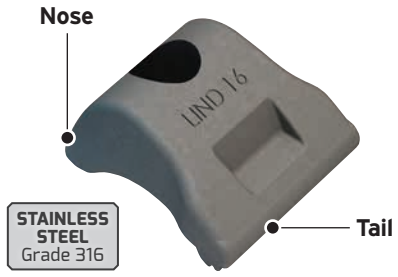
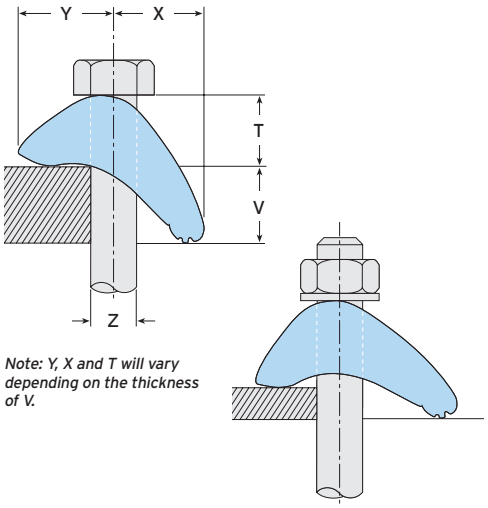
Type LS

Providing excellent corrosion resistance, Lindapter's stainless steel clamp self-adjusts to suit a range of flange thicknesses.





Note: Y, X and T will vary depending on the thickness of V.

- Made from high strength stainless steel grade 316.
- Self-adjusts to suit 3 - 30mm flange thicknesses (size M20).
- For parallel and tapered flanges up to and including 10°.
- The tail spans slotted clearance holes.

Packings are available to increase the clamping range, see page 27. Location / end plate details can also be found on page 27.

For Characteristic Resistances when designing a connection to Eurocode 3, refer to DoP No.008 (CE) or DoC No.108 (UKCA) on Lindapter's website. Alternatively, request a DoP or DoC brochure.

Material: Cast stainless steel grade 316.

Product Code	Bolt A4-70 Z	Safe Working Loads		Tightening Torque*	Dimensions				
		Tensile / 1 Bolt (FOS 5:1)	Slip[1] / 2 Bolts (FOS 2:1)		Clamping Range V	Y	X	T	Width
		kN	kN	Nm	mm	mm	mm	mm	mm
LS10	M10	3.0	1.5	40	3 - 15	17 - 19	18 - 24	16 - 21	38
LS12	M12	7.0	2.0	80	3 - 20	16 - 22	18 - 29	17 - 23	40
LS16	M16	10.0	3.0	200	3 - 25	22 - 25	27 - 37	20 - 28	55
LS20	M20	18.0	5.0	400	3 - 30	24 - 31	25 - 42	23 - 32	60

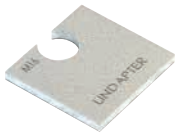
1) Slip resistant values calculated against movement exceeding 0.1mm.
** Torque figures based on bolts / setscrews in an unlubricated condition. For further information on lubricated fasteners see page 78.*

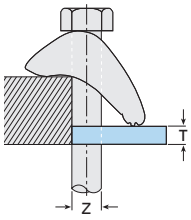
Packing Pieces and Plate Details for Type LS

Stainless steel packing pieces are available to increase the clamping range of the Type LS, please select the correct packing combination from the table below. This page also contains information for designing location / end plates.

Packing Pieces

Type LSP2





Material: Stainless steel grade 316.

Product Code	Bolt Size Z	Dimension T (mm)
LS10P2	M10	10
LS12P2	M12	10
LS16P2	M16	10
LS20P2	M20	10

Packing Combinations

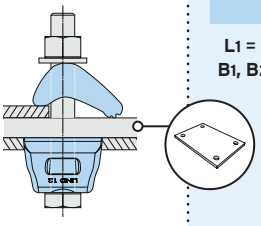
- **For thicker flanges contact Lindapter.**
- **Other combinations than what is shown below may be possible. Contact our Technical Support team to discuss your requirements.**

Choose the correct combination for your configuration using the table below. Please note these calculations are for **parallel flanges and beams up to 10° slopes only.** For example, a size M20 Type LS on a 42mm flange requires 2 x Type LSP2.

Combinations		Clamping Range			
LS	LSP2	M10 (mm)	M12 (mm)	M16 (mm)	M20 (mm)
1	-	3 - 15	3 - 20	3 - 25	3 - 30
1	1	13 - 25	13 - 30	13 - 35	13 - 40
1	2	23 - 35	23 - 40	23 - 45	23 - 50

Location Plate

Location plates are required when securing two sections together with clamps attached to the upper and lower sections with both clamps directly opposing each other. The plate is positioned between the two sections to hold the bolts at the correct centres and should be fabricated to the dimensions shown in the table below.

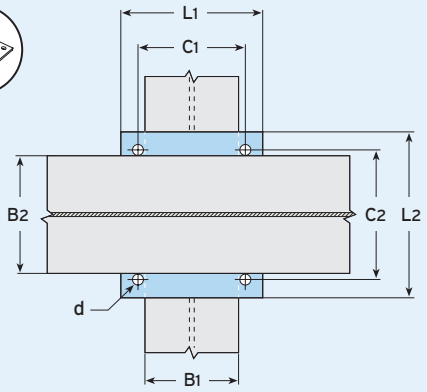


Material: Stainless steel grade 304 / 316.

Bolt Size	Hole Ø d mm	Plate Thick. mm	Hole Centres C1 mm	Length min L1 mm	Hole Centres C2 mm	Width min L2 mm
M10	11	10	B1 + 11	B1 + 70	B2 + 11	B2 + 70
M12	14	12	B1 + 14	B1 + 80	B2 + 14	B2 + 80
M16	18	15	B1 + 18	B1 + 100	B2 + 18	B2 + 100
M20	22	20	B1 + 22	B1 + 130	B2 + 22	B2 + 130

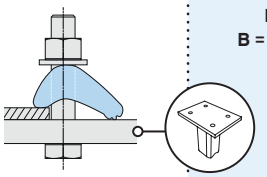
LOCATION PLATE DIMENSIONS

L1 = Location Plate Length, **L2** = Location Plate Width, **B1, B2** = Flange Width, **C1, C2** = Hole Centres, **d** = Hole Ø



End Plate

End Plates should be used when clamps are attached to the supporting section only. The End Plate holds the bolts at the correct centres and should be fabricated to the dimensions shown in the table below.



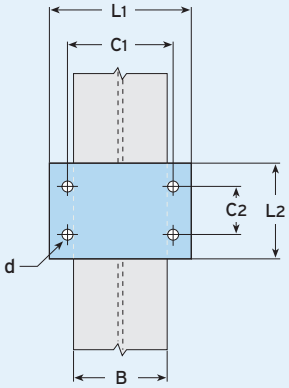
Material: Stainless steel grade 304 / 316.

Bolt Size	Hole Ø d mm	Plate Thick.[1] mm	Hole Centres C1 mm	Length min L1 mm	Hole Centres min C2 mm	Width min L2 mm
M10	11	10	B + 11	B + 70	80	C2 + 60
M12	14	15	B + 14	B + 80	80	C2 + 60
M16	18	20	B + 18	B + 100	110	C2 + 80
M20	22	25	B + 22	B + 130	120	C2 + 90

1) Depending on the type of connection and associated end plate use, the thickness may need to be modified to comply with accepted local design codes.

END PLATE DIMENSIONS

L1 = End Plate Length, **L2** = End Plate Width, **B** = Flange Width, **C1, C2** = Hole Centres, **d** = Hole Ø



- **To calculate the bolt length, add up the total distance that the bolt will pass through, plus half of the bolt diameter. Then round up the total to the nearest available bolt length. An example can be found on page 10.**
- **If drilling through the flange of the supported steelwork please contact Lindapter to ensure suitability.**