Blind Flange — ASME B16.47 Series B Class 75

ANSI / ASME B16.47 Series B (API 605) Class 75 large diameter compact blind raised face (BLRF) flanges · NPS 26" to 60" · Carbon steel ASTM A105 / A266 / A694, stainless steel ASTM A182 F304 / F316

ASME B16.47 SERIES B CLASS 75 BLIND FLANGE

A large diameter blind flange (BL / BLRF) is a solid forged disc with ASME B16.47 Series B drilling and facing and no bore, closing pipeline ends, vessel and tank nozzles and large valve connections. Because it carries full pressure on its unsupported centre, B16.47 makes most blinds thicker than the matching weld neck flange.

Series B (formerly API 605) is the compact B16.47 pattern — smaller OD and many smaller bolts — common in refineries, tank farms and offshore. TESCO Steel & Engineering manufactures these blinds in Mumbai, 26" to 60", RF or FF, plain or with tapped vent / drain connections.

KEY FEATURES

- **Full ASME B16.47 compliance** — Series B dimensions, tolerances, facing and marking to ASME B16.47-2020.
- **No welding** — bolts to any Series B / API 605 flange of the same class and size; removable.
- **Options** — tapped vent / drain (NPT / SW), RTJ facing, jack-screw holes, lifting lugs for heavy blinds.
- **Materials and certification** — A105, A266 Cl.2, A350 LF2, A182 F304/F316; EN 10204 3.1 / 3.2.

SPECIFICATION SUMMARY

Product	Large diameter blind flange (BL / BLRF), disc forging
Standard	ASME B16.47 Series B (formerly API 605)
Pressure class	Class 75 (75 lb / #75)
Size range	NPS 26" – 60" (DN 650 – DN 1500)
Facing	Raised face (RF) 2 mm standard; FF or RTJ on request
Face finish	Serrated, 125 – 250 µin Ra (3.2 – 6.3 µm)
Bore	None (solid); tapped NPT / SW connection on request
Back face	Machined flat; chamfered edge; marking on periphery
Materials	ASTM A105 / A105N; A266 Cl.2; A350 LF2; A694 F42 – F65; A182 F304/L, F316/L; duplex

INSTALLATION — BLINDING A LINE

- Match series, class, size and facing to the mating flange — Series B and Series A drilling differ at NPS 26 – 36; use a new gasket of the same type.
- Large blinds weigh hundreds of kilograms — specify lifting lugs; tighten studs in a cross pattern in at least three steps; jack-screw holes ease break-out.
- For hydrotest or temporary isolation, confirm the blind's rating covers the test pressure; fit a tapped vent / drain where the line must be depressurised safely.

APPLICATIONS

Refinery and petrochemical process header ends · API 650 / 620 tank nozzles and manways · offshore topsides and FPSO large-bore piping · cooling-water and fire-water mains · large valve and pump nozzles · hydrotest and isolation blinds.

BLIND FLANGE VS OTHER CLOSURES

Blind flange	Bolted, removable, full class rating; reusable
Spade / spacer	Between flanges for positive isolation (B16.48 to NPS 24; larger to drawing)
Pipe cap	Welded, permanent closure (ASME B16.9)

TESCO Steel & Engineering — large diameter blind flange manufacturer & exporter · 9-A, 52-A, Sindhi Lane, Mumbai – 400004, India · +91 22 6659 5662 · sales@tescosteel.com · www.tescosteel.com
Dimensions per ASME B16.47-2020 Series B Class 75 (NPS 26 – 60); weights approximate; P–T ratings per ASME B16.5 Table 2 — verify for material group and service.

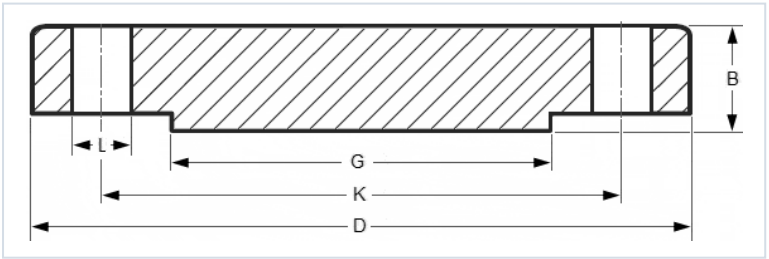
ASME B16.47 SERIES B CLASS 75 BLIND FLANGE DIMENSIONS (MM)

ASME B16.47 SERIES B · CLASS 75 BLIND FLANGE · RAISED FACE · DIMENSIONS IN MM — 18 sizes

NPS inch	D	B	G	K	Bolting			Weight
	OD	Thick.	RF Ø	Bolt circle	No.	L · Hole Ø	Stud	kg approx.
26"	762	33.4	705	723.9	36	19.1	5/8"	116
28"	813	33.4	756	774.7	40	19.1	5/8"	132
30"	864	33.4	806	825.5	44	19.1	5/8"	150
32"	914	36.7	857	876.3	48	19.1	5/8"	177
34"	965	38.2	908	927.1	52	19.1	5/8"	195
36"	1034	42.5	965	992.1	40	22.2	3/4"	235
38"	1084	44.5	1016	1043.0	40	22.2	3/4"	270
40"	1135	44.5	1067	1093.7	44	22.2	3/4"	345
42"	1186	47.8	1118	1144.5	48	22.2	3/4"	406
44"	1251	49.4	1175	1203.5	36	25.4	7/8"	483
46"	1302	50.9	1226	1254.3	40	25.4	7/8"	538
48"	1353	54.2	1276	1305.1	44	25.4	7/8"	596
50"	1403	55.7	1327	1355.9	44	25.4	7/8"	683
52"	1457	57.2	1378	1409.7	48	25.4	7/8"	755
54"	1508	60.5	1429	1460.5	48	25.4	7/8"	835
56"	1575	62.1	1486	1521.0	40	28.6	1"	957
58"	1626	63.6	1537	1571.8	44	28.6	1"	1043
60"	1676	66.9	1588	1622.6	44	28.6	1"	1134

- All dimensions in millimetres per ASME B16.47-2020 Series B Class 75 (metric). Thickness B includes the 2 mm raised face. Class 75 exists only in Series B and is rated per ASME B16.47 Table 3 (Group 1.1: 9.6 bar / 140 psig at −29 to 38 °C).
- Blind flange thickness B is as tabulated for blinds in B16.47 and is greater than the weld neck thickness in most sizes. Studs per ASME B16.47; hole Ø L is 3.2 mm larger than the stud. Weights approximate, carbon steel, solid (untapped).

BLIND FLANGE DIMENSIONAL DRAWING



D Flange outside diameter

B Flange thickness (incl. 2 mm RF)

G Raised face diameter

K Bolt circle diameter (PCD)

L Bolt hole diameter

RF Raised face, 2 mm high

Selection: the blind must match the mating flange in series (A or B), class, size and facing — Series A and B are not interchangeable at NPS 26 – 36. **Also known as:** ANSI B16.47 Series B 75 lb blind flange · API 605 Class 75 blind · compact large diameter 75# blank flange · 26" – 60" BLRF (≈ PN 10).

BLIND FLANGE MATERIALS

Carbon steel	ASTM A105 / A105N; A266 Cl.2 / Cl.4 for large disc forgings
High-yield / low-temp.	ASTM A694 F42 – F65 (pipeline); A350 LF2 Cl.1 / Cl.2
Stainless steel	ASTM A182 F304 / F304L, F316 / F316L, F321, F347
Alloy steel	ASTM A182 F5, F9, F11, F12, F22, F91
Duplex / super duplex	ASTM A182 F51 (UNS S31803 / S32205), F53 (S32750), F55 (S32760)
Nickel & copper alloys	Monel 400, Inconel 600 / 625, Hastelloy C276, Cu-Ni 90/10 — on request
Equivalent EN / DIN grades	P250GH (1.0460), 1.4301, 1.4401, 1.4404, 1.4571 on request

PRESSURE–TEMPERATURE RATING

Class 75 is unique to ASME B16.47 Series B and is rated in B16.47 Table 3 — Group 1.1 carbon steel: **9.6 bar (140 psig) at −29 to 38 °C**, decreasing with temperature. It is not an ASME B16.5 class; refer to B16.47 Table 3 for the full curve and other material groups, and confirm for bolting and gasket.

QUALITY & DOCUMENTATION

- Forged from certified bars / billets; normalised, quenched-and-tempered or solution-annealed per material specification.
- Manufactured under an ISO 9001:2015 quality management system; marking per ASME B16.47 and MSS SP-25 including "B16.47 SER. B".
- EN 10204 3.1 material test certificates with chemical analysis, mechanical properties and heat-number traceability; 3.2 with third-party endorsement on request.
- Dimensional inspection to ASME B16.47 tolerances; face finish per MSS SP-6; UT of disc forgings per ASTM A388 on request.
- NDT (MPI / DPT), PMI for stainless and alloy grades, IBR, NACE MR0175 / ISO 15156 and PED compliance on request.

FREQUENTLY ASKED QUESTIONS

Is a B16.47 blind the same thickness as the weld neck flange?

Not always — B16.47 tabulates blind flange thickness separately, and in most Series B sizes the blind is thicker because it carries full pressure on its unsupported centre. Use the B column of this sheet, not the weld neck table.

Can a blind flange be drilled and tapped?

Yes — tapped blinds with an NPT or socket-weld connection (vent, drain, gauge, injection) are common; specify size and type. The tapping reduces the rating only if it exceeds ASME B31.3 / B16.47 reinforcement limits.

Can a blind flange be used with a raised face against cast iron?

Series B drilling does not match B16.1 cast-iron flanges; where a flat face is needed (full-face gasket) FF blinds are available on request.

Which gasket and bolts are used?

Spiral wound (ASME B16.20) or non-metallic (ASME B16.21) gaskets with A193 B7 / A194 2H studs and nuts; B8M Cl.2 for stainless flanges.

ORDERING INFORMATION

Specify: quantity · size (NPS) · ASME B16.47 Series B Class 75 blind · facing (RF / FF / RTJ) · tapping if required (size, NPT / SW) · material grade · certification (3.1 / 3.2, NACE, IBR, PED) · surface protection (anti-rust oil, paint, galvanising).