Blind Flange — ASME B16.47 Series A Class 900

ANSI / ASME B16.47 Series A (MSS SP-44) Class 900 large diameter blind raised face (BLRF) flanges · NPS 26" to 48" · Carbon steel ASTM A105 / A266 / A694, stainless steel ASTM A182 F304 / F316

ASME B16.47 SERIES A CLASS 900 BLIND FLANGE

A large diameter blind flange (BL / BLRF) is a solid forged disc with ASME B16.47 Series A drilling and facing and no bore, closing pipeline ends, pig launcher spares, 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 A (formerly MSS SP-44) is the heavier B16.47 pattern. TESCO Steel & Engineering manufactures these blinds in Mumbai, 26" to 48", RF, FF or RTJ, plain or with tapped vent / drain connections.

KEY FEATURES

- **Full ASME B16.47 compliance** — Series A dimensions, tolerances, facing and marking to ASME B16.47-2020.
- **No welding** — bolts to any Series A / MSS SP-44 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, A694, 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 A (formerly MSS SP-44)
Pressure class	Class 900 (900 lb / #900)
Size range	NPS 26" – 48" (DN 650 – DN 1200)
Facing	Raised face (RF) 7 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 A and Series B drilling differ; 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

Pipeline ends and future tie-ins · pig launcher / receiver spares · large valve and pump nozzles · pressure-vessel, separator and tank manways · water transmission and desalination intakes · hydrotest and isolation blinds · refinery, gas-plant and offshore large-bore piping.

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 A Class 900 (NPS 26 – 48); weights approximate; P–T ratings per ASME B16.5 Table 2 — verify for material group and service.

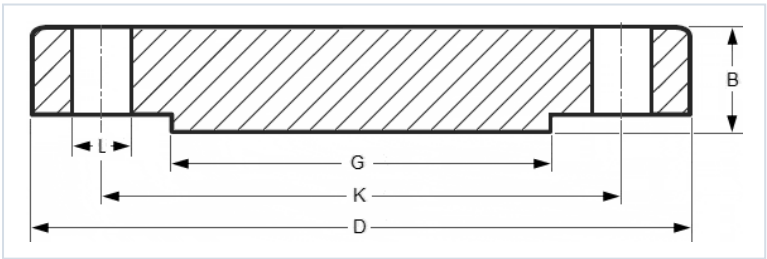
ASME B16.47 SERIES A CLASS 900 BLIND FLANGE DIMENSIONS (MM)

ASME B16.47 SERIES A · CLASS **900** BLIND FLANGE · RAISED FACE · DIMENSIONS IN MM — 12 sizes

NPS inch	D	B	G	K	Bolting			Weight
	OD	Thick.	RF Ø	Bolt circle	No.	L · Hole Ø	Stud	kg approx.
26"	1085	160.4	749	952.5	20	73.0	2 3/4"	1164
28"	1170	171.5	800	1022.4	20	79.4	3"	1442
30"	1230	182.6	857	1085.8	20	79.4	3"	1705
32"	1315	193.7	914	1155.7	20	85.7	3 1/4"	2060
34"	1395	204.8	965	1225.6	20	92.1	3 1/2"	2461
36"	1460	214.4	1022	1289.0	20	92.1	3 1/2"	2816
38"†	1460	215.9	1099	1289.0	20	92.1	3 1/2"	2836
40"†	1510	223.9	1162	1339.8	24	92.1	3 1/2"	3148
42"†	1560	231.8	1213	1390.6	24	92.1	3 1/2"	3481
44"†	1650	242.9	1270	1463.7	24	98.4	3 3/4"	4062
46"†	1735	255.6	1334	1536.7	24	104.8	4"	4729
48"†	1785	263.6	1384	1587.5	24	104.8	4"	5170

- All dimensions in millimetres per ASME B16.47-2020 Series A Class 900 (metric). Thickness B excludes the 7 mm raised face. † NPS 38 – 48: Series A Class 900 dimensions are identical to Series B; B16.47 Class 900 stops at NPS 48.
- 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 (excl. 7 mm RF)

G Raised face diameter

K Bolt circle diameter (PCD)

L Bolt hole diameter

RF Raised face, 7 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 A 900 lb blind flange · MSS SP-44 Class 900 blind · large diameter 900# blank flange · 26" – 48" BLRF (≈ PN 160).

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 RATINGS

PRESSURE–TEMPERATURE RATING **Class 900** BAR, ASME B16.47 / B16.5 TABLE 2

Temperature °C	Group 1.1 A105 / A350 LF2	Group 2.1 A182 F304	Group 2.2 A182 F316
–29 to 38	153.2	148.9	148.9
100	139.8	126.6	129.4
150	135.2	115.5	118.5
200	131.4	107.0	110.3
250	125.8	100.1	103.4
300	119.5	94.9	97.9
350	112.7	91.0	93.8
400	104.2	88.3	91.2
450	86.3	86.3	88.2

Working pressure in bar (gauge); ASME B16.47 adopts the ASME B16.5 Table 2 ratings (Table 2-1.1, 2-2.1 / 2-2.2). A694 grades rated per Group 1.1 unless otherwise agreed. Confirm for material group, 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. A".
- 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 A 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?

Use a flat face with a full-face gasket against B16.1 Class 125 cast iron (30" – 60" share the Series A Class 150 drilling) — 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 A Class 900 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).