

PALLET STACKER AND UNSTACKER



Experimental capabilities

- **Control of automated system**
- **Setting the operating conditions**
- **Mechanical removal / installation**
- **Pneumatic technology change / electric / hydraulic on forklift**
- **Mechanical settings + change of toolings**
- **Corrective maintenance: diagnosis and sensor replacement, cylinder distributor, contactor, HS ...**
- **Improvement maintenance: changing the operating conditions by changing a reduction ratio and parameter settings.**
- **Preventive maintenance: setting control of operating conditions, validation and testing.**
- **Functional analysis**
- **Technical analysis**

MPI100



Operating principle

The stacker - destacker of pallets MPI100 allows to implement the operation and maintenance of an automated system

Action chains of very varied technologies (pre-actuator, actuator and sensor)

This machine is designed to support the assembly operations / dismantling piping and wiring inherent to the change of the technologies on a system.

Can be used alone or connected with the palletizer MLP 600 which it then provides the pallets supply ...)

The robust design of this device makes it suitable for use in schools.

The equipment is set up on an Anodized aluminium frame on casters wheels. This gives it great strength and a flexibility of integration into your premises.

The manufacture of this equipment complies with the European standard for machinery manufacturing.

This equipment can be used alone or with other compatible equipment from our range (see last section of this document).

Technical details

Chassis :

- **A stainless steel structure mounted on 4 directional wheels with locking**
- **5 wide doors** (3 for access to the forklift and 2 for access to the conveyor) hinged and secured by **safe sensor** of Telemecanique type XCS . Transparent protections placed on conveyor and elevator
- **Low and high casings in transparent polycarbonate panels.**

Electrical box:

- Circuit breakers and differential
- Module preventa
- Main switch
- 24V power supply
- PLC TSX 3721
- CAN bus
- Inverters type ATV of Schneider for control of the pallets conveyor
- Reversing contactor for forklift
- Compatible with the addition of a remote box for lifter motor control (configuration only electric / plug connection types harting)



Consol :

Integrated to the electrical box

- Buttons, indicators and control switches
- IHM type **magelisschneider XBTN401** ensures

The Man / Machine interface and allows setting the operation of the machine, selecting actuators for their individual manual control and status visualization of the sensors.



Conveyor of pallets:



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MPI100



- Motorized roller **conveyor** by geared motor worm and wheel / chains and multiple pinions
- Access to voltage chains settings by specific secured door (key safety switch)
- Mechanical sensor stem
- Optical sensor reflex
- Motor control via inverter type ATV schneider or equivalent

Pallets lifter and stack retaining cleats:

- Vertical structure in anodized aluminum.
- Guidance by bars and bushings with cylindrical balls
- Mechanical sensors with roller and inductive sensor for positioning of the lifter
- 2 direct optical sensors
- 2 retractable cleats driven by 2 cylinders + solenoid valves and controlled by ILS detectors
- Pneumatic motorization (included in MPI 100)
 - 2 cylinders mounted in opposition.
 - 2 solenoid valves.
 - Flow rate adjusters and controlled valves

Specific material for pedagogical activities

- Ameliorative maintenance kit

- Kit electric motor (Ref MPI 101):
 - Reversing contactors (integrated in the cabinet of the machine)
 - Asynchronous geared motor 1/100 with lack of voltage brake
 - Chain tension adjustment
 - Zinc plated steel support plates
 - Drive by key and adjustable torque limiter hub
 - 1 set of 2 pinions + 1 pinion for the lifter speed variation

- Kit hydraulic motorization (Ref MPI 102)

- 1 reservoir unit 10L
- 4 cc pump about (6L/min)
- Motor 1500rev / min power 0,55kW mini
- Double flow rate limiter
- Manometer
- Pressure limiter
- Electro-Distributer 4/3
- 1 cylinder diameter 50mm stroke 350mm Mini with screeds in zinc plated steel
- 1 single flanged balancing valve on the cylinder
- 1 hose kit with self-sealing couplings



- Remote cabinet / exploitable only with option MPI 101 (Ref MPI 103)

- Breadboard inverter for remote cabinet (Ref MPI 104)
- Soft starter breadboard for remote cabinet (Ref MPI 105)



- Corrective maintenance kit (included in MPI 100) :

- 1 distributor HS
- 1 contactor HS
- 1 detector HS
- 1 cylinder HS

- Preventive maintenance kit (ref MPI 106)

- 4 bearings with integrated ball bushings for forklift
- 4 bronze rings for cleats



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version : FT-MPI100-STD-B

MPI100



Services required

- Electrical supply : 400 Vac – 50 Hz – 16 A
- Compressed air supply: 6-8 bars (dry air)
- Dimensions: (LxWxH mm): 2320 x 1550 x 2000
- weight (Kg): 430

Note : if the equipment installation is operated by our staff, all supplies and exhaust connections required must stand at less than 2m from the machine

Documentation

- User's manual
- Pedagogical manual
- Technical documentation of the components
- Lab exercises
- Certificate of conformity CE