ASC 210

Elevator – control of speed and position

DESCRIPTION

- **Under system CONTROLS SPEED AND POSITION makes it possible to carry out the study, the maintenance and the modernization of the installations of elevator**
- **The bench is delivered complete, with teaching handbook and technical file**
- **Industrial Material**
- **Teaching concerned: Maintenance and Formations elevatorists**

UTILITIES

- **Electricity: 400 VAC tri – 50/60Hz**
- **Volume of the installation L X L X H = 2500 X 1200 X 3500 mm (useful total volume with opening of the doors = 3500 * 2500 * 3500)**
- **Weight: approximately 600 kg**

TEACHING APPLICATIONS

Study of the dynamic and static behaviour of an elevator

Description of the influence of technologies on the precise details of stop and the comfort of use

Behaviour of an installation with variable load

Adjustment influence of brake on the precision of stop

Adjustment of the zones of deceleration and the positions of stop according to technologies of sensors and technologies of cupboards.

Adjustment of a system with 2 speeds order.

Adjustment/parameter setting of a system with order by variator

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DIDATEC TECHNOLOGIE

Presentation of the system:

- Operative Part:

- sheath made up of a metal structure of section 1080 mm x 930 mm x 3500 mm/3 levels
- cabin of dimension 700 mm x 750 mm x 700 mm and counterweight out of sheath of 80kg approximately
- load variable cabin (cast iron weight) of 50kg with 100kg (for study of precision of the stops)
- the rate of travel is approximately 0.5 m/s
- winch of asynchronous motor 2 speeds elevator (4 CV minis.) and brake
- limps of revision (or inspection cabin) and limps of recall
- landing button manufacture
- characterization of supplements out of anodic aluminum and transparent polycarbonate
- access to the sheath by 3 large doors (H * l=3000 * 1000) made safe by contacts of safety
- selector out of sheath made up of 5 roller sensors + cam
- panel equipped with the various connectors harting type for connection on the operative part of the various sensors, electrical equipment boxes…)

➔ **associated teaching activities**

- adjustment of the races of deceleration
- adjustment of the positions of revision
- adjustment of the race ends
- adjustment of the brake of the winch in drive of real load
- radial force cabin for taking into account in the adjustments

- Electric Box of power (RDU) integral:

- 1 disconnecting switch will tétra
- circuit breakers + differential

- Cupboard of operation integrating “Bi speed”:

- Contactors and charts of piloting (material of elevator)
- landing and gauge level button manufacture LCD
- standard fast connector harting for direct connection or on box with variation of frequency (modernization)
- pocket of parameter setting of the cupboard

➔ **associated teaching activities:**

- adjustment of the parameters of operation of the cupboard (a number of levels, temporizations, distance between levels, desired mode of walk…

- Box of modernization integral “variator”:

- Chart of order (material of elevator)
- variator of frequency (material of elevator)
- standard fast connector harting for connection of the cupboard to the remainder of the system
- in option: Variator Buckles closed + coder

➔ teaching ➔ **activity:**

- modernization of the control device (integration of the variator box in the loop of order of the machine/downstream from the two-speed cupboard)
- adjustment of the parameters (acceleration, speeds fast, slow speed, speed of revision, stages of deceleration…) on variator

- position encoders:

- Optical position Encoder + rope + flags
- Magnetic sensors + loving
- case of counting to band (incremental coder) + magnetic tape

➔ **associated teaching activities:**

- positioning and adjustment of the position encoders to flags (optical sensor)
- positioning and adjustment of the magnets (magnetic sensors)
- parameter setting of the case of control on incremental coder