



INSTRUCTION MANUAL



HYDRAULIC GATE

PHV 240-PHV 360



Declaration of Conformity

Company Name: **VDS, Internacional Co. Soc. Coop..**

Address: **Via Circolare P.I.P. Sn – 65010 Santa Teresa di Spoltore (PE)**

National Identity Number (CIF/NIF): **it 01807970684**

C E R T I F I E S:

That the hydraulic equipment **PHV240-PHV360** conforms to the following EU Directives:

89/392/EEC
91/368/EEC

On the approximation of the laws of the Member States relating to machinery.
Council Directive amending the previous Directive on the approximation of the laws of the Member States to machinery.

93/44/EEC

Council Directive amending Directive 89/392/EEC on the approximation of the laws of the Member States to machinery.

93/68/EEC

Regulating the Directive on simple pressurised containers, construction products, electromagnetic compatibility, machinery, individual protection equipment, non automatic weighing machinery, terminal telecommunication equipment and electrical material destined for use with specific voltage limits.

2004/108/EEC

Council Directive amending Directive 89/336/EEC on approximation of the laws of the Member States to electromagnetic compatibility.

73/23/EEC

On the approximation of the laws of the Member State son electrical material destined for use with specific voltage limits.

EU-EN 292-2/A1

Safety of machinery. Basic Concepts and general principles of design.

EU-EN 60204-1

Safety of machinery and electrical equipment of machinery.

EU-EN 292/1

Safety of machinery. Basic concepts and general principles of design.

EU-EN 418

Safety of machinery and emergency Shopping equipment, functional aspects.

EU-EN 982:96

Safety of machinery. Safety requirements for systems and components of hydraulic and pneumatic transmissions Hydraulic.

This equipment bears the stamp of EEC conformity



Santa Teresa di Spoltore il 26 maggio del 2009

Company representative

A handwritten signature in black ink, appearing to be 'GD' or similar, written over a light blue horizontal line.

GIUSEPPE DIODATO

IMPORTANT SAFETY INSTRUCTIONS

WARNING! To reduce the risk of injury or death it is important to closely follow all of the following instructions. Incorrect installation or inappropriate use may cause serious personal injury.

This installation manual and safety instructions are an integral part of the product and must be supplied to the user. These instructions should be retained by the owner and/or operator of the gate.

This product has been designed and constructed exclusively for the use indicated in this manual. Any inappropriate use of this product may result in damage to the product and/or personal injury.

To ensure proper functioning of the product and personal safety only use the mounting equipment supplied and the spare parts and accessories supplied by the manufacturer.

Do not install this equipment in an easily flammable environment. The presence of inflammable gases or smoke are a serious threat to personal safety.

This equipment has an anti crushing safety device. In addition to this safety device it is also necessary to install additional safety devices (for example: photo cells and/or pressure sensitive strips, etc.) that will prevent any danger resulting from mechanical movement (for example crushing, pulling or ripping).

In addition to the above mentioned safety devices it is also necessary to install at least one light signal as well as a printed notice fixed to the gate.

The installation of this equipment, the electrical connections and maintenance of the equipment may only be carried out by qualified technicians. Failure to meet this requirement may cause severe injury and/or death, for which the manufacturer will not be held responsible.

For protection against electrical overload or short circuit, always install a 0.03 amp differential and a thermal magnetic switch with a contact aperture of at least 3mm

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.

Before operating this product you must ensure that all connections have been properly made, that the safety devices are properly working and that the pressure force is adjusted to the minimum according to regulations regarding automatic doors (EU Directive 89/392 and EN 12453 y EN 12445 norms).

Before installing this equipment, ensure that the structure of the gate is strong enough and properly balanced. The gates must work freely in both directions and have no friction points before the automatic operator is installed.

SAFETY INSTRUCTIONS FOR THE USER

In the event that a malfunction in the equipment, contact a qualified technician. **DO NOT** try to repair the equipment yourself.

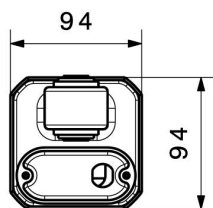
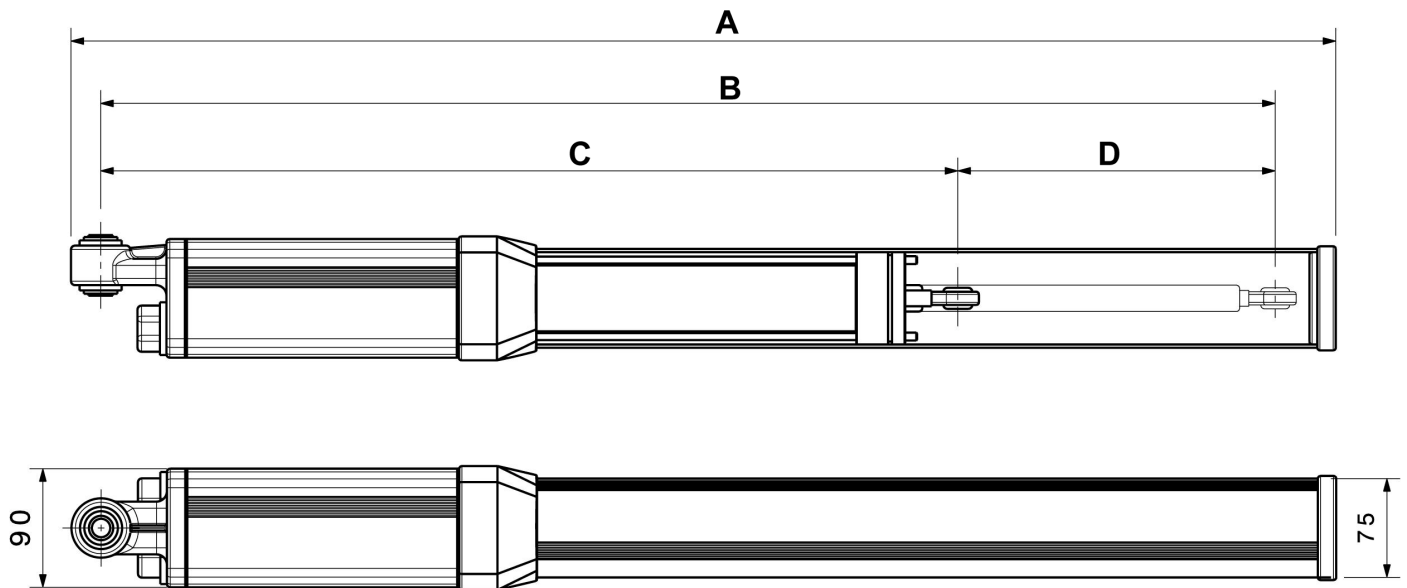
Do not allow children or pets near the gate. Never allow children to play with the gate controls. Keep the remote control in a safe place, out of reach of children and unauthorised persons.

In the event of a power cut or emergency, you must learn how to use the manual release mechanism according to the procedures found in this installation manual

Keep these safety instructions in a safe place. Make sure that all persons who use the gates or who may be near the gates when they operate are aware of the dangers associated with automatic opening gates

If you sell or rent the property with this equipment installed, give the new owner or tenant a copy of these safety instructions

TECHNICAL DATA MODEL: PHV



Dimensions	PHV240	PHV360
A	985 mm	1225 mm
B	915 mm	1155 mm
C	673 mm	793 mm
D	242 mm	362mm

TECHNICAL DATA

	PHV	
	240	360
Current	230V 50HZ	
Power	276 W	
Consumption	1,3 A	
Condenser	16 uf	
Maximum Pressure	50 bar	
Hydraulic Arm	242 mm	362 mm
Hydraulic arm exit time	28 sec.	40 sec.
Hydraulic arm entry time	23 sec.	34 sec.
Compression	0 to 7793 N (795Kg)	
Traction	0 to 6252 N (638Kg)	
Max. Length of gate leaf	4 m	6 m
Temperature Range	-15 to 80°C	
Thermic Protection	100°C	
Weight	11 Kg	12 Kg

FEATURES

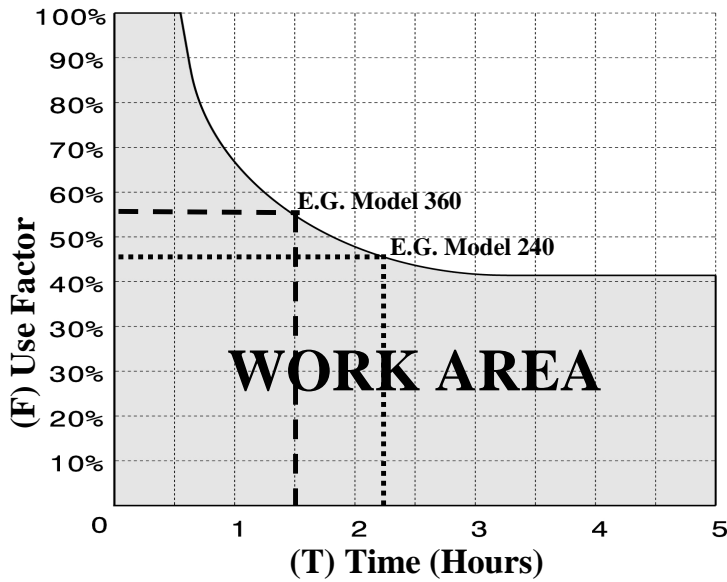
	PHV	
	SB	BAC
HYDRAULIC LOCK OUT PUT	●	●
BLOCK OPEN & CLOSE		●
BLOCK CLOSE		●
BLOCK OPEN		●
REVERSABLE IN BOTH DIRECTIONS	●	●
ANTI-WIND REGULATION		●
BUFFER STOP CLOSE	●	●

SB = WITHOUT BLOCK
BAC = BLOCK, OPEN, CLOSE

FREQUENCY OF USE

The curve below allows calculation of the maximum working time (T) depending on the frequency of use (F). To ensure correct operation of the equipment the working time should be within the shaded area.

These trials have been carried out at a temperature of 22°C. If the equipment is operating at a higher temperature or is exposed to direct solar radiation, the frequency of use can be reduced by 20%.



Graph.1

%F : use factor
Ta : opening time
Tc : closing time
Tp : pausing time
Ti : time between complete operations
 (opening-closing)

$$\%F = \frac{Ta + Tc}{Ta + Tc + Tp + Ti} \times 100$$

Note. 5 seconds more are needed to assure the complete opening and closing of the door.

There are heavy use times during the day where vehicle transit is higher. Calculations should be carried out during this period of time.

E.G.

What is the maximum working time for a door that has a pause of 30 seconds and a time between cycles of 40 seconds?

CALCULATION FOR PHV240

$$\%F = \frac{Ta + Tc}{Ta + Tc + Tp + Ti} \times 100$$



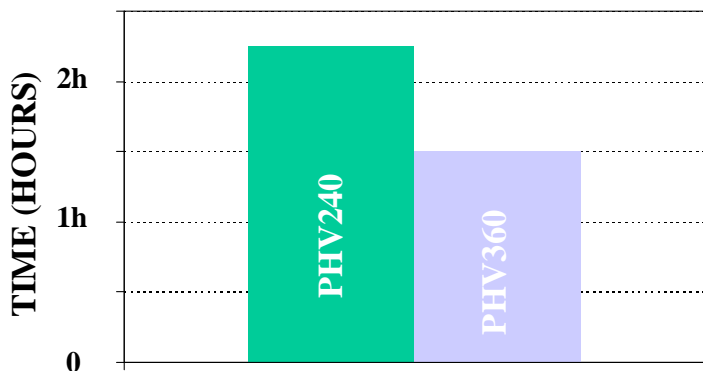
$$\%F = \frac{28 + 33}{28 + 33 + 30 + 40} \times 100 \rightarrow 46,5\%$$

CALCULATION FOR PHV360

$$\%F = \frac{Ta + Tc}{Ta + Tc + Tp + Ti} \times 100$$



$$\%F = \frac{39 + 45}{39 + 45 + 30 + 40} \times 100 \rightarrow 54.5\%$$



Graph.2

CONCLUSION: Once obtained data has been applied to graph1, the maximum time of use for model 240 is 2h:15min and for 360 is 1h:30min.

Considering the quotas, model 240 should be used.

MOUNTING HEIGHTS



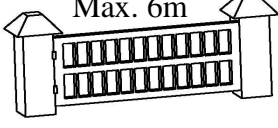


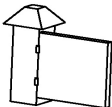
MAX. HEIGHT	Max. 2m 	Max. 4m 	Max. 6m 
LIGHT 400KG 	PHV 240 110°	PHV 240 - 95° PHV 360 - 115°	PHV 360 95°
MED. 600KG 	PHV 240 110°	PHV 240 - 95° PHV 360 - 115°	PHV 360 90°
HEAVY 800KG 	PHV 240 110°	PHV 360 115°	

Fig..1

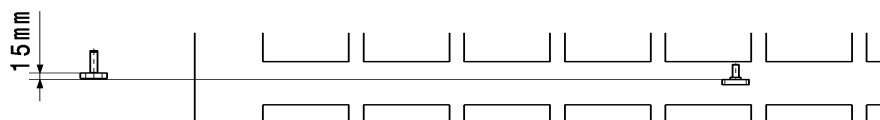


Fig..2

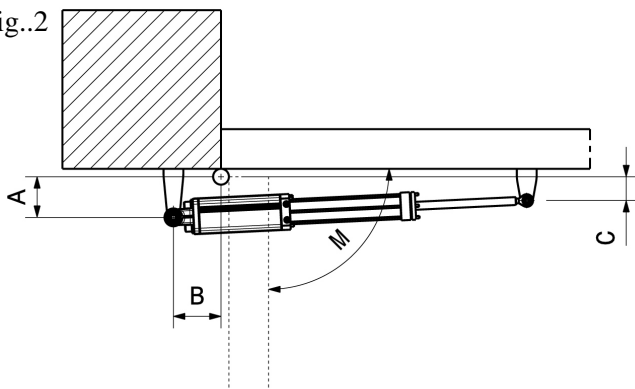
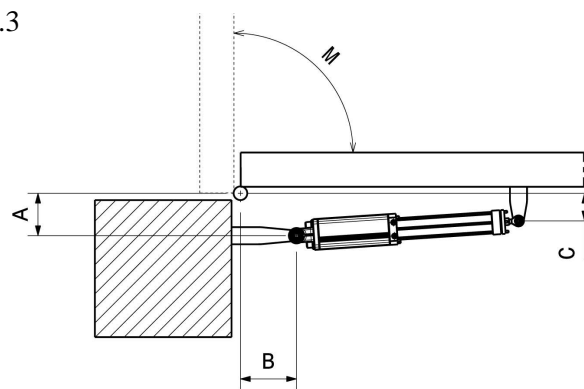


Fig..3

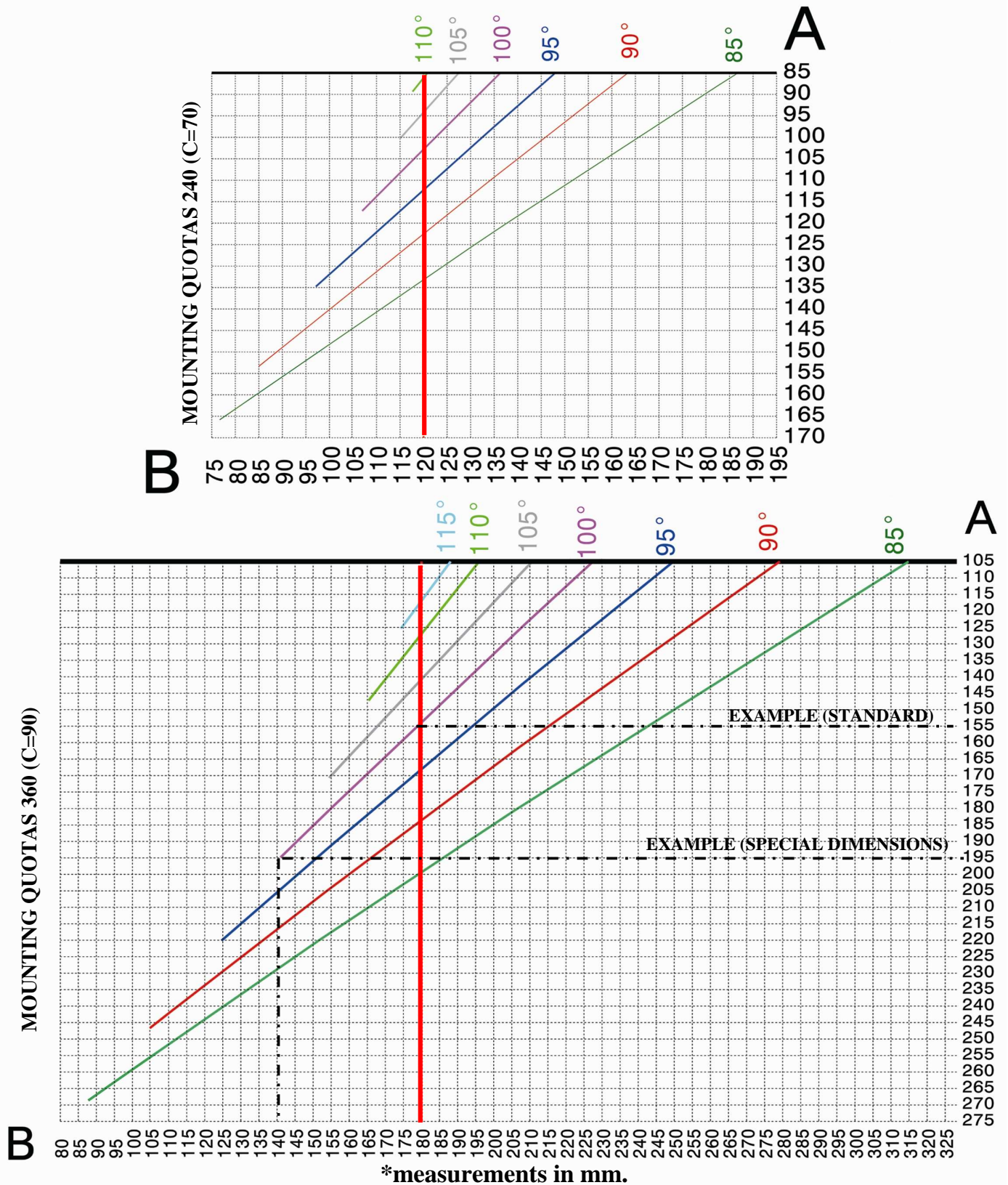


PHV 360	INWARD OPENING (Fig.2)			
	M	A	B	C
	85°	195	185	90
	90°	180	180	90
	95°	165	180	90
	100°	150	180	90
	105°	140	180	90
	110°	125	180	90
	115°	115	180	90
	120°	105	180	90
	OUTWARD OPENING (Fig.3)			
	M	A	B	C
	85°	200	180	100
	90°	180	180	100
	95°	165	180	100
	100°	150	180	100
	105°	125	180	100

PHV 240	INWARD OPENING (Fig.2)			
	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 (Fig.3)			
	M	A	B	C
	85°	130	120	80
	90°	120	120	80
	95°	110	120	80
	100°	100	120	80

ALL MEASUREMENTS IN MM FROM CENTER OF HINGE

SPECIAL MEASUREMENTS INWARD OPENING (Fig.2)



In some cases it may be necessary to vary the standard dimensions, e.g., because of space restrictions in fixing the supports. The above graphs show dimension ranges for inward opening 360 and 240 models.

At the top part of each graph are the range of gate opening angles and a series of diagonal lines from which the values of A and B may be determined (fig.2 page 5). These values should be as near as possible to those determined by the thick vertical line.

The dimension for C is constant at C = 90 mm for model 360 and C = 70 mm for model 240.

Example: What should be the value for A and what model should be used for a gate with an opening angle of 100° where B = 140?

Answer: Model 360 where A = 195 mm. See the example in the above graph shown by the dotted line for the 360 model : EXAMPLE (SPECIAL DIMENSIONS))

Conclusion: It would not be possible to use the 240 model because the value for A would be outside the minimum for this model.

MOUNTING INSTRUCTIONS

Fig.1

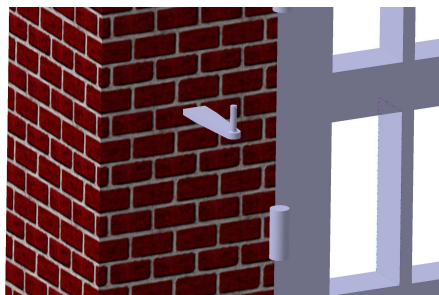


Fig.2

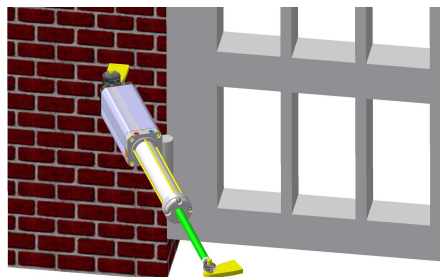


Fig.3

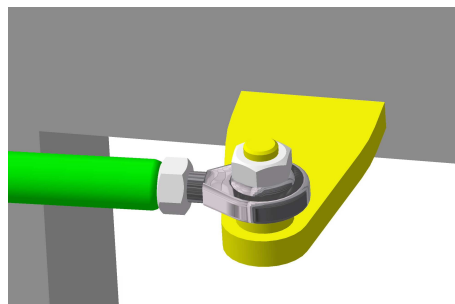


Fig.4

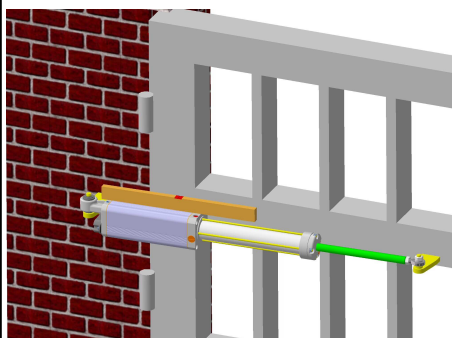


Fig.5

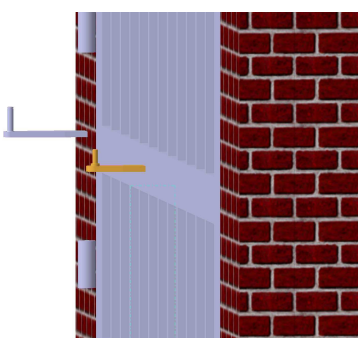


Fig.6

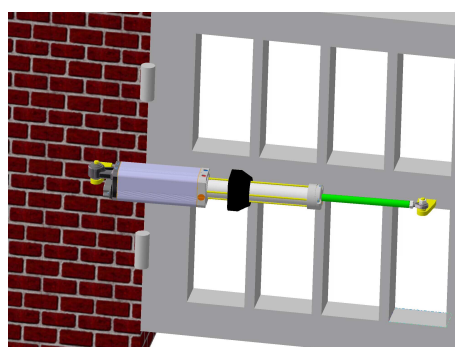


Fig.7

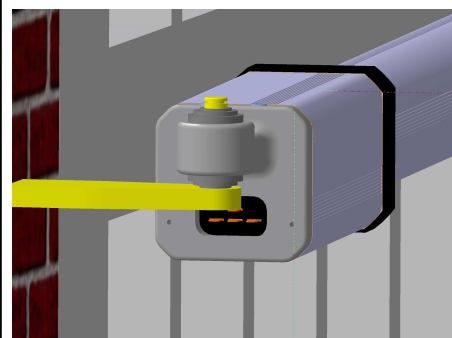


Fig.8

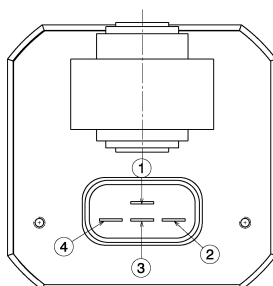


Fig.9

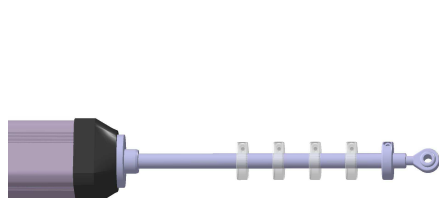


Fig.10

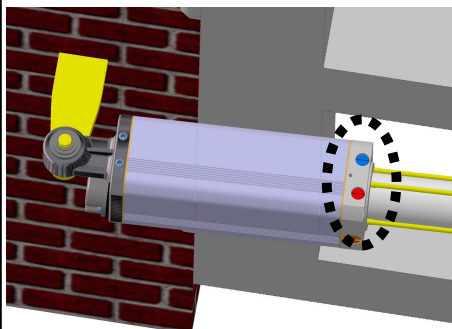


Fig.11

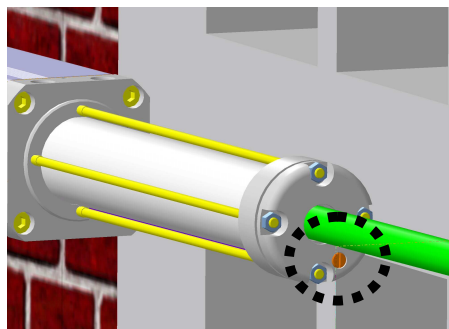
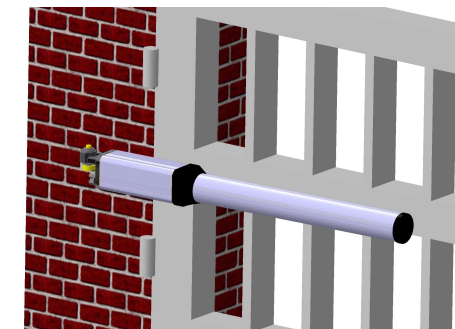


Fig.12

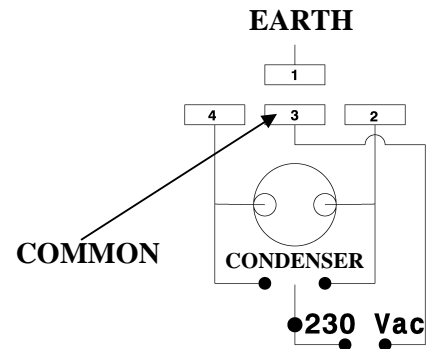


1. Fix the pillar support (**Fig.1 Page 7**) shortening or lengthening the support according to the dimensions A and B shown in the table on page 4. The support should be fixed at a height where the gate has a sufficiently rigid surface to fix the gate support , bearing in mind that the gate support will be fixed 15 mm lower than the pillar support. (**Fig.1 Page 5**).

2. Shorten or lengthen the gate support according to the dimensions for C shown in the table on page 5. Connect the gate opener to the gate support, with the rod completely extended (**Fig.2 Page 7**) and with the swivel joint nut fully tightened (**Fig.3 Page 7**). Once this has been done use a spirit level (**Fig.4 Page 7**) 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.

3. Mount the motor and unscrew the swivel joint nut three turns to ensure closure. Attach the security ring and the safety bolt supplied. (**Fig.6 Page 7**).

4. Electrical connections: Unscrew the end cover and connect the terminals according to the following diagram:



5. Open the door manually to the desired open position, slide the collar stopper along the arm (**Fig.9 Page 7**) 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 the desired position if the angle of opening is not the desired one.

6. Once the motor is working correctly the limit valves can be adjusted (**Fig.10 Page 7**). The limit valves control the force and are independent in opening (blue limit valve) and closing (red limit valve) the gate. The screws can be adjusted by turning them a maximum of 45°, and should be adjusted slightly above the minimum possible, in this way the force of the hydraulic system is reduced thus increasing safety.

7. The closing buffer can then be adjusted (**Fig.11 Page 7**), thus avoiding the door banging closed. To adjust the closing buffer turn the screw a maximum of 10° (If the buffer valve is completely closed then 15mm of buffering will be lost) .

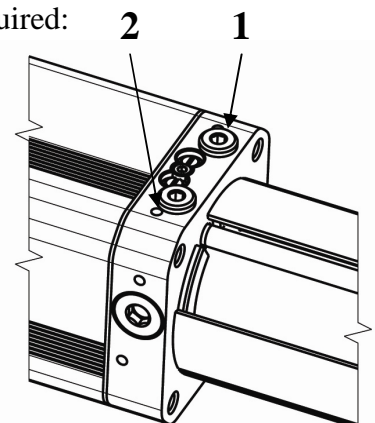
8. The aluminium arm cover can then be pressured into position (**Fig.12 Page 7**), followed by its plastic cover and the end cover.

OPERATION OF THE HYRAULIC LOCK

With hydraulic powered gates it is necessary to consider the type of opening required:

- Inward opening (Fig.2, Page 5)
Kit 'KM' should be connected to position 2 (see diagram).

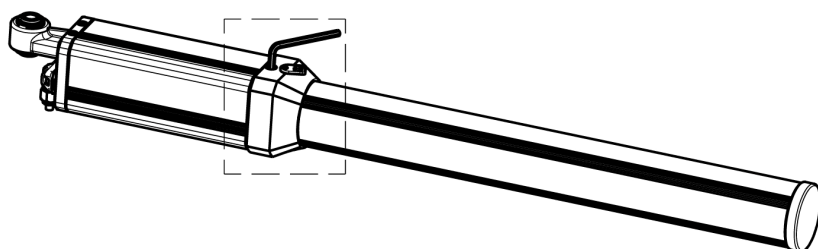
- Outward opening (Fig.3, Page 5)
Kit 'KM' should be connected to position 1 (see diagram).



BLOCKING FUNCTION

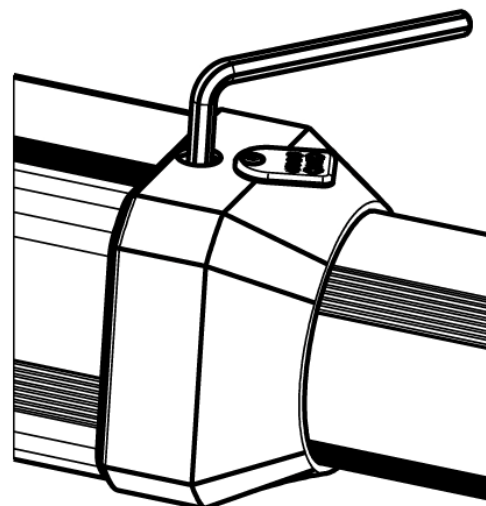
The BAC system used in the PHV range provides a wide range of features which can be adjusted to ensure that the equipment may be adjusted for different requirements.

EMERGENCY RELEASE SYSTEM

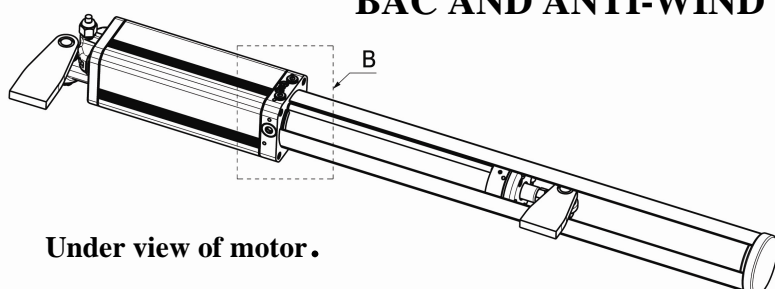


This valve allows us to override the system in order to operate the gate manually in the event of power cuts. To move the gate manually, open the cover and turn the valve 360° anti clockwise. To return to the automatic system turn the valve clockwise.

IMPORTANT: If the valve is not tight the motor will not function.



BAC AND ANTI-WIND SYSTEMS

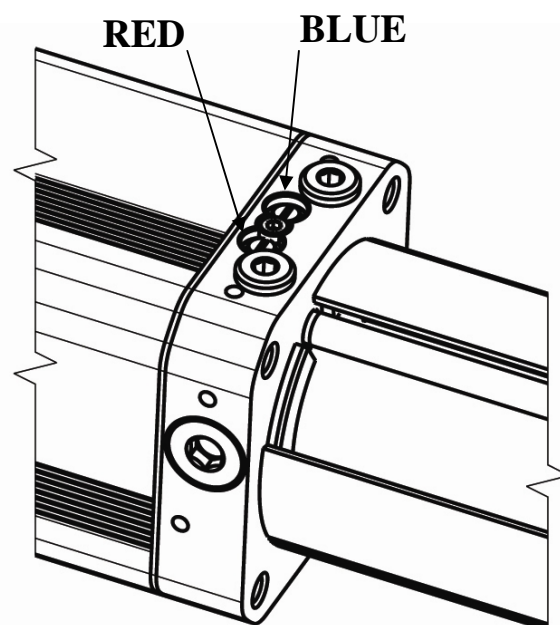


Under view of motor.

By adjusting the red and blue valves (located under the motor), gate actions can be reversed.

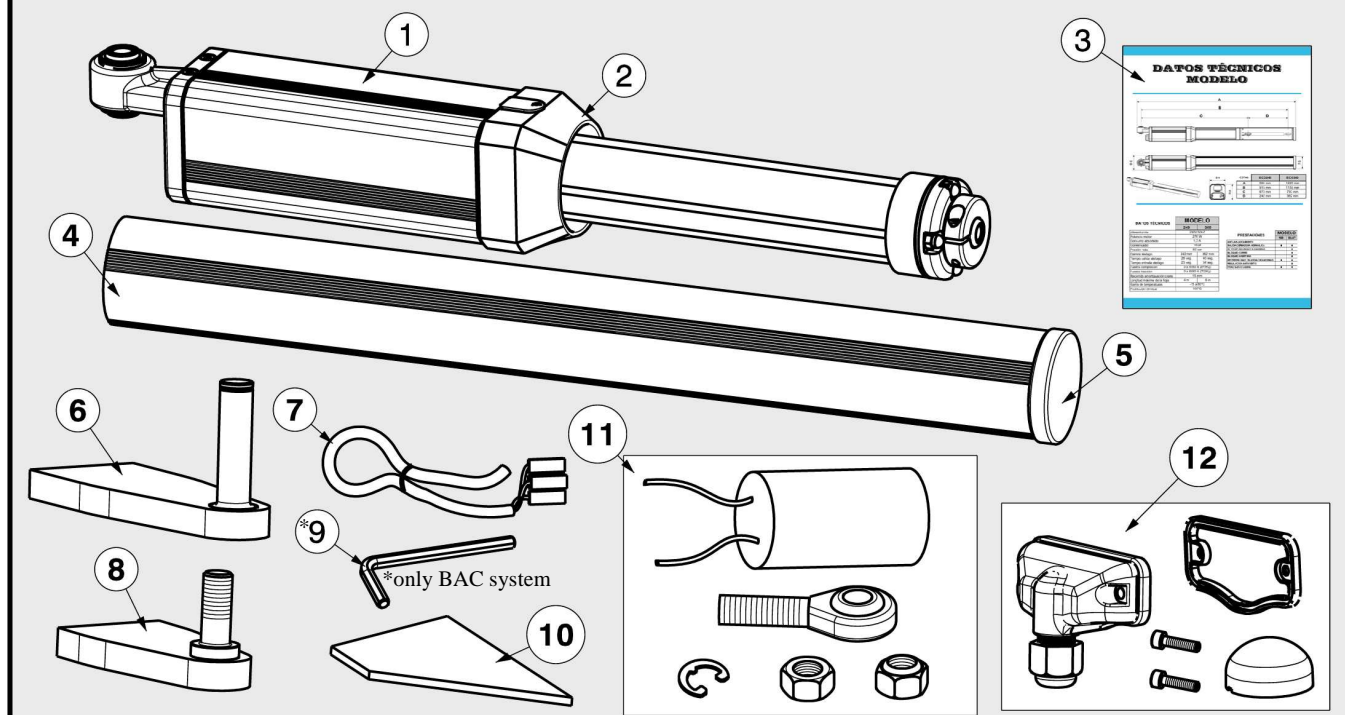
The options are as follows:

ADJUSTMENT OF BAC VALVES
Red open - Blue closed Opening blocked and closing reversed
Red closed - Blue open Opening reversed and closing blocked
Red closed - Blue closed Opening and closing blocked
Red open - Blue open Opening and closing reversed.

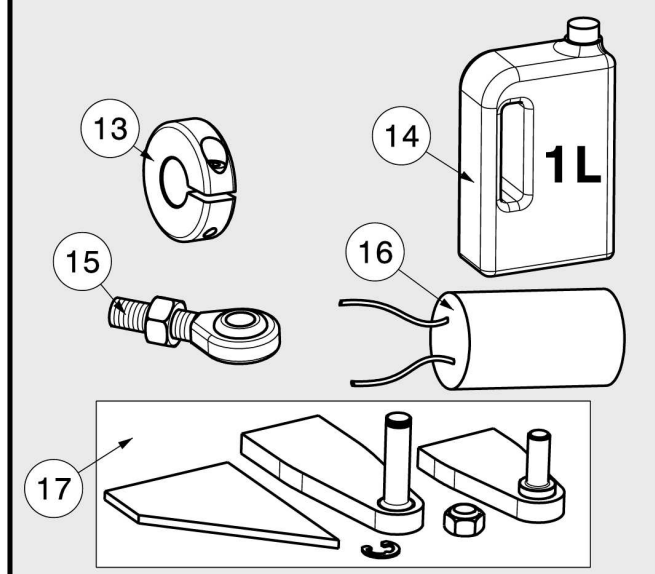


IMPORTANT: if these valves are slightly opened they serve as an excellent anti-wind system. The pressure of the gate can be adjusted with the motor not working. A lock is required for gates over 1.8m in length.

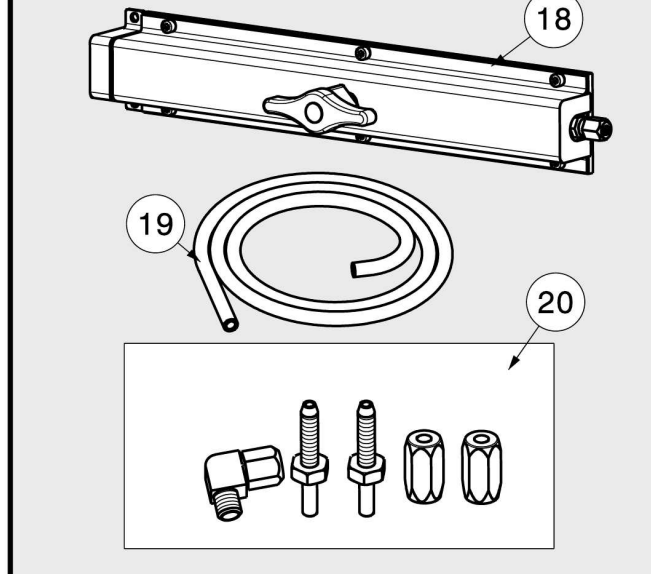
BOX CONTENTS



SPARE PARTS



ACCESSORIES



Nº	Description	Ref.
1	PHV240SB	A112.21100.00
	PHV240BAC	A112.21200.00
	PHV360SB	A112.22100.00
	PHV360BAC	A112.22200.00
2	Plastic cover	70284
	Plastic cover BAC	95011
3	Installation Instructions	50171
4	Aluminium cover PHV240	70044
	Aluminium cover PHV360	70197
5	End cover for aluminium arm cover	70046
6	Support 240	95006
	Support 360	95037
7	Electric cable 4x0,75 L1,5m	70055
8	Door support 240	95007
	Door support 360	95036

Nº	Description	Ref.
9	Allen key no. 6	80738
10	Strengthening block	70141
11	Set up bolts - bag	95008
12	Wire housing	95107
13	Stopper collar	95020
14	OILMEDVA-JV oil (1 Litre)	70466
15	Hinge set with nut	A232.11003.K1
16	Condenser 16 Uf	80497
17	Door support kit 240	A232.11001.K1
	Door support kit 360	A232.11002.K1
18	Hydraulic lock	A232.21002.00
19	Hydraulic piping (m)	80736
20	Hydraulic piping mounting kit	A232.22003.K1