1. Safety Guidelines
1. Follow the installation instructions.
2. Use the appliance
   • according to its intended use
   • in good condition
   • with due regard to safety and risk of danger.
3. Note that the appliance is exclusively for use in the applications detailed in these installation instructions. Any other use will not be considered to comply with requirements and would invalidate the warranty.
4. Please take note that any assembly, commissioning, servicing and adjustment work may only be carried out by authorized persons.
5. Immediately rectify any malfunctions which may influence safety.

2. Description of function
The filter insert is divided into two parts. In the „filtering” position, only the lower, larger section is used for filtering. The small upper section does not come in contact with unfiltered water. An oscillating flap integrated in the sieve prevents the deposition of dirt particles on the upper part of the filter. When the ball valve is opened for reverse rinsing, then the whole filter insert is pushed downwards until the water supply to the outer side of the main filter is stopped. Simultaneously, the water flow is opened to the upper part of the filter. The water needed for cleaning the filter passes through the upper filter section, then the rotating impeller with jets and the main filter from inside to outside, i.e. the filter is reverse rinsed with filtered water. The filter automatically switches back to the operating position when the ball valve is closed again.

3. Application
Medium: Water
The filter is constructed for drinking water installations. In case of a process water application the filter has to be proven individually.

4. Technical data
Installation position: Horizontal, with filter bowl downwards
Nominal pressure: PN 16
Operating pressure:
   Min. 1.5 bar
   Max. 16.0 bar
Operating temperature:
   Max. 40°C
   Max. 65°C (max. operating pressure 6.0 bar)
Connection size:
   Single filter: DN 65 - DN 125
   2 filters parallel: 2 x DN 80
   2 x DN 100

5. Scope of delivery
The fine filter comprises:
   • Housing with pressure gauge ports (1x inlet, 2x outlet)
   • 2 pressure gauges (1x inlet, 1x outlet including memory indicator)
   • PN 16 flanges to EN 1092-2
   • Fine filter
   • Filter bowl
   • Ball valve with lever and drain funnel

6. Options
F78TS...FA = Filter mesh size 100 μm
F78TS...FB = Filter mesh size 20 μm
F78TS...FC = Filter mesh size 50 μm
F78TS...FD = Filter mesh size 200 μm
Connection size DN65/80/100
F78TS-125ZFA = Filter mesh size 100 μm

7. Dimensions and Flow Values

<table>
<thead>
<tr>
<th>Connection size</th>
<th>DN 65</th>
<th>80</th>
<th>100</th>
<th>125</th>
<th>2 filters parallel</th>
<th>80</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight approx. kg</td>
<td>25</td>
<td>35</td>
<td>43</td>
<td>65</td>
<td>80</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Dimensions mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>290</td>
<td>310</td>
<td>350</td>
<td>514</td>
<td>n.a.</td>
<td>n.a.</td>
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</tr>
<tr>
<td>H</td>
<td>581</td>
<td>665</td>
<td>767</td>
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<tr>
<td>h</td>
<td>434</td>
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<td>610</td>
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<tr>
<td>D</td>
<td>193</td>
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<td>247</td>
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<tr>
<td>F</td>
<td>185</td>
<td>200</td>
<td>220</td>
<td>250</td>
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<td>n.a.</td>
<td></td>
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<tr>
<td>Flow value at</td>
<td>m³/h</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Δp = 0.2 bar</td>
<td>30</td>
<td>48</td>
<td>60</td>
<td>60</td>
<td>96</td>
<td>120</td>
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</tr>
<tr>
<td>Δp = 0.5 bar</td>
<td>48</td>
<td>78</td>
<td>100</td>
<td>100</td>
<td>156</td>
<td>200</td>
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<td>k₅₅-value</td>
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<td>113</td>
<td>145</td>
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<td>226</td>
<td>290</td>
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</tr>
<tr>
<td>DIN/DVGW Registration No.</td>
<td>requested</td>
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<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Flow Diagram see page 8
8. Assembly
8.1. Installations Guidelines
- Install in horizontal pipework with filter bowl downwards
- This position ensures optimum filter efficiency
- Install shutoff valves
- Ensure good access
- Pressure gauges can be read off easily
- Simplifies maintenance and inspection
- The installation location should be protected against frost
- Fit immediately after water meter
  - Corresponds to EN 806-2
8.2. Assembly instructions
1. Thoroughly flush pipework
2. Install filter
   - Note flow direction
   - Install without tension or bending stresses
3. Seal in pressure gauges
4. Install discharge connection
8.3. Discharge of reverse rinsing water
According to EN1717 the space between bottom von discharge connection at the filter and the sewage piping (e.g. drain connection with syphon) has to be 56mm at least.

To do this there are 3 options:
1. Discharge into floor drain
2. Drain into open container
3. Discharge into drain connector with syphon (min. DN70)

Filter size
Reverse rinsing volume
DN65 - 100
55 litre
*at 4.0 bar inlet pressure and 22 s reverse rinsing duration
- operated by actuator or at 4 bar inlet pressure and 3x 3 s rinsing duration - operated by hand.

9. Operation
Filter may only be operated with installed discharge connection.

9.1. Reverse rinsing
Interval:
- at least every 6 month (acc. to EN806-5)
  - every 2 months (manufacturer's recommendation) resp. depending on the degree of dirt in the water.

Red pointer integrated into the view window of one of the pressure gauges for setting the next reverse rinsing Date for next reverse rinsing can be set at the memory indicator of the outlet pressure gauge.
To ensure convenient and regular adherence to the reverse rinsing interval, we recommend installing an automated reverse rinsing system Z11AS.

During reverse rinsing, an inlet pressure of at least 1.5bar is required.
Filtered water can also be tapped during reverse rinsing.

To avoid extra abrasion, we recommend to perform the backwash at operating inlet pressures below 12 bar.
To ensure the proper backwash function also at continuously higher media temperatures we advise to follow the recommended service intervals. All the internal parts should be checked to recognize possible unusual abrasion.

9.1.1. Manual reverse rinsing
A collecting container must be positioned beneath before reverse rinsing if there is not drainage system available.

1. Slowly open the ball valve
   - The patented reverse rinsing system starts
2. Close ball valve again after approx. 3-5 seconds. Repeat procedure three times
   - If the filter is extremely dirty, the procedure may have to be repeated additional times

9.1.2. Automatic reverse rinsing with the Z11AS
The automated reverse rinsing system Z11AS is available as an accessory. The automated system reliably takes over reverse rinsing of the filter at intervals which can be set between 4 minutes and 3 months.

9.1.3. Differential pressure controlled reverse rinsing with the DDS76 and Z11AS
Also available as an accessory is the DDS76 differential pressure switch. It provides fully automatic operation of the reverse rinsing which is controlled by the differential pressure across the filter. It actuates a reverse rinsing cycle when the pressure differential between the inlet and outlet of the filter reaches a predetermined value. If the pressure difference exceeds the preset value, then the Z11AS reverse rinsing actuator is operated via its volt-free input.

10. Maintenance
We recommend taking out a servicing contract with an installation firm.

In accordance with EN 806-5, the following measures must be taken:
10.1. Inspection
10.1.1. Filter
Interval:
- at least every 6 month (acc. to EN806-5)
  - every 2 months (manufacturer's recommendation) resp. depending on the degree of dirt in the water.

An increased differential pressure between inlet and outlet pressure gauge indicates a highly contaminated filter.
- The filter must be cleaned by reverse rinsing regularly, at least every 2 months
- Non-compliance can lead to the filter becoming blocked
  - This results in a drop in pressure and decreased water flow
- The filter meshes are made of stainless steel. A red coating as a consequence of rust from the pipelines has no influence on function or the way the filter works

Do not forget to do a visual check of the ball valve.
Replace if it is dripping!
10.2. Maintenance

10.2.1. Replace filter insert
1. Close shutoff valve on inlet
2. Release pressure on outlet side (e.g. through water tap)
3. Close shutoff valve on outlet
4. Unscrew filter bowl
5. Remove filter insert
6. Insert new filter insert
   - Put on the O-ring
7. Put new O-ring on filter bowl
8. Screw filter bowl in place
9. Slowly open shutoff valve on inlet
10. Slowly open shutoff valve on outlet

10.2.2. Replace filter mesh
1. Close shutoff valve on inlet
2. Release pressure on outlet side (e.g. through water tap)
3. Close shutoff valve on outlet
4. Unscrew filter bowl
5. Remove filter insert
6. Dismount filter insert
7. Replace filter mesh
8. Mount the filter insert
9. Put filter insert into filter bowl
10. Put new O-ring on filter bowl
11. Screw filter bowl in place
12. Slowly open shutoff valve on inlet
13. Slowly open shutoff valve on outlet

10.2.3. Replace ball valve
1. Close shutoff valve on inlet
2. Release pressure on outlet side (e.g. through water tap)
3. Close shutoff valve on outlet
4. Unscrew discharge connection
5. Remove ball valve
6. Screw in new ball valve
7. Screw in discharge connection
8. Slowly open shutoff valve on inlet
9. Slowly open shutoff valve on outlet

11. Disposal
- Housing and filter bowl made of ductile cast iron (EN-GJS-400-15), coated with PA (polyamide)
- Inner parts made of stainless steel, red bronze, brass and plastic
- Fine filter made of stainless steel
- Observe the local requirements regarding correct waste recycling/disposal!

12. Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too little or no water pressure</td>
<td>Shutoff valves upstream or downstream</td>
<td>Open the shutoff valves fully</td>
</tr>
<tr>
<td></td>
<td>from filter not fully open</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Filter mesh dirty</td>
<td>Reverse rinsing</td>
</tr>
<tr>
<td></td>
<td>Filter is not fitted in flow direction</td>
<td>Fit filter in flow direction</td>
</tr>
<tr>
<td>Increased differential pressure</td>
<td>Reverse rinsing interval is exceeded</td>
<td>Reverse rinsing</td>
</tr>
<tr>
<td>between inlet and outlet pressure gauge</td>
<td>High degree of dirt in the water</td>
<td>Decrease reverse rinsing interval</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Replace filter sieve</td>
</tr>
</tbody>
</table>

13. Flow Diagram

* 2 filters parallel

Honeywell GmbH
### 14. Spare Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Dimension Part No.</th>
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<tbody>
<tr>
<td>1</td>
<td>Filter insert complete</td>
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<tr>
<td></td>
<td>Filter mesh 100 µm</td>
<td>DN 65 AF78TS-065A</td>
</tr>
<tr>
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<td>DN 80 AF78TS-080A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DN 100 AF78TS-100A</td>
</tr>
<tr>
<td></td>
<td>Filter mesh 50 µm</td>
<td>DN 65 AF78TS-065C</td>
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<tr>
<td></td>
<td></td>
<td>DN 80 AF78TS-080C</td>
</tr>
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<td></td>
<td></td>
<td>DN 100 AF78TS-100C</td>
</tr>
<tr>
<td></td>
<td>Filter mesh 200 µm</td>
<td>DN 65 AF78TS-065D</td>
</tr>
<tr>
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<td></td>
<td>DN 80 AF78TS-080D</td>
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<td>DN 100 AF78TS-100D</td>
</tr>
<tr>
<td>2</td>
<td>Replacement sieve</td>
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<tr>
<td></td>
<td>Filter mesh 100 µm</td>
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<tr>
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<td>DN 80 ES78TS-080A</td>
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<td>Filter mesh 50 µm</td>
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<td>Filter mesh 500 µm</td>
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<td>DN 100 ES78TS-100F</td>
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<td>3</td>
<td>Pressure gauge</td>
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<td>0 - 16 bar, G1/4&quot;</td>
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<tr>
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<td>0 - 16 bar, G1/4&quot; with memory</td>
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<td>indicator</td>
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</tbody>
</table>

### 15. Accessories

- **Z11AS** Automatic reverse rinsing actuator
  - For automatic reverse rinsing of the filter at presettable intervals
- **DDS76** Differential pressure switch
- **D15S** Diaphragm-actuated pressure reducing valve with patented cartridge solution
  - Housing made of ductile cast iron (EN-GJS-400-15 EN1563), coated with PA (polyamide)
  - Available in sizes DN 65 - 100
- **RV283P** Check valve
  - Grey cast iron housing, coated with PA (polyamide) inside and outside. DIN/DVGW tested in compulsory test sizes DN 65, DN 80 and DN 100