ZIRKOON
SOLUÇÕES AVANÇADAS EM MATERIAIS

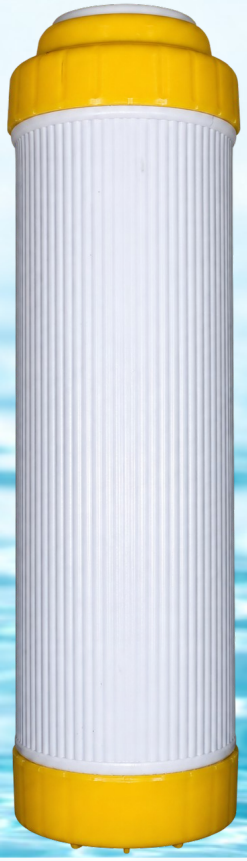
PureZ

Water treatment with ceramic technology

Point-of-use (POU) and point-of-entry (POE)



PureZ housing



PureZ cartridge

Iron, manganese and lead in water: why test?



Illustrative image. Stains and deposits alone do not identify the metal present.

Water testing guides treatment

The appearance of water does not reveal all contaminants. Comprehensive testing guides the treatment needed to meet drinking-water safety and quality requirements.

Iron (Fe)

May cause yellowish or reddish stains, unpleasant taste and deposits. At levels typically found in drinking water, aesthetic and operational effects predominate. Excessive, prolonged intake may affect health, particularly in people predisposed to iron overload. [1, 2, 6]

Manganese (Mn)

May darken water and cause dark stains and deposits. High exposure through ingestion warrants attention because of possible neurological effects, particularly in infants and children. [1, 3]

Lead (Pb)

May enter water through corrosion of lead-containing components without changing its colour, taste or odour. It is toxic and may impair children’s neurological development and kidney function. Laboratory testing is needed to detect its presence. [4, 5]

SOURCES FOR DIGITAL OR PRINT CONSULTATION

[1] EPA. Secondary Drinking Water Standards.
https://www.epa.gov/sdwa/secondary-drinking-water-standards-guidance-nuisance-chemicals

[2] WHO. Iron: chemical fact sheet.
https://www.who.int/docs/default-source/wash-documents/wash-chemicals/iron-chemical-fact-sheet.pdf

[3] WHO. Chemical fact sheets: manganese.
https://www.who.int/publications/m/item/chemical-fact-sheets--manganese

[4] EPA. Basic Information about Lead in Drinking Water.
https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water

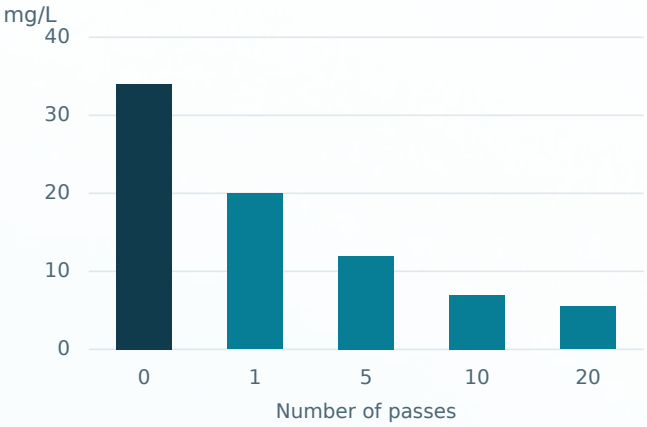
[5] WHO. Lead poisoning.
https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health

[6] NIH. Iron: Health Professional Fact Sheet.
https://ods.od.nih.gov/factsheets/Iron-HealthProfessional/

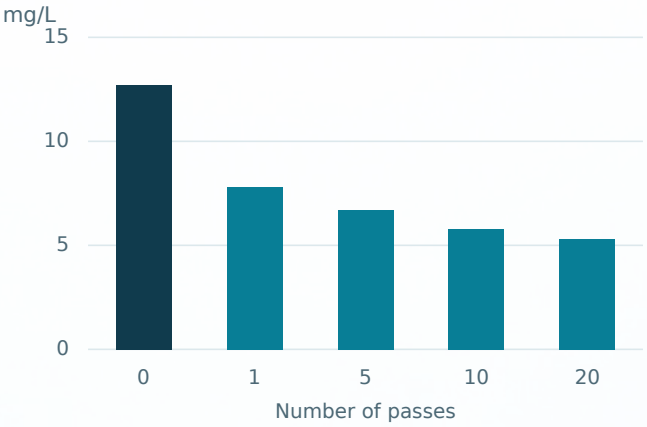
Metal reduction at laboratory scale

0: standard solution before filtration.
1, 5, 10 and 20: number of passes of the solution through the filter.

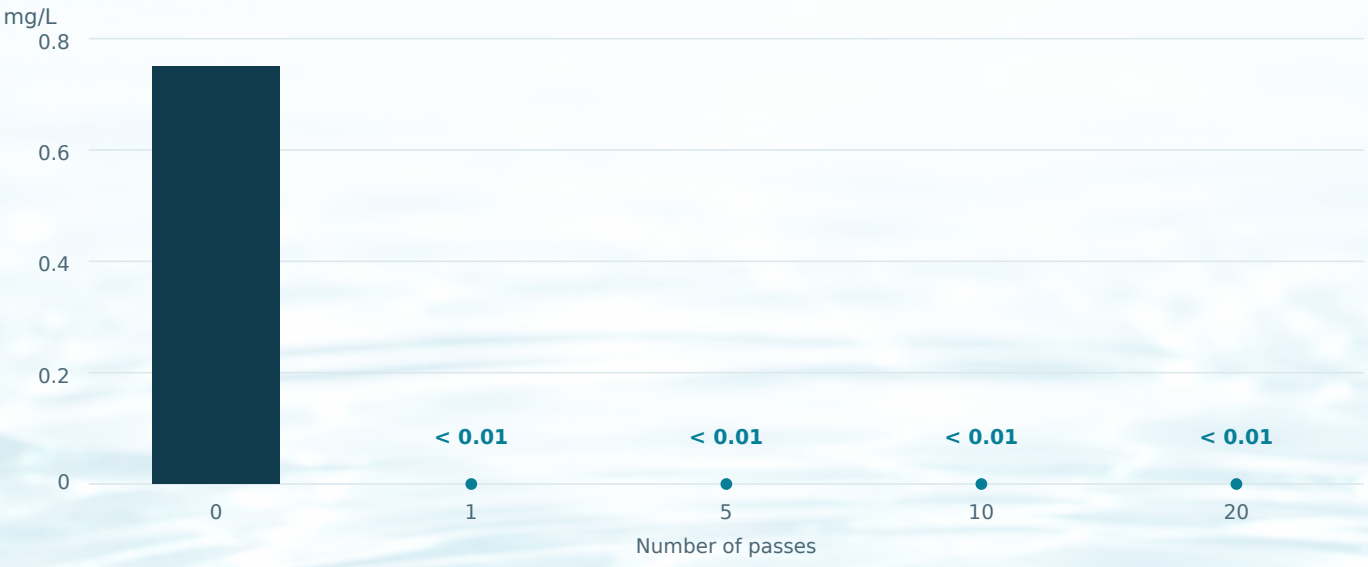
Iron (Fe)



Manganese (Mn)



Lead (Pb)



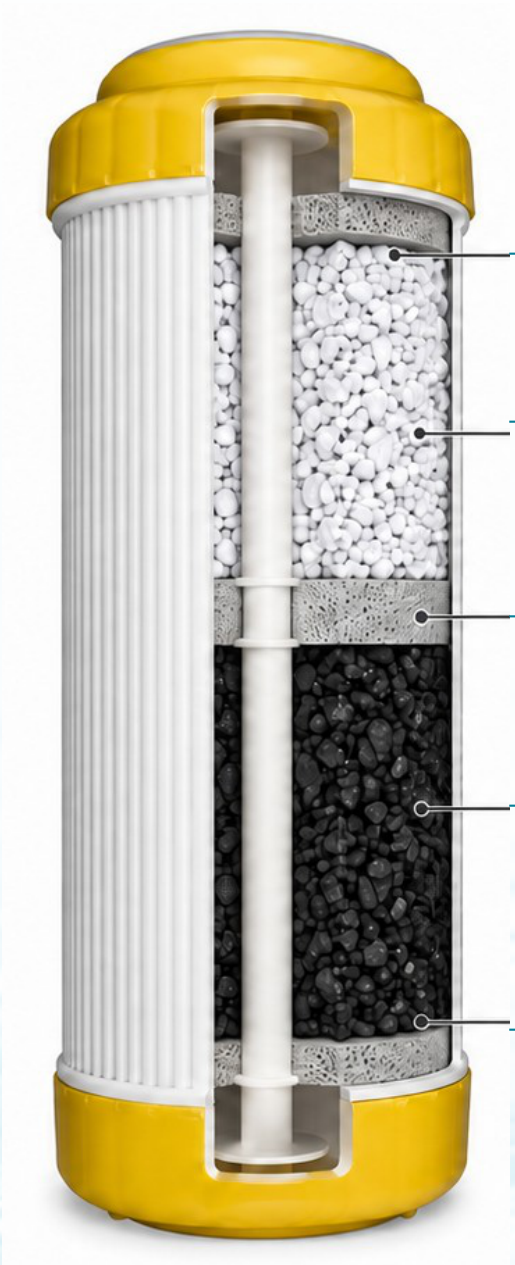
Single-pass use: system sizing and performance must be validated under actual operating conditions.

Charts reproduced from the previous version. Fe, Mn and initial Pb: approximate values read from the charts; Pb after filtration: < 0.01 mg/L (this does not mean zero). Vertical scales differ between metals.

Analyses performed by an external laboratory accredited by Cgcre/Inmetro, CRL 1573. External laboratory report: available on request.

PureZ for point-of-use

Installed at the point of consumption, such as a dedicated tap. This configuration combines ceramic material and silver-containing activated carbon in a replaceable cartridge.



Foam separator

Retains and keeps the filter medium in place.

Synthesized ceramic material

Adsorbent medium intended to retain metals during contact with water.

Foam separator

Keeps the media separated inside the cartridge.

Activated carbon with silver

Intended function: reduce free chlorine, taste and odour. Effectiveness depends on operating conditions.

Foam separator

Retains and keeps the filter medium in place.

Activated carbon function: EPA technical reference

Nominal cartridge size: 10” × 2.5”. Illustration not to scale.

PureZ for point-of-entry

Installed at the inlet of the internal water supply network, before distribution to points of use. Uses ceramic material without activated carbon.



Ceramic material

Fills the cartridge compartments in this configuration. Foam separators keep the medium in place.

Capacity and replacement interval

Up to 10,000 litres or 9 months, whichever comes first. The interval depends on the amount of metal contaminants in the water and on operating conditions.

For system sizing, send Zirkoon:

- Water test report and Fe, Mn and Pb concentrations;
- Peak flow rate and daily consumption;
- Available pressure and installation location;
- Target water quality and maintenance routine.

Nominal cartridge size: 10” × 2.5”. Illustration not to scale.

To specify the system, provide the required flow rate and water test report. Contact Zirkoon to adapt the assembly to the installation conditions.

PureZ 10” × 2.5”

Zirkoon ceramic technology for water treatment.

Zirkoon develops the PureZ ceramic medium. The housing and cartridge body are commercially sourced components used to assemble the unit.

PUREZ CARTRIDGE SPECIFICATIONS

Nominal size	10” × 2.5”
Composition	Ceramic material with or without activated carbon
POU / POE	POU with carbon • POE without carbon

CARTRIDGE CAPACITY AND REPLACEMENT

Up to 9 months or 10,000 litres, whichever comes first. The interval depends on the amount of metal contaminants in the water and on operating conditions. Replace sooner if performance declines.

COMMERCIAL ASSEMBLY: SUPPLIER REFERENCE DATA

Stated assembly flow rate	500 L/h
Operating pressure	49 to 588 kPa
Operating temperature	1 to 40 °C
Approximate dimensions / weight	305 × 119 × 119 mm / 1.000 kg

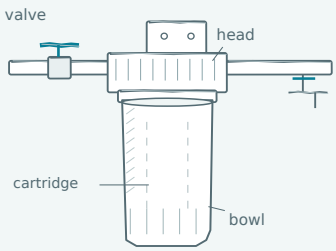
Confirm compatibility and operating conditions with Zirkoon before installation.

How to replace the cartridge

Shut off the water and relieve pressure before opening the housing.

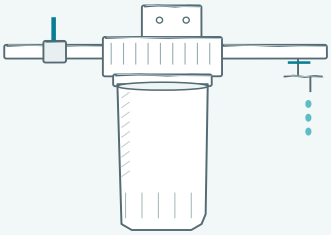
When to replace: up to 9 months or 10,000 litres, whichever comes first, depending on the amount of metal contaminants in the water. Replace sooner if performance declines.

1 Installed filter



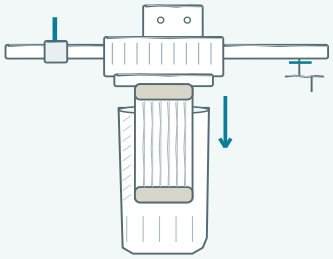
Identify the valve, head, bowl and cartridge. The piping stays connected.

2 Shut off and depressurize



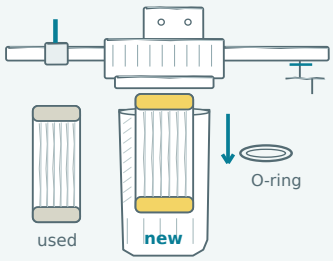
Close the valve. Relieve pressure at the downstream point provided in the installation.

3 Unscrew the bowl



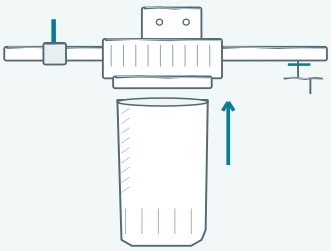
With the unit depressurized, loosen the bowl. Use the wrench specified by the manufacturer.

4 Replace the cartridge



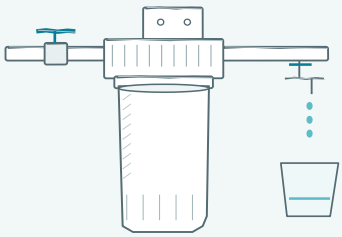
Remove the used cartridge, clean as instructed by the manufacturer, check the O-ring and fit the new PureZ.

5 Screw on and close



Align the bowl and close as instructed by the manufacturer. Do not force the head or piping.

6 Reopen and check

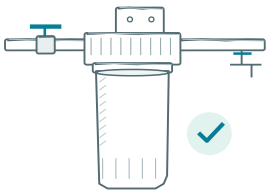


Open slowly and check for leaks. Let the water run for 2 minutes before drinking.

7 Ready for use

After flushing for 2 minutes and checking for leaks, record the replacement.

Date: ___ / ___ / _____ Batch: _____



Other cartridge and housing options

Need another size or a solution for your installation? Contact Zirkoon to assess component compatibility and availability.



Actual photograph of the ceramic material. The image does not represent a list of available formats.

Ceramic media for your application

The photo shows ceramic material in a cartridge supplied by Zirkoon. Selecting another format requires consideration of contact between the water and the adsorbent medium.

For a technical enquiry, provide:

- Housing dimensions and connection;
- Flow rate and water consumption;
- Metals and concentrations in the report;
- Space available for installation.

Talk to Zirkoon

Send the water test report and installation photos to assess other configurations.

+55 (43) 98844-8864 www.zirkoon.com.br

From research to field application

2 prototypes installed

Sabáudia/PR • Pilot application in partnership with Instituto Água e Terra (IAT).





Installation photographs from a rural community. Installation photos alone do not demonstrate treatment performance or drinking-water safety.

THREE STEPS TO SUPPORT RESELLERS

01

Understand the water

Obtain the test report and consumption requirements.

02

Define the application

Confirm the flow rate, housing and operating conditions.

03

Guide maintenance

Provide instructions and record cartridge replacements.

DEVELOPMENT SUPPORT

PARANÁ
GOVERNO DO ESTADO
SECRETARIA DA INOVAÇÃO
E INTELIGÊNCIA ARTIFICIAL

PureZ was developed with support from SEIA through the Paraná Anjo Inovador programme.

Read the SEIA article

inova.pr.gov.br

Zirkoon
Advanced Materials

Contact our team.

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Add PureZ to your portfolio.

Contact Zirkoon about applications and reseller terms.