Air sensor Air-900
Instructions

Table of Contents

Important user information

All users must read this entire manual to fully understand the safe use of Air sensor Air-900.

WARNING
The WARNING! sign highlights instructions that must be followed to avoid personal injury. It is important not to proceed until all stated conditions are met and clearly understood.

CAUTION
The CAUTION! sign highlights instructions that must be followed to avoid damage to the product or other equipment. It is important not to proceed until all stated conditions are met and clearly understood.

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

CE Certifying

This product meets the requirements of applicable CEdirectives. A copy of the corresponding Declaration of

Conformity is available on request.

The **CE** symbol and corresponding declaration of conformity, is valid for the instrument when it is:

- used as a stand-alone unit, or
- connected to other CE-marked Cytiva instruments, or
- connected to other products recommended or described in this manual, and
- used in the same state as it was delivered from Cytiva except for alterations described in this manual.

Recycling

This symbol indicates that the waste of electrical and electronic equipment must not be disposed as unsorted municipal waste and must be collected separately. Please contact an authorized representative of the manufacturer for information concerning the decommissioning of your equipment.

WARNING
This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures

1   Introduction

Air sensor Air-900 is a high precision monitor module for continuous monitoring of air bubbles in ÄKTAdesign™ 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.
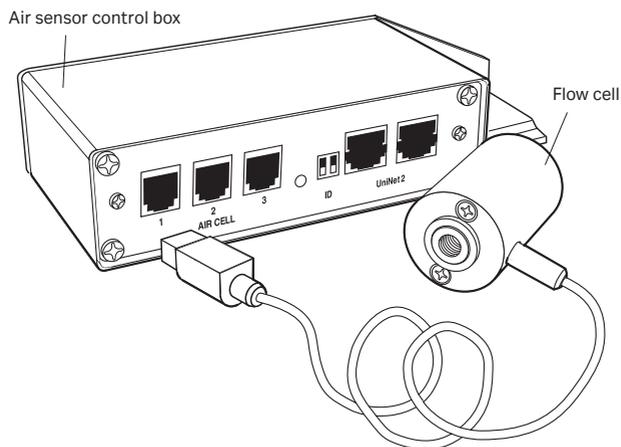
Note: *The air cell in position 2 is used for sample application via the sample valve and sample pump only.*

Safety

> ⚠️ **WARNING**
>
> When using hazardous chemicals, take all suitable protective measures, such as wearing protective glasses and gloves resistant to the chemicals used. Follow local regulations and instructions for safe operation and maintenance of the system.

Air sensor control box
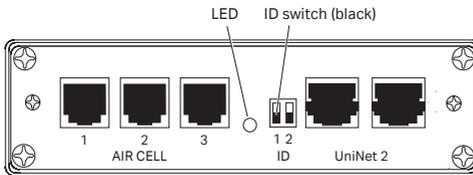
Flow cell

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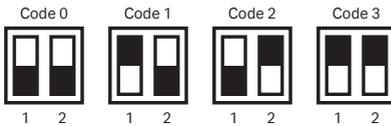
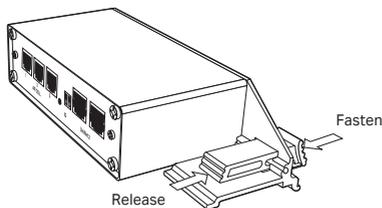|	
⚠️	**WARNING** Before connecting the Air sensor ensure that the power is switched OFF at the pump or for the complete system.

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 Cytiva.

Fault	Action
Leakage	Check the tubing and connectors.

Not operating	1. Check that the pump is operating.
	
	2. Check the cell function:
	
	  • 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 Cytiva.

Recycling

This symbol indicates that the waste of electrical and electronic equipment must not be disposed as unsorted municipal waste and must be collected separately. Please contact an authorized representative of the manufacturer for information concerning the decommissioning of your equipment.

6   Reference information

Technical specifications

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

Physical data	
Degree of protection	
cell	IP 44
box	IP 32
Materials	
cell	PEEK
box enclosure	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,	
H × W × D	40 × 140 × 80 mm
incl. attachment	45 × 175 × 85 mm
Weight	
cell	0.1 kg
box	0.4 kg (incl. attachment)

EMC Standards

This product meets the requirement of the EMC Directive 89/336/EEC through the harmonized standards:

- EN 61326 (emission and immunity)
- EN 55011, GR 1, Class A (emission)
- This device complies with part 15 of the FCC rules (emission). Operation is subject to the following two conditions:

  1. This device may not cause harmful interference.
  2. This device must accept any interference received, including interference that may cause undesired operation.

Accessories and spare parts

Item		Quantity per pack	Code no.
Air 900			
	including one UniNet 2 cable	1	18112122
UniNet 2 cable, 0.7 m		1	18110974
Cell			
	Air-912 N (1.2 mm)	1	18117415
	Air-925 N (2.5 mm)	1	18117416

Page intentionally left blank

cytiva

cytiva.com