

## Application: Blow Moulding Machines

Market: Plastic Machinery

Branch: Blow Moulding Machines



CC-Code: A2111

### Description:

Blow moulding machine for the production of bottles and containers for the food-/pharmaceutic-/chemical-industry.

Our sensors are used for four different controls:

- the parison thickness
- the mould clamping
- the carriage movement
- the nozzle position

The sensors control the thickness of the parison, the plate position, the mould closing movement and the blow pin movement inside the form.

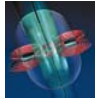
### Benefits:

- Temposonics SSI is the best solution for high dynamics closed loop controls
- Accuracy & high speed!

### Sensor/s used:

- RP (different lengths)
- Output: SSI





## Application: Wood panel Lock tools system

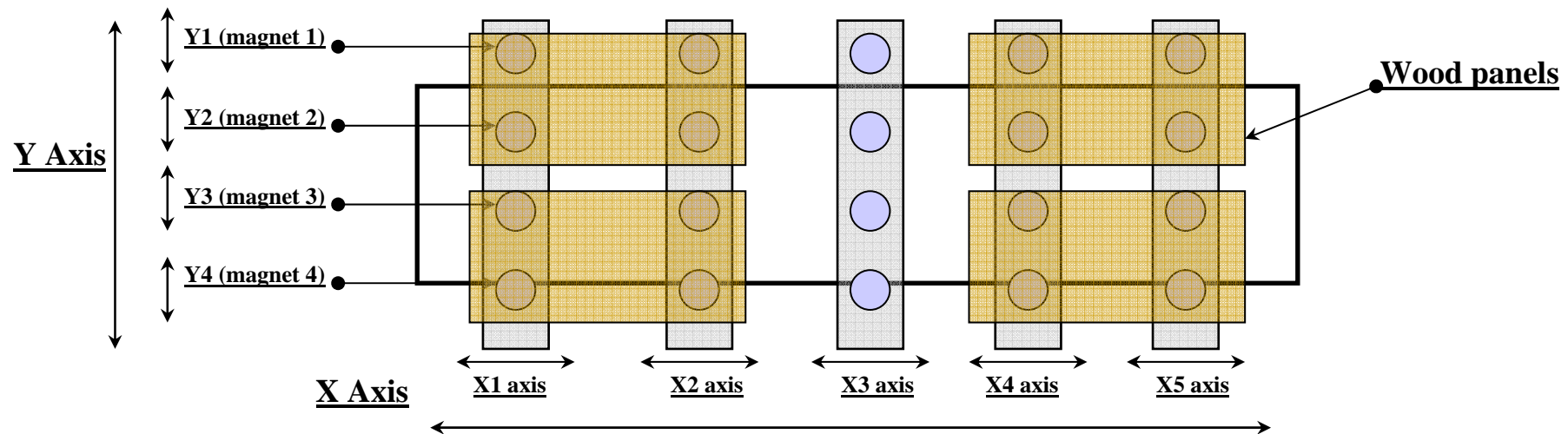
Market: Woodworking machinery Branch: Automatic panel boring machine

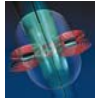


CC-Code: A 1513

The movement of the “vacuum tools” (Y axis) is realized with a single belt, moved from and electrical motor and friction system for each one tool; for each one tool there is a pinion track and an electrical friction, it is only possible move a single tool through the friction; it is impossible to use the incremental encoder connect to the motor you lost the previous position, they needs a position transducer for each one tools, our multimagnets transducer could be the solution.

Vacuum tool





## Application: Wood panel Lock tools system

Market: Woodworking machinery Branch: Automatic panel boring machine

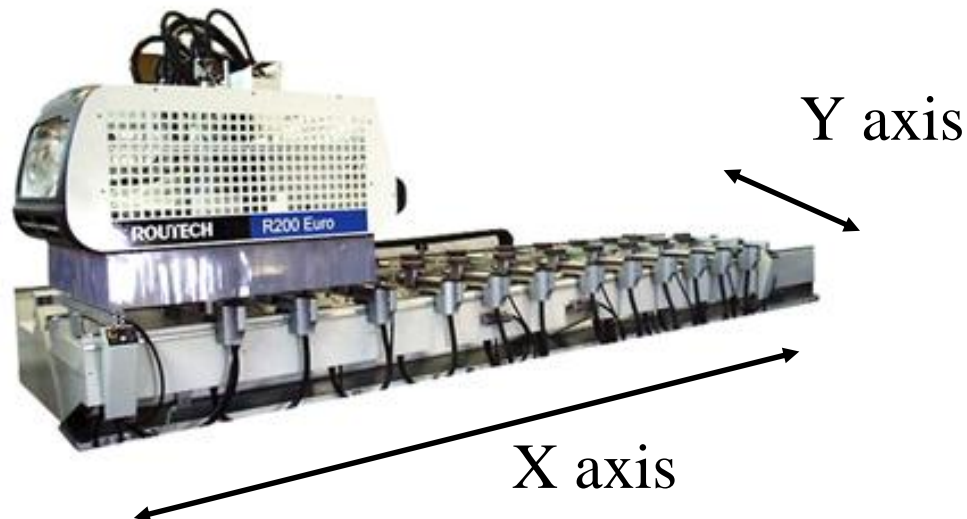


CC-Code: A 1513

### Description:

The boring machine (single & multi spindle) are use to drill the wood panel for the furniture industry.

The boring machine have some different “lock lines” to block the wood panel, in each one line there are some “vacuum tools” to lock the panel, typically 4 pc.s each one line but could be max. 10 (depends from the manufacture). Actually the movement of the “vacuum tools” (Y axis) is manually, there is a request to automatic the movement, the X axis are an electrical axis position check with magnetic band (satisfied results).





## Application: Closed Loop Control

Market: Plastic Thermo Process

Branch: Calender for Plastics



CC-Code: A2121

### Description:

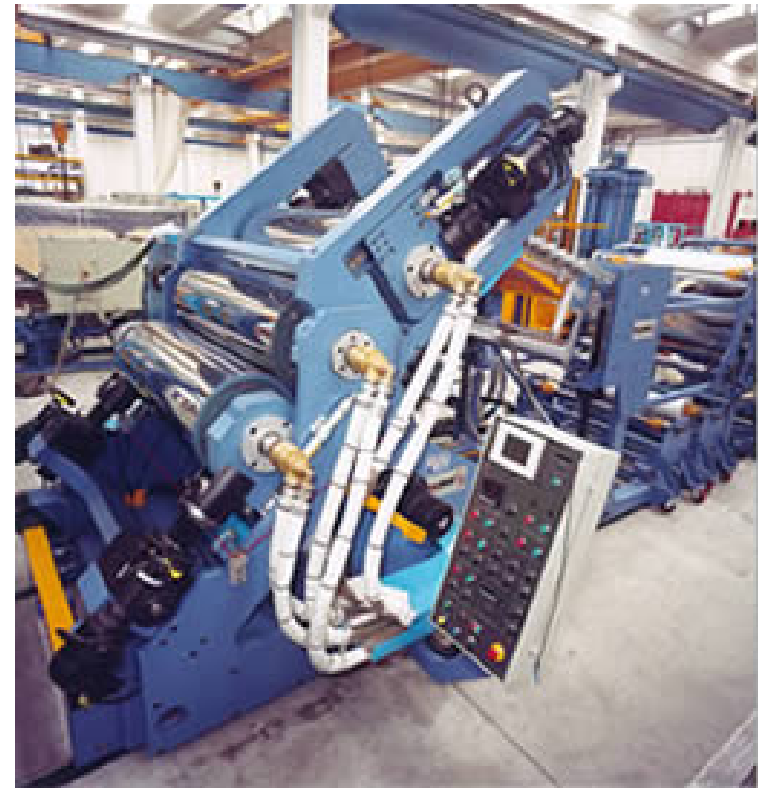
Closed loop control for accurate control of the rolls gap,

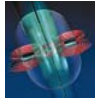
### Benefits:

- Direct control inside the cylinder
- High performance
- High resolution 2 microns
- High quality products!

### Sensor/s used:

- Temposonics RD
- Stroke: 100 mm
- Output: SSI
- Resolution: 2 microns





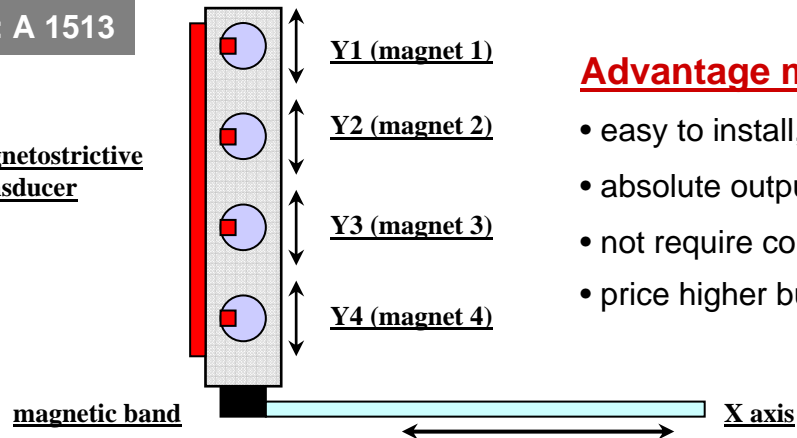
# Application: Wood panel Lock tools system

Market: Woodworking machinery Branch: Automatic panel boring machine



CC-Code: A 1513

magnetostrictive transducer



## Advantage magnetostrictive transducer Vs. magnetic band

- easy to install,
- absolute output,
- not require connection between magnet and electronic unit,
- price higher but interesting with 4 magnets, more magnets more advantage

## Application description :

X axis => magnetic band with indicator each one head, stroke max. 6.000 mm.

(long stroke not interesting on magnetostrictive sensor, impossible to replace)

Y axis => actually manual movement, impossible use encoder difficult to use magnetic band,

interested on multimagnet solution, accuracy request 0,1 mm.

the number of the “magnets” and the stroke depends from the manufacture

the transducers type (interface) depends from the controller (max. stroke 2.000 mm, max 10 vacuum, typical 4)

## Sensor/s used:

Actually they have only manually position, for the automatic they are interested on 2 different solution :

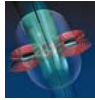
**EP2 Start/Stop output - RP or RA (depends from the mechanical solution) Can Open output**

Potential of the italian market : at least 4.000 pc.s for the high technological machine (wood working)



**Idea to verify : this solution could be interesting for flat glass and marble machinery**





## Application: Veerner Peeling Machines Control

Market: Woodworking Machinery

Branch: Machines for Splitting up Chipless Dividing



CC-Code: A 1510

### Description:

The sensors are built inside different hydraulic cylinders.

On each machine there are more than 10 sensors.

### Purpose:

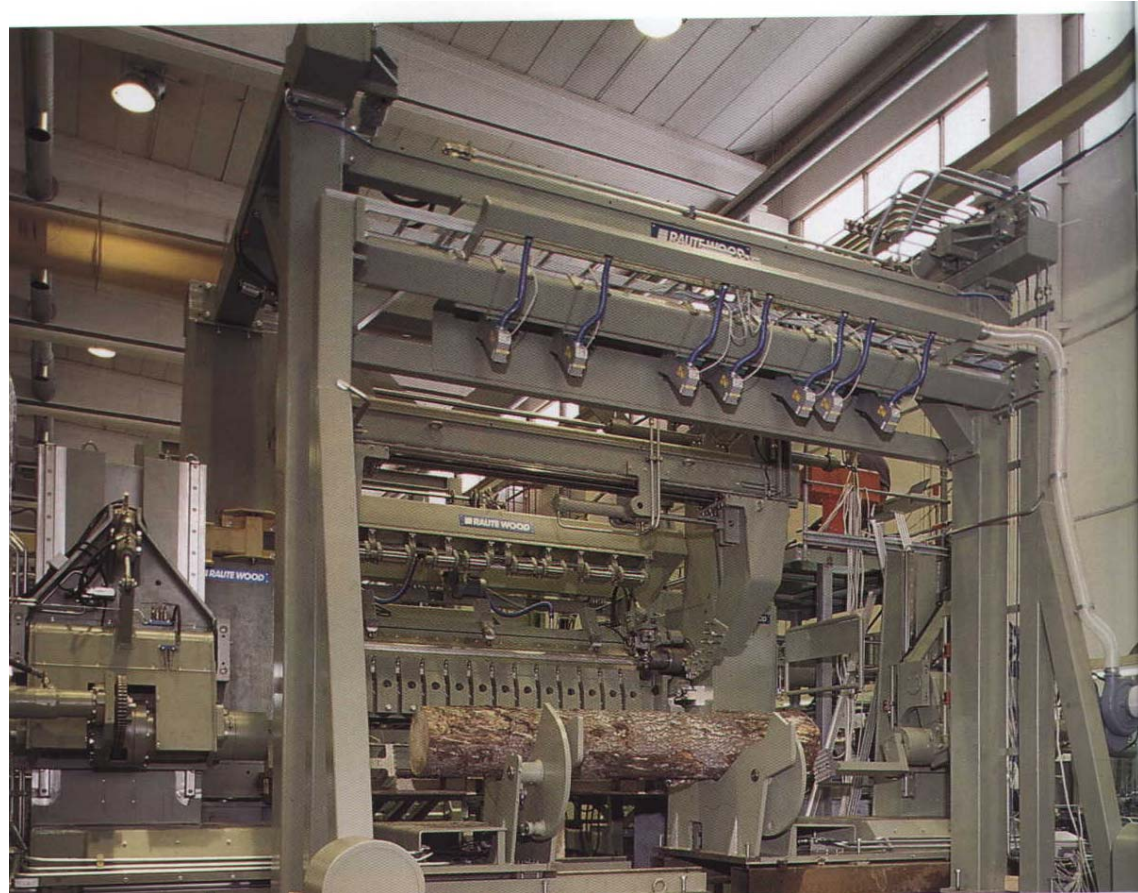
Reliable and accurate control of the machine functions.

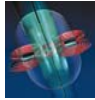
### Benefits:

- high accuracy
- high reliability
- Minimal clipping due to the precise boles measurement.

### Sensor/s used:

RH - SSI





## Application: Transfer Machines

Market: Machine Tools and Manufacturing Systems

Branch: Other Metalworking Machines



CC-Code: A 1015

### Description:

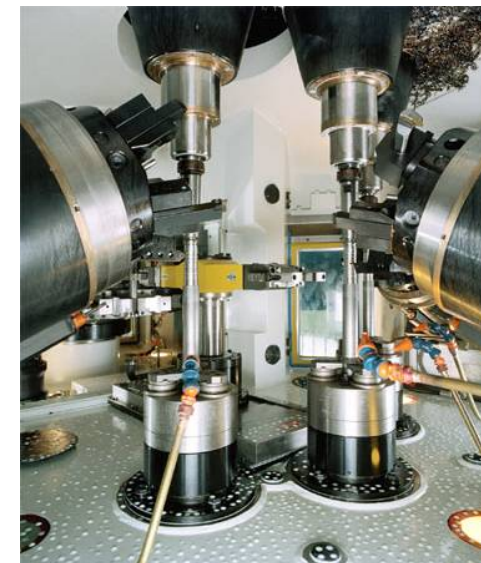
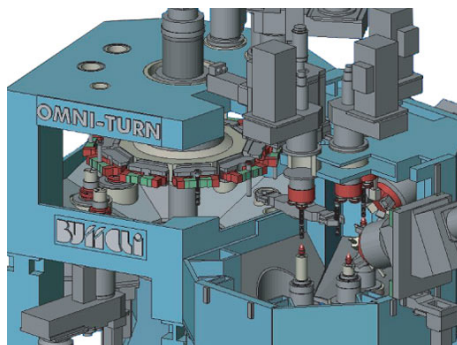
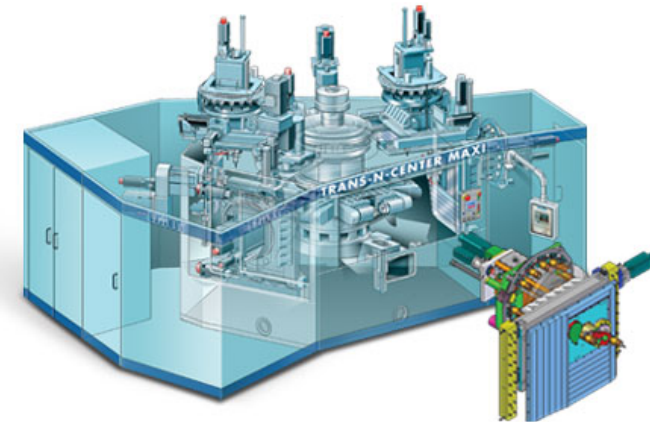
The company produces transfer machines for metal working. Every machine has 8 -10 hydraulic axis. Our sensors are used to control the position of the hydraulic cylinders, responsible for the movement of the tools, which thread and drill the metal. As the transducers can not be mounted inside the cylinders, they are installed outside and in parallel to them.

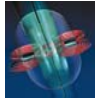
### Benefits:

- High accuracy (0,01 mm.)
- Absolute position system
- High protection against water dust
- IP 65 is OK

### Sensor/s used:

- RP-M-0250M-D62-1-C101221 (for new machines), customized CNC
- RA-M-0250M-D70-1-S2G1100 (for retrofitting old machines), Siemens CNC





## Application: Thermoforming Machinery

Market: Machinery for Plastics & Rubber

Branch: Thermoforming Machines



CC-Code: A 2113

### Description:

The sensors are used to control different horizontal and vertical axis.

### Benefits:

Replacement of pots and encoders

Absolute measurement

High reliability

Contactless control

### Sensor/s used:

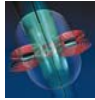
4 pcs. RPS different lengths with Profibus output

5 pcs. EPS different lengths with 0 – 10 V

1 pc. RPS2500 0 – 10 V, 2 positions







## Application: Plunger Speed Control

Market: Metalworking Machinery

Branch: Excentric Presses



CC-Code: A 1070

### Description:

Mechanical press.

Our transducer RP has position and velocity output and is used to control the speed of the plunger.

Through the CANbus protocol they use the speed output directly.

The EP-K sensor controls the position of the machine feeder, responsible of the movement of the load/unload system.

### Benefits:

Absolute signal, high resistance on vibration and dust (reliability),  
Speed output include on CANbus protocol.

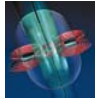
### Sensor/s used:

- RP with CANbus position + velocity output
- EP-K with analog voltage output



**Products**  
(brass)





## Application: Linear Drive

Market: Control Systems, Systems Integrators

Branch: Control Systems Manufacturer



CC-Code: A 3610

### Description:

The customer developed a direct drive where the winding is fitted on a firmly mounted stator in the form of a long stator system. The magnetic conductor plate is considerably shorter and slides guided with rollers over the horizontal inductor. The speed curve of the traveling magnetic field and of the magnet plate is synchronous over the segmented displacement of maximum 1,800 mm length. With an overall height of only 20 mm, the flat motor can be integrated easily into the user's machine concept. A frequency inverter connected to the supervisory computer and a magnetostrictive measurement system complete the linear motor into a precision-controlled drive. The inverter corresponds to a standard controller and energizes the motor windings with a frequency of 300 – 800 Hz and a voltage of 0 – 28 Vac at an input voltage of 60 Vdc. For position feedback, a rod-shaped sensor is mounted firmly with the sensor tube in parallel to the long stator. The only mobile part of the measurement system is the mobile carrier to which a small permanent magnet is fitted. It transmits the position of the conductor plate through the wall of the tube. System-specific apertures in the measurement system are completely unnecessary.

### Benefits:

- Absolute measurement. High resolution and repeatability
- Best resistance to noise (Very low noise and jitter????)
- Quick and safe connection to the system. No cable drag chain
- No recalibration: the drive is always ready for operation
- High update time & data speed

### Sensor/s used:

RH-M-2000M-D60-1-S2G8102

