



SMART DESCALER® Installation Manual

WATER CONDITIONING WITH ADVANCED TECHNOLOGIES



HydroCare - 2421 Long Beach Rd. Oceanside, NY 11572

Patent Pending

FCC Approved

Three Year Warranty

Packing List:

- Smart Descaler™ in an aluminum housing
- HydroCare AC/DC Adapter (power supply)- **Do not substitute other power adapters!**
- AC Power Cord
- AC Outlet Tester
- Blue wire with flat connector on one end and a plug on the other end
- Residential Quick Start Guide and signal light key. (Tag on cord)
- Pipe clamp with terminal connection for blue wire.
- Smart Descaler™ Installation Manual
- Pipe Ties (2)
- Mounting Screws (4)
- Warranty Card

INSTALLING THE SMART DESCALER™

Provided pipe clamp is for pipes up to 1 ½" – for larger pipes, similar style clamps are readily available in larger sizes at your local hardware store. The Smart Descaler™ works with all pipes but must have a metal connection point for signal conduction. See directions below.



FIG. 1: AC Outlet Tester



FIG.2 & 3: "BLUE WIRE" AND CLAMP



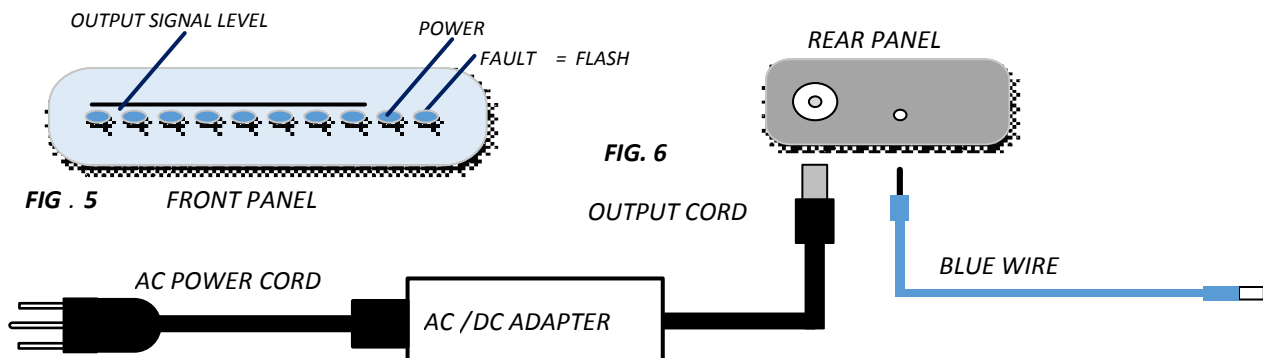
FIG. 4 Rigid Pipe Connection

TEST ELECTRICAL OUTLET FIRST

The Smart Descaler™ will only work with a properly wired three-prong type electrical outlet. Test the AC outlet with provided tester (See FIG. 1) before plugging in the Smart Descaler™. If you use an extension cord, be sure to test its three-pronged AC outlet plug as well. (Light's will be consecutive not on constantly when working.)

Plug in the AC tester. Electrical outlets conforming to the Uniform Electrical Code will show two yellow lights and no red light. If any different light configuration appears, there is a wiring problem with that outlet that should be fixed by a qualified electrician. Test another outlet for possible use.

GOOD CONNECTION 4-8 LIGHTS



INSTALLATION OF THE SMART DESCALER™

1. Plug the "Output Cord" into the Smart Descaler™ "Rear Panel." See FIG. 6.
2. Plug the provided HydroCare "AC Power Cord" into the "AC/DC Adapter."
3. Plug the "AC Power Cord" into the pre-tested AC electrical outlet. The output signal lights will flash for a few seconds.
4. All 8 "Signal Level" blue lights on the front panel will sequence on and then all 8 will stay on for a few seconds. This light pattern will continue to repeat. The "Power" light will be on. The "Fault" light will be off. See FIG. 5. (See the hanging tag for front panel light key)
5. Test your piping system for an appropriate connection point for the Smart Descaler. Usually the best location is the (cold or hot) copper or stainless corrugated water supply line of the hot water heater.

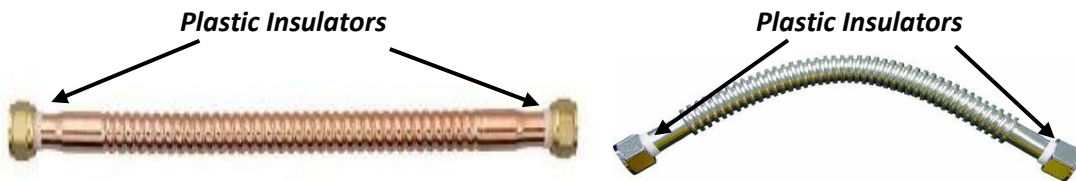


FIGURE 7: CORRUGATED COPPER or STAINLESS SUPPLY LINES

The copper or stainless corrugated supply lines are the semi-flexible lines on the top of the hot water heater. These curved lines are often covered by heat insulating foam or similar material. Push some of this material out of the way and directly connect to the metal piping. (See Figures 2, 3, and 7.)

PLASTIC TUBE PREVENTS DESCALING SIGNAL FROM ENTERING THE WATER



FIGURE 8: BRAIDED SUPPLY LINES – **DO NOT USE!**

If the hot water heater has braided lines or plastic hoses, do not connect to them; you can change the braided lines to copper or stainless corrugated supply lines or select another pipe location

6. Installing Smart Descaler on Copper Pipes

If available, connect Smart Descaler to corrugated copper or stainless supply lines of the water heater. Use Smart Descaler to test for a good connection location on the corrugated supply.

If copper or stainless corrugated lines are not available, then test the rigid metal water supply lines or other metal pipes in the system. (See FIG. 4.) To test for appropriate connection points, touch the flat metal end of the blue wire against any metal pipe for a few seconds. If the fault light is not flashing on, then that location is a good place to connect the Smart Descaler. If less than 8 sequentially flashing output signal lights are shown, try several locations to find the optimum location. The Smart Descaler will successfully descale as long as the fault LED (far right of display) is not flashing. The location with the most “signal level lights” sequencing across the front panel is the best location.

If your water heater does not have copper or stainless corrugated supply lines and if the Smart Descaler shows a “fault” on all copper pipes, go to “Trouble Shooting” section of manual. **Installing Smart Descaler on PEX, CPVP Pipes**

PEX water pipe systems are very easy to work with and can be readily installed or modified to work with the Smart Descaler. Any issues with the Smart Descaler and a PEX water system can be resolved by installing a corrugated copper or stainless supply line to the COLD nipple of the water heater. PEX to NTP copper or stainless supply lines are readily available because many building codes require water heater supply lines to be metal.

Some PEX pipe systems use solid copper pipes for the COLD water intake of the water heater. Use the Smart Descaler to test for grounds on water intake of water heater.

- If the COLD supply line is rigid copper and is not grounded, connect the Smart Descaler to it.
- If the COLD supply line is rigid copper and is grounded, replace it with a PEX to NPT corrugated copper supply line.
- If both the supply lines of the water heater are PEX, then add a PEX to NPT corrugated supply line on the COLD water intake of water heater.

FIGURE 9: PEX to NPT SUPPLY LINE

AVAILABLE AT LOWES

Apollo Copper Water Heater Connector
Item # 758114 Model # WHC34F24

AVAILABLE AT HOME DEPOT

Everbilt Copper Supply Line
Model # 509 HD2124 Internet #205019741 Store SKU #1000044300



7. Once testing establishes that an appropriate connection point has been located, connect the flat metal end of the “Blue Wire” to the clamp by inserting it into the hole in the clamp and screwing down the top of clamp screw (FIGS 2-3). Then, connect the clamp to the pipe using a screwdriver to tighten. If the pipe is corrugated copper, use the smooth ends for connection and be sure the clamp is not over the plastic sleeves near the ends. Corrugated copper pipes are made of thin metal, so be careful not to over-tighten clamps on them. When the connection is complete, the fault light will be off, the power light will be on, and four or more signal level LEDs will be

sequencing on. **Congratulations, Your Smart Descaler has been successfully installed, self-tested and is fully operational.**

Descaler Troubleshooting Guide

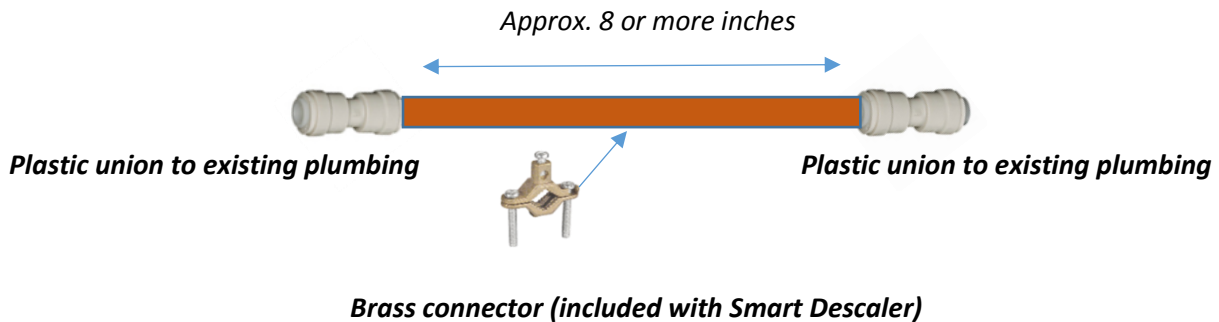
Grounds or ground loops are problems for all electronic descaling devices. The Smart Descaler's front panel will help you find the best solution to an AC ground problem.

Some residential and commercial plumbing systems have AC grounded pipes, which may prevent any Descaler from sending a descaling signal into the water. Fortunately, you have a Smart Descaler, which can identify ground problems, enabling you to fix grounding problem with simple tools.

DIY Guide to Installing a Short Section of Metal Pipe for ideal Smart Descaler connection.

The Smart Descaler only needs a short section of non AC grounded metal pipe to transmit the descaling signal into the water. The descaling signal will then travel through the water of plastic (PEX, PVCV) or metal pipe to do its descaling.

1. The diagram below illustrates an "ideal connection pipe" that allows the Smart Descaling signal to effectively enter the water of the plumbing system.



The parts are readily available at hardware stores and plumbing outlets. For customer convenience, the following "ideal connection pipes" are available for purchase. Just measure the diameter of the pipe to be connected to, and select from the following options.

To order call **888-963-6178**. Hours 9 AM to 4 PM PST.

Most plumbing professionals install the "ideal connection pipe" near the cold intake of hot water heater.

- For 1" pipe, order "Ideal connection pipe" use Part Number: **1 CTS3515**
- For ¾" pipe, order "Ideal connection pipe" use Part Number: **¾ CTS3515**
- For ½" pipe, order "Ideal connection pipe" use Part Number **½ CTS3515**

The installation requires a pipe cutter and pipe sealant available at your local hardware or plumbing supply outlet. Installation steps:

- Turn off water.
- Depressurize water pipes by running water.
- Cut and remove an eight (8) inch section of pipe. Be sure there at least 2" of pipe to connect to at both ends. Remove debris from cut pipe ends.
- Put sealant on both ends of cut pipe.
- Push "ideal pipe" on to both ends of cut pipe.
- Tighten both connectors.
- Turn on water and check for leaks. If leaky tighten end connectors.
- Attach brass connector to metal pipe of "insulated pipe connector."
- Go to **"INSTALLING THE SMART DESCALER™"**

PERFORMANCE WARRANTY: *Our commitment to high quality, exemplary service and complete customer satisfaction is unsurpassed. We offer an incredible One Year Performance Warranty along with a Three-Year Manufacturer's Warranty.*

MANUFACTURERS WARRANTY: *The Smart Descaler performs a self-test about every 10 seconds. Should the self-test fail during the first three years of operation the Smart Descaler will be replaced or repaired free of charge. This warranty does not affect the consumer's statutory rights and does not include shipping costs.*

DISCLAIMER: *(1) HydroCare does not accept any responsibility for water leaks that may occur by the removal of limescale or for any losses arising from the use of its water conditioners. (2) The Smart Descaler has not been tested in hospital or other medical applications.*

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www.hqhometek.com Sales: 1-866-486-4339 Service: 1-888-963-6178