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Technologies®



IonPolarization System



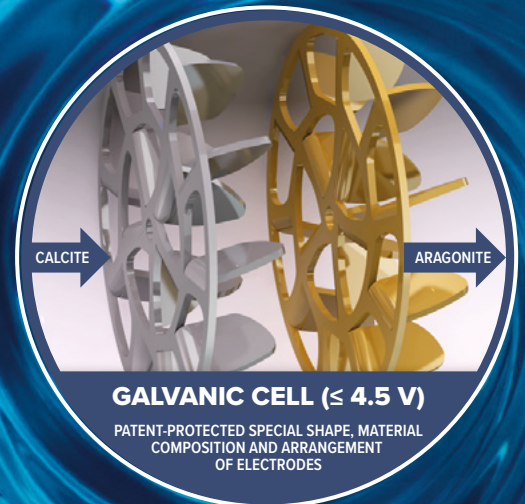
KOS-PUREAQUA

Official distributor
in Austria

Ion Polarization System

The physical-galvanic
water treatment

A new revolutionary system for preventing limescale and removing existing limescale from water heaters, pipes, mixers, showers and all equipment through which water flows with certified efficiency up to 76%. IPS use energy of spinning water and electrodes creating a galvanic potential up to 4.5 V.



- Changes hard calcite to soft aragonite.
- Reduces the need to de-scale tankless heaters, mixers, showers.
- Doesn't restrict household water pressure.
- Connects directly to copper, CPVC or PVC pipe.
- Adapts easily for PEX and other pipe types.
- Environmentally friendly and chemical-free.
- No electricity required.
- Easy-to-install and maintenance-free.
- Extends the life and efficiency of new and existing water heaters, mixers, showers, etc.
- Certified for long-term contact with drinking water.



Ion Polarization System

effective protection against corrosion and scale formation

Ion Polarization System (IPS) is designed for the physical-galvanic water treatment for households, public buildings and industrial plants. IPS is suitable for new pipelines for prevention, but also for the old ones, where it gradually removes existing deposits.

How the IPS works

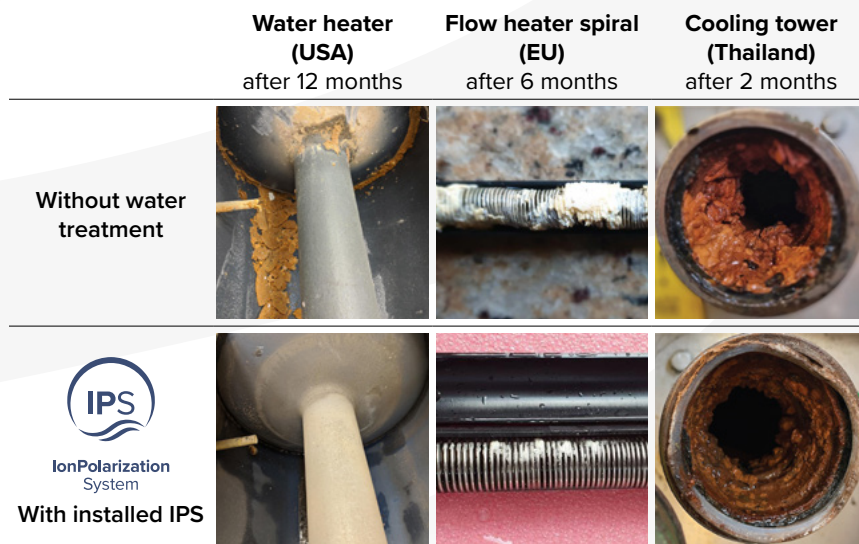
IPS effectively prevents the formation of solid sediments and corrosion in cold and hot water appliances. IPS is a flow-through body with inside placed turbine-shaped electrodes of two different electrically conductive materials. The electrode design is patent-protected (TGP® – Turbulent Galvanic Polarization) and generates a swirling water flow, causing a change in the structure of the minerals.

Physical propensity at 50.0 µm level

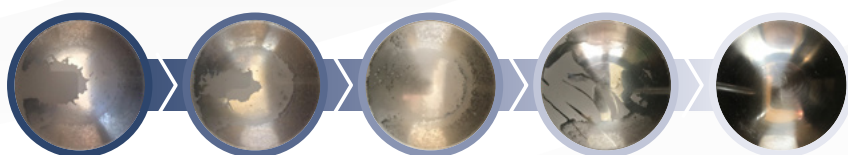
Changes in calcium carbonate crystal when using IPS (increased to 50.0 µm). Water marked 0 is without the use of IPS. Water 1, 2 and 3 flowed through the IPS. The photos show changes in the crystal structure.



IPS efficiency comparison



Effect of IPS on sedimentation scale in an electric kettle



Day 1 - 15: the old limescale is gradually washed away.
Day 30: the new sedimentations are easy to wipe away.

IPS KalyxX

your best defence against limescale

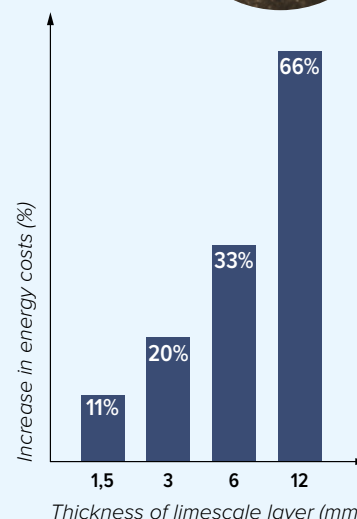
IPS Kalyxx is a flow-through body with inlet and outlet ports. Inside are placed turbine-shaped electrodes (not magnets) of two different electrically conductive materials.

IPS KalyxX is suited for both traditional tank and tankless water heaters in areas with moderate to severe hard water. It's an inexpensive way to protect their investment, easy to install, and a great value. IPS KalyxX is designed to fit directly on the male NPT/G inlet of any residential water heater. Without a IPS KalyxX installed, tankless heaters must be flushed and cleaned with chemicals every one to three years to function properly.

What is Limescale?

When water comes from areas high in calcium or magnesium carbonate, hard water leaves mineral deposits commonly known as "lime scale" on plumbing components, mixers, showers, appliances.

Scale buildup can block pipes, thermostatic cartridges, faucet aerators, showers and cause components to fail. It's unsightly, leaves white deposits on clothes and dishes and is a constant nuisance for end-users. More significantly, scale build-up on water heater elements reduces their overall efficiency and drives up energy bills.





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KalyxX Active



KalyxX Active is an original vortex water treatment device that creates unique properties of water by changing its structure. It is built on our Ion Polarization System supplemented with magnets that enhance the effect of the device. The confirmed effectiveness of protection against limescale reaches 90%. The device uses energy of spinning water, electrodes create a galvanic potential up to 4.5 V.

KalyxX Active

LIMESCALE PROTECTION

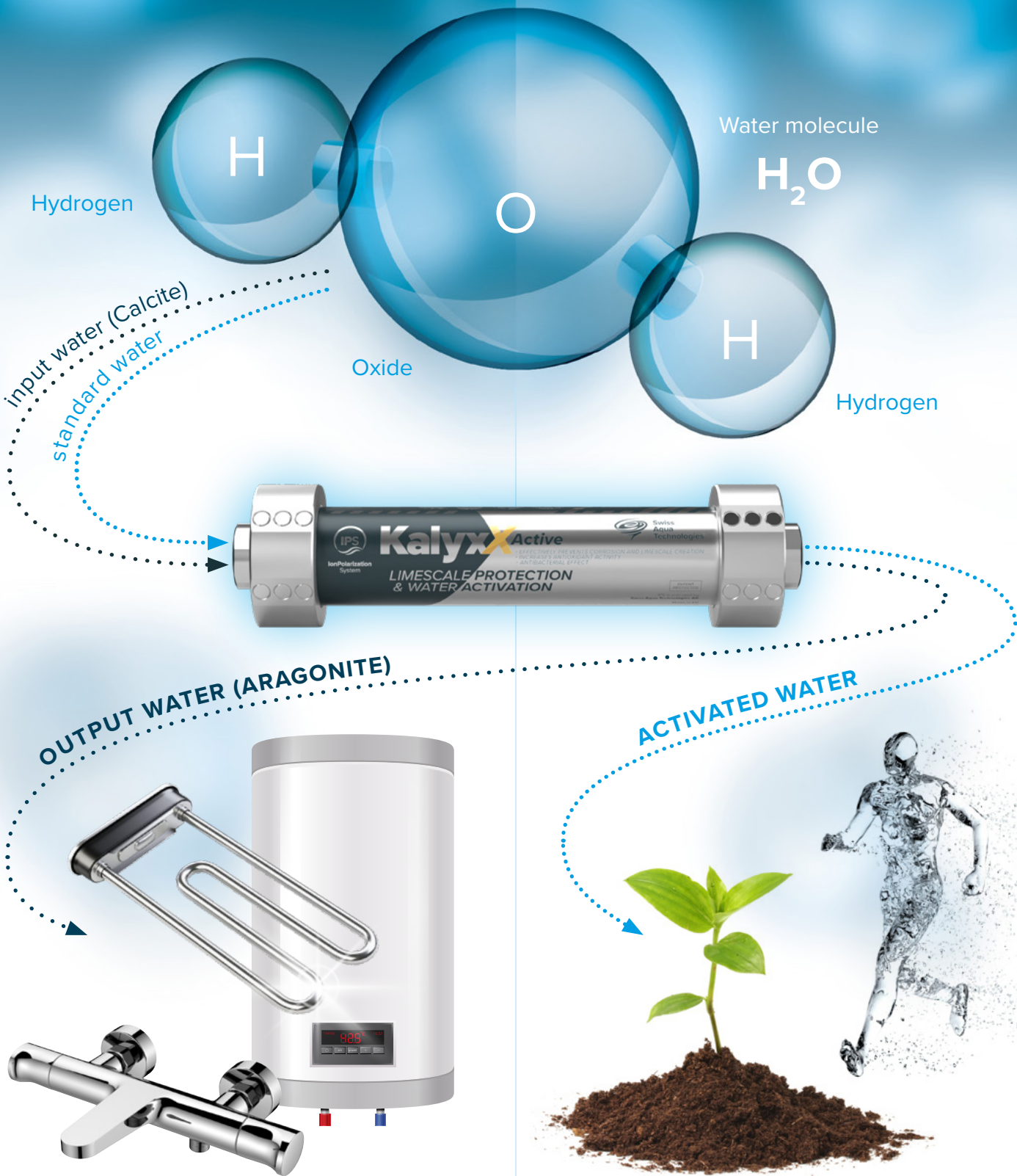
- **Changes hard calcite to soft aragonite.**
- **Reduces the need to de-scale tankless heaters, mixers, showers.**
- **Extends the life and efficiency of new and existing water appliances and devices through which water flows.**

- Antibacterial effect (silver electrodes).
- Doesn't restrict household water pressure.
- Connects directly to copper, CPVC or PVC pipe.
- Adapts easily for PEX and other pipe types.
- Environmentally friendly and chemical-free.
- No electricity required.
- Easy-to-install and maintenance-free.
- Certified for long-term contact with drinking water.



LIMESCALE PROTECTION

WATER ACTIVATION



KalyxX Active

WATER ACTIVATION



The change in the scale structure is only one of the effects of water treatment in the KalyxX Active device. The flow of water through the KalyxX Active changes its energy-informational field. The result is the so-called “structured” or “activated” water. KalyxX Active water activation has been confirmed by independent laboratories:

- Slovak University of Agriculture (EU)
- Masaru Emoto's Laboratory (Japan)



Slovak University of Agriculture

In 2021, the research team from the Slovak University of Agriculture in Nitra (Slovakia, EU) ensured several experiments with the application of activated water with the IPS system in laboratory, greenhouse and field conditions.

The measurements confirmed that the IPS device is unique and original for structuring water and creates unique properties in water.

Based on the experiments with plant species, the following effects of the action of IPS were clearly confirmed:

- **Increasing the antioxidant activity (AA) of plant parts.***
- **Improvement of the water regime in plants – increasing tolerance against drought.**
- **Increased tolerance against biotic factors – lower presence of diseases.**
- **Shortening of the growing season.**
- **An increase in the content of cannabinoids in plant parts of hemp.**

* Changing several important biologically active components in plants (vitamins, amino acids, flavonoids, polyphenols, polyphenolic acids and many others).



*Comparison of the tested variants with activated stable water at different pressures for the germination and emergence of spring wheat (*Triticum aestivum* L.) seeds in sand after 4 days from the start of the experiment with a weight of 10 g:*



Tap water
(control sample).



Activated water
at a pressure
of 75 Pa.

(Source: Effect of activated water by the IPS device on germination, growth, production and quality of plant biomass, Final report for research activities 2021, Nitra, Slovakia, EU, January 2022)



Masaru Emoto's Laboratory

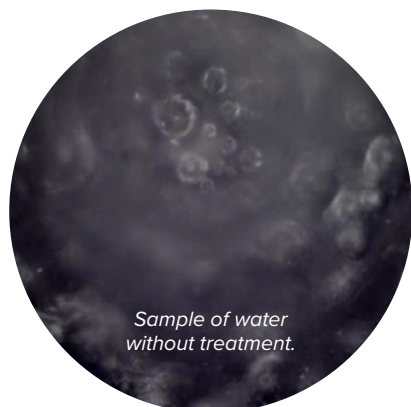
Water is one of the most indispensable substances for the life of human beings. It is not enough to take in a necessary quantity of water inside of the body, but we should take the quality of water into consideration. For instance, the district where a lot of long life people lives is blessed with high quality water from natural resource. In other words, it is becoming common sense that there are a lot of correlations between the health and the quality of water which we drink every day. Today, even if the water that we drink or use does not contain any detrimental ingredient, the quality of water is not always satisfactory. It is becoming clear that the formation of water crystal reflects the quality of water.

What does the crystal tell us?

The snow crystal has a beautiful hexagonal formation highly symmetric. The tap water gone through sterilization process by chlorine is likely to turn our more collapsed crystals and less evaluation mark than natural clean water. This may be partly explained by the influence of the chlorine residue materially.

Some researchers point out that there is a correlation between the formation of water crystal and its degree of water pollution and it can be one of the indexes of water quality in terms of the degree of pollution.

The water crystal formation reflects not only physical but informational or energetic aspect of the water.



Sample of water without treatment.



Sample of water treated by the Kalyxx Active device.

(Source: The Report of Water Crystal Experiment, Office Masaru Emoto, LLC, July 2022)

"The Good Brew Kombucha Company prides itself on using the highest quality organic ingredients and the best quality water. for the past 2 years we have been brewing kombucha using Daylesford Spring Water that has gone through Kalyxx device and have noticed heightened growth of our probiotic blend.

The complexity and microbial diversity of our living culture has been documented in a scientific paper (see <https://www.mdpi.com/2072-6643/13/12/4446>).

We believe that the Kalyxx device not only reduces scale and improves plant growth, it also enhances fermentation and the growth of probiotic bacteria and will continue to use it as a 'secret sauce' in our probiotic blends."

– **Marc Cohen**

MBBS (Hons), PhD (TCM), PhD (Elec Eng), BMed Sci (Hons), Melbourne, Australia

Activated / Structured Water

Structured water is a dynamic state of molecular bonding and information exchange. This type of water is beneficial for human life and is in harmony with nature. When one drinks and surrounds one's environment with healthy water, health continues to improve over time. Undoubtedly, this water have the fantastic ability to make unhealthy water, drained of life force, healthy and ready to drink again in a matter of moments. Information brought to any type of water, even spring water fresh from a mountain stream, is beneficial and yet improves the oxygenation and bioavailability of the water.

What is structured water good for?

- **Optimal Hydration**
- **Elimination Of Bacteria**
- **Enhanced Hygiene**
- **Gardening Benefits**
- **Wastewater Management**

Masaru Emoto

Whoever begins to uncover the secret of water will soon discover the name of Masaru Emoto. This Japanese doctor of alternative medicine told the world more about the secrets of water than anyone else. He undertook extensive research into water throughout the planet and studied it from the perspective of an original thinker. He proved that water is an important carrier of information. He managed to do this by photographing a microscopic particle of water – a small water crystal that changed its structure according to the action of various external factors.

Dr. Masaru Emoto (1943 – 2014) studied water for more than twenty years. With his knowledge and enthusiasm, he taught millions of people around the world to love clean water. He is the author of numerous books and a three-volume collection of photographs of beautiful water crystals. In addition to the scientific value that photographs have, they are also a sought-after work of art.

"There is no other substance in the world with which our well-being and health are so closely connected as with water."

– **Masaru Emoto**

KalyxX Active

The original water structuring vortex device
creates unique water properties for limescale
protection and water activation



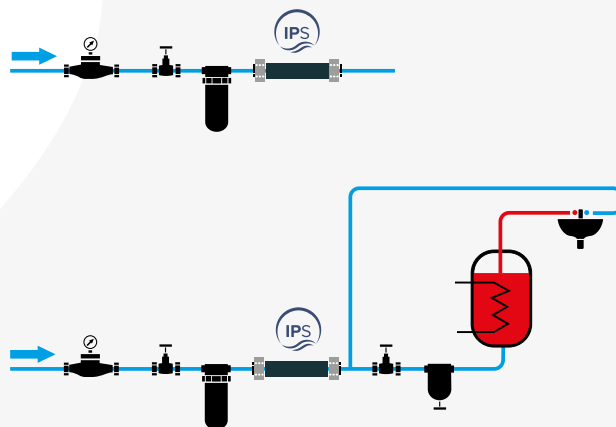
- Reduction of scale formation in water systems with a confirmed efficiency of 90%.
- Antibacterial effect – blocks the multiplication of Escherichia Coli bacteria.
- Water activation and optimization of its structure for a positive effect on the living organism.
- Increase in the antioxidant activity of plant parts and their resistance to drought.

IPS KalyxX Active

- Reduction of scale formation on water supply elements – confirmed efficiency of 90%.
- Antibacterial effect – blocks the multiplication of Escherichia Coli bacteria (thanks to silver electrodes).
- Water activation for optimal bioavailability.
- Patented technology TGP® – Turbulent Galvanic Polarization – no chemicals, no external energy.
- Suitable for cold (drinking) and hot water.
- NRL Certificate for direct permanent contact with drinking water.
- Environmentally friendly and chemical-free.
- No electricity required.
- Health safety product – each part of IPS is made from material suitable for contact with drinking water.
- Safe product – Verified Hydraulic Properties.
- Durable body (Stainless steel 1.4301) and internal parts – 2 years warranty, works at least 10 year without any maintenance.

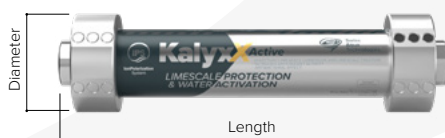
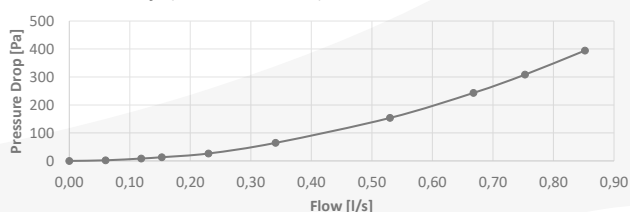
- **Connection:** Female NPT/G x Female NPT/G
- **Patented Discs Composition**
- **Maximum Flowrate:** up to 4 m³/h*
- **Material:** Stainless Steel
- **Pipe Type:** Copper, CPVC, PVC, PEX, Steel
- **Maximum Pressure Drops:** 43 Pa – 692 Pa*
- **Operating Temperature (inlet):** 0 °C to 85 °C
(Optimal temperature for maximum efficiency Min/Max (inlet): 0 °C to 60 °C)

* depends on model



Pressure

$$\Delta p = (536,3 * Flow[l/s]^2) + 5,9995 * Flow[l/s]$$



Technical parameters

IPS KalyxX	Connection	Diameter (mm)	Length (mm)	Weight (kg)	Max Pressure (Bar / MPa)	Max Flow (m ³ / hour)	Pressure Drop at Max Flow (mBar / Pa)
Active 1/2"	G 1/2" (female)	71	274	1,95	10 / 1	1	0,4405 / 44,05
Active 3/4"	G 3/4" (female)	71	274	1,91	10 / 1	3,2	4,29 / 429,08
Active 1"	G 1" (female)	71	274	1,86	10 / 1	4	6,68 / 668,76

KalyxX^{Active} INDUSTRY

Reduction of limescale formation
for use in systems with higher water flow
with additional magnetic field effects



**IPS KalyxX protects your home from limescale buildup.
It requires no power supply, batteries, chemicals or filters.**

IPS KalyxX uses a patented Turbulent Galvanic Polarization (TGP®) electrode to disrupt the formation of limescale crystals on water heaters, showers, thermostatic cartridges, taps, etc. In side-by-side comparison testing, IPS KalyxX was four times more effective than the leading electronic or magnetic scale devices. IPS KalyxX is easy to install and maintenance free.

IPS KalyxX Active Industry

The use of IPS Industry is effective and suitable in any running water plant. Washing lines, restaurants, canteens, bakeries, laundries, hairdressers, dry cleaners, swimming pools, dairies, breweries, distilleries, gardening, irrigation systems and much more. It also works reliably in heat exchangers, water systems, boilers, condensers, generators, heating systems, compressor rooms, refrigeration and air conditioning equipment.

- Solution for apartment buildings and buildings with higher hourly flow.
- Suitable for direct water-to-water heat pump circuit with high output, for stabilization of wastewater purifier at values guaranteed by the producer.
- Installation at the entrance to the building.
- Cold water supply pipes for central heating at transfer stations and boiler rooms.
- Prevent clogging of plate heat exchangers and stabilize specific heat demand for hot water.
- Stabilization of point corrosion of storage heaters.



Technical parameters

IPS KalyxX	Connection	Diameter (mm)	Length (mm)	Weight (kg)	Max Pressure (Bar / MPa)	Max. Flow (m³/hour)
Active Industry DN 40 IPSINADN40P	flange	150	536	10	10 / 1	8
Active 6/4" RP 64 IPSINADN40	thread	114,3	506	6,5	10 / 1	8
Active DN 50 IPSINADN50P	flange	165	660	12	10 / 1	12
Active 2" RP 2 IPSINADN50	thread	114,3	640	6,5	10 / 1	12
Active DN 65 IPSINADN65P	flange	185	605	18	10 / 1	16
Active DN 80 IPSINADN80P	flange	200	615	23	10 / 1	24
Active DN 100 IPSINADN100P	flange	220	635	37	10 / 1	36
Active DN 125 IPSINADN125P	flange	250	955	54	10 / 1	54

Examples of IPS KalyxX installations



ScaleRX Industry
USA



KalyxX Active
Chile



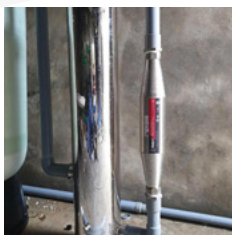
KalyxX Industry
India



KalyxX RedLine
Thailand



KalyxX Industry
Vietnam



KalyxX Industry
Vietnam



KalyxX Industry
Greece



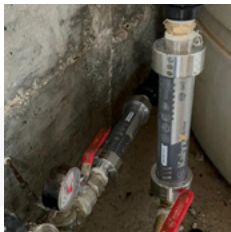
FlowX BlueLine
Thailand



FlowX Industry
Thailand



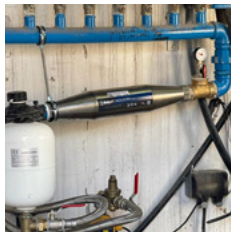
KalyxX Active
Cyprus



KalyxX Active
Cyprus



KalyxX Industry
Cyprus



KalyxX Industry
Cyprus



KalyxX RedLine
Turkey



KalyxX Active
Dominican Republic



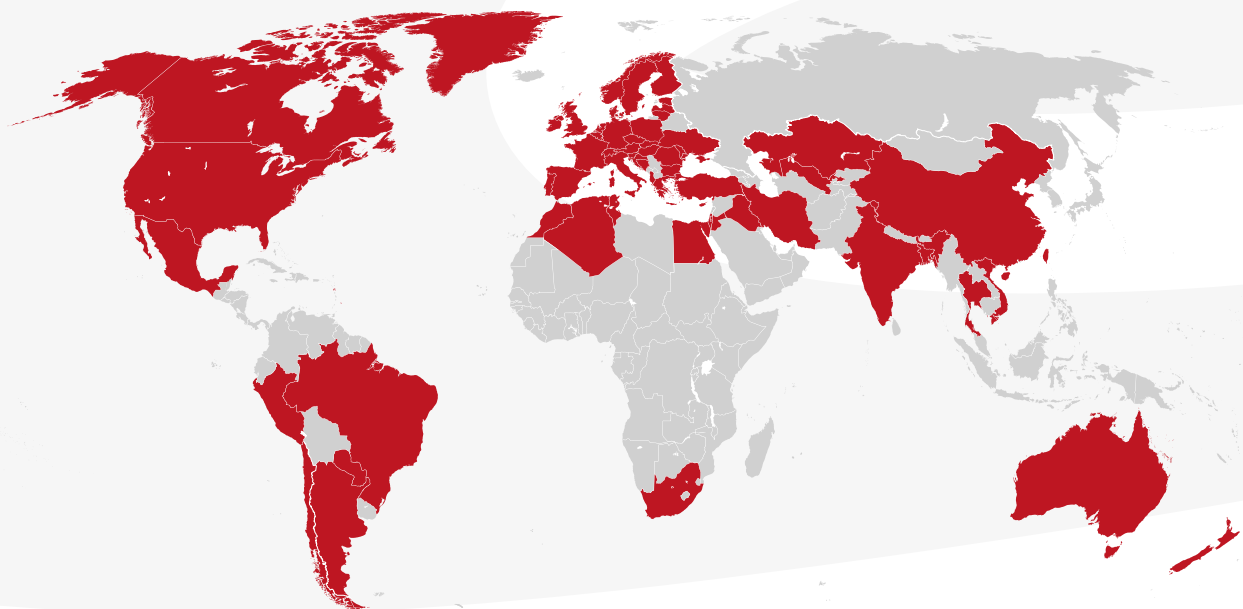
KalyxX Industry
Dominican Republic



KalyxX Industry
Czechia



KalyxX Industry
Slovakia



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