



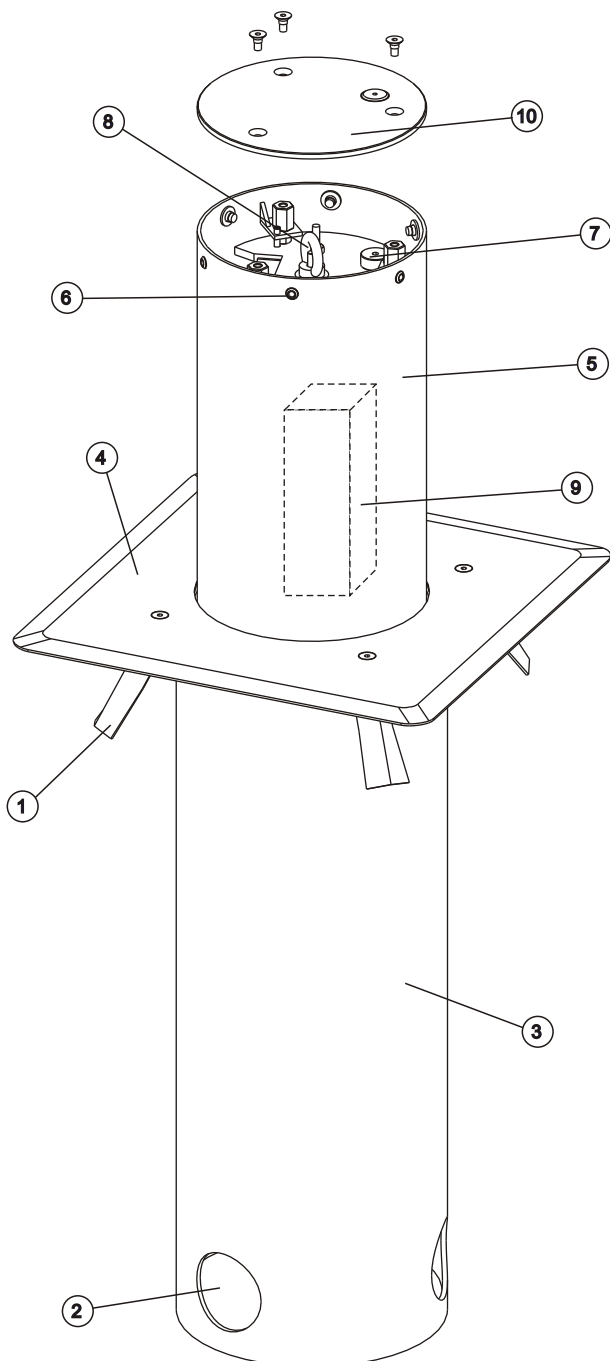
BULL is a bollard designed for the management of traffic areas, parkings and protection of public and private accesses. It has an hydraulic system is engineered in our factory to achieve minimum noise and maximum long term reliability.

The hydraulic unit is self contained for ease of installation. The release mechanism allows for manual operation in case of power failure.

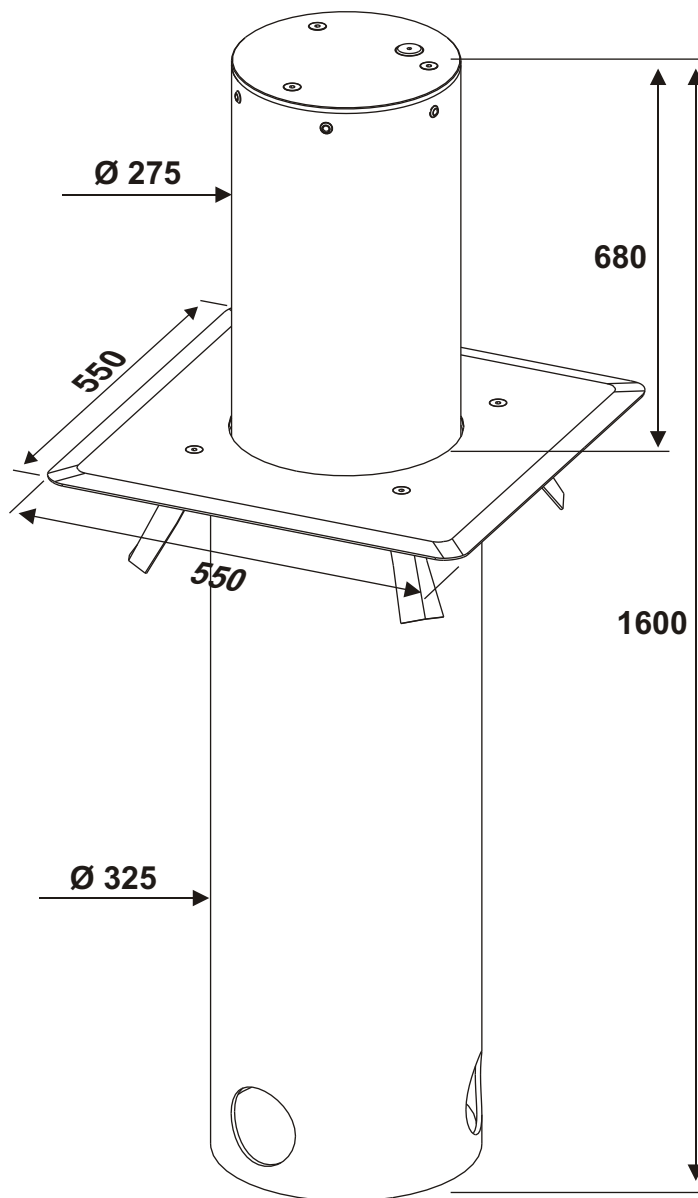
BULL is also equipped with 24V LED lights and audible alarm.

MAIN PARTS NAMES

- | | | | |
|---|----------------------------------|----|-----------------------|
| 1 | Foundation plate | 6 | Light signals |
| 2 | Hole for electric cables passage | 7 | Release system |
| 3 | Underground cylinder | 8 | Lifting hook |
| 4 | Manhole cover | 9 | Hydraulic unit |
| 5 | Movable column | 10 | Movable manhole cover |



DIMENSIONS (mm)



HYDRAULIC UNIT

Hydraulic pump capacity	4 liters/min
Medium working pressure	2.2 MPA (22 bar)
Maximum adjustment pressure	4.5 MPA (45 bar)
Working temperature	-20°C +55°C
Hydraulic oil	SEA
Protection degree	IP55

HYDRAULIC PISTON

Exit time of the rod	6 seconds
Working stroke of the rod	720 mm
Rod diameter	16 mm
Piston diameter	30 mm
Max tractive force during rod extension	275 Kg
Max tractive force during rod retraction	147 Kg
Obstruction light (led) power supply	24V

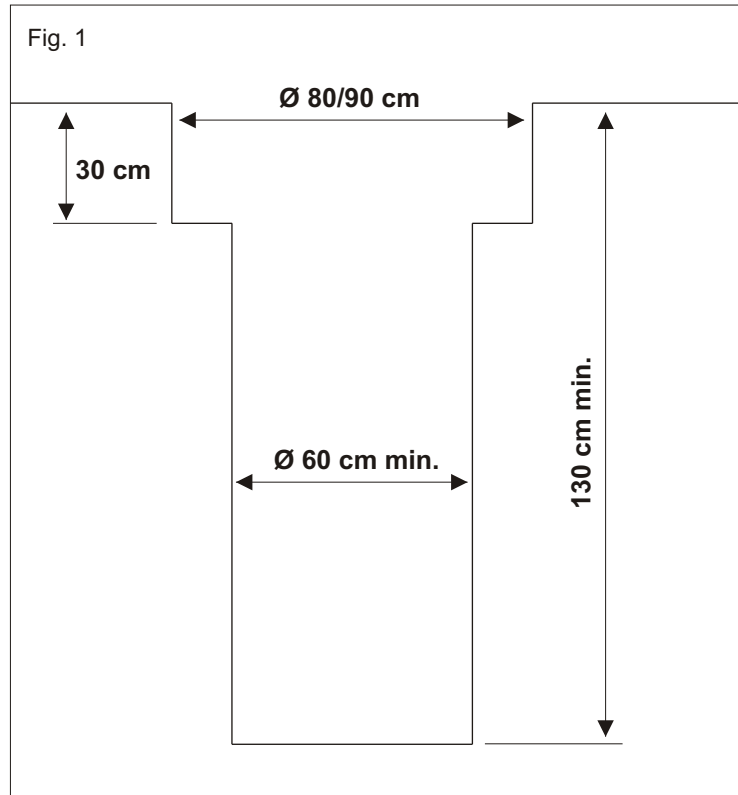
ELECTRIC MOTOR

Power supply	230Vac - 50 Hz
Absorbed current	1.65 A
Absorbed motor power	330 W
Capacitor	16 mF
Rotation speed	2800 rpm
Frequency of use	30%



1. DIGGING

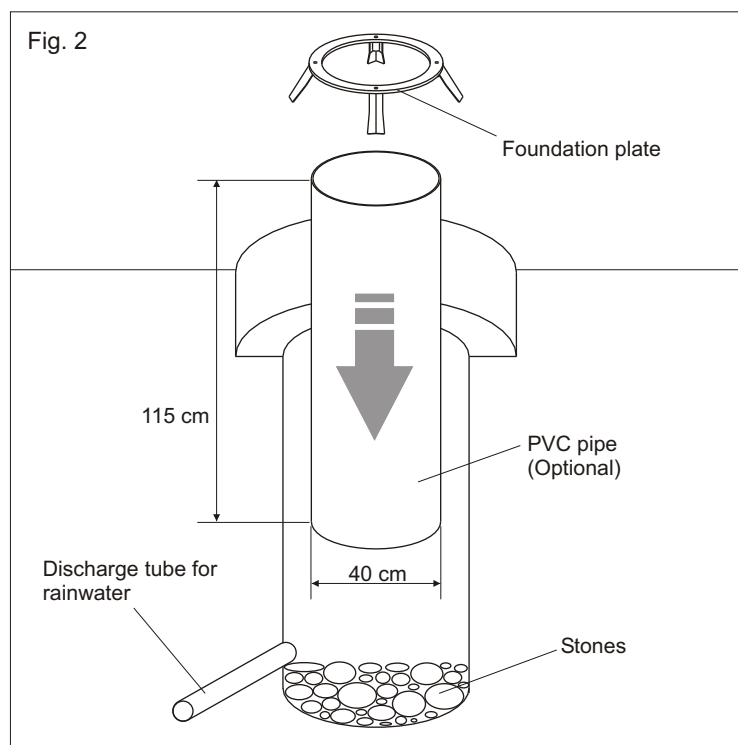
1.1. Proceed with excavation using the measurements that you find in Fig. 1 one. Dig in the ground where you intend to install the bollard



1.2. Fill the hole with stones for 30 cm to allow for water drainage.

1.3. Install a plastic flexible Duct (40 mm diameter) to the mains sewer pipe, if possible.

1.4. Insert a PVC (optional) pipe (external diameter min 40 mm) in the hole and fit the foundation plate. (Fig. 2) 12710350

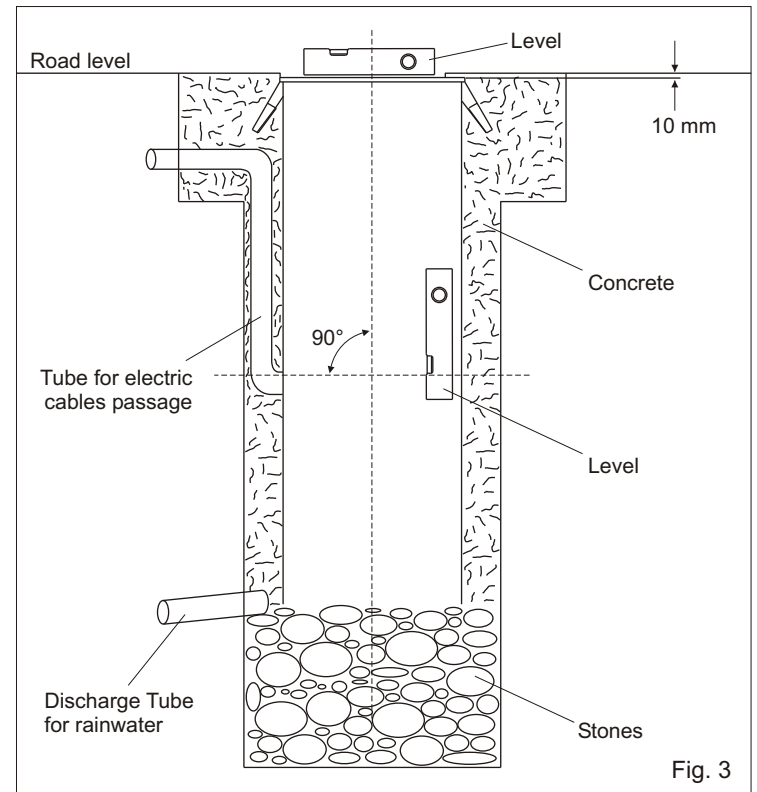


1.5. Insert a flexible duct into the PVC pipe to allow for passage of the electric supply cables.

1.6. Fill all the space between ground and PVC pipe with high strength concrete.

1.7. Before the concrete has fully set, make sure that the PVC pipe is perfectly vertical and that the foundation plate is perfectly horizontal. Use a level for this operation.

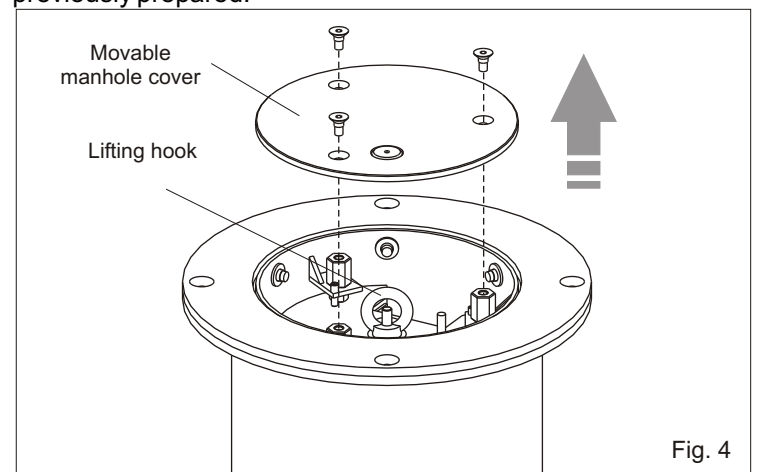
NOTICE: the foundation plate must be positioned 10 mm max beneath finished floor level. (Fig. 3).



2. BOLLARD INSERTION

2.1. Remove the movable access cover unscrewing the three screws as in Fig. 4.

This operation allows access to the lifting hook which must be used to insert the bollard in the housing pipe that has been previously prepared.





2.2. Using the lifting hook, insert the bollard in the housing (Fig. 5).

NOTICE: make the electric cables pass carefully in the appropriate pipe without shortening or stretching them.

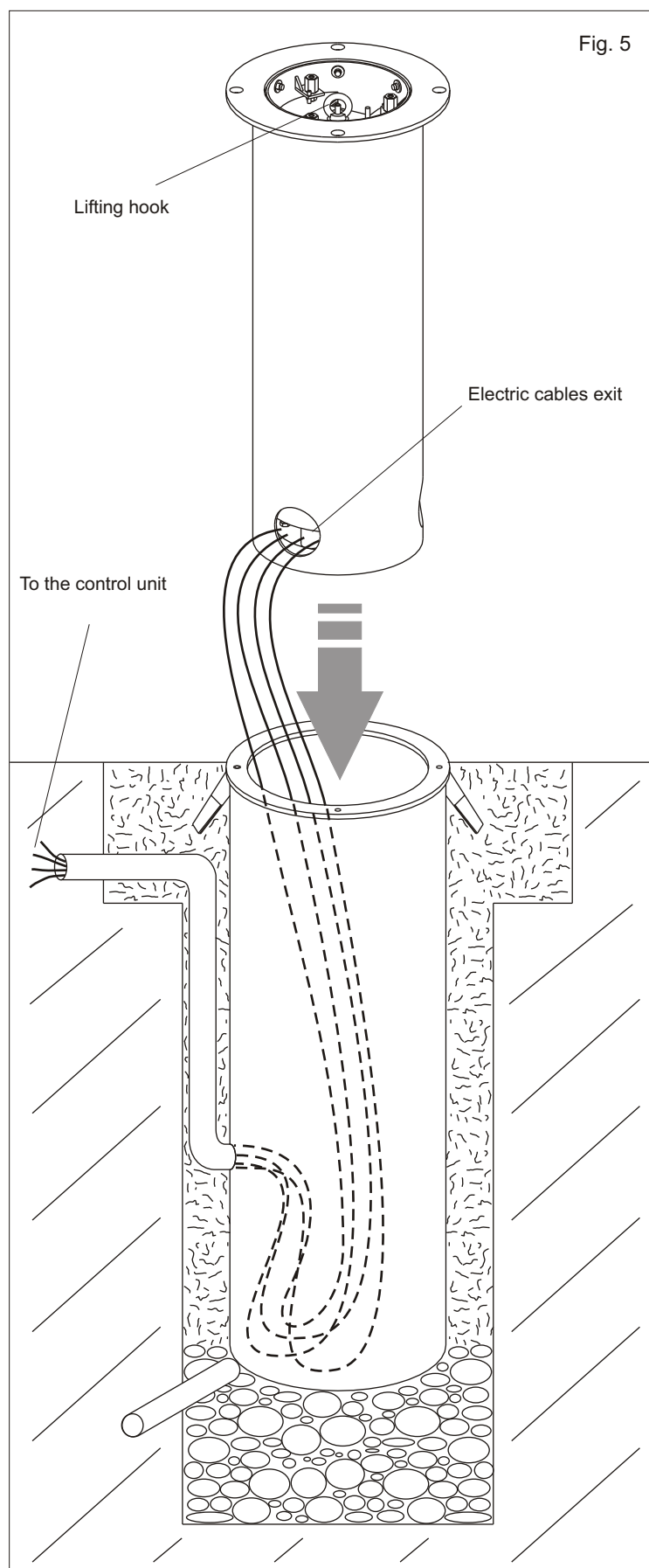


Fig. 5

2.3. Lower the bollard until it touches the foundation plate, taking care that the electric cables are positioned at the bottom of the tube (Fig. 6)

2.4. Fix the bollard to the foundation plate using the manhole cover and the 4 screws provided (Fig. 6). Afterward mount the upper manhole cover. (Fig. 6)

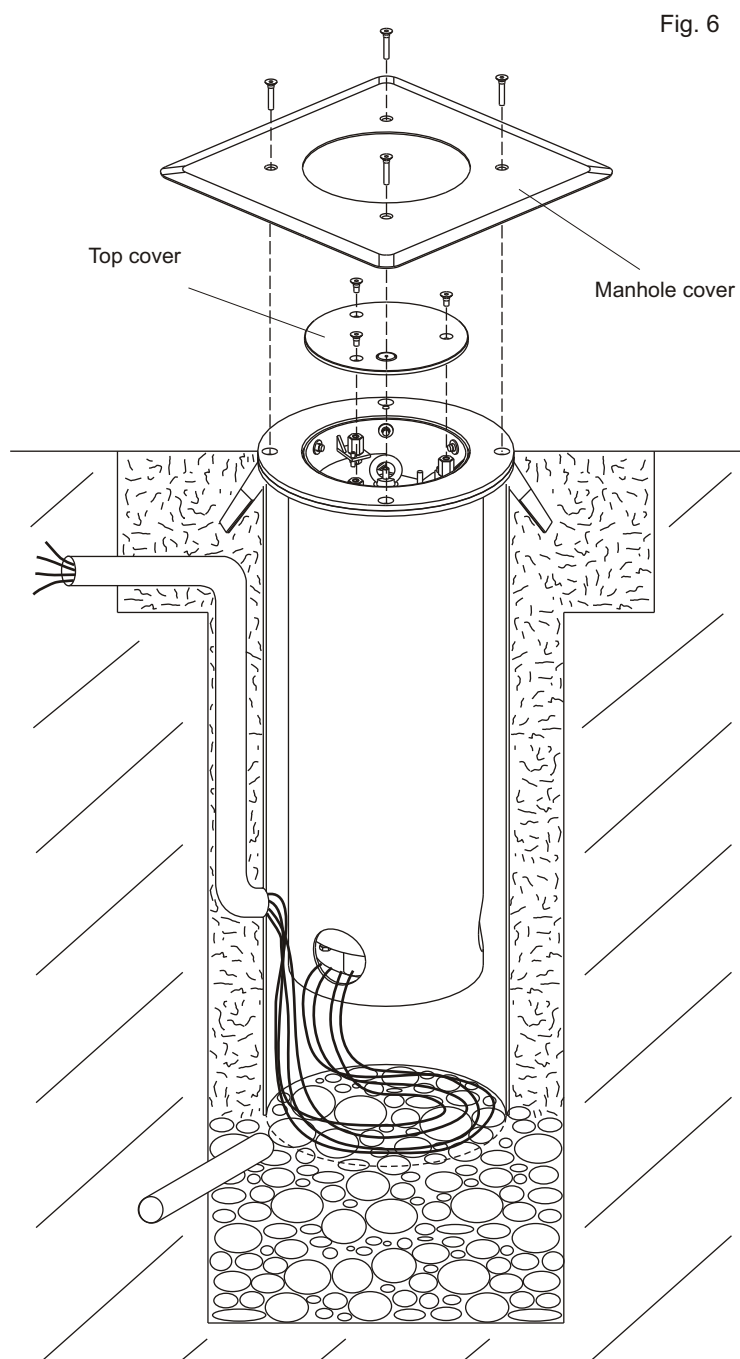


Fig. 6

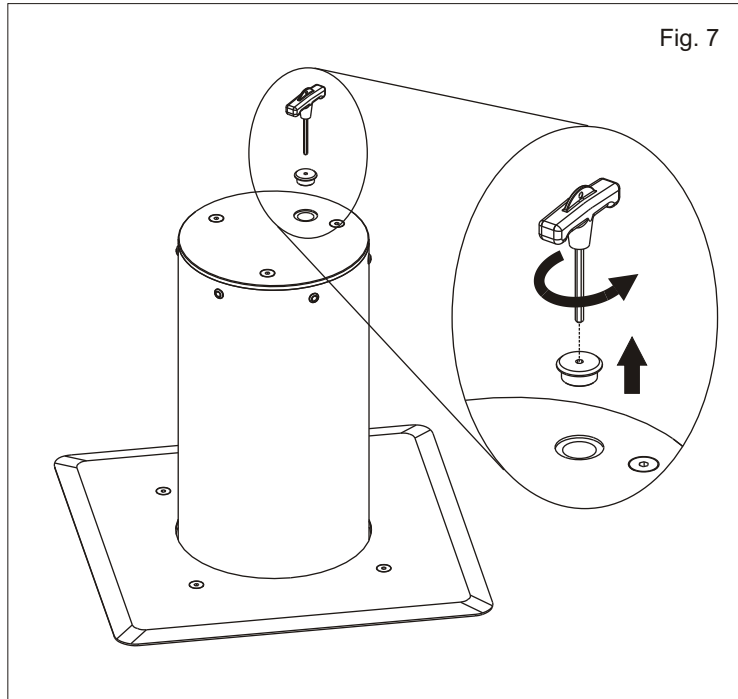
At this point the installation is completed. For electrical connections, refer to the appropriate control unit instruction manual.



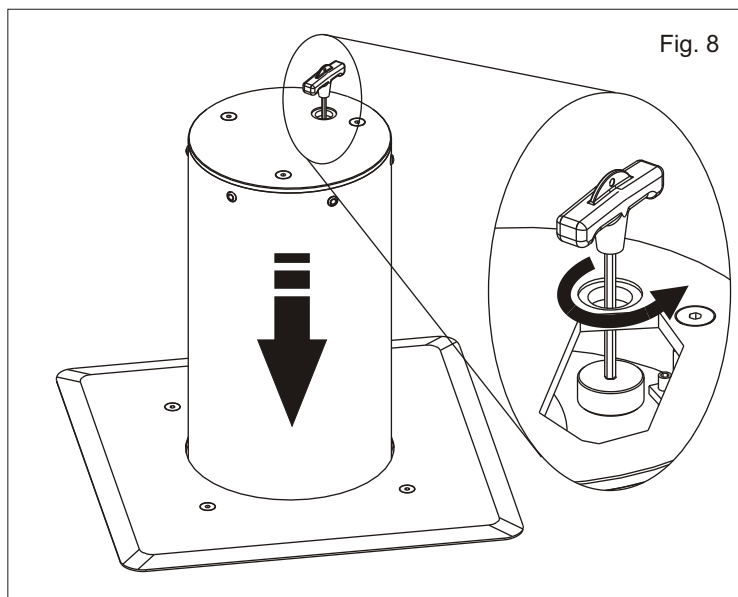
3. RELEASE SYSTEM

The manual release system allows you to lower the bollard in case of emergency or power cut.
In order to release the bollard act as follows:

3.1. Unscrew the cover of the release using the appropriate hexagonal key in equipment(Fig. 7).

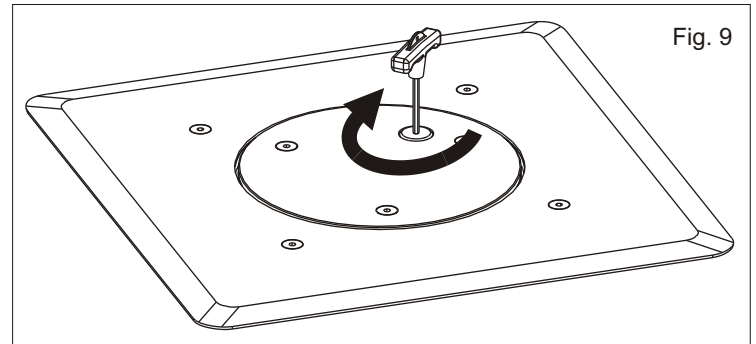


3.2. Insert the same key in the release hole and unscrew (rotate it counterclockwise) until the bollard starts to descend slowly (Fig. 8). **DO NOT OVER ROTATE.**



NOTICE: this operation allows the bollard only to go down
Not to go up.

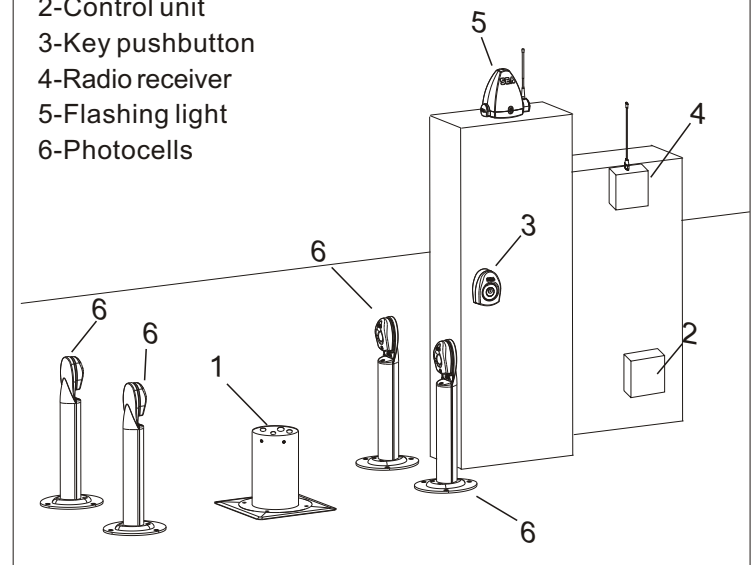
3.3. When the bollard has completely gone down, relock the bollard rotating the key clockwise and re-screw the protection cover (Fig. 9).



NOTICE: don't leave the bollard down with the disabled lock.

4. TYPICAL INSTALLATION

- 1-BULL bollard
- 2-Control unit
- 3-Key pushbutton
- 4-Radio receiver
- 5-Flashing light
- 6-Photocells



5. PERIODICAL MAINTENANCE

The following maintenance activities can be executed opening the manhole cover.

Check that the bollard movement is always linear and doesn't meet any obstacle.	6 mnths
Check the light system (led)	6 mnths
Check the release functionality	6 mnths
Check the limit switches efficiency (micro-switch)	6 mnths
Lubricate the rods with water resistant grease	1-2 years

All the above described activities must be executed exclusively by an authorized installer.



SEA[®]
Sistemi Elettronici
di Apertura Porte e Cancelli
International registered trademark n. 804888

BULL

INSTALLATION MANUAL

(cod.12500005)



ENGLISH

DECLARATION OF CONFORMITY

SEA declares under its responsibility that

the BULL operator

meets all the essential requirements as provided by the following European laws and later modifications (where applicable):

89/392/CEE (Machines Directive)

89/336/CEE (Electromagnetic Compatibility Directive)

73/23/CEE (Low-tension Directive)

WARNINGS :

The electric installation and the functioning logic choice must agree with the laws in force. In all cases a 16A breaker with a 30mA differential switch must be fitted. Keep the power cables (motors, power supply) separate from the command cables (push buttons, photocells and so on). In order to avoid any interference it's preferable to always use separate cables and ducts.

USE DESTINATION:

BULL bollard has been designed to be used exclusively as management equipment for public and private accesses.

REPLACEMENTS:

Any request for spare parts must be sent to:

SEA s.r.l. - Zona Ind.le, 64020 S.ATTO - Teramo - Italia or SEA UK Limited Tel: 0121 706 9629

SAFETY AND ENVIRONMENTAL COMPATIBILITY:

Please dispose of the packaging materials of products and / or circuits in an environmentally friendly manner.

Materials handling must be undertaken with appropriate vehicles.

DISINSTALLATION AND MAINTENANCE:

The disinstallation and/or putting out of service and/or maintenance of BULL bollard must be made only and exclusively by authorized and qualified staff.

NOTICE: THE MANUFACTURER IS NOT CONSIDERED RESPONSIBLE FOR DAMAGE CAUSED BY IRREGULAR, WRONG OR UNREASONABLE USE.

SEA reserves the right to make any required modification or change to the products and/or to this manual without any advanced notification.



TERMS OF SALE

EFFICACY OF THE FOLLOWING TERMS OF SALE: The following general terms of sale shall be applied to all orders sent to SEA srl. All sales made by SEA to all customers are made under the prescription of this terms of sales which are integral part of the sale contract and cancel and substitute all opposed clauses or specific negotiations present in the order or in other documents received from the buyer.

GENERAL NOTICE The gate automation systems must be assembled exclusively with SEA components, unless specific agreements apply. Non-compliance with the applicable safety standards (European Standards EN 12453 EN12445 and others) and with good installation practice releases SEA from any responsibilities. SEA shall not be held responsible for any failure to execute a correct and safe installation under the above mentioned standards.

1) PROPOSED ORDER The proposed order shall be accepted only prior SEA approval of it. By signing the proposed order, the Buyer shall be bound to enter a purchase agreement, according to the specifications stated in the proposed order and always under those Terms of sale. On the other hand, failure to notify the Buyer of said approval must not be construed as automatic acceptance on the part of SEA.

2) PERIOD OF THE OFFER The offer proposed by SEA or by its branch sales department shall be valid for 30 solar days, unless otherwise notified.

3) PRICING The prices in the proposed order are quoted from the Price List which is valid on the date the order was issued. The discounts granted by the branch sales department of SEA shall apply only prior to acceptance on the part of SEA. The prices are for merchandise delivered ex-works from the SEA establishment in Teramo, not including VAT and special packaging. SEA reserves the right to change at any time this price list, providing timely notice to the sales network.

4) PAYMENTS The accepted forms of payment are each time notified or approved by SEA. The interest rate on delay in payment shall be 1.5% every month but anyway shall not be higher than the max. interest rate legally permitted.

5) DELIVERY Delivery shall take place, approximately and not peremptorily, within 30 working days from the date of receipt of the order, unless otherwise notified. Transport of the goods sold shall be at Buyer's cost and risk. SEA shall not bear the costs of delivery giving the goods to the carrier, as chosen either by SEA or by the Buyer. Any loss and/or damage of the goods during transport, are at Buyer's cost.

6) COMPLAINTS Any complaints and/or claims shall be sent to SEA within 8 solar days from receipt of the goods, proved by adequate supporting documents as to their truthfulness.

7) SUPPLY The concerning order will be accepted by SEA without any engagement and subordinately to the possibility to get it's supplies of raw material which is necessary for the production; Eventual completely or partially unsuccessful executions cannot be reason for complains or reservations for damage. SEA supply is strictly limited to the goods of its manufacturing, not including assembly, installation and testing. SEA, therefore, disclaims any responsibility for damage deriving, also to third parties, from noncompliance of safety standards and good practice during installation and use of the purchased products.

8) WARRANTY.

SILVER: The mechanical components of the operators belonging to this line are guaranteed for 24 months from the date of manufacturing written on the operator.

GOLD: The mechanical components of the operators belonging to this line are guaranteed for 36 months from the date of manufacturing written on the operator.

PLATINUM: The mechanical components of the operators belonging to this line are guaranteed for 36 months from the date of manufacturing written on the operator. The base warranty (36 months) will be extended for further 24 months (up to a total of 60 months) when it is acquired the certificate of warranty which will be filled in and sent to SEA s.r.l. within 30 days from the purchase date. The electronic devices and the systems of command are guaranteed for 24 months from the date of manufacturing. In case of defective product, SEA undertakes to replace free of charge or to repair the goods provided that they are returned to SEA repair centre.

The definition of warranty status is by unquestionable assessment of SEA. The replaced parts shall remain propriety of SEA. Binding upon the parties, the material held in warranty by the Buyer, must be sent back to SEA repair centre with fees prepaid, and shall be dispatched by SEA with carriage forward. The warranty shall not cover any required labour activities. The recognized defects, whatever their nature, shall not produce any responsibility and/or damage claim on the part of the Buyer against SEA. The guarantee is in no case recognized if changes are made to the goods, or in the case of improper use, or in the case of tampering or improper installation, or if the product label of the manufacturer with the registered SEA trademark n° 804888 has been removed. Furthermore, the warranty shall not apply if SEA products are partly or completely coupled with non-original mechanical and/or electronic components, and in particular, without a specific relevant authorization, and if the Buyer is not making regular payments. The warranty shall not cover damage caused by transport, expendable material, faults due to non-conformity with performance specifications of the products shown in the price list. No indemnification is granted during repairing and/or replacing of the goods in warranty. SEA disclaims any responsibility for damage to objects and persons deriving from non-compliance with safety standards, installation instructions or use of sold goods. The repairs of products in warranty and out of warranty is accepted only if the procedure of SEA are fully respected by the customer.

9) RESERVED DOMAIN A clause of reserved domain applies to the sold goods; SEA shall decide autonomously whether to make use of it or not, whereby the Buyer acquires the property of the goods only after full payment of the invoice.

10) COMPETENT COURT OF LAW In case of disputes arising from the application of the agreement, the competent court of law is the tribunal of Teramo. The official language for the interpretation of the catalogue, the manuals, the terms of sale and any other is the italian language. SEA reserves the faculty to make technical changes to improve its own products, which are and are not included in this price list at any moment and without notice.

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