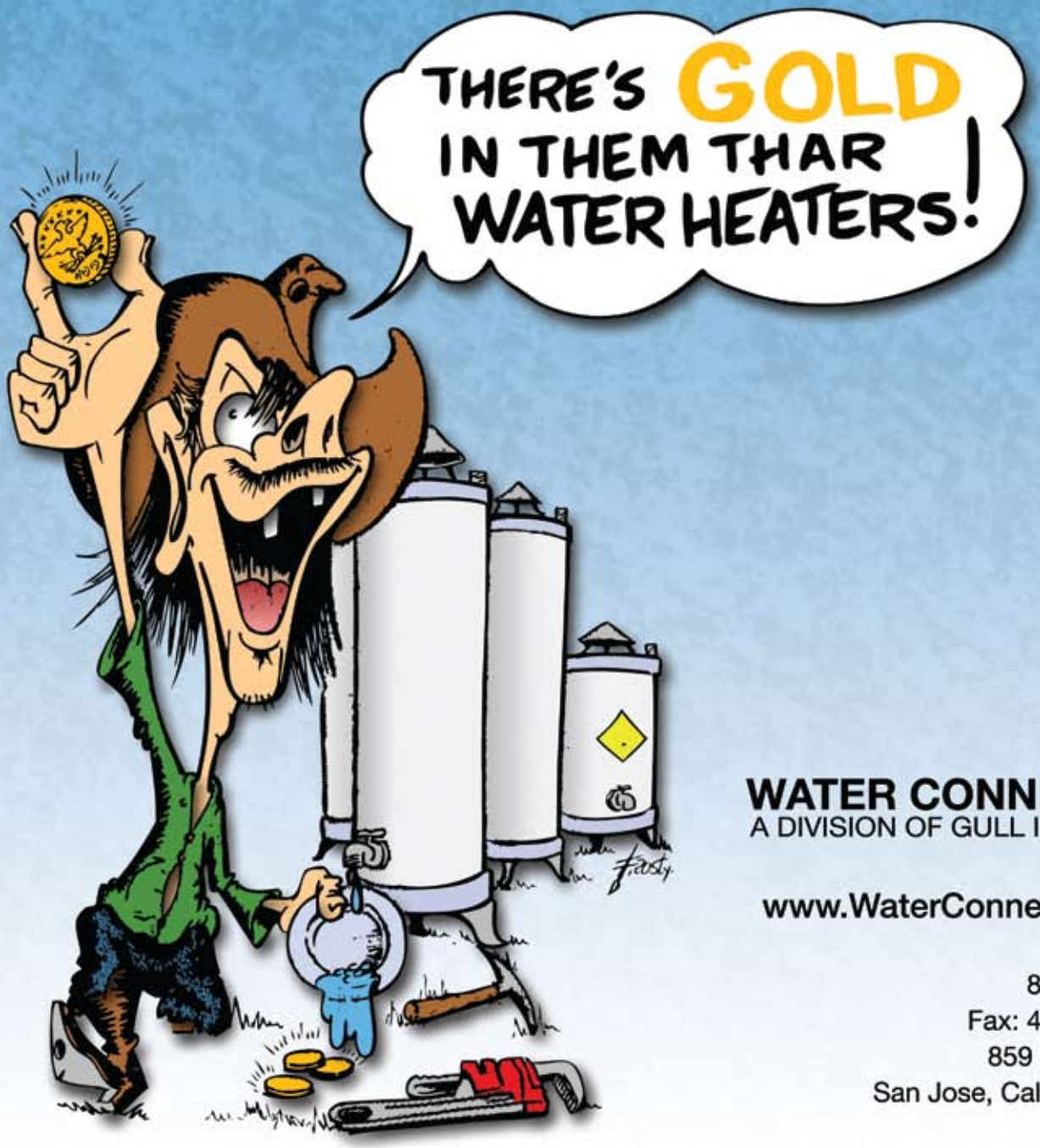
WATER HEATER MAINTENANCE PARTS, TOOLS & SUPPLIES

CATALOGUE & INFORMATION GUIDE



WATER CONNECTION™
A DIVISION OF GULL INDUSTRIES

www.WaterConnection.com

800-748-6286
Fax: 408-289-1605
859 Savaker Ave.
San Jose, California 95126

WATER HEATER MAINTENANCE

A great deal of information exists, including manufacturer's literature that the main cause of water heater failure is the loss of anode protection, the accumulation of sediment at the bottom of the tank and a water heater not dielectrically connected correctly to the hot and cold lines.

Education on how these three damaging elements are controlled and communicating the benefits of regular water heater maintenance to your client is the key to diversification and higher profits for your business.

INDEX

The Water Connection™ proudly presents this technicians catalogue of water heater equipment and supplies. It has been designed as a support system to introduce the plumbing, heating and service contractor to the new and rewarding fields of water heater maintenance.

WATER HEATER BACKGROUND INFORMATION

- Over 100 million water heaters are in use.
- 715 Water heaters are replaced every hour!
- 8 Million+ are replaced or installed on new construction yearly.
- The average life of a water heater is 8-13 years without maintenance.
- Documentation shows with maintenance, water heaters will last 20, 30, 40 years or more.
- Main elements that destroy water heaters are: scale, internal rusting and external pipe leakage.

WHY IS WATER HEATER MAINTENANCE MORE IMPORTANT TODAY THAN EVER?

1. Years ago, a water heater would have a service life of 20+ years. There are some contributing factors:

A) The steel tank was made with a thicker metal.

B) The glass lining applied to the steel tank to protect it from rusting was applied in 2 coats instead of todays 1 coat.

C) Water quality was better - less hardness and aggressiveness.

D) They had a lower fire rating creating less fatigue to the metal.

E) Water softeners, which speed up the corrosion rate were not in wide use.

F) Some tanks were made of non-corrosive materials, copper and monel, which are not economical to purchase today.

2. The price of water heaters have increased and will increase further. Why?

A) State and local code requirements——example: earthquake protection, pans, stands, expansion tanks, higher energy ratings.

B) The environmental protection agency will continue to impose stricter energy efficient regulations on water heater design. Dumping, transporting and recycling costs will increase in order to protect our standard of living.

C) Professional organized plumbing and heating firms are setting the standards by recruiting skilled technicians. Offering incentives for a career, not a job. A positive image is set on communication skills to increase their ability to upsell the job. Flat rate pricing. Maintenance agreements and extended warranties are the arsenal that contributes to their success.

D) Show the consumer real value in your product and services and they will buy from you over the fellow who sells product based on price.

WHAT'S THE BENEFIT YOU CAN OFFER YOUR CLIENT WITH A WATER HEATER MAINTENANCE PROGRAM?

- Extended tank life. The water heater they own now may be the last they will ever purchase.
- 12-15% Energy savings - gas or lp only.
- Less burnt out lower elements.
- Stops noise.
- Maintenance is 1/3 the cost over replacement.
- Service is environmentally friendly.

WHY SHOULD YOU OFFER A FULL WATER HEATER MAINTENANCE SERVICE IN ADDITION TO REPLACEMENT?

A) If I'm going to spend the next 20 years building a business for retirement, the only value when I sell my business will be interpreted by the residual income available. Customer names mean nothing unless you've developed a meaningful relationship.

B) The only way to do that is through constant interfacing - offering new services or products.

C) Extended replacement and service warranties.

Water heater maintenance is an excellent opportunity to stay in contact with your client. Offering a beneficial service builds repoir and allows you the opportunity to acquire other types of work.

HOW TO EXTRACT THE GOLD

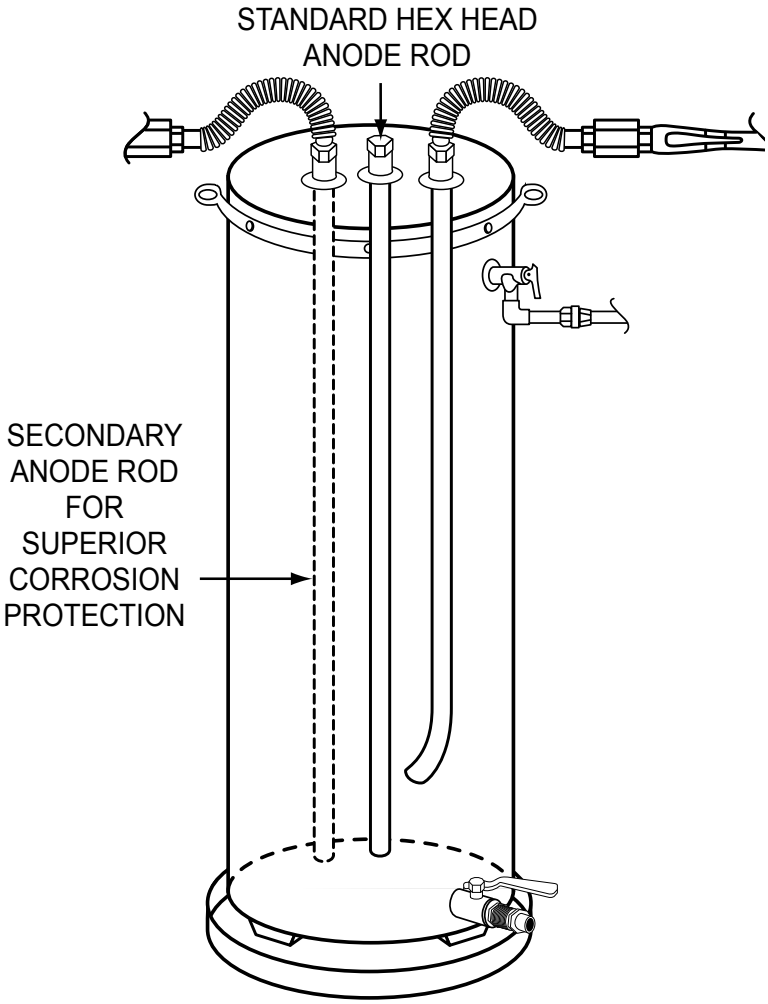
PROBLEM:

LOSS OF THE RUST PREVENTOR DEVICE CALLED THE ANODE ROD:

All glass-lined water heaters have rods of solid metal, usually magnesium suspended in the tank. The sole purpose of these rods is to slowly corrode away so that the tank will not. Called sacrificial anodes, the rods sacrifice" themselves to protect the steel tank from rusting.

CURE:

Inspect the anodes regularly and replace when needed. Generally every 3-5 years in hard water areas and where acid water is a problem, or water is softened, inspect every 1-2 years.



Superior Corrosion Protection

When you install a water heater, add a second anode to your new tank to add to its life from the outset. (Water heater manufacturers know that loss of anode rod protection is a major cause of water heater failure.) Their warranties reflect this. With one anode as standard equipment, they offer a 6-year warranty. To extend heater life, they add a second rod, charge you a lot more money, and issue a 12-year warranty.

Purchase a 6 year tank, 1 year parts warranted water heater with R/19 insulation jacket for excellent heat retention. Add a second anode rod for superior corrosion protection and a curved dip tube and full port ball drain valve for ease of sediment flushing. Install flexible copper pipe connections or solid connections with compression unions for ease of future maintenance.

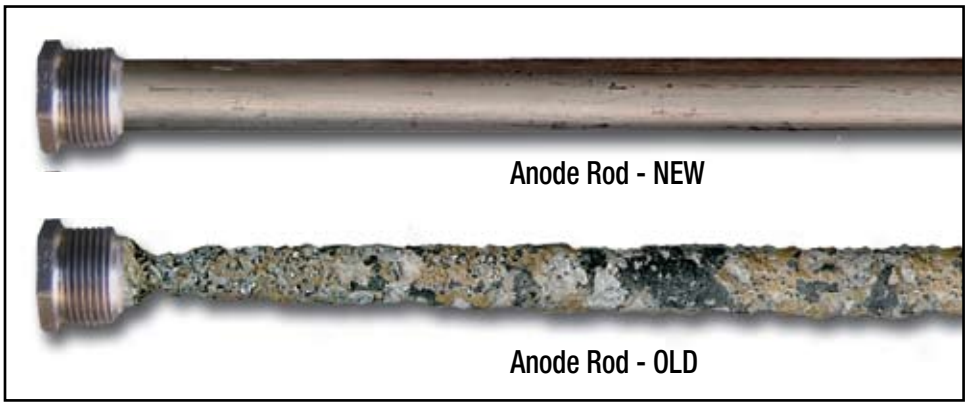
SACRIFICIAL ANODE RODS

Look at the top of your water heater to locate the anode rod. In most cases the hex head is exposed and in some cases it is hidden under the sheet metal cover. If exposed a 1 1/16" 6 point socket with long breaker bar will be required to remove it. If hidden an easy solution would be to remove the nipple on the hot water side with a pipe wrench and install a nipple outlet anode rod.

Most gas or electric water heaters require a standard rod length of 44".

On some tall electric or solar storage tanks a rod 51" in length would be required. If the ceiling height over a heater is a problem in installing the anode rod, an anode rod which has sausage links can be bent into place or a hole cut above the heater to the attic can accommodate installations. Magnesium rods are supplied as standard.

When a rotten egg is a smell problem, we supply a zinc aluminum rod to combat this problem.



Anode Rod - NEW

Anode Rod - OLD

As long as the magnesium anode remains in the tank, in an active state, there will be no corrosion of the exposed steel.

Periodic inspection of the anode should be made to establish the rate, by visual inspection, of the anode usage or deterioration.

The anode should be replaced when there is 6" or more exposed core wire at either end.
Rheem Manufacturing Company, \Vaier Heater Division, June. 1988.

If these rods are not replaced when necessary, you will eventually be faced with buying a new heater. Replacing the anode rod is much cheaper.
Carey Bros ON THE HOUSE, San Francisco Examiner, April 1. 1992.

... preventive maintenance can more than double the 10-to-15 year life of a typical water heater... simply inspect the anode... every two years.
U.S. News and World Report, June 1988, page. 74.

ROD REMOVER-FOR REPLACEMENT OF ANODE RODS

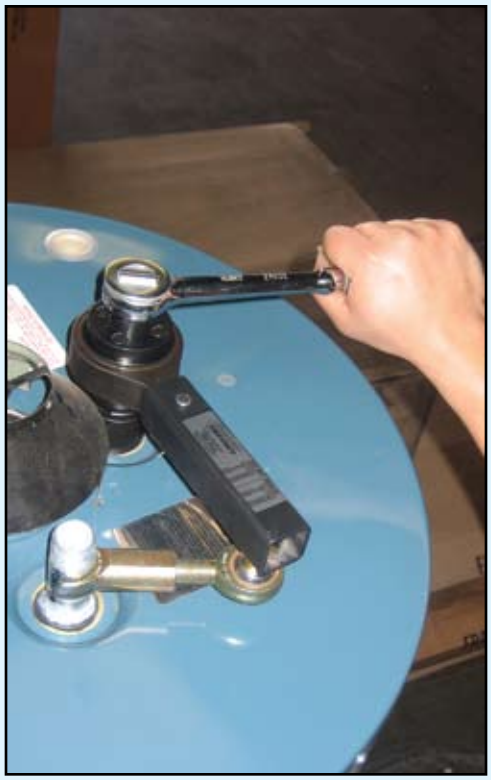
When tanks are manufactured, anode rods are installed with an impactor. With age threads become frozen and are difficult to remove with conventional breaker bars, ratchets and sockets.

The cure is a rod remover, a tool modified for the sole purpose of easy removal and replacement of anode rods by applying a maximum 227 lbs at the top with a conventional 1/2" drive 12" ratchet. A gear ratio increases that to 750 lbs at the head of the anode rod.

ROD REMOVER PLUS 1-1/16" DRIVE 6 POINT SOCKET

- Multiplies your strength 3 1/3 times to easily remove even the most stubborn of anode rods.
- Built-in leverage bar stops tank from turning.
- Works in close proximity to connector piping and venting to speed anode replacement time.
- Built with industrial quality components for years of trouble free service.
- Defects in material or workmanship, 1 year limited warranty.

Rod Remover with Socket UT-362



ANODE RODS

- **MAGNESIUM RODS**
  STANDARD
- **ALUMINUM WITH ZINC**
  FOR SERIOUS ODOR PROBLEMS
- **FLEXIBLE STYLE**
  FOR LOW CEILING HEIGHT

MAGNESIUM

.750 X 3/4" X 44" HEX HEAD ROD	AR-100
.750 X 3/4" X 44" HEX HEAD FLEXIBLE ROD	AR-103
.750 X 3/4" X 3" NIPPLE X 44" OUTLET ROD	AR-106
.750 X 3/4" X 3" NIPPLE X 44" OUTLET FLEXIBLE ROD	AR-109
.1.050 X 1" X 44" HEX HEAD ROD	AR-112
.1.050 X 1" x 44" HEX HEAD FLEXIBLE ROD	AR-115
.750 X 3/4" X 51" HEX HEAD ROD	AR-118
.750 X 3/4" X 51 "HEX HEAD FLEXIBLE ROD	AR-121
.750 X 3/4" X 3" NIPPLE X 51" OUTLET ROD	AR-124
.750 X 3/4" X 3" NIPPLE X 51" OUTLET FLEXIBLE ROD	AR-127
.750 X 1" OUTLET X 44"	AR-130
.750 X 1" OUTLET X 44" FLEX	AR-133

ALUMINUM ZINC

FOR SMELLY WATER CONDITIONS

.800 X 3/4" X 39" HEX HEAD ROD	AR-136
.800 X 3/4" X 39" HEX FLEX ROD	AR-139
.800 X 3/4" X 39" 3" COMBO OUTLET	AR-142
.800 X 3/4" X 39" 3" COMBO OUTLET FLEX	AR-145

Custom anode rods in different diameters and lengths available upon request -allow 6-8 weeks for delivery on special orders.

1 1/2" HOLE PLUGS WHITE *(BAG OF 25 ONLY)*
Sometimes it is necessary to make a hole in drywall above water heater to install anode.
These plugs are for patching holes. AR-150

POWERED ANODE

EXPANDABLE-SPRING-ANODE SYSTEM - DOMESTIC WATER HEATER - CATHODIC PROTECTION

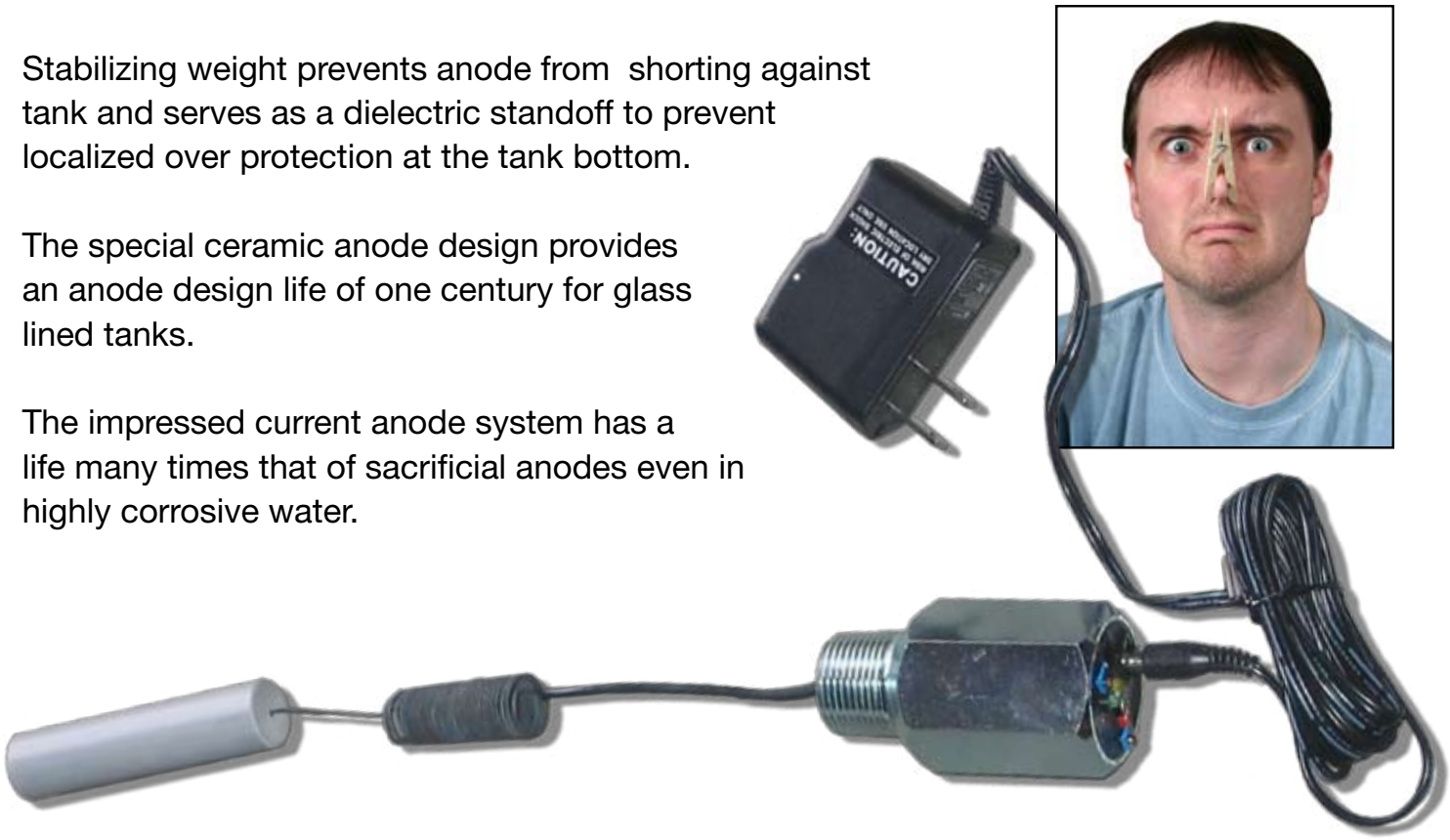
Standard 3/4” npt hex plug feed-through replaces the existing hex head sacrificial anode or with a tee, The sacrificial hot outlet anode can be replaced with a power anode.

Voltage out ratings can be adjusted to accommodate different or unusual water conditions. Verification of corrosion potentials can be achieved by means of a simple reference electrode and test procedure - supplied separately.

Stabilizing weight prevents anode from shorting against tank and serves as a dielectric standoff to prevent localized over protection at the tank bottom.

The special ceramic anode design provides an anode design life of one century for glass lined tanks.

The impressed current anode system has a life many times that of sacrificial anodes even in highly corrosive water.



Where long term economics are a concern, commercial water heaters, use of a softner or areas where well water can produce excessive sulfides (that rotten egg smell), power anodes may be the best choice Includes transformer with 12’ lead AR-148

CURE FOR SMELLY WATER PROBLEMS:

Remove existing anode rod or rods. Drain out 2 quarts of water from water heater. Add 2 pints of 3% hydrogen peroxide (available at drug stores) through anode rod hole. Install an aluminum zinc rod, or Power Anode. Pressurize water heater and let stand 20-30 minutes. Purge all of the hot taps individually until warm water comes out of the tap. Finally flush heater under pressure through drain valve for 5 minutes. To achieve superior results install a curved dip tube and full port ball valve for a turbo flush. (refer to TankSaver Kit installation manual for instructions).

YOUR CLIENT WILL LOVE YOU.

HOW TO EXTRACT THE GOLD

PROBLEM:

SCALE DEPOSITS

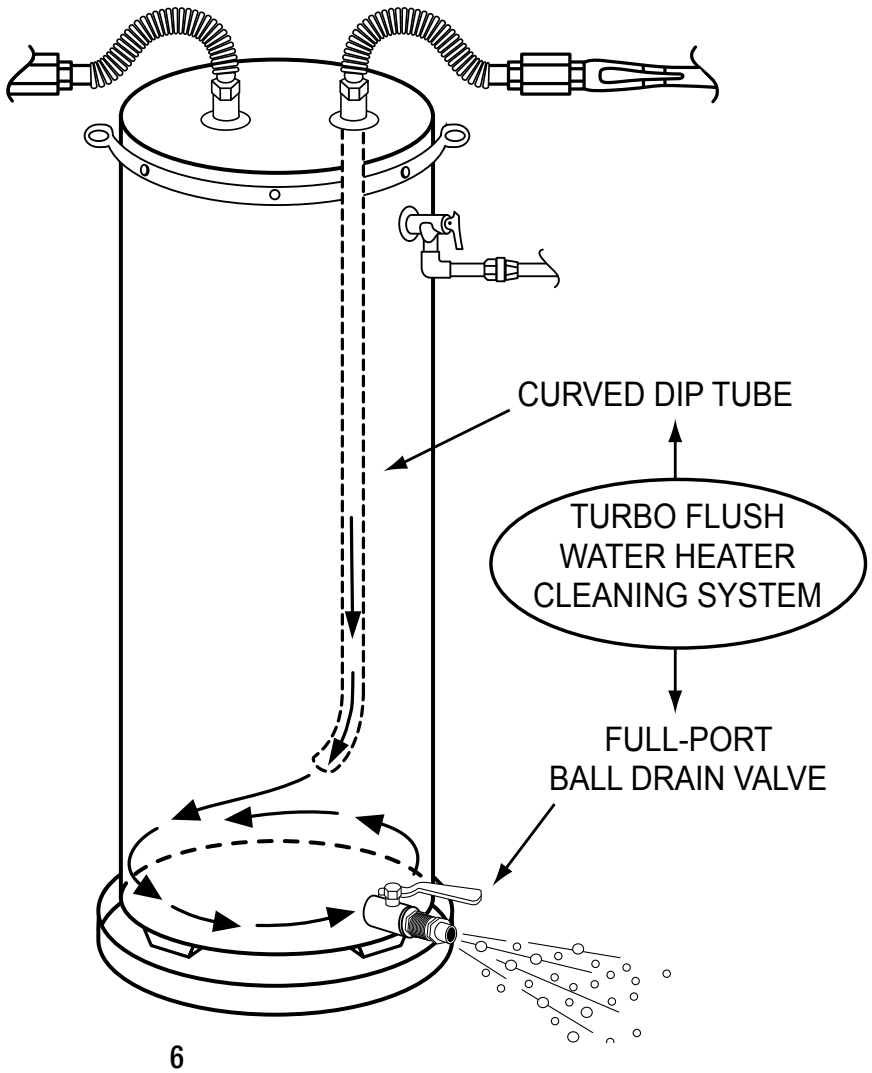
As water is heated in a tank, minerals precipitate out and collect as sediment on the bottom. As this scale builds up in a gas heater, it slows the heat transfer from flame to water, causes over-heating and increased energy use. The excess heat can damage the glass lining and weaken the steel. It often produces a sleep-disrupting popping or rumbling noise. When sediment collects in electric heaters, it can cause element burn-out. Removing the sediment barrier also allows the sacrificial anode clear access to the tank's bottom, resulting in better protection.

CURE:

Replace the conventional straight cold water inlet with a tube which has a curve at the end, and replace the tank's original (usually plastic) drain valve with an easily operated brass ball valve. As water enters the tank through the new tube, its swirling motion lifts scale off the bottom and flushes it out the large opening of the brass ball valve. (Some heater manufacturers void their warranties if scale build-up is the cause of tank failure. Others facilitate flushing by adding various expensive devices to reduce sediment build-up).

Though it is easier to move sediment out the drain valve at the bottom than it is to move it off the bottom and out the top, keep in mind that if adequate water flow is not present no removal system will work properly.

The surest way to remove sediment is with periodic flushing and routine maintenance. Set your customer on a flushing and maintenance schedule to protect their investment.

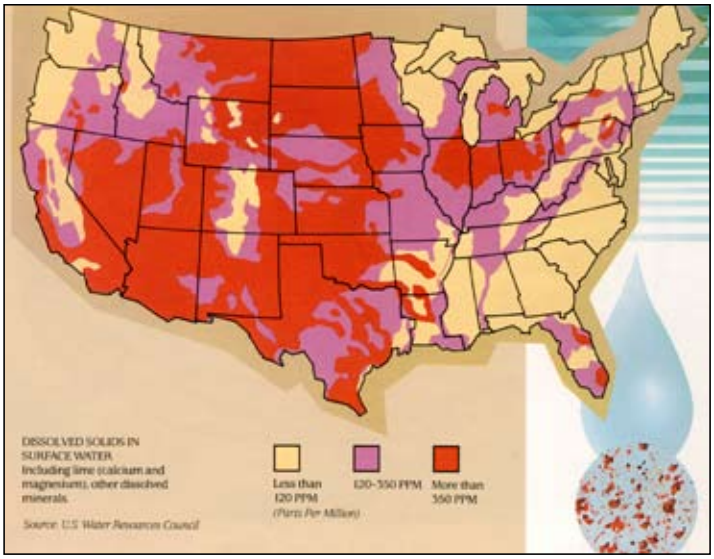


SCALE REMOVAL WITH MUCK-VAC™

85% OF THE U.S.A. IS SUPPLIED WITH VARYING DEGREES OF HARD WATER (see map)

Gas water heaters when new have heat to water exchange of approximately 75%, the rest goes up the flue. Accumulation of scale *DEFLECTS* the heat up the flue slowing the transfer and inevitably with time, greatly reduces the efficiency and life of the water heater.

Scale also causes a sleep disrupting popping and crackling noise. With electric water heaters, the bottom element buried in scale and insulated burns out requiring replacement. With Muck-Vac you can initiate an honest solution to an ongoing problem which will benefit your client and yourself.



- USER FRIENDLY. MUCK-VAC IS DESIGNED WITH THE PROFESSIONAL IN MIND.

- EQUIPPED WITH A 2 GALLON CAPACITY SCALE SEPERATION HOLDING TANK. BUILT IN SIGHT HOSE FOR EVALUATING SPEED OF REMOVAL & COMPLETION OF JOB.

- TOOL IS BUILT USING INDUSTRIAL QUALITY COMPONENTS; AND IS DESIGNED FOR EASY MAINTENANCE AND MINIMAL CARE, MUCK-VAC WILL GIVE MANY YEARS OF SERVICE.

MUCK-VAC UT-363
MUCK-VAC MAINTENANCE KIT UT-364

SCALE REMOVAL

CURVED WATER INLET DIP TUBES

Dia./Nipple/Length

3/4" X 3" X 48" DIP TUBE ASSEMBLY
STANDARD SR-100

3/4" X 6" X 51" DIP TUBE ASSEMBLY
STANDARD SR-103

3/4" X 3" X 60" DIP TUBE ASSEMBLY
TALL BOY ELECTRIC OR SOLAR STORAGE SR-106

3/4" x 6" X 60" DIP TUBE ASSEMBLY
TALL BOY ELECTRIC OR SOLAR STORAGE SR-109

1" X 3" X 50" DIP TUBE ASSEMBLY
LIGHT DUTY COMMERCIAL SR-112

1" X 6" X 53" DIP TUBE ASSEMBLY
LIGHT DUTY COMMERCIAL SR-115

Custom water inlet dip tubes in different lengths are available upon request. Allow 1 week for delivery on special orders.

Tank Saver Kits
Available in retail packaging upon request includes: outlet anode rod, curved dip tube, flush valve assembly, roll of Teflon tape, date sticker, installation instructions

VALVES

WATER HEATER FLUSH VALVE COMPLETE WITH 3/4" X 3" PLASTIC LINED NIPPLE includes cap & chain assembly
Turbo Flush Water Heater Cleaning System
Imprinted On Handle SR-118

WATER HEATER FLUSH VALVE with personalized handle imprint
3 line - 60 piece order minimum *see order form in back of catalog* SR-120

WATER HEATER FLUSH VALVE ONLY includes cap & chain assembly
Turbo Flush Water Heater Cleaning System
Imprinted On Handle SR-121

3/4" HOSE X 3/4" PIPE CONNECT SR-132

3/4" BRASS HOSE CAP SR-134

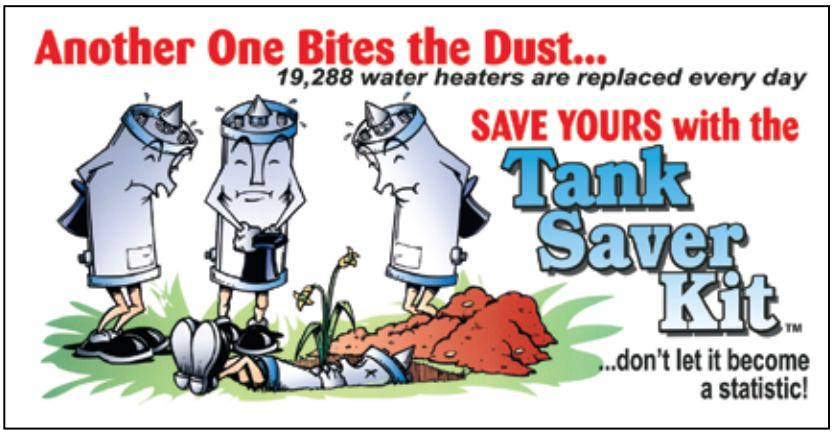
3/4" HOSE CAP GASKET SR-136

HOW TO EXTRACT THE GOLD

PROBLEM:
EXTERNAL PIPE LEAKAGE

DRIP! DRIP! DRIP! A leaking connector can perforate a hole right through the top of the tank, destroying the water heater. Even a young and well maintained water heater can fail if its pipe connections are poor.

Example: Galvanized or brass to steel tank.



GALVANIZED NIPPLES:

Galvanized nipples are compatible with the tank connection dielectrically. Yet with an interior that is unprotected, the nipples corrode, clog and rust and eventually leak. Just as the internal tank is protected with glass lining, the nipple connected to the water heater should also be protected with a lining. Most water heater manufacturers are now supplying plastic lined nipples with new water heaters. To limit corrosion opportunity, install dielectric nipples at water heater connections and wall connections to put distance between dissimilar metals and reduce corrosion opportunities.

BRASS NIPPLES:

Although brass unprotected internally will not corrode like galvanized nipples, the introduction of brass to steel is not a dielectrically correct connection.

Just as the anode being magnesium will corrode away to protect the steel tank, the unprotected area of the steel tank below the brass nipple will corrode to protect the brass nipple. To limit the introduction of noble metals to the water heaters, manufacturers apply a plastic coating to the copper probe on the thermostat and the temperature pressure relief valve.

By reducing corrosion opportunities, the anode rods current is better directed to the areas where protection is most needed.

CONNECTION RECOMMENDATIONS:

After maintaining 3300 water heaters SINCE 1987 and with repeat service being a large part of my business, I prefer a flexible connector for ease of future maintenance.

Yet, where solid plumbing is code or a preference, I do not recommend the use of a dielectric union which so many plumbers use.

The dielectric union consisting of a copper side and steel side separated by a rubber gasket. The steel side is internally unprotected from water contact.

With time, that area corrodes and clogs restricting flow; just like a galvanized nipple. For best results, use a 3/4 FIP or MIP brass x 3/4“ compression union.

Where galvanized fittings are exposed at the water heater, remove and replace with brass fittings to limit corrosion and clogging.

Where gate valves are leaking or non closing, remove and replace with easy to operate 1/4” turn ball valves for ease of emergency shut down.

To limit other corrosion opportunities, check for grounding of main water line — if not grounded, install a grounding rod with connection to the main water line. To stray current from the water heater, install a cross over from the cold line to the hot and to gas line using grounding clamps and #8 bonding wire on 100 amp service panels & #6 on 200 amp service panels.

WATER HEATER CONNECTION PARTS

PLASTIC LINED DIELECTRIC NIPPLES

Diameter/Length

1/2” X 3” WCP-100
3/4” X 1 13/16” WCP-102
3/4” X 3” WCP-104
3/4” X 6” WCP-106
1” X 3” WCP-108
1”X6” WCP-110
11/2” X 6” WCP-112
1 1/2“ x 10” WCP-113
2” X 4” WCP-114
2 1/2” x 6” WCP-115

UNIONS

7/8” COPPER COMPRESSION X 3/4”
FIP BRASS. WCP-116
MIP BRASS WCP-118

COPPER FLEX LINES

12” 3/4” FIPX3/4” FIP WCP-130
12” 3/4” FIP x 3/4” FITTING COPPER . . WCP-132

18” 3/4” FIP x 3/4” FIP WCP-134
18” 3/4” FIP x 3/4” FITTING COPPER . . WCP-136

24” 3/4” FIP x 3/4” FIP WCP-138
24” 3/4” FIP x 3/4” FITTING COPPER . . WCP-140

36” 3/4” FIP x 3/4” FIP WCP-142
36” 3/4” FIP x 3/4” FITTING COPPER. . WCP-144

REPAIR GASKETS FOR COPPER FLEX LINES

GASKETS - ROUND - BAG 25 ONLY WCP-150
GASKETS - CONCAVE - BAG ONLY WCP-151

COMMERCIAL AND RESIDENTIAL STAINLESS FLEX LINES

IAMPO APPROVED FOR WATER HEATER CONNECTION

12” X 3/4” FIP X FIP WCP-160
18” X 3/4” FIP X FIP WCP-162
24” X 3/4”,FIP X FIP WCP-164
36” x 3/4” FIP x FIP WCP-166
48” x 3/4” FIP x FIP WCP-168

18” X 1” FIP X FIP WCP-170
24” X 1” FIP X FIP WCP-172

18” X 1 1/12” FIP X FIP WCP-174
24” X 1 1/2” FIP X FIP WCP-176
18” X 2” FIP X FIP WCP-178
24” X 2” FIP X FIP WCP-180

REPLACEMENT REPAIR GASKETS FOR STAINLESS FLEX

3/4” WCP-190
1” WCP-191
1 1/2” & 2” WCP-192

STAINLESS STEEL GAS FLEXIBLE GAS LINE CONNECTORS

1/4” ID X 3/8” FLARE NUT
LENGTHS 24” WCP-200
LENGTHS 36” WCP-202

3/8” ID X 1/2” FLARE NUT
LENGTHS 24” WCP-204
LENGTHS 36” WCP-206

USEFUL TOOLS

29/32 DRILL BIT UT-350
CLEANS OUT OVERLAY OF WELD BELOW WATER HEATER, THREADS FOR EASY INTRO OF COMBO OUTLET ANODE ROD

NIPPLE PLUG 3/4”
STOPS NIPPLE CONNECTED TO WATER HEATER FROM COLLAPSING WHEN EXTRACTED WITH THE JAW PRESSURE OF A WRENCH. UT-351

SCREW PLUG ELEMENT REMOVER
HEAVY DUTY ALL STEEL CONSTRUCTION WITH CHROMIUM PLATED FINISH UT-352

PIPE TAPS 3/4” UT-353

NIPPLE AND SCREW EXTRACTORS 3/4” UT-354

7/8” HOLE SAW WITH ARBOR UT-355

TEE HANDLE FOR TAPPING THREADS
1/2” DRIVE. UT-356

WATER HEATER TESTER
Sensitive LED light indicates continuity. Unbreakable body with protective cover over light & probe. Conveniently tests elements & thermostats while they are in the heater. May also be used to test continuity in fluorescent lights, fuses, all appliances & is sensitive enough to measure even the fine filament wire in a light bulb. More useful than a circuit tester. Complete instructions. UT-357

PIPE-PLUG - PLUMBERS-BREAD
Quick and easy way to change leaky valves and make pipe modifications with minimum downtime
Solder with water in the line — You bet — If you have Pipe Plug
1/2 - 2 1/2”. UT-358
1/2 - 3/4 - 1” UT-359

MUCK VAC PARTS

VALVE KIT	MVP-380
DRIVE BELT	MVP-381
DIAPHRAM KIT . . .	MVP-382
BRUSH KIT	MVP-383
TIP	MVP-384
FILTER BAG	MVP-385
WAND WIRE	MVP-386
O RING	MVP-387

MARKETING AND EDUCATIONAL TOOLS

DVD
RESIDENTIAL AND COMMERCIAL MAINTENANCE PROCEDURES
(45 Minutes) Includes Marketing Ideas & Water Heater Workbook

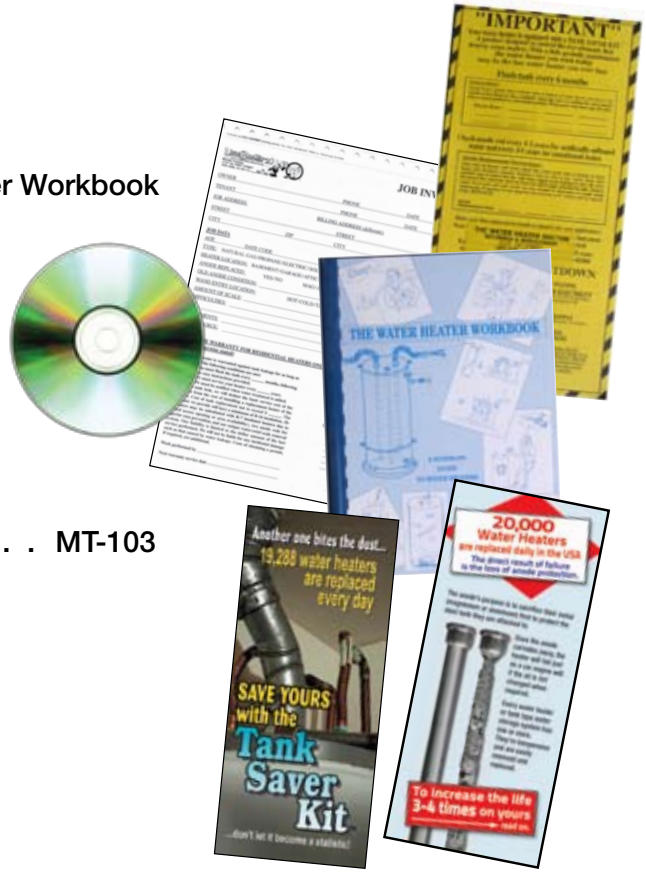
INVOICES - Custom Imprinting

WATER HEATER DATE STICKER
Custom Imprinted
with your company name (1000 Stickers)
Generic without Company Name

WATER HEATER WORKBOOK
A Hands-on Guide (151 pages)
to Maintenance & Trouble Shooting MT-103

BROCHURES, BULK MAILING, CUSTOM PRINTING SERVICE
Maintain or Replace "Tank Saver Kit", "Anode Rods"

Call for pricing on Marketing and Educational Tools



TAKE ACTION TODAY

TO INITIATE A WATER HEATER MAINTENANCE PROGRAM THAT WILL INSURE RECURRING INCOME YEAR AFTER YEAR.

1. Everytime you sell a new water heater, upsell the benefits of adding a secondary anode and flush system. Educate your customer on the benefits of routine flushing and periodic inspection of the anode rod to extend tank life and save on energy costs.

2. Everytime you make a service call, relate to the corrosion in a pipe faucet or sewer to the corrosion that is going on inside the water heater. Offer a free inspection of the anode rod to protect your clients investment.

3. Contact your existing client base and offer an 8-point service special. Utilize a flyer, newsletter, coupon or service agreement. Explain to your client in detail the service, benefits, costs and guarantee.

4. As requests for repeat servicing on new or existing water heaters grows, invest in muck-vac and offer a full water heater service - removal of scale with muck-vac, replacement of the anode rod and installation of the Turbo Flush Water Heater Cleaning System.

5. More importantly, educate yourself first, then educate your tech's. Train them in communication skills required to initiate this rewarding program. Take time on each job to concern yourself with your customers needs, not yours.

Sell value of service and product over price.

WATER CONNECTION FAX ORDER

FAX TO: 408-289-1605 Please make copies for future orders or download our PDF file at www.WaterConnection.com

WATER CONNECTION • A Division of Gull Industries • 800.748.6286 • 859 Savaker Ave., San Jose, CA 95126

ORDER DATE _____ SHIP DATE _____

BILL TO _____ SHIP TO _____

_____ _____

_____ _____

_____ _____

ORDER # _____

SPECIAL INSTRUCTIONS				
QUAN	ITEM NUMBER	DESCRIPTION	NET PRICE EACH	TOTAL

* Please note: your order will not be processed without a signature

Customer Signature _____

Shipping Information

S.O.#	Acct.#	Fax	Territory

Ship to

_____

Company Address City State Zip