SECTION 15540D - HVAC PUMPS

A. SECTION INCLUDES

1. End Suction Centrifugal Pumps
2. Double Suction Centrifugal Pumps
3. In-Line Centrifugal Pumps

B. SECTION DOES NOT INCLUDE

1. Steam Condensate Pumps
2. Boiler Feedwater Pumps

C. DESIGN CRITERIA

1. Energy considerations:
   a. Efficiency of the system depends on the pump, driver, variable speed drive (when used) and the system hydraulic characteristics. A term “System Efficiency Index” (SEI) is the useful energy or system load divided by the input power. This index can vary from 0.10 to 0.78; therefore, it is very important to evaluate the system SEI’s, not just at maximum, but at several levels of operation.

2. Specify mechanical seals where leakage is not permissible, space for seal is limited, and temperatures are high.

3. Stuffing-box seals permitted on fire pumps only.

4. Acoustical considerations:
   a. Specify pumps suited for the hydraulic characteristics of the system.
   b. Specify low speed pumps (higher speed pumps are usually noisier).
   c. Specify close-coupled pumps with flexible connectors on the suction and discharge connections and mount on an inertia pad (normally avoid where sound control is important).
   d. Specify that base mounted pumps be realigned after installation.

5. Specify pump on a curve that permits a reasonable degree of tolerance of system variations. Specify with an impeller size that can be trimmed or replaced with
larger size impeller should the system require, as determined during test and balance of system.


7. Specify compact in-line circulators for low-flow, low head, circulating systems.

8. Specify in-line, end suction pumps or double suction pumps for high capacity circulating systems (up to 1000 gpm).

9. Specify vertical in-line and vertical mounting, double-suction pumps for applications where floor space is limited.

10. Specify top-connection, double-suction pumps for applications where floor space will not allow a horizontally mounted pump or flow rate exceeds 1000 gpm.