

# Stacking and Palletizing System

## Stacking and Palletizing System



## When to use a Stacking and Palletizing Solution

This type of system provides:

- Automatic handling of product with no operator intervention
- Reduces ergonomic and repetitive strain issues due to operators handling large or heavy product
- Automatic control of the product with part reject capability to detect and remove damaged parts
- Can reduce material handling floor space, fork lift traffic and part storage by loaded finished parts directly onto skids



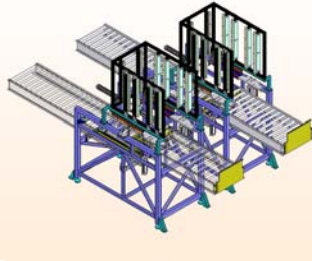
## Equipment Specifications

Customer Requirements for the system

- Home the bail arm
- Palletize
- Stretch Wrap stacked totes

Part Types and Production Rates

- 2 Part types - Small and Large Totes
- 1 tote stacked every 3 seconds



## Station # 1

Home Position of Bail Arm

- Mechanical lever raises the handle to common reference point
- Second lever lowers the bail arm to home position
- Sensor will verify the home position of bail arm
- Failed parts will be diverted off-line



## Station # 2

Tote Upstacker

- An upstacker magazine will stack the totes 16 high
- Average cycle time of 2.25 seconds per tote



## Station # 3

Pallet Destacker

- Pallets are fed into the robot cell via an automatic pallet dispenser and conveyors transfer them to the robot load area



Progressive Automated Systems

550 Trillium Drive Unit # 3 ~ Kitchener, Ontario ~ N2R 1K3

~ Phone 519-748-5756 ~ Fax 519-748-9156 ~ [www.progsystems.com](http://www.progsystems.com)

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## Station # 4

### Tote Stacker

- 6- axis robot used to pick 16 totes at a time
- Stacks are placed on the pallets 2 stacks high
- Once loaded the pallet is shuttled on a power conveyor that drives the pallet to the stretch wrapper



## Station # 5

### Stretch Wrapper

- Stretch wrapper integrated by PAS
- Once wrapped the skid will be pushed onto a powered discharge conveyor
- Fork truck to unload at the end



## Controls System

- Allen Bradley Compact Logix PLC with full documentation
- Allen Bradley Panelview Plus 700 operator interface
- Pro 1 DataPro data collection system
- All programs allow full automatic and manual operation of the system
- Operator interface is programmed to display system status through color and graphical representation
- System faults are detailed with station/device description and PLC I/O address



## Mechanical Quality Standards

- Welded structural steel machine frame
- Blanchard ground, nickel flashed table tops
- All machined surfaces are plated or painted to inhibit rusting
- All machined areas subject to wear will be hardened
- Main airline filter/regulator c/w quick dump and soft start
- Flow control fittings on cylinder ports
- Part present sensors at all critical locations



## Machine Safety

- Third-party engineering safety inspection completed
- Perimeter guarding with access doors and safety switches
- American National Standards Institute (ANSI)
- CSA Z432-1999 - Safeguarding of Machinery Standard
- Ontario Electrical Authority Code
- CSA Z434-2003 - Industrial Robot Safety Standard
- Risk assessment completed during design (FMEA)



Progressive has experience with all types of Stacking and Palletizing applications

We will customize the system to your specific automation requirements

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