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Solutions for the
optical business

air purifier

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“What a stench…!”

Odour emissions
during finishing of spectacle lenses
and their elimination

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Problem:

- **machining of High Index lenses generates an intensive smell**
- **machining of PC generates “blue smoke”**
- **machining of Trivex generates a large amount of dust**

→ discomfort for the machine operator
→ questions regarding health hazards arise

With the steadily increasing importance of these “new” materials this subject becomes more and more important.

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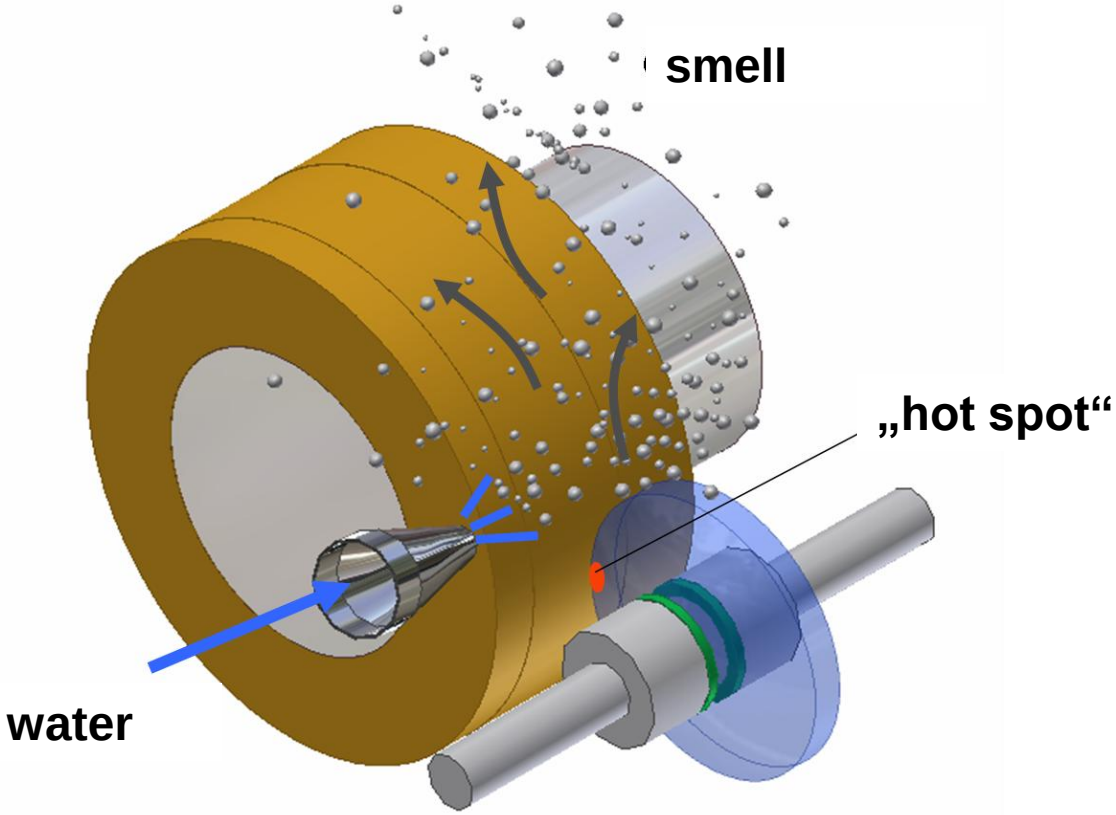
Why does finishing of High Index lenses cause so much odour ?

- **plastics degenerate irreversible through chemical processes when they are heated above a certain temperature (~ 300...400°C)**



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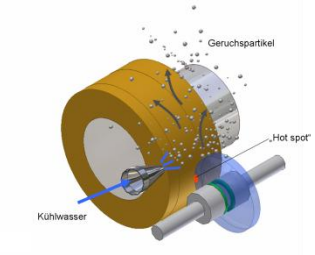
high temperature at the “hot spot” during finishing



chemical decomposition

gaseous components

intensive smell

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The sense of smell in humans

Characteristics:

- chemical sense – registers chemical compounds

- sensitivity to smell is very different from individual to individual
  - differences up to a factor 1000 (!) are recorded
  - women react usually with greater sensivity

- the sense of smell adapts – we “get used to the smell”

→ different opinions regarding the “intensity of smell” are natural
- from “terrible stench” to “somewhat strong smell”

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Effects of smell on health and well being

lens manufacturer:
gaseous components are

- **physiologically harmless**
- **no health hazards**

smells, however, can have negative effects on people:

- **loss of appetite, despondency**
- **bad temper/ aggression**
- **headaches, sleeping disorders**
- **queasiness/nausea**

These disorders are caused by “psychological defence responses”

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How can odours be removed ?

1. ventilation
2. room ventilation
3. direct extraction from the edger

1. Ventilation

by opening windows or doors

+ cheap

- odour enter and permeate the entire room

→ o.k. if HI-lenses occur only occasionally

2. Room ventilation by fans or extraction hood (kitchen vapour extractor)

- expensive

- only limited results (does not perform well)

- noise

- odour enter and permeate the entire room

→ the results do not justify the costs

One important disadvantage of the two methods mentioned is that the unpleasant odour continues to permeate the entire room and is removed only gradually.

<u>It can also in time become “fixed” in the room.</u>

→ there is only one “real” solution :

direct extraction from the edger

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3. Direct extraction form the edger

+ high performance

+ filter removes the major part of the gaseous components

+ odour does not enter the room without being filtered

+ compact systems available

+ low noise

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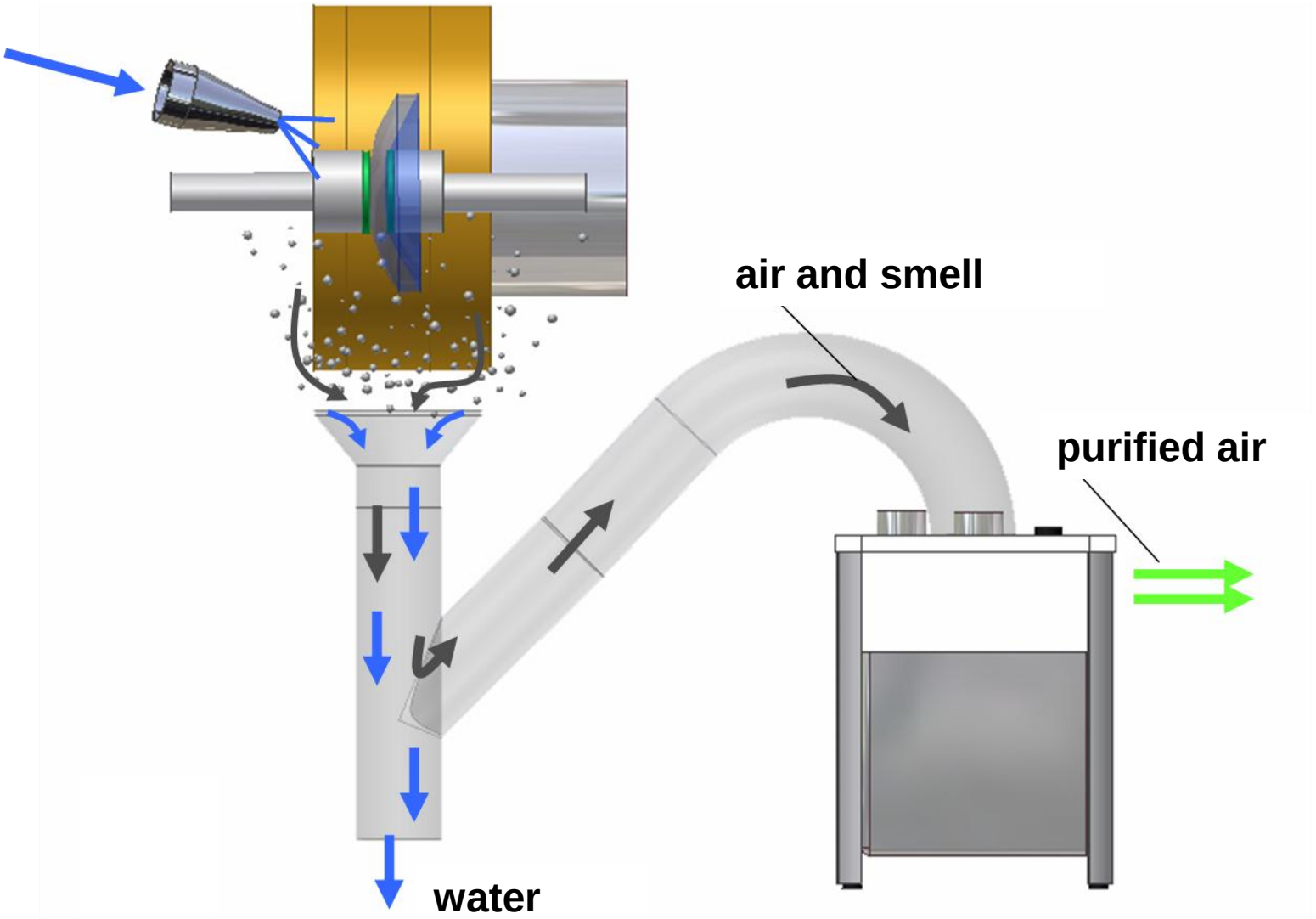

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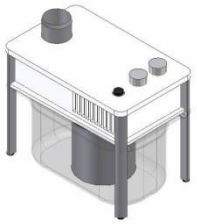
AIR by LUMOS

Filter media that convert the gas through a catalytic process and stores it with the help of activated carbon.
+ high quality broadband filtration
+ additional dust filtration

3 Products
Mini – Medium - Large



opticians

large opticians/ laboratories

surfacing+finishing laboratories

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AIR$_{MINI}$

- compact design
  (fits in almost every workshop)
- extraction from one edger
- high quality broadband filter
- container for coarse dust and foam
- component to add pleasant scents
- speed control
- high quality design

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AIR

- high power ventilator (extraction of up to two edgers)
- high capacity filter (broadband)
- additional feature: room ventilation
- container for coarse dust and foam
- component to add pleasant scents
- speed control
- high quality design

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Connection of air purifier via drainage

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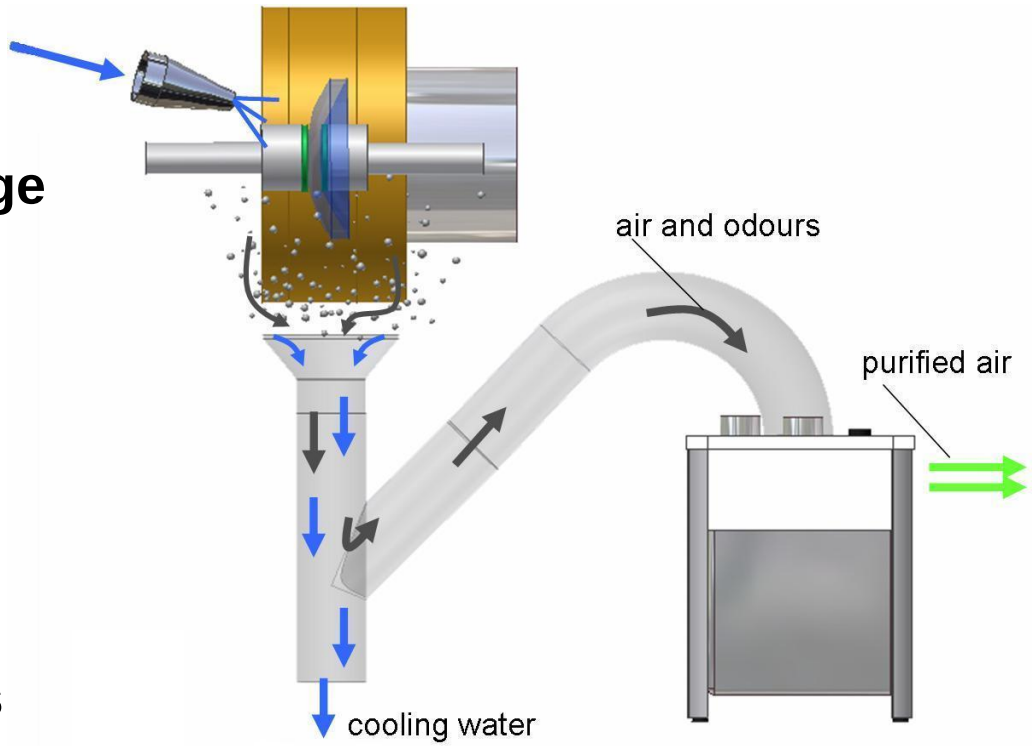
Principle

pipes and fittings known from conventional drainage systems (easy and low cost)

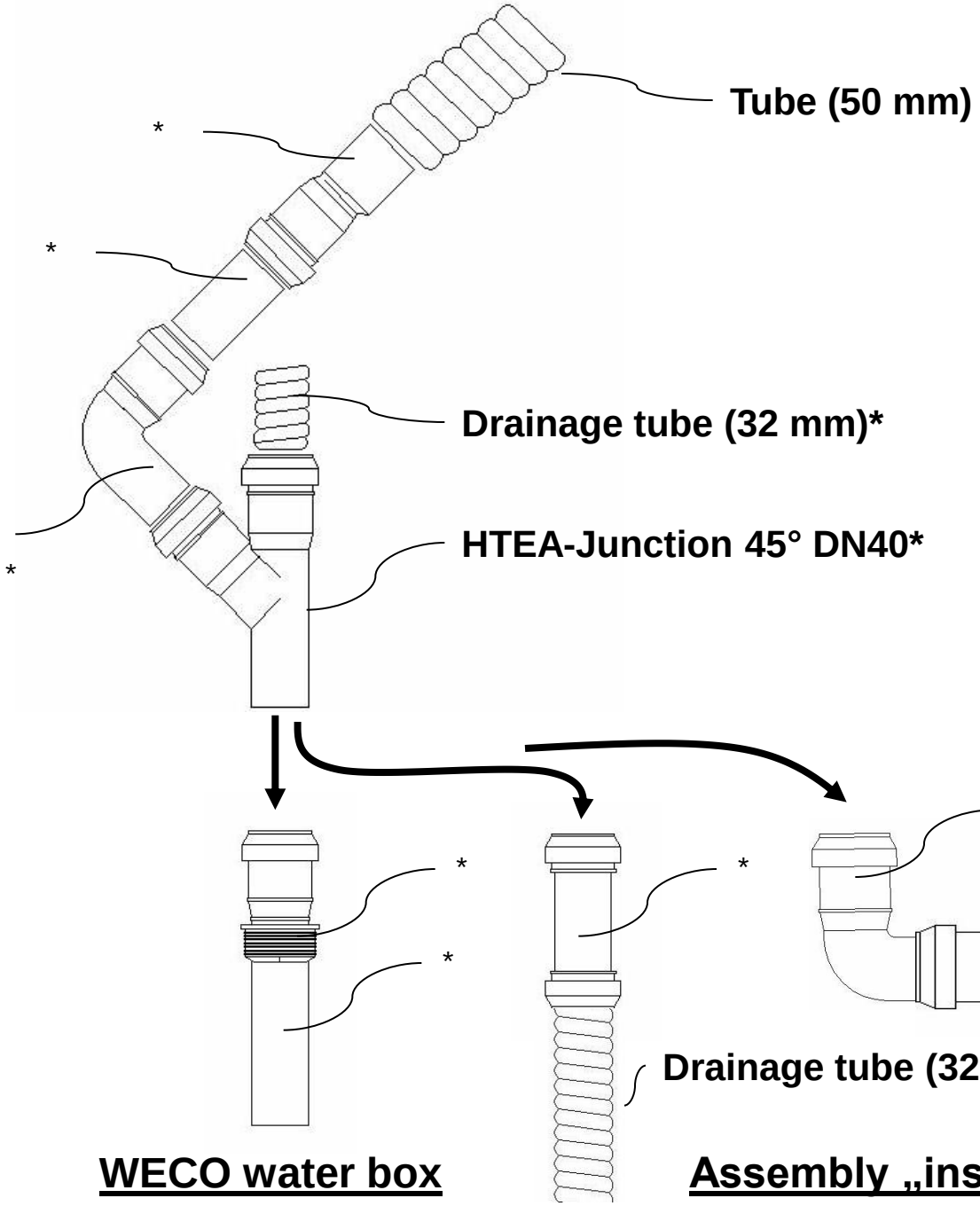
45° junction to divide the air from the water

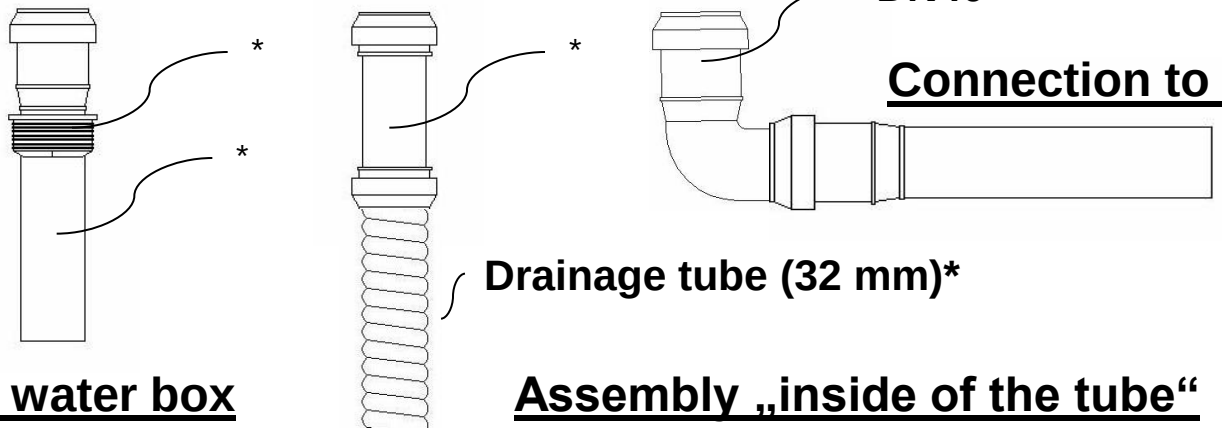
Easy to fit to direct water and recirculating systems

Optician can do the installation by himself



Connection to the 32 mm drainage tube (WECO)





WECO water box

Assembly „inside of the tube“

Connection to drainage fitting

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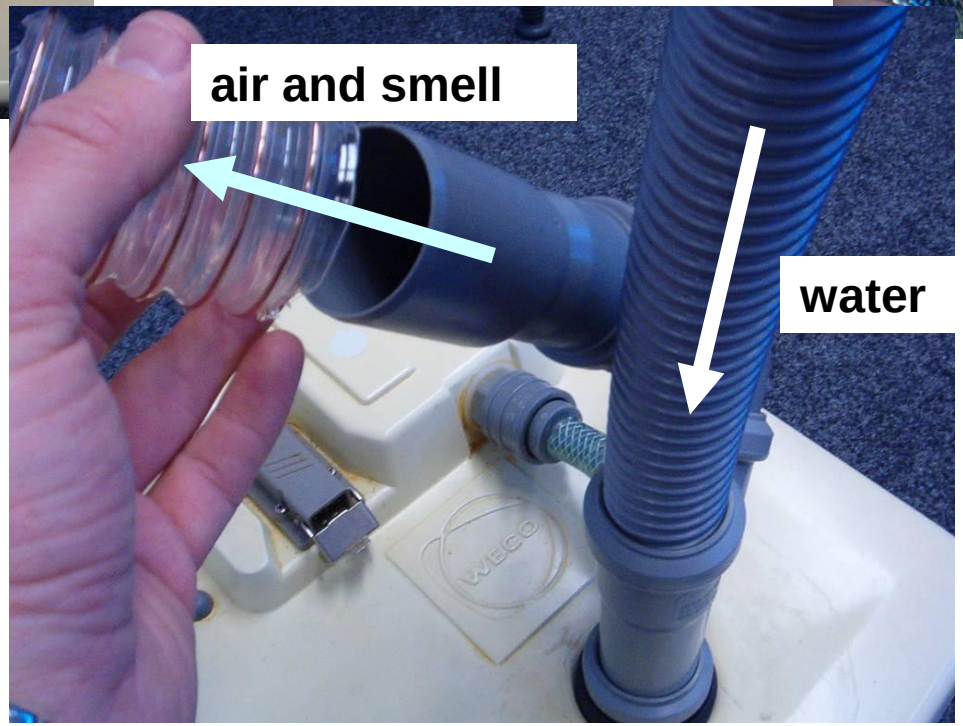

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Available “Installation Sets” as of today

WECO – 32 mm drainage tube

- Connection to the water box
- Connection „inside of the tube“
- Connection to the drainage installation DN40

Nidek - 50 mm drainage tube

- Connection „inside of the tube“
- Connection to the drainage installation DN50
- Connection to the drainage installation DN70

Indo/ Schöne – 63 mm drainage tube

- Connection to the water box
- Connection to the drainage installation DN70

Essilor – 100 mm drainage tube

- Connection to the drainage installation DN100

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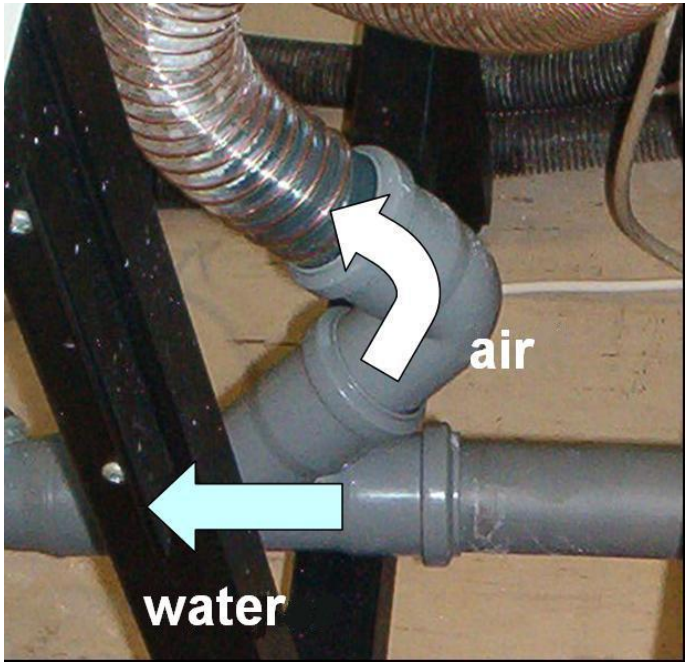
Special Installations

use components out of the common drainage HT-System (availability in the UK ?)

air tube to be connected to a DN 50 component

if no or little air from other inlets is sucked the distance between the edger and the AIr may extend to even some meter



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Advantages of AIR-products:

USP's of AIR$_{MINI}$:

- container for coarse dust and foam
- component to add pleasant scents

USP's of AIR :

- up to two edgers (high power ventilation)
- additional feature: room ventilation

fits to all types of edgers (old/ new, different manufacturers,…)