

SCREW	DESCRIPTION	REGULATIONS
N°1	Adjusting of the valve max pressure	Screw to increase max pressure Unscrew to decrease max pressure
N°2	Upward and downward low speed regulation	Screw to decrease low speed Unscrew to increase low speed
N°3	Rod counter-pressure and rope anti-loosening device adjusting	Screw to don't have rod drop by pressing the emergency button Unscrew to have rod drop by pressing the emergency button
N°4	Screw device for rupture valve testing	Screw deeply: the car speed tends to exceed the nominal speed
N°5	Choke device for deceleration from high to low speed in upward and downward directions	Screw to make the car brake more slowly Unscrew to make the car brake more quickly
N°6	High speed limiter	Screw to reduce the upward speed Unscrew to increase the upward speed up to the max allowed by the pump
N°7	Choke device for pressure activation and upward start	Screw to slow down the pressure activation with a consequent smooth start Unscrew to obtain an immediate pressure activation with a consequent quick start
N°8	Down high speed regulation	Screw to increase the downward speed Unscrew to decrease the downward speed
N°9	Hand pump pressure adjusting	Screw to increase the hand pump adjusting pressure Unscrew to decrease the hand pump adjusting pressure
N°10	Soft starter delay	Screw to increase the start delay in upward direction Unscrew to decrease the start delay in upward direction

Tab. 2 - Regulation table of "NL" valve

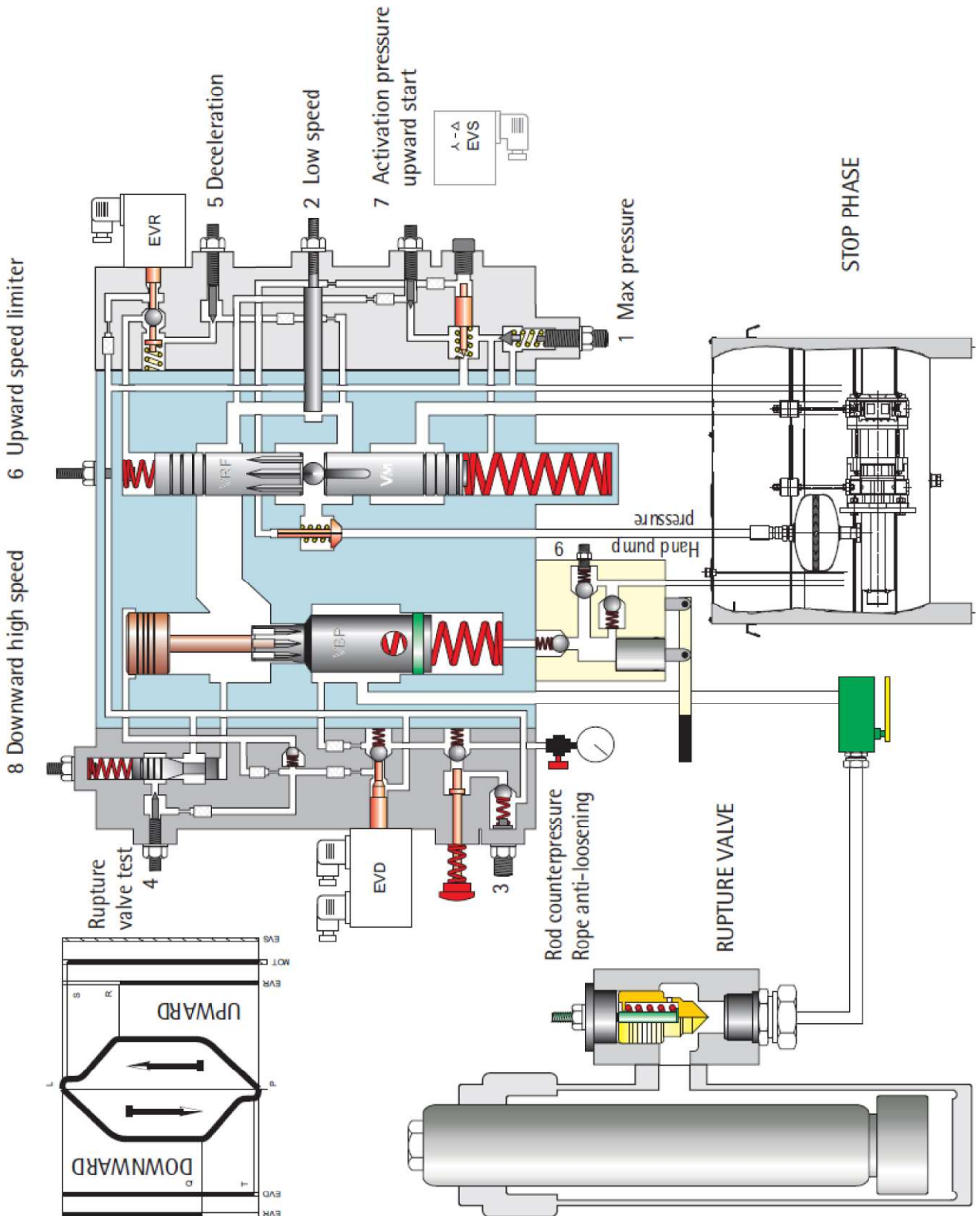


Figure 26 – General drawing

8.2.1 ADJUSTING OF THE OVER-PRESSURE VALVE: SCREW N°1



The over-pressure valve has to be adjusted with a pressure 1,4 times the max. static pressure with a full load. (Higher values, corresponding max to 1,7 times, are also admitted, only if this possibility has been taken into account during the project phase).

The max pressure is reached only when the piston is in upper end position or when the main line valve is closed.

- Close the shut-off valve of the main line and open the manometer valve.
- Be sure that screw n°2 (low speed) and screw n° 7 (pressure activation) are unscrewed by 4/5 turns.
- Screw the screw n°1 and discharge the possible pressure with the red manual emergency button.
- Start the motor and connect the coil of the electro-valve EVS in installations where required.
- Screw the screw n°1 until the max wanted pressure value is reached and stop the motor.
- Discharge again pressure with the hand button, activate the motor checking that the manometer shows the adjusted pressure, block the nut and stop the motor.



In case the given pressure needs to be decreased, discharge the pressure with the hand button, unscrew the screw n°1 and repeat the adjusting.

8.2.2 ADJUSTING OF THE START IN UPWARD DIRECTION: SCREW N°7

The start in upward direction is smooth and jump-free when the pressure value goes slowly from minimum to maximum. Pressure increasing is regulated with the screw n°7 – Pressure activation.

- Close the main shut-off valve, stop the motor and discharge the pressure with the emergency button. In case pressure needs to be taken to zero, unscrew the screw n°3 – Counter-pressure.
- Screw the screw n°7, completely, activate the motor and connect coil EVS, if it exists. At these conditions, pressure will not increase or will increase later.
- With motor and EVS connected, unscrew step by step the screw n°7 until the manometer shows the pressure increasing slowly and regularly until its max value.
- Check again the adjusting of the adjusting of the max pressure and, if necessary, take it back to the wanted value.
- Check the pressure activation and block the nuts of screws n°1 and n°7.

8.2.3 REGULATION OF THE LOW SPEED: SCREW N°2

The low speed upward and the low speed downward are regulated with screw n°2.

- Check that the main shut-off valve is open.
- Switch off the coil of the electro-valve EVR, corresponding to the upward and downward high speed.
- Activate the motor and connect EVS, if existing. During the upward travel at a low speed, regulate screw n°2, as wanted.
- Make a downward travel at low speed, connecting the coil of the electro-valve EVS only.



Check that, at these conditions, no vibrations appear during the downward travel. If necessary, after having regulated the max downward speed, (point 8.2.5), increase the low speed, unscrewing screw n°2 lightly and block the nut in this position.

8.2.4 ADJUSTING OF THE UPWARD SPEED: SCREW N°6

The max upward speed is determined by the pump capacity. The high upward speed has to be a little lower than the max speed allowed by the pump. The screw n°6 regulates and limits the opening of the flow regulator so that the flow passage is the minimum one needed by the pump and a small quantity of oil goes back to the tank through the return pipe.

- Unscrew completely screw n°5 so that the installation decelerates.
- After having unscrewed completely screw n°6, screw it by 4/5 turns to get as close as possible to the final adjusting value.
- Make an upward travel at high speed, connecting electrically motor, electro-valve, EVR and EVS, if existing.



The right regulation of screw n°6 is obtained when, screwing screw n°6, the upward speed starts to decrease, while unscrewing it, it increases. As the correct regulation is reached, the high speed decreases and a small quantity of oil goes back to the tank with a light noise increase due to both oil and motor.



When the screw n°6 is too open, the upward speed does not increase and the regulations operations become more difficult.

8.2.5 ADJUSTING OF THE MAX DOWNWARD SPEED – SCREW N°8

Before any operation, be sure that screw n°4 – rupture valve test during free down travel – is open by 2 or 3 turns.

- Make a downward travel, connecting electrically the coils of the electro-valve EVD and EVR at the same time.
- Regulate the screw n°8 until the downward speed and the upward speed are the same. Times needed for the travel from the highest floor to the lowest one and from the lowest to the highest one have to be the same.



Screw the screw n°8, the downward speed increases, unscrew it the downward speed decreases.

- When the max downward speed has been adjusted, check the low downward speed once again.

8.2.6 REGULATION OF THE DECELERATION FROM HIGH TO LOW SPEED: SCREW N°5

Screw n°5 regulates the passage from high to low speed both during upward and downward travel.



Before regulating screw n°5, it is necessary to verify that low speed, upward high speed, downward high speed and distances at which the coil is disconnected before reaching the floor (see point 4.6) have already been regulated.

- Screw: a long and smooth deceleration is obtained.
- Unscrew: deceleration becomes harsh and travel longer, during the low speed.
- Brake has to allow the car running along the last 8/10 cm before the stop at a low speed, since the oil temperature is 25/35°C.



Avoid closing screw n°5 completely, otherwise the lift does not decelerates and passes over the floor.

8.2.7 ROD COUNTER-PRESSURE AND ROPE ANTI-LOOSENING: SCREW N°3

In indirect acting installations, the activation of the emergency button has not to cause the rope loosening when the car is blocked. For this reason, it is necessary that, inside the circuit, there is a remaining pressure higher than the pressure generated by the weight of the rod, the pulley and the ropes. This pressure is generated by screw n°3: screw, it increases; unscrew, it decreases. The value of the counter-pressure which opposes the rod down travel is about 6/8 bar.

- Adjust the counter-pressure as follows (see Figure 27 **Errore. L'origine riferimento non è stata trovata.**):
 - Close the main shut-off valve and discharge pressure with the hand button. The remaining pressure on the manometer corresponds to the rope anti-loosening counter-pressure.
 - If the pressure value needs to be increased or decreased screw or unscrew the screw n°3 accordingly.
- If the input pressure needs to be verified:
 - Increase the pressure in the circuit with the hand pump.
 - Discharge the pressure with the hand button and read the remaining pressure.
 - If necessary, repeat the previous operations until the wanted counter-pressure is reached.



Remember that, to activate completely the hand button, its plug has to be suit with its proper seat (see point 6.7).

8.2.8 ADJUSTING OF THE HAND PUMP PRESSURE: SCREW N°9

The hand pump has its own safety valve which has to be adjusted at 2,3 times the max static pressure. The adjusting is carried out through screw n°9: screw, the max pressure increases, unscrew, it decreases (see Figure 28). In case there are difficulties in activating the hand pump, close the main shut-off valve, unscrew the screw n°3, discharge the pressure with the hand button and quickly activate the hand pump lever. If necessary, try to fill with oil the plastic pipe which gets inside the tank.

- Act on screw n°9 to adjust at the right pressure and activate the hand pump lever. The adjusting pressure of the hand pump is the max one reached and shown on the manometer.
- Discharge the pressure with the emergency hand button.

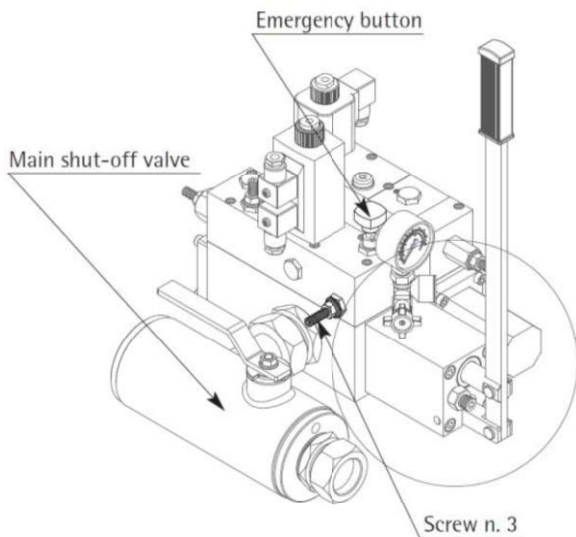


Figure 27 – Adjusting of the rod counterpressure

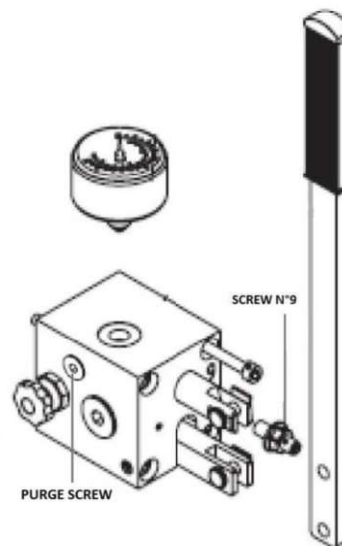


Figure 28 – Adjusting of the hand pump pressure