



OPERATION MANUAL OF EQOBRUSH FOR HEAT EXCHANGERS AND CONDENSORS

PROJECT: POLY EPC
PROJECT No.: 7685

删除[BeBe]: P T. TOYOTA MOTOR MFG INDONESIA

删除[BeBe]: 70

Table of Content

1) START-UP / OPERATION / MAINTENANCE	3
1. START UP	3
2. AUTOMATIC OPERATION	4
3. SERVICE AND MAINTENANCE	4
1. BRUSH AND BASKET	4
2. VALVE AND ACTUATOR	4
4. NOTES TO OPERATOR	4
2) SAFETY FEATURES	5
A. MOTOR CURRENT CONTROL	5
B. RUN TIME CONTROL	6

SECTION 1: START-UP / OPERATION / MAINTENANCE

1) START-UP

删除[BeBe]: _

To start up the water system follow the instructions from the chiller/heat exchanger. Make sure the valve and flange connections do not leak and that there are no air pockets in the pipe work. (Install deaeration valves there where necessary).

Once the system pump(s) is running for a while, the first cleaning cycles can be activated manually.

Monitor the valve behavior during operation and confirm that the swing box runs smoothly. If not, there may still be air pockets in the system. Let the pumps run for a while till all air pockets are filled.

STEP 1:

Before electrical activation, the valve should be operated manually to see if the valve travel is free and smooth. Putting down the hand lever and turn the valve by hand into the reversal position and back. If the runway is smooth the panel can be activated.

STEP 2:

Set the switch on the actuator to “LOCAL”. Then activate a cleaning cycle by turning the function knob to “close” direction. Once arrived, turn the function knob to “open” direction. The valve travel should be smooth.



STEP 3:

Set the switch on the actuator to “REMOTE”. The panel will activate the actuator.

Lock the function switch so that it is non-turntable.

STEP 4:

Activate a few manual cleaning cycles by pushing the green function light button on the panel. Also, now the valve should run smoothly.

The actuator is fully switched off if the function knob is locked in “STOP” position.

2) AUTOMATIC OPERATION

删除[BeBe]: _

Once the power is activated and the system runs smoothly, every 4 hours there will be an automatic cleaning cycle. The time of the cycle is stored in the PLC history.

3) SERVICE AND MAINTENANCE

Brushes and Baskets

The system is maintenance free and runs 1 to 2 years without any attention. Every 2 to 5 years the heat exchanger heads should be opened to check the condition of the pipes, brushes and baskets.

Replace internal components if required.

Valve and Actuator

The actual running time of the actuator is quite limited: +/- 2 minutes a day or +/-12 hours per year.

An oil replacement in the actuator is advised every 2 years depending on the ambient conditions of the valve/actuator set. Contact WATCO for more details.

4) NOTES

EQOBRUSH avoids fouling and scaling deposits to settle in the heat exchanger/condenser pipes. However, EQOBRUSH does not remove deposits in pipes that have already hardened.

Install after cleaning or on new equipment

It is therefore strongly recommended to install the units only on clean heat exchanger systems (either immediately after manual cleaning or on new equipment).

Operate only with active EQB-reversing valve

We also recommend not running the heat exchanger system without activating the reversing valve over periods longer than 12 hours as this may allow calcium deposits to deposit and harden.

Heat Exchanger when not in use

During periods when Heat Exchanger or Condenser is not in use we recommend to:

- Keep system (Heat Exchanger and Reversing Valve) filled with water
- Do not stop the reversing valve from moving in its set interval. This will minimize risk of valve getting stuck in its position over prolonged period of time

Water inlet strainer

To remove possible foreign objects obstructing the valve it is necessary to disconnect the piping, hence this requires a stop of the installation. We suggest regular checking to prevent this (mostly caused by defect strainers at the water inlet) from happening.

Placement of control panel

The EQOBRUSH system can operate completely independent and does not interfere with any of the thermal systems connected to the heat exchanger or condenser. It is therefore not necessary to connect to other operational control systems in use. However, we do strongly recommend installing the control panel in a location where it is clearly visible to the operating staff as to ensure any blinking alarm to be visible.


删除[BeBe]: _

删除[BeBe]: _

删除[BeBe]:

SECTION 2: SAFETY FEATURES

Motor Current Control.

Every valve has a dedicated over current relay installed in 

设置格式[BeBe]: 正文, 左, 缩进: 左侧: 5 毫米, 右侧: 0 毫米