

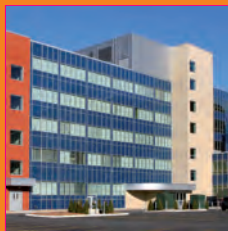
**LOWER FACILITY OPERATING COSTS
AND LEED THE GREEN REVOLUTION
WITH JUDO WATER TREATMENT'S
PATENTED SELF-CLEANING
WATER FILTRATION TECHNOLOGIES**



ANSI/NSF 61/CSA-B125



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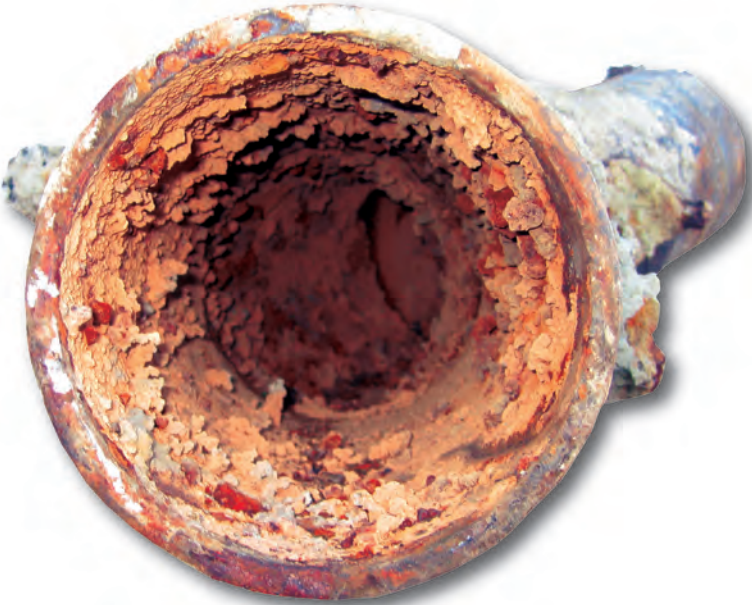
WATER CULTURE @ ITS BEST



WATERTIGER



THE PROBLEM



Looking down a typical municipal city water main

Time to get soaked?

Charging more for water best way to pay for deteriorating pipes: Report

Water is the lifeblood of a city, and it's also the most expensive utility. In the United States, water utilities spend about \$10 billion a year on pipes, and that number is expected to rise to \$15 billion by 2015, according to a report from the American Water Works Association (AWWA). The report, titled "Water Infrastructure: A National Assessment," says that the average age of water mains in the United States is 50 years, and that the average age of sewer mains is 45 years. The report also says that the average cost of a water main is \$100 per foot, and the average cost of a sewer main is \$150 per foot. The report concludes that the best way to pay for deteriorating pipes is to charge more for water.



ANOTHER BROKEN WATER PIPE: They're old, deteriorating all over. And Toronto's got 5,920 kilometres of them to worry



Across North America up to 40% of the water that leaves a municipal plant never reaches it's intended destination due to a deteriorating infrastructure.

Aging pipes are prime suspects for not only corrosive forces from both inside and outside the pipe but may also be subject to freeze/thaw issues in northern climates.

One major city in Southern USA reports one pipe break per hour every day of the year.

During pipe ruptures, sand enters into the water lines and gets transported with the water supply to it's intended destination.

Continuous chlorination or the use of chloramines by municipal water works can also raise the active corrosion rates in the municipal distribution water pipes.

These issues are very prevalent when one considers the age of the cities along Eastern seaboard of the US, Eastern and Central Canada, the American Midwest and older cities and towns in the western parts of the US and Canada.



Facts taken from article featured in "The Toronto Star", GTA section, dated January 20, 2007

In these aforementioned areas most cities experience the following:

- 10% of the city water mains are > 100 years on average
- Approximately 20% of the mains are > 75 years old
- 50 years is the average typical age of a city water main
- 25 water main breaks per week for a North American city with a population in the top 10

The majority of the municipal water piping distribution supply network in the older parts of a typical North American city are composed of cast iron and/or mild steel. Only the newest areas of a city have begun to use plastic based pipes for the municipal supply.

Corrosion of the pipes in the older areas of the city have lead to accumulation on the internal surface of the pipes. Intermittently, the corrosion byproducts (iron carbuncles) “break off” or are dislodged from the internal pipe surfaces and become part of the water supply.

It is these suspended solids along with any silica sand entering the water supply that create problems not only in the municipal drinking water but also create inefficiencies in any equipment that interacts or requires water for it’s operation.

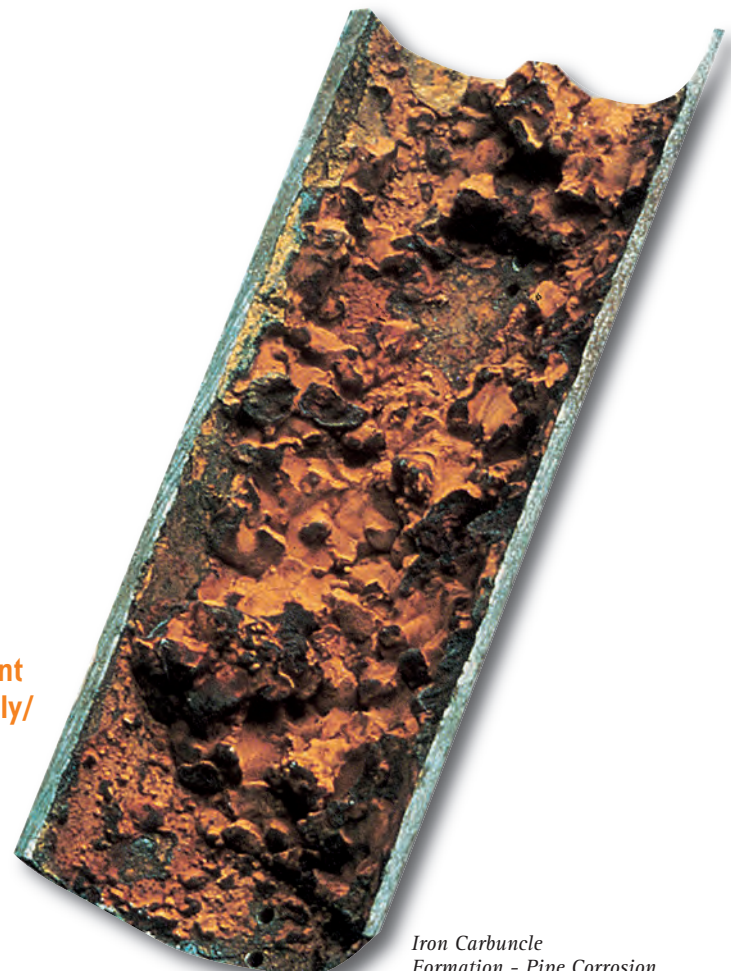
Water pressure fluctuations and water main breaks also enhance the problem substantially.

A list of the negative implications from the occurrences includes but are not limited to:

- Impediments to heat transfer in boilers, chillers and cooling towers and any other heat exchange device
- Erosion of piping, tanks and equipment
- Obstruction or clogging of smaller pipe dimensions and orifices associated with control mechanisms on all equipment that use water (ie. heating, cooling, sanitary and water supply/ regulation devices)
- Water discoloration and staining of fixtures



A typical building water meter replacement



Iron Carbuncle Formation - Pipe Corrosion

THE SOLUTION

Since 1936 JUDO Water Treatment has been at the forefront in developing technologies designed to provide system efficiencies where water based problems may arise.

The experience gained over the years has allowed JUDO to deliver innovative and environmentally friendly water treatment products that are important in today's business climate.

JUDO's complete line of self cleaning backwash filter provides a simple solution to what can be a very costly problem to facility owners regardless of their type of operation.

The filtration technology ensures no suspended solids enter into a facility or in the case of cooling tower applications reduce/remove suspended solids from the cooling water.

Three options exist with respect to the filter's mode of operation:

1. A manual flush of the particulate to drain.
2. A time based flush of the particulate to drain.
3. A time/differential pressure based flush of the particulate to drain.

A typical backwash takes about two minutes to complete and during the flushing process there is NO interruption to the facility water supply.

Fully automated versions of the filters are equipped with two dry contacts that can be tied into building automation systems to alert building operators as to the status of the filter operation.

Sizes range from 3/4" to 8" and as such can handle a wide variety of flow rates.

Four standard stainless steel sieve sizes exist. They include a standard insert of 100 microns as well as micron levels as low as 30 and as high as 500.

A clear viewing window ensures the equipment is performing the function in a proper manner.



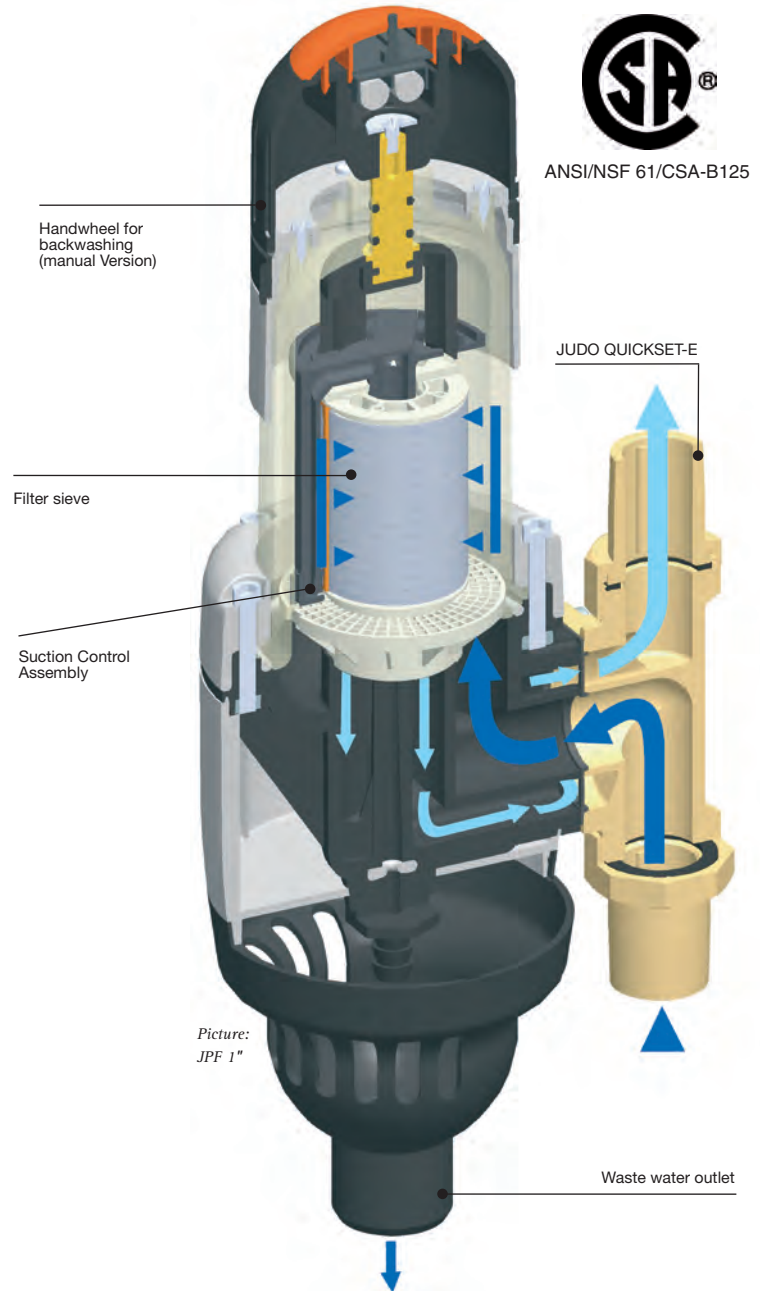
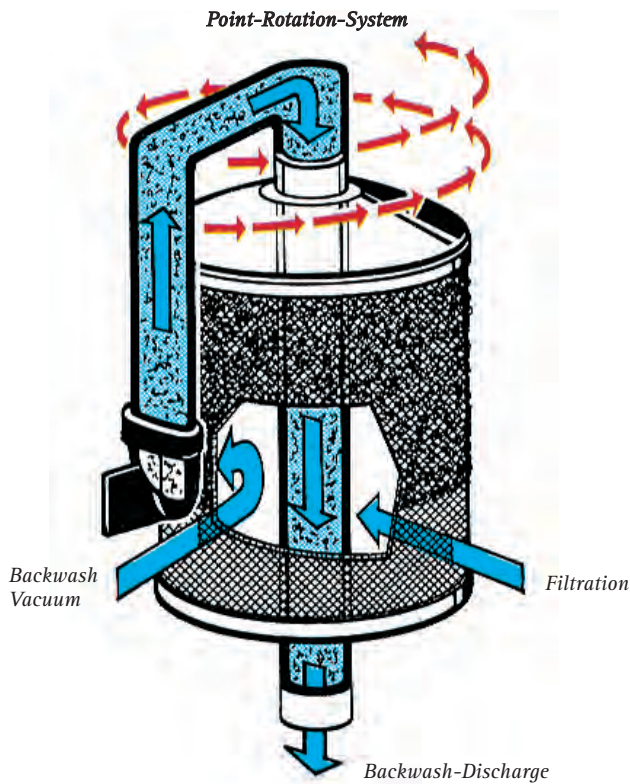
PROFI/PROFIMAT technical data

Size	3/4" (20 mm)	1" (25 mm)	1 1/4" (32 mm)	1 1/2" (38 mm)	2" (52 mm)	2 1/2" (65 mm)	3" (80 mm)	4" (100 mm)	5" / DN 125 (125 mm)	6" / DN 150 (150 mm)	8" / DN 200 (200 mm)
Flow rate	17.5 gpm	20 gpm	24 gpm	70 gpm	74 gpm	118 gpm	220 gpm	308 gpm	440 gpm	660 gpm	880 gpm
Pressure loss	2.9 psi	2.9 psi	2.9 psi	2.9 psi	2.9 psi	2.9 psi	2.9 psi	2.9 psi	2.9 psi	2.9 psi	2.9 psi
Max. flow pressure	150 psi	150 psi	150 psi	150 psi	150 psi	150 psi	150 psi	150 psi	150 psi	150 psi	150 psi
Max. temperature	30 °C	30 °C	30 °C	30 °C	30 °C	30 °C	30 °C	30 °C	30 °C	30 °C	30 °C
Standard sieve size	0.004 Inch	0.004 Inch	0.004 Inch	0.004 Inch	0.004 Inch	0.004 Inch	0.004 Inch	0.004 Inch	0.004 Inch	0.004 Inch	0.004 Inch
Weight	4 kg	4 kg	4 kg	10 kg	10 kg	21 kg	33 kg	35 kg	74 kg	145 kg	200 kg

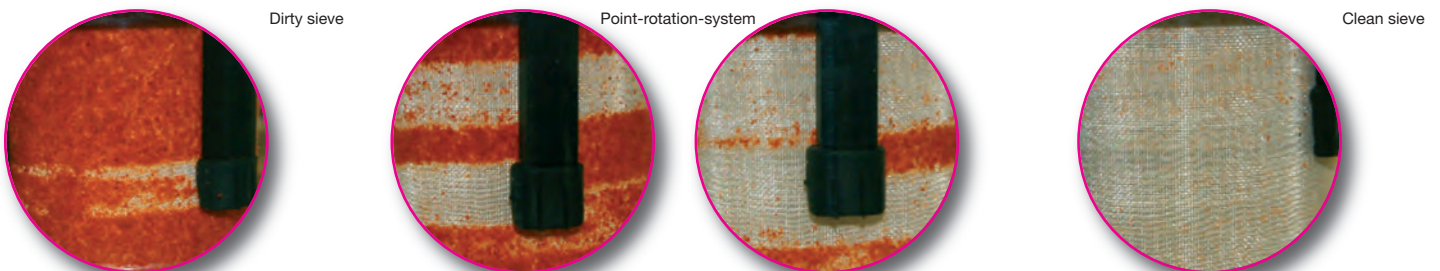
HOW DOES IT WORK?

The PROFI and PROFIMAT allows water to flow and be filtered through a stainless steel filter sieve, which traps and retains all the physical impurities until a backwash is initiated. During backwash there is NO interruption to the buildings water supply or to the filtration process due to the working principals of the filters patented backwash point-rotation-system allowing water to be filtered even during a backwash cycle.

The JUDO PROFI series is the first Self-Cleaning Backwash Point-of-entry water filtration system of its kind that is CSA and NSF 61 approved and certified for applications on domestic potable water supplies in North America!



Close-up through viewing glass



APPLICATIONS & USES

- ① Facility “Point of Entry” Municipal Water Supply - includes residential, institutional, commercial and industrial facilities
- ② Surface Water (Rivers & Lakes) Filtration - directly from these bodies of water for non potable applications in residential, institutional, commercial and industrial facilities
- ③ Side Stream Filtration on Cooling Towers - reduces potential for bacteria growth (ie. Legionella) and the potential for under deposit corrosion in cooling tower basins due to overlying layers of organic and inorganic material
- ④ Reclaimed or Reused Water (Grey Water)
- ⑤ MF and/or UF Membrane Protection

ADVANTAGES/BENEFITS

The implementation of a JUDO Water Treatment self cleaning water filter significantly enhances a facilities operation in the following ways:

- Optimizes/minimizes the use of energy (see table below)
- Conserves water usage via minimal backwash volumes compared to traditional sand filters
- Extends the longevity of all heating, cooling, mechanical & plumbing equipment
- Minimizes or eliminates any labor costs associated with contamination issues and the subsequent repairs due to water initiated problems
- Ensures the optimal performance of ALL equipment that interacts with water
- Contributes to the garnering of LEED® points in both LEED EB and LEED NC projects
- Aids in water reuse projects in areas of the continent where water is in short supply including grey water projects
- Optional silver coated sieve reduces the bacteria level in non potable water reuse projects
- Improves the quality of potable drinking water entering a facility
- Sound primary phase water treatment approach as a precursor to higher water quality producing water treatment equipment (ie. MF, UF, RO, DI)
- Small footprint
- Simple installation
- Sustainable design and operation

Effect of deposition on heat transfer surfaces

	1/64" (0.4 mm)	1/32" (0.8 mm)	3/64" (1.2 mm)	1/16" (1.6 mm)
High Calcium Content	1%	2%	2.9%	3.8%
High Iron Content	1.5%	3%	4.5%	5.9%
High Iron & Silica Content	3.4%	7%	10.6%	14%

INSTALLATIONS



Niagara Fallsview
Casino Resort with
8" PROFIMAT



Close-up of physical
impurities seen thru
viewing glass

References for JUDO Filter Installations in Ontario:

- Niagara Fallsview Casino Resorts
- Tridel Corporation - Condominiums
- Minto Development Group - Condominium Ottawa
- Lanterra Development - Condominiums
- HR Development - Condominiums
- Monarch Development Corporation - Condominiums
- Shui Pong Group - Condominiums
- Brookfield Residential Services Ltd - Condominiums
- Janssen-Ortho Inc. - Pharmaceutical Company
a Johnson and Johnson Company
- Sudbury Regional Hospital
- Dufferin Peel Catholic District School Board
- Peel District School Board
- Fleetwood Metal Industries - Tier 1
Automotive Parts Manufacturer/Supplier

- VOA Canada Inc. - Tier 1 Automotive Parts
Manufacturer/Supplier
- Otter Valley Foods - Food Product Producer,
Tillsonburg Ont.
- E.D. Smith - Food Product Producer,
Seaforth Ont.
- Teknion Furniture Systems - Office Furniture
Manufacturer
- Parmalat - Dairy Product Producer,
Winchester Plant
- NorthWest Plastics Ltd - Plastic Parts
Manufacturer/Supplier
- Cap Reit - Apartment Properties
- Palace Place - Toronto Condominium

References from the west coast:

- Vancouver 2010 Olympic Village Community
Center (Vancouver, BC)
- Victoria General Hospital (Victoria, BC)
- Telus' Central Office Tower (Burnaby, BC)
- Seymour-Capilano Filtration Plant
(Vancouver, BC)
- BC Hydro (24 systems operating at hydro
generation facilities around the province)
- Discovery Place Green Water Recovery
(Burnaby, BC)
- Loongwood, Seniors Care Home
(Nanaimo, BC) - Award Winning Comercial
Building

and many more ...

For further information or to view a list of installa-
tions please visit www.judo-online.com or call
905-761-1555

AUTOMATIC SELF-CLEANING BACKWASH WATER FILTER



ANSI/NSF 61/CSA-B125



**NO INTERRUPTION
TO THE WATER SUPPLY**

**FOR USE IN HIGH-RISE
RESIDENTIAL, INDUSTRIAL,
COMMERCIAL AND
INSTITUTIONAL APPLICATIONS**



Quality made in Germany

JUDO Water Treatment Inc.
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Concord, Ontario
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Quality
Management

We are certified according
ISO 9001:2000

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