

Air sensor Air-900

Instructions

1 Introduction

Air sensor Air-900 is a high precision monitor module for continuous monitoring of air bubbles in ÄKTA[®] design liquid chromatography systems.

Air bubbles in the capillaries may cause damage to the column and impairment of the chromatography result.

The air sensor can be used during sample application. A valve is switched to a buffer vessel when bubbles are detected in the sample line.

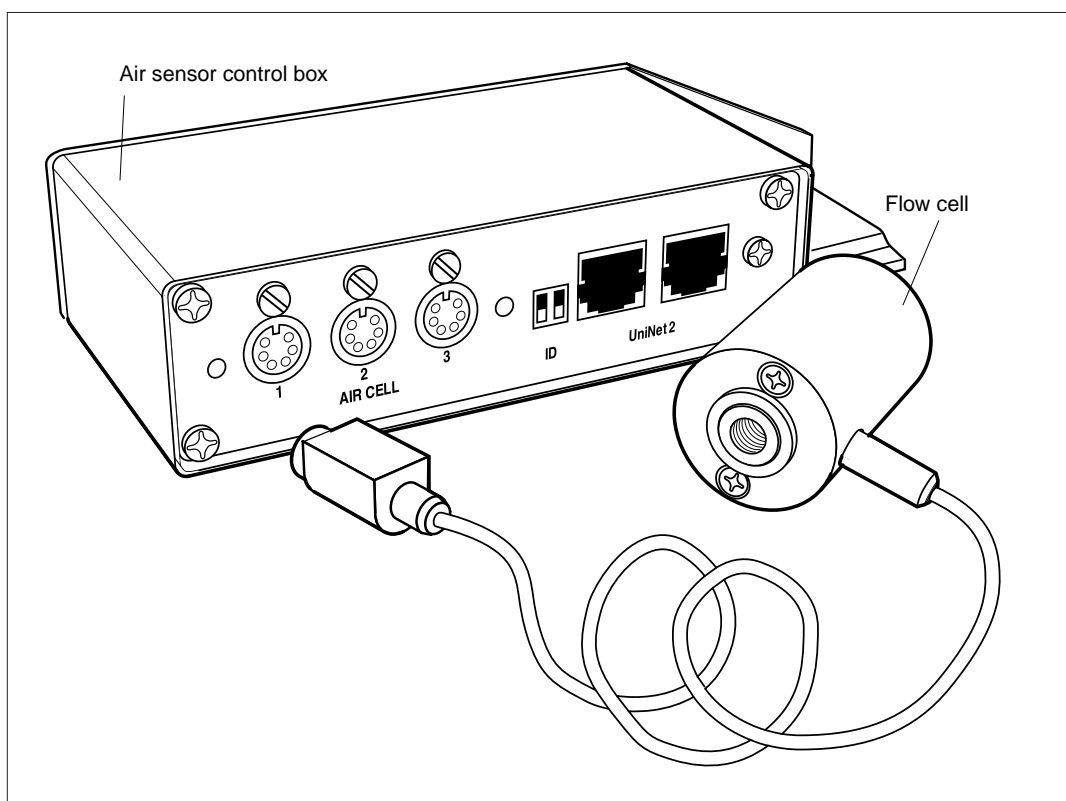
The air sensor communicates with the UNICORN[™] control system via UniNet 2.

Air-900 consists of a control box and 1-3 flow cells. Two types of flow cells with different flowpath diameter are available.

Note: The air cell in position 2 is used for sample application via the sample valve and sample pump only.

Safety

WARNING! When using hazardous chemicals, all suitable protective measures, such as protective glasses, must be taken.



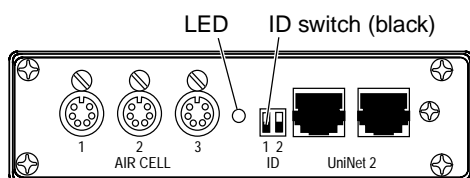
2 Installation

Unpacking

Unpack the module and check the items against the packing list. Inspect the items for obvious damage which may have occurred during transportation.

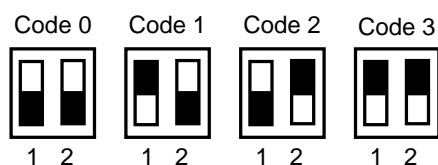
Installing the air sensor

WARNING! Before connecting the Air sensor ensure that the power is switched OFF at the pump or for the complete system.



Connect the air cells and the UniNet 2 cable to the connectors on the sensor box. Connect the sensor box to a free UniNet 2 connector in the ÄKTAdesign system.

If more than one sensor box will be connected the ID switches must be set as follows:



UniNet 2 cables are used to interconnect the individual sensor boxes.

Attach the air sensor box vertically to the mounting slot on an ÄKTAdesign module.

3 Operation

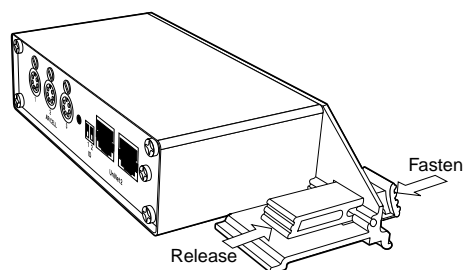
On/Off

The air sensor is on when connected to an UniNet 2 connector in a running ÄKTAdesign system.

All interaction with the air sensor is made through the UNICORN control system.

4 Maintenance

No regular maintenance is required. The only possible service is cleaning of the flow cell. Cleaning time < 30 minutes.



5 Trouble shooting

Below is a list of possible faults and suggested actions. If the suggested actions do not correct the fault, call Amersham Pharmacia Biotech.

Fault	Action
Leakage	Check the tubing and connectors.
Not operating	<ol style="list-style-type: none"> 1. Check that the pump is operating. 2. Check the cell function: <ul style="list-style-type: none"> - Connect the cell to any connector on the sensor box. - Pour liquid into the cell. The LED shall be green with liquid and put out with air in the cell. 3. Check that the sensor box is connected to UniNet 2. 4. Check cables for damage or loose connections. 5. Check that the ID settings correspond to the used strategy.
Other faults	Contact Amersham Pharmacia Biotech.

Reference information

Technical specifications

Operating data

<i>Flow rate</i>	0.1 – 100 ml/min
<i>Max Pressure</i>	
<i>Cell Air-912</i>	25 MPa (250 bar)
<i>Cell Air-925</i>	2 MPa (20 bar)
<i>Environment</i>	+4 to +40 °C
	20-95% relative humidity
	84-106 kPa (840-1060 mbar)
	atmospheric pressure

Physical data

<i>Degree of protection</i>	
<i>cell</i>	IP 44
<i>box</i>	IP 32
<i>Materials</i>	
<i>cell</i>	PEEK
<i>box enclosure</i>	Aluminum

Chemical resistance

The parts are resistant to organic solvents and salt buffers commonly used in chromatography of biomolecules, except 100% ethylacetate, 100% hexane and 100% tetrahydrofuran (THF)

Power requirement

12–32 V DC via Uninet 2

Power consumption

1,6 W (with 3 cells)

Dimensions,

<i>H x W x D</i>	40 x 140 x 80 mm
incl. attachment	45 x 175 x 85 mm

Weight

<i>cell</i>	0.1 kg
<i>box</i>	0.4 kg (incl. attachment)

EMC Standards

This product meets the requirement of the EMC Directive 89/336/EEC through the harmonized standards EN 50081-1 (emission) and EN 50082-1 (immunity).

Note: The declaration of conformity is valid for the instrument when it is:

- used in laboratory locations
- used in the same state as it was delivered from Amersham Pharmacia Biotech except for alterations described in the user manual
- connected to other CE labeled Amersham Pharmacia Biotech instruments or other products as recommended.

Accessories and spare parts

<i>Item</i>	<i>Quantity per pack</i>	<i>Code no.</i>
Air 900		
including one UniNet 2 cable	1	18-1121-22
UniNet 2 cable, 0.7 m	1	18-1109-74
Cell		
Air-912 (1.2 mm)	1	18-1121-23
Air-925 (2.5 mm)	1	18-1121-24

Important user information



Meaning: Consult the instruction manual to avoid personal injury or damage to the product or other equipment.

WARNING!

The Warning sign is used to call attention to the necessity to follow an instruction in detail to avoid personal injury. Be sure not to proceed until the instructions are clearly understood and all stated conditions are met.

CAUTION!

The Caution sign is used to call attention to instructions or conditions that shall be followed to avoid damage to the product or other equipment. Be sure not to proceed until the instructions are clearly understood and all stated conditions are met.

Note

The Note sign is used to indicate information important for trouble-free or optimal use of the product.

Should you have any comments on this instruction, we will be pleased to receive them at:

Amersham Pharmacia Biotech AB
SE-751 84 Uppsala
Sweden

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