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September 2018

Guide Specification

Specifier Notes: This guide specification is written in Construction Specifications Institute (CSI) 3-Part Format in accordance with *The CSI Construction Specifications Practice Guide, MasterFormat, SectionFormat, and PageFormat*.

This Section must be carefully reviewed and edited by the Architect to meet the requirements of the Project and local building code. Coordinate this Section with Conditions of the Contract, Division 01, other specification sections, and the Drawings. Delete all Specifier Notes after editing this Section.

Section numbers and titles are based on *MasterFormat 2018 Edition*.

SECTION 22 13 29

SANITARY SEWERAGE PUMPS

Specifier Notes: This Section covers SFA Saniflo USA "Sanicubic 2" packaged duplex grinding systems capable of discharging wastewater from multiple fixtures from an entire building. The packaged duplex grinding systems are suitable for above or below ground installation. Consult SFA Saniflo USA for assistance in editing this Section as required for the Project.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Packaged duplex grinding systems.

1.2 RELATED REQUIREMENTS

Specifier Notes: Edit the following list of related sections as required for the Project. Limit the list to sections with specific information that the reader might expect to find in this Section, but is specified elsewhere.

- A. Section 22 05 00 – Common Work Results for Plumbing.
- B. Section 26 05 00 – Common Work Results for Electrical.

1.3 REFERENCE STANDARDS

Specifier Notes: List reference standards used elsewhere in this Section, complete with designations and titles. Delete reference standards from the following list not used in the edited Section.

- A. ASME A112.3.4/CSA B45.9 – Plumbing Fixtures with Pumped Waste and Macerating Toilet Systems.
- B. ISO 9001 – Quality management systems – Requirements.

1.4 PREINSTALLATION MEETINGS

Specifier Notes: Edit the Preinstallation Meetings article as required for the Project. Delete this article if not required.

- A. Convene preinstallation meeting [1 week] [2 weeks] before start of installation of packaged duplex grinding systems.
- B. Require attendance of parties directly affecting Work of this Section, including Contractor, Architect, installer, and manufacturer's representative.
- C. Review the Following:
 - 1. Materials.
 - 2. Installation.
 - 3. Adjusting.
 - 4. Protection.
 - 5. Coordination with other Work.

1.5 SUBMITTALS

Specifier Notes: Edit the Submittals article as required for the Project. Delete submittals not required.

- A. Submittals: Comply with Division 01.
- B. Product Data: Submit manufacturer's product data, including installation instructions.

- C. Shop Drawings: Submit manufacturer's shop drawings, indicating dimensions, components, piping, hardware, plumbing connections, and electrical connections.
- D. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
- E. Operation and Maintenance Data:
 - 1. Submit manufacturer's operation and maintenance manual, including the following:
 - a. Operation, maintenance, and adjustment instructions.
 - b. Safety information.
 - c. Troubleshooting guide.
 - d. Parts list.
 - 2. Provide detailed information required for Owner to properly operate and maintain equipment.
- F. Warranty Documentation: Submit manufacturer's standard warranty.

1.6 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
 - 1. Manufacturer regularly engaged in the manufacturing of packaged duplex grinding systems of similar type to that specified for a minimum of 10 years.
 - 2. ISO 9001 certified company.
- B. Installer's Qualifications:
 - 1. Installer regularly engaged in installation of plumbing equipment for a minimum of 5 years.
 - 2. Use persons trained for installation of plumbing equipment.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage and Handling Requirements:
 - 1. Store and handle materials in accordance with manufacturer's instructions.
 - 2. Keep materials in manufacturer's original, unopened containers and packaging until installation.
 - 3. Store materials in clean, dry area indoors.
 - 4. Do not store materials directly on floor.
 - 5. Store materials out of direct sunlight.
 - 6. Keep materials from freezing.
 - 7. Protect materials during storage, handling, and installation to prevent damage.

1.8 AMBIENT CONDITIONS

- A. Do not install packaged duplex grinding systems under ambient conditions outside manufacturer's limits.

1.9 WARRANTY

- A. Warranty Period: 2 years.
 - 1. Additional 1 year warranty period once product registered through manufacturer's website.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: SFA Saniflo USA, 105 Newfield Avenue, Suite B, Edison, New Jersey 08837. Toll Free 800-571-8191. Phone 732-225-6070. Fax 732-225-6072. www.saniflo.com. sfasales@saniflo.com.

Specifier Notes: Specify if substitutions will be permitted.
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- B. Substitutions: [Not permitted] [Comply with Division 01].
- C. Single Source: Provide materials from single manufacturer.

2.2 PACKAGED DUPLEX GRINDING SYSTEMS

- A. Packaged Duplex Grinding Systems: "Sanicubic 2" heavy-duty, packaged duplex grinding system.
 - 1. Capable of discharging wastewater from multiple fixtures from entire building.
 - 2. Above or below ground installation.
 - 3. Suitable for limited submersion.
 - 4. IP68 rated.
- B. Compliance: ASME A112.3.4/CSA B45.9.
- C. Certifications:
 - 1. Certificate of Compliance: CSA, US and Canada.
 - 2. Certificate of Listing: IAPMO Research and Testing, Inc.
- D. Markings: Permanently mark packaged duplex grinding systems in accordance with ASME A112.3.4/CSA B45.9.
- E. Description:
 - 1. Pump Type: Grinder.
 - 2. Grinder Blade Assembly: Stainless steel.
 - 3. Electrical Ratings: 230 V, 208 V minimum, 60 Hz, 13 A maximum.
 - 4. Motors:
 - a. Two, alternating, 1 HP, oil-filled, thermally protected motors.
 - b. Capable of both motors working simultaneously, increasing discharge rate by approximately 80 percent.
 - 5. Capacitor Rating: 2 x 30 microfarad.
 - 6. Maximum Operating Temperature: 158 degrees F (70 degrees C).
 - 7. Submersion:

- a. Maximum Depth: 3 feet.
 - b. Maximum Period: 7 days.
- 8. Power Supply Cord: SJOOW, 3 conductors, 14 AWG, 300 V.
 - a. Length: 72 inches.
- 9. Noise Level: Less than or equal to 68 dBA (Lp), measured at 3 feet.
- 10. Discharge Pipe Diameter: 1-1/2 inches.
- 11. Discharge Rate, Both Motors in Operation:
 - a. At 36 feet: 38 gpm.
 - b. At 3 feet: 90 gpm.
- 12. Maximum Discharge Distance:
 - a. Vertical: 36 feet.
 - b. Horizontal: 328 feet.
- 13. Discharge at Maximum Height, 1 Motor in Operation: 26 gpm.
- 14. Shut-Off Head: 45 feet.
- 15. Normal Running Time: Depends on number of connected fixtures.
- 16. Capacity: 12.4 gallons.
- 17. Inlets: 5.
 - a. Sides: 1-1/2 inches or 4 inches.
 - b. Top: 1-1/2 inches or 4 inches.
- 18. Method of Activation: Pressure switch, circuit board.
- 19. Minimum Toilet, Shower/Bathtub Base Height: 10 inches.
- 20. Top Vent Connection: 1-1/2 inches.
- 21. Tank and Cover: White polypropylene, 1/8 inch thick.
 - a. Seal Between Tank and Cover: EPDM elastomer, 70 shore.
- 22. Overall Dimensions:
 - a. Length: 27 inches.
 - b. Width: 20-1/4 inches.
 - c. Height: 19-1/4 inches.
- 23. Weight: 77 lbs.

F. Control Box:

- 1. External wired control box and panel with LED power control and overload indicator.
- 2. Enclosure:
 - a. Material: ABS.
 - b. Overall Dimensions: 7.9 inches by 3.5 inches by 4.3 inches.
 - c. Minimum Thickness: 3.0 mm.
- 3. Pressure Switches: Mounted on air chamber and activated by pressure variation due to level in tank.

G. Remote-Mounted Control Box and Remote-Mounted Alarm Panel:

- 1. Wet pit installation.
- 2. Remote Control Box Enclosure:
 - a. Material: ABS.
 - b. Overall Dimensions: 9.5 inches by 7.3 inches by 4.3 inches.
 - c. Minimum Thickness: 3.0 mm.
- 3. Remote Alarm Panel Enclosure:
 - a. Material: ABS.
 - b. Overall Dimensions: 6.1 inches by 3.4 inches by 1.6 inches.
 - c. Minimum Thickness: 2.0 mm.
- 4. Signal Cables: Remote control box to remote alarm panel.

5. Power Supply Cord to Remote Control Box: SJOOW, 3 conductors, 14 AWG, 300 V.

2.3 ACCESSORIES

Specifier Notes: Delete accessories not required.

- A. Descaler: Saniflo liquid descaler/cleanser.

2.4 SOURCE QUALITY CONTROL

- A. Factory Test: Test packaged duplex grinding systems to withstand for 1 minute without breakdown, application of 1,000 V AC plus twice the maximum rated voltage between live parts and exposed noncurrent carrying metal parts or power and grounding pins of attachment plug.
1. Alternative Factory Test: Test packaged duplex grinding systems to withstand without breakdown, application of a potential 20 percent higher for 1 second.
 2. Perform test at room temperature.
- B. Repair or replace packaged duplex grinding systems that do not pass factory tests.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive packaged duplex grinding systems.
- B. Verify surfaces to support packaged duplex grinding systems are clean, dry, flat, level, stable, rigid, and capable of supporting the weight.
- C. Notify Architect of conditions that would adversely affect installation or subsequent use.
- D. Do not begin installation until unacceptable conditions are corrected.

3.2 INSTALLATION

- A. Install packaged duplex grinding systems in accordance with manufacturer's instructions at locations indicated on the Drawings.
- B. Install packaged duplex grinding systems plumb, level, and to correct elevation.
- C. Install packaged duplex grinding systems using manufacturer's supplied hardware.
- D. Electrical: Install electrical power as specified in Section 26 05 00.

3.3 ADJUSTING

- A. Adjust packaged duplex grinding systems for proper operation in accordance with manufacturer's instructions.

- B. Remove and replace with new material, damaged components that cannot be successfully repaired.

3.4 PROTECTION

- A. Protect installed packaged duplex grinding systems from damage until Substantial Completion.

END OF SECTION