



replacement parts industries, inc.

CALL (800) 221-9723 • FAX (818) 882-7028 • EMAIL moreinfo@rpiparts.com • WEBSITE www.rpiparts.com

WATER-MIZER™

Water Saving and Tempering Device for Bulk Sterilizers





WATER-MIZER™

A Water Saving and Tempering Device for Steam Sterilizers

THE PROBLEM

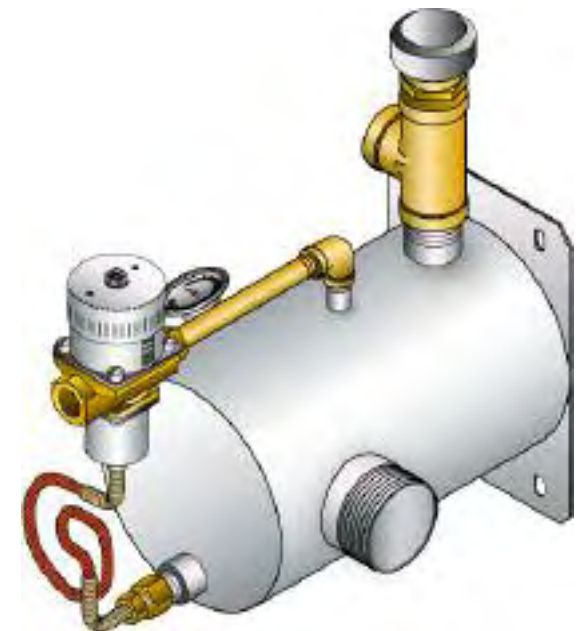
Standard municipal regulations require discharge into a municipal sewer system be at 140°F or less. Most steam sterilizers use continuous cold water flow to temper the steam condensate discharged from bulk sterilizers, regardless of whether the sterilizer is even in use. The cold water flows between 50-100 gallons per hour, depending upon individual settings. Hospitals are billed by their local utilities for the water used, as well as the amount of discharge at rates that vary from \$2.00/ccf to \$10.00/ccf (ccf = hundred cubic feet = 748 gallons).

THE SOLUTION

The **WATER-MIZER** is a water saving and tempering device for steam sterilization equipment that efficiently mixes cold water with steam condensate discharged from the sterilizer. This reduces the discharged water temperature before it enters the municipal sewer system. Instead of requiring a continuous flow of cold water, the **WATER-MIZER** monitors the drain temperature and applies cold water to temper the discharge only when needed.

The **WATER-MIZER's** temperature actuated valve is time-tested to be reliable. And because it is non-electrical, no wiring is required and it operates independently from the sterilizer's controls. The average water savings with a **WATER-MIZER** installed is 75%-90% of normal flow rate, resulting in a return on investment of less than one year.

The **WATER-MIZER** works with the majority of bulk sterilizers in use today, and is small enough to fit neatly underneath them. Minimal piping and fittings are all that is required for a straight-forward installation job.





What other Facilities have Experienced with the WATER-MIZER™ ...

2004 ICI Water Conservation Award Winner

In 2004, at an awards breakfast attended by 120 business and political leaders, seven Austin, Texas area businesses were recognized for their extraordinary efforts to conserve water.

Seton Hospital System, which, thanks to sterilizer retrofit kits (the Water-Mizer) at all five facilities (Seton MC, Seton SW Seton NW, Brackenridge, and Children's Hospitals) and kitchen improvements at Seton MC is saving 23,500 gallons/day.

2004 BEST Award Winner

In May, 2004 the Resource Venture and its program partners honored eleven businesses at its 3rd annual BEST (Businesses for an Environmentally Sustainable Tomorrow) Awards Ceremony. One of the recipients of the 2004 BEST Award was the University of Washington.

The University of Washington is a public research university, with campuses in Seattle, Tacoma and Bothell. The Seattle campus is located in north-central Seattle and is made up of 219 buildings on a 693 acre-campus.

The Facilities Services Department of the University retrofitted 50 sterilizers and autoclaves with Water-Mizers. The Water-Mizer eliminates water tempering during non-sterilizing machine cycles, which is necessary before draining hot water into local drains.

The cost for the sterilizer retrofit program was \$96,000. The Seattle Public Utilities (SPU) incentive rebate will be approximately \$30,800. It is projected that the University will save approximately 26 million gallons of water per year, which will yield \$250,000 per year in combined water and sewer savings. The pay-back period for the initial outlay of funds will be only five months.

Sources:

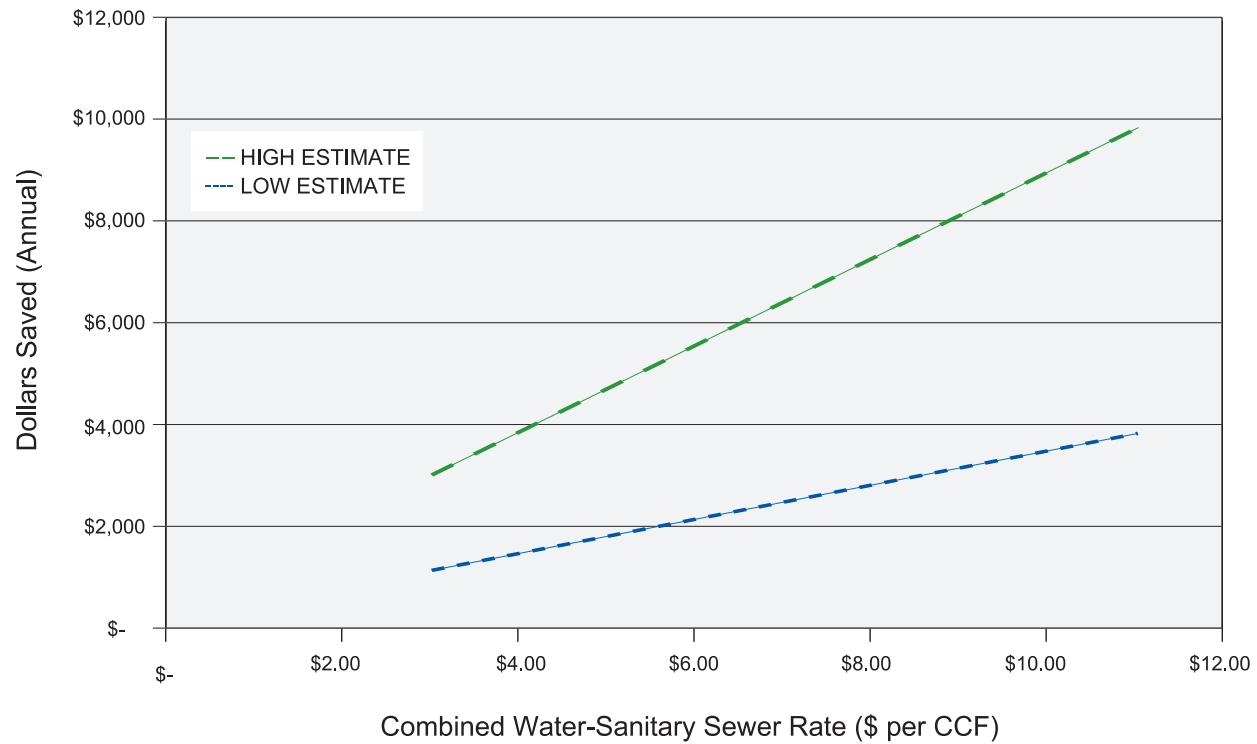
2004 ICI Water Conservation Award Winner www.cityofaustin.org/watercon/ici2004awards.htm

2004 BEST Award Winner University of Washington "Sustainability Report" page 23, www.washington.edu/admin/pts/images/Sustainability%20Report%202004s.pdf and www.resourceventure.org/rv/services/awards-and-rec/best/2004-winners/index.php



WATER-MIZER™ Cost Savings

Customer's Utilities Cost Savings from Sterilizer Retrofit
at Various Combined Water-Sewer Rates





Calculate the Savings Your Facility Can Realize with the Water-Mizer™

For example: A hospital has 10 sterilizers that are turned on 24 hours/day. The hospital is located in Los Angeles, California which has a water/sewer rates of \$5.19/748 gallons. Calculate the number of sterilizers x hours/day sterilizers are in use x 50 gallons of water/hr = Gallons of water per day saved! Now calculate – Gallons per day saved x 365 days x water plus sewer rates = Money per year saved. For our example hospital, the savings is calculated as follows:

$10 \text{ sterilizers} \times 24 \text{ hours/day} \times 50 \text{ gallons of water/hr} = 12,000 \text{ gallons of water per day saved!}$
 $12,000 \text{ gallons of water saved per day} \times 365 \text{ days} \times \$5.19 \text{ (water + sewer rates) per } 748 \text{ gallons} = \$30,390.64 \text{ per year saved!}$

Fill in the blanks below to calculate the water and cost savings your hospital can realize with the WATER-MIZER:

_____ sterilizers x _____ hours/day x 50 gallons of water/hr = _____ gallons of water per day saved!

_____ gallons of water saved per day x 365 days x \$ _____ (water + sewer rates) / 748 gallons = \$ _____ per year saved!

MUNICIPALITY	WATER RATE/HCF*	SEWER RATE/HCF*	WATER + SEWER RATE TOTAL	PROJECTED ANNUAL SAVINGS @ 50 GALLONS/HOUR
ASHEBORO, NC	\$2.15	\$2.15	\$4.30	\$2,517.91
KANSAS CITY, KS	\$2.68	\$2.07	\$4.75	\$2,781.42
LOS ANGELES, CA	\$2.86	\$2.33	\$5.19	\$3,039.06
SAN FRANCISCO, CA	\$1.49	\$5.56	\$7.05	\$4,128.21
ST. LOUIS, MO	\$1.19	\$1.66	\$2.85	\$1,668.85
TULSA, OK	\$1.30	\$1.95	\$3.25	\$1,903.07

* 1 HCF = 748 Gallons

WATER-MIZER™ **Space-Efficient Design and How it Works**

The WATER-MIZER's space-efficient design allows it to be mounted two different ways – by attaching it directly to the frame of sterilizer equipment or by attaching it to an adjustable floor stand.

Here's How it Works:

1. Steam condensate discharged from your sterilization equipment enters the WATER-MIZER through piping connected to the top threaded connection. A vacuum breaker prevents backflow into potable water systems.
2. Cold water enters through the temperature-actuated valve. The valve and the WATER-MIZER's straightforward design ensure efficient mixing of hot and cold water. The valve's sensor, located near the outlet, ensures that water leaving the WATER-MIZER is 140° F (60°C) or less before entering the municipal sewer system.
3. Tempered water at 140° F (60° C) or less exits through the side outlet for safe discharge into a municipal sewer system.

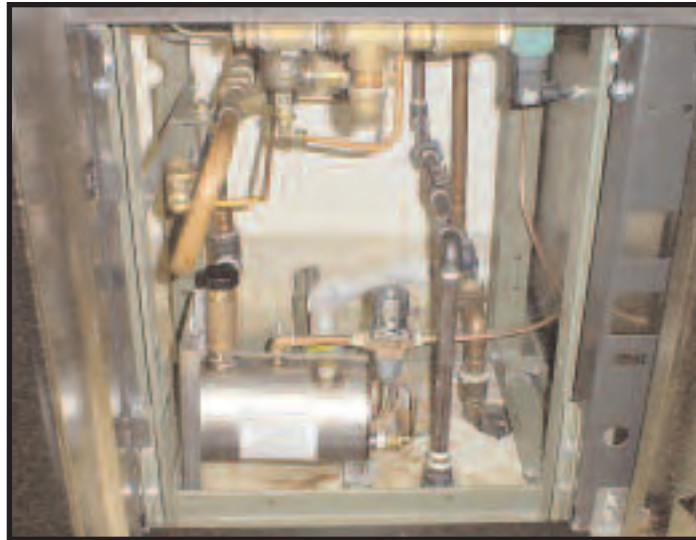
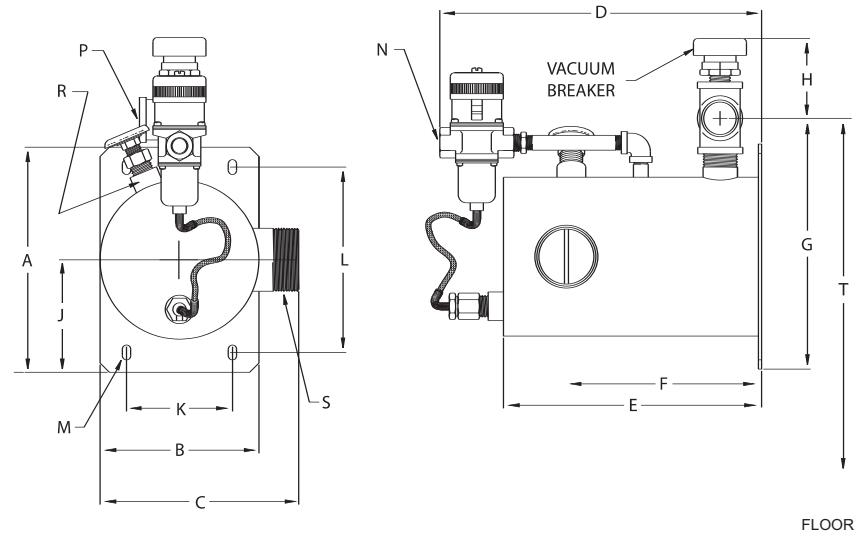


Photo courtesy of Sutter Health System

WATER-MIZER™ Dimensions



DIMENSIONS

DIM	DESCRIPTION	INCHES	MM
A	HEIGHT OF MOUNTING PLATE	8-1/2	216
B	WIDTH OF MOUNTING PLATE	6	152
C	WIDTH OF MOUNTING PLATE AND TEMPERED WATER OUTLET	7-1/2	191
D	LENGTH FROM COLD WATER INLET VALVE TO MOUNTING PLATE	12	305
E	LENGTH FROM END OF TANK TO MOUNTING PLATE	9-3/4	248
F	LENGTH FROM CENTER OF TEMPERED WATER OUTLET TO MOUNTING PLATE	7-3/8	187
G	HEIGHT FROM BOTTOM OF MOUNTING PLATE TO CENTER OF HOT WATER INLET	9-1/2	241
H	HEIGHT FROM CENTER OF HOT WATER INLET TO TOP OF VACUUM BREAKER	3	76
J	HEIGHT FROM BOTTOM OF MOUNTING PLATE TO CENTER OF TEMPERED WATER OUTLET	4-1/4	108

DIM	DESCRIPTION	INCHES	MM
K	WIDTH OF MOUNTING PLATE HOLES, CENTER TO CENTER	4	102
L	DISTANCE BETWEEN MOUNTING HOLES, CENTER TO CENTER	7	178
M	MOUNTING HOLE	5/16	8
N	COLD WATER INLET PORT SIZE	3/8" FPT	N/A
P	HOT WATER INLET PORT SIZE	1" FPT	N/A
R	AUXILIARY PORT SIZE	1/2" FPT	N/A
S	TEMPERED WATER OUTLET PORT SIZE	2" MPT	N/A
T	HEIGHT WITH FLOOR STAND (FROM FLOOR TO CENTER OF HOT WATER INLET - 1" [25 MM] INCREMENTS)	MIN. 10-1/4 TO MAX. 22-1/4	MIN. 260 TO MAX. 565

LETTERS NOT USED = I, O, Q



WATER-MIZER™ Testing and Test Data

Testing

The water savings data was collected by testing an AMSCO 3031 sterilizer reconditioned by Continental Equipment Company.

- The sterilizer was set to OEM specifications by a qualified sterilizer technician.
- The jacket steam pressure was set at 34 psi and two gravity cycles were performed
- The Water-Mizer's tempered water outlet was monitored to ensure drain temperature never exceeded 140°F
- Water readings were taken with the sterilizer in "standby" in one hour increments.

Test Data

Sterilizer tested:	AMSCO 3031
Water meter used:	Neptune SN#48779036
Cold water pressure:	55 PSI
Cold water temperature:	61.2°F
Water meter reading without Water-Mizer installed:	49.3 gal./hr.
Water meter reading with Water-Mizer installed:	3.7 gal./hr.
WATER SAVINGS:	45.6 gal./hr.



About RPI and How to Order the WATER-MIZER™

Since 1972, Replacement Parts Industries, Inc. has provided BMET's, clinical engineers, facilities personnel and independent service technicians with an alternate source for obtaining quality replacement parts for new and obsolete equipment.

We opened our doors in response to a growing need in the healthcare industry for a source other than the original manufacturer (OEM) to obtain quality replacement parts. But it is the wide selection of parts, excellent customer service, fair prices and loyal customers that have made RPI the success it is today.

RPI is in the parts business and only the parts business. We focus on one thing, and only one thing ... producing quality parts. We do not make, sell, or service equipment. We design and manufacture or directly source replacement parts for the healthcare industry. Our goal is to help you keep the equipment you service up and running.

Our quality-engineered parts are manufactured to meet or exceed the original equipment manufacturer's specifications. In fact, we design quality into every part we produce. Our Product Development Team and Quality Control Department work together in every stage of the design, testing and manufacturing process to ensure quality performance from every RPI part.

RPI has gained an international reputation for quality parts and unparalleled customer service. Professionals around the world who repair and maintain healthcare equipment have come to rely on RPI as the leader in replacement parts.

TO ORDER THE WATER-MIZER™

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