# DDH-LAB

## DUCT DETECTOR HOUSING FOR ALTAIR SMOKE DETECTORS

This Duct Detector Housing (**DDH**) is designed to provide capability to mount the indicated Altair smoke detector. When installed correctly it will then allow monitoring of airflow in heating and ventilation ducts for fire combustion products. The **DDH** must be fitted with a Altair intelligent smoke detector linked to a compatible control panel and a suitable sampling tube installed as shown. **DDH** has been designed to allow optimum airflow through the detector and it is recommended for installations in ducts with low airflow and **with an air speed between 0.5 m/s and 20 m/s**.

**CHARACTERISTICS**

- Easy to install
- Installer friendly cabling
- Simple servicing and maintenance
- Single tube air sampling system
- Sampling tube with innovative design
- Sampling tube easy to mount
- Test hole positioned on cover.

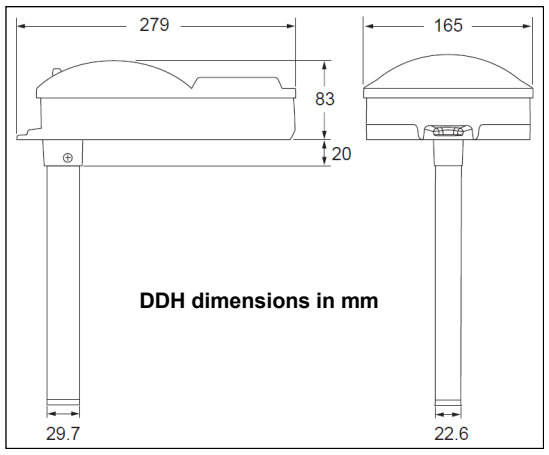
Compatible detectors: **A1000** (Altair smoke detector)

The air sampling tube is supplied in three lengths: 0.6 m (**DDH-ST0.6**)
1.5 m (**DDH-ST1.5**)
2.8 m (**DDH-ST2.8**)

If the ventilation duct is wider than 0.6 m the sampling tube should penetrate the whole duct.

Mounting bracket (for insulated / circular ducts): **DDH-BR**

Weight: 660 g (without the detector installed)



**DDH dimensions in mm**

**INSTALLATION**

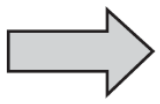
The sampling tube is made of aluminium and can easily be shortened to suit the diameter of the duct.
With insulated or circular ducts use the **DDH** mounting bracket.

**MOUNTING AND POSITIONING**

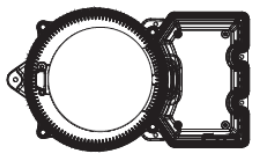
The **DDH** can be installed on any side of the duct.
We recommend that the **DDH** is mounted at a proper distance from heating, cooling, humidity or similar devices, equal to the positioning standard of flow meters.

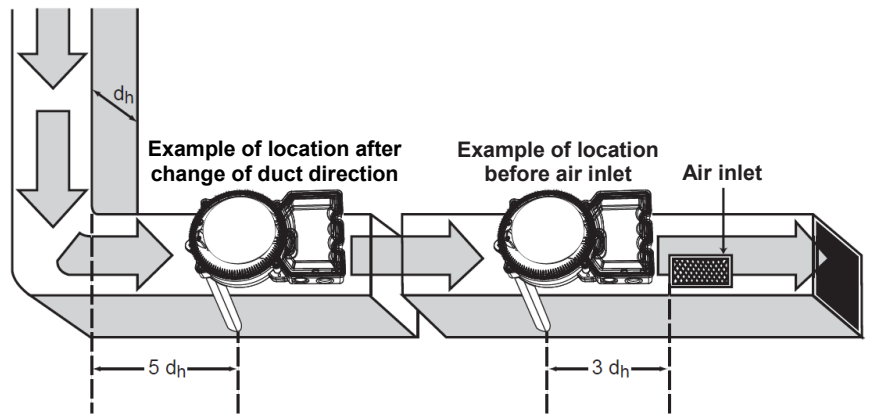
A distance of **3 times** the duct diameter should be left **before** a damper, filter or change of the duct direction.
A distance of **5 times** the duct diameter should be left **after** a damper, filter or change of the duct direction.

**The DDH shall be installed pointing towards the air flow direction**

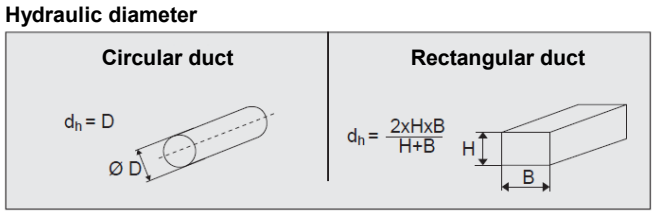


**Air flow direction**

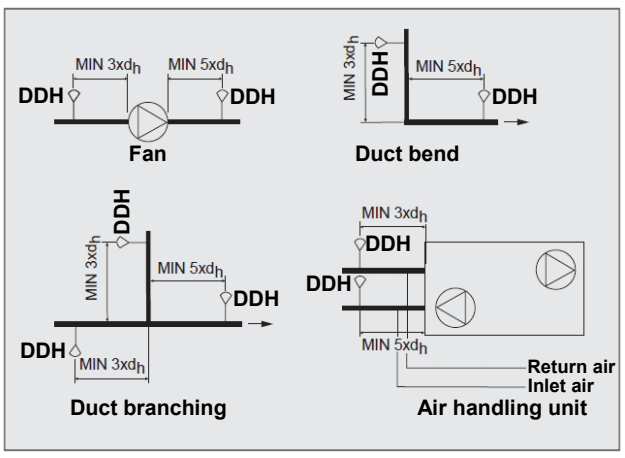





**Hydraulic diameter**




**List of sources of interference:**
- **fan**
- **damper**
- **silencer**
- **battery**
- **air handling unit**
- **duct bend**
- **duct branching**
- **duct narrowing or expansion.**




**1**

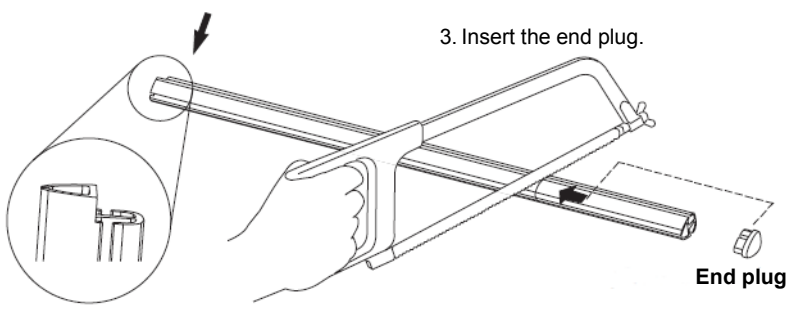
Drill a hole in the duct:

- Without bracket, ø 38 mm.

- With bracket, ø 51 mm (see point 10).

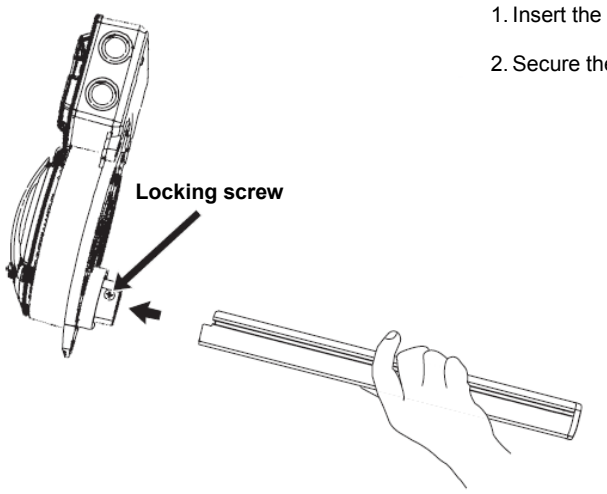
**2**

**Do NOT cut this end!**




1. Measure the diameter of the duct.
2. Shorten the pipe, if necessary. The pipe should penetrate approx. 90% of the width of the duct. **NOTE! See point 9**.
3. Insert the end plug.

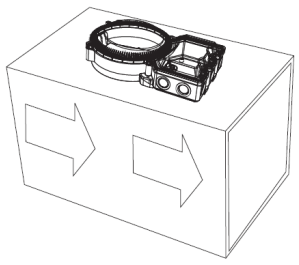
**3**




1. Insert the pipe into the bottom of the **DDH**.
2. Secure the pipe with the locking screw.

**4**

**INSTALLATION ON THE DUCT**

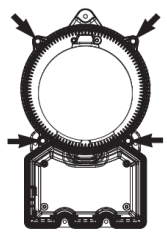


1. Mount the pipe and the **DDH** on the duct.

2. Secure the bottom of the **DDH** with the three provided screws; screw positions are marked on the picture.

**5**

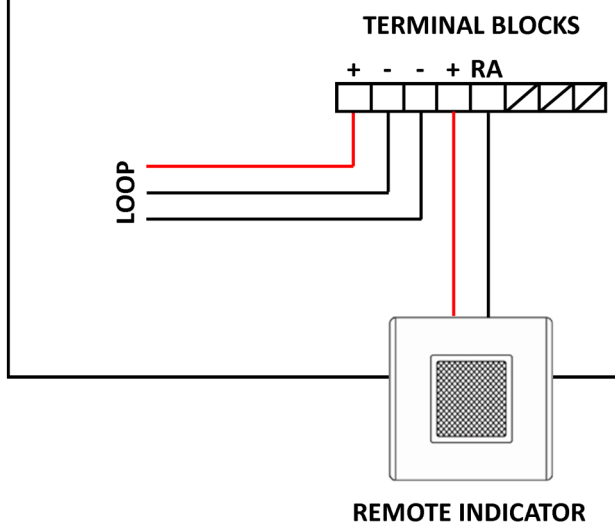
**ELECTRICAL INSTALLATION**



1. Remove the cover over the **DDH** (four screws).
2. Use a cable gland (PG13.5 or M20). The **DDH** is factory prepared with one cable opening. In case more than one opening is needed, carefully remove the round plastic wall in the selected entry and insert a cable gland. If the factory prepared opening is not used, it must be properly sealed.

**Ensure all glands are fully sealed and no openings remain to allow air leakage which may prevent effective operation.**

3. Connect the external cables according to the wiring diagram.




**6**

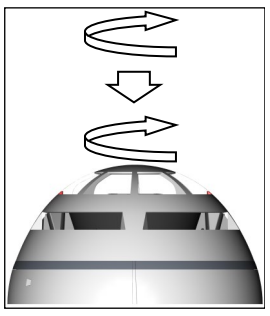
**SETTING THE ADDRESS**

Detectors can be addressed by using a special hand-held programming unit or they can be automatically addressed from the control panel after installation completion; note that the automatic addressing feature must be implemented by the control panel manufacturer: check the panel's literature to determine whether this operation can be performed.

Addresses may be selected through a 1 to 240 range and each device on the loop must have a unique address.

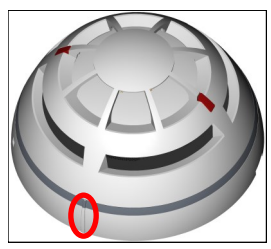
**7**

**INSTALLING THE DETECTOR**



1) Position the detector centrally on the **DDH** adaptor base ensuring it is level.
2) Rotate clockwise applying gentle pressure. **The detector will drop into its keyed location**.
3) Continue to rotate clockwise a few degrees until the detector has fully engaged in the adaptor base.

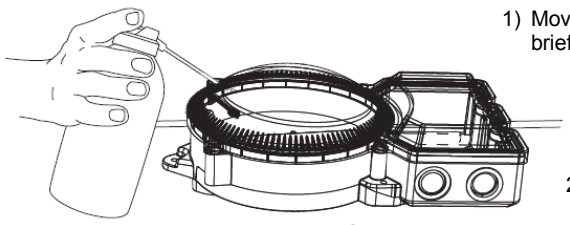
4) When the detector is firmly engaged, check the alignment of the raised reference marks on the detector and on the base.



## 8

**DETECTOR TESTING**

Check the detector with an approved smoke detector tester.



1) Move the "test hole plug" to the side and briefly release a spray of aerosol.

2) When alarmed, the LEDs lit on the red light and the panel goes into alarm condition.

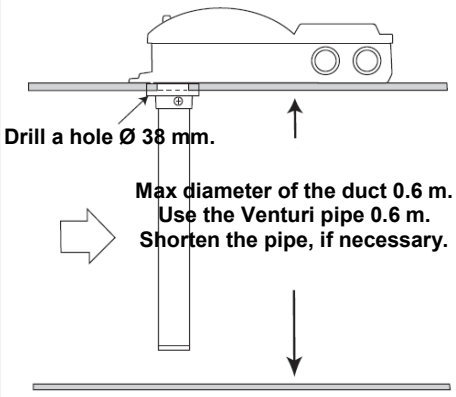
**IMPORTANT!**

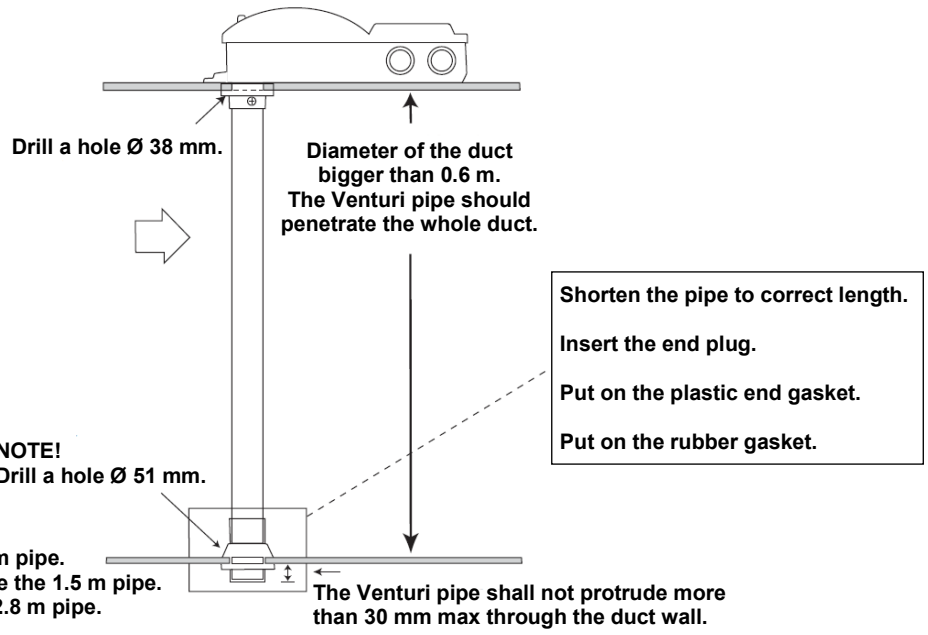
**Reinstall accurately the "test hole plug".**

**Do not drill any holes in the cover for any reason. Holes will cause air leakages and seriously interfere with the response of the detector.**

## 9

**FITTING OF THE VENTURI PIPES IN DUCTS HAVING DIFFERENT DIAMETERS**




**Shorten the pipe to correct length.**

**Insert the end plug.**

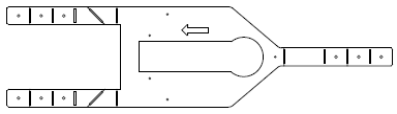
**Put on the plastic end gasket.**

**Put on the rubber gasket.**

**For ducts with a ø less than 0.6 m use the 0.6 m pipe.**
**For ducts with a ø between 0.6 m and 1.4 m use the 1.5 m pipe.**
**For ducts which are larger than 1.4 m use the 2.8 m pipe.**

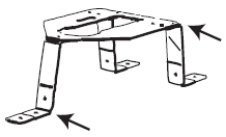
## 10

**BRACKET FOR CIRCULAR OR INSULATED RECTANGULAR DUCTS**

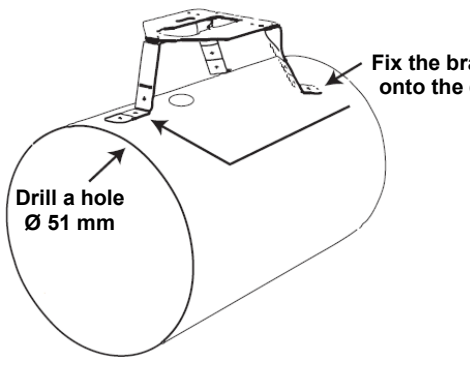


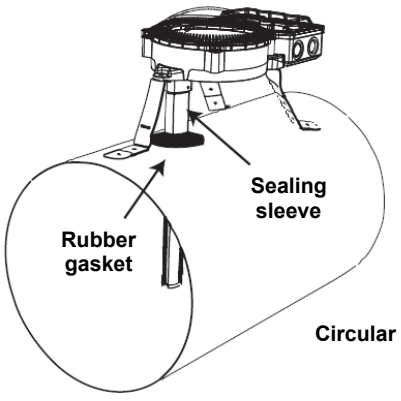
If using the bracket, the diameter of the duct can be as small as 100 mm. The bracket is supplied with a rubber gasket and a sealing sleeve.

**The bracket is supplied flat**

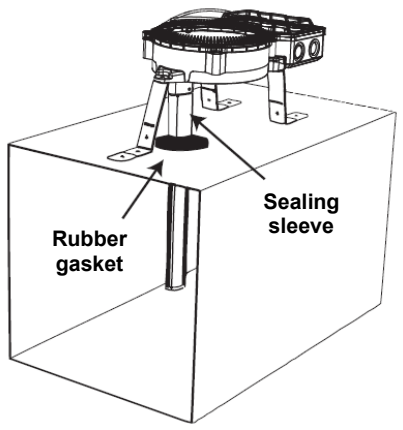


**The bracket can easily be bent or shaped to fit circular or rectangular duct**




**Circular duct**




**Insulated rectangular duct**

## FINAL CHECKS

- **Check that the DDH is correctly installed pointing towards the air flow in the duct.**
- **Ensure all glands are fully sealed and no openings remain to allow air leakage which may prevent effective operation.**
- **Check that the plastic plug of the test hole is properly and accurately installed.**
- **It is recommended that smoke from a smoke generator is introduced into the duct to check the detector's function.**

**WARNINGS AND LIMITATIONS**

Our devices use high quality electronic components and plastic materials that are highly resistant to environmental deterioration. However, after 10 years of continuous operation, it is advisable to replace the devices in order to minimize the risk of reduced performance caused by external factors. Ensure that this device is only used with compatible control panels. Detection systems must be checked, serviced and maintained on a regular basis to confirm correct operation.

Smoke detectors may respond differently to various kinds of smoke particles, thus application advice should be sought for special risks. Detectors cannot respond correctly if barriers exist between them and the fire location and may be affected by special environmental conditions.

Refer to and follow national codes of practice and other internationally recognized fire engineering standards.
Appropriate risk assessment should be carried out initially to determine correct design criteria and updated periodically.

**WARRANTY**

All devices are supplied with the benefit of a limited 3 year warranty relating to faulty materials or manufacturing defects, effective from the production date indicated on each product.

This warranty is invalidated by mechanical or electrical damage caused in the field by incorrect handling or usage.

Product must be returned via your authorized supplier for repair or replacement together with full information on any problem identified.

Full details on our warranty and product's returns policy can be obtained upon request.