Balston Filters for Sterilizers

Eliminate Stained Instruments by Controlling Steam Quality

Solve Instrument Staining and Wet Packs, Reduce Sterilizer Maintenance

Product Benefits:

Extensive hospital experience has shown that the Balston Steam Filter essentially eliminates instrument staining, spotting, and rusting caused by wet or dirty steam. Other benefits obtained by use of the Balston Steam Filter include:

- Reduction in wetting of sterilizer articles. Wrapped articles emerge from the sterilizer cycle drier as well as cleaner.
- Significant reduction in staining of sterilizer interiors. Expensive and time-consuming cleaning is greatly reduced or eliminated.
- Reduction in maintenance of sterilizer steam control valves, door seals, and other rubber materials in the sterilizer.

Sterilized with Balston Steam Filter

Sterilized without Balston Steam Filter

The Problems:

Dirty Steam

- Stained Instruments
- Wet packs
- Dirty sterilizers
- Malfunctioning steam valves

Dirty Water

- Deposits and stains on instruments
- Tarnishing and staining of sterilizer
- Increased sterilizer maintenance

The Solutions:

Balston Type 23R Steam Filter

- Completely removes rust and dirt from steam
- Reduces carrryover of boiler feedwater chemicals
- Helps to eliminate wet packs by removing excessive condensate in the steam

Balston LP-20 Water Filter

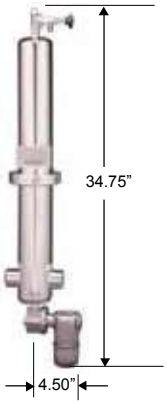
- Single stage filter removes all harmful solids from even the dirtiest water supplies
- Filter cartridge life more than three months
- Can be used on hot or cold water lines

Balston Steam Filters

Types 23/75R

Type 23R Steam Filter: What it is, How It Works

The Balston Type 23R Steam Filter contains a patented Microfibre® Filter Tube in a rugged stainless steel housing especially designed for steam service. Included as standard items with the Type 23R are a stainless steel condensate drain and high quality bleeder valve. The unit, as received, is complete , ready for installation. The filter is installed in the hospital steam line immediately upstream of the sterilizer control valve (refer to drawing below).



Type 23R

As shown in the cutaway drawing, steam enters the housing into an expansion chamber, where much of the condensate is knocked out of 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 Tube and then downward to the exit port. The Grade R Microfibre Filter Tube, rated at 98+% efficiency for 0.1 micron and larger particles, removes essentially all the suspended solid particles and the remaining water droplets. The water draining from the filter tube and the expansion chamber is automatically removed from the housing by the automatic condensate drain.

The Balston Grade R Microfibre Filter Tube, the heart of the Type 23R Filter, combines rugged construction with remarkably efficient filtration of solid particles and liquid droplets. Solid particles remain trapped in the depth of the filter tube, while liquid water drips from the filter tube to the automatic drain. The Microfibre Filter Tube is constructed from chemically inert borosilicate glass fibers and fluorocarbon resin binder. The filter tube is completely free of impurities which could extract into the steam.

Recommended Steam Filters

The Type 23/75R Steam Filter is recommended for use on 3/4" and 1" steam lines, the line sizes for the vast majority of hospital sterilizers. For recommendations on filters for larger steam lines, please consult the Parker Technical Support Department at 800-343-4048 or email at balstontechsupport@parker.com.

Ordering Information

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

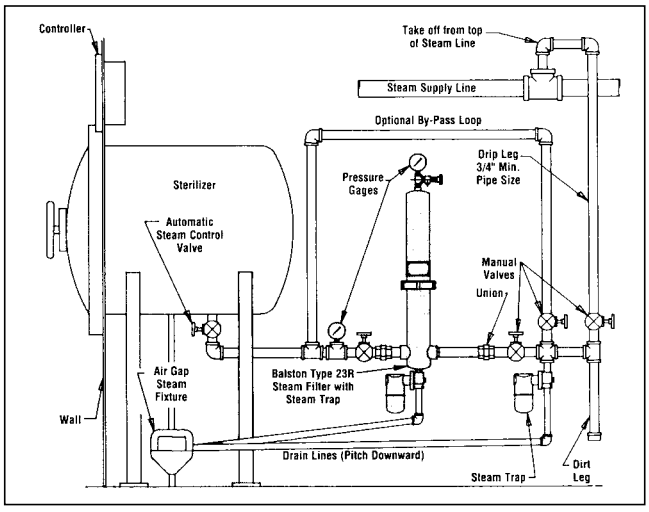
Steam Line Size	Filter
1/2", 3/4", 1"	Type 23/75R

Installation and Recommendations

The filter is shipped completely assembled, filter element installed, ready to tie into your steam line. The recommended installation drawing shows the recommended method for installing the Type 23R Filter. Inlet and outlet ports are 1" NPT for the Type 23/75R. Since the filter weighs only 16 pounds, it can easily be supported by the steam line. No mounting bracket is required.

The filter should be installed on the upstream (pressure) side of the sterilizer steam control valve, as close as possible, to minimize condensation and pipe scale downstream of the filter. It is good practice to insulate the Type 23R housing (up to the external compression ring) and the steam piping downstream of the filter to prevent condensation between the filter and the sterilizer.

Iron pipe should be replaced with non-corroding pipe (stainless steel) downstream of the filter to prevent additional contamination. Parker Hannifin recommends one Type 23R on each sterilizer steam line. Please consult a Parker application engineer if any other arrangement is being considered.



Changing Filter Tubes

Since the Type 23R is installed upstream of the sterilizer steam control valve, it is exposed to steam at full line pressure at all times, regardless of the sterilizer operating schedule. Therefore, the filter tube should be changed every six weeks, whether or not the sterilizer has been used frequently during that period. If the filter tube is allowed to remain in service considerably longer than six weeks, the resin binder in the tube may weaken and the tube will no longer filter at its initial efficiency. Filter tube life is based on steam pressure of 50 psig or less. Tube life will be shorter at higher pressures. A tag on which the date of each filter tube change may be written is attached to the Type 23R.

How to Change the Filter Tubes

Note: Service person must wear insulated gloves.

To change a filter tube, shut off the steam valve and vent the steam from the housing by opening the bleeder valve slowly. Loosen the external compression ring, using the spanner wrench supplied with each housing. Lift off the bowl of the filter. Unscrew the element retainer and remove it from the tie rod. Pull the used filter tube off the support core. Slide the new filter tube down on the support core and screw the element retainer onto the tie rod . Replace the bowl and tighten the external compression ring with the spanner. Close the bleeder valve. Approximately 5 minutes is required to change the filter tube.

Write the date of the filter tube change on the date tag attached to the housing.

Note: Each time a filter tube is changed, spread a light coat of lubricant on the rubber sealing ring and on the threads of the metal compression ring. A new seal, lubricant and date tag are included with each box of 15 replacement tubes.

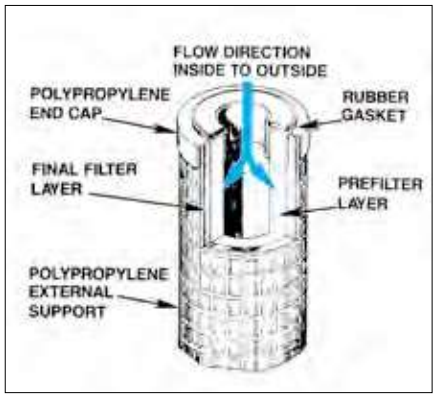
Balston Water Filters

LP-20, 53/50, 53/95

Filtering Water with the Balston LP-20 Filter

Dirt and rust in the hot or cold water supply to washer-sterilizers leave deposits and stains on valuable instruments and on sterilizer interiors. 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 on-again, off-again problem caused by 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 easily be solved, permanently, by installing an inexpensive and easily maintained Balston LP-20 water filter on the water feed to the washer-sterilizer. On any washer-sterilizer, the Balston Type 23R filter on the steam line plus an LP-20 filter on the water line guarantees freedom from outside contaminants.

The LP-20 Filter Cartridge - How it Works



The LP-20 Filter Cartridge is constructed entirely from inert, safe polypropylene. The thick filter wall is composed of self-bonded polypropylene filters, graded from coarse to fine in the direction of flow (inside-to-outside), with polypropylene end caps. Since the coarse inner fiber layer serves as a prefilter for the fine outer layer, the life of the filter cartridge is exceptionally long. Over 50,000 gallons of water can be filtered by a single 20" cartridge on even the dirtiest water supply. The all-polypropylene construction qualifies the LP-20 cartridge for use on hot water (up to 180°F) as well as cold water. Since the LP cartridges contain no glues, wetting agents, or other chemicals, they produce no extractables in water.

How to Select the Correct LP-20 Filter - Easily

Use the Type 53/95 or Type 53/50 polypropylene housing with the LP-20 filter cartridge. Simply match the water line size to the appropriate filter housing.

Please refer to page 4 for detailed information on filter housings.

Ordering Information - Recommended Filter Housings

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

With these recommendations, the expected life of an LP-20 cartridge will be 3 months or more.

Water Line Size	Recommended Filter Housing and Cartridge
3/4"	Type 53/95 with LP-200-95-20
1/2"	Type 53/50 with LP-200-50-20

Balston Water Filters

Specifications and Ordering Information

Type 53/50 and 53/95

These models are all-polypropylene, designed for a single filter cartridge in 10” and 20” lenghts. The Type 53 housings are used for cold water service only.

Type 53/50 Type 53/95

Installation and Recommendations

The filter housing for the LP-20 cartridge should be installed on the cold water line as close to the sterilizer inlet as possible. It is ideal to mount a pressure gauge on both sides of the filter housing to monitor the pressure drop across the filter cartridge. The filter cartridge should be replaced when the pressure drop across the housing, as read on the two pressure gauges when the water is flowing, exceeds 15 psi. Since the filter will withstand a pressure drop in excess of 60 psi, there is no danger in leaving the filter cartridge in line with higher than 15 psi pressure drop, but the sterilizer cycle time may be lengthened.

To change the filter cartridge, close the shutoff valves on either side of the filter housing and vent the pressure; when both pressure gauges read zero remove the filter bowl by hand. No tools are required. Allow about three minutes for the replacement.

Please note that for best results it is necessary to filter both the steam and the water supplies to a washer-sterilizer. Please refer to page 2 for information on specifying a steam filter.

Principal Specifications

Water Filter Shipping Wt (lbs.)	Port Size	Materials of Construction (NPT)	Head	Bowl	Internals	Seals	Max. Temp. (°F)	Max. Press (psig)	Max. Diff. Pres. (psig) (1)
53/50	3/4”	Polypro.	Polypro.	Polypro.	–	EPR	125	125	60
53/95	3/4”	Polypro.	Polypro.	Polypro.	–	EPR	125	125	60

Ordering Information - Recommended Filter Housings

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

Type	Filter Cartridge (2) Number Required	Box of 3	Box of 10
53/50	1	LP-3/200-50-20	LP-200-50-20
53/95	1	LP-3/200-95-20	LP-200-95-20

Notes:

1 Inside-out flow. LP Filter Cartridge.

2 Filter Cartridge not included with housing and must be ordered separately.