XgardIQ Duct Mounting Kit

XgardIQ Duct Mounting Kit – Remote Sensor

Installation, Operation and Maintenance Instructions

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Introduction

The duct mounting kit is designed to be installed in conjunction with an XgardIQ remote sensor assembly for monitoring potentially hazardous gases within ventilation ducts. The duct mounting assembly operates using the Venturi principle, for which the air flow rate within the duct must be between 5 metres per second and 20 metres per second.

Installation

The XgardIQ remote sensor housing must be fitted to the duct mounting kit prior to assembly onto the duct. A full assembly drawing is shown on the next page.

Fitting the remote sensor assembly:

1. Remove the two screws securing the bracket to the mounting plate. Be careful not to lose the spring washers on the screws.
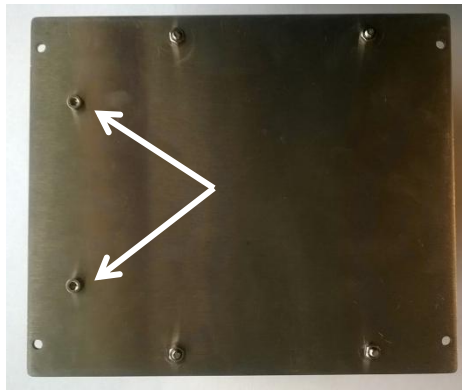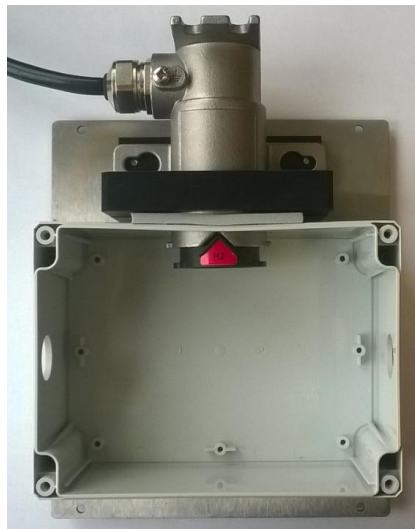

2. Separate the two halves of the bracket and re-assemble clamped around the sensor housing.

3. Remove the clear lid from the sampling chamber and re-fit the bracket to the mounting plate ensuring the sensor housing is firmly pressed against the gasket.

4. Insert the sensor module into the sensor housing and re-fit the lid.

Assembly onto the duct:

5. To avoid the adverse effects of turbulence, the duct mounting assembly should be installed in the centre of a straight section of duct which has a length of at least six times its width.

6. Check the air flow direction in the air duct system.

7. Apply the drilling template onto the centre line of the air duct parallel to the air flow. Peel and stick the arrow label on the drilling template in the same as the direction of the air flow in the duct. Peel and stick the 'INLET' and 'OUTLET' labels to the appropriate sides on the sampling chamber (see Figures 1 and 2).

8. Using a centre punch, punch the two centres indicated for the drilling template.

9. Drill out to 25mm (1") diameter. Remove burrs and sharp edges around the two holes.

10. Fit the sample tube elbows with rubber washers on the inside and outside of the sampling chamber. Fit the securing nuts and tighten. Ensure that the black sample tube holes face 180⁰ away from the sampling chamber, and the white sample tube

chamfer faces away from the sampling chamber, and that they are fitted in the correct inlet and outlet positions relative to the direction of flow as shown in Figure 2. Replace the sampling chamber lid.

11. To fit the assembly to the duct, place the black and white sample tubes through the two holes drilled for point 5 of these instructions. Mark the four plate fixing holes and drill 5mm (1/4") holes for securing the plate.

12. For the final fit, check the thickness of the air duct metalwork and fit the black rubber grommets into the two holes for the sample tubes and push until the unit has sealed. Secure the plate to the duct using suitable bolts.

13. Connect the remote sensor lead to the XgardIQ transmitter.

14. **Check that there is no air leakage into the sampling chamber from outside the duct through the probe joints, grommets or sampling unit cover gasket.**

Testing and Commissioning

Commission and calibrate the XgardIQ sensor and transmitter according to its instructions. The sensor can be accessed by temporarily removing the sampling chamber lid; calibrate using a standard XgardIQ calibration cap (S012323). The operation of the duct mounting assembly can be tested by introducing coloured smoke into the duct system and visually confirming that the smoke is drawn into the sampling chamber. It is recommended that the XgardIQ sensor module is removed before a test with smoke is conducted to avoid potential sensor contamination.

Warning: If the system is to be tested using gas, it is essential to ensure that procedures are in place to prevent people and/or equipment being affected by any test gas introduced into the ventilation system.

Operation and maintenance

The duct mounting kit needs no specific maintenance however the XgardIQ gas sensor and transmitter must be maintained in accordance with the instructions provided.

Warning: to prevent any potential electrostatic charging hazard, wipe the sampling chamber and tubes only with a damp cloth.

Specifications for the XgardIQ Duct Mounting Kit – Remote Sensor

Part Number: C01894
Suitable Duct Widths: 300mm[1] (17") to 1500mm (60")
Suitable Air Speeds: 5 to 20 metres per second
Operating Temperature Range: 0ºC (32ºF) to +60ºC[2] (140ºF)
Dimensions: Length: 230mm (including sensor module)
                                  Width: 170mm
                                  Height: 102mm
Sample pipe insertion depth: 165mm approx.
Duct mounting kit weight: 1.4Kg
Total weight with remote sensor housing, sensor and lead: 3.75Kg max.

[1] Alternative arrangements for supporting the mounting plate will be required if installed on smaller or round-sided ducts.

[2] Sensor operating temperatures may vary: refer to the instructions supplied with the XgardIQ sensor module.
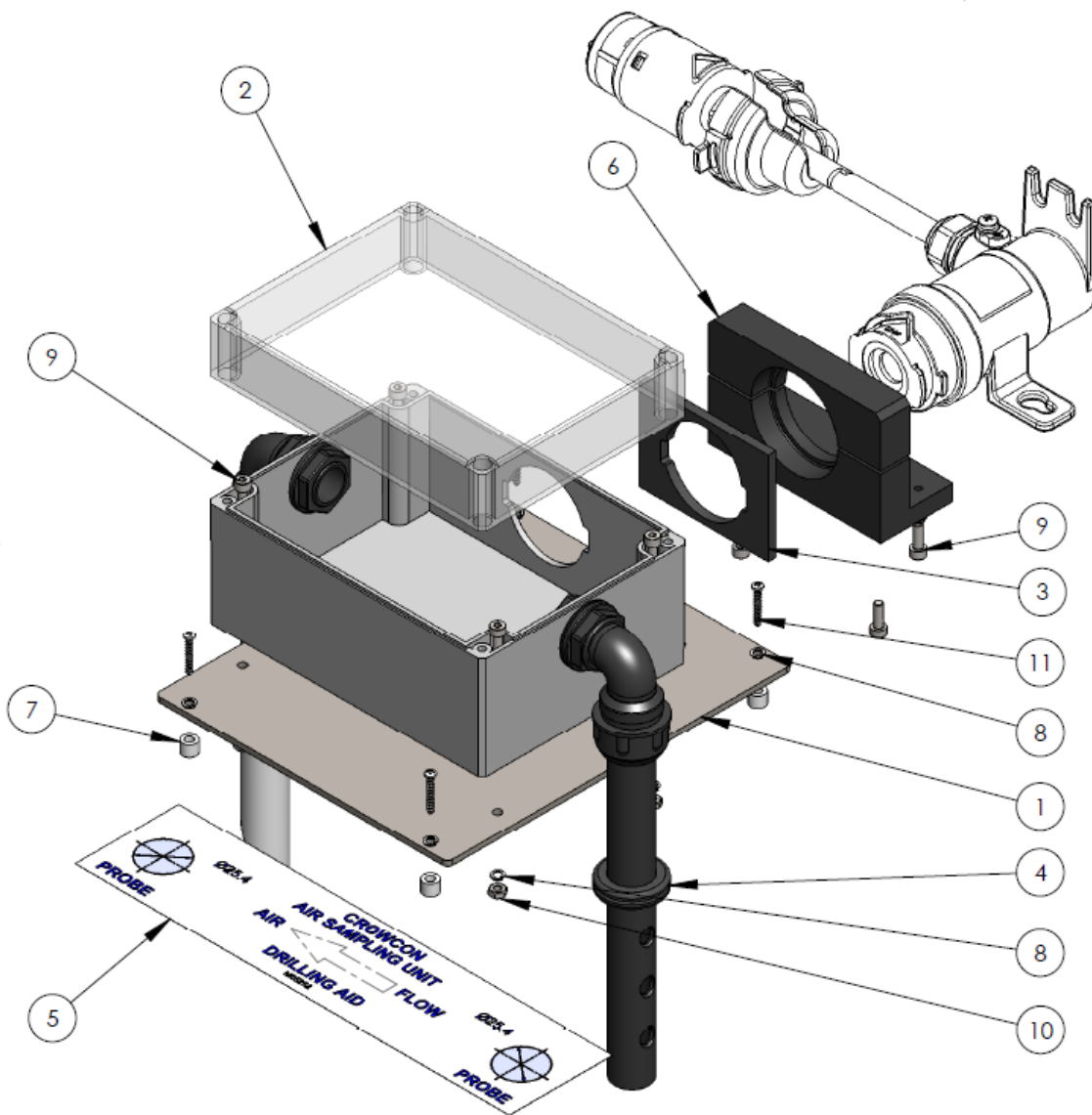
ITEM NO.	Description	Stock Number	Drawing No	QTY.
1	XGard IQ - ASU Mtg Plate	M071029	MCAD-002714	1
2	Xgard IQ ASU Kit	M041172	MCAD-002697	1
3	Gasket ASU XgardIQ	M041171	MCAD-002694	1
4	Grommet 25.4x20.6mm PV77 TPR	M04141	MCAD-001746	2
5	XGard - ASU Drilling Label	M05252	MCAD-001740	1
6	Bracket Duct Mount XgardIQ	M041174	MCAD-002692	1
7	6.35mm long Spacer x 4.5mm I/D	M01209	84TR-459	4
8	M4 Spring Washer	M03691	N/A	10
9	M4 x 12 ST-ST Cap Head	M03572	N/A	8
10	M4 Nut ST-ST	M03584	N/A	4
11	SCREW No.6 x 3/4 Self tapper	M03683	N/A	4

NOTES
1. ENSURE SEAL BETWEEN XGARD IQ REMOTE SENSOR AND ASU ITEM 2 IS GAS TIGHT BEFORE FINALLY SECURING TO DUCT

2. USE DRILLING AID M05252 FOR CORRECT POSITION OF PIPE CENTRES IN DUCT.

3. WHEN MOUNTING UNIT TO DUCTING ENSURE SPACERS ITEM 7 ARE FITTED.

Figure 1: Duct Mounting Kit Assembly
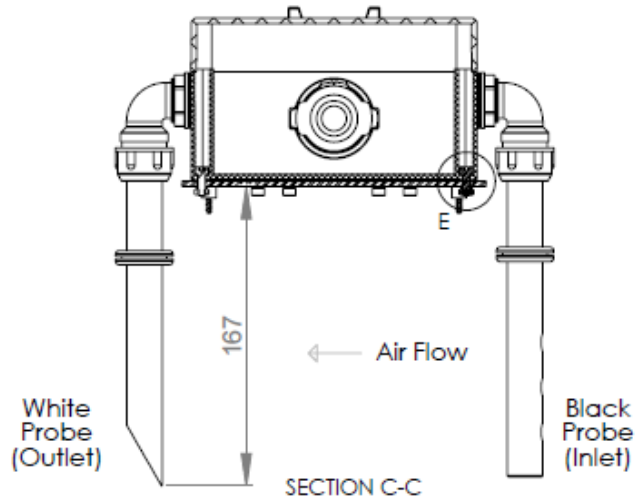
Figure 2: Sample Tube Orientation
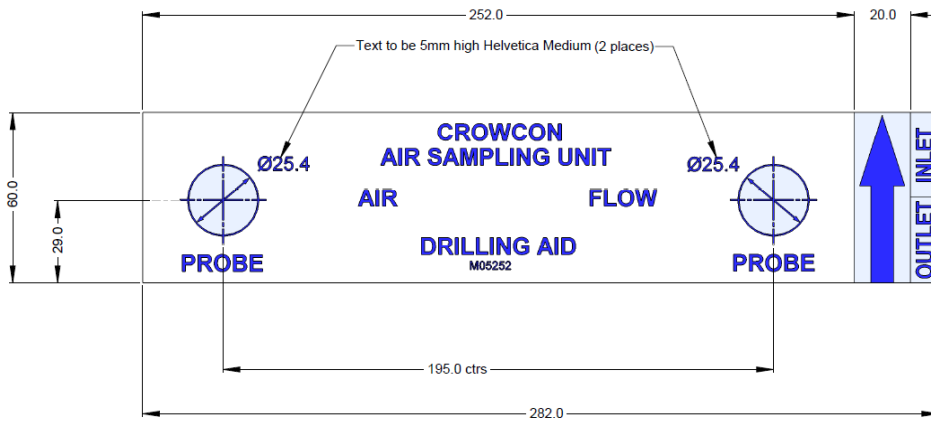
Figure 3: Drilling Template Label

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