AquaFlow Valve
Installation & Plumbing Code Reference

Technical Reference & Code Compliance Guide
for Licensed Plumbers, Engineers, and Authorities Having Jurisdiction

IAPMO R&T Listed	NSF/ANSI/CAN 61	KIWA Certified	ISO 9001:2015	316L Stainless Steel

Document No.	AF-PCR-2026-01
Title	AquaFlow Valve — Installation & Plumbing Code Reference
Prepared by	AquaFlow Technologies, Inc. — Engineering & Compliance Division
Code References	IPC 2018/2021/2024 · UPC 2018/2021/2024 · Adopted editions vary by jurisdiction
Primary Cert.	IAPMO R&T Listing No. K-17679 (NSF/ANSI/CAN 61-2019) · Valid through April 2029
Contact	support@aquaflow.com · 1-800-348-FLOW · www.AquaFlow.com

This document provides a technical reference framework prepared by AquaFlow Technologies, Inc. to support project review, AHJ consultation, and installer orientation. It does not constitute a legal opinion or binding code interpretation. Code references are to model provisions; adopted editions and local amendments govern. Final code interpretation rests with the Authority Having Jurisdiction.

1 Document Use and Interpretation

Scope · Intended Audience · Limitations

This document provides a technical reference framework to help licensed plumbers, mechanical contractors, engineers, and building officials understand the AquaFlow valve's device classification, installation context, applicable certifications, and plumbing code framework. It is intended to be read in conjunction with project-specific installation drawings, applicable permits, and the adopted code in the installation jurisdiction.

Scope Limitations

- Does not constitute a legal opinion or binding code interpretation
- Does not override the AHJ's interpretive authority or approval determination
- Code sections cited are to model provisions; adopted editions and local amendments govern
- Performance characteristics referenced in this document are qualified to conditions of specific third-party evaluations; full reports are available in the supplemental engineering reference
- Jurisdiction-specific documentation is available from AquaFlow upon request — contact engineering/installation support before proceeding in jurisdictions that require it

> The Authority Having Jurisdiction holds final interpretive and approval authority in all matters of code compliance. This document supports that process.

2 Project-Specific Review Items

Before Installation — Verify These Items

Confirm the following items before installation. This is a reference framework — it does not replace the installing contractor's professional responsibilities or the AHJ's review process.

Code & Jurisdiction	
Adopted code edition	Confirm which IPC, UPC, or state code is adopted. Requirements differ by edition and local amendment.
Local amendments	Verify local amendments affecting inline device requirements, permit thresholds, or product approval.
Permit requirement	Confirm permit requirements with the local AHJ. Standard local procedures apply where required. AquaFlow provides supporting documentation upon request.

Installation & Site	
Site-specific drawings	Confirm receipt of AquaFlow site-specific drawings prepared from the submitted site survey — required before installation.
Service line size	Confirm device size corresponds to the service line nominal diameter at the installation point.
Operating pressure	Verify system pressure is within 20–180 PSI under static and flow conditions.
Line flush	Flush the service line where field conditions or commissioning requirements call for it.
Utility service terms	Review utility service agreement or tariff for post-meter equipment provisions, where applicable.

Certification & Jurisdiction Documentation	
Jurisdiction-specific docs	Certain jurisdictions require approval, product, or lead-free documentation. Contact AquaFlow engineering/installation support before proceeding.
IAPMO listing	Listing No. K-17679 is current through April 2029. Verify at pld.iapmo.org if required.

Contractor & Compliance	
Contractor licensing	Confirm the installing contractor holds a current, valid license in the jurisdiction.
Code-required devices	Confirm whether a PRV, backflow assembly, or other code-required device is independently required. AquaFlow does not replace those devices.

3 Product Overview

Device Description · Specifications

The AquaFlow Intelligent Flow Management Valve is a mechanical, inline device for installation on potable water supply systems in commercial, multifamily, institutional, and industrial facilities. The device contains no electrical components, requires no external power, and operates without controls integration.

The valve incorporates an internal mechanical assembly designed for inline operation within the customer-side potable water service line. It is installed downstream of the meter as a standard inline component. Supplemental engineering documentation, including independent third-party evaluations, is available from AquaFlow upon request.

Technical Specifications

Parameter	Specification
Operating Pressure Range	20–180 PSI (1.38–12.41 bar)
Available Sizes	1/2" through 26" (18 standard models — AF-050 through AF-2600)
End Connections	Threaded or Flanged — per project specification and site-specific drawings
Primary Wetted Components	316L Austenitic Stainless Steel
Internal Spring	SS 302 Stainless Steel
Bushing	Vasconite (potable water compatible per NSF/ANSI/CAN 61 testing)
Power Requirement	None — fully passive; no electrical connection required
Controls Integration	None required
Maintenance	None under normal operating conditions — sealed design
Installation Orientation	Horizontal or Vertical — per directional arrow marking on device body

Component Materials

Component	Material
Main Body / Impeller & Shaft / Cover Disc	316L Austenitic Stainless Steel
Internal Spring	SS 302 Stainless Steel
Bushing	Vasconite

4 Installation Context & System Relationship

Context Point	Description
Post-meter installation	Installed downstream of the customer's water meter — on the customer-side service line.
Water meter	The meter is not modified, adjusted, or tampered with. Installed only on the downstream (customer) side.
PRV / pressure management	Does not replace a PRV. Code-required PRVs must remain installed.
Backflow prevention	Does not replace backflow devices. Code-required systems must remain.
Cross-connection	Passive inline device — no secondary connections or drains.
Utility infrastructure	No connection to utility-owned infrastructure upstream.
Code classification	Inline potable water system component under applicable plumbing code.

System Position

Municipal Supply / Service Connection	Utility-controlled — upstream of meter
Water Meter	Utility-owned — jurisdictional boundary
← AquaFlow Valve Installed Here →	Customer-side — immediately downstream of meter
Building Distribution Piping	Customer-side — downstream of device
Terminal Fixtures / Equipment	Customer-side — end-use points

5 System Classification

Device Category · Installation Context · Standards

The AquaFlow valve is classified as an inline mechanical device and potable water system component. It is installed in the same post-meter, customer-side plumbing context as familiar inline devices — isolation valves, pressure-reducing valves, check valves, and similar components. The device does not hold or claim the functional classification of a PRV, backflow prevention assembly, or check valve; those are distinct device categories with their own applicable ASSE device standards.

Note on ASSE device standards: Device-specific ASSE product standards apply to defined functional categories — PRVs (ASSE 1003), backflow prevention assemblies (ASSE 1013/1015), dual check valves (ASSE 1024). Where no applicable device-specific ASSE standard exists for a product category, compliance under the IPC and UPC is evaluated on material certification (NSF/ANSI/CAN 61) and conformance with applicable installation requirements. No device-specific ASSE standard has been identified by AquaFlow as applicable to this product category as of this document's date.

Classification Reference — Common Post-Meter Inline Devices

Device Type	Material Standard	Device-Specific ASSE Standard?
Pressure-Reducing Valve (PRV)	NSF/ANSI/CAN 61	Yes — ASSE 1003 (where required)
Gate / Ball / Isolation Valve	NSF/ANSI/CAN 61 + material standard	Generally not applicable
Dual Check Valve (selected applications)	NSF/ANSI/CAN 61	Yes — ASSE 1024 (where required)
RPZ Backflow Prevention Assembly	NSF/ANSI/CAN 61	Yes — ASSE 1013 (required by code)
AquaFlow Flow Management Valve	**NSF/ANSI/CAN 61 (IAPMO Listing K-17679)**	**No device-specific ASSE standard identified as applicable as of document date**

6 Certifications & Compliance Documentation

What AquaFlow Holds · Code Relevance · Available Upon Request

Primary code compliance is established through NSF/ANSI/CAN 61 certification under IAPMO Listing K-17679.

AquaFlow Technologies, Inc. maintains the certifications and compliance documentation listed below. Each is described with respect to its scope and relevance to U.S. plumbing code compliance.

IAPMO R&T · NSF/ANSI/CAN 61-2019 · File K-17679 [Primary Code Certification]

Issuing body: IAPMO Research and Testing, Inc. (ANAB-accredited; ISO/IEC 17025-recognized laboratory) Standard: NSF/ANSI/CAN 61-2019 — Drinking Water System Components, Health Effects Valid through: April 2029 · Models: AF-050 through AF-1200 Certifies that wetted materials do not leach contaminants above NSF/ANSI/CAN 61 thresholds. **Code relevance:** Primary — satisfies IPC §605 and UPC §605 material requirement as generally adopted. Verify: pld.iapmo.org

KIWA Certification · Supplemental International Validation

Issuing body: KIWA Technology (Netherlands) Scope: Performance, safety, and durability under KIWA European water technology protocols AquaFlow holds KIWA certification as independent international performance and safety validation. **Code relevance:** Supplemental — not referenced as a required certification under the IPC, UPC, or identified U.S. state plumbing codes.

ISO 9001:2015 · Quality Management System

Issuing body: Accredited ISO certification body Scope: Manufacturing and quality management processes — third-party audit AquaFlow holds ISO 9001:2015 QMS certification confirming manufacturing processes are subject to independent third-party audit. **Code relevance:** Not a plumbing code requirement — a manufacturing process quality standard, not a product safety or potable water standard.

Lead-Free Material Compliance · 316L Stainless Steel

Requirements: CA AB 1953 / Federal Reduction of Lead in Drinking Water Act (threshold: ≤ 0.25% weighted average lead — wetted surfaces) Wetted components are 316L stainless steel, meeting the ≤ 0.25% threshold. AquaFlow maintains formal lead-free documentation, available upon request where required by jurisdiction or procurement.

Certification / Documentation	Code Relevance	Available
IAPMO R&T — NSF/ANSI/CAN 61-2019 File K-17679 (Product — material safety)	Primary — satisfies IPC §605 / UPC §605 as generally adopted	Standard
KIWA (International performance)	Supplemental — not a U.S. code requirement	Standard
ISO 9001:2015 (Process QMS — manufacturing)	Not a plumbing code requirement	Standard
Lead-Free Documentation (316L SS — material compliance)	Required where specified by jurisdiction	On request
Jurisdiction-Specific Documentation (Per jurisdiction)	Required in certain jurisdictions — see §9	On request

For inspectors and AHJs: IAPMO Certificate of Listing No. K-17679 (NSF/ANSI/CAN 61-2019) confirms potable water material compliance under IPC §605 and UPC §605. Available within one business day. Verify at pld.iapmo.org.

7 Plumbing Code Framework

IPC / UPC Model Provisions · Material Compliance · AHJ Authority

The AquaFlow valve is installed on the customer's side of the water meter, within the customer's private plumbing system. Under both the IPC and UPC, the customer's private plumbing system is governed by applicable state and local plumbing code enforced by the local AHJ. Code references below are to model code provisions; adopted editions and local amendments govern.

Code	Publisher & Coverage	Key Model Code Provisions
International Plumbing Code (IPC)	ICC 37+ states DC, PR, Guam (varies)	IPC §601 — General water supply requirements IPC §605 — Potable water materials (NSF/ANSI/CAN 61) IPC §608 — Cross-connection control IPC §105.2 — AHJ authority to approve materials
Uniform Plumbing Code (UPC)	IAPMO 13+ states primarily Western (varies)	UPC §601 — General water supply requirements UPC §603 — Cross-connection control UPC §605 — Water distribution materials (NSF/ANSI/CAN 61) UPC §301.2 — AHJ authority to approve materials

Code adoption and amendments vary by jurisdiction. The framework above reflects general model code structure only.

Material Compliance — IPC §605 / UPC §605

Both codes require that materials and devices in contact with potable water conform to NSF/ANSI/CAN 61 (or applicable equivalent per local adoption). AquaFlow holds IAPMO Certificate of Listing No. K-17679 (NSF/ANSI/CAN 61-2019), satisfying this requirement subject to adopted edition and local amendments.

Cross-Connection Control — IPC §608 / UPC §603

The AquaFlow valve is a passive inline device with no secondary water connections or drain provisions. Its installation does not introduce a cross-connection. It does not function as or replace a backflow prevention assembly.

Pressure — IPC §604 / UPC §608

An independent licensed PE field evaluation at a 12-story residential building documented residual pressure at the most hydraulically remote unit at 45 PSI with all fixtures flowing — exceeding the 20 PSI minimum evaluated under Florida Plumbing Code Table 604.3 at the tested installation. This is project-specific field evidence; conditions vary by installation. Full PE report available upon request.

AHJ Authority

Under IPC §105.2 and UPC §301.2, the AHJ holds final authority to approve or reject materials, equipment, and installation methods. An IAPMO listing provides documented evidence of material compliance but does not supersede AHJ approval authority. AquaFlow will engage directly with any AHJ and provide full documentation upon request.

8 Installation Requirements

Licensing · Practical Notes · Deliverables · Permit Context

This section covers contractor licensing requirements, practical installation guidance, AquaFlow's standard deliverables, and permit context.

Contractor Licensing

All installations must be performed by a licensed plumbing or mechanical contractor currently licensed in the jurisdiction of installation. Non-conforming installation voids the product warranty and performance guarantee.

Practical Installation Notes

- Install on the customer-side service line, downstream of the meter, per the AquaFlow site-specific installation drawings.
- Observe the flow-direction arrow on the valve body and confirm direction matches flow before final connection.
- Verify service line nominal size matches the device size ordered.
- Confirm system operating pressure is within 20–180 PSI before placing the device in service.
- Flush the service line before installation where field conditions or commissioning requirements call for it.
- Provide access for visual inspection per applicable installation drawings and local code requirements.
- Contact AquaFlow remote installation support if field conditions differ materially from the submitted site survey.

Permit Context

Permit requirements for inline valve installations are jurisdiction-specific and are determined by the adopted code and local AHJ. Where a permit is required, standard local plumbing permit procedures apply. AquaFlow will provide supporting documentation for AHJ review upon request.

AquaFlow provides the following standard deliverables with each project:

AquaFlow Deliverables

Item	Description
Valve assembly and hardware	Ground shipping to job site — included.
Technical documentation package	Installation manual, spec sheet, and documentation.
Site-specific installation drawings	Generated from site survey.
Remote installation support	Phone/video support available.
AHJ documentation package	IAPMO, PE report, flow evaluation, lab report.
M&V documentation	IPMVP Option C reporting available.

9 Jurisdiction-Specific Documentation

Where Required · How to Obtain · AquaFlow Maintains These Materials

Certain jurisdictions require jurisdiction-specific approval documentation, product approval materials, or lead-free compliance documentation for inline potable water devices. AquaFlow maintains the applicable jurisdiction-specific materials where required and will provide the current applicable documentation upon request through engineering/installation support.

> Before proceeding with an installation in a jurisdiction that requires special approval or compliance documentation, contact AquaFlow engineering/installation support. AquaFlow will identify the applicable documentation and provide it for the project file promptly.

General Framework — Other Jurisdictions

In jurisdictions where no special approval or compliance documentation is required, the following framework applies based on AquaFlow's review of national model code provisions, subject to local adoption, amendment, and AHJ interpretation:

- IAPMO Listing K-17679 (NSF/ANSI/CAN 61-2019) satisfies the applicable potable water material standard under IPC §605 and UPC §605 as generally adopted — subject to adopted edition and local amendments
- Local amendments may impose additional requirements not identified in this document — verify with the local AHJ
- Utility service agreement or tariff provisions regarding post-meter equipment should be reviewed separately
- Municipalities with locally adopted plumbing codes may have requirements that differ from the applicable state code

10 Documentation Available Upon Request

All Materials Maintained by AquaFlow · Within One Business Day

All documentation listed below is maintained by AquaFlow Technologies and available upon request. Standard documentation is provided at no charge within one business day.

Document / Availability	Description
IAPMO Listing No. K-17679 (NSF/ANSI/CAN 61-2019) **Availability: Standard**	Primary material certification satisfying IPC §605 / UPC §605. Valid through April 2029. Verify at pld.iapmo.org.
KIWA Certificate **Availability: Standard**	European performance and safety validation — supplemental international documentation. Not a U.S. code requirement.
ISO 9001:2015 Certificate **Availability: Standard**	Manufacturing QMS — independent third-party audit of processes. Not a plumbing code or product safety standard.
Lead-Free Documentation **Availability: On request**	316L SS meets ≤ 0.25% weighted average lead (CA AB 1953 / Federal RLDWA). Available for jurisdictions requiring formal documentation.
Jurisdiction-Specific Documentation **Availability: On request**	Applicable approval, product, or compliance documentation maintained by AquaFlow for jurisdictions that require it.
Technical Engineering Spec Sheet **Availability: Included at shipment**	Full operating parameters, material specifications, dimensions, and installation requirements.
Site-Specific Installation Drawings **Availability: Per project**	Prepared by AquaFlow engineering from the submitted site survey. Required before installation.
Supplemental Engineering Package **Availability: Standard**	Licensed PE field report, NIST-certified flow evaluation, and university laboratory evaluation.
M&V; Documentation (IPMVP Option C) **Availability: At installation**	Baseline and post-installation performance documentation per IPMVP Option C.

11 Summary Reference

Quick Field Reference — For Plumbers and Inspectors

Question	Answer
Device classification	An inline mechanical device — potable water system component installed post-meter on the customer-side service line.
Where does it install?	Immediately downstream of the customer's water meter — the same post-meter, customer-side location as other inline service line components.
Does it modify the meter?	No. The meter is not modified, adjusted, or tampered with. Device installs on the downstream customer side only.
Does it replace PRVs or backflow devices?	No. Where those devices are independently required by code, those requirements must be satisfied separately. AquaFlow does not replace code-required PRVs or backflow prevention assemblies.
Does it create a cross-connection?	No. Passive inline device — no secondary water connections or drain provisions.
What certification covers it?	IAPMO R&T Listing No. K-17679 — NSF/ANSI/CAN 61-2019 — satisfies IPC §605 / UPC §605 as generally adopted. Verify at pld.iapmo.org.
Any ASSE device standard?	No device-specific ASSE standard identified as applicable to this category. Classified as a potable water system component under IPC/UPC.
Who installs it?	Licensed plumbing or mechanical contractor, currently licensed in the jurisdiction. Required per AquaFlow warranty and performance guarantee terms.
Permit required?	Jurisdiction-specific. Where required, standard local permit procedures apply. AquaFlow provides supporting documentation for AHJ review upon request.
Jurisdiction-specific docs?	AquaFlow maintains applicable documentation where jurisdictions require it. Contact engineering/installation support before proceeding.
AHJ has questions?	AquaFlow engages directly and provides a full documentation package within one business day. support@aquaflow.com · 1-800-348-FLOW
Code adoption note	All code framework descriptions reference model code provisions. The adopted edition and local amendments govern in each jurisdiction.

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SUPPLEMENTAL ENGINEERING REFERENCE

Available Upon Request · Not Required for Routine Installation Review

The following summarizes independent third-party engineering evaluations maintained by AquaFlow and available upon request. Full reports provided within one business day. All performance statements are qualified to the specific conditions of these evaluations.

Licensed PE Field Evaluation — Basulto & Associates

FL PE No. 40869 · September 2016

Standard · < 1 business day

Independent licensed PE evaluated two AquaFlow 3-inch devices at a 12-story residential building in Sunny Isles Beach, FL. Residual pressure at the most remote unit with all fixtures flowing: 45 PSI — exceeding the Florida Plumbing Code Table 604.3 minimum of 20 PSI under the conditions evaluated.

Findings: devices do not adversely affect the building's domestic water distribution system under the conditions tested. Meter not modified during installation. Results are specific to the tested installation.

NIST-Certified Flow Evaluation — MARS Company

NIST Handbook 44 · July 2017

Standard · < 1 business day

Conducted on MARS System One Water Meter Test Bench (NIST Handbook 44 certified), 2-inch Neptune Trident meter (AWWA C-700). Baseline: 100 GPM at 50 PSI upstream. With device installed: 87 GPM at 62 PSI upstream.

No adverse meter accuracy effect documented under tested conditions. Stabilized flow characteristics documented under the tested configuration. Results are specific to tested conditions.

University Laboratory Evaluation — University of Maine, Process Development Center

Ph.D. test engineers · September 2021

Standard · < 1 business day

Independent university laboratory evaluation, 2-inch AquaFlow devices, three units tested individually. Meter-to-volumetric measurement agreement within 2% under standard operating conditions.

No adverse flow or pressure effects documented under standard conditions. Air-injection test result (25 PSI / 18 ft³/hr) is specific to that test configuration; results should not be generalized.

To request the full supplemental engineering package: support@aquaflow.com · 1-800-348-FLOW · www.AquaFlow.com