



**Mayura Automation & Robotic Systems**

**25, Crescent road, West Shenoy nagar, Chennai - 600 030**

**Ph.: + 91- 9789049050**

# **AUTOMATIC HARD GELATIN CAPSULE MACHINE**

**Pharmaceutical Industry**

**PLC/HMI , SERVO BASED SOLUTION**



## **ABOUT THE PROJECT**

Various types of medicines come in the form of capsules. Empty Gelatin capsule is used in bulk quantity by the pharmaceutical industries. The product requires very high degree of precision in terms of quality, transparency and strength.

The automatic capsule manufacturing machine is developed with its mechanical design automated by the 7-axis motion control which gives synchronization between its 7 axis using CANopen communications of motion control PLC. CANopen is an open industry-standard communication protocol and device profile specification.

The 7 axis here refers to the 7 servo motors controlled by servo drives namely

Main Pusher servo (1)

Body Stack servo and Cap stack servo (2)

Body Dip servo and Cap Dip servo (2)

Body Spin servo and Cap Spin servo (2).

## **MACHINE CONTROL SOLUTIONS**

**PLC:** Schneider Electric Motion Controller LMC058

**HMI:** Schneider Electric HMI XBT OT – Colour touch Screen with RS-232, RS-485, USB, Ethernet ports

**SERVO DRIVES:** LXM32 A with CAN Open Ports

**SERVO MOTORS**

## **SCOPE OF MAYURAS**

System Integration

PLC Programming

HMI programming

Servo Drive Programming

Field Instrument Calibration

## **FEATURES**

- Fully automatic and High speed Operation
- Production speed – 72,000 Capsules/Hour
- Compact design with Servo drives and motors
- Real time monitoring and Data logging with touch screen HMI display and optional SCADA.
- Automatic cooling and drying unit with temperature controllers integrated with PLC.
- CANopen communication between PLC and Drives, for synchronized operation and also reducing the wiring complications.
- Automatic cutting and rejection of capsules with defects.
- Precise control and constant monitoring of humidity, Temperature and gelatine viscosity through-out the production process.
- Safeties are included in all critical areas of the capsule making machine to diagnose any problems, prevent accidents and damages.
- Operator friendly for running and trouble-shooting.

# SCHEMATIC BLOCK

