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## SECTION 224300 - HEALTHCARE PLUMBING FIXTURES

### **TIPS:**

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## PART 1 - GENERAL

### 1.1 SUMMARY

A. Section includes the following healthcare fixtures and specialties:

1. Healthcare water closets.
2. Flushometer valves.
3. Toilet seats.
4. Patient care units.
5. Healthcare showers.
6. Healthcare bathing units.
7. Perineal baths.
8. Bedpan washers.

9. Bedpan washing equipment.
10. Clinic sinks.
11. Plaster sinks.
12. Scrub sinks.
13. Hydrotherapy whirlpools.
14. Outlet boxes.
15. Morgue equipment.
16. Supports.

B. Related Requirements:

1. Section 224100 "Residential Plumbing Fixtures" for residential fixtures for use in healthcare facilities, but not requiring special healthcare fixture attributes.
2. Section 224213.13 "Commercial Water Closets" for conventional water closets, flushometer valves, carriers, and seats for use healthcare facilities, but not requiring special healthcare fixture attributes.
3. Section 224213.16 "Commercial Urinals" for urinals for use in healthcare facilities.
4. Section 224216.13 "Commercial Lavatories" for lavatories for use in healthcare facilities, but not requiring special healthcare fixture attributes.
5. Section 224216.16 "Commercial Sinks" for sinks for use in healthcare facilities, but not requiring special healthcare fixture attributes.
6. Section 224223 "Commercial Showers" for showers for use in healthcare facilities, but not requiring special healthcare fixture attributes.
7. Section 224500 "Emergency Plumbing Fixtures" for emergency showers and eye-wash units.

## 1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for fixtures.
2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

B. Sustainable Design Submittals:

1. Product Data: For water consumption.

C. Shop Drawings: Include diagrams for power, signal, and control wiring.

## 1.3 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For plumbing fixtures and faucets to include in operation and maintenance manuals.

1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:

- a. Servicing and adjustments of [**flushometer valves**] [**electronic sensors**] [**healthcare bathing units**] [**bedpan washer/sanitizers**] [**hydrotherapy whirlpools**] [**and**] [**morgue equipment**].

#### 1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  1. Faucet Washers and O-Rings: Equal to [**10**] **<Insert number>** percent of amount of each type and size installed.
  2. Faucet Cartridges and O-Rings: Equal to [**5**] **<Insert number>** percent of amount of each type and size installed.
  3. Flushometer-Valve Repair Kits: Equal to [**10**] **<Insert number>** percent of amount of each type installed, but no fewer than [**one**] [**six**] **<Insert number>** of each type.
  4. Toilet Seats: Equal to [**5**] **<Insert number>** percent of amount of each type installed.

### PART 2 - PRODUCTS

#### 2.1 HEALTHCARE WATER CLOSETS

- A. Healthcare Water Closets **<Insert drawing designation>**: Wall mounted, [**top**] [**back**] spud[, **accessible**].
  1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Acorn Engineering; a division of Morris Group International.
    - b. Crane Plumbing, L.L.C.
    - c. Kohler Co.
    - d. Zurn Industries, LLC.
    - e. **<Insert manufacturer's name>**.
  2. Bowl:
    - a. Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.
    - b. Material: Vitreous china.
    - c. Type: Siphon jet.
    - d. Style: Flushometer valve.
    - e. Height: Standard.
    - f. Rim Contour: Elongated with bedpan lugs or slots.
    - g. Water Consumption: [**1.28 gal. (4.8 L)**] [**1.6 gal. (6 L)**] per flush.
    - h. Spud Size: **NPS 1-1/2 (DN 40)**.
  3. Flushometer Valve: **<Insert flushometer-valve designation>**.
  4. Toilet Seat: **<Insert toilet-seat designation>**.
  5. Water Closet Support: [**Water closet carrier**] **<Insert carrier>**.

6. Water-Closet Mounting Height: **[Standard]** **[Child]** **[Handicapped/elderly in accordance with ICC A117.1]**.
- B. Healthcare Water Closets <**Insert drawing designation**>: Floor mounted, floor outlet, **[top]** **[back]** spud[, **accessible**].
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Acorn Engineering; a division of Morris Group International.
    - b. Crane Plumbing, L.L.C.
    - c. Kohler Co.
    - d. Willoughby Industries.
    - e. Zurn Industries, LLC.
    - f. <**Insert manufacturer's name**>.
  2. Bowl:
    - a. Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.
    - b. Material: Vitreous china.
    - c. Type: Siphon jet.
    - d. Style: Flushometer valve.
    - e. Height: **[Standard]** **[Handicapped/elderly]**.
    - f. Rim Contour: Elongated with bedpan lugs or slots.
    - g. Water Consumption: **[1.28 gal. (4.8 L)]** **[1.6 gal. (6 L)]** per flush.
    - h. Spud Size: **NPS 1-1/2 (DN 40)**.
  3. Flushometer Valve: <**Insert flushometer-valve designation**>.
  4. Toilet Seat: <**Insert toilet-seat designation**>.
- C. Healthcare Water Closets <**Insert drawing designation**>: Floor mounted, back outlet, **[top]** **[back]** spud[, **accessible**].
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Acorn Engineering; a division of Morris Group International.
    - b. Crane Plumbing, L.L.C.
    - c. Kohler Co.
    - d. Willoughby Industries.
    - e. Zurn Industries, LLC.
    - f. <**Insert manufacturer's name**>.
  2. Bowl:
    - a. Standard: Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.
    - b. Material: Vitreous china.
    - c. Type: Siphon jet.
    - d. Style: Flushometer valve.
    - e. Height: **[Standard]** **[Handicapped/elderly]**.

- f. Rim Contour: Elongated with bedpan lugs or slots.
  - g. Water Consumption: [1.28 gal. (4.8 L)] [1.6 gal. (6 L)] per flush.
  - h. Spud Size: NPS 1-1/2 (DN 40).
3. Flushometer Valve: <Insert flushometer-valve designation>.
  4. Toilet Seat: <Insert toilet-seat designation>.

## 2.2 FLUSHOMETER VALVES

### A. Lever-Handle, Diaphragm Flushometer Valves <Insert designation>.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Acorn Engineering; a division of Morris Group International.
  - b. Delany Products.
  - c. Sloan Valve Company.
  - d. <Insert manufacturer's name>.
2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig (860 kPa).
4. Features: Integral check stop, backflow-prevention device, and outlet-tube-mounted bedpan washer.
5. Material: Brass body with corrosion-resistant components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Style: Exposed.
8. Consumption: [1.28 gal. (4.8 L)] [1.6 gal. (6 L)] [3.5 gal. (13.2 L)] <Insert value> per flush.
9. Minimum Inlet: NPS 1 (DN 25).
10. Minimum Outlet: NPS 1-1/4 (DN 32), extended length.

## 2.3 TOILET SEATS

### A. Toilet Seats <Insert designation>.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Centoco Manufacturing Corporation.
  - b. Church Seats; Bemis Manufacturing Company.
  - c. Kohler Co.
  - d. Olsonite Seat Co.
  - e. Sperzel of Lexington.
  - f. Zurn Industries, LLC.
  - g. <Insert manufacturer's name>.
2. Standard: IAPMO Z124.5.
3. Material: Plastic with antimicrobial agent.

4. Type: [**Commercial (standard)**] [**Commercial (heavy duty)**].
5. Shape: Elongated rim, open front.
6. Hinge: Check.
7. Hinge Material: Noncorroding metal.
8. Color: White.

## 2.4 PATIENT CARE UNITS

- A. Patient Care Units <Insert drawing designation>: Factory-fabricated, combination, swing-away water closet and lavatory healthcare plumbing fixture.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Bradley Corporation.
    - b. Metcraft Industries, Inc.
    - c. Whitehall Manufacturing; a division of Morris Group International.
    - d. Willoughby Industries.
    - e. <Insert manufacturer's name>.
  2. Cabinet: Fixed installation with storage space and toilet paper holder.
    - a. Material: [**Stainless steel**] [**Stainless steel, plastic laminate, or fiberglass**] with [**laminated-wood or -plastic**] [**solid-plastic**] [**stainless steel**] top surface.
    - b. Color: [**Not applicable**] <Insert color>.
    - c. Mounting: Wall bracket.
  3. Water Closet: Swivel, floor mounted, [**back**] [**floor**] outlet.
    - a. Material: Stainless steel.
    - b. Orientation: [**Left**] [**Right**] hand.
    - c. Seal: For outlet.
    - d. Flushometer: Concealed flushometer valve with push-button trip mechanism, check stop, and vacuum breaker on tailpiece.
    - e. Toilet Seat: White, solid plastic.
    - f. Support: Floor plate.
  4. Lavatory: Counter mounted.
    - a. Material: [**Stainless steel**] [**Cultured marble**] [**Solid-surface material**] <Insert material>.
    - b. Color: [**Not applicable**] <Insert color>.
    - c. Faucet: [**Gooseneck type with wrist-blade handles**] [**Swing-spout type with single lever**] <Insert type> complying with ASME A112.18.1/CSA B125.1 and NSF 61 Annex G.
    - d. Waste Fittings: Grid drain, with **NPS 1-1/4 (DN 32)** tailpiece and [**NPS 1-1/4 (DN 32)**] [**NPS 1-1/2 by NPS 1-1/4 (DN 40 by DN 32)**] chrome-plated, cast-brass P-trap; tubular-brass waste to wall; and wall flange complying with ASME A112.18.2/CSA B125.2.

- B. Patient Care Units <Insert drawing designation>: Factory-fabricated, combination, fixed-position water closet and lavatory healthcare fixture.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Bradley Corporation.
    - b. Metcraft Industries, Inc.
    - c. Whitehall Manufacturing; a division of Morris Group International.
    - d. Willoughby Industries.
    - e. <Insert manufacturer's name>.
  2. Cabinet: Fixed installation; swing-away cabinet or retractable, water-closet cover design with storage space and toilet paper holder.
    - a. Material: [Stainless steel] [Stainless steel, plastic laminate, or fiberglass] with [laminated-wood or -plastic] [solid-plastic] [stainless steel] top surface.
    - b. Color: [Not applicable] <Insert color>.
    - c. Support: Wall bracket.
  3. Water Closet: Floor mounted, floor outlet.
    - a. Material: Stainless steel or vitreous china.
    - b. Orientation: [Left] [Right] hand.
    - c. Seal: For outlet.
    - d. Flushometer: Concealed flushometer valve with push-button trip mechanism, check stop, and vacuum breaker on tailpiece.
    - e. Toilet Seat: White, solid plastic.
  4. Lavatory: Counter mounted.
    - a. Material: [Stainless steel] [Cultured marble] [Solid-surface material] <Insert material>.
    - b. Color: [Not applicable] <Insert color>.
    - c. Faucet: [Gooseneck type with wrist-blade handles] [Swing-spout type with single lever] <Insert type> complying with ASME A112.18.1/CSA B125.1 and NSF 61 Annex G.
    - d. Waste Fittings: Grid drain, with NPS 1-1/4 (DN 32) tailpiece and [NPS 1-1/4 (DN 32)] [NPS 1-1/2 by NPS 1-1/4 (DN 40 by DN 32)] chrome-plated, cast-brass P-trap; tubular-brass waste to wall; and wall flange complying with ASME A112.18.2/CSA B125.2.

## 2.5 HEALTHCARE SHOWERS

- A. Healthcare Showers <Insert drawing designation>: Accessible, [glass-fiber-reinforced plastic] [acrylic].
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. Aqua Bath Company, Inc.
  - b. Clarion Bathware.
  - c. Crane Plumbing, L.L.C.
  - d. Florestone Products Co., Inc.
  - e. Kohler Co.
  - f. Willoughby Industries.
  - g. **<Insert manufacturer's name>**.
2. Standard: ANSI Z124.1.2 and complying with ICC A117.1 for roll-in shower compartments.
  3. Nominal Size: **[60 by 36 inches (1524 by 915 mm)]** **<Insert dimensions>**.
  4. Surround: One piece **[or sealed, multiple piece]**.
  5. Surround: One piece.
  6. Bathing Surface: Slip resistant in accordance with ASTM F462.
  7. Color: **[White]** **<Insert color>**.
  8. Drain Location: **[Left side]** **[Center]** **[Right side]**.
  9. Accessibility Options: Include grab bar and bench.
  10. Faucet: **<Insert healthcare shower-faucet designation>**.
  11. Drain: Grid, **NPS 2 (DN 50)**, complying with ASME A112.18.2/CSA B125.2.

## 2.6 HEALTHCARE SHOWER FAUCETS

- A. Healthcare Shower Faucets **<Insert drawing designation>**: Thermostatic, Temperature/Pressure-balancing ASSE 1016 T/P certified mixing valve.
  1. Basis-of-Design Product: Subject to compliance with requirements, provide Acorn Controls; Morris Group International; Model SV16 or comparable product by one of the following:
    - a. Chicago Faucets; Geberit Company.
    - b. Lawler Manufacturing Company, Inc.
    - c. Leonard Valve Company.
    - d. Speakman Company.
    - e. **<Insert manufacturer's name>**.
  2. Faucet:
    - a. Standards: ASME A112.18.1/CSA B125.1.
    - b. Body Material: Solid lab-certified DZR brass.
    - c. Finish: Polished chrome plate.
    - d. Maximum Flow Rate: **2.5 gpm (9.5 L/min.)** unless otherwise indicated.
    - e. Mounting: Concealed.
    - f. Trim: Vandal- and ligature-resistant.
    - g. Operation: Single-handle, rotate control open cold-to-hot with factory set limit stop at **110 deg F (43 deg C)** and ceramic on-off control. Must meet ADA requirements for full handle rotation including turn-on and shut-off.
    - h. Antiscald Device: Integral with mixing valve.
    - i. Check Stops and Inlet Strainers: Check-valve type, integral to body; on hot- and cold-water-supply connections. Inlet strainers must be replaceable type.



- j. Indicators: For hot and cold water.
3. Shower Head:
- a. Standard: ASME A112.18.1/CSA B125.1.
  - b. Type: [**Ball joint with arm and flange**] [**Without ball joint, but with arm and flange**] [**Ball joint and head integral with mounting flange**] [**Integral with mounting flange**] [**Hand held, slide bar mounted**] [**Hand held, hook mounted**] **<Insert type>**.
  - c. Shower Head Material: Metallic with chrome-plated finish.
  - d. Spray Pattern: [**Adjustable**] [**Fixed**].
  - e. Integral Volume Control: [**Not required**] [**Required**].
  - f. Shower-Arm, Flow-Control Fitting: [**Not required**] [**1.5 gpm (5.7 L/min.)**] [**2.0 gpm (7.6 L/min.)**].
- B. Healthcare Shower Faucets **<Insert drawing designation>**: Thermostatic mixing valve.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- a. Acorn Controls; a division of Morris Group International
  - b. Chicago Faucets; Geberit Company.
  - c. Lawler Manufacturing Company, Inc.
  - d. Leonard Valve Company.
  - e. POWERS; A WATTS Brand.
  - f. **<Insert manufacturer's name>**.
2. Faucet:
- a. Standards: ASME A112.18.1/CSA B125.1 and ASSE 1016.
  - b. Body Material: Solid brass.
  - c. Finish: Polished chrome plate.
  - d. Maximum Flow Rate: [**2.5 gpm (9.5 L/min.)**] **<Insert value>** unless otherwise indicated.
  - e. Mounting: [**Concealed**] [**Exposed**].
  - f. Operation: Single-handle, [**push-pull**] [**or**] [**twist or rotate**] control.
  - g. Antiscald Device: [**Integral with mixing valve**] [**Separate unit**] [**Not required**]
  - h. Check Stops: Check-valve type, integral with or attached to body; on hot- and cold-water-supply connections.
  - i. Indicators: For hot and cold water.
3. Shower Head:
- a. Standard: ASME A112.18.1/CSA B125.1.
  - b. Type: [**Ball joint with arm and flange**] [**Without ball joint, but with arm and flange**] [**Ball joint and head integral with mounting flange**] [**Integral with mounting flange**] [**Hand held, slide bar mounted**] [**Hand held, hook mounted**] **<Insert type>**.
  - c. Material: Metallic with chrome-plated finish.
  - d. Spray Pattern: [**Adjustable**] [**Fixed**].

- e. Integral Volume Control: [**Not required**] [**Required**].
- f. Shower-Arm, Flow-Control Fitting: [**Not required**] [**1.5 gpm (5.7 L/min.)**] [**2.0 gpm (7.6 L/min.)**].
- g. Temperature Indicator: [**Integral with faucet**] [**Not required**].

## 2.7 HEALTHCARE BATHING UNITS

### A. Healthcare Bathing Units <Insert drawing designation>: Side-entry[, **whirlpool**].

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. ARJO, Inc.
  - b. Invacare Continuing Care Group.
  - c. Whitehall Manufacturing; a division of Morris Group International.
  - d. <Insert manufacturer's name>.
2. Fixture: Plastic-tub, institutional bath fixture with integral controls.
  - a. Standard: UL 1795.
  - b. Tub Size: [**60 by 30 inches (1524 by 762 mm)**] <Insert dimensions>.
  - c. Controls: Vacuum breakers on supplies, thermostatic mixing valve, tub fill spout, and hand-held shower head.
3. Supply Connections: [**NPS 3/4 (DN 20)**] [**NPS 1 (DN 25)**] with shutoff valve.
4. Drain: Manufacturer's standard [**NPS 1-1/2 (DN 40)**] [**NPS 2 (DN 50)**] with tailpiece.
5. Drain Piping: [**NPS 1-1/2 (DN 40)**] [**NPS 2 (DN 50)**] cast-brass P-trap, waste to wall, and wall flange complying with ASME A112.18.2/CSA B125.2. Include combined drain piping if two drains.
6. Unit Electrical Characteristics:
  - a. Volts: [**120**] [**240**] [**277**] [**480**] <Insert number>.
  - b. Phase(s): [**One**] [**Three**].
  - c. Hertz: [**60**] <Insert number>.
  - d. Full-Load Amperes: <Insert value>.
  - e. Minimum Circuit Ampacity: <Insert value>.
  - f. Maximum Overcurrent Protection: <Insert amperage>.

### B. Healthcare Bathing Units <Insert drawing designation>: [**Side**] [**Transfer-lift**] [**Slide-on**] entry, [**adjustable**] [**fixed**] height.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. ARJO, Inc.
  - b. Clarion Bathware.
  - c. Invacare Continuing Care Group.
  - d. Whitehall Manufacturing; a division of Morris Group International.
  - e. <Insert manufacturer's name>.

2. Fixture: Plastic-tub, institutional bath fixture with integral controls.
    - a. Tub Size: [**60 by 30 inches (1524 by 762 mm)**] <Insert dimensions>.
    - b. Controls: Vacuum breakers on supplies, thermostatic mixing valve, tub fill spout, and hand-held shower head.
  3. Supply Connections: [**NPS 3/4 (DN 20)**] [**NPS 1 (DN 25)**] with shutoff valve.
  4. Drain: Manufacturer's standard [**NPS 1-1/2 (DN 40)**] [**NPS 2 (DN 50)**] with tailpiece.
  5. Drain Piping: [**NPS 1-1/2 (DN 40)**] [**NPS 2 (DN 50)**] cast-brass P-trap, waste to wall, and wall flange complying with ASME A112.18.2/CSA B125.2. Include combined drain piping if two drains.
  6. Lift System: [**Not required**] <Insert description>.
  7. Unit Electrical Characteristics:
    - a. Volts: [**120**] [**240**] [**277**] [**480**] <Insert number>.
    - b. Phase(s): [**One**] [**Three**].
    - c. Hertz: [**60**] <Insert number>.
    - d. Full-Load Amperes: <Insert value>.
    - e. Minimum Circuit Ampacity: <Insert value>.
    - f. Maximum Overcurrent Protection: <Insert amperage>.
- C. Healthcare Bathing Units <Insert drawing designation>: Front-entry shower.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. ARJO, Inc.
    - b. Invacare Continuing Care Group.
    - c. Whitehall Manufacturing; a division of Morris Group International.
    - d. <Insert manufacturer's name>.
  2. Fixture: Plastic-tub, institutional fixture with integral controls.
    - a. Cabinet Size: [**35 by 41 inches (889 by 1041 mm)**] <Insert dimensions>.
    - b. Controls: Vacuum breakers on supplies, thermostatic mixing valve, tub fill spout, and hand-held shower head.
  3. Supply Connections: [**NPS 3/4 (DN 20)**] [**NPS 1 (DN 25)**] with shutoff valve.
  4. Drain: Manufacturer's standard **NPS 2 (DN 50)** with tailpiece.
  5. Drain Piping: **NPS 2 (DN 50)** P-trap, waste to wall, and wall flange complying with ASME A112.18.2/CSA B125.2. Include combined drain piping if two drains.
  6. Unit Electrical Characteristics:
    - a. Volts: [**120**] [**240**] [**277**] [**480**] <Insert number>.
    - b. Phase(s): [**One**] [**Three**].
    - c. Hertz: [**60**] <Insert number>.
    - d. Full-Load Amperes: <Insert value>.
    - e. Minimum Circuit Ampacity: <Insert value>.
    - f. Maximum Overcurrent Protection: <Insert amperage>.

## 2.8 PERINEAL BATHS

### A. Perineal Baths <Insert drawing designation>: Pedestal mounted, vitreous china.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:
  - a. Kohler Co.
  - b. <Insert manufacturer's name>.
2. Fixture:
  - a. Standard: ASME A112.19.2/CSA B45.1.
  - b. Color: White.
  - c. Drain: **NPS 1-1/2 (DN 40)** with tailpiece and removable overflow attachment.
  - d. Support: Pedestal.
3. Faucet: Wall-mounting, single-lever-handle, thermostatic mixing valve with concealed supplies and wall-mounting thermometer.
  - a. Basis-of-Design Product: Subject to compliance with requirements, provide Acorn Controls; Morris Group International; Model ST7069 or comparable product by one of the following:
    - 1) Kohler Co.
    - 2) Lawler Manufacturing Company, Inc.
    - 3) Leonard Valve Company.
    - 4) POWERS; A WATTS Brand.
    - 5) Symmons Industries, Inc.
    - 6) <Insert manufacturer's name>.
  - b. Standard: ASSE 1069, ASSE 1070, and CSA B125.3.
  - c. Material: Lab-certified DZR brass body.
  - d. Flow Rate: Certified starting at **0.5 gpm (5.7 L/min.)** and capable of **9.8 gpm (37.24 L/min.)** unless otherwise indicated.
  - e. Check Stops and Inlet Strainers: Cartridge-style check-valve type, integral to body; on hot- and cold-water-supply connections. Inlet strainers must be replaceable type.
4. Exposed Piping: Chrome plated; brass pipe or copper tube.
5. Supply Connections: **NPS 1/2 (DN 15)**.
6. Drain Piping: Comply with requirements in "Waste Fittings" Article.

## 2.9 BEDPAN WASHERS

### A. Bedpan Washers <Insert drawing designation>: Wall mounted, compact.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. American Standard.
  - b. Chicago Faucets; Geberit Company.
  - c. Kohler Co.
  - d. Speakman Company.
  - e. T&S Brass and Bronze Works, Inc.
  - f. Whitehall Manufacturing; a division of Morris Group International.
  - g. Zurn Industries, LLC.
  - h. **<Insert manufacturer's name>**.
2. Standard: ASME A112.18.1/CSA B125.1.
  3. Hose Assembly: [**48-inch- (1220-mm-)**] **<Insert dimension>** long rubber or vinyl hose with self-closing, hand-held spray nozzle, wall bracket, and hook.
  4. Vacuum Breaker: ASSE 1001, atmospheric, wall mounted.
  5. Shutoff Valve: Wall-mounted, [**cross-handle**] **<Insert type>** supply stop upstream of vacuum breaker.
  6. Connecting Piping: Concealed.
  7. Finish: Polished chrome-plated finish on exposed metal parts.
  8. Supply Connection: [**NPS 1/2 (DN 15)**] **<Insert size>**.
- B. Bedpan Washers **<Insert drawing designation>**: Wall-mounted assembly with [**floor**] [**wall**]-mounted, [**single-pedal**] [**double-pedal, hot- and cold-water**] foot control.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. American Standard.
    - b. Chicago Faucets; Geberit Company.
    - c. Kohler Co.
    - d. T&S Brass and Bronze Works, Inc.
    - e. Zurn Industries, LLC.
    - f. **<Insert manufacturer's name>**.
  2. Standard: ASME A112.18.1/CSA B125.1.
  3. Hose: [**48-inch- (1220-mm-)**] **<Insert dimension>** long rubber or vinyl hose with self-closing, hand-held spray nozzle, wall bracket, and hook.
  4. Vacuum Breaker: ASSE 1001, atmospheric, wall mounted.
  5. Shutoff Valve: Wall-mounted, [**cross-handle**] **<Insert type>** supply stop between foot control and vacuum breaker.
  6. Connecting Piping: Concealed.
  7. Finish: Polished chrome-plated finish on exposed metal parts.
  8. Control Mounting: [**Floor**] [**Wall**].
  9. Supply Connection(s): [**NPS 1/2 (DN 15)**] **<Insert size>**.

## 2.10 BEDPAN WASHING EQUIPMENT

- A. Bedpan Washers/Sanitizers **<Insert drawing designation>**: [**Recessed**] [**Wall**] mounted.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

- a. STERIS Corporation.
  - b. <Insert manufacturer's name>.
2. Fixture:
    - a. Construction: Cast-iron chamber and P-trap waste assembly with spray nozzles and [enameled] [stainless]-steel front panel and cover box.
    - b. Controls: Electric, 120-V ac, automatic operation with timer, solenoid valves, and circuit breaker.
    - c. Door Mechanism: Foot-pedal operation.
  3. Supply Connections: NPS 1 (DN 25) cold water and NPS 3/8 (DN 10) [hot water] [steam].
  4. Drain Piping: NPS 3 (DN 80) P-trap and soil pipe.
  5. Atmospheric Vent Connection: NPS 2 (DN 50).
  6. Mounting Hardware: Matching fixture-mounting arrangement.
  7. Accessories:
    - a. Bedpan Rack(s): [One] [Two] <Insert number>.
    - b. Urinal Rack(s): [One] [Two] <Insert number>.
    - c. Drain Tray(s): [One] [Two] <Insert number>.
- B. Bedpan Washers/Disinfectors <Insert drawing designation>: [Freestanding] [Wall] [Undercounter] mounted.
1. Manufacturers: Subject to compliance with requirements, provide products by the following:
    - a. ARJO, Inc.
    - b. <Insert manufacturer's name>.
  2. Fixture:
    - a. Controls: Electric, automatic operation.
    - b. Cabinet: Stainless steel.
    - c. Wash Chamber: Stainless steel.
  3. Supply Connections: NPS 1/2 (DN 15) cold water and NPS 1/2 (DN 15) hot water.
  4. Drain Piping: NPS 4 ((DN 100)) P-trap and soil pipe.
  5. Mounting Hardware: Matching fixture-mounting arrangement.
  6. Unit Electrical Characteristics:
    - a. Volts: [208] [240] <Insert number>.
    - b. Phase(s): [One] [Three].
    - c. Hertz: [60] <Insert number>.
    - d. Full-Load Amperes: <Insert value>.
    - e. Minimum Circuit Ampacity: <Insert value>.
    - f. Maximum Overcurrent Protection: <Insert amperage>.

## 2.11 CLINIC SINKS

## A. Clinic Sinks &lt;Insert drawing designation&gt;: Wall mounted.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. American Standard.
  - b. Crane Plumbing, L.L.C.
  - c. Kohler Co.
  - d. Zurn Industries, LLC.
  - e. <Insert manufacturer's name>.
2. Fixture: Back-outlet, vitreous-china, blowout-type, flushing-rim, service sink.
  - a. Standard: ASME A112.19.2/CSA B45.1.
  - b. Nominal Size: [25 by 20 inches (635 by 510 mm)] <Insert dimensions>.
  - c. Outlet Size: NPS 4 ((DN 100))[ or NPS 3 (DN 80)].
  - d. Color: White.
  - e. Rim Guard: Stainless steel, on front.
3. Flushometer Valve: <Insert flushometer-valve designation>.
4. Faucet: [Not required] <Insert sink-faucet designation>.
5. Support: [Type IV sink carrier] <Insert carrier>.
6. Sink Mounting Height: [Standard] [Child] [Handicapped/elderly in accordance with ICC A117.1].

## B. Clinic Sinks &lt;Insert drawing designation&gt;: Floor mounted.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. American Standard.
  - b. Crane Plumbing, L.L.C.
  - c. Kohler Co.
  - d. Zurn Industries, LLC.
  - e. <Insert manufacturer's name>.
2. Fixture: Bottom-outlet, vitreous-china, siphon-jet, flushing-rim, service sink.
  - a. Standard: ASME A112.19.2/CSA B45.1.
  - b. Nominal Size: [27 by 20 inches (685 by 510 mm)] <Insert dimensions>.
  - c. Color: White.
  - d. Rim Guards: Stainless steel on front.
3. Sink Base: [10 inches (254 mm)] <Insert dimension> high; cast terrazzo if required.
4. Flushometer Valve: <Insert flushometer-valve designation>.
5. Faucet: <Insert sink-faucet designation>.
6. Supply Fittings: Comply with requirements in "Supply Fittings" Article.

## 2.12 PLASTER SINKS

## A. Plaster Sinks &lt;Insert drawing designation&gt;: Wall mounted, vitreous china.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. American Standard.
  - b. Crane Plumbing, L.L.C.
  - c. Kohler Co.
  - d. <Insert manufacturer's name>.
2. Fixture:
  - a. Standard: ASMA A112.19.2/CSA B45.1.
  - b. Type: Utility sink.
  - c. Nominal Size: [24 by 22 inches (610 by 560 mm)] [30 by 22 inches (762 by 560 mm)] <Insert dimensions> with back.
  - d. Color: White.
  - e. Faucet Holes: [One] [Two] in back.
  - f. Drain: Grid, NPS 1-1/2 (DN 40)[ with NPS 1-1/2 (DN 40) to NPS 2 (DN 50) adaptor].
3. Faucet: <Insert sink-faucet designation>.
4. Supply Fittings: Comply with requirements in "Supply Fittings" Article.
5. Drain Piping: [NPS 1-1/2 (DN 40)] [NPS 2 (DN 50)] chrome-plated brass; 0.045-inch-(1.1-mm-) thick waste to interceptor; interceptor to wall; and wall flange complying with ASME A112.18.2/CSA B125.2.
6. Plaster Interceptor:
  - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - 1) Jay R. Smith Mfg Co; a division of Morris Group International.
    - 2) Josam Company.
    - 3) MIFAB, Inc.
    - 4) Tyler Pipe; a subsidiary of McWane Inc.
    - 5) WATTS.
    - 6) Zurn Industries, LLC.
    - 7) <Insert manufacturer's name>.
  - b. Description: Cast-iron or steel body and removable cover with acid-resistant-enameled interior lining and outside coating; removable, corrosion-resistant metal screens or strainer; and [NPS 1-1/2 (DN 40)] [NPS 2 (DN 50)] inlet and outlet.
7. Support: [Type III sink carrier with white-enameled-steel brackets] <Insert carrier>.
8. Sink Mounting Height: [Standard] [Child] [Handicapped/elderly in accordance with ICC A117.1].



## 2.13 SCRUB SINKS

## A. Scrub Sinks &lt;Insert drawing designation&gt;: Stainless steel, wall mounted.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. CSI Industries Inc.
  - b. Elkay Manufacturing Co.
  - c. Just Manufacturing.
  - d. Sloan Valve Company.
  - e. Whitehall Manufacturing; a division of Morris Group International.
  - f. Willoughby Industries.
  - g. <Insert manufacturer's name>.
2. Fixture:
  - a. Standard: ASME A112.19.3/CSA B45.4.
  - b. Nominal Size: **31 by 20 inches (790 by 510 mm)** with back with one faucet hole.
  - c. Drain: [Grid] <Insert type>, **NPS 1-1/2 (DN 40)**.
3. Faucet: <Insert sink-faucet designation>.
4. Waste Fittings: Comply with requirements in "Waste Fittings" Article.
5. Support: [Type II sink carrier] <Insert carrier>.
6. Sink Mounting Height: [Standard] [Child] [Handicapped/elderly in accordance with ICC A117.1].

## B. Scrub Sinks &lt;Insert drawing designation&gt;: Vitreous china, wall mounted.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. American Standard.
  - b. Crane Plumbing, L.L.C.
  - c. Kohler Co.
  - d. Whitehall Manufacturing; a division of Morris Group International.
  - e. <Insert manufacturer's name>.
2. Fixture:
  - a. Standard: ASME A112.19.2/CSA B45.1.
  - b. Nominal Size: [**28 by 22 inches (710 by 560 mm)**] [**30 by 22 inches (762 by 560 mm)**] <Insert dimensions> with back or ledge with one faucet hole.
  - c. Color: White.
  - d. Drain: [Grid] <Insert type>, **NPS 1-1/2 (DN 40)**.
3. Faucet: <Insert sink-faucet designation>.
4. Supply Fittings: Comply with requirements in "Supply Fittings" Article.
5. Waste Fittings: Comply with requirements in "Waste Fittings" Article.

6. Support: [Type I sink carrier] [Type II sink carrier] [Type III sink carrier] <Insert carrier>.
7. Sink Mounting Height: [Standard] [Child] [Handicapped/elderly in accordance with ICC A117.1].

## 2.14 SINK FAUCETS

- A. NSF Standard: Comply with NSF 61 Annex G, "Drinking Water System Components - Health Effects," for faucet-spout materials that will be in contact with potable water.
- B. Sink Faucets <Insert drawing designation>: Manual-operation mixing valve.
  1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. American Standard.
    - b. Chicago Faucets; Geberit Company.
    - c. Delta Faucet Company.
    - d. Elkay Manufacturing Co.
    - e. Fisher Manufacturing Co.
    - f. GROHE America, Inc.
    - g. Just Manufacturing.
    - h. Kohler Co.
    - i. Moen Incorporated.
    - j. Speakman Company.
    - k. T&S Brass and Bronze Works, Inc.
    - l. Zurn Industries, LLC.
    - m. <Insert manufacturer's name>.
  2. Standard: ASME A112.18.1/CSA B125.1.
  3. Configuration: Hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and sink receptor.
  4. Body Type: [Centerset] [Widespread] [Single hole] <Insert type>.
  5. Body Material: Solid brass.
  6. Finish: [Chrome plated] [Polished chrome plate] <Insert finish>.
  7. Maximum Flow Rate: [2.2 gpm (8.3 L/min.)] [2.5 gpm (9.5 L/min.)] <Insert value>.
  8. Control: [Lever] [Cross, four-arm] [Wrist-blade, 4-inch (102-mm)] [Elbow, 6-inch (152-mm)] <Insert type> handle(s).
  9. Control: [Foot pedal] [Knee action] <Insert type>.
  10. Mounting Type: [Deck, concealed] [Deck, exposed] [Back/wall, exposed] <Insert type>.
  11. Spout Type: [Rigid] [Swivel], [low profile] [gooseneck] <Insert type>.
  12. Vacuum Breaker: [Required] [Not required] for hose outlet.
  13. Spout Outlet: [Aerator] [Laminar flow] [Hose thread] [Plain end] [Spray] <Insert type>.
- C. Sink Faucets <Insert designation>: Automatic, [battery-powered] [hard-wired], electronic-sensor-operated mixing valve.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. American Standard.
  - b. Chicago Faucets; Geberit Company.
  - c. Hydrotek International, Inc.
  - d. Kohler Co.
  - e. Moen Incorporated.
  - f. Sloan Valve Company.
  - g. Speakman Company.
  - h. T&S Brass and Bronze Works, Inc.
  - i. Zurn Industries, LLC.
  - j. **<Insert manufacturer's name>**.
2. Standards: ASME A112.18.1/CSA B125.1 and UL 1951.
3. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
4. Configuration: Hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and fixture receptor.
5. Body Type: [**Centerset**] [**Widespread**] [**Single hole**] **<Insert type>**.
6. Body Material: Solid brass.
7. Finish: [**Polished chrome plate**] **<Insert finish>**.
8. Maximum Flow Rate: [**2.2 gpm (8.3 L/min.)**] [**2.5 gpm (9.5 L/min.)**] **<Insert value>** unless otherwise indicated.
9. Mounting Type: [**Deck, concealed**] [**Deck, exposed**] [**Back/wall, exposed**].
10. Spout Type: [**Rigid**] [**Swivel**], [**low profile**] [**gooseneck**] **<Insert type>**.
11. Vacuum Breaker: [**Required**] [**Not required**] for hose outlet.
12. Spout Outlet: [**Aerator**] [**Laminar flow**] [**Hose thread**] [**Plain end**] [**Spray**] **<Insert type>**.

## 2.15 LAMINAR-FLOW, FAUCET-SPOUT OUTLETS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  1. AM Conservation Group, Inc.
  2. Chronomite Laboratories, Inc; a division of Morris Group International.
  3. NEOPERL, Inc.
  4. T&S Brass and Bronze Works, Inc.
  5. **<Insert manufacturer's name>**.
- B. Description: Chrome-plated brass, faucet-spout outlet that produces non-aerating, laminar stream. Include external or internal thread that mates with faucet outlet for attachment to faucets where indicated and flow-rate range that includes faucet flow.
- C. NSF Standard: Comply with NSF 61 Annex G, "Drinking Water System Components - Health Effects," for faucet-spout-outlet materials that will be in contact with potable water.

## 2.16 HYDROTHERAPY WHIRLPOOLS

## A. Hydrotherapy Whirlpools &lt;Insert drawing designation&gt;: Podiatry.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Ferno Ille.
  - b. Whitehall Manufacturing; a division of Morris Group International.
  - c. <Insert manufacturer's name>.
2. Description: Stationary stainless steel tank for feet and ankles.
  - a. Water Capacity: 15 gal. (57 L).
  - b. Drain: Waste connection.
  - c. Controls.
  - d. Thermometer: Control panel or tank mounted.
  - e. One electric turbine ejector.
  - f. Unit Electrical Characteristics:
    - 1) Volts: [120] [240] [277] [480] <Insert number>.
    - 2) Phase(s): [One] [Three].
    - 3) Hertz: [60] <Insert number>.
    - 4) Full-Load Amperes: <Insert value>.
    - 5) Minimum Circuit Ampacity: <Insert value>.
    - 6) Maximum Overcurrent Protection: <Insert amperage>.

## B. Hydrotherapy Whirlpools &lt;Insert drawing designation&gt;: Upper extremity.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Ferno Ille.
  - b. Whitehall Manufacturing; a division of Morris Group International.
  - c. <Insert manufacturer's name>.
2. Description: Stationary, pedestal-mounted, stainless steel tank for arms, hands, and elbows.
  - a. Water Capacity: 25 gal. (95 L).
  - b. Drain: Waste connection.
  - c. One arm support.
  - d. Controls.
  - e. Thermometer: Control panel or tank mounted.
  - f. One electric turbine ejector.
  - g. Unit Electrical Characteristics:
    - 1) Volts: [120] [240] [277] [480] <Insert number>.
    - 2) Phase(s): [One] [Three].
    - 3) Hertz: [60] <Insert number>.

- 4) Full-Load Amperes: <Insert value>.
- 5) Minimum Circuit Ampacity: <Insert value>.
- 6) Maximum Overcurrent Protection: <Insert amperage>.

C. Hydrotherapy Whirlpools <Insert drawing designation>: High tank, body.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Ferno Ille.
  - b. Whitehall Manufacturing; a division of Morris Group International.
  - c. <Insert manufacturer's name>.
2. Description: Stationary stainless steel tank for legs, hips, and back.
  - a. Water Capacity: 105 gal. (397 L).
  - b. Drain: Waste connection.
  - c. Controls.
  - d. Thermometer: Control panel or tank mounted.
  - e. One electric turbine ejector.
  - f. Unit Electrical Characteristics:
    - 1) Volts: [120] [240] [277] [480] <Insert number>.
    - 2) Phases: [One] [Three].
    - 3) Hertz: [60] <Insert number>.
    - 4) Full-Load Amperes: <Insert value>.
    - 5) Minimum Circuit Ampacity: <Insert value>.
    - 6) Maximum Overcurrent Protection: <Insert amperage>.

D. Hydrotherapy Whirlpools <Insert drawing designation>: Low tank, body.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Ferno Ille.
  - b. Whitehall Manufacturing; a division of Morris Group International.
  - c. <Insert manufacturer's name>.
2. Description: Stationary, extended-length, stainless steel tank for legs, hips, and lower back.
  - a. Water Capacity: 105 gal. (397 L).
  - b. Drain: Waste connection.
  - c. Controls.
  - d. Thermometer: Control panel or tank mounted.
  - e. Head rest.
  - f. One electric turbine ejector.
  - g. Unit Electrical Characteristics:
    - 1) Volts: [120] [240] [277] [480] <Insert number>.

- 2) Phase(s): [**One**] [**Three**].
- 3) Hertz: [**60**] <Insert number>.
- 4) Full-Load Amperes: <Insert value>.
- 5) Minimum Circuit Ampacity: <Insert value>.
- 6) Maximum Overcurrent Protection: <Insert amperage>.

E. Hydrotherapy Whirlpools <Insert drawing designation>: Small Hubbard immersion tank.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Ferno Ille.
  - b. Whitehall Manufacturing; a division of Morris Group International.
  - c. <Insert manufacturer's name>.
2. Description: Stationary butterfly-shaped tank for full-body massage.
  - a. Tank Dimensions: [**93 by 64 by 22 inches (2362 by 1626 by 560 mm)**] <Insert dimensions>.
  - b. Overall Height: [**34 to 38 inches (864 to 965 mm)**] <Insert dimensions>.
  - c. Water Capacity: [**268 gal. (1014 L)**] <Insert value>.
  - d. Material: Stainless steel.
  - e. Supports: Legs or base.
  - f. Controls.
  - g. Thermometer: Control panel or tank rim mounted.
  - h. Supply: Over-the-rim fill spout.
  - i. Drains: Two waste connections.
  - j. Electric Turbine Ejectors: Two; one rail mounted on each side.
  - k. Thermostatic, mixing-valve assembly.
    - 1) Basis-of-Design Product: Subject to compliance with requirements, provide Acorn Controls; Morris Group International; Model ST7069 or comparable product by one of the following:
      - a) Kohler Co.
      - b) Lawler Manufacturing Company, Inc.
      - c) Leonard Valve Company.
      - d) POWERS; A WATTS Brand.
      - e) Symmons Industries, Inc.
      - f) <Insert manufacturer's name>.
    - 2) Standard: ASSE 1069, ASSE 1070, and CSA B125.3.
    - 3) Material: Lab-certified DZR brass body.
    - 4) Flow Rate: Certified starting at **0.5 gpm (5.7 L/min.)** and capable of **9.8 gpm (37.24 L/min.)** unless otherwise indicated.
    - 5) Check Stops and Inlet Strainers: Cartridge-style check-valve type, integral to body; on hot- and cold-water-supply connections. Inlet strainers must be replaceable without removing valve assembly.

1. Unit Electrical Characteristics:

- 1) Volts: [120] [240] [277] [480] <Insert number>.
  - 2) Phase(s): [One] [Three].
  - 3) Hertz: [60] <Insert number>.
  - 4) Full-Load Amperes: <Insert value>.
  - 5) Minimum Circuit Ampacity: <Insert value>.
  - 6) Maximum Overcurrent Protection: <Insert amperage>.
- m. Hose and hand-held shower.
  - n. Wash-out-hose assembly.
  - o. Stretcher lift.
  - p. Overhead [electric] hoist.
  - q. <Insert option>.
- F. Hydrotherapy Whirlpools <Insert drawing designation>: Medium Hubbard immersion tank.
1. Manufacturers: Subject to compliance with requirements, provide products by the following:
    - a. ARJO, Inc.
    - b. <Insert manufacturer's name>.
  2. Description: Stationary butterfly-shaped tank for full-body massage.
    - a. Tank Dimensions: [100 by 73 by 24 inches (2540 by 1854 by 610 mm)] <Insert dimensions>.
    - b. Overall Height: [34 to 38 inches (864 to 965 mm)] <Insert dimensions>.
    - c. Water Capacity: [377 gal. (1468 L)] <Insert value>.
    - d. Material: Stainless steel.
    - e. Supports: Legs or base.
    - f. Controls.
    - g. Thermometer: Control panel or tank rim mounted.
    - h. Supply: Over-the-rim fill spout.
    - i. Drain: One waste connection.
    - j. Electric Turbine Ejector: One; panel mounted.
    - k. Thermostatic, mixing-valve assembly.
      - 1) Basis-of-Design Product: Subject to compliance with requirements, provide Acorn Controls; Morris Group International; Model ST7069 or comparable product by one of the following:
        - a) Kohler Co.
        - b) Lawler Manufacturing Company, Inc.
        - c) Leonard Valve Company.
        - d) POWERS; A WATTS Brand.
        - e) Symmons Industries, Inc.
        - f) <Insert manufacturer's name>.
      - 2) Standard: ASSE 1069, ASSE 1070, and CSA B125.3.
      - 3) Material: Lab-certified DZR brass body.

- 4) Flow Rate: Certified starting at **0.5 gpm (5.7 L/min.)** and capable of **9.8 gpm (37.24 L/min.)** unless otherwise indicated.
- 5) Check Stops and Inlet Strainers: Cartridge-style check-valve type, integral to body; on hot- and cold-water-supply connections. Inlet strainers must be replaceable without removing valve assembly.

l. Unit Electrical Characteristics:

- 1) Volts: [**120**] [**240**] [**277**] [**480**] <Insert number>.
- 2) Phase(s): [**One**] [**Three**].
- 3) Hertz: [**60**] <Insert number>.
- 4) Full-Load Amperes: <Insert value>.
- 5) Minimum Circuit Ampacity: <Insert value>.
- 6) Maximum Overcurrent Protection: <Insert amperage>.

- m. Hose and hand-held shower.
- n. Wash-out-hose assembly.
- o. Stretcher lift.
- p. Overhead[ **electric**] hoist.
- q. <Insert option>.

G. Hydrotherapy Whirlpools <Insert drawing designation>: Large Hubbard immersion tank.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. Ferno Ille.
- b. Whitehall Manufacturing; a division of Morris Group International.
- c. <Insert manufacturer's name>.

2. Description: Stationary butterfly-shaped tank for full-body massage.

- a. Tank Dimensions: [**106 by 77 by 22 inches (2692 by 1956 by 560 mm)**] <Insert dimensions>.
- b. Overall Height: [**34 inches (864 mm)**] <Insert dimension>.
- c. Water Capacity: [**425 gal. (1609 L)**] <Insert value>.
- d. Material: Stainless steel.
- e. Supports: Legs or base.
- f. Controls.
- g. Thermometer: Control panel or tank rim mounted.
- h. Supply: Over-the-rim fill spout.
- i. Drain(s): One or two waste connections.
- j. Electric Turbine Ejectors: Two; one rail mounted on each side.
- k. Thermostatic mixing-valve assembly.

- 1) Basis-of-Design Product: Subject to compliance with requirements, provide Acorn Controls; Morris Group International; Model ST7069 or comparable product by one of the following:

- a) Kohler Co.



- b) Lawler Manufacturing Company, Inc.
- c) Leonard Valve Company.
- d) POWERS; A WATTS Brand.
- e) Symmons Industries, Inc.
- f) **<Insert manufacturer's name>**.

- 2) Standard: ASSE 1069, ASSE 1070, and CSA B125.3.
- 3) Material: Lab-certified DZR brass body.
- 4) Flow Rate: Certified starting at **0.5 gpm (5.7 L/min.)** and capable of **9.8 gpm (37.24 L/min.)** unless otherwise indicated.
- 5) Check Stops and Inlet Strainers: Cartridge-style check-valve type, integral to body; on hot- and cold-water-supply connections. Inlet strainers must be replaceable without removing valve assembly.

l. Unit Electrical Characteristics:

- 1) Volts: [**120**] [**240**] [**277**] [**480**] **<Insert number>**.
- 2) Phase(s): [**One**] [**Three**].
- 3) Hertz: [**60**] **<Insert number>**.
- 4) Full-Load Amperes: **<Insert value>**.
- 5) Minimum Circuit Ampacity: **<Insert value>**.
- 6) Maximum Overcurrent Protection: **<Insert amperage>**.

- m. Hose and hand-held shower.
- n. Wash-out-hose assembly.
- o. Stretcher lift.
- p. Overhead[ **electric**] hoist.
- q. **<Insert option>**.

H. Hydrotherapy Whirlpools **<Insert drawing designation>**: Full-body immersion tank.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. ARJO, Inc.
- b. Ferno Ille.
- c. Whitehall Manufacturing; a division of Morris Group International.
- d. **<Insert manufacturer's name>**.

2. Description: Stationary rectangular tank for full-body massage.

- a. Tank Dimensions: [**90 by 32 by 19 inches (2286 by 813 by 483 mm)**] [**95 by 41 by 22 inches (2413 by 1041 by 560 mm)**] **<Insert dimensions>**.
- b. Overall Height: **32 or 34 inches (813 or 860 mm)**.
- c. Water Capacity: [**195 gal. (738 L)**] [**260 gal. (984 L)**] **<Insert value>**.
- d. Material: Stainless steel.
- e. Supports: Legs or base.
- f. Controls.
- g. Thermometer: Control panel or tank rim mounted.
- h. Supply: Over-the-rim fill spout.

- i. Drain(s): One or two waste connections.
- j. Electric Turbine Ejector: One, tank mounted [**at end**] [**on rail**] [**on side**].
- k. Thermostatic mixing-valve assembly.
  - 1) Basis-of-Design Product: Subject to compliance with requirements, provide Acorn Controls; Morris Group International; Model ST7069 or comparable product by one of the following:
    - a) Kohler Co.
    - b) Lawler Manufacturing Company, Inc.
    - c) Leonard Valve Company.
    - d) POWERS; A WATTS Brand.
    - e) Symmons Industries, Inc.
    - f) <Insert manufacturer's name>.
  - 2) Standard: ASSE 1069, ASSE 1070, and CSA B125.3.
  - 3) Material: Lab-certified DZR brass body.
  - 4) Flow Rate: Certified starting at **0.5 gpm (5.7 L/min.)** and capable of **9.8 gpm (37.24 L/min.)** unless otherwise indicated.
  - 5) Check Stops and Inlet Strainers: Cartridge-style check-valve type, integral to body; on hot- and cold-water-supply connections. Inlet strainers must be replaceable without removing valve assembly.
- l. Unit Electrical Characteristics:
  - 1) Volts: [**120**] [**240**] [**277**] [**480**] <Insert number>.
  - 2) Phase(s): [**One**] [**Three**].
  - 3) Hertz: [**60**] <Insert number>.
  - 4) Full-Load Amperes: <Insert value>.
  - 5) Minimum Circuit Ampacity: <Insert value>.
  - 6) Maximum Overcurrent Protection: <Insert amperage>.
- m. Hose and hand-held shower.
- n. Wash-out-hose assembly.
- o. Stretcher lift.
- p. Overhead[ **electric**] hoist.
- q. <Insert option>.

## 2.17 OUTLET BOXES

- A. Outlet Boxes <Insert drawing designation>: For dialysis equipment.

- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Bradley Corporation.
  - b. Metcraft Industries, Inc.
  - c. Whitehall Manufacturing; a division of Morris Group International.
  - d. Willoughby Industries.

- e. **<Insert manufacturer's name>**.
2. Description: Recessed-mounted outlet box with water-supply and drain connections.
    - a. Box and Faceplate: Stainless steel.
    - b. Supply Fitting(s): **[One]** **[Two]** **NPS 1/2 (DN 15)** PVC ball valve(s) and adapter with male hose-thread outlet.
    - c. Drain: **NPS 2 (DN 50)** standpipe, P-trap, and direct waste connection to drainage piping.
  3. Reinforcement: Fire-retardant-treated wood blocking between studs. Comply with fire-retardant-treated wood requirements specified in Section 061000 "Rough Carpentry."

## 2.18 MORGUE EQUIPMENT

### A. Autopsy Table **<Insert drawing designation>**:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. CSI Industries Inc.
  - b. LEEC International, Inc.
  - c. Thermo Fisher Scientific, Inc.
  - d. **<Insert manufacturer's name>**.
2. Description: Pedestal stainless steel table with sink; designed for downdraft ventilation.
  - a. Material: Stainless steel.
  - b. Nominal Size: **[88 by 30 inches (2250 by 762 mm)]** **<Insert dimensions>** with deck faucet holes.
  - c. Faucet: Manufacturer's standard, deck mounted with wrist- or elbow-blade handles.
  - d. Aspirator: Deck mounted.
  - e. Removable body supports.
  - f. Rinse Assembly: Deck-mounted faucet with hose.
  - g. Disposer: **[Not required]** **[Required, in accordance with UL 430]**.
  - h. Receptacle: Duplex, hospital grade with ground-fault interruption.
  - i. Supplies: With atmospheric vacuum breakers, in accordance with ASSE 1001, and stops.
  - j. Drain: **[Grid]** **<Insert type>** with **NPS 1-1/2 (DN 40)** tailpiece.
  - k. Waste piping.
  - l. Unit Electrical Characteristics:
    - 1) Volts: **[120]** **[240]** **[277]** **[480]** **<Insert number>**.
    - 2) Phase(s): **[One]** **[Three]**.
    - 3) Hertz: **[60]** **<Insert number>**.
    - 4) Full-Load Amperes: **<Insert value>**.
    - 5) Minimum Circuit Ampacity: **<Insert value>**.
    - 6) Maximum Overcurrent Protection: **<Insert amperage>**.

## B. Dissecting Sink &lt;Insert drawing designation&gt;:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. CSI Industries Inc.
  - b. LEEC International, Inc.
  - c. Thermo Fisher Scientific, Inc.
  - d. <Insert manufacturer's name>.
  
2. Description: Wall-mounted sink with backsplash.
  - a. Material: Stainless steel.
  - b. Nominal Size: [**84 by 28 inches (2130 by 710 mm)**] <Insert dimensions> with back faucet holes.
  - c. Nominal Size: Approximately **30 inches (760 mm)** wide.
  - d. Equipment drawer.
  - e. Faucet: <Insert faucet designation>.
  - f. Aspirator: Back mounted.
  - g. Rinse Assembly: One back-mounted faucet with hose.
  - h. Disposer: [**Not required**] [**Required, in accordance with UL 430**].
  - i. Support: ASME A112.6.1M, [**Type I sink carrier**][**Type III sink carrier**]<Insert carrier>.
  - j. Supplies: With atmospheric vacuum breakers, in accordance with ASSE 1001, and stops.
  - k. Drain: [**Grid**] <Insert type> with **NPS 1-1/2 (DN 40)** tailpiece.
  - l. Waste Piping: Comply with requirements in "Waste Fittings" Article.
  - m. Back-mounted, hand-held-type eye wash.
  - n. Unit Electrical Characteristics:
    - 1) Volts: [**120**] [**240**] [**277**] [**480**] <Insert number>.
    - 2) Phase(s): [**One**] [**Three**].
    - 3) Hertz: [**60**] <Insert number>.
    - 4) Full-Load Amperes: <Insert value>.
    - 5) Minimum Circuit Ampacity: <Insert value>.
    - 6) Maximum Overcurrent Protection: <Insert amperage>.

## 2.19 SUPPORTS

## A. Water Closet Carrier: ASME A112.6.1M.

1. Description: Waste-fitting assembly as required to match drainage piping material and arrangement with faceplates, couplings gaskets, and feet; bolts and hardware matching fixture. [**Include additional extension coupling, faceplate, and feet for installation in wide pipe space.**]
  
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. Jay R. Smith Mfg Co; a division of Morris Group International.
- b. Josam Company.
- c. MIFAB, Inc.
- d. Wade Drains.
- e. WATTS.
- f. Zurn Industries, LLC.
- g. **<Insert manufacturer's name>**.

B. Type I Sink Carrier: ASME A112.6.1M.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Jay R. Smith Mfg Co; a division of Morris Group International.
  - b. Josam Company.
  - c. MIFAB, Inc.
  - d. Wade Drains.
  - e. WATTS.
  - f. Zurn Industries, LLC.
  - g. **<Insert manufacturer's name>**.

C. Type II Sink Carrier: ASME A112.6.1M.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Jay R. Smith Mfg Co; a division of Morris Group International.
  - b. Josam Company.
  - c. MIFAB, Inc.
  - d. Wade Drains.
  - e. WATTS.
  - f. Zurn Industries, LLC.
  - g. **<Insert manufacturer's name>**.

D. Type III Sink Carrier: ASME A112.6.1M[, **with white-enameled-steel brackets**].

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Jay R. Smith Mfg Co; a division of Morris Group International.
  - b. Josam Company.
  - c. MIFAB, Inc.
  - d. Wade Drains.
  - e. WATTS.
  - f. Zurn Industries, LLC.
  - g. **<Insert manufacturer's name>**.

E. Type IV Sink Carrier: ASME A112.6.1M.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Jay R. Smith Mfg Co; a division of Morris Group International.
  - b. Josam Company.
  - c. MIFAB, Inc.
  - d. Wade Drains.
  - e. WATTS.
  - f. Zurn Industries, LLC.
  - g. **<Insert manufacturer's name>**.

## 2.20 SUPPLY FITTINGS

- A. NSF Standard: Comply with NSF 61 Annex G, "Drinking Water System Components - Health Effects," for supply-fitting materials that will be in contact with potable water.
- B. Standard: ASME A112.18.1/CSA B125.1.
- C. Supply Piping: Chrome-plated brass pipe or chrome-plated copper tube matching water-supply piping size. Include chrome-plated brass or stainless steel wall flange.
- D. Supply Stops: Chrome-plated brass, one-quarter-turn, ball-type or compression valve with inlet connection matching supply piping.
- E. Operation: [**Loose key**] [**Wheel handle**] **<Insert type>**.
- F. Risers: **NPS 1/2 (DN 15)** [**chrome-plated, rigid-copper pipe and brass straight or offset tailpieces**] [**chrome-plated, soft-copper flexible tube**] [ASME A112.18.6, braided or corrugated stainless steel, flexible hose].

## 2.21 WASTE FITTINGS

- A. Standard: ASME A112.18.2/CSA B125.2.
- B. Drain: [**Grid**] **<Insert type>** with NPS 1-1/2 DN 40 tailpiece.
- C. Trap:
  1. Size: **NPS 1-1/2 (DN 40)**.
  2. Material: Chrome-plated, [**two-piece, cast-brass trap and swivel elbow with 0.032-inch- (0.83-mm-) thick brass tube to wall**] [**two-piece, cast-brass trap and ground-joint swivel elbow with 0.032-inch- (0.83-mm-) thick brass tube to wall**] [**one-piece, cast-brass trap with swivel 0.029-inch- (73-mm-) thick tubular brass wall bend**] **<Insert trap type>**; and chrome-plated brass or steel wall flange.
  3. Material: Stainless steel, two-piece trap and swivel elbow with **0.012-inch- (0.30-mm-) thick stainless steel tube to wall**; and stainless steel wall flange.

## 2.22 GROUT

- A. Standard: ASTM C1107/C1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
- B. Characteristics: Nonshrink; recommended for interior and exterior applications.
- C. Design Mix: 5000-psi (34.5-MPa), 28-day compressive strength.
- D. Packaging: Premixed and factory packaged.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine roughing-in of water-supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before fixture installation.
- B. Examine walls, floors, cabinets, and counters for suitable conditions where fixtures will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Install healthcare plumbing fixtures level and plumb in accordance with roughing-in drawings.
- B. Install supports, affixed to building substrate, for wall-mounted fixtures.
  - 1. Use carrier supports with waste fitting and seal for back-outlet fixtures.
  - 2. Use carrier supports without waste fitting for fixtures with tubular waste piping.
  - 3. Use chair-type carrier supports with rectangular steel uprights for accessible fixtures.
- C. Install floor-mounted healthcare water closets on bowl-to-drain, connecting fitting attachments to piping or building substrate.
- D. Install counter-mounted fixtures in and attached to casework.
- E. Install water-supply piping with stop on each supply to each fixture to be connected to water-distribution piping. Attach supplies to supports or substrate within pipe spaces behind fixtures. Install stops in locations where they can be easily reached for operation.
  - 1. Exception: Use ball or gate valve if supply stops are not specified with fixture. Comply with valve requirements specified in Section 220523.12 "Ball Valves for Plumbing Piping" and Section 220523.15 "Gate Valves for Plumbing Piping."
- F. Install flushometer valves on healthcare water closets.

- G. Install flushometer valves for accessible healthcare water closets, with lever handle mounted on wide side of compartment.
- H. Install toilet seats on healthcare water closets.
- I. Install faucet flow-control fittings with specified flow rates and patterns in faucet spouts, if faucets are not available with required rates and patterns. Include adapters if required.
- J. Install laminar-flow, faucet-spout fittings in faucet spouts where laminar-flow fittings are specified.
- K. Install shower flow-control fittings with specified maximum flow rates in shower arms.
- L. Install traps on fixture outlets.
  - 1. Exception: Omit trap on fixtures with integral traps.
- M. Set healthcare showers in leveling bed of cement grout.
- N. Install protective shielding pipe covers and enclosures on exposed supplies and waste piping of accessible sinks. Comply with requirements in Section 220719 "Plumbing Piping Insulation."
- O. Seal joints between healthcare plumbing fixtures, counters, floors, and walls using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 079200 "Joint Sealants."
- P. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons if required to conceal protruding fittings. Comply with escutcheon requirements specified in Section 220518 "Escutcheons for Plumbing Piping."

### 3.3 CONNECTIONS

- A. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.
- B. Comply with requirements for water piping specified in Section 221116 "Domestic Water Piping."
- C. Comply with requirements for soil and waste drainage piping[ **and vent piping**] specified in Section 221316 "Sanitary Waste and Vent Piping."
- D. Comply with requirements for atmospheric vent piping specified in Section 221316 "Sanitary Waste and Vent Piping."
- E. Install protective shielding pipe covers and enclosures on exposed supplies and waste piping of accessible sinks. Comply with requirements in Section 220719 "Plumbing Piping Insulation."



### 3.4 ADJUSTING

- A. Operate and adjust faucets and controls. Replace damaged and malfunctioning healthcare plumbing fixtures, fittings, and controls.
- B. Adjust water pressure at [**faucets**] [**and**] [**flushometer valves**] to produce proper flow.
- C. Install fresh batteries in battery-powered, electronic-sensor mechanisms.

### 3.5 CLEANING AND PROTECTION

- A. After installing healthcare plumbing fixtures, inspect and repair damaged finishes.
- B. Clean healthcare plumbing fixtures, faucets, and other fittings with manufacturers' recommended cleaning methods and materials.
- C. Provide protective covering for installed fixtures and fittings.
- D. Do not allow use of healthcare plumbing fixtures for temporary facilities unless approved in writing by Owner.

END OF SECTION 224300