

**FADINI**<sup>®</sup>  
the gate opener

**Combi 740**<sup>®</sup>



**Combi 787**<sup>®</sup>





FADINI  
the gate opener



Combi 740®



Combi 740®

### Oil-hydraulic underground operator for swinging gates.

#### • Compact, strong and fully concealed assembly

Oil-hydraulic motor pump and jack in a single enclosure.

Maintenance free.

Right- or left-handed versions.

#### • Complete range

To suit multiple users applications, commercial and industrial installations.

110° and 175° rotation options.

Reversible non locking, with hydraulic bidirectional locking device, braking in both directions.

#### • Reliable

Oil-hydraulic technology and top quality with all the internal component parts to ensure safe and quiet movements.

Max. gate weight 700 kg per leaf with standard version, not with the gate support enclosure. INOX ( stainless steel) option available.

#### • Safe

Emergency release bracket made of pressed steel and ergonomic spanner.

Adjustable thrust power by pressure valves.

#### • Tested and certified

CE marking in compliance with ITT PDC No. 2393-2008 type testing.

### Automation hydraulique enterrée pour portails à battant.

#### • Puissant et efficace

centrale hydraulique et vérin dans un unique coffrage.

Elle nécessite d'aucun entretien particulier.

Version droite ou gauche.

#### • Gamme complète

Pour installations à usage collectif et industriel.

Rotation du vantail de 110° et 175°. Réversible sans blocage hydraulique, avec blocage hydraulique bidirectionnel, avec freinage bidirectionnel.

#### • Fiable

Technologie hydraulique et qualité de tous ses composants internes pour un mouvement sûr et silencieux. Poids maximal de 700 kg par vantail pour la version avec coffrage de protection non autoportant.

Version en acier INOX aussi.

#### • Sûr

avec déblocage manuel d'urgence en acier estampé et clé avec poignée ergonomique. Réglage de la force de poussée avec les vannes de pression maximale.

#### • Testé et certifié

marquage CE avec essais de typologie ITT PDC N. 2393-2008.

### Automatización hidráulica enterrada para puertas batientes.

#### • Grupo compacto, fuerte e invisible

unidad hidráulica y el gato en una caja única. No requiere ningún mantenimiento especial. Izquierda o la versión correcta.

#### • Gama completa

Para las instalaciones de uso colectivo y el uso industrial.

La rotación de 110° y 175°.

Reversible sin bloqueo hidráulico, bidireccional bloqueo hidráulico, con el frenado en ambas direcciones.

#### • Fiabilidad

La tecnología hidráulica y la calidad de todos sus componentes internos para un movimiento seguro y silencioso.

El peso máximo de 700 kg por molde de la hoja en la versión de la protección no es autoportante. También en versión de acero inoxidable

#### • Seguro

con llave de apertura manual de emergencia pulsa acero con empuñadura ergonómica.

Ajuste de la fuerza de empuje con las válvulas de alivio de presión

#### • Probado y certificado

marcadura CE con pruebas de tipo ITT PDC N. 2393-2008.

## MODELS

## ROTATION ANGLES

VERSIONS

<ul style="list-style-type: none"> <li>▶ Braking in opening and closing</li> <li>▶ Avec freinage à l'ouverture et à la fermeture</li> <li>▶ Con freno en apertura y cierre</li> </ul>	110° and 175°
<ul style="list-style-type: none"> <li>▶ Non braking</li> <li>▶ Sans le frein</li> <li>▶ Sin freno</li> </ul>	110° and 175°
<ul style="list-style-type: none"> <li>▶ Hydraulic device for bidirectional locking</li> <li>▶ Avec blocage hydraulique bidirectionnel</li> <li>▶ Con bloqueo hidráulico</li> </ul>	110° and 175°
<ul style="list-style-type: none"> <li>▶ Non locking</li> <li>▶ Sans blocage hydraulique</li> <li>▶ Sin bloqueo hidráulico</li> </ul>	110° and 175°
<ul style="list-style-type: none"> <li>▶ With flow regulator</li> <li>▶ Avec régulateur de débit</li> <li>▶ Con regulación de flujo</li> </ul>	110° and 175°
<ul style="list-style-type: none"> <li>▶ An electric lock is recommended with gate leaves wider than 2 metres</li> <li>▶ Au-delà de 2 m de largeur du vantail, on conseille l'installation de la serrure électrique</li> <li>▶ Además de 2 metros de longitud de la hoja se conseja de utilizar la electrocerradura</li> </ul>	



# oleo *dinamico*



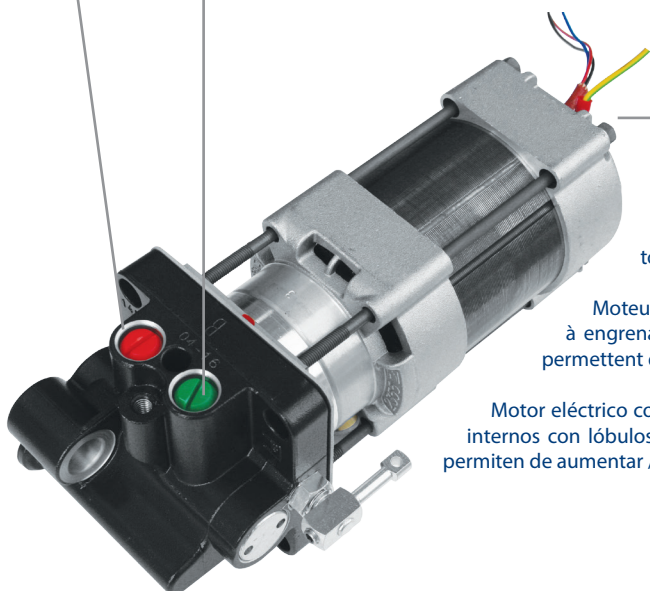
Emergency manual release.  
Déblocage manuel de secours.  
Desbloqueo manual de emergencia.



Thrust power on closing phase  
Force à la fermeture  
Fuerza en fase de cierre



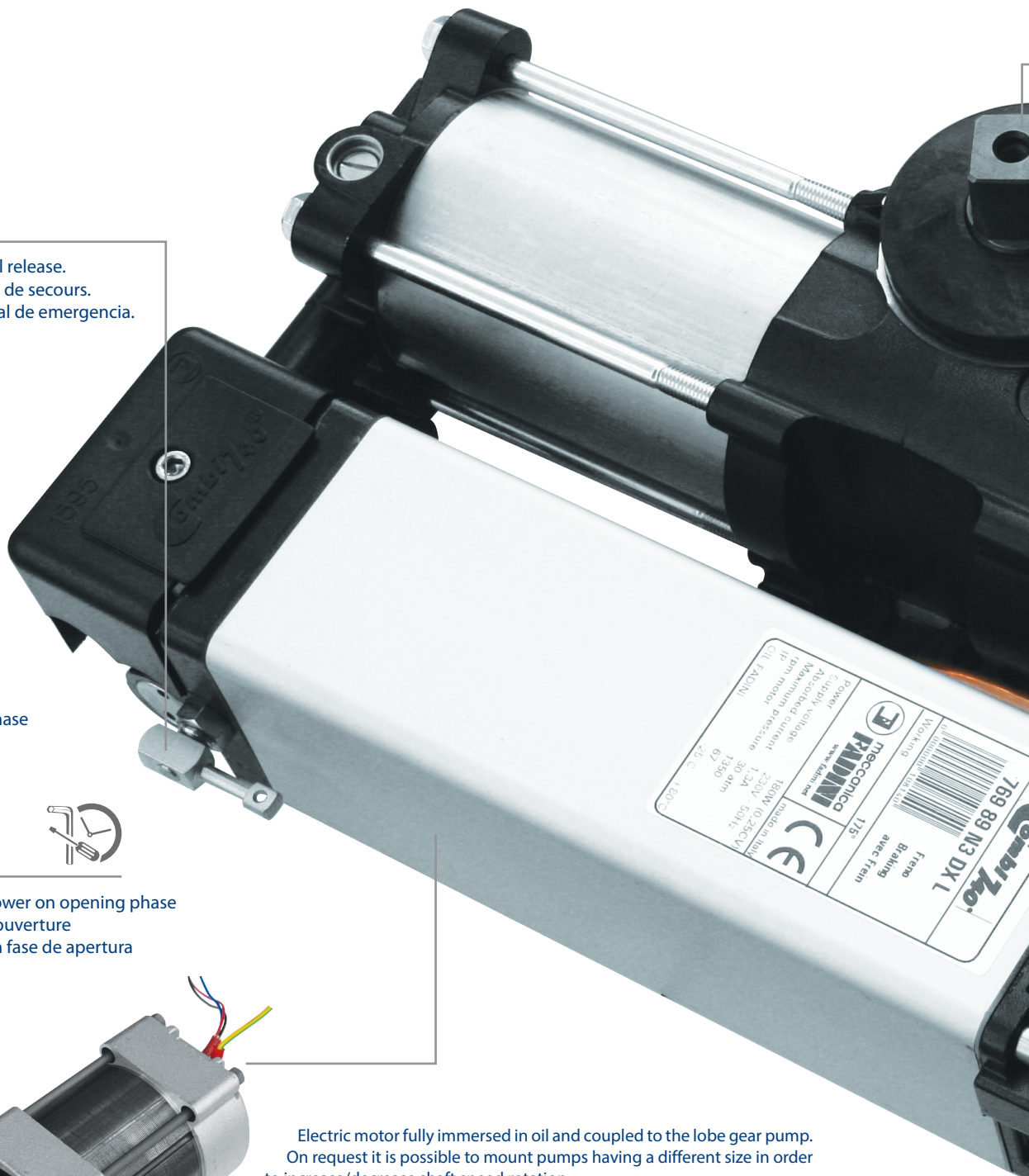
Thrust power on opening phase  
Force à l'ouverture  
Fuerza en fase de apertura



Electric motor fully immersed in oil and coupled to the lobe gear pump.  
On request it is possible to mount pumps having a different size in order  
to increase/decrease shaft speed rotation.

Moteur électrique complètement immergé dans l'huile et couplé à une pompe  
à engrenages internes. Sur demande, il est possible de monter des pompes qui  
permettent d'augmenter ou diminuer la vitesse de rotation de l'arbre.

Motor eléctrico completamente inmerso en el aceite y acoplado a la bomba de engranajes  
internos con lóbulos. A petición es posible montar las bombas con diferentes medidas que  
permiten de aumentar / disminuir la velocidad de rotación del árbol.

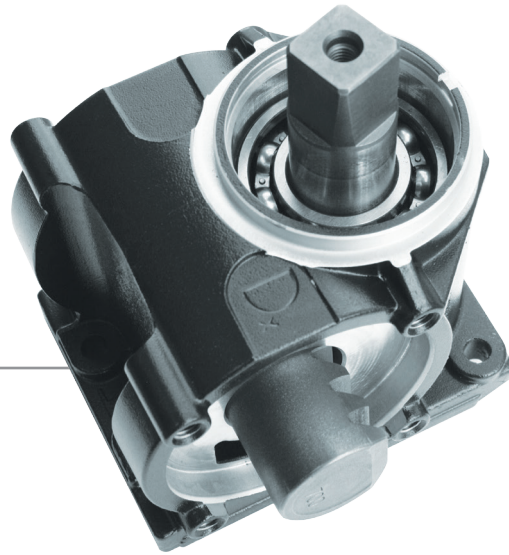




FADINI  
the gate opener



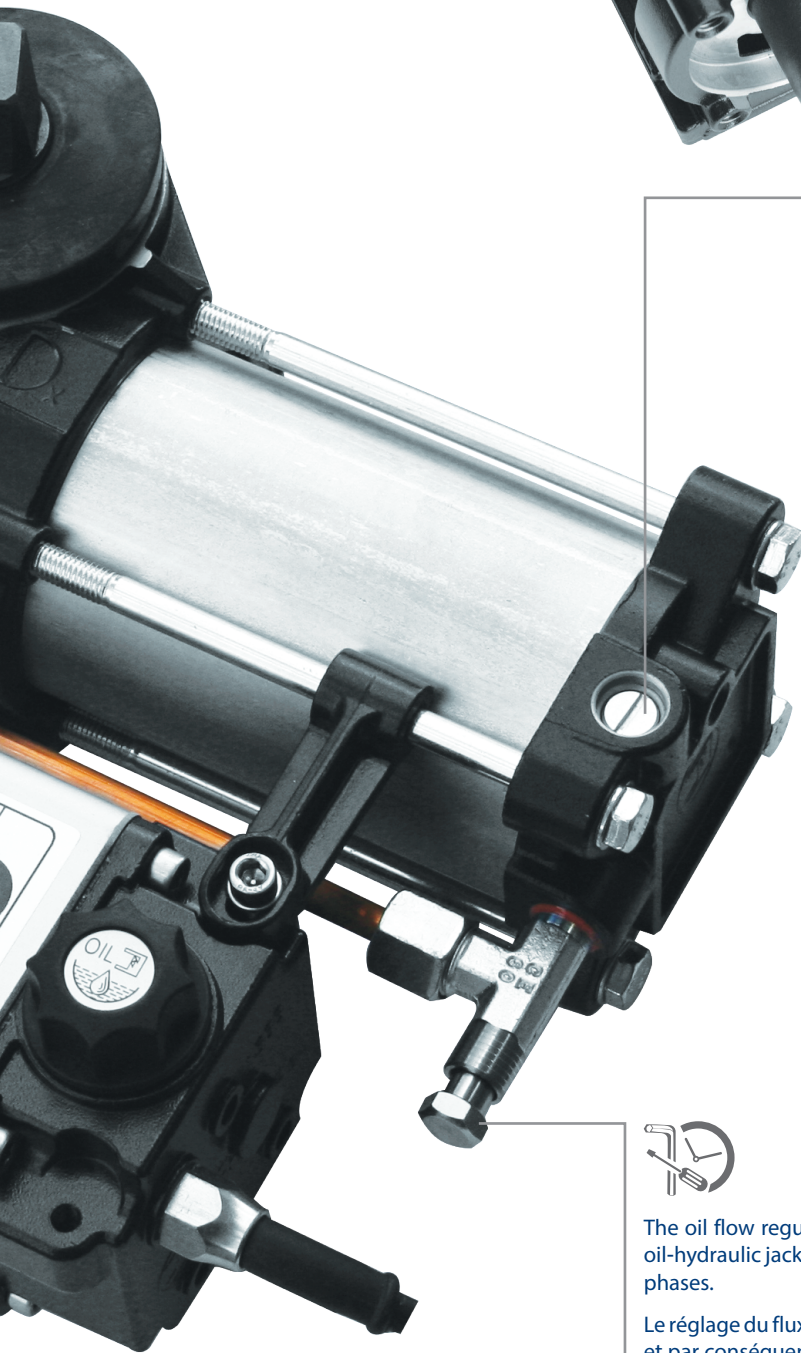
Combi 740



Double stroke oil-hydraulic jack.  
Details of the shaft and toothed bar.  
The shaft is supported by a radial ball bearing.

Vérin hydraulique à double effet.  
Particularité de l'arbre à crémaillère,  
il est supporté par un roulement  
radial à sphères.

Gato hidráulico de doble efecto.  
Particular del árbol y de la subasta  
dentada. El árbol está soportado por  
un rodamiento de bolas radial.



Patented braking system.

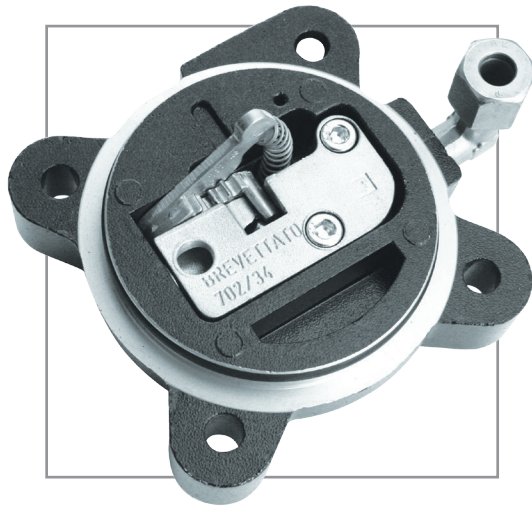
By means of a dedicated screw it is possible to adjust the gate travel speed and slow it down on both opening and closing phases.

Système de freinage breveté.

En actionnant la vis, il est possible de régler le ralentissement du battant en phase d'ouverture et de fermeture.

Sistema de frenos Patentado.

Actuando sobre el tornillo, es posible ajustar la desaceleración de la puerta está en el proceso de apertura y la fase de cierre.



The oil flow regulator allows control on the speed developed by the oil-hydraulic jack that operates the gate all along opening and closing phases.

Le réglage du flux permet le contrôle de la vitesse du vérin hydraulique et par conséquent du vantail pendant toute la phase d'ouverture et de fermeture.

El regulador de flujo (controlador de flujo de aceite) permite el control de la velocidad del gato hidráulico y por consiguiente la hoja de la puerta durante toda la fase de apertura y cierre.



**Combi**  
787®



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**Combi**  
787

### Oil-hydraulic underground operator for swinging gates.

- Compact, strong and fully concealed assembly

Oil-hydraulic motor pump and jack in a single enclosure.

Zinc-coated steel inner driving arms.

- Versatile

To suit multiple users applications, commercial and industrial installations.

110° gate rotation.

Reversible non locking, with hydraulic bidirectional locking device, braking in both directions, and with flow regulator.

- Gate support enclosure

Up to 1.000 kg gate-weight max. per leaf.

Made of solid sheet metal of 5 mm thickness, designed to offer the possibility to fit the mechanical gate stops in open and closed gate positions inside it.

- Reliable

Oil-hydraulic technology and top quality with all the internal component parts to ensure safe and quiet movements.

- Safe

Emergency release bracket made of pressed steel and ergonomic spanner. Adjustable thrust power by pressure valves.

### Automation hydraulique enterrée pour portails à battant.

- Puissant et efficace

Centrale hydraulique et vérin dans un unique coffrage.

Bras intérieurs de mouvement en acier galvanisé.

- Souple

Pour installations à usage collectif et industriel. Rotation du vantail de 110°. Réversible sans blocage hydraulique, avec blocage hydraulique bidirectionnel, avec freinage bidirectionnel et avec régulateur de débit.

- Coffrage autoportant

Pour un poids maximal de 1.000 kg par vantail. Structure en tôle solide de 5 mm avec la possibilité de fixer les butées mécaniques d'arrêt du vantail, soit à la fermeture soit à l'ouverture, directement à l'intérieur du coffrage.

- Fiable

Technologie hydraulique et qualité de tous ses composants intérieurs pour un mouvement sûr et silencieux.

- Sûr

Avec déblocage manuel d'urgence en acier estampé et clé avec poignée ergonomique. Réglage de la force de poussée avec les vannes de pression maximale.

### Automatización hidráulica enterrada para puertas batientes.

- Grupo compacto, fuerte e invisible

unidad hidráulica y gato en una caja única.

Brazos internos de movimientos en acero galvanizado

- Versátil

Para las instalaciones de uso colectivo y el uso industrial.

La rotación de la hoja 110°.

Reversible sin bloqueo hidráulico, con bloqueo hidráulico bidireccional, con el frenado en ambas direcciones y con regulador de flujo.

- Caja autoportante

por un peso máximo de 1.000 kg por hoja.

Estructura en lámina sólida de 5 mm con la posibilidad de fijar los topes mecánicos para tanto en cierre de la puerta y la apertura directamente en el encofrado

- Fiabilidad

La tecnología hidráulica y la calidad de todos sus componentes internos para un movimiento seguro y silencioso.

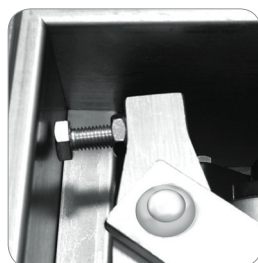
- Seguro

Con llave de apertura manual de emergencia pulsa acero con empuñadura ergonómica. Ajuste de la fuerza de empuje con las válvulas de alivio de presión

## MODELS

## ROTATION ANGLES

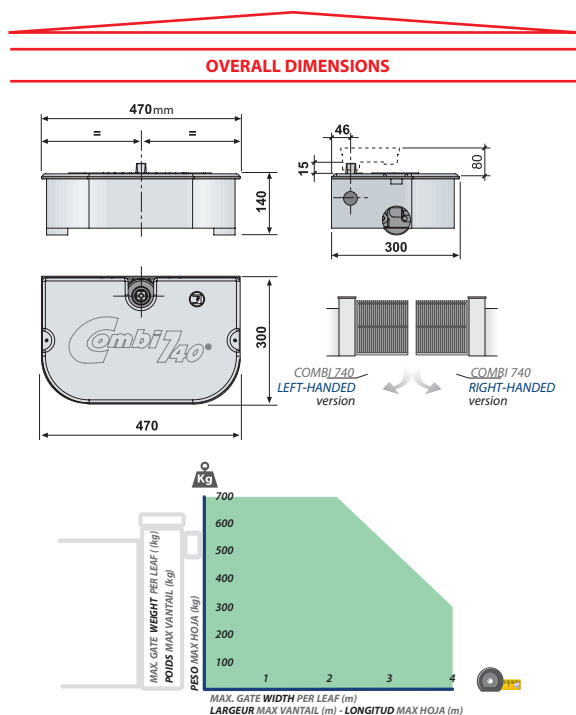
V E R S I O N S	<ul style="list-style-type: none"> <li>▾ Braking in opening and closing</li> <li>▴ Avec frein à l'ouverture et à la fermeture</li> <li>▾ Con freno en apertura y cierre</li> </ul>	110°
	<ul style="list-style-type: none"> <li>▾ Non braking</li> <li>▴ Sans le frein</li> <li>▾ Sin freno</li> </ul>	110°
	<ul style="list-style-type: none"> <li>▾ Hydraulic device for bidirectional locking</li> <li>▴ Avec blocage hydraulique bidirectionnel</li> <li>▾ Con bloqueo hidráulico</li> </ul>	110°
	<ul style="list-style-type: none"> <li>▾ Non locking</li> <li>▴ Sans blocage hydraulique</li> <li>▾ Sin bloqueo hidráulico</li> </ul>	110°
	<ul style="list-style-type: none"> <li>▾ With flow regulator</li> <li>▴ Avec régulateur de débit</li> <li>▾ Con regulación de flujo</li> </ul>	110°
	<ul style="list-style-type: none"> <li>▾ An electric lock is recommended with gate leafs wider than 2 metres</li> <li>▴ Au-delà de 2 m de largeur du vantail, on conseille l'installation de la serrure électrique</li> <li>▾ Además de 2 metros de longitud de la hoja se conseja de utilizar la electrocerradura</li> </ul>	



## COMBI 740

Supply voltage	Tension d'alimentation	Tensión de alimentación	230 Vac - 50 Hz
Absorbed power	Puissance absorbée	Potencia absorbida	250 W
Absorbed current	Courant absorbé	Corriente asorbida	1,2 A
Power output	Puissance rendue	Potencia de rendimiento	0,18 kW (0,25 HP)
Working torque	Couple de travail	Pareja de trabajo	250-400 Nm
Working temperature	Température de service	Temperatura de ejercicio	-20 °C +80 °C (*)
Protection standard	Degré de protection	Grado de protección	IP 67
Oil type	Huile	Tipo de aceite	Oil FADINI - code 708L
Opening/closing time	Temps d'ouverture/fermeture	Tiempo apertura/cierre	~ 23 s [110°] ~ 28 s [175°]
Weight with enclosure	Poids avec Coffrage	Peso con caja	27 kg
Frequency of use	Fréquence d'utilisation	Frecuencia de uso	very intensive

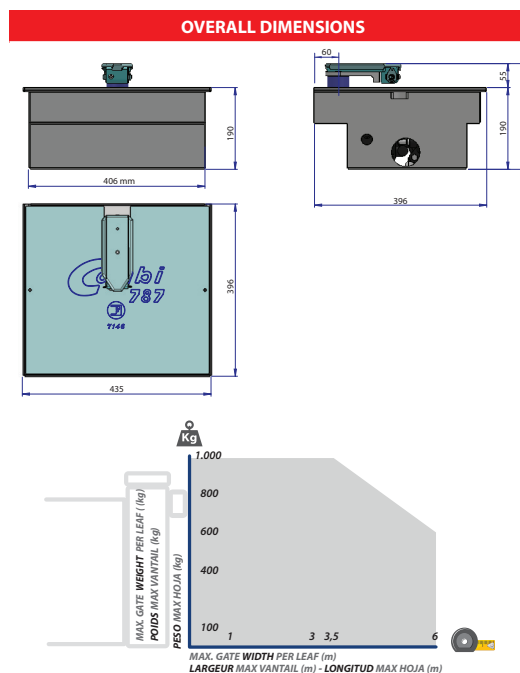
(\*) -40 °C with specific optional accessories. / (\*) -40 °C avec accessoires optionnels spécifiques. / (\*) -40 °C con accesorios optional específicos.



The gate structure, design (solid, in-filled), height and strong wind pressure may affect and decrease the indicated values. Make always sure the gate structure is adequate to automation.

La structure, l'aspect (lambrissé fermé), la hauteur du portail et la présence de vent fort peuvent diminuer les valeurs indiquées. Vérifier toujours l'intégrité de la structure du portail.

La estructura, la forma (con paneles cerrado), la altura de la puerta y las condiciones climáticas pueden reducir los valores mostrados. Compruebe siempre la integridad de la estructura de la puerta.



The gate structure, design (solid, in-filled), height and strong wind pressure may affect and decrease the indicated values. Make always sure the gate structure is adequate to automation.

La structure, l'aspect (lambrissé fermé), la hauteur du portail et la présence de vent fort peuvent diminuer les valeurs indiquées. Vérifier toujours l'intégrité de la structure du portail.

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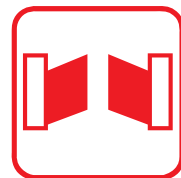
## COMBI 787

Supply voltage	Tension d'alimentation	Tensión de alimentación	230 Vac - 50 Hz
Absorbed power	Puissance absorbée	Potencia absorbida	250 W
Absorbed current	Courant absorbé	Corriente asorbida	1,2 A
Power output	Puissance rendue	Potencia de rendimiento	0,18 kW (0,25 HP)
Working torque	Couple de travail	Pareja de trabajo	250-400 Nm
Working temperature	Température de service	Temperatura de ejercicio	-20 °C +80 °C (*)
Protection standard	Degré de protection	Grado de protección	IP 67
Oil type	Huile	Tipo de aceite	Oil FADINI - code 708L
Opening/closing time	Temps ouvert./ferm.	Tiempo apertura/cierre	~ 23 s [110°]
Frequency of use	Fréquence d'utilisation	Frecuencia de uso	very intensive
Weight with enclosure	Poids avec coffrage	Peso con caja	34 kg

(\*) -40 °C with specific optional accessories. / (\*) -40 °C avec accessoires optionnels spécifiques. / (\*) -40 °C con accesorios optional específicos.

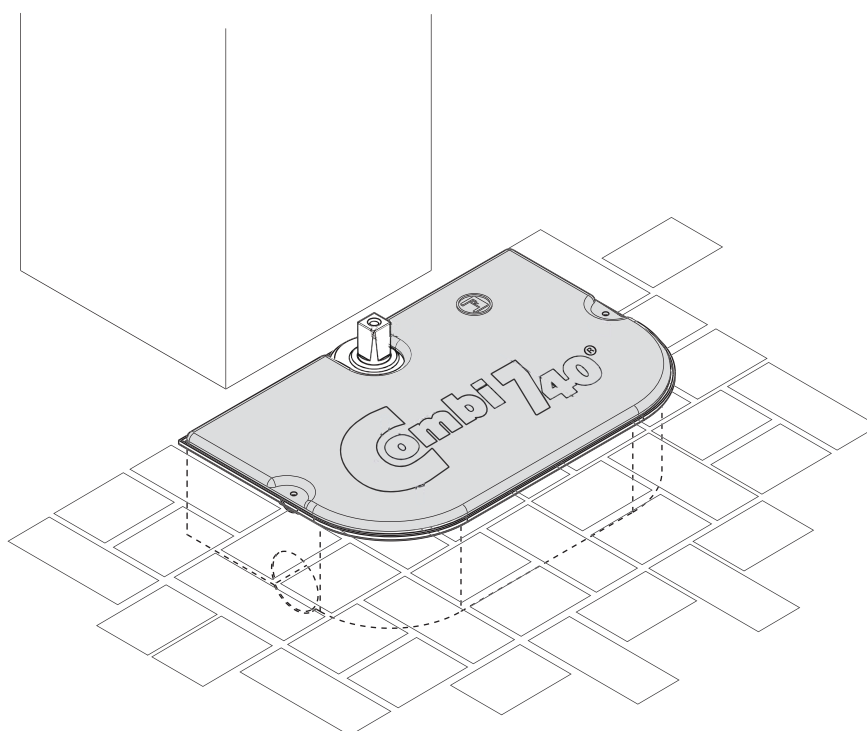


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www.fadini.net



# Combi 740<sup>®</sup>

Underground oil-hydraulic operator for swinging gates



110° or 175° shaft rotation

Compact all-in-one oil-hydraulic motor-pump and jack

Reversible or bidirectional locking versions

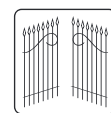
Models with or without hydraulic braking device

Models with or without flow regulator



EN 13241  
EN 12453  
EN 12445

Made in Italy



**FADINI**<sup>®</sup>  
the gate opener

## GENERAL WARNINGS FOR PEOPLE SAFETY

### THANK YOU

Thank you for purchasing a Fadini product. Please read these instructions carefully before using this appliance. The instructions contain important information which will help you get the best out of the appliance and ensure safe and proper installation, use and maintenance. Keep this manual in a convenient place so that you can always refer to it for the safe and proper use of the appliance.

### INTRODUCTION

This operator is designed for a specific scope of applications as indicated in this manual, including safety, control and signaling accessories as minimum required with Fadini equipment. □ Any applications not explicitly included in this manual may cause operation problems or damages to properties and people. □ Meccanica Fadini snc is not liable for damages caused by the incorrect use of the equipment, or for applications not included in this manual or for malfunctioning resulting from the use of materials or accessories not recommended by the manufacturer. □ The manufacturer reserves the right to make changes to its products without prior notice. □ All that is not explicitly indicated in this manual is to be considered not allowed.

### BEFORE INSTALLATION

Before commencing operator installation assess the suitability of the access, its general condition and the structure. □ Make sure that there is no risk of impact, crushing, shearing, conveying, cutting, entangling and lifting situations, which may prejudice people safety. □ Do not install near any source of heat and avoid contacts with flammable substances. □ Keep all the accessories able to turn on the operator (transmitters, proximity readers, key-switches, etc) out of the reach of the children. □ Transit through the access only with stationary operator. □ Do not allow children and/or people to stand in the proximity of a working operator. □ To ensure safety in the whole movement area of a gate it is advisable to install photocells, sensitive edges, magnetic loops and detectors. □ Use yellow-black strips or proper signals to identify dangerous spots. □ Before cleaning and maintenance operations, disconnect the appliance from the mains by switching off the master switch. □ If removing the actuator, do not cut the electric wires, but disconnect them from the terminal box by loosening the screws inside the junction box.

### INSTALLATION

All installation operations must be performed by a qualified technician, in observance of the Machinery Directive 2006/42/CE and safety regulations EN 12453 - EN 12445. □ Verify the presence of a thermal-magnetic circuit breaker 0,03 A - 230 V - 50 Hz upstream the installation. □ Use appropriate objects to test the correct functionality of the safety accessories, such as photocells, sensitive edges, etc. □ Carry out a risk analysis by means of appropriate instruments measuring the crushing and impact force of the main opening and closing edge in compliance with EN 12445.

□ Identify the appropriate solution necessary to eliminate and reduce such risks. □ In case where the gate to automate is equipped with a pedestrian entrance, it is appropriate to prepare the system in such a way to prohibit the operation of the engine when the pedestrian entrance is used. □ Apply safety nameplates with CE marking on the gate warning about the presence of an automated installation. □ The installer must inform and instruct the end user about the proper use of the system by releasing him a technical dossier, including: layout and components of the installation, risk analysis, verification of safety accessories, verification of impact forces and reporting of residual risks.

### INFORMATION FOR END-USERS

The end-user is required to read carefully and to receive information concerning only the operation of the installation so that he becomes himself responsible for the correct use of it. □ The end-user shall establish a written maintenance contract with the installer/maintenance technician (on -call). □ Any maintenance operation must be done by qualified technicians. □ Keep these instructions carefully.

### WARNINGS FOR THE CORRECT OPERATION OF THE INSTALLATION

For optimum performance of system over time according to safety regulations, it is necessary to perform proper maintenance and monitoring of the entire installation: the automation, the electronic equipment and the cables connected to these. □ The entire installation must be carried out by qualified technical personnel, filling in the Maintenance Manual indicated in the Safety Regulation Book (to be requested or downloaded from the site [www.fadini.net/supporto/downloads](http://www.fadini.net/supporto/downloads)).

□ Operator: maintenance inspection at least every 6 months, while for the electronic equipment and safety systems an inspection at least once every month is required. □ The manufacturer, Meccanica Fadini snc, is not responsible for non-observance of good installation practice and incorrect maintenance of the installation.

### DISPOSAL OF MATERIALS

Dispose properly of the packaging materials such as cardboard, nylon, polystyrene etc. through specializing companies (after verification of the regulations in force at the place of installation in the field of waste disposal). Disposal of electrical and electronic materials: to remove and dispose through specializing companies, as per Directive 2012/19/UE. Disposal of substances hazardous for the environment is prohibited.



### CE DECLARATION OF CONFORMITY of the manufacturer:

Meccanica Fadini snc (Via Mantova, 177/A - 37053 Cerea - VR - Italy) declares under own responsibility that: **Combi 740** complies with the 2006/42/CE Machinery Directive, and also that it is sold to be installed in an "automatic system", along with original accessories and components as indicated by the manufacturing company. An automatic gate operator is, by law, a "machinery" and therefore the installer must fit the equipment with all of the applicable safety norms. The installer is also required to issue the installer's Declaration of Conformity. The manufacturer is not liable for possible incorrect use of the product. The product complies with the following specific norms: analysis of the risks and subsequent action to cure them as per EN 12445 and EN 12453, Low Voltage Directive 2014/35/UE, Electromagnetic Compatibility 2014/30/UE. In order to certify the product, the manufacturer declares under own responsibility the compliance with the EN 13241-1 PRODUCT NORMS.

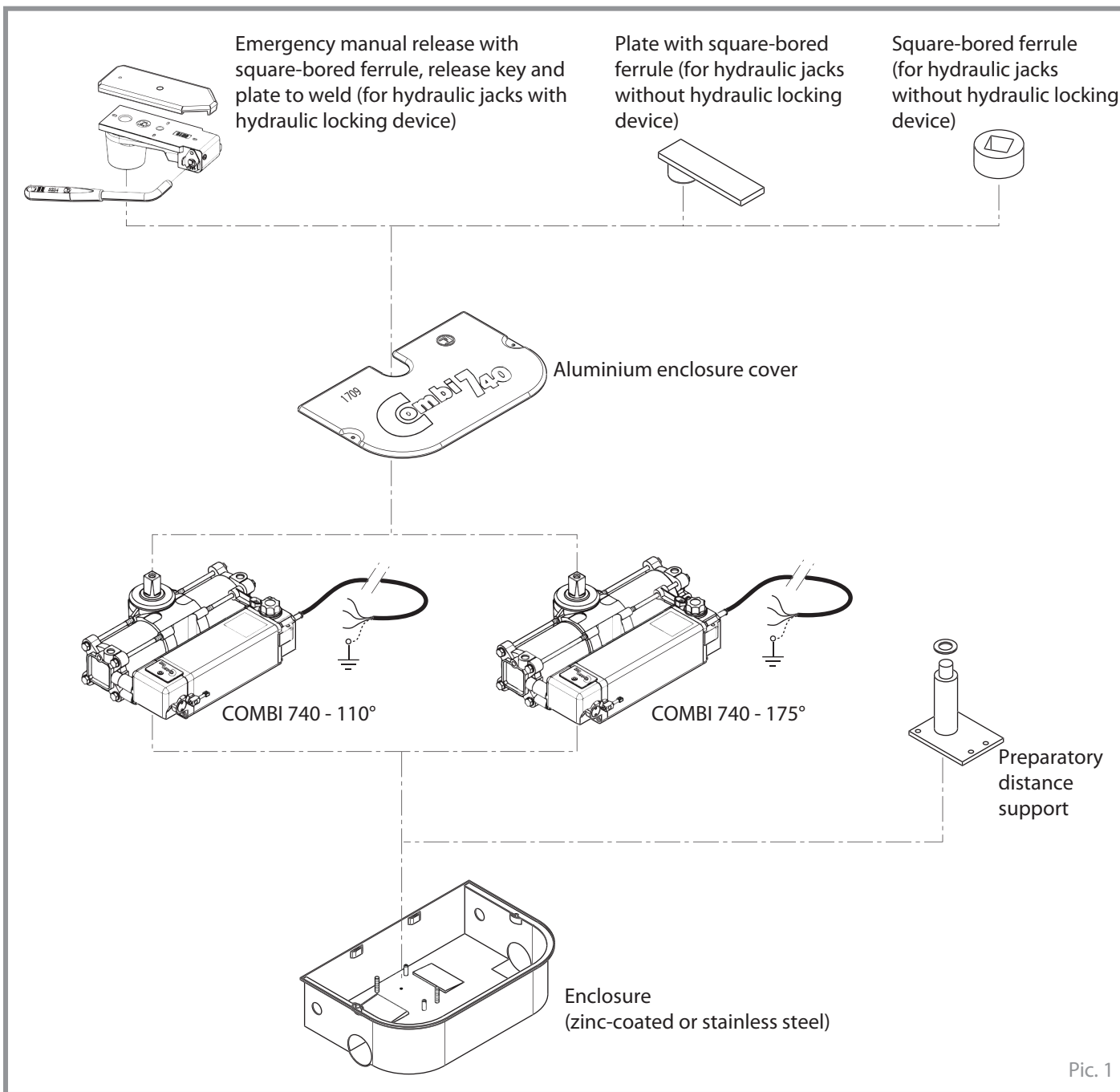
Tested and certified:  Marking and type testing according to ITT PDC No. 2393-2008.

Meccanica Fadini s.n.c.  
Director in charge



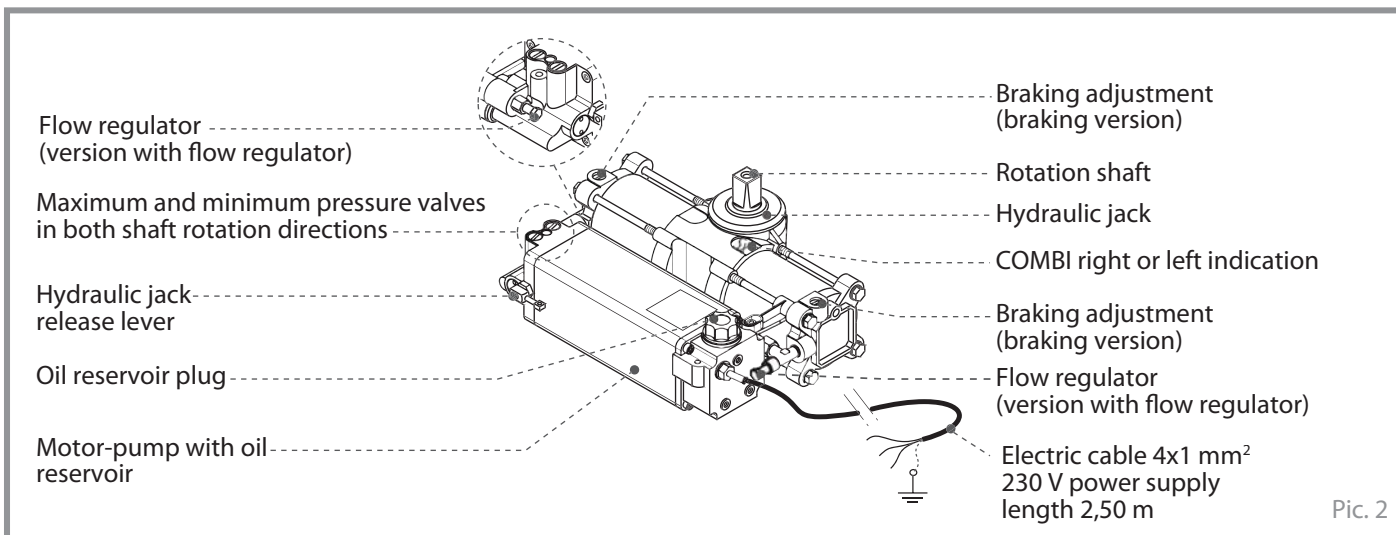


MAIN COMPONENTS OF THE UNDERGROUND OIL-HYDRAULIC OPERATOR



Pic. 1

DESCRIPTION OF JACK / MOTOR-PUMP COMPONENTS



Pic. 2

English

## INSTRUCTIONS TO BE FOLLOWED BEFORE INSTALLING THE OPERATOR

To ensure a perfect installation and operation of COMBI 740 keep to the following explanatory points and relative drawings.

**IMPORTANT:** the entire installation process must be carried out by qualified, technical people in compliance with EN 12453 - EN 12445 safety standards, and in accordance with the Machinery Directive 2006/42/CE.

Carry out a careful analysis of the risks in accordance with the safety regulations in force.

**GENERAL DESCRIPTION: COMBI 740** is an oil-hydraulic automatic operator designed to open and close swinging gates for residential and commercial applications, studied for heavy duty installations, both in private and public areas.

It is an oil-hydraulic operator with a built-in motor-pump unit; the entire operator is housed inside a specifically designed enclosure, cemented underground at the base of the gate in correspondence with the rotation hinges.

**COMBI 740** is a handed unit, either right- or left-handed (gates viewed from inside). Being oil-hydraulic, it can offer all the advantages that this feature allows such as reliability, smooth movements, adjustable thrust powers by maximum and minimum pressure valves to suit any kind of swinging gates.

Available in a wide range of options to meet any installation requirements: reversible without hydraulic locking device, with bidirectional hydraulic locking device in open and closed gate positions, braking in both gate travel directions and with flow regulator.

**COMBI 740** requires a FADINI electronic control board, that must be installed in a sheltered place, for proper gate operations. The electronic board controls any operations as required either in automatic or semi-automatic modes, depending on the user's needs.

A series of commanding and safety accessories are available from catalogue to complete the installations.



Meccanica FADINI, as manufacturing company, is not liable should good technique of installation fail to be observed or other applications are made not included in this manual.

## COMBI 740 VERSIONS

**110° version** = maximum shaft rotation 110°.

**175° version** = maximum shaft rotation 175°.

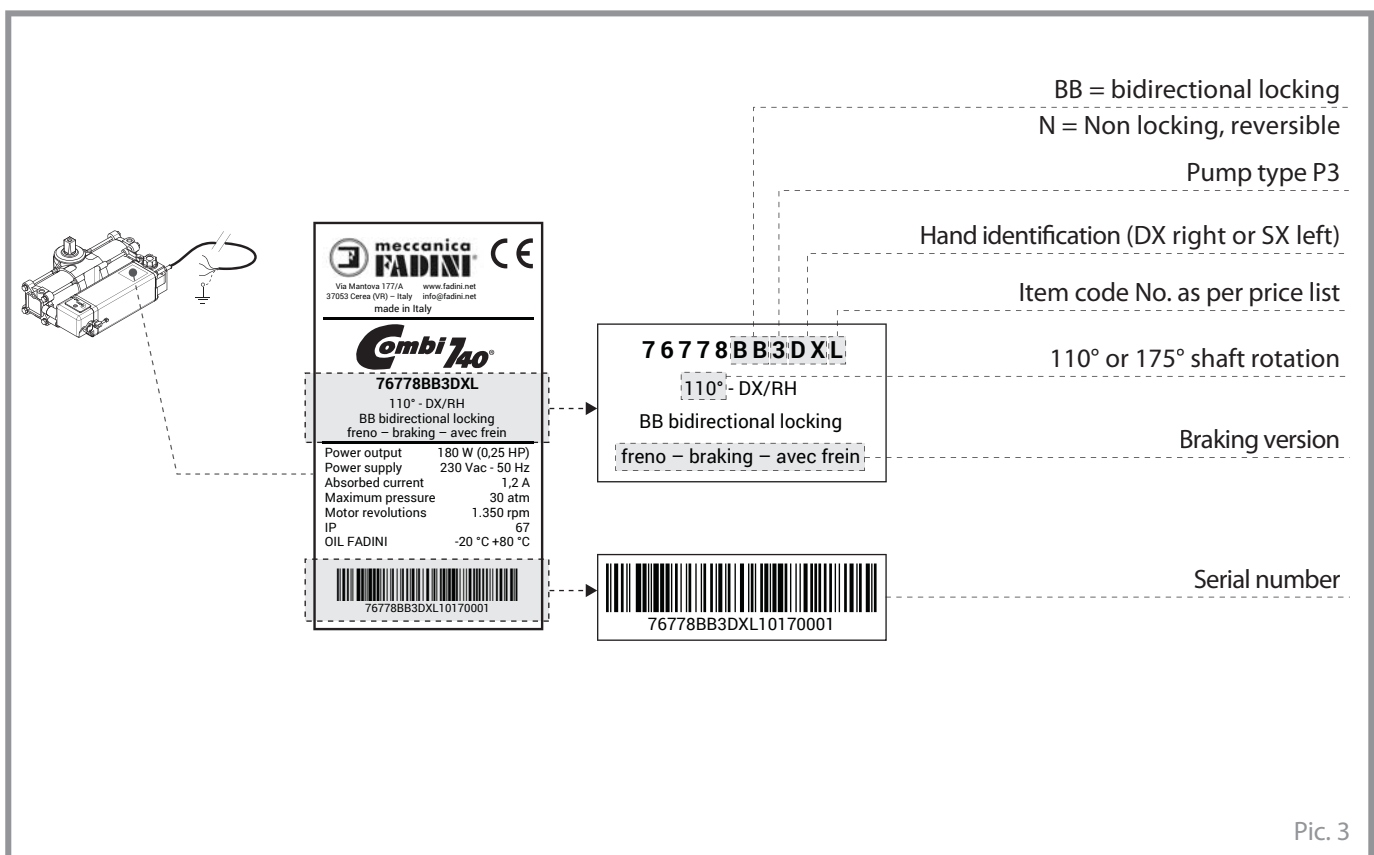
**Reversible versions** = 110° and 175° rotation options, without hydraulic locking device in both gate stop positions.  
An electric gate lock is always recommended.

**Locking version** = 110° and 175° rotation options, with hydraulic locking device in both gate stop positions.

**Braking version** = 110° and 175° rotation options, with adjustable hydraulic braking device in both directions, over the last 40 cm of motion.

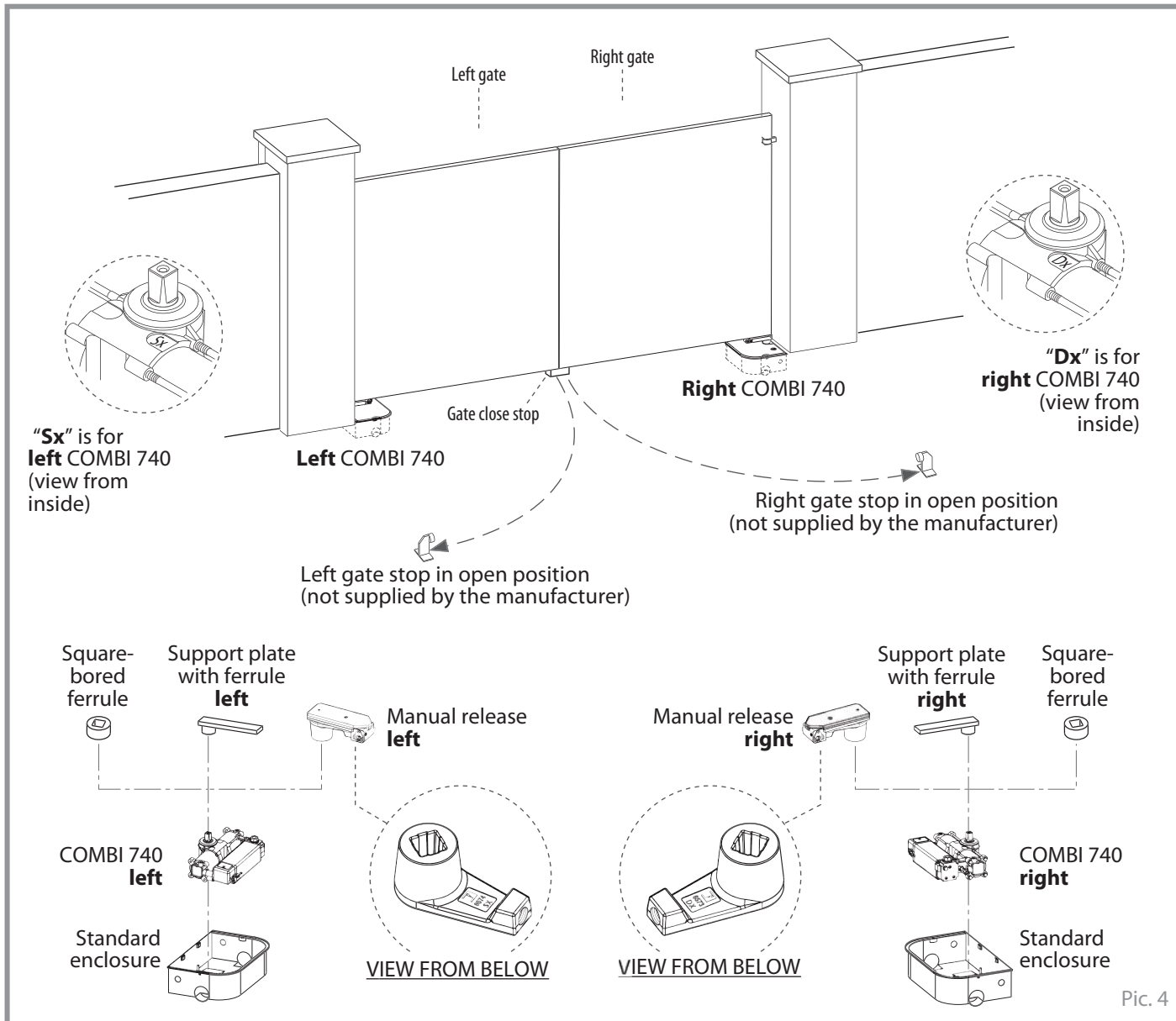
**Version with flow regulator** = 110° and 175° rotation options, with hydraulic flow regulator (it adjusts gate speed) in both gate travel directions for gates wider than 2,5 m each gate leaf.

## COMBI 740 IDENTIFICATION STICKER



Pic. 3

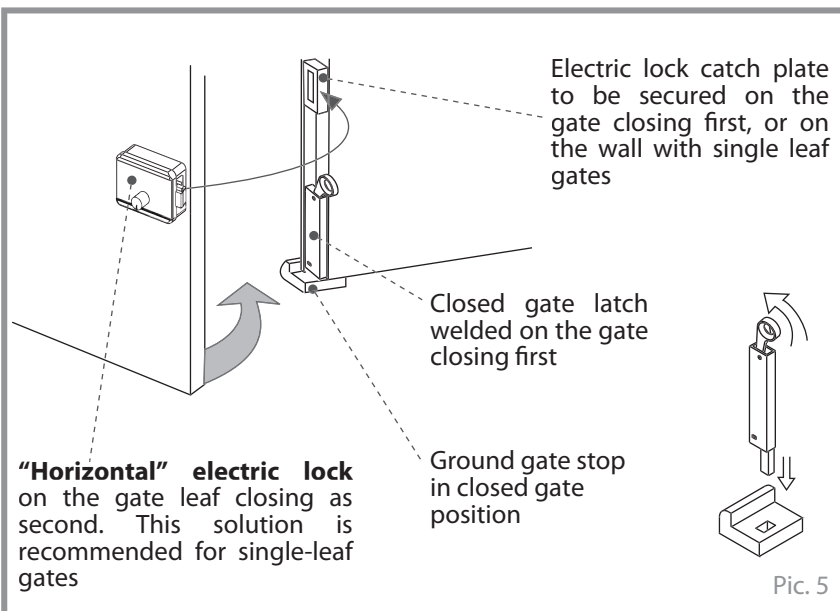
MAIN COMPONENTS FOR A STANDARD INSTALLATION



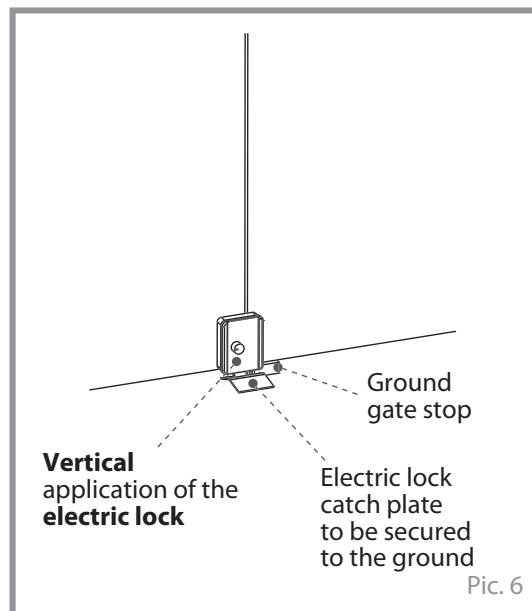
Pic. 4



**Important:** for installations with Combi 740 (reversible ie. non locking or locking) on gates longer than 2,0 m each it is always necessary to install an electric lock with a gate stop latch: the possible solutions are shown in Pic. 5 and Pic. 6. For single-leaf gates, it is recommended that the electric lock be installed horizontally.



Pic. 5



Pic. 6

### IDEAL USE OF THE UNDERGROUND OIL-HYDRAULIC COMBI 740

#### - COMBI 740 Reversible version, 110° rotation:

- 1) COMBI 740 - 110° can suit any gate type, always with an electric lock.
- 2) For gate leaves wider than 2,50 m, COMBI 740 braking version is recommended.
- 3) COMBI 740 can bear a static gate weight of 700 kg, per gate leaf of 2,0 m width. Beyond this size gate weight is to decrease accordingly (Pic. 7).

#### - Combi 740 Locking version, 110° rotation:

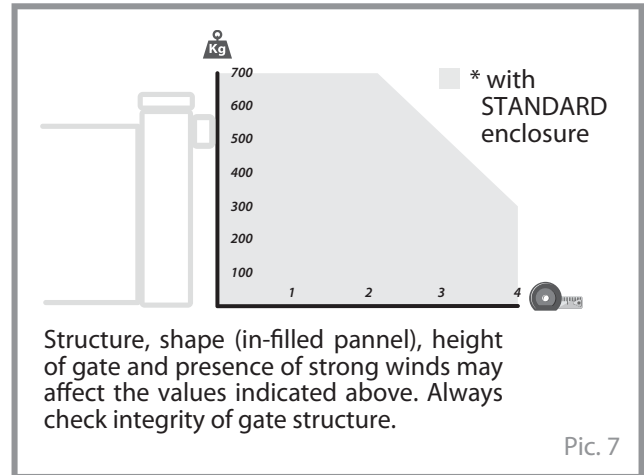
- All previous three points apply.
- 4) The Combi 740 Locking is recommended for gate leaves up to 2,0 meters long, without an electric lock. An electric lock is always necessary for gate leaves that are longer than 2,0 m.

#### - Combi 740 Reversible version, 175° rotation:

All previous three points apply.

#### - Combi 740 Locking version, 175° rotation:

All previous four points apply.

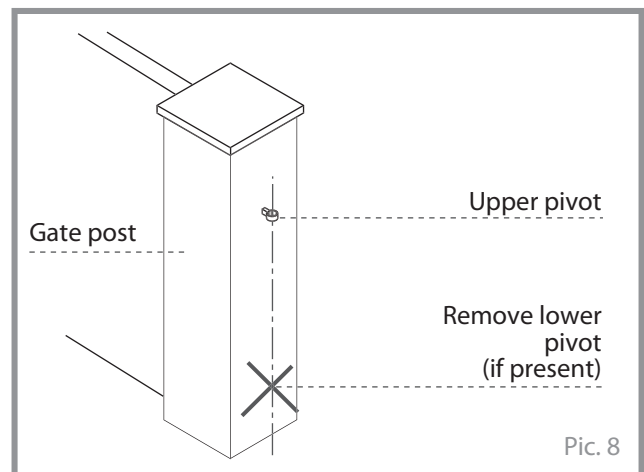


### INSTALLING THE ENCLOSURE

#### WARNINGS:

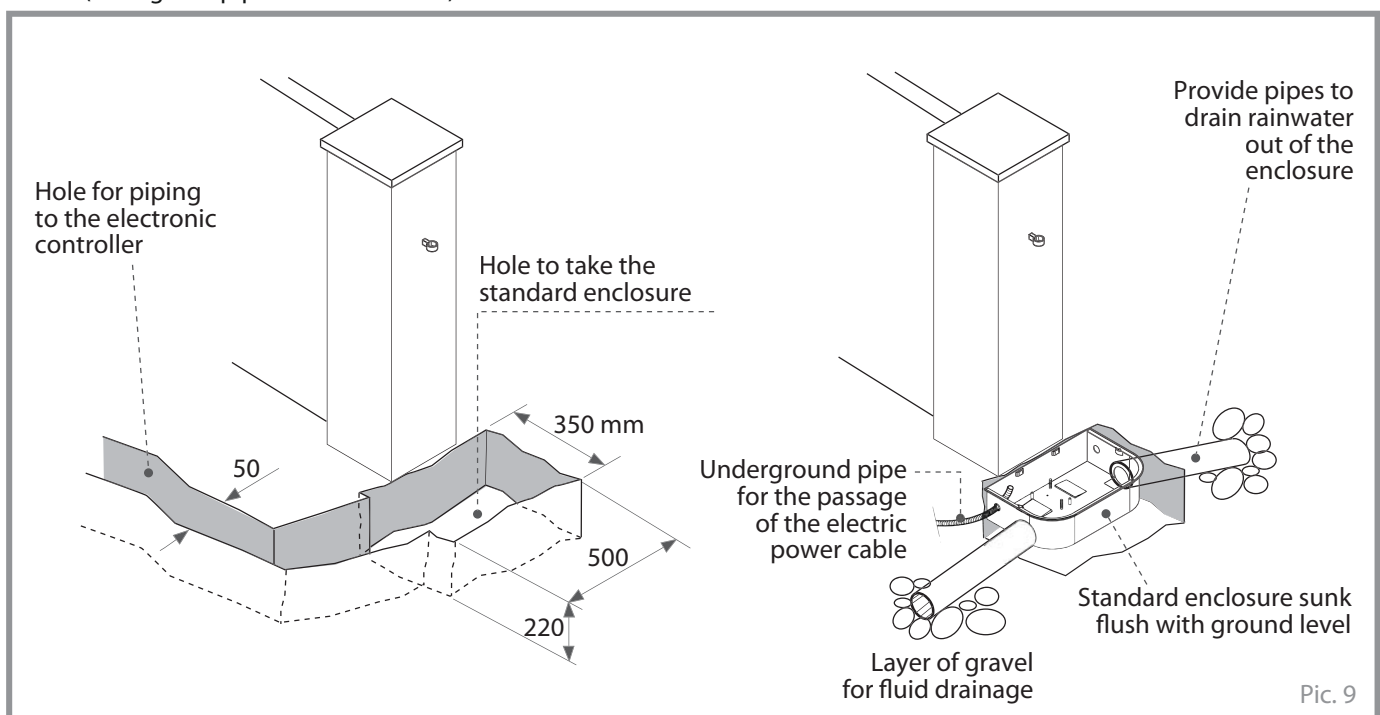
ensure that the gate structure is suited to the operator and check to see if the fixed and moving parts require any special reinforcements for the installation, making sure that there are no obstacles or friction during the entire movement of the gate.

The **standard enclosure** must be cemented to the base of the gate in order to receive and secure the operator. However, the lower gate pivot must be removed first because the Combi 740 rotation shaft acts as a lower rotation pivot (Pic. 8).

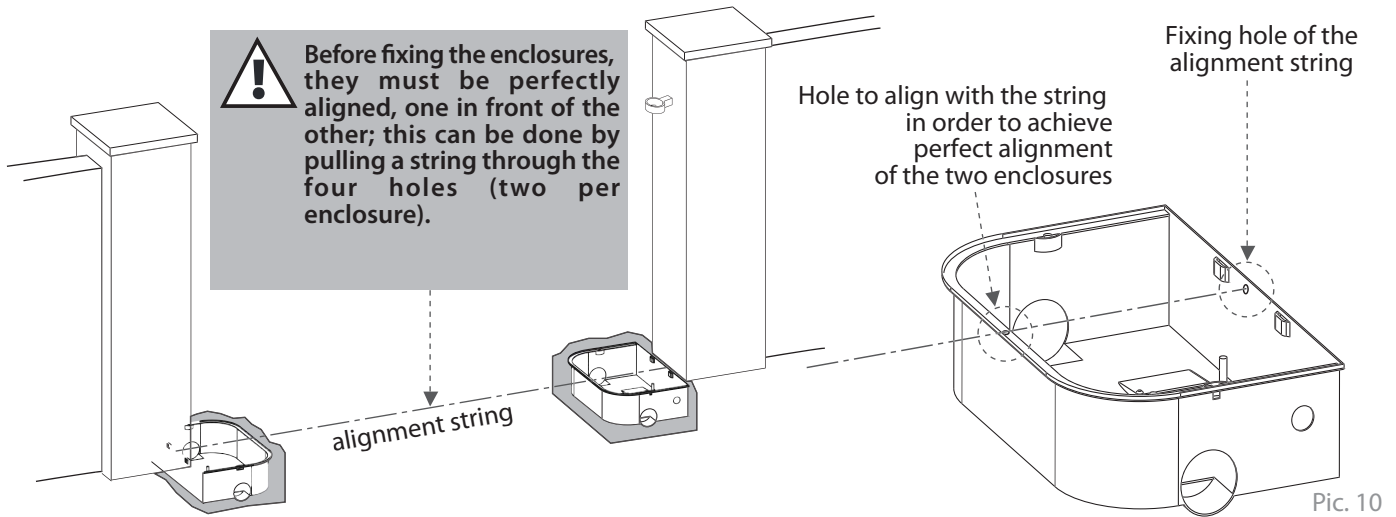


### SETTING UP AND FIXING THE ENCLOSURE

Dig a hole at the base of the gate post in accordance with the measurements indicated in Pic. 9 and lay an underground pipe to connect the enclosure to the site where the electronic controller is installed (it is recommended that the controller be installed in a protected and dry place); the pipe must be of a suitable diameter to permit the passage of the operator's power cables (corrugated pipe  $\varnothing 20 - \varnothing 25$  mm).

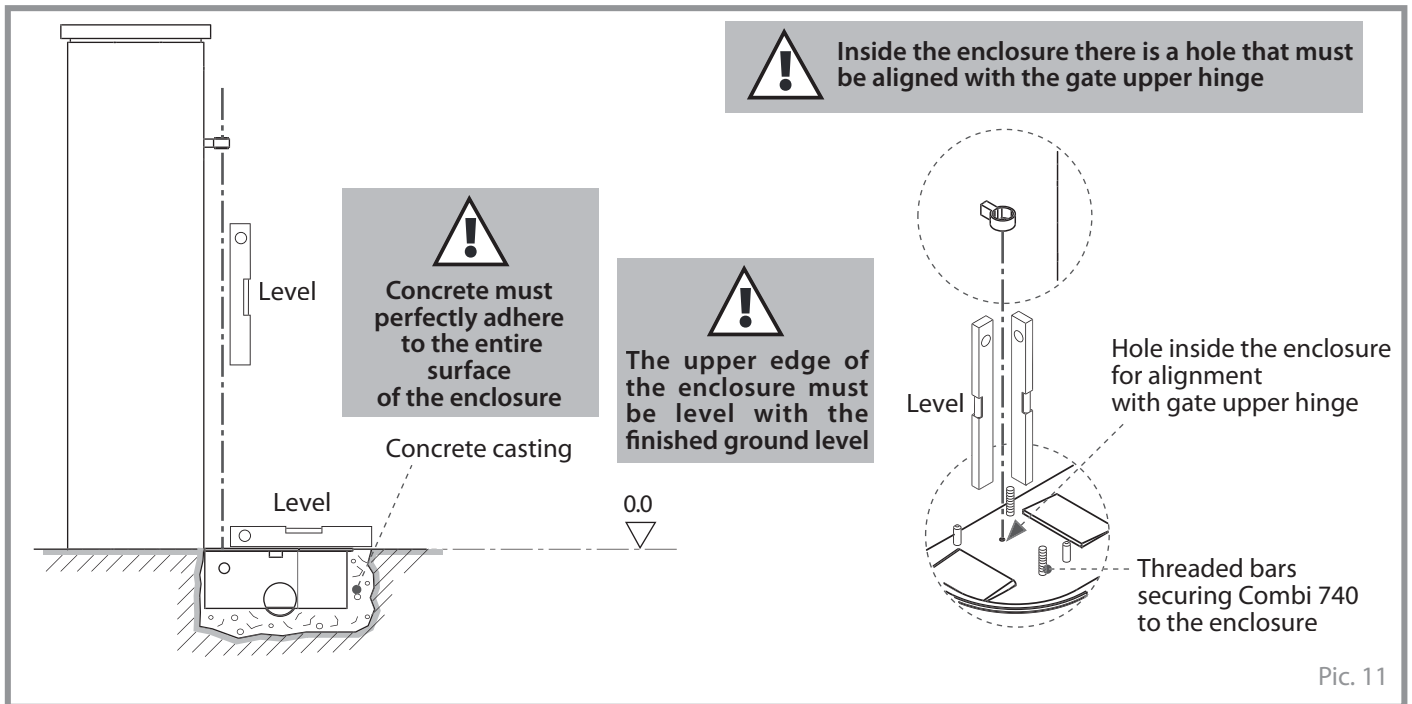


ALIGNMENT PHASE OF TWO ENCLOSURES



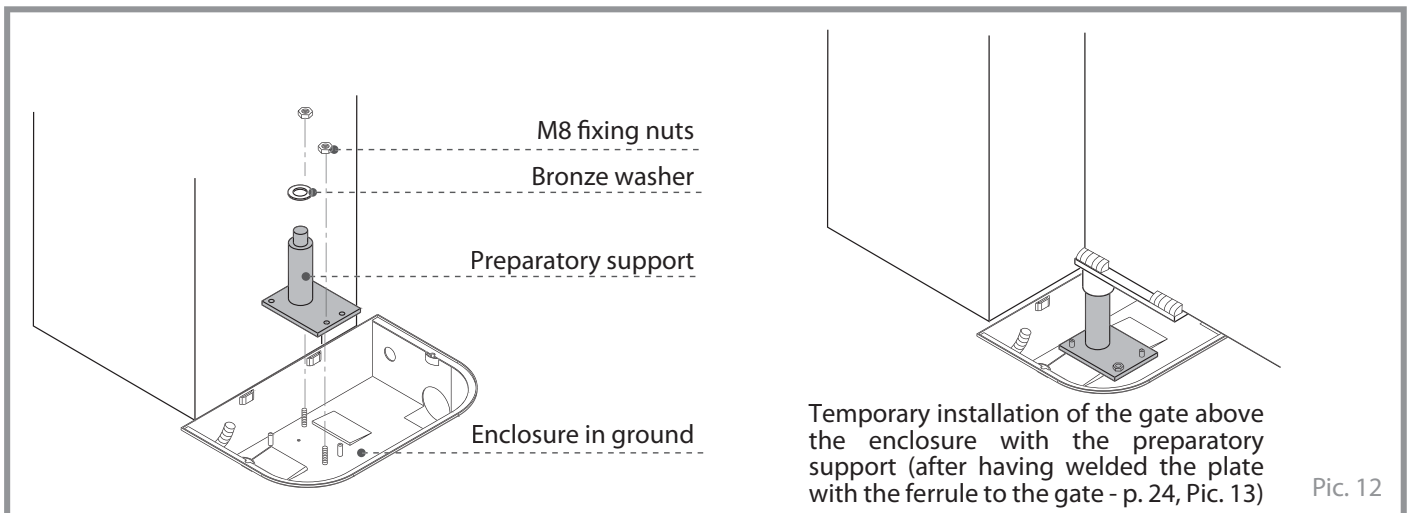
Pic. 10

**! Note well:** before fixing the enclosure with concrete, align the inner hole of the enclosure with the gate upper hinge (Pic. 11) and make sure the enclosure is perfectly levelled. The upper edge of the enclosure must be flush with the finished ground level.



Pic. 11

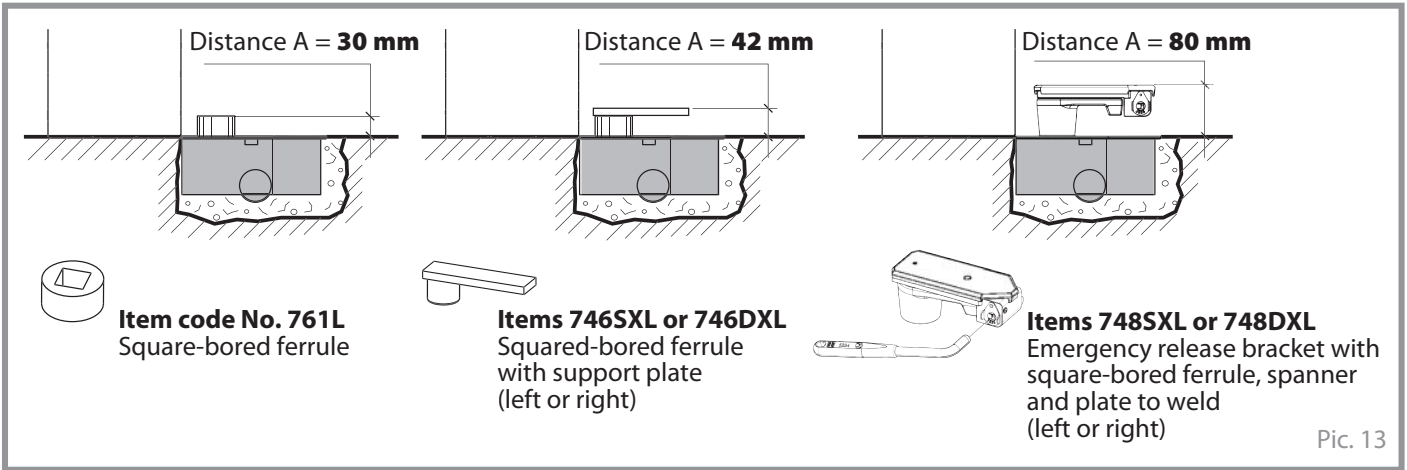
The gate can be installed even without Combi 740: the enclosure, actually, is pre-set to house the preparatory support which, once secured inside of it, replaces the lower gate hinge (Pic. 12).



Pic. 12

English

MEASUREMENTS OF THE VARIOUS INSTALLATION OPTIONS



Pic. 13

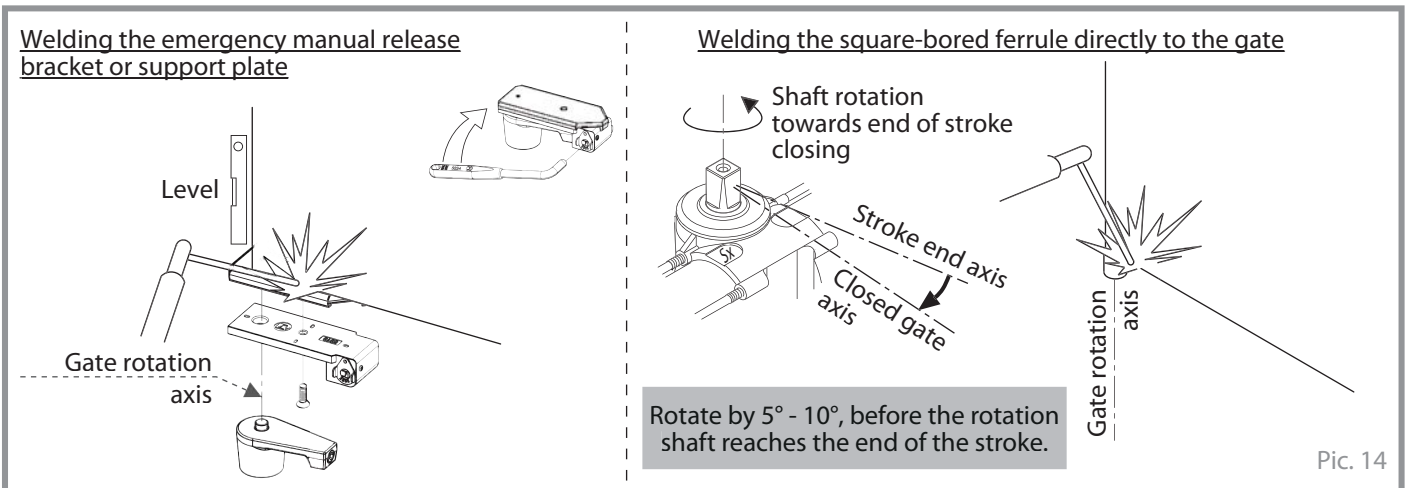
GATE PREPARATION: FIXING THE EMERGENCY RELEASE BRACKET OR THE FERRULE

The gate can be fixed onto the COMBI 740 operator in three different ways: by the emergency release bracket, the support plate with square-bored ferrule and the square-bored ferrule.

In all the cases, these elements are to be firmly welded to the base of the gate and aligned with the gate upper pivot (Pic. 14).

**IMPORTANT:** respect the distance indicated in Pic. 13, between the enclosure and the gate above it.

**IMPORTANT TO ACHIEVE CORRECT PUTTING IN PHASE OF THE GATE:** the plain square-bored ferrule must be welded to the gate leaf with COMBI 740 shaft rotated by 5° or 10°, before it reaches the end of the permitted stroke (Pic. 14).



Pic. 14

INSTALLING THE RIGHT AND LEFT COMBI 740s INSIDE THE RESPECTIVE ENCLOSURES

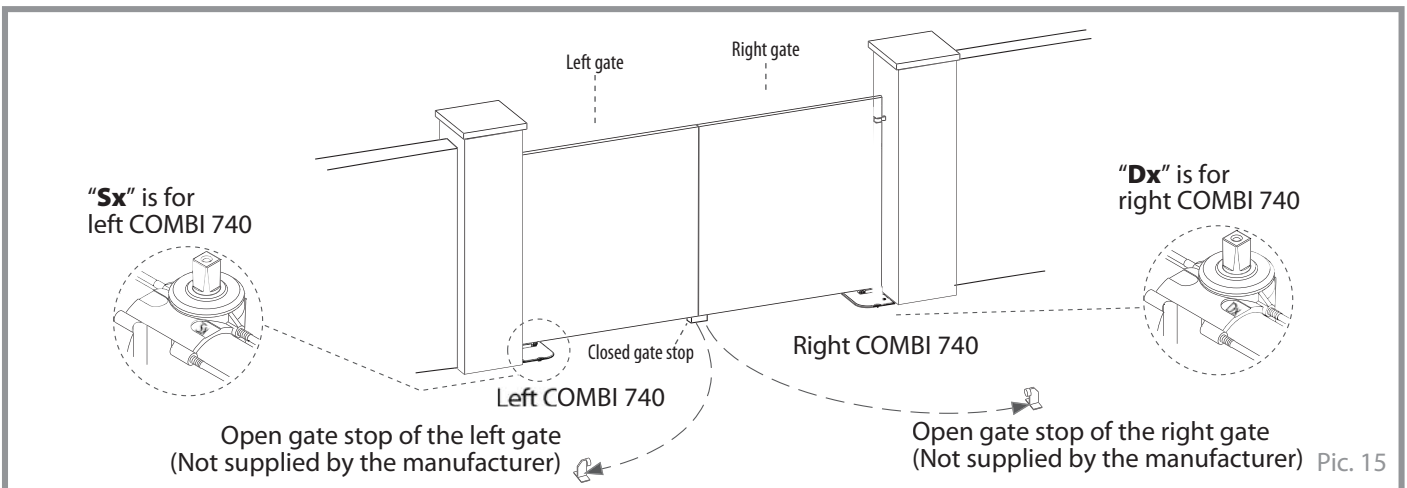
**IMPORTANT:** The right and left COMBI 740s are installed respectively to the right and left of the gate (view from inside). The following abbreviations are marked on the bases of the COMBI 740 square rotation shafts (Pic. 15):

**Sx** = Left-hand version

**Dx** = Right-hand version

**NOTE:** all what previously described applies also to installations with single swinging gates.

**IMPORTANT:** before installing and wiring the operators, it is required that ground gate stops be fixed in the open gate positions (at about 5° before end of the permitted stroke) and in closed gate position.



Pic. 15

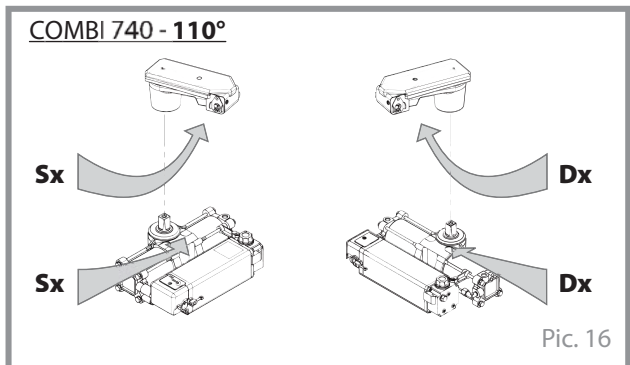
**INSTALLING THE EMERGENCY MANUAL RELEASE BRACKET**

**IMPORTANT: On installing the manual release bracket, mind Pic. 16 and Pic. 17 very carefully:**

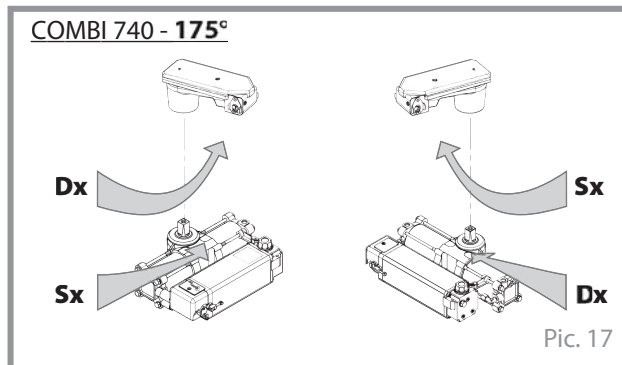
**The operation of matching the manual release bracket and the operator is different depending on the rotation angle.**

**Right COMBI 740 - 110°** is to match the right emergency manual release bracket (in the same way, left Combi with left bracket) (Pic. 16).

**Right COMBI 740 - 175°** is to match the left emergency manual release bracket (on the other way, left Combi with right bracket) (Pic. 17).



Pic. 16



Pic. 17

Combi 740 is to be inserted into the enclosure, fixed by using the two hexagonal studs and held in place by the raised edges of the two slits in the enclosure base (Pic. 18).

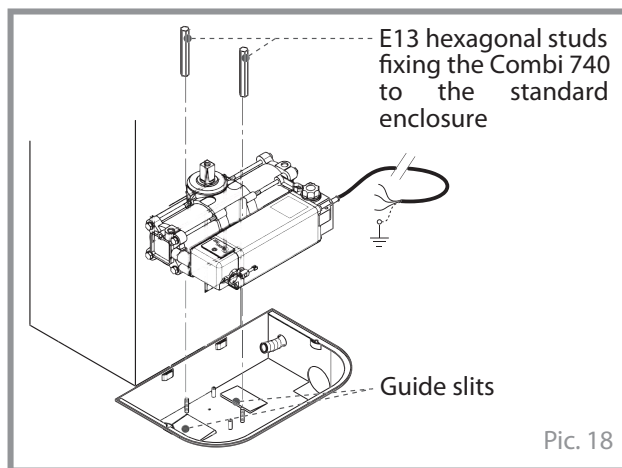
After inserting the right and left COMBI 740s inside the respective enclosures, it is possible to finally install the gates.

**IMPORTANT:** before beginning any operations, even manual, make sure that proper gate stops are mounted in open and closed gate positions (Pic. 15 page 24).

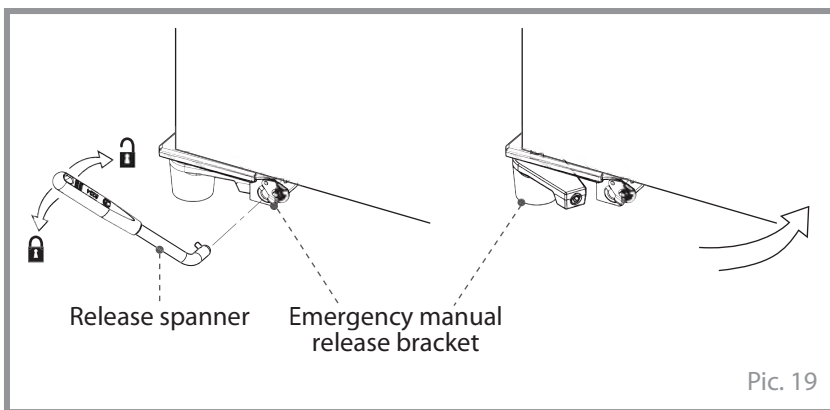
**RELEASING THE OPERATOR FOR MANUAL OPERATIONS OF THE GATES**

COMBI 740 fitted with the emergency manual release bracket: insert the spanner into the manual release seat and do as indicated in Pic. 19.

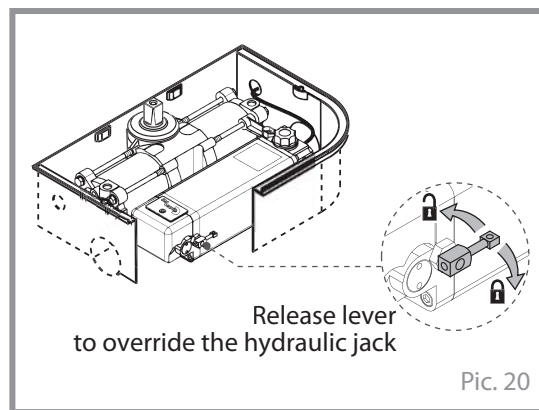
COMBI 740 with the support plate fitted with square-bored ferrule or the plain square-bored ferrule: remove the lid of the COMBI 740 enclosure to directly access the jack/motor-pump assembly. Rotate the release lever positioned on the side of the motor-pump unit as indicated in Pic. 20.



Pic. 18



Pic. 19

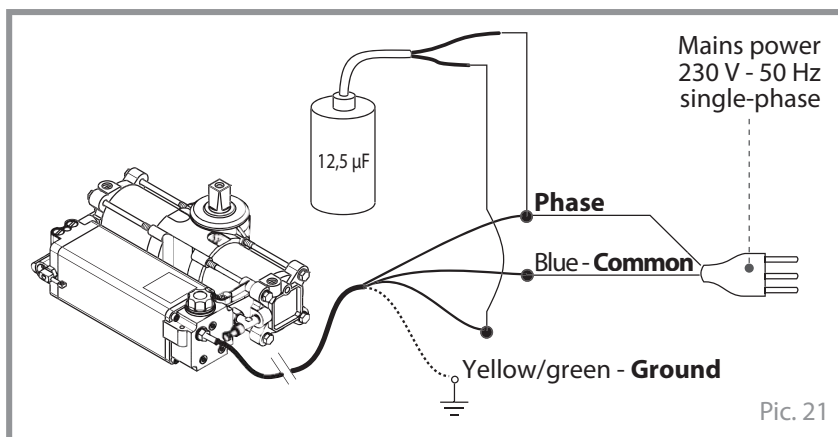


Pic. 20

**FIRST OPERATION TESTS**

To carry out the first shaft rotation tests, power supply can be connected directly to the Combi 740 motor.

Make the connections in accordance with the diagram in Pic. 21, adding a 12,5 µF capacitor, parallel with the two phases. To reverse shaft rotation, swap phase connections.



Pic. 21

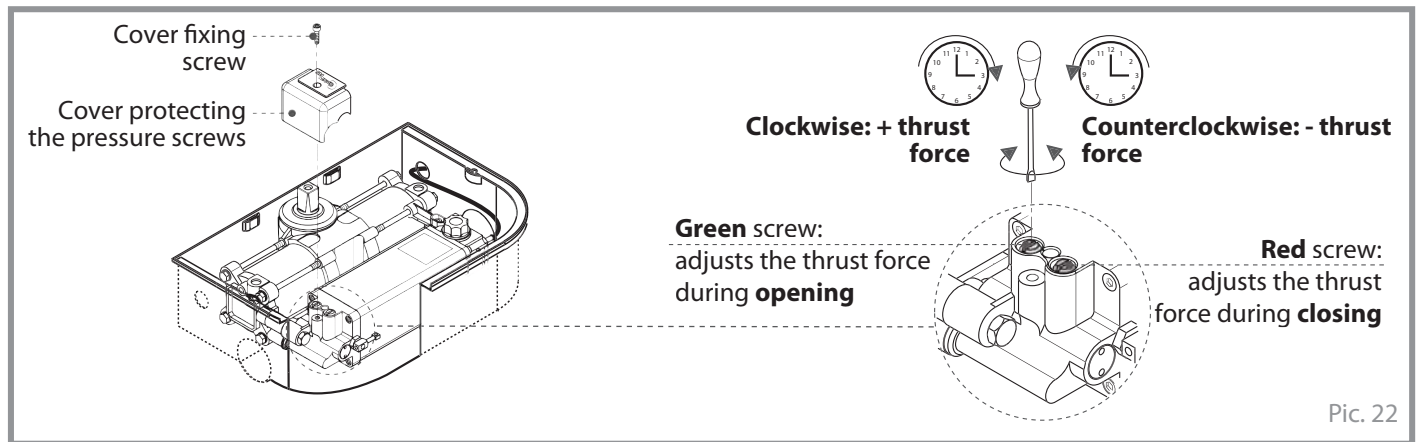
**ADJUSTING THRUST FORCE**

The anti-crashing safety of Combi 740 is ensured by the hydraulic maximum pressure valves, which allow for an accurate and stable adjustment of the thrust force over the time.

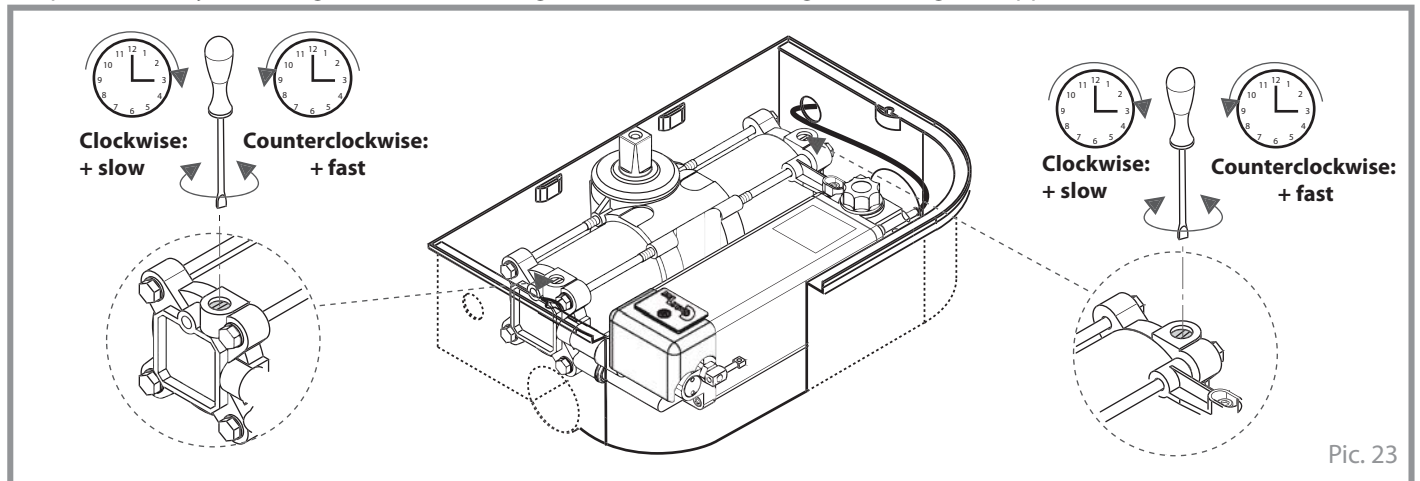
To access the thrust adjusting screws, undo the Allen screw and remove the cover (Pic. 22).

- **Red screw:** by **tightening** (clockwise) **thrust force is increased during closing**, and decreased by loosening.

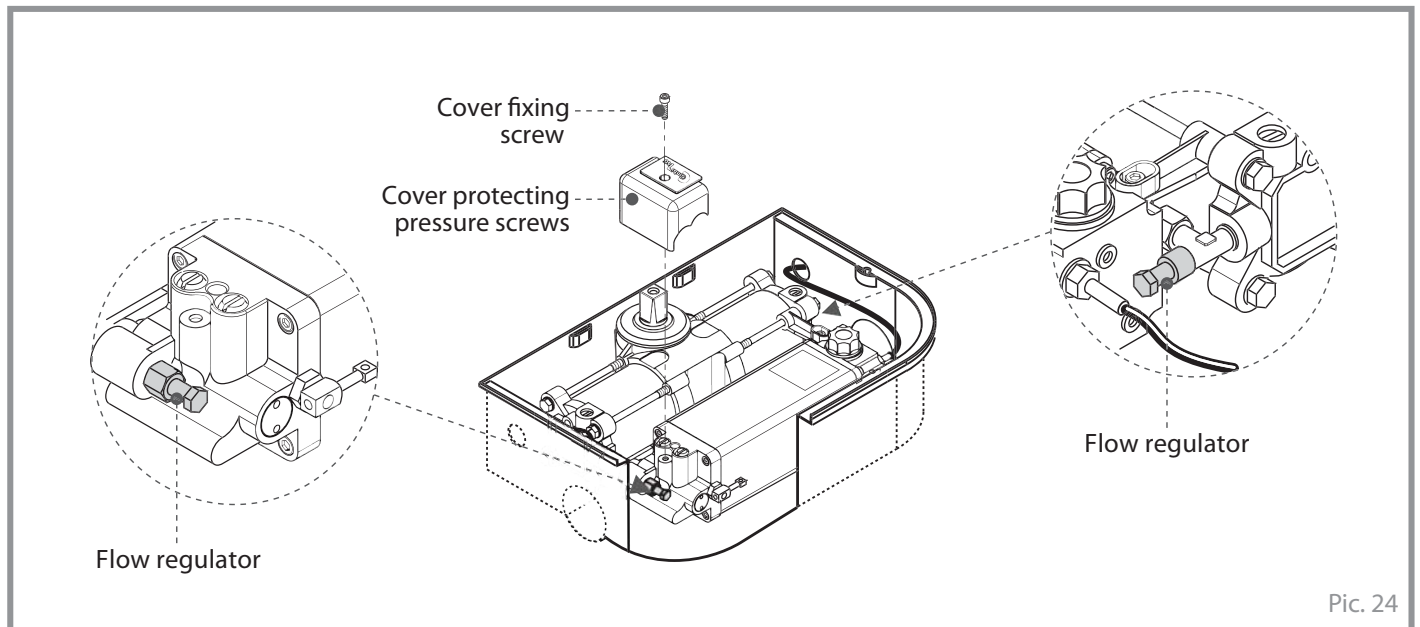
- **Green screw:** by **tightening** (clockwise) **the thrust force is increased during opening**, and decreased by loosening.

**BRAKE ADJUSTING (ONLY WITH COMBI 740 WITH BRAKING IN OPENING AND CLOSING)**

It is possible to adjust braking i.e. slowdown during the last few rotation degrees of the gates (approx. 40 cm) as described in Pic. 23.

**SPEED CONTROL (ONLY WITH COMBI 740 WITH FLOW REGULATOR)**

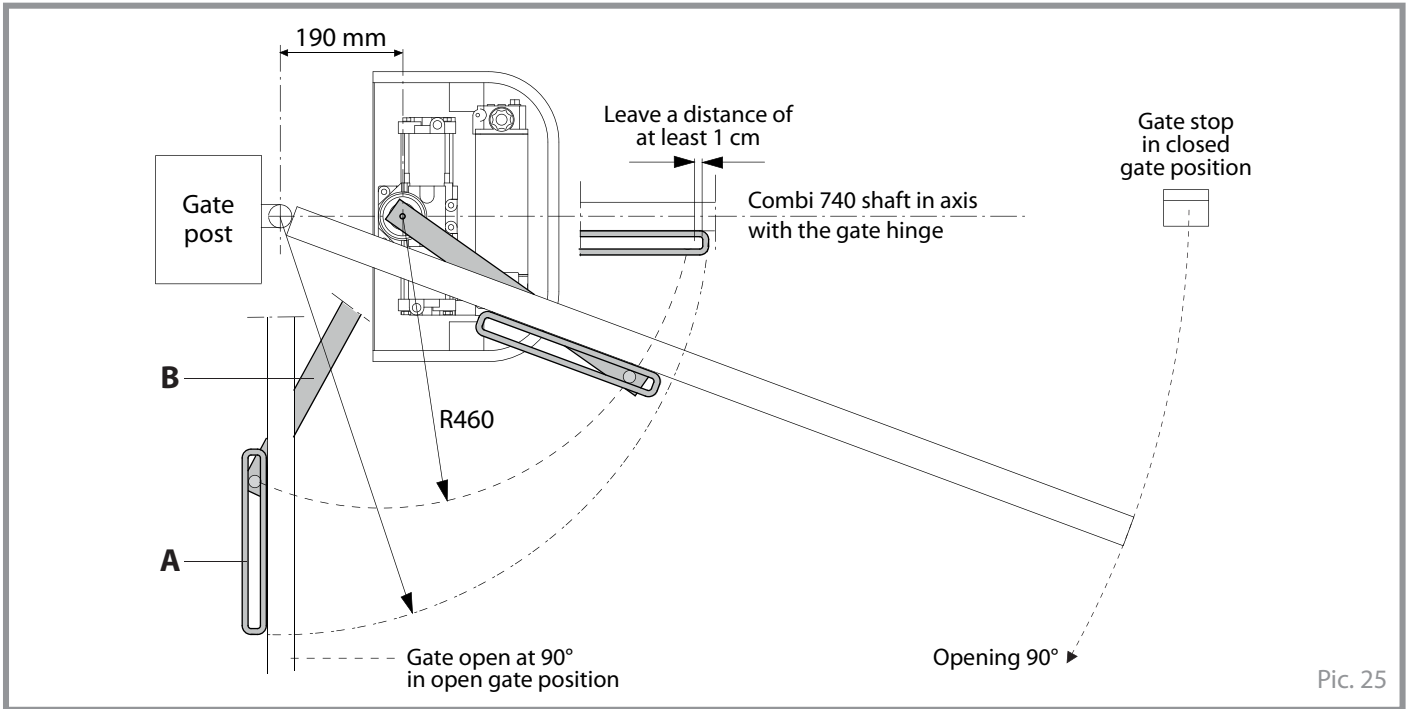
The hydraulic flow regulator allows for the gate peripheral speed to be adjusted as required through the entire movements of the gates in both directions, opening and closing (Pic. 24). This version is recommended for gate leaves wider than 2,5 m or in case of special installations where constant speed control of the gates is needed.



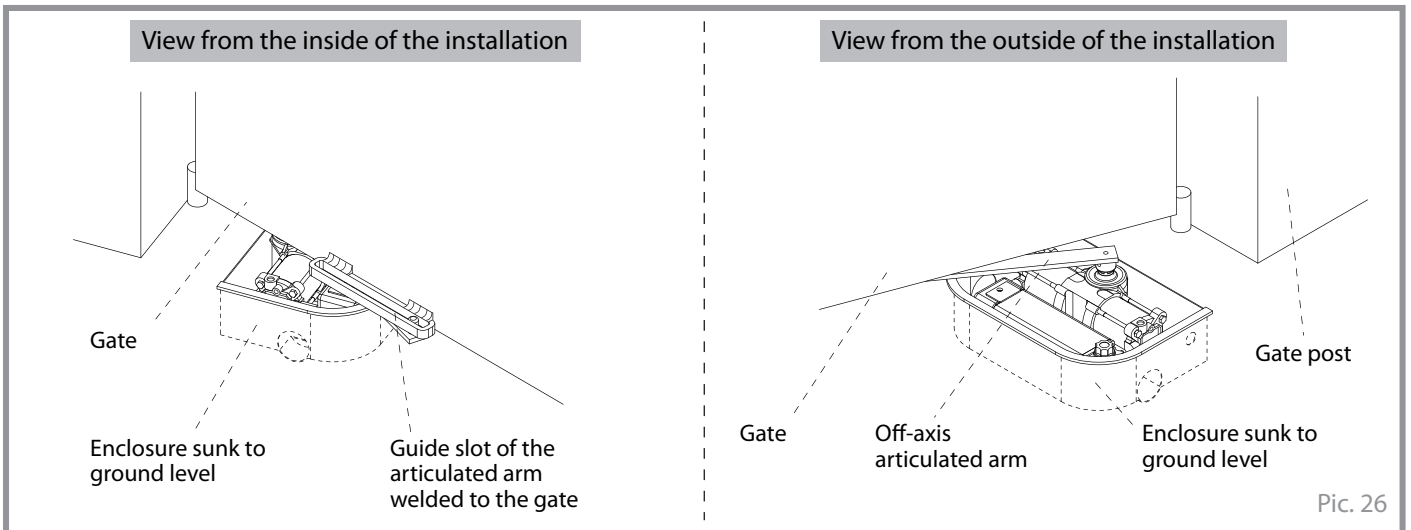


APPLICATION OF COMBI 740 WITH OFF-AXIS DRIVING ARM - CODE 7033L

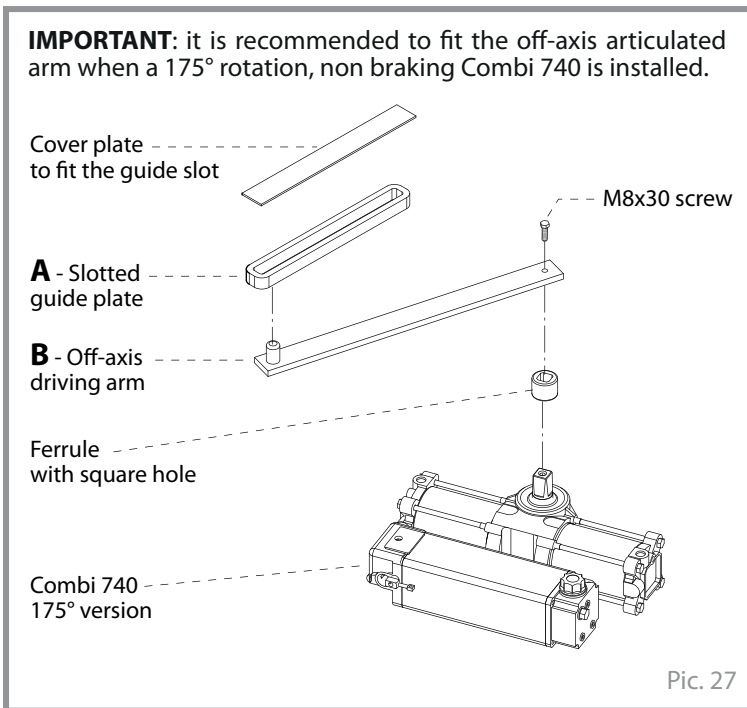
English



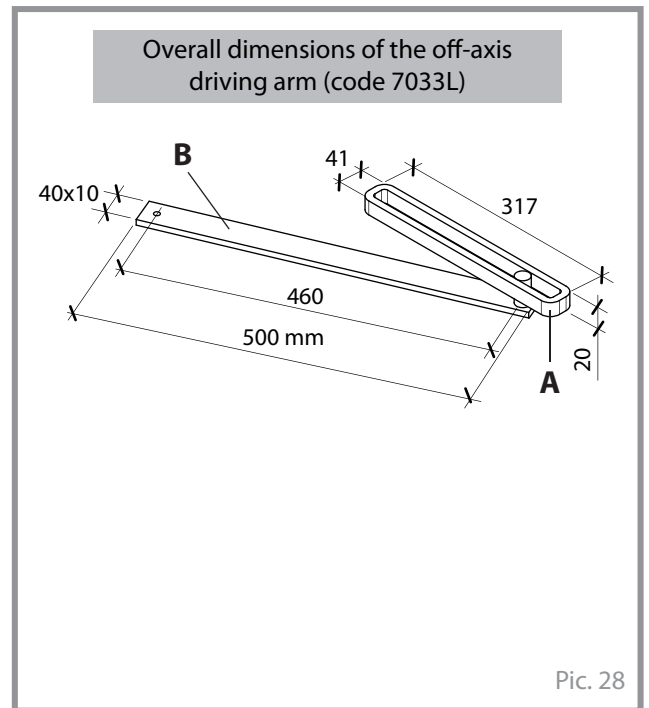
Pic. 25



Pic. 26



Pic. 27



Pic. 28



**GUIDANCE FOR PROPER USE** (for the end user)**WARNINGS**

- Transit across the gate is allowed only if motor is stopped; stand at safe distance during opening and/or closing cycles of the gate.
- Do not touch any components of the system while the operator is working.
- Do not allow children and/or people to stand in the proximity of a working operator.
- Keep all the accessories able to turn on the operator (transmitters, proximity readers, key-switches, etc.) out of the reach of the children.
- Do not run the system in case of anomalies.

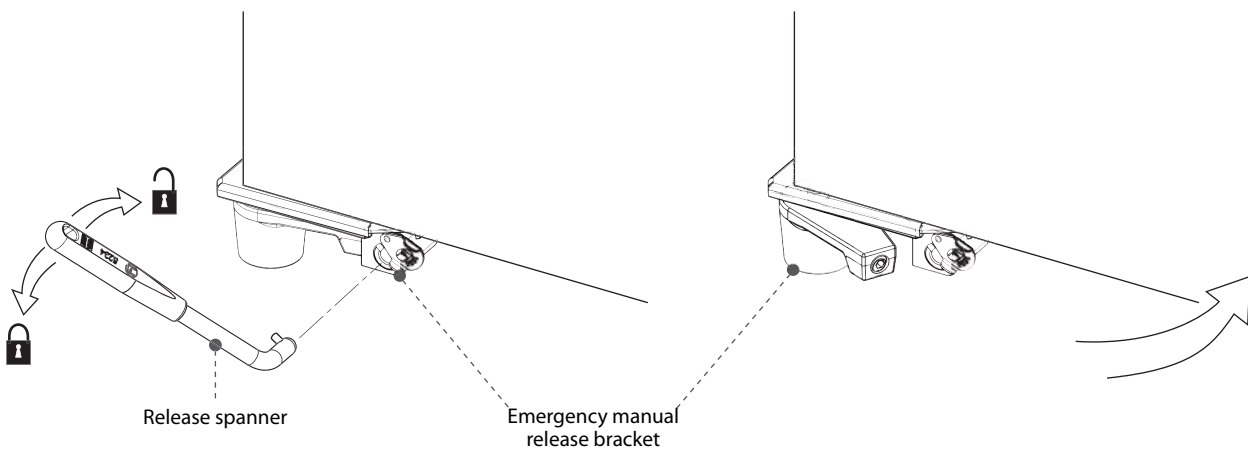
**DISPOSAL OF MATERIAL:** dispose properly of the packaging materials such as cardboard, nylon, polystyrene etc. through specializing companies (after verification of the regulations in force at the place of installation in the field of waste disposal). Disposal of electrical and electronic materials: to remove and dispose through specializing companies, as per Directive 2012/19/UE. Disposal of substances hazardous for the environment is prohibited.

**MAINTENANCE**

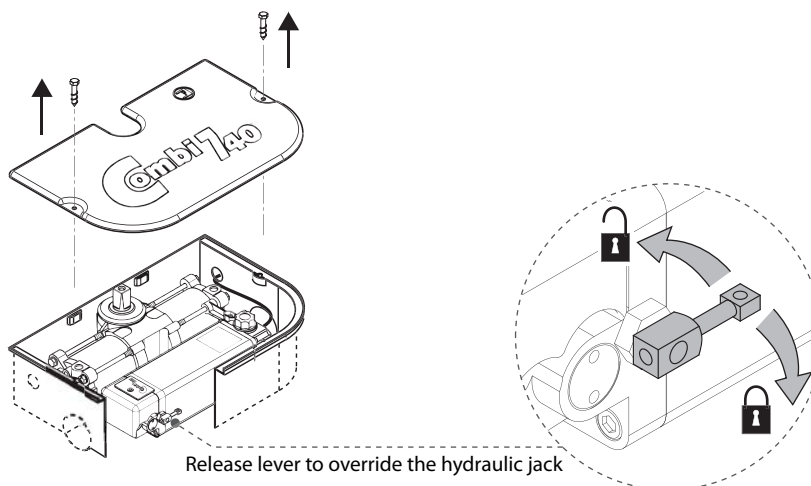
For optimum performance of system over time according to safety regulations, it is necessary to perform proper maintenance and monitoring of the entire installation: the automation, the electronic equipment and the cables connected to these. The entire installation must be carried out by qualified technical personnel. Operator: maintenance inspection at least every 6 months, while for the electronic equipment and safety systems an inspection at least once every month is required. The manufacturer, Meccanica Fadini snc, is not responsible for non-observance of good installation practice and incorrect maintenance of the installation.

**Advice for the end user:**

- clear the site of materials that may have deposited in the equipment and hinder its correct functioning (such as rests of insects, foliage, stones, etc.); before carrying out this operation, switch off voltage supply;
- clean regularly the equipment by using a damp cloth. Do not use flammable substances such as alcohol, solvents or benzene: these substances may cause explosions and/or damage the system.

**Actuator releasing for manual operations of the gate fitted with the emergency manual release bracket**

Pic. 30

**Actuator releasing for manual operations of the gate without the emergency manual release bracket**

Pic. 31

**MAINTENANCE RECORD**

hand over to the end user of the installation



Installation address:	Maintainer:	Date:
-----------------------	-------------	-------

Installation type: Sliding gate <input type="checkbox"/> Folding door <input type="checkbox"/> Swinging gate <input checked="" type="checkbox"/> Road barrier <input type="checkbox"/> Over-head door <input type="checkbox"/> Bollard <input type="checkbox"/> Lateral folding door <input type="checkbox"/> ..... <input type="checkbox"/>	Operator model:  Dimensions per gate leaf:  Weight per gate leaf:	Quantity of models installed:   Installation date:
--	---	---

**NOTE WELL:** this document must record any ordinary and extraordinary services including installation, maintenance, repairs and replacements to be made only by using Fadini original spare parts. This document, for the data included in it, must be made available to authorized inspectors/officers, and a copy of it must be handed over the end user/s.

The installer/maintainer are liable for the functionalities and safety features of the installation only if maintenance is carried on by qualified technical people appointed by themselves and agreed upon with the end user/s.

N°	Service date	Service description	Technical maintainer	End user/s
1				
2				
3				
4				
5				
6				

\_\_\_\_\_  
Stamp and signature  
installation technician/maintainer

\_\_\_\_\_  
Signed for acceptance  
end user  
buyer

hand over to the end user of the installation



### TECHNICAL DATA

#### TWO-PHASE, CLASS H ELECTRIC MOTOR

Power output	0,18 kW (0,25 HP)
Absorbed power	250 W
Frequency	50 Hz
Supply voltage	230 Vac
Absorbed power	1,2 A
Capacitor	12,5 µF
Motor rotation speed	1.350 rpm
Intermittent service	S3

#### PERFORMANCE (shaft rotation angle 110°)

Frequency of use	very heavy duty
Duty cycle	opening ~ 23 s
	stop 15 s
	closing ~ 23 s
	stop 15 s
Time of one complete cycle	~ 76 s
Complete cycles	
opening-stop-closing-stop	N° 45 / hour

#### DOUBLE STROKE JACK AND OIL-HYDRAULIC PUMP

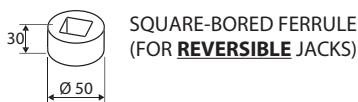
Pump flow rate - P3	0,85 l/min
Working temperature	-20 °C +80 °C (*)
Oil type	FADINI Oil - Code 708L
Shaft rotation	110° - 175°
Torque	250 - 400 Nm
Piston diameter	75 mm
Piston stroke	52 mm
Weight with enclosure	27 kg
Complete protection grade	IP 67
Max. weight per gate leaf	700 kg
Max. length per gate leaf	4 m
Overall dimensions (L x W x H)	470x300x140 mm

#### PERFORMANCE (shaft rotation angle 175°)

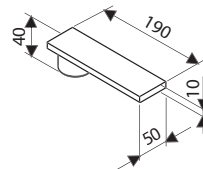
Frequency of use	very heavy duty
Duty cycle	opening ~ 28 s
	stop 20 s
	closing ~ 28 s
	stop 20 s
Time of one complete cycle	~ 96 s
Complete cycles	
opening-stop-closing-stop	N° 40 / hour

(\*) -40 °C with optional special accessories (Helios 29 - general catalogue ref.).

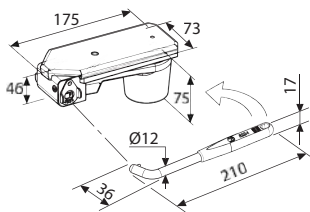
### COMBI 740 DIMENSIONS



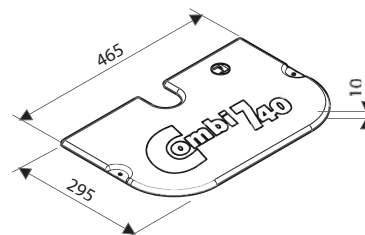
SQUARE-BORED FERRULE  
(FOR **REVERSIBLE** JACKS)



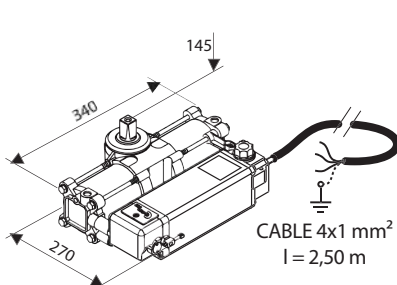
SUPPORT PLATE  
WITH SQUARE-BORED FERRULE  
(FOR **REVERSIBLE** JACKS)



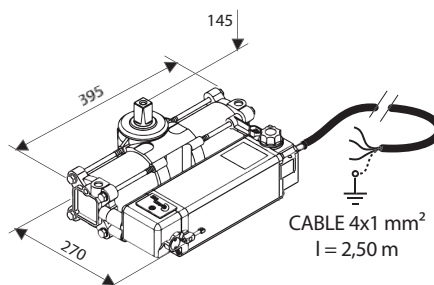
EMERGENCY MANUAL RELEASE WITH SQUARE-BORED FERRULE,  
SPANNER AND PLATE TO WELD  
(FOR **HYDRAULIC LOCKING** JACKS)



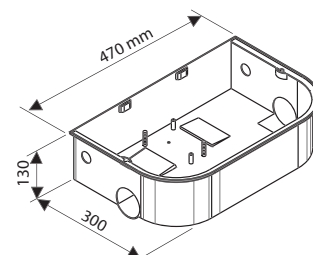
COVER PLATE ALUMINIUM



COMBI 740 - 110°



COMBI 740 - 175°



HOUSING ENCLOSURE  
(GALVANIZED OR STAINLESS STEEL)

