean.** Their simple fluted or flush face panel allows them to match virtually any décor including both traditional and contemporary styles.



DiaNorm radiators provide a simple, clean appearance.

- **DiaNorm radiators are excellent for both new construction and remodeling.** Their lightweight, easy-to-mount construction in combination with modern piping materials such as PEX or PEX-AL-PEX tubing make them easy to install with minimal disruption of existing surface finishes.



DiaNorm radiators connected using a homerun piping system are ideal for new construction or retrofit applications.