In-Mold Labeling Turnkey Solutions

High Performance IML Automation

Technology working for you.

Wittmann
world of innovation

Two Types of Robots: Top Entry and Side Entry Robots

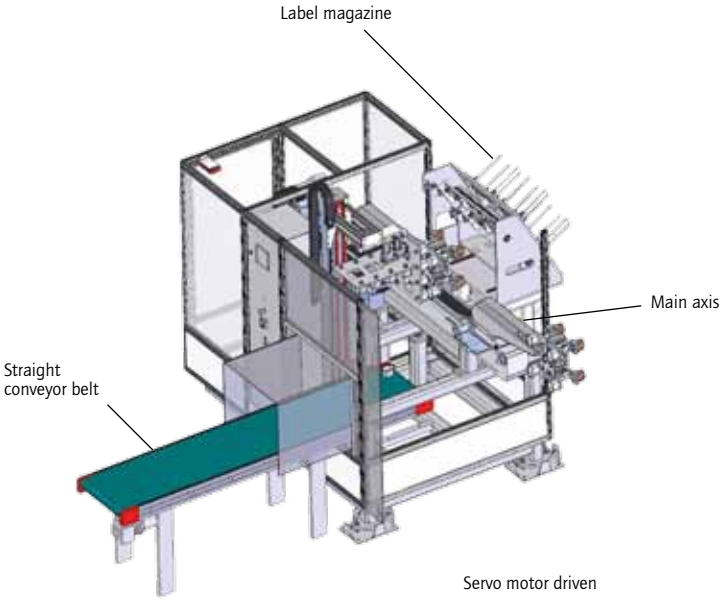
Advantages of WITTMANN IML automation:

- A wide variety of solutions with top or side entry robot.
- A complete range of label magazines for sizes from 30 ml up to 20 l containers.
- Standard TeachBox for all WITTMANN robots.
- Open programming.
- Numerous options for control and stacking.
- Turnkey solutions with injection molding machines.
- Worldwide services for start-up and training.

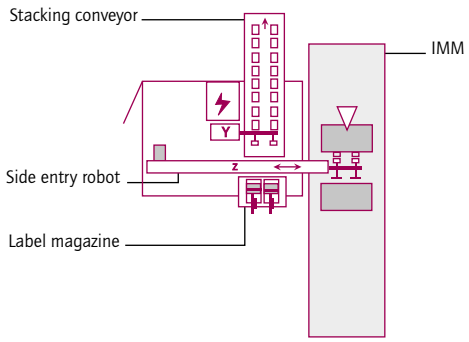
Side Entry Robots

Side entry robot features:

- Standard steel frame with safety housing element and safety door.
- High-speed side entry robot W737 with dual linear bearings for high stability.
- Gripper frame made of steel for heavy loads.
- Stacking unit up to 1,400 mm.
- Dummy core in resin with efficient static charge elements.
- User-friendly label magazine that reloads during production.
- High capacity output straight conveyor belt.
- Stack mold version with 5 independent servo axes.

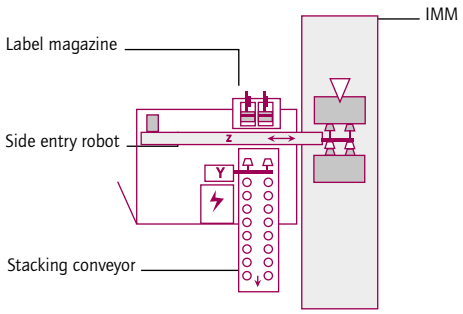


W737 Primus F – Flat labels for lids, 3-sided to 5-sided container labels



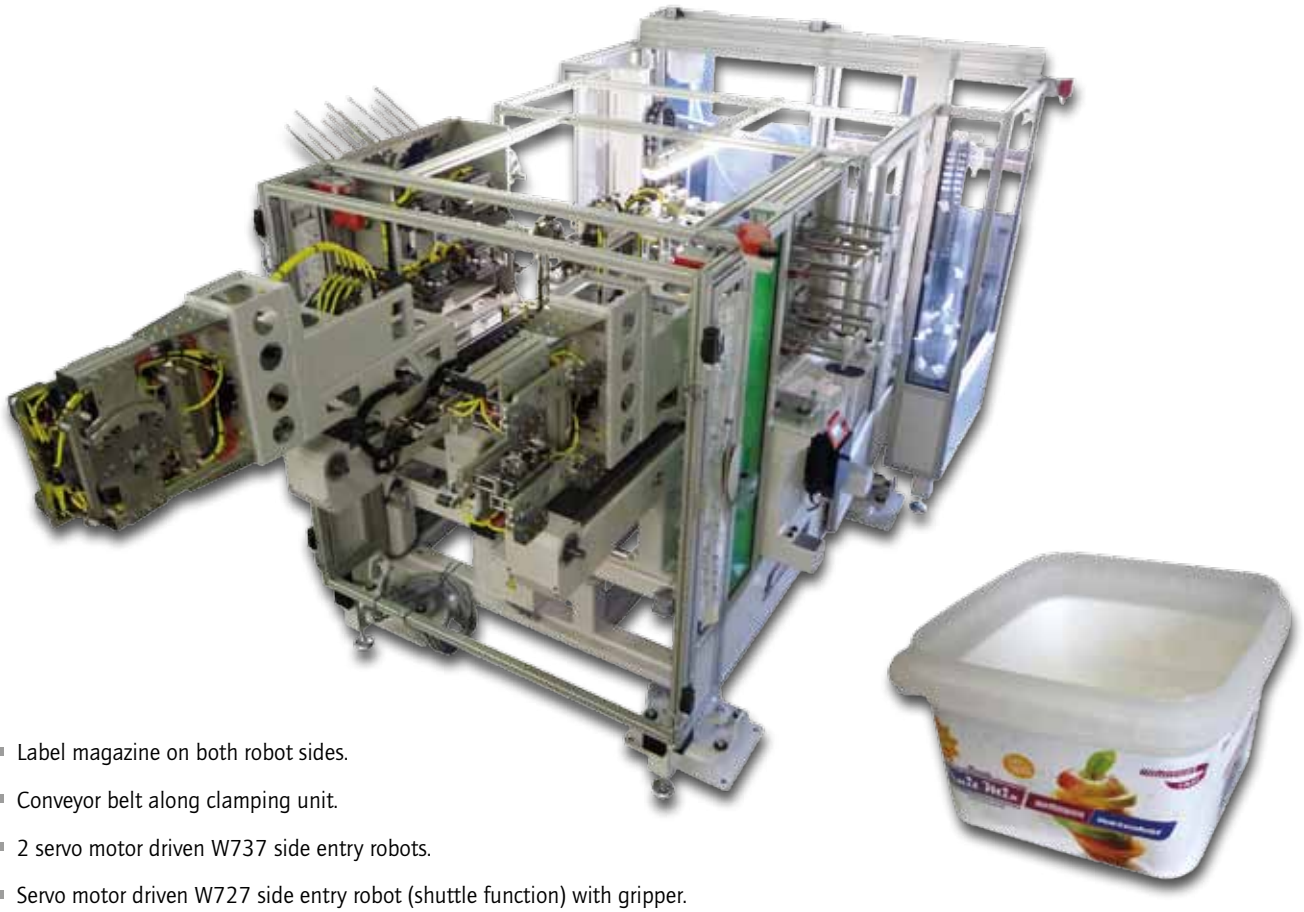
FLAT LABEL	Lid	3-sided	5-sided
Number of cavities	≤ 8		≤ 8
IMM clamping force	≤ 500 t		
Dry cycle time	3 sec	4 sec	4 sec
Foot print area	1,850 x 2,250 mm		
Robot weight	1,800 kg		
Maximum payload	50 kg		
Maximum speed	6 m/sec		
Consumption of electricity	18 KVA		

W737 Primus W – Wrap around labels

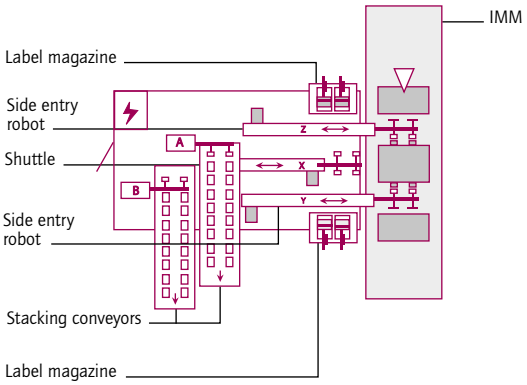


WRAPPED LABEL	≤ 250 ml	≤ 500 ml	≤ 1,5 l	≤ 5 l
Number of cavities	≤ 8	≤ 8	≤ 4	≤ 2
IMM clamping force	≤ 500 t			
Dry cycle time	4 sec	4.5 sec	5 sec	7 sec
Foot print area	1,850 x 2,250 mm			
Robot weight	1,800 kg			
Maximum payload	50 kg			
Maximum speed	6 m/sec			
Consumption of electricity	18 KVA			

W737 TWIN Stack Mold



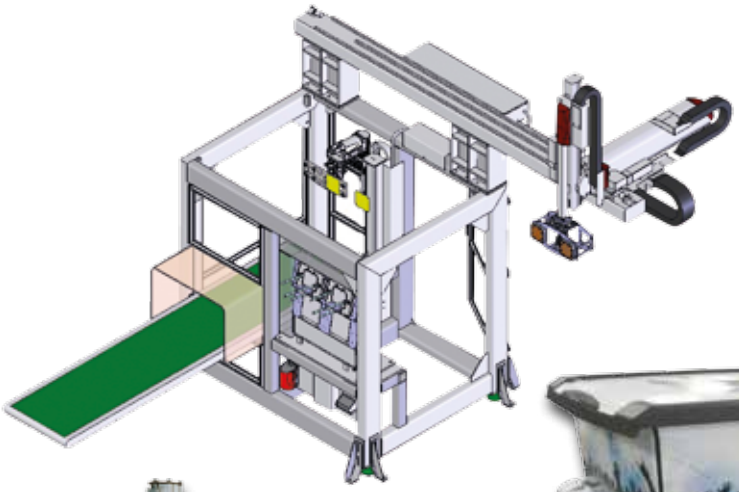
- Label magazine on both robot sides.
- Conveyor belt along clamping unit.
- 2 servo motor driven W737 side entry robots.
- Servo motor driven W727 side entry robot (shuttle function) with gripper.
- All types of label magazines can be used.
- Gripper for part removal and label placement.
- Labels are statically charged by the use of electrical pads that are integrated in the dummy cores on the end-of-arm-tooling (EOAT).
- The parts are stacked open side up.
- The W727 side entry arm ensures label pick-up from any label separation unit, an exact label placement, and an exact part take-out.
- The molded parts are palletized on the conveyor belt according to special program patterns.
- The robot can be used for the production of parts without labels.



LABEL PLACEMENT	360° Wrap			Lid/Container		
	≤ 250 ml	≤ 500 ml	≤ 1,500 ml	Flat	3-sided	5-sided overlap
Number of cavities	≤ 8 + 8		≤ 4 + 4	≤ 12 + 12	≤ 6 + 6	≤ 6 + 6
IMM clamping force	≤ 500 t			≤ 500 t		
Dry cycle time	5 sec	5.5 sec	6 sec	4 sec	4.5 sec	5 sec
Foot print area	2,300 x 3,670 mm					
Height	2,220 mm					
Weight	2,500 kg					
Maximum payload	50 kg					
Consumption of electricity	18 KVA					

Top Entry Robots

- Robot models are ranging from W811 (5 kg) up to W853 (75 kg).
- The robot can be mounted on the fixed platen, or on an external frame.
- High flexibility design for all kinds of IML applications (flat labels or wrap labels).
- Possibility of using an external stacking unit.
- Gripper with quick coupling connection.



Stack of
20 lit. boxes

W818

Quick coupling connection

ROBOT	W811	W821	W832	W833	W843	W853
IMM clamping force	≤ 200	≤ 400	≤ 650	≤ 750	≥ 750	≥ 750
Dry cycle time	10 sec	8 sec	10 sec	10 sec	14 sec	14 sec
Maximum payload	5 kg	10 kg	20 kg	15 kg	35 kg	75 kg
Horizontal stroke Z-Axis max.	2,500 mm	4,000 mm	5,000 mm	5,000 mm	6,000 mm	6,000 mm
Vertical stroke Y-Axis max.	1,200 mm Simple vertical arm	1,200 mm Simple vertical arm	1,600 mm Simple vertical arm	1,800 mm Telescopic arm	2,600 mm Telescopic arm	3,000 mm Telescopic arm
Kick stroke X-Axis max.	620 mm	550 mm	900 mm	900 mm	1,200 mm	1,500/2,000 mm
ULTRA HIGH SPEED ROBOT		**W821 UHS**	**W832 UHS**	**W833 UHS**		
Dry cycle time		6 sec	7 sec	7 sec		
Maximum payload		3 kg	7 kg	5 kg		

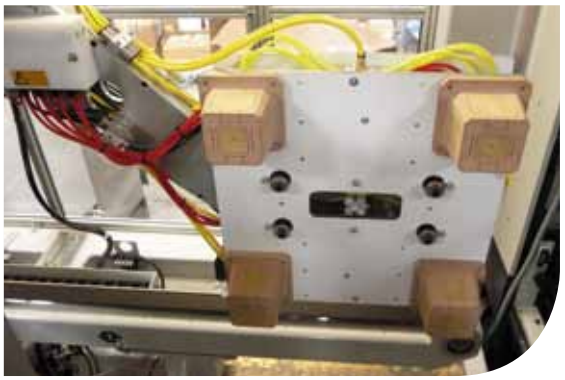
End-of-arm-tooling

- Grippers are highly rigid and are made of steel or aluminum sections.
- Dummy cores are made of the latest material generation, providing maximum efficiency in regard to electrostatic charges.
- Auto-wrapping mandrel stands for short cycle times and higher label placement accuracy.
- A full range of servo motor options available in regard to kick stroke and dummy rotation.

Dual compartment container

End-of-arm-tooling

4 containers: 500 ml each



15 ltr. square bucket dummy

2 l 1 ltr. double servo stroke

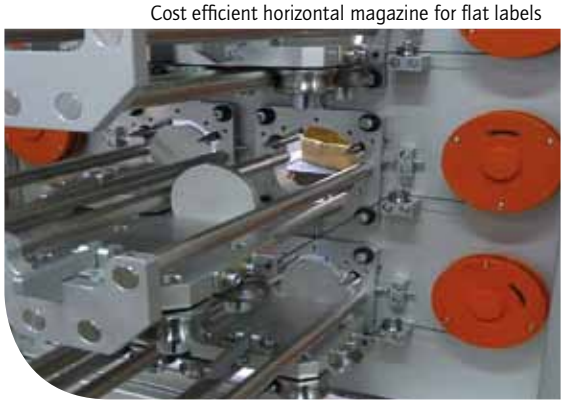
Label Magazine

- Storage and dispensing of labels.
- Error-free separation of each single label for absolute reliable operation.
- Reloading the magazine is possible without interrupting the robot's activities.

Inclined label magazine

Turntable for different label shapes

Cost efficient horizontal magazine for flat labels



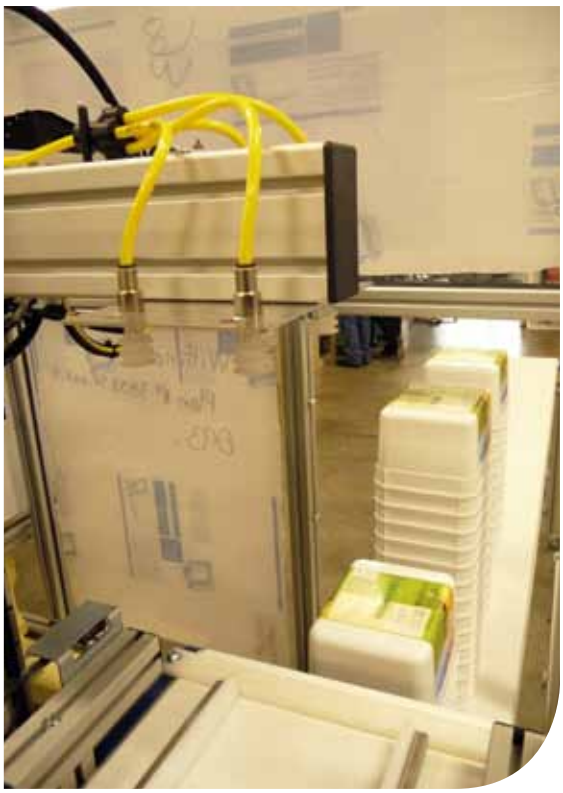
Vertical magazine for large labels

Stacking Function

- Accumulation of the finished parts on the conveyor belt in regular intervals.
- Extends the cooling time.
- Robot/Conveyor interface included.
- Conveyor belt dimensions: 2,500 x 600 mm.

Belt material suitable for food processing

Horizontal stacker available for cups



Various Options

- Floor guiding rails facilitating the repositioning of the robot's axis.
- Guiding rail is equipped with a hand wheel for moving the robot precisely.
- Different solutions for packing the parts in boxes are available.

Packing unit

Floor guiding rail for mold thickness adjustment

Electrostatic discharge bar

Stairs for user-friendly label loading

Parts Inspection Solutions

Label detection: color sensor

Label detection: bar code scanner

- Visual control system using a camera.
- Label detection system.
- Label placement accuracy ± 0.5 mm.
- Integrity of label through overmolding.
- Integrity of the part (no flashes).

Other Options

OPTION	W737	W737 TWIN	Top entry robot
Servo stroke for label insertion	•	–	•
Servo dummy core	•	–	•
Part stacking with the open side down	•	•	•
Part quality inspection – vision system	•	•	•
Packing unit (in boxes)	•	•	•
Vacuum pump	•	•	•
Discharging static bars (stacking process)	•	•	•
Polycarbonate roof on robot frame with lighting	•	•	–
Linear bearings under the frame (mold thickness adjustment)	•	•	•
Stairs for comfortable label magazine reload	•	•	•
Manual control button on conveyor belt	•	•	•
Part sampling	•	•	•
Bar code reader	•	•	•
Color sensor switch	•	•	•

WITTMANN France: Worldwide IML Competence Center

- The WITTMANN Group is one of the largest manufacturers of robots and automation systems for the plastics industry.
- About 300 WITTMANN IML systems are in operation worldwide since the company launched its IML business in 1999.
- Highly trained international WITTMANN subsidiaries and agents ensure optimum service and support, no matter where you are located.


Uhlmann

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