In a chipboard plant, the process water used heats up to approx. 122°F. The heated water is used for long-distance heating. Deposits of solid substances in the heat exchanger increasingly result in heat losses. The system must be shut down so the heat exchanger can be cleaned (every 2-3 months for 1 day intervals).

The warm process water is coupled to the district heating system via a tube bundle heat exchanger. In order to avoid solid substance deposits and thus machine standstills in the future, Schroeder installed an ATF | AutoFilt® TwistFlow Strainer before the heat exchanger and a hybrid system consisting of a centrifugal separator and a line filter.

- The ATF is particularly suitable for high pollution loads.
- Compared to conventional cyclone filters, the conical filter element prevents transfer of contamination to the clean side.
- No flushing pressure required.

• Avoidance of solid substance deposits.
• Minimization of system standstills.
• Increase of cleaning and service intervals at the heat exchangers.
• Automatic working filter.
• Reliable function also for high dirt loads and surges in contamination.
• Low procurement costs.
Reduced system failures per year

Cost saving per year for maintenance

Profit per year from feed

Amortisation time

Underlying values:
Maintenance costs: $1,676 per maintenance (1 day, 2 people)
Feed into the district heating network: 600 kWh
Feed remuneration: $0.20 / kWh

**PRODUCT SPECS**

**ATF-2.5 | Automatic Twist Flow Strainer**

Flow: 65-260 gpm
Operating Pressure: 145/230 psi
Inlet/Outlet: 3” Flange (DN 80)
Volume: 7.4 gal. (28 L)
Housing Material:
- Stainless Steel
- Carbon Steel
Housing Seal Material:
- Buna N
- Viton®

**CUSTOMER BENEFITS**

- Extension of the maintenance intervals by a factor of 5
- Increased system availability
- No carry-over of contamination to the clean side
- Reduced operating costs
- No filter elements required

**FURTHER APPLICATION AREAS**

- Conditioning of service water in sewage treatment plants
- Pre-filtration for waste water treatment systems
- Cooling water filtration
- Protection of pumps and orifices

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**DELIVER**

**Very good separation of dirt:**
- According to the customer, the ATF AutoFilt® 2.5 works more than satisfactory.
- There was a high ingress of dirt which the filter coped with well.
- No longer any solid substance deposits at the heat exchanger.

**Decreased standstill time:**
- Increase of maintenance and service intervals for the heat exchanger by a factor of 5 (from 2-3 months to 12 months).
- As one cleaning/maintenance service at the heat exchanger takes 1 day, the annual standstill time could therefore be reduced by 4 days.

<table>
<thead>
<tr>
<th>Heat Exchanger</th>
<th>Without ATF</th>
<th>With ATF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of maintenances</td>
<td>4 times a year</td>
<td>1 times a year</td>
</tr>
<tr>
<td>System downtime per year</td>
<td>5 days</td>
<td>1 day</td>
</tr>
</tbody>
</table>

**Cost saving:**

<table>
<thead>
<tr>
<th>Costs per year</th>
<th>Before</th>
<th>After</th>
<th>Saving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance</td>
<td>$8,394.22</td>
<td>$1,678.84</td>
<td>$6,715.38</td>
</tr>
<tr>
<td>System downtime per year</td>
<td>$14,505.21</td>
<td>$2,901.04</td>
<td>$11,604.17</td>
</tr>
</tbody>
</table>