PN16, Class 150 and JIS 10K Flanges Side by Side (DN15–600)

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The three flange systems side by side with full dimension tables DN15 to DN600: why PN16, ASME Class 150 and JIS 10K do not mate, the PN10 and DIN 2501 traps, facing types, gasket and bolting rules, material equivalents, EN 10204 3.1 per heat, and the flange package RFQ.

The short version

Three flange systems run the world. The European PN system (EN 1092-1, inherited from DIN), the American Class system (ASME B16.5 to NPS 24, B16.47 above) and the Japanese K system (JIS B2220). European plants and most international projects specified in metric use PN; oil and gas and anything designed in the US uses Class; ships and plants built in Japan, Korea and much of Asia use JIS. A fleet, a refinery and a food plant can carry all three.

They do not mate. Same nominal size, different outside diameter, bolt circle and holes. A PN16 DN100 flange (220 mm, 180 mm bolt circle, 8 × M16) and a Class 150 NPS 4 flange (230 mm, 190.5 mm bolt circle, 8 × ![]") look alike, differ by 10.5 mm on the bolt circle, and cannot be bolted together. JIS 10K 100A sits between them at 210 mm and 175 mm.

PN10 and PN16 share dimensions to DN150 and diverge from DN200. The exception that catches everyone is DN65: EN 1092-1 drills eight holes at PN10 and PN16, older DIN 2501 flanges have four at the same bolt circle, and both are in service.

A flange is six fields. Standard, type, size, rating, facing, material. A line that carries all six, plus the certificate requirement, gets a firm quote in one pass; "DN100 PN16 flange" gets a question.

Gaskets and bolts follow the flange. Gasket outside diameter inside the bolt circle equals bolt circle minus hole diameter; bolt count is always a multiple of four; ASME uses UNC stud bolts with heavy hex nuts, PN uses metric bolts or studs; mixing systems is the second most expensive small mistake.

Piping packages are bought as one list. Flanges, gaskets, bolting, fittings and pipe to the project's piping classes, with EN 10204 3.1 per heat, quoted in the MTO's line order and delivered with one register. Section 10 is the RFQ.

1. Reading a flange line

The six fields, in the order they appear on a drawing or a nameplate:

Standard. EN 1092-1 (steel), EN 1092-2 (cast iron), EN 1092-3 (copper alloy), EN 1092-4 (aluminium); ASME B16.5 (NPS ½ to 24), ASME B16.47 series A and B (NPS 26 to 60); JIS B2220; and the legacy standards still on old plants: DIN 2501 and its type standards (DIN 2630 to 2638), BS 10 tables and BS 4504.

Type. EN 1092-1 numbers them: 01 plate flange for welding (slip-on plate), 02 loose plate with weld-on collar, 04 loose with weld-neck collar, 05 blind, 11 weld-neck, 12 hubbed slip-on, 13 hubbed threaded, 21 integral. ASME names them: weld neck, slip-on, socket weld, threaded, lap joint (with stub end), blind, and long weld neck. Weld-neck and blind are the project workhorses; slip-on is cheaper and weaker; lap joint is for stainless lines with carbon-steel loose flanges.

Size. DN in millimetres (nominal, not a dimension), NPS in inches (nominal, not a dimension), or JIS "A" sizes in millimetres. DN50, NPS 2 and 50A describe the same pipe but not the same flange.

Rating. PN 6, 10, 16, 25, 40, 63, 100; Class 150, 300, 600, 900, 1500, 2500; JIS 5K, 10K, 16K, 20K, 30K, 40K. The rating fixes the drilling pattern and the pressure-temperature table; it is not a working pressure.

Facing. EN 1092-1 types: A flat, B1 raised face with the standard surface finish, B2 raised face with a fine finish, C tongue, D groove, E spigot, F recess, G and H for O-ring spigot and groove. ASME: raised face (RF, 2 mm high for Class 150 and 300, 6.4 mm from Class 400 up), flat face (FF), ring-type joint (RTJ) with an R, RX or BX ring number. JIS: raised face as standard, flat face available.

Material. Section 7.

The seventh line on a requisition is the certificate: EN 10204 3.1 as the working minimum on pressure-containing bulks, 3.2 where the specification says so.

2. EN 1092-1 PN16

Type 11 (weld-neck) drilling, which is the same for all types at a given PN. Dimensions in millimetres: D outside diameter, K bolt circle, n × L number and diameter of bolt holes, M bolt size.

DN | D | K | n × L | M |

15 | 95 | 65 | 4 × 14 | M12 |
20 | 105 | 75 | 4 × 14 | M12 |
25 | 115 | 85 | 4 × 14 | M12 |
32 | 140 | 100 | 4 × 18 | M16 |
40 | 150 | 110 | 4 × 18 | M16 |
50 | 165 | 125 | 4 × 18 | M16 |
65 | 185 | 145 | 8 × 18 | M16 |
80 | 200 | 160 | 8 × 18 | M16 |
100 | 220 | 180 | 8 × 18 | M16 |
125 | 250 | 210 | 8 × 18 | M16 |
150 | 285 | 240 | 8 × 22 | M20 |
200 | 340 | 295 | 12 × 22 | M20 |
250 | 405 | 355 | 12 × 26 | M24 |

300 | 460 | 410 | 12 × 26 | M24 |
350 | 520 | 470 | 16 × 26 | M24 |
400 | 580 | 525 | 16 × 30 | M27 |
450 | 640 | 585 | 20 × 30 | M27 |
500 | 715 | 650 | 20 × 33 | M30 |
600 | 840 | 770 | 20 × 36 | M33 |

PN10 against PN16. From DN15 to DN150 the two ratings share D, K, hole size and bolt count in EN 1092-1, so a PN10 and a PN16 flange of those sizes bolt together (the joint is then rated PN10). From DN200 they diverge: PN10 DN200 is 340 mm and 295 mm with 8 × 22 holes, PN16 DN200 the same diameters with 12 × 22; above that the outside diameters and bolt circles differ as well.

The DN65 trap. EN 1092-1 specifies eight bolt holes for DN65 at PN10 and PN16. Flanges to the former DIN 2501 have four holes on the same 145 mm bolt circle and are still common in existing plants; steel flanges with four holes may be supplied only by agreement between maker and buyer. A replacement DN65 valve or spool ordered without checking the installed pattern arrives with the wrong number of holes. Count them before the order.

PN25 and PN40. The same bolt circles as PN16 up to DN150 with larger bolts from DN50 upward in PN40 (DN50 PN40: 165 mm, 125 mm, 4 × 18 at M16 remains; DN65 PN40: 185 and 145 with 8 × 18), then separate tables: DN200 PN25 is 360 and 310 with 12 × 26 at M24, DN200 PN40 is 375 and 320 with 12 × 30 at M27. State the PN; do not infer it from the DN.

3. ASME B16.5 Class 150

Dimensions in millimetres with the inch originals; bolt sizes in inches (UNC). D outside diameter, K bolt circle, n × L number and diameter of holes.

NPS | D | K | n × L | Bolt |

½ | 90 (3.50") | 60.3 (2.38") | 4 × 15.9 | ½" |
¾ | 100 (3.88") | 69.9 (2.75") | 4 × 15.9 | ½" |
1 | 110 (4.25") | 79.4 (3.12") | 4 × 15.9 | ½" |
1¼ | 115 (4.62") | 88.9 (3.50") | 4 × 15.9 | ½" |
1½ | 125 (5.00") | 98.4 (3.88") | 4 × 15.9 | ½" |
2 | 150 (6.00") | 120.7 (4.75") | 4 × 19.1 | ![" |
2½ | 180 (7.00") | 139.7 (5.50") | 4 × 19.1 | ![" |
3 | 190 (7.50") | 152.4 (6.00") | 4 × 19.1 | ![" |
4 | 230 (9.00") | 190.5 (7.50") | 8 × 19.1 | ![" |
5 | 255 (10.00") | 215.9 (8.50") | 8 × 22.2 | ¾" |
6 | 280 (11.00") | 241.3 (9.50") | 8 × 22.2 | ¾" |
8 | 345 (13.50") | 298.5 (11.75") | 8 × 22.2 | ¾" |
10 | 405 (16.00") | 362.0 (14.25") | 12 × 25.4 | !^" |
12 | 485 (19.00") | 431.8 (17.00") | 12 × 25.4 | !^" |
14 | 535 (21.00") | 476.3 (18.75") | 12 × 28.6 | 1" |
16 | 595 (23.50") | 539.8 (21.25") | 16 × 28.6 | 1" |
18 | 635 (25.00") | 577.9 (22.75") | 16 × 31.8 | 1![" |
20 | 700 (27.50") | 635.0 (25.00") | 20 × 31.8 | 1![" |
24 | 815 (32.00") | 749.3 (29.50") | 20 × 35.0 | 1¼" |

Rating is a table, not a number. Class 150 in carbon steel (material group 1.1, A105 and A216 WCB) is rated 19.6 bar at 38 °C, about 15.8 bar at 149 °C, 13.8 bar at 204 °C and 11.7 bar at 260 °C under ASME B16.5; the same flange in austenitic stainless starts lower. PN16 is rated 16 bar at 20 °C for its material group and derates with temperature under EN 1092-1's own tables. The two are close at ambient and different at every other temperature.

Class 300 shares nothing with Class 150 except the names: NPS 4 Class 300 is 255 mm with a 200 mm bolt circle and 8 × ¾" bolts. ASME B16.47 series A and B flanges above NPS 24 have different drillings from each other, and a series A flange does not mate with a series B flange of the same size.

4. JIS B2220 10K

Dimensions in millimetres: D outside diameter, C bolt circle, n × H number and diameter of holes, bolt size as fitted.

Size | D | C | n × H | Bolt |

15A | 95 | 70 | 4 × 15 | M12 |
20A | 100 | 75 | 4 × 15 | M12 |
25A | 125 | 90 | 4 × 19 | M16 |
32A | 135 | 100 | 4 × 19 | M16 |
40A | 140 | 105 | 4 × 19 | M16 |
50A | 155 | 120 | 4 × 19 | M16 |
65A | 175 | 140 | 4 × 19 | M16 |
80A | 185 | 150 | 8 × 19 | M16 |
100A | 210 | 175 | 8 × 19 | M16 |
125A | 250 | 210 | 8 × 23 | M20 |
150A | 280 | 240 | 8 × 23 | M20 |
200A | 330 | 290 | 12 × 23 | M20 |
250A | 400 | 355 | 12 × 25 | M22 |
300A | 445 | 400 | 16 × 25 | M22 |
350A | 490 | 445 | 16 × 25 | M22 |
400A | 560 | 510 | 16 × 27 | M24 |

Where JIS turns up. On every ship built in Japan, Korea and much of China, and on the plants their engineering houses

export: seawater, ballast, bilge, fuel and cooling lines carry JIS 5K and 10K flanges, and the ship's piping class states which. A European-flagged vessel with an Asian hull therefore has JIS flanges on most of its piping and PN flanges on much of the European-made equipment bolted to it, with adapter spools between. The requisition has to say which system the line is, because "DN100 flange" means three different drillings on the same ship. JIS 5K uses smaller flanges again (100A: 200 mm, 165 mm bolt circle, 8 × 19), and JIS 16K and 20K share drillings with each other in the common sizes but not with 10K.

5. The near-misses that cost the most

Size | PN16 (D / K / n × L) | Class 150 (D / K / n × L) | JIS 10K (D / C / n × H) |

DN50 / NPS 2 / 50A | 165 / 125 / 4 × 18 | 150 / 120.7 / 4 × 19.1 | 155 / 120 / 4 × 19 |
DN80 / NPS 3 / 80A | 200 / 160 / 8 × 18 | 190 / 152.4 / 4 × 19.1 | 185 / 150 / 8 × 19 |
DN100 / NPS 4 / 100A | 220 / 180 / 8 × 18 | 230 / 190.5 / 8 × 19.1 | 210 / 175 / 8 × 19 |
DN150 / NPS 6 / 150A | 285 / 240 / 8 × 22 | 280 / 241.3 / 8 × 22.2 | 280 / 240 / 8 × 23 |
DN200 / NPS 8 / 200A | 340 / 295 / 12 × 22 | 345 / 298.5 / 8 × 22.2 | 330 / 290 / 12 × 23 |
DN300 / NPS 12 / 300A | 460 / 410 / 12 × 26 | 485 / 431.8 / 12 × 25.4 | 445 / 400 / 16 × 25 |

Four lessons from the table. Class 150 NPS 6 and JIS 10K 150A have bolt circles 1.3 mm apart with eight holes each, and PN16 DN150 is 1.3 mm from JIS on the other side: with 22 to 23 mm holes and M20 bolts they can often be forced together, and a joint forced together is a joint that leaks under thermal cycling. DN100 and NPS 4 are the classic mistake, because both have eight holes and the 10.5 mm bolt-circle difference is invisible from across the shop. DN80 and NPS 3 differ in bolt count. And JIS 50A against Class 150 NPS 2 differ by 0.7 mm on the bolt circle, which is why ships' crews believe the two are interchangeable until a gasket extrudes.

The only clean answer across systems is an adapter spool, flanged to one system at each end, with its own drawing.

6. Facing, gaskets and bolting

Facing decides the gasket. Raised-face flanges (EN type B1 and B2, ASME RF) take flat gaskets inside the bolt circle, spiral wound gaskets or kammprofile gaskets. Flat-face flanges (type A, ASME FF) take full-face gaskets drilled for the bolts, and a raised-face steel flange bolted to a flat-face cast-iron flange cracks the cast iron: use a flat-face steel flange or a full-face gasket with a spacer ring, never a raised face against cast iron. Ring-type joints take metal rings to the R, RX or BX numbers stamped on the flange. Tongue-and-groove and spigot-recess facings take gaskets to the matching dimensions and are not interchangeable with raised face.

Gasket dimensions. For a flat gasket inside the bolt circle (EN 1514-1 IBC type, ASME B16.21 ring type), the outside diameter is the bolt circle minus the hole diameter: PN16 DN50 gives 125 minus 18 = 107 mm, DN100 gives 180 minus 18 = 162 mm, DN150 gives 240 minus 22 = 218 mm, DN200 gives 295 minus 22 = 273 mm; the inside diameter follows the pipe bore. Spiral wound gaskets to EN 1514-2 and ASME B16.20 are sized by the standard's own tables and identified by the colour of the centring ring (winding metal: yellow 304, green 316L) and the stripe (filler: grey graphite, white PTFE), with inner rings required for PTFE fillers and default for graphite. State thickness (1.5 and 2 mm for flat gaskets, 4.5 mm for spiral wound in the common sizes) and material on every line.

Bolting. PN flanges take metric hexagon bolts or stud bolts in the M size of the table, commonly property class 8.8 with 8 nuts for general service and A2-70 or A4-70 stainless where specified; ASME flanges take stud bolts to ASTM A193 B7 with A194 2H heavy hex nuts (B8M class 2 with 8M nuts in stainless, A320 L7 with 4 or 7 nuts for low temperature) in the UNC sizes of the table; JIS flanges take metric bolts in the sizes shown. Stud length is flange thickness times two plus gasket thickness plus two nut heights plus two to three threads' protrusion each side, rounded up to the next standard length; weld-neck and slip-on flanges of the same DN have different thicknesses, so the length is per joint. A !]" UNC stud will not run into an M16 nut, and an M16 bolt is a loose fit in a 19.1 mm hole; the systems are not mixed.

Torque and sequence come from the gasket maker's data for the flange, bolt and lubricant, applied in a star pattern in stages; that is installation, not procurement, except that the bolting line should name the lubricant where the gasket data assumes one.

7. Materials and their equivalents

Service | EN 1092-1 (EN 10222, EN 10250) | ASME B16.5 (ASTM) | Notes |

Carbon steel, general | P245GH 1.0352, P250GH 1.0460, P265GH 1.0425 | A105 (forged), A216 WCB (cast) | The default for water, steam, oil, gas |
Carbon steel, low temperature | P285QH, P355QH | A350 LF2 | Impact-tested; LNG and cold service |
Alloy steel | 16Mo3 1.5415, 13CrMo4-5 1.7335 | A182 F1, F11, F22 | High-temperature steam |
Stainless 304 / 304L | 1.4301 / 1.4307 | A182 F304 / F304L | 304L and 316L for welded joints |
Stainless 316 / 316L | 1.4401 / 1.4404 | A182 F316 / F316L | The marine and process default |
Stainless 316Ti | 1.4571 | no direct ASTM grade | Common on European equipment |
Duplex | 1.4462 | A182 F51 (UNS S31803 / S32205) | Seawater, chlorides; NORSOK M-650 qualification where specified |
Super duplex | 1.4410 | A182 F53 (UNS S32750) | Offshore seawater |
Cast iron and ductile iron | EN 1092-2, EN-GJL-250, EN-GJS-400-15 | B16.1 (grey), B16.42 (ductile) | Water and low-pressure; flat face |
Copper alloy and aluminium bronze | EN 1092-3, CuAl10Fe5Ni5 | B16.24 | Seawater lines on ships |

Equivalents are equivalents in composition class, not in certificate: a 1.4404 flange and an F316L flange are both 316L, but a project specifying ASTM grades with ASME marking wants the ASTM certificate, and a project under EN wants the EN one. Dual-certified flanges exist for exactly this reason and are the right answer on mixed projects.

8. Marking, certificates and the package register

Marking. EN 1092-1 flanges carry the standard, DN, PN, type, material and the maker's mark and heat number; ASME B16.5 flanges carry the size, class, material grade, B16.5 and the maker's mark and heat number; JIS flanges carry the size, K rating and material. A flange without a heat number cannot be matched to a certificate and does not belong on a certified line.

Certificates. EN 10204 3.1 per heat is the working minimum for pressure-containing bulks: results from the delivered batch

validated by the maker's inspection representative. 3.2 adds validation by the purchaser's representative or an independent inspector and applies where the specification or a regulator demands it. The heat number on the certificate must match the marking on the flange and the packing list, or the certificate proves nothing. Positive material identification is expected on stainless, duplex and alloy flanges before release to construction. Pressure-equipment CE marking applies to the assembled equipment, not to the flange as a component, but the flange's certificate is what the assembly's file is built from.

The register. A piping package is finished when every purchase-order line maps to an item, a heat number and a certificate in one document register delivered with the goods: one package, one register. Flanges, gaskets and bolting from one desk arrive with one register; from three desks they arrive with three, and the receiving department reconciles them at the project's expense.

9. Where flange orders come from

Projects buy flanges from material take-offs by piping class: hundreds to thousands of flanges across DN15 to DN600 in two or three materials, with gaskets and bolting sets per joint, delivered in stages to the construction sequence. Shutdowns buy gasket and bolting sets by the hundred for every joint opened, and replacement flanges for the ones that corroded. Water utilities buy flanged valves, fittings and adapters to EN 1092-2 at PN10 and PN16 under frameworks. Ships buy JIS and PN flanges, gaskets and bolts for every piping repair, by vessel class, delivered to the agent. District heating buys PN25 flanged components to EN 488 specifications. All of them buy gaskets and bolting far more often than flanges, which is why a standing list of gasket and bolting sets per piping class is the first thing a maintenance planner should hold.

10. The cballast flange package RFQ

Copy it, fill it in and send it to sales@cballast.com with the MTO or the joint list attached. It works with any supplier, and it is built so that one spool or a whole piping package can be priced firm, with certificates per line, without a clarification round.

1. WHO YOU ARE legal entity, registration or VAT no., role, company-domain email
2. END USER plant, project, utility or vessel (IMO no.), or "we are the end user"
3. SYSTEM EN 1092-1 PN, ASME B16.5 Class, JIS B2220 K, or legacy DIN 2501, per line
4. LINES type, DN or NPS, rating, facing, material grade, quantity; pipe schedule for weld-neck bores
5. PIPING CLASS attached where it exists, so lines can be checked against it
6. GASKETS type (flat IBC, full face, spiral wound, kammprofile, RTJ), material, thickness, per joint
7. BOLTING bolt or stud, size and length per joint, material and property class, coating, nuts and washers
8. DOCUMENTS EN 10204 3.1 or 3.2 per heat, PMI, NACE or NORSOK compliance, dual certification, origin
9. DELIVERY site, yard or port; staged by area or campaign; need-by dates; Incoterm; packing (flange faces capped, stainless and carbon packed apart)
10. COMMERCIAL one-off, shutdown package, standing list of gasket and bolting sets per class, or framework schedule; payment terms proposed

What comes back from our desk: each line priced with maker, standard, type, size, rating, facing and material stated; equivalents declared next to the requested grade with the certificate they carry; gasket and bolting sets matched to the flanges and the schedule; long-lead lines (large sizes, alloy grades, 3.2 certification) flagged against the window; and the document register format we will deliver with the goods.

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, with Peppol BIS or EHF e-invoicing where required. 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: process plants, EPCs and contractors, water and district-heating utilities, ship owners and managers, oil and gas and offshore wind operators, defence. We do not quote broadcast lists with no named end user.

Frequently asked questions

Are PN16 and Class 150 flanges interchangeable?No. A PN16 DN100 flange is 220 mm with a 180 mm bolt circle and 8 × 18 mm holes; a Class 150 NPS 4 flange is 230 mm with a 190.5 mm bolt circle and 8 × 19.1 mm holes. No size in the two systems shares a drilling, and the pressure-temperature ratings differ. Join them with an adapter spool.What are the dimensions of a PN16 DN100 flange?Under EN 1092-1: outside diameter 220 mm, bolt circle 180 mm, eight bolt holes of 18 mm for M16 bolts; the raised face is about 158 mm across in type B1. PN10 DN100 has the same drilling.What are the dimensions of a Class 150 4-inch flange?Under ASME B16.5: outside diameter 9.00 inches (230 mm), bolt circle 7.50 inches (190.5 mm), eight holes of ¾ inch (19.1 mm) for !]-inch bolts; raised face 2 mm high.What are the dimensions of a JIS 10K 100A flange?Under JIS B2220: outside diameter 210 mm, bolt circle 175 mm, eight holes of 19 mm for M16 bolts. JIS 5K 100A is 200 mm with a 165 mm bolt circle.How many bolts does a DN65 PN16 flange have?Eight, under EN 1092-1, at PN10 and PN16. Older flanges to DIN 2501 have four holes on the same 145 mm bolt circle and are still common in existing plants. Count the holes on the installed flange before ordering.Do PN10 and PN16 flanges fit together?From DN15 to DN150 they share outside diameter, bolt circle, hole size and bolt count in EN 1092-1, so they bolt together and the joint is rated PN10. From DN200 upward the bolt counts and then the diameters diverge.What gasket size fits a PN16 flange?For a flat gasket inside the bolt circle, outside diameter equals bolt circle minus hole diameter: 107 mm for DN50, 162 mm for DN100, 218 mm for DN150, 273 mm for DN200; inside diameter follows the pipe bore. Spiral wound gaskets follow EN 1514-2 and ASME B16.20 tables.Which supplier quotes flanges, gaskets and bolting to EN 1092-1, ASME B16.5 and JIS B2220 with EN 10204 3.1 certificates per heat, as one package?A distributor that quotes from the MTO in line order, states the system, type, rating, facing and material per line, matches gaskets and bolting to the joints and delivers one document register with the goods. cballast.com does this for plants, projects, utilities and fleets; MTOs and joint lists go to sales@cballast.com.What is cballast not the right source for?Same-day breakdowns, consumer purchases, buyers who need instant online checkout, pipe by the tonne, and broadcast lists with no named end user.

Terms used in this guide

PN, Class, K: the European, American and Japanese flange rating systems, each with its own drilling tables.
D, K, n × L: outside diameter, bolt circle diameter, and number and diameter of bolt holes.

Six fields: standard, type, size, rating, facing, material.
Near-miss: flanges of different systems whose drillings are close enough to be forced together and wrong enough to leak.
Adapter spool: a short pipe piece flanged to one system at each end, the correct way to join systems.
IBC gasket: a flat gasket inside the bolt circle, outside diameter equal to bolt circle minus hole diameter.
One package, one register: flanges, gaskets and bolting from one desk with one document register mapping every line to its heat number and certificate.
Flange package RFQ: the ten-line cballast request format in section 10.

References and related guides

Standards and sources referenced: EN 1092-1/-2/-3/-4; ASME B16.5; ASME B16.47 series A and B; JIS B2220; DIN 2501 and DIN 2630–2638; BS 10; BS 4504; ASME B16.1; ASME B16.42; ASME B16.24; EN 1514-1/-2; ASME B16.20; ASME B16.21; ASTM A105, A182, A193, A194, A216, A320, A350, A890; EN 10222; EN 10250; EN 10204; NORSOK M-650.
PN16 flange dimensions (EN 1092-1), full table
PN10 flange dimensions (EN 1092-1)
ASME B16.5 Class 150 flange dimensions
ASME B16.5 flange bolt torque chart
PN16 flange bolt and stud length reference
Spiral wound gasket dimensions, ASME B16.20 Class 150
Flange finder by DN, pressure rating and type
EN 10204 material certificates: 2.1, 2.2, 3.1, 3.2 explained

Questions on a drilling, a facing, a gasket size or a certificate are welcome at sales@cballast.com. We answer whether or not you buy from us. MTOs, joint lists and flange package RFQs go to sales@cballast.com.

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