

## No.: 0204 Selection criteria for room humidifiers

### ○ Problem

Dry air and the related health problems are a frequent topic of concern for employees in indoor offices, particularly in the winter months when free or natural ventilation is used. Rooms with ventilation systems or air conditioning systems can cause such complaints year round if the air is not also moistened. The humidity of the air has an effect on a person's sense of well being that is often underrated. Low humidity causes the mucous membranes in the eyes and upper airways to dry out. Dry mucous membranes allow pathogens to enter the body easily, which can lead directly to colds and other ailments. The human voice is also put under added strain, thus interfering in speech.

Air humidity can be elevated and sustained at a higher level using various methods.

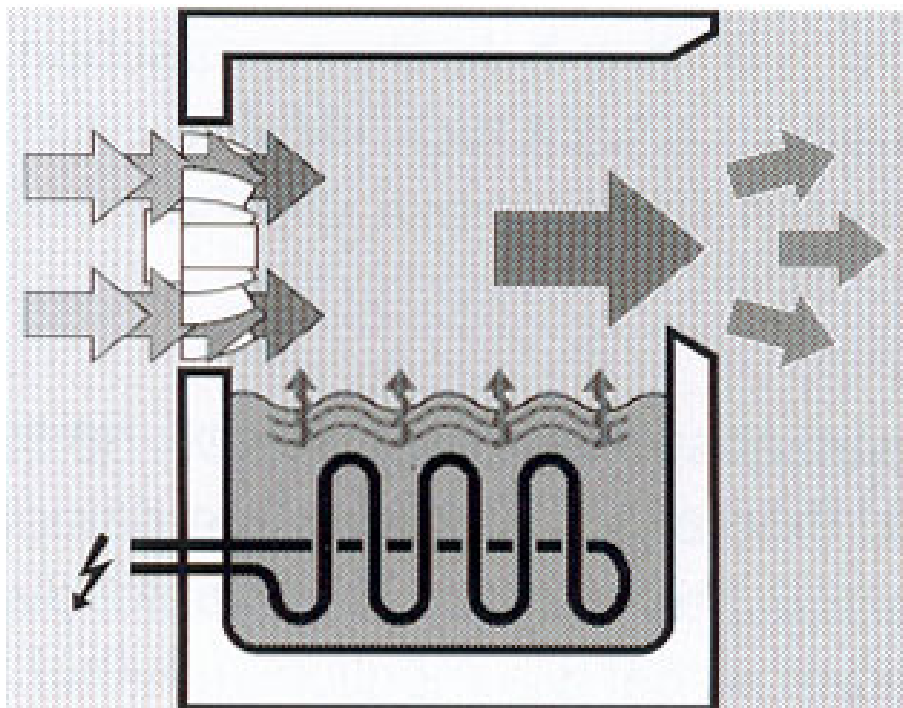


Illustration  
Principle  
operation of  
a steam  
humidifier

### ○ Activities

Comprehensive studies were conducted in the office rooms at different call centres. The studies of the room climates measured the temperature, air movement, air humidity, and air quality.

## ○ **Results and Application**

The air humidity was found to be too low in particular during the heating periods. In the heating periods, the humidity indoors often falls to values below 30 percent, while the optimum air moisture level ranges from 40 to 60 percent. The presence of people (who give off moisture by breathing) and plants that give off moisture raises the moisture in indoor air only imperceptibly. The air must thus be moistened artificially to achieve a healthy and comfortable room climate.

Additional humidity should preferably be provided by an air conditioning system with adjustable humidifier settings. Only an air conditioning system can guarantee a suitable indoor climate. If no humidifier units can be integrated into the existing ventilation system, a separate humidifier unit should be used. Steam humidifiers (see Figure) are suggested. With restriction evaporation humidifiers can be recommended. On mobile units, the water tank should accommodate enough water for a single day's needs. Stationary units are also available that can be connected directly to the water system of the building.

## ○ **Area of Application**

Operators and planners of office rooms and office-like spaces

## ○ **Additional Information**

- Report 4 und Auswahl Luftbefeuchter. Publisher: Verwaltungs-Berufsgenossenschaft, Hamburg 2001 ([www.ccall.de](http://www.ccall.de), Rubrik Ergebnisse, Reports)
- ⇒ Expert assistance: BIA, Fachbereich 3: Gefahrstoffe: Umgang – Schutzmaßnahmen  
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- ⇒ Literature requests: BIA, Zentralbereich [BIA, Central division]

## ○ **“Focus on BIA’s work”**

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