

CASE STUDY

INDUSTRIAL MANIPULATOR

Client: Whirlpool
Location: Cleveland, TN
Date: 9-28-11

Application Analysis:

Load- oven
Weight- 116 to 250-lbs
Shape- square
Size:
Width- 27" to 30"
Depth- 22"
Height- 23" to 41"
Pick point- from conveyor at 25" above floor level
Distance of travel- 5' (up to 15' for future expansion)
Place point- on conveyor at 18" above floor level; add 3" for bottom of shipping carton
Cycle time- 40 seconds (does not include traveling 15')
Tilt- yes, up to 1" from front to back for stacking purposes
Ceiling height- 32'
Type of system- integrated hoisted based gripping system attached to ceiling; with float capability to provide precise positioning when stacking units.

Image of load



Handling Cycle Description:

Lift a oven one at a time from a conveyor, move it up to 5' and place it on a foam clad corrugated base sitting on a 2nd conveyor. Some ovens may have a microwave attached to the top which we cannot grip or attach to. There is a 6" wide x 23" high space on either side of the oven to place the vacuum gripping pads. Vacuum pads are desired due to the oven's structure not being able to withstand the force a conventional gripping system would apply. Stack one oven on top of the other.

Handling Solution:

Mirus 100 with vacuum cup tooling

ATIS Mirus is a rigid articulated arm manipulator with a parallelogram structure capable of vertical movements, this allows the handling of products as if they were weightless with extreme precision.

These manipulators can be integrated with customized gripping solutions especially designed and developed to meet any request.



The gripping tools can be equipped with manual or pneumatic movements to comply with the most difficult handling requests.

Especially dimensioned according to the performances requested and also depending on the gripping solution applied, ATISmirus is capable of moving weights relieving the operator from most of the effort and also in a very natural way.

The lightness and functionality of the system is obtained by keeping in consideration during the design phase all the operator's needs, this is considered essential through all development stages.

ATIS Mirus is available in the following configurations: column mounted fixed to the floor, column mounted on self-standing base plate, fixed overhead or overhead rail mounted.

The manipulator does not work with electricity but with compressed air with a pressure of 5 to 7 bar. This simplifies remarkably the installation phases reducing the operations for set up of utilities in the working area.

Technical Characters:

Supply :	compressed air
Transmission of motion:	through a parallelogram and terminal arm
Available Configuration:	- column mounted fixed to the floor - column mounted on transportable base plate - fixed overhead mounted - overhead mounted on rails
Capacity:	573-lbs (260 Kg) * (2450 mm radius)
Radius Max:	10.5' (3250 mm)* (range 180 kg)
Radius Min:	1.3" (400 mm)
Vertical lift:	5'- 5.75'- 6.75' (1500 - 1750 - 2050 mm)
Air pressure:	from 0.5 to 0.8 MPa of clean, dry and oil free compressed air
Column axis:	360° continuous rotation
Intermediate axis:	max 300° rotation
Noise level:	<70 dB

Price range for this application \$33,000.00

End