

AV valve selection, testing, and documentation guide

Valve platform for preliminary isolation, throttling, and severe-service configuration studies.



Illustrative engineering visualization. Final production geometry may differ.

DOCUMENT CODE	AXO-AV-STD-R02
REVISION / DATE	R02 / 23 OCTOBER 2026
STATUS	ENGINEERING REVIEW
PUBLICATION CLASS	Uncontrolled public review copy
INTENDED USE	Preliminary technical orientation and enquiry preparation only

**PRE-RELEASE TECHNICAL
INFORMATION**

Do not use this document for procurement, fabrication, installation, operation, maintenance, or safety decisions. Final values require approved project data and controlled engineering release.

01 / GUIDE STATUS

How to use this engineering guide

Use this document to structure an enquiry and a verification plan. Do not use it to select, purchase, fabricate, install, operate, maintain, or certify equipment.

Control	R02 statement
Product scope	4 draft models: AV-150, AV-300, AV-600, AV-900
Status	ENGINEERING REVIEW
Numerical claims	Model-level evidence and conditions remain approval-pending
Standards	Pathways only; applicability and conformance are not claimed
Image	Illustrative; final production geometry may differ

Decision hierarchy

The approved project specification, datasheet, calculations, drawings, inspection/test records, and final manual take precedence over this public guide.

02 / FAMILY ARCHITECTURE

Reference model map

Valve platform for preliminary isolation, throttling, and severe-service configuration studies.

Model	Current R02 role
AV-150	Floating-ball valve reference for general process and utility isolation studies.
AV-300	Gate and globe valve family reference for process isolation and throttling studies.
AV-600	Trunnion-ball valve reference for higher-pressure and larger-bore isolation studies.
AV-900	Triple-offset butterfly valve reference for larger-bore severe-service isolation studies.

What the model code does not prove

The code does not by itself prove capacity, pressure-temperature rating, material, dimension, efficiency, leakage, safety integrity, certification, installed experience, or interchangeability.

03 / DUTY DEFINITION

Minimum enquiry inputs

The selection record should preserve each governing case and identify which case controls each aspect of the configuration.

- 01 Fluid, solids, corrosion, erosion, toxicity, and emissions requirements
- 02 Design and operating pressure-temperature cases plus transients
- 03 Function, flow direction, shutoff, leakage, emergency action, and fail position
- 04 Piping class, size, class, ends, bore, actuation, accessories, and interfaces
- 05 Inspection, shell/seal testing, NDE, fire testing, certificates, and preservation

Required case structure

Case	Engineering purpose
Normal / rated	Primary performance and continuous operating point
Minimum / turndown	Stability, control, containment, and operability
Maximum	Continuous limits, loads, temperature, and rating
Start-up / shutdown	Transient, thermal, sequence, and permissive review
Trip / upset	Protection, safe state, relief, and recovery review

04 / CONFIGURATION REVIEW

Translate process intent into equipment scope

The selected boundary must identify included equipment, interfaces, utilities, controls, documentation, testing, spares, and responsibility for adjacent systems.

- 01 Pressure-temperature rating for the selected material group and construction
- 02 Body, trim, stem, seat, packing, seals, and bolting compatibility
- 03 Hydraulic/flow review where throttling, noise, cavitation, flashing, or erosion may occur
- 04 Actuator sizing, travel, fail action, stroking time, and functional checks
- 05 Applicable product standard, test standard, purchaser options, and evidence

Interface freeze points

Interface	Record
Process / piping	Ends or nozzles, loads, orientation, drains, vents, insulation, cleanliness
Mechanical	Supports, base, lifting, access, removal, alignment, maintenance envelope
Electrical / controls	Power, signals, instruments, cause-and-effect, trips, communications
Utilities	Lubrication, seal/purge gas, air, cooling, heating, drainage as applicable
Documentation	Datasheets, drawings, calculations, certificates, manuals, final dossier

05 / INSPECTION & TEST

Make acceptance criteria explicit

Inspection and test scope is selected for the actual configuration, code basis, purchaser specification, hazards, and contractual guarantees.

Stage	Typical controlled evidence
Incoming / materials	Certificates, identification, traceability, condition, approved substitutions
Manufacturing	Route cards, procedures, qualifications, NDE, dimensional records
Assembly	Clearances, torque, orientation, cleanliness, functional checks
Testing	Approved procedure, calibrated instruments, witness/hold points, results
Release	Punch closure, preservation, nameplate, packing, final dossier index

No implied test claim

This guide does not state that any listed model has completed a type test, performance test, fire test, cryogenic test, emissions test, mechanical run, or third-party certification.

06 / STANDARDS & RELEASE

Confirm scope before claiming conformity

Reference	R02 use
ASME B16.34-2025	Covers pressure-temperature ratings, materials, dimensions, examination, testing, and marking for covered valve constructions.
API valve standards	API 6D, 608, 609, 600, or 602 may be pathways depending on valve type and purchase scope.

Release checklist

- 01 Approve model and variant identity.
- 02 Approve all numerical data with units, conditions, methods, and tolerances.
- 03 Approve materials, dimensions, interfaces, and drawings.
- 04 Approve inspection, test, certification, and document requirements.
- 05 Approve public media rights and claims.
- 06 Record named engineering and document-control authorization.

Source identifiers

CLIENT-DRAFT-001; ASME-B16.34-2025; API-VALVE-UPDATES

Primary references used for this issue

Source ID	Publisher / location	Use
CLIENT-DRAFT-001	Existing Axoventra workspace product and document draft	Client-controlled draft; engineering approval not provided
API-VALVE-UPDATES	American Petroleum Institute - valve standard updates	https://www.api.org/products-and-services/api-monogram-and-apiqr/latest-updates
ASME-B16.34-2025	ASME B16.34-2025 product page	https://www.asme.org/codes-standards/find-codes-standards/b16-34-valves-flanged-threaded-welding-end/2025

Interpretation

Official standards pages support scope and status statements only. The standards themselves are not reproduced. The client draft remains the only source for Axoventra-specific model identities and therefore requires client approval.

Document close

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