

#### UPSTROKE 1/8- STATIONARY

In this phase all the components are at rest and the equipment is kept steady from the shutdown of the non-return valve < B> and the valve <F>.

#### UPSTROKE 2/8- STARTING MOTOR

Turn on the solenoid valve <20> and <22>.

The solenoid valve <20> sends in draining the pilotage of valve <F>.

The solenoid valve <22> sends in draining the pilotage of valve <D>, it opens to the screw <29> .

After 0.3-0.5 s, to start the principal motor< M>.

#### UPSTROKE 3/8- OUTLET IN THE TANK

While the solenoid valve < 20> is turn on, all the delivery of the pump comes discharged in the tank through the valve <F>.

**If the solenoid valve <20> is turn off , the system will jerk in departure.**

#### UPSTROKE 4/8- ACCELERATION

After another 0.5 s, or however after the motor starting (soft satrter), turn off the solenoid valve <20>, the pilot oil arrives to close the valve < F> with consequent increase of the pressure in the valve group.

When the pressure is the same of the system it will open the valve < B> and the system will begin to move. The movement of the valve < F> depends on the adjusting screw < 10> that rules the passage of the oil in the pilot circuit.

**If the adjusting screw < 10> has closed the valve group it won't achieve the upstroke pressure.**

#### UPSTROKE 5/8- HIGH SPEED

In high speed all the oil of the pump flows toward the valve< B> and then to the piston.

#### UPSTROKE 6/8- DECELERATION

In proximity of the floor, turn off the solenoid valve< 22> .

The oil pilots the valve< D>; the adjusting <23> controls its time of closing.

When valve <D> is closed, the pressure increases and it opens valve <F>

A part of the oil will go in the tank with the consequent deceleration of the system.

#### UPSTROKE 7/8- LOW SPEED

When the valve < D> is completely closed, the oil can arrive to the piston only through the passage measured by the screw <4>, which then determines the value of the upstroke low speed.

#### UPSTROKE 8/8- STOPPING (Soft Stop)

Turn on the solenoid valve <34> .

The adjusting screw <35> rules the opening of the valve <F> with gradual stop of the system, while the principal motor is turning.

After half-second remove current to the principal motor < M>.

After other half-second turn off the solenoid valve <34> also.

#### DOWNSTROKE 1/7- STATIONARY (you see phase of correspondent upstroke)

#### DOWNSTROKE 2/7- STARTING

Activation of the solenoid valve of descent< 16>, of the solenoid valve <20> and contemporaneous of the solenoid valve < 22> .

The solenoid valve < 16> pilots through the throttle < 99> and the adjusting screw <98> the piston that releases the non-return valve <B>.

The solenoid valve <20> sends in draining the pilotage of valve <F>.

The solenoid valve <22> sends in draining the pilotage of valve <D> that open to the screw <29>.

The opening of non-return valve < B> and the valve <F> determines the gradual starting in descent of the system.

#### DOWNSTROKE 3/7- REGULATOR INTERVENTION

The increase of speed of the oil determines a correspondent increase of pressure in the valve group.

When the pressure value correspondent to the setting < 15> is reached, the valve of the regulator < A> intercepts the oil of the non-return valve pilotage and sends it in draining through the passage < 14>.

#### DOWNSTROKE 4/7- HIGH SPEED

The high speed is reached when the non-return valve is in a position such that the pressure in the valve group is equal to pressure of the pressure regulator.



#### DOWNSTROKE 5/7- DECELERATION

In proximity of the floor, turn off the solenoid valve <22> .

The oil pilots the valve <D> ; the adjusting <23> controls its time of closing.

When the valve <D> is closed, the valve group pressure increases with the consequent intervention of the regulator <A> and partial closing of the non-return valve <B>.

#### DOWNSTROKE 6/7- LOW SPEED

When the valve<D> is completely closed the oil can flow in the group only through the passage adjusted by the screw <4> which determines the value of the downstroke low speed too.

#### DOWNSTROKE 7/7- STOPPING

At the floor remove current to solenoid valve <16> and to solenoid valve <20>.

The valve <16> will send in draining the pilotage oil of non-return valve <B> piston through the throttle <97> with gradual stop of the system.

The valve <20> stops the pilotage oil draining of the valve <F> that moves in closing position assuring the stop of the system.

#### SAFETY VALVE INTERVENTION

During upstroke, an unusual increase of pressure, higher than the setting of the valve <5>, causes its opening and the draining of the pilot oil of the non-return valve <F>.

The lack of its pilot opens completely the valve <F> and sends in draining the oil that flows from the pump, and the system stops immediately.

The system is automatically reset as soon as the overpressure stops.

#### MANUAL EMERGENCY DOWNWARD

Press the emergency downstroke button on the top of the pump to start the cock <17> that directly discharges the oil of the circuit, permitting the manual downstroke of the cabin.

In indirect systems the manual operation is automatically interrupted when the setting of the valve <25> is reached. It closes the passage of the oil to the cock.

The cock can be predisposed to be electrically started through coil.

#### MANUAL EMERGENCY UPWARD

When on the valve group is fitted the hand pump <26> (always fitted in indirect systems) use the issued lever to pump the oil to the hydraulic circuit in pressure, through the non-return valve <28> in order to lift the cabin.

In case of over pressure during the pumping, the safety valve intervenes <27> and it sends in draining the delivery oil of the pump, thus interrupting the upward of the cabin.

#### NOTE:

- The switches in the starting deceleration stroke space <b, f> must be positioned in order to leave, when the oil is cold, a low speed space of 20-25 cm.

#### DEVICE OPERATION AS A MOVEMENT AGAINST UNCONTROLLED

When the circuit required in paragraphs 7.7.1 and 14.2.1.2 of EN 81-2 identifies uncontrolled movements of the cabin doors open, it must not allow the control panel to send any signal to the valve block and disable the system.

The device must be activated (stop signal) before the car moves away from the plane of 200 mm.

Recovering or resetting of the lift must be checked by a competent person.

For the device will be monitored by a functional of the control panel (Sheet 05500).

