



## List of available production technologies

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<b>1. INTRODUCTION.....</b>	<b>2</b>
<b>2. WAREHOUSE .....</b>	<b>3</b>
<b>3. CNC MACHINING .....</b>	<b>4</b>
<b>4. WELDING, FINISHING, ASSEMBLY .....</b>	<b>6</b>
<b>5. TOOLS SHOP AND MAINTENANCE .....</b>	<b>8</b>
<b>6. DEVICES FOR CHECK AND DEVELOPMENT .....</b>	<b>9</b>

## 1. INTRODUCTION

### **The company**

Union srl is based in Carpi, via Trasporti 23, Italy, in modern premises spreading on a covered area of 3200 m<sup>2</sup>, and on a land of more than 10000 m<sup>2</sup> in the “Trasportatori” industrial estate of the town.

Union employs 20 persons, working on a double shift basis from 06.00 to 20.30; they are divided into the following departments:

- CNC Machining
- Welding, finishing and Assembly
- Tools shop and Maintenance
- Warehouse

beyond the other departments Technics & Quality, Logistics, Accounting, Personnel.

Union supplies customers who manufacture mechanical machines in the automotive industry, automation industry and food machinery industry by producing medium-to-high complexity machines and mechanical subassemblies.

Union also has a branch in Eastern Europe and a Representative office In India which provide Union with metal raw materials (iron castings, aluminium castings, raw and semi-finished fabricated parts)

Union has got a certificated company quality system in accordance with EN ISO 9001/2000

## 2. WAREHOUSE

### **Department organisation**

The department's location consists of a 400 m<sup>2</sup> area in the Carpi plant.

Raw materials and commercial components come from suppliers according to Materials Requirement Planning derived from both forecasts and customers orders and they are stored in shelves before being picked up, according to work orders requirements.

The department also manages in and out-bound movements and relevant transports with both own and qualified logistic providers.

### **List of machines and relevant features**

#### **CESAB FORKLIFT TRUCK**

Electric powered forklift truck model ECO KD250

- Loading capacity 2500 kg
- Forks length 1100 mm
- Lifting height 4200 mm

#### **CESAB FORKLIFT TRUCK**

Electric powered forklift truck model BLITZ 315 ACTEC

- Loading capacity 1500 kg
- Forks length 1200 mm
- Lifting height 6170 mm

#### **BOTTAZZI CRANE**

- Loading capacity 1500 kg
- Movement radius 4 m

#### **RENAULT TRUCK**

Model Master

Loading capacity 3500 kg gross (1400 net)

### 3. CNC MACHINING

#### **Department organisation**

This division performs CNC turning, CNC milling, grinding of small and medium size lots.

#### **List of machines and relevant features**

##### **CNC OKUMA Turning machine**

Model LB300MY

- spindle ASA 8"
- maximum working diameter 420mm,
- maximum working length 1020mm
- Radial and axial driven tools, Y axis controlled
- Tools turret with 12 positions

##### **CNC OKUMA Turning machine**

Model LB400CM

- spindle ASA 11" (390mm)
- maximum working diameter 420mm,
- maximum working length 1275mm
- Radial and axial driven tools
- Tools turret with 12 positions for driven tools

##### **MERCURY HARTFORD Vertical Working Centre**

Model Mercury 2060 AGH, CNC Fanuc 0i MC,

- working area 2100x800x700,
- 4-axis controlled
- Nikkem-table, dead centre, 300mm diameter
- Tools turret with 40 positions
- BT50 tools

Union – List of available production technologies

**FAMUP Vertical Working Centre**

Model MCX700, CNC Selca S3045,

- working area 700x480x470,
- 4-axis controlled,
- Tools turret with 24 positions
- Nikkem-table, dead centre
- ISO 40 tools

**OKUMA CNC Horizontal Working Centre**

Model MA50HB,

- working area 700x700x800h,
- 900mm diameter and 1000mm height max parts dimensions
- 4-axis controlled,
- Tools warehouse with 150 positions for ISO BT 50 tools
- 6 pallets
- Power: 45kw

**CNC Tools presetter**

- model P54

**3M Tools Sharpener**

- model 4/60

**N°2 OVERHEAD TRAVELLING CRANE**

Model Bottazzi – Gis System KB

Load capacity 500 kg

## 4. WELDING, FINISHING, ASSEMBLY

### Department organisation

In this department welding and finishing processes are performed together with final assembly and testing. Cutting of bars (automatic and semi-automatic) is the beginnings of most productions.

In welding working centre TIG and MIG welding are performed for stainless and carbon steel and for aluminium alloys, brazing welding is for copper alloys in 2 workplaces. Finishing is performed both by men and by machines (vibration polishing, sandblasting, etc.). A CNC marking machine allows pieces' traceability

Four assembly lines where sub-assemblies and finished machines are prepared, tested and packed.

### List of machines and relevant features

#### KASTO AUTOMATIC CNC SAW

- Model SSB260VA CNC
- Working speed: 15 m / min.
- Power: 6,5KW
- Numeric Control: Kasto
- General tolerance: 0,1mm
- Processable Materials: all kinds of iron, aluminium, copper alloys
- Maximum working sizes: length 6000 mm, width 260 mm, thickness 260 mm

#### FMB SEMIAUTOMATIC SAW

- Model MAJOR
- Power: 2KW
- Processable Materials: all kinds of iron, aluminium, copper alloys
- Maximum working sizes:
  - vise angle 0°: width 240 mm, thickness 240 mm
  - vise angle 45°: width 180 mm, thickness 180 mm
  - vise angle 60°: width 120 mm, thickness 120 mm

Union – List of available production technologies

**BORRIES CNC MARKER**

A marker using a diamond tool for scratching on metal surfaces, with different characters fonts, for marking both on flat surfaces and on curved ones, for materials' maximum hardness: 63HRC

- Pneumatic tool movement
- Power: 1kw
- Minimum working speed: 1 character per second
- Working area: X=100mm, Y=100mm, Z=13mm
- Scratch strength: 10N
- Working tolerance: +/- 0.5mm

**HITACHI TIG welder**

- Model Inverter PAR300 GP

**SELCO MIG welder**

- Model PSM 406, with continuous wire feed

**ROLLWASCH vibration polisher**

- Model D720 PT

**GOVONI Sand blaster**

- Model PM214

**GGE POLISHING TABLES**

Two places for polishing and finishing processes with powder intake

**OVERHEAD TRAVELLING CRANE**

Lifting systems Model Bottazzi – Gis System KB

Load capacity 500 kg

## 5. TOOLS SHOP AND MAINTENANCE

### Department organisation

This department provides tools and frames for other departments, together with milling, boring and lathing machining not suitable for CNC machining; beyond this it performs maintenance activities on machines and plant.

### List of machines and relevant features

#### OMG parallel lathe

Model 220,

- dimension digital display

#### AUDAX press drill

Model RAG30

#### AUDAX press drill

Model 25T

#### OLIVIERI Hydraulic Press

Model 8/E 110T

#### FORNITALIA OVEN

Annealing oven, temperature increase and decrease cycles memorised

- max temperature 750°C

- Power: 15kw



## 6. DEVICES FOR CHECK AND DEVELOPMENT

Finally there are devices available for checking products and for technical development

### List of machines and relevant features

#### **ZEISS 3-axis measure machine**

- model CONTURA G2,
- working area 1000x1600x600mmH
- 3 axis

#### **GALILEO Hardness tester**

For Brinell and Rockwell hardness scale

#### **2D CAD SYTEM**

- 2 working stations for 2d mechanical drawing and design
- Model Draftsight

#### **2D CAM SYSTEM PEPS**

- A 2d CAD-CAM system for CNC programming
- Model Camtek

#### **3D PTC PRO-ENGINEER CAD-CAM SYTEM**

- Working station for 3d mechanical drawing and design and CNC programming
- Wildfire 3 version