

**SAP E & C PLC BASED ELECTRO HYDRAULIC SORTING MECHANISM
(PRODUCT CODE: SAP – 87 H)**



FIG. PLC BASED ELECTRO HYDRAULIC SORTING MECHANISM

PLC Based Electro Hydraulic Sorting Mechanism (SAP – 87 H) outlines the basic Principle of Hydraulic Control System & its applications for Sorting Mechanism using PLC, electronic Proximity position sensor & electro-mechanical actuators (solenoid valves).

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-	Inductive type : 3nos., 3wire PNP type, 24 VDC, Sensing Distance: 5-8mm 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.
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 SolenoidValves-	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 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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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 AC50 Hz suitably used for direct on line starting of an induction motor.

Note:

All descriptive matter and illustrations are intended to give only a general idea of the equipment Detailed specifications may be altered at the company's discretion without any notice.

