**SECTION 224213.13 - COMMERCIAL URINALS**

**PART 1 – GENERAL**

* 1. **RELATED DOCUMENTS**
		+ - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
	2. **SUMMARY**
1. Section Includes
	1. Urinals
	2. Flush Valves
	3. Supports
	4. **ACTION SUBMITTIALS**

A. Product Data: for each type of product

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

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

* + - * 1. Sustainable Design Submittals

Product Data: For water consumption.

* + - * 1. Shop Drawings: Include diagrams for power, signal, and control wiring.
	1. **CLOSEOUT SUBMITTALS**

A. Operation and Maintenance Data: For flushometer valves [**and electronic sensors**] to include in operation and maintenance manuals.

* 1. **MAINTENANCE MATERIAL SUBMITTALS**
		+ 1. Furnish extra materials that are packaged with protective covering for storage and identified with labels describing contents.
			2. 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.
			3. Waterfree Urinal trap seal Cartridges: Equal to [200] <insert number> % of each type installed but no fewer than [12] <insert number> of each type.

**PART 2: PRODUCTS**

* 1. **WALL HUNG URINALS**

A. Urinal <**Insert drawing designation**>: Wall hung, Back outlet, top spud, washdown.

 Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **SU1009-STG** Vitreous China Washdown Urinal with SloanTec hydrophobic Glaze.

 Product: SU1009-STG [(Specification)](https://www.sloan.com/spec-sheet/1171009)

 Standard: ASME A112.19.2/CSA B45.0

 Material: Vitreous China

Type: Washdown

Strainer or Trapway: [Manufacturer's standard strainer] <insert strainer> with integral Trap.

Water Consumption: 0.125 – 1.0 gpf (0.5 – 3.8 Lpf)

Spud Size and Location: NPS 3/4 inch (DN 20) [Top]

Waste Fitting: NPS 2 inch (DN 50) [Back]

Color: White

 Flushometer Valve: <Insert urinal flushometer-valve designation from "Urinal Flushometer Valves" Article>.

 Support: [Type I Urinal Carrier] with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture. [ Include rectangular, steel uprights.] <Insert carrier>.

 Urinal Mounting Height: [Standard] [Child] [Handicapped/elderly according to ICC A117.1].

B. Urinal <**Insert drawing designation**>: Wall hung, Back outlet, top spud, washdown.

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **SU1209-STG** Vitreous China Washdown Urinal with SloanTec hydrophobic Glaze.

Product: SU1209-STG [(Specification)](https://www.sloan.com/spec-sheet/1171209)

Standard: ASME A112.19.2/CSA B45.1

Material: Vitreous China

Type: Washdown

 Strainer or Trapway: [Manufacturer's standard strainer] <insert strainer> with integral Trap.

Water Consumption: 0.125 – 1.0 gpf (0.5 – 3.8 Lpf)

Spud Size and Location: NPS 3/4 inch (DN 20) [Top]

Waste Fitting: NPS 2 inch (DN 50) [Back]

Color: White

 Flushometer Valve: <Insert urinal flushometer-valve designation from "Urinal Flushometer Valves" Article>.

 Support: [Type I Urinal Carrier] with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture. [ Include rectangular, steel uprights.] <Insert carrier>.

 Urinal Mounting Height: [Standard] [Child] [Handicapped/elderly according to ICC A117.1].

C. Urinal <**Insert drawing designation**>: Wall hung, Back outlet, top spud, washdown.

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **SU7409-STG** Designer Washdown Urinal with SloanTec hydrophobic Glaze.

 Product: SU7409-STG [(Specification)](https://www.sloan.com/spec-sheet/1177409)

 Standard: ASME A112.19.2/CSA B45.1

 Material: Vitreous China

Type: Washdown

Strainer or Trapway: [Manufacturer's standard strainer] <insert strainer> with integral Trap.

Water Consumption: 0.125 – 1.0 gpf (0.5 – 3.8 Lpf)

Spud Size and Location: NPS 3/4 inch (DN 20) [Top]

Waste Fitting: NPS 2 inch (DN 50) [Back]

Color: White

 Flushometer Valve: <Insert urinal flushometer-valve designation from "Urinal Flushometer Valves" Article>.

 Support: [Type I Urinal Carrier] with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture. [ Include rectangular, steel uprights.] <Insert carrier>.

 Urinal Mounting Height: [Standard] [Child] [Handicapped/elderly according to ICC A117.1].

D. Urinal <**Insert drawing designation**>: Wall hung, Back outlet, top spud, washdown.

 Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **SU7009-STG** Washdown Urinal with SloanTec hydrophobic Glaze.

 Products: SU7009-STG [(Specification)](https://www.sloan.com/spec-sheet/1177009)

 Standard: ASME A112.19.2/CSA B45.1

 Material: Vitreous China

Type: Washdown

Strainer or Trapway: [Manufacturer's standard strainer] <insert strainer> with integral Trap.

Water Consumption: 0.125 – 1.0 gpf (0.5 – 3.8 Lpf)

Spud Size and Location: NPS 3/4 inch (DN 20) [Top]

Waste Fitting: NPS 2 inch (DN 50) [Back]

Color: White

 Flushometer Valve: <Insert urinal flushometer-valve designation from "Urinal Flushometer Valves" Article>.

 Support: [Type I Urinal Carrier] with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture. [ Include rectangular, steel uprights.] <Insert carrier>.

 Urinal Mounting Height: [Standard] [Child] [Handicapped/elderly according to ICC A117.1].

E. Urinal <**Insert drawing designation**>: Wall hung, Back outlet, rear spud, washdown.

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **SU1019-STG** Vitreous China Washdown Urinal with SloanTec hydrophobic Glaze.

 Product: SU1019-STG [(Specification)](https://www.sloan.com/spec-sheet/1171019)

 Standard: ASME A112.19.2/CSA B45.1

Material: Vitreous China

 Type: Washdown

 Strainer or Trapway: [Manufacturer's standard strainer] <insert strainer> with integral Trap.

 Water Consumption: 0.125 – 1.0 gpf (0.5 – 3.8 Lpf)

 Spud Size and Location: NPS 3/4 inch (DN 20) [Rear]

 Waste Fitting: NPS 2 inch (DN 50) [Back]

 Color: White

 Flushometer Valve: <Insert urinal flushometer-valve designation from "Urinal Flushometer Valves" Article>.

 Support: [Type I Urinal Carrier] with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture. [ Include rectangular, steel uprights.] <Insert carrier>.

 Urinal Mounting Height: [Standard] [Child] [Handicapped/elderly according to ICC A117.1].

F. Urinal <**Insert drawing designation**>: Wall hung, Back outlet, rear spud, washdown.

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **SU7419-STG** Designer Washdown Urinal with SloanTec hydrophobic Glaze.

 Product: SU7419-STG [(Specification)](https://www.sloan.com/spec-sheet/1177419)

 Standard: ASME A112.19.2/CSA B45.2

 Material: Vitreous China

Type: Washdown

Strainer or Trapway: [Manufacturer's standard strainer] <insert strainer> with integral Trap.

Water Consumption: 0.125 – 1.0 gpf (0.5 – 3.8 Lpf)

Spud Size and Location: NPS 3/4 inch (DN 20) [Rear]

Waste Fitting: NPS 2 inch (DN 50) [Back]

Color: White

 Flushometer Valve: <Insert urinal flushometer-valve designation from "Urinal Flushometer Valves" Article>.

 Support: [Type I Urinal Carrier] with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture. [ Include rectangular, steel uprights.] <Insert carrier>.

 Urinal Mounting Height: [Standard] [Child] [Handicapped/elderly according to ICC A117.1].

G. Urinal <**Insert drawing designation**>: Wall hung, Back outlet, rear spud, washdown.

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **SU7019**-**STG** Washdown Urinal with SloanTec hydrophobic Glaze.

 Product: SU7019-STG [(Specification)](https://www.sloan.com/spec-sheet/1177019)

 Standard: ASME A112.19.2/CSA B45.2

 Material: Vitreous China

Type: Washdown

Strainer or Trapway: [Manufacturer's standard strainer] <insert strainer> with integral Trap.

Water Consumption: 0.125 – 1.0 gpf (0.5 – 3.8 Lpf)

Spud Size and Location: NPS 3/4 inch (DN 20) [Rear]

Waste Fitting: NPS 2 inch (DN 50) [Back]

Color: White

 Flushometer Valve: <Insert urinal flushometer-valve designation from "Urinal Flushometer Valves" Article>.

 Support: [Type I Urinal Carrier] with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture. [ Include rectangular, steel uprights.] <Insert carrier>.

 Urinal Mounting Height: [Standard] [Child] [Handicapped/elderly according to ICC A117.1].

* 1. **WATERLESS URINALS**

A. Urinals <**Insert drawing designation**>: Wall mounted, back outlet, waterless, vitreous china, designed for liquid trap seal operation.

 Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **WES 1000-STG** with replaceable locking cartridge and SloanTec hydrophobic Glaze.

 Product: WES 1000-STG [(Specification)](https://www.sloan.com/spec-sheet/1071000)

 Standard: ASME A112.19.19 2016

 Material: Vitreous China

Type: Waterfree

Strainer or Trapway: Trap-Sealing Liquid: Proprietary.

Water Consumption: 0.0 (waterless)

Spud Size and Location: Not applicable

Waste Fitting: NPS 2 inch (DN 50) [Back]

Color: White

 Support: [Type I Urinal Carrier] with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture. [ Include rectangular, steel uprights.] <Insert carrier>.

 Urinal Mounting Height: [Standard] [Child] [Handicapped/elderly according to ICC A117.1].

B. Urinals <**Insert drawing designation**>: Wall mounted, back outlet, waterless, vitreous china, designed for liquid trap seal operation.

 Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **WES 4000-STG** with replaceable locking cartridge and SloanTec hydrophobic Glaze.

 Product: WES 4000-STG [(Specification)](https://www.sloan.com/spec-sheet/1074000)

 Standard: ASME A112.19.19 2016

 Material: Vitreous China

Type: Waterfree

Strainer or Trapway: Trap-Sealing Liquid: Proprietary.

Water Consumption: 0.0 (waterless)

Spud Size and Location: Not applicable

Waste Fitting: NPS 2 inch (DN 50) [Back]

Color: White

 Support: [Type I Urinal Carrier] with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture. [ Include rectangular, steel uprights.] <Insert carrier>.

 Urinal Mounting Height: [Standard] [Child] [Handicapped/elderly according to ICC A117.1].

C. Urinals <**Insert drawing designation**>: Wall hung, back outlet, Hybrid Urinal designed for liquid trap-seal operation. With Jet Rinse Technology.

 Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **HYB 4000-STG** with automatic drain line rinsing system, replaceable locking cartridge and SloanTec hydrophobic Glaze.

 Product: HYB 4000-STG [(Specification)](https://www.sloan.com/spec-sheet/1004020)

 Standard: ASME A112.19.19 2016

 Material: Vitreous China

Type: Waterfree

Strainer or Trapway: Trap-Sealing Liquid: Proprietary.

Water Consumption: 0.0 (waterless)

Spud Size and Location: Not applicable

Waste Fitting: NPS 2 inch (DN 50) [Back]

Color: White

 Support: [Type I Urinal Carrier] with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture. [ Include rectangular, steel uprights.] <Insert carrier>.

D. Urinals <**Insert drawing designation**>: Wall hung, back outlet, Hybrid Urinal designed for liquid trap-seal operation. With Jet Rinse Technology.

 Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **HYB 1000-STG** with automatic drain line rinsing system, replaceable locking cartridge and SloanTec hydrophobic Glaze.

 Product: HYB 1000-STG [(Specification)](https://www.sloan.com/spec-sheet/1001020)

 Standard: ASME A112.19.19 2016

 Material: Vitreous China

Type: Waterfree

Strainer or Trapway: Trap-Sealing Liquid: Proprietary.

Water Consumption: 0.0 (waterless)

Spud Size and Location: Not applicable

Waste Fitting: NPS 2 inch (DN 50) [Back]

Color: White

 Support: [Type I Urinal Carrier] with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture. [ Include rectangular, steel uprights.] <Insert carrier>.

* 1. **URINAL FLUSHOMETER VALVES**

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

 Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Royal 186** Urinal Flushometer. Rubber components must be chloramine resistant PERMEX® rubber with dual filter diaphragm assembly. Valve body shall be in compliance with ASTM Alloy Classification for Semi-Red Brass. Free spinning vandal resistant stop cap with back check control stop. Valve shall be Made in the USA.

Product: Royal 186 [(Specification)](https://www.sloan.com/general-spec/816)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

 Features: ADA complaint, non-hold open handle, Chloramine resistant PERMEX® rubber components.

 Material: Semi-Red brass body with corrosion resistant components

 Exposed Flushometer – Valve Finish: Polished Chrome, PVD Brushed Nickel, PVD Brushed Stainless, PVD Graphite, PVD Polished Brass

 Style: Exposed Flushometer

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

B. Lever-Handle, Diaphragm Flushometer Valves <**Insert designation**>: Sloan 186

 Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Sloan 186** manually operated flushometer. Valve Body, Cover, Tailpiece and Control Stop shall be in conformance with ASTM Alloy Classification for Semi-Red and include High Chloramine Resistant PERMEX® Synthetic Rubber DFB Linear Bypass Diaphragm. Valve shall be Made in the USA.

 Product: Sloan 186 [(Specification)](https://www.sloan.com/general-spec/1421)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

 Features: ADA complaint, non-hold open handle

 Material: Semi-red brass body with corrosion resistant components

 Exposed Flushometer – Valve Finish: Chrome plated.

 Style: Exposed Flushometer

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

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

 Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Regal 186 XL.** Fixed Bypass Diaphragm Orifice. Valve body shall be in compliance with ASTM Alloy Classification for Semi-Red Brass and with back check control stop. Valve shall be Made in the USA.

 Product: Regal 186 XL [(Specification)](https://www.sloan.com/general-spec/1316)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

 Features: ADA complaint, non-hold open handle

 Material: Semi-red brass body with corrosion resistant components

 Exposed Flushometer – Valve Finish: Chrome plated.

 Style: Exposed Flushometer

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

D. Lever-Handle, Piston Flushometer Valves **<Insert designation>**: Crown 186

 Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Crown 186** piston operated flushometer. Fixed Volume Piston with Filtered O-ring Bypass. Non-Hold-Open Handle and No External Volume Adjustment to Ensure Water Conservation. Valve Body, Cover, Tailpiece and Control Stop shall be in conformance with ASTM Alloy Classification for Semi- Red Brass. Valve shall be Made in the USA.

 Product: Crown 186 [(Specification)](https://www.sloan.com/general-spec/3011)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

 Features: ADA complaint, non-hold open handle

 Material: Semi-Red brass body with corrosion resistant components

 Exposed Flushometer – Valve Finish: Chrome plated

 Style: Exposed Flushometer

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L) per flush

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

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

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **GEM-2 186 XL** manual flushometer with fixed volume piston and Filtered O-ring Bypass. Non-Hold-Open Handle and no external volume adjustment. Valve Body, Cover, Tailpiece and Control Stop shall be in conformance with ASTM Alloy Classification for Semi- Red Brass. Valve shall be Made in the USA.

 Product: GEM-2 186 [(Specification)](https://www.sloan.com/general-spec/1836)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

 Features: ADA complaint, non-hold open handle

 Material: Semi-Red brass body with corrosion resistant components

 Exposed Flushometer – Valve Finish: Chrome plated.

 Style: Exposed Flushometer

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

F. Battery-Powered, Solenoid-Actuator, Diaphragm Flushometer Valves **<Insert designation>**:

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Solis 8186** Solar powered, sensor activated Flushometer. Rubber components must be chloramine resistant PERMEX® rubber with dual filter diaphragm assembly. The sensor assembly is powered by a solar cell that will harvest power from the artificial indoor light (incandescent, fluorescent, or LED), and use it as the energy source. The solar cell can provide approximately 100% power with 650 illuminances (lux). Valve body, Cover, Tailpiece and Control Stop shall be in compliance with ASTM Alloy Classification for Semi-Red Brass. Valve shall be Made in the USA.

 Product: Solis 8186 [(Specification)](https://www.sloan.com/general-spec/1081)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

 Features: Solar powered extending battery life, Chloramine resistant rubber components

 Material: Semi-Red brass body with corrosion resistant components

 Exposed Flushometer – Valve Finish: Polished Chrome, PVD Brushed Nickel, PVD Brushed Stainless, PVD Graphite, PVD Polished Brass

 Style: Exposed Flushometer

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

Operation: Operates using ambient light to power capacitors, providing battery backup if required. 7-10 battery life.

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.

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

G. Battery-Powered, Solenoid-Actuator, Diaphragm Flushometer Valves **<Insert designation>**:

 Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **ECOS 8186** dual flush, Sensor operated flushometer. Rubber components must be chloramine resistant PERMEX® rubber with dual filter diaphragm assembly. Valve body shall be in compliance with ASTM Alloy Classification for Semi-Red Brass Free spinning vandal resistant stop cap with back check control stop. Valve shall be Made in the USA.

 Product: ECOS 8186 [(Specification)](https://www.sloan.com/general-spec/1721)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

 Features: Water conserving dual flush technology, Chloramine resistant rubber components

 Material: Semi-Red brass body with corrosion resistant components

 Exposed Flushometer – Valve Finish: Polished Chrome, PVD Brushed Nickel, PVD Brushed Stainless, PVD Graphite, PVD Polished Brass

 Style: Exposed Flushometer

Actuator: 6 VDC actuator complying with UL and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application

Operation: Operates using battery power up to 6 years with low battery indicator light

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.

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

H. Battery-Powered, Solenoid-Actuator, Diaphragm Flushometer Valves **<Insert designation>**:

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company**: G2 8186** sensor activated flushometer with low battery indicator, PERMEX® Synthetic Rubber Diaphragm with Dual Filtered Fixed Bypass, Infrared Sensor with Multiple-focused, Lobular Sensing Fields for high and low target detection and Valve Body, Cover, Tailpiece and Control Stop shall be in conformance with ASTM Alloy Classification for Semi- Red Brass. Valve shall be Made in the USA.

 Product: G2 8186 [(Specification)](https://www.sloan.com/general-spec/2156)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

 Features: Dual filtered Diaphragm, Chloramine resistant rubber components

 Material: Semi-Red brass body with corrosion resistant components

 Exposed Flushometer – Valve Finish: Polished Chrome, PVD Brushed Nickel, PVD Brushed Stainless, PVD Graphite, PVD Polished Brass

 Style: Exposed Flushometer

Actuator: 6 VDC actuator complying with UL and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application

Operation: Operates using battery power up to 6 years with low battery indicator light

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.

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

I. Battery-Powered, Solenoid-Actuator, Diaphragm Flushometer Valves **<Insert designation>**:

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Sloan 8186** Sensor operated flushometer. Rubber components must be chloramine resistant PERMEX® rubber with linear filter diaphragm assembly. Valve body shall be in compliance with ASTM Alloy Classification for Semi-Red Brass. Free spinning vandal resistant stop cap with back check control stop. Valve shall be Made in the USA.

 Product: Sloan 8186  [(Specification)](https://www.sloan.com/general-spec/911)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

 Features: Dual Bypass Diaphragm, Chloramine resistant rubber components

 Material: Semi-Red brass body with corrosion resistant components

 Exposed Flushometer – Valve Finish: Polished Chrome, PVD Brushed Nickel, PVD Brushed Stainless, PVD Graphite, PVD Polished Brass

 Style: Exposed Flushometer

Actuator: 6 VDC actuator complying with UL and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application

Operation: Operates using battery power up to 6 years with low battery indicator light

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.

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

J. Battery-Powered, Solenoid-Actuator, Diaphragm Flushometer Valves **<Insert designation>**:

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Royal 186 SFSM**. Rubber components must be chloramine resistant PERMEX® rubber with dual filter diaphragm assembly. Valve body shall be in compliance with ASTM Alloy Classification for Semi-Red Brass. Free spinning vandal resistant stop cap with back check control stop. Valve shall be Made in the USA.

 Product: Royal 186 SFSM [(Specification)](https://www.sloan.com/general-spec/2786)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

Features: Dual Filter Bypass Diaphragm along with Stop Seat and Vacuum Breaker molded from

 PERMEX® rubber compound for Chloramine resistance.

 Material: Semi-Red brass body with corrosion resistant components

 Exposed Flushometer – Valve Finish: Polished Chrome

 Style: Exposed Flushometer

Actuator: 6 VDC actuator complying with UL and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application

Operation: Operates using battery power up to 3 years with low battery indicator light

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.

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

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

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **CX 8198** Sensor Activated in Wall Flushometer for Water Urinal with access plate measuring 10" x 10" or smaller and shall have an integrated control stop. Valve body shall be in compliance with ASTM Alloy Classification for Semi-Red Brass. Valve shall be Made in the USA.

 Product: CX 8198 [(Specification)](https://www.sloan.com/general-spec/5391)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

Features: Front access panel measuring 8 1/2" (W) x 9 1/4" (H) piston style flushometer Material: Semi-Red brass body with corrosion resistant components

 Exposed Flushometer – Valve Finish: Polished Chrome, PVD Brushed Nickel, PVD Brushed Stainless, PVD Graphite, PVD Polished Brass

 Style: Concealed Flushometer

 Operation: Operates using battery power up to 5 years with low battery indicator light

Actuator: 6 VDC actuator complying with UL 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.

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L) per flush

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

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

 Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Gem-2 186 XL SFSM**. Rubber components must be chloramine resistant PERMEX® rubber with Fixed Filtered O-ring Bypass. Valve body shall be in compliance with ASTM Alloy Classification for Semi-Red Brass and with back check control stop. Valve shall be Made in the USA.

 Product: GEM 2 186 SFSM [(Specification)](https://www.sloan.com/general-spec/736)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

Features: Piston Technology with Stop Seat and Vacuum Breaker molded from PERMEX® rubber compound for Chloramine resistance.

 Material: Semi-Red brass body with corrosion resistant components

 Exposed Flushometer – Valve Finish: Polished Chrome

 Style: Exposed Flushometer

Actuator: 6 VDC actuator complying with UL and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application

Operation: Operates using battery power up to 3 years with low battery indicator light with built in true mechanical override feature

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.

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

M. Hardwired, Solenoid-Actuator, Diaphragm Flushometer Valves <**Insert designation**>:

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Royal 186 ESS TMO** hardwired, sensor activated Flushometer with true mechanical override. PERMEX® Synthetic Rubber Diaphragm with Dual Filtered Fixed Bypass, Non-Hold-Open True Mechanical Override. No External Volume Adjustment to Ensure Water Conservation. Valve Body, Cover, Tailpiece and Control Stop shall be in conformance with ASTM Alloy Classification for Semi- Red Brass. Valve shall be Made in the USA.

 Product: Royal 186 ESS TMO [(Specification)](https://www.sloan.com/general-spec/3036)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

 Features: True mechanical override if loss of power occurs, non-hold open feature

 Material: Semi-Red Brass Body, PERMEX® rubber components

 Exposed Flushometer – Valve Finish: Chrome plated, Polished Brass, PVD Brushed Nickel, PVD Brushed Stainless, PVD Graphite

 Style: Exposed Flushometer

 Actuator: 24VAC 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.

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

N. Hardwired, Solenoid-Actuator, Diaphragm Flushometer Valves <**Insert designation**>:

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Sloan 186 ESS TMO** hardwired flushometer with true mechanical override. Rubber components must be chloramine resistant PERMEX® rubber with linear filter diaphragm assembly. Valve body shall be in compliance with ASTM Alloy Classification for Semi-Red Brass. Free spinning vandal resistant stop cap with back check control stop. Valve shall be Made in the USA.

 Product: Sloan 186 ESS TMO [(Specification)](https://www.sloan.com/general-spec/2186)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

 Features: True mechanical override if loss of power occurs, non-hold open feature

 Material: Semi-Red Brass Body, PERMEX® rubber components

 Exposed Flushometer – Valve Finish: Chrome plated.

 Style: Exposed Flushometer

 Actuator: 24 VAC 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.

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

O. Hardwired, Solenoid-Actuator, Diaphragm Flushometer Valves <**Insert designation**>:

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Regal 186 XL ESS** sensor operated hardwired flushometer. Valve body shall be in compliance with ASTM Alloy Classification for Semi-Red Brass. Valve shall be Made in the USA.

 Product: Regal 186 XL ESS [(Specification)](https://www.sloan.com/general-spec/1771)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

 Features: ADA compliant, hardwired

 Material: Semi-Red Brass Body, PERMEX® rubber components

 Exposed Flushometer – Valve Finish: Chrome plated.

 Style: Exposed Flushometer

 Actuator: 24 VAC 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.

 Consumption: 0.125 gpf (0.5 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

P. Hardwired, Solenoid-Actuator, Diaphragm Flushometer Valves <**Insert designation**>:

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **ECOS 186** Hardwired dual flush flushometer. Rubber components must be chloramine resistant PERMEX® rubber with dual filter diaphragm assembly. Valve body shall be in compliance with ASTM Alloy Classification for Semi-Red Brass. Free spinning vandal resistant stop cap with back check control stop. Valve shall be Made in the USA.

 Product: ECOS 186 [(Specification)](https://www.sloan.com/general-spec/2471)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

Features: Dual Filter Bypass Diaphragm along with Stop Seat and Vacuum Breaker molded from

 PERMEX® rubber compound for Chloramine resistance.

 Material: Semi-Red Brass Body, PERMEX® rubber components

 Exposed Flushometer – Valve Finish: Chrome plated, PVD Brushed Nickel, PVD Brushed Stainless

 Style: Exposed Flushometer

 Actuator: 6 VDC actuator complying with UL 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.

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L) per flush

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

Q. Hardwired, Solenoid-Actuator, Concealed Diaphragm Flushometer Valves <**Insert designation**>:

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Royal 195 ESS** Hardwired Flushometer. Valve body shall be in compliance with ASTM Alloy Classification for Semi-Red Brass and with back check control stop. Valve shall be Made in the USA.

 Product: Royal 195 ESS [(Specification)](https://www.sloan.com/general-spec/731)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

Features: Dual Filter Bypass Diaphragm along with Stop Seat and Vacuum Breaker molded from

 PERMEX® rubber compound for Chloramine resistance.

 Material: Semi-Red Brass Body, PERMEX® rubber components

 Exposed Flushometer – Valve Finish: Polished Chrome, PVD Brushed Nickel, PVD Brushed Stainless, PVD Graphite, PVD Polished Brass

 Style: Concealed Flushometer

 Actuator: 24 VAC actuator complying with UL and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

 Operation: Operates using 24 VAC power

 Trip Mechanism: Hardwired 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.

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

R. Hardwired, Solenoid-Actuator, Concealed Diaphragm Flushometer Valves <**Insert designation**>:

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Royal 195 ESS TMO** hardwired flushometer with true mechanical override. Rubber components must be chloramine resistant PERMEX® rubber with dual filter diaphragm assembly. Valve body shall be in compliance with ASTM Alloy Classification for Semi-Red Brass and with back check control stop. Valve shall be Made in the USA.

 Product: Royal 195 ESS TMO [(Specification)](https://www.sloan.com/general-spec/731)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

Features: Dual Filter Bypass Diaphragm along with Stop Seat and Vacuum Breaker molded from PERMEX® rubber compound for Chloramine resistance, true mechanical override.

Material: Semi-Red Brass Body, PERMEX® rubber components

 Exposed Flushometer – Valve Finish: Polished Chrome, PVD Brushed Nickel, PVD Brushed Stainless, PVD Graphite, PVD Polished Brass

 Style: Concealed Flushometer

 Actuator: 24 VAC actuator complying with UL 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.

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

S. Hardwired, Solenoid-Actuator, Concealed Diaphragm Flushometer Valves <**Insert designation**>:

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Royal 195 ESS TMO SWB** hardwired flushometer with true mechanical override and access plate measuring 13.5" x 13.5" or smaller. Rubber components must be chloramine resistant PERMEX® rubber with dual filter diaphragm assembly. Valve body shall be in compliance with ASTM Alloy Classification for Semi-Red Brass and with back check control stop. Valve shall be Made in the USA.

 Product: Royal 195 ESS TMO SWB [(Specification)](https://www.sloan.com/general-spec/731)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

Features: Dual Filter Bypass Diaphragm along with Stop Seat and Vacuum Breaker molded from PERMEX® rubber compound for Chloramine resistance. Small wall box for clean look and easy access to flushometer. Material: Semi-Red Brass Body, PERMEX® rubber components

 Exposed Flushometer – Valve Finish: Stainless Steel

 Style: Concealed Flushometer

 Actuator: 24 VAC actuator complying with UL and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application

 Trip Mechanism: Hardwired 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.

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

T. Hardwired, Solenoid-Actuator, Concealed Diaphragm Flushometer Valves <**Insert designation**>:

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Royal 195 SBX** Hardwired flushometer with small wall plate and true mechanical override. Valve body shall be in compliance with ASTM Alloy Classification for Semi-Red Brass and with back check control stop. Valve shall be Made in the USA.

 Product: Royal 195 SBX [(Specification)](https://www.sloan.com/general-spec/731)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

Features: Dual Filter Bypass Diaphragm along with Stop Seat and Vacuum Breaker molded from

 PERMEX® rubber compound for Chloramine resistance. True mechanical override.

 Material: Semi-Red Brass Body, PERMEX® rubber components

 Exposed Flushometer – Valve Finish: Chrome plated.

 Style: Concealed Flushometer

 Actuator: 24 VAC actuator complying with UL and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application

 Trip Mechanism: Hardwired 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.

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

U. Push Button, Concealed, Diaphragm Flushometer Valves <**Insert designation**>:

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Royal 195**. Valve body shall be in compliance with ASTM Alloy Classification for Semi-Red Brass and with back check control stop. Valve shall be Made in the USA.

 Product: Royal 195 [(Specification)](https://www.sloan.com/general-spec/3121)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

Features: Dual Filter Bypass Diaphragm along with Stop Seat and Vacuum Breaker molded from

 PERMEX® rubber compound for Chloramine resistance.

 Material: Semi-Red Brass Body, PERMEX® rubber components

 Exposed Flushometer – Valve Finish: Chrome plated.

 Style: Concealed Flushometer

 Actuator: ADA Compliant Handle

 Trip Mechanism: Operates based on ADA Compliant handle actuation.

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

V. Push Button, Concealed, Diaphragm Flushometer Valves <**Insert designation**>:

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **CX 198** Manual In Wall Flushometer for Water Closet with access plate measuring 10" x 10" or smaller and shall have an integrated control stop. Valve body shall be in compliance with ASTM Alloy Classification for Semi-Red Brass. Valve shall be Made in the USA.

 Product: CX 198 ([Specification)](https://www.sloan.com/general-spec/5381)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

Features: Front access panel measuring 8 1/2" (W) x 9 1/4" (H) piston style flushometer with Stop Seat and Vacuum Breaker molded from PERMEX® rubber compound for Chloramine resistance.

 Material: Semi-Red Brass Body, PERMEX® rubber components

 Exposed Flushometer – Valve Finish: Polished Chrome, PVD Brushed Nickel, PVD Brushed Stainless, PVD Graphite, PVD Polished Brass

 Style: Concealed Flushometer

 Actuator: ADA Compliant Push button

 Trip Mechanism: Push Button

 Consumption: 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

W. Hydraulic Push Button, Exposed, Diaphragm Flushometer Valves <**Insert designation**>:

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Royal 986** hydraulic Flushometer Non-Hold-Open feature with Actuator (specified separately). Diaphragm, Stop Seat and Vacuum Breaker to be molded from PERMEX® rubber compound for Chloramine resistance. Valve Body, Cover, Tailpiece and Control Stop shall be in conformance with ASTM Alloy Classification for Semi- Red Brass. Valve shall be Made in the USA.

 Product: Royal 986 [(Specification)](https://www.sloan.com/general-spec/1156)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

Features: Dual Filter Bypass Diaphragm along with Stop Seat and Vacuum Breaker molded from

 PERMEX® rubber compound for Chloramine resistance.

 Material: Semi-Red Brass Body, PERMEX® rubber components

 Exposed Flushometer – Valve Finish: Chrome plated.

 Style: Exposed Flushometer

 Actuator: ADA Compliant push button actuator

 Trip Mechanism: Hydraulic push button actuator

 Consumption 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20) 1” (DN25)

 Minimum Outlet: 3/4" (DN 20), 1” (DN25)

X. Hydraulic Push Button, **exposed,** Diaphragm Flushometer Valves <**Insert designation**>:

Basis of Design Product: Subject to compliance with requirements, provide Sloan Valve Company: **Royal 995** hydraulic Flushometer Non-Hold-Open feature with Actuator (specified separately). Diaphragm, Stop Seat and Vacuum Breaker to be molded from PERMEX® rubber compound for Chloramine resistance. Valve Body, Cover, Tailpiece and Control Stop shall be in conformance with ASTM Alloy Classification for Semi-Red Brass. Valve shall be Made in the USA.

 Product: Royal 995 [(Specification)](https://www.sloan.com/general-spec/1961)

 Standard: ASSE 1037

 Minimum Pressure Rating: 15 PSI (103 kPa)

Features: Dual Filter Bypass Diaphragm along with Stop Seat and Vacuum Breaker molded from

 PERMEX® rubber compound for Chloramine resistance.

 Material: Semi-Red Brass Body, PERMEX® rubber components

 Concealed Flushometer – Valve Finish: Chrome plated.

 Style: Concealed Flushometer

 Actuator: ADA Compliant push button actuator

 Trip Mechanism: Hydraulic push button actuator

 Consumption 0.125 gpf (0.5 L), .25 gpf (0.9 L), .5 gpf (1.9 L), 1.0 gpf (3.8 L), 1.5 gpf (5.7 L)

 Minimum Inlet: 3/4" (DN 20)

 Minimum Outlet: 3/4" (DN 20)

**2.4 SUPPORTS**

A. Type 1 Urinal Carrier

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

 a. Jay R Smith Mfg.

 b. Josam

 c. Mifab

 d. Watts

 2. Standard: ASME A112.6.1M

B. Type II Urinal Carrier

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

 a. Jay R Smith Mfg

 b. Josam

 c. Mifab

 d. Watts

 2. Standard: ASME A112.6.1M

C. Type I Sink Carrier:

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

 a. Jay R Smith Mfg

 b. Josam

 c. Mifab

 d. Watts

 2. Standard: ASME A112.6.1M

**PART 3 – EXECUTION**

* 1. EXAMINATION

A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before urinal installation.

B. Examine walls and floors for suitable conditions where urinal will be installed.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

* 1. INSTALLATION

A. Urinal Installation:

1. Install level and plumb according to roughing-in drawings.

2. Install wall hung urinal onto waste fitting seals and attach to supports.

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

4. Install wall hung urinal with tubular waste piping attached to supports.

5. Install accessible, wall-mounted urinals at mounting height for the handicapped/elderly, according to ICC/ANSI A117.1.

6. Install trap-seal liquid in waterless urinals.

B. Support Installation

1. Install supports, affixed to building substrate, for wall hung urinals.

2. Use off floor carrier supports with waste-fitting assembly and seal for back outlet urinals.

3. Use carriers without waste fitting for urinals with tubular waste piping.

4. Use chair-type carrier supports with rectangular steel uprights for accessible urinals.

C. Flush valve Installation

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

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

3. Install lever-handle flushometer valves for accessible urinals with handle mounted on open side of compartments.

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

D. Wall Flange and Escutcheon Installation:

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

2. Comply with escutcheon requirements specified in Section 220518 “Escutcheons for Piping.”

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

E. Joint Sealing

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

2. Match sealant color to water-closet color.

3. Comply with sealant requirements specified in Section 079200 "Joint Sealants."

* 1. **CONNECTIONS**

A. Connect urinals with water supplies and soil, waste, and vent piping. Use size fittings required to match urinals.

B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping."

C. Comply with soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."

D. Were installing piping adjacent to water closets, allow space for service and maintenance.

* 1. **ADJUSTING**

A. Operate and adjust urinals and controls. Replace damaged and malfunctioning urinals, fittings, and controls.

B. Adjust water pressure at flushometer valves to produce proper flow.

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

* 1. **CLEANING AND PROTECTION**

A. Clean urinals and fittings with manufacturers' recommended cleaning methods and materials.

B. Install protective covering for installed urinals and fittings.

C. Do not allow use of urinals for temporary facilities unless approved in writing by Owner.

**END OF SECTION 224213.16**