

Hot? Cold? Left? Right? Which is it?

Everything you should know



There is a reason we do not differentiate between hot and cold with our part IDs.

It would be imperfect to do so. The use of the **stems** and **cartridges** vary with the installation type. Historically, stems were described by the thread direction used, which changed depending on the handle type and whether the faucet was on a deck or a wall.

26	Escutcheon	680-32
27	Handle - Arrow	64071-0221
28	Plug	27816-07
29	Union Coupling - 5/8" O.D. Copper Tube	244-17
30	Union Coupling - 1/2" S.P.S. Pipe	1836-07
31	Coupling Nut	25513-07
32	Spout (Zinc)	72325-02
33	Diverter Spout	72875-02
34	Spout Escutcheon	72803-02
35	Spout (Brass	72874-02
36	Stem Assembly - R.H. Thread	6079-04
(Stem Assembly - L.H. Thread	6080-04
37	Transfer Valve Stem Assembly	6052-07
Sub-assemply		an a
	Screwdriver Stem S/A consisting of (1) each parts 6, 7, 10 & 17	1698-07

As you can see on this page from an old *American Standard* Catalog, stems and assembly units were differentiated by right hand and left hand threads NOT hot & cold.

When it comes to two-handle faucets and valves, round and cross handles are used when the valves turn the same direction. In this case, the valves and handles will turn off **clockwise**, *regardless* of whether stems or cartridges are on a deck, slant-back, or wall.

The stems turn off in opposing directions *only if* **lever handles** are involved in the install. The orientation of the on/off operation in this situation is dependent on if the fixture is on a deck, a wall, or a slant back.

When lever handles are used on a **deck**, they should be rotated in towards the user to turn the water on and pushed away from the user to turn the water off. Thus, the hot side (on the left) should turn off **clockwise**, and the cold side (on the right) should turn off **counter-clockwise**. As you can see from these *Eljer* Catalog pages, the deckmounted faucet on the left uses a left hand stem unit for the cold, and a right hand stem unit for the hot. Conversely, the wall-mounted unit uses a right hand stem unit for cold and a left hand stem unit for hot.



However, when the faucet or valve is installed on a **slant back** or onto a **wall**, lever handles should operate inversely. The reason for this is due to gravity. Decorative, heavier levers *might unintentionally* turn the water on if installed and

operated the same as the deck stems. To avoid this, the water turns on when the handles are turned upwards and the water is shut off when the handles are rotated downwards.

This means that now the hot side (on the left), turns off counter-clockwise and the cold side (on the right) turns off clockwise.

It is for these reasons that we do not use the terms "hot" and "cold" in our part IDs.



In the parts breakdown from this *Price Pfister* catalog, you can see this kitchen Wall Faucet calls out the cold side as part number 910-072.

In this parts breakdown from the same catalog, with the stem unit in the "deck" position, the 910-072 is now hot.



Our parts are identified by the direction of the thread.

So, how do you identify right hand and left hand threads? Quite simply! Reference the picture below. If the thread on the stem is going up and to the right, it is a right hand stem. If the thread on the stem is going up and to the left, it is a left hand stem.



NON RISING CARTRIDGES

When does a left hand thread *not* turn off counter-clockwise?

In some cases, there are stem units that have right hand threads that turn off counterclockwise and left hand threads that turn off clockwise. These are **non-rising** cartridges.

Simply put, *non-rising* means that the stem does not move up and down.





On the cartridge on the previous page, the stem is held in place by a clip. There is a plunger operated by the stem that moves up and down and turns the water off.

The majority of non-rising units are found in the decorative market. That being said, the most common and prevalent of these units are the Kohler Valvet (pictured left). They are the most popular of the **non-rising** units and have been around for the longest time.

In what other cases do stem units turn opposite of the thread direction?



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The most obvious instances of a right hand thread turning off counter-clockwise and a left hand thread turning off clockwise are found in both the *Chicago Faucet* stem units and *Crane Dialeze* stem units. In both of these cases, the stem still rises. In doing so, the washer seals and stops the flow of water.



Chicago Faucet Stem Unit

Crane Dialeze Stem Unit

Ceramic Units

What about when there are no threads?

In the case of **ceramic units**, there are <u>no internal</u> stem threads. We have chosen to use the numbering system we use for typical compression units:

- Clockwise off = unit ends in the number 1
- Counter-clockwise off = unit ends in the number 2



This means, on a deck with lever handles, the cartridge ending in the number **1** would be on the left side for the hot. The cartridge ending in the number **2** would be on the right side for the cold. When moving to a wall using lever handles, the cartridge ending in a **1** would be on the right side for cold and the cartridge ending in a **2** would be on the left side for the hot.

Confused? Let's break it down.

- If you have round or cross handles, the stems should turn off clockwise *regardless* of where they are located.
- It is *only* when using lever handles that the cartridges should close oppositely.
- On a flat surface or deck, the hot side should turn off clockwise and the cold side should turn off counter-clockwise.
- On a slanted surface or wall, the hot side should turn off counter-clockwise and the cold side should turn off clockwise.

We hope this article is both educational and of service to you.

As always, please send any inquiries you have to:

helpdesk@barrywalter.com

