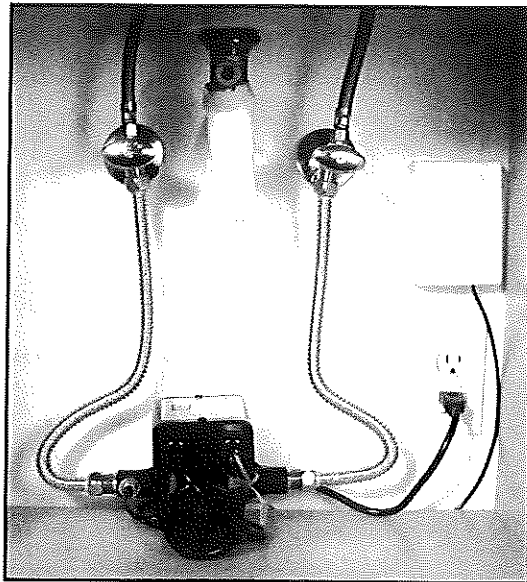


METLUND® D'MAND® SYSTEMS

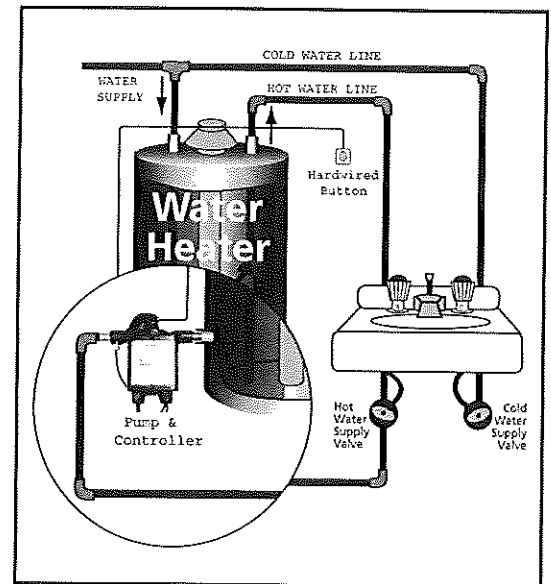
**S-Series Pre-Fab Easy Installation System
For Models: S-50T, S-70T, S-02T**

Installation and Operating Instructions for existing homes with standard piping or standard recirc piping



Existing Plumbing

Recirc Line



Metlund D'MAND® Systems are manufactured using the highest quality U.S. made component parts available. Patented PDV Valves (Positive D'MAND Valve) are built into each Metlund Pump. Patented, ACT, D'MAND Electronics are the controls for each Metlund System. This state-of-the-art electronics allows the D'MAND System to accurately and automatically adjust and shut off the system every time activated. **Metlund Systems are the only approved D'MAND re-circulation product that saves both energy and water by the US Department of Energy and State Energy Commissions.** You can look forward to over 15 years of life expectancy with a Metlund System.

Metlund® D'MAND® Systems
DESIGNED FOR TODAY
DEDICATED TO THE FUTURE™

www.gothotwater.com

Installation shall be in accordance with the manufacturer's instructions or warranty may be voided.

IMPORTANT

Operation of the D'MAND® System without being plumbed into water lines may damage the pump and void the warranty.

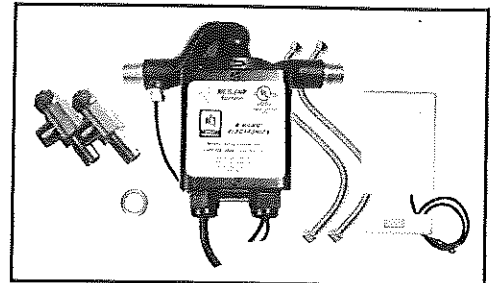
Pre-Installation Checklist

1. Metlund D'MAND System includes:

- Pre-assembled S-50T or S-70T pump with built-in D'MAND Electronics Circuit Board, PDV Valve System and Thermister
- (2) Connecting T's - (PF-Series & PFR-Series only)
- (2) Stainless steel flex lines (PF-Series & PFR-Series only)
- (1) Push Button
- Remote receiver, wireless transmitter, battery, wire nuts and screws (PFR-Series only)

2. Tools you need:

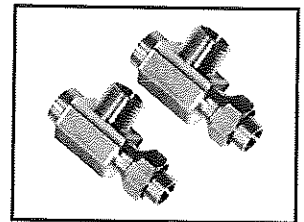
- Pipe or crescent wrench
- Pliers
- Phillips and flat head screwdrivers
- Wire strippers
- Drill and 5/8 inch drill bit



3. Best location for the D'MAND system:

- Typically, this would be at the fixture farthest away from the water heater, generally the kitchen or master bathroom. If your hot water supply runs in two different directions from the water heater, you may need more than one Metlund D'MAND System.

The two custom "T"s are designed to simplify your installation to 1/2 inch copper hot and cold supply lines. (If you have plumbing other than copper please call our office at 800-638-5863. Additional fittings may be required).



Installation for the S-Series Systems (PF and PFR) Models S-50T and S-70T

1. Turn off the house water supply.
2. Open the hot and cold faucets at the fixture chosen for installation, this will relieve the water pressure from the hot and cold water pipes.
3. Remove the shut-off valves that supply hot and cold water to the sink from the 1/2" copper pipe. For ease of installation, leave the compression ring and nut from the angle stop on the hot and cold water supplies.
4. Remove the compression ring and nut from the threaded side of the custom "T" and slide them onto the other side. Attach the existing nut and ring to the end of the threaded T and firmly tighten.

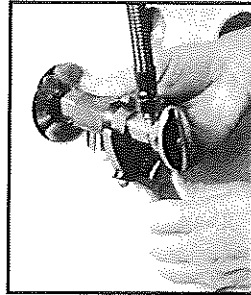
Installation for the S-Series Systems (Continued)

5. Install the remaining compression ring and nut to the shut-off valve, slide onto the 1/2" side of the PF-T and firmly tighten.
6. Now you are ready to attach flex lines from the 1/2" male thread of the PF-T's to your **Metlund D'MAND System**. (Teflon tape is recommended for the 1/2" threaded fittings.) Tighten snug — Do not over tighten.
7. Refer to Page 3 — "Installing the Demand Button(s)" and "Wireless Remote Option".

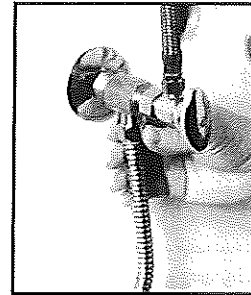
*Additional fittings may be required if your supply lines are galvanized or plastic pipe.



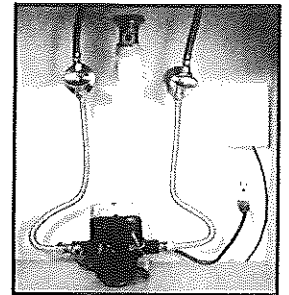
1. Turn off water supply and remove angle stops.



2. Install & tighten T's (included) attach angle stops.



3. Install flex lines or any line with 1/2" inside diameter.



4. Connect Metlund System, install push button and plug in.

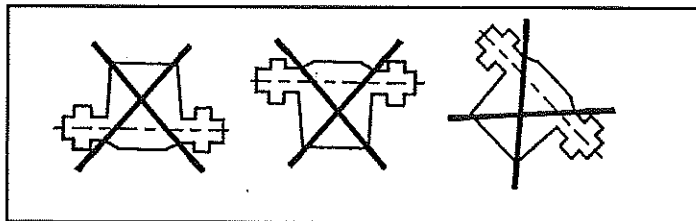
Installing the Metlund D'MAND System on Recirc Line

1. Install The Pump

- A. Turn off the house water supply.
- B. Install the pump in the hot water return line before it enters the water heater.
- C. Install the pump so the raised arrows on the pump housing indicate the direction of flow toward the inlet of the water heater. Make sure the electronic control box is on **top** of the circulator pump. The control box attached to the pump housing may be rotated on the body by removing the four screws that connect them together - rotate housing until box is on top - then re-secure the screws. (If pump is already installed on loop, turn off water supply and purge line prior to rotating housing)

Pump Position

Install the pump in the horizontal position with the D'MAND label facing up toward the sink (as shown in picture #4). Be sure the arrow on the pump base points left to right (hot water to cold water side) prior to connecting the flex-lines. **NOTE:** Use of other than the supplied Metlund parts, including the flex-lines, may restrict and delay the flow of water from the water heater.



Unacceptable

COMPLETING YOUR INSTALLATION

1. After installation adjustments

CHECK THE SYSTEM CAREFULLY TO MAKE SURE THE INSTALLATION IS FREE OF WATER LEAKS. All electronic sensitivity adjustments are pre-set at the factory. **If adjustments are necessary please call 1-800-638-5863 for technical support prior to making any adjustments.** The sensor is designed to signal the controller to shut off automatically when **hot water** has reached your fixture, and not to reactivate if **hot water** is at the fixture. Review the troubleshooting page for additional information.

2. Try the Metlund® D'MAND System and check water temperature

Once installed, turn water supply on and plug in the system. (Pump will automatically turn itself on when it is initially plugged in without pushing the D'MAND button). The Metlund System will continue to operate until the sensor signals that hot water has arrived, then it will automatically shut off. To test the system again, wait until pipes cool down, approximately 20-30 minutes. To operate the Metlund System from another location in the home, place remote transmitter in desired location. Push remote transmitter and wait for system to cycle. You may now turn on hot water.

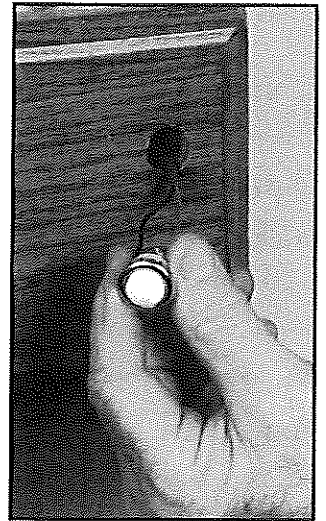
3. Installing the D'MAND System Starter Button

The manual starter button is a unique feature to the D'MAND System. The "on-demand" start to the circulating pump maximizes energy savings and controls operation only when there is a demand for hot water as compared to automatic timer controlled systems.

- A. Drill a 5/8" hole into the desired location, typically the side or front of a vanity cabinet.
- B. Insert the gray control cable from the controller through the back side of the hole and connect black and red wires to the starter button.
- C. Firmly insert the button into the drilled hole.

Note: To operate the D'MAND System from other locations throughout the house, additional starters can be installed and spliced into the gray control cable provided. Or for wireless remote operation, the transmitter/receiver kit can be easily installed. See "WIRELESS REMOTE KIT OPTION" below for instructions.

- D. If wireless remote kit is not installed, use electrical tape or wirenuts to isolate the three leads (black, red and green) in the black control cable.



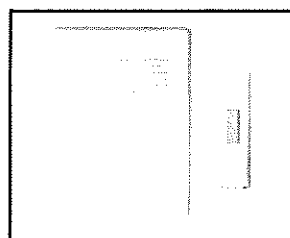
WIRELESS REMOTE OPTION - R0954

Wiring the Receiver

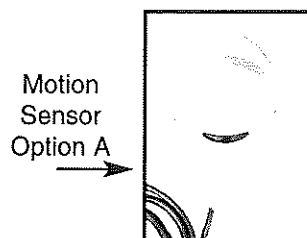
The remote receiver is the white rectangular box with the three protruding wires: black, red and green. **The receiver does not need batteries.** Wire the receiver directly to the corresponding wires on the controller by twisting each same colored wire together with gray wirenuts provided. If transmitter will activate system from short distance, but not from further away, receiver may need to be relocated for better reception.

Installing Batteries to the Transmitter

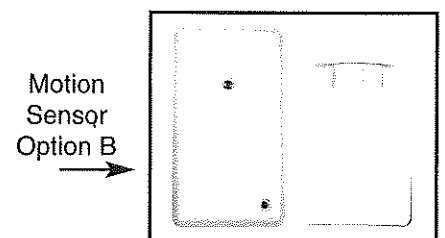
Open transmitter with a small flat head screwdriver by inserting screwdriver into slot to release catch. Load battery with negative side of battery toward spring. Carefully replace cover. The signal frequency can be changed. **This should only be necessary when two D'MAND Systems are in the same home or your neighbor has the system.** Call 800-638-5863 for assistance.



R0954 – Wireless Remote Button



V-102 – Wired Motion Sensor



VRS-1101 – Wireless Motion Sensor

Installing The Metlund® D'MAND® System for S-02T

1. Check the package contents

Your **Metlund D'MAND System** Includes:

S-02T MODEL 0011 PUMP (ONLY)

- Pre-assembled S-02T pump with built-in D'MAND Electronics Circuit Board, PDV Valve System and Thermister (Built in check valve)
- Set of flanges & gaskets (Built in ball valve)
- (1) push-button

S-02T PFR MODEL 0011 PUMP (ONLY)

- Pre-assembled S-02T pump with built-in D'MAND Electronics Circuit Board, PDV Valve System and Thermister (Built in check valve)
- 2 flanges with built-in ball valve
- 2 O-rings
- 2 Connection T's
- 2 Stainless Steel Male/Female Flex-line
- An RT-954 Remote Control Package

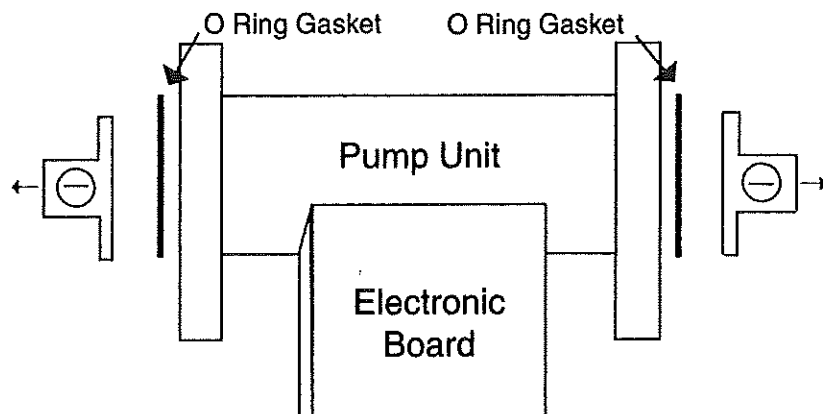
2. Installing the System

Flange Set-up

Lay pump out with electrical box on top and flange fittings on each side. You will need: 2 bolts, 2 nuts, 1 flange and 1 O-ring per side. Place the small round gasket (O-Ring Gasket) inside the groove of the pump, secure with nuts and bolts provided. Repeat procedure on the other side of the D'MAND System.

Follow "Installation for the S-Series Systems" on page 1 until # 6, you will have $\frac{3}{4}$ " male/female flex lines.

LOOKING DOWN ONTO PUMP



WARRANTY

ACT, Inc. Metlund® Systems will replace without charge (at the company's option) any Metlund® D'MAND pump, valve or component part which is proven defective under normal use. **Model S-70T Series and Model S-02T Series:** Warranty-five years from date of purchase; **Model S-50T:** Warranty-three years from date of purchase; **Accessories: Hardwired Buttons and Remote Activators and Receivers:** Warranty-one year from date of purchase. Labor is not included with Metlund® Limited Warranty.

In order to obtain services under this warranty, it is the responsibility of the purchaser to promptly notify the Company in writing and promptly deliver the item in question, delivery prepaid to the factory. The address for notification and delivery is ACT, Inc. Metlund Systems, 3176 Pullman Street, Suite 119, Costa Mesa, CA 92626. If the product or part in question contains no defect as covered in this warranty, the purchaser will be billed for the parts and labor charges in effect at the time of factory examination and repair.

Any Metlund product or part not installed or operated in conformity with Metlund instructions or which has been subject to misuse, misapplication, the addition of petroleum based fluids or certain chemical additives to the system, or other abuse, will not be covered by this warranty.

ACT, Inc. Metlund Systems OFFERS THIS WARRANTY IN LIEU OF ALL OTHER EXPRESS WARRANTIES. ANY WARRANTY IMPLIED BY LAW INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS IS IN EFFECT ONLY FOR THE DURATION OF THE EXPRESS WARRANTY SET FORTH IN THE PARAGRAPH ENTITLED "LIMITED WARRANTY" AS SHOWN ABOVE.

THE ABOVE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR STATUTORY, OR ANY OTHER WARRANTY OBLIGATION ON THE PART OF ACT, INC. METLUND SYSTEMS.

ACT, INC. METLUND SYSTEMS WILL NOT BE LIABLE FOR ANY SPECIAL INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF ITS PRODUCTS OR ANY INCIDENTAL COSTS OF REMOVING OR REPLACING DEFECTIVE PRODUCTS.

This warranty gives your specific rights, and you may have other rights which vary from state to state. Some states do not allow limitations on how long an implied warranty lasts or on the exclusion of incidental or consequential damages, so those limitations or exclusions may not apply to you.

TROUBLESHOOTING

Problem	Possible Cause	Remedy
1. The pump does not run when push button is pressed.	A. No power at electrical outlet. B. You've plugged the controller into an electrical outlet controlled by a wall switch, (such as the outlet under many kitchen sinks that controls the garbage disposal). C. Power cord is not secured to pump and valve. D. Wire to push button is not connected well. E. The temperature setting is already sensing "hot" water so the pump is not being activated.	<ul style="list-style-type: none"> • Plug the controller into a "hot" outlet • Shut off power, then make sure wires have good contact • Call 1-800-638-5863 to reset sensitivity setting.
2. The water is not hot enough	A. Pump or valve was install with water flow going in the wrong direction. B. There is something in the piping that has blocked the flow of water.	<ul style="list-style-type: none"> • Check the arrows on the housings of the valve and pump to make sure they point in the correct direction (see page 2). • Check the piping for obstruction.
3. There is hot water at the cold water tap	A. The temperature sensitivity setting now in place is too high, so the pump is not shutting down soon enough.	<ul style="list-style-type: none"> • Call 1-800-638-5863 for reset information.
4. Water is not hot enough when pump shuts down	A. The temperature sensitivity setting now in place is too low, and the pump is turning itself off too soon.	<ul style="list-style-type: none"> • Call 1-800-638-5863
5. There is hot water in the cold water lines only	A. The pump is installed backwards.	<ul style="list-style-type: none"> • Reinstall the pump correctly.



Act, Inc. Metlund® Systems

3176 Pullman Street, Suite 119, Costa Mesa, CA 92626
1-800-638-5863 • email: info@gothotwater.com

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