

Instruction & Operation Manual for HSC and EHSC Series Spring Check Valves



Read and understand this manual prior to installing, operating or servicing this equipment.



The Right Connection®

*Effective Date
June 2019*

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Safety Information

The following DANGER, WARNING and CAUTION signs are contained in this manual. To avoid serious injury and/or possible damage to equipment, pay attention to these messages. Hazards or unsafe practices could result in severe personal injury or death.



DANGER is used in the most extreme cases.



Hazards or unsafe practices which could result in minor or moderate injury. May also be used to alert against an unsafe operating or maintenance practice.



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Safety logos, which appear throughout this manual, are used as a reminder that the user should carefully review for the appropriateness of the product for the media, application and environment in which it will be used.

Use only replacement parts and devices recommended by the manufacturer to maintain the integrity of the equipment. Make sure the parts are properly matched to the series, model, serial number and revision level of the equipment.

Safety labels are placed on equipment where appropriate. Do not remove any labeling from any piece of equipment. Replace any label that is missing.

DO NOT modify any Dixon Sanitary product. Non-factory modifications could create hazardous conditions and void all warranties. DO NOT attempt to use a Dixon Sanitary product in any application that exceeds the product rating.

General Guidelines

- The owner must comply exclusively with these operating instructions and the authorized use of this piece of equipment. Should problems arise that cannot be solved using these operating instructions, please contact Dixon® – Sanitary Division. We will be happy to provide further assistance.
- If any modification work is performed on the product by the owner themselves, Dixon® shall no longer be considered the manufacturer of the device. In such cases, all components must be subjected to a new certification process for any applicable certifications that the equipment holds. Unless agreed to in writing by Dixon®, liability, warranties and guarantees shall immediately be deemed null and void as soon as you:
 - o Perform modifications/conversion work on the product.
 - o Use the product for unauthorized purposes.
 - o Remove or disable safety elements.
 - o Process products whose material, form and size do not correspond exactly to the description provided.
 - o Make alterations to the original state of the device.
- The operating instructions are regarded as part of the valve.
- The operating and maintenance personnel must always be able to access the operating instructions.
- The safety instructions provided in the operating instructions must be observed.
- The operating instructions shall be valid for the entirety of the device's lifespan.
- The operating instructions must be maintained and updated as necessary.
- The operating instructions must be passed on to any subsequent owners or operators of the device.

Safety Information

Owner Must Ensure

- The product is only used as authorized.
- The product is only used when it is in fault-free, fully functional condition, and that the safety equipment is regularly checked to ensure that it is fully functional.
- The product is only operated, maintained and repaired by personnel with the appropriate qualifications and authorization.
- Checks are made before the product is put into operation to ensure that only the authorized person is in the work area, and no one is in danger of being injured if the product is in operation.
- The product is checked for visual damage prior to commissioning to ensure that it is only operated when free of faults.
- Any defects are reported immediately to the appropriate supervisor.
- All safety and warning notices attached to the equipment are legible and none are removed.
- The operating instructions are always kept close to the product operation site, in a legible and complete state.
- Personnel are regularly instructed on all occupational safety and environmental protection issues, and are familiar with and observe the operating instructions, especially the safety instructions contained herein.
- Personnel are trained and supervised to ensure that they follow safety measures, including the obligatory use of personal protective equipment.
- The product is only connected to pipelines that are depressurized at the time of connection.
- There is no tensile or compressive stress acting on the product connections.
- There is no residual risk at any point where high pressure could occur. High pressure can cause sudden failure in or damage to the lines and connections.
- Warning notices in the documentation for supplier modules are observed and integrated into the risk assessments in the workplace.

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.

1. 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.
2. Never leave rubber mats, fittings, wrenches, etc. 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.
3. Immediately rinse equipment after use with warm water until the rinse water is clear. Clean the equipment (manual or CIP) as soon as possible after rinsing. Corrosion: discoloration, deposits, pitting. Product deposits often cause pitting beneath the particles.
4. Use only recommended cleaning compounds. Purchase chemicals from reputable and responsible chemical manufacturers familiar with stainless-steel processing equipment they continuously check the effects of their products on stainless steel.
5. Use cleaning chemicals exactly as specified by the manufacturer. Do not use excessive concentrations, temperatures or exposure times. Corrosion: Pitting, discoloration, stress cracks. Permanent damage often occurs from excessive chemical concentrations, temperatures or exposure times.
6. 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.
7. 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.
8. 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.
9. 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 at an accelerated rate.



Technical Specifications

Materials of Construction Technical Data

- product contact components: 316L stainless steel
- non-product contact components: CF8

Sealing Materials Technical Data

- product contact components: FKM or EPDM

Line Pressure Technical Data

- max product line pressure: 145 PSI (10 bar)

Product Temperature Technical Data

- max operating temperature: 200°F (93°C)
- minimum operating temperature: 15°F (-9°C)

Surface Finish Technical Data

- product contact components: Ra ≤ 32
- others available upon request

Connections

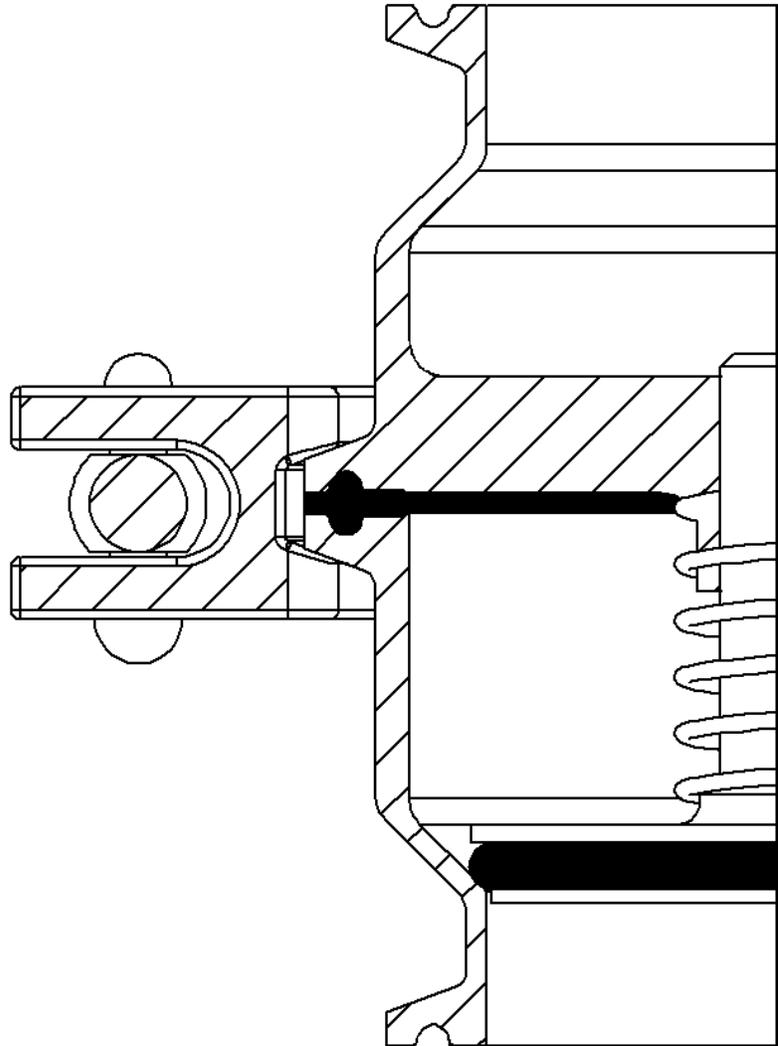
- clamp
- weld
- others available upon request

Seal Types

- EPDM
- FKM

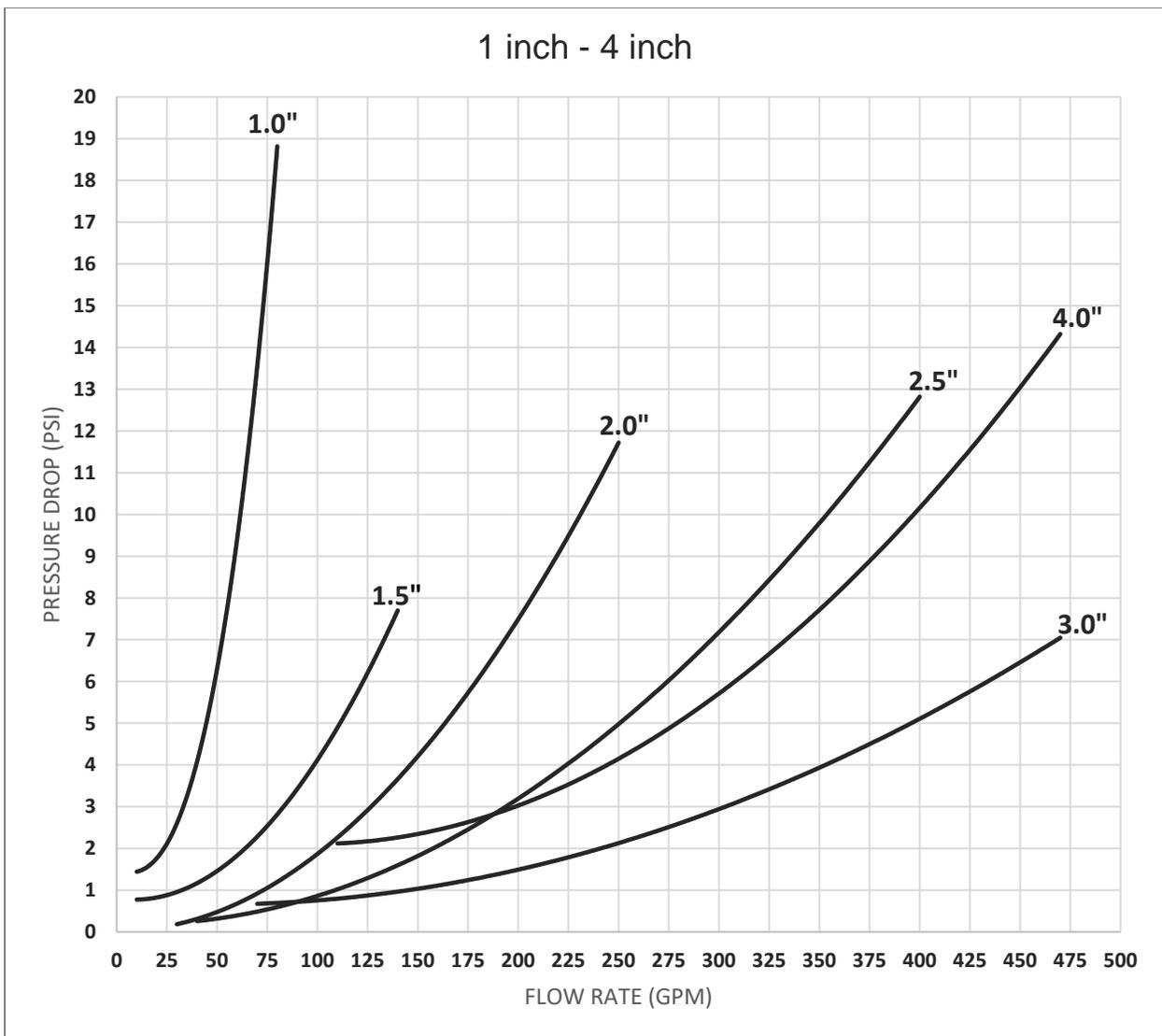
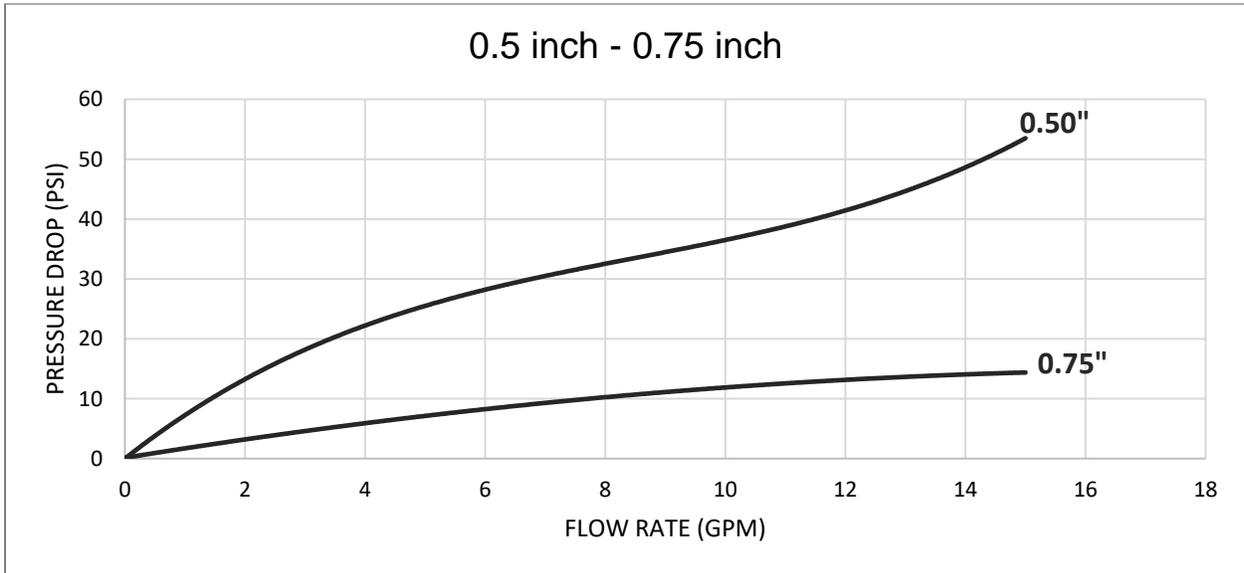
Cleaning Method

- CIP – models: HSC & EHSC sizes: 1 inch – 4 inch
- COP – models: HSC & EHSC sizes: 0.5 inch – 0.75 inch



Pressure Drop Charts

HSC & EHSC Series Spring Check Valves



Installation & Start-Up

The following should be performed upon receiving the product and prior to installation and use of the product. It is important that all the following processes and procedures are carefully followed and adhered to. Dixon® is not responsible for any damage that occurs during the unpacking or installation process.

Unpacking

Carefully unpack all the parts and inspect each part for any damage that may have occurred during shipment. Report any damage to the carrier immediately. The ports on the valve are protected with a plastic cover. If any covers are missing or damaged, inspect the ports on the valve thoroughly for any damage. Certificates and additional information for the valve can be found at dixonvalve.com. Please add any necessary paperwork to the plant maintenance files for future use and reference.

Tools Needed

The following tools may be required for any maintenance of the product:

- O-ring pick
- screwdriver

Welding

- For equipment delivered with weld end connections, any rubber or plastic components **MUST** be removed from the equipment prior to welding. (See assembly instructions for proper removal of such components.)
- Follow all necessary safety precautions, check lists and standard procedures prior to performing any welding on the equipment.
- Weld the equipment into the process line, being sure to follow and comply with appropriate industry welding procedures and standards. For equipment used in food, beverage or dairy applications that carries 3A® certification, see 3A® standard 00-01-2018 section E1.1.1 for proper procedure and requirements.
- Re-assemble the equipment per the assembly section of this manual.
- Check the equipment for proper operation and perform leak test if necessary.

Installation & Start-Up

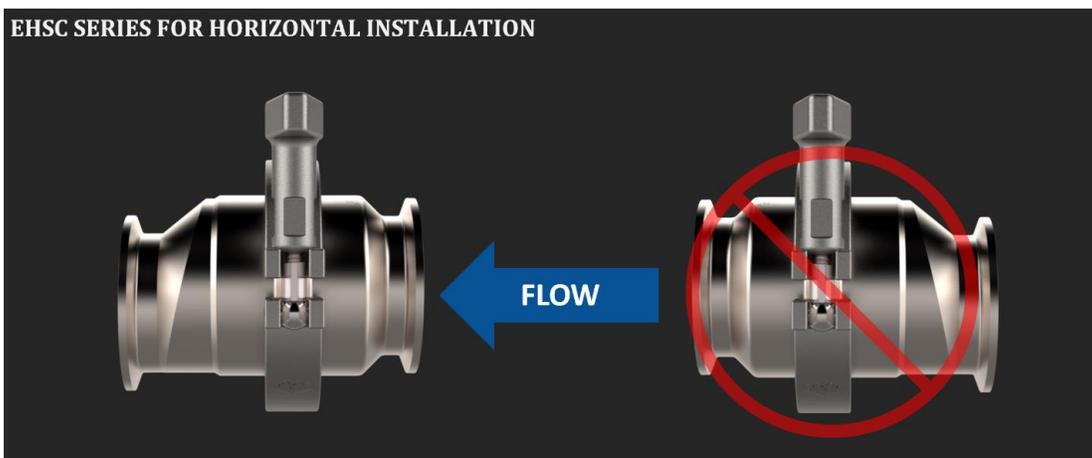
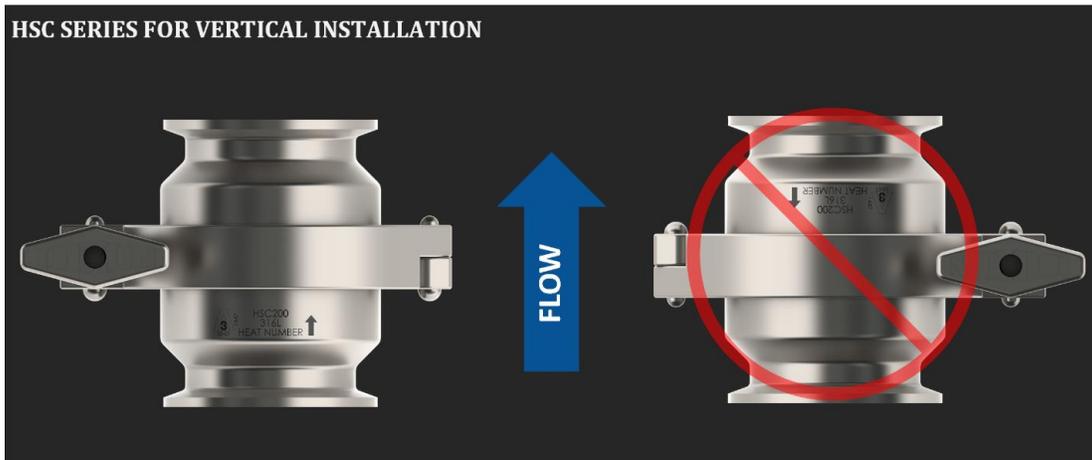
Function Testing

The information provided in this manual is intended to be used as a guide for proper functionality. Before installation, test the equipment under the specific conditions of the application in a safe, controlled environment. Variations in application conditions can cause equipment to fail, even though it passed an initial test.

- Check visually to ensure that the equipment is not leaking.
- Any defective seal that could have been damaged during disassembly or assembly must be replaced.
- Check all equipment components for any signs of damage and replace damaged components.
- Ensure that all screw fittings are tight if applicable.
- Ensure that any pneumatic hose connections are free of leaks if applicable.
- Confirm all pipes and fittings connected to the equipment permitted for use are in the intended pressure range.
- Confirm all electrical installations are protected sufficiently and in accordance with appropriate safety standards if applicable.
- Check that the maximum pressure indicated on the equipment or in the specifications section of this manual has been complied with.

Installation Orientation

Equipment must be installed in the proper orientation to ensure proper functionality and cleanability. Please refer to the following diagrams below for proper installation.



Cleaning

IMPORTANT: Before operating the equipment during formal production, please follow the guidelines listed below to ensure that your equipment is clean and ready for service.

- Ensure that the equipment is installed in a proper orientation to allow the equipment to be cleaned and drained properly. Reference the installation and startup section of the manual for orientation guidelines.
- Flush the equipment with an appropriate cleaning agent to remove any residue that may be on the equipment from shipping. **IMPORTANT: DO NOT** use cleaning agents that will attack stainless steel or the elastomers that were supplied with the valve. If you are unsure what elastomer is used in the valve, reference the part number key in this manual to make the determination.
- Follow any MSDS instructions for proper use or handling of cleaning agents. 
- Flush the equipment sufficiently to remove any soiling from the product contact components. Depending on the process, there may be varying amounts of soiling. Cleaning times and cleaning agent concentrations will vary depending on the product being processed. It is the responsibility of the operator to determine and adjust these cleaning specifications as necessary.
- The equipment should not be allowed to sit with product present in it for extended periods of time. Equipment should be cleaned immediately after processing is complete.

General Maintenance

To ensure proper operation of your Dixon® equipment, proper maintenance must be performed at regular intervals. To prevent damage, check all fitting connections and screw connections for any loosening of the connections during equipment operation. Maintain adequate spare parts stock for all replacement components on the piece of equipment. Please refer to the repair kits section of the manual for complete component part numbers and kit part numbers.

Servicing Intervals

Recommended intervals for one shift operation would be 3 months. However, only the user/owner can determine the appropriate service intervals as the length between service intervals is dependent on the following parameters:

- duration of use per day – number of cycles
- type of product
- product temperature
- product viscosity
- cleaning agent
- type of cleaning (CIP/SIP/COP)

Lubrication

Please use the following chart below for proper grease type for varying component materials. DO NOT use mineral or animal-product-based greases. Check all visible seals for any signs of damage and replace as necessary. For sliding surfaces, use Jax® PurGel Klear food grade grease. If a different grease is used other than what is specified in this manual, there is risk of damaging the seals. Lubrication is only required when the equipment is being reassembled after servicing.

Seal Material	Grease Type
EPDM	JAX® PurGel Klear
FKM	JAX® PurGel Klear

General Maintenance

Inspection

Inspection of all components listed below should be done during regular servicing intervals. Before removing the equipment from the process line, please take care to do the following:

- Clean the process line completely to remove any product that may be harmful if contacting a person.
- Drain the process line completely that connects to the equipment being serviced.
- Close any isolation valves on either side of the equipment being serviced.
- Once the equipment has been removed from the line, cap the lines that were connected to the piece of equipment being serviced to prevent any foreign material from entering the line.

Any components that show signs of severe wear or damage should be replaced during the scheduled maintenance time for the equipment. Please refer to the assembly and disassembly section of this manual for proper instructions on removing and replacing any worn or damaged components. Replacement components and repair kits can be found in the BOM or repair kits section of this manual.

Manual Cleaning (COP)

1. Refer to the disassembly section of the manual and follow instructions to remove all product contact components.
 2. Inspect the product contact components of the equipment for any signs of possible damage. Replace components as necessary. (See the equipment BOM in this manual for replacement component part numbers.)
 3. Clean all surfaces of the product contact components by manually brushing in a bath of cleaning solution (acid detergents or simple alkaline soda type detergents).
 4. After cleaning, rinse all components thoroughly with water.
 5. Refer to the assembly section of the manual and follow instructions to properly reassemble the equipment.
-

Cleaning in Place (CIP)

Note: Not all models or sizes may be certified for CIP. Please check the specifications section of the manual to determine what cleaning method is suitable.

1. Refer to the disassembly section of the manual and follow instructions to remove all product contact components.
2. Regularly flush the valve with a suitable medium to preserve seals and integrity of the product contact surfaces, such as when there is a product changeover or downtime. These intervals shall be determined by the end user.
3. Important: Only use cleaning agents which will not harm the seals and stainless-steel.
4. Follow any MSDS instructions for proper use or handling of cleaning agents.
5. The necessary cleaning times, temperatures and cleaning agents will depend on the degree of contamination and must be adapted accordingly.
6. Cleaning flow velocities of 5-6 ft/s should be maintained for proper cleaning of the equipment.
7. After cleaning, rinse the equipment thoroughly with water.
8. Refer to the assembly section of the manual and follow instructions to properly reassemble the equipment.

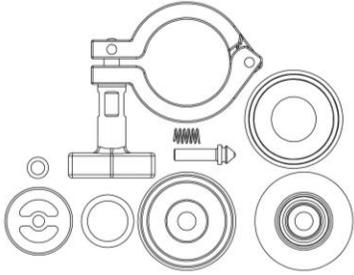
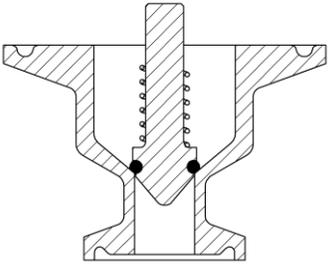
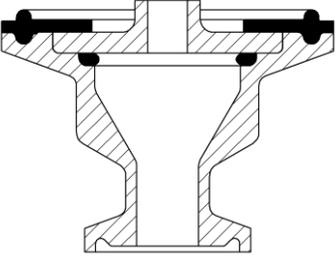
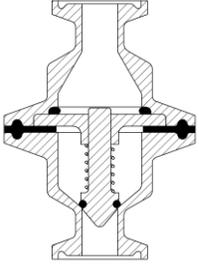
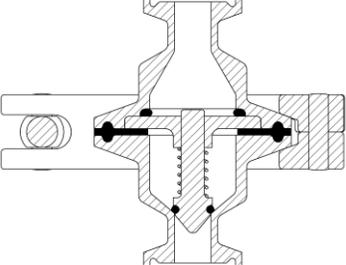
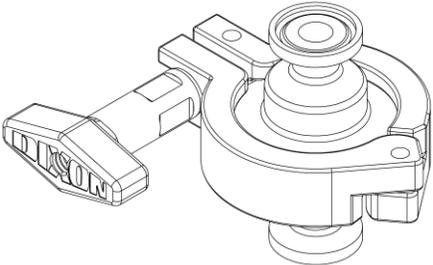
Assembly and Disassembly

For disassembly, follow the appropriate assembly instructions, in reverse.

To ensure quality operation of your Dixon® equipment, the equipment must be disassembled and assembled properly to prevent equipment damage during operation. Please follow the instructions contained in this manual carefully and be sure to follow any safety warnings contained herein. If any questions should arise during the assembly or disassembly process that are not addressed in this manual, please feel free to contact Dixon® – Sanitary Division at 800.789.1718.

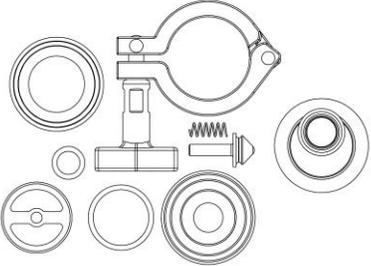
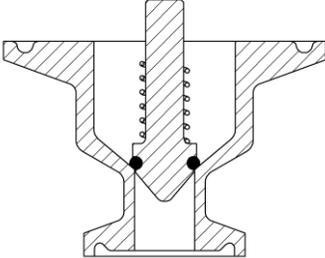
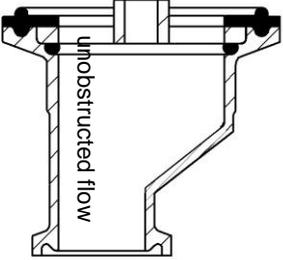
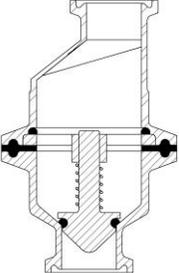
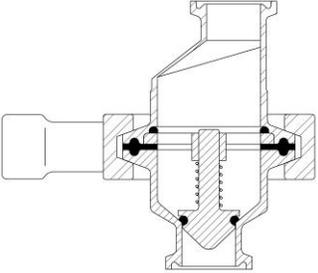
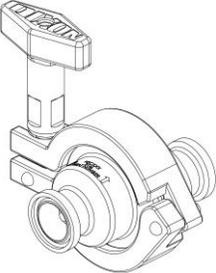
Assembly (0.5 inch - 0.75 inch HSC)

All images shown are for illustration purposes only. Actual product may vary due to differences between size and series.

<p>1</p> 	<p>2 Install plunger O-ring onto plunger and set into lower body. Slide spring onto plunger.</p> 	<p>3 Place spider O-ring, spider plate, and body gasket onto upper body. Ensure proper orientation of spider plate.</p> 
<p>4 Set upper body assembly down onto plunger and lower body. Hold together.</p> 	<p>5 Install body clamp and tighten to 25 in-lb.</p> 	<p>6</p> 

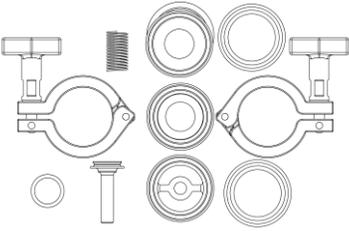
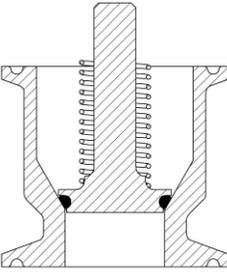
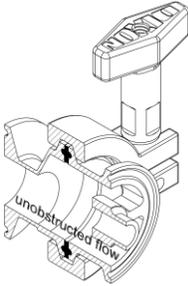
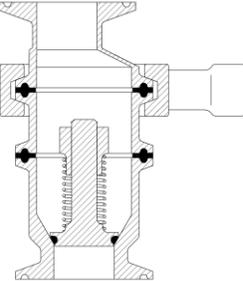
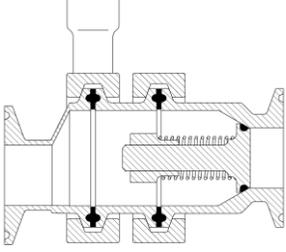
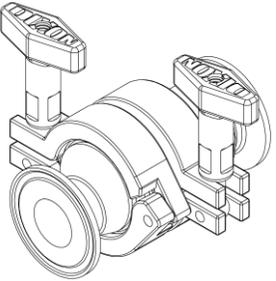
Assembly (0.5 inch - 0.75 inch EHSC)

All images shown are for illustration purposes only. Actual product may vary due to differences between size and series.

<p>1</p> 	<p>2 Install plunger O-ring onto plunger and set into lower body. Slide spring onto plunger.</p> 	<p>3 Place spider O-ring, spider plate, and body gasket onto upper body. Ensure proper orientation of spider plate.</p> 
<p>4 Set upper body assembly down onto plunger and lower body. Hold together.</p> 	<p>5 Install body clamp and tighten to 25 in-lb.</p> 	<p>6</p> 

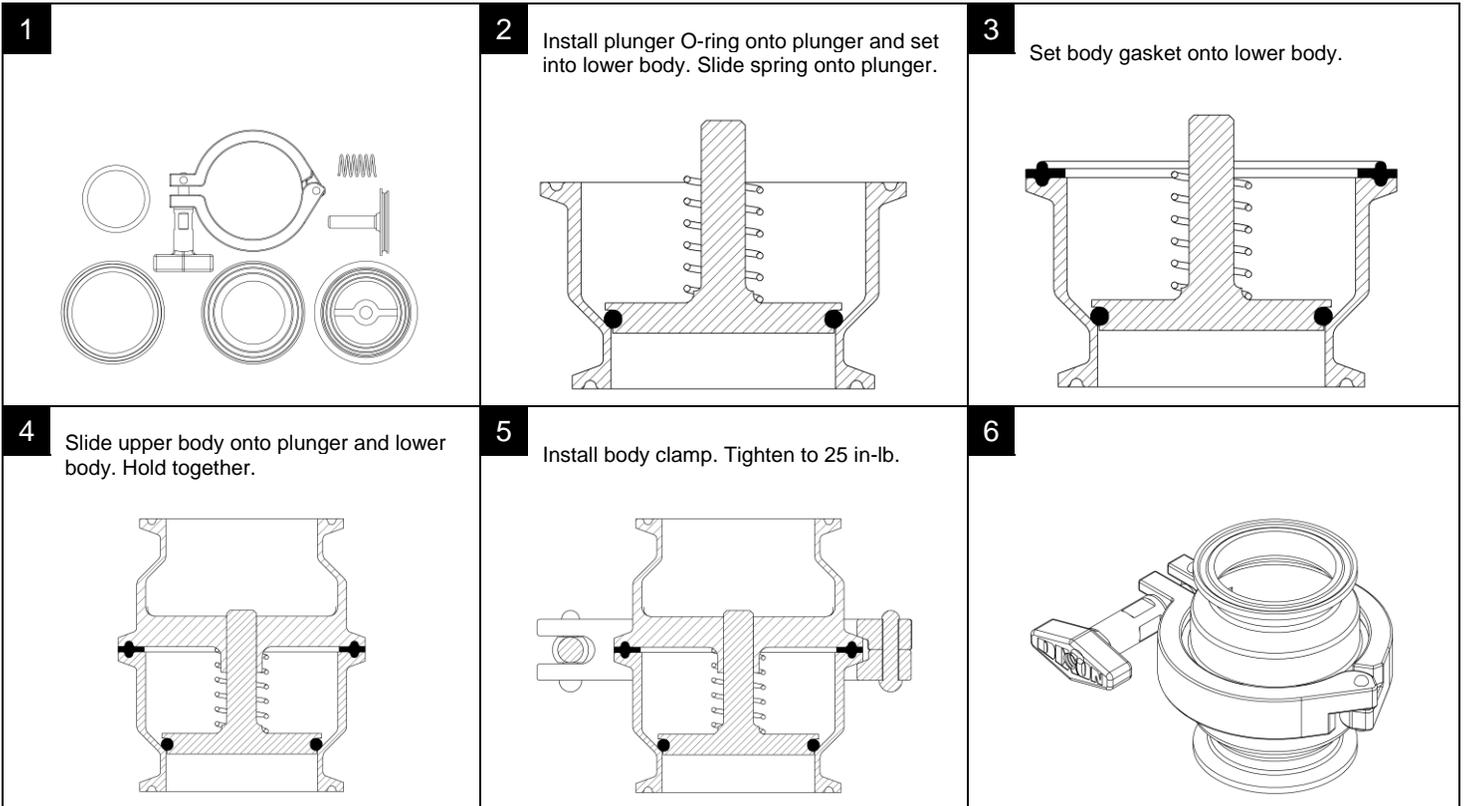
Assembly (1 inch EHSC)

All images shown are for illustration purposes only.

<p>1</p> 	<p>2 Install plunger O-ring onto plunger and set into lower body. Slide spring onto plunger.</p> 	<p>3 Clamp together upper body assembly and tighten to 25 in-lb. Ensure proper alignment of bodies.</p> 
<p>4 Slide upper body assembly onto plunger and lower body. Hold together.</p> 	<p>5 Install second body clamp. Tighten to 25 in-lb.</p> 	<p>6</p> 

Assembly (1 inch – 4 inch HSC | 1.5 inch – 4 inch EHSC)

All images shown are for illustration purposes only. Actual product may vary due to differences between size and series.



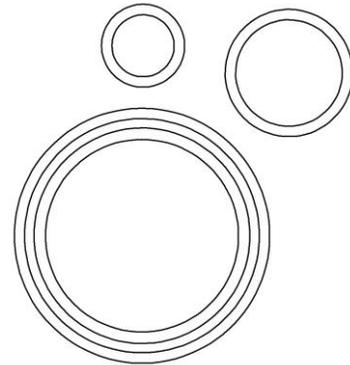
Repair Kits

To ensure proper operation of your Dixon® equipment, proper maintenance must be performed at regular intervals. To prevent damage and improper operation, use only genuine replacement parts and kits offered by Dixon® to maintain the integrity of the equipment. Make sure the parts are properly matched to the series, model, serial number and revision level of the equipment. Please see the list of kits below offered for this piece of equipment:

Series	Elastomer	Size	Part Number
HSC	EPDM	0.5 inch	HSC-RKE050
		0.75 inch	HSC-RKE075
		1 inch	HSC-RKE100
		1.5 inch	HSC-RKE150
		2 inch	HSC-RKE200
		2.5 inch	HSC-RKE250
		3 inch	HSC-RKE300
		4 inch	HSC-RKE400
		FKM	FKM
0.75 inch	HSC-RKV075		
1 inch	HSC-RKV100		
1.5 inch	HSC-RKV150		
2 inch	HSC-RKV200		
2.5 inch	HSC-RKV250		
3 inch	HSC-RKV300		
4 inch	HSC-RKV400		
EHSC	EPDM		
		0.75 inch	EHSC-RKE075
		1 inch	EHSC-RKE100
		1.5 inch	EHSC-RKE150
		2 inch	EHSC-RKE200
		2.5 inch	EHSC-RKE250
		3 inch	EHSC-RKE300
		4 inch	EHSC-RKE400
		FKM	FKM
0.75 inch	EHSC-RKV075		
1 inch	EHSC-RKV100		
1.5 inch	EHSC-RKV150		
2 inch	EHSC-RKV200		
2.5 inch	EHSC-RKV250		
3 inch	EHSC-RKV300		
4 inch	EHSC-RKV400		

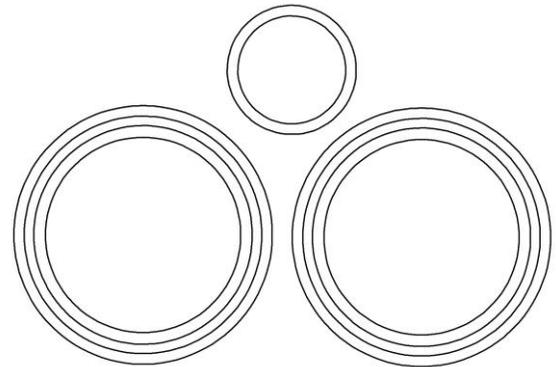
0.5 inch & 0.75 inch HSC & EHSC Repair Kit

Contains: body gasket (5), spider O-ring (7), and plunger O-ring (2)



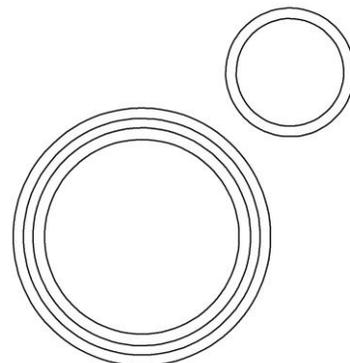
1 inch EHSC Repair Kit

Contains: two body gaskets (5) and plunger O-ring (2)

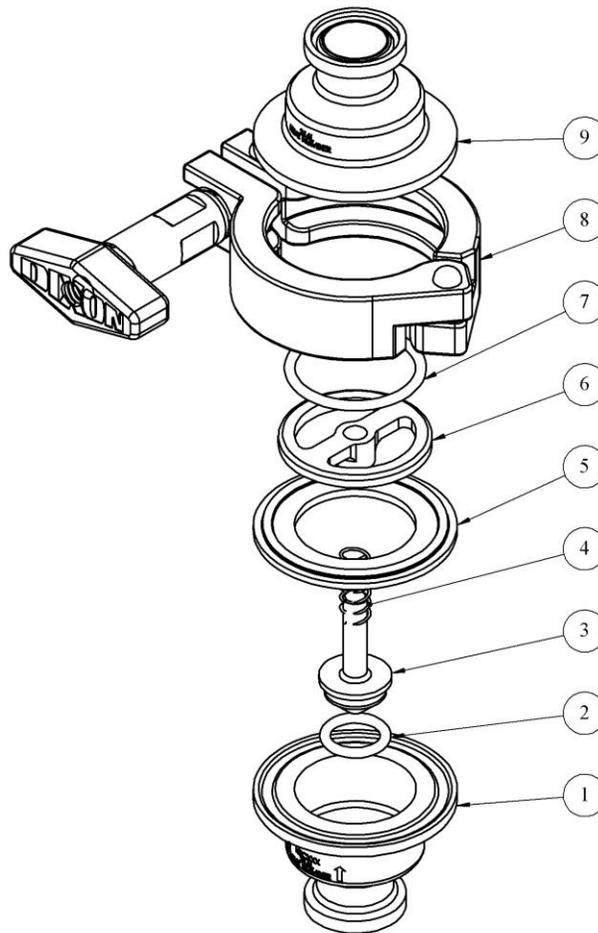


1 inch – 4 inch HSC & 1.5 inch – 4 inch EHSC

Contains: body gasket (5) and plunger O-ring (2)

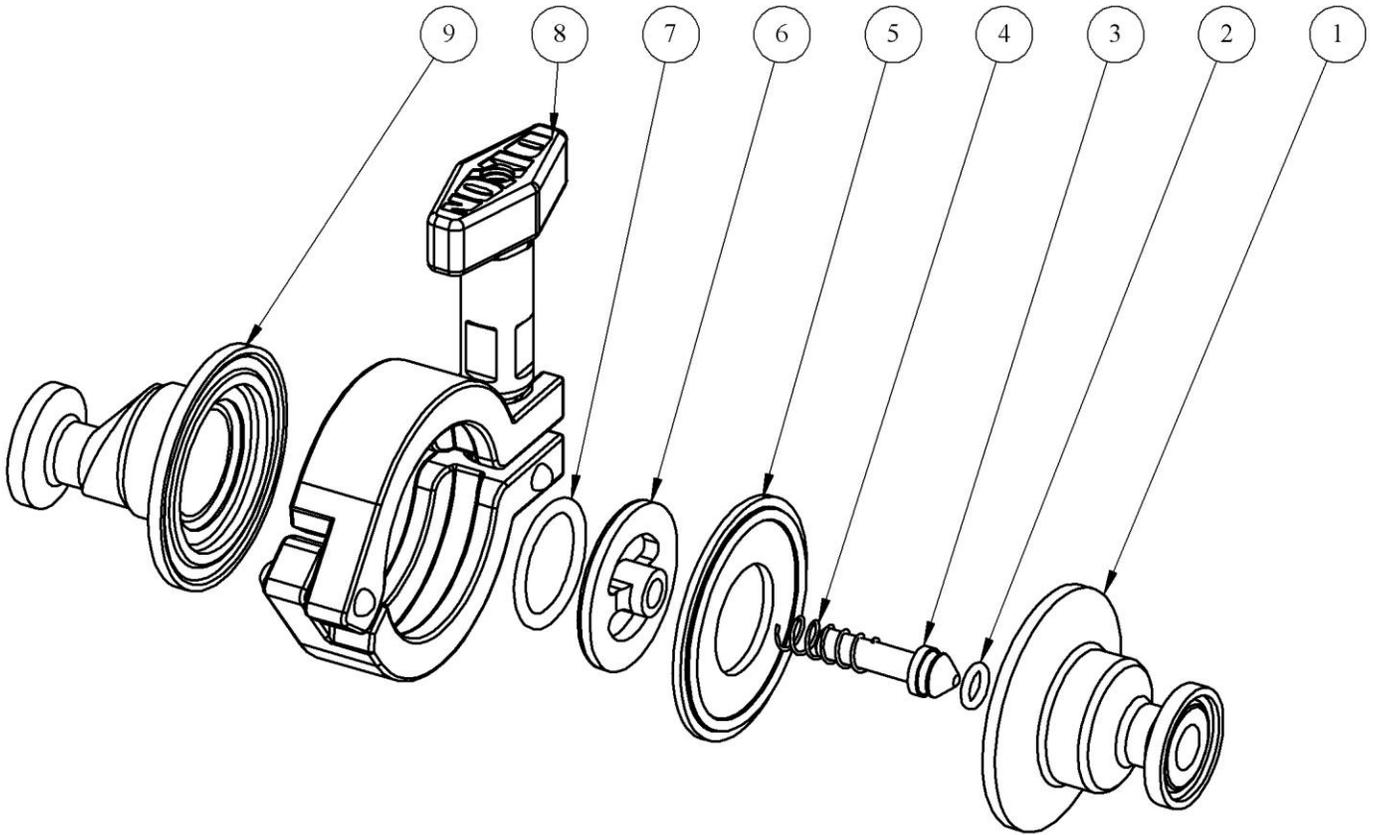


Bill of Materials



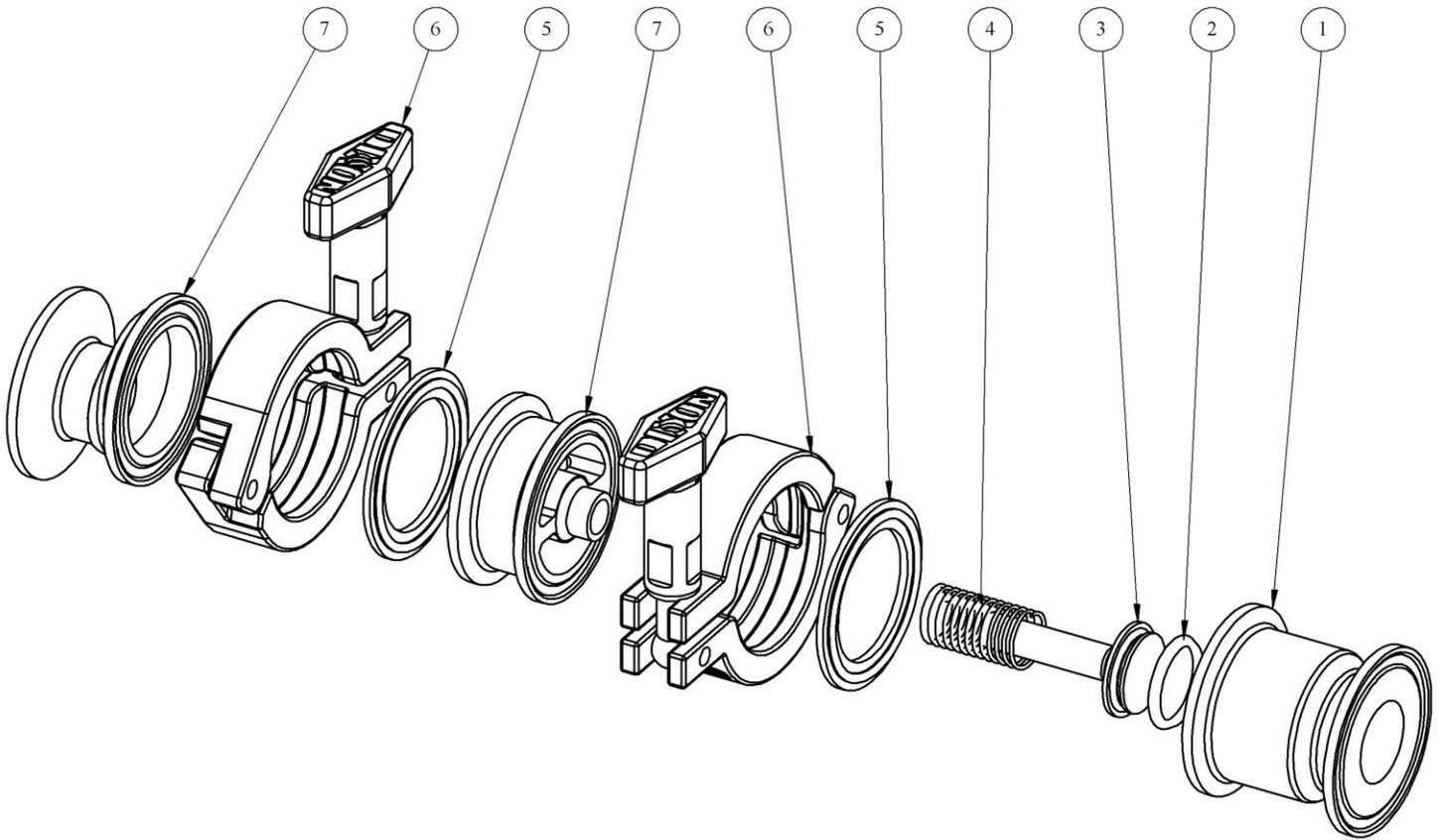
ITEM	PART NO.	DESCRIPTION	MATERIAL	QTY.
0.5 INCH CONCENTRIC SPRING CHECK VALVE				
1	HSC-LB050	LOWER BODY	316L SS	1
2	-PART OF REPAIR KIT-			1
3	HSC-P050	PLUNGER	316L SS	1
4	HSC-SP050	SPRING		1
5	-PART OF REPAIR KIT-			1
6	HSC-S050	SPIDER	316L SS	1
7	-PART OF REPAIR KIT-			1
8	13MHM100-150	CLAMP	CF8	1
9	HSC-UB050	UPPER BODY	316L SS	1

0.75 INCH CONCENTRIC SPRING CHECK VALVE				
1	HSC-LB075	LOWER BODY	316L SS	1
2	-PART OF REPAIR KIT-			1
3	HSC-P075	PLUNGER	316L SS	1
4	HSC-SP075	SPRING		1
5	-PART OF REPAIR KIT-			1
6	HSC-S075	SPIDER	316L SS	1
7	-PART OF REPAIR KIT-			1
8	13MHM100-150	CLAMP	CF8	1
9	HSC-UB075	UPPER BODY	316L SS	1

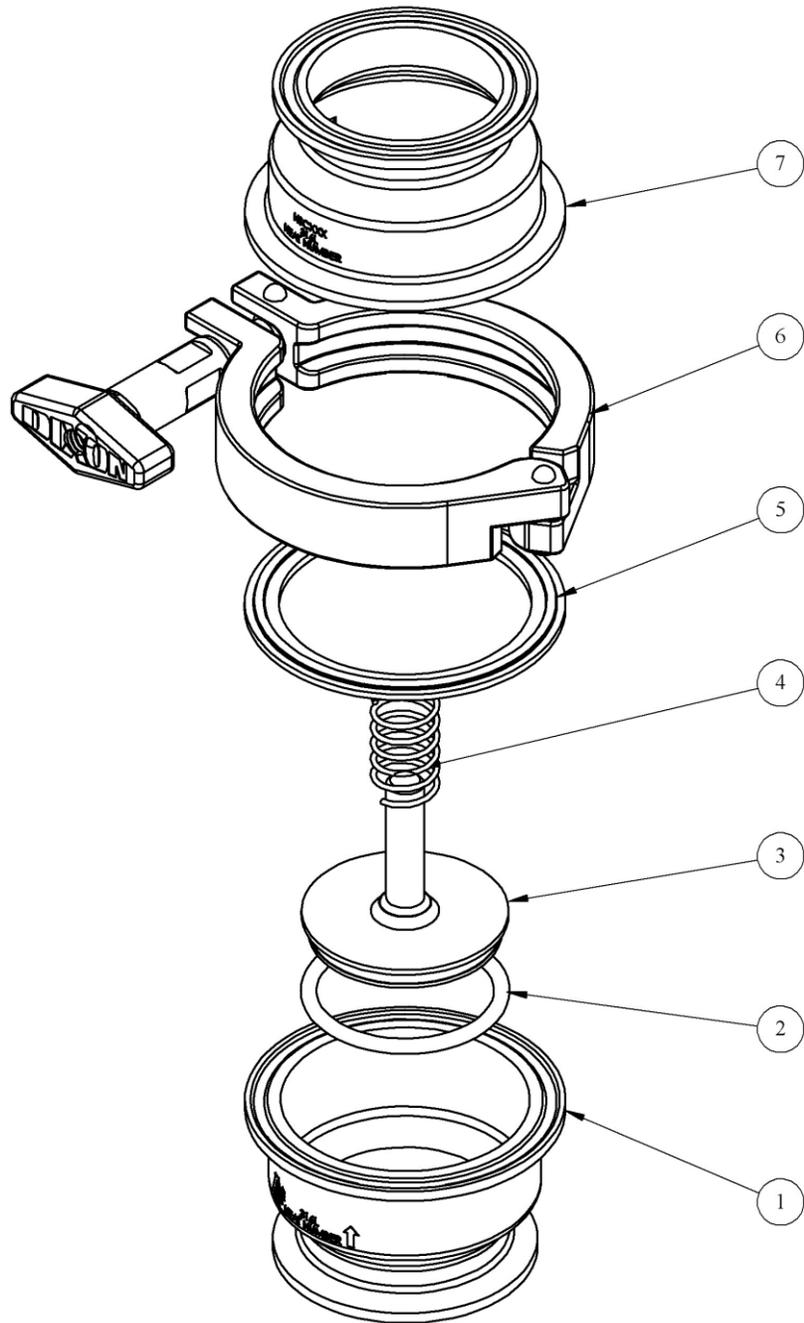


ITEM	PART NO.	DESCRIPTION	MATERIAL	QTY.
0.5 INCH ECCENTRIC SPRING CHECK VALVE				
1	HSC-LB050	LOWER BODY	316L SS	1
2	-PART OF REPAIR KIT-			1
3	HSC-P050	PLUNGER	316L SS	1
4	HSC-SP050	SPRING		1
5	-PART OF REPAIR KIT-			1
6	HSC-S050	SPIDER	316L SS	1
7	-PART OF REPAIR KIT-			1
8	13MHHM100-150	CLAMP	CF8	1
9	EHSC-UB050	UPPER BODY	316L SS	1

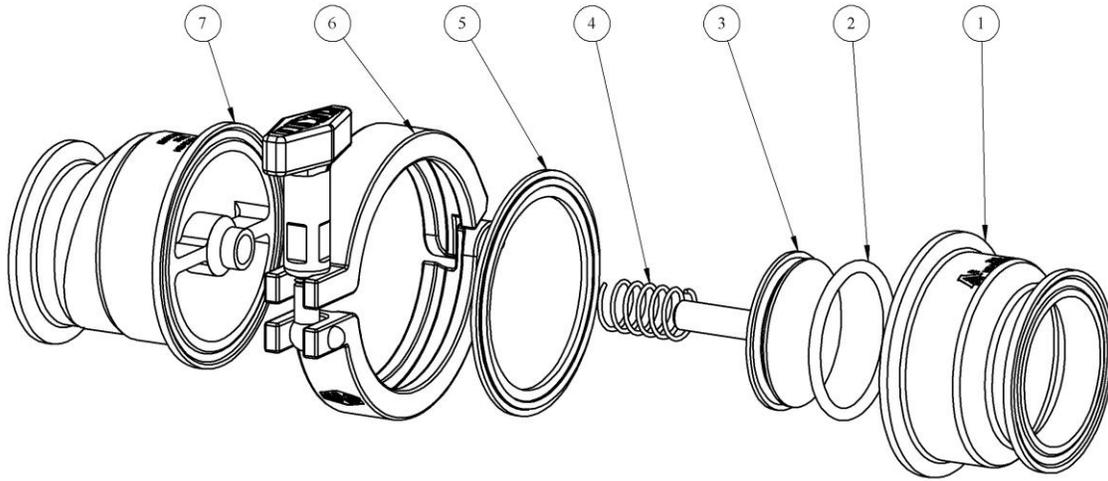
0.75 INCH ECCENTRIC SPRING CHECK VALVE				
1	HSC-LB075	LOWER BODY	316L SS	1
2	-PART OF REPAIR KIT-			1
3	HSC-P075	PLUNGER	316L SS	1
4	HSC-SP075	SPRING		1
5	-PART OF REPAIR KIT-			1
6	HSC-S075	SPIDER	316L SS	1
7	-PART OF REPAIR KIT-			1
8	13MHHM100-150	CLAMP	CF8	1
9	EHSC-UB075	UPPER BODY	316L SS	1



ITEM	PART NO.	DESCRIPTION	MATERIAL	QTY.
1 INCH ECCENTRIC SPRING CHECK VALVE				
1	HSC-LB100	LOWER BODY	316L SS	1
2		-PART OF REPAIR KIT-		1
3	HSC-P100	PLUNGER	316L SS	1
4	HSC-SP100	SPRING		1
5		-PART OF REPAIR KIT-		1
6	13MHHM100-150	CLAMP	CF8	1
7	EHSC-UB100	UPPER BODY (2 PC)	316L SS	1



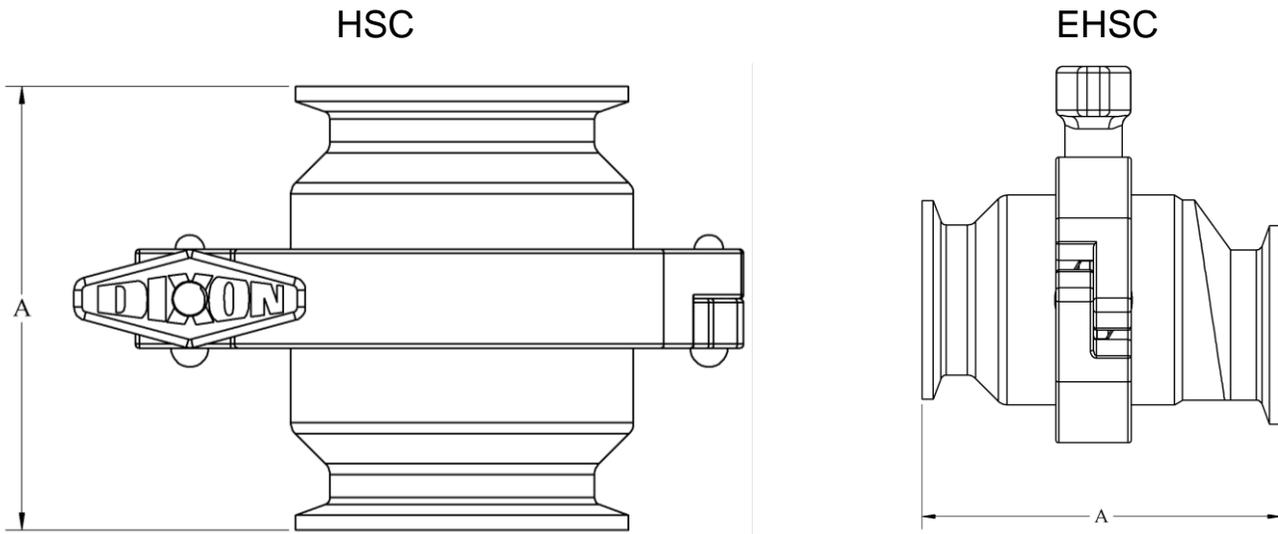
ITEM	PART NO.	DESCRIPTION	MATERIAL	QTY.
1 INCH - 4 INCH CONCENTRIC SPRING CHECK VALVE				
1	HSC-LB100	1 INCH LOWER BODY, CLAMP	316L SS	1
	HSC-LB100B	1 INCH LOWER BODY, WELD		
	HSC-LB150	1.5 INCH LOWER BODY, CLAMP		
	HSC-LB150B	1.5 INCH LOWER BODY, WELD		
	HSC-LB200	2 INCH LOWER BODY, CLAMP		
	HSC-LB200B	2 INCH LOWER BODY, WELD		
	HSC-LB250	2.5 INCH LOWER BODY, CLAMP		
	HSC-LB250B	2.5 INCH LOWER BODY, WELD		
	HSC-LB300	3 INCH LOWER BODY, CLAMP		
	HSC-LB300B	3 INCH LOWER BODY, WELD		
	HSC-LB400	4 INCH LOWER BODY, CLAMP		
	HSC-LB400B	4 INCH LOWER BODY, WELD		
2	-PART OF REPAIR KIT-			1
3	HSC-P100	1 INCH PLUNGER	316L SS	1
	HSC-P150	1.5 INCH PLUNGER		
	HSC-P200	2 INCH PLUNGER		
	HSC-P250	2.5 INCH PLUNGER		
	HSC-P300	3 INCH PLUNGER		
	HSC-P400	4 INCH PLUNGER		
4	HSC-SP100	1 INCH SPRING	316L SS	1
	HSC-SP150	1.5 INCH SPRING		
	HSC-SP200	2 INCH SPRING		
	HSC-SP250	2.5 INCH SPRING		
	HSC-SP300	3 INCH SPRING		
	HSC-SP400	4 INCH SPRING		
5	-PART OF REPAIR KIT-			1
6	13MHHM100-150	1 INCH CLAMP	CF8	1
	13MHHM200	1.5 INCH CLAMP		
	13MHHM250	2 INCH CLAMP		
	13MHHV300	2.5 INCH CLAMP		
	13MHHM400	3 INCH CLAMP		
	13MHHM500	4 INCH CLAMP		
7	HSC-UB100	1 INCH LOWER BODY, CLAMP	316L SS	1
	HSC-UB100B	1 INCH LOWER BODY, WELD		
	HSC-UB150	1.5 INCH LOWER BODY, CLAMP		
	HSC-UB150B	1.5 INCH LOWER BODY, WELD		
	HSC-UB200	2 INCH LOWER BODY, CLAMP		
	HSC-UB200B	2 INCH LOWER BODY, WELD		
	HSC-UB250	2.5 INCH LOWER BODY, CLAMP		
	HSC-UB250B	2.5 INCH LOWER BODY, WELD		
	HSC-UB300	3 INCH LOWER BODY, CLAMP		
	HSC-UB300B	3 INCH LOWER BODY, WELD		
	HSC-UB400	4 INCH LOWER BODY, CLAMP		
	HSC-UB400B	4 INCH LOWER BODY, WELD		



ITEM	PART NO.	DESCRIPTION	MATERIAL	QTY.
1.5 INCH - 4 INCH ECCENTRIC SPRING CHECK VALVE				
1	HSC-LB150	1.5 INCH LOWER BODY, CLAMP	316L SS	1
	HSC-LB150B	1.5 INCH LOWER BODY, WELD		
	HSC-LB200	2 INCH LOWER BODY, CLAMP		
	HSC-LB200B	2 INCH LOWER BODY, WELD		
	HSC-LB250	2.5 INCH LOWER BODY, CLAMP		
	HSC-LB250B	2.5 INCH LOWER BODY, WELD		
	HSC-LB300	3 INCH LOWER BODY, CLAMP		
	HSC-LB300B	3 INCH LOWER BODY, WELD		
	HSC-LB400	4 INCH LOWER BODY, CLAMP		
	HSC-LB400B	4 INCH LOWER BODY, WELD		
2	-PART OF REPAIR KIT-			1
3	HSC-P150	1.5 INCH PLUNGER	316L SS	1
	HSC-P200	2 INCH PLUNGER		
	HSC-P250	2.5 INCH PLUNGER		
	HSC-P300	3 INCH PLUNGER		
	HSC-P400	4 INCH PLUNGER		
4	HSC-SP150	1.5 INCH SPRING	316L SS	1
	HSC-SP200	2 INCH SPRING		
	HSC-SP250	2.5 INCH SPRING		
	HSC-SP300	3 INCH SPRING		
	HSC-SP400	4 INCH SPRING		
5	-PART OF REPAIR KIT-			1
6	13MHHM200	1.5 INCH CLAMP	CF8	1
	13MHHM250	2 INCH CLAMP		
	13MHHV300	2.5 INCH CLAMP		
	13MHHM400	3 INCH CLAMP		
	13MHHM500	4 INCH CLAMP		
7	HSC-UB150	1.5 INCH LOWER BODY, CLAMP	316L SS	1
	HSC-UB150B	1.5 INCH LOWER BODY, WELD		
	HSC-UB200	2 INCH LOWER BODY, CLAMP		
	HSC-UB200B	2 INCH LOWER BODY, WELD		
	HSC-UB250	2.5 INCH LOWER BODY, CLAMP		
	HSC-UB250B	2.5 INCH LOWER BODY, WELD		
	HSC-UB300	3 INCH LOWER BODY, CLAMP		
	HSC-UB300B	3 INCH LOWER BODY, WELD		
	HSC-UB400	4 INCH LOWER BODY, CLAMP		
	HSC-UB400B	4 INCH LOWER BODY, WELD		

Dimensions

Dimensions are approximate and subject to change without notice. Contact sanitarydrawings@dixonvalve.com for specific drawing related requests.



Size	A (inches)	
	HSC	EHSC
0.5 inch	2.7	3.1
0.75 inch	2.7	3.1
1 inch	3.3	4.0
1.5 inch	3.4	3.6
2 inch	3.4	4.1
2.5 inch	3.4	4.0
3 inch	3.4	4.0
4 inch	4.1	4.7

Part Number Key

To ensure proper specification of your Dixon® product, below is the complete part number key to configure the product with the options that meet your specific requirements. If you require an option that is not listed in this key, please feel free to contact Dixon®—Sanitary Division at 800.789.1718.

 Spring Check Valves		Series	Elastomers	Size	End Connection <i>(if applicable)</i>
Series	Code	HSC	E	050	
- HSC (Vertical Application)	HSC				
- EHSC (Horizontal Application)	EHSC				
Elastomers	Code				
- EPDM	E				
- FKM	V				
Size	Code				
- 0.5 inch	050				
- 0.75 inch	075				
- 1 inch	100				
- 1.5 inch	150				
- 2 inch	200				
- 2.5 inch	250				
- 3 inch	300				
- 4 inch	400				
End Connection	Code				
- Triclamp					
- Weld	BB				

Troubleshooting

Problem	Possible Cause	Suggested Action
Fluid is leaking past plunger seal	Damage to plunger O-ring	Inspect and replace plunger O-ring
	Damage to spring	Inspect and replace spring
	Obstruction between plunger and body or in the spring	Inspect for obstructions and replace components if necessary
Valve is leaking between upper body and lower body	Damage to the body gasket	Inspect and replace body gasket
Valve is not stroking properly	Obstruction between plunger and body or in the spring	Inspect for obstructions and replace components if necessary
Fluid not flowing through valve	Valve is installed improperly	Check installation section to make sure fluid is flowing into inlet of valve
Any other issue	-	Contact Dixon Sanitary 800.789.1718

Certificates

Dates shown on certificate may not be current.

ISSUE DATE: September 07, 2007

CERTIFICATE AUTHORIZATION NUMBER: 1447



THIS IS TO CERTIFY THAT

Dixon Sanitary

N25 W23040 Paul Road, Pewaukee, WI 53072

is hereby authorized to continue to apply the
3-A Symbol to the models of equipment, conforming to 3-A Sanitary Standards for:

Number 58-02

58-02 (Vacuum Breakers and Check Valves)

set forth below

CIP Models: HSC – Spring Check Valve, Sizes 1", 1.5", 2", 2.5", 3", & 4"; EHSC – Eccentric Spring Check Valve, Sizes 1", 1.5", 2", 2.5", 3", & 4"; B46MP – Spring Check Valves, sizes 1", 1.5", 2", 2.5", 3", & 4"; B45By – Ball Check Valve, Sizes 1.5", 2", 2.5", & 3"; B45AB – Air Blow Check Valve, Sizes 1.5", 2", 2.5", 3", & 4"; BARV – Air Relief Check Valve, Size 1.5":

COP Models: HSC-050, HSC-075, EHSC-050, EHSC-075; Sizes 1/2" and 3/4"

VALID THROUGH: **December 31, 2019**

Timothy R. Rugh
Executive Director
3-A Sanitary Standards, Inc.

The issuance of this authorization for the use of the 3-A Symbol is based upon the voluntary certification, by the applicant for it, that the equipment listed above complies fully with the 3-A Sanitary Standard(s) designated. Legal responsibility for compliance is solely that of the holder of this Certificate of Authorization, and 3-A Sanitary Standards, Inc. does not warrant that the holder of an authorization at all times complies with the provisions of the said 3-A Sanitary Standards. This in no way affects the responsibility of 3-A Sanitary Standards, Inc. to take appropriate action in such cases in which evidence of nonconformance has been established.

NEXT TPV INSPECTION/REPORT DUE: **November 2021**

Limited Warranty

DIXON VALVE AND COUPLING COMPANY (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

Dixon, founded in 1916, is a premier manufacturer and supplier of hose couplings, valves, dry-disconnects, swivels, and other fluid transfer and control products. The company's global reach includes a wide range of products for numerous industries including petroleum exploration, refining, transportation, chemical processing, food & beverage, steel, fire protection, construction, mining and manufacturing. Dixon's strategic objective is to create solutions that make products safer, leak-free, longer lasting, and always available.



The Right Connection®

Dixon Sanitary

N25 W23040 Paul Road • Pewaukee, WI 53072

Customer Service: 800.789.1718

sanitarysales@dixonvalve.com

Fax: 800.789.4046

dixonvalve.com