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### 232123 - Hydronic Pumps

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## SECTION 23 2123 – HYDRONIC PUMPS

### 1.1 SUMMARY

A. Section Includes:

1. Base Mounted Pumps.
2. Vertical In-line Pumps.

B. See Chapter 5, Division 01, Section 017700.1.1.B.1.i Closeout Procedures - Project Record Documents for equipment list requirements for all equipment provided in this section.

### 1.2 GENERAL

A. If there is sufficient floor space in the mechanical room to allow manufacturer's recommended service clearances, base mounted pumps shall be used in lieu of in-line pumps.

B. Manufacturers:

1. Armstrong Pumps Inc.
2. ITT Bell & Gossett.
3. Taco, Inc.
4. Grundfos Industrial Solutions.
5. Substitutions: As approved by the University.

C. Maintenance:

1. Provide a minimum of 24" on sides and ends of base mounted pumps and motors to allow access for service and repair.
2. All pumps shall have isolation valves on suction and discharge sides to allow removal of pumps for service or replacement
3. Bleed valves and gauge ports shall be installed at accessible locations
4. All pumps shall be serviceable without removing the volute from the piping connections.
5. A technician certified by the pump manufacturer shall field align flexible coupled pumps after the base has been grouted and flushing and cleaning procedures are completed. Pump and motor shall be aligned in all four planes.

### 1.3 MOTORS

A. Three-phase motors of 1 horsepower and greater shall be premium efficiency.

1.4 VIBRATION ISOLATION AND SEISMIC CONTROL

- A. Provide concrete inertia bases with open spring isolators for base mounted, end suction pumps.
- B. Provide open spring isolators with minimum deflection of 1.5 inch for in-line pumps.

1.5 PUMP CONTROL

- A. Differential pressure control on pumps shall be provided by VFD's. Bypass valves may only be used after fully utilizing the maximum turndown from a VFD.

END OF SECTION 23 2123