

High-Pressure Steam Gate Valve Selection Checklist

A practical engineering checklist for specifying gate valves for high-pressure steam isolation service.

Project / Client		Date	
Application		Prepared By	

Before Ordering a Gate Valve for High-Pressure Steam Service, Verify

✓	Parameter	What to Verify	Notes / Specification
■	Medium	Confirm the process medium and steam service.	
■	Valve size	Nominal valve size and pipeline size.	
■	Operating pressure	Normal operating pressure.	
■	Design pressure	Maximum/design pressure for the line.	
■	Operating temperature	Normal steam operating temperature.	
■	Design temperature	Maximum/design temperature.	
■	Valve function	Isolation, throttling, control or other duty.	
■	Pressure class	Confirm the required pressure class.	
■	Pressure-temperature rating	Verify rating at the actual temperature and material.	
■	Body material	Select material appropriate to pressure and temperature.	
■	Trim material	Confirm trim material for the service.	
■	Seat arrangement	Metal/resilient or project-specific seating arrangement.	
■	Stem material	Confirm stem material and service suitability.	
■	Packing/sealing arrangement	Specify suitable high-temperature sealing.	
■	Bonnet construction	Bolted, welded or other required construction.	
■	End connection	Flanged, butt-weld or other connection.	
■	Operating method	Handwheel, gear, actuator or other method.	
■	Applicable design standards	Confirm applicable API/ASME/project standards.	
■	Testing requirements	Confirm shell, seat and functional testing requirements.	

✓	Parameter	What to Verify	Notes / Specification
■	Inspection requirements	Define inspection, witness and hold-point requirements.	
■	Documentation requirements	MTCs, test reports, drawings, certificates, etc.	
■	Installation conditions	Check alignment, supports, thermal expansion and accessibility.	

Engineering Review Notes

Failure / Replacement Reason	
Critical Service Conditions	
Final Valve Specification	
Inspection / Test Reference	
Approval / Remarks	

Important: This checklist is a specification aid. Final valve selection, pressure-temperature rating, materials, testing and applicable standards should be confirmed against the project design conditions, approved datasheets and the latest applicable standards.