

Threaded Boss / Bosset

Forged threaded branch bosses · Class 3000 & 6000 · NPS ½" to 4" (DN 6 – DN 100)

PRODUCT DESCRIPTION

The Threaded Boss (also called a Bosset or welding boss) is a forged, cylindrical branch fitting with a female pipe thread at one end and a 45° chamfered weld-on end at the other. It is fillet-welded to a pipe, vessel or plate to provide a threaded connection for instruments, small-bore piping, vents, drains and sample points.

Bosses are made to BS 3799 in Class 3000 and 6000. Unlike a Threadolet®, the plain cylindrical base suits flat surfaces and vessel shells as well as pipe, and can be supplied flat or contoured to the parent surface.

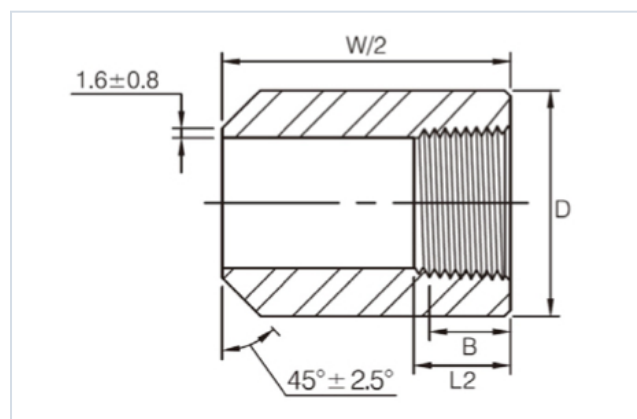
KEY FEATURES

- **Forged one-piece body** — full-strength threaded connection with no additional fittings.
- **Female NPT or BSPT thread** — to ASME B1.20.1 or BS EN 10226, as specified.
- **Class 3000 and 6000** ratings to BS 3799; sizes ½" – 4".
- **45° ± 2.5° weld chamfer** with 1.6 ± 0.8 mm land for a consistent fillet weld.
- **Flat or contoured base** for plates, vessels and pipe of any diameter.

SPECIFICATION SUMMARY

Product	Threaded Boss / Bosset — forged weld-on threaded branch fitting
Dimensional standard	BS 3799-1974 — Steel pipe fittings, screwed and socket-welding, for the petroleum industry
Thread	Female NPT to ASME B1.20.1, or BSPT to BS EN 10226 — as specified
End connections	Fillet-weld (45° chamfer) to pipe, vessel or plate; threaded to branch
Size range	NPS ½" – 4" (DN 6 – DN 100)
Pressure classes	Class 3000 Class 6000 (½" – 2")
Base / length	Flat or contoured to pipe OD; full (W) or half (W/2) length
Materials	Carbon steel, low-temperature carbon steel, alloy steel, stainless steel, duplex and nickel alloys — as specified
Testing & certification	Material test certificate; thread gauging; NDT (MPI / DPT) and third-party inspection on request
Marking	Manufacturer, size, class, material grade, heat number

DIMENSIONAL DRAWING



D Outside diameter of the boss

W Overall length (W/2 shown to centre)

L2 Minimum thread length

B Effective thread engagement

Weld preparation: 45° ± 2.5° chamfer with a 1.6 ± 0.8 mm land at the weld-on end, per BS 3799.

- All dimensions in millimetres, per BS 3799-1974.

DIMENSIONS — CLASS 3000 & CLASS 6000 (BS 3799)

THREADED BOSS		Class 3000 & 6000		BS 3799		11 sizes	
NPS inch	DN mm	D — Outside dia. (mm)		W — Overall length (mm)		L2 — Thread length, min. (mm)	
		3000 lb	6000 lb	3000 lb	6000 lb	3000 lb	6000 lb
1/8	DN 6	16.0	22.0	38.0		6.70	
1/4	DN 8	19.0	26.0	41.0		10.21	
3/8	DN 10	22.0	32.0	45.0		10.36	
1/2	DN 15	29.0	38.0	51.0		13.56	
3/4	DN 20	35.0	45.0	51.0		13.86	
1	DN 25	45.0	60.0	51.0		17.34	
1 1/2	DN 40	64.0	76.0	51.0		18.38	
2	DN 50	76.0	95.0	51.0		19.22	
2 1/2	DN 65	95.0	—	51.0	—	28.89	—
3	DN 80	110.0	—	57.0	—	30.48	—
4	DN 100	140.0	—	64.0	—	33.02	—

- All dimensions in millimetres, in accordance with BS 3799-1974. W and L2 are common to Class 3000 and 6000 for NPS 1/8" – 2".
- Class 6000 is available NPS 1/8" – 2"; NPS 2 1/2" – 4" are supplied in Class 3000 only. "—" = not applicable.

TYPICAL MATERIAL GRADES

Carbon steel	ASTM A105 / A105N
Low-temperature CS	ASTM A350 LF2 Cl.1 / Cl.2
Alloy steel	ASTM A182 F11, F22, F5, F9, F91
Stainless steel	ASTM A182 F304/304L, F316/316L, F321, F347
Duplex / super duplex	ASTM A182 F51 (S31803 / S32205), F53, F55
Nickel & copper alloys	Inconel, Monel, Hastelloy, Cu-Ni 90/10 & 70/30 — on request

QUALITY & DOCUMENTATION

- Manufactured under an ISO-certified quality management system.
- Material test certificates with heat-number traceability; dimensional report to BS 3799.
- Threads gauged to ASME B1.20.1 / BS EN 10226.
- Optional NDT (MPI / DPT) and third-party inspection on request.

INSTALLATION GUIDANCE

- Hole:** drill or cut the hole in the parent pipe, vessel or plate to suit the boss bore; deburr the edge.
- Fit-up:** seat the chamfered end square to the surface (contoured base on pipe); tack in position.
- Weld:** complete a continuous fillet weld around the 45° chamfer; protect the thread from spatter and re-gauge after welding if required.
- Make-up:** apply sealant or PTFE tape and engage the branch pipe or instrument hand-tight plus 1 1/2 – 3 turns; seal-weld where required.

ORDERING & RELATED PRODUCTS

Ordering information: specify size, class (3000 / 6000), thread type (NPT / BSPT), base (flat / contoured to pipe OD), full or half length, material grade, quantity and any testing or certification requirements.

Threadolet

Sockolet

Weldolet

Nipolet

Forged fittings

Couplings

Flanges