

## INSTRUCTION MANUAL FOR HOMELIFT CONTROL UNIT C40 - C50



# 1 Contents

<b>1</b>	<b>Contents</b> .....	<b>2</b>
<b>1</b>	<b>General information before installation</b> .....	<b>3</b>
1.1	Description of the terminology .....	3
1.2	Description and operating principle .....	3
1.3	Responsibility and warranty.....	3
1.4	Health and Safety Warnings.....	3
1.5	Cleaning and pollution precautions .....	4
<b>2</b>	<b>Installation manual</b> .....	<b>4</b>
2.1	Installation manual – Mechanical installation .....	4
2.1.1	General information .....	4
2.2	Dimensions, Homelift System Range .....	5
2.2.1	Homelift control unit .....	5
2.2.2	System range.....	6
2.2.3	1-speed HOMELIFT - Hydraulic and speed diagram .....	8
2.2.4	2-speed Homelift - Hydraulic and speed diagram .....	8
2.2.5	Diagram of 1-speed descent-ascent Homelift .....	9
2.2.6	Diagram of 2-speed descent-ascent Homelift .....	9
<b>3</b>	<b>Use and maintenance</b> .....	<b>9</b>
3.1	Piping and hydraulic connections .....	9
3.2	Maintaining the hydraulic system .....	9
<b>4</b>	<b>Wiring</b> .....	<b>9</b>
4.1	Wiring.....	9
4.2	Connection box.....	9
	The connection box is situated on the control unit cover next to the valve block.....	9
<b>5</b>	<b>Calibration and adjustment of HOMELIFT valve</b> .....	<b>10</b>
5.1	Homelift valve, 1 speed .....	10
5.2	Homelift valve, 2-speed .....	10
	.....	10
<b>6</b>	<b>Maintenance, inspection, repair and safety emergency</b> .....	<b>11</b>
6.1	General points .....	11
6.2	EM manual emergency valve .....	11
6.3	Emergency manoeuvre with hand pump .....	12
6.4	Leaks inside the valves unit.....	12
6.5	Replacing VBP valve seal.....	12

## 1 General information before installation

### 1.1 Description of the terminology

#### **Homelift valve**

Main control valve

#### **EM valve**

Manual emergency valve

#### **EVD**

Descent solenoid valve

#### **EVR**

Flow adjusting solenoid valve

#### **PM**

Hand pump

### 1.2 Description and operating principle

The Homelift control unit C40-C50 is in accordance with the Machinery Directive 2006/42/EC.

Depending on the configurations required as options, it will also comply with the European standards EN81-2:1998 and A3:2009 in accordance with the Lift Directive 95/16/EC and standard EN81-41.

### 1.3 Responsibility and warranty

These instructions have been written for people with experience of installing, adjusting and maintaining hydraulic lifts.

OMARLIFT is not liable for harm caused by improper use or use other than that prescribed in these instructions or by the inexperience or carelessness of the persons assembling, adjusting or repairing the lift's hydraulic components.

OMARLIFT's warranty is also voided if different components or non-original spare parts are installed, if unauthorised changes or repairs are carried out or are carried out by non-qualified or unauthorized persons.

Unless otherwise stated, the following activities are prohibited for technical safety reasons:

- any type of change to the product;
- installation of the product for other purposes than those described;
- damage to any seal;
- incorrect or improper maintenance or inspections;

- the use of unsuitable accessories, spare parts or operating material that are not approved by

OMARLIFT or are not original OMARLIFT spare parts;

### 1.4 Health and Safety Warnings

In the course of these instructions the important health and safety points will be marked by the following symbols:



General hazard warning



High hazard risk warning. Risk of personal injury (e.g. crushing, cutting edges, protruding parts, etc.)



Risk of damage to components (for example incorrect installation or the like).



Important information symbol, important notice.



Risk of electric shocks (exposed parts carrying live voltage).

In addition to the instruction manual, you must comply with generally applicable national standards, standards, rules and other standards governing health, safety and the protection of the environment and special operating conditions such as the use of a lift and work equipment (e.g. company processes or transport of personnel). Installation and repair technicians are the first people to be responsible for their own safety.

This Instruction Manual applies to the entire life of the system/product from installation, during normal operation; from the tests until maintenance; it is an integral part of the system and must be kept in a protected and accessible place by the installation technician.

Before starting installation work:

Access to the site, installation, commissioning and maintenance of the system must be performed only by expert personnel.

- Install safety devices to protect personnel and prevent them falling (for example platform or harnesses)
- Cover (safely) any open floor or walls
- Use safe installation tools and objects that prevent accidental falls
- Open stroke chambers must be closed and warning notices must be prominently displayed when working in open areas.

Work involving electrical equipment must be carried out by an electrician or qualified person.

### 1.5 Cleaning and pollution precautions


Impurities and dirt inside the hydraulic system cause faults and wear.

All parts of the system that are dismantled for controls or repair, as also the pipes and fittings, must be completely clean before they are refitted. Any oil leaks from the circuit during repair operations must not leak into the environment but must be immediately cleaned up with rags or sponges.


## 2 Installation manual


### 2.1 Installation manual – Mechanical installation


#### 2.1.1 General information

 Before starting installation, it is in your interest to check the structural and spatial limits within which you will have to work. Consider where (workshop or elsewhere) and when the assembly methods have to be applied. All the relevant conditions must therefore be considered in advance that relate to the various work procedures and no action should be taken without first considering the consequences. Check that the goods received contain everything requested and that all the products and individual parts are as prescribed and have not been damaged during transit.

The information on the rating plate must be compared with the order form.

 During the period of storage, keep the material in its original package, protected from bad weather and direct exposure to the sun in order to avoid accumulations of water/condensation that could occur inside the packaging. (See technical data on temperature and humidity limits). Never dump packaging material in the environment. Once the product has been dismantled, it must be disposed of correctly in compliance with local laws; do not dump in the environment. Before recycling, check the nature of the various materials and recycle in the prescribed manner.

 OMARLIFT accepts no liability for harm arising from tampering with (or changes to) the packaging material by third parties.

 Any installation situation that is different from the original situation proposed must be discussed with OMARLIFT. Any situation that is not allowed by OMARLIFT (for reasons of patents, legal, technical or other reasons) is considered to be the responsibility of the installing technician and may void the warranty.

Follow these points when installing or replacing components of the hydraulic system:

- Always bring the lift cabin to rest on the shock absorbers;
- Make sure that the lift cannot be actuated accidentally by switching off the master switch;
- Before opening any part of the hydraulic circuit, removing plugs or loosening fittings, always reduce oil pressure to zero.
- In the event of welding operations, prevent waste coming into contact with oil or with the rod and its seals and all the elastic parts of the system;
- Eliminate the oil loss, eliminate oil leaks, maintain the system clean at all times so that any leaks can be easily identified and eliminated.

## 2.2 Dimensions, Homelift System Range

### 2.2.1 Homelift control unit

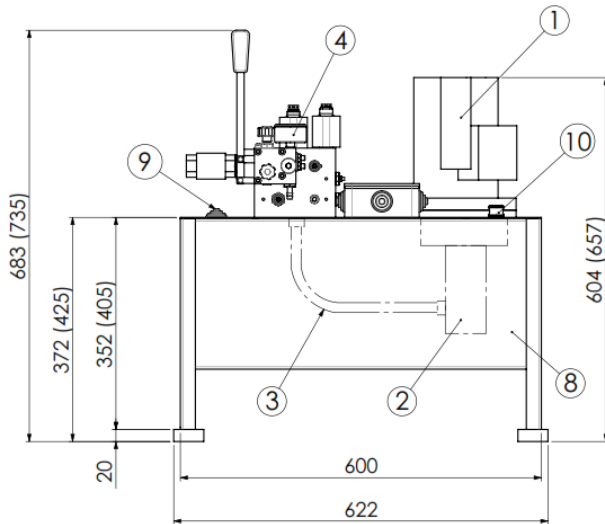


Figure 1

Main components:

- 1 – Outer motor
- 2 - Pump
- 3 – Delivery pipe
- 4 – Pressure gauge
- 5 – Hand pump
- 6 – Filter block
- 7 – Electrical box
- 8 - Tank
- 9 - Oil filling plug
- 10 – Oil dipstick

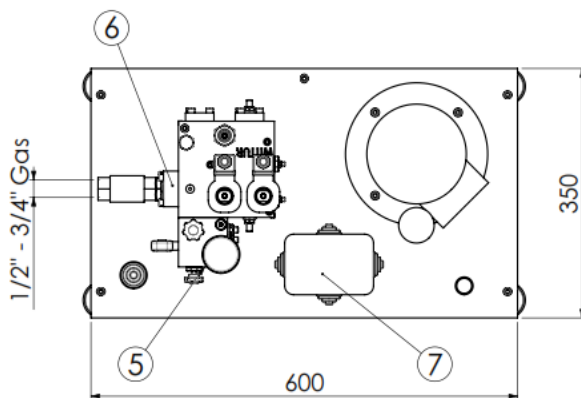


Figure 2

The dimensions for the C50 tank are shown between brackets.

### 2.2.2 System range

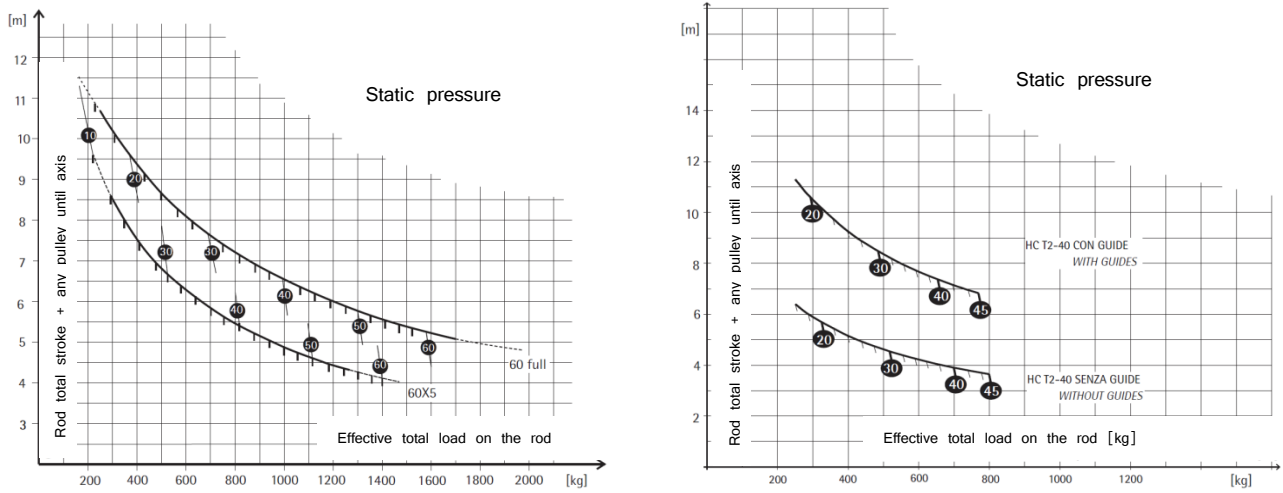


Figure 3

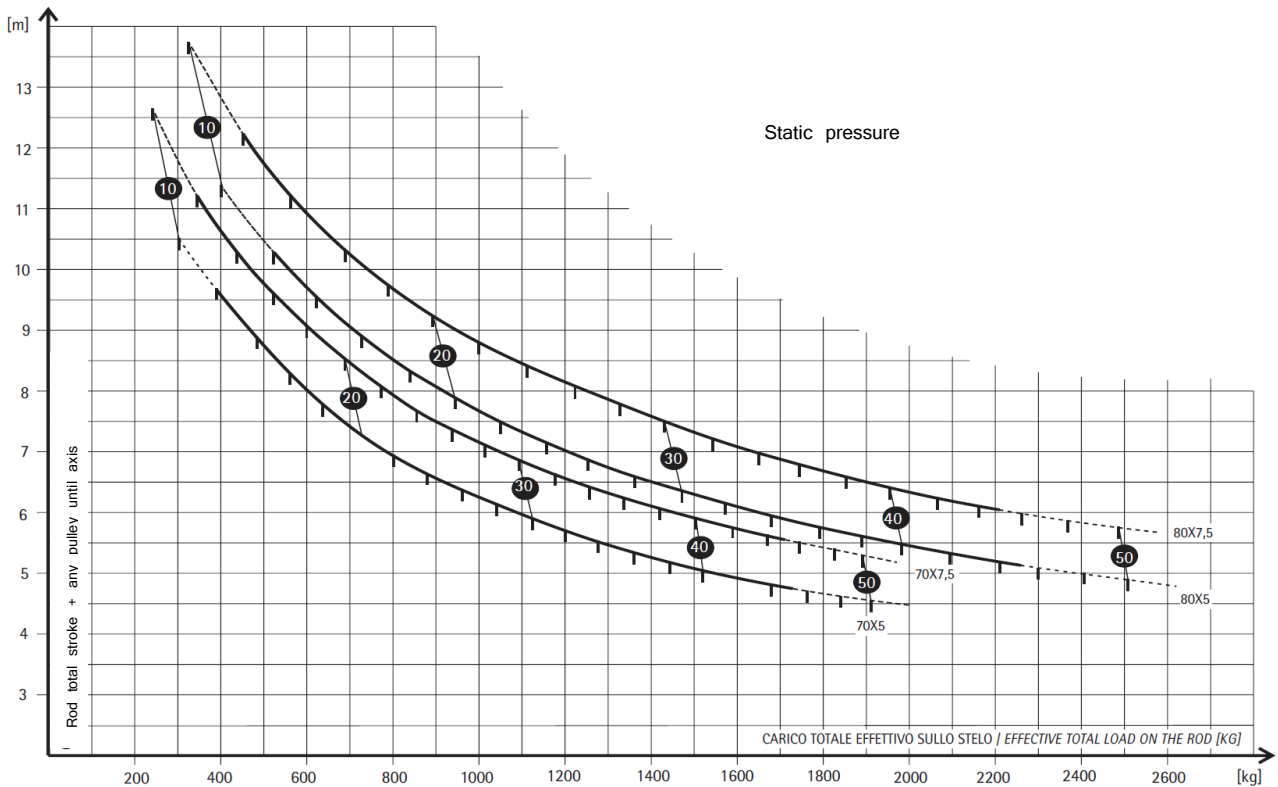


Figure 4

Type pump unit	HOMELIFT V1- V2										50Hz
	12		16				23				Pump [l/min]
Ø Rod [mm]	1,5	1,8	1,5	1,8	2,2	2,9	1,5	1,8	2,2	2,9	Motor [kW]
	9,2	13	9	13	15	17	9	13	15	17	1AC 230V [A]
	6,2	7,6	6,2	7,6	10	13,6	6,2	7,6	10	13,2	3AC 230V (Delta) [A]
	3,6	4,4	3,6	4,4	5,8	7,6	3,6	4,4	5,8	7,6	3AC 400V (Star) [A]
	55	66	45	53	56	68	32	40	45	56	Max static press. [bar]
50	0,10		0,13				0,19				Car speed [m/s]
60	0,07		0,09				0,13				
70	0,05		0,07				0,09				
80	0,04		0,05				0,07				
85	0,03		0,04				0,06				
90	0,02		0,03				0,05				
CT - 2 - 40*	0,11		0,15				0,21				
CT - 2 - 50*	0,06		0,08				0,12				

Table 1

Ø Rod [m/m]		50	60	70	80	85	90	CT2-40
Max rod stroke (m)	C40	14,5	9,7	7,6	5,7	5,1	4,5	15,9
	C50	20,5	13,7	10,7	8,2	7,3	6,4	22,5

Table 2

Tank type	Tank capacity (liters)	Min. oil level (liters)	Usable oil (liters)
C40	43	14	29
C50	53	12	41

Table 3

NOISE LEVEL : Max 62 dB(A) at 1 meter distance in standard test conditions (\*).

(\*) As confirmed by the measurement made in the room "TEST OMARLIFT"

### 2.2.3 1-speed HOMELIFT - Hydraulic and speed diagram

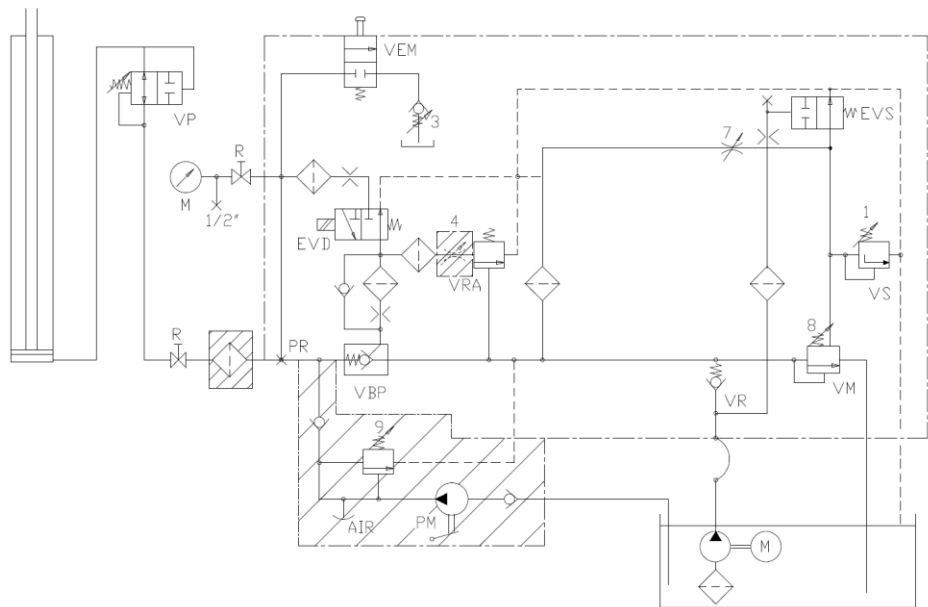


Figure 5

### 2.2.4 2-speed Homelift - Hydraulic and speed diagram

- LEGEND:**
- 1- MAXIMUM PRESSURE VALVE CALIBRATION
  - 2- LOW SPEED ADJUSTMENT
  - 3- ADJUSTMENT OF COUNTERPRESSURE AND ROPE ANTI-FLEETING
  - 4- PRESSURE VALVE REACTION TEST
  - 5- CHOKE DEVICE FOR DECELERATING FROM HIGH TO LOW SPEED
  - 6- ASCENT SPEED LIMITER
  - 7- CHOKE DEVICE FOR PRESSURISING AND ASCENT START
  - 8- DESCENT SPEED ADJUSTMENT
  - 9- CALIBRATION OF HAND PUMP PRESSURE

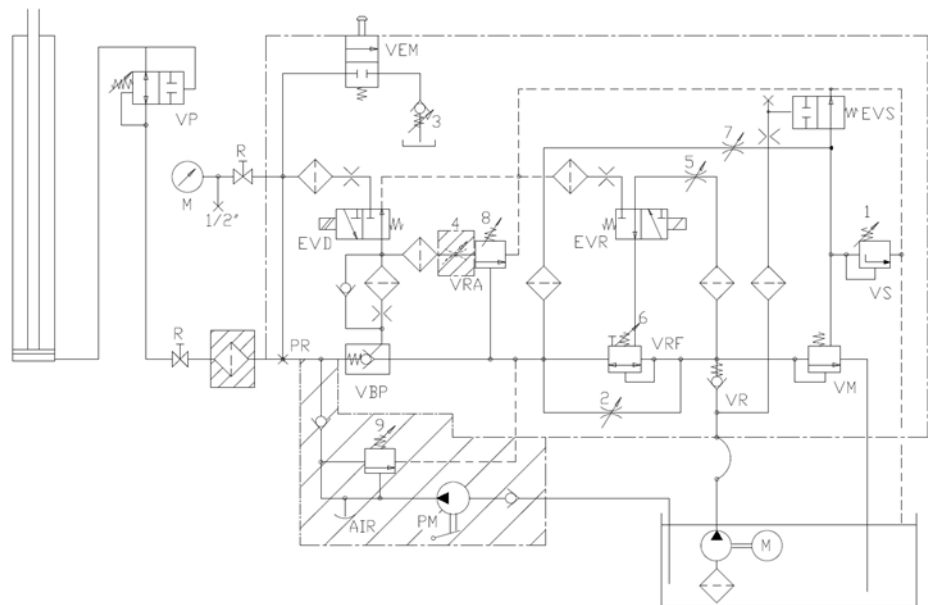


Figure 6



### 2.2.5 Diagram of 1-speed descent-ascent Homelift

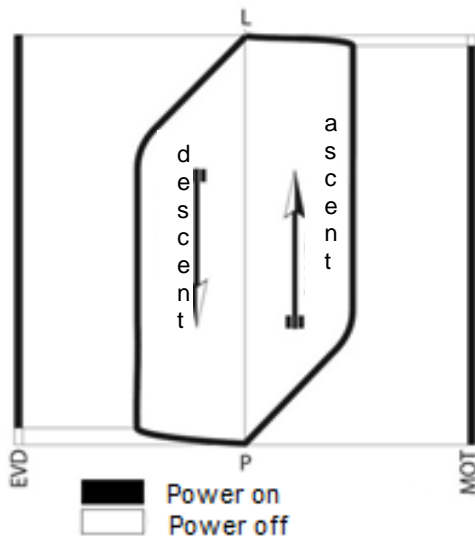


Figure 7

### 2.2.6 Diagram of 2-speed descent-ascent Homelift

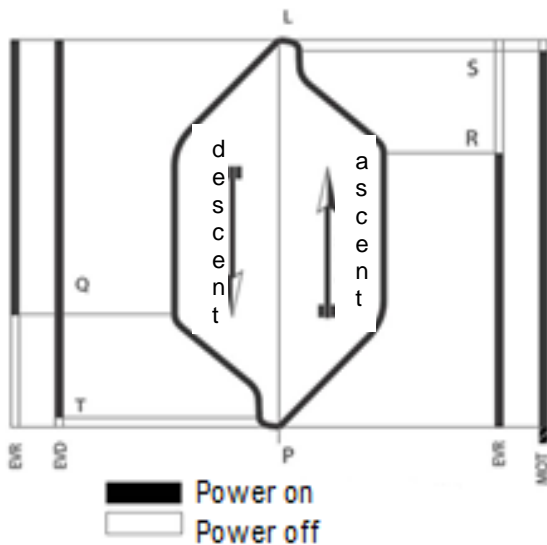


Figure 8

LEGEND:

- R – ASCENT DECELERATION POINT
- S – ASCENT STOP POINT
- Q – DESCENT DECELERATION POINT
- T – DESCENT STOP POINT
- L – UPPER LEVEL
- P – LOWER LEVEL

## 3 Use and maintenance

### 3.1 Piping and hydraulic connections

For the connection of the control unit to the cylinder, both pipes made of standardized pickled cold-drawn steel and high-pressure hoses or mixed piping can be used.  
(Minimum curvature radius 240mm, 3/4" R1AT pipe).

### 3.2 Maintaining the hydraulic system

The hydraulic components are not subject to heavy wear, are safe and require little maintenance. In order to obtain these results, the components must be chosen carefully and be of the correct dimensions and the oil must be appropriate to the system features.

## 4 Wiring

### 4.1 Wiring

Wiring must be carried out by expert and qualified personnel in compliance with the specific standards.



Before embarking on any task, disconnect the power supply by disconnecting the master switch.



The cross section of the power supply cables must fit for the current required and the insulation be suitable for the network voltage. Connecting cables must not be in contact with any part subject to strong heating.



The grounding cable must always be connected with the bolt marked with the relevant symbol.

### 4.2 Connection box



The connection box is situated on the control unit cover next to the valve block.

The standard control unit box includes (see Figure ):

- Electric motor U (1 - brown)
- Electric motor V (2 - blue)
- Grounding bolt
- Motor guard (3 - black)
- Motor guard (4 - gray)
- Oil heating resistance (option)(5-6)
- Oil thermal protection (70°)



Figure 9

## 5 Calibration and adjustment of HOMELIFT valve

### 5.1 Homelift valve, 1 speed

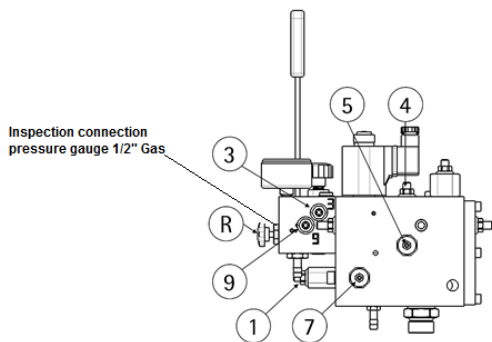


Figure 30

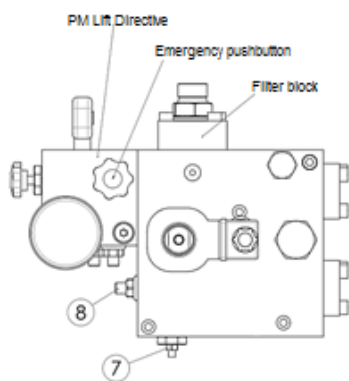


Figure 11

### 5.2 Homelift valve, 2-speed

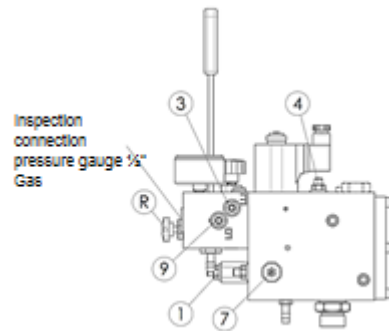


Figure 42

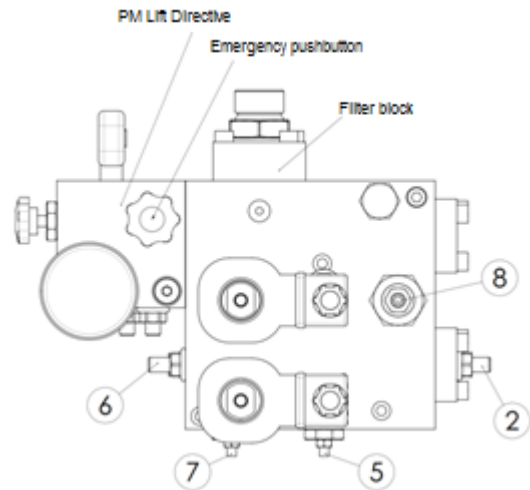


Figure 53

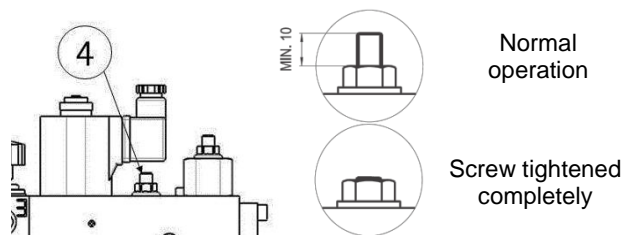


Figure 64

This table describes the function of each element.

TABLE OF VALVE SETTINGS FOR 1 and 2-speed HOMELIFT valve		
SCREW	DESCRIPTION	SETTINGS
N.1	Maximum valve pressure calibration	Tighten to increase maximum calibration pressure. Loosen to decrease maximum calibration pressure.
N.2	Low speed setting	Tighten to increase low speed Loosen to decrease low speed
N.3	Calibration of rod counterpressure and rope anti-fleeting	Tighten to prevent the rod descending alone in an emergency Loosen to enable rod to descend alone in an emergency
N.4	Stop valve test	If screw is tightened completely the cabin speed tends to exceed nominal speed and triggers the parachute valve
N.5	Choke device for deceleration from high to low speed (ascent and descent)	Tighten to brake more slowly. Loosen to brake faster
N.6	Ascent speed limiter	Tighten to reduce ascent speed Loosen to increase ascent speed to maximum pump capacity
N.7	Choke device for pressurising and ascent start	Tighten to delay pressurisation with consequent gentle start-up Loosen to obtain immediate pressurisation with rapid start-up
N.8	Descent speed adjuster 1 speed (2 SPEED)	1 Vel – Unscrew to increase the downward speed 2 VEL – Screw to increase the downward speed
N.9	Calibration of hand pump pressure	Tighten to increase hand pump calibration pressure Loosen to decrease hand pump calibration pressure

Table 4

## 6 Maintenance, inspection, repair and safety emergency

### 6.1 General points

The hydraulic components are not subject to heavy wear, are safe and require little maintenance. In order to obtain these results, the components must be chosen carefully and be of the correct dimensions and the oil must be appropriate to the system features.

### 6.2 EM manual emergency valve

Also the seal of the hand push button is provided by a sphere and can be compromised by dirt entering between the seat and sphere. When the emergency switch is actuated a jet of oil is noted that should cease completely when the switch is released. If this does not occur, there may be leaks from the emergency valve but also leaks from the solenoid valve EVD HDU, ( if installed ) which discharges from the same point.



The following checks, including those of point c) must be performed with pressure inside the valve. Extreme caution must therefore be exercised.

In order to check the seal of the emergency valve, use the emergency valve's hexagon to unscrew the emergency unit completely, dry off the oil remaining in the hole and check that no other oil escapes from the sphere (see 15).

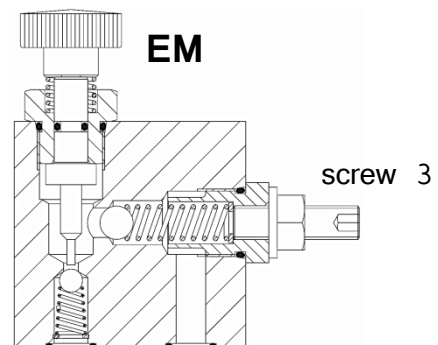


Figure 75



If there are oil leaks from the sphere, it will be necessary to replace the entire descent block or carry out a repair as explained in the next point.

### 6.3 Emergency manoeuvre with hand pump

The following procedure enables the air inside the hand pump to be eliminated.

If there are difficulties in priming the hand pump, shut off the main stopcock, use an Allen key (hex key) CH5 to loosen the screw in Figure 8 and actuate the lever of the hand pump until oil leaves the seat of the screw.

Now tighten the screw.

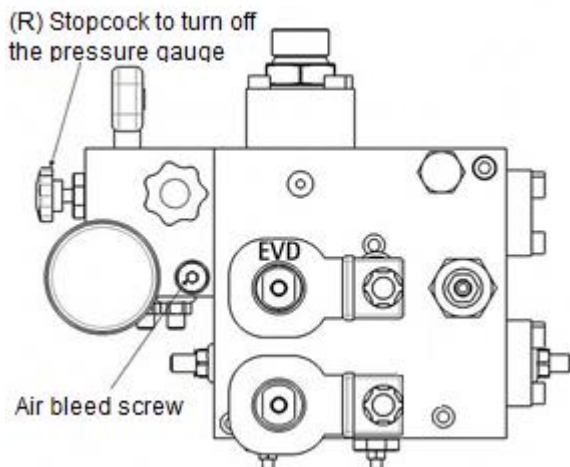


Figure 86

### 6.4 Leaks inside the valves unit

Follow this procedure to check valves seal:

- Wait for the oil to cool down to ambient temperature
- Shut off the ball valve, start up the motor by simulating an ascent and check pressure on the gauge
- If there are no leaks in the valve, after the motor is switched off the pressure remains constant or falls slowly by a few bar over several minutes, and tends to stabilize.
- If there are pressure losses it descends rapidly and continues to descend
- The following valve elements are subject to possible leaks:

EM: Emergency valve  
 EVD: Descent solenoid valve  
 VBP: Guided stop valve  
 PM: Hand pump

### 6.5 Replacing VBP valve seal

To check valves seal, proceed as follows:

- To access the VBP valve piston, remove the hand pump, if present (Figure 9)
- Remove the VBP valve spring and remove the VBP valve completely
- Loosen the screw that keeps the two parts of the piston together, replace the seal of the VBP
- Refit the piston by tightening the screw that holds together the two parts of the piston

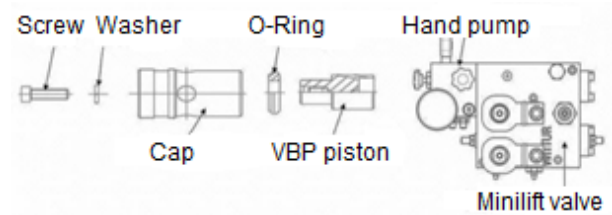


Figure 9



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*Possibili cambiamenti senza preavviso!*

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