

Scalewatcher

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Catalog North America

Scalewatcher catalog index

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Introduction

The first physical water treatment devices were magnets and they have been used for already one century. In general, physical water treatment devices (PWT devices) are able to promote crystal growth in the bulk of the water. Particles with a negative charge, positive and negative ions (dissolved minerals) will form crystals under influence of the physical agitation caused by the magnetic field. These crystals have no or not much surface charge and have therefore no tendency to adhere to pipe walls or other surfaces of water using equipment. The crystals leave the system; they go down the drain. In a circulation system like a cooling tower or central heating system they will stay suspended in the liquid and will do no harm.

Once the phenomenon is understood one can see the drawbacks of a magnet.

1. A magnet needs a sufficient velocity of the water to be effective.
2. A magnet cannot be used for very large pipe sizes, as the magnetic field inside the pipe will be too weak.
3. A magnet loses its strength with time.
4. A magnet needs a filter up stream to collect particles, which may otherwise be attracted by the magnet.

However, there are many reports where magnets did the job. I.e. preventing scale precipitation and removing old scale layers.

The Scalewatcher product line is based on an alternating magnetic field, which induces an electric field in the water. This is the reason why this product performs very well with slow flowing water, and even stagnant water. Large pipe sizes are no problem as the magnetic field generated is controllable by electronics and there is virtually no limitation in pipe sizes. Water flowing in pipes with a diameter of 40 inches has been treated successfully. As the optimum frequency of the alternating magnetic field to treat the water is unknown (this depends on many unpredictable variables in the water) this product uses a series of frequencies sweeping within a certain frequency band. This technique is patented in Europe, the

United States and Canada preventing others of unlawfully copying and using the idea.

Scalewatcher is manufactured since 1993 in the United States and is used successfully in all kinds of industries, municipalities, households, hotels, laundries etc....

Export is realized through dedicated distributors in Canada, Japan, South Africa and daughter companies in Europe and South East Asia.

I still have the feeling Scalewatcher is at the beginning of an exponential sales curve leading to more and more industries using less harmful chemicals and/or salt to solve their scaling problems. Or using a hybrid system using physical and chemical water treatment for optimum result.



Jan P. de Baat Doelman
President Scalewatcher North America Inc.



ScalewatcherTM assortment

Manufactured and designed by Scalewatcher North America Inc.



Scalewatcher™ Residential



Market:

The **Scalewatcher™** Residential range is used in private houses and consists of three different models. Not to be used outside or for commercial applications.

Model	Appliance	Diameter
1 Star	Apartment	0.5"
2 Star	House	1"
3 Star	Villa	1.5"

For very hard water one should choose the 3 Star even if the pipe size is 0.5".

Technical specifications.

Supply voltage	110 V \pm 10 %, 60 Hz . 230 V 50 Hz available on request
Current Consumption	< 0.1 A
Overload protection	Short circuit proof transformer
Coil cable	18 AWG, White, stranded
Maximum Coil Temperature	200 F
Capable of driving	2 coils in series
Output Reading	Bar graph
Enclosure material: Europe	ABS Grey
Maximum enclosure temperature	+166 F
Minimum enclosure temperature	-40 F
Protection rate	Nema 2
Weight packed	1, 2 Star: 3 lb. 3 Star: 5 lbs
Dimension packed (wxhxd)	7x14x3"
Qty packed in overbox	10
Size overbox:	16x15x15

ScalewatcherTM Commercial



Enclosure type: CM with spring connector

Markets:

The **ScalewatcherTM** Commercial range is special designed for hotels, bars, restaurants, sauna, laundries, buildings, bakeries and anywhere where potable water is used. Only to be used inside. Not to be used for Industrial applications.

Model	Diameter
CM2	2"
CM4	4"

Technical specifications

Supply voltage	110 V \pm 10 % 50 Hz. 230 V 50 Hz available on request
Current Consumption	< 100 mA
Overload protection	Self recoverable multi-fuse
Capable of driving	2 coils in series
Output Reading	Bar graph
For pipe sizes up to	4"
Enclosure material	ABS/Black
Coil cable	18 AWG Black, stranded
Maximum Coil Temperature	166 F
Alarm when out of order	Audible warning signal
Protection rate	Nema 2
Weight packed	13.3 lbs
Dimension packed	6.3x3.9x2.5"
Maximum ambient temperature	104 F

Scalewatcher™ Commercial Weatherproof



Enclosure type: CMN

Markets:

The **Scalewatcher™** Commercial range intended use is for hotels, bars, restaurants, saunas, laundries, buildings, bakeries and anywhere where potable water is used. Especially to be used where the environment is high in humidity or for outside use. Not to be used in Industrial applications.

Model	Diameter
CMN2	2"
CMN4	4"
CMN8	8"

Technical specifications

Supply voltage	230 V \pm 20 % 50/60 Hz or 110 V \pm 10 % 60 Hz,
Current Consumption	< 100 mA
Overload protection	Non replaceable multi-fuse
Capable of driving	2 coils in series
Output Reading	Bar graph
For pipe sizes up to	4"
Enclosure material	Aluminium
Coil cable	Three core, 0.75 mm ²
Maximum coil temperature	256 F
Weight packed	6.7 lbs
Dimension unpacked	7.9x7.9x2.4"
Protection rate	Nema 3R
Internal visible indicators	Bar graph LED visible by opening the cover
External visible indicators	Green signal LED, Red power LED
Maximum ambient temperature	125 F
Minimum ambient temperature	- 10 F

Scalewatcher™ IE. Weatherproof.



Enclosure type: IE

Markets:

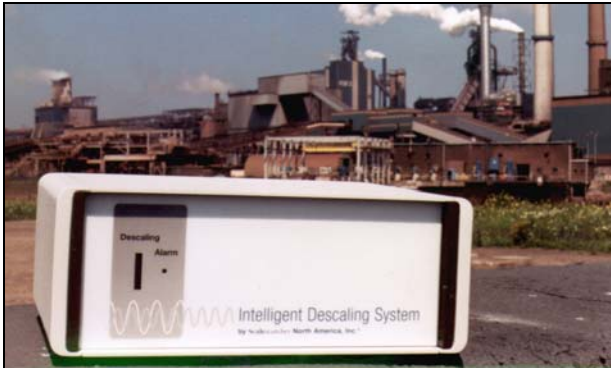
The **Scalewatcher™** small size Industrial range is usable for Industry where mounting space is not available, for protecting cooling towers, boilers, heat exchangers, chillers and process water lines etc. If water is contaminated choose a higher model. Only for light Industrial use.

Model	Diameter
IE 2	2"
IE 4	4"
IE 8	8"

Technical specifications

Supply Voltage	115 V \pm 10 % or 230 V \pm 20 %
Current Consumption	< 2 A
Overload protection	Internal self-recovering fuse.
Coil cable	Three core, 0.75 mm ²
Maximum Coil Temperature	256 F
Capable of driving	2 coils in series
Remote Alarm Output	Isolated alternating switch, relay operated
Output reading	Display, reading relative output field strength
For pipe sizes up to	8"
Enclosure material	Aluminium
Weight	6.7 lbs
Dimension unpacked	7.9x7.9x2.4
Protection rate	Nema 3R
Maximum ambient temperature	125 F
Minimum ambient temperature	-10 F

ScalewatcherTM Industrial SE and LE



Enclosure type:SE



Enclosure type LE

Markets:

This Industrial range is used for all pipes in paper factories, steel, oil/offshore, plastic, chemical, sewer and shipping Industry for protecting cooling towers, boilers, heat exchangers, chillers, process water lines etc. The models are UL approved. To be used in heavy industrial applications or where TDS levels are extremely high.

Model	Diameter
SE4	4"
SE8	8"
LE16	16"

Technical specifications

Supply Voltage	115 V \pm 10 %, 230 V \pm 20 % adjusts automatic
Current Consumption	< 2 A
Overload protection	Internal self-recoverable multi fuse
Coil cable	Three core, 0.75 mm ²
Maximum Coil Temperature	256 F
Capable of driving	2 coils in series
Remote Alarm Output	Isolated alternating switch, relay operated
Output reading	Display reading relative output field strength
For pipe sizes up to	16"
External visible indicators	Optional Warning Beacon
Enclosure made of	Aluminum
Protection rate	Nema 3R
Weight packed	SE: 8 lbs, LE: 13 lbs
Dimension unpacked (wxhxd)	SE: 11.5x4.5x9", LE:: 17.5x5.5x10.5"
Maximum ambient temperature	125 F
Minimum ambient temperature	-10 F

ScalewatcherTM Industrial HIME



HIME

Markets:

The Industrial 5-6 range is to be used for heavy Industry i.e. paper factories, steel-, oil/offshore-, plastic-, chemical-, and sewer Industry and for protecting cooling towers, boilers, heat exchangers, chillers, process water lines etc. The range is used for the larger pipe sizes.

Model	Diameter
HIME24	24"
HIME40	40"

Technical specifications

Supply Voltage	115 V \pm 10 %, 230 V \pm 20 %, adjusts automatically
Current Consumption	< 2 A
Overload protection	External replaceable fuse
Coil cable	Three core, 2.5 mm ²
Maximum Coil Temperature	256 F
Capable of driving	2 coils in series
Remote Alarm Output	Isolated alternating switch, relay operated
Output reading	Display reading relative output field strength
For pipe sizes up to	40"
External visible indicators	Optional Warning Beacon
Protection rate	NEMA 4
Weight packed	25 lbs
Dimension unpacked	14.5x15x8.5
Maximum ambient temperature	125 F
Minimum ambient temperature	-10 F

ScalewatcherTM Marine



Enclosure type: IE

Markets:

Merchant marine, Navy, cruisers, fishing boats.

Units are installed on diesel cooling, desalination, boilers and water systems.

The units are built in a waterproof aluminum enclosure and are fitted with a 7-segment display for relative output strength measurement. Protection rate NEMA3R. The units are supplied with four shock absorbers.

Model	Diameter
MRN 2	2"
MRN 4	4"
MRN 8	8"

Models for larger pipe sizes are available.

Scalewatcher® Olympic Pool Conditioning System



**AWARD OF EXCELLENCE
WINNER**
Environmental Category
1994 Ideal Home Exhibition



Enclosure type: ½ CMN



Enclosure type: IE

Markets

Used for private, municipal and commercial swimming pools using plastic pipes. Protection rate is Nema 3R. Depending on hardness of water a reduction in Chlorine usage of 35 % can be achieved. Sand filters will last longer. (No tendency to become brackish.)

Model	Diameter	Enclosure
OLN2	2"	½ CMN
OLN4	4"	½ CMN
OLN8	8"	IE
OLN16	16"	IE

Scalewatcher™ Plastic enclosure for corrosive environments.



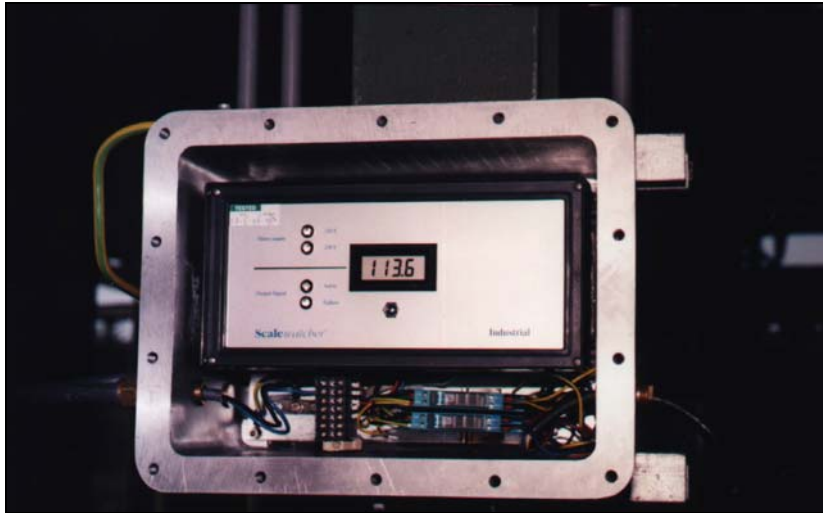
Enclosure type: HIPE

Optional for acidic and corrosive environments for Industrial models 1-3

Technical specifications

Enclosure	ABS with large window
Protection rate	Nema 4
Weight	10 kG
Dimensions unpacked	431x327x199 mm ³
For pipe sizes up to	16"
External visible indicators	Optional Warning Beacon

*Scalewatcher*TM enclosure used for hazardous gaseous areas.



Enclosure type: Exx

This model is optional for all Industrial units.

ScalewatcherTM equipped with remote alarm, flashlight and siren.



Optional for all Industrial units.

Optional Warning Beacon

Some installations require a warning beacon. In cases where there is too much noise and the unit is hardly visible by normal inspection. The warning beacon has the following features,

1. Protection rate is Nema 2
2. All round visibility
3. Temperature range from - 10 °C up to +125 °C
4. Wall mounting base available

The end-user determines whether an independent powered warning beacon has preference. If so a separate mains outlet should be available. The Scalewatcher unit will trigger the warning beacon through the remote alarm socket, when defective.

Distance between Scalewatcher unit and Remote Alarm Unit is not critical.

IP and NEMA protection classification

IP standard according to IEC 144/855420

The first digit stands for impact sensitivity
The second digit stands for water sensitivity

IP 54 protects against dust and splash water

IP 55 protects against dust and jet spray

IP 66 full dustproof and flush waterproof

IP 67 full dustproof and protects against flooding.

First digit:

5 means complete protection from dust deposits
6 means complete protection against entry of dust.

Second digit:

4 means projected water from all directions
5 means jets of water
6 means heavy streaming water
7 means short term immersion

NEMA equivalent

NEMA2 Indoor use. Protection against limited amounts of falling water and dirt.

NEMA3R. Outdoor use. Protection against windblown dust, falling rain and sleet.

NEMA4. Outdoor use. Protection against windblown dust and rain, splashing water and hose directed water.

NEMA4X. Outdoor use. Protection against corrosion, windblown dust and rain, splashing water, and hose-directed water

NEMA6. Outdoor use. Protection against occasional submersion..

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Cuestionario Equipo Comercial E Industrial.

Favor de contestar las siguientes preguntas con el fin de poder seleccionar el mejor equipo para sus necesidades. Enviarla por fax, E-Mail o entregarla a nuestro representante.

Empresa:
Tipo de empresa:
Contacto:
Dirección:
Colonia: Ciudad:
Edo: C.P.:
Teléfono:
Fax:
E-Mail:
Diámetro de la tubería OD":
Material de la tubería:
Tipo de liquido:
Sistema: Un paso: Multipasos: (Multipasos: es donde el agua es circulada.)
Sistema: Abierto: Cerrado: (Abierto: torre de enfriamiento, alberca, etc. Cerrado: calefacción central, etc.)
Temperatura del liquido (°C):
TSD (ppm):
Dureza Total:
Tipo de Incrustación (Carbonato, Sulfato):
Los depósitos son roca Dura Suave
Máxima temperatura ambiente (°C):
Mínima temperatura ambiente: (°C):
El equipo será instalado en Interior Exterior
Equipo o maquinaria a ser protegido:
Tratamiento utilizado ahora es: Ninguno Suavizador Químico
Frecuencia en que se limpia el equipo:
Area peligrosa si no
<u>Hacer un diagrama del sistema de tuberías indicando la dirección del flujo y el área del problema (usar una hoja de papel separada.)</u>

