Filters for Steam Sterilization Systems

Balston Steam Filters:
The 23R Steam Filter contains a patented Microfibre® Filter Cartridge in a rugged stainless steel housing designed especially for steam service. Included as standard items with the 23R Steam Filter are a stainless steel condensate drain and a high quality bleeder valve. The unit, as received, is complete and ready for installation.

Product Features:
• Eliminate instrument staining, spotting, and rusting
• Reduced contamination of sterilizer interiors
• Reduced maintenance

Clean In Place (CIP) Steam Filtration  Room Humidification  Steam Filtration to Sterilizers and Autoclaves
Steam Filters
for Steam Sterilization Systems

How the Balston Steam Filter Works

The 23/75R Steam Filter contains a patented Microfibre® Filter Cartridge in a rugged stainless steel housing designed especially for steam service. Included as standard items with the 23/75R Steam Filter are a stainless steel condensate drain and a high quality bleeder valve. The unit, as received, is complete and ready for installation.

Steam enters the housing and moves into an expansion chamber, where much of the condensate is removed from the steam by the abrupt change in flow direction and velocity. The steam then flows upward in the housing, through the Grade R Microfibre filter cartridge, and downward to the exit port. The water draining from the filter cartridges and expansion chamber is removed from the housing by the automatic condensate drain.

The Grade R Microfibre filter cartridge, the heart of the 23/75R Steam Filter, combines sturdy construction with remarkably efficient filtration of solid particles and liquid droplets. The cartridge is rated at 98+% at 0.1 micron. Solid particles remain trapped in the depth of the filter cartridge, and liquid water drips from the filter cartridge to the automatic drain. The Microfibre filter cartridge is constructed from chemically inert borosilicate glass fibers and fluorocarbon resin binder. The filter cartridge is completely free of impurities which could extract into the steam.

The Balston 23/75R Steam Filter is recommended for use on 3/4" and 1" steam lines (line sizes for the vast majority of steam sterilization systems). Please consult our technical support department for recommendations on filters for larger steam lines. Use only products designed specifically for steam filtration in steam installations.
Steam Filters
for Steam Sterilization Systems

Principal Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Port Size</th>
<th>Filter Cartridge Designation</th>
<th>Materials of Construction</th>
<th>Internal</th>
<th>Seals</th>
<th>Maximum Steam Pressure</th>
<th>Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>23/75R</td>
<td>1&quot; NPT (1)</td>
<td>200-75-R (2)</td>
<td>304SS</td>
<td>304SS</td>
<td>EPR</td>
<td>80 psig</td>
<td>25 lbs. (11 kg)</td>
</tr>
</tbody>
</table>

For assistance, call toll-free at 1-800-343-4048 8AM to 5PM Eastern Time

<table>
<thead>
<tr>
<th>Model</th>
<th>Automatic Drain</th>
<th>No. Filter Cartridges Required</th>
<th>Replacement Filter Cartridges (box of 15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>23/75R</td>
<td>Included</td>
<td>1</td>
<td>200-75-R</td>
</tr>
</tbody>
</table>

Notes:
1. The 1" port size can be installed in a 3/4" line by using the appropriate reducing bushings.
2. Each filter is supplied with one filter cartridge installed. Replacement filter cartridges are sold in boxes of 15. To order, use complete size and grade designation, for example 200-75-R.

Typical Sterilizer
Recommended Installation
Steam Filters
for Steam Sterilization Systems

Water Filters for Washer Sterilizers

Unique, graded efficiency design provides exceptionally long filter life

Reduces costly sterilizer maintenance

Easy to change filter cartridge - no tools required

Safe, inert materials of construction

Filtering Water with the Balston LP-20 Water Filter

Dirt and rust in the hot or cold water supply to washer-sterilizers leave deposits and stains on valuable instruments and sterilizers. In most hospitals, the cleanliness of the water depends upon the efficiency of the municipal water treatment system. Excessive dirt in the water can be an intermittent problem caused by a drought, a fire in the neighborhood, water main problems, or scores of other random events well beyond the control of the hospital engineers. This unpredictable, expensive problem can be permanently solved by installing an inexpensive and easily maintained Balston LP Grade 20 water filter on the water line to the washer-sterilizer. On any washer-sterilizer, installing a Balston 23/75R Steam Filter on the steam line and a Balston LP Grade 20 Water Filter on the water line guarantees freedom from the outside contaminants.

How the cartridge works

The LP Grade 20 liquid filter cartridge is constructed entirely from polypropylene, rendering it safe and inert for use in hospital water supplies. The polypropylene construction makes this filter acceptable for use in cold and hot (to 180°F/82°C) water supplies. The filter cartridge consists of a polypropylene external support structure with EPR seals and an internal filtering element. The internal filter is made of self-bonded polypropylene fibers which are graded from coarse to fine in the direction of flow (inside-to-outside). Since the coarse inner layer acts as a prefilter for the finer outer layer, the life of this cartridge is exceptionally long. For example: Approximately 50,000 gallons of water can be filtered by a single 20" liquid filter cartridge.

Models 53/50 and 53/95

These models are constructed entirely of polypropylene and designed for a single filter cartridge in the 10" and 20" lengths. The Model 53 housings are used for cold water service only.
Steam Filters

for Steam Sterilization Systems

Water Filters for Washer Sterilizers

### Principal Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Port Size</th>
<th>Materials of Construction</th>
<th>Seals</th>
<th>Maximum Temperature</th>
<th>Maximum Pressure</th>
<th>Maximum Diff. Press. (1)</th>
<th>Shipping Weight</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLD WATER FILTER 53/50</td>
<td>3/4&quot; NPT</td>
<td>Polypro. Polypro. ——</td>
<td>EPR</td>
<td>125°F (52°C)</td>
<td>125 psig</td>
<td>60 psig</td>
<td>4 lbs (2 kg)</td>
<td>5&quot;D x 12&quot;L (13cm x 31cm)</td>
</tr>
<tr>
<td>COLD WATER FILTER 53/95</td>
<td>3/4&quot; NPT</td>
<td>Polypro. Polypro. ——</td>
<td>EPR</td>
<td>125°F (52°C)</td>
<td>125 psig</td>
<td>60 psig</td>
<td>6 lbs (3 kg)</td>
<td>5&quot;D x 22&quot;L (13cm x 56cm)</td>
</tr>
</tbody>
</table>

### Filter Cartridges

For assistance, call toll-free at 1-800-343-4048 8AM to 5PM Eastern Time

<table>
<thead>
<tr>
<th>Model</th>
<th>No. Filter Cartridges Required (2)</th>
<th>Filter Cartridge Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>53/50</td>
<td>1</td>
<td>LP-200-50-20</td>
</tr>
<tr>
<td>53/95</td>
<td>1</td>
<td>LP-200-95-20</td>
</tr>
</tbody>
</table>

Notes:
1. LP Grade 20 Filter Cartridge. Inside-to-outside flow.
2. Filter Cartridge not included with housing and must be ordered separately.
Steam Filters
for Steam Sterilization Systems

EtO Filters

Long filter life
Easy to change filter cartridge
Eliminate unexpected downtime due to clogged components
Stainless steel and PTFE provide safe, trouble-free operation

Model A34

The cleanliness of Ethylene Oxide (EtO) typically varies from supplier to supplier and from delivery to delivery. In addition, EtO inherently polymerizes, causing valves to clog and regulators to malfunction. Filtering EtO at the point of use assures the delivery of clean EtO to the sterilizers, significantly improves sterilizer performance, and reduces sterilizer maintenance.

Balston EtO Filters, specifically designed for ethylene oxide service, are constructed of stainless steel with PTFE seals. The ET Grade 30 filter cartridge is inexpensive and simple to replace when necessary.

The model A34 is sized for most hospital sterilizer applications.

### Principal Specifications

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<thead>
<tr>
<th>Model</th>
<th>Port Size</th>
<th>Filter Cartridge Designation</th>
<th>Materials of Construction</th>
<th>Seals</th>
<th>Maximum Steam Pressure</th>
<th>Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>A34</td>
<td>1/4&quot; NPT</td>
<td>ET-100-12-30 (1)</td>
<td>316SS</td>
<td>PTFE (2)</td>
<td>250 psig</td>
<td>4 lbs. (2 kg)</td>
</tr>
</tbody>
</table>

### Ordering Information

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<table>
<thead>
<tr>
<th>Model</th>
<th>Filter Cartridge Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A34</td>
<td>ET-100-12-30</td>
</tr>
</tbody>
</table>

Notes:
1. Each filter is supplied with one filter cartridge installed.
2. Each filter is supplied with one spare PTFE seal set.
Offer of Sale

The items described in this document are hereby offered for sale at prices to be established by Parker Hannifin Corporation, its subsidiaries and its authorized distributors. This offer and its acceptance by any customer ("Buyer") shall be governed by all of the following Terms and Conditions. Buyer’s order for any item described in its document, when communicated to Parker Hannifin Corporation, its subsidiary or an authorized distributor ("Seller") verbally or in writing, shall constitute acceptance of this offer.

1. Terms and Conditions of Sale: All descriptions, quotations, proposals, offers, acknowledgments, acceptances and sales of Seller’s products are subject to and shall be governed exclusively by the terms and conditions stated herein. Buyer’s acceptance of any offer to sell is limited to these terms and conditions. Any terms or conditions in addition to, or inconsistent with those stated herein, proposed by Buyer in any acceptance or an offer by Seller, are hereby objected to. No such additional, different or inconsistent terms and conditions shall become part of the contract between Buyer and Seller unless expressly accepted in writing by Seller. Seller’s acceptance of any offer to purchase by Buyer is expressly conditional upon Buyer’s assent to all the terms and conditions stated herein, including any terms in addition to, or inconsistent with those contained in Buyer’s offer. Acceptance of Seller’s products shall in all events constitute such assent.

2. Payment: Payment shall be made by Buyer within 30 days from the date of shipment. Amounts not timely paid shall bear interest at the maximum rate permitted by law for each month or portion thereof that the Buyer is late making payment. Any claims by Buyer for damages or shortages in a shipment shall be waived unless Seller receives notice thereof within 30 days after Buyer’s receipt of the shipment.

3. Delivery: Unless otherwise provided on the face hereof, delivery shall be made F.O.B. Seller’s plant. Regardless of the method of delivery, however, risk of loss shall pass to Buyer upon Seller’s delivery to a carrier. Any delivery dates shown are approximate only and Seller shall have no liability for any delays in delivery.

4. Warranty: Seller warrants that the items sold hereunder shall be free from defects in material or workmanship for a period of 12 months from date of shipment to Buyer. THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO ITEMS PROVIDED HEREUNDER. SELLER MAKES NO OTHER WARRANTY, GUARANTEE, OR REPRESENTATION OF ANY KIND WHATSOEVER. ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR PURPOSE, WHETHER EXPRESS, IMPLIED, OR ARISING BY OPERATION OF LAW, TRADE USAGE, OR COURSE OF DEALING ARE HEREBY DISCLAIMED. NOTWITHSTANDING THE FOREGOING, THERE ARE NO WARRANTIES WHATSOEVER ON ITEMS BUILT OR ACQUIRED WHOLLY OR PARTIALLY, TO BUYER’S DESIGNS OR SPECIFICATIONS.

5. Limitation of Remedy: SELLER’S LIABILITY ARISING FROM OR IN ANY WAY CONNECTED WITH THE ITEMS SOLD OR THIS CONTRACT SHALL BE LIMITED EXCLUSIVELY TO REPAIR OR REPLACEMENT OF ITEMS SOLD OR REFUND OF THE PURCHASE PRICE PAID BY BUYER, AT SELLER’S SOLE OPTION. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY KIND OR NATURE WHATSOEVER, INCLUDING BUT NOT LIMITED TO, LOSSES ARISING FROM ANY DAMAGE TO OTHER PROPERTY, WHETHER ALLEGED TO ARISE FROM BREACH OF CONTRACT, EXPRESS OR IMPLIED WARRANTY, OR IN TORT, INCLUDING WITHOUT LIMITATION, NEGLIGENCE, FAILURE TO WARN OR STRICT LIABILITY.

6. Changes, Reschedules and Cancellations: Buyer may request to modify the designs or specifications for the items sold hereunder as well as the quantities and delivery dates thereof, or may request to cancel all or part of this order, however, no such requested modification or cancellation shall become part of the contract between Buyer and Seller unless accepted by Seller in a written amendment to this agreement. Acceptance of any such requested modification or cancellation shall be at Seller’s discretion, and shall be upon such terms and conditions as Seller may require.

7. Special Tooling: A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns acquired to manufacture items sold pursuant to this contract. Such special tooling shall be and remain Seller’s property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the items sold hereunder, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding payment of any such tooling charge paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

8. Buyer’s Property: Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer’s property, may be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer placing an order for the items which are manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller’s possession or control.

9. Taxes: Unless otherwise indicated on the face hereof, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of the items sold hereunder. If any such taxes must be paid by Seller or if Seller is liable for the collection of such tax, the amount thereof shall be in addition to the amounts for the items sold. Buyer agrees to pay all such taxes or to reimburse Seller therefore upon receipt of its invoice. If Buyer claims exemption from any sales, use or other tax imposed by any taxing authority, Buyer shall save Seller harmless from and against any such tax, together with any interest or penalties thereon which may be assessed if the items are held to be taxable.

10. Indemnity For Infringement of Intellectual Property Rights: Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Part 10. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets (hereinafter ‘Intellectual Property Rights’). Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that an item sold pursuant to this contract infringes the Intellectual Property Rights of a third party. Seller’s obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If an item sold hereunder is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using said item, replace or modify said item so as to make it noninfringing, or offer to accept return of said item and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to items delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any item sold hereunder. The foregoing provisions of this Part 10 shall constitute Seller’s sole and exclusive liability and Buyer’s sole and exclusive remedy for infringement of Intellectual Property Rights.

If a claim is based on information provided by Buyer or if the design for an item delivered hereunder is specified in whole or in part by Buyer, Buyer shall defend and indemnify Seller for all costs, expenses or judgments resulting from any claim that such item infringes any patent, trademark, copyright, trade dress, trade secret or any similar right.

11. Force Majeure: Seller does not assume the risk of and shall not be liable for delay or failure to perform any of Seller’s obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter ‘Events of Force Majeure’). Events of Force Majeure shall include without limitation, accidents, acts of God, strikes or labor disputes, acts, laws, rules or regulations of any government or government agency, fires, floods, delays or failures in delivery of carriers or suppliers, shortages of materials and any other cause beyond Seller’s Control.

12. Entire Agreement/Governing Law: The terms and conditions set forth herein, together with any amendments, modifications and any different terms or conditions expressly accepted by Seller in writing, shall constitute the entire agreement concerning the items sold, and there are no oral or other representations or agreements which contain thereto. This Agreement shall be governed in all respects by the law of the State of Ohio. No action arising out of the terms of this agreement or this Agreement may be brought by either party more than two (2) years after the cause of action accrues.

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