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DEPRAG Automatic Station – underfloor [inverted] – for the Assembly of Motors with Bellows

Required Process:

Conveyor integrated assembly of bellows to motors using either one set of three screws or two sets of three screws.

Total Cycle Time: **10-seconds**

Solution:

One **DEPRAG** conveyor-integrated automatic Assembly Station, consisting of:

- Steel Frame
- **XY-Axis system** with motion controller
- **3 x SFM (Screwdriver Function Modules – inverted for underfloor assembly)**
- 1 x Conveyor module with RFID-reader
- 7 x Part Fixtures
- 2 x Pneumatic Down-Holder [Pressure Pads] at s screwdriving location
- **2 x DEPRAG – Lift and Locate systems**
- **1 x Automatic Part- and Variety Recognition System**
- **2 x DEPRAG – Screwfeeding Machines** (single and double)
- **2 x DEPRAG – Belt-Driven Supply Hoppers with 10-liter fill volume**
- **1 x DEPRAG LC2plus** – Screwdriving Controller and **TP2plus** - Display
- 1 x Indicator Light Column to display machine status

Cycle Description:

A pallet (WT), pre-loaded with motor and bellow, is positioned on the 1st Stopper using the lift-locate system.

A pneumatic down-holder secures and locks the product from the top, so that the assembly from underfloor (inverted) is possible.

The axis system indexes both SFM [Screwdriver Function Modules] to the screw-location(s) and the first two screws are assembled.

Each individual motor variety is verified by the RFID-reader, installed on the part pallet, and the correct screw positions are predetermined by the RFID-reader integrated with the conveyor and transmitted through its communication system.

Thereafter, the 3rd screw location is assembled on the 2nd Stopper. A data block on the pallet documents every assembly step.

The Indicator-light column shows the machine status:



RED	-	Error
YELLOW	-	No Parts
GREEN	-	Ready

