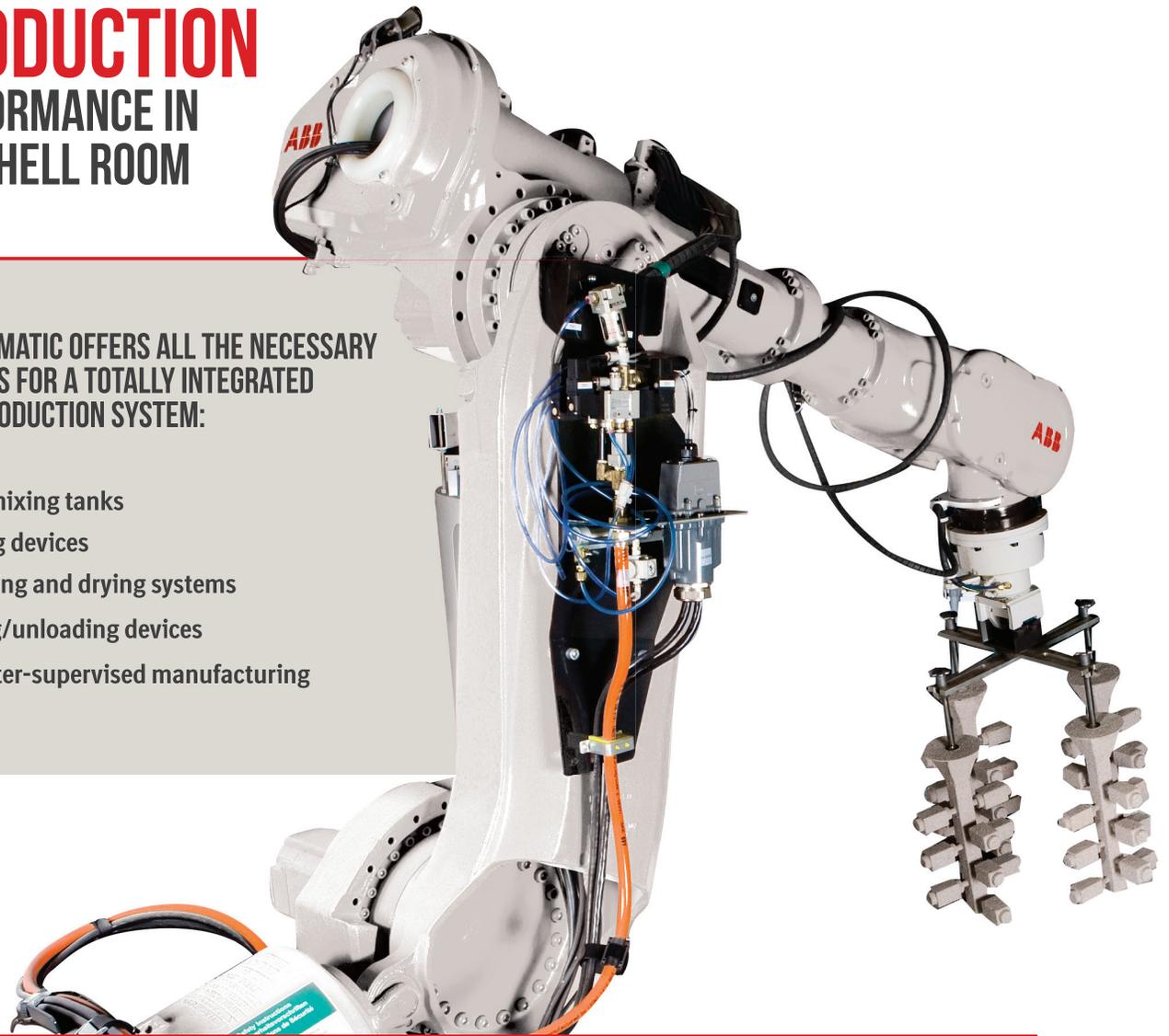


CERAMIC SHELL PRODUCTION

PERFORMANCE IN THE SHELL ROOM

SHELL-O-MATIC OFFERS ALL THE NECESSARY ELEMENTS FOR A TOTALLY INTEGRATED SHELL PRODUCTION SYSTEM:

- » Robots
- » Slurry mixing tanks
- » Sanding devices
- » Conveying and drying systems
- » Loading/unloading devices
- » Computer-supervised manufacturing

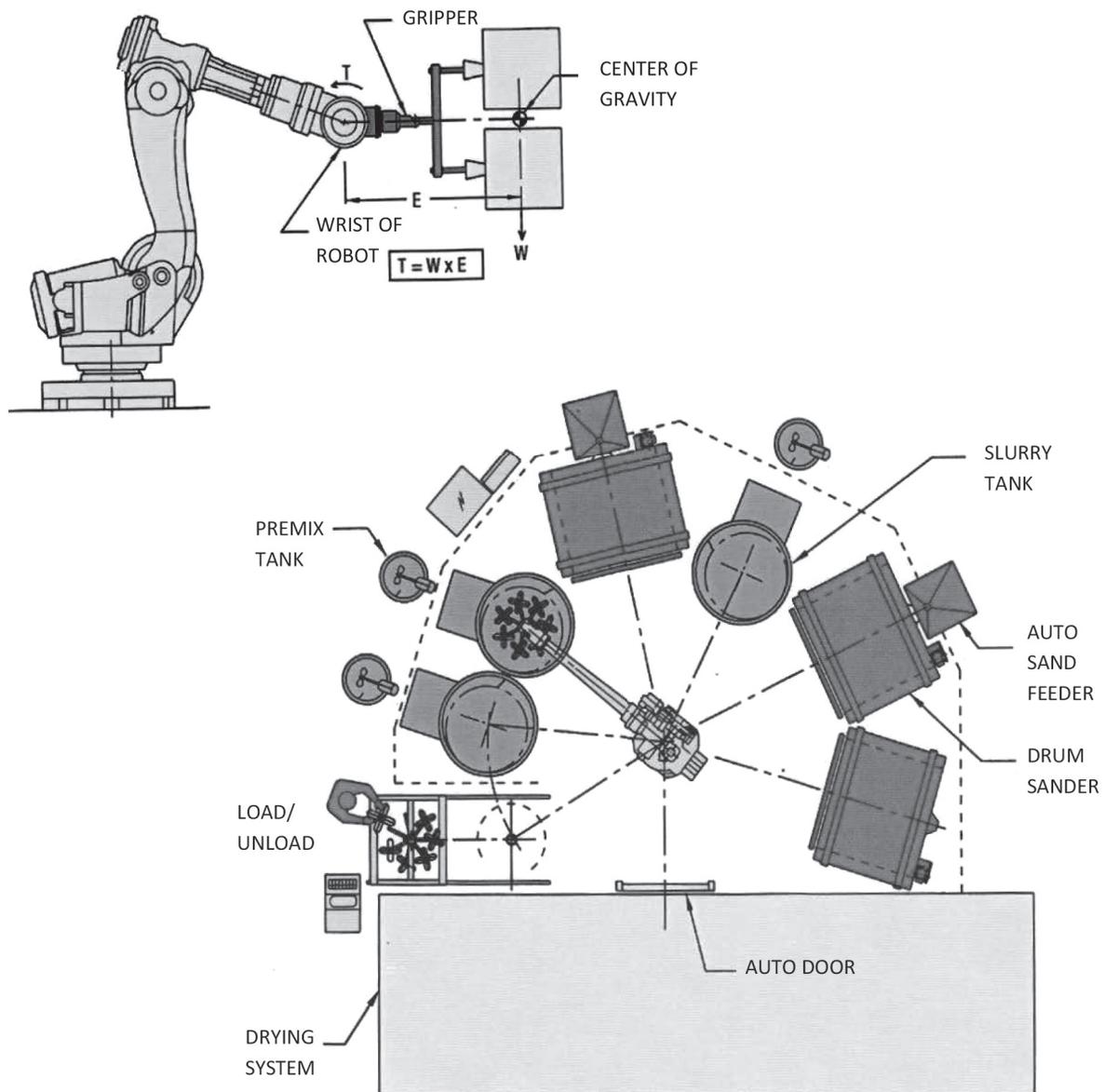


TYPICAL COMPLEX CASTING PRODUCED ON SHELL-O-MATIC EQUIPMENT

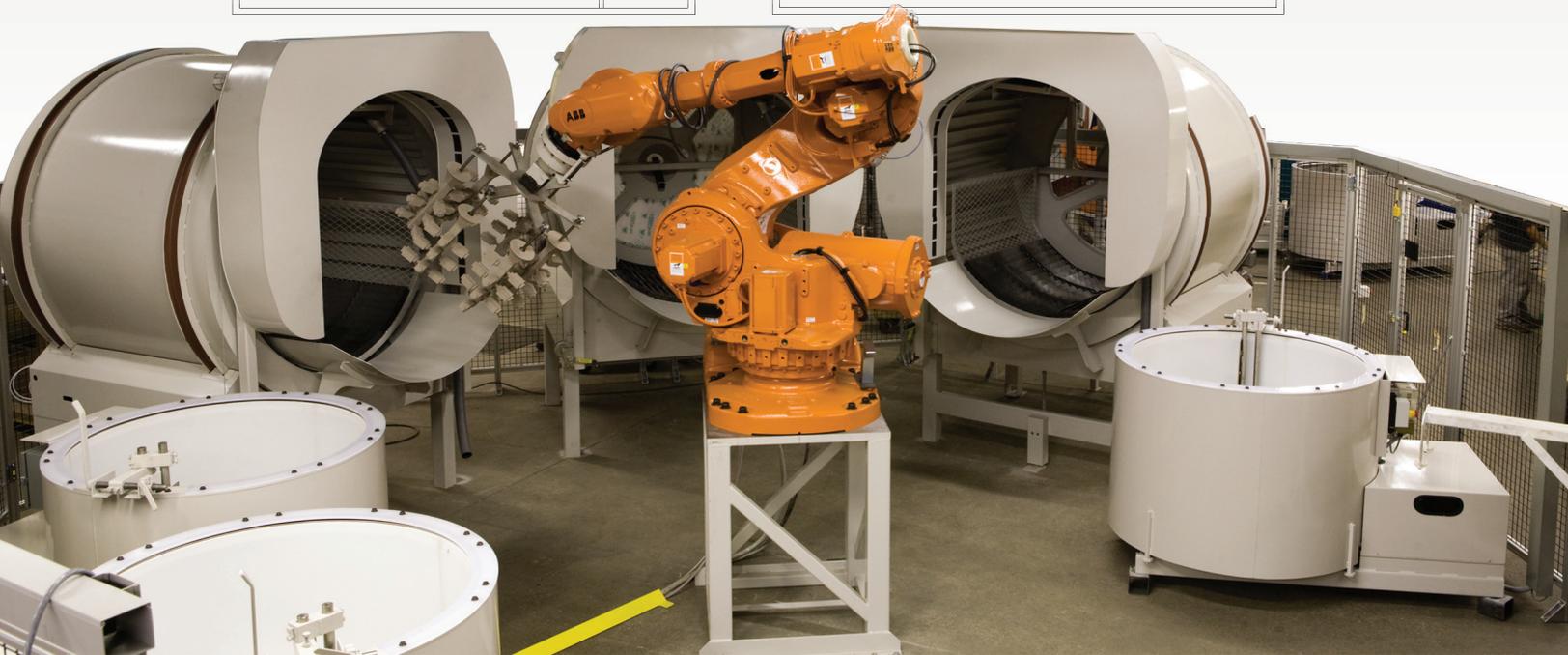
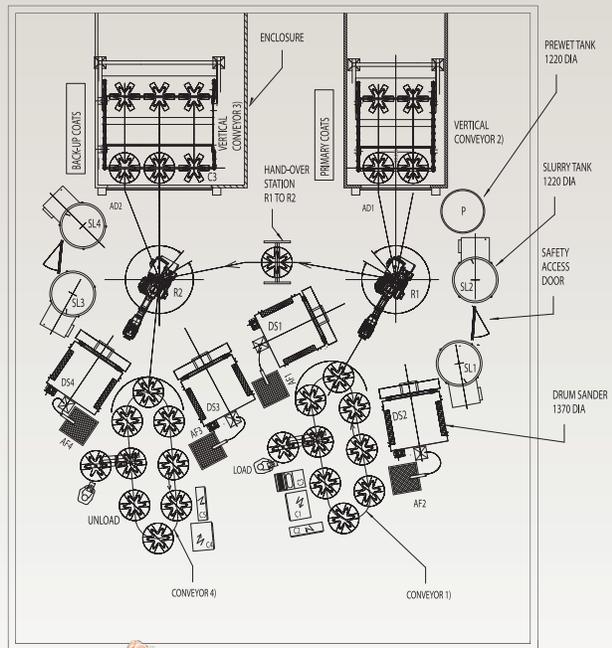
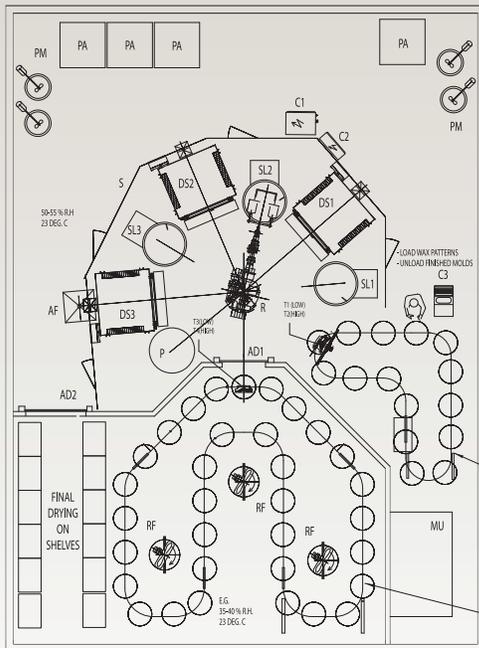


EXAMPLE OF A ROBOT BUILDING SYSTEM

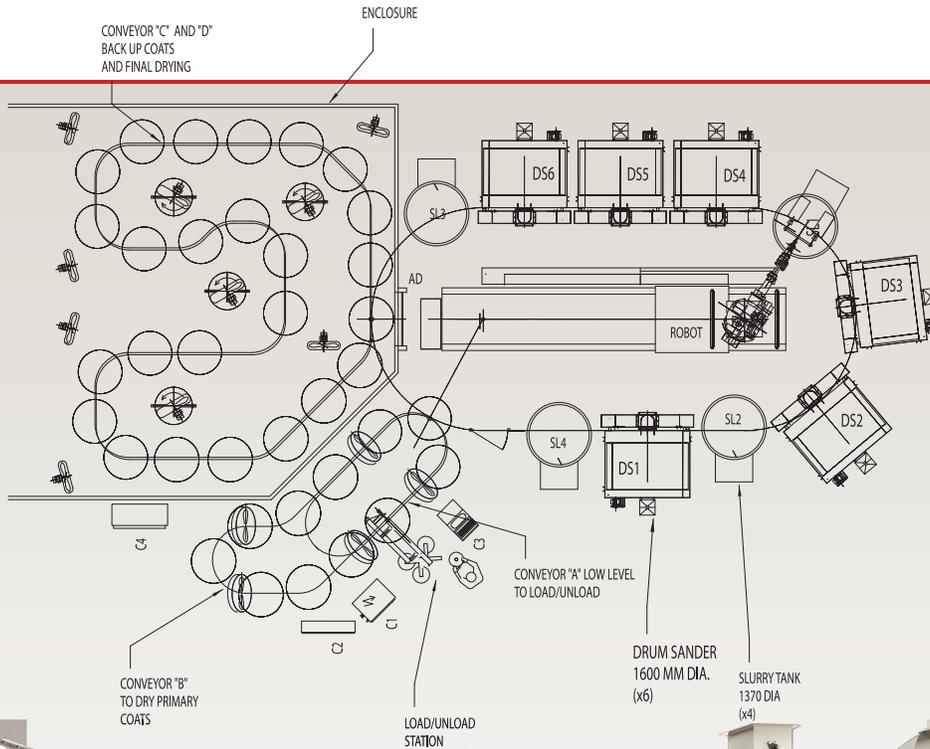
The 6 axis articulated robots are offered with a range of load capacities and physical “reach”, depending on the application. Careful consideration must be given to the torque “T” so that the robot’s wrist can resist the effect of load and distance.



SYSTEM WITH 6 AXIS ROBOTS



SYSTEM WITH A 7TH AXIS TRAVERSE MODULE



SHELL MANAGEMENT SUPERVISORY SYSTEM



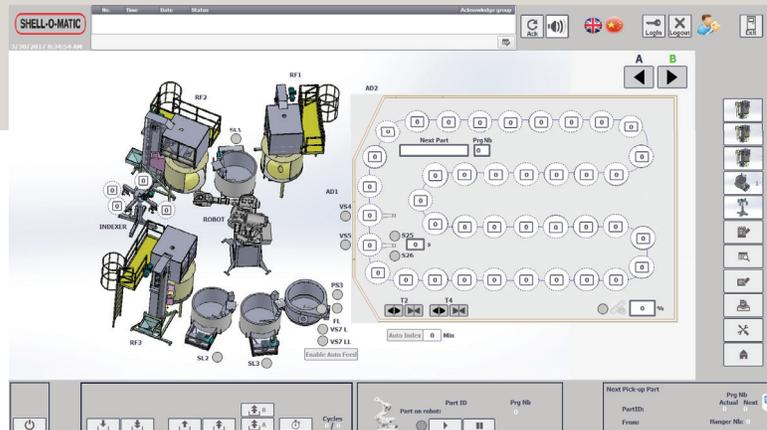
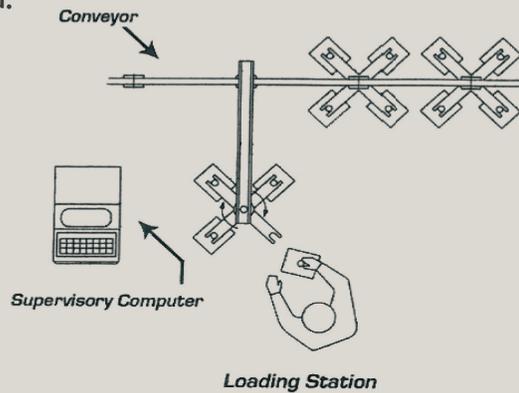
DESCRIPTION

At loading point: Using a bar code scanner, the operator will enter the part number/recipe at the mini console when a cluster is loaded into the system.

Supervisory Computer: Will automatically select the proper program for a certain part which appears at the pickup point of the conveyor transfer station. If the part is not yet dry or if an empty hanger is there, the computer will index the conveyor at high speed to the next hanger ready to be dipped.

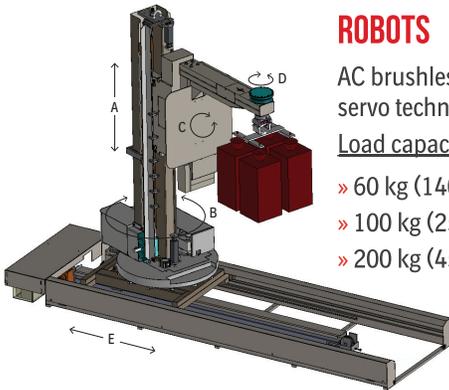
The recipe is the manufacturing instruction on how to build a ceramic shell for a certain part. The system can be configured for single or multiple robots and conveyor lines.

At unloading point: When a hanger with finished dipped molds appears at the unloading point, a light will flash. Once removed from the conveyor, the operator presses the acknowledgement button to erase the parts from the computer. At that moment, a dipping report is generated.



CERAMIC SHELL PRODUCTION EQUIPMENT

FROM SINGLE UNITS TO COMPLETELY ENGINEERED PROJECTS



ROBOTS

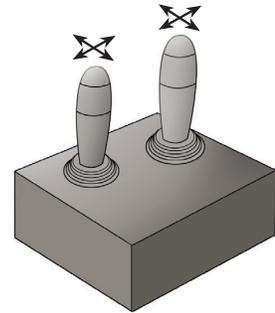
AC brushless servo technology

Load capacities

- » 60 kg (140 lbs)
- » 100 kg (250 lbs)
- » 200 kg (450 lbs)
- » 360 kg (800 lbs)
- » 675 kg (1500 lbs)

JOY STICK

With this option, you can add manual operations in the middle of an otherwise automatic robot program.



MOLD TRACKING SYSTEM

BAR CODING of part number helps you avoid operator errors.



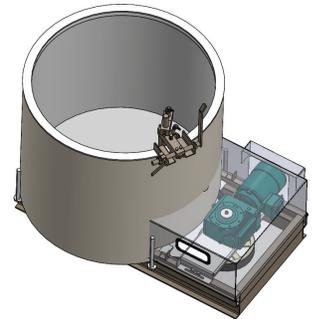
MINI CONSOLE contains supervisory computer and printer. Enclosure is dust protected and ventilated.



SLURRY MIXING TANKS

Tank Ø

- 610 mm (24") 1370 mm (54")
- 760 mm (30") 1525 mm (60")
- 812 mm (32") 1700 mm (68")
- 915 mm (36") 1905 mm (75")
- 1040 mm (41") 2232 mm (88")
- 1090 mm (43") 2540 mm (100")
- 1220 mm (48")



PART DIPPING REPORT

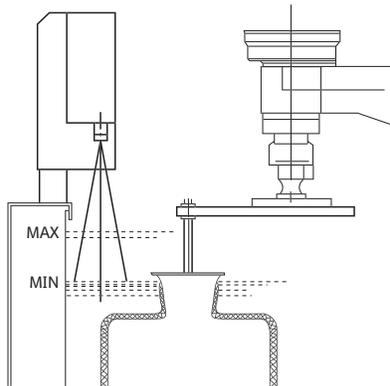
PART #: 12345 ON HANGER #: 35

COAT	PROGRAM #	START DIPPING TIME	TEMP. (C)	REL. HUMIDITY (%)	ACTUAL DRYING TIME (MIN)
1	9	11:11 23-10	25	45	147
2	11	13:38 23-10	25	45	153
3	3	16:11 23-10	25"	46	145
4	3	18:36 23-10	25	45	176
5	7	21:32 23-10	25	45	165
6	90	00:17 23-10	25	45	212

When a mold or a cluster of molds has received all coats and has been removed from the coating system, a report is automatically printed showing all the vital parameters of the shell-building process.

SLURRY LEVEL SENSING SYSTEM

The robot follows the slurry level and coats every mold to the same height.



RAINFALL SANDER

RAINFALL

Model Sand rain Ø

100	760 mm (30")
140	960 mm (38")
250	1220 mm (48")
350	1470 mm (58")
550	1670 mm (64")
600	1980 mm (78")



Also available:
Combined rainfall/
fluidizer

FLUIDIZED BED AND HIGH PRESSURE BLOWER

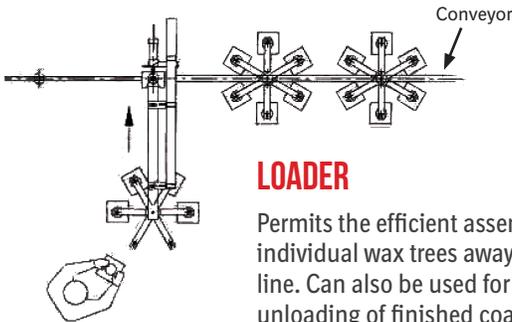
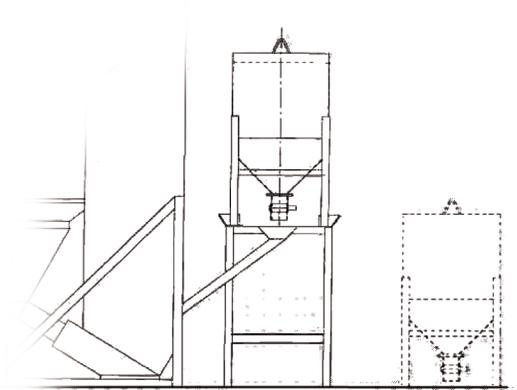
Fluidizer Ø

570 mm (22.5")
760 mm (30")
915 mm (36")
1015 mm (40")
1145 mm (45")
1270 mm (50")
1350 mm (53")
1525 mm (60")



SAND FEEDING SYSTEMS

For rainfall sanders and fluidized beds.
Floor based or mezzanine based.
Combined with level sensor allows fully automatic operation.

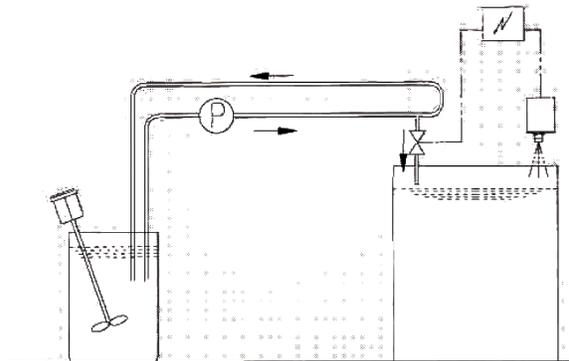
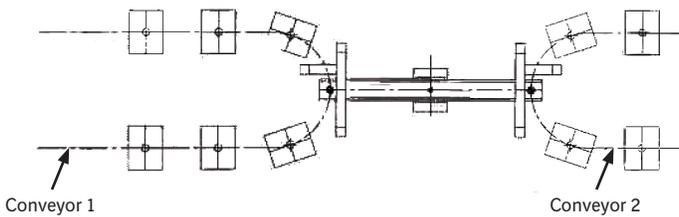


LOADER

Permits the efficient assembly of clusters from individual wax trees away from the conveyor line. Can also be used for the unloading of finished coated parts.

TRANSFER SHUTTLE

This linear handling device automatically moves molds from one conveyor to another.



AUTO ROLLING DOOR

(Vertical)

AUTO SLIDING DOOR

(Horizontal)



ELEMENTS AND SYSTEMS for drying rooms and tunnels. Control relative humidity, temperature and air speed.

SLURRY PREMIXING AND FEEDING

Floor based and mezzanine based systems.