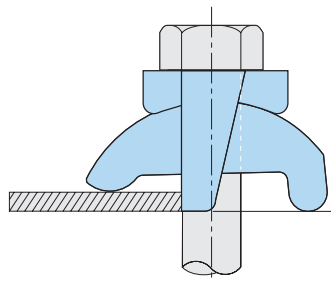
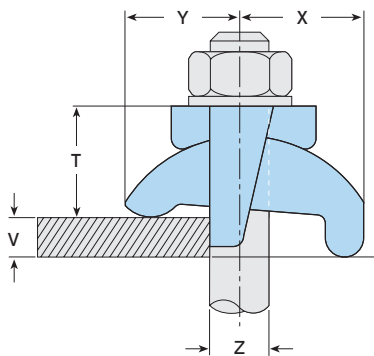
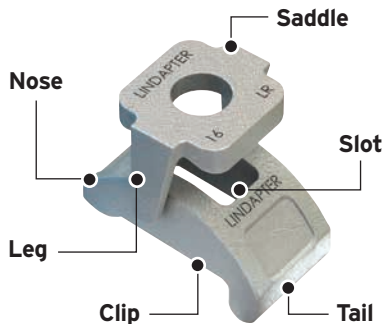


Type LR

A versatile, self-adjusting clamp designed to suit a range of flange thicknesses.



Note 1: When installing, ensure the straight (not tapered) leg of the saddle is in contact with the flange.
Note 2: Y, X and T will vary depending on the thickness of V.

- Clamping ranges from 3mm - 24mm (size M24).
- For parallel and tapered flanges up to and including 15°.
- The leg of the saddle prevents the clamp from rotating.
- The tail spans slotted clearance holes.
- For higher loads the Type AAF should be used, see **page 16**.

➤ Packings are available to increase the clamping range, see **page 24**. Location plate / end plate details can be found on **page 25**.



For Characteristic Resistances when designing a connection to Eurocode 3, refer to DoP No.006 (CE) or DoC No.106 (UKCA) on Lindapter's website. Alternatively, request a DoP or DoC brochure.

Material: Malleable iron, zinc plated or hot dip galvanised.

Product Code	Bolt 8.8 Z	Safe Working Loads (FOS 5:1)		Tightening Torque*	Clamping Range V	Dimensions			Width with Saddle
		Tensile / 1 Bolt kN	Slip / 2 Bolts kN			Y	X	T	
LR10 ¹⁾	M10	1.5	-	20	3 - 10	21 - 24	24 - 26	21 - 24	33
LR12	M12	5.8	0.9	69	3 - 12	26 - 29	25 - 31	25 - 29	39
LR16	M16	8.5	1.7	147	3 - 16	30 - 35	34 - 37	30 - 36	46
LR20	M20	14.7	3.0	285	3 - 20	42 - 49	46 - 51	41 - 48	57
LR24	M24	19.7	4.5	491	3 - 24	47 - 57	52 - 58	44 - 54	76

¹⁾ LR10 available in Hot Dip Galvanised only.

* Torque figures based on bolts / setscrews in an unlubricated condition. For further information on lubricated fasteners see **page 78**.

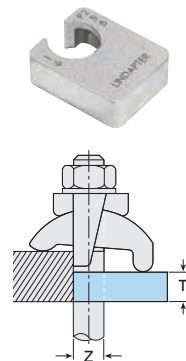


Packing Pieces for Types LR and D2

These packing pieces are compatible with the Types LR and D2 fixings and are used to increase the clamping range to suit a range of flange thicknesses. Please select the correct packing combination from the table below.

Packing Pieces

Type P1 long / Type P2 long

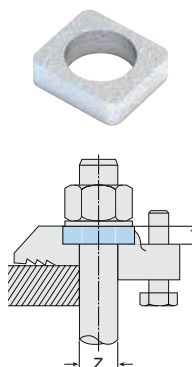


Mild steel, malleable iron, zinc plated or hot dip galv.

Product Code	Bolt Size Z	Dimension T (mm)
P1L10	M10	5
P1L12	M12	6
P1L16	M16	8
P1L20	M20	10
P1L24	M24	12
P2L10	M10	10
P2L12	M12	12
P2L16	M16	16
P2L20	M20	20
P2L24	M24	25

Also Available

Type W



Mild steel, zinc plated or hot dip galvanised.

Product Code	Bolt Size Z	Dimension T (mm)
W08	M8	4
W10	M10	5.5
W12	M12	6
W16	M16	8
W20	M20	10

Note: The Type W is used to fill the recess in the Type D2 to convert it into a flat top clamp to enable the bolt head or nut to be rotated on a hardened washer.

Tail Length / 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.

Packing Combinations for Type LR (Parallel flanges only)

Combinations			Clamping Range				
LR	P1L	P2L	M10 mm	M12 mm	M16 mm	M20 mm	M24 mm
1	-	-	3 - 10	3 - 12	3 - 16	3 - 20	3 - 24
1	1	-	8 - 15	9 - 18	11 - 24	13 - 30	15 - 36
1	-	1	13 - 20	15 - 24	19 - 32	23 - 40	27 - 48
1	1	1	18 - 25	21 - 30	27 - 40	33 - 50	39 - 60
1	-	2	23 - 30	27 - 36	35 - 48	43 - 60	51 - 72
1	1	2	28 - 35	33 - 42	43 - 56	53 - 70	63 - 84
1	-	3	33 - 40	39 - 48	51 - 64	63 - 80	75 - 96

Packing Combinations for Type D2 (Parallel flanges and beams of up to 5° slope)

Combinations			Clamping Range			
D2	P1L	P2L	M10 mm	M12 mm	M16 mm	M20 mm
1 ¹⁾	-	-	5 - 10	5 - 10	6.5 - 13	8.5 - 17
1	-	-	10 - 20	10 - 22	13 - 20	17 - 24
1	1	-	15 - 25	16 - 28	21 - 28	27 - 34
1	-	1	20 - 30	22 - 34	29 - 36	37 - 44
1	1	1	25 - 35	28 - 40	37 - 44	47 - 54
1	-	2	30 - 40	34 - 46	45 - 52	57 - 64
1	1	2	35 - 45	40 - 52	53 - 60	67 - 74
1	-	3	40 - 50	46 - 58	61 - 68	77 - 84

1) Setscrew inverted.

Packing Combinations for Type LR (For IPN-Beams of an 8° slope only)

IPN Profile mm	M10			M12			M16			M20			M24		
	LR	P1L	P2L	LR	P1L	P2L	LR	P1L	P2L	LR	P1L	P2L	LR	P1L	P2L
80	1	-	-	X	-	-	X	-	-	X	-	-	X	-	-
100	1	-	-	1	-	-	X	-	-	X	-	-	X	-	-
120	1	-	-	1	-	-	1	-	-	X	-	-	X	-	-
140	1	-	-	1	-	-	1	-	-	X	-	-	X	-	-
160	1	-	-	1	-	-	1	-	-	1	-	-	X	-	-
180	1	-	-	1	-	-	1	-	-	1	-	-	X	-	-
200	1	-	-	1	-	-	1	-	-	1	-	-	X	-	-
220	1	-	-	1	-	-	1	-	-	1	-	-	1	-	-
240	1	1	-	1	-	-	1	-	-	1	-	-	1	-	-
260	1	1	-	1	-	-	1	-	-	1	-	-	1	-	-
280	1	1	-	1	1	-	1	-	-	1	-	-	1	-	-
300	1	1	-	1	1	-	1	-	-	1	-	-	1	-	-
320	1	1	-	1	1	-	1	-	-	1	-	-	1	-	-
340	1	1	-	1	1	-	1	-	-	1	-	-	1	-	-
360	1	-	1	1	1	-	1	1	-	1	-	-	1	-	-
380	1	-	1	1	1	-	1	1	-	1	-	-	1	-	-
400	1	-	1	1	1	-	1	1	-	1	-	-	1	-	-
425	1	-	1	1	-	1	1	1	-	1	1	-	1	-	-
450	1	-	1	1	-	1	1	1	-	1	1	-	1	-	-
475	1	1	1	1	-	1	1	1	-	1	1	-	1	-	-
500	1	1	1	1	-	1	1	1	-	1	1	-	1	-	-
550	1	1	1	1	1	1	1	-	1	1	1	-	1	-	-
600	-	-	-	1	1	1	1	-	1	1	1	-	1	1	-

LR = Type LR | P1L = Type P1 long | P2L = Type P2 long | X = Not possible

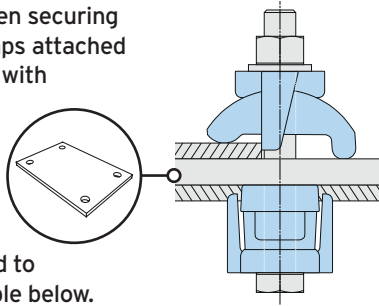
Location and End Plates for Types LR and D2

These plates ensure the clamps and bolts are located in the correct position relative to the supporting steelwork. If you would like help with choosing a suitable plate, please contact Lindapter.

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.

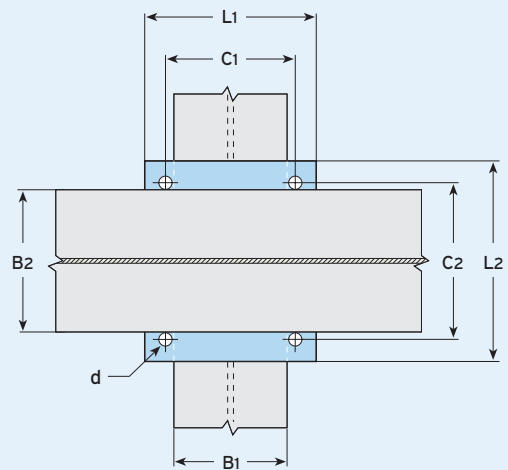


Material: Structural steel grade S355. For other grades contact Lindapter.

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	8	B ₁ + 11	B ₁ + 66	B ₂ + 11	B ₂ + 66
M12	14	10	B ₁ + 14	B ₁ + 81	B ₂ + 14	B ₂ + 81
M16	18	15	B ₁ + 18	B ₁ + 105	B ₂ + 18	B ₂ + 105
M20	22	20	B ₁ + 22	B ₁ + 132	B ₂ + 22	B ₂ + 132
M24	26	20	B ₁ + 26	B ₁ + 156	B ₂ + 26	B ₂ + 156

LOCATION PLATE DIMENSIONS

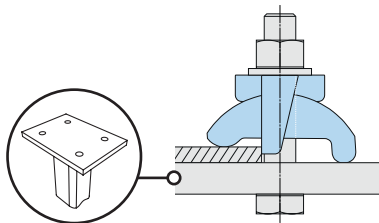
L1 = Location Plate Length, L2 = Location Plate Width,
B₁, B₂ = Flange Width, C1, C2 = Hole Centres, d = Hole Ø



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.



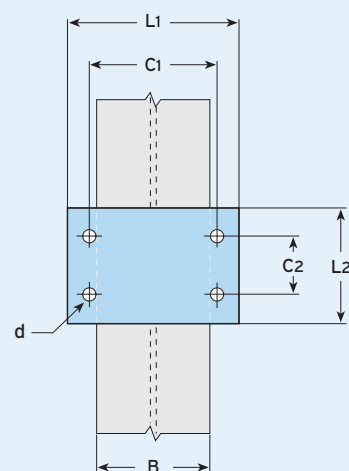
Material: Structural steel grade S355. For other grades contact Lindapter.

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	8	B + 11	B + 66	70	C ₂ + 50
M12	14	10	B + 14	B + 81	80	C ₂ + 60
M16	18	15	B + 18	B + 105	100	C ₂ + 70
M20	22	20	B + 22	B + 132	120	C ₂ + 90
M24	26	20	B + 26	B + 156	150	C ₂ + 110

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.