



Solutions Through Partnership

Automatic Debugging System

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Elevate your material handling process with TSM Control Systems' Automatic Debugging System.

This innovative solution embodies efficiency and safety, significantly reducing labor and enhancing operational smoothness. Designed for the modern industrial environment, our system streamlines bulk material handling with advanced technology and simplified operations. Discover the Automatic Debugging System – a pivotal step towards smarter, safer, and more sustainable material management.

Improvements from Auto Material Debugging:

- Reduce labour time required for debugging
- Faster material loading into Storage Silos
- Reduce space required for bag storage
- Remove fire hazard with external bag storage
- Remove moisture issues from material getting damp while stored outside
- Cleaner factory floors
- Reduce material wastage from manual Debugging
- Remove external material decanting costs



Additional Benefits

1. **Cleaning up the yard (External):** Decanting bags on arrival to site will reduce probability of material bags being burst while in storage.
2. **Safety from fire aspect:** External storage of 25 sacks of polymer externally present a fire hazard currently. Decanting the 25 sacks into silos ensure that this risk can be removed and keeps the polymer protected.
3. **Safety - removing stacking of pallets - falling over risk:** Stacking of polymer sacks presents a safety risk currently as they can tip from time to time. Decanting these bags into silos will remove this risk to staff on the premises.
4. **Addresses labour shortages:** The automated debagging unit requires much less manual interaction (Approx 80% reduction in labour hours) meaning this labour can be deployed to other parts of factory.
5. **Wet polymer causing processing issues:** Polymer stored in bags externally gets wet and then requires to be staged initially to dry out / dried with a hot air dryer or requires the addition of drying additive (Desicant) into the process to allow it to be processed. Non of this is required once the material is decanted on arrival into the silos.
6. **Space saving from pallets:** Pallet space will now not be required as bags will be decanted directly into the silo automatically. This will free for large areas of space in the external yard.
7. **Remove the cost of the external bagging company:** Decanting can now happen onsite removing the time, transport and cost of decanting service.
8. **Management of production hall becomes easier and cleaner:** By removing the need for the forklift out of the production hall as material will be arriving by vacuum transport the production hall becomes cleaner and safer.

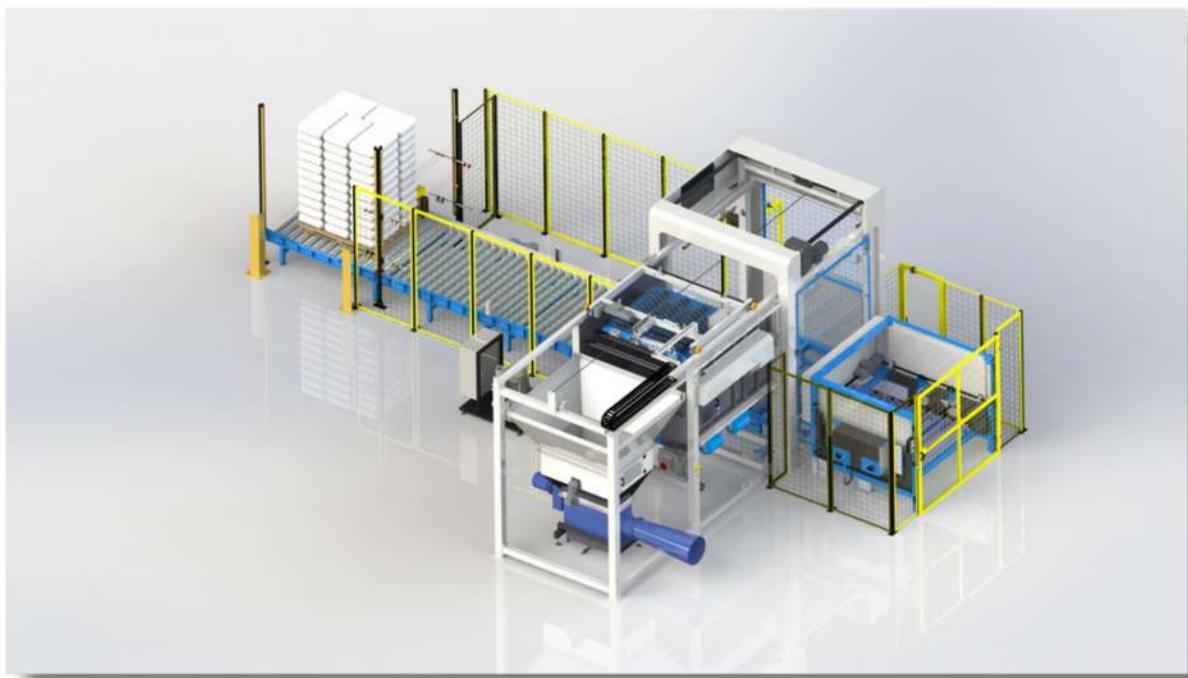


Principle of Operation

The full pallet is loaded by operator by means of forklift. When the pallet is loaded in proper position the lift of the machine by means of chain movement is raised up towards the machine head. The Head is equipped with special designed hocks which drives inside the bags. One layer of bags is taken from the pallet to the cutting stage. Bags are opening by rotary knives and the granules falls down inside the hopper.

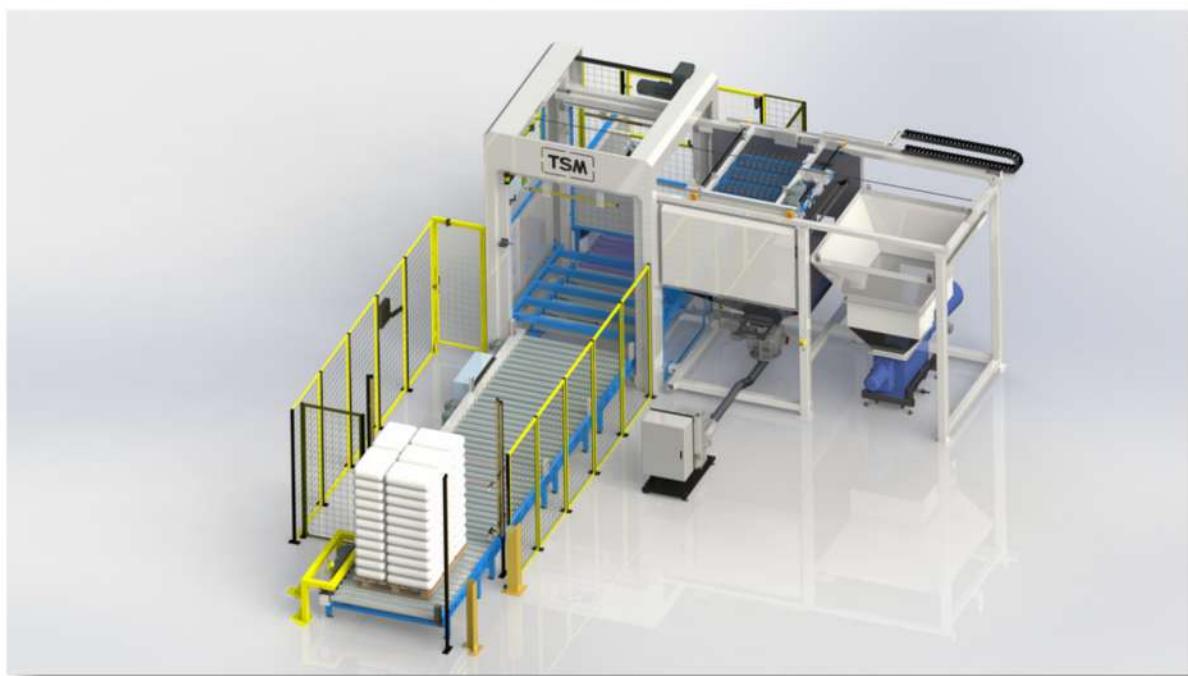
In the next stage, in order to avoid remaining rest of the granules, the bags are shaking by special designed hybrid biting system, which are orientated perpendicularly to the movement do the head carrying bags. In the last stage empty bags are throwing in the stainless steel container container.

When the pallet is finished, machine gives a signal to the operator to introduce another pallet with full bags.



Technical Data

Feature	Specification
Capacity	Regulated maximum 15t/h
Accuracy of Discharge	99.98%
Basic Machine Dimensions	2800 x 6000 x 3600 mm (W x L x H)
Pallet Dimensions	1300 mm x 1100 mm
Maximum Pallet Weight	1600 kg
Maximum Pallet Height	2200 mm
Pressurized Air Consumption	15 L per cycle, 8 bar
Frame Material and Coating	Carbon steel, Powder coating RAL 9003, RAL 3013





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Contact us

Europe Office Headquarters

Finnabair Industrial Estate, Marshes
Upper, Dundalk, Co. Louth, A91 PC2D

E-mail:
info@tsm-controls.com
Sales / Quotes:
sales@tsm-controls.com
Back-up Service:
service@tsm-controls.com

Tel: (+353) 429335560

North American Regional Office

TSM Inc. 1505 Johnson Ferry Road,
Suite 125 Marietta, GA 30062, USA

TSM Inc. 1404 Joliet Road, Suite B
Romeoville, IL 60446, USA

E-mail:
info@us.tsm-controls.com
Sales / Quotes:
sales@us.tsm-controls.com
Back-up Service:
service@us.tsm-controls.com

Tel: (770)886-6630

Asia-Pacific Regional Office

TSM Control Systems Taiwan Taichung,

E-mail:
info@tsm-controls.com.tw
Sales / Quotes:
sales@tsm-controls.com.tw
Back-up Service:
service@tsm-controls.com.tw

Tel: (+886) 424728185

China Regional Office

TSM China Office Tower, China Hotel
122 Liuhua Road Guangzhou,

E-mail:
china@tsm-controls.com
Sales / Quotes:
sales@tsm-controls.com.tw
Back-up Service:
service@tsm-controls.com.tw

Tel: +86-13-13925062596