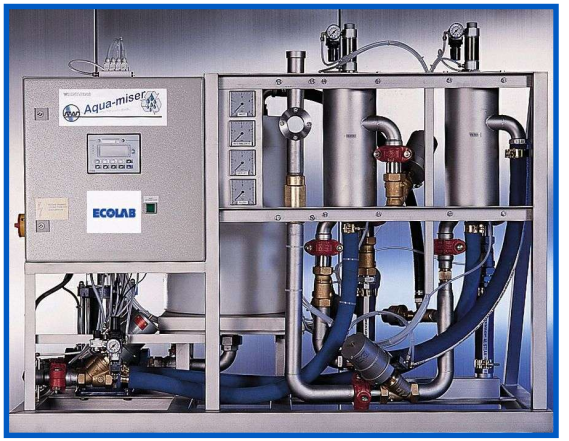
Sustainability in commercial laundering processes

Module 2
Usage of Water

Chapter 6

Water recycling

Process integrated Water Treatment for industrial Washing Processes



Aquamiser

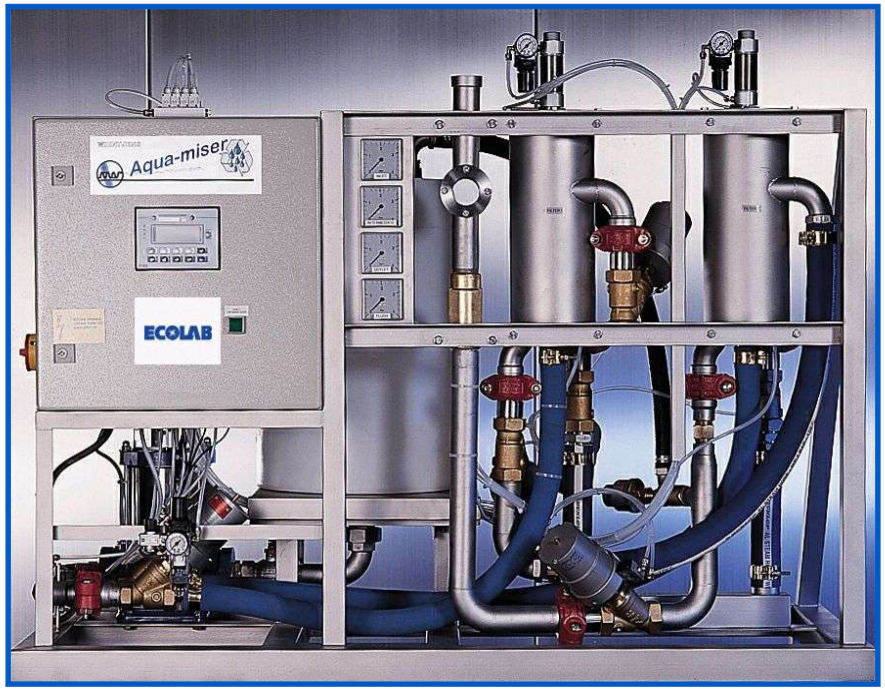
Aquacycler

Aquamiser

Education and Culture

Leonardo da Vinci

- Savings up to 75% in water consumption



Water recycling - compact und effective

Aquamiser

Education and Culture

Leonardo da Vinci

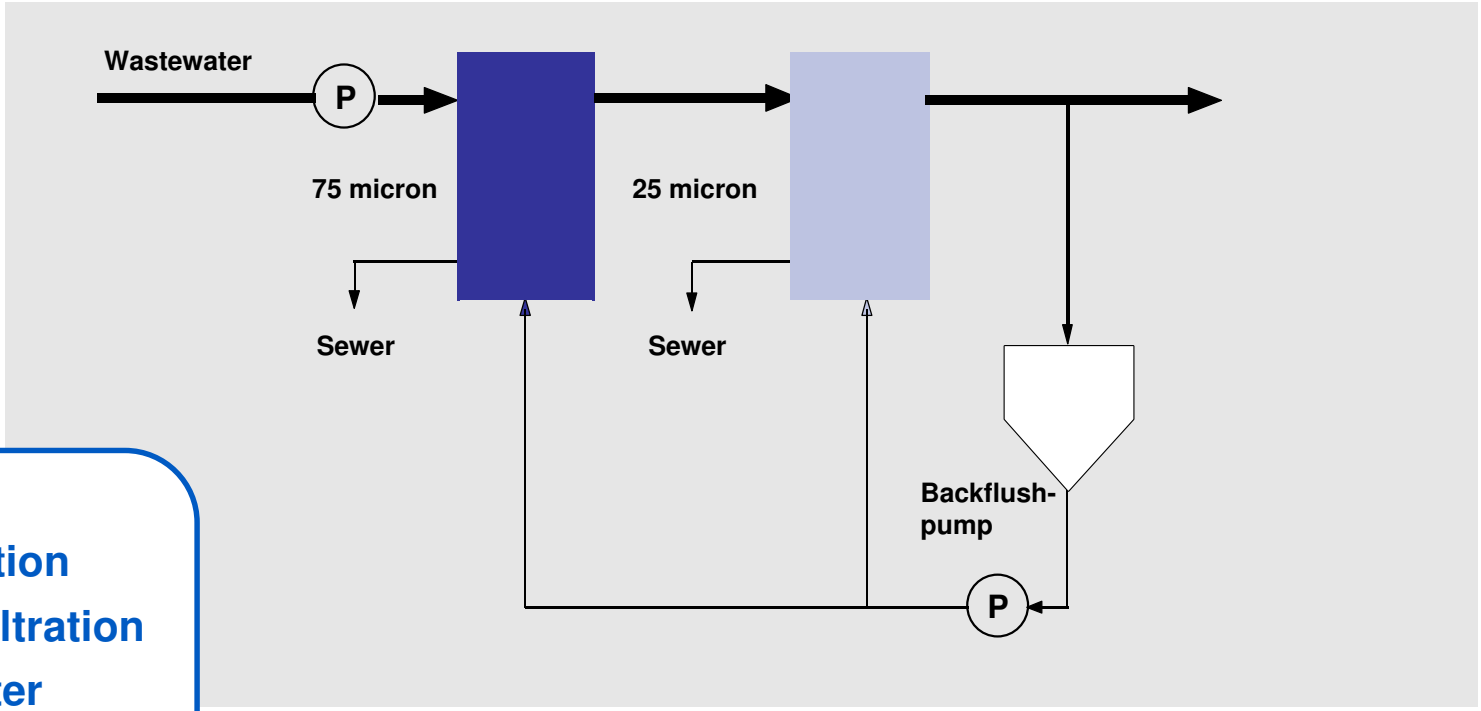
- A system to save
  - Water
  - Energy
- A system to remove
  - Sand, particles and fibres down to 25 microns
- A system suitable for
  - Mats
  - Re-use of rinse water
  - Filtration of pre-wash water
  - Hotel and hospital textiles

Aquamizer - Characteristics

Education and Culture
Leonardo da Vinci

- Reduction of water consumption up to 50% and more
- Medium to strongly soiled effluent
- Capacity 6 m^3/h
- self cleaning Filter
- Required space approximately 2 m^2
- easy to operate with
- low operation costs

Functional Diagramme



BENEFITS:

- **In line filtration**
- **Thorough filtration**
- **Cascade filter**
- **Automatic backflush**
- **Compact design**

Benefits

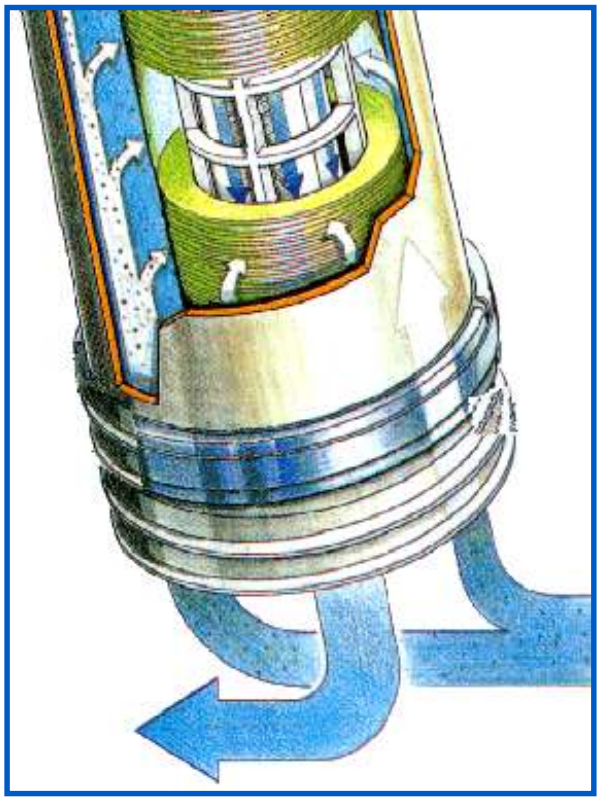
- In line filtration
- Thorough filtration
- Cascade filter
- Automatic backflush
- Compact design

Filter / Backflush

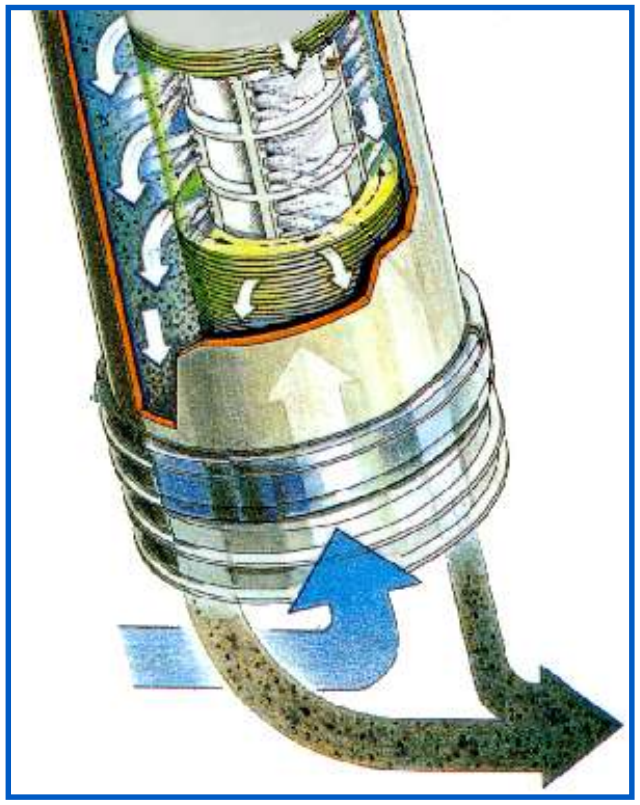
Education and Culture

Leonardo da Vinci

Filtration



Backflush



Application 1

Education and Culture

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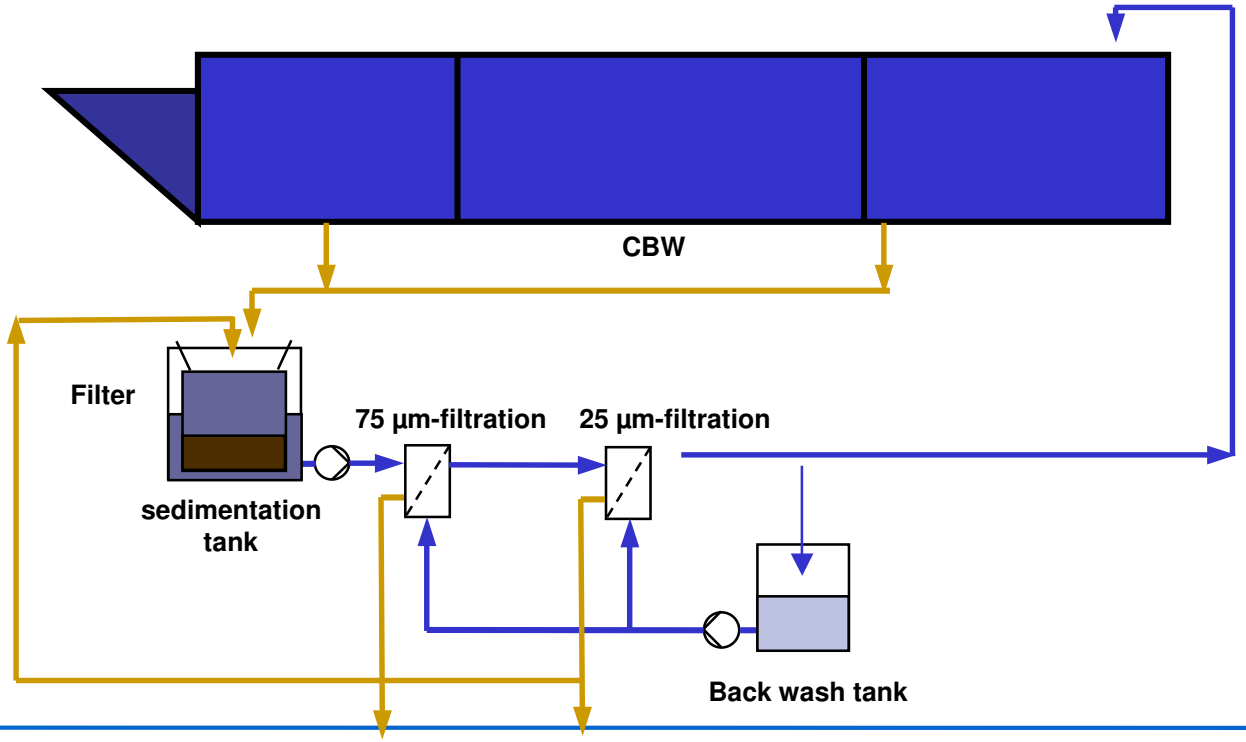
- Water recycling for a mat machine
  - Re-use of wash water. Reduction of water consumption by 50 - 75%. Reduction of energy consumption in CBWs
  - Hinders drain blockage by removing sand from the waste water

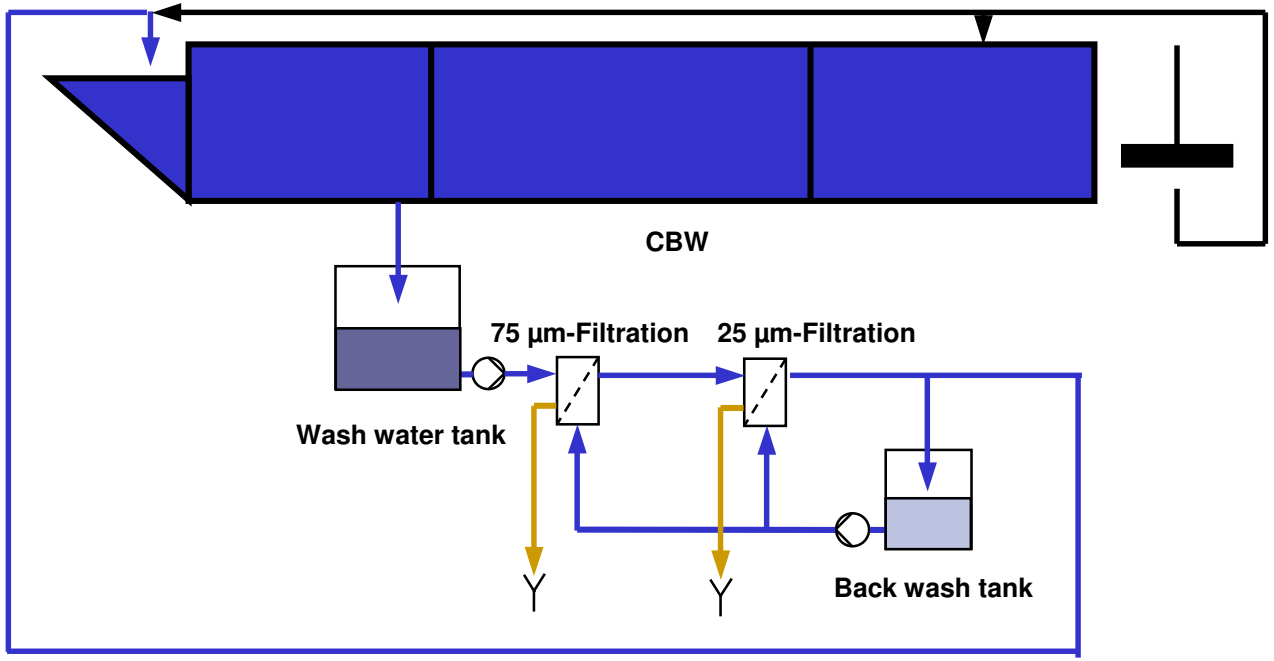


Application 2

Education and Culture

Leonardo da Vinci

- Filtration of pre-wash water (Hotel and hospital)
  - Re-use of pre-wash and main-wash water in the pre-wash
  - Used in combination with press water recycling in the rinse section. Water savings up to 25% (2-3 l/kg)



Savings Potential

Education and Culture

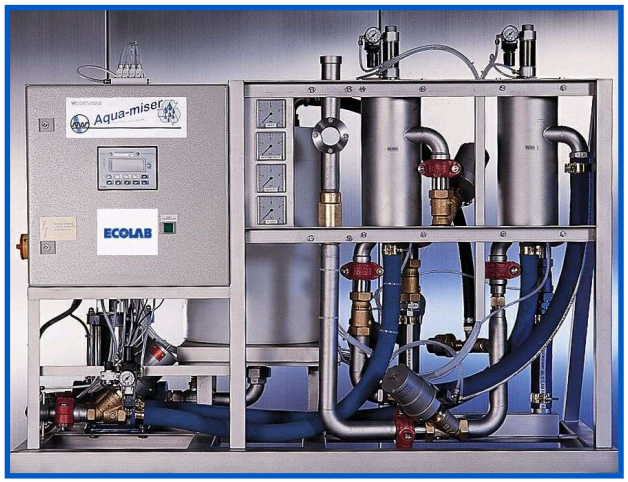
Leonardo da Vinci

- CBW Calculation - Reuse of prewash water
  - Washing capacity 12 t/day
  - Water consumption 8 l/kg text
  - Water costs 3 €/m³
  - Water saving 3 l/kg 108 €/day

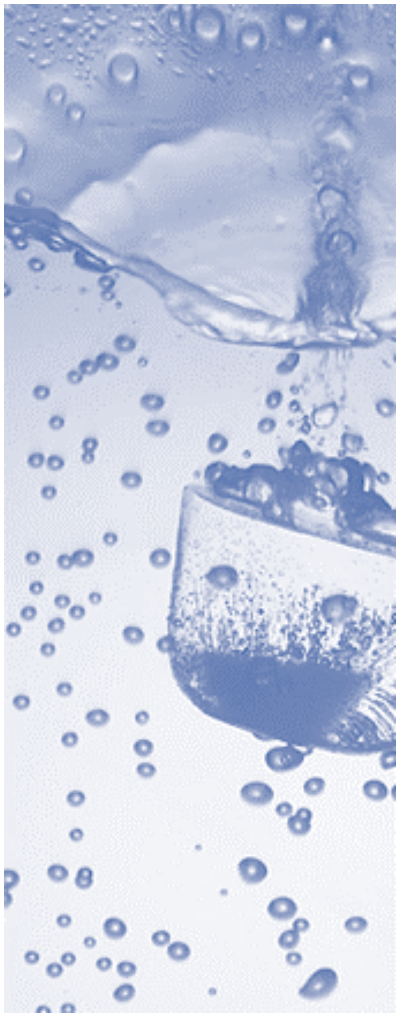
Savings Aquamiser: 27000 €/year

- Investment in equipment and installation app. 40000 €

Pay back after 17 months

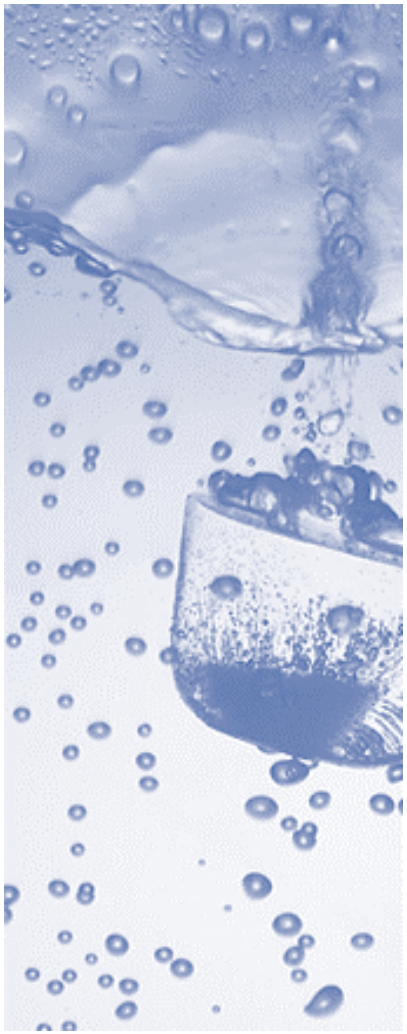


Industrial water recycling system for several washer extractors

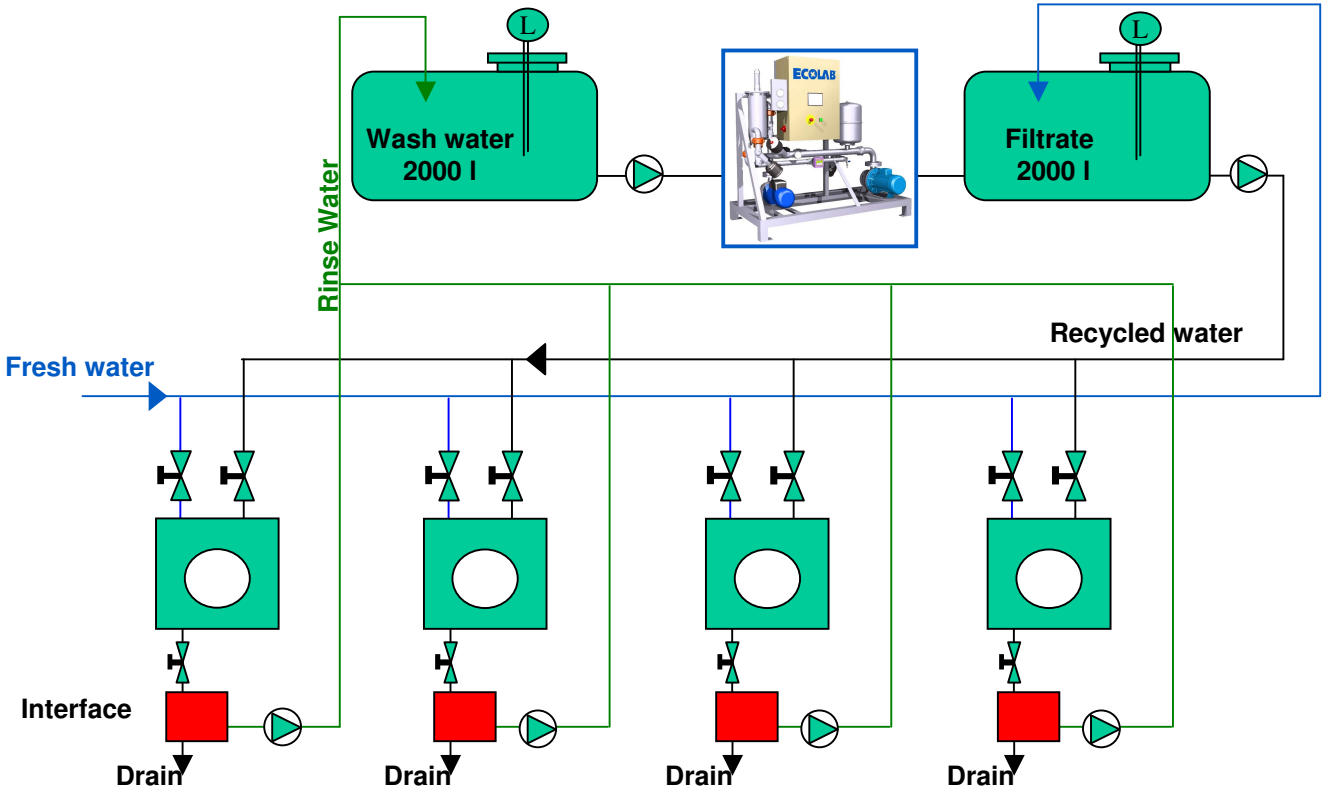


What is an Aquacycler (AC)?

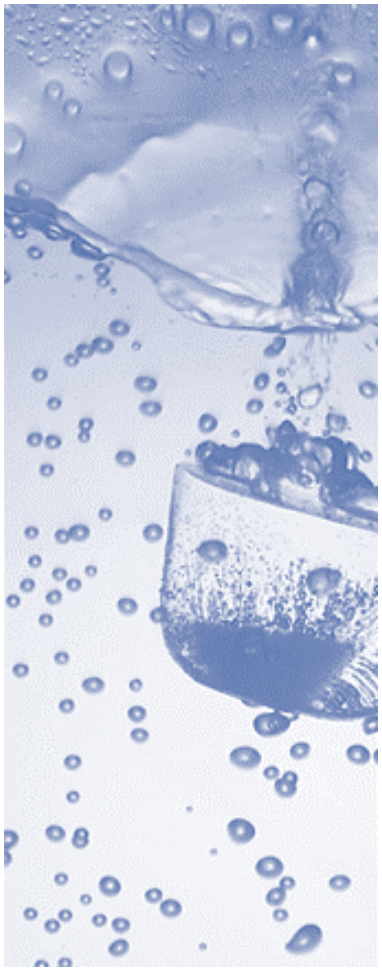
- AC is a modular filtration system for the removal of particles from laundry waste water
- Maximum water throughput: 6 m³/h
- Easy adaptation to individual laundry situations
  - Standardised components
  - Aquacycler recovery unit
  - Storage tanks
  - Machine interface
- Low operating costs
- Small space requirements
- Easy to maintain
- Simple, durable construction



Principle of modular Construction



Working Principle

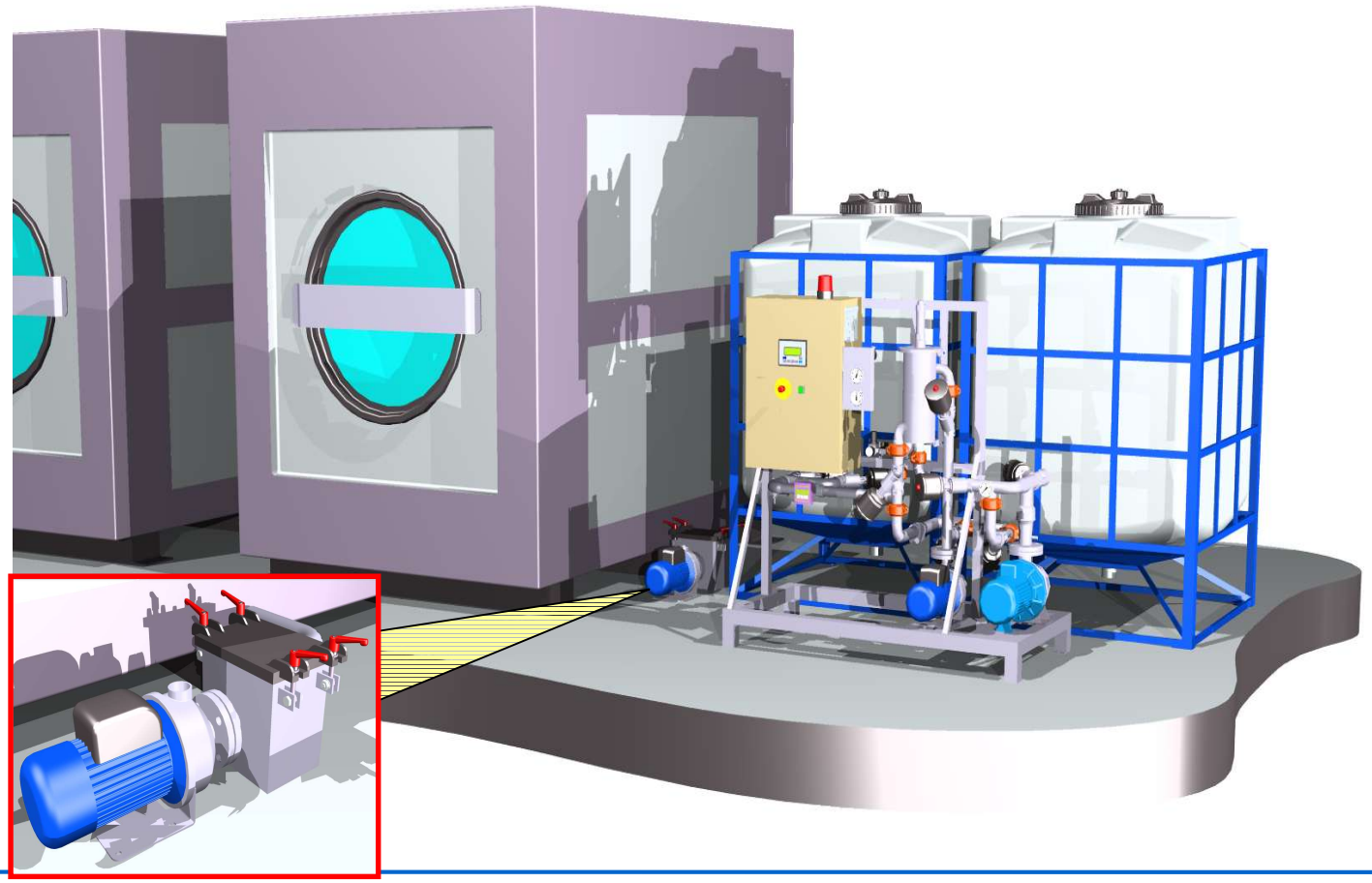


- Each WE is installed with an interface to capture the rinse water
- The rinse water is stored in a wash water tank
- The wash water is filtered in the Aquacycler and stored in the filtrate tank
- The filtrate can be reused in the prewash, the mainwash and the first rinse cycle
- A fresh water inlet guarantees the water supply in case of low filtrate levels

Example 1:
Installation side by side to the washer extractors

Education and Culture

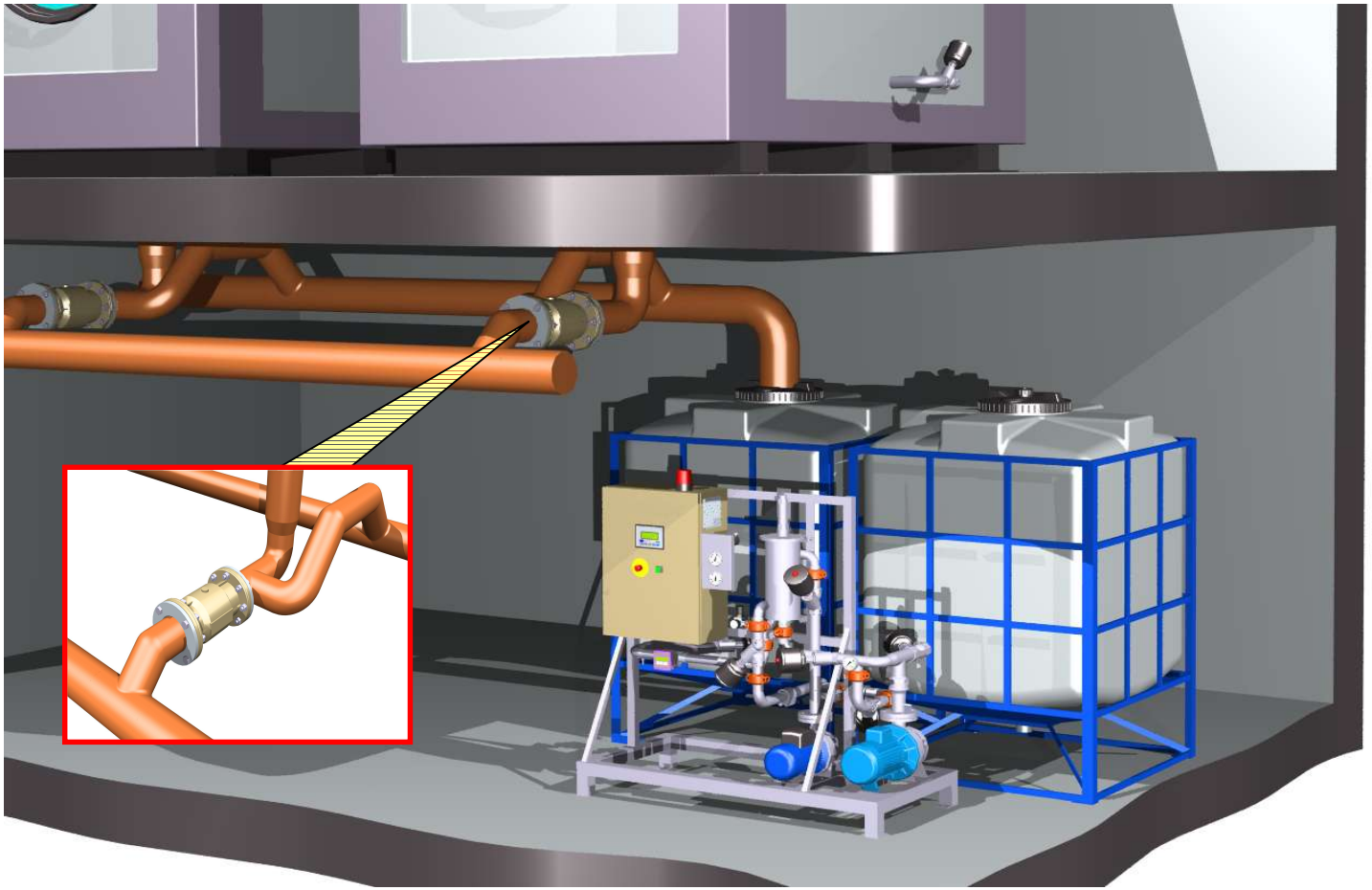
Leonardo da Vinci



Example 2:
Installation in a cellar room

Education and Culture

Leonardo da Vinci



Benefits

RECOVERY RATE:
between 25 - 60%

- Filter and reuse of rinse water
- For several washer extractors
- Lint & particle removal on textiles
- Reduction of water & waste water costs
- Energy savings (reused water still is warm)
- Better washing results in comparison with other recycling methods