



# THE BENEFITS OF USING A HOT WATER PRESSURE WASHER

## WHEN TO USE A HOT WATER PRESSURE WASHER OR A COLD WATER PRESSURE WASHER

All high pressure washers are not created equal. In fact pressure cleaning systems tend to fall into two categories: hot water pressure washers & cold water pressure washers.

Both hot and cold water pressure washers have models with the same flow rate, the same pressure and the same capability of cleaning indoors or outdoors, it begs the question: how do I choose between a hot water pressure washer and a cold water pressure washer when everything else is relatively the same?

## HOT WATER PRESSURE WASHERS

Hot water packs a powerful energetic punch when released into the cleaning equation. This energy also causes a reduction in the water's surface tension allowing it to easily and more effectively penetrate the molecules of grease and grime.

There are three key elements to a hot water pressure washer —*heat, agitation and soap*—that successfully remove grease and grime. Here's how they work:

**Heat**, as described above, creates a high-speed molecular action that causes the cleaning agent to be more active and reduces water's surface tension so it can effectively penetrate grime at the molecular level.

**Agitation** is the impact that comes from the water volume and water pressure hitting the surface—similar to the action of hand scrubbing the dinner plate in your kitchen sink.

**Soap** (often referred to by pressure washer users as “detergent”) chemically breaks the bond between dirt and the surface. It starts when the molecules of oil and grease attach themselves to dirt and keep them trapped or bound to the surface. Detergents use softening agents, technically referred to as “surfactants” (an abbreviation for “surface active reagents”) to emulsify the oil and grease—this is the process in which two or more immiscible liquids, like oil and water, no longer repel each other but actually mix. Once the oil and water are able to mix forming an emulsion, the dirt—still clinging to the oil and grease—is carried away in the wash water.

## SO WHAT DOES ALL OF THIS HAVE TO DO WITH A HOT WATER PRESSURE WASHER?

Hot water pressure washers bring together a perfect balance of all three of these key elements—heat, agitation and soap—to deliver a pressure cleaning knockout punch.

## HOW DO YOU KNOW WHEN TO USE HOT WATER?

If you're cleaning engines, automotive parts, or anything with oil or grease, you'll need hot water. Like the dishes in your sink, hot water “melts” grease and grime; cold water only pushes it around.

On the other hand, if you're simply blasting away sand, caked-on mud, or even stripping paint, a cold water pressure washer will work just fine. Combined with detergent, a cold water pressure washer can be very effective in many applications.

The rule of thumb is simple: whatever cold water cleans, hot water will clean better and faster.

## DOES A HOT WATER PRESSURE WASHER COST MORE?

Yes, sometimes as much as three times more, due to the complexity of heating hot water while under pressure. Hot water pressure washers also require more preventive maintenance, such as the burner assembly, coil and redundant excess-pressure protection, all of which need annual tune-ups.

Still, hot water pressure washers easily pay for themselves in labor cost savings by providing a faster, more effective pressure cleaning method. And because the water is pushed through the machine at such a powerful rate, less detergent is needed, which saves you even more money.



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## HOW IS WATER HEATED IN A PRESSURE WASHER?

Water enters a pressure washer from a spigot or tank via a garden hose. It first passes through a high-pressure pump, which speeds the water on its way through a heating coil, consisting of up to 200 ft. of half-inch, schedule 80, steel pipe or tubing. The helical or circular winding configuration allows the water to get maximum exposure to the flame (fueled by diesel oil or natural gas/propane) as it roars through the center of the coil. By the time the water rushes out of the coil and through the wand and nozzle, it will have reached temperatures of up to 200°F.

## IS A STEAM CLEANER THE SAME AS A HOT WATER PRESSURE WASHER?

It's not unusual to hear hot water pressure washers referred to as steam cleaners. While there are a few applications such as deicing or disinfecting that require steam, it has been proven over the years that hot water under high pressure is a much more effective method of cleaning than steam. That's because hot water washing has the additional benefit of agitation—water volume under high pressure pounding the surface.

However, all BE units offer a “steam combination” option where the water is super heated to 300°F (P/N-85.380.005) in order to create a “saturated steam” effect for those rare applications where a surface requires higher temperature cleaning.

## MARKETS WHERE HOT WATER PRESSURE WASHERS ARE VERY COMMON:

**Construction** – Big digger and excavator machines are required to do some dirty jobs. The result is a build-up of mud, grime, oil, and grease. A hot water pressure washer makes quick work of hard-to-remove caked-on mud and grime.

**Food Industry** – Restaurants and wineries must meet enacted standards to pass inspection. A hot water pressure washer can be used to properly clean and disinfect many different areas, including the floor, kitchen hoods and ducts, outdoor seating, and dumpster/waste areas. Hot water cleaning also requires less detergent, saving you money and protecting the environment.

**Rental Property** – Need an effective method to clean the exterior of your rental properties? A hot water pressure washer is just the ticket. You can mount or transport one of our units in the back of a truck, or pull one of our trailer units. Then the washer becomes a portable cleaning machine. For decks and driveways, use our superior Whirl-A-Way rotary surface cleaner.

**Manufacturing** – If your products leave a mess on the shop floor, our industrial-grade pressure washers can blast away the mess left behind. You can also take advantage of our many pressure washer accessories to target specific areas of your facility.

**Trucking** – Big rigs return from time on the road covered in crud, muck, and filth. But you have a secret tool in your arsenal, a hot pressure washer. A hot water cleaning can take care of any cleaning concerns. And you can use it afterwards to clean your shop floor too.

**Waste Management** – Garbage and recycling trucks can't be choosy; they must pick up everything. That's why these machines need thorough cleaning and disinfecting. Hot water pressure washers can remove grease and caked-on dirt quickly and effectively.

**Agriculture** – Every piece of machinery in this industry is always working in fields rain or shine. After a season of hard work these machines need to be cleaned as part of their maintenance schedule. Hot water pressure washers rapidly and effectively removes layers of dirt, grease and grime.

