

Instruction for installation retractable supply post

1. Underground engineering

1.1 Selection of location

No installation in hollows!

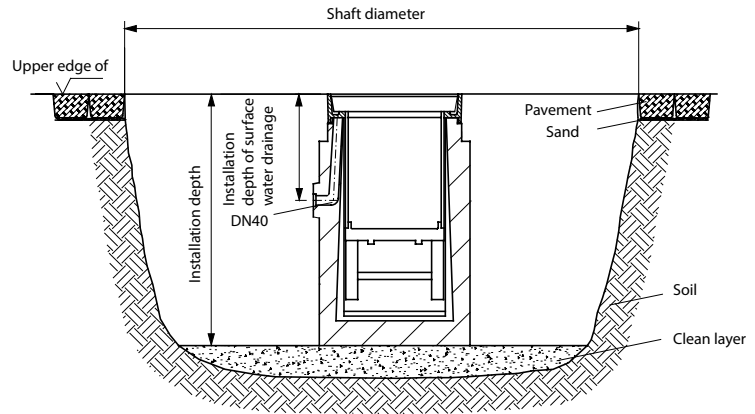
The retractable supply post cannot put into operation when flooded!

1.2 Excavation works

On the bottom of the shaft a clean layer should be integrated.

This layer is necessary for adjustment and distribution of load of the concrete shaft.

The installation tolerances must absolutely be observed. The retractable supply post is not equipped as standard with a level regulator. The soil placement has to be adjusted to the traffic capacity of the surrounding installation space.



Type	Installation depth (mm)	Shaft diameter (mm)	Installation depth of surface water drainage (mm)
MS SE 30A	905	2000	355
MS SE 30AH	905	2000	355
MS SE(H) 50	905	2000	355
MS SE(H) 56	1075	2000	460
MS SE(H) 80	1480	2000	470

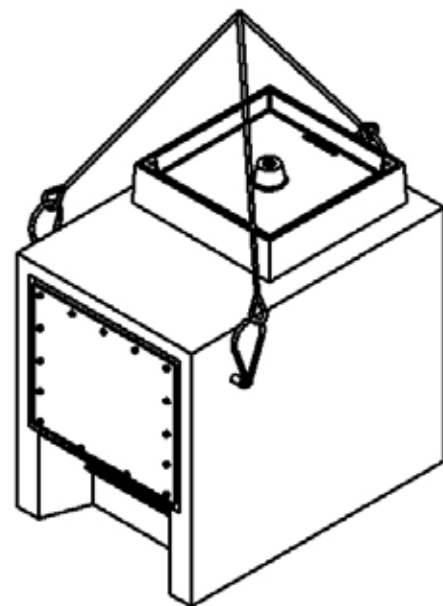
1.3 Installation of retractable supply post

The built-in holding loops must be used.

The hoisting devices must have the following lifting capacities:

Type	Lifting capacity Hoisting devices (kg)
MS SE 30A	600
MS SE 30AH	600
MS SE(H) 50	700
MS SE(H) 56	800
MS SE(H) 80	2200

The retractable supply post must be inserted into the shaft having finally the upper edge of the cover support in line with the upper edge of the traffic surface.



The rope is not included!

Attention:

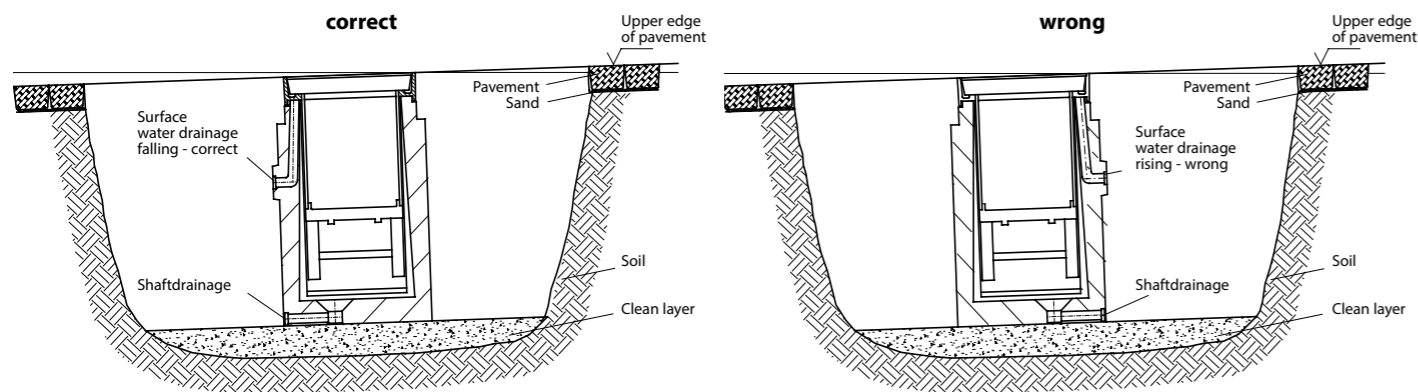
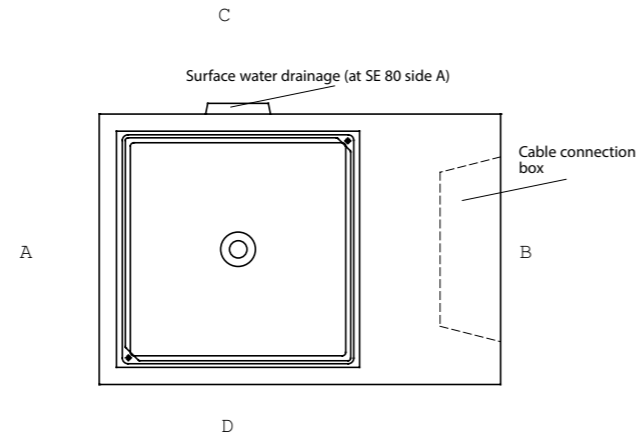
Avoid protruding edges by allowing the road surface to connect flush to the top edge of the lid bearing by rising over a length of 30-50 cm.

All pictures and drawings as per SE 56.
For detailed dimensions and equipment see technical data list.

1.4 Installation of the retractable supply post

During the installation of the retractable supply post please keep considering, how it should be used later. Any twisting of the device columns may cause malfunction.

At locations with inclined surfaces the surface water drain must be installed to the lowest position on the bottom (see below).



1.5 Finishing works

After having installed electric connection and sewage, following finishing works have to be done:

Filling up with soil: Fill up the shaft around the retractable supply post with soil and compress.

Surface coating: Pavement of the surface of the place until exterior edge of the cover support.

► Attention:

The joint between cover and cover support must not be covered by filling up with soil!

2. Electric connection

A cable connection box is built-in the concrete shaft for connecting the cable (at SE 80 two pieces). The insulation box consisting of PVC can be opened at the side of the soil by a cover and is prepared on the interior side of the shaft for the installation of cable connection modules.

These cable connection modules (KAM) are supplied for different cable diameters (see below).

There are pass-through of cables (KDF) at the bottom of the cable connection box, which may be used as per the sizes of the cables (see below). These are provided for two cables each as the connection cable requires sliding contact.

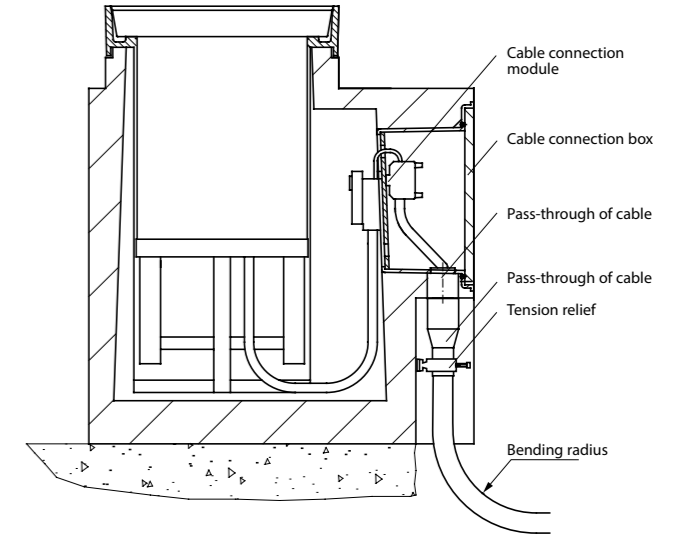
(One pass-through of cables - KDF - must be closed, if not in use!

Corresponding plugs are available).

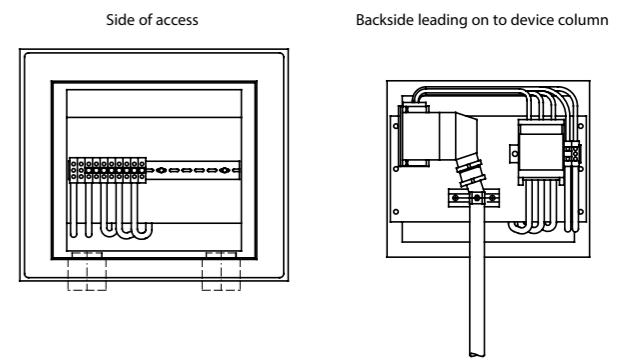
The pass through of cables are flushed by a shrinkable hose.

In the protecting niche, cast-in for the cable lead in into the shaft, the tension relief in form of a C-bar for clamps is installed.

The cable connection modules are screwed on to the back wall of the cable connection box, loosening allows easily operating in the space of the cable clamps from the interior of the shaft.



Cable connection box with cable connection module



Type	Connection value (kW)
------	-----------------------

MS SE 30	15
MS SE 50	30
MS SE(H) 56	50
MS SE(H) 80	130

Lead in cable (mm ²)	Module	Pass-through of cables
16	KAM 16	1140
25 – 50	KAM 50	1150
70 – 150	KAM 150	1163

3. Drainage

For safety reasons the connection to the canal system has to be provided.

3.1 Surface water drainage

Surface water will be drained by the internal drain pipe DN 40 into the canal system.

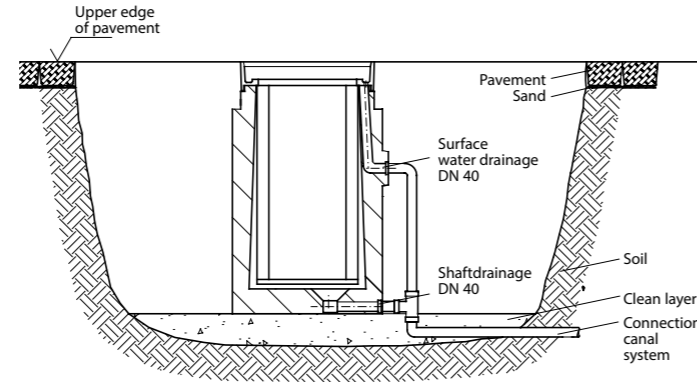
3.2 Shaft drainage

Shaft water arises by:

- flooding of the shaft (pressure water)
- Leakage between cover and cover support (pollution)
- Condensation water
- Ground water (DN 40 drain pipe at the bottom of the concrete shaft)

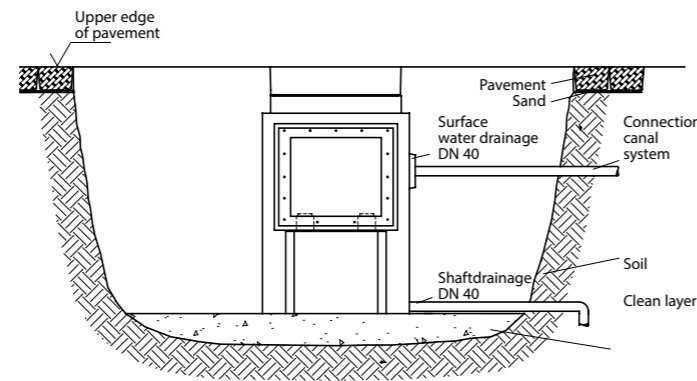
Sewage system

Water, already in the concrete shaft, will be drained over the drainage pipe DN 40, connected with the surface water sewage, cast into the bottom of the concrete shaft.



Gravel soil

Water, which came into the concrete shaft may seep into the gravel soil, through the drainage pipe DN 40 built-in into the bottom of the concrete shaft.



At high level of ground water shaft drainage must be clogged with a 1" plug and pump must be used. (only for SE 56 and SE 80)

Additional drainage - only for SE 56 and SE 80 (on demand)

Operation: at difficult general circumstances (e.g. High level of groundwater)
 Function: To pump off water in the interior of the shaft
 Details: Immersion pump, Swimming switch, failure report

The additional bay drainage must be considered when planning and ordering, retrofitting is not possible.

4. Operation

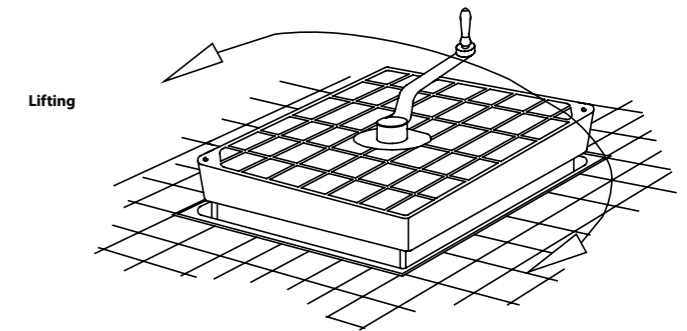
Lifting and sinking of the retractable supply post is effected by a crank-handle, which is put on into the spindle drive in the centre of the cover. The crank handle is part of the delivery. Instead of the crank handle also an electric powered screw driver may be used. (Electrical lifting mechanism with security switch is in preperation.)

4.1 Lifting of the retractable supply post

Rotate the crank-handle anti-clock wise, until a higher resistance can be felt.

Attention:

Only with a fully extended device column the sealing against the concrete shaft will effective.



4.2 Sinking of the retractable supply post

Rotate crank handle clock-wise until the cover fits into the cover support and a higher resistance can be felt.

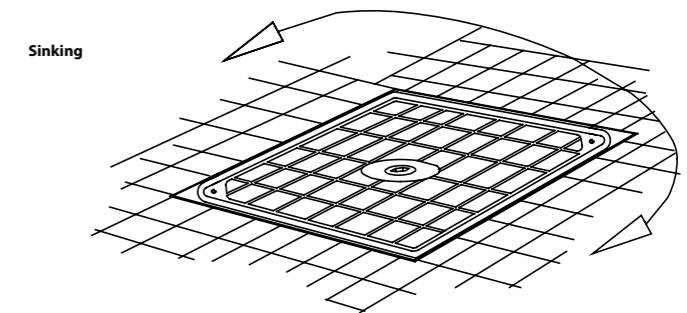
Any further rotation with the crank handle with additional power or force will cause damages to the lifting mechanism.

Attention:

Before sinking the contact, surface of the cover support must be cleaned and the sealing must be checked properly!

Attention:

Only in a fully retracted position the cover can carry any load, otherwise the lifting mechanism may be damaged.



5. Maintenance and care

To ensure a **reliable operation** and to avoid defects, the retractable supply post must be checked in regular intervals and cleaned, if necessary.

The electric check-up has to be done yearly.

An electric connection, being properly looked after will not only maintain your **security** but it also will help to keep the location proper, tidy and clean.

All electric components must be kept always in good condition (keep clean from dust and humidity). This must be ensured before every operation of the retractable supply post.

At every operation the following parts must be checked for being **clean and functional** and must be cleaned if necessary:

- Surface water drainage (collection pipe in cover support and drainage)
- Sealing part, device column

Before sinking the contact space of the cover support and of the cover must be cleaned.

Shaft space and shaft drainage are to check regularly at least once in the year (depending to use and weather conditions) for humidity, cleanness, and function.

Moreover the lifting mechanism and the heating must be checked.

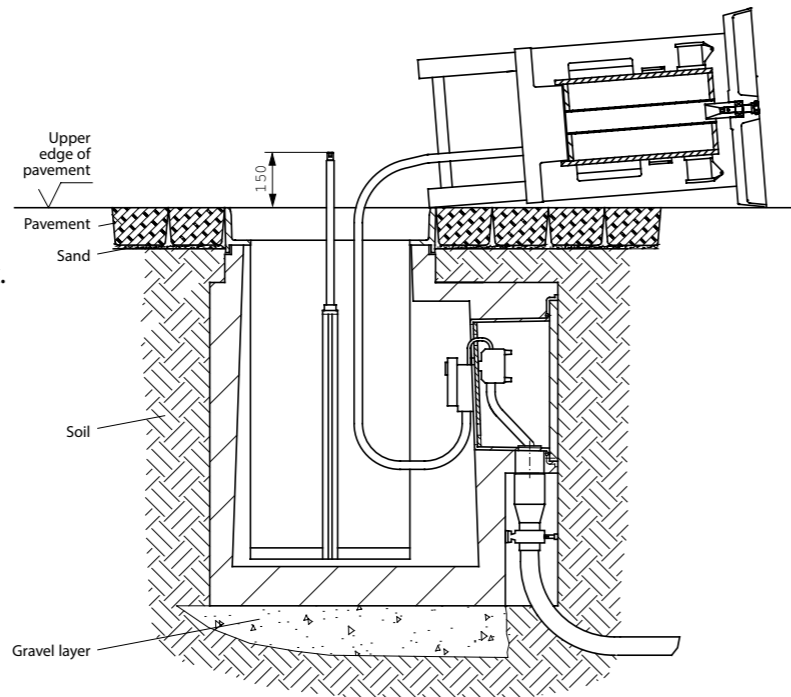
Therefore the device column has to be removed.

Please note: as a matter of principle:

Cleaning before sinking, sinking before loading!

5.1 Removal of the device column

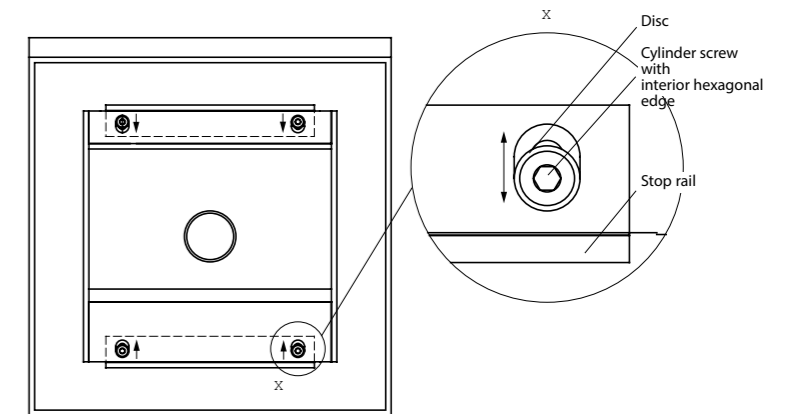
- Disconnect voltage.
- A mark is to apply on one side of the retractable supply post, so that any torsion during the reinstallation will be avoided. Torsion causes malfunctions of the retractable supply post.
- Pull out the device column at 90% approx.
- Loosen stop screws (see 5.2).
- Sink back the device column to about 15 cm position.
- Pull out the device column with at least two persons and put down on its side. Take care that the column is lifted over the spindle and the connection cable will not be damaged.
- Loosen tension relief (clamps) in concrete shaft and pull out the plug of the plug-connection.



5.2 Loosen stop screws

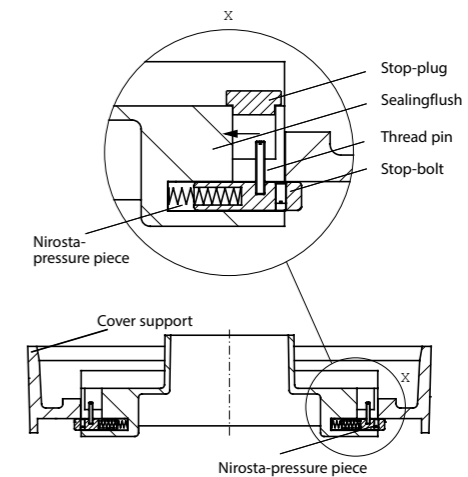
SE 30:

- Loosen screws and slide them inwards together with stop rail.
- When reassembling it, proceed in reverse order.



SE 50, SE(H)56, SE(H) 80

- Remove stop plug.
- Slide stop bolt by thread pin to the inner side, until it clicks into place.
- When reassembling it the stop screws must be retracted.



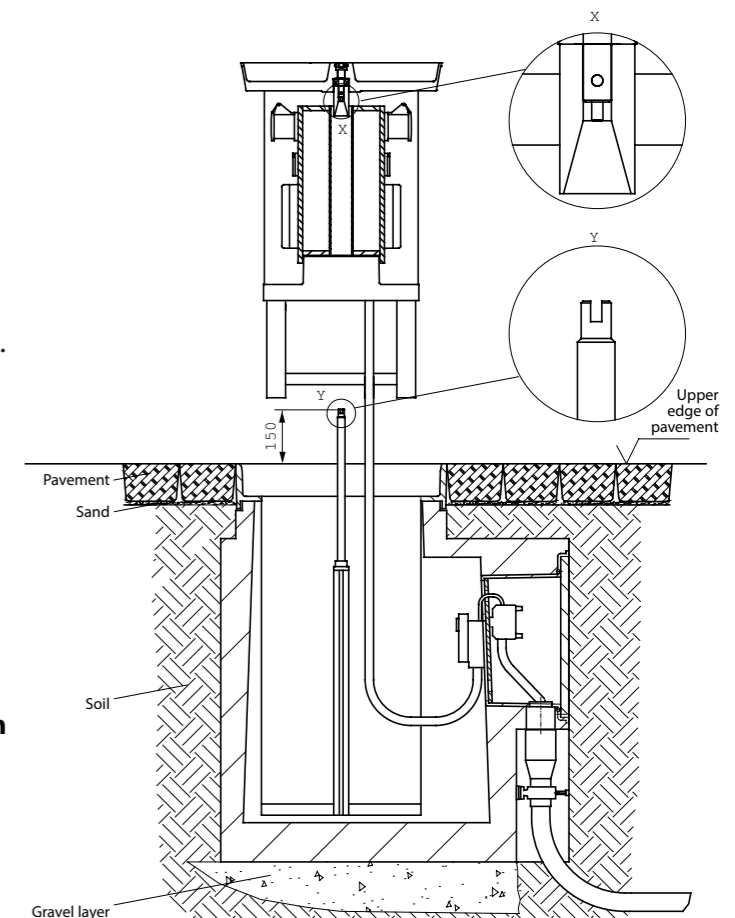
5.3 Assembly of the device column

- Voltage disconnected?
- Place the device column on the side of the shaft, so that the lead-in cable reaches into the concrete shaft and the plug could be connected. Please look also for the mark, which has been made before to avoid any torsion.
- Get down stop screws.
- Install tension relief (clamp).
- Lift up the elevating spindle to a position approx. 15 cm high.
- Removal of sealing parts.
- Lift up device column over the elevating spindle, slide it into the guidance and let down smoothly on the spindle.
- Rotate slowly the spindle drive in the cover until it gets on its place into the spindle.

Attention:

Doing this may drop the device column down to 1 cm approx.

- Fasten again the stop rail (SE 30) i.e. Stop pin.(SE 50-80), see above.
- Assembly of sealing parts (except SE 30).
- Insert sealinglips.



6. Defects

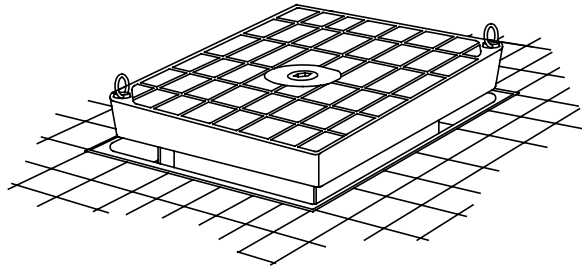
6.1 Failure of the lifting mechanism

Causes:

- Loading on or driving on the device column not fully retracted.
- Heavy soiling.

Solution:

If the lifting mechanism does not react any more to the rotating of the crank handle, ring screws can be screwed into the two threads M 10, built into the cover (at SE 30 M8). These can serve as hooks for tools or other useful means (e.g. iron bars, rope loops, or snap links) to get the device column out of the shaft. The removed device column gives access to its lifting mechanism, for having it repaired.



► Attention:

Before lifting up the column the stop rails must be retracted.

6.2 Short circuit, failure of fuses

Causes:

- Backwater in shaft
- Overload of connections
- Condensation

Solution:

- Device column must be removed, surface water drainage and sealing part must be checked for function and properly sealing. Damaged sealing part must be replaced.
- Shaft drainage (DN 40 drainage pipe on shaft bottom) must be checked for function, if there is ground water by the shaft through drainage, it must be clogged by a 1" plug.
- Check heating for function.
- Check fuses and plug-connections for functions and replace if necessary.
- Activate automatic fuses and fault current protective switch in device column.