




**WATER DIVISION**

# Thermal circuits



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The treatment program includes a complete appraisal of the process and management parameters, chemical analysis of the water, operator training in order to preserve the value of the plant and energy saving, in full compliance with the current regulations.

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## WATER SIDE

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Thermal circuits may be more or less complex depending on the working pressures, the type of system replenishing water, how the steam will be used, the characteristics of users, the length of distribution lines, the amount of condensate recovered, etc. In all cases, the treatment of such circuits requires specific knowledge of the problems present in pressurised systems and adequate chemical control of the process parameters.

From an economic standpoint, the conditioning treatment is a negligible item compared to energy costs, but crucial for preserving the plant's value. A proper treatment program is necessary and essential in order to prevent serious problems of corrosion, scaling, overheating and plant downtimes. At the same time, fuel consumption can be optimised.

NCR Biochemical takes an overall approach to the conditioning program by appraising each key issue and applying its own formulations.

## FUEL GAS SIDE

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Our treatment programs include additives and services that can help minimise fuel and operating costs while reducing the overall environmental impact along with the simultaneous reduction of damage caused by deposits and acid corrosion (in particular to economisers).

In fact, correct fuel treatment is a commitment for reducing pollution and paying extra attention to environmental issues.

NCR Biochemical has developed liquid and/or granular formulation-based treatment programs able to improve the combustion conditions of heavy oils, gas oils, coal and alternative solid fuels (waste, processing waste, biofuels, etc.).

### ECOSPERSE SERIES

- Asphaltene dispersants, to improve conditions of stability, storage and transport of heavy oil, and to prevent fouling of lines, naphtha preheaters and burners

### POLIVAL® S, M AND G, SK SERIES

- Internal scale inhibiting and dispersant conditioning agents, for the perfect cleanness of steaming surfaces and maintaining heat exchange
- Non-volatile alkalising and de-alkalising agents
- Volatile conditioning and alkalising agents for complete corrosion protection of the entire Water-Steam-Condensate system
- Polyfunctional formulations

### BIOXIN®-POLIVAL® DH AND VAPORSAN® SERIES

- Deoxygenating agents and corrosion inhibitors, for high and medium pressures
- FDA (Food and Drugs Administration) compliant deoxygenating agents and corrosion inhibitors, for the production of steam in contact with foods

### BIOFOAM SERIES

- Defoamers

### ECOFIRE® CD SERIES

- Combustion catalysts, to favour the complete oxidation of carbon and therefore the elimination of dust in the flue

### ECOFIRE® MG SERIES

- Scale inhibitors, to prevent the formation of vanadium-sodium salts on heat exchange surfaces in high temperature zones and to neutralise unburned deposits in low temperature zones
- Corrosion inhibitors, to prevent corrosion in high and low temperature zones of boilers

### ECOPOWER & ECOFROST® SERIES

- Conditioning agents for waste to energy plants, to reduce fusions, fouling in heat recovery zones, and corrosion in high and low temperature
- Additives for gas oil, to control the crystallisation of paraffins in low temperature conditions



**NCR Biochemical** is an international chemical company specialized in water treatment, biotechnology and process additives in the paper and sugar industries. We produce the best chemical technologies, find the best solutions for our customers, develop our own dosing systems and have thirty years experience and expertise in pursuing quality, safety and environmental responsibility. We confront the global industrial reality with a comprehensive scientific approach which brings benefits and results to our clients.



Analysis



Technical assistance



Consulting

[www.ncr-biochemical.com](http://www.ncr-biochemical.com)



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