

CONTRACTOR

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Let floor-heating circuits flow without zone valves

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IN EARLY 1995 the German government implemented a new regulation for floor heating control which brought forth an unusual amount of resistance among German hydronic contractors who know a lot about floor heating. The floor heating gurus were up in arms. How come?

Well, during the 1970s and '80s, various laws were enacted in Germany to cut back on fuel consumption, one of which required that every radiator be equipped with a non-electric zone valve. In 1995 this law was expanded to include floor heating systems. The reasoning eludes most experts in floor heating.

Zone controls on radiators, baseboard and other convection heaters make sense. Floorheating control is a different ballgame.

I can tell you, since I have lived with and studied floor heating controls for 15 years, this new regulation does not make sense.

The original portion of my house has 13 floorheating circuits serving seven rooms. None of these circuits has any zone valves. The water temperature of the system is being reset by an outdoor mixing valve controller and the fine tuning for each room is done with flow balanc-

ing valves at the distribution manifold.

An established high heat loss test room, in my case the family room, which has glass sliders and an outside chimney, is the compensator for internal/external heat gain by means of a strategically-located room sensor feeding back to the reset control.

None of the 13 circuits are ever shut off from the first to the last day of heating, about eight months of the year. The comfort is incredible, never deviating more than one-half degree Fahrenheit.

The key is to let the water flow unrestrictedly through the test room circuits in order for the reset control to see what's being introduced into the system from the boiler, the sun, people, lights and other internal heat gains. The zone control for the rest of the rooms is done by balancing the circuit flow rates at the manifold.

In my 1985 addition I have seven floor heating circuits, all controlled with on-off zone valve controls. I chose this method to test and compare the efficiency and comfort between the two different control strategies. When the ambient room temperature set point is reached, the floor cools off. The warm floor feeling disappears and with it the radi-

ant comfort feeling, which floor heating is all about. Continuous flow is my family's control strategy of choice.

Sometimes it can be hard to convince an owner that he's buying zone control but he doesn't need a thermostat in every room. In order to ease the homeowner's concerns, rough out each room with 4-lead thermostat wire and leave it behind the drywall, especially in bedrooms or in heavy solar gain areas. This will give him the security of knowing if, for some reason, the heating system cannot be balanced to his liking, a thermostat can be easily installed.

The secret in floor heating control is never to shut off the water flow to any circuit. Modulate either the water temperature or flow rate, but let it flow. Thousands of German floor heating contractors know that and that's why they disagree with the new government regulation. Just another perfect example of government interference stopping the flow of things.

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