

# HYDRA R.O.1 CO<sub>2</sub>: UNA STRUMENTAZIONE INNOVATIVA PER LA PULITURA CON ACQUA NEBULIZZATA

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## ABSTRACT

*Hydra R.O.1 CO<sub>2</sub>* is a highly innovative and unique equipment for the production of nebulized water demineralized, with controlled pH, bacteriologically pure and with the possible addition of CO<sub>2</sub>.

It was developed and tested in the cleaning of stone materials, masonry and architectural surface, its use, unlike the old systems for spraying, allows an easily applicable and controllable cleaning system, which can be managed easily and easily even by one person.

This device allows a more efficient nebulization than before: it is the first time that, in this cleaning method, demineralized water is used obtaining a chemically more reactive water avoiding to bring salts on the surfaces to be cleaned and the minimum possible splitting up of the particle of water, up to atomization, using nozzles with micro orifices. The water produced is also biologically purified through a UV ray filter.

A system was also developed for adding to the water the carbon dioxide in order to obtain the formation of carbonic acid, a weak acid able to solubilize some salts hardly soluble in water, such as carbonates.

**Key-words:** restoration, cleaning, nebulization, demineralized water, CO<sub>2</sub>, stone