AUTOMATION LAB

Lab location E 2072
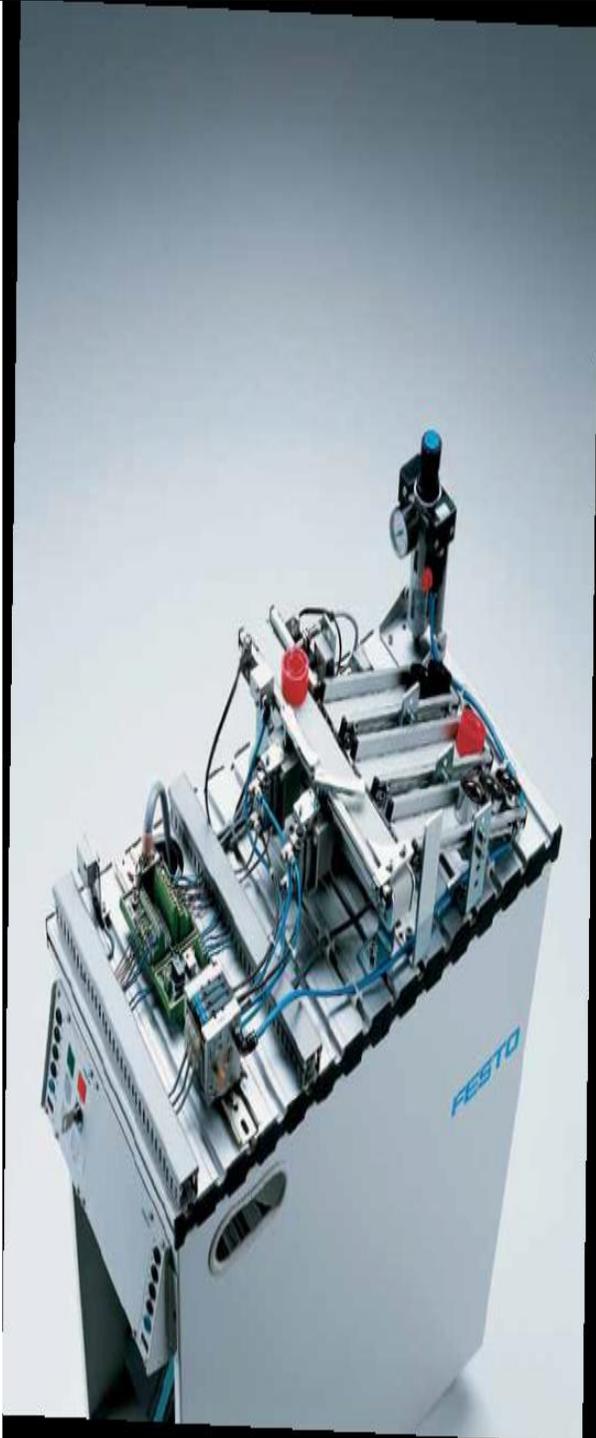
Device name : Sorting station

Function

The Sorting station sorts workpieces onto three slides. Workpieces placed on the start of the conveyor are detected by a diffuse sensor. Sensors upstream of the stopper detect the workpiece features (black, red, metal). Sorting gates actuated by short stroke cylinders via a deflector allow sorting of workpieces onto the appropriate slides. A retro-reflective sensor monitors the level of the slides.

Experiments associated with it :-

1 - P ogramming On- Off inputs to produce

On - Off outputs .

2-Creating ladder diagrams from process – contro

 description.

3-Develop a PLC ladder diagram using internal

Relay command to include a start – stop
Operation .

4- Apply PLC timers (S_PULSE . S_PEXT, S_ODT,

 S_ODTS and S_OFFDT) .
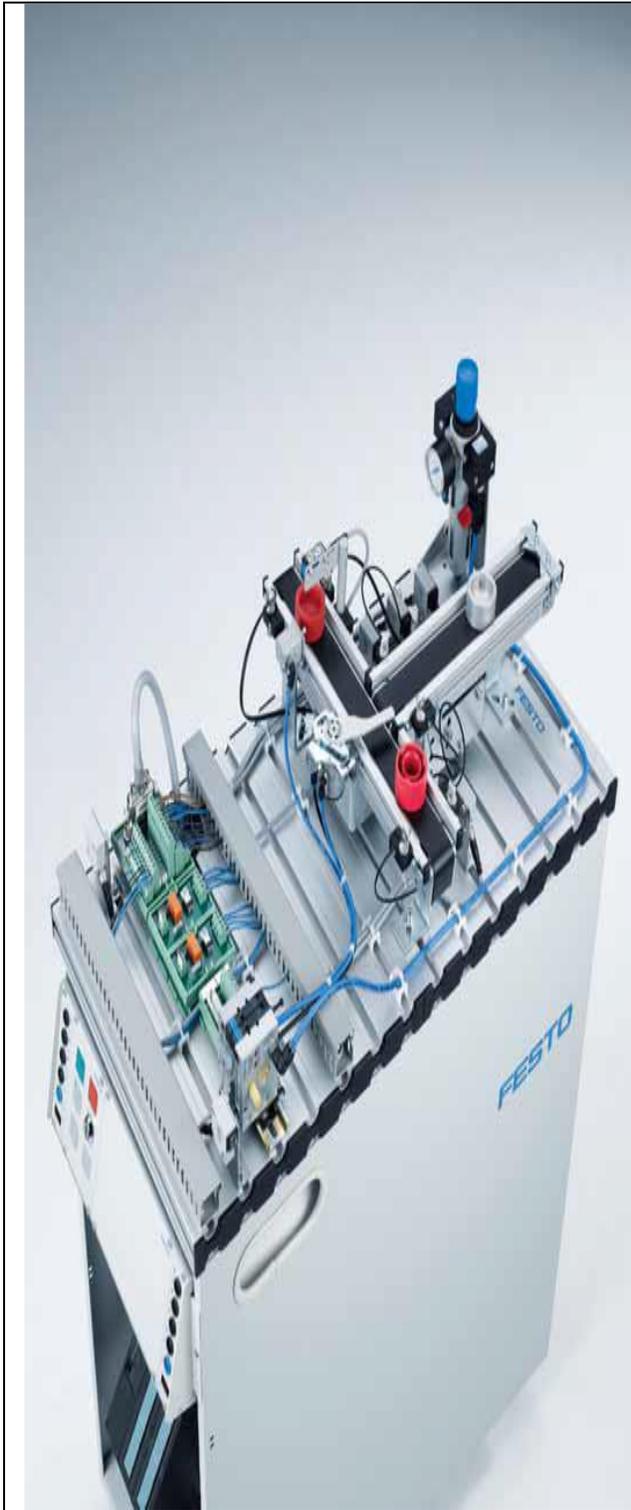
Device name : Separating Station

Function

The Separating station separates workpieces based on their drilled hole depth into two different material flow directions. Workpieces placed on the conveyor are transported to the depth measurement point. An analogue diffuse sensor checks the drilled hole depth. Workpieces of the type (deep hole) are transported to the end of the conveyor. Workpieces of the type (shallower hole) are directed towards the rear via the second conveyor using a pneumatic branching gate with rotary drive.

Experiments associated with it :-

1 - P ogramming On- Off inputs to produce
  On - Off outputs .

2-Creating ladder diagrams from process – contr

 description.

3-Develop a PLC ladder diagram using internal

  Relay command to include a start – stop
  Operation .

4- Apply PLC timers (S_PULSE . S_PEXT, S_ODT,

 S_ODTS and S_OFFDT) .

	Device name : Pick & Place Station
	Function The Pick & Place station is equipped with a two-axis Pick & Place module and a Conveyor module. Optical diffuse sensors or through-beam sensors detect the workpiece housing placed on the conveyor. The conveyor transports the workpiece to the electric feed separator. The Pick & Place module picks up a workpiece insert from the slide and places it on the workpiece housing. The complete workpiece (housing and insert) is released by the separator and transported to the end of the conveyor.
	Experiments associated with it :- 1- Programming On- Off inputs to produce On - Off outputs . 2-Creating ladder diagrams from process – cont description. 3-Develop a PLC ladder diagram using internal Relay command to include a start – stop Operation . 4- Apply PLC timers (S_PULSE . S_PEXT, S_ODT, S_ODTS and S_OFFDT) .