

# KVL



The small steel box designed specifically for inner city shoring jobs is ideal for the laying and modernisation of gas and water pipes as well as telephone lines, power cables, and for the creation of service lines. Thanks to their low weight, the boxes are suitable for handling with small-scale excavators.

Sturdy struts, which can be adjusted to the desired trench width and quickly replaced (secured with pins and retaining clips), and sling lugs on the four corner posts simplify the handling of this type of shoring. Despite their low weight, the assembled boxes are robust and suitable for installation by placement in the ready-dug trench.

With the aid of an adapter, the 98 x 550 and 98 x 700 spindles can also be used on the KS 60 and KS 100 boxes.

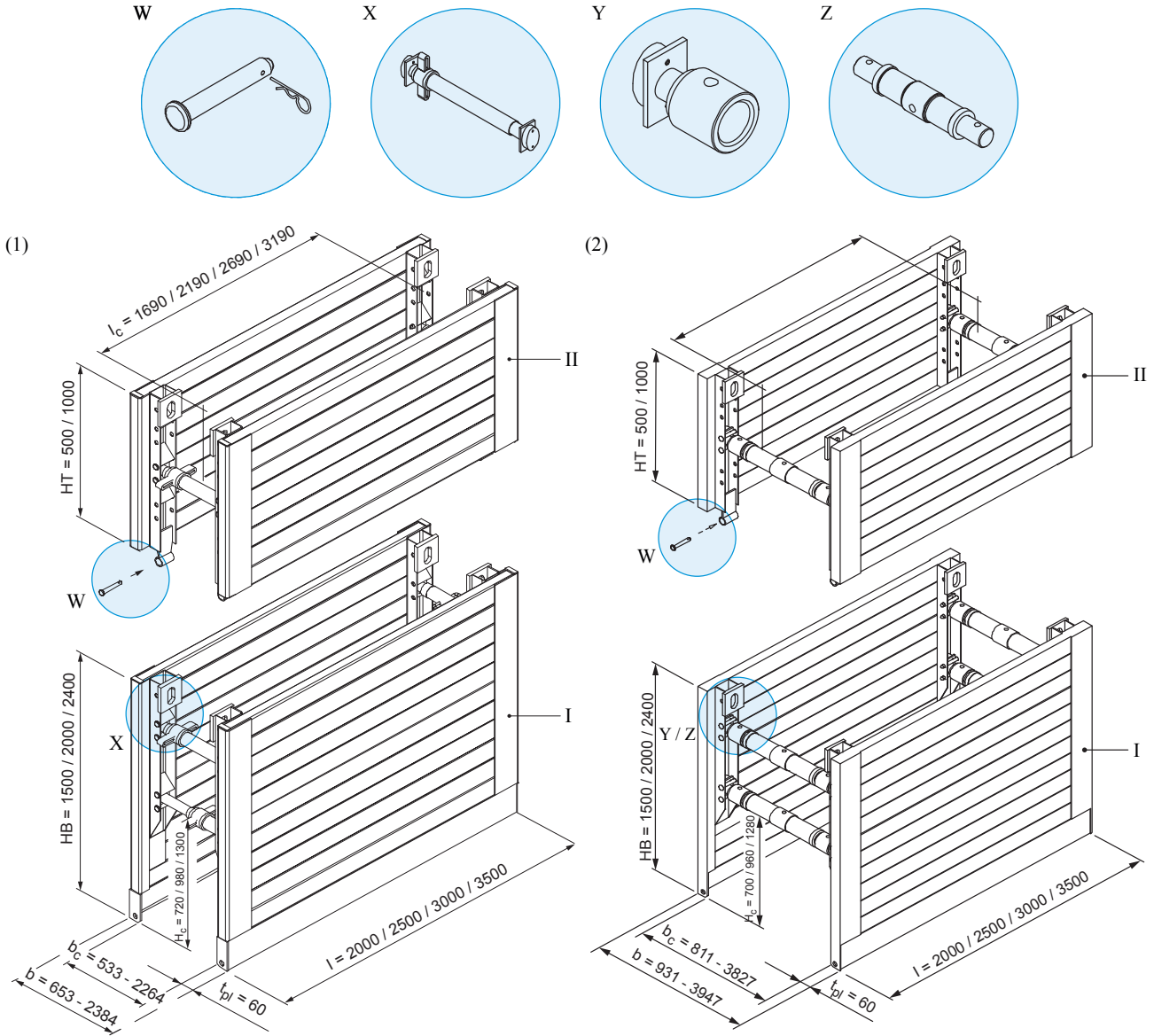
### Basic data

Shoring length	2,00 m - 3,50 m
Height base unit	1,50 m / 2,00 m / 2,40 m
Height top unit	0,50 m / 1,00 m
Pipe culvert height	0,72 m / 0,97 m / 1,30 m
Weight	527 kg - 1123 kg
Trench width	variable, see page 80/81

### Advantages

- Suitable for use in urban centers
- Lightweight design
- Ideal for handling with small-scale wheel excavators

(1) KVL, (2) KVL with spindle 98x550 or 98x700 and adapter



(All dimensions in mm)

I	Base unit	$l_c$	Pipe culvert length	W	Pin
II	Top unit	b	Shoring / trench width	X	KVL spindle
HB	Height base unit	$b_c$	Inner width	Y	Adapter
HT	Height top unit	$h_c$	Pipe culvert height	Z	Spindle 98x...
l	Length	$t_{pl}$	Thickness		

**Base units**

Art. No.	l [m]	h [m]	t <sub>pl</sub> [m]	h <sub>c</sub> [m]	l <sub>c</sub> [m]	G / VP [kg]	G / Box [kg]	A [m <sup>2</sup> ]	eh [kN/m <sup>2</sup> ]
111 030	2,00	1,50	0,06	0,72	1,69	235,0	527,0 *	3,00	57,9
111 050	2,50	1,50	0,06	0,72	2,19	252,0	561,0 *	3,75	38,2
111 080	3,00	1,50	0,06	0,72	2,69	310,0	677,0 *	4,50	25,5
111 040	2,00	2,00	0,06	0,98	1,69	295,0	647,0 *	4,00	32,2
111 060	2,50	2,00	0,06	0,98	2,19	350,0	757,0 *	5,00	25,7
111 090	3,00	2,00	0,06	0,98	2,69	400,0	857,0 *	6,00	21,4
111 092	3,50	2,00	0,06	0,98	3,19	465,0	987,0 *	7,00	18,3
111 091	3,00	2,40	0,06	1,30	2,69	470,0	997,0 *	7,20	21,6
111 093	3,50	2,40	0,06	1,30	3,19	533,0	1.123,0 *	8,40	18,3

\* with spindle 70x650

**Top units**

Art. No.	l [m]	h [m]	t <sub>pl</sub> [m]	h <sub>c</sub> [m]	l <sub>c</sub> [m]	G / VP [kg]	G / Box [kg]	A [m <sup>2</sup> ]	eh [kN/m <sup>2</sup> ]
111 130	2,00	0,50	0,06	-	1,69	92,0	214,0 *	1,00	32,0
111 150	2,50	0,50	0,06	-	2,19	105,0	240,0 *	1,25	32,0
111 170	3,00	0,50	0,06	-	2,69	130,0	290,0 *	1,50	30,6
111 172	3,50	0,50	0,06	-	3,19	150,0	330,4 *	1,68	21,9
111 120	2,00	1,00	0,06	-	1,69	165,0	360,0 *	2,00	32,0
111 140	2,50	1,00	0,06	-	2,19	195,0	420,0 *	2,50	32,0
111 160	3,00	1,00	0,06	-	2,69	217,0	464,0 *	3,00	30,6
111 174	3,50	1,00	0,06	-	3,19	245,0	520,4 *	1,68	21,9

\* with spindle 70x650

**Extension bars**

Art. No.	Short description	l [m]	G [kg]
118 060	Spindle - 70x650 (rubber pad round)	0,523 - 0,617	12,2
118 070	Spindle - 70x740 (rubber pad round)	0,613 - 0,797	13,4
118 090	Spindle - 70x920 (rubber pad round)	0,799 - 1,161	15,8
118 020	Spindle - 70x1280 (rubber pad round)	1,153 - 1,878	20,5
118 100	Spindle - 70x1470 (rubber pad round)	1,339 - 2,254	24,0

**Trench widths**

Art. No.	Short description	Stroke [m]	b <sub>c</sub> [m]	b [m]
118 060	Spindle - 70x650 (rubber pad round)	0,094	0,533 - 0,627	0,653 - 0,747
118 070	Spindle - 70x740 (rubber pad round)	0,184	0,623 - 0,807	0,743 - 0,927
118 090	Spindle - 70x920 (rubber pad round)	0,362	0,809 - 1,171	0,929 - 1,291
118 020	Spindle - 70x1280 (rubber pad round)	0,725	1,163 - 1,888	1,283 - 2,008
118 100	Spindle - 70x1470 (rubber pad round)	0,915	1,349 - 2,264	1,469 - 2,384

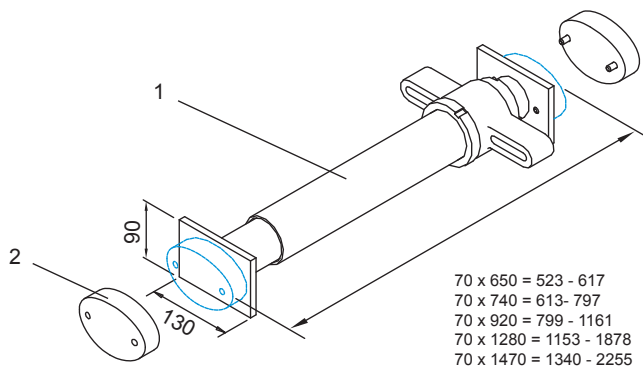
### Shoring widths for spindle 98x550 with adapter

Extension bar	l [m]	b <sub>c</sub> [m]	b [m]
	without	0,811 - 1,011	0,931 - 1,131
139 430	0,30	1,111 - 1,311	1,231 - 1,431
139 445	0,50	1,311 - 1,511	1,431 - 1,631
139 385	1,00	1,811 - 2,011	1,931 - 2,131
139 400	1,50	2,311 - 2,511	2,431 - 2,631
139 420	2,00	2,811 - 3,011	2,931 - 3,131
139 425	2,50	3,311 - 3,511	3,431 - 3,631

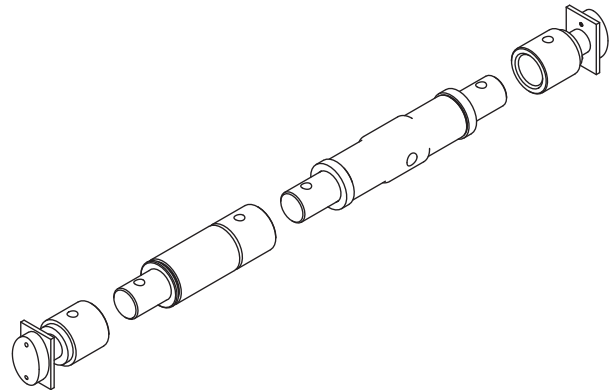
### Shoring widths for spindle 98x700 with adapter

Extension bar	l [m]	b <sub>c</sub> [m]	b [m]
	without	0,987 - 1,327	1,107 - 1,447
139 430	0,30	1,287 - 1,627	1,407 - 1,747
139 445	0,50	1,487 - 1,827	1,607 - 1,947
139 385	1,00	1,987 - 2,327	2,107 - 2,447
139 400	1,50	2,487 - 2,827	2,607 - 2,947
139 420	2,00	2,987 - 3,327	3,107 - 3,447
139 425	2,50	3,487 - 3,827	3,607 - 3,947

#### (1) KVL spindle, 70 x 650 / 740 / 920 / 1280 / 1470



#### (2) KS spindle with KVL adapter



1	Spindle	2	Rubber parts (elliptical)
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### Accessories / Spares

Art. No.	Short description	l [m]	d [m]	G [kg]Standard
139 070	Chain sling connection, 4-leg, 2300 x 13	2,30		45,0
139 080	Chain sling connection, 4-leg, 2800 x 13	2,80		57,0
119 011	KVL adapter for spindles 98x530 / 98x700			7,6
138 030	Pin 125 x 20	0,125	0,020	0,4
861 077	Pressure beam (Lightweight shoring, KS 60, KVL)	1,80		80,0
861 078	Pressure beam (Lightweight shoring, KS 60, KVL)	2,30		95,0
861 079	Pressure beam (Lightweight shoring, KS 60, KVL)	2,80		110,0
861 080	Pressure beam (Lightweight shoring, KS 60, KVL)	3,30		125,0

**Accessories / Spares (contd.)**

Art. No.	Short description	l [m]	d [m]	G [kg]Standard
100 690	Rubber parts GPU 30 x 40			0,1
138 200	Spring cotter 92 x 5	0,092	0,005	0,1
821 100	Suspension chain KL-13-8	5,000		25,7

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