

Mounting and instruction manual

Bollard VSZ 4





GENERAL WARNING AND SAFETY NOTES

ATTENTION: Read carefully this instructions manual in all its parts and keep it in a safe place, ready for any future consultation. Non-compliance with instructions given in this instruction manual, or an incorrect installation of the device can lead to personal injury or property damage.

THE BOLLARDS ARE NOT DIVING PRODUCTS AND CAN NOT WORK UNDER WATER

If the product is not installed or used as shown in the mounting manual, if it is operated underwater and / or if the original accessories are not used, the guarantee expires.

- This product has been designed and manufactured exclusively for the use indicated in this manual. Any non-conforming use may damage the product or **an lead to personal injury or property damage.**
- Do not install the product in an explosive atmosphere: the presence of flammable gasses or vapours is a source a serious danger.
- The installation must be completed in observance of current standards.
- In order to achieve an adequate level of security, for installation in non EEC countries, besides national regulations, please obeyed the above mentioned warning and safety notes.
- Make sure that the system has been earthed according to Good Practice standards and connect the metal parts to it.
- The safety features must be executed according to the applicable regulations. It is recommended to apply an appropriate sign for each system.
- Keep out of the movement area of the bollard.
- Do not leave packaging materials (plastic, polystyrene, wood ...) within reach of children because they may be a potential source of danger
- Do not allow children to play with the commands or in proximity of the bollard..
- In the case of technical problems do not try to repair the fault but contact a specialised technician. Only use original accessories.
- Any modification, alterations or tampering with the VSZ- system, or the use of non original accessories, will cause the product warranty to lapse: in this case Tousek Ges.m.b.H. declines any responsibility with regards to safety and proper operation of the VSZ- system.
- The installer must provide the user with all information necessary for system use and maintenance along with manual and emergency manoeuvres. He has to hand over the manual with the instructions for use and maintenance and the user has to ask for them.
- The bollard must be completely lowered before transiting through the controlled area.
- Anything that is not expressly contemplated in this manual is not permitted.

WARNING: SAFETY PRECAUTIONS

In case of flooding or significant precipitation that causes obvious drainage problems, avoid using the bollard until normal conditions have been restored

EMERGENCY RELEASE

In case of a power failure or malfunctions, the bollard can be released using the supplied key.

MAINTENANCE

- Replace the buffer battery in the control unit at least every 2 years. Dispose of them in accordance to the current regulations.
 - Avoid trying to carry out repairs: you could cause accidents; for such operations call a specialised technician.
 - The maintenance of bollards, control units and of the entire system must be carried out exclusively by specialised technical personnel..
 - The VSZ-bollards do not require any special maintenance. Please check periodically that the area around the bollard is sufficiently clean and, if required, replace the gaskets at the base of the bollards. In order to ensure a correct operation and a long life of the product. Programmed routine inspections of the entire system are recommended only in case of intense use
- Check the state and efficiency of the control unit and of the UPS unit batteries at least once a year and, if necessary, have them replaced. The batteries must be replaced at least once every two years. For other instructions regarding product maintenance consult the technical manuals supplied with the bollards and with the control units.

DISPOSAL

If the bollard is taken out of service, the relevant legislation for the separate disposal and recycling of the various components (metals, plastics, electrical cables, etc.) is to be respected. For this purpose please consult your installer or an approved specialist company

- **Please make sure that the label with the engine number is not removed or damaged, as this will invalidate the warranty !**

EU - Manufacturer's Declaration according Machine Directive 2006/42/EC:

The company **TOUSEK Ges.m.b.H., based in Zetschegasse 1, A-1230 Vienna/Austria**, hereby declares that the **bol-lards VSZ 4** conforms to the following EC directives. Putting into operation is forbidden until it has been established that the installation conforms to the regulations of the directive 2006/42/EC.

The following directives and standards have been applied:

- Low Voltage Directive 2014/35/EU, incl. changes
- Electromagnetic Compatibility Directive 2014/30/EU, incl. changes

Vienna, January 2019

Product features

- Elektrohydraulic bollard VSZ 4/500, VSZ 4/500 EV
- VSZ 4/500 EV: with additional electrovalve for automatic retraction in case of power failure
- Integrated lightning with 12 strong and sequential LEDs
- Emergency release on the top of the bollard
- Integrated inductive limit switch for position „retracted“
- in steel with black cathaphoresis
- Optional: additional cylinder sleeve made of stainless steel
- Operating temperature: -20°C bis +50°C
- Protection class IP 65
- Plug connection between control unit and bollard (Plug & Play)



Technical data

Bollard VSZ-	4/500, 4/500 EV		4/500	4/500 EV
Power supply	230/250 Va.c. 50/60 Hz	Protection class	IP 65	
Motor power supply	230Va.c.	Operating temperature	-20°C / +50°C	
max. power	750W	Finish	Black:	Black cataphoresis + powder coating
Capacitor	31,5µF		Stainless steel:	additional stainless steel case V4A
Max. force	1200N	Weight	81kg	
Pump capacity	5 l/min	+ stainless steel sleeve	87kg	
Operating pressure	17 bar	Cylinder dimensions	Ø 200 x 500mm	
Rising time	5s	Cylinder thickness	8 mm	
Lowering time	5s	+ stainless steel sleeve	+1,2mm	
Emergency retracting time	2 s (nur mit optionalem Elektroventil)	Foundation case dimensions	Ø 330 x 1008mm	
working frequency	1000 Bewegungen in 24h			
Hydraulic oil	Abbaubares syntetisches BIO ÖL mit sehr hohem Zähflüssigkeitsindex	Ø Chromed handle	25mm	
Oil quantity	1,2l	Article No.	without electric valve	with electric valve
Shock resistance	11.000 J (ohne permanente Verformung)		in black	11590470
Breaking strength	180.000 J		+ additionally	11590480
kg mass - km/h	1800 - 55		stainless steel sleeve	11590500

Note

The bollars VSZ are not on stock - delivery time approx. 4 weeks

General features

The automatic bollard VSZ 4, with its high resistance to impact and its elegant design, is suitable for installation in public or commercial areas and is particularly indicated for the protection of buildings.

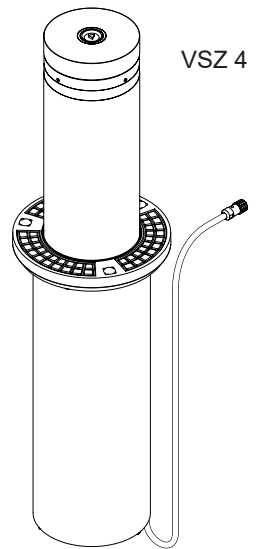
The standard version in steel has undergone an electrophoresis painting treatment.

The bollard operates on 230Va.c.; an amperometric sensor detects any obstacles while rising and inverts immediately the movement. The bollard is fitted with 12 leds that operate in sequence and with a high-visibility reflecting band.

In case of a power failure, it is possible to lower the bollard with the supplied releasing key. The bollards VSZ 4/500 EV are equipped with an additional electric valve, for automatic lowering in case of power failure.

The foundation case is in cataphoresis-painted steel and can be easily assembled on site before installation.

If the bollard is not to be installed immediately, a lid for closing the hole is available.



VSZ 4

2. Preparation works

Bollard VSZ 4



IMPORTANT: note that the foundation box has to slightly overhangs the ground level, so that there will be a slight slope around the foundation box (F)!

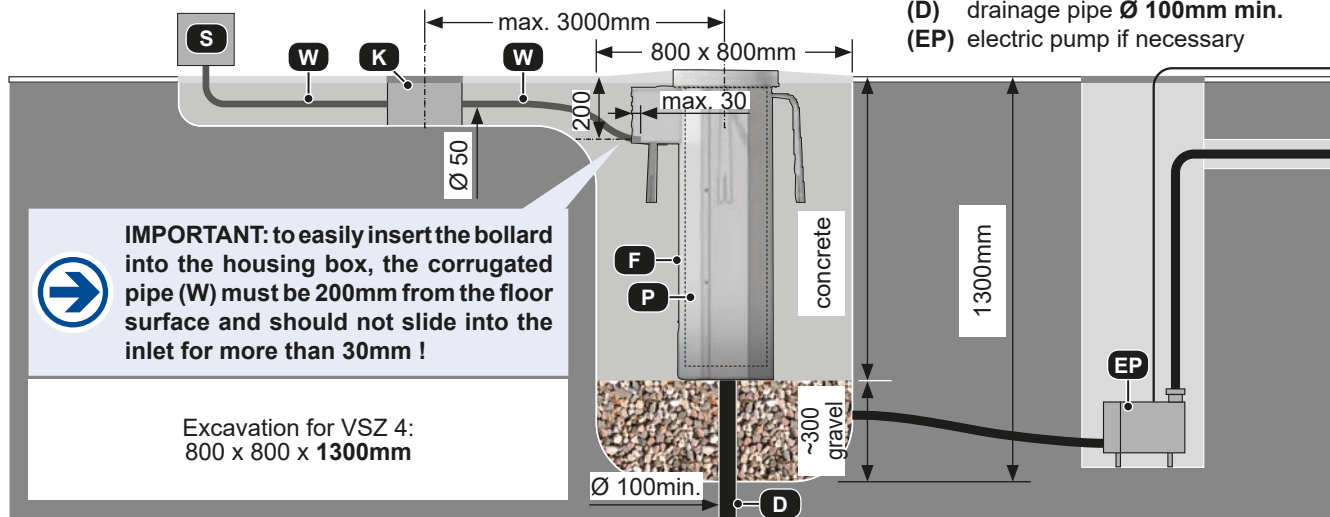
- Carry out excavation work as described below.
- Create a suitable drainage ground (gravel) and drain the water using a drainage pipe (D) (at least Ø 100mm), which should reach the bottom of the box, a sewer connection or a collecting tank.
- Perform a drainage test. To do this, fill the excavation site with approx. 35 liters of water.
- The water must drain quickly, otherwise you will need to use an additional electro pump (EP).



The foundation dimensions are guide values. The foundation must always be adapted to the flooring.

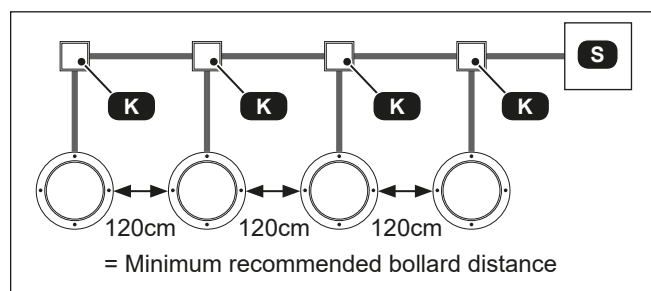
It should be made of concrete of the quality C20 / 25 at floor class 3, horizontal and free of cracks.

- (S) central unit
- (K) Cable box IP65 for easier installation
- (W) protective sleeve Ø 50
- (F) Foundation box with bollard (P)
- (D) drainage pipe Ø 100mm min.
- (EP) electric pump if necessary



- Set up a cable duct (K) IP65 close to the bollard (max. 2-3m), where there is approx. 1 m cable. When installing the bollard, thanks to this shaft, the cable can be tightened or loosened. If several bollards are installed, one shaft per bollard should be provided.

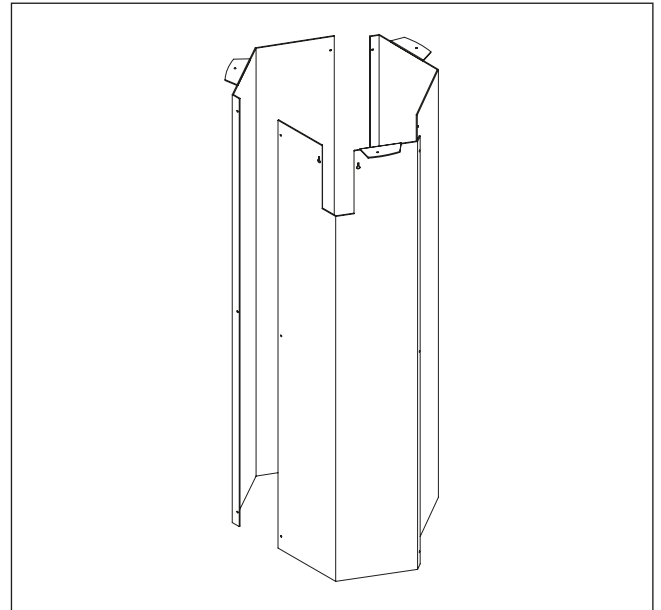
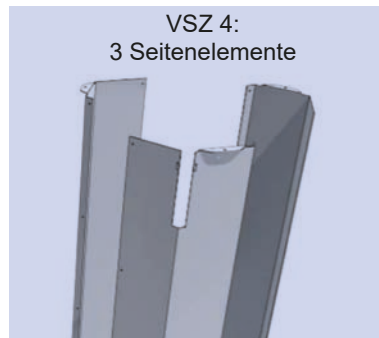
When laying the cables, try to keep them as straight as possible and avoid sharp corners.



3. Assembly and concreting of the foundation box

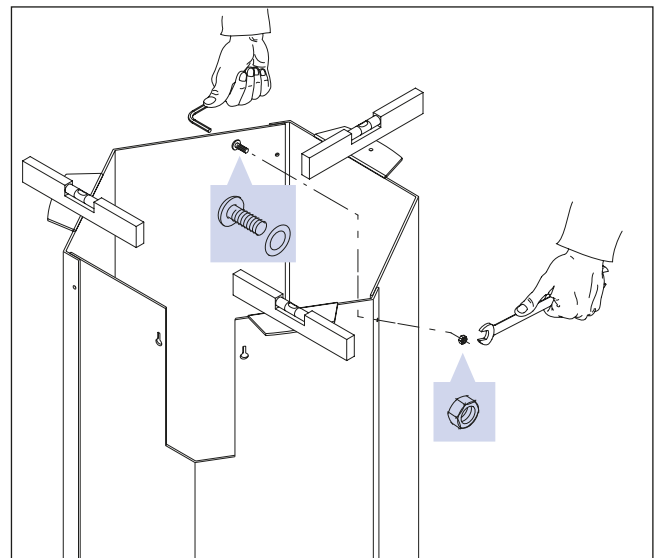
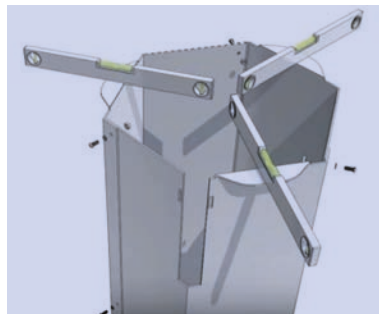
Bollard VSZ 4

- Place the side elements vertically as shown in the figure.

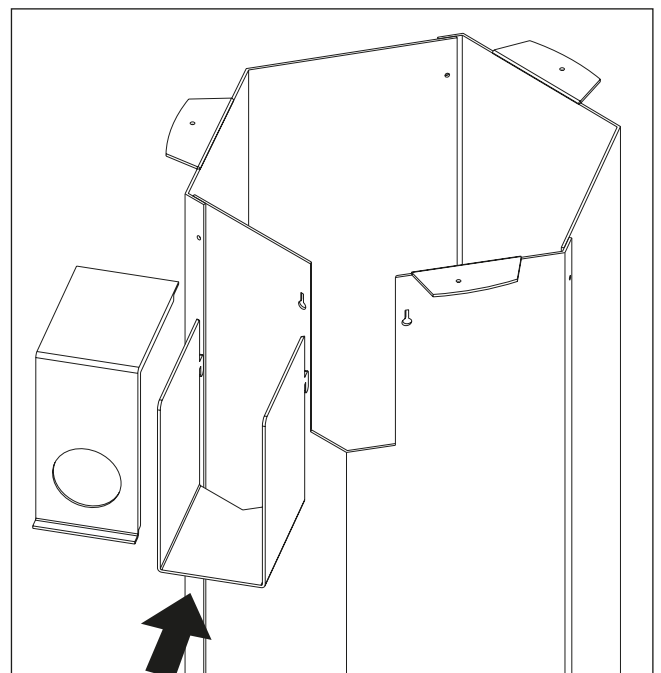
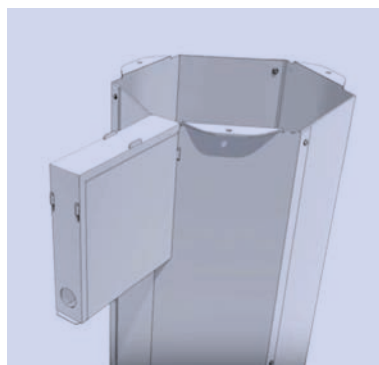


- Using the raised countersunk head screw (already provided), assemble the hexagonal structure. It is very important to assemble the elements vertically and on an even surface, in order to have a reliable support surface for closing the flange.

Attention: The screw head must be placed on the internal side of the foundation case. See figure.



- Before fixing the upper flange, please insert the metallic protection of the 50 mm thick corrugated pipe. This has to be set on the ground for the electrical connection to the central unit. See figure.



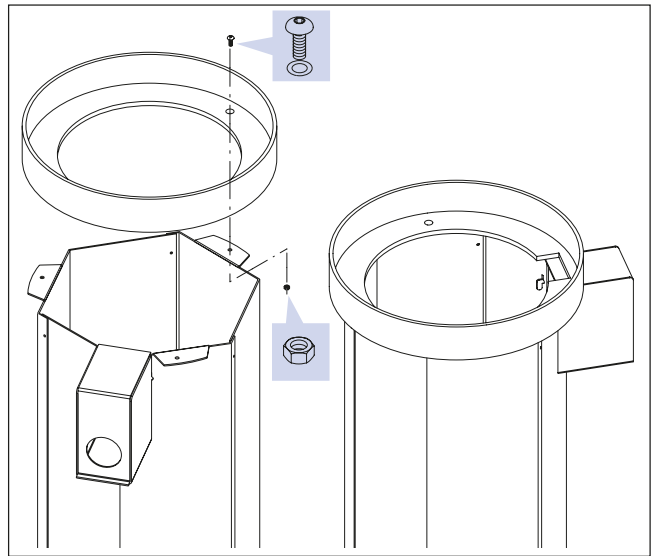
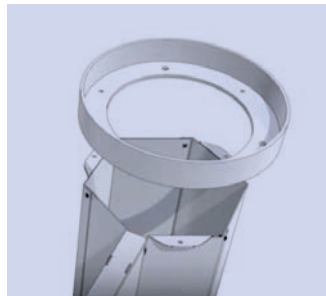
- Fix the upper flange using raised countersunk head screw.



Attention: The screw heads must be placed on the upper part of the flange (inside the case).

Now the mounting of the foundation case is completed.

See figure.

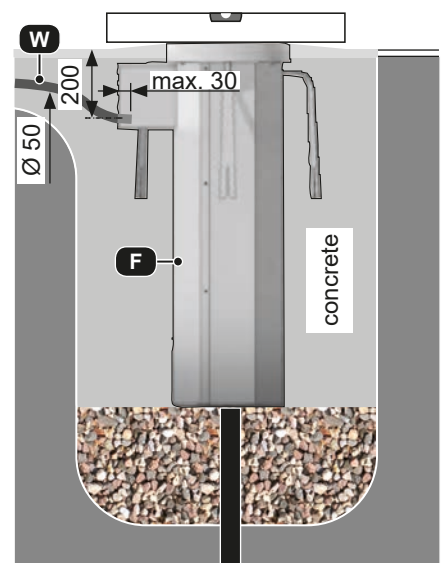
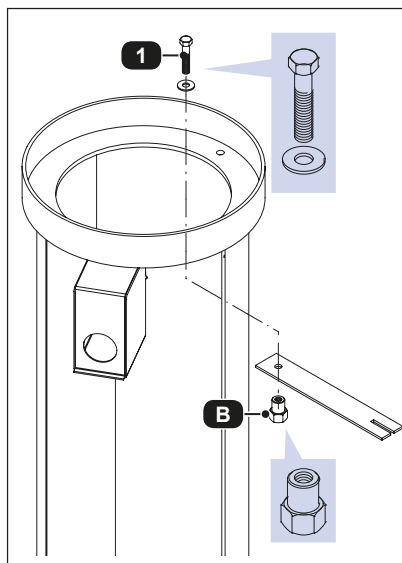


- Fit the clamps as shown in the figure, and fix them in the right position by means of the washer and the M10 hexagonal head screw (1).
- After you have bent the wall claws depending on foundation, place the foundation box (F) on the drainage of the excavation.



The box must rest on the floor of the excavation and be perfectly vertical - place a spirit level on the upper flange.

Note that the foundation box has to slightly exceed the ground level, so that a slight slope can be provided around the foundation box (F)!



- **Important:** for easy insertion into the box, the protective tube (W) must be 200 mm away from the floor surface, as shown in the picture. The protective tube, with Ø50mm, must be inserted into the metal protector for a maximum of 2-3 cm, so that it won't be an obstacle during the installation of the bollard.

- **Important:** When pouring the box with concrete, make sure that the fixing plug (B) is completely enclosed with concrete below the wall clamps. Use a spirit level to check if the flange surface is horizontal!



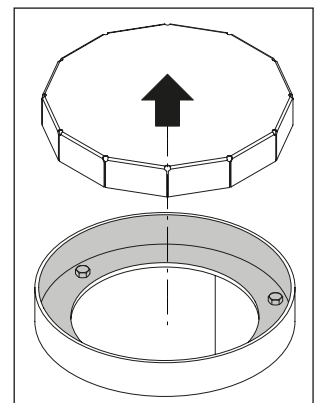
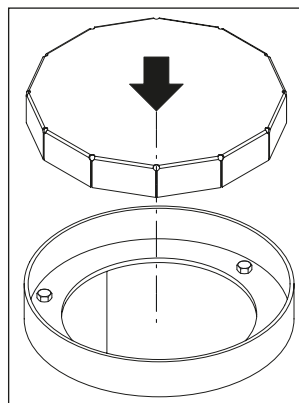
Attention !

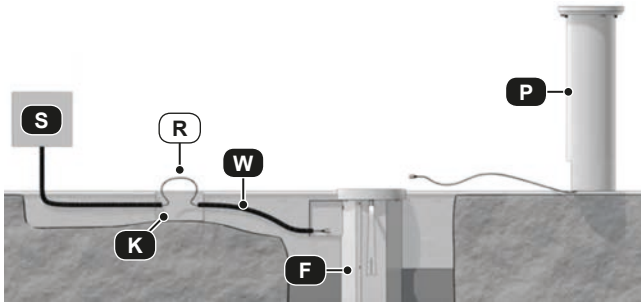
- As long as the bollard is not inserted into the foundation box, the open area must be covered. The cover must be designed in such a way as to avoid accidents which may lead to personal injuries and/or property damage. As an option, there is a sheet metal cover available. See illustration.

- Before placing the bollard in its place, remove the cover/ lid.



Clean thoroughly the area where the bollard is anchored (gray area). See illustration.



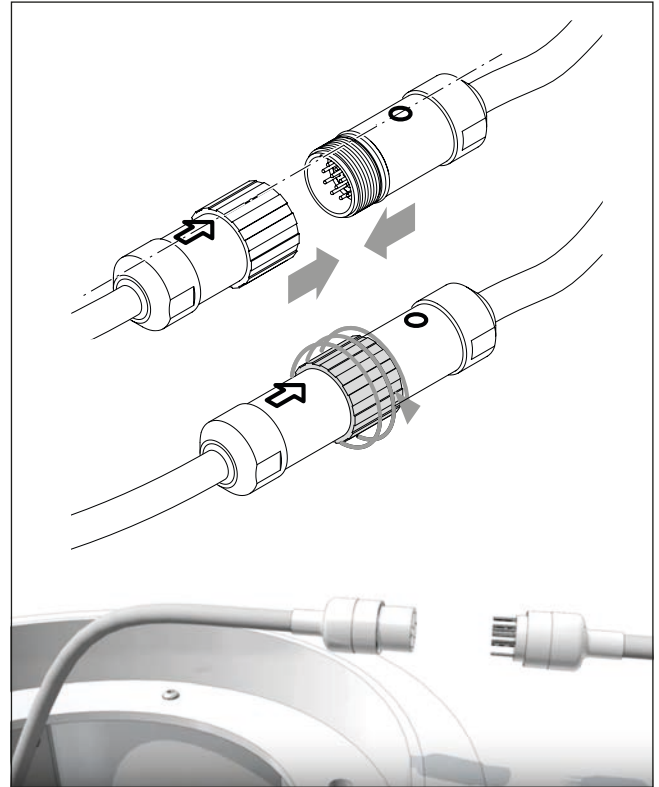


- The bollard (**P**) is supplied with a short piece of connection cable, equipped with an IP68 plug.
- To connect the line section coming from the control (**S**), plan a reserve (**R**) of approx. 1m. The cable shaft (**K**) makes it easier to insert the bollard by first pulling in the cable there and then releasing it (see below).
- For connection to the control, there are various extensions (from 5-25m) available, which are equipped with an IP68 socket.

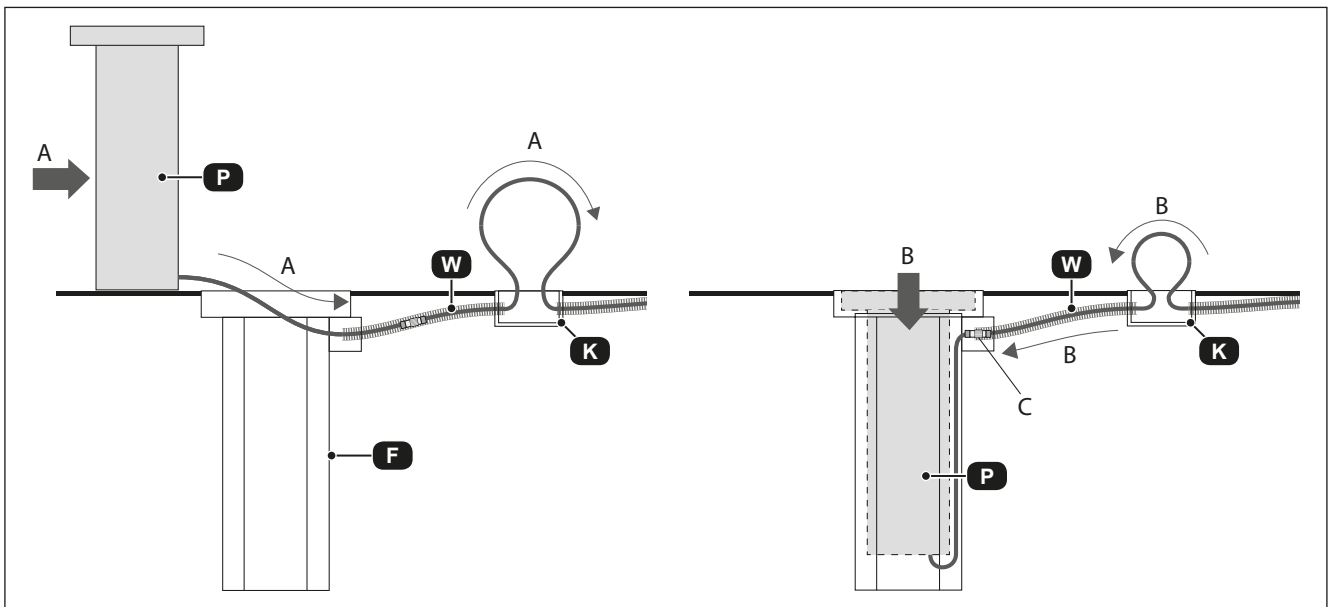
Connect the two parts of the connector by aligning the arrow with the circle as indicated. Then fasten the mounting ring completely.

- The properly plugged connector ensures the protection with IP68.

It is advisable to check the displacement of the connector within the sleeve by simulating the displacement of the cable within the bollard.



IMPORTANT: It is imperative to close the connector completely and correctly so that the electrical contacts are not kinked and water does not penetrate. Before the operation, carefully examine the connections and the drawings below. Do not force the two sides of the connector!



- A: The cable must be retightened while the bollard (**P**) is approaching the foundation box (**F**).



IMPORTANT: During this phase, the connector must run freely within the protective tube (**W**). For this reason it is absolutely necessary that the area between the bollard and the cable shaft (**K**) is connected with a protective tube with $\varnothing 50 \text{ mm}$, which is installed correctly without connection points or changes in the diameter.

- B: While lowering the bollard into the box, the cable gets gradually released.
- C: After completion of the insertion process, the connector must come close to the metal cover (**C**). Make sure that the electric cable in the box housing runs freely and that doesn't get disconnected.

4. Insert the bollard

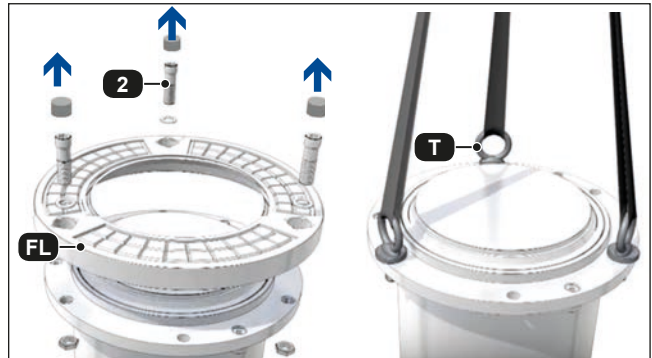
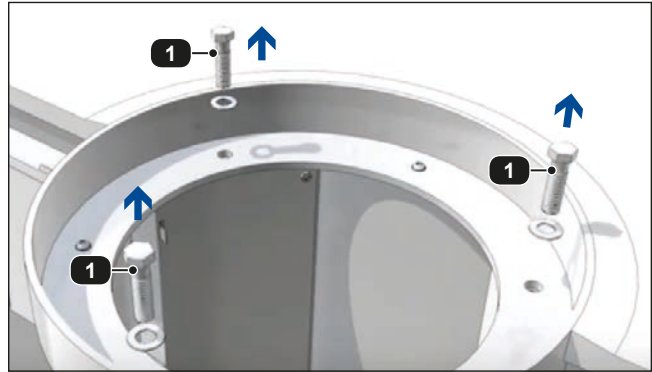
Bollard VSZ 4

- Now remove the M10 hexagon head screws (1) and the washers from the foundation box.



Clean and lubricate the freed tapped holes and pay attention that they no longer become polluted before the bollard is inserted !

- To transport the bollard, remove the accessible flange (FL) by removing the hexagon socket screws (2) and screw in the transport lugs (T).



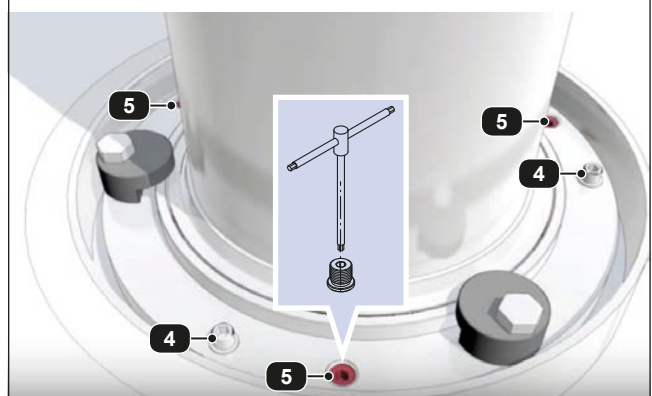
- After you have placed the bollard in the foundation box taking into account the integrity of the connection cable (see *previous page*), remove the transport lugs (T) and tighten the locking devices (SP) on the guide ring of the pipe using hexagon bolts (3). The locking devices are absolutely necessary in order to be able to lift the bollard without the flange (FL).
- Now insert the M10x40 stainless steel screws (4) together with washers into the threaded holes Ø13 without tightening them.



For a perfect operation of the bollard, its perfect alignment is necessary!

After completing the control connection, raise the bollard electrically by following the instructions and check the alignment with a spirit level.

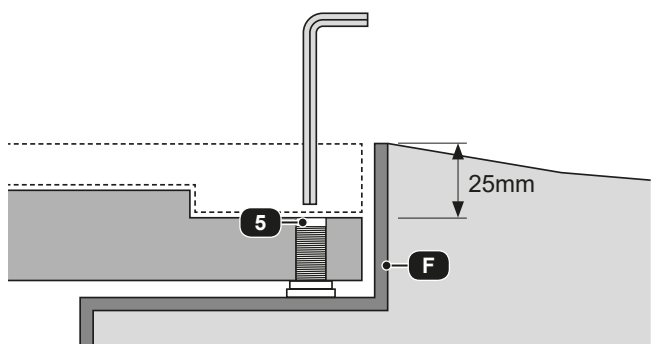
- Now align the bollard alignment with the hexagon socket head screws (5).
- Is the bollard aligned exactly vertically and fits ultimately the level that comes with the accessible flange (FL), tighten the screws (4) and reinsert the bollard



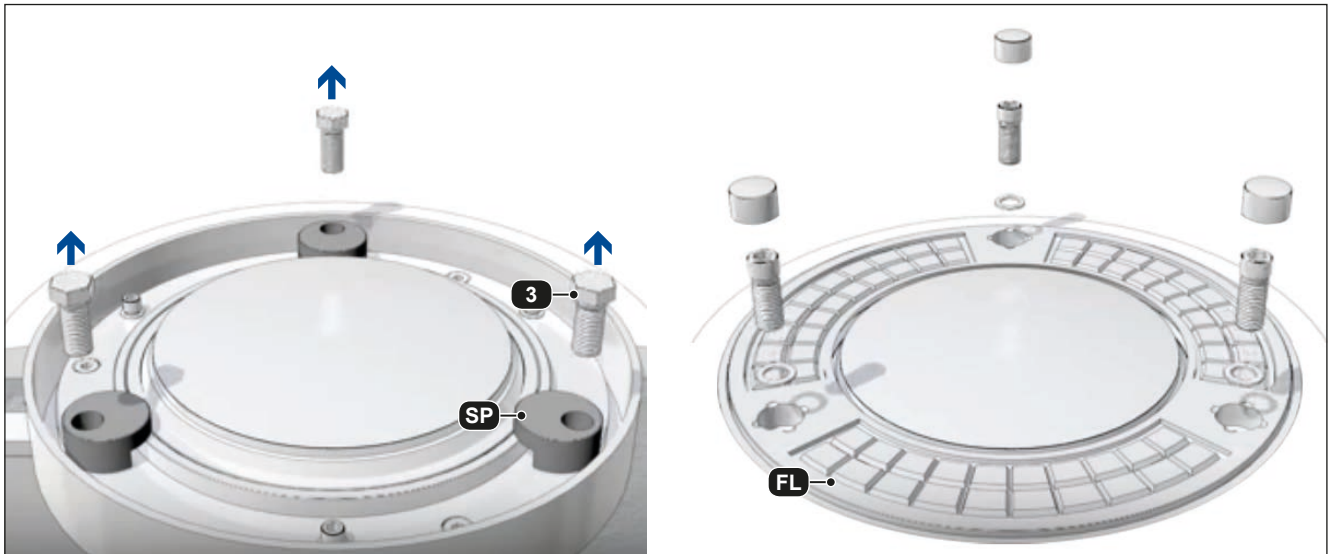
ADVICE



- Note that the distance between the bollard's flange and the upper edge of the box / floor is 25mm.
- If this distance is maintained, there will be a smooth transition between accessible flange (FL) and upper edge of the box.
- Also, if the floor allows this, a slight slope around the foundation box (F) should be provided.

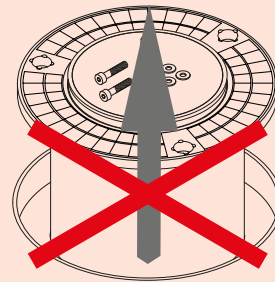


- After retracting the bollard, remove the locking devices (**SP**) by loosening the hexagon bolts (**3**).
- Insert the accessible flange, fix it with hexagon socket screws and washers and close the holes with the supplied rubber caps.
- If necessary, make any outstanding electrical connections according to the wiring diagram of the control manual.

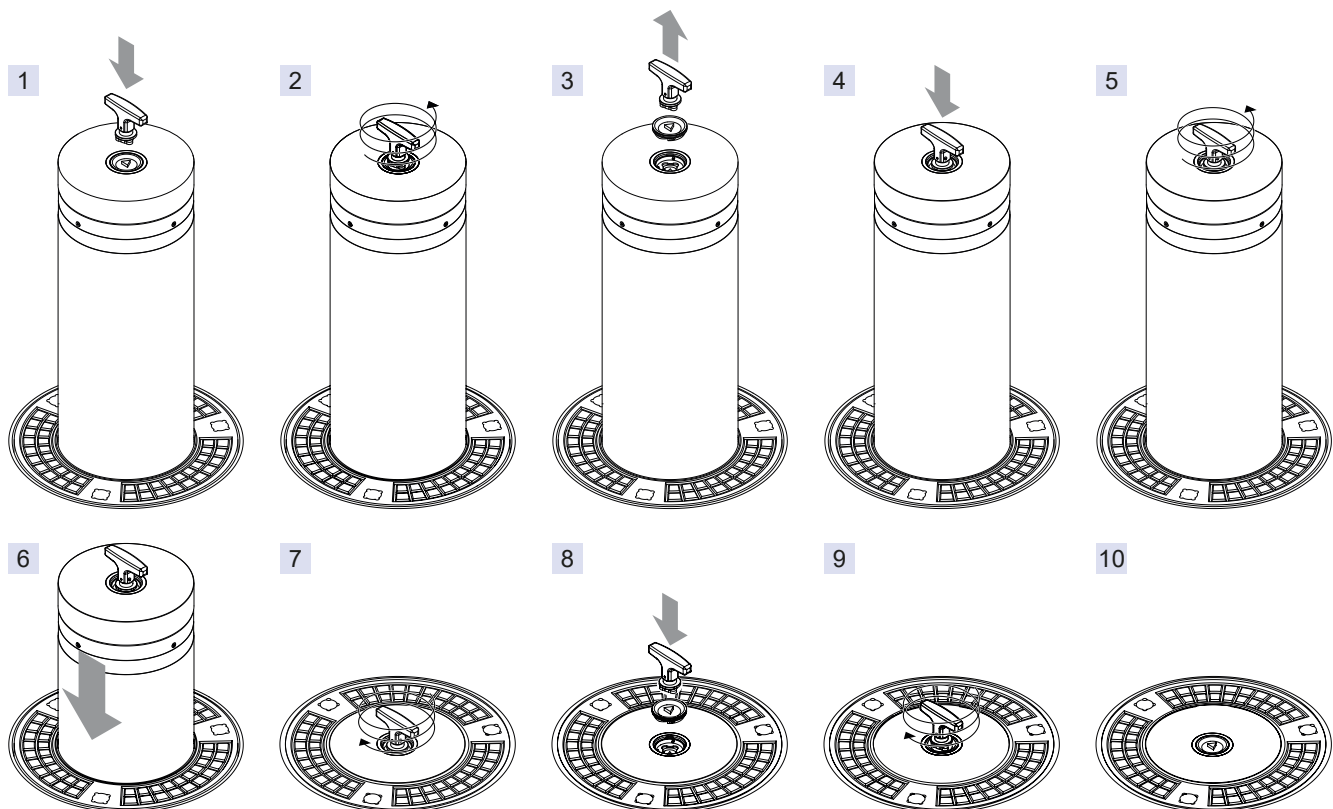


ATTENTION - DANGER!

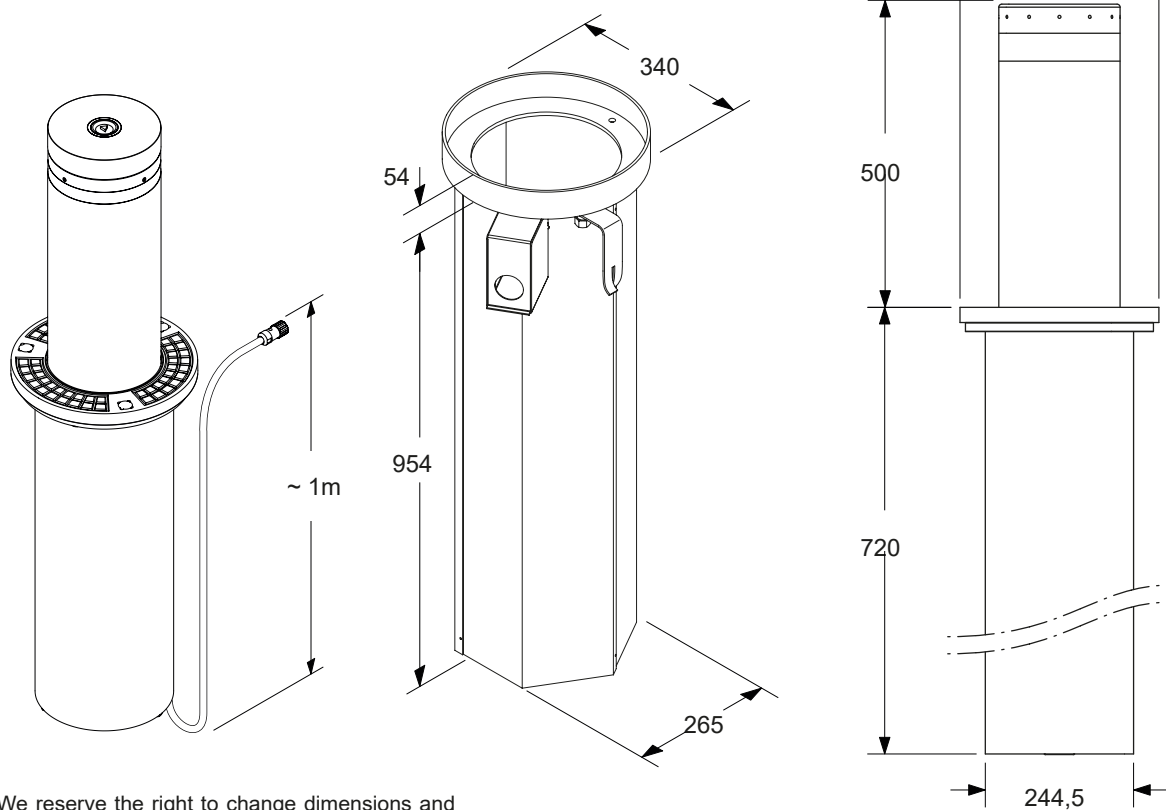
**NEVER ACTIVATE THE BOLLARD BEFORE
HAVING FIXED THE TREADABLE FLANGE!**



- In the event of a power failure, it is possible to lower the bollard with the supplied releasing key. • With the key you first remove the lid and then unlock the bollard.
- To do this, insert the releasing key (1) and turn it counter - clockwise in order to remove the lid of the releasing system (3).
- Insert the key again (4) and turn the release pin counterclockwise a few times (5).
- After approx. 2–3 complete turns, the bollard begins to lower itself automatically (6).
- Wait for the bollard to be completely lowered. You can possibly apply some pressure.
- Then, turn the unlocking bolt clockwise (7), replace the lid (8) and fix it with a clockwise rotation (9).
- Remove the key (10).
- The bollard is now completely retracted. When the power supply is restored, the bollard can be raised normally by means of an impulse.



Dimensions in mm



We reserve the right to change dimensions and technical specifications without prior notice.

tousek PRODUCTS

- sliding gate operators
- cantilever systems
- swing gate operators
- garage door operators
- folding door operators
- traffic barriers
- electronic controls
- radio remote controls
- key operated switches
- access control
- safety devices
- accessories

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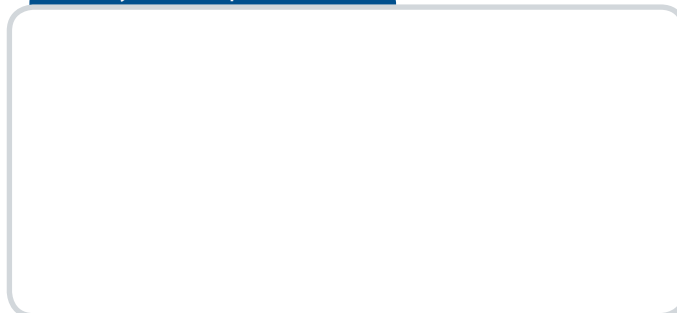
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E_VSZ-4_00
23. 05. 2019



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