

## PART 1 - GENERAL

### 1.1 SUMMARY

- A. This Section includes the following all-bronze and bronze-fitted centrifugal pumps for domestic cold- and hot-water circulation:
  - 1. Close-coupled, in-line, seal-less centrifugal pumps.
  - 2. Close-coupled, horizontally mounted, in-line centrifugal pumps.

## PART 2 - PRODUCTS

### 2.1 CLOSE-COUPLED, HORIZONTALLY MOUNTED, IN-LINE CENTRIFUGAL PUMPS

- A. Manufacturers:
  - 1. GrundFos.
  - 2. Bell & Gossett Domestic Pump; ITT Industries.
  - 3. Armstrong Pumps Inc.

### 2.2 CONTROLS

- A. Thermostats: Electric; adjustable for control of hot-water circulation pump.
  - 1. Manufacturers:
    - a. Honeywell International, Inc.
    - b. Square D.
    - c. White-Rodgers Div.; Emerson Electric Co.

### 2.3 BUILDING-AUTOMATION-SYSTEM INTERFACE

- A. Provide auxiliary contacts in pump controllers for interface to building automation system. Include the following:
  - 1. On-off status of each pump.
  - 2. Alarm status.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. As required by Engineer and manufacturer to maintain warranty.

### 3.2 DEMONSTRATION

- A. Engage a factory-authorized service representative to train University's maintenance personnel to adjust, operate, and maintain controls and pumps. Refer to Division 1 Section "Closeout Procedures."

**END OF SECTION**