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# Safety Information

## Do's and Don'ts

- Do read and understand these instructions before installing or using the strainer.
- Do use Dixon® spare parts when replacing any components of the strainer.
- Do not attempt to service the strainer while under pressure.
- Do not place the strainer in an application where the service ratings are exceeded.
- Do not attempt to modify the strainer assembly as it may compromise the integrity of the assembly and will void all warranties.

## Safety Precautions When Installing Strainer

- Do relieve product line pressure before attempting to install strainer assembly.
- Do check the distance between the clamp ferrules to assure there is proper clearance for the strainer assembly.
- Do not install a damaged filter or strainer.
- Do not install strainer between damaged clamp ferrules.
- Do not install strainer between tubing that is significantly out of alignment.

## Safety Precautions When Strainer is in Operation

- Do monitor the strainer assembly for any signs of leaks.
- Do check all clamp assemblies often to ensure that they have not loosened from any excessive vibration.
- Do check the pressure on either side of the strainer to monitor for any possible blockages.
- Do not attempt to loosen any clamp assemblies while the strainer is in operation.
- Do not attempt to perform any type of service or adjustment to the strainer during operation.

## Safety Precautions When Strainer is in Operation

- Do drain piping run as much as possible.
- Do vent line to relieve any pressure.
- Do secure lifting equipment to strainer assembly if necessary.
- Do remove line clamps first before removing strainer body clamp.
- Do use caution and wear protective clothing if strainer has been used in applications using acids or other chemicals that may be harmful.

## Care of Stainless Steel

The stainless steel components in Dixon® Sanitary equipment are machined, welded, and assembled by skilled craftsmen using manufacturing methods that preserve the corrosion-resistant quality of the stainless steel. Retention of corrosion-resistant qualities under processing conditions requires regular attention to the precautions listed below. Examples of corrosion that can result from improper care are included below.

- Regularly check all electrical devices connected to the equipment for stray currents caused by improper grounding, damaged insulation, or other defects. Corrosion: Pitting often occurs when stray currents encounter moist stainless steel.
- Never leave rubber mats, fittings, wrenches, or other tools in contact with stainless steel. Corrosion: pitting or galvanic action. Objects retard complete drying, preventing air from reforming the protective oxide film. Galvanic corrosion occurs when two dissimilar metals touch when wet.
- Immediately rinse equipment after use with warm water until the rinse water is clear. Clean the equipment (COP or CIP) as soon as possible after rinsing. Corrosion: discoloration, deposits, and pitting. Product deposits often cause pitting beneath the particles.
- Use only recommended cleaning compounds. Purchase chemicals from reputable and responsible chemical manufacturers familiar with stainless steel processing equipment. Ensure they continuously check the effects of their products on stainless steel.
- Use cleaning chemicals exactly as specified by the manufacturer. Do not use excessive concentrations, temperatures, or exposure times. Corrosion: pitting, discoloration, or stress cracks. Permanent damage often occurs from excessive chemical concentrations, temperatures, or exposure times.
- For manual cleaning, use only soft non-metallic brushes, sponges, or pads. Brush with the grain on polished surfaces to avoid scratching the surface. Corrosion: pitting, scratches. Metal brushes or sponges will scratch the surface and promote corrosion over a period of time. Metal particles allowed to remain on a stainless steel surface will cause pitting.
- Use chemical bactericides exactly as prescribed by the chemical manufacturer in concurrence with the local health authority. Use the lowest permissible concentration, temperature, and exposure time possible. Flush immediately after bacterial treatment. In no case should the solution be in contact with stainless steel for more than 20 minutes. Corrosion: Protective film destroyed. Chlorine and other halogen bactericides can destroy the protective film. A few degrees' increase in temperature greatly increases chemical activity and accelerates corrosion.
- Regularly inspect the joints in pipelines. Be sure all connections are tight fitting without binding. Corrosion: Crevice corrosion. Small crevices caused by improperly seated gaskets will promote crevice corrosion. Stainless steel under stress will develop stress cracking, especially in the presence of bactericides containing chlorine.
- Regularly inspect equipment for surface corrosion (i.e. pitting deposits, stress cracks, etc.). If deposit or color corrosion is detected, remove it immediately using mild scouring powder and detergents. Rinse thoroughly and allow to air dry. Review production and cleaning procedures to determine the cause. Note: If corrosion is not removed, the protective film cannot be restored, and corrosion will continue to accelerate.

## Technical Specifications

Model	Maximum Pressure (PSI)	Maximum Differential Pressure (PSI)	Maximum Temperature
BSCCQ1	<b>290 PSI at 70°F</b> <b>175 PSI at 210°F</b>	Single Strainer - <b>50 PSI</b> Overscreen - <b>25 PSI</b> Filter - <b>10 PSI</b>	<b>250°F</b>
BSCCQ2			
BSCCQ3			
BSCCQ4			
BSCCS1			
BSCCS2			

### Materials of Construction

- Product wetted steel parts: AISI 316L stainless steel
- Product wetted elastomers: nitrile rubber (standard)
- Optional wetted elastomers: FKM
- Non-wetted components: CF8
- Finish: 32 Ra on product contact surfaces

### Strainer Back Up Tubes

- Full flow coarse strainer tubes
- 1/4" perforations standard
- 1/8" perforations available

### Filters

- Full flow filters
- Micron rating from 40 to 800 (others available upon request)
- Polyester, cotton cheesecloth, and Nylon mesh filter material available

### Mesh Over Screens

- Full flow fine and medium over screens (not 3A compliant)
- Square mesh 20 to 100

### Connections

- Clamp (standard)
- Bevel seat, I-Line, and weld ends available

### Sizes

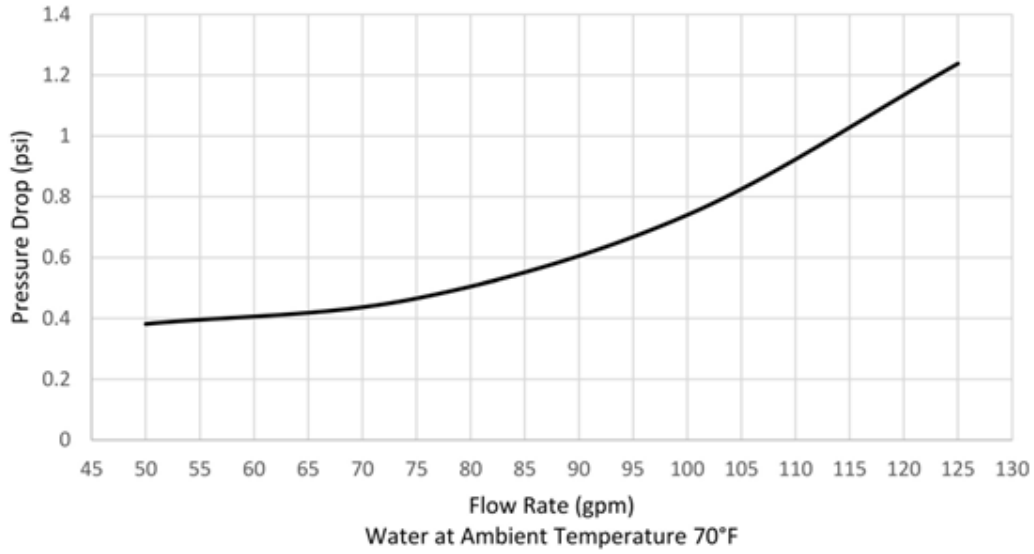
- 1" to 3"

### Types

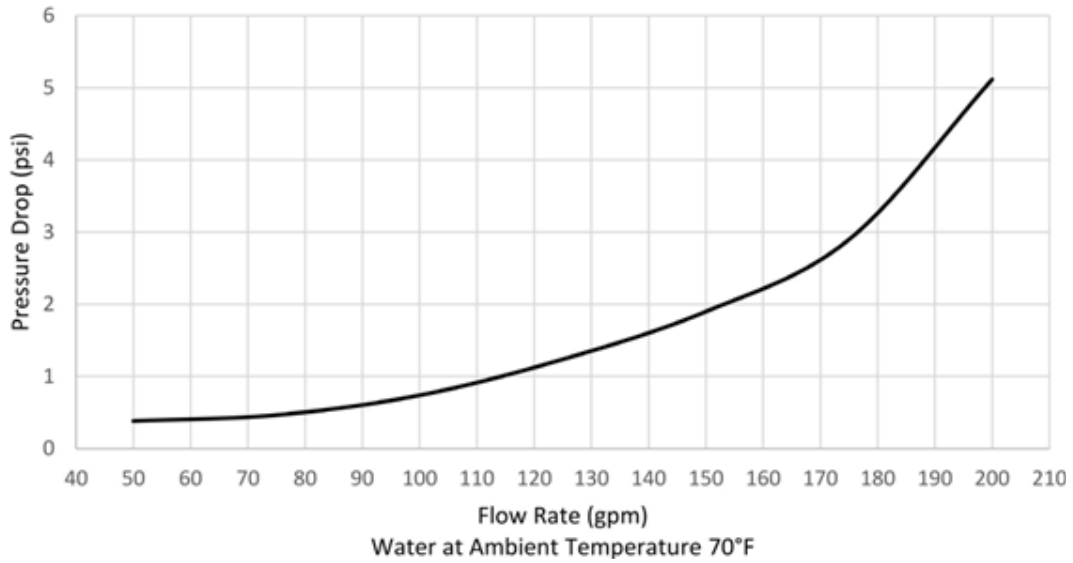
- Inline: short, long
- Side entry: long
- Side outlet: long

# Pressure Drop Charts

## Short Strainers



## Long Strainers



# Installation & Start-Up

## Inline, Side Entry, and Side Outlet

1. Be sure adequate line supports exist to prevent stress on fittings and strainer body.
2. Install supports approximately every ten feet on either side of the strainer assembly.
3. All Dixon® strainer assemblies operate in any position. However, to maintain 3A certification, the unit must be installed in the vertical position.
4. Ensure that the strainer assembly is in the proper orientation so that the inlet and outlet are configured according to the markings on the strainer body.
5. Align the filter, strainer, and gaskets so that they are centered with the clamp ferrule faces.
6. Clamp ends must be parallel in all planes and on center line.

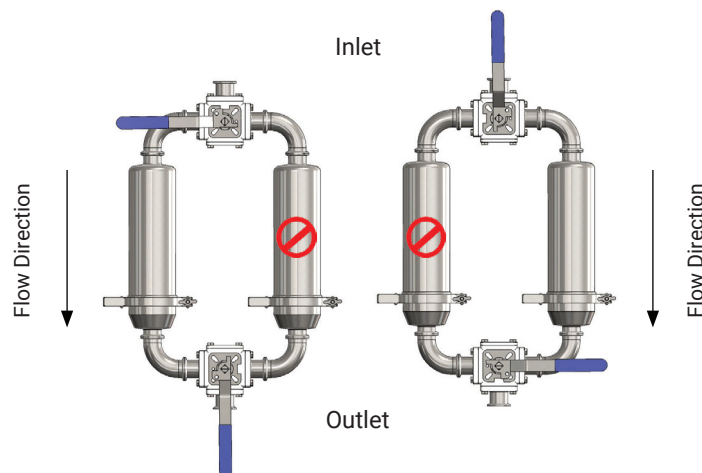


**CAUTION:** Failure to ensure line ends are centered and parallel in all places, could result in leaking from the valve or strainer assembly.

7. Tighten all standard clamp assemblies to 25 in-lbs and high pressure bolted clamps to 20 ft-lbs.
8. Once strainer assembly is installed, cycle water through the unit to ensure there are no leaks from any of the connection points.

## Dual Strainers

1. When installing a dual strainer assembly with ball or butterfly valves, install supports on both sides of the valves as close to the connections as possible.
2. Before starting product flow through the dual strainer unit, ensure that the valves are in the correct position. On manual ball valves, check the flow path machined in the valve stem to ensure that the valves are positioned so that product is only flowing through a single strainer at any one time. For actuated valves, check the indicator beacon located on top of the actuator.
3. For proper flow direction and orientation, please refer to the following diagram.



4. Install supports approximately every ten feet on either side of the strainer assembly.
5. All Dixon strainer assemblies operate in any position. However, to maintain 3A certification, the unit must be installed in the vertical position.
6. Ensure that the strainer assembly is in the proper orientation so that the inlet and outlet are configured according to the markings on the strainer body.
7. Align the filter, strainer, and gaskets so that they are centered with the clamp ferrule faces.
8. Clamp ends must be parallel in all planes and on center line. **CAUTION:** Failure to ensure line ends are centered and parallel in all planes, could result in leaking from the valve or strainer assembly.
9. Tighten all standard clamp assemblies to 25 in-lbs and high pressure bolted clamps to 20 ft-lbs.
10. Once strainer assembly is installed, cycle water through the unit to ensure there are no leaks from any of the connection points.

## General Maintenance

1. **⚠ WARNING** Prior to loosening the ferrule clamps, be sure to drain piping as much as possible to prevent injury.
2. Vent line to relieve any pressure that could potentially be built up in the strainer housing.
3. Loosen clamps to decompress valve gasket seals.
4. Secure any necessary lifting equipment required to remove the strainer from the line.
5. Completely remove clamps from the strainer ends and remove the unit from between the clamp ferrules.
6. Check all wetted components for any sign of damage that could have resulted from large particulates or water hammer.
7. For dual strainer units, inspect valves for any signs of damage and replace wetted components as necessary. Refer to Dixon® ball and butterfly manuals for instructions.
8. Remove and replace as necessary the filter bag or mesh over screen.
9. The strainer back up tube should not need to be replaced unless significant damage has occurred as a result of abnormally harsh media.



## Changing The Filter Media

1. When installing a filter sock or over screen, save original packaging. This will aid in identifying your filter media type when reordering.
2. Relieve all pressure inside the system and make certain the filtration system is drained of all liquid.
3. Refer to the disassembly section of the manual for procedures on removing the backup tube and filter bag or over screen assembly.
4. If you are using a filter bag (8), remove retaining rings (9) from either end of the strainer backup tube (4). Check the retaining rings for any sign of wear or damage, and replace as necessary.
5. If you are using an over screen (7), slide the over screen off the strainer backup tube (4) and clean or replace as necessary.
6. Insert a new filter bag (8) or over screen (7) over the strainer backup tube (4). If using a filter bag, insert the retainer rings (9) inside each end of the strainer backup tube to hold the filter bag in place.
7. Refer to the Assembly section of the manual for reassembly of the strainer unit.

## Inline

### Disassembly

1. Remove the clamp (10) and lift off the outlet assembly (1). NOTE: Apply pressure to the outlet assembly when you remove the clamp, as the spring (2) will force the outlet assembly away from the body (6) when the clamp is removed.
2. Remove the gasket (3) and inspect it for damage or wear.
3. Remove the spring (2) and the distributor cap (5).
4. Remove the backup tube (4) and the filter bag (8) or mesh over screen (7).
5. Change the mesh over screen (7) or filter bag (8) if necessary. Refer to Changing The Filter Media section of the manual for specific instructions.

### Assembly

1. Ensure that the filter media is in place on the strainer backup tube (4). Refer to the Changing The Filter Media section of the manual for specific instructions.
2. Place the gasket (3) on the outlet assembly (1).
3. Place the strainer backup tube (4) in the outlet assembly (1).
4. Press the distributor cap (5) onto the strainer backup tube (4).
5. Press the spring (2) onto the outside diameter of the distributor cap.
6. Press the strainer inlet (6) over the entire assembly and compress it to the outlet assembly (1).
7. Attach and tighten the squeeze clamp (10) to 25 in-lbs.

## Inline - Bill of Materials



Item #	Description	1" Part #	1-1/2" Part #	2" Part #	2-1/2" Part #	3" Part #	Material	Qty
1	Strainer end cap (short)	BS-01-R100	BS-01-R150	BS-01-R200	BS-01-R250	BS-01-R300	316L	1
	Strainer end cap (long)	-	BS-01-R151	BS-01-R201	-	BS-01-R301		1
2	Strainer spring	BS-02-R100-200			BS-02-R250-300		NBR	1
3	Gasket	40MP-U400			40MPV-U400			1
4	Backup tube 1/8" perforations (short)	BS-1418-R100200			BS-1418-R250300		316L	1
	Backup tube 1/8" perforations (long)	BS-2418-R100200			BS-2418-R250300			1
	Backup tube 1/4" perforations (short)	BS1425-R100200			BS-1425-R250300			1
	Backup tube 1/4" perforations (long)	BS-2425-R100200			BS-2425-R250300			1
5	Distributor cap	BS-05-R100-200			BS-05-R250-300		316L	1
6	Strainer inlet (short)	BS-16-R100	BS-16-R150	BS-16-R200	BS-16-R250	BS-16-R300		1
	Strainer inlet (long)	-	BS-26-R150	BS-26-R200	-	BS-26-R300	1	
7	Mesh over screen (short/long)	Contact Dixon Sanitary For Options					-	1
8	Filter bag (short/long)	Contact Dixon Sanitary For Options					-	1
9	Retaining ring	BS-09-U100-200			BS-09-U250-300		NBR	2
10	Squeeze clamp	13MHHM-Q400			13MHHMV-Q400		CF8	1

## Side Entry

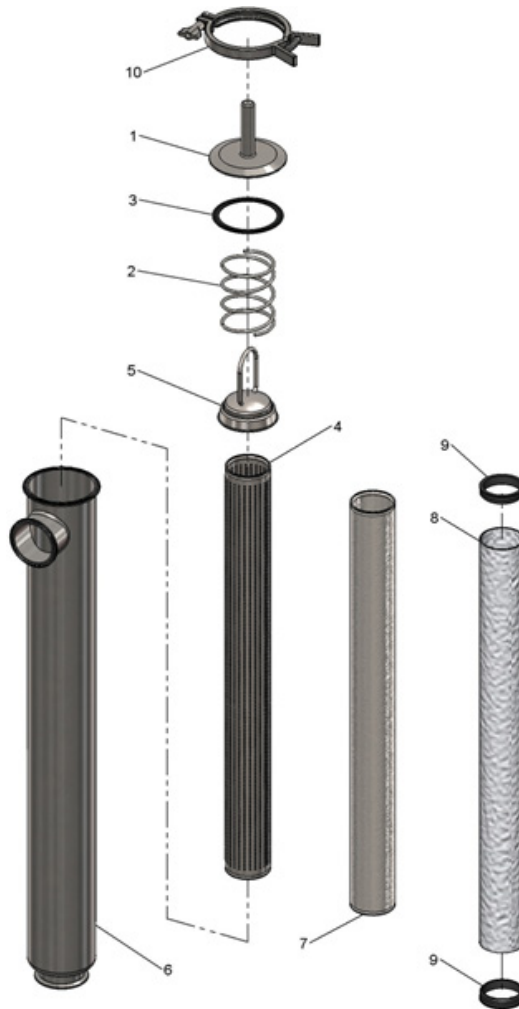
### Disassembly

1. Remove the clamp (10) and lift off the end cap with handle (1).
2. Remove the gasket (3) and inspect it for damage or wear.
3. Remove the spring (2) and the distributor cap (5).
4. Remove the backup tube (4) the filter bag (8) or the mesh over screen (7).
5. Change the mesh over screen (7) or filter bag (8) if necessary. Refer to the Changing The Filter Media section of the manual for specific instructions.

### Assembly

1. Ensure that the filter media is in place on the strainer backup tube (4). Refer to Changing The Filter Media section of the manual for specific instructions.
2. Insert the strainer backup tube (4) inside the strainer body (6) ensuring that the bottom of the backup tube is seated firmly against the bottom of the strainer body.
3. Insert the distributor cap (5) inside the strainer body (6) ensuring that the cap is seated firmly against the top of the strainer backup tube (4). NOTE: The opening on the handle of the distributor cap should be facing the opening of the inlet port so that the port is not blocked.
4. Insert the spring (2) inside the strainer body (6) ensuring that the spring is seated firmly against the ridge on the distributor cap (5).
5. Place the gasket (3) on the strainer body (6).
6. Compress the end cap with handle (1) onto the strainer body (6) and attach and tighten the squeeze clamp (10) to 25 in-lbs.

## Side Entry - Bill of Materials



Item #	Description	1-1/2" Part #	2" Part #	3" Part #	Material	Qty
1	End cap with handle	BS-31-R100-200		BS-31-R250-300	316L	1
2	Strainer spring	BS-32-R100-200		BS-32-R250-300		1
3	Gasket	40MP-U400		40MPV-U400	NBR	1
4	Backup tube 1/8" perforations	BS-2418-R100200		BS-2418-R250300	316L	1
	Backup tube 1/4" perforations	BS-2425-R100200		BS-2425-R250300		1
5	Distributor cap	BS-35-R100-200		BS-35-R250-300		1
6	Strainer body	BS-36-R150	BS-36-R200	BS-36-R300		1
7	Mesh over screen	Contact Dixon Sanitary for Options			-	1
8	Filter bag	Contact Dixon Sanitary for Options			-	1
9	Retaining ring	BS-09-U100-200		BS-09-U250-300	NBR	2
10	Squeeze clamp	13MHHM-Q400		13MHHV-Q400	CF8	1

## Side Outlet

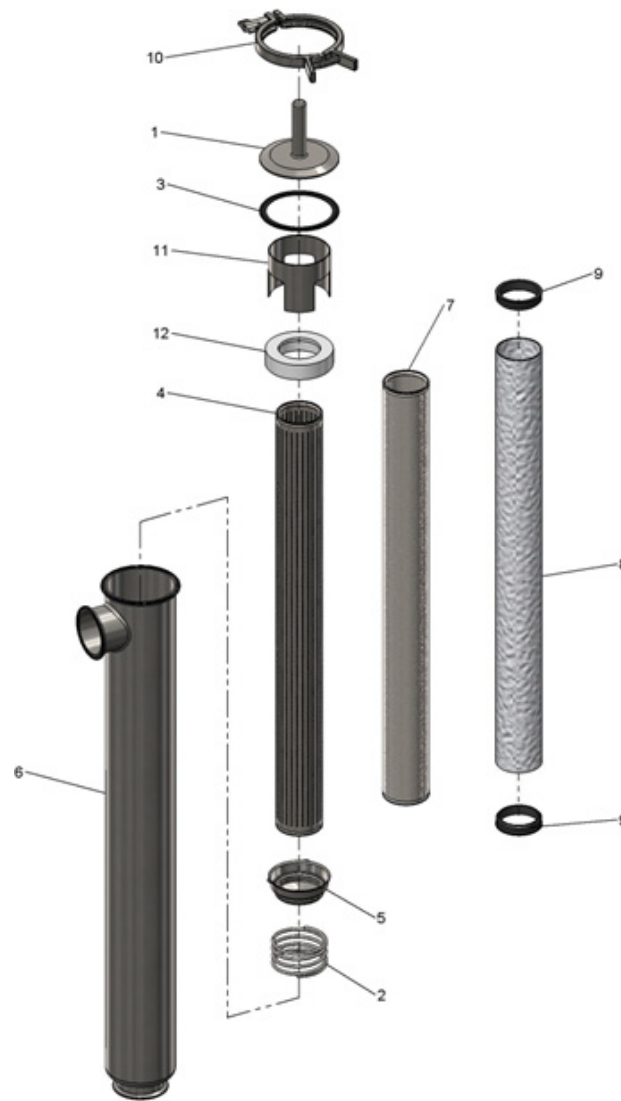
### Disassembly

1. Remove the clamp (10) and lift off the end cap with handle (1).
2. Remove the gasket (3) and inspect it for damage or wear.
3. Remove the standoff tube (11) and the PTFE retainer ring (12).
4. Remove the backup tube (4) and the filter bag (8) or mesh over screen (7).
5. Change the mesh over screen (7) or filter bag (8) if necessary. Refer to the Changing The Filter Media section of the manual for specific instructions.

### Assembly

1. Ensure that the filter media is in place on the strainer backup tube (4). Refer to the Changing The Filter Media section of the manual for specific instructions.
2. Place the distributor cap (5) on the strainer backup tube (4) ensuring that the cap is seated firmly against the backup tube.
3. Place the spring (2) on the distributor cap (5) making sure that the spring is seated firmly on the ridge of the cap.
4. Insert the backup tube (4), distributor cap (5), and spring (2) assembly into the strainer body (6).
5. Press the PTFE retainer ring (12) firmly into place on top of the backup tube assembly.
6. Place the standoff tube (11) inside the strainer body (6) with the three legs facing toward the retainer ring (12).
7. Place the gasket (3) on the strainer body (6).
8. Compress the end cap with handle (1) onto the strainer body and attach and tighten the squeeze clamp (10) to 25 in-lbs.

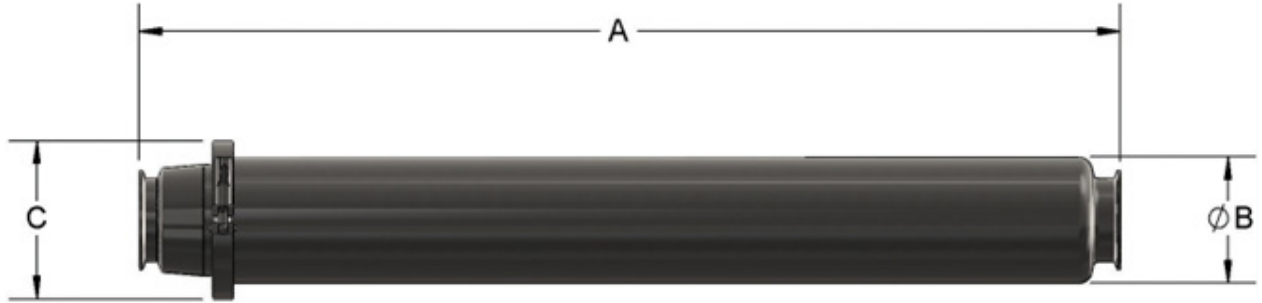
## Side Outlet - Bill of Materials



Item #	Description	1-1/2" Part #	2" Part #	3" Part #	Material	Qty
1	End cap with handle	BS-31-R100-200		BS-31-R250-300	316L	1
2	Strainer spring	BS-02-R100-200		BS-02-R250-300		1
3	Gasket	40MP-U400		40MPV-U400	NBR	1
4	Backup tube 1/8" perforations	BS-1418-R100200		BS-2418-R250300	316L	1
	Backup tube 1/4" perforations	BS-1424-R100200		BS-2425-R250300		1
5	Distributor cap	BS-05-R100-200		BS-05-R250-300		1
6	Strainer body	BS-36-R150	BS-36-R200	BS-36-R300		1
7	Mesh over screen	Contact Dixon Sanitary for Options			-	1
8	Filter bag	Contact Dixon Sanitary for Options			-	1
9	Retaining ring	BS-09-U100-200		BS-09-U250-300	NBR	2
10	Squeeze clamp	13MHHM-Q400		13MHHV-Q400	CF8	1
11	Stand off tube	BS-411-R100-200		BS-411-R250-300	316L	1
12	Retainer ring	BS-412-R100-200		BS-412-R250-300	PTFE	1

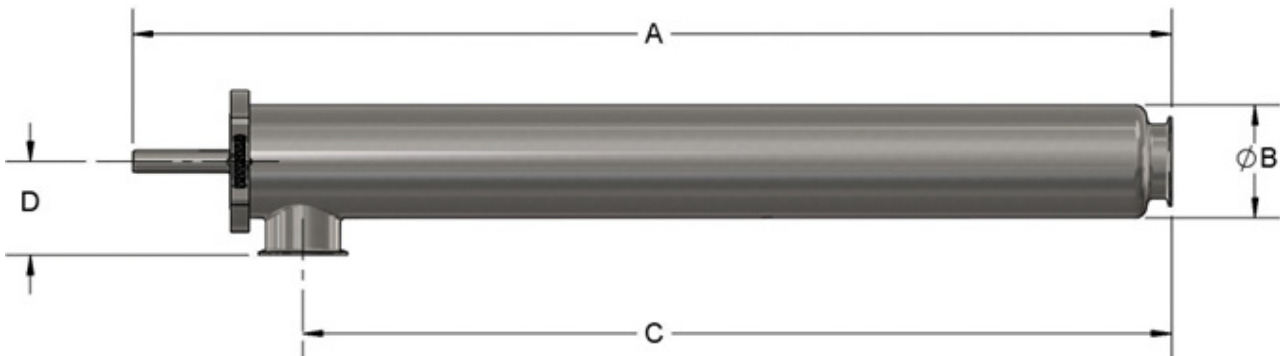
## Dimensions

### Short and Long Inline



Size	A (short) (in)	A (long) (in)	B (in)	C (in)
1"	15.75	-	4.00	5.10
1-1/2"	15.75	35.38	4.00	5.10
2"	15.75	35.38	4.00	5.10
2-1/2"	15.75	-	4.50	5.70
3"	15.75	35.38	4.50	5.70

### Side Entry and Side Outlet



Size	A (in)	B (in)	C (in)	D (in)
1-1/2"	41.90	4.00	35.00	3.50
2"	41.90	4.00	35.00	3.50
3"	41.90	4.50	35.00	3.75



## Limited Warranty

DIXON VALVE AND COUPLING COMPANY, LLC (herein called "Dixon") warrants the products described herein and manufactured by Dixon to be free from defects in material and workmanship for a period of one (1) year from date of shipment by Dixon under normal use and service. Its sole obligation under this warranty being limited to repairing or replacing, as hereinafter provided, at its option any product found to Dixon's satisfaction to be defective upon examination by it, provided that such product shall be returned for inspection to Dixon's factory within three (3) months after discovery of the defect. The repair or replacement of defective products will be made without charge for parts or labor. This warranty shall not apply to: (a) parts or products not manufactured by Dixon, the warranty of such items being limited to the actual warranty extended to Dixon by its supplier; (b) any product that has been subject to abuse, negligence, accident, or misapplication; (c) any product altered or repaired by others than Dixon; and (d) to normal maintenance services and the replacement of service items (such as washers, gaskets, and lubricants) made in connection with such services. To the extent permitted by law, this limited warranty shall extend only to the buyer and any other person reasonably expected to use or consume the goods who is injured in person by any breach of the warranty. No action may be brought against Dixon for an alleged breach of warranty unless such action is instituted within one (1) year from the date the cause of action accrues. This limited warranty shall be construed and enforced to the fullest extent allowable by applicable law.

Other than the obligation of Dixon set forth herein, Dixon disclaims all warranties, express or implied, including but not limited to any implied warranties of merchantability or fitness for a particular purpose, and any other obligation or liability. The foregoing constitutes Dixon's sole obligation with respect to damages, whether direct, incidental or consequential, resulting from the use or performance of the product.

Some products and sizes may be discontinued when stock is depleted or may require a minimum quantity for ordering.

