

# **Robot Integration in a small space.**

**Manufacturing cell for automatic material handling**  
FEEDBOT D-300 and DRILLTEQ V-500

## Advantages of automatic material handling with robot support

**FEEDBOT D-300, in Basic- or Advanced-Version, on DRILLTEQ V-500 vertical CNC processing center. Safe, precise, automatic handling of workpieces for more efficient production.**



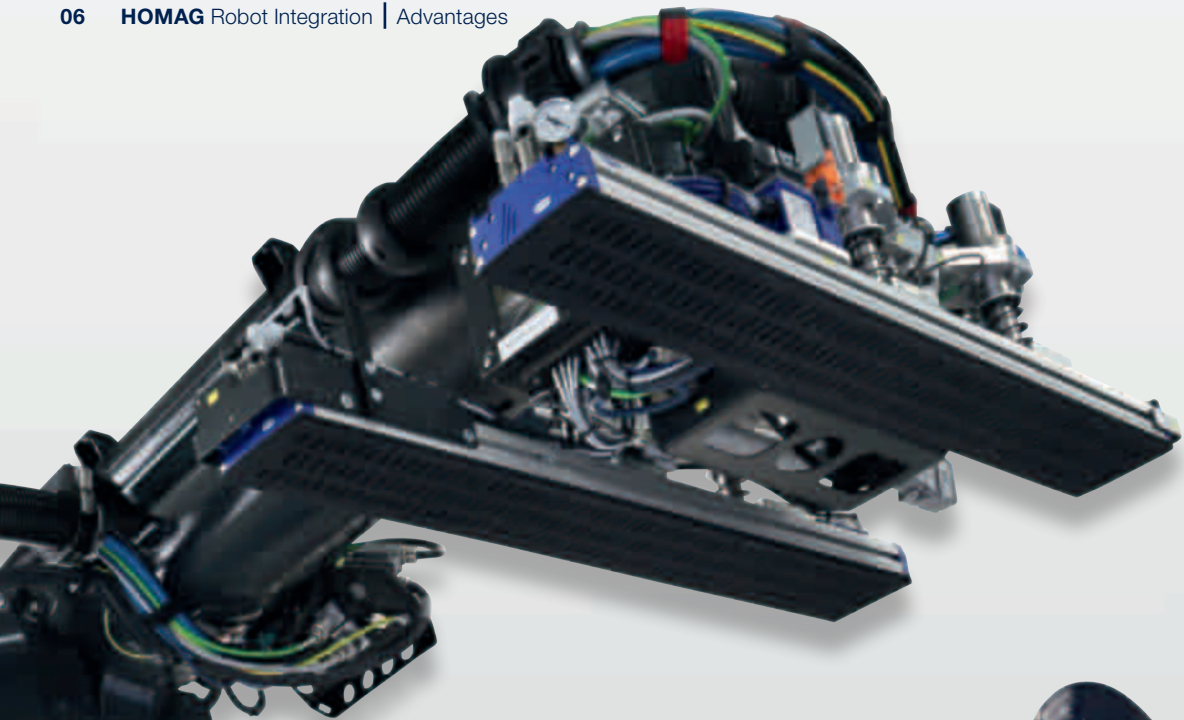


A CNC processing center with robot support forms one of the smallest possible cells of the furniture production. In this combination, the FEEDBOT increases your overall productivity. It does not have to take a break, can work around the clock on the shop floor and ensures consistently high quality. Small and medium-sized companies save a lot of

time by using the FEEDBOT D-300 and reduce the workload for their staff. The resulting flexible manpower organization allows your workforce to be used more for value-added activities and production processes. The result is added value for your plant in terms of quality, availability and performance.

#### ADVANTAGES OF ROBOT INTEGRATION AT A GLANCE:

- **High availability –**  
Machine running time can be extended to almost 100 %
- **Long lifetime –**  
no need to search for new workers
- **Highly flexible production –**  
No training of new processes necessary
- **Low maintenance operation –**  
24/7 availability (no vacation, sickness, breaks)
- **High cleanliness and low noise**
- **Ergonomics friendly –**  
Manual parts handling almost completely eliminated
- **Consistently high quality –**  
No reduction / change due to change of workers
- **Everything from a single source –**  
Liability and safety, CE, one contact, HOMAG service
- **Processing on both sides –**  
Possible due to return conveyor at the drilling machine



### FEEDBOT D-300 ADVANCED

- Sensitive contact with the CNC pins - thanks to the floating crosshead - ensures gentle operation
- Large workpiece variance
- Automatic setup of the cell (CNC and robot) as well as visualization in woodFlex
- Plausibility check: comparison of the data from the control to the actual part



### FEEDBOT D-300 BASIC

- Simple suction beam without compensation joint
- Gripper optionally with BARCODE READER
- Operation via the Smartpad – no integration into the cell control of the DRILLTEQ V-500



1b

# Process Overview

Your production becomes more flexible with the support of the FEEDBOT D-300 and the firmly defined processes more flexible and more agile. Markings on workpieces and material

increase and for your employees fatiguing, uncomfortable tasks are carried out by the robot. Even small batch sizes can be produced without any problems.

## Standard operation / normal mode

### 1 Raw parts are provided as stacks on pallets

**Feedbot Advanced:** The robot determines the position of the workpiece to be loaded by means of sensors.

**Feedbot Basic & Advanced:** The workpiece is separated from the stack by means of tilting incl. subsequent part validation.

### 1b Feedbot Basic: Alignment of the workpiece to the zero point via the inclined plane. This place can also be used as a buffer space to ensure faster parts feeding, as this is done in the machining time of the machine.

### 2 The unmachined part will be inserted by the robot into the CNC machine

**Feedbot Basic:** Subsequently positioning the workpiece against the stop pin of the drilling machine.

**Feedbot Advanced:** The workpiece is held by means of a compensating joint on the the robot gripper against the stop pin of the CNC machine. Subsequently the CNC machining starts.

### 3 Removal of the finished parts

### 4 Manufactured parts are placed on the target stack.

The next workpiece will be measured and inserted into the machine.

## Extension workflow through return conveyer

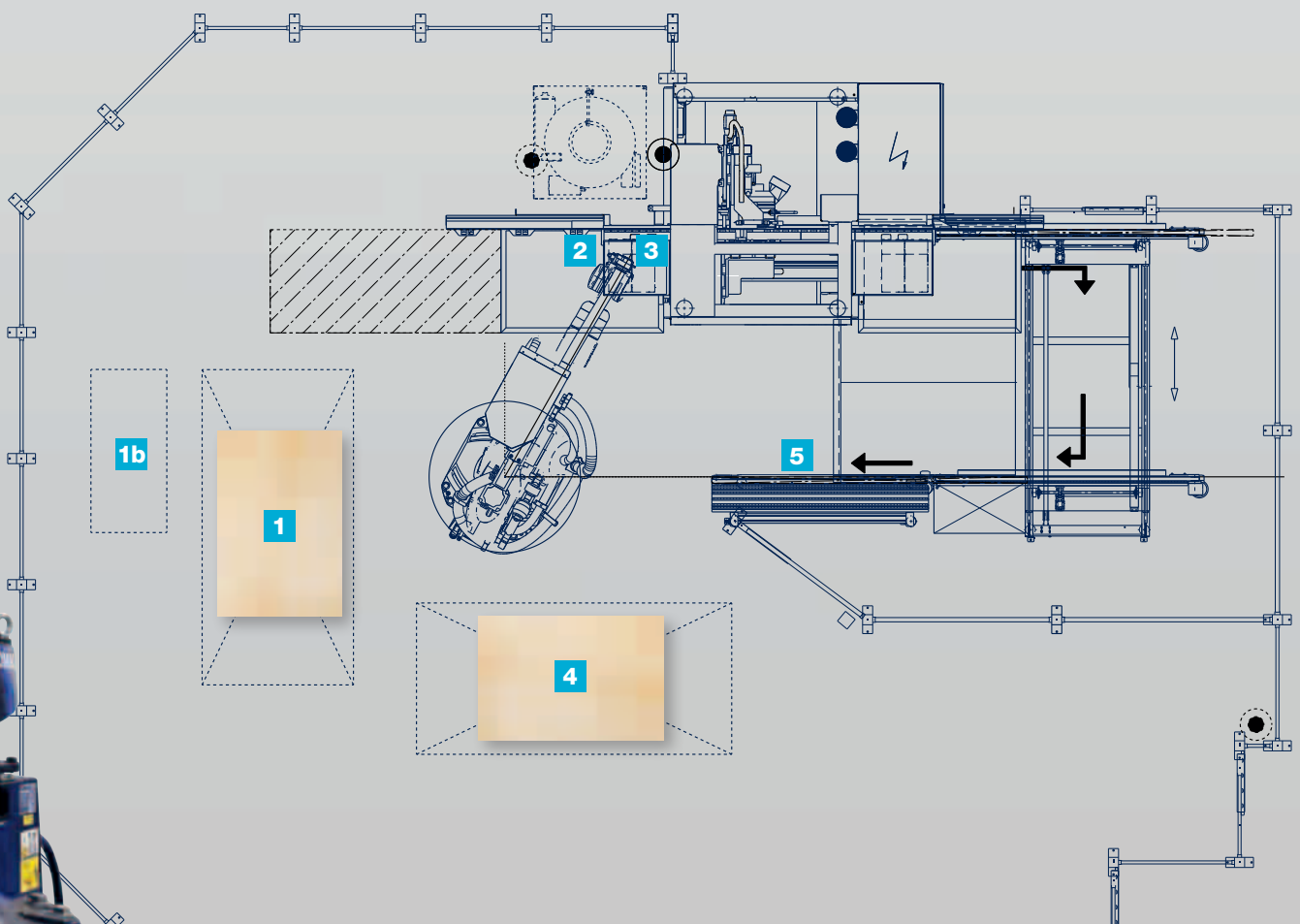
### Option A

Workpieces from the return conveyer **5** can be fed again to the CNC **2** (2nd run, the part was turned over for machining on both sides).

After the second run through the CNC, parts are output to the return conveyer and finally placed on the target stack **4**.

### Option B

Parts are transferred to the return conveyer **5** after the first pass through the CNC and then placed on the target stack **4**.

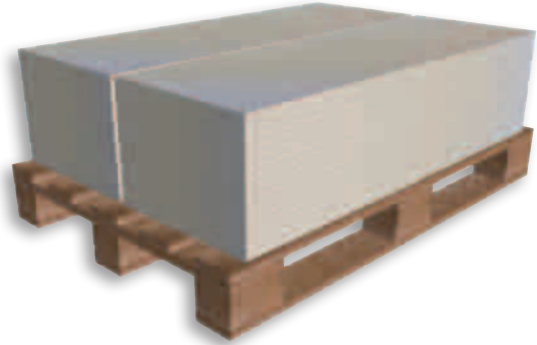




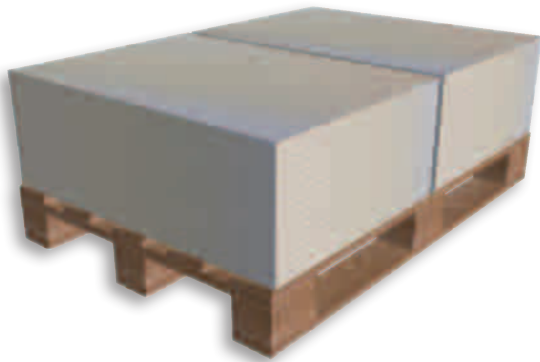
# Stacking patterns and technical parameters



**Stacking pattern 11:** for batch size 1 and series parts



**Stacking pattern 21:** for series parts



**Stacking pattern 112:** for series parts



**Stacking pattern 22:** for series parts

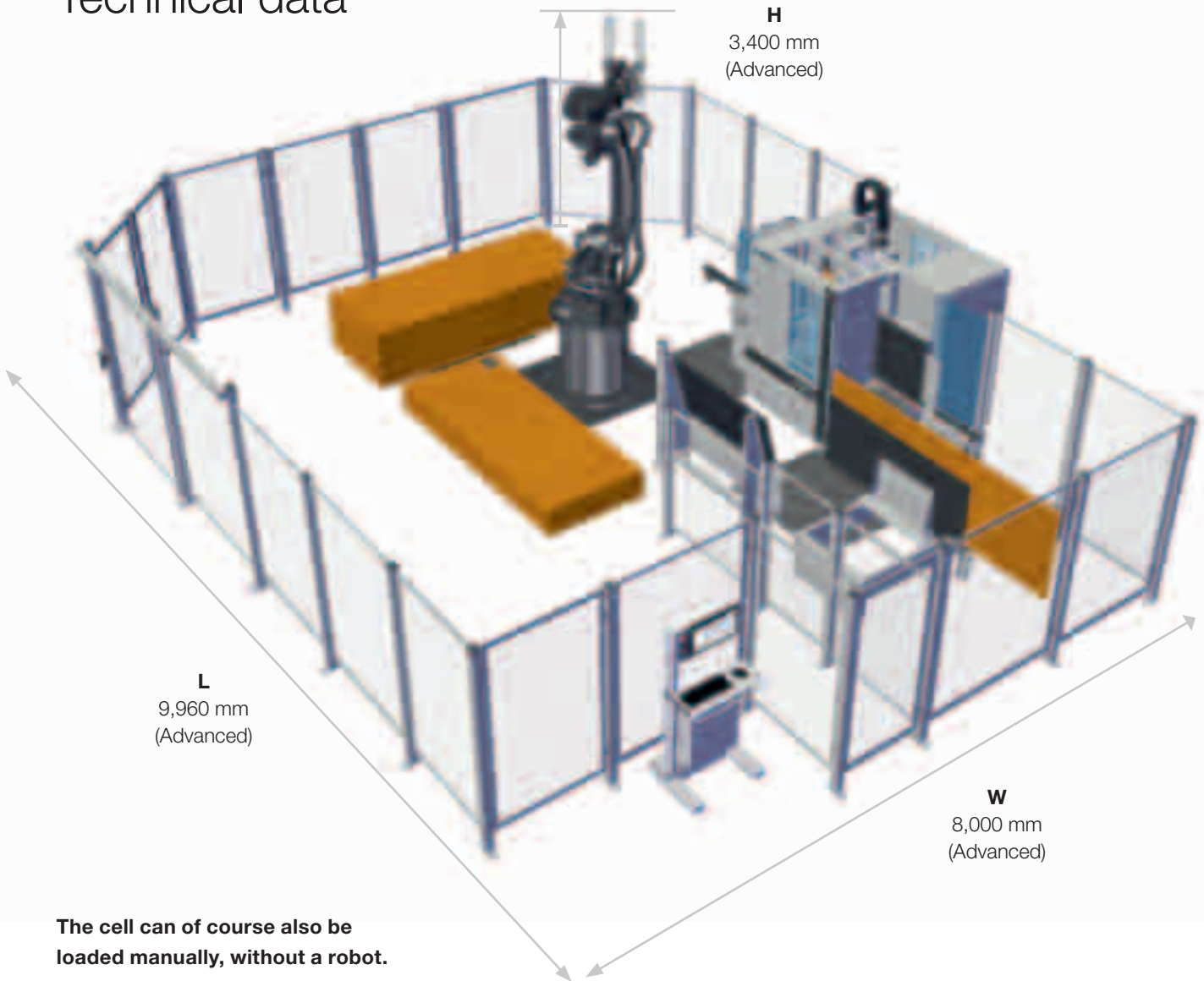
These stacking patterns are the standard stacking patterns for the cell.

## TECHNICAL PARAMETERS

<b>Carrier material:</b>	<ul style="list-style-type: none"> <li>- Chipboard</li> <li>- MDF</li> <li>- HDF</li> <li>- plywood, solid wood</li> </ul>
<b>Surfaces:</b>	<ul style="list-style-type: none"> <li>- Melamine</li> <li>- Raw (carrier material does not soak through)</li> <li>- Veneer</li> <li>- Laminate</li> <li>- No overlap (optional)</li> </ul>
<b>Special workpieces:</b>	Highly structured or absorbent materials and workpieces with high adhesion must be requested separately in the engineering department.
<b>Max. Stacking height:</b>	1,500 mm incl. base frame



# Technical data



The cell can of course also be loaded manually, without a robot.

## TECHNICAL DATA

			DRILLTEQ V-500 with FEEDBOT D-300	DRILLTEQ V-500 with return conveyor (short version) and FEEDBOT D-300	DRILLTEQ V-500 with return conveyor (long version) and FEEDBOT D-300
<b>(B) = FEEDBOT D-300 BASIC</b> <b>(A) = FEEDBOT D-300 ADVANCED</b>					
Workpiece dimensions max. with manual feeding	L x W x H	mm	3.050 x 1.250 x 80	2.300 x 1.250 x 80	3.050 x 1.250 x 80
Workpiece dimensions min. with manual feeding	L x W x H	mm	200 x 50 x 8	350 x 60 x 8	350 x 60 x 8
Workpiece dimensions max. with feeding via FEEDBOT D-300	L x W x H	mm	1.600 x 900 x 60 (B) 2.500/3.050 x 1.200 x 60 (A)		
Workpiece dimensions min. with feeding via FEEDBOT D-300	L x W x H	mm	350 x 200 x 10 (B) 350 x 120 x 10 (A)		
Workpiece weight max.		kg	30 (B) / 60 (A)		
Installation dimensions	L x W x H	mm	10.020 x 8.000 x 3.400	9.960 x 6.000 x 3.400 (B) 9.960 x 8.000 x 3.400 (A)	7.960 x 6.000 x 3.400 (B) 10.520 x 8.000 x 3.400 (A)



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