

## Machinery List

as of: 03 / 06.10.15

| Product      | Division | Description    | Work Area                                               | Traverse Paths       | Features           |
|--------------|----------|----------------|---------------------------------------------------------|----------------------|--------------------|
|              | Turning  |                |                                                         |                      |                    |
| Biglia/Italy |          | B301 SM        | max. turning $\varnothing$ when applying bar machining  | $\varnothing$ 42 mm  | 2 - spindles       |
|              |          |                | max. turning $\varnothing$ for feeding with a bar stock | $\varnothing$ 200 mm |                    |
|              |          |                | max. turning length                                     | 320 mm               | power-driven tools |
| Victor GmbH  |          | VTURN plus/15  | max. turning $\varnothing$ when applying bar machining  | $\varnothing$ 40 mm  |                    |
|              |          |                | max. turning $\varnothing$ for feeding with a bar stock | $\varnothing$ 180 mm |                    |
|              |          |                | max. turning length                                     | 300 mm               |                    |
| Victor GmbH  |          | VTURN-20       | max. turning $\varnothing$ when applying bar machining  | $\varnothing$ 52 mm  | power-driven tools |
|              |          |                | max. turning $\varnothing$ for feeding with a bar stock | $\varnothing$ 230 mm |                    |
|              |          |                | max. turning length                                     | 500 mm               |                    |
| Victor GmbH  |          | VTURN-26       | max. turning $\varnothing$ when applying bar machining  | $\varnothing$ 75 mm  | power-driven tools |
|              |          |                | max. turning $\varnothing$ for feeding with a bar stock | $\varnothing$ 350 mm |                    |
|              |          |                | max. turning length                                     | 610 mm               |                    |
| Victor GmbH  |          | VTURN-36 / 85V | max. turning $\varnothing$ when applying bar machining  | $\varnothing$ 90 mm  |                    |
|              |          |                | max. turning $\varnothing$ for feeding with a bar stock | $\varnothing$ 500 mm |                    |
|              |          |                | max. turning length                                     | 800 mm               |                    |



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|         | Turning  |             |                                                         |                      |                         |
| Okuma   |          | LT200-MY    | max. turning $\varnothing$ when applying bar machining  | $\varnothing$ 65 mm  | 2 spindles / 2 revolver |
|         |          |             | max. turning $\varnothing$ for feeding with a bar stock | $\varnothing$ 210 mm | plus 1 Y-Achse          |
|         |          |             | max. turning length                                     | 700 mm               | load monitoring         |
|         |          |             | number of tool stations                                 | 2x 12                | 24 power-driven tools   |
| Okuma   |          | LU 300      | max. turning $\varnothing$ for feeding with a bar stock | $\varnothing$ 254 mm | load monitoring         |
|         |          |             | max. turning length                                     | 1000 mm              |                         |
|         |          |             | number of tool stations                                 | 1x 12 and 1x8        | 12 power-driven tools   |
| Okuma   |          | LU 400 M    | max. turning $\varnothing$ for feeding with a bar stock | $\varnothing$ 390 mm | load monitoring         |
|         |          |             | max. turning length                                     | 400 mm               |                         |
|         |          |             | number of tool stations                                 | 1x 12 and 1x10       | 12 power-driven tools   |
| EMCOMAT |          | E 300       | max. turning $\varnothing$ when applying bar machining  | $\varnothing$ 90 mm  |                         |
|         |          |             | max. turning $\varnothing$ swing over bed               | $\varnothing$ 550 mm |                         |
|         |          |             | max. turning $\varnothing$ swing over slide             | $\varnothing$ 320 mm |                         |
|         |          |             | max. turning length                                     | 1500 mm              |                         |



| Product  | Division       | Description    | Work Area                               | Traverse Paths | Features                |
|----------|----------------|----------------|-----------------------------------------|----------------|-------------------------|
|          | <b>Milling</b> |                |                                         |                |                         |
| AXA GmbH |                | VHC2-S         | X-travel distance                       | 1760 mm        | 5-axis-machining centre |
|          |                |                | Y-travel distance (horizontal/vertical) | 600 mm         |                         |
|          |                |                | Z-travel distance (horizontal/vertical) | 800 mm         |                         |
|          |                |                | Turntable                               | 360° / Ø600 mm |                         |
|          |                |                | Pivoting range B-axis                   | +/- 100°       |                         |
|          |                |                | Spindle speed                           | 8000 rpm       |                         |
| AXA GmbH |                | VCC            | X-travel distance                       | 720 mm         | 5-axis-machining centre |
|          |                |                | Y-travel distance (horizontal/vertical) | 520 mm         |                         |
|          |                |                | Z-travel distance (horizontal/vertical) | 600 mm         |                         |
|          |                |                | Turntable                               | 360°           |                         |
|          |                |                | Pivoting range B-axis                   | +/- 90°        |                         |
| FAMUP    |                | MC70 Evolution | Spindle speed                           | 10000 rpm      |                         |
|          |                |                | X-travel distance                       | 700 mm         |                         |
|          |                |                | Y-travel distance                       | 500 mm         |                         |
|          |                |                | Z-travel distance                       | 640 mm         |                         |



| Product | Division | Description    | Work Area               | Traverse Paths | Features                |
|---------|----------|----------------|-------------------------|----------------|-------------------------|
|         | Milling  |                |                         |                |                         |
| FAMUP   |          | MC60 Evolution | Spindle speed           | 8000 rpm       |                         |
|         |          |                | X-travel distance       | 600 mm         |                         |
|         |          |                | Y-travel distance       | 400 mm         |                         |
|         |          |                | Z-travel distance       | 570 mm         |                         |
| FAMUP   |          | MC1000         | Spindle speed           | 8000 rpm       | 4-axis-machining centre |
|         |          |                | Longitudinal stroke (X) | 1000 mm        | shuttle table           |
|         |          |                | Transversal stroke (Y)  | 480 mm         |                         |
|         |          |                | Vertical Z-axi          | 470 mm         |                         |
| FAMUP   |          | MCX600         | Spindle speed           | 8000 rpm       |                         |
|         |          |                | X-travel distance       | 600 mm         |                         |
|         |          |                | Y-travel distance       | 400 mm         |                         |
|         |          |                | Z-travel distance       | 400 mm         |                         |



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|---------|----------|-------------|-----------|----------------|----------|

|             | Reaming |          |                   |            |  |
|-------------|---------|----------|-------------------|------------|--|
| Rausch GmbH |         | RS3/1000 | stroke            | 150 mm     |  |
|             |         |          | Tooling plate     | 220x340 mm |  |
|             |         |          | max. groove width | 20 mm      |  |

|  | Other                                              |  |  |                                        |                                                             |
|--|----------------------------------------------------|--|--|----------------------------------------|-------------------------------------------------------------|
|  | Flat grinding                                      |  |  | 200 x 600 mm                           |                                                             |
|  | Band-sawing                                        |  |  | $\varnothing_{\max} = 450 \text{ mm}$  | with mitre cuts 30°<br>(max. $\varnothing 230 \text{ mm}$ ) |
|  | Hydraulic press                                    |  |  | pressing force $\max = 250 \text{ kN}$ |                                                             |
|  | Blasting                                           |  |  | $L_{\max} = 1500 \text{ mm}$           |                                                             |
|  | Welding                                            |  |  | MAG, WIG                               |                                                             |
|  | Laser marking                                      |  |  |                                        |                                                             |
|  | Wet barrel finishing                               |  |  |                                        |                                                             |
|  | Conventional turning lathe, drill, milling machine |  |  |                                        |                                                             |



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|---------|----------|-------------|-----------|----------------|----------|

|            | Quality assurance |                        |                 |            |  |
|------------|-------------------|------------------------|-----------------|------------|--|
| Zeiss      |                   | Contura G2             | X-axis          | 700 mm     |  |
|            |                   |                        | Y-axis          | 700 mm     |  |
|            |                   |                        | Z-axis          | 600 mm     |  |
| Zeiss      |                   | VISTA CNC              | X-axis          | 400 mm     |  |
|            |                   |                        | Y-axis          | 500 mm     |  |
|            |                   |                        | Z-axis          | 350 mm     |  |
| TESA Group |                   | TESA-HITE 700          | measuring range | 0 - 715 mm |  |
| TESA Group |                   | TESA-HITE<br>MAGNA 400 | measuring range | 0 - 415 mm |  |

