How to use and install

bfs battery filling system

1. General remarks
   Before any of the bfs products (watering plugs, floats, 6 and 10mm hoses, hose clamps, crosses and t-pieces, filters, flow indicators and quick disconnectors) are assembled and used on motive or standby battery cells, please make sure that the batteries and all bfs parts are free of any dust and dirt particles.

2. Floats
   The bfs company offers quite a large variety of float sizes. According to the individual cell design, that is cell cover opening, height of separator, moss shield yes or no, depth of vent well and the desired height of electrolyte, the right float height has to be selected. It is quite important to find enough space between pole bridges, moss shield and vent well. Only if the right float size has been chosen will the bfs watering system work to all expectations. At least 5 mm, 3/16 of an inch space should be provided between the lower end of the float and the high end of the separator.

   ![Diagram of float sizes](image)

   **float No.** 072612 072214 072220 072224 072229 072234 072239 072244 072249 072259 071441
   **T1 / T2** (mm)
   push-in plug III 42/31 41/29 47/34 51/39 56/42 61/46 66/50 71/53 76/57 86/68 68/40
   bayonet/clip plug III --- 27/14 33/23 37/26 42/30 47/34 52/38 57/42 62/45 72/53 54/26
   threaded plug III --- 30/17 36/26 40/29 45/33 50/37 55/41 60/45 65/48 75/56 57/29

   **float No.** 071926 071923 071933 071942
   **T1 / T2** (mm)
   push-in plug III 54/38 51/35 60/44 69/49
   quarter turn plug III 39/24 37/19 46/30 55/35
   threaded plug III 43/27 40/22 49/33 58/38

   **float No.** 072220 072224 072229 072234 072239 072244 072249 071432 071441
   **T1 / T2** (mm)
   push-in plug IV 45/32 49/37 54/40 59/44 64/48 69/51 74/57 57/33 66/39 51/35 58/42 67/46
   bayonet/clip plug IV 44/31 48/38 53/42 58/46 63/50 68/52 73/56 56/32 65/37 50/37 57/42 66/48
   threaded plug IV 45/32 49/39 54/43 59/47 64/51 69/53 74/57 57/33 66/38 51/38 58/43 67/49

   This table includes only an extract of the available floats. The complete table you will find on our web site under http://www.bfsgmbh.de/en/service/technicalinfo.html

   When assembling float and plug, watch out for the loud “click” at the very moment of pushing float to float stem.
3. **Plumbing**

bfs can supply plumbing suggestions depending on number of cells per battery. When connecting hoses with either plugs, crossings or t-pieces, make sure to use the special bfs hose clamps. They secure a tight fit not allowing any leaks to occur later on.

Sample for the plumbing of a 24 volt

<table>
<thead>
<tr>
<th>Quant.</th>
<th>Description</th>
<th>Part No.</th>
<th>Quant.</th>
<th>Description</th>
<th>Part No.</th>
</tr>
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<td>12</td>
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<td>2</td>
<td>end piece</td>
<td>08END6</td>
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<td>12</td>
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<td>07........</td>
<td>1</td>
<td>connection female</td>
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<td>1</td>
<td>t-piece</td>
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<td>1</td>
<td>connection male</td>
<td>09KUV1</td>
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<td>hose NW6</td>
<td>08SCH6</td>
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<td>dust cap</td>
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<td>24</td>
<td>hose clamp NW6</td>
<td>08KLE6</td>
<td>1</td>
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<tr>
<td>7</td>
<td>hose clamp NW10</td>
<td>08KLE1</td>
<td></td>
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</tbody>
</table>

*) also available are bayonet and different threaded plugs III

4. **Topping up**

To ensure a fault free operation of the bfs watering system, we highly recommend to install the bfs fine filter directly on the battery, a filter of 100 micron, to capture all remaining water impurities. Waterpressure can be up to 3.8bar – 53psi, but should not be lower than 0.2bar – 3.0psi, the optimum range is from 0,3bar – 4psi to 1,8bar – 25psi.

**It is recommended to water the batteries toward the end of the charging time.**

*Never fill distilled water in a battery before it has been charged.*

The topping up of battery water should only be done if needed. If you water too often there is a danger of creeping overfill the battery cells.

5. **Cleaning**

Only use plain water when cleaning any of the bfs products. Do not use detergents.