

OXYGEN AUTOMATION



TECHNICAL INSTALLATION MANUAL



HYDRAULIC GATE OPENER

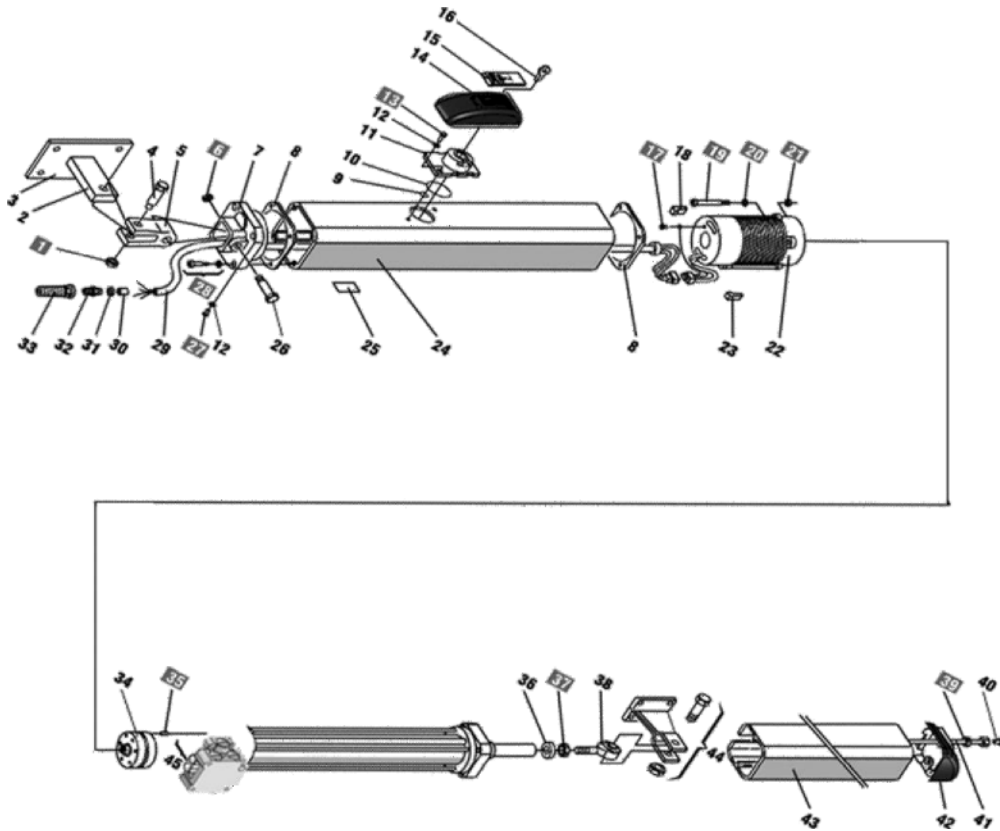
HECTOR 230V

HECTOR ADV 230V

WARNINGS FOR THE INSTALLER**GENERAL SAFETY OBLIGATIONS**

- 1) WARNING!** It is important for the safety of people to follow all instructions carefully. Incorrect installation or incorrect use of the product can lead to serious personal injury.
- 2)** Read the instructions carefully before starting the installation of the product..
- 3)** The packaging materials must not be left within the reach of children as a source of danger.
- 4)** Keep the instructions.
- 5)** This product has been designed and manufactured exclusively for the use indicated in this documentation. Any other use not expressly indicated could compromise the integrity of the product and/or represent a source of danger.
- 6)** The manufacturer disclaims any liability arising from misuse or use other than that for which the machine is intended.
- 7)** Do not install the appliance in an explosive atmosphere: the presence of flammable gases or fumes constitutes a serious safety hazard.
- 8)** The mechanical construction elements must be in accordance with the requirements of UN18612, CEN pr EN 12604 and CEN pr EN 12605. For non-EU countries, in addition to the national standard references, the above standards must be followed to obtain an adequate level of safety.
- 9)** The manufacturer is not responsible for the non-observance of Good Technique in the construction of the closures to be motorized, as well as any deformation that may occur during use.
- 10)** The installation must be carried out in compliance with standards UN18612, CEN pr EN 12453 and CEN pr EN 12445. The safety level of the automation must be C+E.
- 11)** Before carrying out any intervention on the system, disconnect the power supply.
- 12)** Provide the automation power supply network with an omnipolar switch with a contact opening distance equal to or greater than 3mm. It is advisable to use a 6A thermomagnetic circuit breaker with omnipolar interruption.
- 13)** Check that there is a differential switch with 0.03A threshold upstream of the system.
- 14)** Check that the grounding system is correctly installed and connect the metal parts of the lock to it.
- 15)** The safety devices (e.g. photocells, sensitive edges, etc.) allow to protect possible danger areas from mechanical risks of movement, such as crushing, conveying, shearing.
- 16)** For each system it is essential to use at least one light signal as well as a sign properly fixed on the frame structure, in addition to the safety devices.
- 17)** The manufacturer declines all responsibility for the safety and proper functioning of the automation in the event that non original components are used.
- 18)** Use only original parts for maintenance.
- 19)** Do not make any modifications to the components of the automation system.
- 20)** The installer must provide all information related to the manual operation of the system in case of emergency and provide the user of the system with the "User Guide" enclosed with the product.
- 21)** Do not allow children or persons to stand near the product during operation.
- 22)** Keep out of the reach of children radio remote controls or any other impulse source, to prevent the automation from being operated unintentionally.
- 23)** The user must refrain from any attempt at repair or direct intervention and contact qualified personnel only.
- 24)** The passage between the leaves must take place only when the gate is fully open.
- 25)** Warning: Every six months, check the functioning of the system (safety devices, actuator pushing force, release device, etc.)
- 26)** Anything not expressly provided for in these instructions is not permitted.

HYDRAULIC MOTOR HECTOR – HECTOR ADV



Technische Daten

MODEL HECTOR	HECTOR				HECTOR ADV			
	R	BA	BC	BAC	R	BA	BC	BAC
Hydraulic lock	No	yes Open	yes closed	ja open-closed	No	yes open	yes closed	yes open-closed
Slow travel	Hydraulic slow down (only closed)							
Rodstroke (MAX)	mm 270				mm 390			
Rod linear speed	1,3 cm/sec.							
Traction/ Thrust force to 15 bar	190 Kg.(1850 N)				220Kg.(224 N)			
Pump flow-rate(l/m)	1							
Hydraulic oil	Total 52-AT42							
Operating ambient temperature	- 25° C + 70° C							
Protection class	IP 55							
Motor weight	9 Kg.				10 Kg.			
Power supply	230 V ac (+6% - 10%) 50Hz							
Absorbed power	250 W				350 W			
Absorbed current	1 A				1,9 A			
Electric motor (rpm)	1400							
Thermal protection	120°C							
Capacitor	8 µF – 400 V				10 µF – 400 V			

HYDRAULIC MOTOR HECTOR - HECTOR ADV

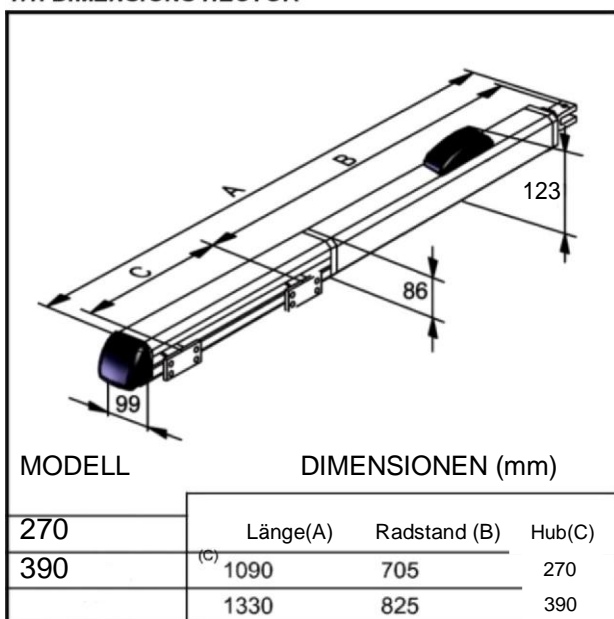
These instructions apply to the following models: HECTOR und HECTOR ADV.

The models equipped with hydraulic locking (BA - BC - BAC) do not require the installation of an electric lock as they guarantee mechanical locking of the leaf when the motor is not running.

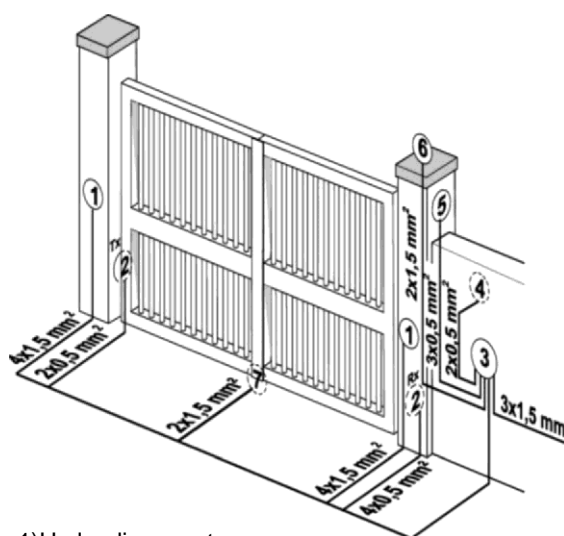
The models without hydraulic lock (R) require the installation of electrical locks to guarantee mechanical locking of the leaf. The Hector and Hector ADV hydraulic operators have been designed and manufactured for the automation of swing gates.

1. DESCRIPTION AND TECHNICAL SPECIFICATIONS

1.1. DIMENSIONS HECTOR



2. ELECTRIC STANDARD DEVICES



- 1) Hydraulic operators
- 2) Photocells
- 3) Electronic control box
- 4) Key selector
- 5) Receiver
- 6) Flashing lights
- 7) Electric lock

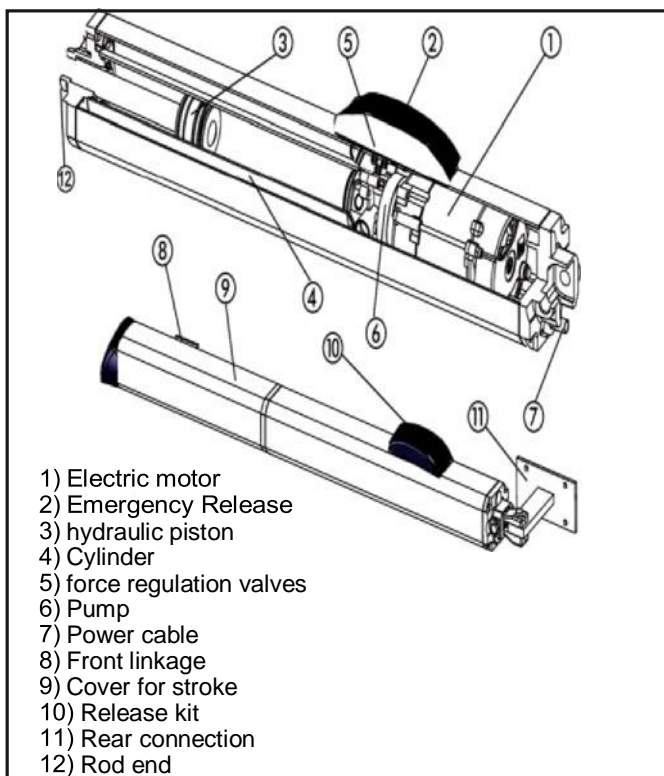


Always separate the connection cables for low-voltage accessories from the 230 V power supply cables. use separate sheaths to avoid any interference..

Connect power cables hydraulic operator:

- Co (Common) = gray cable
- Ap (open) = brown cable
- Ch (closing) = black cable
- T (earth) = yellow / green

1.2 MOTOR DESCRIPTION



3. MOTOR'S INSTALLATION

3.1. PRELIMINARY CHECKS

For a correct operation of the automation, the gate must satisfy the following requirements:

- robust and rigid leaf structure
- the movement of the leaves must be regular and uniform, and friction-free during the stroke
- the hinges must be in very good condition
- End-of-stroke mechanical stops positioned

Any factory work must be carried out before the automation is installed. The condition of the gate structure influences the reliability and safety of the automated system.

3.2. ACTUATOR FIXING

A) Attach the rear linkage to the pillar following the instructions in Tables A and B and change the length of the attachment if necessary (Fig. 1). Compliance with the dimensions indicated in the previous tables will ensure the proper functioning of the automated system. In the case of an iron pillar, carefully weld the rear attachment directly onto the pillar. In the case of a masonry pillar, choose one of the following solutions:

1) Insert a plate into the wall and then weld the rear connection.

2) Fix the rear mounting plate to the abutment with screws and dowels and then weld the rear connection to the plate (fig. 2).

B) Fasten the actuator to the rear connection (Fig. 2);

C) screw the front linkage (rod end) in half on the stem and tighten with the supplied nut (fig. 3);

D) unlock the hydraulic actuator (Fig. 10);

E) pull out the chrome-plated stem to full stop;

F) Re-lock the actuator (Fig. 10);

G) Mount the front linkage on the stem (Fig. 4);

H) Close the gate leaf and locate the position of the front linkage on the leaf, keeping the actuator in a completely horizontal position (Fig.4).

I) Temporarily fix the front attachment on the gate leaf with two welding spots (protect the stem from welding slag);

L) Release the hydraulic operator, check that the gate is free to open and stop manually on the pre-installed mechanical limit stops; also check that the movement of the leaf is fluid and without friction;

M) Temporarily disconnect the actuator from the coupling and permanently weld the front connection to the sash (Fig.5).

N) Position the cover on the actuator (Fig.7).

O) Lock the hydraulic actuator again and make the electrical connections to the electronic devices according to the instructions in the manual.

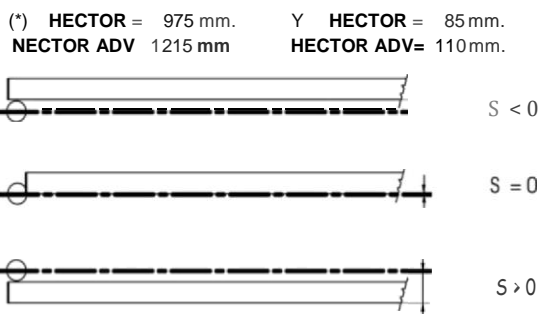
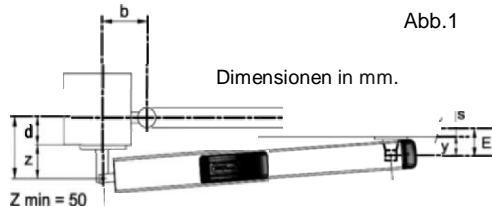
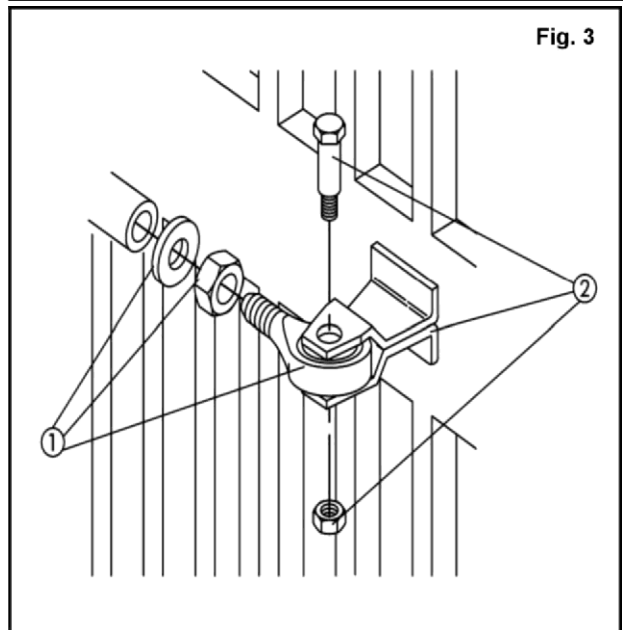
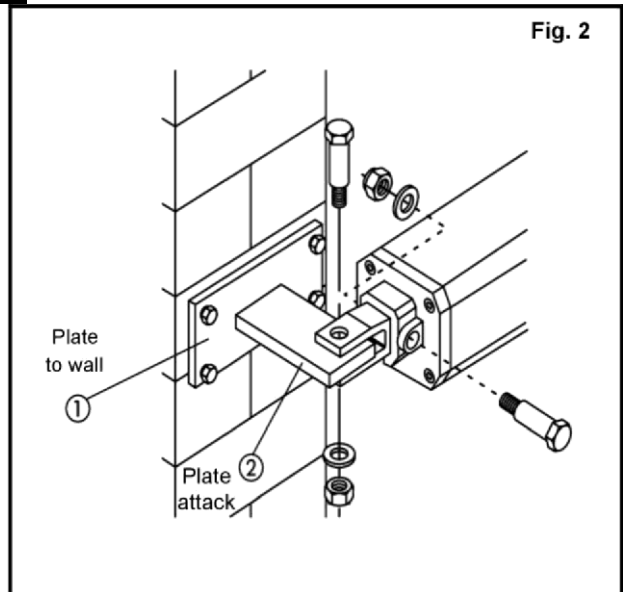


TABLE «A» : 270 – Fixing brackets

OPENING ANGLE	a (mm)	b (mm)	c(*) (mm)	d(**) (mm)	s (mm)
90°	130	130	270	80	20
115°	100	120	270	50	20
125°	90	120	270	40	0

(*) rod stroke required to stem the hydraulic slowdown in the closing (**) max dimensions.

TABLE «B»: 390- Fixing brackets

OPENING ANGLE	a (mm)	b (mm)	c(*) (mm)	d(**) (mm)	s (mm)
90°	200	160	390	150	20
115°	170	160	390	110	20
125°	130	170	390	80	20

(*) rod stroke required to stem the hydraulic slowdown in the closing (**) max dimensions.

If the dimensions of the pillar or the position of the hinge (dimension D) cannot contain dimension A as desired, a niche must be created on the pillar (Fig. 6), dimension A must always be greater than dimension E.

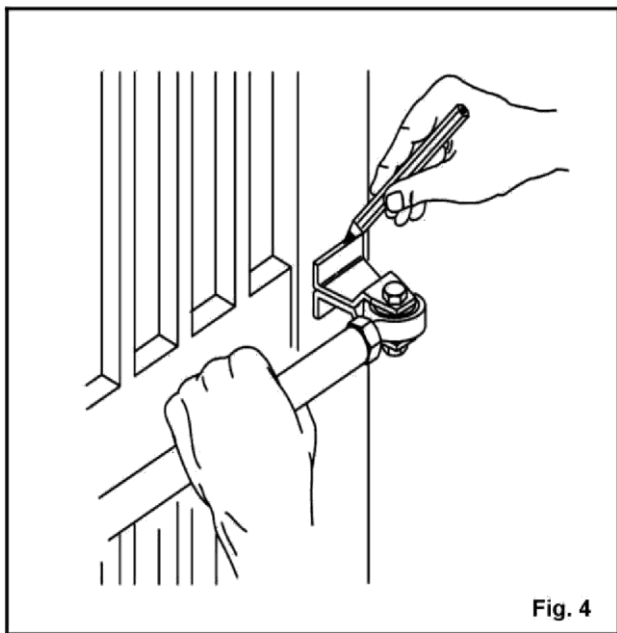


Fig. 4

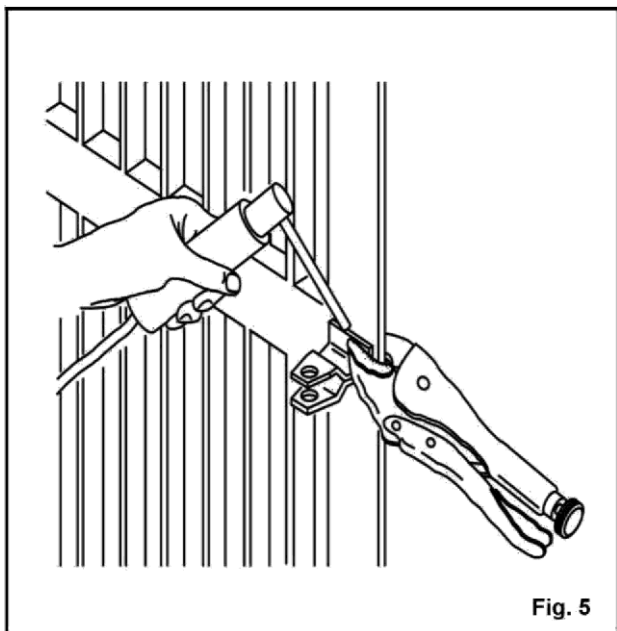
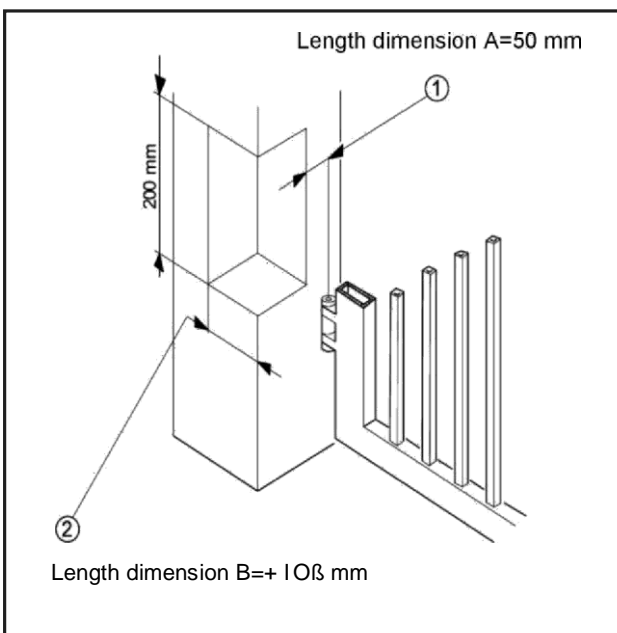


Fig. 5



Length dimension B=+ 103 mm

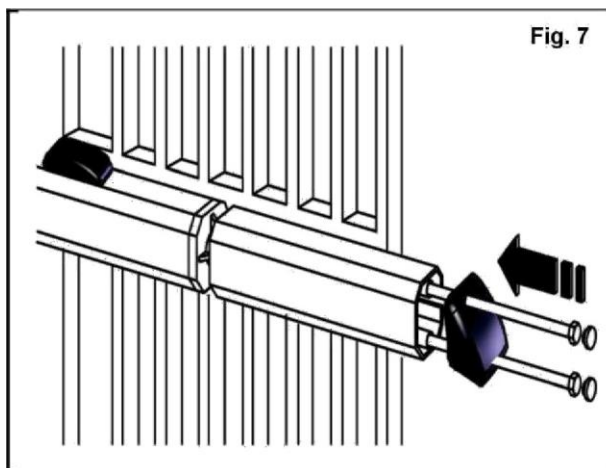


Fig. 7

3.3 FASTENING THE HYDRAULIC ACTUATOR WITH OUTDOOR OPENING (Fig.8)

If the gate leaves are up to 2.3 m long, we recommend the use of the 270 BAC (lock open / close) hydraulic drive.

If the length of the gate leaf exceeds m. 2.3. the use of the 270 R or 390 R (reversible) hydraulic drive is recommended.

The fixing dimensions of the hydraulic actuator are shown in Table C below.

When the gate is opened outwards, adjust the anti-crush system as follows:

- Screw A = closing force control valve,
- Screw B = opening force control valve.

To decrease the tightening torque, turn the screw counterclockwise;

To increase the torque, turn the screws clockwise.

TABLE «C»: HECTOR - Fixing brackets

OPENING ANGLE	a (mm)	b (mm)	s (mm)	d(**) (mm)	c(**) (mm)
90"	100	90	0	50	190
90°	110	100	0	60	210
90°	120	110	0	70	200
90°	130	120	0	80	250

(*) rod stroke required without the hydraulic slowdown (**) max dimensions

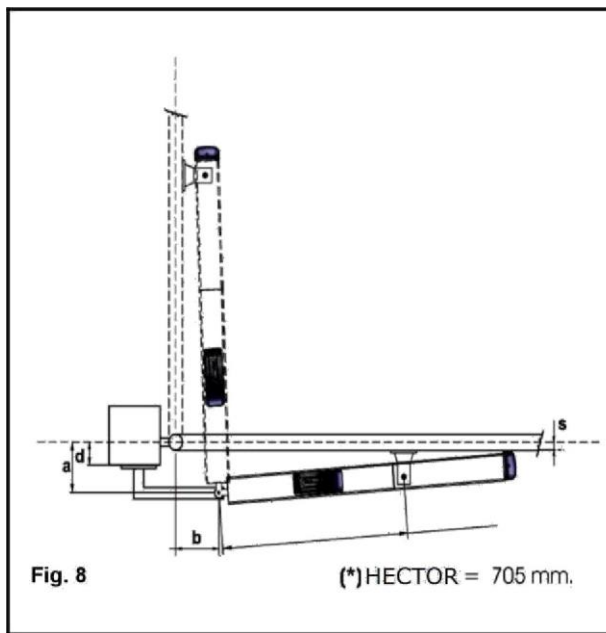


Fig. 8

(*)HECTOR = 705 mm.

**4. ANTI-CRUSHING CONTROL SYSTEM
FINAL OPERATIONS – TEST
AUTOMATION**

4.1 SETTING ANTI-CRUSHING SYSTEM (Fig.9)

The Hector hydraulic operator is equipped with an anti-crush safety feature that limits the force of the motor itself in the event of an obstacle during gate movement. The force is adjusted as follows:

- slide the release cap and lift it up,
 - lift the base of the release unit;
 - act on the control valves:
- 1) Valve "A" (valve A) to adjust the opening force
 - 2) Valve "B" (valve B) for the regulation of the closing force
 - 3) Valve "C" (valve C) to unlock it completely

Turn the valve clockwise to increase torque and counterclockwise to decrease torque.

The adjustment of torque limiters is subject to EN 12445 and EN 12453 in EU Member States.

In other states it is subject to local regulations.

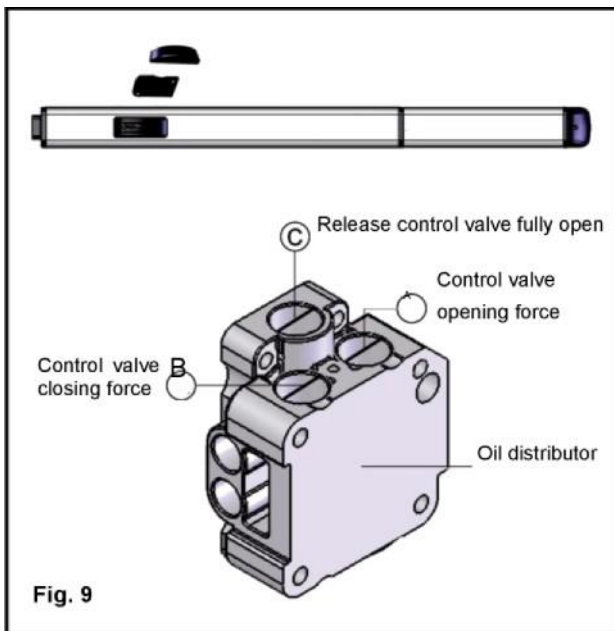


Fig. 9

4.2. FINAL OPERATION

After adjusting the anti-crush system, follow these steps:

- Close the unlocking device
- remove the vent screw (Fig. 10).

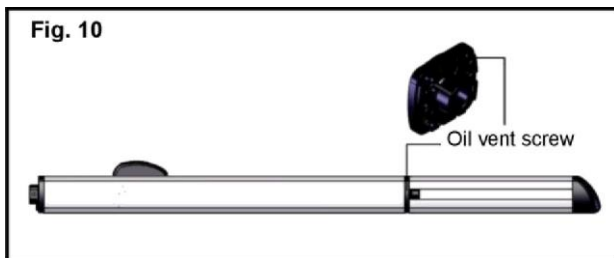


Fig. 10

4.3. AUTOMATISM TEST

After installation proceed carefully with the test to verify the functionality of the automation and all the accessories connected with particular attention to safety devices.

Give the "User Guide" to customer and explain the correct use of the automated system and highlight areas of potential danger from it.

5. MANUAL OPERATION AND RESET

5.1 MANUAL OPERATION

If it is necessary to operate the gate manually in the event of power failure or damage to the drive, the release device must be operated as follows:

- Open the unlocking cover cap and insert the special key provided;
- to unlock, turn the key counterclockwise;
- open or close the gate leaf manually.

5.2 AUTOMATED SYSTEM RESET

Before starting to reset the automated system after manual unlocking, it is advisable to cut off the power supply of the system to prevent an unintentional impulse from operating the automated system.

The reset procedure must be carried out as follows:

- Turn the unlocking key clockwise until it locks
- close the lid of the unlocking system;
- reconnect the power supply to the automated system;
- Start the automation.

6. MAINTENANCE AND REPAIR

6.1 MAINTENANCE

A functional check of the system every six months is recommended, with particular attention to the efficiency of safety and release, including verification of thrust force of the actuator; it is also good to check the degree of functionality of the gate hinges. Also check the oil level inside the tank.



In case of topping up with oil it is imperative to use

Total oil 52-AT42

Periodically check the correct adjustment of the anti-crush safety (force control valves) and the efficiency of the unlocking system.

6.2. REPAIR

Any repairs to the automatic system must be carried out by specialised personnel only, possibly authorized. Use original spare parts.

7. TROUBLESHOOTING

The gate won't move	<ul style="list-style-type: none"> - mains power supply control - check that the operator is not unlocked - check force regulation valves - check oil level in the tank - check inrush capacitor efficiency - check electronic control unit functionality
The gate moves slowly	<ul style="list-style-type: none"> - anti-crushing system adjustment control
The gate jerks	<ul style="list-style-type: none"> - check the removal of the oil breather screw - eliminate any air inside the piston, performing complete cycles of opening and closing of the gate
Oil leakage at the breather screw	<ul style="list-style-type: none"> - A minimal initial loss is normal. If the leakage continues, check the perfect horizontal position of the hydraulic actuator. Otherwise, contact technical service.
Close the door leaves during the deceleration phase	<ul style="list-style-type: none"> - Check setting of the anti-crushing system
Gate travel speed not constant	<ul style="list-style-type: none"> - Check the dimensions of the opening angle

HYDRAULIC OPERATOR FOR SWING GATES

MOD. HECTOR and HECTOR ADV

Read the instructions carefully before use and keep them for future reference.

GENERAL SAFETY RULES

The hydraulic drive guarantees a high degree of safety when installed and used correctly. Some simple behavioural norms can avoid random disadvantages:

- Do not pass through the doors when they are moving.
- Wait for the doors to open completely before passing through them.
- Do not stand between the doors.
- Do not stand and do not allow children, people or things to stand close to the automation, avoiding it even more during operation.
- Keep out of the reach of children, radio controls or any other impulse source to prevent the automation from being unintentionally triggered.
- Do not allow children to play with automation.
- Don't counteract the movement of the doors voluntarily.
- Do not allow branches or shrubs to interfere with the movement of the doors.
- Keep the light signalling systems efficient and clearly visible.
- Do not attempt to operate the doors manually until they have been unlocked.
- In the event of a malfunction, unlock the leaves to allow access and wait for the technical intervention of qualified personnel.
- Once manual operation has been set up, before resuming normal operation, disconnect the power supply to the system.
- Do not make any modifications to the components of the automation system.
- Refrain from any attempt at repair or direct intervention and refer only to qualified personnel.
- Have the efficiency of the automation, safety devices and earth connection checked at least every six months by qualified personnel.

MANUAL OPERATION

In case it is necessary to manually operate the gate due to power failure or automation failure,

- it is necessary to temporarily open the unlocking group.
- Open the protective cap and insert the supplied key.

- Rotate the key counterclockwise to unlock.
- Turn the key clockwise to lock.
- Perform the opening or closing manoeuvre on the leaf.
- N.B.: on models without lock, the electric lock must be released manually.
- Normal operation must be restored by turning the unlocking key clockwise until it stops. Close the protective cap of the release unit.

These instructions apply to the following models:
 HECTOR: WOL \ R - OL \ BA - CL \ BC - OCL \ BAC und
 HECTOR ADV: WOL R - OL \
 BA - CL BC - OCL BAC.

The actuator for swing gates is a hydraulic monobloc consisting of an electric pump and a hydraulic piston that transmits the movement to the leaf.

The models equipped with hydraulic lock do not need to install the electric lock, ensuring the mechanical lock of the leaf when the engine is not running.

The other models without hydraulic lock require one or more electric locks to ensure the mechanical locking of the leaf.

Depending on the model, leaves up to 6 m can be automated.

The operation of the operators is managed by an electronic control unit, enclosed in a container with an adequate degree of protection against atmospheric agents.

The doors are normally in the closed position.

When the electronic control unit receives an opening command by means of the radio control or any other impulse giver, it operates the hydraulic apparatus obtaining the rotation of the doors, up to the opening position that allows access.

If automatic operation has been set, the doors close automatically after the selected pause time.

If semi-automatic operation has been set, a second impulse must be sent to obtain reclosure.

A stop impulse (if provided) always stops the movement.

For the detailed behaviour of the automation in the different operating logics, please refer to the installer technician.

In the automations there are safety devices (photocells) that prevent the movement of the doors when an obstacle is in the area protected by them.

The actuator is fitted as standard with a hydraulic anti-crush safety device that limits the torque transmitted to the doors.

The light signal indicates the current movement of the doors.



DECLARATION OF CONFORMITY FOR MACHINES

(DIRECTIVE 98/37 EEC)

Manufactured under the CE regulation and directive in ITALY and distributed in the EUROPEAN UNION and OVERSEAS by **OXY AUTOMATION Srl, via Lazzari 5, 40057 Granarolo (BO) ITALIA**
Declares that the hydraulic operator for swing gates Mod. HECTOR:

- is designed to be incorporated into machinery or assembled with other machinery in order to constitute machinery within the meaning of Directive 98/37/EEC, as amended
- meets the essential safety requirements of the following other EU directives:

- 9/336 EEC and subsequent amendments 92/31 EEC;
- 93/68/EW73/23 EEC and subsequent amendment 93/68/EEC.

also declares that the machinery may not be put into service until the machinery into which it will be incorporated or of which it will become a component has been identified and its conformity with the conditions of Directive 98/37/EEC and subsequent amendments has been declared.

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