



PLC Based Electro Hydraulic Sorting Mechanism (52383) outlines the basic Principle of Hydraulic Control System & its applications for Sorting Mechanism using PLC, electronic Proximity position sensor & electro-mechanical actuators (solenoid valves).

Features

- Compact Ergonomic Design.
- All Hydraulic components identical to those used in industry for easy grasping.
- User Friendly, Self Explanatory Systems.
- Leak proof Safety Measures, sturdy piping & Robust Construction.
- Training Manuals, mimic Charts for Operation Ease.
- System Frame with Caster Wheel Arrangement for ease in movement.
- M.S. fabricated powder coated with necessary fittings, couplings and hydraulic mountings.
- Inbuilt Safety Measures to avoid improper usage.
- Integration of Electronic, Instrumentation and Hydraulics in single unit.
- Detailed Operation & Instruction Manual
- Caster wheel mounted movable frame

Services Required

- Electric supply 1 ϕ 230 V AC 50 Hz suitably used for direct on line starting of an induction motor.

Technical Specification

(A) ELECTRICAL CONTROL PANEL		
No.	Item Name	Technical Specifications
1	PLC	Siemens Logo/Allen Bradley Micro 800 series/Equivalent, Digital Inputs- 8, Digital Outputs- 6, Supply 24V DC, with Programming Software and Communication Cable
2	Power Supply	24 VDC, Power Source- 3A.
3	Proximity Sensors	1) Inductive type : 3nos., 3wire PNP type, 24 VDC, Sensing Distance: 5-8mm 2) Optical Type: 4 nos., 3 Wire, Sensing Distance: 50mm, 24 VDC
4	Indicating Lamps	24 V DC, On frontpanel for display of digital input/output status Amber : 8 Nos., Red : 6 Nos.
5	Momentary Push Buttons	24 V DC operated, 8 nos.

Note: Specifications are subject to change.

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Technical Specification

6	Electronic Control panel	MS Powder coated panel with switches, indicator, test Points, controller on front fascia, UK 2.5 Terminal Connectors mounted on DIN rail channel, Use of 1sq mm multi-strand wire with proper insulated Lugs, Feruling & Through 1"×1" PVC Cable Tray. Dimensions: 2.5 ft x 1.5 ft x 5.5 ft
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(B) HYDRAULIC WORK STATION:

No.	Item Name	Technical Specifications
1	Oil Hydraulic power pack	MS Powder Coated Oil Tank, Capacity: 25/30 Liters. With Oil Level Indicator, Gear Pump: 3 LPM, 40/60 Bar, Breather, Oil filter & suction, Electric Motor- Single Phase, 230VAC / 3 Phase 415 V AC, ½ HP/ 1 HP, DOL starter.
2	Double Acting Cylinder	40mm X 100mm, Mounting: Foot , 4 nos. ¼" connection
3	4/2 way Solenoid Valves	4 nos, 24 V DC operated, ¼" Connection
4	P Manifold & T Manifold	1 each, ¼" Connection
5	Pressure Relief Valve	¼" connection, 60 Kg/cm ²
6	Pressure Gauge	Range- 100 Kg/cm ² , Dial Size: 50/60 mm, Glycerin Filled.
7	Blok Manifold	1 no., ¼" Connection
8	Hydraulic Hoses	16 nos. with hydraulic fittings/couplings
9	Mounting Table	MS powder coated
10	Dimension: 4.5 ftx 4 ft x 4.5 ft	

(C) PROCESS MODULES

I) STACKING MODULE

No.	Item Name	Technical Specifications/Objective
1	Raw material stacker	01 No., Dimension: 80mm x 80mm x 460mm
2	Double Acting Cylinder	Used for Pushing the object from stacker to conveyor module.
3	Raw material	Cubical Blocks, 6 Nos., Dimension: 75mm x 75mm x 75mm

II) CONVEYOR MECHANISM/MODULE

No.	Item Name	Technical Specifications/Objective
1	Conveyor Belt	1 No., 100mm X 800mm
2	Roller Conveyor	1 No., 100mm X 650mm

III) LIFTING MECHANISM/MODULE

No.	Item Name	Technical Specifications/Objective
1	Platform	100mm x 100mm
2	Double Acting Cylinder	Used for Lifting Up the Objects, thus forming a Lifting Mechanism. The Piston rod of the Double Acting Cylinder lifts the object.

IV) SORTING MECHANISM/MODULE

No.	Item Name	Technical Specifications/Objective
1	Sorting Mechanism	Used to sort different Objects, such as Metallic Objects & non-metallic objects
2	Double Acting Cylinder	Used to sort the Object & push it off the Roller Conveyor.
3	Objects to be sorted	The Sorted Object is collected in a Chamber. Metallic & Non-Metallic Blocks

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