

# BACKWASH FILTER

WITH INTEGRATED VENTING SYSTEM



WATER TREATMENT

## The problem

Suspended solids, sludge and oxygen create detrimental conditions within heating and cooling loops which can contribute to premature failure in piping, fittings, valves, regulators, pumps, bearings, seals, instrumentation & controls, boilers, chillers, heat exchangers as well as many other components within a system.

Should these deposits coat the heat transfer surfaces, operating costs increase due to additional energy requirements (ie. natural gas or electricity) necessary to attain the proper temperature of the heat transfer fluid in the circuit. The table below illustrates the effect of deposits on heat

transfer surfaces. Note the loss of efficiency that occurs is dependent on the deposit thickness and type of deposit. Typically chemical corrosion inhibitors are added to heat transfer fluids (ie. water, glycol, etc) to ensure corrosion rates remain within specified industry standards (ie. mild steel < 2 mpy). If, however, high suspended solids are the norm then the inhibitor actually adheres itself to the particulate as opposed to corrosion inhibitor film formation solely on the actual piping system itself. This in turn promotes further corrosion to proliferate due to lack of proper corrosion protection on the system pipe.



Before HEIFI-TOP installation:  
Corrosion particulate in water

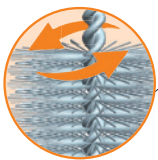


After HEIFI-TOP installation:  
Water as it should be



## The JUDO HEIFI-TOP filter aerates with a minimum system pressure loss and no follow-up costs \*

Large filter chamber with forced flow direction allows for longer time of exposure

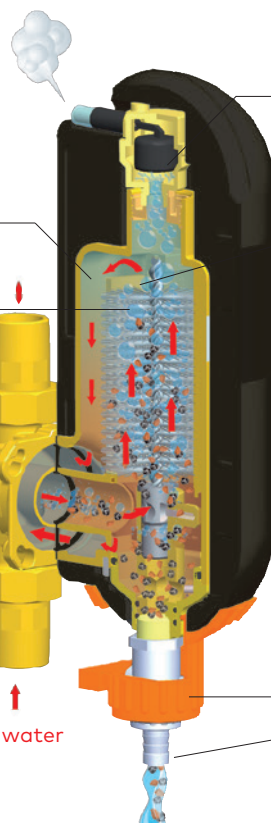


Patented round rotating brush

The patented JUDO QUICKSET-E allows for installation in both horizontally and vertically running pipes.



↑ heating water



Automatic aeration

Air bubbles hydrodynamically separated and vented.

Protects the boiler from both magnetic and non-magnetic particles

Energy efficient

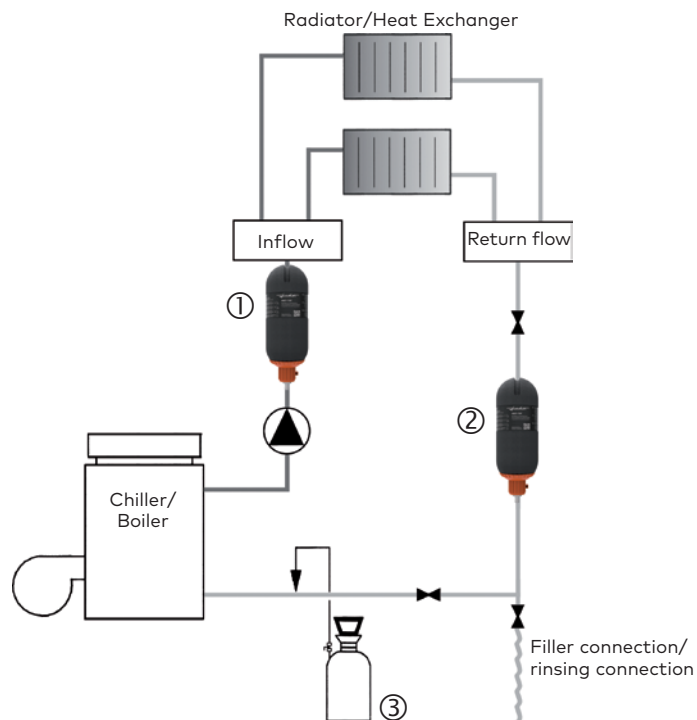
Long lasting performance

Handwheel

Flush valve

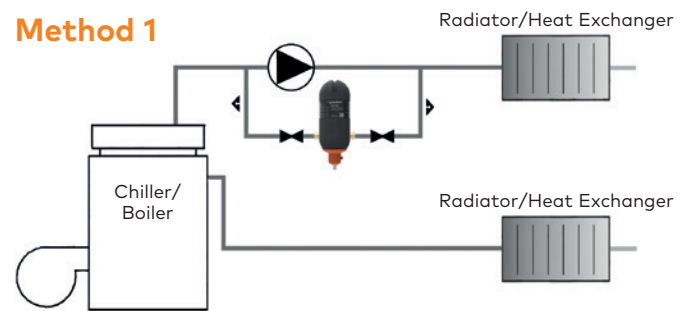
\* apart from water costs

## Installation diagram - In-line application

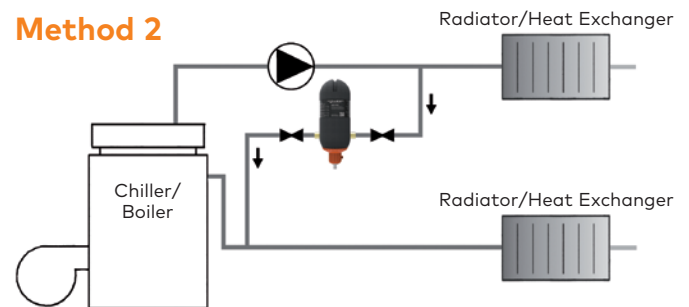


## Installation diagram - Side Stream application

### Method 1



### Method 2



## Two possible installations:

- ① optimum location for oxygen removal,
- ② optimum location for particulate removal,
- ③ Optional: Metering pump for corrosion inhibitor addition

## The solution

JUDO's HEIFI-TOP technology traps and retains suspended physical impurities as low as 15 microns while simultaneously removing oxygen via an integrated automatic air vent device through a unique, patented approach.

Periodically the unit is manually backwashed to totally eliminate impurities from the system. This procedure is easily accomplished by rotating the purge valve 180 degrees clockwise followed by opening the wastewater isolation valve to drain. Approximately 1 to 3 litres of water is all that is required to remove the trapped solids.

A reversal of the aforementioned procedure is performed to set the filter back on line. At no time does the system have to be shutdown to perform these functions.

## Advantages/Benefits

- ✓ Environmentally friendly, sustainable design, simple operation, satisfies green shift initiatives
- ✓ Permanent stainless steel filter element – no consumable replacement cartridges
- ✓ Low suspended solids levels maintained on a continuous basis
- ✓ Deposit free heat transfer surfaces ensuring maximum energy efficiencies
- ✓ Trouble-free instrumentation operation and control strategy
- ✓ Increased system component longevity is maintained
- ✓ Reduces oxygen intake
- ✓ Ensures erosion and corrosion rates are minimized
- ✓ Installation can be in-line or side stream dependent on the operation
- ✓ Vessel insulation ensures that maximum energy efficiency is maintained and Health and Safety issues are addressed

## 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%

# JUDO HEIFI-TOP

## Backwash side stream filter for heating and cooling closed loop systems.

With housing made of high-grade brass, filter element / air remover made of stainless steel and backwash assembly made of polymer based materials, all insulated in a Styrofoam shell covering. Equipped with a cylindrical brush, constructed of 10,000 stainless steel bristles positioned to achieve a filtration rating of 15 microns.

Also, equipped with an automatic air venting device, and a hand valve to select operation and/or backwashing positions. Including a quick-mounting device for easy installation in both horizontal and vertical flow directions. Run ¾" (20 mm) backwash drain to nearest hub drain using an Indirect connection.

Model	JHF-T	JHF-T	JHF-T	JHF-T	JHF-T
Pipe Size	¾" *	1"	1¼"	1½" **	2" **
Max. flow rate m <sup>3</sup> /h (gpm)	2.0 (8.8)	3.0 (13.2)	4.0 (17.6)	6.0 (26.5)	8.0 (35.2)
Min. / Max. operating pressure psi (kPa)	22 - 145 (150 - 1000)	22 - 145 (150 - 1000)	22 - 145 (150 - 1000)	22 - 145 (150 - 1000)	22 - 145 (150 - 1000)
Pressure loss after backwash psi (kPa)	0.9 (6.0)	1.5 (10.0)	2.6 (18.0)	1.5 (10.0)	2.6 (18.0)
Max. water temperature °C (°F)	90 (194)	90 (194)	90 (194)	90 (194)	90 (194)
Weight approximate kgs (lbs)	4.9 (10.8)	5.0 (11.0)	5.5 (12.1)	13.5 (29.8)	14.7 (32.0)
Installation length mm (inches)	180 (7.1)	195 (7.7)	230 (9.1)	252 (9.9)	280 (11.0)
Order No.	8060053	8060054	8060055	8060056	8060057

\* JHF-T 1" with ¾" QUICKSET-E    \*\* 2 JHF-T 1" or 1¼" with parallel fitted rotary flange



Quality made in Germany  
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 and Engineering  
 Made in Germany



*Built it Green  
 Keep it Green®*