Automatic HDF Series 2 Disc Filters

Automatic self-cleaning disc filtration equipment with 2" valves and high density polyethylene manifolds.
Max. Flow: 845 gpm (192 m³/h)

Applications
❖ Surface and well waters containing both organic (algae) and inorganic materials.
  - Rivers, reservoirs, canals and waste water
❖ Well water containing light sand (<3 PPM) and other contaminants.

Advantages
❖ Rain Bird HDF system’s helical action provides efficient cleaning.
❖ Maximum filtering surface (231 in² / 1492 cm²)
❖ Manufactured from engineered plastics to resist rust and corrosion from chemicals and water.
❖ All units are factory tested prior to shipment.
❖ Units are pre-assembled for easy installation.
❖ Disc elements provide depth filtration - not just surface filtration.
❖ Control Unit functions on pressure differential or time.
❖ Manual backflush cycle can be initiated from the controller.
❖ Plastic backflush valves are lightweight and corrosion resistant.
❖ Low maintenance.
❖ Compact design fits in tight spaces.
❖ Filtration disc versatility (filtration grade can be easily changed).
  - Standard filtration options:
    - 100 micron (150 mesh)
    - 130 micron (120 mesh)
    - 200 micron (75 mesh)
  - Custom filtration options (available by special request):
    - 400 micron (40 mesh)
    - 50 micron
    - 20 micron

How It Works
Rain Bird HDF Series 2 systems backwash one station at a time while the remaining elements continue filtering.

Filtration Stage: As water goes through the discs, particles are projected away due to the cyclone effect, reducing the backflushing frequency.

Backflushing Stage: Water is projected through the discs, expelling the retained particles and evacuating them through the drainage manifold. The rest of the filters battery continue filtering.

The filtration process restarts when the discs recompress. The backflush process is controlled by the Rain Bird Control Unit.
HOW TO CHOOSE RAIN BIRD HDF SERIES EQUIPMENT

1. Determine the required filtration grade (micron).
2. Establish the quality of the water.
3. Calculate according to the following equation, the numbers of filters required with the selected series.

Number of filters = \(\frac{\text{Flow to filter in the installation}}{\text{Max. Flow per filter}}\)

**Material**

- **Manifolds**: High Density Polyethylene
- **Housing**: Polyamide reinforced with fiberglass
- **Filtering element**: PP grooved discs
- **Sealing element**: Nitrile rubber (NBR)

**Filtration**

Maximum flow per 2" filter

<table>
<thead>
<tr>
<th>QUALITY OF WATER</th>
<th>micron mesh</th>
<th>400-200</th>
<th>40-75</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOOD</td>
<td>gpm/24</td>
<td>106</td>
<td>24</td>
<td>106</td>
</tr>
<tr>
<td>AVERAGE</td>
<td>gpm/24</td>
<td>106</td>
<td>24</td>
<td>88</td>
</tr>
<tr>
<td>POOR</td>
<td>gpm/24</td>
<td>97</td>
<td>24</td>
<td>79</td>
</tr>
<tr>
<td>VERY POOR</td>
<td>gpm/18</td>
<td>79</td>
<td>18</td>
<td>53</td>
</tr>
</tbody>
</table>

**Backflushing**

- **Minimum backflushing pressure per 2" filter**
  - 400-200-130 micron: 40 psi
  - 100 micron: 50 psi
- **Minimum backflushing flow per 2" filter**
  - 400-200-130 micron: 2.6 bar
  - 100 micron: 3.5 bar

**HDF SERIES 2 HEAD LOSS**

<table>
<thead>
<tr>
<th>MODELS</th>
<th>FLOW (ppm)</th>
<th>100 micron</th>
</tr>
</thead>
<tbody>
<tr>
<td>130 micron</td>
<td></td>
<td></td>
</tr>
<tr>
<td>400-200-130 micron</td>
<td>400-200</td>
<td></td>
</tr>
<tr>
<td>100 micron</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-75-120 mesh</td>
<td>40-75</td>
<td></td>
</tr>
<tr>
<td>100-150 mesh</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

**Options**

- Drainage manifolds included - Grooved connection.
- Consult factory for other configurations.
- Rain Bird reserves the right to change the characteristics of these products without prior notice.

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**Model numbers follow the logic described below:**

- **N. OF FILTERS**
  - 2" FILTER
  - 3X2/4G
  - 4" HDPE MANIFOLD

**Manifold Connection**

- **GROOVED**

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