Build Your Own PEX Manifold

A homemade array of tubing and fittings can rival brand-name water-distribution panels

BY JAMES GLASS

Think of a PEX manifold as the plumbing equivalent of a main electrical panel. It's the central distribution hub for all of the water running to your household fixtures.

The concept is that each fixture or group of fixtures in the house has its own water supply line stemming from this central point, a configuration known as a home-run setup. Tubing can be color-coded to indicate cold-water lines (blue) or hot-water lines (red) and then labeled with their destination. This allows homeowners to quickly locate and shut off water to a certain area of the house for maintenance, for remodeling, or in an emergency.

You can buy a brand-name PEX manifold, which comes labeled for cold-water and hot-water lines, but these versions have some drawbacks in their design and function. I prefer to make a pair of homemade manifolds—one hot and one cold—from off-the-shelf parts. Not only can making your own manifold save some money and let you use high-quality parts, but it allows you to customize the setup to suit your needs, and to reconfigure or repair the manifold as needed.

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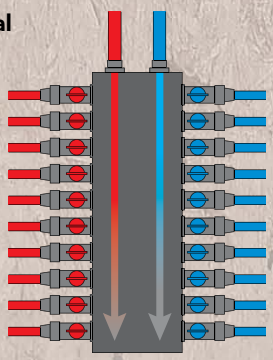
SIX BENEFITS AT A GLANCE

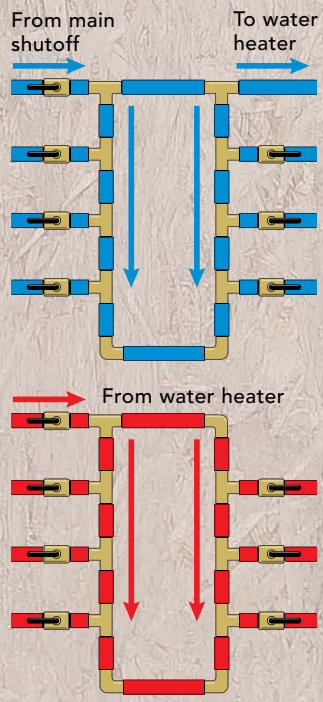
BALANCED WATER PRESSURE

Compared to a typical manifold, where the branch lines all stem from a single linear chamber, a custom manifold can be fed from two directions, offering more stable water pressure if the toilet is flushed, the shower is running, or the washing machine is starting a rinse cycle.



Conventional Last branch line in series gets less water if other lines demand water first.

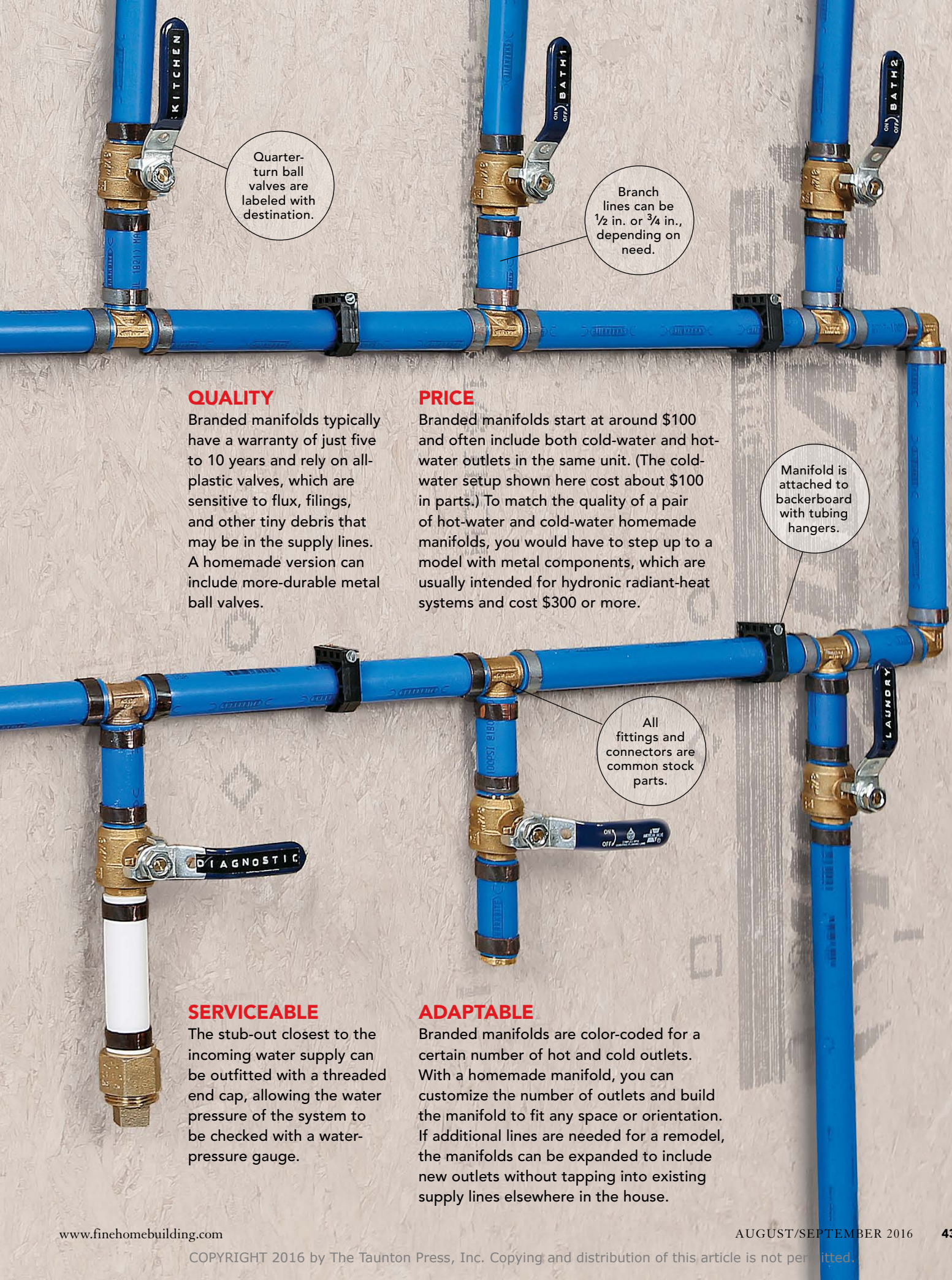
Custom Water flows into manifold from two directions, balancing pressure.



REPAIRABLE

The system is made from off-the-shelf tubing, valves, and PEX connections of your choosing, so it can just as easily be repaired with off-the-shelf components, too. If a manufactured manifold fails, you have to disconnect and replace the entire unit.

Photo: Rodney Diaz. Drawings: Patrick Welsh.



QUALITY

Branded manifolds typically have a warranty of just five to 10 years and rely on all-plastic valves, which are sensitive to flux, filings, and other tiny debris that may be in the supply lines. A homemade version can include more-durable metal ball valves.

PRICE

Branded manifolds start at around $100 and often include both cold-water and hot-water outlets in the same unit. (The cold-water setup shown here cost about $100 in parts.) To match the quality of a pair of hot-water and cold-water homemade manifolds, you would have to step up to a model with metal components, which are usually intended for hydronic radiant-heat systems and cost $300 or more.

SERVICEABLE

The stub-out closest to the incoming water supply can be outfitted with a threaded end cap, allowing the water pressure of the system to be checked with a water-pressure gauge.

ADAPTABLE

Branded manifolds are color-coded for a certain number of hot and cold outlets. With a homemade manifold, you can customize the number of outlets and build the manifold to fit any space or orientation. If additional lines are needed for a remodel, the manifolds can be expanded to include new outlets without tapping into existing supply lines elsewhere in the house.