



ErmaFlex #10s

Hydraulic Lifting Module

Instrumented and contextualised hydraulic bench equipped with variable loads

Hydraulic lifting module at a glance

Highlights & Key Activities

- Simple system for low-cost understanding of a hydraulic functional chain
- Wiring of the hydraulic system
- Electrical wiring with safety plugs
- Implementation of the motorisation (dynamic adjustment, load tests, bleeding of the hydraulic circuit...)
- Position measurement with potentiometric linear sensor and pressure measurement
- Mechanical assembly and disassembly
- Using the Multitec Pallet Stacker Hydraulic Kit
- Programming, connection to an optional PLC

Specific components

- Lifting system equipped with a double-acting hydraulic cylinder (possibility to use the single-acting cylinder delivered with Multitec)
- Pressure and flow limiters
- Monostable 4/2 and 5/3 valves
- Power box

Features

- L/ W/ H: 1060 x 750 x 1600 mm
- Electrical power: 400V three-phase
- Mass: 400 kg

This system is accompanied by a technical and educational file

References

- ✓ **HD10**: Hydraulic lift module (without hydraulic power pack and Multitec cylinder)
- ✓ **HD10-KH50**: Hydraulic lifting module (with hydraulic power pack and Multitec cylinder)
- ✓ **HD11**: Batch of hydraulic components for additional works

Bac Pro MSPC
BTS MS - IUT



Hydraulic Components

Components of the Hydraulic Lift Module (without hydraulic power pack)

- ✓ 2 Pressure gauges Ø 63 pressure of 0-60 Bars
- ✓ 1 Pressure relief valve adjustable by handwheel, modular, range 0-50bar
- ✓ 2 One-way in-line flow limiters G1/4" front panel mounting
- ✓ 1 In-line bidirectional flow restrictor G1/4" front panel mounting
- ✓ 1 Solenoid valve, 4/3, 24 VDC
- ✓ 1 Solenoid valve, 4/2, 24 VDC
- ✓ 1 4/2-way valve 24 VDC
- ✓ Double acting cylinder Ø 30 stroke 300
- ✓ Hoses, Colours, Feeders

Components of the "hydraulic components package for additional work" option HD11

- ✓ 1 hydraulic cylinder SE rod Ø 30 stroke 300
- ✓ 1 monostable H-centre valve
- ✓ 1 bistable distributor H-centre
- ✓ 1 pressure reducing valve to be sandwiched between the distributor and the drill block
- ✓ 1 pressure relief valve to be sandwiched between the valve and the drill block
- ✓ 1 flow restrictor to be sandwiched between the valve and the drill block

Components of the hydraulic power plant

- ✓ 1 Sheet metal tank 10 L with retention tray equipped with 4 swivel castors Ø75
- ✓ 1 Electric motor 1.1 Kw 1500 rpm
- ✓ 1 HPI hydraulic gear pump 3 litres /mn
- ✓ 1 Aluminium base with adjustable 30 bar pressure relief valve
- ✓ 1 Tank top return filter 20 microns
- ✓ 1 Visual level with thermometer
- ✓ 1 Filling with breather
- ✓ 1 ¼ turn drain valve
- ✓ 1 H-shaped distributor
- ✓ 1 Modular pilot operated check valve on A
- ✓ 1 One-way flow restrictor, in-line mounting on A
- ✓ 1 Pressure gauge insulator on P
- ✓ 1 Pressure gauge Ø 63 pressure from 0 to 60 Bars
- ✓ 2 thermoplastic hoses, length 1 metre, with female couplers
- ✓ 8 Litres hydraulic oil



Educational activities

- ✓Wiring of the hydraulic system
- ✓Electrical wiring with safety plugs
- ✓Implementation of the motorisation (dynamic adjustment, load tests, bleeding of the hydraulic circuit...)
- ✓Position measurement with potentiometric linear sensor and pressure measurement
- ✓Mechanical assembly and disassembly
- ✓Stroke adjustment
- ✓Setting the sensors
- ✓Performing static development or integration tests
- ✓Performing dynamic tests
- ✓Fault finding

Practical work available

- ✓TP1: Introduction to hydraulics
 - Identification of components
 - Wiring of the operating part
- ✓TP2: Improvement of an asset from a maintenance point of view (installation of the hydraulic cylinder)
- ✓TP3: Performing monitoring operations on the hydraulic power plant (control and measurements)
- ✓TP4: Analysis of the functioning of a hydraulic asset :
 - Study of the scheme
 - Identification of protective equipment
 - Identification of components, performance, operating conditions, failures

Related & complementary products

Oil analysis case



www.erm.li/hy10

Oil Filtration Group



www.erm.li/hy12

Hydraulic measurement case



www.erm.li/hy11

Portable on-line and off-line particle and hydraulic contamination counter



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