

# Method Statement for Chilled Water Pump Installation, Alignment and Balancing

## **Installation of Chilled Water Pump**

- Before start of work examine areas, equipment foundations, and conditions for compliance with requirements for installation and other conditions affecting **chilled water pump** performance.
- Do not proceed with pump installation until unsatisfactory conditions have been corrected. Examine the chilled water piping system and verify actual locations of CHW piping connections prior to installation of pump.
- Wherever necessary or specified in the approved drawings install concrete equipment bases of dimensions required for chilled water pumps, pressure maintenance pump and controllers etc.

## **Chilled Water Pump Installation Procedure**

- Before starting the pump installation process mechanical or HVAC Engineer to study the pump manufacturers written installation and alignment instructions.
- A layout drawing should be approved and pumps should be installed in locations indicated making sure that there is sufficient access space for periodic maintenance, removal of motors impellers, couplings and accessories.
- Set base-mounted pumps on concrete equipment bases as indicated on drawings. Suitable lifting equipment should be used to lift and place the pumps on its location. Disconnect couplings to the half before setting. Do not reconnect couplings until alignment operations have been completed.
- Install suction and discharge pipe sizes equal to or greater than the diameter of water pump connections.
- Install valves of types and at locations indicated that are same size as the piping connecting chilled water pump, bypasses, test headers and other piping systems.
- Install pressure gauges on chilled water pump suction and discharge lines in such way to be easily readable and completely isolated from vibration.

- Support pumps and piping separately so that weight of piping system does not rest on pumps or its support.
- Install piping accessories, hangers and supports, anchors, valves meters and gages, and equipment support as indicated for complete installation.

**Electrical Wiring:**

- Install electrical devices furnished by equipment manufacturers but not specified as factory mounted. Furnish copy of manufacturers wiring diagram for submittal to the Consultant.
- Verify that electrical wiring is installed according to manufacturer's recommendations and installation requirements.
- Work to be inspected and approved by consultant and do not proceed with equipment start up until wiring installation is acceptable.

**Chilled Water Pump Alignment /Balancing**

- Align pump and driver shafts after complete unit has been leveled on foundation and after grout has set and foundation bolts have been tightened.
- After alignment is correct, tighten foundation bolts evenly but not too firmly.
- Fill base plate completely with non-shrink, non-metallic grout, with metal blocks and shims or wedges in place.
- After grout has hardened, fully tighten foundation bolts.
- Check alignment and take corrective measures required to ensure perfect alignment.
- Make piping connections and check alignment again, and take corrective measures as per the requirements.
- Connect flow-measuring and other hydronic system components according to manufacturer's written installation instructions.