

# RAISING AUTOMATIC MOTIVATION ! HYROBOTICS !

Sur-Flo, Inc - Located in Michigan is a tier one supplier of plastic molded products and recently installed HYRobotics Nexia series fully servo robot on their Milacron 750 and 725 ton molding machines

2 HYROBOTICS NEXIA-800S ROBOT

CINCINATTI MILACRON 750 TONS

CINCINATTI MILACRON 725 TONS



CINCINATTI MILACRON 725 TONS

- Project Goal: Unloading parts from mold (very intricate shaped parts)
- PARTS HANDLING : Molded part has 2 cavities, top part doesn't have a place to suction on the front face and needed to be pulled downward following ejector forward motion. The bottom part needed to be pulled out before the top part to protect ejector pins.
- IMM : Cincinatti Milracon 725 Tons with SPI Plug ( Customer supplied )
- ROBOT : HYROBOTICS NEXIA-800S ( 3 Axis Servo with pneumatic for Chuck Rotation )
- EOAT : 2 Flat Suction Cups with 2 Chucking Unit for Top parts and 2 Bellows suction cups with 2 Retract cylinder for bottom parts , 4 Surface angle adjustment bracket.

## INSTALLATION

- 2 Robot mounting Preparation : 1 Hour
- 2 Robot Mount with Crane : 3 Hours
- IMM Interface Wiring / Test : 3 Hours
- EOAT Set up in the field ( 2 Hours )
- Robot Programming ( 3 Hours )
- Ran in Full Auto ( 1 Hours )
- Next Day : Training Service : 6 Hours to each shift supervisor ( 8 Supervisor ).
- Customer will make secondary automation with user input and output function from Robot control later

How Robot runs. ( Need handling inside of mold : Benefit of full servo robot )

1. Mold Open. 2 Robot Down and Reach to Parts. 3 Ejector Forward, 4 Top Part : Chuck Forward and Suction. 5 Bottom Parts : Chuck Forward Suction and Backward with Part. 6. Robot Arm Move down so TOP part can get away from Ejector Pin. 7. After Parts are attached EOAT , Ejector Pin Retract. 8. Robot arm go up. 10. Next Cycle Start.



**HYROBOTICS CORP**

**5988 MID RIVERS MALL DR. ST. LOUIS MO 63304**

**TEL : 1-636-578-6059, Fax : 1-866-232-5594**

**WWW.HYROBOTS.COM , Email : Sales@hyrobots.com**

All information is subject to change without any notice .

# RAISING AUTOMATIC MOTIVATION ! HYROBOTICS !

SECONDARY AUTOMATION WILL BE INSTALLED LATER BY CUSTOMER AND QUALITY PROBLEM SOLVED, BETTER MOLDING CONSISTENCY IN PRODUCTION



## NEXIA –800S SPECIFICATION ( For 700 ~ 850 Ton IMM )

1. 2500mm Traverse Stroke
  2. 1600mm Descent Stroke
  3. 1200mm Kick Stroke
  4. 90 Deg Chuck Rotation
- Traverse, Kick, Descent Axis : AC Servo Motors ( Yaskawa )
  - Chuck Rotation : Festo Pneumatic
  - Double Arm Support for more rigidity
  - Telescopic Arm for Fast and low ceiling requirement.

## RESULTS

- FOR SECONDARY AUTOMATION
- QUALITY PARTS PRODUCTION
- WITH CONSISTENCY
- IN LESS CYCLE TIME
- WITH LESS LABOR

CINCINATTI MILACRON 750 TONS

## NEXIA SERIES ROBOT CONTROLLER

Additional Features.

- Body Attached Main Control / IMM Interface box for less foot print.
- IMM Interface interlock signal with Bright Blue and RED LED Signal to confirm Robot and IMM Interface
- Steel Traverse Base Frame for more rigidity
- Light but High strength Aluminum Extrusion for Kick Frame.
- Optimized body structure for long run job.
- Industry best component : Yaskawa Servo Motor and Festo Actuator.
- Rounded Design for Customer's Factory tour
- NSK Linear Motion Guide
- Extremely Quiet & Smooth Operation

Control Features.

- Simple and Flexible Touch Screen Controller.
- Each axis has soft touch button ( Jog )
- Fully Programmable Controller
- Manual , Mold Creation, Auto, Maintenance Screen.
- Input and Output can be review in the Touch Screen
- Step by Step Operation or 1 Cycle and Full Auto
- Time Delay control.
- Possible to change position, timer, speed while robot is in Auto
- Robot arm can add more position / motion inside of molding machine to unload intrigue molded parts
- Additional position, motion and user input and output easily added in programming.
- Insert Molding, Stacking is ready in program.
- Other convenient molding automation features.



NEXIA SERIES CONTROLLER : 5.7 INCH TOUCH SCREEN WITH SOFT TOUCH JOG BUTTON



**HYROBOTICS CORP**  
**5988 MID RIVERS MALL DR. ST.LOUIS MO 63304**  
**TEL : 1-636-578-6059, Fax : 1-866-232-5594**  
**WWW.HYROBOTS.COM , Email : Sales@hyrobots.com**

All information is subject to change without any notice .