BASCO
AN API HEAT TRANSFER COMPANY

Operating Instructions Basco® Type 500 and Hub-Design Heat Exchangers

Installation

Except when the hot fluid is dirty or is prone to fouling, it is preferable to pass the cooling medium through the tubes and the hot medium through the shell. Since the tubes can be mechanically cleaned, it is sometimes advantageous to pass the hot dirty fluid through the tubes. When installing a single pass unit, the shell inlet must be at the same end of the exchangers as the tubeside outlet (counter-current flow).

When the Basco Type 500 or Hub-design is used with steam as the heating medium, water should flow prior to injection of steam to avoid differential expansion.

Operations

At startup or after maintenance inspection, both shell and tubeside should be carefully vented and full of liquid. Improper venting and fouling are the most common causes of heat exchanger malfunction.

To obtain maximum performance, the following precautions should be taken:

- Make sure all other equipment in the fluid circuits functions properly.
- Maintain rated flow of both fluids, but be sure flow rates are not excessive. Frequently, tube failures can be directly traced to excessive fluid flow, causing tube erosion and corrosion. In the case of heavy oils, high flow rates can reduce cooler efficiency.
- A periodic venting program should be followed if air or vapor tends to accumulate in the system.
- Observe a regular maintenance program.

Inspection

A periodic inspection and maintenance program should be followed with any heat exchanger. To ensure continuous satisfactory performance of your Type 500 and Hub-design heat exchanger, the following steps should be taken:

- Inspect filters in system and replace or clean as required.
- Remove bonnets from the heat exchanger and inspect the zinc pencils (if present) for erosion or oxide deposits. Scrape to bright surface and replace if more than half has corroded away.
- Carefully examine tubes for scale, and clean if necessary. After cleaning, examine for erosion or corrosion.

Cleaning

The interior surface of the tubes can be cleaned in several ways. Many deposits can be removed by flushing a high-velocity stream of water through them. For more stubborn deposits, wire brushes or rods can be used. If the special air or water gun is available, rubber plugs can be forced through the tubes.

Both shell and tubeside can be cleaned chemically by circulating solutions through the heat exchanger. For most deposits, a mild Oakite® solution is satisfactory. Circulate the cleaning solution until the heat exchanger is clean. Be sure to wash out all chemicals thoroughly with clean water before returning the heat exchanger to service.

API HEAT TRANSFER
ISO 9001 CERTIFIED

MANUFACTURING FACILITY | 2777 Walden Avenue | Buffalo, NY 14225, USA | +1.716.684.6700 | sales@apiheattransfer.com
GLOBAL MANUFACTURING LOCATIONS: **USA:** New York: Buffalo; Wisconsin: Franklin, Iron Ridge and Racine
Germany: Bretten and Dortmund | **China:** Shanghai and Suzhou