

Showers in the forecast... and plenty of smiles

From showerheads to spa showers, new options look good and feel great

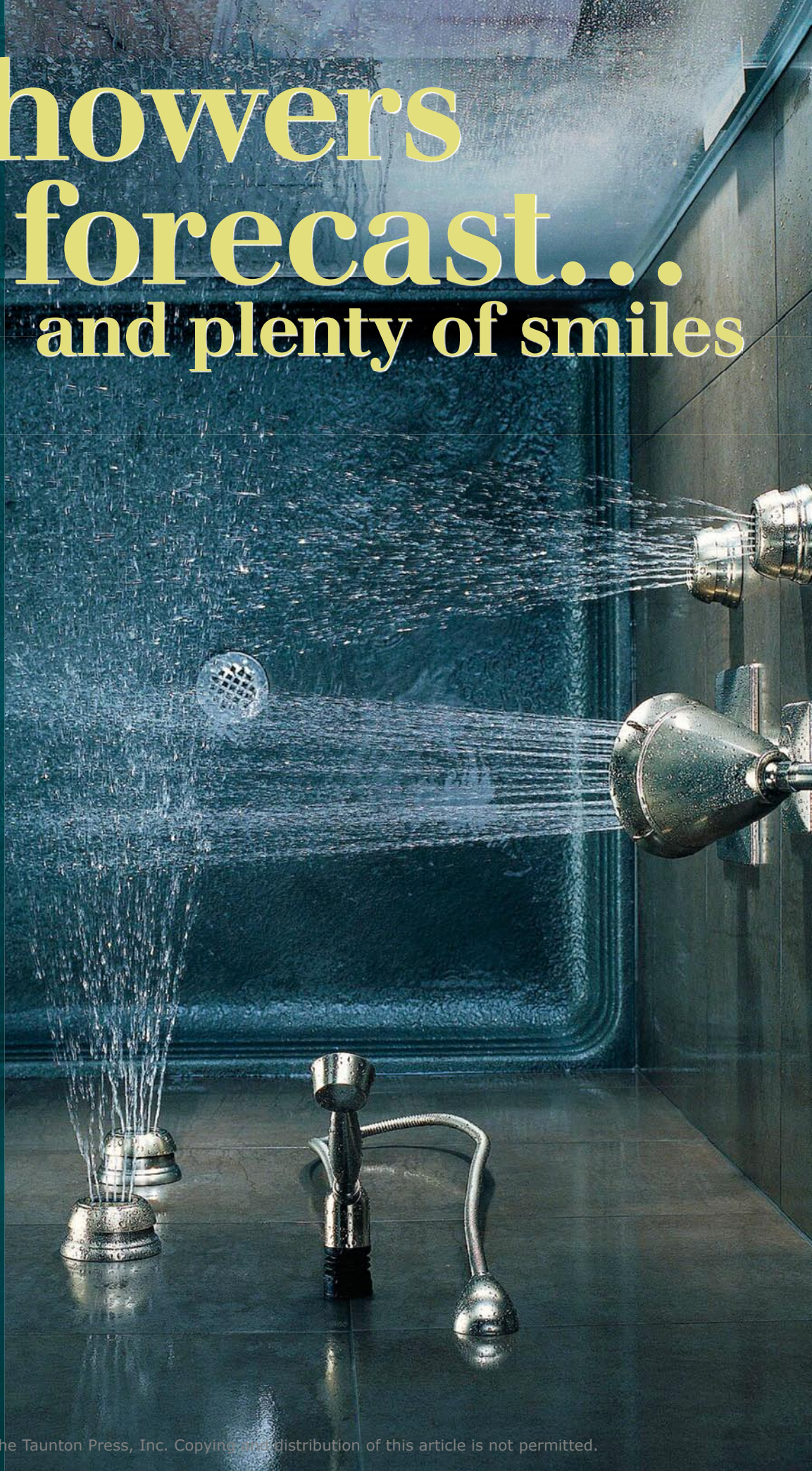
BY NENA DONOVAN LEVINE

I don't know anyone who gets up in the morning and draws a bath before heading out the door to work. Even at the end of the day or on the weekend, how often do you make time for a relaxing bath? Just waiting for the tub to fill seems like an eternity.

A shower can be quick and invigorating or a leisurely, soothing massage. With the flood of new shower fittings on the market in recent years, stalls sporting several showerheads and jets are no longer exclusive to luxury hotels and spas.

If you've ever thought that standing beneath a waterfall completely enveloped in cascading water would feel wonderful after a hard day of work, nearly every plumbing manufacturer offers an array of showerheads, body jets, and high-volume mixing valves to create just this effect, often in showers designed for two people. Even in the category of moderately priced shower fittings, smart new safety, convenience, and water-conservation features are now available.

Yesterday's simpler systems lacked today's astonishing hardware variety and splendid aesthetics. However, before you start to enhance your shower with the latest fittings, you'll need



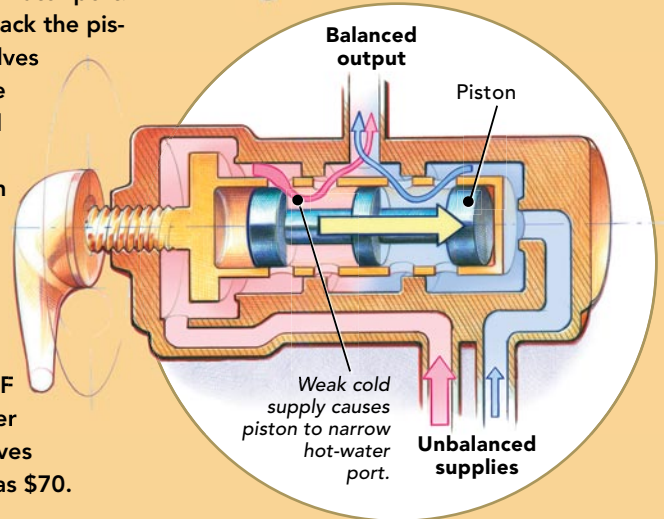
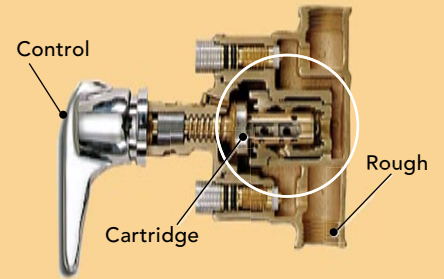
BEHIND THE SCENES

CHOOSING THE RIGHT VALVE IS THE FIRST PRIORITY

PRESSURE-BALANCE MIXING VALVES

In 1939, Paul Symmons designed a valve that maintains shower-water temperature (the mixture of incoming hot and cold water) by rebalancing the pressure of incoming water when it's disrupted. If incoming cold water falters, weakening the incoming pressure, a pistonlike mechanism inside the valve instantly moves toward the cold inlet, which narrows the hot-water port. When the cold-water pressure rebounds, it pushes back the piston, allowing more hot water into the mix. (Some valves use a rubber diaphragm instead of a piston.) Because pressure-balance valves adjust to the lowest-supplied pressure using essentially a knee-jerk mechanical reaction, there is no lag in their response time, and an unbalanced mix of water cannot exit the mixing chamber and flow out of the showerhead.

In homes where safety is a concern, such as those with young children, these quick-to-react valves are a good choice. Industry standards require pressure-balance valves to maintain the temperature within 3.6°F of the set point even if there is a 50% decrease in water pressure. Found in most showers, pressure-balance valves provide safe, reliable, antiscald protection for as little as \$70.

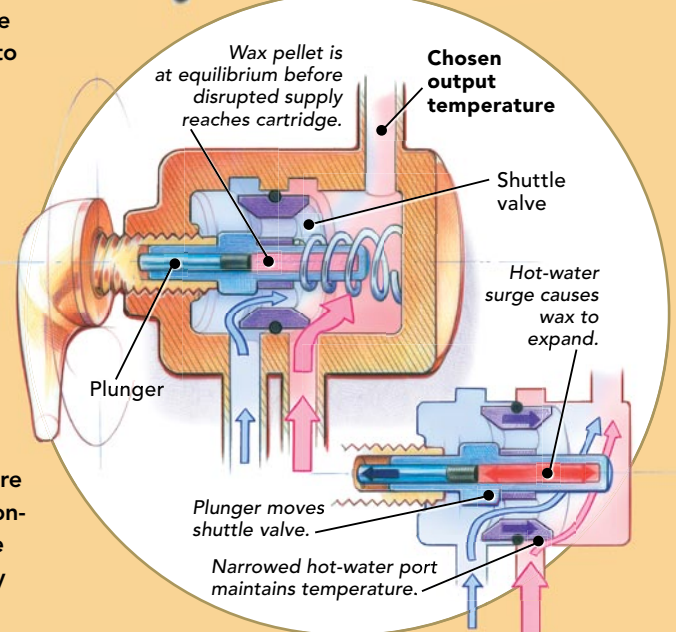
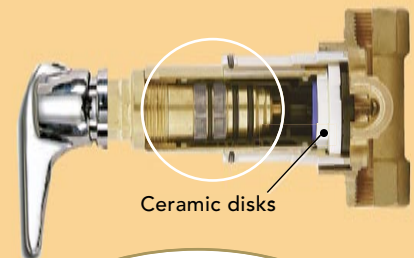


THERMOSTATIC MIXING VALVES

Thermostatic valves prevent scalding by controlling water temperature rather than pressure. Similar to a room thermostat, the valve can be set so that water flows at a chosen temperature, shower after shower, until you change the setting. A thermal motor in the valve, often a wax pellet embedded within a thin copper housing, reacts to temperature changes in the incoming water by changing shape. The changing pellet shape moves a shuttle valve between the cold and hot inlets to adjust the mixture.

Industry standards for thermostatic valves differ from those for pressure-balance valves. The minimum standard for thermostatic valves requires that they limit the 3.6°F temperature swing through only a 20% decrease in water pressure. Many valves outperform this requirement, however; some limit the deviation to $\pm 1^\circ\text{F}$. Thermostatic valves react more rapidly to temperature changes as the amount of water coursing through them increases; performance suffers if the volume is low.

Designed for larger water flows and $\frac{3}{4}$ -in. supply lines, thermostatic valves are ideal for multiple-fixture spa showers. Because the valves have a separate control for volume and temperature, you can leave the shower set at a favorite temperature. This capacity and convenience often cost more than \$400.



What you can get for **under** **\$1,000**



Moen Villeta \$132

If your budget hovers around \$150, you don't have to sacrifice quality, but you're limited to the basics: A pressure-balance valve, chrome fittings, and nothing flashy in the design department. However, you get a brass rough and a ceramic-disk cartridge. • Pressure-balance mixing valve • Single-handle control adjusts temperature only • Chrome-plated finish

American Standard Jasmine \$515

As your budget increases, so do the number of finish choices and design options. In addition to a more expensive finish, the Jasmine lets you fine-tune the flow: Turning the single-handle control counterclockwise increases temperature, while pulling the lever away from the wall increases volume. • Pressure-balance mixing valve • Single-handle control adjusts temperature and volume • Polished-brass PVD finish

to focus on the less-glamorous plumbing hidden in the bathroom wall.

What you don't see can hurt you

The mixing valve is at the heart of every shower system. This valve controls the separate incoming hot- and cold-water flows so that they emerge from the mixing chamber at the temperature you expect. Mixing valves are not just a matter of comfort, however. They protect against scalding. Since the 1970s, the American Society of Sanitary Engineers (ASSE), a plumbing-industry group, has set performance criteria for mixing valves. The present standard (ASSE 1016) dictates that a mixing valve must limit temperature swings to $\pm 3.6^{\circ}\text{F}$.

New single-handle controls also are less of a scalding hazard than the separate hot and cold taps of yore. Balancing the hot and cold inputs for a comfortable temperature is easier, and an adjustable stop on the shower handle limits the handle turn to keep water below uncomfortable temperatures.

The mixing valve is your shower's engine

The basic foundation of the mixing valve is the "rough," or housing. Think of it as the mixing valve's engine block, where water from the hot and cold supply lines is mixed and distributed to the showerheads and tub filler. Buried in the wall behind tile or fiberglass, the rough is a critical interchange that must not fail. Choose a brass rough. Although cast brass is good, forged brass eliminates the possibility of pinhole leaks.

If the rough is the engine block, then the cartridge is the fuel injector. Housed within the rough, the cartridge dictates how the shower will

Hansgrohe BodyShower \$565

Ten minutes after opening the box, you can convert your standard-issue shower into a vertical spa. Installing this shower panel is as simple as replacing a showerhead: Remove the shower arm and thread on the shower-panel connector; use the existing mixing valve and shower controls. The diverter lets you use the shower wand and the adjustable body washes at the same time or separately. • Uses existing mixing valve • Uses existing temperature and volume controls; shower panel has diverter • Chrome finish



respond to adjustments of temperature and flow and to unexpected changes in water supply. High-quality cartridges have brass, bronze, and/or stainless-steel parts. You should shy away from cartridges with plastic components.

Reliable, drip-free cartridges use ceramic disks (not washers) to regulate the flow of water through the mixing valve. Turning the shower handle to the “on” position slides a pair of highly polished ceramic disks past one another so that holes in the disks line up and water can flow through them. These fire-hardened ceramic disks rate right behind diamonds in hardness, so any grit in the water is ground up without damaging the disks. They are also impervious to temperatures that any water heater can throw at them. The highly polished ceramic disks glide effortlessly over each other for precise control of water flow and temperature.

Choosing the right mixing valve

The mixing of incoming hot and cold water is controlled by the cartridge, which relies on pressure-balance or thermostatic technology (sidebar p. 73). Because they work quickly to maintain shower-water temperature when a toilet is flushed, pressure-balance valves are a great choice in households with young children or the elderly. They are also relatively inexpensive: A top-of-the-line valve costs less than \$200; a reliable, durable valve costs half that amount.

Historically, pressure-balance valves have been engineered for ½-in.-dia. pipe and usually are available with connections for copper, PVC,

The replacements

You can change the feel of your shower in less time than a commercial break during a Sunday football game. All you need are ChannelLock pliers, Teflon tape, and a new showerhead. Because results may vary from the descriptions in marketing literature, try to find a showroom where you can see and feel the shower spray. (Price is dependent on finish.)

1. MASSAGING STREAM

Sore back from a day of yardwork? The **Moen Revolution** claims to have the cure. Flip the lever, and the flow switches from a rain-showerlike spray to a Swedish massage. Its stream is something out of Cirque du Soleil: The water spins and twirls. **\$60-\$66**

2. HANDHELD

Handhelds can mean choosing between using the wand in the fixed position, where many models won't stay put, or holding the wand while most of your body stays dry. **Alsons In2ition** nesting showerheads lock the wand inside the showerhead; when it's disengaged, you can direct water to both showerhead and wand for full coverage. **\$175-\$220**

3. RAIN SHOWER

The **Moen Velocity** has enough coverage to satisfy any water-loving mammal. Use all 100 nozzles to re-create a spring shower, or flip the lever to concentrate water through just 30 jets. **\$172-\$300**

4. GUILT FREE

For those who have trouble stepping out of the shower until the hot water runs out, conservation-minded fittings like **Oxygenics** showerheads use as little as 1.3 gallons per minute at 65 psi. **\$34-\$58**

5. TIMELESS CLASSIC

Speakman's Anystream line of burly, solid-brass showerheads features dozens of adjustable spray streams and a pressure-compensating internal valve to maximize spray strength. Versions of this invigorating showerhead have been around for 50 years, and many are still in service. **\$47-\$169**



Pulse Showerspas Molokai \$795

If you consider 1950s Detroit the golden age of automotive design, this Pulse Showerspas model may have enough glass and chrome to strike your fancy. The sleek unit is fully plumbed (including a mixing valve), so remodelers have to remove the existing rough. However, this model makes new construction a breeze. • Pressure-balance mixing valve • Single-handle control plus diverter • Chrome finish

Grohe Freehand \$435

You always win with this one-armed bandit. With the arm in the up position, you have two overhead sprays. Pull the arm down 180°, and the spray heads, which rotate 360°, become body washes. Sprays can switch between normal, pulse, and water-saving eco modes. • Mixing valve and controls not included • Chrome finish

Photo bottom left: Courtesy of Grohe



What you can get for **over**

\$1,000

Moen Waterhill \$1,175

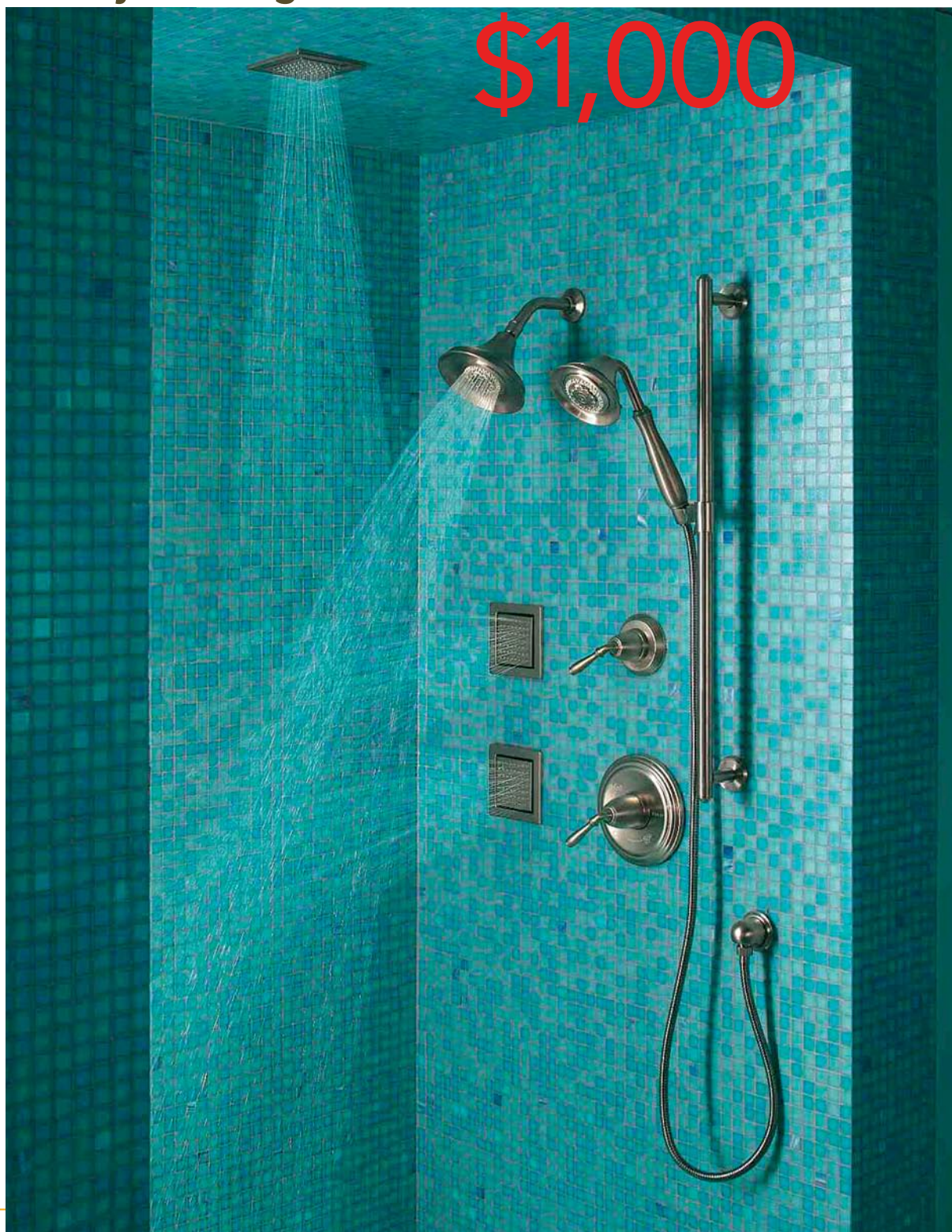
Luxury showers generally are designed by selecting components à la carte to create the spray pattern, or patterns, that you want. Two advantages of this approach are the nice clean lines of the fittings on a tiled enclosure and the flexibility to place each fitting exactly where you want it. An entry-level spa shower might include a rain-shower showerhead and four horizontal sprays, known as body washes. A diverter lets you direct water between the showerhead and body washes.

- Pressure-balance mixing valve
- Single knob controls both volume and temperature
- Separate diverter lever
- Brushed-nickel PVD finish

Kohler Forté Performance Shower \$2,068

The fun of designing a custom shower can turn quickly to frustration when you try to match different water sprays to controls and valves. Kohler's luxury shower packages do all the head-scratching for you. Their sleek and innovative shower tiles are pivoting and can function as showerheads or as body washes.

- Pressure-balance mixing valve and three-way transfer valve
- Single-handle temperature control and separate diverter
- Brushed-nickel PVD finish



Sources

Alsons, www.alsons.com • **American Standard**, www.americanstandard.com • **Brizo**, www.brizo.com • **Danze**, www.danze.com
Kohler, www.kohler.com • **Moen**, www.moen.com • **Oxygenics**, www.oxygenics.com • **Price Pfister**, www.pricepfister.com
Symmons, www.symmons.com

Dornbracht Tara \$2,045

A killer shower doesn't have to look or feel like a car wash. The well-executed design and superb craftsmanship of this retro-inspired, minimalist design have as much impact as a wall full of jetted nozzles. Of course, you pay dearly for the look; a premium finish like platinum nearly doubles the price.

- Optional antiscald device (\$168)
- Separate hot- and cold-water controls plus showerhead/hand-shower diverter
- Chrome finish



Kohler BodySpa \$9,465

Most spa showers use an inordinate amount of water—so much that they require several mixing valves and large drain lines. The recirculating BodySpa is a step toward greening these thirsty amenities. Think of it as a vertical hot tub: After sudsing up and rinsing off, close the drain, and the recirculating system pummels you with about 80 gpm through six, eight, or ten wall-mounted jets. The eight-jet tower uses as little as 37 gal. of water. • Requires a separate mixing valve, control, and showerhead for the cleansing portion of the shower • Keypad control of pump and jets • Polished-chrome finish

and PEX supply lines. Recently, manufacturers have started offering pressure-balance mixing valves with 3/4-in. connections.

Among entry-level valves, you cannot adjust water flow—the system is either on or off. More expensive valves allow you to set the temperature and adjust water volume separately.

If you'd like to run more than one showerhead at a time, you'll probably need a pricier thermostatic mixing valve. The interior volume of a thermostatic rough can handle the amount of water that a phalanx of body washes requires and is available with multiple outputs to plumb all those fixtures. Although federal law limits the flow of showerheads to 2.5 gallons per minute (gpm), the regulations don't say anything about the number of outlets in a shower; multiple-spray showers easily circumvent the intent of the law.

If you're designing a spa shower, the mixing valve requires a capacity (flow rate) greater than the total flow of all the showerheads. To calculate total flow, multiply the number of shower outlets by 2.5 gpm. For example: 1 showerhead plus 1 handheld spray plus 4 body sprays (6 x 2.5 gpm) equals 15 gpm. For this system, you'll need a 3/4-in. valve that exceeds 15 gpm. If system requirements (e.g., a two-person shower) exceed available single-valve flow rates, then you'll need two or more valves. With a spa shower, count on higher energy costs from bigger water heaters (75 gal. or more), larger supply-line diameters, and increased water usage. Spa showers may require larger or additional drains; if you have well water and/or a septic system, these high-flow showers might not be an option.

Fittings fix

Creating a new shower isn't all about the plumbing in the wall. The fun part is choosing fittings that look cool, that withstand years of wear, and that cover you with a comfortable stream of water. The fittings are available in every conceivable style: Victorian, traditional, modern, spare, sculptural. You're sure to find a dozen designs that fit your aesthetic.

Beauty is in the eye of the beholder, but durability is a function of material. Look for solid-brass fixtures. Quality, long-lasting pieces of cast brass are significantly heavier than tubular brass and stand up to abuse better. □

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Low-maintenance finishes

Easy-to-clean fittings come in three varieties: chrome, PVD, and stainless steel. Although chrome-plated fittings are inexpensive, the electroplating process yields toxic by-products. More pricey, but without the nasty side effects, particle vapor deposition (PVD) binds the finish to the fitting at the molecular level, ensuring that it won't fail. PVD is available in a host of finishes, such as polished brass, that otherwise would need religious maintenance.



- Delta, www.deltafaucet.com
- Dornbracht, www.dornbracht.com
- Grohe, www.grohe.com
- Hansgrohe, www.hansgrohe.com
- Pulse Showerspans, www.pulseshowerspans.com
- Rohl, www.rohlhome.com
- Speakman, www.speakmancompany.com