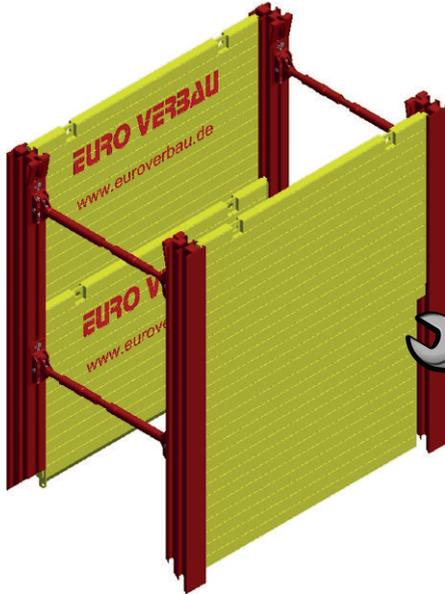


# MANUAL



## SUPER SLIDE RAIL SYSTEM DG-SL

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**VERBAUSYSTEME VON VERBAU-PROFIS**

*Verbau-, Ramm- und Tiefbautechnik*  
Produktion - Verkauf - Vermietung - Service

**These instructions for use must be presented to the building site personnel.**

The diagram relating to the stress on the lower strut must be observed, as well as the load capacity diagram (characteristic stress curve) of the strut type. With the strut stress determined from the stress diagram, it must be checked on the load capacity diagram for the strut whether it is possible to use the required trench width.

## 1. General purpose of use

The slide-rail shoring with a max. bending moment of the base rail of up to  $M_s = 379 \text{ kNm}$  is perfect for deeper pipe laying jobs, where working with boxes gets more difficult. Also the possibility to dismount spindle when under pressure, make this a special slide rail.

## 2. Specifications

Rail height:	0,32 m
Rail length:	2,00 m / 4,50 m / 5,50 m
Weight:	290 kg / 545 kg / 667 kg

## 3. Safety regulations

**WARNING**

We refer to the fact that the above shoring system is only for the intended use and may only be mounted, installed, dismantled and unmounted in the sequence listed under points 4 - 7, exclusively with the use of all relevant "original construction elements".

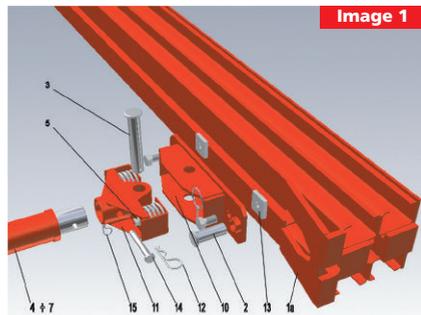
The shoring plates used are slide-rail plates of the KRA/KRI VS 100 type (plate thickness 105 mm) and KRA/KRI VS 120 (plate thickness 125 mm). If this is not observed, the manufacturer's liability and warranty are invalid. Observe the load-bearing capacity of the shoring elements.

### Note:

All of the requirements of BG-Bau (the professional association) as well as DIN 4124 "Excavations and trenches, embankments, workroom widths, shoring" are applicable. In the event of conditions deviating from the standard conditions, construction site statics must be prepared.

## 4. Assembly:

- Lay the slide rail (Fig. 1a) on the ground with its slide guide turned to the side.
- Insert the pretensioned mushrooms (11) into the slides (10), attach with bolts (3)  $d = 43 \text{ mm}$ ,  $L = 212 \text{ mm}$  and secure with safety clips (12). Detension the mushrooms by loosening the nuts (5).  
Note: Two mushrooms (11) with a spindle (7) and possibly an extension pipe (4) form one spindle unit.  
Only one extension pipe per spindle unit of max. 2.50 m length may be used. The number of spindle units on one slide rail is determined by the statics or the construction site conditions.
- Insert two threaded plates (13) per slide into the slide guide of the slide rail. Place the slide (10) with the mounted mushroom (11) onto the slide guide and screw it in place loosely with screws (9). The exact position of the premounted slides is determined by the statics or the construction site conditions. The construction site management will issue mandatory statements in this respect.
- Secure the slides with bolts (92) and linchpins in one of the boreholes of the slide guide.
- Secure the prepositioned slides by tightening the screws to 70 kNm using a torque wrench.
- Insert the appropriate number of spindles (7) into the mushrooms (11). Insert the bolts (14)  $d = 20 \text{ mm}$  and secure with safety clips (15).
- If necessary, i.e. according to the trench width, attach extension pipes (4) (see Fig. 1a) to the spindles and secure them with bolts (6) and safety clips (8). Only one extension pipe may be used per spindle unit for static reasons. (Except SP SB 98x817!)



- h) Attach the second slide rail (1b) equipped with mushrooms onto the mounted spindle/extension pipes and bolt and secure them as described above.
- i) Using a spindle key on the spindles, increase the lower distance of the slide rails by 5 - 6 cm (Fig. 2).

## 5. Installation

Protect the slide-rail pairs and plates (Fig. 3a, 16 + 17) against damage before insertion by the excavator by attaching the protection rails (21) and rail protectors(8) to them. The max. distance per insertion procedure is shown in Fig. 2. For example, a ditch width of 300 cm results in a distance of 30 cm. If the distance is greater than that shown in Fig. 2, the components of the shoring unit may become damaged.

- a) Excavate a trench of approx. 1.00 m - 2.00 m depth and with a length equal to the shoring plate length. A shoring plate must be pushed (or secured if necessary) into this trench and aligned so that it can no longer be tilted.
- b) Attach the first ready-mounted slide-rail pair with an appropriate lifting device and slide over the guide profile of the shoring plate with the external guide of one slide rail. The load capacity of the vertically hanging individual strand of the pendant must be designed for a payload of at least 2.8 t.
- c) Insert a second plate into the outer guide of the other slide rail and align it (Fig. 3). To align it, cables may be attached to the eyes of the blade of the shoring plate.
- d) Stick a second slide-rail unit over the free ends of the already inserted plates using the outer guides.
- e) Excavation in sections between the plates and press down both the plates and the slide-rail pair by the above-mentioned distance using the excavator scoop. The plates should lead by approx. 20 cm during lowering.
- f) If the plate head has reached the upper edge of the trench, then insert a second plate (16) into the inner guide of the slide rails if necessary, as far as the height of the blade of the first plate. Press in the inner plate further, as described in 5.e. If necessary, slide support plates (17) into the inner slide-rail guide and connect them to the lower plate (16) by means of locking pins (19)  $d = 43$  mm,  $L = 125$  mm and linchpins (20) (Fig. 3/3a).

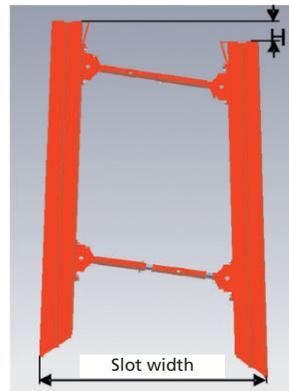


Image 2

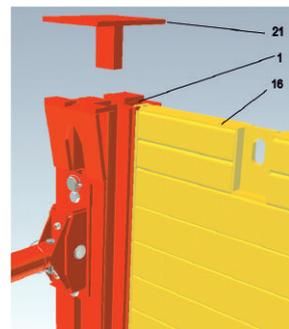
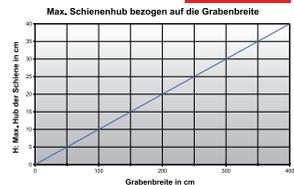
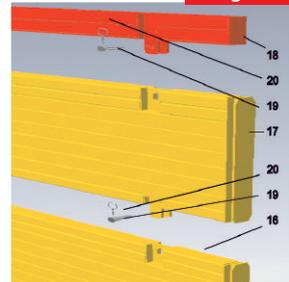


Image 3a



## 6. Dismantling

- a) Insert the backfilling material in layers (observing the compaction level).
- b) Pull out the plates and slide-rail pairs up to the filled area. In doing so, start from the inner plate. The height of the respective excerpt is according to Fig. 2.
- c) Compact the backfilling material.
- d) Restart at point 6.a, until the shoring is completely pulled out of the earth.

## 7. Disassembly

Before transporting away the shoring unit, it is disassembled analogously to the assembly but in the reverse sequence. The mush rooms must be left in the tensioned state.

## 8. Maintenance / Service

On each disassembly, the shoring units should be cleaned. The free strut ends must be cleaned and kept in a well-lubricated state. The entire shoring unit must be protected against corrosion caused by handling damage by the use of appropriate protective measures.

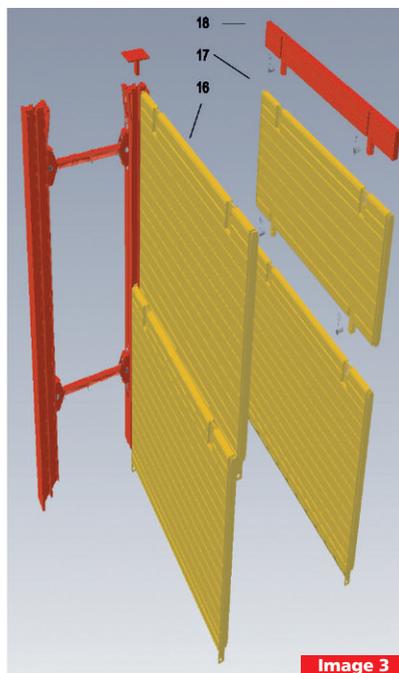
## 9. Transport

When unloading, you should store the supplied wooden blocks and the rubber plates appropriately. These parts must always be re-used for the return transport. As the shipper, you are co-responsible for the appropriate shipping of the return transport.

## 10. System diagrams

The below diagrams show the max. permitted spindle length in relation to the earth pressure in the most frequently occurring spindle positions. If the required shoring width cannot be achieved with the SP SB 98 x 700 strut (B, C or D) at a specific earth pressure, then either the stronger shoring strut SP SB 98x817 (A) can be used or the struts can be replaced by steel profiles, e.g. I-beams. When replacing the shoring struts with steel profiles, a static verification must be provided in all cases.

If the earth pressure is known, then the permitted strut length in a specific system can be read from the below system diagrams and the shoring width can be determined with the below table.



Shoring plate	Trench width	Internal plate dimensions
KRA(105) (externally flush)	strut length + 624 mm	strut length + 124 mm
KRI (105) (internally flush)	strut length + 548 mm	strut length + 48 mm
KRA(125) (außenbündig)	strut length + 669 mm	strut length + 119 mm
KRI (125) (innenbündig)	strut length + 553 mm	strut length + 3 mm



Manufacturer Certification in Compliance  
with DIN EN 1090-2

