Retrofitting a Multihead Shower

by Dave Holbrook

The rise of the multiheaded custom shower, or "vertical spa," proves once again that two heads are better than one — and, further, that six heads are unbelievably great. Odds are good that you'll be discussing this kind of shower as an upgrade with a client sooner or later. When you do, keep in mind that you can't simply modify an existing shower by adding more heads; custom showers require fundamental plumbing changes. When it comes to equipping a multihead shower, there are just a few too many choices to keep things simple.

DELTA FAUCETS

Full coverage is the custom shower objective. Main heads may go on opposing walls, regulated by separate volume controls. Body sprays are connected in a closed-loop supply configuration to ensure equal output and are equipped with an independent volume control. At the heart of these systems are the individual spray heads, which emit a directed high-pressure blast.

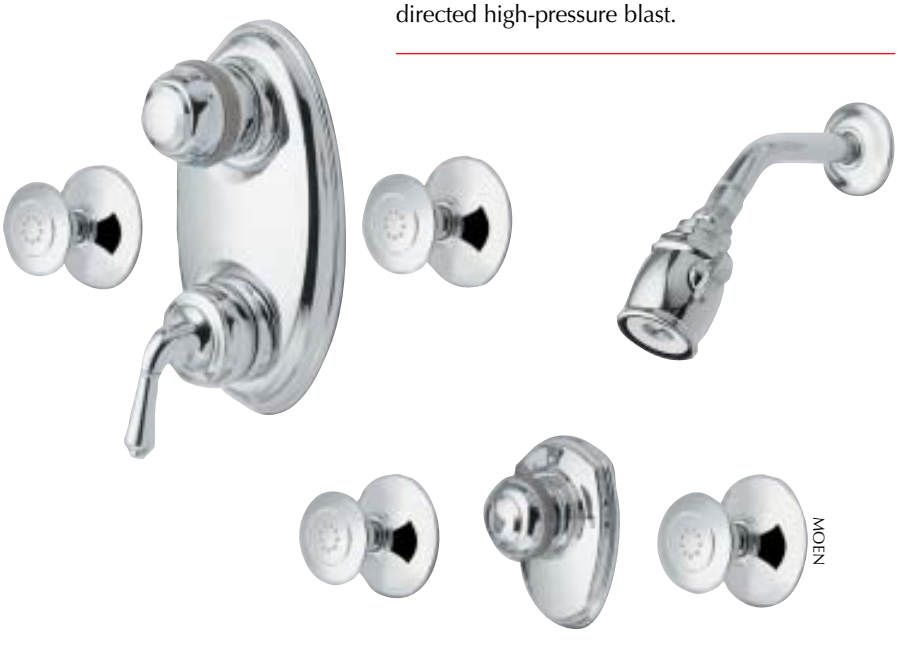
Start With Water Pressure

They're called spray heads for a reason: Feeble, drooling shower nozzles are not the objective here. So adequate water pressure is a basic requirement — manufacturers recommend 45-psi minimum pressure, with 50 psi preferred for optimal performance.

MOEN

Before you commit to upgrading or remodeling an existing shower, have your plumber gauge the dynamic (running) water pressure. Or you can perform a simple flow evaluation by timing how long it takes to fill, say, a couple of 5-gallon buckets from the existing shower (remove any flow restrictors first). This will give you a fairly accurate flow rate in gpm.

Note that a point-of-entry water softener can inhibit hot water flow — if hard water treatment is essential, so is a high-volume unit to ensure sufficient shower pressure. If the water pressure's too low, corrective measures, such as a booster pump, may be necessary. Also, a private well or cistern may simply not have the capacity to keep up with the water flow demands of a multihead shower system. Make sure your plumber



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looks at the entire system before designing and quoting a multihead remodel.

Abundant Hot Water?

It's estimated that a custom shower with four flow-restricted outlets can use 6.25 gallons per minute in hot water alone. Consider, too, that a custom shower or preconfigured module can easily include a main head, or two main heads; four, six, or more body sprays; and a hand-held spray. Thus, most valve makers recommend a minimum 100-gallon water heater for a custom shower application.

Supply lines. Given adequate system pressure, 1/2-inch lines can effectively serve a "high-flow" 3/4-inch valve, although 3/4-inch supply lines are the preferred standard. The overarching design factor is the number of outlets per mixing valve. Mixing valves have stated flow capacities, and shower heads, as we know, are rated at 2.5 gpm. If you've already determined the existing gpm delivery, just do the math. This will tell you whether a supply line upgrade is in order.

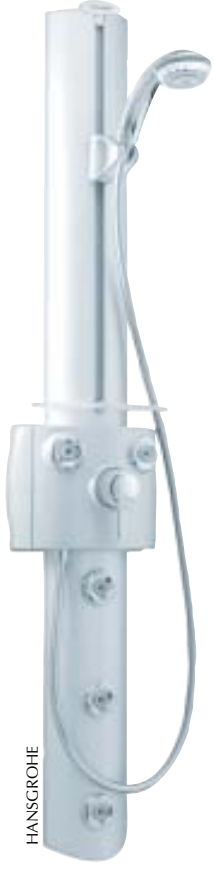
If the number of outlets exceeds the capacity of a single thermostatic valve, it's necessary to add another, according to the total outlet flow requirement. Each valve should be home run from the main to avoid possible fluctuations in flow and temperature. This makes it easy to isolate the lines for occasional valve servicing. Also, when more than one valve is used, it's a good idea to bump the home-run supply lines up to 1 inch to maintain peak pressure delivery.

Mixing Valves & Volume Controls

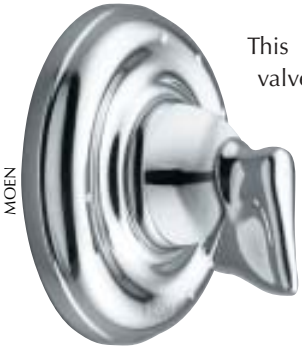
Antiscald devices are required in every new tub and shower installation. Because precise temperature control is a key aspect of the spa experience, custom shower equipment makers typically provide thermostatic valves rather than pressure-balancing units. Thermostatic valves spare users the need to manually readjust the temperature as the hot water tank is drawn down and cold replacement water mixes in. A 3/4-inch high-flow thermostatic valve can typically supply 12 to 16 gallons per minute, enough water to feed six outlets — for example, one or two fixed heads, several body sprays, and a personal hand spray — all while keeping the water temperature constant.

In the truly custom multihead shower, the mixing valve controls only water temperature, while separate volume controls regulate the flow at individual outlets (or groups of outlets). That's why you see so many extra knobs in photos of custom showers. Volume controls should also be 3/4 inch. You can use 1/2-inch controls, but keep in mind that you're limiting flow to 8 gpm at 45 psi and design accordingly.

Less expensive options. You might use more conventional single-handle valves, which control both temperature and the volume, or dual-handle valves, which have one control for temperature and one or more for volume. There are also three- and five-function transfer valves, which control water temperature and flow while allowing the user to switch from one spray component to another. Be aware that a multifunction valve may limit the selection of


HANSGROHE

A shower tower or panel unit provides a predetermined layout and simple hookup. Minimum 45 psi water pressure is required.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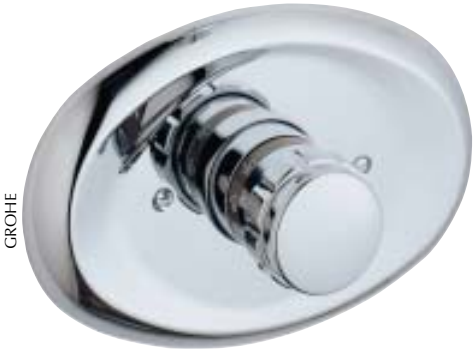
This five-function diverter valve allows the user to control volume and temperature while choosing between three spray-head configurations.

A dedicated thermostatic valve (below) controls only water temperature; a separate volume control is required to regulate flow.


GROHE

outlet combinations compared with using individual volume controls.

Heads, Sprays & Jets

As already noted, there's no set limit on the number of outlets, other than the basic flow requirement imposed by all heads functioning simultaneously. While it may not be the typical bathing scenario, the shower should be designed for peak function with all sprays active.

Custom showers typically include one or more fixed-position heads, often with an adjustable spray pattern. There are many to choose from. Body sprays are generally fixed in the below-the-shoulder zone and can range from a fine spray to pummeling massage jets. Volume controls play a vital role in varying body spray output and function.

Hand-held personal sprays may be detachably mounted on a vertical slide bar and usually include a 60-inch hose, which is also convenient for cleaning the shower enclosure itself.

Especially where "hard" water is prevalent, look for outlets with flexible rubber spray tips that inhibit mineral buildup and are easily cleared with a flick of the finger.

Tower and panel showers. Preconfigured "towers" and "panels" offer a shortcut custom shower upgrade, but all the cautions of adequate pressure, flow, and drainage still apply. Designed to connect to an existing 1/2-inch supply, tower and panel units are preconfigured with valves, sprays, jets, and controls and generally require only a single supply hookup and little or no wall surgery or plumbing complications.

Full-body carwash spas. A body spa is the vertical equivalent of a whirlpool tub in performance and price, with a dual array of jets designed to deliver a full-body water-therapy experience with variable heat, volume, and intensity. As the carwash label suggests, these units typically feature six or more body sprays, are custom designed for large shower spaces, and involve complex plumbing and electronic controls.

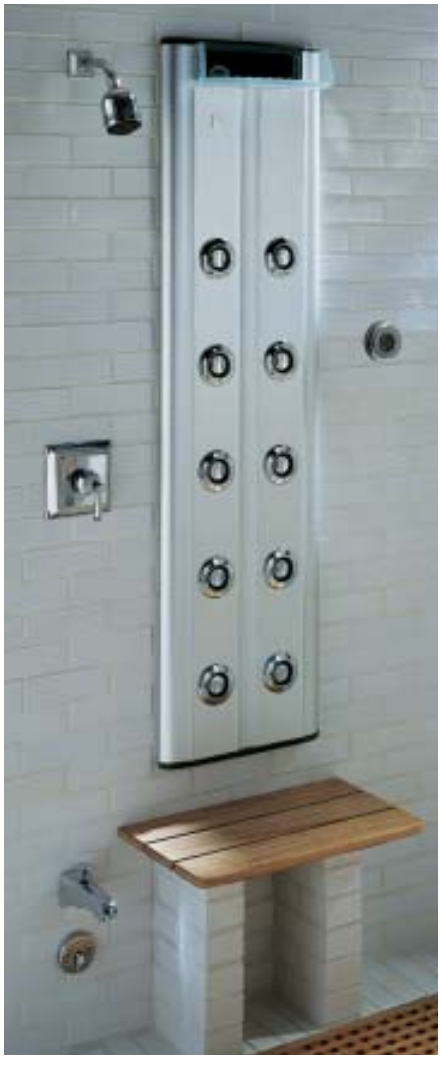
Recirculating units provide a water-saving option in a body spa installation, by pumping shower water from the stoppered basin back through the heads. An integral heating unit ensures consistent water temperature. Another advantage is that the water delivery provided by the recirculating pump can far exceed the supply flow rate. For example, Kohler's Body Spa System is claimed to exceed the combined output of 25 flow-restricted heads by cycling the water in the shower basin twice per minute. Normal shower functions can be resumed by shutting off the pump and reopening the drain.

Because of the intensity available in a body spa, it's best to install the controls in a location where they can be operated beyond the water stream.

Drain Capacity, Ventilation

It's best to assume that a single 2-inch drain is designed to handle only a single outlet, so be prepared to upgrade the existing drain line. Depending on the number of spray outlets and their combined flow, one 3-inch or two 2-inch drains is recommended to keep pace with the higher water output.

And by the way, custom showers create lots of extra steam and humidity, so if the bathroom isn't already equipped with a good ventilation fan and control, plan to add them to the job.



KOHLER

A vertical spa, or "carwash" unit, is the shower version of a jetted tub, designed to deliver a high-pressure, water-therapeutic workout.

Shower Spa Manufacturers

Delta Faucet
Indianapolis, Ind.
800/345-3358
www.deltafaucet.com

Grohe
Bloomingdale, Ill.
630/582-7711
www.groheamerica.com

Hansgrohe
Alpharetta, Ga.
800/488-8119
www.hansgrohe-usa.com

Kohler
Kohler, Wisc.
800/456-4537
www.us.kohler.com

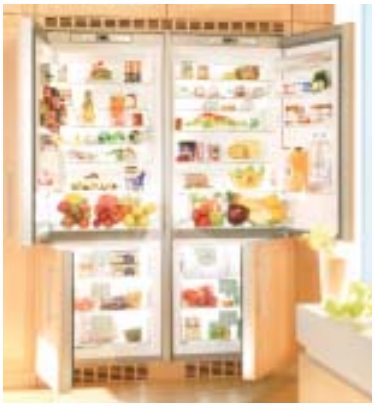
Moen
North Olmstead, Ohio
800/289-6636
www.moen.com

REFRIGERATORS

Counter-Fit Cooler. Offered as an affordable alternative to a true counter-depth fridge, this refrigerator claims the largest storage capacity available in a unit its size — 25.5 cubic feet in a nominal 3x6-foot package. Actual depth is just under 30 inches, including door thickness. Among other convenient features, the *DesignerFit* includes in-door ice dispensing, removable door bins for one-trip table service, full-extension freezer baskets, and a cooling system that keeps door bin items as cold as the other contents. A digital display confirms both fridge and freezer temperature settings, assuring proper food preservation. The suggested retail price is $2,300.

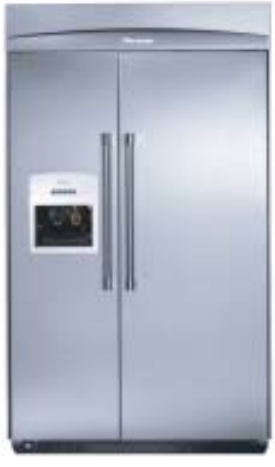
Whirlpool, 269/923-5000, www.insideadvantage.com.

German Engineering. High-end *Liebherr* refrigerators made their U.S. debut at the 2004 Kitchen & Bath Industry Show (KBIS) and are just entering the market here via initially limited distributorship. Separate compressors and electronic controls provide independent temperature regulation of the refrigeration and freezing compartments. Side-by-side doors in the built-in double unit shown provide wide access to a roomy, well-equipped interior. Prices range from $3,200 to $8,500.



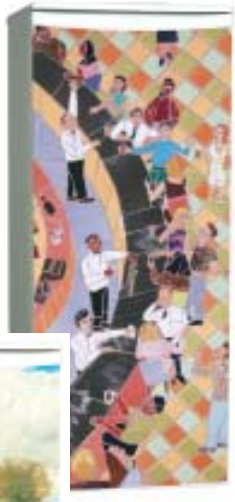
Liebherr Hausgeräte, Ochsenhausen, Germany; info.refrigerators@lex.liebherr.com, www.liebherr-appliances.com.

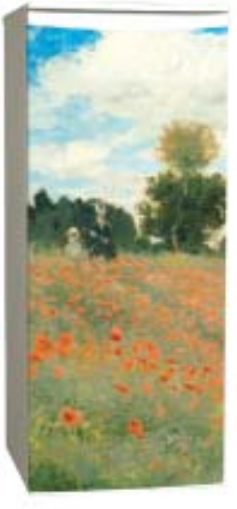
Quiet Operation. My crazy grandparents liked to insist that "children should be seen and not heard." They'd have stood a much better chance of success if they'd picked on kitchen appliances instead. Thermador's side-by-side and bottom-mount built-in line has undergone "comprehensive quietness engineering" to reduce the typical cycling hum to a 37-decibel murmur. The interior features drawers on roller glides and fully adjustable, frameless tempered-glass shelves. The units are available in 36-, 42-, and 48-inch widths and 18 possible configurations.



Thermador, 800/656-9226, www.thermador.com.

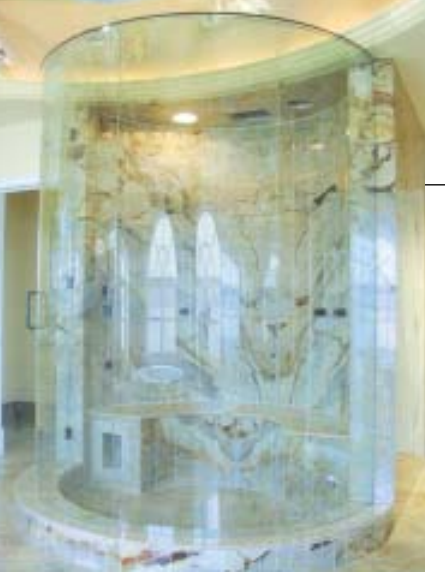
Kitchen Canvas. Adorned with world-class images from the likes of Gauguin, Degas, Cezanne, and other renowned artists, this line of midsize and compact refrigerators is cool on the outside, too. For each *Danby Art Cooler* sold, the company has pledged to plant ten trees on public lands, theoretically more than offsetting the carbon emissions contributed by the appliance in use. The program is run in cooperation with the nonprofit American Forests organization. The complete line (and rationale), with prices ranging between $500 and $900, can be viewed on the company's website.





Danby, 419/425-8627, www.danbyartcoolers.com.

SHOWER ENCLOSURES



Custom Corners. High-end design is likely to throw you a few curves. And we're not speaking figuratively. But frameless bent-glass shower enclosures are right up this company's alley. Pricing is based on square footage and the accessories chosen. Speaking of figures, the custom enclosure shown cost someone $9,000.

Duschqueen, 800/348-8080, www.duschqueenusa.com.

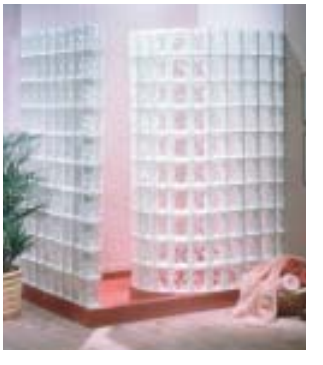
Solid-Surface Kit. Sometimes it makes sense to forgo the involvement of a specialty contractor. This authentic solid surface shower wall panel system fits base sizes 36x36, 34x48, and 32x62 inches square. The system is available in 29 solid and stone-look colors and includes side and back wall panels, molding strips, soap dishes, adhesive, caulk, and pressure-sensitive tape. Kits cost between $1,200 and $1,500. Matching shower bases are sold separately.

Swan Corporation, 314/231-8148, www.swanstone.com.

Design Flexibility. The *Paragon* line offers a simplified system of parts and options to satisfy the demands of many enclosure designs, whether standard or custom. Infinitely adjustable interlocking corner posts adapt to virtually any angle, and continuous hinges provide exceptional door stability. Swing-out door kits fit standard stalls and include a classy through-door handle option. By-pass models feature contoured extrusions, curved towel bars, and ball-bearing rollers for smooth operation.

Coastal Industries, 800/874-8601, www.coastalind.com.

Bath Building Blocks. Glass block is an architectural standard, unlikely to become dated, however it's used. Three *Glass Block Shower Systems* — classic, neoangle, and walk-in — include all the major components and instructions necessary to build a classic enclosure. Preconfigured acrylic base units provide a fully supporting foundation to build upon. The classic and neoangle designs are sized for fitting a nominal 28x69-inch glass shower door. The systems are priced and sold through local distributors and at select home centers by special order.



Pittsburgh Corning, 800/624-2120, www.pittsburghcorning.com.