

IS *Intelligent
Systems*

The World of Security

Instruction Manual



K-Safes

**Access Control
Systems**

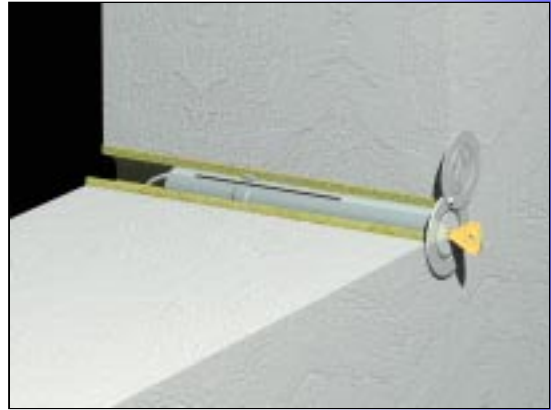
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General

The simple installation of *K-Safes*

The installation requires an uncomplicated and timesaving drilling. For example a 52 mm diameter drill. This depends on the model of *K-Safe* key safe. The *K-Safe* key safe is fixed precisely with cementing material in the facade. The cementing material together with a metal ring of 1cm strength prevents the storage safe tube from violent retraction.



The mounting can be done by the customer or through our qualified personal.

Model: *K-Safe light*

For a proper mounting of the key safe, please note the following:

Mounting location

Preferably, the mounting location shall be all weather-protected location, for example niches, canopies, etc. The shipment of the safe does not include any mounting material. If the customer mounts the *K-safe* it is up to the customer to fix the safe at appropriate locations.

Core drilling in concrete or walling

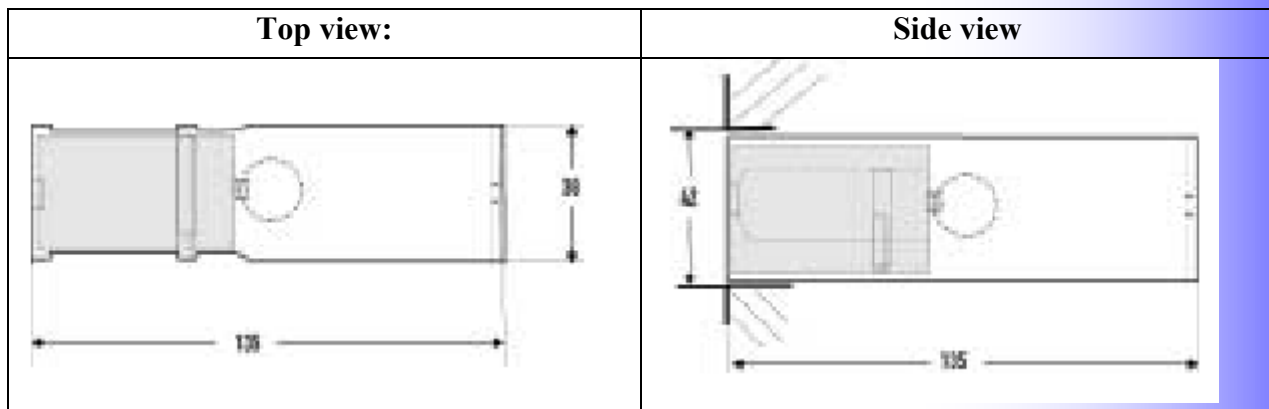
Drill a hole of 135 mm depths with a core drill of 42 mm diameter. The hole shall have a forward slanting angle of approx.5 degrees, so that any possible fluids (for example condensate) can run out of the key safe.

Fixing

For segmental anchors, for example HAS M6x65 made by Hilti (call your local *K-Safe* dealer), you must drill an additional hole of minimum 55 mm depth with a steel drill of 6 mm length. Drive the segmental anchor into this drilling hole. Coat the core drilling with a thin layer of fast cement and press the safe into the fresh cement until the safe flushes with the wall and the anchor thread reaching the rear side of the safe. Fix the segmental anchor in the drill hole according to the manufacturer 's instructions. Instead of cement, you can also use PU-Fix glue (cartridge 310 ml). Prepare the glue according to the processing instructions and apply it at several places around the safe. Slide the safe into the core drilling until it flushed with the facade. Press the cover rosette into the soft glue (or cement) and check the flushing with the facade.

Remove possible glue remnants (cement remnants) to ensure a perfect function. If the safe is fixed in a metal column or at a metal pillar, the safe can be welded with a refined steel electrode or fixed with a metric stud bolt M6 that was welded at the pillar and fixed with a nut. If, as an alternative, there is a metric thread, the safe will be fixed with a screw maximal M6 via the rear housing.

Note: For the mounting of the cover rosette it is recommended to use mounting glue or silicone (for example optional PU-Fix glue, grey, cartridge 310 ml).



Caution: The illustration does not correspond with the assembling position. Please note a forward slanting gradient of 5 degrees!

Model: *K-Safe* basic, *K-Safe* PLUS, *K-Safe* Push, *K-Safe* electronic

Mounting

Please carefully observe the correct mounting position of the device. A sticker on the product identifies front/top. All safes have an additional plastic plug as dirt protection at their rear sides. A *K-Safe* must be mounted on the facade surface in a stable position with a slanting gradient of approx. 5 degrees to the front so that possible condensate/fluids can leave the safe. Weather-protected locations are preferred. Use a core drill to drill a hole of 300 mm length (diameter: diameter of safe tube + 2 mm). The core drillings shall have a depth of 240 mm and 250 mm respectively. If versions with cable connectors are used, the drilled hole shall have a wall opening of 15 mm diameter. For a proper connection to the surrounding material, it is recommended to use a PU compact glue (please follow the manufacturer's processing instructions). This glue is in our product range. Before you insert the safe, please protect it with the enclosed plug. The safe is protected against penetrating glue or any other dirt. Please observe the position sticker for a proper installation. Apply the adhesive at several locations around the safe. Insert the safe into the core drilling. Pay attention to possible cables. For all versions, except the *K-Safe* electronic, the plaster cover must now be inserted into the clammy adhesive. Please ensure a flushing with the facade. After the adhesive has dried out, cut out the plug with a screwdriver. If you install the *K-Safe* electronic, please observe the enclosed system descriptions for mounting and connecting. Finally, connect all possible cables.

Electrics

The six-wire, white cable delivered with the *K-Safe* PLUS, Push or electronic device has only white wires for sabotage protection. The wires can be identified from their different lengths. The arrangement is as follows:

Short pair primary wire for monitoring action

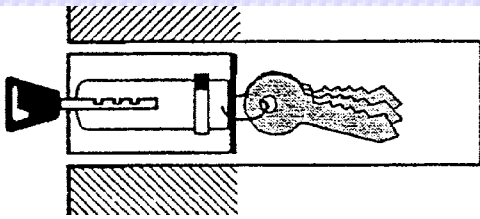
Medium pair reverse report object key (locker)

Long pair E-opener and acoustical signaller (modify the polarity to switch the buzzer on/off)

The *K-Safe* basic 2 has a six-wire cable without connection to the E-opener. All wires have the same length and can be identified with a circuit continuity tester.

Note: When using magnetic or magnetized object keys, there may be, in very seldom cases, undefined behaviour of the object key monitoring!

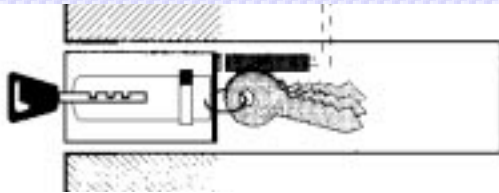
Model overview



K-Safe light

Tube body length 135 mm, diameter: 38 mm, locking cylinder with two safe keys for single locking, key ring

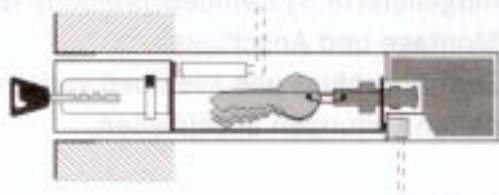
Options: none



K-Safe BASIC 1

Tube body length 235 mm, diameter: 38 mm, locking cylinder with two safe keys for single locking, key ring, plaster cover with dust cover

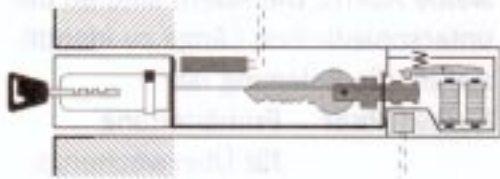
Options: cylinder monitoring contact (diameter with cylinder monitoring 42 mm)



K-Safe BASIC 2

Tube body length 235 mm, diameter: 42 mm, locking cylinder with two safe keys in single locking, holding device, mechanical key adaptor, key monitoring contact, cylindrical filler, plaster cover with dust cover

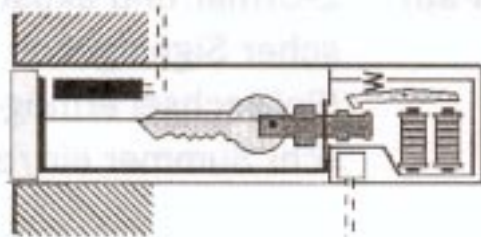
Options: cylinder monitoring contact (diameter with cylinder monitoring: 44 mm). Instead of the cylinder monitoring contact a mechanical blocking against closing without object key



K-Safe PLUS (VdS-Approval-No.G 19 80 64)

Tube body length 235 mm, diameter: 48 mm, locking cylinder with two safe keys in single locking, holding device, mechanical key adaptor, key monitoring, electrical opener 12 or 24 V, cylinder monitoring, plaster cover with dust cover

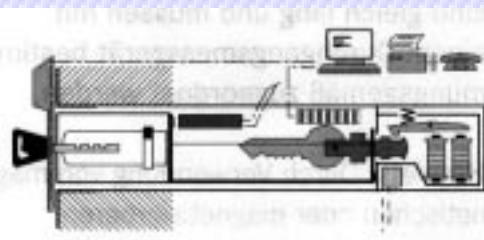
Options: cylinder monitoring contact (diameter with cylinder monitoring: 44 mm)



K-Safe PUSH

Tube body length 200 mm, diameter: 42 mm, press push button, holding device, mechanical key adaptor, key monitoring contact, electrical opener 12 or 24 V, plaster cover with dust cover

Options: cylinder monitoring contact (diameter with cylinder monitoring: 44 mm)



K-Safe ELECTRONIC

Tube body length 235 mm, diameter: 46 mm, locking cylinder incl. one safe key with transponder, holding device, mechanical key adaptor, key monitoring contact, electrical opener, plaster cover with integrated transponder aerial for access monitoring, transponder aerial and a transponder for electronically object key monitoring, central access monitoring device

Options: cylinder monitoring contact

Model K-Safe service electronic

Mounting instruction

For an appropriate mounting of the *K-Safe* service electronic, please note the following:

The *K-Safe* service safes can be easily mounted - and still guarantee the optimum security

1. The mounting plate made of glass-fibre reinforced polyamide can be fixed on the masonry or on any suitable grounding.
2. Then the service safe is hooked into the mounting plate. Additional power supply or data lines can be inserted.
3. Being open the V2A housing is fixed with two screws at the mounting plate and the service safe is ready for use.



1. With the mounting plate as a template mark four drilling holes on the facade (for counter bores see Fig.2).
2. At the marks drill with an 8 mm drill holes of 25 mm minimum depth into the facade.
3. Insert the enclosed dowels (EAW H6) into the drill holes and hammer the anchors with a drift pin into the facade.
4. Fix the base plate with the four flat-head screws at the wall.
5. Set the safe onto the mounting plate and engage it downwards.
6. Fasten the two allen screws M 6 (in Fig.1 marked in black) under the extracted insert to fix the safe at the mounting plate.

Battery change

Please replace the battery well in time, since after a complete failure, only the emergency key (call your local **K-Safe** Dealer) can open the safe.

1. Open the service safe and loosen the two allen screws M 6 (in Fig.1 marked in black) under the extracted drawer to take the safe from the fixing plate.
2. Loosen the allen screws at the rear side of the safe (in Fig.3 marked in black) and carefully remove the base plate.
3. You can now replace the battery.
4. Please make sure that the cables under the battery are pressed into the relief, otherwise the safe cannot be closed.
5. Now the device can be reassembled.

Operational instructions

Before any use please program the operator key with the EL software. Then connect the enclosed battery (see software manual). Insert the operator key into the socket. The signalling LED shows that the service safe is now unlocked. Shortly press onto the key insert, the safe opens and you can take out the stored key (object key). You close the safe in pushing the key insert back into the housing. This action does not require the operator key. Every opening action is stored in the chip of the operator key and can be read with the EL software (see manual). The integrated block battery has a life cycle of approximately one year based on a daily use. If the voltage reaches a critical stage, an LED of the service safe will signal.

Shipment list:

- 1 Housing with mounted base plate
- 1 Fixing plate for wall installation
- 4 Flat-head screws M 6 x 20
- 4 Drive-in anchor for flat-head screws
- 2 Allen screws M 6 x 10 (allen wrench 4 mm) to attach the housing at the fixing plate
- 1 Key ring
- 1 Block battery (9 Volt)
- 3 Allen wrench (2,5mm; 3mm und 4 mm)

Factory preinstalled:

- Housing and base plate
- Electronic board, E-opener, locking mechanism in body
- Key insert in body
- Block battery in body

Drawings

Fig. 1: Side view

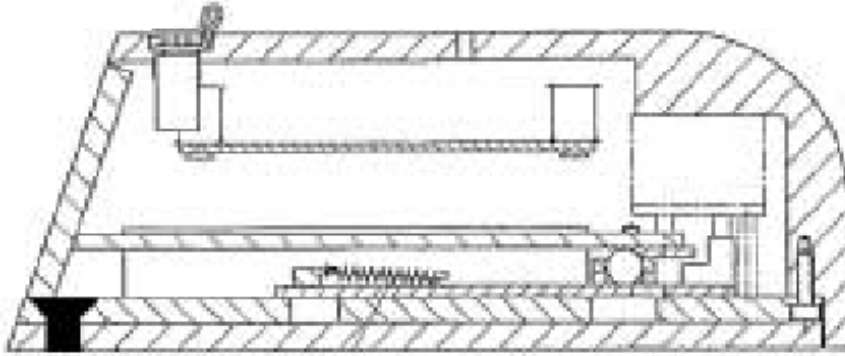
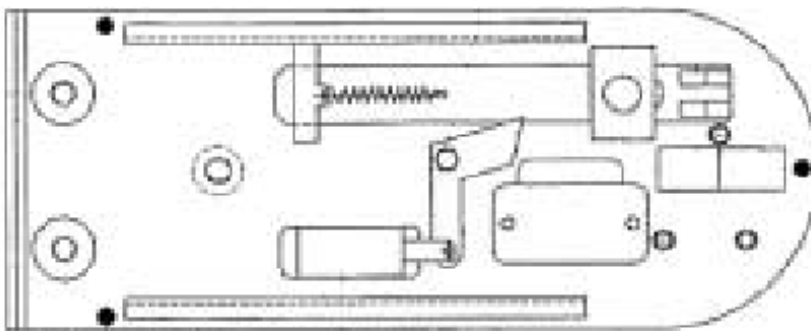


Fig. 2: Mounting plate for wall installations



Fig. 3: Top view base plate



Model K-Safe service, push



Mounting instructions

For an appropriate mounting of the *K-Safe* service push, please note the following (see also *K-Safe* service electronic):

1. With the mounting plate as a template mark five drilling holes on the facade (counter-bores and black markings see Fig.2).
2. At the marks drill with an 8 mm drill holes of 25 mm min. depth into the facade.
3. Insert the enclosed dowels (EAW H6) into the drill holes and hammer the anchors with a drift pin into the facade.
4. Drill a hole of 8 mm diameter (black marking) for the cabling through the wall.
5. Fix the base plate with the flat-head screws at the wall.
6. Slide the cable through the breakthrough drilling. Then set the safe onto the mounting plate and engage it downwards.
7. Fasten the two allen screws M 6 (in Fig.1 marked in black) under the extracted insert to fix the safe at the mounting plate.
8. Connect the control cable driven through the facade with the constructional release device.
9. An acoustic signal announces the safe release. The piezo-buzzer can be switched on/off in modifying the polarity.

Operating instructions

The service safe is released by a remote release, which supplies the E-opener via a constructional power supply to unlock the safe. (To remote release you can use a code keyboard, a card reader or control centre techniques.) Shortly press on the drawer to open the safe. Then you can take out the stored key. To close the service safe, push the drawer back into the housing.

Connection cable, length 2m, 4 cables - 2 long ones - 2 short ones
2 long ones =E-opener 12 V

Shipment list:

- 1 Housing with mounted base plate
- 1 Fixing plate for wall installations
- 4 Flat-head screws M 6 x 20
- 4 Drive-in anchor for flat-head screws
- 2 Allen screws M 6 x 10 (allen wrench 4 mm)to attach the housing at the fixing plate
- 1 Key ring
- 3 Allen wrenches (2,5mm; 3mm and 4 mm)
- 1 Piezo-buzzer

Factory preinstalled:

- Housing and base plate
- E-opener, locking mechanism in body, piezo-buzzer
- Control cable at E-opener
- Drawer in body

Drawings

Fig. 1: Side view

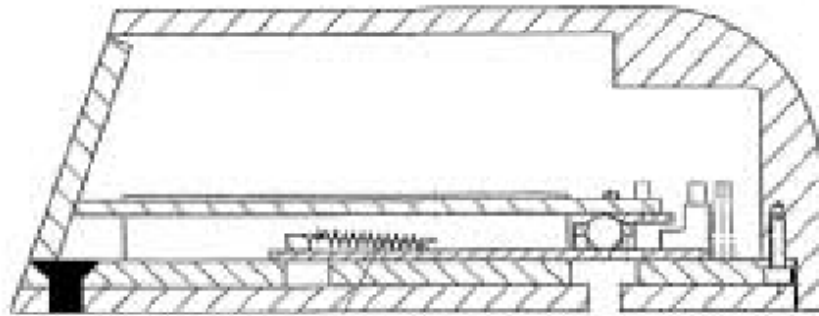


Fig. 2: Mounting plate for wall installations

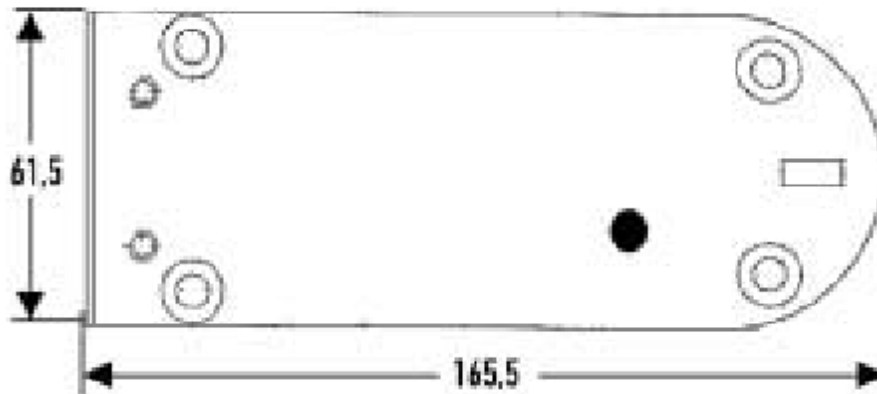
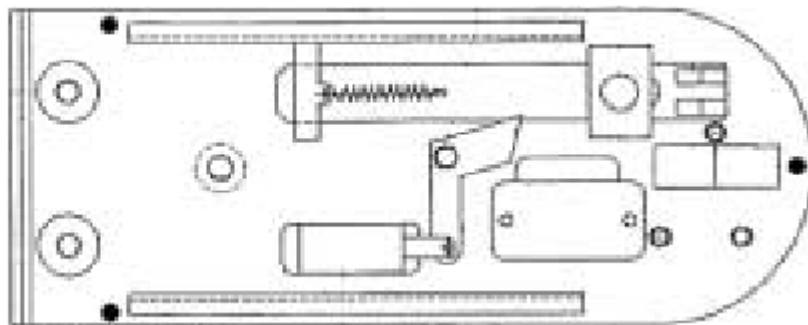
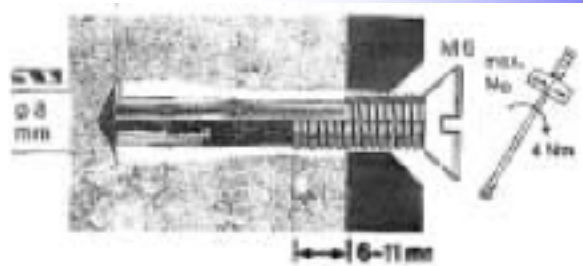
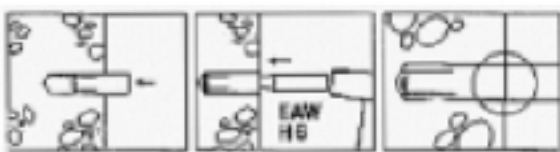


Fig. 3: Top view base plate



Mounting instructions for drive-in



Universal Column

Stainless-steel column for the installation of the ***K-Safes***, complete with standard frame or frame with rain protection (option). With mounting for the installation of the release element, the key switch or a cover –subject to the customer 's demands.

Function

Accommodation of a high security ***K-Safe*** key safe in cases where the constructional environment does not correspond with the installation regulations of the VdS-regulation (VdS 2105 12/96), for example, insufficient wall thickness, an ***K-Safe*** flushed to the rear (internal) or is coated insufficiently (80 mm) or because of stored insulation material or lowered attachment facades a ***K-Safe*** is insufficiently coated laterally. There is no suitable facade area for a ***K-Safe***, for example, large areas of glassed facades. For optical or infrastructure reasons it is necessary to use a ***K-Safe*** in the outer areas, for example, in front of gates.

Project note

Basically, the related high security ***K-Safe*** determines the installation location for the column in cooperation with the operator. Preferably, the column shall attract attention and shall be easily accessible for the Fire Brigade for example. It can be mounted by either the operator or the builder subject to the installation and mounting instructions. The builder or the reporting device companies wire up and connect the ***K-Safes***, the adapters, the fire detection and warning device and a possible burglary warning device and check all items on serviceability.

Mounting regulations

The reinforcement shall be in the surface with a depth of 800 mm minimum, see item (5) drawing. You must drive 2 sticks (rolled steel joist) with a length of 700 mm, as anchor, into the dug land fill. After the mounting the foundation and the column shall be filled with reinforced concrete (according to DIN). After the filling, the column shall have a minimum weight of 400 kg. The installation shall be done in a way that the outer door of the key shall flush with the outer column. The lower edge of the key safe must have a distance of 800 mm minimum above the ground. If installed in a column, the safe heating must be connected (avoidance of condensate).

Mounting information

The numbers behind the assembly parts refer to the numbers within the exploded view.

Foundation

Dig a sink of 1000 x 1000 mm and a depth of approx.800 mm. Insert the cage made from rolled steel joist (14) into the sink and stick the 2 rolled steel joists, approx.700 mm long (15) into the cage on the ground. Slide the enclosed 2 armoured hoses (13) through the cage, fix them with wire, if necessary, and lay them heading towards the related ground lead. The armoured hose for the ***K-Safe*** must jut out approx.1100 mm and the hose for the optional flashlight etc. must jut out approximately 1200 mm above the upper edge of the foundation. The armoured hose must ensure that suitable cable can be inserted and connected into the column at a later time. If the

ground lead has already been put down, it can be torn through the hoses. The potential balance which is planned for the new **K-Safe** regulations must be connected via an additional wire of 4 mm² diameter to a grounded device or to a foundation grounding. The grounding point in the column can be an M6 stay bolt at the existing cross walls in the column. Then, fill the foundation with a concrete mixture subject to the ground structure. After the foundation has matured, the column can be mounted. For this, lift the column body over the rolled steel joist, which are jutting out of the foundation and adjust appropriately.

Mounting the key switch or mounting cut out

Before the installation of the **K-Safe** (6) attach the enclosed parts of the key switch, or the blind cover to the mounting cut out. The covers shall be sealed with silicone and fixed with the 4 nuts M4 from the inside. The key switch is installed from the inside in fixing the screws delivered with the switch from the front. After the concrete has matured, insert the cylinder and attach the cover delivered with the switch from the front. The frame (8) shall be sealed with the rubber gasket or with silicone.

Optional frame with rain protection

For a location, which is faced with severe weather conditions, the column can be shipped with a factory-installed frame with rain protection (4b). A later replacement of a standard frame against a frame with rain protection in a column with matured concrete is impossible. During a frame replacement at the mounting location loosen the 4 fixing nuts within the column. Insert the new frame and tighten the 4 nuts. Seal the replaced frame with silicone.

Holding frame for K-Safe

The holding frame (5) for the **K-Safe** will be loosely assembled with a 2mm strong metal strip (5c) of 220 mm length with an offset of 30 mm at the ends together with a metal strip (5a) of 300 mm length and metal strip (5b) of 100 mm length with drilling and elongated hole each, as detailed in the exploded view, with two M6x20 screws, washers and nuts. The pre-mounted frame will be loosely attached from the rear to the rear side of the **K-Safe** (6) with two M6x20 screws, washers and nuts. The **K-Safe** together with the holding frame is sided from the top into the column and from the inside into the cut out at the front. Adjust the **K-Safe** and attach the holding frame with two M6x20 screws, washers and nuts at the inner column cross walls. Now, tighten all six screws M6. Please make sure that the surface of the closed **K-Safe** external door flushes with column surface. The clearance between **K-Safe** and frame of approximately 1mm shall be sealed with clear silicone, so that neither concrete nor water discharges nor runs over the column surface when filling it with concrete.

Connecting the ground cable

When laying the ground cable we assume that the cable coming with the **K-Safe** will be replaced. When connecting the cable with a soldered joint ensure a condensate-resistant encapsulation. Your attention is drawn to the cable colour assignment that shall have a match of 1:1 within the used ground cable, as a suitable ground cable is not available. If you use a longer feed cable, compensate the cable resistance with larger diameters or double connections when more cores are used to operate the **K-Safe** with the required operational power. If an extension of the

factory-installed cable is necessary, ensure a professional machining of the connection. The connections shall have sufficient protection against condensate penetration, for example, with the use of durable rubber grommets or suitable corrosion-protected cable connection material (i.e. shrink soldering sleeves), which are used at telecommunication installations. The connection cable installed at the K-Safe shall be professionally de-soldered and disconnected. Replace the plastic nut of the PG16 screwing at the rear side of the **K-Safe** with a steel-armoured pipe joint, approximately 18 mm long, with female thread (12). Screw a rapid installation bolting PG16 with 90 °angle (11). Drive the ground cable leading out of the armoured hose through the elbow into the **K-Safe**. Fix the armoured hose with the rapid mounting seal. Connect the cable with the jack housing according to the wiring diagram and the colour coding. The necessary potential balance with a 4mm² ground cable can be connected under the attaching screw of the tension relief. If you use your own PG joint, ensure the size PG16 to make use of the delivered sleeve and hose fastening. Refasten the released tension relief in the **K-Safe**.

Filling the column with concrete

After assembling and mounting all components, the columns shall be filled with reinforced concrete (according to DIN). The column shall be filled up to a level that is 20 mm below the upper edge of the body. During the filling with concrete make sure that the **K-Safe** stays in its position. If necessary, fix the front and rear sides of the **K-Safe** with suitable wooden plates etc. that shall be secured with joiner 's clamps or spanning tape against slipping. After that fix the two cover mounting hooks (2) with the 2-hole security screws at the cover (1) and press them into the soft concrete. After the concrete has matured, loosen the security screws and disassemble the cover (1). If you replace the cover or reborn the existing cover, an optional flashlight (16) can be installed later.

Technical Data

Material: V2A 1,5 mm

Dimensions:

Column (W x H x D) 335 x 1250 x 230 mm

Cover (W x H) 350 x 245 mm

Material strength: 5 mm

Weight: approximately 21 kg

Shipping weight approximately 34 kg

Shipping list:

- 1 item Column
- 1 item Cover
- 2 items Cover mounting hooks
- 2 items 2-hole security screws M6x20 similar to DIN 963, for cover hook installation
- 1 item Cage made of rolled steel joist (W x D x H) 110 x 110 x 1300 mm
- 2 items Rolled steel joist approx. 800 mm long
- 2 items flexible armoured hose, approx. 2,5 m long, PG16 (Type 22 NW 16,16 x 21,2 mm), for use in concrete
- 1 item Rapid installation bolting, 90 °angle, Type SMV/W, PG16
- 1 item Steel-armoured pipe joint, galvanized PG16, approx. 18 mm long, female thread
- 1 item Fixing frame for **K-Safe** installation consisting of:
 - 1 item offset sheet metal strip, 2 mm strong, approx. 220 mm long
 - 1 item sheet metal strip, 2 mm strong with drilling and elongated hole, approx. 300 mm long
 - 1 item sheet metal strip, 2 mm strong with drilling and elongated hole, approx. 100 mm long for each item
 - 6 screws M6x20 DIN 933, nuts M6 DIN 934, lock washers DIN 125
- 1 item Cover for cut out for key switch consisting of:
 - 1 item cap, (W x H) 75 x 90 mm, with stay bolt M4
 - 4 items nuts M4 with lock washer to fix the frame

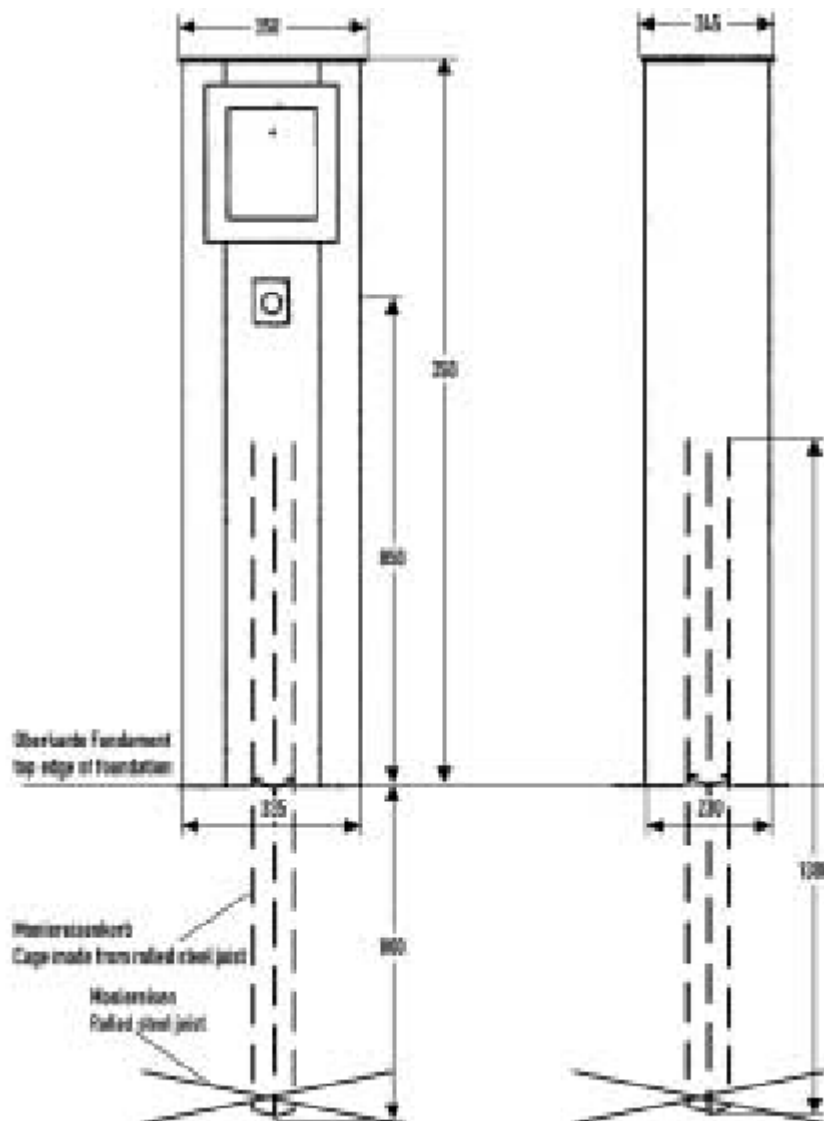
Within the order it must be specified whether a holder for either the VdS-approved release element

(VdS-No.G 19 20 34), the VdS-approved release element PZ (VdS-No.G 19 90 83) or a key switch shall be delivered. Otherwise, a blind cover for the installation cut out will be designed as a standard. Furthermore, you must specify whether the frame shall have a rain protection (Caution: a later installation is impossible.)

Subject to the order:

- 1 item Holder for key switch consisting of:
 - 1 item cover (W x H) 75 x 90 mm, with stay bolt M4
 - 4 items nuts M4 with washer to fix the holder
- Option extra charge for factory-installed mounted frame with rain protection
- Option 1 item flashlight for column, colour: yellow, protection IP 65, with bulb and twisting protection

Drawings

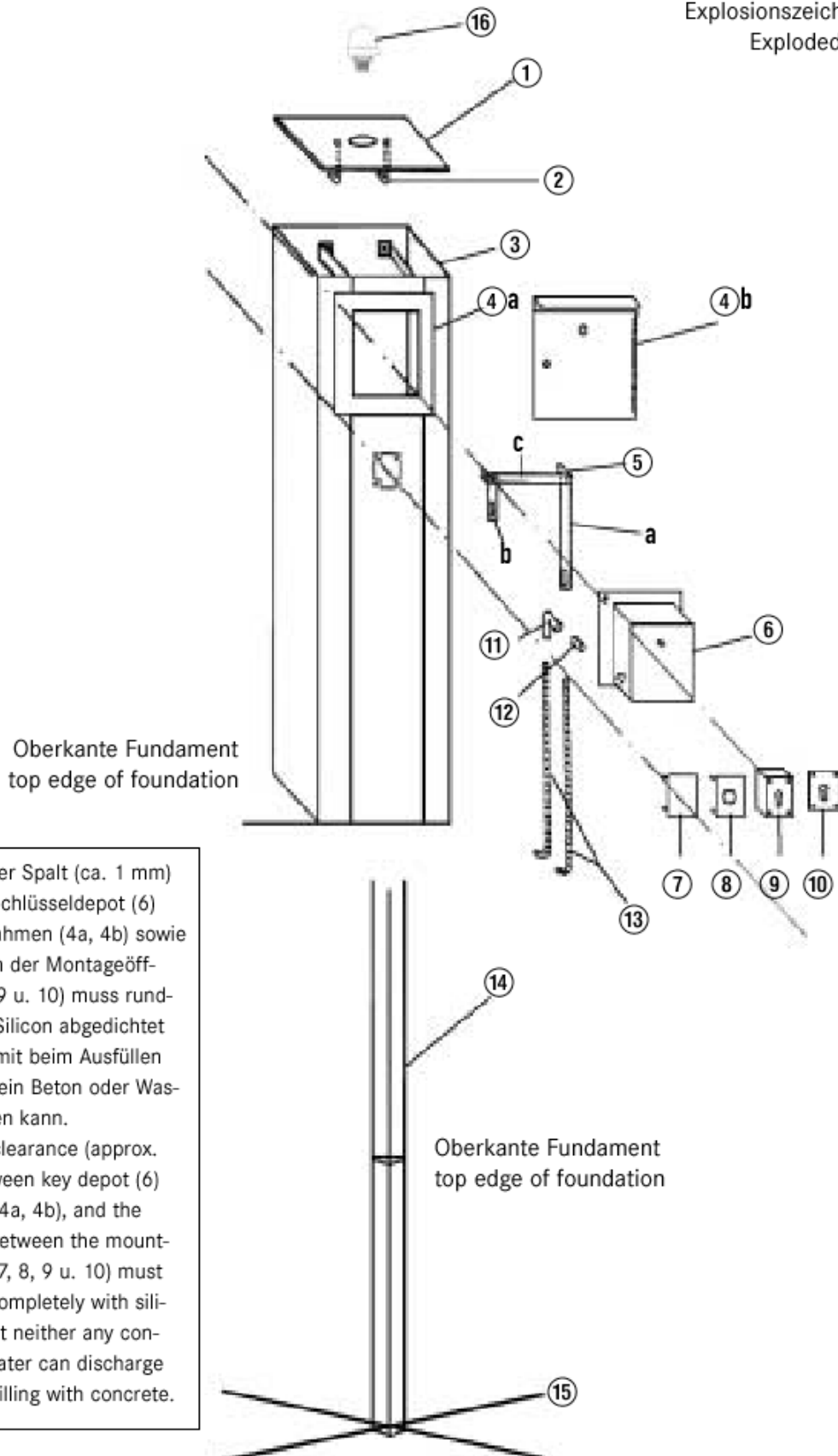


- 1 Cover
- 2 Cover mounting hooks with 2 items 2 –hole security screw
- 3 Body VA column
- 4 Frame, Frame with rain protection
- 5 Holding frame, for **K-Safe**
- 6 **K-Safe** -VdS
- 7 Mounting cut out 75 x 90 mm
- 8 Holder FSE with frame subject to the order
- 9 Key switch with frame, subject to the order
- 10 Key switch with frame, subject o he order
- 11 Rapid installation bolting PG 16, 90 °angle
- 12 Steel-armoured pipe joint, galvanized PG16
- 13 Armoured hose PG 16,flexible
- 14 Cage made from rolled steel joist
- 15 Rolled steel joist, approximately 700 mm long
- 16 Flashlight subject to the order

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Explosionszeichnung
Exploded view



Hinweis: Der Spalt (ca. 1 mm) zwischen Schlüsseldepot (6) und Blendrahmen (4a, 4b) sowie der Spalt an der Montageöffnung (7, 8, 9 u. 10) muss rundherum mit Silicon abgedichtet werden, damit beim Ausfüllen mit Beton kein Beton oder Wasser austreten kann.

Note: The clearance (approx. 1 mm) between key depot (6) and frame (4a, 4b), and the clearance between the mounting cutout (7, 8, 9 u. 10) must be sealed completely with silicone so that neither any concrete nor water can discharge during the filling with concrete.

Maintenance

The functions of cylinder have been tested with the utmost care

To ensure a long life cycle the cylinders are treated with a long-term lubricant during production

Since, these cylinders are faced with extreme weather conditions at the installation location, it is recommended to fresh up the protection stuff into the cylinder front.

You should spray a small amount of the protection stuff into the cylinder front.

Since the lubricant with its excellent creep properties displaces water, it is not necessary to operate the cylinder after spraying.

A packing unit of 65 ml of the long-term protection can be purchase from the ***IS Intelligent Systems*** sales department.

Impressum

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SWIFT: DEUT DE DE 420

Handbook: **K-Safe** Mounting Instruction (K-Safe_Mounting_Instruction_V1.doc)
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