SECTION 224213.13 - COMMERCIAL WATER CLOSETS

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

1. GENERAL
	* + 1. RELATED DOCUMENTS

Retain or delete this article in all Sections of Project Manual.

* + - * 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
			1. SUMMARY
				1. Section Includes:

Floor-mounted, bottom-outlet water closets.

Floor-mounted, back-outlet water closets.

Wall-mounted water closets.

Flushometer valves.

Toilet seats.

Supports.

* + - 1. DEFINITIONS
				1. Effective Flush Volume: Average of two reduced flushes and one full flush per fixture.
				2. Remote Water Closet: Located more than 30 feet from other drain line connections or fixture and where less than 1.5 drainage fixture units are upstream of the drain line connection.
			2. SUBMITTALS
				1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
				2. Manufacturer’s installation instructions shall be provided along with product data.
				3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
				4. Product Data: For each type of product.

Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for water closets, and samples where requested.

Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

Retain "Shop Drawings" paragraph below if equipment includes wiring.

* + - * 1. Shop Drawings: Include diagrams for power, signal, and control wiring.
			1. CLOSEOUT SUBMITTALS
				1. Operation and Maintenance Data: For flushometer valves[**and electronic sensors**] to include in operation and maintenance manuals.
			2. MAINTENANCE MATERIAL SUBMITTALS
				1. Furnish extra materials that are packaged with protective covering for storage and identified with labels describing contents.

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.

1. PRODUCTS

Manufacturers and products listed in SpecAgent and MasterWorks Paragraph Builder are neither recommended nor endorsed by the AIA or Deltek. Before inserting names, verify that manufacturers and products listed there comply with requirements retained or revised in descriptions and are both available and suitable for the intended applications.

Do not use same water-closet designation as is used for another water closet in Section 224100 "Residential Plumbing Fixtures," Section 224300 "Medical Plumbing Fixtures," and Section 224600 "Security Plumbing Fixtures."

* + - 1. FLOOR-MOUNTED, BOTTOM-OUTLET WATER CLOSETS

Copy "Water Closets, Floor Mounted, Bottom Outlet, Top Spud" paragraph below and re-edit for each type of floor-mounted, bottom-outlet, top-spud water closet required.

Insert number to complete drawing designation. Use these designations on Drawings to identify each water closet.

* + - * 1. Water Closets, Floor Mounted, Bottom Outlet, Top Spud <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=3691) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[American Standard](http://www.specagent.com/Lookup?uid=123457164301).

[Kohler Co](http://www.specagent.com/Lookup?uid=123457164307).

[Sloan Valve Company](http://www.specagent.com/Lookup?uid=123457164311).

[TOTO USA, INC](http://www.specagent.com/Lookup?uid=123457164310).

[Zurn Industries, LLC](http://www.specagent.com/Lookup?uid=123457164300).

Approved equivalent.

Bowl:

Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.

Material: Vitreous china.

Type: Siphon jet.

Style: Flushometer valve.

Height: [**Standard**] [**Child**] [**Handicapped/elderly, complying with UNIFORM CODE/ANSI A117.1**].

Rim Contour: Elongated.

For remote public water closets, IgCC and LEED 2009 require maximum water consumption of 1.6 gal. per flush. For private flushometer type water closets, LEED v4, ASHRAE 189.1, Green Globes, and IgCC require maximum water consumption of 1.28 gal. per flush.

Water Consumption: **1.28 gal.** per flush.

Spud Size and Location: 1-1/2 inch; top.

Color: **White**.

Bowl-to-Drain Connecting Fitting: [**ASTM A1045 or**]ASME A112.4.3.

Coordinate "Flushometer Valve" subparagraph below with "Flushometer Valves" Article.

Flushometer Valve: <**Insert flushometer-valve designation**>.

Coordinate "Toilet Seat" subparagraph with "Toilet Seats" Article.

Toilet Seat: <**Insert toilet-seat designation**>.

Design Consultant to review code references and verify that the referenced sections/tables are current. Note that code references shall be based on the current version of the Uniform Code.

Copy "Water Closets, Floor Mounted, Bottom Outlet, Back Spud" paragraph below and re-edit for each type of floor-mounted, bottom-outlet, back-spud water closet required.

Insert number to complete drawing designation. Use these designations on Drawings to identify each water closet.

* + - * 1. Water Closets, Floor Mounted, Bottom Outlet, Back Spud <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=3692) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[American Standard](http://www.specagent.com/Lookup?uid=123457164392).

[Kohler Co](http://www.specagent.com/Lookup?uid=123457164394).

Approved equivalent.

Bowl:

Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.

Material: Vitreous china.

Type: Siphon jet.

Style: Flushometer valve.

Height: Standard.

Rim Contour: Elongated.

Water Consumption: **1.28 gal.** per flush.

Spud Size and Location: 1-1/2 inch; back.

Color: **White**.

Bowl-to-Drain Connecting Fitting: [**ASTM A1045 or**]ASME A112.4.3.

Coordinate "Flushometer Valve" subparagraph below with "Flushometer Valves" Article.

Flushometer Valve: <**Insert flushometer-valve designation**>.

Coordinate "Toilet Seat" subparagraph with "Toilet Seats" Article.

Toilet Seat: <**Insert toilet-seat designation**>.

* + - * 1. Water Closets, Floor Mounted, Bottom Outlet, Close-Coupled Flushometer Tank <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=13410) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[American Standard](http://www.specagent.com/Lookup?uid=123457164385).

[Kohler Co](http://www.specagent.com/Lookup?uid=123457164386).

[Zurn Industries, LLC](http://www.specagent.com/Lookup?uid=123457164387).

Approved equivalent.

Bowl:

Standards: ASME A112.19.2/CSA B45.1 and ASSE/ASME 1037/CSA B125.37.

Material: Vitreous china.

Type: Siphon jet.

Style: Pressure assisted.

Height: [**Standard**] [**Handicapped/elderly, complying with UNIFORM CODE/ANSI A117.1**].

Rim Contour: Elongated.

For remote public water closets, IgCC and LEED 2009 require maximum water consumption of 1.6 gal. per flush. For private flushometer type water closets, LEED v4, ASHRAE 189.1, Green Globes, and IgCC require maximum water consumption of 1.28 gal. per flush.

Water Consumption: Maximum **1.1 gal** per flush.

Color: **White**.

Bowl-to-Drain Connecting Fitting: [**ASTM A1045 or**]ASME A112.4.3.

Flushometer Tank: Pressure assisted.

Coordinate "Toilet Seat" subparagraph with "Toilet Seats" Article.

Toilet Seat: <**Insert toilet-seat designation**>.

Copy "Water Closets, Floor Mounted, Bottom Outlet, Child's" paragraph below and re-edit for each type of floor-mounted, bottom-outlet, child's water closet required.

Insert number to complete drawing designation. Use these designations on Drawings to identify each water closet.

* + - * 1. Water Closets, Floor Mounted, Bottom Outlet, Child's <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=3693) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[American Standard](http://www.specagent.com/Lookup?uid=123457164355).

[Kohler Co](http://www.specagent.com/Lookup?uid=123457164353).

[Sloan Valve Company](http://www.specagent.com/Lookup?uid=123457164358).

[Zurn Industries, LLC](http://www.specagent.com/Lookup?uid=123457164354).

Approved equivalent.

Bowl:

Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.

Material: Vitreous china.

Type: Siphon jet or reverse trap.

Style: Flushometer valve.

Height: [**Child**] <**Insert height**>.

Rim Contour: Modified elongated or regular.

For remote public water closets, IgCC and LEED 2009 require maximum water consumption of 1.6 gal. per flush. For private flushometer type water closets, LEED v4, ASHRAE 189.1, Green Globes, and IgCC require maximum water consumption of 1.28 gal. per flush.

Water Consumption: **1.28 gal.** per flush.

Spud Size and Location: 1-1/2 inch; back.

Color: **White**.

Bowl-to-Drain Connecting Fitting: [**ASTM A1045 or**]ASME A112.4.3.

Coordinate "Flushometer Valve" subparagraph below with "Flushometer Valves" Article.

Flushometer Valve: <**Insert flushometer-valve designation**>.

Toilet Seat: IAPMO/ANSI Z124.5, Type A (residential), Shape 3 (elongated rim), open front, without cover, and shaped to match bowl.

* + - 1. FLOOR-MOUNTED, BACK-OUTLET WATER CLOSETS

Copy "Water Closets, Floor Mounted, Back Outlet, Top Spud" paragraph below and re-edit for each type of floor-mounted, back-outlet, top-spud water closet required.

Insert number to complete drawing designation. Use these designations on Drawings to identify each water closet.

* + - * 1. Water Closets, Floor Mounted, Back Outlet, Top Spud <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=3694) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[American Standard](http://www.specagent.com/Lookup?uid=123457164397).

[Kohler Co](http://www.specagent.com/Lookup?uid=123457164399).

[Zurn Industries, LLC](http://www.specagent.com/Lookup?uid=123457164396).

Approved equivalent.

Bowl:

Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.

Material: Vitreous china.

Type: Siphon jet.

Style: Flushometer valve.

Height: Standard.

Rim Contour: Elongated.

Water Consumption: **1.28 gal.** per flush.

Spud Size and Location: 1-1/2 inch; top.

Color: **White**.

Coordinate "Flushometer Valve" subparagraph below with "Flushometer Valves" Article.

Flushometer Valve: <**Insert flushometer-valve designation**>.

Coordinate "Toilet Seat" subparagraph with "Toilet Seats" Article.

Toilet Seat: <**Insert toilet-seat designation**>.

Support: [**Water closet carrier**] <**Insert carrier**>.

Water-Closet Mounting Height: [**Standard**] [**Child**] [**Handicapped/elderly according to UNIFORM CODE/ANSI A117.1**].

Copy "Water Closets, Floor Mounted, Back Outlet, Back Spud" paragraph below and re-edit for each type of floor-mounted, back-outlet, back-spud water closet required.

Insert number to complete drawing designation. Use these designations on Drawings to identify each water closet.

* + - * 1. Water Closets, Floor Mounted, Back Outlet, Back Spud <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=3695) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Kohler Co](http://www.specagent.com/Lookup?uid=123457164360).

[Zurn Industries, LLC](http://www.specagent.com/Lookup?uid=123457164363).

Approved equivalent.

Bowl:

Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5:

Material: Vitreous china.

Type: Siphon jet.

Style: Flushometer valve.

Height: Standard.

Rim Contour: Elongated.

For remote public water closets, IgCC and LEED 2009 require maximum water consumption of 1.6 gal. per flush. For private flushometer type water closets, LEED v4, ASHRAE 189.1, Green Globes, and IgCC require maximum water consumption of 1.28 gal. per flush.

Water Consumption: **1.28 gal.** per flush.

Spud Size and Location: 1-1/2 inch; back.

Color: **White**.

Coordinate "Flushometer Valve" subparagraph below with "Flushometer Valves" Article.

Flushometer Valve: <**Insert flushometer-valve designation**>.

Coordinate "Toilet Seat" subparagraph with "Toilet Seats" Article.

Toilet Seat: <**Insert toilet-seat designation**>.

* + - * 1. Water Closets, Floor Mounted, Back Outlet, Close-Coupled Flushometer Tank <**Insert Drawing Designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=13411) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[American Standard](http://www.specagent.com/Lookup?uid=123457164389).

[Kohler Co](http://www.specagent.com/Lookup?uid=123457164390).

Approved equivalent.

Bowl:

Standards: ASME A112.19.2/CSA B45.1 and ASSE/ASME 1037/CSA B125.37.

Material: Vitreous china.

Type: Siphon jet.

Style: Pressure assisted.

Height: [**Standard**] [**Handicapped/elderly, complying with UNIFORM CODE/ANSI A117.1**].

Rim Contour: Elongated.

For remote public water closets, IgCC and LEED 2009 require maximum water consumption of 1.6 gal. per flush. For private flushometer type water closets, LEED v4, ASHRAE 189.1, Green Globes, and IgCC require maximum water consumption of 1.28 gal. per flush. Not all manufacturers offer each option; consult manufacturers.

Water Consumption: Maximum **1.1 gal** per flush.

Color: **White**.

Bowl-to-Drain Connecting Fitting: [**ASTM A1045 or**]ASME A112.4.3.

Flushometer Tank: Pressure assisted.

Coordinate "Toilet Seat" subparagraph with "Toilet Seats" Article.

Toilet Seat: <**Insert toilet-seat designation**>.

* + - 1. WALL-MOUNTED WATER CLOSETS

Copy "Water Closets, Wall Mounted, Top Spud(, Accessible)" paragraph below and re-edit for each type of wall-mounted, top-spud water closet required.

Insert number to complete drawing designation. Use these designations on Drawings to identify each water closet.

* + - * 1. Water Closets, Wall Mounted, Top Spud[**, Accessible**] <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=3696) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[American Standard](http://www.specagent.com/Lookup?uid=123457164314).

[Gerber Plumbing Fixtures LLC](http://www.specagent.com/Lookup?uid=123457164319).

[Kohler Co](http://www.specagent.com/Lookup?uid=123457164320).

[Sloan Valve Company](http://www.specagent.com/Lookup?uid=123457164324).

[TOTO USA, INC](http://www.specagent.com/Lookup?uid=123457164323).

[Zurn Industries, LLC](http://www.specagent.com/Lookup?uid=123457164313).

Approved equivalent.

Bowl:

Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.

Material: Vitreous china.

Type: Siphon jet.

Style: Flushometer valve.

Height: Standard.

Rim Contour: Elongated.

For remote public water closets, IgCC and LEED 2009 require maximum water consumption of 1.6 gal. per flush. For private flushometer type water closets, LEED v4, ASHRAE 189.1, Green Globes, and IgCC require maximum water consumption of 1.28 gal. per flush.

Water Consumption: **1.28 gal.** per flush.

Spud Size and Location: 1-1/2 inch; top.

Coordinate "Flushometer Valve" subparagraph below with "Flushometer Valves" Article.

Flushometer Valve: <**Insert flushometer-valve designation**>.

Coordinate "Toilet Seat" subparagraph with "Toilet Seats" Article.

Toilet Seat: <**Insert toilet-seat designation**>.

Coordinate "Support" subparagraph below with "Supports" Article.

Support: [**Water closet carrier**] <**Insert carrier**>.

Water-Closet Mounting Height: [**Standard**] [**Child**] [**Handicapped/elderly according to UNIFORM CODE/ANSI A117.1**].

Copy "Water Closets, Wall Mounted, Back Spud(, Accessible)" paragraph below and re-edit for each type of wall-mounted, back-spud water closet required.

Insert number to complete drawing designation. Use these designations on Drawings to identify each water closet.

* + - * 1. Water Closets, Wall Mounted, Back Spud[**, Accessible**] <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=3697) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[American Standard](http://www.specagent.com/Lookup?uid=123457164366).

[Kohler Co](http://www.specagent.com/Lookup?uid=123457164370).

[TOTO USA, INC](http://www.specagent.com/Lookup?uid=123457164371).

[Zurn Industries, LLC](http://www.specagent.com/Lookup?uid=123457164365).

Approved equivalent.

Bowl:

Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.

Material: Vitreous china.

Type: Siphon jet.

Style: Flushometer valve.

Height: Standard.

Rim Contour: Elongated.

For remote public water closets, IgCC and LEED 2009 require maximum water consumption of 1.6 gal. per flush. For private flushometer type water closets, LEED v4, ASHRAE 189.1, Green Globes, and IgCC require maximum water consumption of 1.28 gal. per flush.

Water Consumption: **1.28 gal.** per flush.

Spud Size and Location: 1-1/2 inch; back.

Coordinate "Flushometer Valve" subparagraph below with "Flushometer Valves" Article.

Flushometer Valve: <**Insert flushometer-valve designation**>.

Coordinate "Toilet Seat" subparagraph below with "Toilet Seats" Article.

Toilet Seat: <**Insert toilet-seat designation**>.

Coordinate "Support" subparagraph below with "Supports" Article.

Support: [**Water closet carrier**] <**Insert carrier**>.

Water-Closet Mounting Height: [**Standard**] [**Child**] [**Handicapped/elderly according to UNIFORM CODE A117.1**].

* + - 1. FLUSHOMETER VALVES

Caution: Flushometer-valve consumption must match the water consumption of the water-closet bowl.

Copy "Lever-Handle, Diaphragm Flushometer Valves" paragraph below and re-edit for each type of lever-handle, diaphragm flushometer valve required.

Insert number to complete designation. Use these designations on Drawings to identify each flushometer valve.

* + - * 1. Lever-Handle, Diaphragm Flushometer Valves <**Insert designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=3700) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Sloan Valve Company](http://www.specagent.com/Lookup?uid=123457164329).

[Zurn Industries, LLC](http://www.specagent.com/Lookup?uid=123457164330).

Approved equivalent.

Standard: ASSE 1037.

Minimum Pressure Rating: 125 psig.

Features: Include integral check stop and backflow-prevention device.

Material: Brass body with corrosion-resistant components.

Exposed Flushometer-Valve Finish: Chrome plated.

Retain "Panel Finish" subparagraph below for concealed flushometer-valve components.

Panel Finish: Chrome plated or stainless steel.

Style: [**Exposed**] [**Concealed**].

For remote public water closets, IgCC and LEED 2009 require maximum water consumption of 1.6 gal. per flush. For private flushometer type water closets, LEED v4, ASHRAE 189.1, Green Globes, and IgCC require maximum water consumption of 1.28 gal. per flush.

Consumption: **1.28 gal.** per flush.

Minimum Inlet: 1 inch.

Minimum Outlet: 1-1/4 inch.

Copy "Solenoid-Actuator, Diaphragm Flushometer Valves" paragraph below and re-edit for each type of solenoid-actuator, diaphragm flushometer valve required.

Insert number to complete designation. Use these designations on Drawings to identify each flushometer valve.

* + - * 1. Solenoid-Actuator, Diaphragm Flushometer Valves:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=3701) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Sloan Valve Company](http://www.specagent.com/Lookup?uid=123457164335).

[Zurn Industries, LLC](http://www.specagent.com/Lookup?uid=123457164336).

Approved equivalent.

Standard: ASSE 1037.

Minimum Pressure Rating: 125 psig.

Features: Include integral check stop and backflow-prevention device.

Material: Brass body with corrosion-resistant components.

Exposed Flushometer-Valve Finish: Chrome plated.

Retain "Panel Finish" subparagraph below for concealed flushometer-valve components.

Panel Finish: Chrome plated or stainless steel.

Style: [**Exposed**] [**Concealed**].

Actuator: Solenoid complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

Trip Mechanism: [**Battery-powered**] [**Hard-wired**] electronic sensor complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

For remote public water closets, IgCC and LEED 2009 require maximum water consumption of 1.6 gal. per flush. For private flushometer type water closets, LEED v4, ASHRAE 189.1, Green Globes, and IgCC require maximum water consumption of 1.28 gal. per flush.

Consumption: **1.28 gal.** per flush.

Minimum Inlet: 1 inch.

Minimum Outlet: 1-1/4 inch.

* + - * 1. Motor-Actuator, Diaphragm Flushometer Valves <**Insert designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=13827) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Zurn Industries, LLC](http://www.specagent.com/Lookup?uid=123457164414).

Approved equivalent.

Standard: ASSE 1037.

Minimum Pressure Rating: 125 psig.

Features: Include integral check stop and backflow-prevention device.

Material: Brass body with corrosion-resistant components.

Exposed Flushometer-Valve Finish: Chrome plated.

Retain "Panel Finish" subparagraph below for concealed flushometer-valve components.

Panel Finish: Chrome plated or stainless steel.

Style: [**Exposed**] [**Concealed**].

Actuator: Geared-motor actuator complying with UL 1951; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

Trip Mechanism: [**Battery-powered**] [**Hard-wired**] electronic sensor complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

For remote public water closets, IgCC and LEED 2009 require maximum water consumption of 1.6 gal. per flush. For private flushometer type water closets, LEED v4, ASHRAE 189.1, Green Globes, and IgCC require maximum water consumption of 1.28 gal. per flush.

Consumption: **1.28 gal.** per flush.

Minimum Inlet: 1 inch.

Minimum Outlet: 1-1/4 inch.

Copy "Hydraulic-Actuator, Push-Button, Diaphragm Flushometer Valves" paragraph below and re-edit for each type of hydraulic-actuator, push-button, diaphragm flushometer valve required.

Insert number to complete designation. Use these designations on Drawings to identify each flushometer valve.

* + - * 1. Hydraulic-Actuator, Push-Button, Diaphragm Flushometer Valves <**Insert designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=3702) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Sloan Valve Company](http://www.specagent.com/Lookup?uid=123457164401).

Approved equivalent.

Standard: ASSE 1037.

Minimum Pressure Rating: 125 psig.

Features: Include integral check stop and backflow-prevention device.

Material: Brass body with corrosion-resistant components.

Exposed Flushometer-Valve Finish: Chrome plated.

Retain "Panel Finish" subparagraph below for concealed flushometer-valve components.

Panel Finish: Chrome plated or stainless steel.

Style: [**Exposed**] [**Concealed**].

For remote public water closets, IgCC and LEED 2009 require maximum water consumption of 1.6 gal. per flush. For private flushometer type water closets, LEED v4, ASHRAE 189.1, Green Globes, and IgCC require maximum water consumption of 1.28 gal. per flush.

Consumption: **1.28 gal.** per flush.

Minimum Inlet: 1 inch.

Minimum Outlet: 1-1/4 inch.

Copy "Lever-Handle, Piston Flushometer Valves" paragraph below and re-edit for each type of lever-handle, piston flushometer valve required.

Insert number to complete designation. Use these designations on Drawings to identify each flushometer valve.

* + - * 1. Lever-Handle, Piston Flushometer Valves <**Insert designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=3703) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[American Standard](http://www.specagent.com/Lookup?uid=123457164344).

[Kohler Co](http://www.specagent.com/Lookup?uid=123457164343).

[Sloan Valve Company](http://www.specagent.com/Lookup?uid=123457164340).

[TOTO USA, INC](http://www.specagent.com/Lookup?uid=123457164341).

Approved equivalent.

Standard: ASSE 1037.

Minimum Pressure Rating: 125 psig.

Features: Include integral check stop and backflow-prevention device.

Material: Brass body with corrosion-resistant components.

Exposed Flushometer-Valve Finish: Chrome plated.

Retain "Panel Finish" subparagraph below for concealed flushometer-valve components.

Panel Finish: Chrome plated or stainless steel.

Style: [**Exposed**] [**Concealed**].

For remote public water closets, IgCC and LEED 2009 require maximum water consumption of 1.6 gal. per flush. For private flushometer type water closets, LEED v4, ASHRAE 189.1, Green Globes, and IgCC require maximum water consumption of 1.28 gal. per flush.

Consumption: **1.28 gal.** per flush.

Minimum Inlet: 1 inch.

Minimum Outlet: 1-1/4 inch.

Copy "Hard-Wired, Solenoid-Actuator, Piston Flushometer Valves" paragraph below and re-edit for each type of hard-wired, solenoid-actuator, piston flushometer valve required.

Insert number to complete designation. Use these designations on Drawings to identify each flushometer valve.

* + - * 1. Hard-Wired, Solenoid-Actuator, Piston Flushometer Valves <**Insert designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=3704) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[American Standard](http://www.specagent.com/Lookup?uid=123457164351).

[Moen Incorporated](http://www.specagent.com/Lookup?uid=123457164346).

[Sloan Valve Company](http://www.specagent.com/Lookup?uid=123457164347).

[Zurn Industries, LLC](http://www.specagent.com/Lookup?uid=123457164349).

Approved equivalent.

Standard: ASSE 1037.

Minimum Pressure Rating: 125 psig.

Features: Include integral check stop and backflow-prevention device.

Material: Brass body with corrosion-resistant components.

Exposed Flushometer-Valve Finish: Chrome plated.

Retain "Panel Finish" subparagraph below for concealed flushometer-valve components.

Panel Finish: Chrome plated or stainless steel.

Style: [**Exposed**] [**Concealed**].

Actuator: Solenoid complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

Trip Mechanism: Hard-wired electronic sensor complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

For remote public water closets, IgCC and LEED 2009 require maximum water consumption of 1.6 gal. per flush. For private flushometer type water closets, LEED v4, ASHRAE 189.1, Green Globes, and IgCC require maximum water consumption of 1.28 gal. per flush.

Consumption: **1.28 gal.** per flush.

Minimum Inlet: 1 inch.

Minimum Outlet: 1-1/4 inch.

Copy "Battery-Powered, Solenoid-Actuator, Piston Flushometer Valves" paragraph below and re-edit for each type of battery-powered, solenoid-actuator, piston flushometer valve required.

Insert number to complete designation. Use these designations on Drawings to identify each flushometer valve.

* + - * 1. Battery-Powered, Solenoid-Actuator, Piston Flushometer Valves <**Insert designation**>:

Standard: ASSE 1037.

Minimum Pressure Rating: 125 psig.

Features: Include integral check stop and backflow-prevention device.

Material: Brass body with corrosion-resistant components.

Exposed Flushometer-Valve Finish: Chrome plated.

Retain "Panel Finish" subparagraph below for concealed flushometer-valve components.

Panel Finish: Chrome plated or stainless steel.

Style: [**Exposed**] [**Concealed**].

Actuator: Solenoid complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

Trip Mechanism: Battery-powered electronic sensor complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

For remote public water closets, IgCC and LEED 2009 require maximum water consumption of 1.6 gal. per flush. For private flushometer type water closets, LEED v4, ASHRAE 189.1, Green Globes, and IgCC require maximum water consumption of 1.28 gal. per flush.

Consumption: **1.28 gal.** per flush.

Minimum Inlet: 1 inch.

Minimum Outlet: 1-1/4 inch.

* + - 1. TOILET SEATS

Copy "Toilet Seats" paragraph below and re-edit for each type of toilet seat required.

Insert number to complete designation. .Use these designations to identify each toilet seat.

* + - * 1. Toilet Seats <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=3706) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[American Standard](http://www.specagent.com/Lookup?uid=123457164402).

[Kohler Co](http://www.specagent.com/Lookup?uid=123457164406).

[TOTO USA, INC](http://www.specagent.com/Lookup?uid=123457164410).

[Zurn Industries, LLC](http://www.specagent.com/Lookup?uid=123457164412).

Approved equivalent.

Standard: IAPMO/ANSI Z124.5.

Material: Plastic.

Type: [**Commercial (Standard)**] [**Commercial (Heavy duty)**].

Shape: [**Elongated rim, open front**] [**Elongated rim, closed front**] <**Insert shape**>.

Hinge: [**Check**] [**Self-sustaining**] [**Self-sustaining, check**] [**Self-raising**].

Hinge Material: Noncorroding metal.

Seat Cover: [**Required**] [**Not required**].

Color: [**White**] [**Black**] <**Insert color**>.

* + - 1. SUPPORTS
				1. Water Closet Carrier:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=12562) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Jay R. Smith Mfg Co; a division of Morris Group International](http://www.specagent.com/Lookup?uid=123457196912).

[Josam Company](http://www.specagent.com/Lookup?uid=123457167173).

[MIFAB, Inc](http://www.specagent.com/Lookup?uid=123457196913).

[WATTS](http://www.specagent.com/Lookup?uid=123457196915).

[Zurn Industries, LLC](http://www.specagent.com/Lookup?uid=123457164383).

Approved equivalent.

Standard: ASME A112.6.1.

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.**]

1. EXECUTION
	* + 1. EXAMINATION
				1. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before water-closet installation.
				2. Examine walls and floors for suitable conditions where water closets will be installed.
				3. Proceed with installation only after unsatisfactory conditions have been corrected.
			2. INSTALLATION, GENERAL
				1. Water-Closet Installation:

Install level and plumb according to roughing-in drawings.

Install floor-mounted water closets on bowl-to-drain connecting fitting attachments to piping or building substrate.

Indicate on Drawings those water closets that are required to be accessible.

Install accessible, wall-mounted water closets at mounting height for handicapped/elderly, according to UNIFORM CODE/ANSI A117.1.

* + - * 1. Support Installation:

Install supports, affixed to building substrate, for floor-mounted, back-outlet water closets.

Use carrier supports with waste-fitting assembly and seal.

Install floor-mounted, back-outlet water closets attached to building floor substrate, onto waste-fitting seals; and attach to support.

Install wall-mounted, back-outlet water-closet supports with waste-fitting assembly and waste-fitting seals; and affix to building substrate.

* + - * 1. Flushometer-Valve Installation:

Install flushometer-valve, water-supply fitting on each supply to each water closet.

Attach supply piping to supports or substrate within pipe spaces behind fixtures.

Install lever-handle flushometer valves for accessible water closets with handle mounted on open side of water closet.

Install actuators in locations that are easy for people with disabilities to reach.

Install fresh batteries in battery-powered, electronic-sensor mechanisms.

* + - * 1. Install toilet seats on water closets.
				2. Wall Flange and Escutcheon Installation:

Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations and within cabinets and millwork.

Install deep-pattern escutcheons if required to conceal protruding fittings.

Retain "Joint Sealing" paragraph below if sealants are not specified in Section 079200 "Joint Sealants."

* + - * 1. Joint Sealing:

Seal joints between water closets and walls and floors using sanitary-type, one-part, mildew-resistant silicone sealant.

Match sealant color to water-closet color.

* + - 1. CONNECTIONS

Coordinate piping installations and specialty arrangements with Drawings and with requirements specified in piping systems. If Drawings are explicit enough, these requirements may be reduced or omitted.

* + - * 1. Connect water closets with water supplies and soil, waste, and vent piping. Use size fittings required to match water closets.
				2. Where installing piping adjacent to water closets, allow space for service and maintenance.
			1. ADJUSTING
				1. Operate and adjust water closets and controls. Replace damaged and malfunctioning water closets, fittings, and controls.
				2. Adjust water pressure at flushometer valves to produce proper flow.
				3. Install fresh batteries in battery-powered, electronic-sensor mechanisms.
			2. CLEANING AND PROTECTION
				1. Clean water closets and fittings with manufacturers' recommended cleaning methods and materials.
				2. Install protective covering for installed water closets and fittings.
				3. Do not allow use of water closets for temporary facilities unless approved in writing by Director’s Representative.

END OF SECTION 224213.13