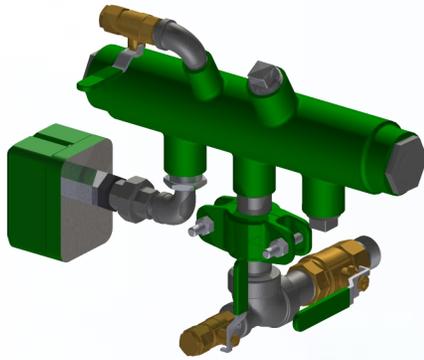




## ECS Inspector Corrosion Monitoring Station (ICMS)



(Shown with optional ECS DETECTOR)

**PATENT PENDING**

### Specifications

<b>Stock No.</b>	ICMS-D (for dry pipe sprinkler systems) ICMS-W (for wet pipe sprinkler systems)
<b>Service Pressure:</b>	Up to 175 PSIG
<b>System Connection:</b>	1" MNPT
<b>Temperature Range:</b>	-40°F to 120°F (-40°C to 49°C)
<b>Dimensions:</b>	14"(W) X 11"(D) X 12"(H)
<b>Optional Parts:</b>	DCMP-1 (probe wired to panel) DCMP-3 (probe with push button test/indicator)

### General Description

The ECS Inspector Corrosion Monitoring Station (ICMS) is designed for installation on a system riser or a main connected to the riser to monitor internal corrosion activity in water-based fire protection systems (FPS). It is recommended that each FPS be monitored with an ICMS so that any system activity such as draining and refilling is also experienced by the corrosion monitoring station. In buildings where more than one FPS is supplied from a common riser an ICMS must be installed on the system side of the control valve on each of the individual systems. The ECS Inspector is designed to simulate conditions of internal corrosion as they may develop within a system. The ECS Inspector can be isolated from the system riser or main and easily accessed for servicing and monitoring of corrosion coupons and/or corrosion monitoring probes without taking the FPS out of service. Oxygen sensitive corrosion monitoring coupons are factory installed in the corrosion monitoring station.

The ICMS-W is equipped with coupons for wet pipe fire protection systems designed to intersect the air/water interface in the unit. The ICMS-D is equipped with a lower profile coupon design that simulates the conditions in a dry or pre-action system where residual water remains or forms due to condensation. The coupon design allows for the detection of crevice corrosion, oxygen corrosion, and microbiologically influenced corrosion. Crevice corrosion usually occurs in oxygen depleted areas beneath gaskets, surface deposits, in pipe thread, and in groove joints, all of which are corrosion types that attack dry/pre-action systems.

The optional ECS Detector Corrosion Monitoring Probe (DCMP) includes a probe that provides visual or electronic notification when a predetermined amount of corrosion activity has occurred within the system. The corrosion monitoring probe has precisely machined wall thickness which will corrode through activating the ECS Detector.

Electronic supervision of the pressure switch, when provided, must be wired to a building monitoring panel, providing notification to the building operation staff. Activation of the ECS Detector is the notification to remove the corrosion coupons for analysis. The analysis will provide an indication of the degree of corrosion activity being experienced in similar environments within the system. The corrosion monitoring probe is a single use device and must be replaced upon activation, along with the installation of new corrosion coupons.

The ECS Inspector (CMS) is designed to allow viewing into the unit through sight glasses at each end to confirm the installation of the corrosion coupons, the corrosion monitoring probe, and the location of the air/water interface in wet pipe automatic sprinkler systems.

The ECS-Detector Corrosion Coupon/Probe Replacement Kit contains the necessary components to remove, replace, and forward for analysis, the corrosion monitoring probe, corrosion coupons, and a water sample.



### Installation Instructions

The corrosion monitoring station will be received assembled in two parts to allow for quick installation. The two parts will be joined by the provided 1" coupling. The procedure for the installation of the corrosion monitoring station is as follows:

1. The installing contractor must provide a 1" NPT connection into the sprinkler system riser or supply main as detailed by the designer. If the designer has not detailed the location of the ICMS, see Figure 1, and 2 for installation location information.
2. The lower part of the ICMS, assembled with the isolation valve and drain valve, must be screwed into the contractor provided 1" NPT connection to the system. Use Teflon tape on this threaded connection. Position this lower part of the corrosion monitoring station with the lower portion of the 1" nipple pointing "up". The installing contractor must confirm lower part of the assembly is installed in a horizontal and level position.

**NOTE:** The corrosion monitoring station cannot be installed in any configuration than could cause trapped water within the unit or the piping to the unit that will not drain when draining the fire sprinkler system.

3. Install the upper part of the corrosion monitoring station by connecting to the installed lower part at the 1" nipple pointing "up". By tightening the 1" coupling the corrosion monitoring station is fully assembled. **NOTE:** The corrosion monitoring station must be installed in a horizontal and level position with one of the end sight glasses being easily visible to allow for viewing of the water level and monitoring probe/coupons in the ICMS. The product labels on the exterior must be visible and in proper orientation for reading of the label.
4. Contractor is to verify that the corrosion monitoring station has the probe/coupons installed as required by the design documents. Verification must be made by viewing the devices through the sight glasses at each end of the ICMS. Do not remove the ECS Detector Corrosion Monitoring Probe or corrosion coupons from the corrosion monitoring station during the installation process.

### **When placing the ECS Inspector (ICMS-W) in service in a Wet Fire Sprinkler System follow these steps:**

1. Begin with the ECS Inspector Corrosion Monitoring Station (ICMS-W) isolation valve closed to the system and the ICMS drain valve closed and plugged. The air inlet/relief valve must also be closed. Then open the ICMS isolation valve and check the water level in the ICMS through the sight glass at either end. The water level shall be adjusted as necessary to be maintained at the water level mark at the center of the ICMS sight glasses. If the water level is above the water level line add additional air through the air inlet/relief valve to lower the water level. If the water level is below the water level lines then relieve air to raise the water to the water level mark. Close the air inlet/relief valve after the correct water level has been achieved.

**NOTE:** The contractor may need to install temporary fittings necessary to supply pressurized air to the CMS through the air inlet/relief valve. Remove temporary air inlet fittings provided by the contractor and reinstall the plug in the air inlet/relief valve. Be sure to leave the Corrosion Monitoring Station isolation valve in the open position. Verify that all valves are in the correct position and the corrosion monitoring station is free of any leaks.

### **When placing the ECS Inspector (ICMS-D) in service in a Dry Fire Sprinkler System follow these steps:**

1. Confirm the drain valve and the air inlet/relief valve is closed and the plugs installed.
2. Open the ICMS isolation valve. This isolation valve must remain open as the system is water filled for testing and drained. The valve must remain open as the system is pressurized and placed into service.

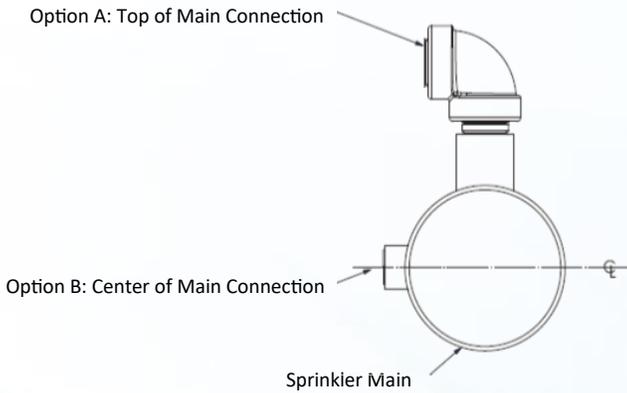
In dry/pre-action systems that are not filled with water during the filling and/or testing of system, the contractor must perform the following steps:

- a. Close the isolation valve.
- b. Fill the ICMS with water from the FPS source.
- c. Drain the water from ICMS through the drain valve.
- d. Open isolation valve.

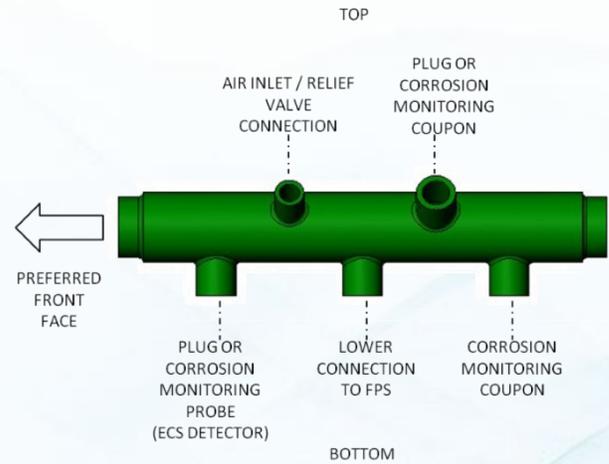


Complete Corrosion Control.

**FIGURE 1: ECS Inspector Corrosion Monitoring Station Installation on Sprinkler Main**



**FIGURE 2: ECS Detector Corrosion Coupon/Probe Installation**



WHEN CONNECTING A CORROSION MONITORING STATION TO A MAIN, INSTALL AT OR ABOVE THE CENTER LINE OF THE SPRINKLER MAIN

**FIGURE 3 – ECS Inspector Corrosion Monitoring Station Installed on Riser (Wet or Dry/Pre-action)**

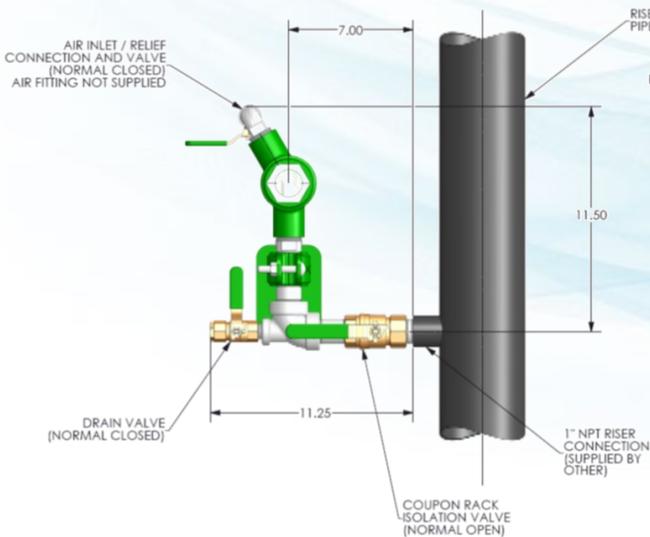
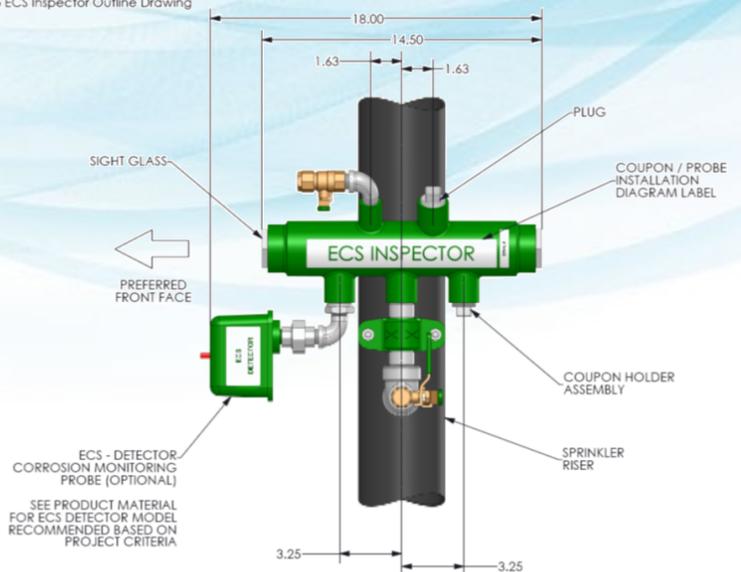


Fig. 5 ECS Inspector Outline Drawing



Note: 3 1/2" minimum clearance height required to remove coupon holder.

### Installation Location

When locating an ECS Inspector Corrosion Monitoring Station off of a system riser (for single system riser only):

- A) Locate on system side of the system flow switch
- B) Install a minimum of 4 feet on system side of main supply valve.

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Solutions for every environment

## DRY PIPE SYSTEM NITROGEN GENERATORS



*Corrosion control technology located in the riser room*

	Wall Mount			Skid Mount	Stand Alone w/Separate Air Compressor			
	PGEN-3	PGEN-5	PGEN-10	PGEN-20	PGEN-30	PGEN-40	PGEN-50	PGEN-60
<b>Total System Capacity</b>	675 gal	950 gal	2,000 gal	3,200 gal	6,500 gal	11,000 gal	18,500 gal	22,500 gal
<b>Single System Capacity @ 40 psi<sup>(1)</sup></b>	215 gal	265 gal	560 gal	950 gal	1,150 gal	1,440 gal	2,025 gal	2,900 gal
<b>Single System Capacity @ 20 psi<sup>(1)</sup></b>	540 gal	590 gal	1,120 gal	1,800 gal	2,300 gal	2,880 gal	4,050 gal	5,800 gal
<b>Air Compressor</b>	Integral	Integral	Integral	Integral	Separate	Separate	Separate	Separate
<b>Size (H x W x D)</b>	36x24x9	36x24x9	38x29x11	57x32x40	53x24x9 <sup>(2)</sup>	76x24x12 <sup>(2)</sup>	76x24x12 <sup>(2)</sup>	76x24x12 <sup>(2)</sup>
<b>Weight</b>	115 lbs	125 lbs	175 lbs	420 lbs	152 lbs <sup>(2)</sup>	264 lbs <sup>(2)</sup>	300 lbs <sup>(2)</sup>	300 lbs <sup>(2)</sup>

**Notes**

- (1) Single system capacity based on 30 min. fill requirement of largest single sprinkler system; a secondary air compressor with normally closed isolation valve can be used to meet fill requirement for larger individual systems
- (2) Size and weight of nitrogen generator only, does not include separate air compressor
- (3) All nitrogen generators include 1 year manufacturer's warranty per ECS terms and conditions

## WET PIPE SYSTEMS



*Automatic air venting and nitrogen corrosion control*



## SERVICES



*Corrosion assessments, pipe analysis, and long term corrosion control programs to mitigate future risk*

## MONITORING SOLUTIONS



*Ensure effective corrosion control with real time corrosion monitoring solutions*