



Maintenance

Code 39 – Heat Exchangers

NOV. 03

Rev. 00

OVERVIEW

This procedure has been developed to help the end user with the maintenance of the Rocore Code 39 heat exchanger. Please read it in its entirety prior to any maintenance work on the cooler.

MAINTENANCE

Prior To Cleaning

Remove any mounting brackets, bolts, nuts, washers, end bonnets, and gaskets. Clean the end bonnets, brackets, bolts, nuts and washers separately, if desired. Gaskets should be inspected and replaced if damaged.

Shell Side:

Usually, immersion in a paraffin or degreasing tank is sufficient to remove all traces of dirty oil from the shell & bundle assembly and cylinder. When stubborn carbon deposits are difficult to remove in this manner, the shell & bundle assembly should be immersed in a bath of detergent, preferably heated (except in the case of vapor solvents) and moved vigorously back and forth.

Agitation of the detergent by a steam or compressed air jet accelerates cleaning. The steam can be used to heat the solution. The pressure, however, should not exceed 10 psi.

Never use stiff metal brushes or probes which may damage the tubes, baffles and or headers.

Tube Side:

If the water passing through the cooler is clean, the cooler should not become fouled on the inside of the tubes. If however, hard or impure water is used, the cooler may become blocked by hard scale or other impurities

A badly scaled cooler can be restored to its original cleanliness by immersing the bundle assembly in a suitable inhibited acid solvent, the bundle assembly having first been thoroughly cleaned on the shell side.

One suitable solution is a mixture of hydrochloric acid and water. Mix a 4% solution hydrochloric acid with water. Make sure to add the acid to the water (NEVER VISA VERSA). Heat to 120 °F (if possible). Heating the solution is not essential but it does quicken the descaling.

Immerse the bundle assembly in the solution; effervescence (fizz) will take place. When it ceases, remove the bundle assembly and rinse in hot water. Inspect for cleanliness and repeat if necessary. When the tubes are clean, neutralize by immersing the stack in a boiling solution of soda (1 lb. command soda crystals to 5 gallons of water). Finally, wash in hot fresh water.

SAFETY

When using cleaners and equipment, always use good judgment and adhere to applicable laws and safety guidelines. If in doubt, consult OSHA guidelines in the use of cleaners and equipment.