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## Kohler K-28304-KS-NA

# Kohler K28304-KS-NA Rite-Temp Thermostatic Valve Body and Cartridge Kit User Manual

Model: K-28304-KS-NA

## INTRODUCTION

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This manual provides comprehensive instructions for the proper installation, operation, and maintenance of your Kohler K28304-KS-NA Rite-Temp Thermostatic Valve Body and Cartridge Kit. The Rite-Temp valve system is designed for ease of installation, versatility, and long-term reliability, ensuring precise temperature control and showering comfort. Please read all instructions carefully before beginning installation or use.

## PRODUCT OVERVIEW

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The Kohler K28304-KS-NA Rite-Temp Thermostatic Valve Body and Cartridge Kit includes essential components for a reliable shower system. Key features include:

- **Valve Body:** Forged-brass construction for durability and resistance to aggressive water conditions.
- **Thermostatic Cartridge:** Ensures precise temperature control and includes a high-temperature limit stop for safety.
- **Service Stops:** 1/2" universal NPT and direct sweat inlets and outlets with integral check valves, allowing water shut-off at the valve.
- **Rough-in Guide:** Simplifies installation and acts as a mounting bracket for thin-wall applications.
- **Large Internal Ports:** Designed to reduce pressure loss for high flow rates (up to 9 gpm at 45 psi).
- **One-Piece Cartridge:** Features an integrated double seal for easy and reliable installation.

# Rite-Temp® Thermostatic Valves

## Large Internal Ports

Reduce pressure loss for highest possible flow rates.

## Forged-Brass Valve Body

Dezincification-resistant forged-brass body delivers long-term reliability in even the most aggressive water conditions.

## Integrated Check Valves

Provides backflow protection.

## Valve Connections

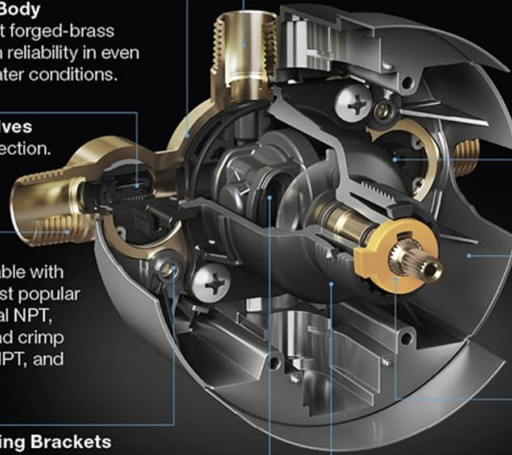
The valve body is available with connections for the most popular pipe materials: Universal NPT, PEX (cold expansion and crimp connections), Female NPT, and Sweat-Only.

## Integral Valve Mounting Brackets

For a secure valve body installation.

## Thermostatic Technology

Thermostatic valve allows for a flow of up to 9GPM, filling tubs 80% faster than 5GPM valves, and are ideal for multiple shower outlets.



## Valves With Stops Available

Allows water to be shut off at the valve.

## Rough-In Guide

Simplifies installation of finished wall treatment and is the mounting bracket for thin-wall applications. Included with every valve body.

## High-Temperature Limit Stop

Allows for a maximum water temperature to be set at installation for comfort and safety.

## One-Piece Cartridge

Features one-piece cartridge with an integrated double seal for easy and reliable installation every time.

**Figure 1:** Exploded view of the Kohler Rite-Temp Thermostatic Valve, highlighting key components such as the forged-brass valve body, thermostatic cartridge, service stops, and rough-in guide. This diagram illustrates the internal structure and connections.

## SETUP AND INSTALLATION

Proper installation is crucial for the optimal performance and longevity of your Rite-Temp valve. It is recommended that installation be performed by a qualified plumber.

### Before You Begin:

- Ensure all necessary tools and materials are available.
- Turn off the main water supply to the installation area.
- Review local plumbing codes and ensure compliance.

### Installation Steps:

1. **Prepare the Wall Opening:** Create an appropriate opening in the wall for the valve body, ensuring sufficient space for connections and future access. The rough-in guide can assist with precise measurements.
2. **Mount the Valve Body:** Secure the valve body to the framing using the integral valve mounting brackets. Ensure the valve is level and at the correct depth relative to the finished wall surface. The rough-in guide also functions as a mounting bracket for thin-wall applications.

3. **Connect Water Lines:** Connect the 1/2" universal NPT or direct sweat inlets and outlets. The valve is compatible with PEX (cold expansion and crimp connections), Universal NPT, and Female NPT connections. Ensure all connections are watertight. The service stops include integral check valves.
4. **Install Thermostatic Cartridge:** Insert the one-piece thermostatic cartridge into the valve body. The integrated double seal ensures a secure fit.
5. **Set High-Temperature Limit Stop:** Adjust the high-temperature limit stop to prevent scalding. This setting should be done according to local codes and user preference for comfort and safety.
6. **Test for Leaks:** Turn on the main water supply and carefully check all connections for leaks. Address any leaks immediately.
7. **Install Trim:** Once the valve is securely installed and tested, proceed with installing your chosen Kohler trim kit (sold separately).



**Figure 2:** The Kohler K28304-KS-NA Rite-Temp Thermostatic Valve Body and Cartridge Kit, ready for installation. This image shows the complete valve assembly with service stops.

## OPERATING INSTRUCTIONS

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The Rite-Temp valve is designed for simple and intuitive operation, providing consistent water temperature.

- **Temperature Control:** The single lever design allows you to cycle from off, through cold, to hot water. Rotate the handle to achieve your desired temperature. The thermostatic cartridge maintains this temperature even with fluctuations in water pressure.
- **Flow Rate:** The valve supports a maximum flow rate of 9 gallons per minute (gpm) at 45 psi, suitable for various shower applications.
- **Service Stops:** In case of maintenance or repair, the integrated service stops allow you to shut off the water supply directly at the valve without affecting other fixtures in your home. To operate, turn the stop valves clockwise to close and counter-clockwise to open.

## MAINTENANCE

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Regular maintenance ensures the longevity and optimal performance of your thermostatic valve.

- **Cleaning:** Clean the visible parts of the valve trim with a soft, damp cloth. Avoid abrasive cleaners, solvents,

or harsh chemicals, as these can damage the finish.

- **Cartridge Inspection:** If you notice inconsistent water temperature or reduced flow, the thermostatic cartridge may need inspection or replacement. Consult a qualified plumber for this procedure.
- **Service Stops:** Periodically check the service stops for proper function. Ensure they can be fully closed and opened.

## TROUBLESHOOTING

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This section addresses common issues you might encounter with your Rite-Temp thermostatic valve.

Problem	Possible Cause	Solution
Inconsistent Water Temperature	Faulty thermostatic cartridge; fluctuations in hot/cold water supply pressure.	Inspect or replace the thermostatic cartridge. Ensure stable water pressure to the valve.
Low Water Flow	Clogged cartridge; partially closed service stops; debris in water lines.	Clean or replace the cartridge. Ensure service stops are fully open. Flush water lines.
Water Leaks from Valve	Loose connections; damaged seals or O-rings; faulty valve body.	Tighten connections. Replace damaged seals or O-rings. If valve body is damaged, professional replacement is required.
Water Not Hot Enough	High-temperature limit stop set too low; insufficient hot water supply.	Adjust the high-temperature limit stop (refer to installation section). Check hot water heater settings.

If troubleshooting steps do not resolve the issue, contact Kohler customer support or a qualified plumbing professional.

## SPECIFICATIONS

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Feature	Detail
Model Number	K-28304-KS-NA
Material	Forged Brass (Valve Body), Plastic (Cartridge)
Product Dimensions (L x W x H)	5.88 x 5.88 x 3.5 inches
Item Weight	1.36 pounds
Inlet Connection Size	0.5 Inches
Inlet Connection Type	National Pipe Tapered (NPT)
Outlet Connection Size	0.5 Inches
Outlet Connection Type	Sweat
Maximum Operating Pressure	45 PSI
Maximum Flow Rate	9 GPM at 45 PSI
Number of Ports	2
Included Components	Valve body, thermostatic cartridge, rough-in guide, mud guard
UPC	885612710406

## WARRANTY INFORMATION

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This Kohler product is covered by a Lifetime Limited Warranty. For specific terms and conditions, please refer to the official Kohler warranty documentation included with your purchase or visit the Kohler website. The warranty typically covers defects in material and manufacturing under normal use and service.

**Return Policy:** Standard return policies apply, typically allowing returns within 30 days of purchase. Please consult your retailer for their specific return policy details.

## SUPPORT AND CONTACT

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For further assistance, technical support, or to order replacement parts, please contact Kohler customer service:

- **Website:** Visit the official Kohler website for support resources, FAQs, and contact information.
- **Phone:** Refer to the contact details provided in your product packaging or on the Kohler website.
- When contacting support, please have your product model number (K-28304-KS-NA) and purchase date available.