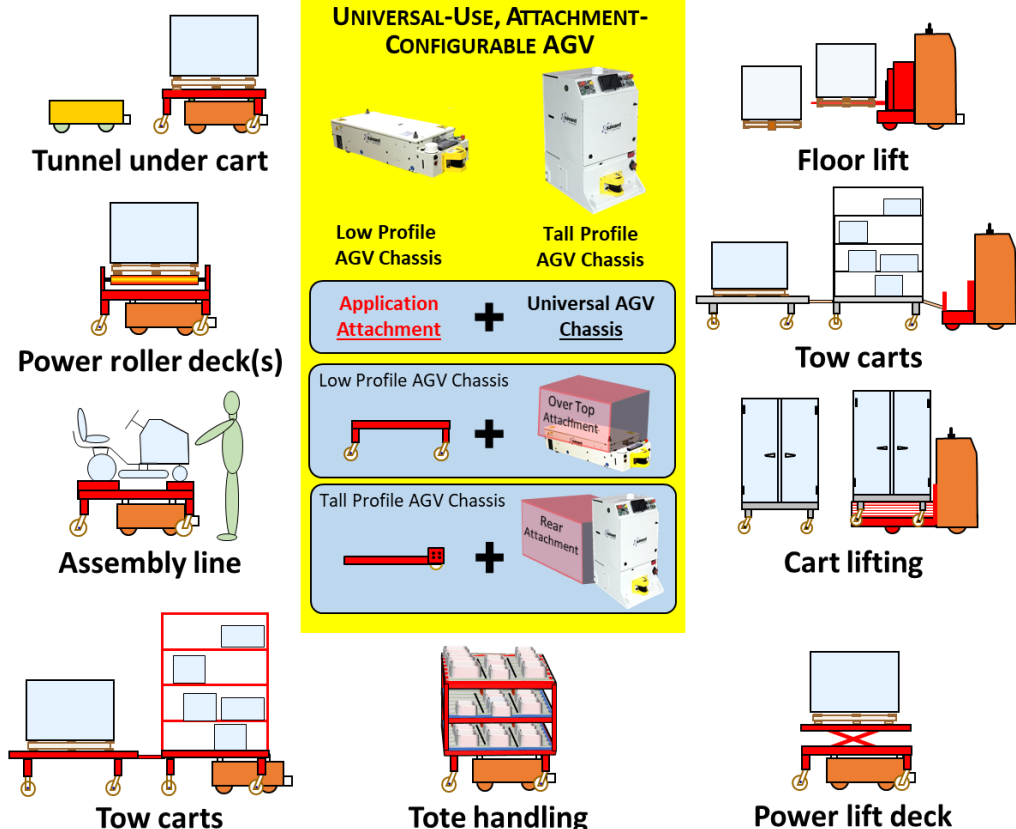


Multiple-Use, Tape/Target-free AGVs

SYSTEM APPLICATION INFORMATION FOR BUDGET PRICING

Multiple-use AGVs (Automatic Guided Vehicles)

- Single vehicle design supports variety of applications and can be re-purposed for changing needs
- Reduce manual cart and material transport labor and track every move
- Accurate positioning for Interfaces with conveyors, robots, and automatic battery charging
- Integrate with host systems (WMS, WCS, remote I/O, IT and PLC networks) for automatic AGV 'from/to' transport missions
- Infinitely scalable – start small and easily add more units, path, destinations.
- Zero-maintenance, 'virtual path' for quick change flexibility.



INSTRUCTIONS:

1. Complete relevant portions of this form as best possible.
2. Please return to Savant and an AGV Application Specialist will review the submitted information, contact you to discuss a recommended system concept and prepare a budgetary or firm price proposal.

Email form to: garry.koff@savantautomation.com or Jordan.Arnt@savantautomation.com

Phone Contact: Garry Koff (616) 485-6300 Jordan Arnt (616) 791-8540 x238

General Required Information

PROJECT CONTACT

Customer name _____

Address _____

Contact name _____

Email address _____

Title _____

Telephone no. _____

SITE INSTALLATION LOCATION

Facility: ☐ New ☐ Existing ☐ Combination

What is the product being handled _____

Expected purchase date _____

Desired delivery date _____

Project funding ☐ Approved budget ☐ Pre-Approval feasibility



☐ Under Platform Cart



☐ AGV Stays Under Cart ☐ AGV Drives Under and Automatically Captures Cart

☐ Use existing carts or, ☐ Will purchase new carts

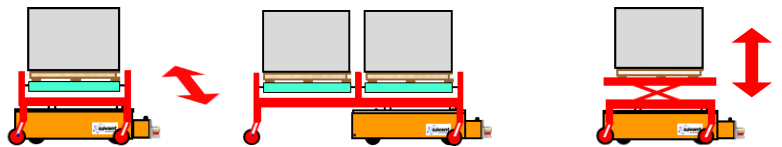
Max cart size: ____" L x ____" W Min cart size: ____" L x ____" W

Cart weight including max. load ____ lbs,

Vertical clearance under cart ____" (Must be same for all carts)



☐ Powered Deck Cart



☐ Single ☐ Dual Powered Roller ☐ Powered Lift

Load Size ____" L x ____" W ____" H Weight ____ lbs.

Load transfer elevation ____" above floor

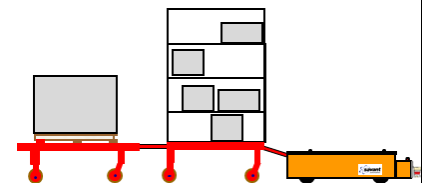
No. of Pick/Drop conveyor stands ____ Powered ____ Gravity



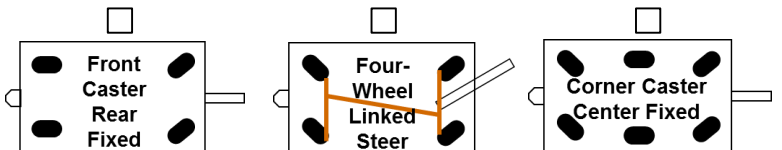
☐ Tow Multiple Carts

☐ Carts hitched/Unhitched by Operator

☐ Automatic Cart String Hitch/Unhitch



Select Cart Type:



[All carts/dollies/trailers must have fixed rear hitches]

Cart size: ____" L x ____" W x ____" H

Loaded cart weight ____ lbs. Number of carts towed ____

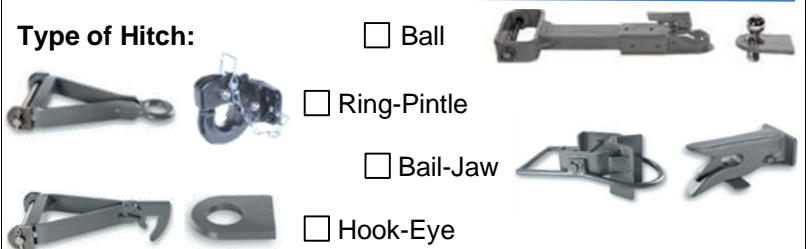
Type of Hitch:

☐ Ball

☐ Ring-Pintle

☐ Bail-Jaw

☐ Hook-Eye





☐ Tote Deck Carts

☐ Automatic Pick/Drop ☐ Manual Pick/Drop

Tote Size: ____ "L x ____ "W x ____ "H

Tote weight ____ lbs.

Number of tote compartments ____

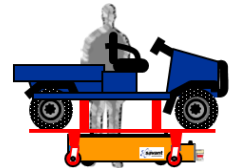
Max number totes carried ____



☐ Assembly Line

Type of Assembly Line Process:

- ☐ Synchronized Index
☐ Asynchronous Index
☐ Continuous Movement @ ____ feet per minute



Type of Assembly stations (choose one or more):

- ____ # of manual process stations
 ____ # of automatic process stations

Line rate: ____ per hour

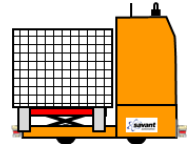
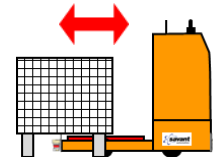
Work piece rotation required? ☐ Yes ☐ No

Work piece elevation required? ☐ Yes ☐ No



☐ Floor Lift AGV

- ☐ 2,000 lbs. capacity
☐ 4,000 lbs. capacity


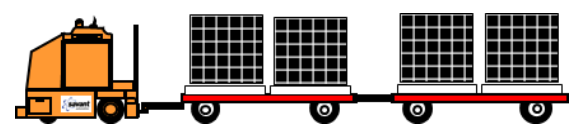


Load Weight ____ lbs.

Load Size ____ "L x ____ "W x ____ "H

Lift Elevation Lowered ____ " Raised ____ "

Minimum Clearance for lift under load ____ "

	<div style="background-color: #f4a460; padding: 5px; border: 1px solid black; margin-bottom: 10px;"> <input type="checkbox"/> High Capacity Tow AGV </div> <div style="text-align: center; margin-bottom: 10px;">  </div> <div style="margin-bottom: 10px;"> <input type="checkbox"/> 10,000 lbs. capacity <input type="checkbox"/> 30,000 lbs. capacity <input type="checkbox"/> 50,000 lbs. capacity </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Please complete additional info listed in Tow Multiple Carts section on page 2 </div>
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System Information

Approx. Length of Path	_____ Feet <input type="checkbox"/> All Indoor	_____ Number of destinations <input type="checkbox"/> Indoor / Outdoor	
Narrowest Aisle Width	_____ Inches		
Door Interfaces	_____ # of Fire doors	_____ # of Automatic doors	
Inclines/Ramps	_____ " Length _____ "	_____ " Width _____ "	_____ " Rise _____ "
Floor Surface	<input type="checkbox"/> Concrete <input type="checkbox"/> Asphalt	<input type="checkbox"/> Block <input type="checkbox"/> Plank	<input type="checkbox"/> Steel Tile/Plate <input type="checkbox"/> _____
Floor Condition	<input type="checkbox"/> Rough <input type="checkbox"/> Dry	<input type="checkbox"/> Smooth <input type="checkbox"/> Wet	<input type="checkbox"/> Minor cracks <input type="checkbox"/> Oily
Multiple Floor Levels	<input type="checkbox"/> No	<input type="checkbox"/> Yes	_____ Number
Floor Discontinuities	<input type="checkbox"/> Expansion joints <input type="checkbox"/> Drain covers <input type="checkbox"/> Bridge crossings <input type="checkbox"/> In-floor rail	_____ Size _____ Size _____ Size _____ Size	_____ Number _____ Number _____ Number _____ Number



SYSTEM APPLICATION INFORMATION FOR BUDGET PRICING

Load Activity _____ Shifts per day _____ Hours per shift

From Location	To Location	No. of Loads/Hr.			From Location	To Location	No. of Loads/Hr.		
		Peak	Avg.				Peak	Avg.	

Vehicle Management

Vehicles will be Dispatched Using:

- ☐ Manual Dispatch - Operator dispatches vehicle
 - ☐ Using On-board Vehicle Tablet
 - ☐ Using central 'Circulator' application to create/assign repetitive destination sequence routes for AGVs

Or, _____

- ☐ Remote Dispatch - Vehicle is dispatched automatically by optional AGV call/dispatch application
 - ☐ Using Station-initiated Signal to Call for Vehicle
 - Pushbutton Locations _____ HMI Locations _____ Automatic Load Sensing Locations _____
 - ☐ Using Control Interface to Other Computer/PLC Systems that provides load pick & drop destinations
 - ☐ PLC Network ☐ Warehouse Management/Control System (WMS/WCS)
 - ☐ Mfg. Execution System (MES) ☐ Production Control System (PCS) ☐ Other _____

Battery Charging

- ☐ Standard Manual Exchange
- ☐ Opportunity (Automatic) Charging
- ☐ Manual Connect to Charger

Interfaces with Robots or Other Automation

(please describe)

Describe System Operation

System Layout - Please Do One of the Following:

- ☐ Submit AutoCAD drawing of customer facility with suggested path route showing destinations
- ☐ Provide sketch of AGV path (pdf, image, etc.) showing destinations

Additional Information/Comments

NEXT STEP

1. Please return this per instructions on page 1, along with a preliminary path drawing and any pictures of loads, carts, travel areas, station areas, and load pick/drop interface equipment.
2. A Savant AGV Application Specialist will review the submitted information, contact you to discuss a recommended system concept and prepare a budgetary or firm price proposal.



NOTE

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE BASED ON PRODUCT IMPROVEMENTS OR TECHNICAL REQUIREMENTS.

FORM: 0618r3SAINQ