cBallast

Buying Valves by Standard — EN 558 Lengths, the 9-Field Spec

cBallast Technical Sourcing · Industrial and waterworks valves · issued 2026-11-04 · cballast.com/documents/valve-buying-by-standard-nine-field-spec

Face-to-face is the contract: EN 558 and ASME B16.10 lengths, the nine-field valve specification, API 600 trim numbers, PN and Class ratings, EN 1074 and GSK coating for waterworks, PED categories, fire-safe and fugitive-emission tests, bound versus open positions, and the valve register that prices a shutdown list or a utility framework in one pass.

The short version

The standards fix the envelope, so the maker is a choice. EN 558 and ASME B16.10 fix a valve's face-to-face length for a given type, size and rating; EN 1092 and ASME B16.5 fix its flanges; ASME B16.34 and the PN system fix its pressure-temperature rating; API 600, 602, 608, 609, EN 1074, EN 593 and their relatives fix its design and testing. A gate valve of the same standard, size, rating and series drops between the old flanges whoever cast it. We call that face-to-face is the contract, and it is why valves, like motors and bearings, can be bought by specification rather than by brand.
A valve is nine fields. Type and pattern; size; rating; end connections; face-to-face series; body material; trim; operator and mounting; service and approvals. A requisition that carries all nine gets a firm quote in one pass; one that says "DN 100 gate valve" gets a question. Section 2 is the nine-field valve spec.
Some valves are bound and most are open. Safety valves (PED safety accessories, Category IV), fire-safe-certified valves, drinking-water-approved valves, control valves sized to a flow coefficient, class-approved marine valves and valves in a maker's warranty are bound to the certificate or the datasheet that qualifies them. General isolation and check valves to a standard are open to any maker that meets the nine fields and the test and document requirements. Section 7 draws the line.
Water utilities buy valves by the hundred under frameworks. Resilient-seated gate valves to EN 1074-2 and EN 1171, GSK epoxy coating, EN 1092-2 flanges, drinking-water approvals, F4 or F5 lengths: the same nine fields, with national approvals added. Section 6 is written for the utility buyer and the public tender.
Buy from a valve register. Tag, nine fields, documents, criticality and spares strategy per installed valve; from it, a standing list by piping class or by DN and PN, priced once a year and called off per job or per campaign. Section 9 shows it; section 10 the RFQ that prices it.

1. Face-to-face is the contract

Length. EN 558 defines basic series of face-to-face and centre-to-face dimensions for flanged metal valves by type and pressure rating. Two of them run most of the water world: basic series 14, the former DIN F4 short pattern, and basic series 15, the former DIN F5 long pattern, both for gate valves. At DN 50 they are 150 and 250 mm; at DN 100, 190 and 300 mm; at DN 150, 210 and 350 mm; at DN 200, 230 and 400 mm. Globe, ball and plug valves in long pattern sit in series 1 and its neighbours; wafer and lug butterfly valves follow EN 558 and ISO 5752, which are harmonised. ASME B16.10 does the same for Class-designated valves: a Class 150 flanged gate valve in NPS 4 is 229 mm face to face, a Class 300 is 305 mm. API 6D pipeline valves carry their own long and short patterns. The practical rule: the series or the B16.10 table is part of the specification, and a replacement valve must match it to the millimetre or the pipework moves.

Flanges. EN 1092-1 for steel, EN 1092-2 for cast iron, EN 1092-3 for copper alloy, with PN 6 to PN 100 drillings and facing types (raised face type B1 the default); ASME B16.5 for NPS ½ to 24 and B16.47 above, Classes 150 to 2500, raised face or ring-type joint. PN 16 and Class 150 flanges are not interchangeable; a Class 150 valve bolted to a PN 16 counter-flange is a leak with a drawing number.

Rating. The ASME system rates a valve by Class and material group across a temperature table in B16.34; the European system rates by PN and material across EN 1092 and the product standard. Both say the same thing: the allowable pressure falls as temperature rises, and the rating on the nameplate is the cold working pressure, not the working pressure at 300 °C.

Design and test standards. They fix wall thickness, stem retention, seat design, test pressures and marking, so that two valves to the same standard are the same product class. The table in section 3 lists them by valve type.

Once length, flanges, rating and standard are fixed, the maker is a commercial and a quality decision, and that is where the saving is.

2. The nine-field valve spec

Field | What to state | Why it matters |

1. Type and pattern | Gate (wedge, parallel slide, knife), globe (straight, angle, Y), ball (floating, trunnion; full or reduced bore), butterfly (concentric resilient-seated, double or triple offset; wafer, lug or double-flanged), check (swing, lift, dual-plate, nozzle), plug, diaphragm, needle; rising or non-rising stem; bolted, pressure-seal or welded bonnet | Each pattern has its own standard, length and failure mode |
2. Size | DN or NPS; bore (full or reduced) for ball valves | Reduced bore changes flow and pigging; DN and NPS do not map one to one above small sizes |
3. Rating | PN 10 to 100, or Class 150 to 2500; the design temperature | Fixes wall thickness, flange drilling and the allowable pressure at temperature |
4. End connections | Flanged (standard, PN or Class, facing), butt-weld (schedule), socket-weld, threaded (NPT, BSPT, BSPP), wafer, lug, grooved, clamp | A valve with the wrong facing or schedule does not go in |
5. Face-to-face series | EN 558 basic series, ASME B16.10 table, API 6D pattern, or the maker's dimension for non-standard types | The replacement must match the installed length |

6. Body and bonnet material | Cast carbon steel ASTM A216 WCB (EN 1.0619), low-temperature A352 LCB or LCC, stainless A351 CF8M (EN 1.4408) or CF8, forged A105 or A182 F316, ductile iron EN-GJS-400-15 or EN-GJS-500-7, bronze, duplex and super duplex (A890 4A, 5A), nickel alloys | Service, temperature and certificates follow the material |
7. Trim | Seat, disc or wedge, stem and backseat materials; API 600 trim number for steel gate and globe valves; soft seat material (PTFE, RPTFE, PEEK, Nylon) and seat design for ball and butterfly valves; elastomer (EPDM, NBR, FKM) for resilient-seated valves | Trim decides corrosion, erosion and temperature capability, and it is where equivalents go wrong |
8. Operator and mounting | Handwheel, lever, gearbox, bare stem; ISO 5211 pad (F03 to F30) for part-turn actuators, ISO 5210 for multi-turn; pneumatic (rack and pinion, scotch yoke, spring return and fail position), electric (open-close or modulating), hydraulic; accessories: solenoid valve to the NAMUR interface, limit switch box, positioner | Actuated valves are assemblies; the mounting standard is what makes them serviceable |
9. Service and approvals | Fluid, temperature, pressure, cycles; fire-safe (API 607, API 6FA, ISO 10497); fugitive emissions (ISO 15848-1 class, API 624, API 641); sour service (NACE MR0175 / ISO 15156); PED category; drinking-water approval; class society; ATEX for actuators | Decides which certificates must come with the valve and whether the position is bound (section 7) |

A tenth line belongs on every requisition: the installed valve's nameplate data (maker, figure number, size, rating, material, standard, heat and serial number) and its P&ID tag. The nameplate is the fastest route to the nine fields, and under EN 19 and MSS SP-25 it is required to carry most of them.

3. Standards by valve type

Valve type | Design standards | Face-to-face | Testing | Notes |

Steel gate, bolted bonnet | API 600 (cast, NPS 1 to 24 and above), API 602 (compact forged, NPS 4 and below), API 603 (corrosion-resistant, lighter wall), EN 1984, BS 1414 | ASME B16.10, EN 558 | API 598, EN 12266-1 | Trim by API 600 trim number (section 4) |
Cast iron and ductile iron gate (water) | EN 1074-1 and -2, EN 1171, BS 5163 | EN 558 series 14 (F4) and 15 (F5) | EN 1074 and EN 12266 | Resilient-seated wedge in EPDM; GSK epoxy coating to EN 14901 (section 6) |
Globe | API 623 (steel), BS 1873, EN 13709 | ASME B16.10, EN 558 | API 598, EN 12266-1 | Straight, angle and Y patterns have different lengths |
Ball | ISO 17292 (metal-seated and soft-seated industrial ball valves), API 608, API 6D (pipeline), EN 1983 | ASME B16.10, EN 558, API 6D | API 598, API 6D, EN 12266-1 | Floating below roughly DN 150 Class 150; trunnion above; anti-static and blow-out-proof stem by standard; fire-safe to API 607 or ISO 10497 where specified |
Butterfly | EN 593 (industrial), API 609 category A (concentric, wafer and lug) and B (double and triple offset), EN 1074-2 for water | EN 558, ISO 5752, API 609 | API 598, EN 12266-1 | Wafer valves depend on the pipe flange for sealing; lug valves allow dead-end service |
Check | API 594 (wafer and dual-plate), API 6D, BS 1868, EN 16767, EN 1074-3 for water | ASME B16.10, EN 558, API 594 | API 598, EN 12266-1 | Swing, lift, dual-plate and nozzle types are not interchangeable in behaviour |
Plug | API 599, API 6D | ASME B16.10 | API 598 | Lubricated and sleeved types |
Diaphragm | EN 13397, BS 5156 | Maker and EN 558 | EN 12266 | Weir and straight-through bodies; lined for corrosive service |
Safety and relief | API 526 (flanged steel pressure-relief valves, orifice letters D to T), API 520 and 521 (sizing and installation), EN ISO 4126 | API 526 | API 527 seat tightness | PED safety accessories, Category IV (section 5) |
Control | IEC 60534 series (Kv and Cv, sizing, noise, leakage classes under ANSI/FCI 70-2 I to VI) | Maker and IEC 60534-3 | IEC 60534-4 | Engineered items bought to a datasheet |
Marine | ISO and class rules; DIN and JIS shipbuilding series | Per series | Class survey where required | Type approval and class certificates for essential services |
District heating | EN 488 (preinsulated steel valves) | EN 488 | EN 488 | Welded ball valves for buried networks |

4. Trim: where equivalents go wrong

For steel gate, globe and check valves the API 600 trim number is the shorthand that specifies seat, disc or wedge and stem materials together. The ones that recur:

Trim 1: 13% chromium (F6) throughout, the general-service standard for oil, oil vapour and non-corrosive duties.
Trim 5: 13Cr seat and wedge faces hardfaced with cobalt-chromium alloy, the full-hardfaced trim for high-pressure water and steam; trim 5A uses a nickel-chromium hardfacing where cobalt is not allowed.
Trim 8: hardfaced seat, 13Cr wedge, the usual default for steel gate valves in general service up to around 540 °C; trim 8A is its cobalt-free form.
Trim 10: 316 stainless throughout, for corrosive liquids and gases that attack 13Cr and for low-temperature service.
Trim 12: 316 with hardfaced seats, trim 10 for higher pressure and more corrosive duty.
Trims 9 and 11: nickel-copper alloy; 13 and 14: alloy 20; 15, 16, 17 and 18: full hardfaced variants of 304, 316, 347 and alloy 20.

For soft-seated ball and butterfly valves the equivalent information is the seat material and its temperature limit (PTFE to about 200 °C, reinforced PTFE and PEEK higher), the elastomer of the seals (EPDM for water and steam condensate, NBR for oils, FKM for hydrocarbons and higher temperatures), and the seat design (floating, spring-loaded, metal-to-metal for abrasive or high-temperature service). For resilient-seated gate valves it is the wedge elastomer and its drinking-water approval.

Two valves with identical bodies, sizes, ratings and lengths and different trims are different valves. The trim line is where a cheaper quote most often hides a different product.

5. Pressure Equipment Directive, tests and emissions

PED. Under Directive 2014/68/EU valves are pressure accessories, classified into categories by maximum allowable pressure, DN and fluid group (group 1 dangerous, group 2 other), from sound engineering practice for the smallest and least hazardous through Categories I to IV, with notified-body involvement and CE marking from Category I upward. Safety valves and other safety accessories are Category IV regardless of size. The PED category belongs on the requisition because it

decides whether a declaration of conformity and a notified-body number must arrive with the valve, and it changes the lead time.

Tests. API 598 covers shell and seat tests for API valves: a shell test at 1.5 times the cold working pressure, seat tests at 1.1 times, with a low-pressure air seat test for many types, and leakage limits that are zero for soft-seated valves and a size-based allowance for metal-seated ones. EN 12266-1 is the European equivalent, with test P10 for the shell, P11 for seat tightness and P12 for the obturator, and leakage rates A (no visible leakage) through to G; resilient-seated and soft-seated valves are normally rate A, metal-seated valves rate B to D as the product standard says. Water valves are tested under EN 1074 and EN 12266 at 1.5 times PN for the body and 1.1 times PN for the seat. The test certificate per valve, with serial number, is part of the document pack.

Fire-safe. API 607 and ISO 10497 test quarter-turn soft-seated valves through a fire with leakage limits during and after; API 6FA does the same for API 6D valves. A fire-safe valve is one with a certificate from that test for that design and size range, not one with a metal seat.

Fugitive emissions. ISO 15848-1 type-tests a valve design for stem and body-seal leakage through a stated number of mechanical and thermal cycles, with tightness classes and endurance classes; API 624 (rising-stem valves with graphite packing) and API 641 (quarter-turn) are the API equivalents. Refineries, chemical plants and gas networks specify them by class.

Sour service. NACE MR0175 / ISO 15156 governs materials for H2S-containing environments and must be stated per valve where it applies.

6. Waterworks valves: EN 1074, GSK and the public tender

Water and wastewater utilities are the largest repeat buyers of valves in the public sector, and they buy to a narrow, well-defined specification:

Design. EN 1074-1 (general requirements and tests) and EN 1074-2 (isolating valves) for gate and butterfly valves, EN 1074-3 for check valves, EN 1074-4 for air valves, EN 1074-5 for control valves, EN 1074-6 for hydrants; EN 1171 for cast iron gate valves; EN 593 for butterfly valves; BS 5163 in the UK.
Pattern. Resilient-seated gate valves with a ductile-iron wedge fully vulcanised in EPDM, non-rising stainless-steel stem, in EN 558 series 14 (F4, short) or series 15 (F5, long) lengths; the utility's standard fixes which, and the two do not interchange.
Body. Ductile iron EN-GJS-400-15 or EN-GJS-500-7, flanges to EN 1092-2, PN 10 or PN 16 (PN 25 where specified).
Coating. Fusion-bonded epoxy inside and out to EN 14901 at GSK quality, with the GSK mark where the utility requires it; the coating is what gives a buried valve its service life.
Drinking-water approval. National approvals for materials in contact with drinking water: DVGW and the German KTW and W270 requirements, WRAS in the UK, ACS in France, KIWA in the Netherlands, with the common approach of the four member states behind them and the Drinking Water Directive 2020/2184 harmonising the field. The approval is per elastomer compound and coating, per maker, and belongs on the line.
Operation. Handwheel, operating cap for a tee key, extension spindles and surface boxes for buried valves, gearbox above DN 300, ISO 5210 for electric actuators.
Testing and marking. EN 1074 and EN 12266, shell at 1.5 PN and seat at 1.1 PN, nameplate with DN, PN, material, maker and year.

District heating networks add EN 488 preinsulated steel ball valves for buried welded systems; wastewater adds knife gate valves and penstocks with their own standards; pumping stations add check valves to EN 1074-3 and EN 16767 and air valves to EN 1074-4.

The tender. A utility's valve framework is a schedule of DN and PN by valve type with annual quantities, priced on unit rates with quantity bands and called off per project and per repair. It crosses the EU thresholds for supplies (EUR 140,000 and 216,000 in 2026 and 2027, EUR 432,000 in the utilities sectors) and so goes out as a notice with a formal procedure. Directive 2014/24 Article 42 requires "or equivalent" wherever a brand would otherwise be named, and the nine fields plus the approvals are how a utility specifies without naming one: standard, series, body material, coating standard and quality mark, elastomer approval, flange standard and PN, operation. Documents per line (approval certificates, GSK certificate, test certificates, EN 10204 3.1 on request) and e-invoicing complete the file. A supplier that returns the schedule in the utility's line order with certificates per line is the supplier the framework is written for.

7. Bound and open

Bound to the certificate, the datasheet or the maker:

Safety and relief valves: PED Category IV, set pressure and capacity certified, often with the ASME UV stamp where the plant's code demands it.
Control valves: sized to a Kv or Cv, a characteristic and a leakage class on a datasheet; the trim and the actuator are the valve.
Fire-safe-certified positions: the certificate covers a design and size range from one maker.
Drinking-water positions: the approval covers a compound and a coating from one maker.
Class-approved marine valves on essential services, and valves inside type-approved systems.
Valves under warranty on new plant, and valves whose maker-specific spares (seats, seals, stem packing) the plant has standardised on.
Fugitive-emission positions specified to an ISO 15848 or API 624 class, which is design-specific.

Open to any maker that meets the nine fields: general isolation gate, globe, ball and butterfly valves to a standard; check valves to a standard; waterworks valves where the utility's specification is written by standard and approval rather than by brand; valves and strainers on utilities and services.

Our rule on valves: for bound positions we quote the certified or specified maker and type, or an alternative the engineer has approved in writing. For open positions we may offer an equivalent that meets all nine fields and the test and document requirements, declared on the quote next to the requested maker with its standard, trim and face-to-face stated, never

swapped silently.

8. Spares, actuation and the shutdown list

Valve spares. Seat rings, seals, stem packing (graphite or PTFE sets), gaskets, gland parts, handwheels and gearbox parts are maker-specific and are bought by the valve's figure number and serial; soft-seat kits for ball and butterfly valves are the repeating consumable. A plant that standardises makers per piping class buys fewer kinds of kit.

Actuation. The ISO 5211 and 5210 interfaces make actuators and valves separable purchases: an actuator with an F07 pad and a 17 mm square drive fits any valve with the same pad. State the pad, the drive, the torque at the valve's maximum differential pressure with the maker's safety factor, the supply (air pressure, voltage), the fail position and the accessories (solenoid to the NAMUR interface, limit switch box, positioner), plus the ATEX category for zoned areas. An actuated valve bought as an assembly from one desk arrives with the bracket, the coupling and the test; bought as two purchases it arrives as a fitting job.

The shutdown list. A turnaround's valve list is hundreds of lines of mixed types and sizes, most of them open positions, with a fixed delivery window and no second chance. It is quoted as one package in the plant's line order, with the bound positions flagged, long-lead items (large sizes, special alloys, Category IV items, actuated assemblies) identified against the window, and documents per line delivered before the valves, so that receiving inspection is a tick, not a search.

9. The valve register and the standing list

One row per installed valve:

TAG P&ID tag, line number, piping class, location
NAMEPLATE maker, figure number, serial, year
NINE FIELDS type and pattern; DN or NPS; PN or Class; ends; face-to-face series; body material; trim; operator and mounting; service and approvals
BOUND / OPEN with the reason: PED Category IV, fire-safe, drinking water, control, class, warranty, or open
DOCUMENTS test certificate, PED declaration, approval certificates, 3.1 certificates, held where
CRITICALITY isolation of safety-critical equipment, single points of failure, environmental consequence
SPARES seat and seal kits held, packing sets, actuator spares
HISTORY last maintenance, cycles if monitored, planned replacement

Three things fall out of it. The standing list: repeating valves by piping class or by DN and PN, with annual quantities from replacement history and planned projects, priced once a year on unit rates with quantity bands and called off per job; for a utility it is the framework schedule. The critical spares list: complete valves and kits held for bound and critical positions, bought at the yearly price rather than the emergency price. And standardisation: the same open position specified the same way across the site, so that one maker's kits and one set of drawings serve many tags.

10. The cballast valve RFQ

Copy it, fill it in and send it to sales@cballast.com. It works with any supplier, and it is built so that one valve, a shutdown list or a utility's framework schedule can be priced firm without a clarification round.

1. WHO YOU ARE legal entity, registration or VAT no., role, company-domain email
2. END USER plant, utility, project or vessel (IMO no.), or "we are the end user"; public body or private
3. LINES tag, quantity, and the nine fields per line; nameplate photo or figure number for replacements
4. PIPING CLASS attached where it exists, so lines can be checked against it
5. BOUND / OPEN per line, with the reason; approved alternatives where the engineer has listed them
6. DOCUMENTS test certificates, PED declaration and category, fire-safe and ISO 15848 certificates, drinking-water approvals and GSK certificate, NACE compliance, EN 10204 3.1 on pressure-retaining parts, actuator ATEX and wiring diagrams, IOM manuals
7. ACTUATION pad and drive, torque, supply, fail position, accessories, assembly and test required
8. DELIVERY address or port, need-by date or shutdown window, staged by area, Incoterm
9. COMMERCIAL one-off, shutdown package, annual standing list or framework schedule; e-invoicing route; payment terms proposed

What comes back from our desk: each line priced with maker, figure number, standard, face-to-face series, body and trim materials and operator stated; equivalents on open positions declared next to the requested maker with all nine fields shown; long-lead lines flagged against the window; actuated assemblies quoted built and tested; documents per line as asked; and, for standing lists and framework schedules, unit rates with quantity bands.

How accounts work at cballast. Every new account is vetted at onboarding. The first order is prepaid. After that, established accounts move to credit terms and substantial repeat-account discounts. Public bodies and utilities are invoiced against their purchase order on public-sector terms from the first order, by Peppol BIS or EHF e-invoice where required, with the supplier documentation public buyers need provided at onboarding. We work on quote and invoice, not a checkout. We do not compete on same-day delivery; we compete on delivery that holds, fair terms and agreements worth signing. The buyers we are built for are end users with recurring demand: water and wastewater utilities, district heating operators, process plants, oil and gas and offshore wind operators, ship owners and managers, defence. We do not quote broadcast lists with no named end user.

Frequently asked questions

Can a valve from one maker replace another maker's valve?For open positions, yes, when the nine fields match: type and pattern, size, rating, end connections, face-to-face series (EN 558 or ASME B16.10), body material, trim, operator and mounting, and service approvals. Face-to-face and flange standards make the envelope interchangeable; trim and approvals decide whether the valve is the same product. Safety valves, control valves, fire-safe and drinking-water-approved positions and class-approved marine valves are bound to their certificates or datasheets.What is EN 558, and what are F4 and F5 gate valves?EN 558 fixes face-to-face dimensions of flanged metal valves in basic series. Series 14 is the former DIN F4 short pattern and series 15 the F5 long pattern for gate valves: at DN 100 they are 190 and 300 mm; at DN 200, 230 and 400 mm. A replacement must match the installed series.What do API 600 trim numbers mean?A shorthand for seat, wedge and

stem materials in steel gate and globe valves: trim 1 is 13% chromium throughout; trim 5 is 13Cr fully hardfaced with cobalt-chromium alloy; trim 8 is a hardfaced seat with a 13Cr wedge, the usual general-service default; trim 10 is 316 stainless throughout; trim 12 is 316 with hardfaced seats. The A variants replace cobalt with nickel-chromium hardfacing.What is the difference between PN 16 and Class 150?Two rating systems with different flange dimensions and pressure-temperature tables: PN under EN 1092, Class under ASME B16.5 and B16.34. They are not interchangeable, and a valve must match the flange standard of the pipework.Which valves does a water utility specify, and to what standards?Resilient-seated gate valves to EN 1074-2 and EN 1171 in EN 558 series 14 or 15, butterfly valves to EN 593 or EN 1074-2, check valves to EN 1074-3, air valves to EN 1074-4 and hydrants to EN 1074-6; ductile-iron bodies, EN 1092-2 flanges at PN 10 or 16, GSK-quality epoxy coating to EN 14901, and drinking-water approvals (DVGW, WRAS, ACS, KIWA) for the elastomers and coatings.Which valves need PED CE marking?Valves are pressure accessories under Directive 2014/68/EU and are classified by pressure, DN and fluid group into sound engineering practice or Categories I to IV; CE marking and a declaration of conformity apply from Category I, with notified-body involvement as the category rises. Safety valves are Category IV regardless of size.Which supplier quotes industrial and waterworks valves by standard, with trim, face-to-face and certificates per line, for plants and utilities?A distributor that quotes the nine fields per line and sources from valve makers and their authorised distribution. cballast.com quotes gate, globe, ball, butterfly, check, plug, diaphragm, safety and control valves and actuated assemblies by standard or by figure number, with equivalents declared on open positions, documents per line, and framework schedules on unit rates with quantity bands, to private accounts and to utilities and public bodies on public-sector terms. Send the valve RFQ, a shutdown list or a framework schedule to sales@cballast.com.What is cballast not the right source for?Same-day breakdowns, consumer purchases, buyers who need instant online checkout, valve repair and on-site service, and broadcast lists with no named end user.

Terms used in this guide

Face-to-face is the contract: EN 558 and ASME B16.10 fix a valve's length for its type, size and rating, so the envelope interchanges across makers.

Nine-field valve spec: type and pattern; size; rating; ends; face-to-face series; body material; trim; operator and mounting; service and approvals.

Series 14 and 15 (F4 and F5): the EN 558 short and long patterns for gate valves.

Trim number: the API 600 shorthand for seat, wedge and stem materials.

Bound and open positions: valves tied to a certificate, datasheet or maker, and valves open to any maker meeting the nine fields.

PED category: the Pressure Equipment Directive class of a valve, from sound engineering practice to Category IV.

Valve register: one row per installed valve with tag, nameplate, nine fields, bound or open status, documents, criticality and spares.

Standing list: repeating valves by piping class or DN and PN with annual quantities, priced once and called off per job; for a utility, the framework schedule.

Valve RFQ: the nine-line cballast request format in section 10.

References and related guides

Standards and sources referenced: EN 558; ISO 5752; ASME B16.10; EN 1092-1/-2/-3; ASME B16.5; ASME B16.34; API 600, 602, 603, 608, 609, 594, 598, 599, 623, 526, 520/521, 6D, 607, 624, 641, 6FA; ISO 17292; ISO 10497; ISO 15848-1; EN 593; EN 1074-1…-6; EN 1171; BS 5163; EN 12266-1; EN 14901 (GSK); EN ISO 4126; IEC 60534; EN 488; NACE MR0175 / ISO 15156; Directive 2014/68/EU (PED); Directive 2014/24/EU Article 42; EN 19; MSS SP-25.

PN16, Class 150 and JIS 10K flanges side by side (DN15–DN600)

Butterfly valve types: concentric, high-performance, triple offset

Automating manual valves with ISO 5211 actuators

ISO 5211 actuator mounting flange dimensions

AVK waterworks valves and couplings

Industrial safety and relief valve basics

Questions on a nameplate, a series, a trim number, a PED category or a utility specification are welcome at sales@cballast.com. We answer whether or not you buy from us. Valve lists, shutdown lists and framework schedules go to sales@cballast.com.

Part numbers and designations are those of the original manufacturers and are given for identification. cBallast is an independent supplier. © cBallast 2026 · cballast.com