

Lightweight-Boxes LBR



LBR Lightweight shoring covers the whole range of applications in urban civil engineering projects, particularly the laying of cables and pipes for electricity, gas and water. Depending on the structural requirements and the conditions on site locally, the Lightweight box is either dropped into the finished trench or lowered using the dig-and-push method.

Lightweight shoring is the smallest and lightest trench box in the E+S range. It can be equipped with the high-performance system strut that is also used with Medium and Magnum boxes. The combination of base and top panels permits the shoring of trenches up to 4 m deep. As with all top panels, assembly is simple, quick, but nevertheless safe. Connections with posts and pins eliminate the risk of error.

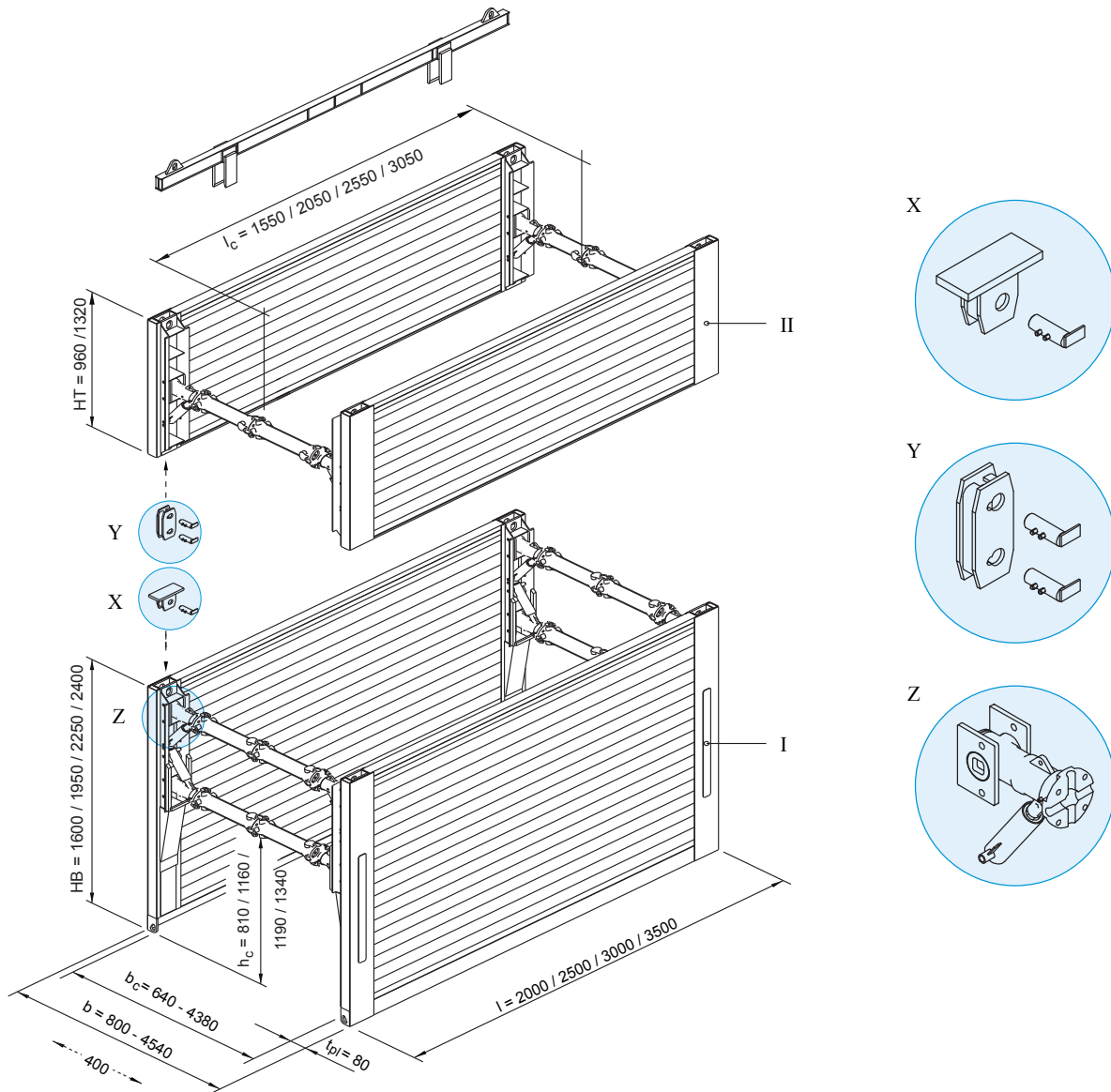
Basic data

Shoring length	2,00 m - 3,50 m
Height base unit	1,60 m / 1,95 m / 2,25 m / 2,40 m
Height top unit	0,96 m / 1,32 m
Pipe culvert height	0,81 m / 1,16 m / 1,19 m / 1,34 m
Weight	745 kg - 1540 kg
Trench width	variable, see page 57

Advantages

- Highly economical shoring solution for urban civil engineering projects
- Can be either dropped in or lowered
- Utmost safety standard
- Strut system compatible with Medium- and Magnum-class shorings
- Easy handling

Lightweight-Boxes



(All dimensions in mm)

I	Base unit	l_c	Pipe culvert length	X	Pressure plate
II	Top unit	b	Shoring / trench width	Y	Connector
HB	Height base unit	b_c	Inner width	Z	Spreader with bearing plate and shock absorber
HT	Height top unit	h_c	Pipe culvert height		
l	Length	t_{pl}	Thickness		

Base units (Height 1,60 m)

Art. No.	l [m]	t _{pl} [m]	h _c [m]	l _c [m]	G / VP [kg]	G / Box [kg]	A [m ²]	eh [kN/m ²]
801 455	2,00	0,08	0,81	1,55	373,0	746,0	3,20	70,5
801 505	2,50	0,08	0,81	2,05	420,0	840,0	4,00	50,9
801 568	3,00	0,08	0,81	2,55	502,0	1.004,0	4,80	34,0
801 578	3,50	0,08	0,81	3,05	538,0	1.076,0	5,60	24,3

Base units (Height 1,95 m)

Art. No.	l [m]	t _{pl} [m]	h _c [m]	l _c [m]	G / VP [kg]	G / Box [kg]	A [m ²]	eh [kN/m ²]
801 475	2,00	0,08	1,16	1,55	423,0	846,0	3,90	58,3
801 525	2,50	0,08	1,16	2,05	478,0	956,0	4,88	46,6
801 565	3,00	0,08	1,16	2,55	548,0	1.096,0	5,85	34,0
801 575	3,50	0,08	1,16	3,05	618,0	1.236,0	6,83	24,3
801 590	4,00	0,08	1,19	3,55	798,0	1.596,0	7,80	18,6

Base units (Height 2,25 m)

Art. No.	l [m]	t _{pl} [m]	h _c [m]	l _c [m]	G / VP [kg]	G / Box [kg]	A [m ²]	eh [kN/m ²]
801 015	2,00	0,08	1,19	1,55	515,0	1.030,0	4,50	61,1
801 055	2,50	0,08	1,19	2,05	595,0	1.190,0	5,63	48,9
801 105	3,00	0,08	1,19	2,55	670,0	1.340,0	6,75	34,0
801 108	3,50	0,08	1,19	3,05	740,0	1.480,0	7,88	24,3
801 109	4,00	0,08	1,19	3,55	960,0	1.920,0	9,00	18,6

Base units (Height 2,40 m)

Art. No.	l [m]	t _{pl} [m]	h _c [m]	l _c [m]	G / VP [kg]	G / Box [kg]	A [m ²]	eh [kN/m ²]
801 210	2,00	0,08	1,34	1,55	550,0	1.100,0	4,80	50,6
801 215	2,50	0,08	1,34	2,05	635,0	1.270,0	6,00	40,5
801 220	3,00	0,08	1,34	2,55	675,0	1.350,0	7,20	34,0
801 110	3,50	0,08	1,34	3,05	770,0	1.540,0	8,40	24,3
801 115	4,00	0,08	1,34	3,55	980,0	1.960,0	9,60	18,6

Top units (Height 0,96 m)

Art. No.	l [m]	t _{pl} [m]	h _c [m]	l _c [m]	G / VP [kg]	G / Box [kg]	A [m ²]	eh [kN/m ²]
801 595	2,00	0,08	-	1,55	278,0	556,0	1,92	70,5
801 625	2,50	0,08	-	2,05	317,0	634,0	2,40	50,9
801 665	3,00	0,08	-	2,55	357,0	714,0	2,88	34,0
801 675	3,50	0,08	-	3,05	395,0	790,0	3,36	24,3
801 676	4,00	0,08	-	3,55	465,0	930,0	3,84	18,6

Top units (Height 1,32 m)

Art. No.	l [m]	t _{pl} [m]	h _c [m]	l _c [m]	G / VP [kg]	G / Box [kg]	A [m ²]	eh [kN/m ²]
801 628	2,00	0,08	-	1,55	341,0	682,0	2,64	70,5
801 630	2,50	0,08	-	2,05	391,0	782,0	3,30	50,9
801 635	3,00	0,08	-	2,55	408,0	816,0	3,96	34,0
801 680	3,50	0,08	-	3,05	430,0	860,0	4,62	24,3
801 678	4,00	0,08	-	3,55	573,0	1.146,0	5,28	18,6

Extension bars

Art. No.	Short description	l [m]	G [kg]
850 091	Extension bar GGG 50	0,250	11,2
850 100	Extension bar GGG 50	0,550	18,7
850 112	Extension bar HEB 180	0,275	28,0
850 110	Extension bar HEB 180	0,550	43,0
850 124	Extension bar HEB 180	1,100	70,0
850 132	Extension bar HEB 180	1,650	100,0
850 135	Extension bar HEB 180	2,200	130,0

Trench widths (for cast iron tubular extension bars l = 0.55 m)

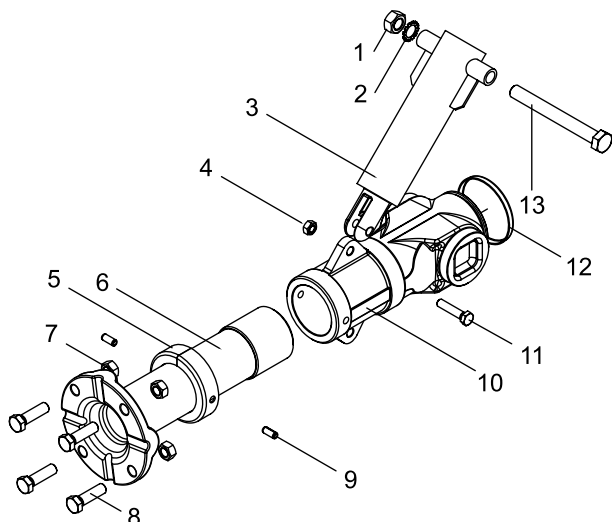
Number of extension bars	Length extension bars [m]	b _c [m]	b [m]
0	0,00	0,64 - 1,08	0,80 - 1,24
1	0,55	1,19 - 1,63	1,35 - 1,79
2	1,10	1,74 - 2,18	1,90 - 2,34
3	1,65	2,29 - 2,73	2,45 - 2,89
4	2,20	2,84 - 3,28	3,00 - 3,44
5	2,75	3,39 - 3,83	3,55 - 3,99
max. 6	3,30	3,94 - 4,38	4,10 - 4,54

From-to sizes dependent on spindle adjustment range.

Other trench widths possible by combining the two different extension bar lengths l = 0.25 m and l = 0.55 m.

Larger trench widths available on request.

l	Length	h _c	Pipe culvert height	G	Weight
l _c	Pipe culvert length	t _p	Thickness	G / VP	Weight per shoring panel
b	Trench width	d	Diameter	G / Box	Weight per shoring box
b _c	Inner width	A	Area	eh	Earth pressure max.

E+S spreader, complete, right/left, with shock absorber

1	Nut M 20
2	Lock washer A 20
3	Shock absorber
4	Nut M 12
5	Metal cap for spindle
6	Spindle, right / left
7	Nut M 16
8	Hexagon screw M 16 x 55
9	Damping sleeve 10 x 24 mm
10	Cast-iron nut, right / left
11	Hexagon screw M 12 x 55
12	PVC dust cap for spindle nut
13	Hexagon screw M 20 x 180

Accessories / Spares

Art. No.	Short description	l [m]	d [m]	G [kg]
842 752	Adapter for DKU piling frame, corner shoring, h = 0.50 m KDVI			55,0
842 753	Adapter for DKU piling frame, corner shoring, h = 1.00 m KDVI			94,0
842 750	Adapter for DKU piling frame, E+S spreader			31,0
850 699	Bar for adjusting E+S/Krings spindles (Medium, Magnum, KS 100, slide rail)	0,7	0,024	2,5
302 125	Bearing plate -closed-			4,2
850 500	Cast iron connector (for Medium boxes, Magnum boxes, Manhole)			6,7
862 214	Connector (for Linear box, top unit with struts)			6,1
HB 0190 F	Damping sleeve 10 x 24 mm			0,01
842 099	DKU piling frame guide frame	2,27		105,0
842 100	DKU piling frame guide frame	3,81		175,0
859 981	Drop-in bearing block, E+S			25,6
HD 0110 F	Grease nipple		0,01	0,01
HD 0050 F	Metal cap for spindle			0,1
HD 0013 F	Metal cap for spindle housing			0,2
IA 0095 F	Nut M 12			0,01
IA 0120 F	Nut M 16			0,03
IA 0130 F	Nut M 20			0,03
IA 0185 F	Nut M 30			0,30
HD 0040 F	PE cap for the spindle			0,01
850 600	Pin	0,195	0,035	1,8
850 610	Pin (for Lightweight box)	0,095	0,030	0,5
850 614	Pin 200 x 40 mm (Linear box boogie car)			1,9
851 010	Pressure plate (for Lightweight-Boxes)			7,0
851 005	Pressure plate (for Medium Boxes, Magnum Boxes, Manhole)			19,0
IB 0215 F	Screw M 12 x 55			0,06
IB 0310 F	Screw M 16 x 55			0,11
IB 0420 F	Screw M 20 x 180			0,56
IB 0360 F	Screw M 20 x 45			0,17

Accessories / Spares (contd.)

Art. No.	Short description	l [m]	d [m]	G [kg]
300 100	Shock absorber	0,143		4,5
GB 0070 E	Spindle housing, left hand			9,4
GB 0040 E	Spindle housing, right hand			9,4
GB 0090 E	Spindle, lefthand -heavy duty-			17,1
GB 0080 E	Spindle, lefthand -hollow-			9,5
GB 0030 E	Spindle, righthand -heavy duty-			17,1
GB 0020 E	Spindle, righthand -hollow-			9,5
301 010	Spreader complete, left hand -heavy duty-			27,1
301 000	Spreader complete, left hand -hollow-			19,5
300 010	Spreader complete, right hand -heavy duty-			27,1
300 000	Spreader complete, right hand -hollow-			19,5
159 161	Spring cotter (850 614)			0,1
HE 0050 F	Spring cotter 6 mm		0,006	0,03
ID 0160 F	Spring ring A 20			0,01
336 960	Support bracket for DKU piling frame element			40,0
821 100	Suspension chain KL-13-8	5,000		25,7

l	Length	h_c	Pipe culvert height	G	Weight
l_c	Pipe culvert length	t_{pl}	Thickness	G / VP	Weight per shoring panel
b	Trench width	d	Diameter	G / Box	Weight per shoring box
b_c	Inner width	A	Area	eh	Earth pressure max.