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1. Introduction

Thank you for choosing a **Hankscraft Runxin Automatic Ceramic Backwash Pre-Filter**. These pre-filters are designed to remove sediment down to 50 microns and can improve backwash cleaning rates up to 30%. They allow particles to be filtered more efficiently due to their innovative top-mounted configuration. Hankscraft Runxin Automatic Ceramic Backwash Pre-Filters also include a pressure drop check valve and long-life filter that does not require disc core replacement, as well as inlet, outlet, and drain connectors that can rotate 360° to accommodate difficult installs.

2. Product Features & Applications

Automatic Ceramic Disc Backwash Pre-Filters from Hankscraft Runxin are ideal for residential applications such as floor heating systems, water heaters, washing machines, well water systems, and residential irrigation systems.

- Top-mounted filter for increased efficiency
- Leak protection function to stop water flow in the event of a pipe burst
- Check valve located in the outlet to avoid backflow
- Inlet and outlet can be rotated 360°
- LED lamp
- Ability to connect to the external Hankscraft Runxin leak sensor for added leak protection
3. Product Dimensions and Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>RL-Q01</td>
<td>4.91&quot;</td>
<td>11.54&quot;</td>
<td>3.77&quot;</td>
<td>3.62&quot;</td>
<td>2.97&quot;</td>
<td>5.04&quot;</td>
<td>4.65&quot;</td>
<td>1.5&quot;</td>
<td>5.24&quot;</td>
</tr>
<tr>
<td>RL-Q02</td>
<td>5.52&quot;</td>
<td>13.92&quot;</td>
<td>4.63&quot;</td>
<td>4.51&quot;</td>
<td>4.5&quot;</td>
<td>5.94&quot;</td>
<td>5.12&quot;</td>
<td>1.92&quot;</td>
<td>7.11&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Nominal Size</th>
<th>Rated Water Flow m³/h</th>
<th>Rated Treated Water Quantity m³</th>
<th>Filtration Precision (Microns)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RL-Q01</td>
<td>DN20</td>
<td>1.5</td>
<td>15</td>
<td>50</td>
</tr>
<tr>
<td>RL-Q02</td>
<td>DN25</td>
<td>2.5</td>
<td>25</td>
<td>50</td>
</tr>
</tbody>
</table>
4. Pre-Installation Checklist

**IMPORTANT NOTICE**

Read through the instructions thoroughly and obtain all materials and tools before proceeding with the installation. Be sure to follow all applicable national, state, county and local plumbing codes and regulations.

All plumbing and electrical work should be performed by an accredited professional to ensure all local, state, and municipal guidelines are met.

During cold weather it is recommended that the installer warm the valve to room temperature before operating.

**Required Operating Conditions**

<table>
<thead>
<tr>
<th>Working Conditions</th>
<th>Working Pressure</th>
<th>14 psi ~ 87 psi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Temperature</td>
<td>41 °F ~ 122 °F</td>
<td></td>
</tr>
</tbody>
</table>

| Working Environment         | Environment Temperature | 41 °F ~ 122 °F |
|----------------------------|--------------------------|
| Relative Humidity           | ≤90%                     |
| Power Source                | 100-240VAC / 50-60Hz     |

<table>
<thead>
<tr>
<th>Inlet Water Quality</th>
<th>Turbidity</th>
<th>&lt;2FTU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardness</td>
<td></td>
<td>20 grains per gallon</td>
</tr>
<tr>
<td>Chlorine</td>
<td></td>
<td>&lt;0.1ppm</td>
</tr>
<tr>
<td>Iron^{2+}</td>
<td></td>
<td>&lt;0.3ppm</td>
</tr>
</tbody>
</table>

**CAUTION**

Do not exceed 87 psi water pressure.
Do not exceed 50° C / 122° F water temperature.
Do not subject unit to freezing conditions.

Failure to use this product within the described conditions may void the warranty.
Required Tools

Electronic Hand Drill (Φ6 masonry drill and tile drill)
Cross Screwdriver
Hammer
Pipeline Clamps
Thread Seal Tape

- Installation conditions should conform to the requirements of the product work environment
- Unit should be installed after the water meter, but in front of other equipment
- Unit should stay away from pooled water and should not be exposed to rain or sunlight
- If pipeline pressure changes suddenly, a regulator valve must be installed
- Installation position of drain should be lower than product’s position
- Distance between installation location and power socket should be shorter than power line
- If you have any questions, please contact us at 608.524.9465
5. Pre-Filter Installation

1. Insert expansion bolt
2. Point at the fixed board
3. Use cross screwdriver tighten the bolt

Open inlet valve to check if there is any leakage

1. Insert the product to the fixed board
2. Connect inlet and outlet
3. Distributing pipeline properly
6. Display & Functions

a. Display

   ![Figure 1A](image1) ![Figure 1B](image2) ![Figure 1C](image3)

   i. When in Service mode, Figures 1A, 1B, and 1C display in rotation, changing to the next every 10 seconds, and so on.

   ii. Figure 1A displays remaining treatment capacity
       (Ex: L02.0: residual water 02.0m³. L00.0: start next backwash at 2am)

   iii. Figure 1B displays the current flow rate
        (15: the current flow rate is 15L/min)

   iv. Figure 1C displays the current time *(displayed in military time)*

b. Lock and Unlock

   i. Interface will lock after one minute of inactivity. Light in bottom right of the display will flash when the keypad is locked.

   ii. To unlock, press 🅡 and 🅣 at the same time and hold for 5 seconds.
c. Manual Backwash
   i. Press 🔄 to enter Backwash mode
   ii. Backwash time will count down from 20 seconds
   iii. Once finished, the pre-filter will enter into Service mode automatically

![Backwash Timer]

![Backwash Timer Counting Down]


d. Manual Turn Off (to perform maintenance on filter or other appliance)
   i. Press ⏸️ for 5 seconds to cut off the water supply
   ii. Press ⏸️ for 5 seconds to resume the water supply

![Manual Turn Off]

![Manual Turn Off Resuming Water Supply]
7. Programming

a. Set Time of Day

   iii. Press and hold ▶

   iv. Press ▶ again, the first 2 digits on the display should start flashing

   v. Press ➤ to set the hour

   vi. Press ▶ again, the last 2 digits on the display should start flashing

   vii. Press ➤ to set the minutes

   viii. Press ◄ to confirm
b. Set Water Capacity

  i. Press 🔄

  ii. Press 🔄. A letter “L” should appear on the display

  iii. Press 🔄 again. The last three digits should appear and begin flashing

  iv. Press 🔄 to select the desired capacity

  v. Press 🔄 to confirm
c. Set Closing Time of Continuous Water Supply

i. Press \[ \text{ } \]

ii. Press \[ \text{ } \] until the number “2-“ appears on the display

iii. Press \[ \text{ } \] again. The last two digits should appear and begin flashing

iv. Press \[ \text{ } \] to select the desired minutes (0-90 min. A setting of 0 deactivates this function)

v. Press \[ \text{ } \] to confirm

vi. Once in the -OFF- position, hold \[ \text{ } \] for 5 seconds to return to Service mode
d. Set Peak Flow Rate

i. Press \[ \mathbf{\text{A}} \]

ii. Press \[ \mathbf{\text{A}} \] until the number “3-“ appears on the display

iii. Press \[ \mathbf{\text{A}} \] again. The last two digits should appear and begin flashing

iv. Press \[ \mathbf{\text{A}} \] to select the peak flow rate (10 L/min - 90 L/min)

v. Press \[ \mathbf{\text{A}} \] to confirm

vi. Once the current flow rate is higher than the setting rate, the water supply will be turned off.
e. Set Maximum Interval Regeneration Days

i. Press \( \text{ } \)

ii. Press \( \text{ } \) until the letter “H-” appears on the display

iii. Press \( \) again. The last two digits should appear and begin flashing

iv. Press \( \) to select the maximum interval regeneration days (10-15 days)

v. Press \( \) to confirm

vi. If the system has not regenerated before the specified numbers of days, it will schedule a backwash cycle for the following day at the regularly scheduled time.

In this example, the unit will start the next backwash process at the scheduled time (2 a.m.) after 15 days.
f. LED Lamp

i. Touch any button, the LED lamp will turn on for 5 minutes

ii. After 5 minutes of inactivity, the light will turn off.

7. Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Correction</th>
</tr>
</thead>
</table>
| Error -E1-   | 1. Motor is damaged  
2. Wire of motor with controller is loose  
3. Locating board damaged  
4. Wire of locating board with controller is loose  
5. Small gear is damaged | 1. Replace motor  
2. Reconnect wire of motor  
3. Replace locating board  
4. Reconnect wire of locating board  
5. Replace small gear |
| Error -E2-   | 1. Locating board damaged  
2. Display board damaged | 1. Replace locating board  
2. Replace display board |
| Error -E3-   | 1. Display board damaged | 1. Replace display board |
| Error -E4-   | 1. Display board damaged | 1. Replace display board |
| Current Flow Rate “0” | 1. Wire of water meter is disconnected  
2. Wire of water meter damaged  
3. Turbine gets stuck  
4. Other causes | 1. Reconnect wire of water meter  
2. Replace wire of water meter  
3. Clean turbine  
4. Replace turbine |
| Low or No Outlet Flow Rate | 1. Impurities stuck in filter cartridge  
2. Clean filter net |
| Ineffective Backwash | 1. Inlet water pressure is low  
2. Fixed seat of filter cartridge gets stuck | 1. Install booster pump or increase flow  
2. Disassemble and clean the filter cartridge |
| Error -OFF-  | 1. Setting peak flow rate is too small  
2. Setting closing time for continuous water supplying is too short  
3. Faucet was left on or a pipeline burst | 1. Reset peak flow rate, according to the flow rate  
2. Reset closing time for continuous water supplying according to water usage  
3. Check and repair the pipeline |
8. Maintenance

It is recommended to perform maintenance on the pre-filter at least once per year.
9. Replacement Parts

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pre-Filter</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Fixed Seat</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Screw Cross ST3 0.9 x 2.5</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Expansion Screw, OD Φ6</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>“O” Ring</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Soft Pipeline 1.5M</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Clamp</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Connector</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>3-Way Connector</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>Transformer, DC 12V, Waterproof</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>Leak Detection Sensor (Optional)</td>
<td>1</td>
</tr>
</tbody>
</table>
10. Warranty

LIMITED WARRANTY

As described herein, Hankscraft Runxin, LLC ("Hankscraft Runxin"), warrants its products are free from defects in material and workmanship only, when properly installed, operated, and maintained. This warranty is subject to the exceptions herein.

Hankscraft Runxin warrants to the original owner that the items listed below, excluding but not limited to wear parts like O-rings, gaskets and seals, will be free from defects in materials and workmanship for the period of time specified below from the original purchase date.

<table>
<thead>
<tr>
<th>Product or Component</th>
<th>Warranty Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Valves</td>
<td>Five (5) Years</td>
</tr>
<tr>
<td>Storage Tanks</td>
<td>Five (5) Years</td>
</tr>
<tr>
<td>Media Tanks</td>
<td>Ten (10) Years</td>
</tr>
<tr>
<td>Any Other Components</td>
<td>One (1) Year</td>
</tr>
<tr>
<td>Ceramic Discs for Rotary Valves</td>
<td>Lifetime</td>
</tr>
<tr>
<td>RO and UF Filter Systems</td>
<td>One (1) Year</td>
</tr>
</tbody>
</table>

Media/resin is not warranted due to water supply quality differences.

Any parts used for replacement are warrantied for the remainder of the original warranty period applicable to the part from the date of manufacture so long as the parts are installed by a Hankscraft Runxin factory trained and authorized installer.

Hankscraft Runxin's obligation by this Limited Warranty, at its option, is to repair or replace any warrantied product only. Labor for repair or replacement is not included as part of this warranty. Prior to returning the product to Hankscraft Runxin, a valid return materials authorization number must be obtained from Hankscraft Runxin. Any product returned to Hankscraft Runxin without a valid return authorization number will be rejected. Any product found to be defective will, at the sole discretion of Hankscraft Runxin, be repaired or replaced. Hankscraft Runxin is not responsible for shipping cost to the repair facility. This section lists the sole remedies for any valid warranty claim.

This warranty does not apply to defects reported to Hankscraft Runxin outside of the warranty period.

This warranty does not apply to defects caused by installing, operating, servicing, modifying, repairing or maintaining (or lack of maintaining) the product outside of Hankscraft Runxin’s recommendations. Filters, membrane elements and flow restrictors that become fouled or plugged due to excessive turbidity, dissolved solids, or microorganisms are not covered by this warranty. This warranty does not apply to defects caused by damage during shipment, neglect, misuse, modification, accident, noncompliance with local codes and ordinances, hot water, frozen water, sediment, corrosive liquids, gases, chemicals, bacteria, animals, sand, salt, flood, wind, fire, outdoor installations where the product is not reasonably covered, pneumatic use, natural disasters, war, terrorism or acts of God. No other person is authorized to make any other warranty on behalf of Hankscraft Runxin either during or after the applicable warranty period.
Hankscraft Runxin assumes no liability for determining the proper products and equipment or installation necessary to meet the requirements of the user of the product, and Hankscraft Runxin does not authorize others to assume such liability on its behalf.

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11. Contact Information

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hrh2o.com