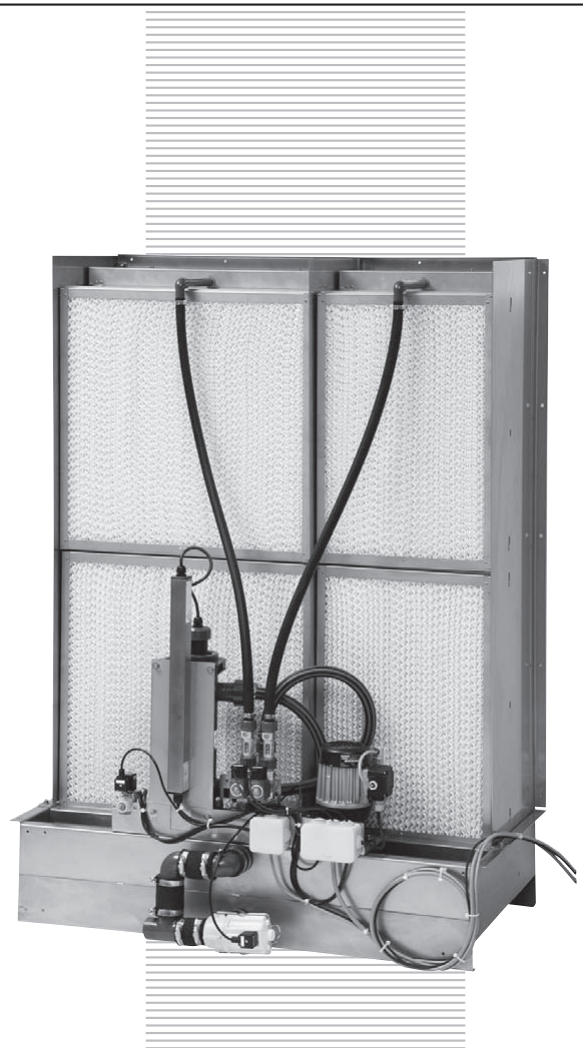


# Condair SH2

Installation and operating instructions



Adiabatic  
Humidifiers

For a better climate





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# 1 Introduction

## 1.1 To the very beginning

We thank you for having purchased the **Adiabatic Air Humidifier Condair SH2**.

The adiabatic air humidifier Condair SH2 incorporates the latest technical advances and meets all recognized safety standards. Nevertheless, improper use of the adiabatic air humidifier Condair SH2 may result in danger to the user or third parties and/or impairment of material assets.

To ensure a safe, proper, and economical operation of the adiabatic air humidifier Condair SH2, please observe and comply with all information and safety instructions contained in the present installation and operating instructions as well as in the separate documentations of the components installed in the humidification system.

If you have questions, which are not or insufficiently answered in this documentation, please contact your Condair supplier. They will be glad to assist you.

## 1.2 Notes on the installation and operating instructions

### Limitation

**The subject of these installation and operating instructions is the adiabatic air humidifier Condair SH2.** The various accessories are only described insofar as this is necessary for proper operation of the equipment. Further information on accessories can be obtained in the respective instructions.

These installation and operating instructions are restricted to the **installation, commissioning, operation, servicing, and trouble-shooting** of the adiabatic air humidifier Condair SH2 and is meant for **well trained personnel being sufficiently qualified for their respective work.**

The installation and operating instructions are supplemented by various separate items of documentation (spare parts list, manuals for accessories, etc.). Where necessary, appropriate cross-references are made to these publications in the installation and operating instructions.

## Symbols used in this manual

**CAUTION!** The catchword "CAUTION" designates notes in this installation and operating instructions that, if neglected, may cause **damage and/or malfunction of the unit or other material assets**.



The catchword "WARNING" used in conjunction with the general caution symbol designates safety and danger notes in this installation and operating instructions that, if neglected, may cause to **injury to persons**.



The catchword "DANGER" used in conjunction with the general caution symbol designates safety and danger notes in this installation and operating instructions that, if neglected, may lead to **severe injury or even death of persons**.

## Safekeeping

Please safeguard these installation and operating instructions in a safe place, where they can be immediately accessed. If the equipment changes hands, the documentation must be passed on to the new operator.

If the documentation gets mislaid, please contact your Condair supplier.

## Language versions

These installation and operating instructions are available in various languages. Please contact your Condair supplier for information.

## Copyright protection

The present installation and operating instructions is protected under the Copyright Act. Passing-on and reproduction of the manual (or part thereof) as well as exploitation and communication of the contents are prohibited without written permission by Axair Ltd.. Violation of copyright terms is subject to legal prosecution and arises liability for indemnification.

Axair Ltd. reserves the right to fully exploit commercial patent rights.

## 2 For your safety

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### General

Every person working with the Condair SH2 must have read and understood the installation and operating instructions before carrying out any work.

Knowing and understanding the contents of the installation and operating instructions is a basic requirement for protecting the personnel against any kind of danger, to prevent faulty operation, and to operate the unit safely and correctly.

All ideograms, signs and markings applied to the unit must be observed and kept in readable state.

### Qualification of personnel

All work (installation, operating, servicing , etc.) described in these installation and operating instructions **may only be carried out by specialist who are well trained and adequately qualified and are authorized by the customer.**

For safety and warranty reasons any action beyond the scope of this manual must be carried out only by qualified personnel authorised by Axair Ltd.

It is assumed that all persons working with the Condair SH2 are familiar and comply with the appropriate regulations on work safety and the prevention of accidents.

### Intended use

The adiabatic air humidifier/cooler Condair SH2 are intended exclusively for **air humidification/air cooling in air ducts or monoblocs** within the specified operating conditions (see chapter 9 "Product specifications". Any other type of application, without the written consent of your Condair supplier, is considered as not conforming with the intended purpose and may lead to the Condair SH2 becoming dangerous.

Operation of the equipment in the intended manner requires **that all the information in these instructions are observed (in particular the safety instructions).**

### Danger that may arise from the unit

- Some components of the Condair SH2 are mains powered.

 <b>DANGER!</b>	<b>One may get in touch with live parts when the control unit or the distribution boxes are open. Touching live parts may cause severe injury or danger to life.</b>
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**Prevention:** Before carrying out any work set the Condair SH2 out of operation as described in chapter 5.4 (switch off the unit, disconnect it from the mains and stop the water supply) and secure the unit against inadvertent power-up.

- The UV lamp used in the water treatment unit (option) emits harmful UV-C rays.

 <b>WARNING!</b>	<b>If the UV lamp is operated outside the housing, the emitted UV-C rays may damage the eyes lasting.</b>
--	---

**Prevention:** Never operate the UV lamp outside the housing.

- Badly maintained humidifiers can endanger the health.

 <b>WARNING!</b>	<b>If the unit is insufficient maintained ill-making germs may grow in the water tub and the humidification boxes (and the mist eliminator) of the Condair SH2 and may can affect the air passing through the humidifier.</b>
--	---

**Prevention:** The Condair SH2 must be cleaned in the prescribed intervals according to the information given in chapter 6 "Maintenance". The cleaning works must be carried out correctly and the humidification boxes and the mist eliminator boxes must be replaced after their prescribed lifetime has elapsed.

### Behaviour in case of danger

If it is suspected that **safe operation is no longer possible**, then the Condair SH2 should immediately **be shut down and secured against accidental power-up** according to chapter 5.4. This can be the case under the following circumstances:

- if the Condair SH2 is damaged
- if the Condair SH2 is no longer operating correctly
- if connections and/or piping are not sealed
- if electrical cables are defective

All persons working with the Condair SH2 must report any alterations to the unit that may affect safety to the owner without delay.

### Prohibited modifications to the unit

**No modifications must be undertaken** on the Condair SH2 without the express written consent of Axair Ltd.

For the replacement of defective components use exclusively **original accessories and spare parts** available from your Condair supplier.

## 3 Product overview

### 3.1 Model overview

The Condair SH2 is available in the two base versions “flow” with direct water system and “REflow” with circulating water system. The following **base models** are available:

- **Condair SH2 flow**
- **Condair SH2 flow C** (with control unit RC and On/Off control)
- **Condair SH2 flow SC** (with control unit SH2 and step control)
- **Condair SH2 REflow**
- **Condair SH2 REflow C** (with control unit SH2 and On/Off control)
- **Condair SH2 REflow SC** (with control unit SH2 and step control)

All base models can be extended in their functions by different options. In addition there are different accessories available for all models.

### 3.2 Product designation

The product designation and the most important unit data are found on the rating plate:

	Type designation	Serial number	Month/Year
	Axair AG 8808 Pfäffikon		
Supply voltage	SH2 REflow SC	XXXXXXXX	03.07
	230V 1~/50...60Hz	270 VA	
Humidification capacity	Befeuchtungsleistung = 150.0 kg/h		REflow SC 300 1800 2000 1 150
Admissible water supply pressure	Fließdruck 1...10 bar max. 45°C		
Certificates	CE		
Type key	Made in Switzerland		
Power consumption			



**Type key**

Example:

**Condair SH2 REflow SC 300 1800 2000 0 150**

Model: \_\_\_\_\_

- flow**
- flow C**
- flow SC**
- REflow**
- REflow C**
- REflow SC**

Depth of humidification box: \_\_\_\_\_

- 200 mm**
- 300 mm**

Order code width W \_\_\_\_\_

Order code height H \_\_\_\_\_

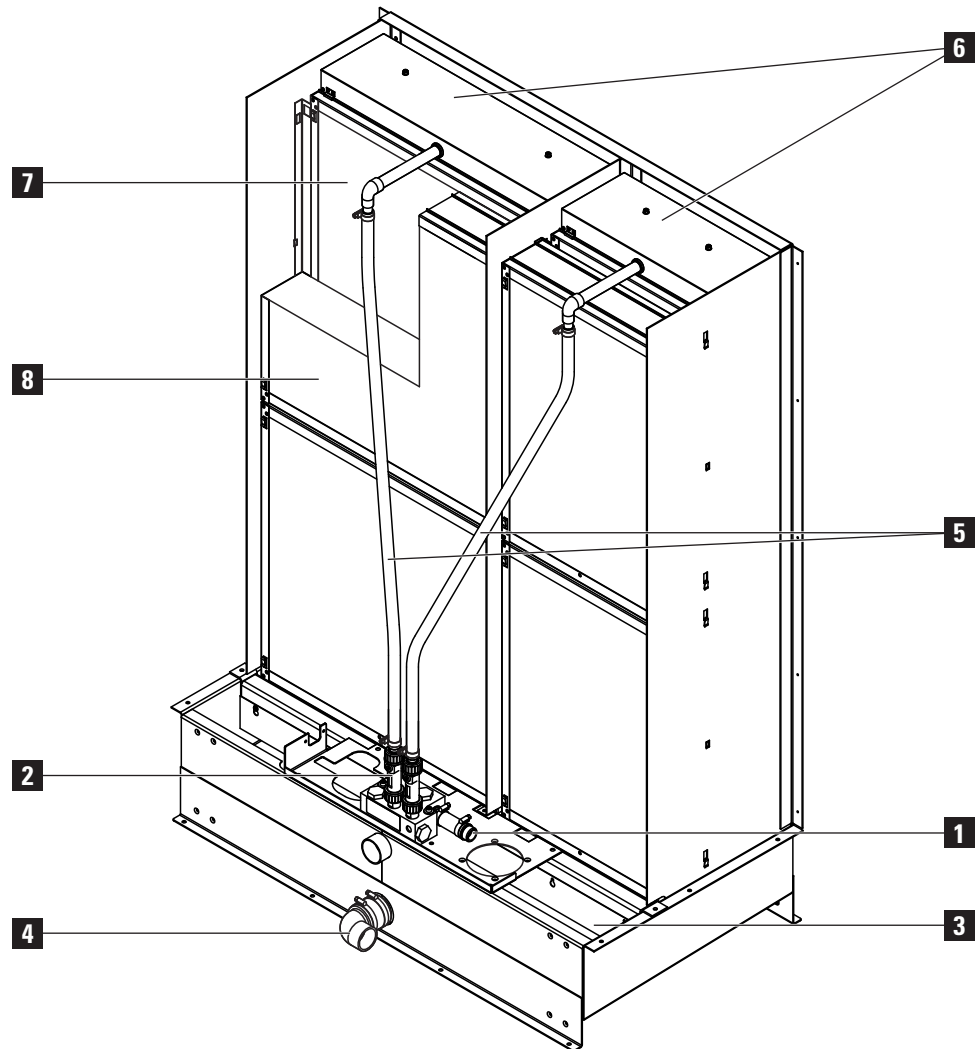
Mist eliminator: \_\_\_\_\_

- No mist eliminator: **0**
- Mist eliminator 100 mm: **1**
- Mist eliminator 200 mm: **2**

Humidification capacity in kg/h according layout \_\_\_\_\_

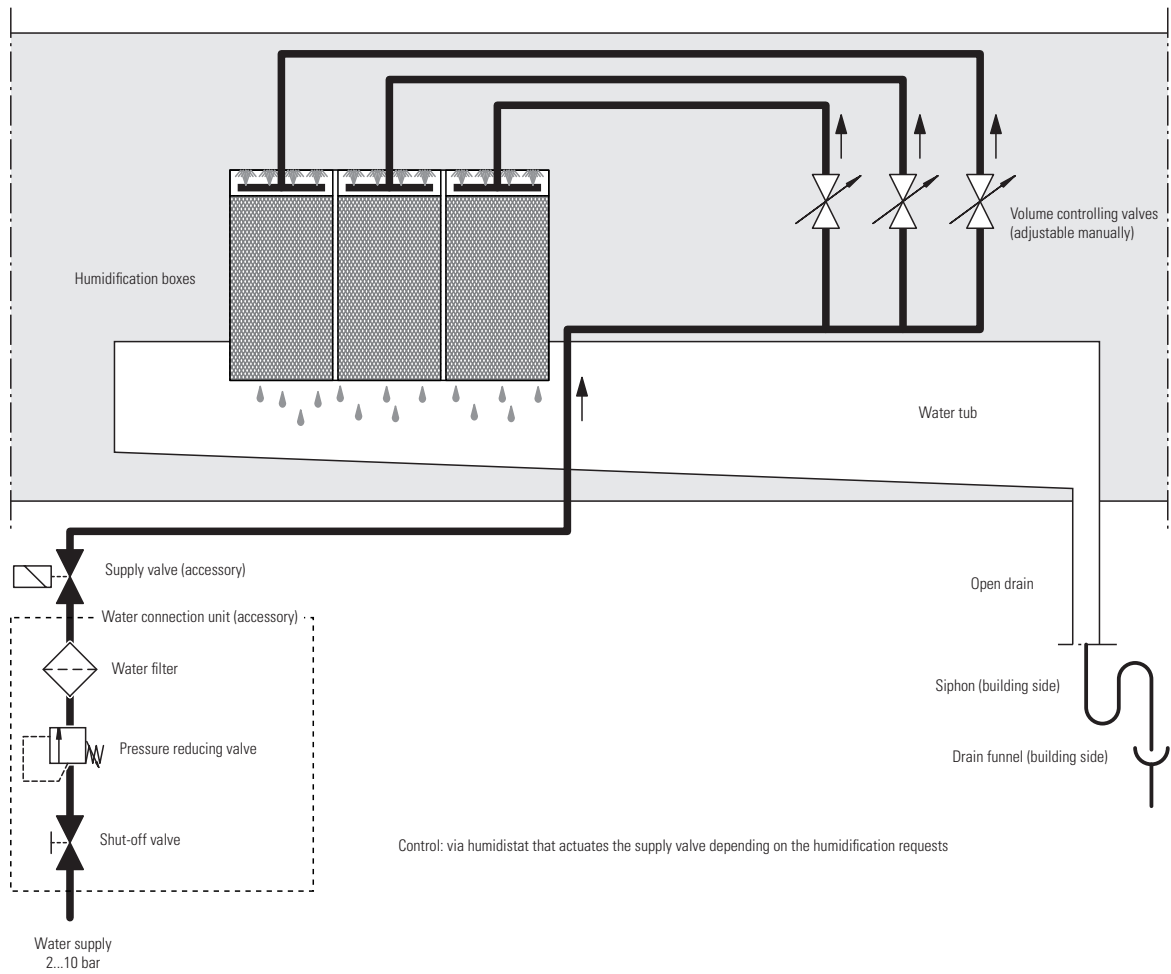
### 3.3 Model "flow"

#### 3.3.1 Construction model "flow"



- 1 Water connection on unit R 3/4" (outside thread)
- 2 Volume controlling valves (adjustable manually)
- 3 Water tub
- 4 Open drain (outside diameter 48 mm)
- 5 Water hoses
- 6 Trickling hoods with distribution pipes
- 7 Humidification boxes
- 8 Mist eliminator (for air speed above humidification boxes >3.5 m/s)

### 3.3.2 System overview model "flow"



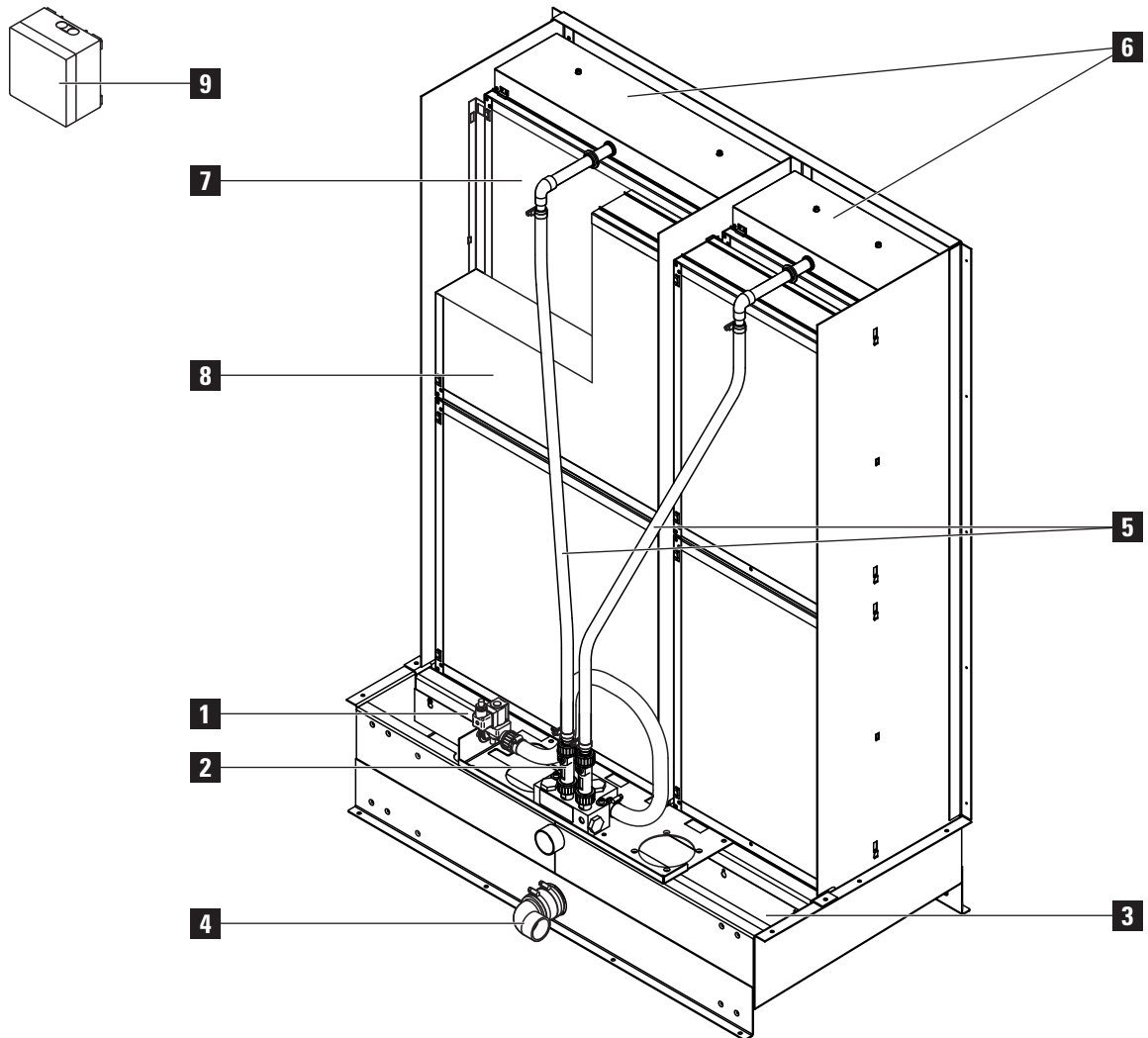
#### Functional description

In case of a humidification/cooling request the supply valve (accessory) opens and the water flows via the pressure reducing valve (accessory), the water filter (accessory) and the manually adjustable volume controlling valves to the distribution pipes above the humidification boxes.

The distribution pipes evenly supply the water to the entire surface of the humidification boxes where it flows down and humidifies the air flowing through the humidification boxes. The excess water not used for humidification flows to the water tub and then directly to the drain.

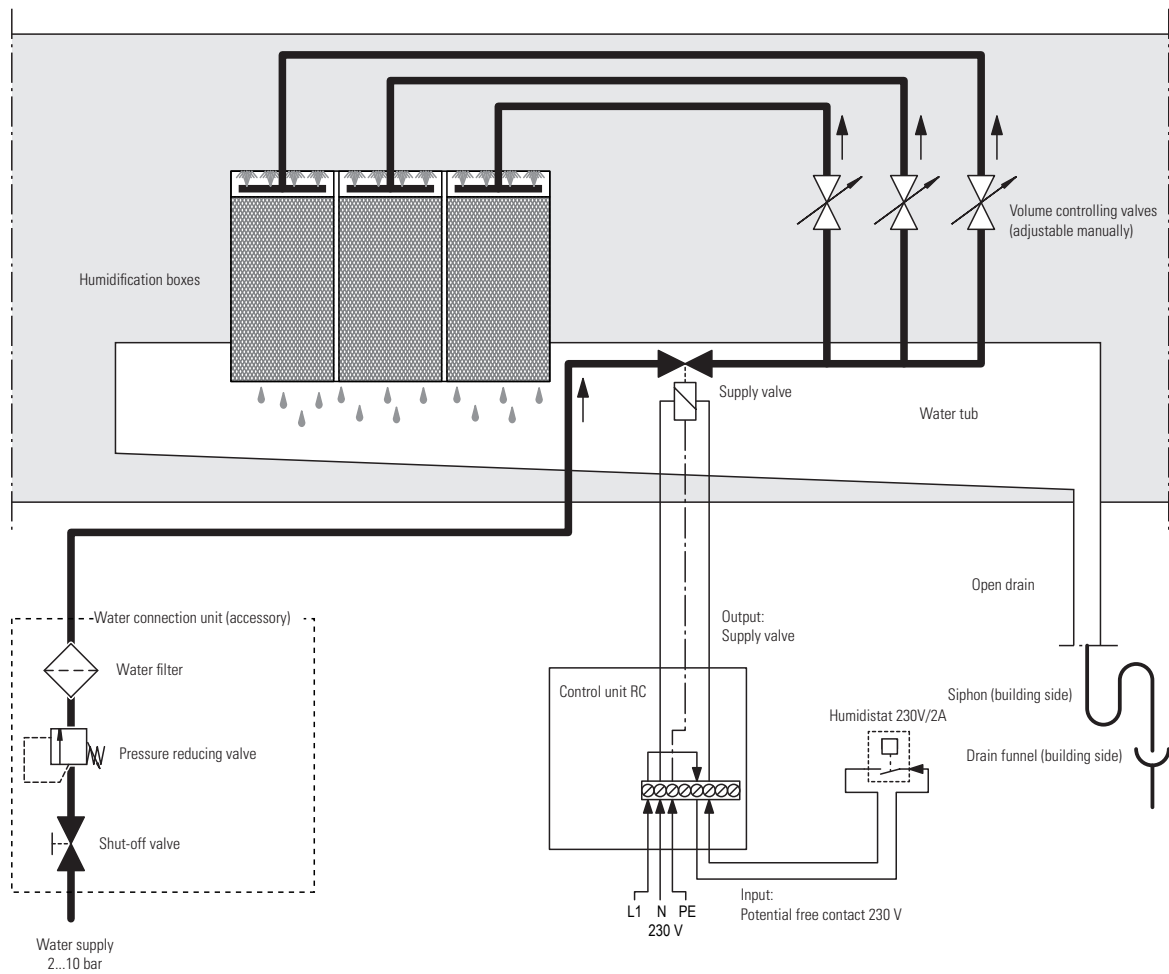
### 3.4 Model "flow C"

#### 3.4.1 Construction model "flow C"



- 1 Water connection on unit R 3/4" (outside thread)
- 2 Volume controlling valves (adjustable manually)
- 3 Water tub
- 4 Open drain (outside diameter 48 mm)
- 5 Water hoses
- 6 Trickling hoods with distribution pipes
- 7 Humidification boxes
- 8 Mist eliminator (for air speed above humidification boxes >3.5 m/s)
- 9 Control unit RC

### 3.4.2 System overview model "flow C"



#### Functional description

The "flow C" model provides On/Off control by means of the RC control unit and an external On/Off humidistat. In case of a humidification/cooling request the supply valve opens and the water flows via the pressure reducing valve (accessory), the water filter (accessory) and the manually adjustable volume controlling valves to the distribution pipes above the humidification boxes.

The distribution pipes evenly supply the water to the entire surface of the humidification boxes where it flows down and humidifies the air flowing through the humidification boxes. The excess water not used for humidification flows to the water tub and then directly to the drain.









































































































