BALL VALVE SELECTION

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4 Critical Questions for Ball Valve Selection

What fluid is flowing —and is it compatible with the valve materials?

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Match body/trim materials to the fluid: bronze for water/steam, stainless for corrosives, brass for low-pressure air/gas. Confirm compatibility with seats (PTFE, RPTFE) and packing.

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2. Confirm maximum operating pressure (MOP) and temperature. Example: a standard bronze ball valve typically rates 600 psi cold working pressure and up to 400°F.

What end connection and size does the system require?

3. Threaded (NPT), solder, flanged, or press? Measure existing pipe OD or check drawings. Confirm port: full port (minimal pressure drop) vs. reduced port (compact, lower cost).

What operator type is needed and are there any special requirements?

4. Standard lever, locking lever, chainwheel, or actuated? Consider lockout/tagout needs, insulation requirements, oxygen service, or potable water compliance (lead-free NSF/ANSI 61 & 372).

Quick Reference Table

Body Material Guide

MATERIAL	BEST FOR
Bronze / Brass	Water, steam, HVAC, compressed air
Stainless Steel	Stainless Steel
Carbon Steel	Oil, gas, high-pressure industrial
PVC / CPVC	Chemical, low-pressure, corrosive
Cast Iron	Large diameter water/gas mains

Operator Type Guide

OPERATOR	USE CASE
Standard Lever	Most common, quick shutoff
Locking Lever	Lockout/tagout required
Chainwheel	Elevated / hard-to-reach locations
Memory Stop	Throttling at set position
Electric Actuator	Remote/automated operation

ⓘ Always verify: lead-free compliance (NSF/ANSI 61 & 372) for potable water | dezincification resistance for aggressive water certifications (UL, FM) for fire protection systems