



START-UP PROCEDURE

STEAM COIL AIR MAKE-UP AND HEATING SYSTEMS

Start-up must be performed by a trained experienced service person.

The following general start-up procedure applies directly to units with a standard steam unit control schematic. Please note any added options which affect the control sequence or terminal numbering of a specific unit prior to attempting start-up or service work. Read the entire start-up procedure and all reference material supplied with the unit.

STEP 1

Turn off incoming electrical power and steam supply to the unit. Electrical power can be turned off at the unit disconnect.

At the remote panel, turn the Summer-Off-Winter (S-O-W) switch to the off position and the temperature selector to the lowest setting.

STEP 2

Verify that incoming electrical and steam supply match the name plate requirements (i.e., voltage/amp capacity, steam pressure, etc). If they do not, stop at this point and contact Titan Air.

STEP 3

Open the access doors to blower and control vestibule sections. Check all electrical connections and hardware (blower drives, bearings, damper linkages, etc.) for tightness and correct field wiring connections.

STEP 4

Check that all steam piping lines are properly connected.

STEP 5

Turn on incoming electrical power at unit disconnect.

STEP 6

Make sure the blower access door is securely held open. Turn the blower service switch (SW-5) on.

STEP 7

If an optional intake or discharge damper is installed, the blower will not start until the damper opens. Otherwise, the blower should start immediately. Check the blower for proper rotation direction. If the rotation is reversed, turn both SW-5 and the disconnect switch off. For 3 phase motors, reverse any two leads. For single phase motors, see instructions on the motor.

STEP 8

With proper blower rotation verified, check and record the RPM of the blower.

STEP 9

Turn the unit off. Close and latch the blower access door.

STEP 10

Start unit with SW-5. Check and record the motor amp draw. If the motor amp draw exceeds listed Full Load Amps (FLA), stop and contact the factory.

STEP 11

With steam supply available to the unit, turn SW-5 and the heat service switch (SW-6) on.



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STEP 12

If the unit is equipped with optional factory installed face and bypass damper discharge temperature control, check the operation of the associated dampers and control. If the discharge air temperature is above the discharge air temperature selector (T-6) setting, the face and bypass dampers should run towards the full bypass position. If the discharge air temperature is less than the setting on T-6, the face and bypass dampers should run towards the full face (through the coil) position. Refer to the unit's Sequence of Operation and Electrical Schematic for additional details regarding the operation of the face and bypass dampers. The temperature control system may be the responsibility of others (installing contractor, etc).

STEP 13

If the unit is equipped with a factory built fresh air/return air mixing section, check the operation of the fresh air/return air (FA/RA) dampers and positioning controls according to the unit's Sequence of Operation.

STEP 14

The maximum temperature rise of the unit should be checked at this point. If the discharge temperature selector cannot be set high enough to check the maximum discharge temperature, it will be necessary to force the unit into a maximum discharge temperature condition. The method for accomplishing this will vary depending upon the type of control system utilized. Contact Titan Air, Inc. if assistance is needed with a unit equipped with a factory installed discharge temperature control system. If the unit is equipped with FA/RA dampers, these dampers should be run to the full FA position when checking temperature rise.

STEP 15

If the unit is equipped with a freeze-stat, check the control's operation. The serpentine element freeze-stat will respond to the coldest 1 foot section along its length. Therefore, one can cool only a portion of the element (ice-water or cold spray) to get the control to trip. Valves and dampers should immediately run to fail-safe positions (see sequence and schematic). If the cold condition persists for one minute, the unit should shut down and indicate freeze-stat lockout on the remote panel.

STEP 16

Turn SW-5, SW-6 and the disconnect off. Verify all terminals, electrical connections and hardware (bearings, sheaves, blower wheels, etc.,) are securely tightened. Adjust all controls to desired settings. Remove all gauges, meters, and hand tools from the unit. Replace all covers on controls. Make sure all safety devices are reset.

STEP 17

Turn the disconnect on. Start the unit from the remote panel. Verify proper operation in all modes according to unit's sequence of operation.

To assure long lasting and efficient operation of Titan equipment, a regular service inspection should be set up. During this inspection, bearing should be greased, belts checked, and filters inspected and changed or cleaned if needed. Also check the operation of the discharge temperature control.