



MAINELEC 2
Autonomous educational system



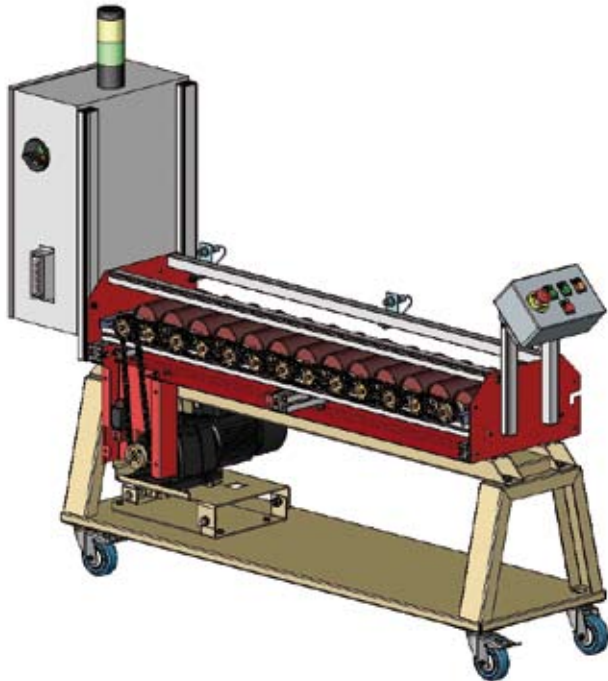
MAINELEC 2

Autonomous educational system

Foreword

From an operating industrial application, a specific equipment named MAINELEC 2 has been developed to respond to the needs for study and maintenance of automatic systems.

MAINELEC 2 responds to all training courses which prepare for professional or technological diplomas in the maintenance and electrical engineering subjects.



Preventive maintenance

Three levels of T.P.M. (Total Productive Maintenance) are implemented using guidance documents and operation charts from the education file :

T.P.M. level 1:

- visual control,
- lubrication,
- level controls.



T.P.M. level 2:

- simple settings,
- changing simple components,
- tension of the different chains.



T.P.M. level 3:

- changing complex components,
- changing sub-systems,
- draining the gearbox.



Modification of the control

Intervention and modification of the characteristics of a machine cycle

- cycle modification (sensors),
- adding a safety component (optional with the maintenance kit),
- inserting variable elements ; either speed or sequence.



Electrical and mechanical corrective maintenance

Mechanical repairs

- repairing parts of the power gear train,
- replacing the motor,
- replacing the gearbox,
- replacing the roller. (optional with the maintenance kit)



Electrical repairs

- equipment isolation,
- study of continuity breakdown
- study of breakdown under power
- algorithmic approach.





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Description

The MAINELEC 2 system is made up of 3 main parts :

- a driven roller,
- a gearmotor generator,
- an electrical control box.

Dimensions and weight

Length: 1840 mm
 Width: 520 mm
 Height: 1450 mm
 Weight: 198 kg



Characteristics

The equipment is designed to allow mechanical intervention by the student after electrical isolation.

• Mechanical characteristics

The system is mounted on a welded frame with 4 free wheels, two of which can be locked.

It comprises :

- an aluminium frame holding 13 rollers,
- a protective housing fitted with safe electrical contacts,
- an aluminium guide for safe transport of the part,
- a drainage tub.

• Electrical Characteristics

The electrical case guarantees the command, the control and the protection of the equipment.

It connects to a 400V 3ph / 50Hz supply using a 5m cable and a P17 socket.

The control systems are mounted at the end of the conveyor.

Two adjustable photo - electric cells stop the moving part.

Two cabinet types are available :

- a cabinet fitted with electromechanical logic.
- a cabinet fitted with a Digidrive SK variable speed drive which includes automatic LADER language functions.

• Motorisation

Asynchronous three phase motors with frame types :

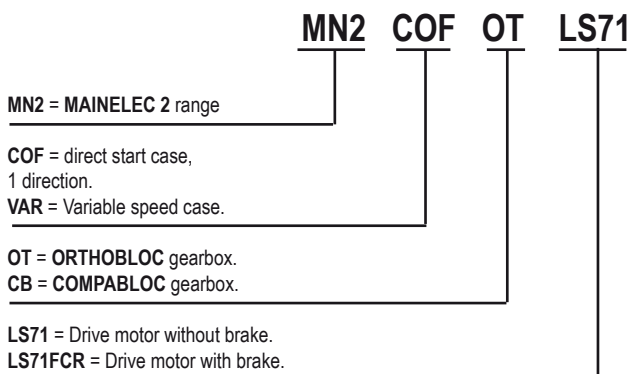
- LS71L - 0,55 kW - 4 poles 230/400V - 50Hz without brakes.
- LS71LFCRJ2 - 0,55 kW - 4 poles 230/400V - 50Hz with brakes.

• Gearbox

Depending on the option chosen the gearbox can be :

- with helical/bevel gears from the ORTHOBLOC range,
- with coaxial helical from the COMPABLOC range.

Selection criteria



MAINELEC 2 complies with marking standards





MAINELEC 2

Autonomous educational system

OT32 P teacher's case

Contains all the components for the OT 3233 gearbox.
All the parts, except the bearings, have had anti corrosion treatment.
They are made with tolerances allowing assembly and disassembly without specific tools.
This case is intended for workshop as well as construction.



Height: 470 mm
Length: 570 mm
Depth: 205 mm
Weight: 23 kg

OT32 ADJUSTMENT student's case

This comprises 1 housing and pre-assembled assemblies, together with the special tools.
This case is designed for carrying out the procedures for fitting and adjusting the spiral-bevel assembly in the housing.



Height: 470 mm
Length: 570 mm
Depth: 205 mm
Weight: 15 kg



OT32 E ASSEMBLY student's case

This comprises 6 identical sets of OT3233 gearbox parts, and 2 sets of special tools.
Each set is used to assemble the spiral-bevel set in industrial conditions.



Height: 470 mm
Length: 570 mm
Depth: 205 mm
Weight: 15 kg

OT32 tool box + OT32I gearbox

The tool box is designed for carrying out the assembly and dismantling procedures for the ORTHOBLOC 3000 gearbox.
The tools in this box are exact copies of tools used in Leroy-Somer assembly units.



Height: 440 mm
Length: 380 mm
Depth: 110 mm
Weight: 5 kg



Height: 205 mm
Length: 265 mm
Depth: 210 mm
Weight: 18 kg

Spare parts kit

This consists essentially of wearing parts, adjustment washers, circlips, etc.
It is used with OT32 E cases and the OT32 I gearbox.



MAINELEC 2

Autonomous educational system

CB31 P teacher's case

It includes the whole CB3133 gearbox components.

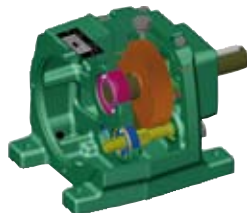
All the parts, except the bearings, have had anti corrosion treatment.

They are designed with a tolerance to permit assembling and disassembling without specific tools.

This case is intended for workshop as well as construction.



Height: 470 mm
Length: 570 mm
Depth: 205 mm
Weight: 15 kg



FCR LS71 case

The FCR LS71 brake motor is presented in a suitcase which includes:

- all of the parts making up the product, separated or mounted into sets (rotor, stator, front and rear end shield, terminal box, etc.).
- two additional brake lining fans with different moment of inertia. Each moment of inertia is indicated by a colour code.
- a set of springs and additional keys.
- the necessary tools for mounting and dismantling using a torque spanner with a dial indicator.



Height: 470 mm
Length: 570 mm
Depth: 205 mm
Weight: 17 kg

CB31 E student's case

It includes the whole CB3133 gearbox components.

The tools available in the case are used for assembling and disassembling the gearbox parts.



Height: 470 mm
Length: 570 mm
Depth: 205 mm
Weight: 18 kg

Technical and educational files

The Mainelec 2 technical and educational files are supplied on CD-Rom.

Each case is also supplied with its documentation on CD-Rom.

Tool

The basic assembling tools will be the ones used in the mechanical diagnostic zone of the maintenance sections (hydraulic press, set of spanners, etc.).