

Go All the Way: Zone-by-Zone Outdoor Reset – TD05

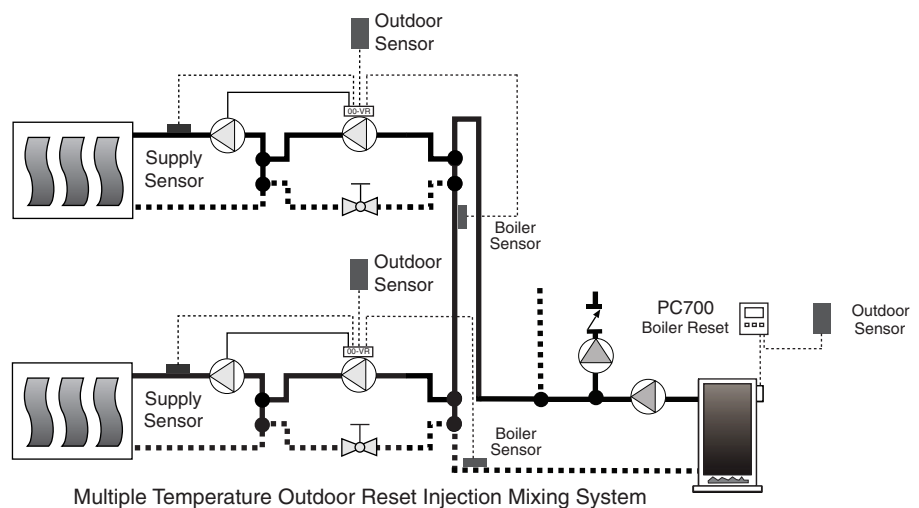
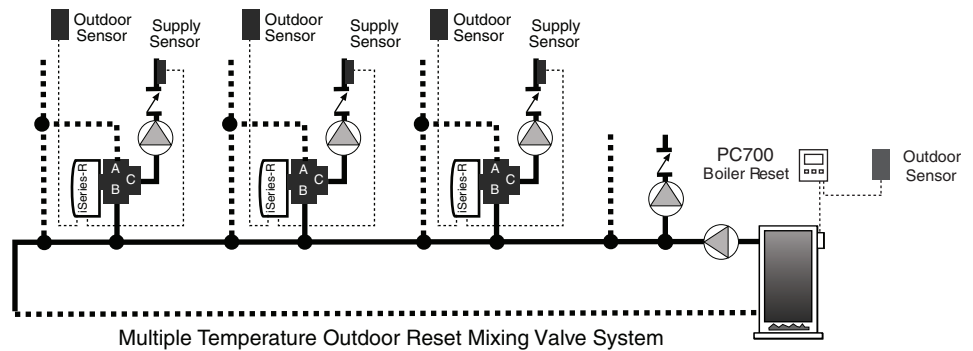
EFFECTIVE: 08.03.2015

SUPERSEDES: 03.1.2004

We have long seen the benefits of Outdoor Boiler Reset. We have started to utilize Mixing Reset to make radiant systems work more efficiently and produce a more comfortable environment. Now it is time to take the benefits of outdoor reset all the way; zone-by-zone outdoor reset. By placing an outdoor reset control directly onto the pump (00-VR, RMB) or valve (iSeries-R) used to supply water to a particular zone, the ultimate in control can be easily achieved.

An example would be if the outdoor temperature is 10°F and the selected heating curve is 1.0, the heating curve calculations would require a supply water temperature of 130°F. 130°F is being supplied to a manifold of 4 loops all designed to require the same temperature based on the original system design. Today, due to a larger than normal heat loss through windows and no solar gain, one of the rooms is colder than the others on the manifold. Because a thermostat is supplying feedback regarding the room air temperature, the supply water temperature is increased to bring the colder room up to temperature. Effectively this would supply excessive heat to the other three zones unless those room thermostats shut off supply to the zones. What you have now is individual zones that are supposed to be working under the same design conditions and same water temperatures fighting each other for control of the system.

Why not improve the system? By using a pump or valve with built-in outdoor reset, every zone can be optimized. As shown in the piping diagrams above, the valves and pumps with integral reset can be pulled directly off of the primary loop. This makes it convenient to add a radiant zone to an existing system or design a system that has very diverse temperature requirements. Also as loads change from season to season, usage rates of a room change, or the design of the room changes (i.e. area carpet installed), the pump or valve automatically adjusts to provide the optimal supply water temperature to match the load required for that particular room. Zone-by-zone Outdoor Reset takes comfort control to a whole new level.



Product & Application Documents:

- PA01 – PC700 Outdoor Boiler Reset Control and PC702 Two Stage Outdoor Boiler Reset Control
- PA02 – PC705 Variable Speed Injection Mixing Control
- PA03 – Variable Speed Outdoor Reset “00” Circulator (00-VR)
- PA04 – iSeries-R (Outdoor Reset) Mixing Valve
- PA09 – Radiant Mixing Block

Operating Mode Documents:

- OM02 – Outdoor Mixing Reset: Variable Speed Injection Circulators
- OM03 – Outdoor Mixing Reset: 2-Way / 3-Way / 4-Way Mixing Valves
- OM04 – Zone-by-Zone Outdoor Mixing Reset

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