

BALANCING THE MANIFOLDS

Balancing the manifold is the key to having the right heat delivered to the correct loop, zone, or room. The manifold is the distribution point where all the loops connect. Depending on design requirements, each loop will cover a specific area, and subsequently, its length and heat demand will be different from that of the other loops on the manifold. To meet the heat demand of a particular loop, first, flow needs to be established, then, the pressure drop of the worst loop so that a pump can be selected. The pump is sized to deliver the correct flow to the manifold. However, that's not the end of it. Water will travel the path of least resistance. A longer loop will have a higher pressure drop compared to a shorter loop, so, given the opportunity, the water will try to go the path of least resistance, through the short loop. This results in too much flow through the short loops (potentially over-heating), and too little flow (never satisfying the thermostat) in the long loops. Balancing takes in account the heat demand (flow) needed and the pressure drop, and diverts the flow to accurately give all the loops their required amount. All Mr PEX® Manifolds have loop flow meters available. Use the Mr PEX® Design Software to complete the design, each manifold and loop will have a target design flow and pressure drop. The manifold info is used for pump sizing (see Pump Sizing Section) and the loop flow for balancing the loops by dialing in the correct flow on the flow meters.

