How to save 2620 liters of water per year in paint production

Ecological paint manufacturer switches pipeline cleaning method, resulting in significant water, energy, and cost savings.



INDUSTRY
Chemical industry

APPLICATION
Washing

PROBLEM
Washing of pipelines with persistent residues

SOLUTION
Custom made washing system with high pressure washing head

SCENARIO FOR THE SECTOR

Industrial paint production and pipeline-based product transportation

In industrial paint production, pipeline transportation plays a crucial role. Following mixing, the paint is pumped to tanks or bottling lines via pipelines.

Pipelines are engineered for consistent and regulated flow, minimizing the risk of blockages or contamination.

Temperature and pressure levels are closely monitored to uphold paint stability and prevent the formation of air bubbles or foam. This stage necessitates meticulous planning and maintenance to ensure efficient and secure transportation, while upholding stringent quality standards.

THE PROBLEM OF OUR CLIENT

Our client, a manufacturer of ecological paints, **required the design of a system for cleaning the internal transport pipelines within its facility.**

Prior to our intervention, cleaning was conducted manually, necessitating extended plant shutdowns involving the removal of sections of pipes. Operators were tasked with cleaning the pipes using manual lances, facing the risk of injury from high-pressure hot water jets.

PNR ITALIA SOLUTION

The R&D department of PNR Italia has devised a tailor-made solution for cleaning pipelines used in industrial paint production: **a UBR high-pressure orbital tank cleaning nozzle is installed within the pipeline and secured in place using clamps.** Subsequently, the water is discharged into a tank.

A MANUFACTURER OF ECOLOGICAL PAINTS REQUIRED THE DEVELOPMENT OF A SYSTEM FOR CLEANING THE INTERNAL CONVEYING PIPES WITHIN THEIR PLANT.

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ADVANTAGES FOR OUR CLIENT

WATER AND ENERGY SAVINGS

The UBR washing head ensures thorough pipeline cleaning while consuming less water and energy compared to manual washing with lances.
Before our intervention, we conducted a weekly 10-minute wash at 100 bar, using 9200 liters of water per year.

WITH OUR SOLUTION, INTERVENTIONS DROP TO 40 PER YEAR, WITH A 10-MINUTE WASH AT 80 BAR, RESULTING IN A WATER EXPENDITURE OF 6580 LITERS PER YEAR.
THIS REPRESENTS A SAVING OF 2620 LITERS OF WATER ANNUALLY.

ECONOMIC SAVINGS

Our washing system guarantees more precise cleaning while conserving water. Additionally, plant shutdowns decrease from once a week with manual washing to once every ten days with the high-pressure method.
By reducing the volume of water utilized for washing, expenses associated with the disposal of water contaminated by paints are also minimized.

SAFETY OF OPERATORS

Manual washing of the pipes posed a risk to operators due to potential exposure to the hot water jet (80°C) falling from the pipes and dispersing on the floor.
With our system, operators are shielded from contact with hot water, and the cleaning liquid is contained, eliminating floor dispersion and ensuring enhanced safety.

FOCUS ON THE PRODUCT

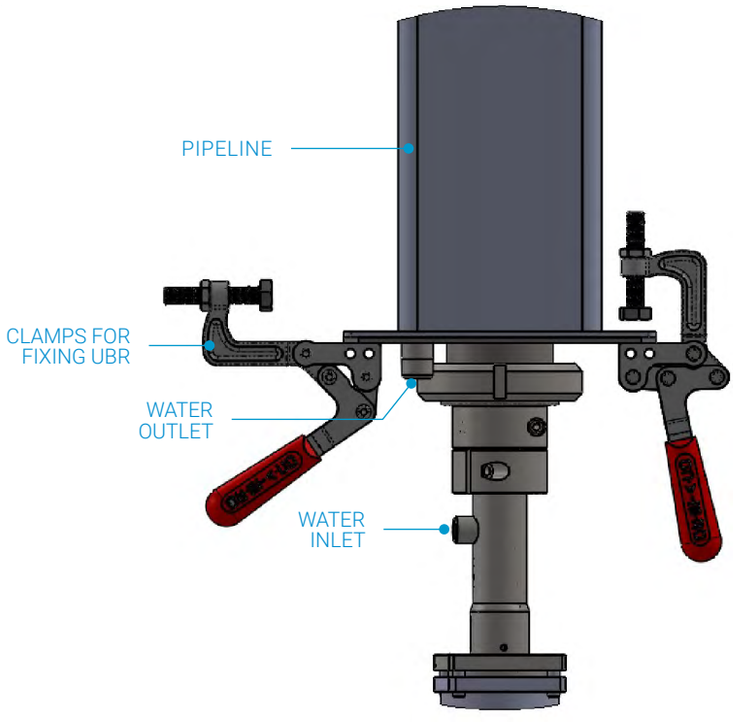


UBR
HIGH PRESSURE ORBITAL TANK WASHING NOZZLE

The tank cleaning nozzles of the UBR series have been specifically engineered to cleanse small containers using a powerful high-pressure straight jet. This product is powered by an external electric or pneumatic motor, enabling only the tube with the rotating head to be inserted into the container for washing purposes.



UBR INSERTED IN THE PIPELINE
ISOMETRIC VIEW



UBR INSERTED IN THE PIPELINE
SIDE VIEW

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