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Custom Shower Workbook

GROHE...The Custom Shower Specialist™

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ENJOY WATER®

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IMPORTANT NOTE: The information contained within this workbook is intended as a general guideline. As any good plumber knows, every installation presents its own unique variables, such as water pressure, drain venting, etc. This workbook is a companion piece to the GROHE Bath and Shower Products Brochure. Refer to the brochure for a complete presentation of GROHE shower and thermostatic temperature control valve products. For specific questions on GROHE products contact GROHE's Technical Service team.

Custom showers (or multiple-head showers as they are sometimes referred to) have been a cornerstone of the GROHE line for many years. In fact, GROHE was among the first to promote the concept over 19 years ago. There are three reasons why GROHE's shower systems have been so widely accepted:

GROHE TurboStat® technology enables GROHE thermostat valves to deliver near instantaneous, precise temperature control for the highest level of convenience, comfort and safety available today for your shower or bath;

GROHE DreamSpray® technology is at the heart of all our showers. These advanced shower engines feature multiple single parts to efficiently distribute an equal flow of water to every single nozzle. The result is a showering experience second to none;

GROHE offers a wide variety of shower components that can be configured to any inspiration (whim) the homeowner or designer may have.

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Your Future GROHE Custom Shower

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Originally, showers were used solely for hygienic reasons. But with the rise in popularity of hand showers and body sprays, showers are now designed for stress reduction, relaxation, therapy, and even washing household pets. Here are a few questions to ensure that the custom shower design meets the needs of the user.

- **Is selecting a comfortable temperature before you enter the shower a consideration?**

  Yes No

- **Who will be using the shower? Is child safety with regards to hot water a concern?**

- **Do you get aches and pains that could be soothed by pulsating shower sprays?**

  Yes No

- **Is quietness of the shower system and spray a consideration?**

  Yes No

- **At times, do you like to shower without getting your hair wet?**

  Yes No

- **Will people with limited movement use the shower?**

  Yes No

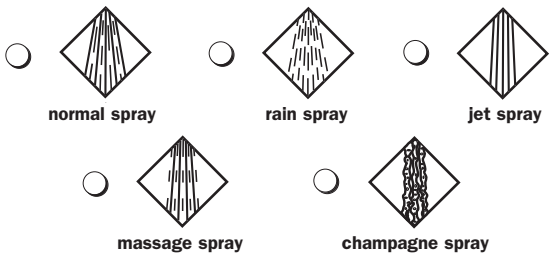
- **Will you use the shower for bathing pets?**

  Yes No

- **How do you clean your shower stall now?**

- **What would you like your "dream shower" to do?**

- **Would you like a variety of spray patterns from your shower head?** (check all spray patterns desired)



- **Is the resale value of your home a consideration at this time?**

  Yes No

- **Are you ready to handle the envy of your relatives, neighbors and visitors over the sense of style and quality of your new custom shower?**

  Yes No

ABC's of Custom Shower Design

Although installing a custom shower involves several tasks, they're just not that difficult…that is, if you keep some basic rules in mind. Following are the ABC's of custom showers as compiled by the GROHE Technical Service team:

A. How Many Shower Outlets?

This is simply a matter of arithmetic. The sum total flow rate of all shower outlets (shower heads, hand showers, or body sprays) combined cannot exceed the maximum flow rate of the thermostatic temperature control valve at the given water pressure (see flow rate chart below.) Exceeding the capacity of the valve will only lower the overall performance of the custom shower, and thereby lower your customer's satisfaction.

For example, all GROHE shower products are restricted to a maximum of 2.5 gpm at 80 psi. Five shower outlets would have a flow rate of 12.5 gpm (5 x 2.5 gpm). The Grohtherm 34 124 has a flow rate of 18 gpm at 45 psi. Obviously, this GROHE thermostatic temperature control valve would do the job.

Note 1: Water pressure is a critical factor in a custom shower. GROHE recommends at least 45 psi for a system with 3 or more outlets.

Note 2: This is a biggey! While it is against national code, on occasion, homeowners have reportedly removed the restrictors from their shower heads. (This is a practice which we discourage. It upsets the balance of the system.) If restrictors are removed, GROHE shower heads, hand showers, or body sprays will flow (on average) 4.5 gpm unrestricted. If a homeowner has removed the restrictor from a GROHE 28 206 Deluxe Champagne Spray shower head, 28 783 Rainshower Jumbo, the 28 373 Rainshower shower head, or the 28 375 Retro Rainshower shower head, the flow will be up to 15 gpm.

Thermostatic Temperature Control Valve Flow Rates

NOTE: ALL GROHE SHOWER HEADS AND HAND SHOWERS ARE RESTRICTED TO A MAXIMUM 2.5 GPM.	 **34 124** 3/4" Grohtherm rough-in valve	 **34 125** 3/4" Grohtherm rough-in valve*	 **34 122** 1/2" Grohtherm rough-in valve	 **34 123** 1/2" Grohtherm rough-in valve*	 **34 126** 1/2" Integrated Grohtherm rough-in valve†	 **34 436** 1/2" Integrated Grohmix valve & trim	 **34 458** 1/2" Integrated Grohmix valve & trim
30 PSI	14 gpm	14 gpm	8.5 gpm	8.5 gpm	5 gpm	6 gpm	6 gpm
45 PSI	18 gpm	18 gpm	11 gpm	11 gpm	7 gpm	7 gpm	7 gpm
60 PSI	20 gpm	20 gpm	12 gpm	12 gpm	7.5 gpm	8.25 gpm	8.25 gpm
75 PSI**	22.5 gpm	22.5 gpm	13.5 gpm	13.5 gpm	8.25 gpm	9.25 gpm	9.25 gpm

*34 125 and 34 123 are for use with GROHE Allure, Atrio® , Chiara® Neu and Grohtherm 3000 trim only.
†34 126 is a shower valve only - not for use in tub/shower installations.
**GROHE recommends the use of a pressure reducer in homes with pressures above 72.5 psi.

Note 3: If the number of shower outlets desired is more than one valve can accommodate, it will be necessary to use two (or more) thermostat valves. With two valves, if two people are using the shower at the same time, each person can select the temperature he or she prefers. When more than one 3/4" valve is necessary GROHE recommends that water supplies be 1" or larger.

Note 4: Whenever designing a custom shower where a well is involved, make sure you know both the flow and pressure capacity of the well/pump system. A pump supplying 10 gpm at 30 psi might be fine for a simple tub/shower, but it's never going to do the job for a 5-head custom shower with a 3/4" thermostat valve. Either you will have to break the homeowner's heart, or upgrade the well pump.

B. The Valve

It should always be a thermostatic temperature control valve, and preferably a 3/4" thermostat valve. We recommend the GROHE Grohtherm 34 124 or 34 125 which can be used with a variety of trim designs and finishes (trim sold separately). These valves will flow enough water to satisfy most needs, but critically important, a thermostat valve will control the temperature automatically as well. Temperature control in a custom shower is much more than a performance consideration, it is a safety consideration. A two handle valve system will flow more water, but without any constant, practical or safe temperature control at all!

Remember, 1/2" supplies plumbed into a 3/4" valve will still increase water flow. (In this situation, a 3/4" valve will not perform at full capacity but will still flow more than a 1/2" valve.) It is not necessary to have 3/4" supplies to use a 3/4" valve, though when this is an option it is preferred.

C. The Drain

Always determine the drain capacity. Two Grohtherm 34 124 valves can flow 36 gpm or more when combined (depending on pressure). That means that in 5 minutes you could have 180 gallons of water waiting to go somewhere! Will the drain empty the shower pan (floor) fast enough? Two 2" drains or one 3" drain is recommended, especially when an accessible shower pan is installed. (Drain capacity assumes proper venting.)

D. Hot Water

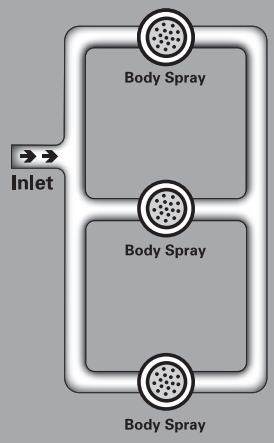
Remember the bigger the custom shower, the more hot water that will be required. A ten-outlet custom shower is hardly worth the effort and expense if there is nothing but cold water after two to three minutes. A 50 gallon water heater will supply a four-outlet custom shower for approximately 8 minutes (assuming shower heads are restricted and all are turned on for the entire duration) ...is that enough for your client? For best overall customer satisfaction, make sure the water heater output is sufficiently matched to your customer's showering habits.

E. Volume Controls

Custom showers are generally designed with separate volume controls (on/off) for each outlet or bank of outlets – typically, one volume control for the shower head, one for the hand shower, and one for three body sprays. (OOPS! There is no typical in a "custom" shower.)

Volume controls, of course, have their own flow rates. We recommend using 3/4" volume controls throughout the system...GROHE 3/4" volume controls flow 16 gpm at 45 psi. If cost is a concern, 1/2" volume controls can be used, however, the flow rate is reduced to 8 gpm at 45 psi. Remember, the combined flow rates of the outlets cannot exceed the volume control flow rate without a reduction in performance.

(continued on the following page)



1/2" Balancing Loop

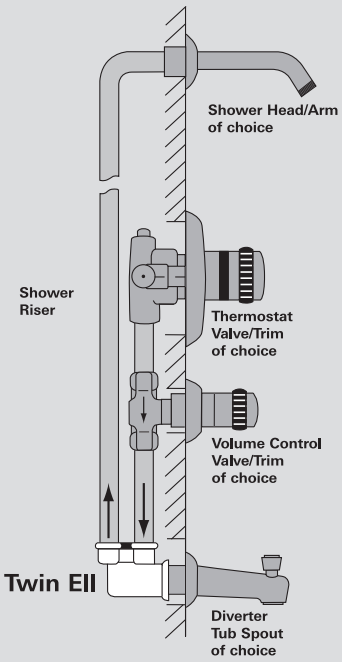
F. Body Sprays

Any configuration of two or more body sprays requires that they be plumbed with a balancing loop (see illustration at left.) This technique insures that each outlet delivers the same spray volume and temperature.

G. Valve Outlets

GROHE thermostatic temperature control valves are designed with two mixed water outlets. In a shower-only system (this includes multiple-head systems), the bottom outlet should be plugged.

If a tub filler is part of the system, plug the top outlet and install a **Twin Ell** (see illustration at left) on the diverter tub spout to supply the shower outlets. Using both outlets simultaneously can cause inconsistency in temperature.



Positioning Guide for Custom Shower Components

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A User height is one of the critical factors in setting the heights of shower outlets in the custom shower...and all users should be taken into account. Children and anyone confined to a wheelchair can be accommodated with a height adjustable hand shower bar.

B The shower head should be set at a level above the head of the tallest user but not out of reach for shorter users (excluding children). The reasons are simple: taller users should not have to duck or crouch to rinse their hair; shorter users need to be able to reach the shower head so that they can manually adjust the spray pattern of the head and the angle of the water flow.

C The top body spray is normally set at shoulder or back height. It should not spray horizontally into a user's face or ears.

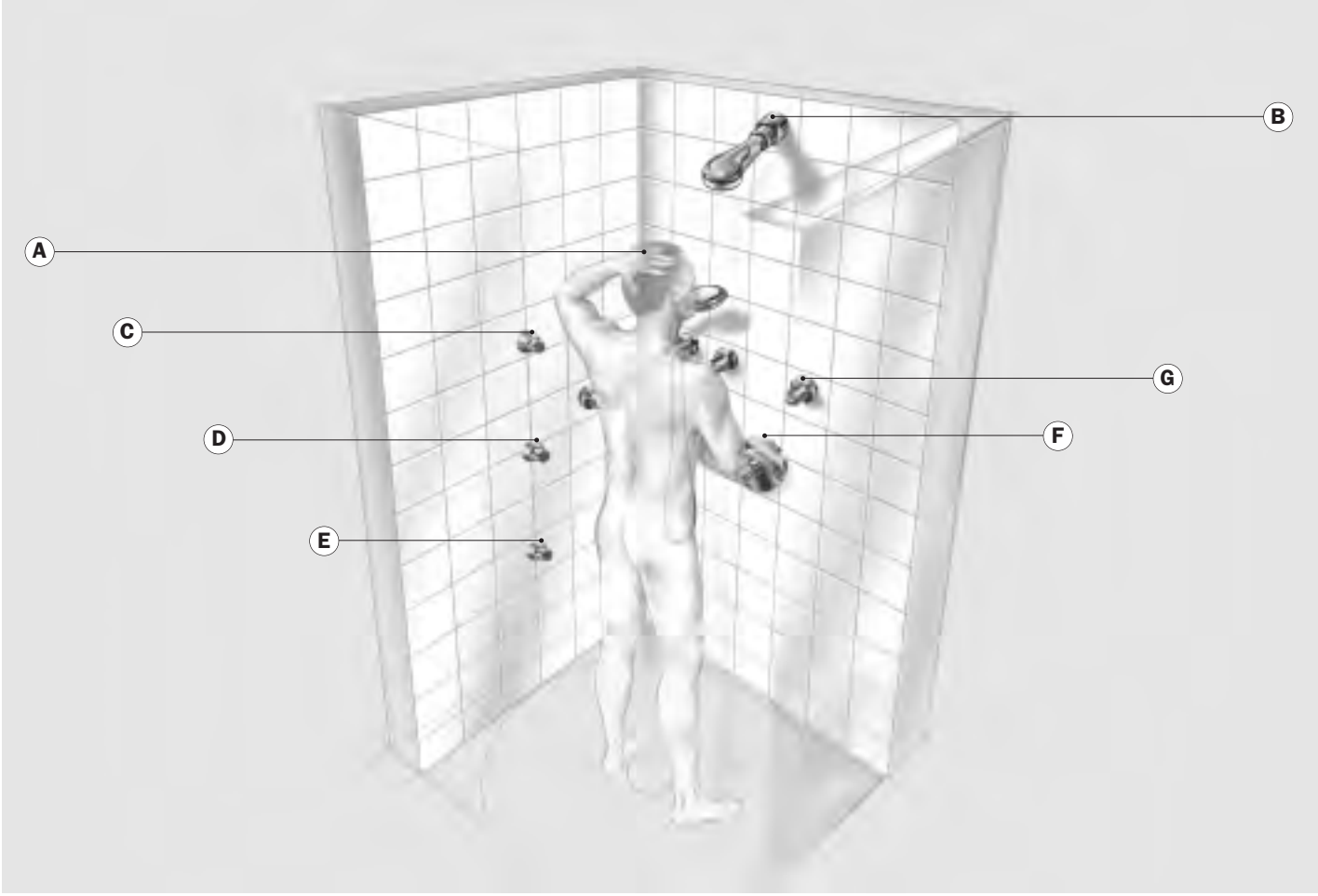
D The middle body spray is normally set at waist or hip level.

E The lowest body spray is normally set at thigh or knee height.

Note: Body sprays, no matter how many are installed, are intended, primarily, to have the entire body covered by water no matter which direction the user faces. Body sprays should be installed on a different wall from the shower head, whether facing it or perpendicular to it, so that the body sprays flow from a different angle from the shower head. Do not aim body sprays at the shower door.

F The thermostatic temperature control valve should be set at approximately waist height and should be easily accessible.

G Volume controls (the on/off valves) should be easily accessible to anyone using the shower, usually about waist high and slightly above the thermostat valve (depending on piping requirements).



Two-Wall Power Shower*

System Components:

3/4" Thermostat and Trim	Volume Control and Trim	Shower Head (add shower arm if needed)	Body Spray	Hand Shower	Hose	Union w/ Hand Shower Holder		
QTY. = 1	QTY. = 3	QTY. = 1	QTY. = 3	QTY. = 1	QTY. = 1	QTY. = 1		

Location	Product	Description	Qty.		Price (each)	Sub Total
				X		
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*Installation must be in accordance with local plumbing codes.
System performance will vary with local water supply.

Total _____

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Two-Wall Diverter System*

System Components:								
1/2" Integrated Thermostat and Trim	3-Port Diverter	Shower Head (add shower arm if needed)	Hand Shower	Hose	Union	Shower Bar w/ Hand Shower Holder	Soap Dish	
QTY. = 1	QTY. = 1	QTY. = 1	QTY. = 1	QTY. = 1	QTY. = 1	QTY. = 1	QTY. = 1	

Location	Product	Description	Qty.		Price (each)	Sub Total
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*Installation must be in accordance with local plumbing codes.
System performance will vary with local water supply.

Total _____

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Opposite Walls System*

System Components:

3/4" Thermostat and Trim	Volume Control and Trim	Shower Head (add shower arm if needed)	Body Spray	Hand Shower	Hose	Union w/ Hand Shower Holder
QTY. = 1	QTY. = 3	QTY. = 1	QTY. = 3	QTY. = 1	QTY. = 1	QTY. = 1

Did You Know?

GROHE currently offers 5 distinct thermostat valves to meet various applications with over 20 trim options for coordinating your bathroom decor.

Notes:

*Installation must be in accordance with local plumbing codes. System performance will vary with local water supply.

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Opposite Walls System*

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Location	Product	Description	Qty.		Price (each)	Sub Total
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				X		

*Installation must be in accordance with local plumbing codes.
System performance will vary with local water supply.

Total

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Opposite Walls System*

System Components:

3/4" Thermostat and Trim	Volume Control and Trim	Shower Head (add shower arm if needed)	Body Spray	Hand Shower	Hose	Union	Shower Bar w/ Hand Shower Holder	Soap Dish
QTY. = 2	QTY. = 4	QTY. = 1	QTY. = 6	QTY. = 1	QTY. = 1	QTY. = 1	QTY. = 1	QTY. = 1

Did You Know?

Because extreme low noise operation is a hallmark of GROHE products, even an extensive, multi-valve GROHE custom shower will be quieter than most standard tub/shower installations.

Notes:

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Ceiling and Three Walls System*

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Location	Product	Description	Qty.		Price (each)	Sub Total
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				X		

*Installation must be in accordance with local plumbing codes.
System performance will vary with local water supply.

Total

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“The Original” His ‘n Hers System*

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System Components:

3/4” Thermostat and Trim	Volume Control and Trim	Shower Head (add shower arm if needed)	Body Spray	Hand Shower	Hose	Union w/ Hand Shower Holder
QTY. = 2	QTY. = 6	QTY. = 2	QTY. = 6	QTY. = 2	QTY. = 2	QTY. = 2

Did You Know?

For a truly “customized” shower environment, GROHE offers a wide selection of shower product options: 24 unique shower heads; 5 different body sprays including a model with massage spray ; and 17 hand shower options with a selection of accessories.

Notes:

*Installation must be in accordance with local plumbing codes. System performance will vary with local water supply.

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“The Original” His ‘n Hers System*

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Location	Product	Description	Qty.		Price (each)	Sub Total
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*Installation must be in accordance with local plumbing codes.
System performance will vary with local water supply.

Total

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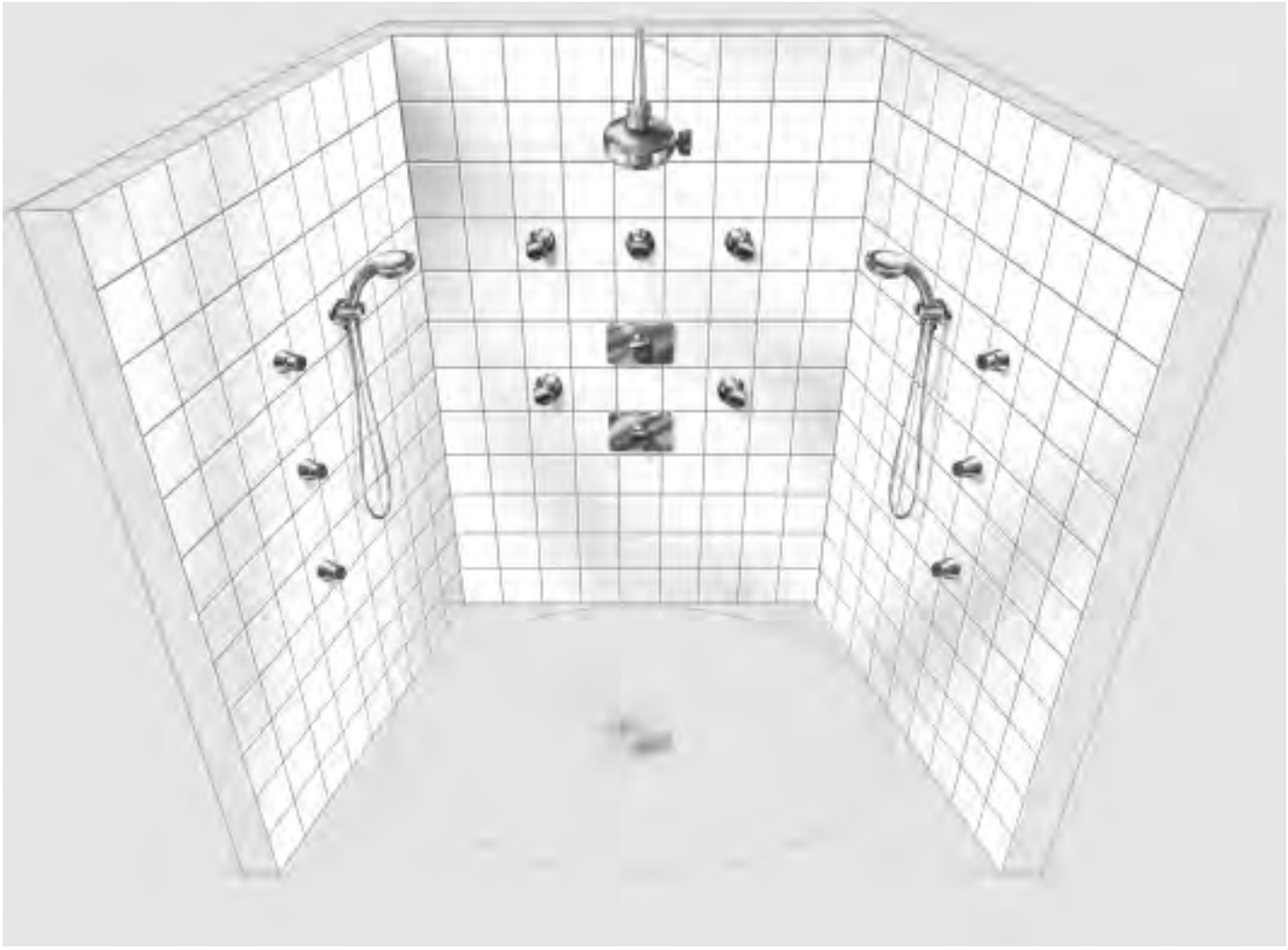
Companion System*



System Components:

3/4" Thermostat and Trim	Volume Control and Trim	Shower Head (add shower arm if needed)	Body Spray	Hand Shower	Hose	Union w/ Hand Shower Holder
QTY. = 2	QTY. = 5	QTY. = 1	QTY. = 6	QTY. = 2	QTY. = 2	QTY. = 2

Did You Know?

Having established the worldwide standard, GROHE's reliable, high-performance thermostatic temperature control valves with GROHE TurboStat® technology offer the ultimate in shower safety for you and your family.

Notes:

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Companion System*

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Location	Product	Description	Qty.		Price (each)	Sub Total
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*Installation must be in accordance with local plumbing codes.
System performance will vary with local water supply.

Total

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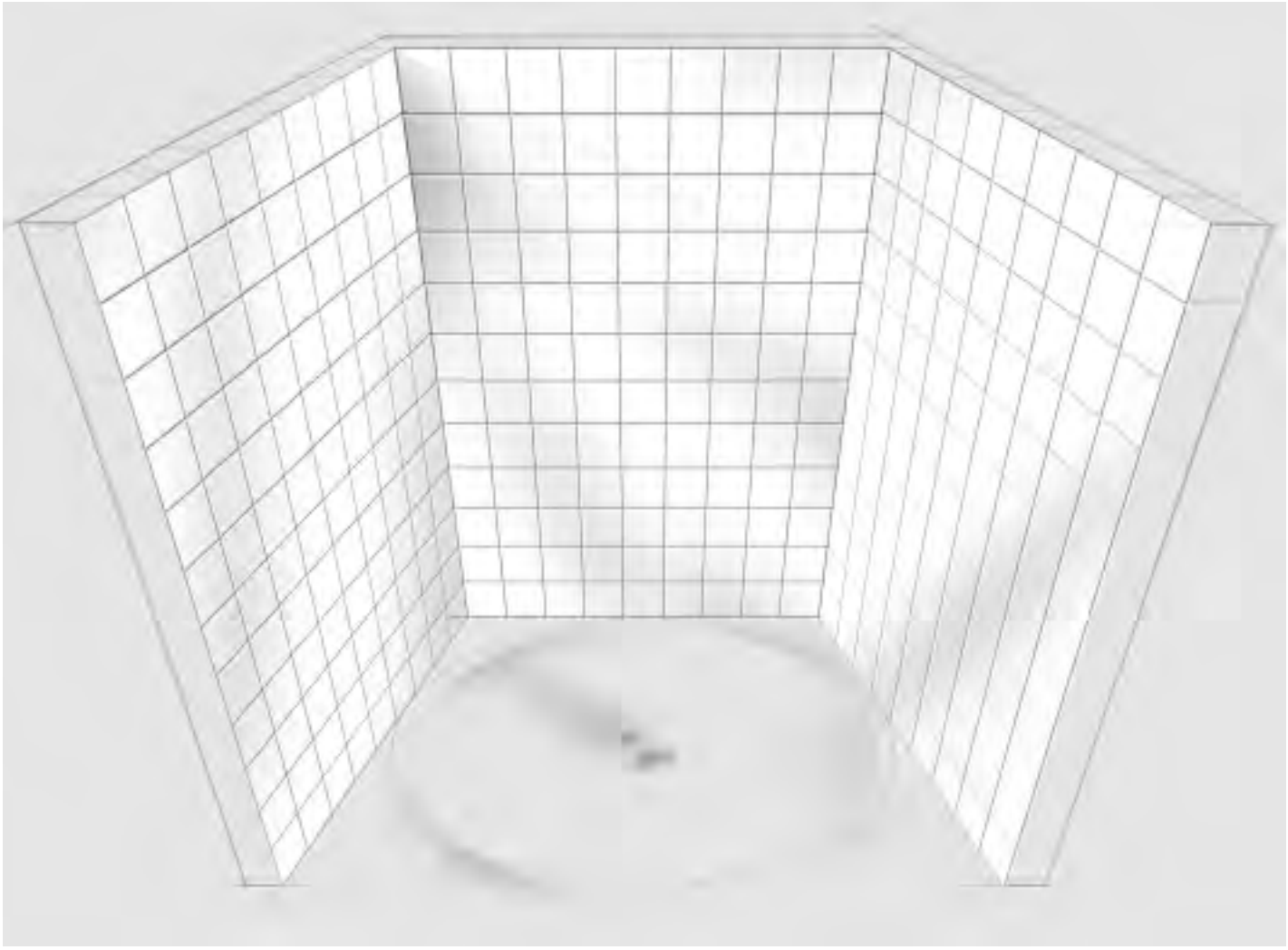
Three-Wall “Design it Yourself” System*



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Total

*Installation must be in accordance with local plumbing codes.
System performance will vary with local water supply.

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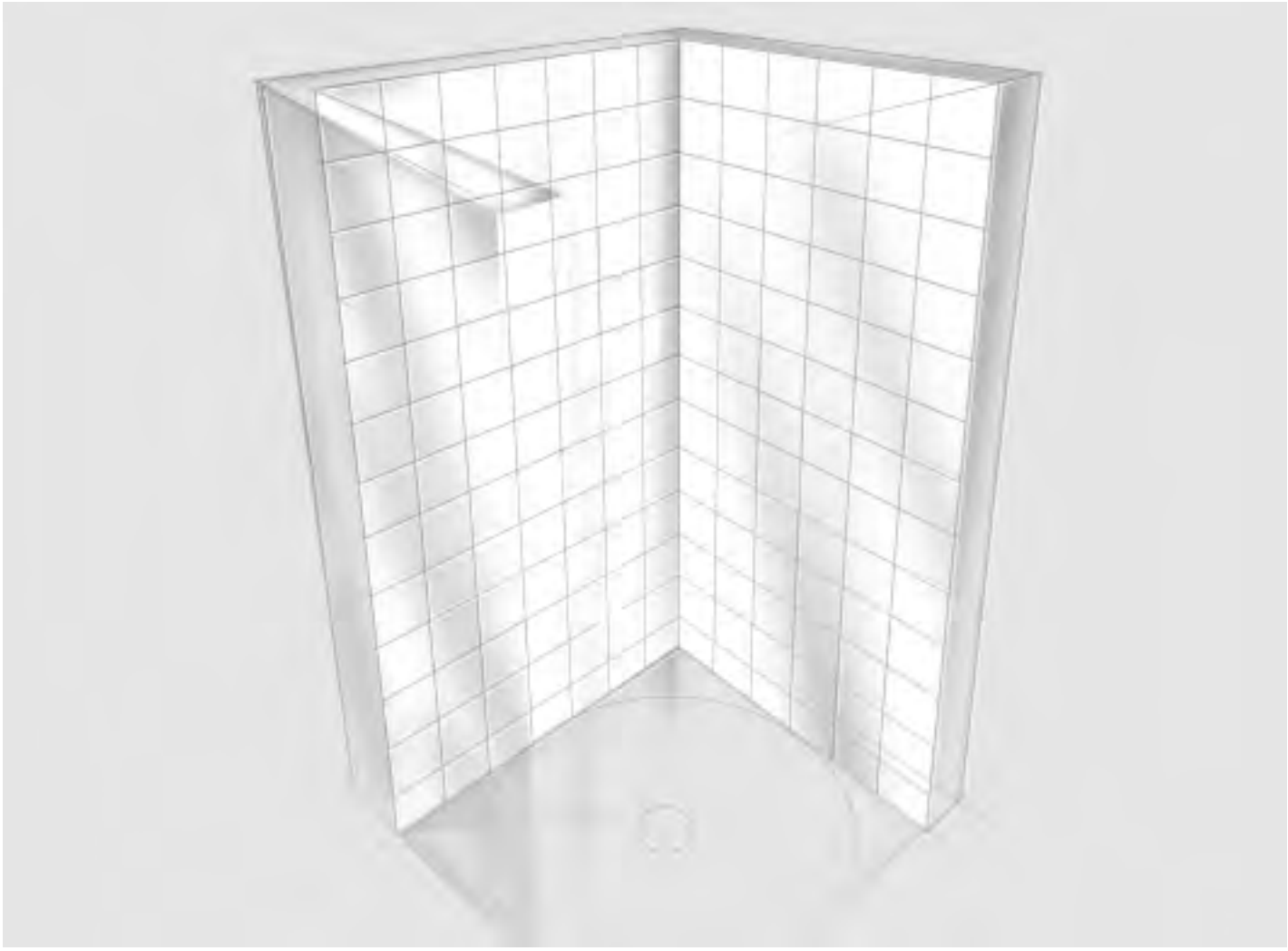
Two-Wall “Design it Yourself” System*



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*Installation must be in accordance with local plumbing codes.
System performance will vary with local water supply.

Total

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