

Unitor™ Corrosion Shield 20 - 1.5” Installation Maintenance Manual



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Product N. 767630

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1.0 Introduction:

Dear Customer, thank you for selecting Unitor™ Product range. This manual is intended to provide the installation, start up and maintenance guideline for the product **Corrosion Shield 20-1.5"**, should you need any further information, pls. reach out to our customer service contact.

2.0 Product Description:

Corrosion Shield 20-1.5" is an innovative product combining filtration, corrosion management to address challenges on the potable water system. The 2 steps approach prevent corrosion products and sediments carryover to downstream potable water distribution system and corrosion inhibitor actively minimize corrosion on the distribution system.

Corrosion Shield 20-1.5" consists of 2 stages:

Stage 1 (Sediment removal): is an innovative product design to reduce carryover of corrosion product, sediments in the potable water distribution through filtration therefore preventing and improving potable water quality. Product complies with DM25, ACS and NSF/ANSI 42 standards

Stage 2 (Corrosion Inhibition): is an innovative product design to reduce marine potable water pipeline corrosion, red water events and reduce mineral/corrosion product scale potential. Product complies with DM25, ACS and NSF/ANSI/CAN 60 standards.

3.0 Corrosion Shield 20-1.5" Installation and Maintenance Guideline:

Customer scope: To connect all incoming and outgoing connection valves/line/flexible/fittings to Corrosion Shield 20-1.5"

The installation and maintenance guidelines are segregated into 4 sections.

3.1 Pre-Installation

3.2 Installation & Start up

3.3 General Maintenance

3.4 Cartridge Replacement

Pic 1: Overall system set up requirement for Corrosion Shield 20-1.5"

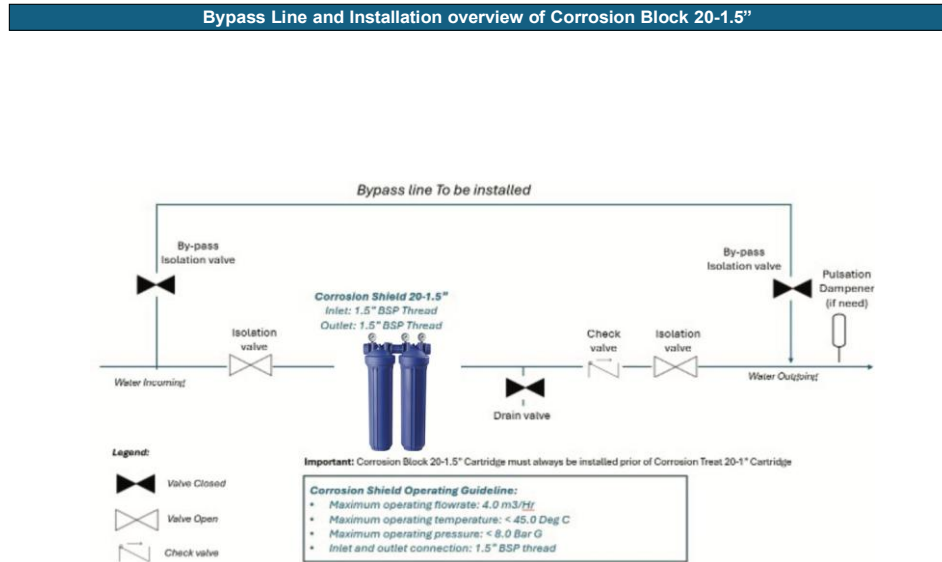


Table 1: Dimension, Gross Weight, Connection Size for Corrosion Shield 20-1.5" & Individual Parts

Product No.	Product Name	Item	Product Description	UoM	Qty [pcs]	As Box Set			
						Dimensions			Gross Weight [KG]
						Height	Width	Length	
						mm	mm	mm	
767630	Corrosion Shield 20-1.5"; Starter Kit	1	Corrosion Shield 20 -1.5" Housing Preloaded with Corrosion Block & Corrosion Treat Cartridge	Pcs	1	230	440	740	15
		a	Spanner	Pcs	1				
		b	Wall Bracket	Pcs	1				
		c	Lubrication Kit (incl. O-RING)	Pcs	5				
		d	Pressure Gauge (0-12 BarG)	Pcs	5				
		f	Corrosion Block 20 - 1.5" Cartridge	Pcs	4				
		g	Corrosion Treat 20- 1.5" Cartridge	Pcs	1				

**Pic 2: Part List Corrosion Shield 20-1.5"****Corrosion Shield 20-1.5" – Part List and Product Description**

1. Corrosion Shield
 - a. Filter Head
 - b. Filter Bowl
2. Corrosion Block 20-1.5" Cartridge
3. Corrosion Treat 20-1.5" Cartridge
4. Lubrication Kit with O Ring
5. Pressure Gauge (0 – 12 bar G)
6. Spanner

Housing Material: Plastic, selected raw material, suitable for potable water

Important Reminder: For **Corrosion Shield 20-1.5"**, the installation is suitable for the following operating conditions

- a. Maximum operating flowrate: 4.0 m³/Hour
- b. Maximum operating temperature: < 45.0 Deg C
- c. Maximum operating pressure: < 8.3 Bar G
- d. Inlet and outlet connection: 1.5" BSP thread

3.1. Pre-Installation:

1. Check and inspect the **Corrosion Shield 20-1.5"** parts are as per the bill of material included in table 1.
2. **The Corrosion Shield 20-1.5"** already pre-loaded with 1 x **Corrosion Block 20-1.5"** cartridge and 1 x **Corrosion Treat 20-1.5"** cartridge into the housing and is ready to be installed.
3. Install the 3 pressure gauges to **Corrosion Shield 20-1.5"** according to the pressure gauge installation guide.
4. It is recommended to install bypass line to ensure potable water is always available when maintenance is under planned (e.g. Corrosion Block 20-1.5" Cartridge replacement every 3 months and Corrosion Treat 20-1.5" Cartridge replacement every 12 months).
5. Ensure the water inlet and outlet valves are isolated prior connecting the **Corrosion Shield 20-1.5"** to existing system.

3.2. Installation & Start Up:

1. Identify the IN-OUT position at the filter head section, look for the **"TRIANGLE"** sign, this is the indication of the flow direction. IN represent connection of water inlet to filter housing and OUT represent water outlet
2. Connect the water inlet to the 1.5" BSP thread located at the filter head (remember: Follow the **"TRIANGLE"** sign as indication of water inlet)
3. Install the 3 pressure gauges to the 3 ports located at the filter head (see picture 6 for the correct positioning of the gauges)
4. Connect to existing water pipeline with fixed pipeline or flexible hoses. Unscrew the housing bowls from head, lubricate the O-rings with supplied lubricant, then screw the bowls to head and tighten with supplied spanner
5. Loosen the 2 vent valves to allow for air venting.
6. Gradually open incoming water valve to the **Corrosion Shield 20 -1.5"** unit, observed air venting from the top section, once water started to flow out from the air vent valves, start to screw back and tighten.
7. Ensure that there is no water leak from the **Corrosion Shield 20 -1.5"** unit, tighten the filter bowls to the filter head and pressure gauges if needed.
8. Continue to observe and check for leakages for 48 hours.
9. In the case of leakage, open the filter housing, remove the O-ring from the bowl, place a new O-ring and lubricate the O-ring with lubrication kit, retighten the filter unit.
10. Continue to observe and check for leakages for 48 hours.
11. After the installation it is recommended to slowly turn on a water supply after the installation and let the water flow for at least 5 minutes before use.

3.3. General Maintenance:

Periodically clean the housing with water and sponge. If not in use for long time, remove the cartridge, upon restart, use a new cartridge.

Recommended replacement frequency as below. The products should always be stored in a cool, sheltered and dry storage condition.

Table 2: Corrosion Shield 20-1.5" key consumables replacement frequency.

No.	Item	Product	Frequency
1	Housing	Corrosion Shield 20-1.5" Housing	Every 5 yrs
2	Filter Cartridge	Corrosion Block 20 – 1.5" Cartridge	Every 3 months
3	Corrosion Inhibitor Cartridge	Corrosion Treat 20 – 1.5" Cartridge	Every 12 months
4	Spanner	Spanner	As need
5	Lubrication kit	Lubrication Kit (incl. O-RING)	Every 3 months (by each cartridge replacement) or as need
6	Pressure Gauge	Pressure Gauge 1/8", 0 - 12 Bar G	As need

Note: Above is minimum recommended frequency, actual usage may varies based on operation and water quality

Table 3: Corrosion Shield 20-1.5" Replacement kit, Product no: 767635 (complete with Corrosion Block 20-1.5" cartridge and Corrosion Treat 20-1" cartridge for 12 months use)

Product No.	Product Name	Item	Product Description	UoM	Qty [pcs]	As Box Set			
						Dimensions			Gross Weight [KG]
						Height	Width	Length	
						mm	mm	mm	
767635	Corrosion Shield 20-1.5" Replacement Kit	a	Corrosion Block 20 - 1.5" Cartridge	Pcs	4	540	235	315	6.5
		b	Lubrication Kit (incl. O-RING)	Pcs	7				
		c	Spanner	Pcs	2				
		d	Pressure Gauge 1/8", 0 - 12 Bar G	Pcs	2				
		e	Corrosion Treat 20-1.5" Cartridge	Pcs	1				

Pic 3: Part List Corrosion Shield 20-1.5" Replacement Kit

Corrosion Shield 20-1.5" Replacement Kit – Part List and Product Description



2. Corrosion Shield 20-1.5" Replacement Kit

- a. Corrosion Block 20-1.5" Cartridge
- b. Corrosion Treat 20-1.5" Cartridge
- c. Lubrication kit (incl. O-RING)
- d. Spanner
- e. Pressure Gauge (0 – 12 bar G)

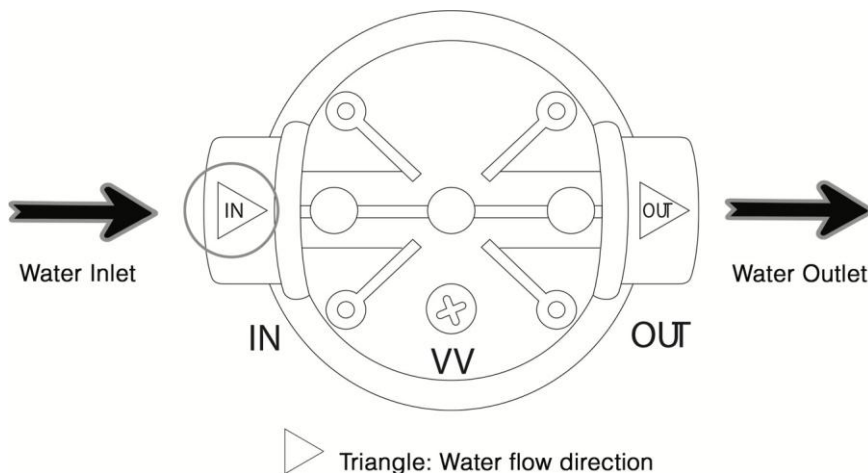
1. After every maintenance or change of filter cartridge, it's recommended to change the O ring with a new one and lubricate the O ring with lubrication kit before tightening the filter bowl to the filter head. Ensure there's no water leak from the filter unit, tighten the housing bowl to the housing head and pressure gauges if needed.
2. Continue to observe and check for leakages for 48 hours.
3. After the maintenance it is recommended to slowly turn on a water supply and let the water flow for at least 5 minutes before use.



3.4. Cartridges Replacement

1. Check and shutoff incoming and outgoing water valve
2. Release the pressure of the line by gradually opening drain valve on the connection line
3. Gradually unscrew to open the filter housing using the spanner provided
4. Remove the used cartridge(s)
5. Wipe clean the filter housing with water and a soft sponge.
6. Remove the plastic wrap on the new cartridge
7. Insert the new cartridge into housing
8. Replace existing filter bowl with a new O-ring.
9. Lubricate the O-ring with lubrication kit before tightening the filter bowl to the filter head
10. Tighten the filter bowl to the filter head with the spanner, do not over tighten.
11. Loosen the 2 air vent valves located at the filter head to allow air venting
12. Turn on the water supply
13. When water is observed coming out from the air vent valves, start to tighten both the air vent valves
14. Ensure there's no water leak from the filter unit, tighten the filter bowl to the filter head and pressure gauges if needed.
15. Continue to observe and check for leakages for 48 hours.
16. In the case of leakage, open the filter housing, remove the O-ring from the bowl, place a new O-ring and lubricate the O-ring with lubrication kit, retighten the filter unit.
17. Continue to observe and check for leakages for 48 hours.
18. It's recommended after the installation, slowly turn on a water supply after the installation and let the water flow for at least 5 minutes before use.

Pic 4: How to identify the installation flow direction located on the filter head





Pic 5: Installation Guide For Cartridge Replacement (Corrosion Block 20-1.5" and Corrosion Treat 20-1.5" Cartridge)

Corrosion Shield 20-1.5" Cartridge Installation Guide



1. Unscrew the filter bowl from the filter head
2. Insert Cartridges into the filter bowls (Note: Corrosion Block 20-1.5" should always be installed before Corrosion Treat 20-1.5" Cartridge)
3. Use the lubrication kit to lubricate the bowl O-ring which is located at the filter bowl top
4. Complete the installation by re-assemble head and bowl, and screw tight the head and bowl
5. Tighten the filter bowl to the filter head with spanner

Pic 6 : Installation Guide Pressure Gauges

Pressure Gauges Installation Guide

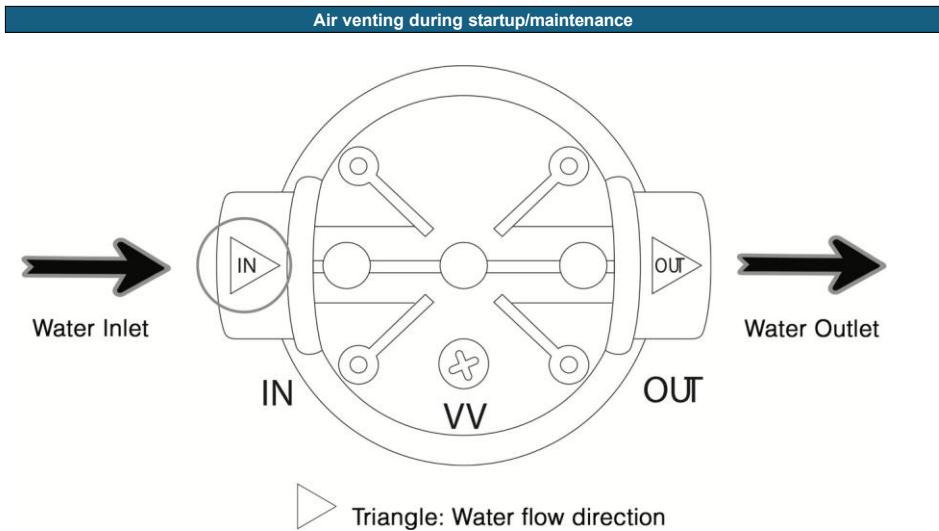


1. Top section, head: Inlet and outlet 1.5" BSP Thread
2. Apply some sealing tape to the thread of the pressure gauge.
3. Screw tight to the thread port at the top section of the filter housing (see picture 8 for the correct positioning of the gauges), do not overtighten

Pressure Gauges Installation

Apply some sealing tape to the thread of the pressure gauge and screw them on tightly, but without over-tightening, into the 1/8" threaded ports on the top of the head; at product start-up, in case of leakage of water add some more sealing tape and/or screw more tightly.

Pic 7: Air Venting During Startup/Maintenance



1. Unscrew the vent-valve and wait for air purge, then screw and tighten the vent-valve (Note: Look for vent valve signage)

Pic 8: Recommended Installation Location Corrosion Block and Corrosion Shield

