

Cleaning of high-pressure steam boilers

Output can be increased instantly

■ Magnetite layer protects against corrosion

The inside of a high-pressure steam boiler is covered with a magnetite layer to offer protection against corrosion. For chemical or mechanical reasons this layer may thicken, become porous or crack over time. This can have a very detrimental effect on the heat transfer output and on the residual life of the boiler.

■ Cleaning guarantees residual life

Increase the residual life of your boiler and you can avoid replacement. Chemical cleaning is all that you require. During this process the affected magnetite layer is removed and a new layer applied. There are no hard and fast instructions for this type of chemical cleaning: the action you take will depend on the type of deposits, the construction of the boiler and the means of circulation. Professional advice is recommended.

■ Recommended methods and execution

Today there are two different ways of cleaning high-pressure steam boilers: there is the classic, off-line cleaning, and a new, as yet little-known but attractive method of on-line cleaning. Our Laborelec experts will offer you advice on both methods, and lend assistance in this complex operation. First of all, they will check whether a cleaning operation is actually needed, and if so, they will decide which is the most appropriate.

■ Off-line cleaning: quick and efficient

This short operation takes about a week and has proven its effectiveness on many occasions. Chemical cleaning products (mostly acid-based) circulate in the boiler together with inhibitors. The cleaning products remove the magnetite layer. The inhibitors lay a film that protects the boiler material. The second stage is rinsing. In the third stage, known as passivation, a new protective magnetite layer is applied.

Laborelec ensures...

... recommendations and checks. We attend the entire operation and carry out continual chemical analyses to check how the cleaning operation is progressing. Adjustments are made as and when required. At the end of the operation we evaluate the results. You can also entrust the entire project to us, and we will employ a subcontractor for the actual cleaning operation.



The technical Competence Center
in energy processes and energy use.
From innovation to operational assistance.



We will think along with you to find the best cleaning solution from an economic and ecological point of view.

■ On-line cleaning: without stopping the boiler

During on-line cleaning your plant continues to operate without problem - a not inconsiderable advantage. Not only that, but the method is of particular ecological interest because acids are not used in the process. In an on-line operation the cleaning products are injected into the drum during operation. These products include neutralising and film-forming amines and a dispersing agent. The corrosive products are eliminated from the boiler water by means of continuous drainage. The entire operation takes about three months to complete.

Laborelec ensures...

... purchase of the cleaning products, elaboration of a volumetric procedure and detailed recommendations during the operation. There are only a few simple actions to take, which most companies are easily able to undertake themselves.

Degreasing prior to initial commissioning

Besides renewing a magnetite layer, Laborelec can assist in degreasing a boiler prior to initial commissioning. This involves the use of alkaline products, and is a delicate operation in which the correct dosage and circulation time are of crucial importance. We offer expert advice and monitor the entire operation.



Five reasons for you to choose Laborelec:

- you have one-stop shopping for your energy needs;
- you get access to more than 40 years of experience;
- you get rapid service with reliable solutions;
- you increase the profitability of your installations;
- you benefit from independent and confidential advice.

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