

**Backflushing valve for heat exchangers.
A new invention to prevent fouling.**



Fouling and clogging of heat exchangers cause huge problems for industry. The economic penalty for fouling due to an oversized plant, reduced thermal efficiency, increased pressure drop, additional maintenance and loss of production is estimated at several billion US \$ per year for the industrialised world.

The Ekström & Son backflushing valve is:

Efficient

Backflushing is an easy and efficient method to prevent clogging and fouling of heat exchangers. The cleaning effect is achieved by changing the flow direction in the heat exchanger so that the dirt accumulated in the inlet region and the heat exchanging channels is flushed out the same way as it entered. Unlike filters, regular backflushing can prevent biological fouling. The algae and organisms that have entered the heat exchanger are flushed out before they can establish themselves.

Uncomplicated

The backflushing valve has a simple design which makes it easy to install and use in all types of establishments. The valve has two operating positions only - normal and backflushing. This means that the backflushing valve does not require a control system but can also be hand-operated. A conventional backflushing system consists of 4 valves giving 16 combination possibilities. To avoid "water hammer" the valves must be opened and closed in a certain sequence, which means that a control system is absolutely necessary.

Energy-saving

The Ekström & Son backflushing valve does not affect the standard operation and means no extra pump energy costs, while filters, even if they are clean, always give an increased pressure drop.

Non-polluting

Backflushing is ecologically harmless. By regular backflushing of heat exchangers in open cooling systems, the use of chemical cleaners can be reduced considerably. Thus backflushing means reduced pollution load.

Reliable

With the backflushing valve, a malfunction of the monitoring system has no immediate influence on the cooling performance.

Compact

The backflushing valve is much more compact than a conventional backflushing system, which is especially important for installation into an existing plant.

Universal

Can be used together with most types of heat exchangers.

Description

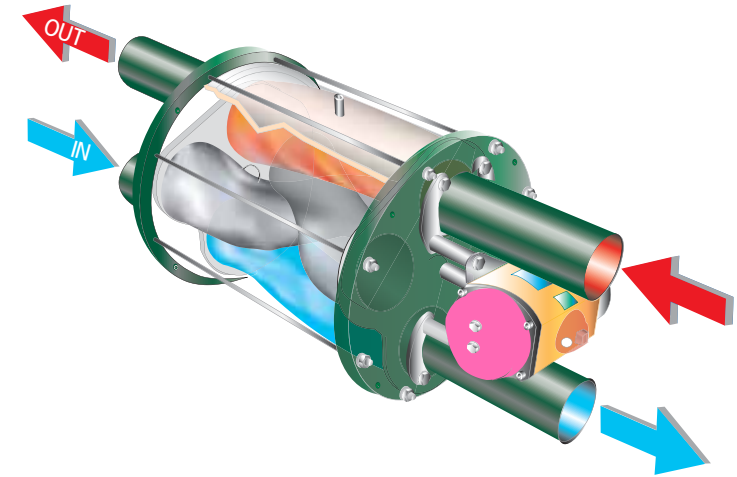
The backflushing valve consists of two end plates and a cylindrical shell that form a vessel. The internals can be turned 90°; in normal position the fluid goes straight through the valve body and in the back-flushing position the fluid goes through two crossing flow paths.

An important advantage with the Ekström & Son backflushing valve is that the risk of "water hammer" is eliminated. The design of the valve body gives a smooth turning of the flow, everytime.

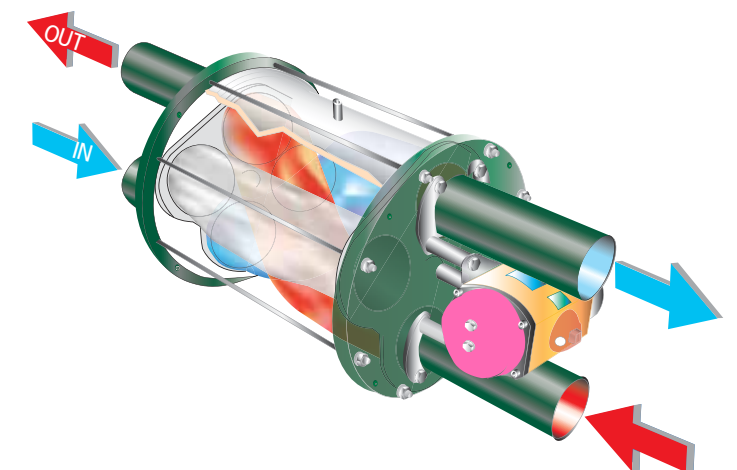
Check out
www.smartloop.se/en
for more information

Sizes	DN50 - DN500
Design	PED / ASME
Materials	AISI 316, or Titanium
Design temp.	100°C / 210° F
Design pressure	10 bar / 150 psi
Operation	Pneumatic or electric actuator

Normal operation



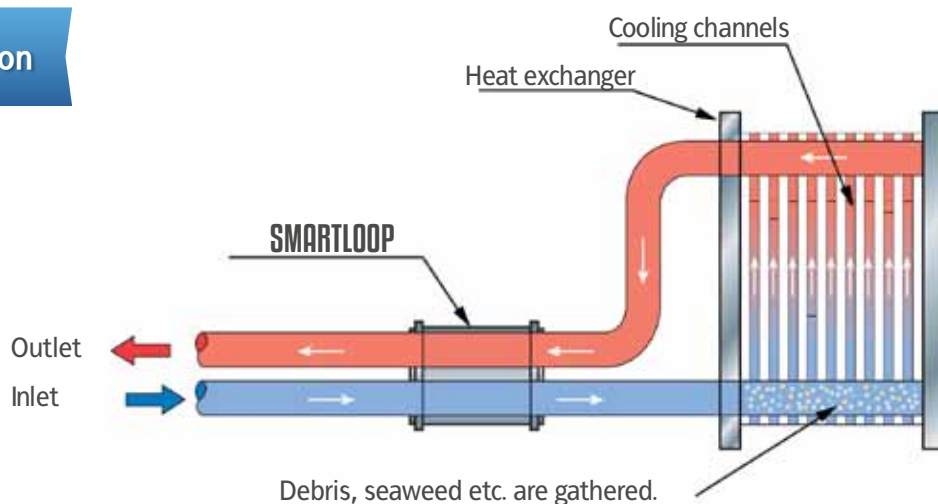
Backflushing



SMART LOOP

In many heat exchanger duties, backflushing is an excellent method to prevent fouling. By using the Ekström & Son backflushing valve - especially developed for heat exchangers - all heat exchangers can easily be equipped with a backflushing system. The valve is both easy to use and easy to install. The valve can be used in all industrial heat exchanging duties where the fluids contain particles or fibres, and is particularly suitable in cooling systems where low-quality water is being used.

Normal operation



Backflushing

