

## A system for cleaning a sanitary tray autoclave

A PNR Italia solution to clean the inside of autoclaves for the healthcare sector



### SCENARIO FOR THE SECTOR

Sterilization of medical devices

Sterilization of medical devices represents one of the central moments in infection prevention and control. The most widely used sterilization methods are saturated steam, ethylene oxide, hydrogen peroxide, and peracetic acid. In particular, sterilization with saturated steam exploits the action of flowing or saturated steam (autoclave); it eliminates microorganisms by denaturing their proteins and other biomolecules. **Sterilization by autoclave is the most common, inexpensive, and non-toxic due to its good penetration capacity.**

The sterilization temperature normally used is 134°C at 2.1 bar. As a minimum exposure of the devices, the time is 5 to 7 min.

PNR Italia solutions, such as nozzles and tank washing devices, are helpful in the cleaning phase of autoclaves, which undergo regular washing cycles.

### THE PROBLEM OF OUR CLIENT

The customer manufactures washing and sterilization systems in medical, pharmaceutical, and research laboratories.

His request was to design a system for cleaning an autoclave dedicated to washing trays in the hospital.

### PNR ITALIA SOLUTION

Our technical department has developed a system for the internal cleaning of the autoclave consisting of three lines of nozzles and tank washing nozzles.

The first line consists of two UBD tank washing devices at the autoclave's top.

The second line comprises 41 UBF rotating tank washing devices, 15 on the right side, 15 on the left side, and 11 on the top.

Finally, 12 full cone D nozzles are located on the bottom of the autoclave.

### ADVANTAGES FOR OUR CLIENT

The solution we have designed ensures thorough cleaning of the autoclave, respecting the sanitary standards required by the application of the machinery.

#### INDUSTRY

Pharmaceutical and cosmetic industry



#### APPLICATION

Washing



#### PROBLEM

Washing of an autoclave



#### SOLUTION

Three washing lines with tank washing devices and nozzles



## FOCUS ON THE PRODUCTS

### UBD REACTION DRIVE



UBD tank washing devices's rotary head allows for a very even water distribution, assuring optimum surface coverage. They assure therefore very short washing cycles, using lower quantities of water, with a definite advantage in those applications where recycled water is not allowed as a washing medium, and the volumes sent to disposal must be kept to a minimum.

### UBF TESTA DI LAVAGGIO ROTANTE



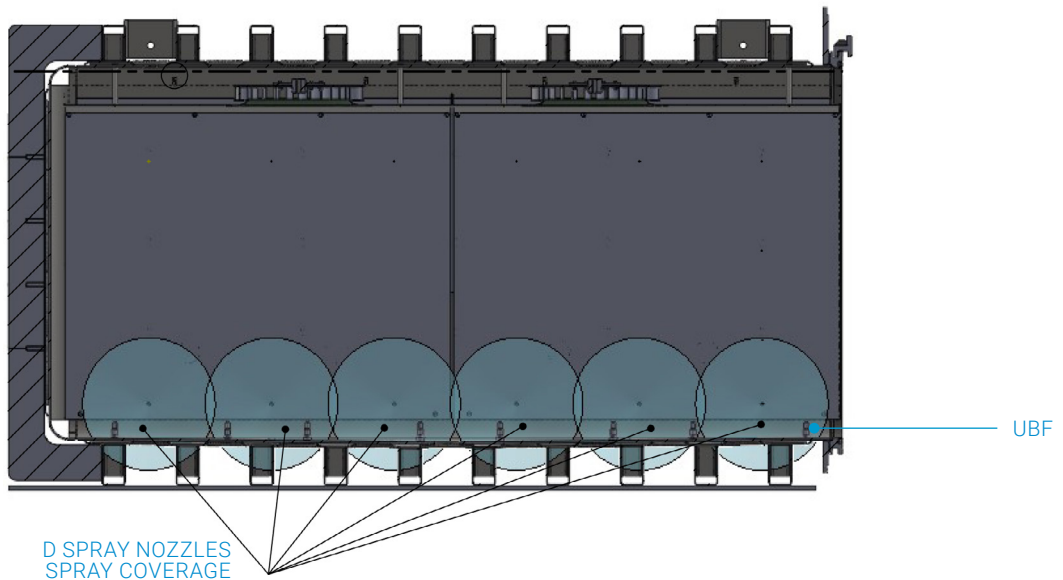
UBF range heads have been designed as small dimensions devices to be operated through small openings and perform such processes as the inside cleaning of any other container where standard tank washing devices cannot be used.

### D FULL CONE SPRAY NOZZLE

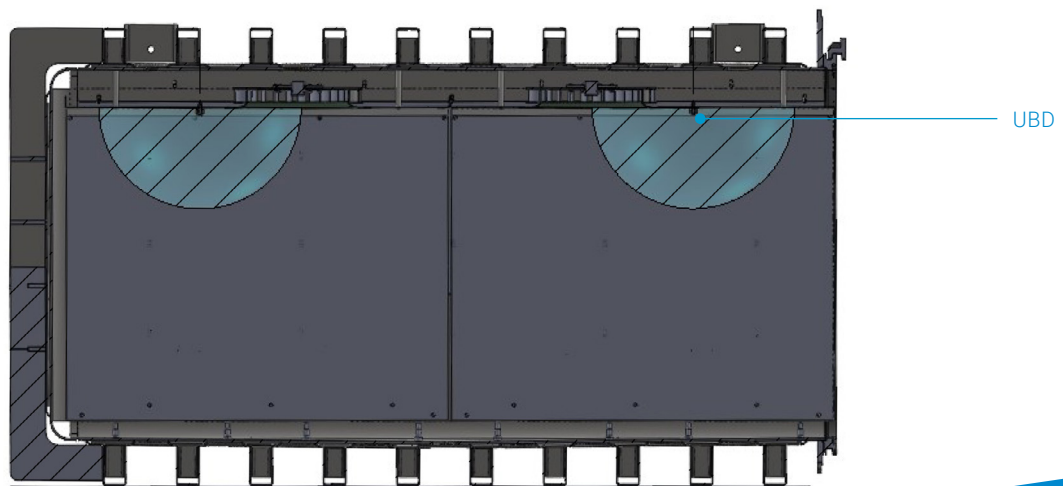


D full cone nozzle with wide passage X-vanes offers a full choice of spray angles, capacities ranging from 1.18 and 1.420 l/min and connections from 1/8" to 4".

### AUTOCLAVE SECTION



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**PNR Italia**

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