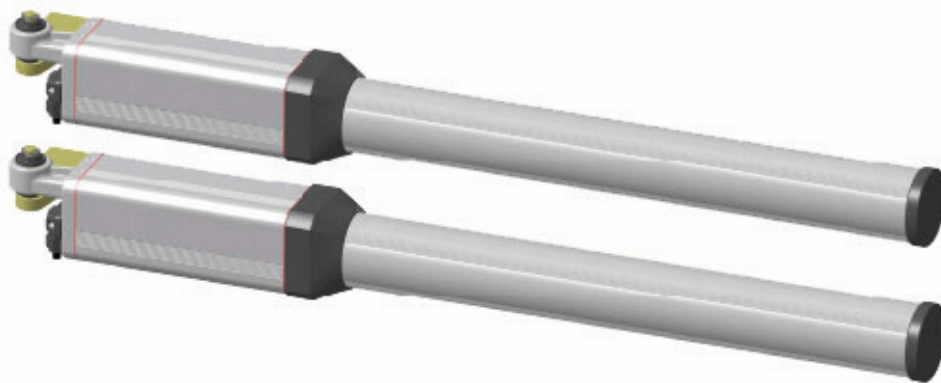


ELSEMA 
INTELLIGENT 
SWING®

iS320 / iS320D
HYDRAULIC SWING GATE
OPENER
USER MANUAL



Reuse
Reduce
Recycle



INDEX

| | | |
|------------|---|-------------|
| 1.1 | GENERAL SAFETY PRECAUTION | P.1 |
| 1.2 | INSTALLATION | |
| | A. INSTALLATION CHECK | P.2 |
| | B. BRACKET MOUNTING DIMENSIONS | P.3 |
| | C. INSTALLATION | P.4 |
| | D. LOCKING ACTUATOR..... | P.6 |
| | E. EMERGENCY RELEASE..... | P.6 |
| | F. ANTI-WIND SYSTEM..... | P.7 |
| | G. TECHNICAL DATA | P.7 |
| | H. KIT CONTENTS | P.8 |
| | I. DIMENSIONS | P.9 |
| | J. ELECTRICAL INSTALLATION | P.10 |
| 1.3 | MAINTENANCE | P.11 |

1.1 GENERAL PRECAUTION

WARNING:

This user manual is only for qualified technicians who are specialized in installations and automations.

- 1) All installations, electrical connections, adjustments and testing must be performed only after reading and understanding of all instructions carefully.
- 2) Before carrying out any installation or maintenance operation, disconnect the electrical power supply by turning off the mains switch connected upstream and apply the hazard area notice required by applicable regulations.
- 3) Do not install this equipment in an easily flammable environment. The presence of inflammable gases or smoke are a serious threat to personal safety.
- 4) In addition to safety devices it is also necessary to install at least one light signal as well as a printed notice fixed to the gate.
- 5) Make sure the existing structure is up to standard in terms of strength and stability.
- 6) This equipment must be earthed with a yellow/ green cable, connected to the earth terminal in the junction box. The safety of this product is only guaranteed if the equipment is properly earthed.
- 7) Installation requires qualified personnel with mechanical and electrical skills.
- 8) Keep the automatic controls (remote, push buttons, key selectors etc.) placed properly and way from children.
- 9) For replace or repair of motorized system, only original parts must be used. Any damage caused by inadequate parts and methods will be not claimed to motor manufacturer.
- 10) Never operate the drive if you suspect that it might be faulty or will cause damage to the system.
- 11) The motors are exclusively designed for gate opening and closing application, any other usage is deem inappropriate. The manufacturer will not be liable for any damage resulting from the improper use. Improper usage should void all warranty, and the user accepts sole responsibility for any risks thereby may accrue.
- 12) The system may be operated in proper working order. Always follow the standard procedures by following the instructions in this installation and operating manual.
- 13) Only operate the remote when you have the full view of the gate.

ELSEMA PTY LTD shall not be liable for any injury, damage, or any claim to any person or property which may result from improper use or installation of this system.

Please keep this installation manual for future reference.

1.2 Installation

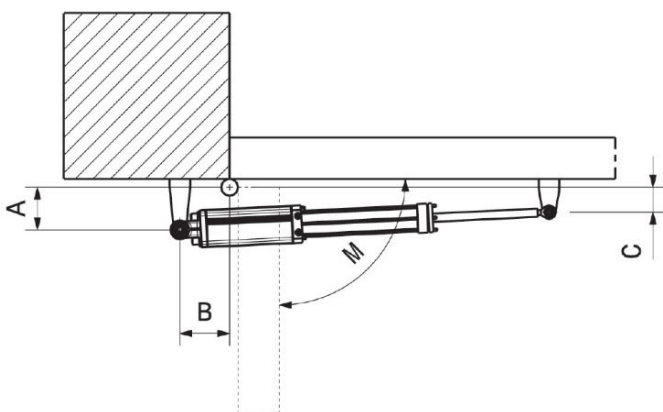
A. CHECKS BEFORE INSTALLATION

Before proceeding with the installation check the following:

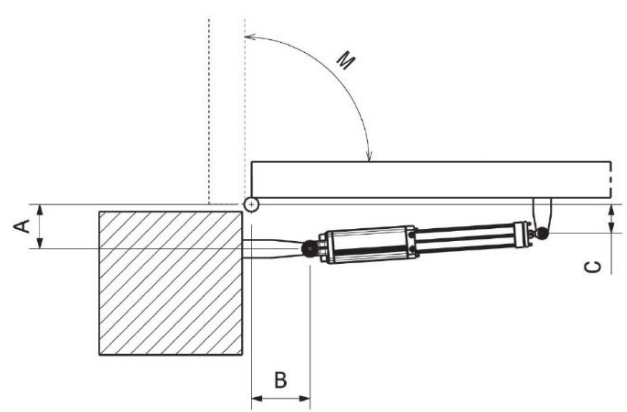
- 1) Make sure that the gate moves freely.
- 2) There are no obstacles in the moving gate area.
- 3) Hinges are properly positioned and greased.
- 4) There should be no friction between the two gate leaves.
- 5) There should be no friction with the ground while moving the gates.
- 6) Check that the gate structure is suitable to install automatic gate motors.

| Gate length | Max. 2 Metre | Max. 4 Metre |
|----------------------------|---------------------|--------------------|
| <i>Light gate : 400Kg</i> | iS320 - 110° | iS320 - 95° |
| <i>Medium gate : 600Kg</i> | iS320 - 110° | iS320 - 95° |
| <i>Heavy gate : 800Kg</i> | iS320 - 110° | |

Opening Inwards



Opening Outwards



B. A & B Dimensions

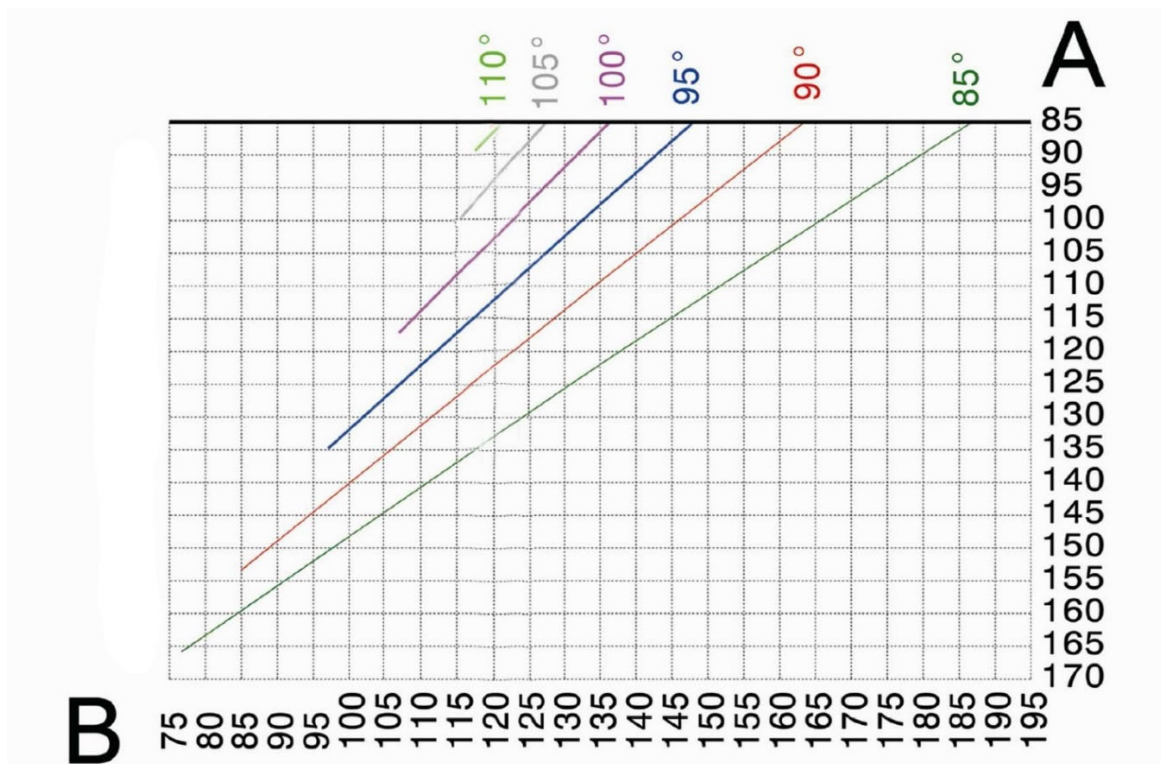
Table 1

| Inward Opening | | | |
|-----------------|-----|-----|----|
| M | A | B | C |
| 85° | 130 | 125 | 70 |
| 90° | 120 | 120 | 70 |
| 95° | 110 | 120 | 70 |
| 100° | 100 | 120 | 70 |
| 105° | 93 | 120 | 70 |
| 110° | 85 | 120 | 70 |
| 115° | 85 | 115 | 70 |
| Outward Opening | | | |
| 85° | 130 | 120 | 80 |
| 90° | 120 | 120 | 80 |
| 95° | 110 | 120 | 80 |
| 100° | 100 | 120 | 80 |

All measurements are from the center of the Hinge and are in millimetres (mm).

In some installations it might not be possible to follow the exact dimensions in the above table due to a number of reasons. If this is the situation, please refer to the Graph 1 below for **INWARD** opening, A & B dimensions.

Graph 1



C. INSTALLATION

- 1) Check that the motor mounting position on the gate pillar can be done with the measurements in **Table 1** and **Graph 1**.
- 2) Fix the pillar support as shown in (**Fig.1 Page5**) shortening or extending the support according to the dimensions A and B shown in the (**Table1 Page 3**). The support should be fixed at a height where the gate has a sufficiently rigid surface to fix the gate support, bearing in mind that the gate support will be fixed **15 mm lower** than the pillar support. (**Fig.1 Page 10**).
- 3) Shorten or lengthen the gate support according to the dimensions for C shown in the table on page 3. Connect the iS320 opener to the gate support, with the rod completely extended (**Fig.2 Page 5**) and with the swivel joint nut fully tightened (**Fig.3 Page 5**). Once this has been done use a spirit level (**Fig.4 Page 5**) to mark the position of the gate support on the gate. Dismantle the gate support and fix it to the gate using the markings previously made.
- 4) Mount the motor and unscrew the swivel joint nut three turns to ensure closure. Attach the security ring and the safety bolt supplied. (**Fig.3 Page 5**).
- 5) Electrical connections: Unscrew the end cover and connect the terminals according to the following diagram
- 6) Open the door manually to the desired open position, slide the collar stopper along the arm (**Fig.9 Page 5**) up to the front cover plate, fixing its position with the Allen key. The hydraulic transmission can then be plugged in and started. Re-position the collar stopper to achieve the desired position.
- 7) The force of the motors can be adjusted by adjusting the red and the blue valves located on the top side of the motor. Remove the black plastic arm cover to expose these valves (**Fig.10 Page 5**). The force valves are independent in opening (blue valve) and closing (red valve). The screws can be adjusted by turning them a maximum of 45° and should be adjusted slightly above the minimum, in this way the force of the hydraulic system is reduced thus increasing safety.
- 8) The aluminium arm cover can then be placed back into position (**Fig.11 Page 5**), followed by its plastic cover and the end cover.

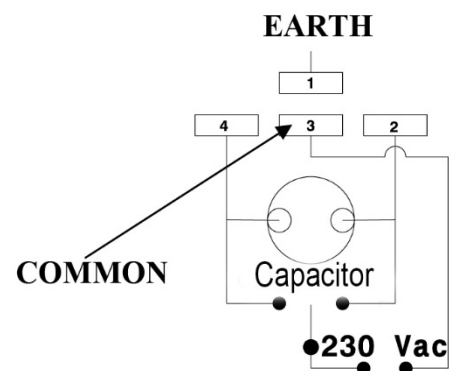


Fig.1

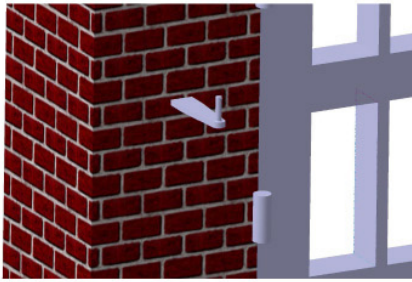


Fig.2

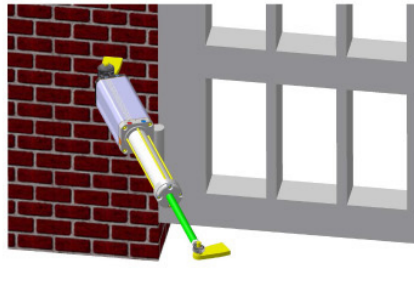


Fig.3

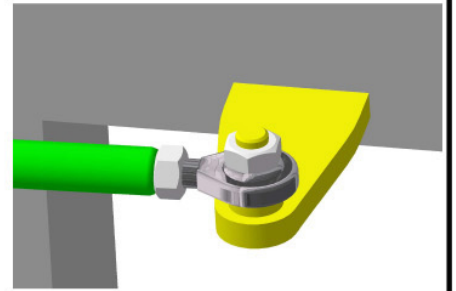


Fig.4

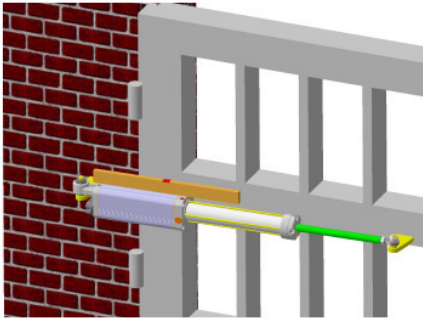


Fig.5

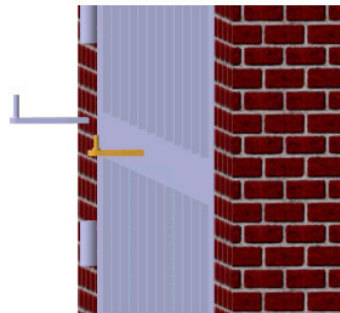


Fig.6

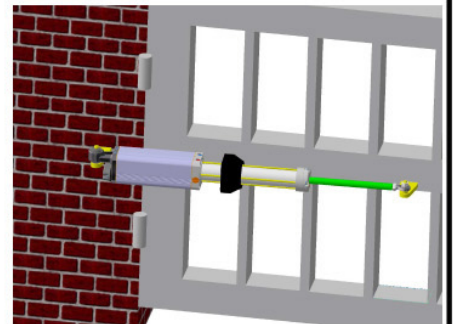


Fig.7

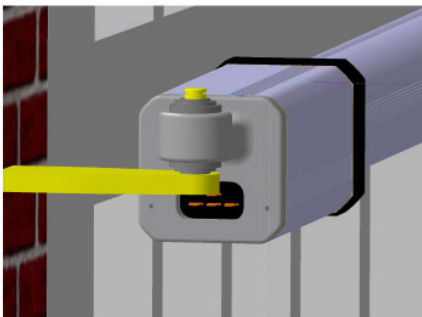


Fig.8

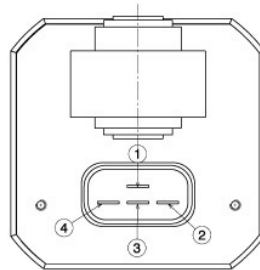


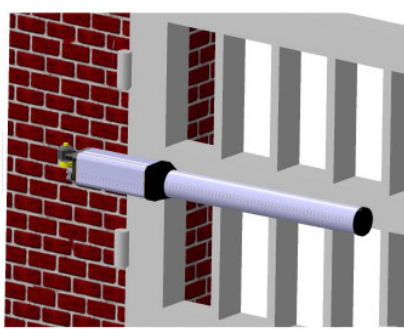
Fig.9



Fig.10

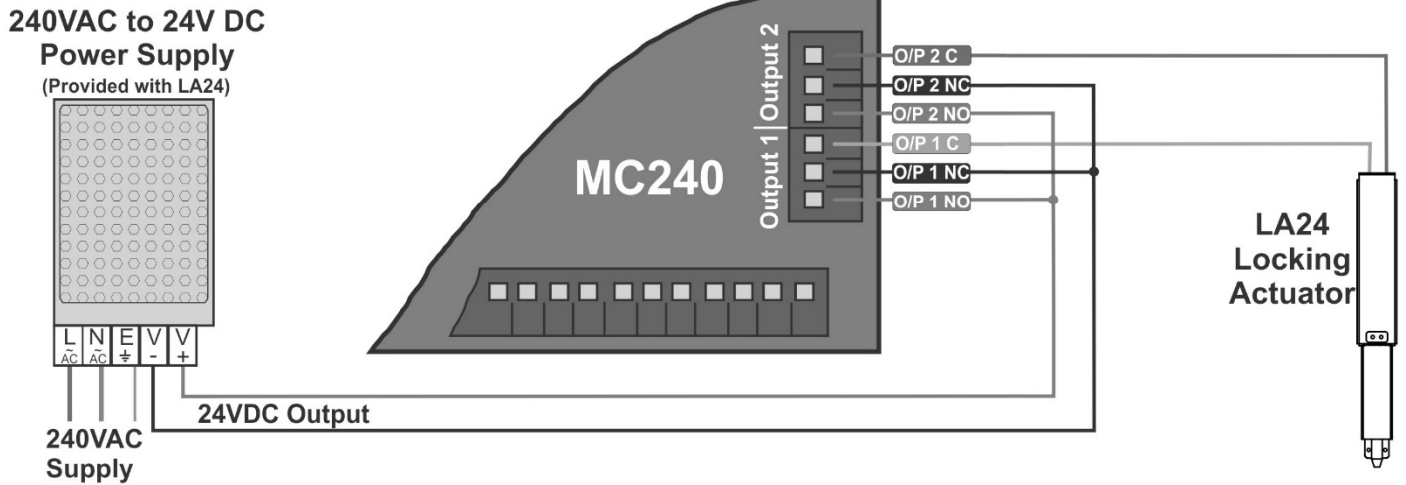


Fig.11



D. INSTALLING LOCKING ACTUATOR

LA24 Wiring diagram when used with iS320 & iS330 Kits

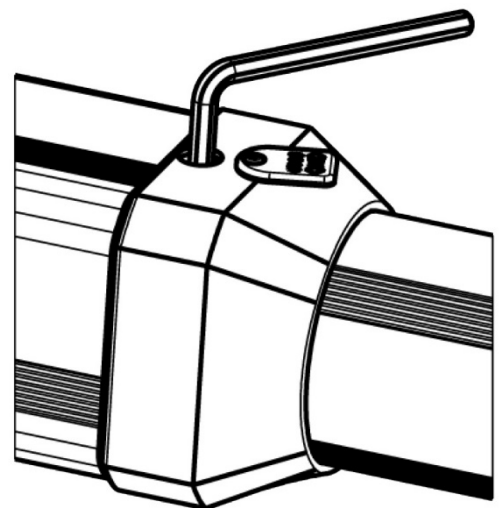
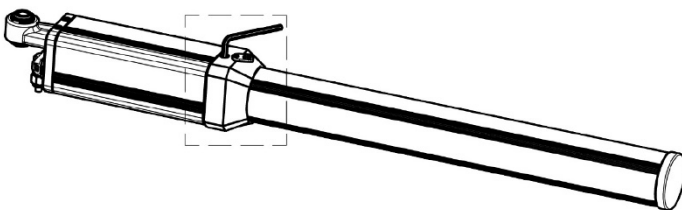


Refer to the control card manual for selecting the outputs as locking actuator.

E. EMERGENCY RELEASE SYSTEM

In an event of power failure, the iS320 can be operated manually. For manual operation, open up the cover shown in the picture and turn the valve 360° anti clockwise. Now the gate can be moved manually. To reengage the motor, turn the valve 360° clockwise.

Note: If the valve is not fully open or fully closed, operator will not function properly.

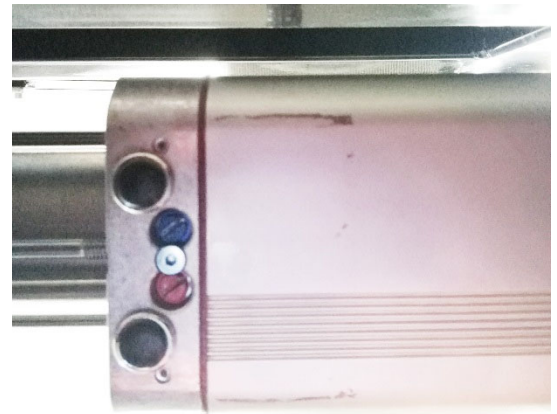
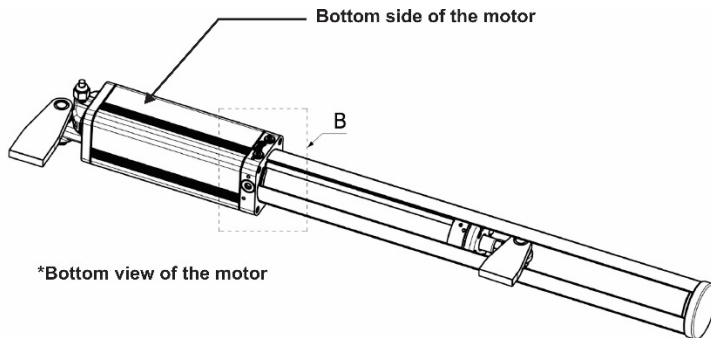


F. ANTI-WIND SYSTEM

The pressure of the gate on fully open and closed positions can be adjusted by turning the Red and Blue valves located underneath the motors. The pressure should be adjusted while the motors are not running and is independent for opening cycle and closing cycling.

Red is for the **opening cycle** and **Blue** is for the **closing cycle**. Closing both these valves will hold the gates with more pressure in fully open and closed positions.

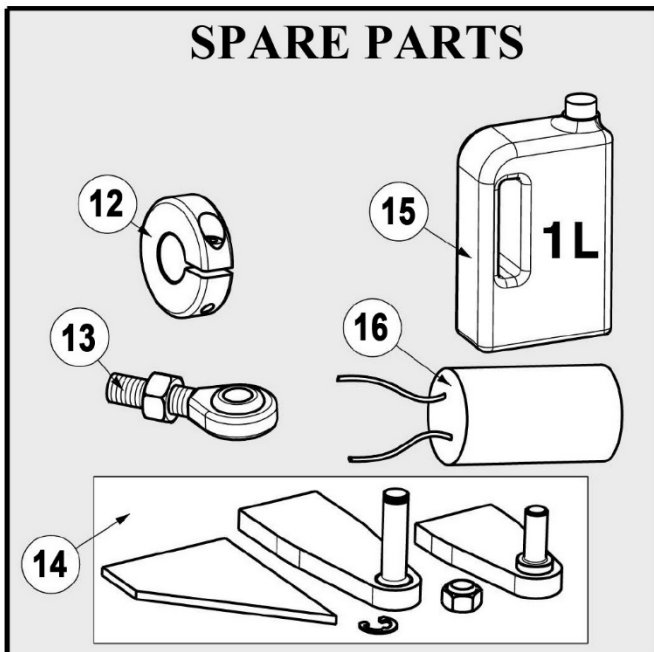
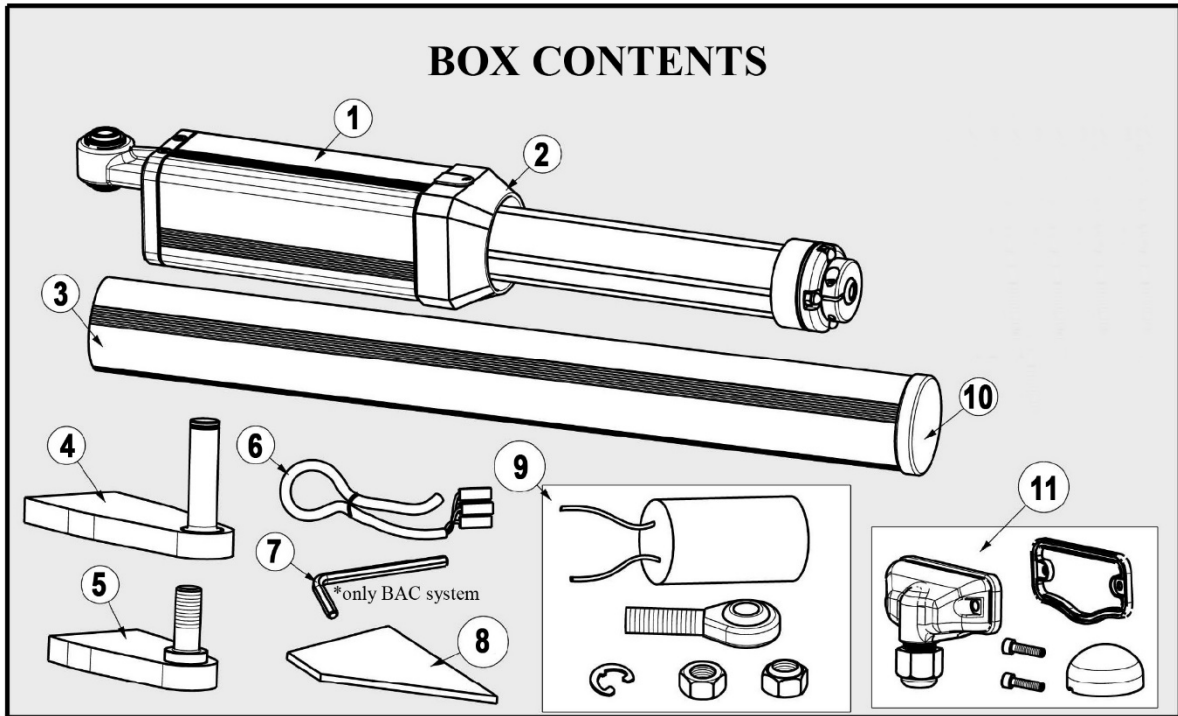
If these valves are slightly opened, they serve as an excellent anti-wind system. This will put less stress on the motor in high wind areas.



G. TECHNICAL DATA

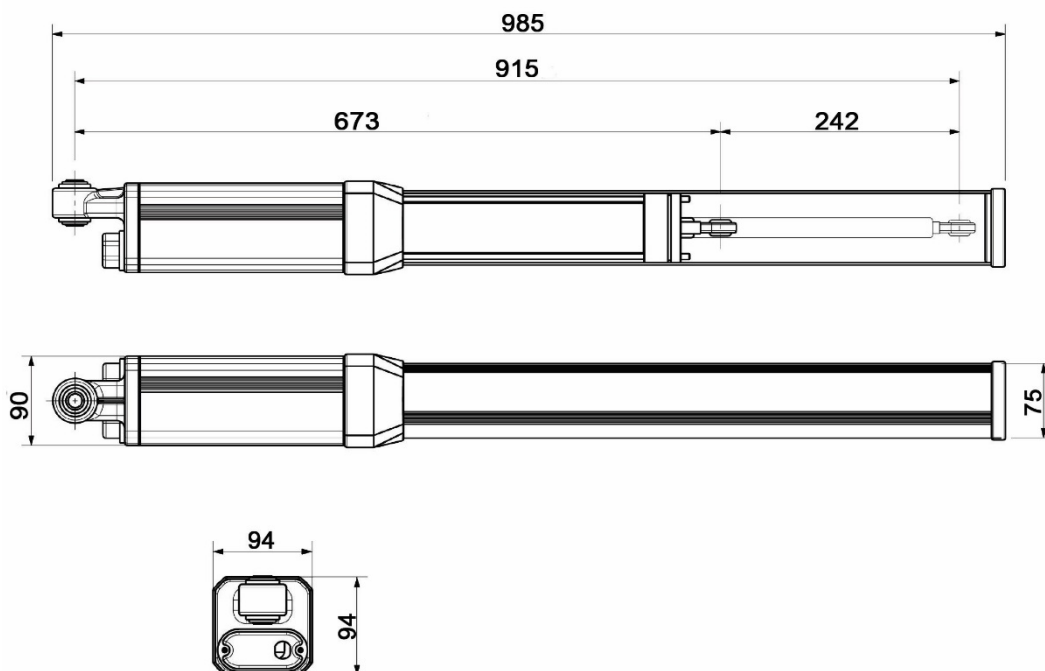
| | |
|---------------------------------|----------------------------|
| Motor Voltage | 240 Volts AC |
| Power | 276 Watts |
| Running Current | 1.3 Amps |
| Capacitor | 16uF |
| Type | Hydraulic |
| Max Pressure | 50 bar |
| Opening Cycle | 23 sec |
| Closing Cycle | 28 sec |
| Compression | 0 - 795Kg |
| Traction | 0 – 638Kg |
| Maximum Gate Leaf Length | 4 metres |
| Operating Temperature | -20°c ~ +50°c |
| Dimension | 985mm x 94mm x 88mm |
| Weight | 11 kg |

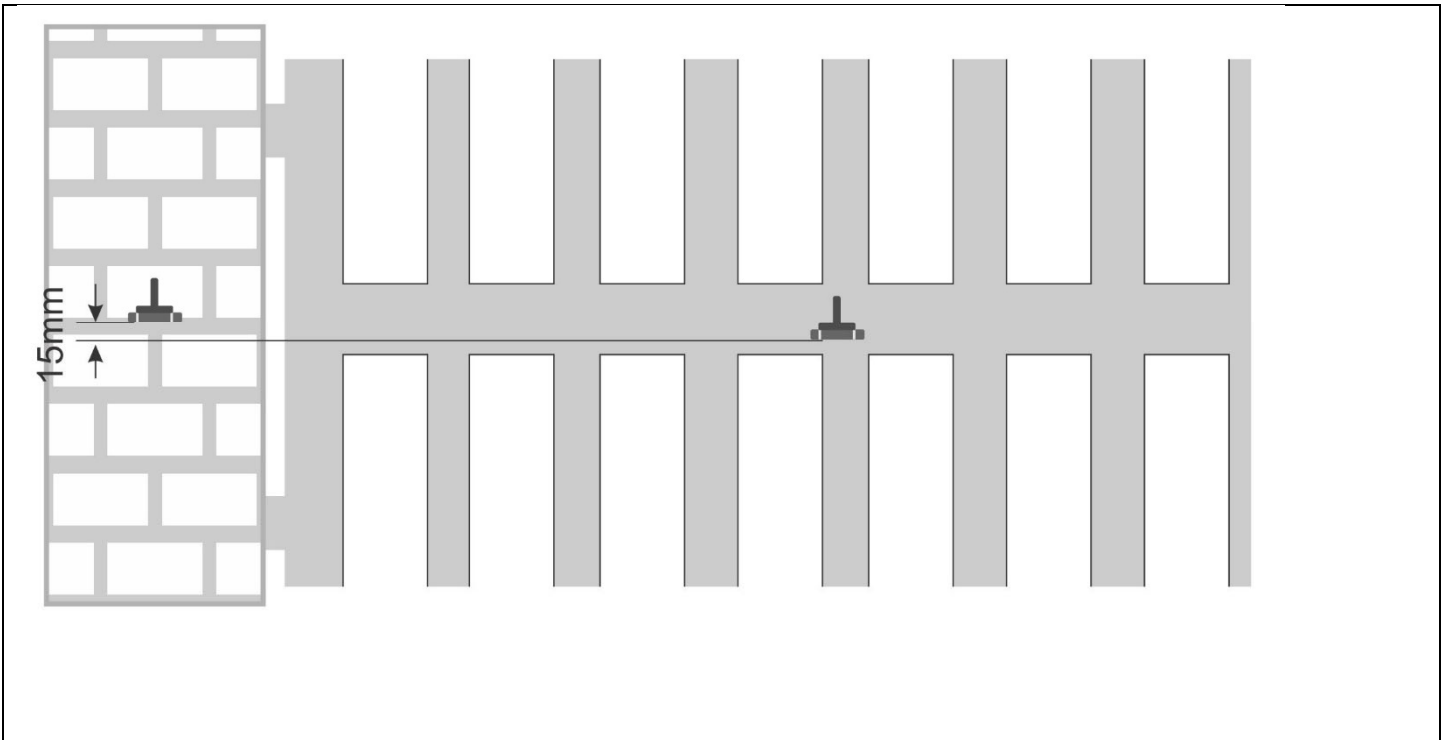
H. KIT CONTENTS



| | Description |
|----|-----------------------------------|
| 1 | iS320 |
| 2 | Plastic cover |
| 3 | Aluminium cover |
| 4 | Pillar motor support |
| 5 | Gate motor support |
| 6 | Motor cables |
| 7 | Allen key for pressure adjustment |
| 8 | Support plate |
| 9 | Setup nuts and bolts |
| 10 | End cover for the arm |
| 11 | Wire housing |
| 12 | Collar stopper |
| 13 | Hinge set with nut |
| 14 | Motor support kit |
| 15 | Oil refill Shell Tellus T22 |
| 16 | 16uF Motor start capacitor |

I. DIMENSIONS





J. ELECTRICAL CONNECTION

After successful motor installation, refer to the user manual of the control card for automatic operation setup.

1.3 MAINTENANCE:

Maintenance should be performed at least every six months. If it is used in high traffic area, a more regular maintenance should be performed.

Disconnect the power supply:

- (1) Clean and lubricate the screws, the pins and the hinge with grease.
- (2) Check the fastening points are properly tightened.
- (3) Check and make sure that the wire connections are in good condition.

Connect the power supply:

- (1) Check the power adjustments.
- (2) Check the function of the manual release.
- (3) Check the photocells or other safety device.

Hydraulic Oil:

Recommended Hydraulic oil: **SHELL TELLUS T22**

- Remove the two screws to access the tank.



- Begin by adding small amounts of oil while the motor is running.
- Add oil only in one of the holes as the other one hole lets the air escape. Run the motor 10-15 times to let the oil circulate.

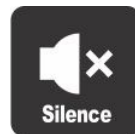


- The oil level should be checked with the motor in idle position, inclined at about 5 cm and with the shaft fully inside as in the photo. With this inclination the oil must be visible from the two holes.



- Tighten both screws after the oil has been filled.

- **Domestic/Industrial Sliding Gate Kits**
- **Domestic/Industrial Swing Gate Kits**
- **FOB Remotes**
- **Locking Actuator**
- **Magnetic Locks**
- **Wireless Keypads**
- **Pre formed Loop**



Visit www.elsema.com to see our full range
of Gate and Door Automation products