

DDH-PRO, DDH-L, DDH-R and DDH-W INSTALLATION INSTRUCTIONS



The **Duct Smoke Detector** provides early warning of smoke by continually sampling air movement within heating and ventilation ducts in industrial or commercial premises.
The duct smoke detector provides switching facilities to shut down associated fans to prevent the spread of smoke into other areas.
DDH series has been designed to detect smoke in ventilation and combines an optical intelligent or conventional smoke detector, housing and sampling tube.
DDH series has been designed to allow optimum airflow through the optical smoke detector.
DDH series is recommended for installations in ducts with low airflow and will operate in air speed of 0.5m/s to 20m/s.

CHARACTERISTICS

- One-tube air sampling system
- New design sampling tube
- Test hole on cover
- Simple installation
- Sensitive flow indicator
- Filter for dusty environments
- Simple service and maintenance
- Installer friendly cables connections
- Easy mounting of sampling tube

Detector Type		
DDH-PRO:	S100	Conventional
	V100	Intelligent
DDH-L or DDH-R:	S100	Conventional
DDH-W:	SG100	Wireless Intelligent

Weight : 700g
The air sampling tube is supplied in three lengths - 0.6m, 1.5m, 2.8m.
If the ventilation duct is wider than 0.6m the sampling tube should penetrate the whole duct.

INSTALLATION

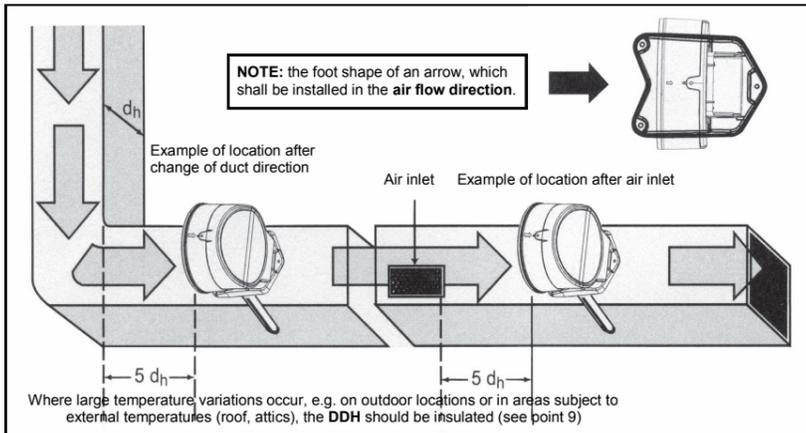
The sampling tube is made of aluminium and can easily be shortened to suit the diameter of the duct. The hole diameter is 38mm. With insulated or circular ducts use the **DDH mounting bracket** which provides a hole diameter of 50mm.

AIR FLOW MONITORING

The detector is fitted with a short and thin ribbon which provides simple confirmation that there is no leakage and that the air flow from the duct is passing through the housing. When the detector is correctly installed the tongue is flap outwards by the air flow.

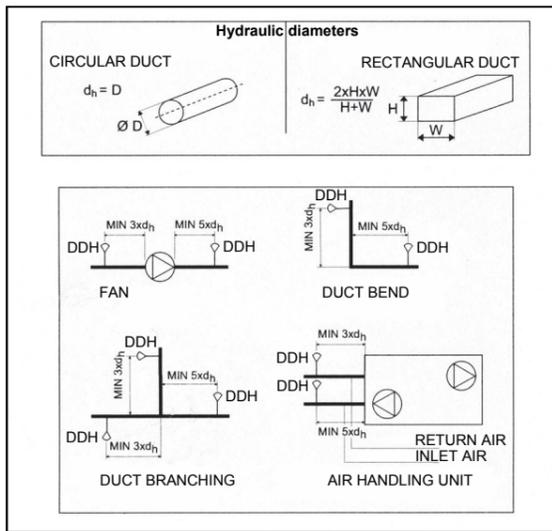
MOUNTING AND POSITIONING

The **DDH** should be installed with the air flow direction arrows (see the **DDH** foot's shape or on the housing top) corresponding to the direction of the air flow in the duct. The **DDH** is position independent and can be installed on any side of the duct. We recommend that the **DDH** is mounted at an equal distance from heating, cooling, or humidity devices, and similar to the positioning of flow monitors.
A distance of 3 times the duct diameter should be left **before** a damper, filter or change of the duct direction, and 5 times the diameter **after** these devices.



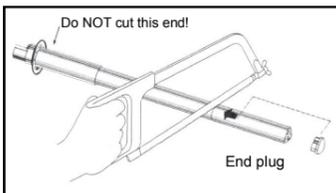
EXAMPLES OF INSTALLATION NEAR SOURCES OF INTERFERENCE:

- fan
- damper
- silencer
- battery
- air handling unit
- duct bend
- duct branching
- duct narrowing or expansion

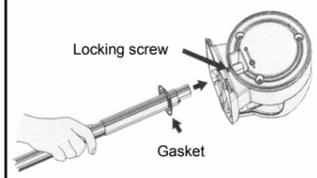


- 1** Drill a hole in the duct:
- Without **DDH-bracket**, \varnothing 38 mm.
 - With **DDH-bracket** and/or sampling tube with booster fan, \varnothing 50 mm (see point 10).

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

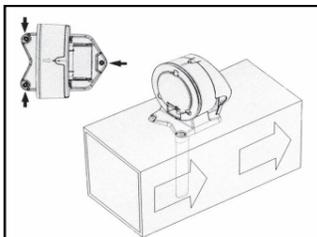


- 3**
- Mount the black gasket on the tube.
 - Insert the tube into the bottom of the **DDH**.
 - Secure the tube with the locking screw.



- 4**
- Mount the tube and the detector on the duct.
 - Secure the bottom of the **DDH** with the 3 locking screws (positions marked).

NOTE - IMPORTANT!
The air flow direction arrows (see the **DDH** foot's shape or on the housing top) must have the same direction as the air flow in the duct.



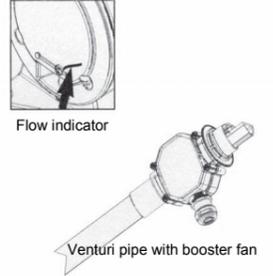
FLOW INDICATOR AND BOOSTER FAN TUBE *

The **DDH** is supplied with an indicator, a red plastic "tongue", which - when the detector is correctly installed - is bent outwards due to the airflow.

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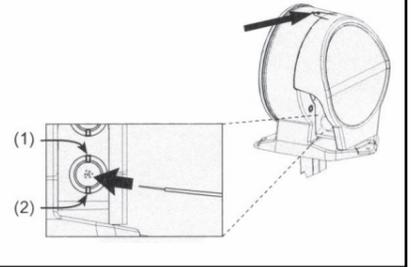
NOTE!
If the indicator does not move, you should consider a new mounting positioning of the **DDH** or install a booster fan sampling tube.

* A booster fan tube is a standard sampling tube including a booster fan, which need separate 24 Vac supply.



ELECTRICAL INSTALLATION

- Open the back cover by opening the snap locking.
- Enter the cable through one of the cable entries. When using another type of cable entry dismount the one already installed by first pressing one side through the hole and then the other one (1-2).
- Connect the cables according to the wiring diagram.



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DDH-PRO wiring

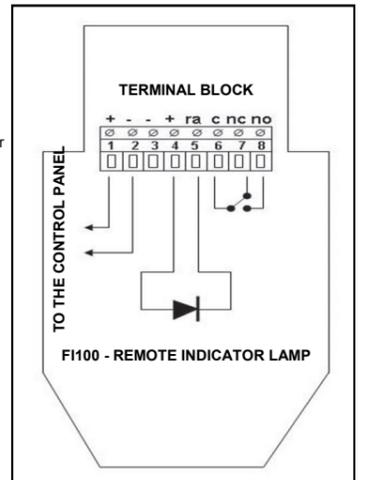
The **DDH-PRO** type is suitable for Intelligent system application and for Conventional system when the alarm current is limited by Control panel.

DDH-L wiring

The **DDH-L** type is suitable for Conventional system when the alarm current is not limited by Control panel. The unit is provided with internal resistor of 470 or 1.000 ohm.

DDH-R wiring

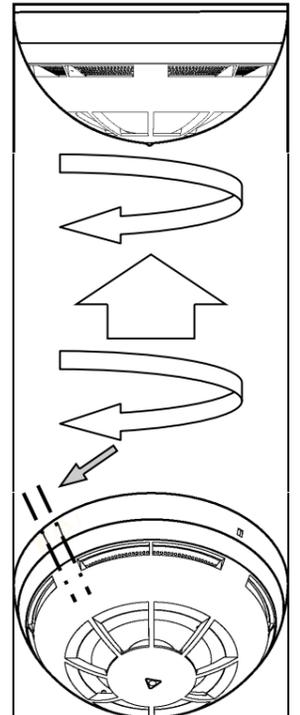
The **DDH-R** type is suitable for Conventional system when relay contact, activated directly by the detector, are required. The unit is provided with internal resistor of 470 or 1.000 ohm.



INSTALLING SMOKE DETECTOR

Into **DDH-PRO** could be mounted **VEGA V100** intelligent smoke detector or **AURORA S100** conventional smoke detector depending on the installation requirements.
Into **DDH-L** (alarm current limited) or **DDH-R** (Relay switch) should be mounted **AURORA S100** conventional smoke detector.

1. Position the sensor centrally on its mounting base
2. Rotate clockwise applying gentle pressure. **The sensor will drop into its keyed location**
3. Push the detector to win the force of the contacts
4. Continue to rotate clockwise a few degrees until the sensor has firmly engaged in the mounting base



5. When the detector is firmly held, verify the alignment between detectors and raised marks on the base

SETTING THE ADDRESS

Sensors can be addressed by using a special hand-held Programming Unit (**VPU100**) or they can be auto-addressed by the panel*. (* subject to feature implementation by the panel manufacturer). Addresses may be selected over the range from 1 to 240, although of course each device on the loop must have a different address.

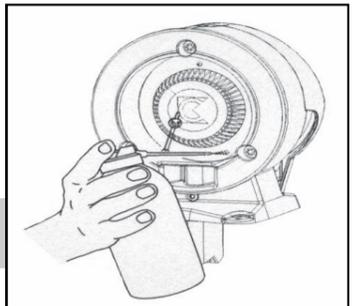
TEST OF THE DETECTOR

Check the detector with "SOLO smoke detector tester".
• Open the "test hole plug" and release briefly a spray of aerosol. When alarming, the LED on the smoke detector switches on red.

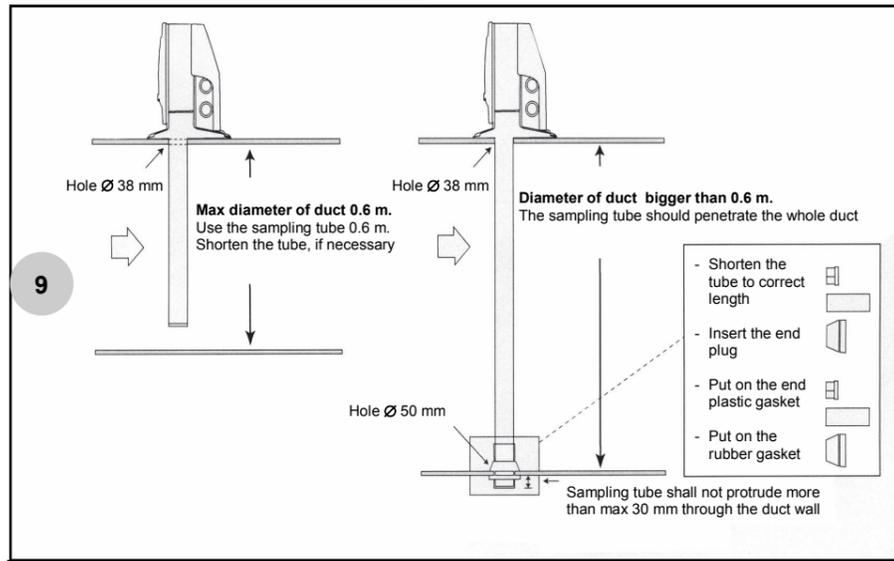
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IMPORTANT!
Reassemble the "test hole plug"

Do not drill any holes in the cover for signs etc. Holes will cause air leakages and seriously disturb the function of the detector.

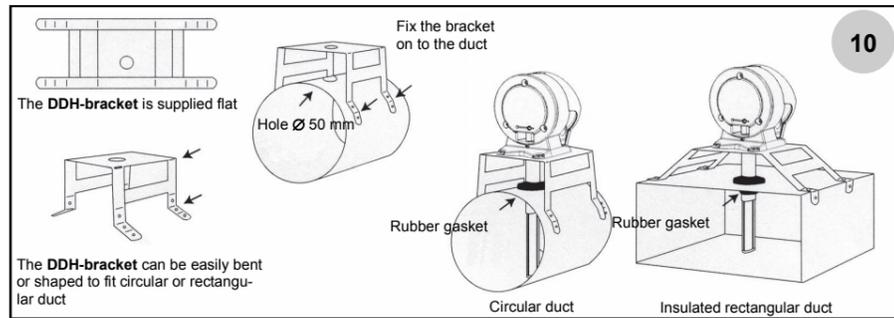


FITTING OF TUBE IN DUCTS WITH DIFFERENT DIAMETER

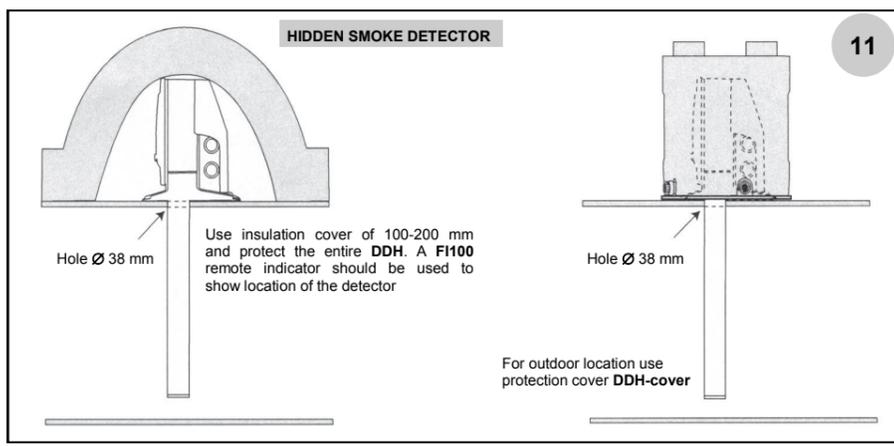


DDH-BRACKET FOR CIRCULAR OR RECTANGULAR DUCTS

Using the DDH-bracket the diameter of the duct can be as small as 100 mm.



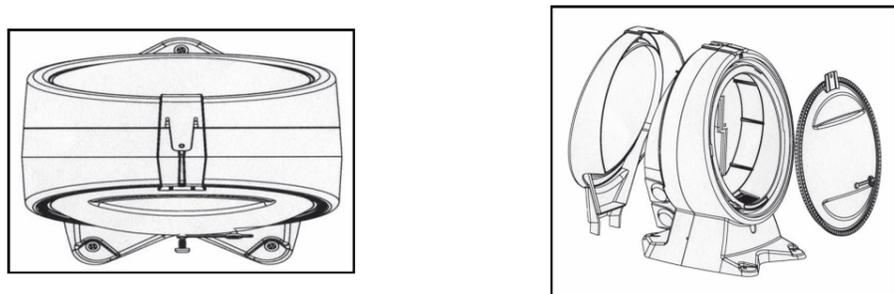
MOUNTING IN PLACE WHERE POSSIBLE CONDENSATION PROBLEMS COULD ARISE, E.G. COLD ATTICS OR OUTDOOR



FINAL CHECK

- ✓ Check that the air flow direction arrow has the same direction as the air flow in the duct.
- ✓ Check that the plastic plug of the test hole is properly mounted.
- ✓ Check that the flow indicator oscillates ensuring proper air flow through the detector.
- ✓ It is recommended that smoke from a smoke generator is introduced into the duct to check the function of the detector.

PRODUCT VIEW



ORDER CODE

DDH-PRO	For Intelligent or Conventional detector (<u>without</u> current limitation)
DDH-L	For Conventional detector (with current limitation, 470ohm or 1.000ohm)
DDH-R	For Conventional detector with RELAY
DDH-W	For Wireless Intelligent detector
TV-0.6	Sampling tube 0,6m
TV-1.5	Sampling tube 1,5m
TV-2.8	Sampling tube 2,8m
DDH-bracket	Mounting for insulated/circular ducts
DDH-cover	Waterproof cover
DDH-F1/10	Pack of 10 filters

WARNINGS AND LIMITATIONS

Our devices use high quality electronic components and plastic materials that are highly resistant to environmental deterioration. However, after 10 years continuous operation it is advisable to replace the devices in order to minimize the risk of reduced performance caused by external factors. Ensure that these devices are only used with compatible control panels. Detection systems must be checked, serviced and maintained on a regular basis to confirm correct operation. Refer to and follow national codes of practice and other internationally recognised 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 authorised supplier for repair or replacement together with full information on any problem identified. Full details on our warranty and products returns policy can be obtained upon request.