MULTIWISE DRAWING SYSTEMS
There are industries requiring machines with more performance, suitable for uninterrupted production even 24 hours a day and able to support heavy working conditions and strong machining rates: machines made for long-lasting functioning with few service requirements, designed and realized to guarantee highest precision and quality; these most exigent industries are the Euroalpha’s customers.

From ideas to final product, EUROALPHA offers you quality products and service that will be the best choice for your company needs.

Sincerely Yours.

Paolo Pattacini
President

Massimo Parise
Customer service manager
EUROALPHA MULTIWIRE DRAWING LINES: MILESTONES IN TECHNOLOGY

Euroalpha technical team has been the first to introduce the multi-motor technology on rod breakdown machines for non-ferrous wires, in order to achieve LIMITED-SLIP operations and exceed the performance of conventional slip-type drawing machines.

The LIMITED-SLIP technology, and its fundamental advantages as a consequence, has been now successfully extended to multiwire drawing machines. A new generation of innovative equipment comes alongside with the more conventional gear-driven multiwire drawing machines, and it is destined to trace the future developments in this field.

Annealers with motor-driven shafts have been expressly designed to match the drawing machines’ enhanced technology and break through the typical limits of conventional belt-driven annealers.

Euroalpha opted for low-inertia a.c. motors and state-of-the-art vector inverter drives, to secure best precision speed control through a maintenance-free system. Improved algorithm to synchronize motors and minimize slip has been set up thanks to 16-years continuous research and testing onto limited-slip technology.

Euroalpha design positively affects operations and maintenance, improves wire quality and it also brings a significant contribution to running costs savings:
- energy consumption substantially reduced;
- working lifespan of drawing capstans and annealer’s contact bands largely extended;
- maintenance operations extremely simplified and less expensive;
- low noise level without any sound-proof cabinet;
- reduced wire breaks;
- superior quality of finished wires;
- great operational flexibility, to set up the “best” drawing process for any type of material.

High precision design and manufacturing of mechanical parts, combined with a large use of standard commercial components from best manufacturers, make Euroalpha equipment a benchmark as overall reliability and user-friendly approach for operators and maintenance engineers.

Continuous and effective operations are guaranteed by our After-Sales Service well experienced team, and on-site assistance can be even further strengthened thanks to the vast and capillary worldwide presence of our OEMs.
D3 program is a very flexible program of multiwire drawing machines which includes a wide range of precision-engineered high-performance equipment, to meet any production requirement and achieve high-productivity as well as extremely uniform quality of the finished wires.

Two different executions are available:

**D3-G GEAR-DRIVEN**
Conventional machine with drawing capstans driven by gear-transmission and state-of-the-art technology design;

**D3-M LIMITED-SLIP**
Innovative machine with drawing capstans individually motor-driven to perform limited-slip operations.

Gear-driven sections can be added on fast capstans to draw fine wires, while keeping all the advantages of the limited-slip technology on slow capstans.

D3 can be combined with any AM annealer, as well as with any model of take up belonging to the Euroalpha complete and flexible system.
Capstans can be arranged onto one or more superimposed rows according to the total number of wires to be drawn. Highly accurate mechanical alignment assures smooth operations and limited wire breaks.

Multiple lubrication system, by high-speed jets through the die holders and exclusive flow from each capstan. Multiple sealing system against leakage of drawing lubricant, including overpressure air seal with on-board air generator.

By-passed capstans are disengaged for energy saving.

Separate pull-out capstans for each row of drawing capstans gives a perfectly identical process to all the wires, to guarantee extremely uniform diameter and elongation.

All the versions perform quick die-change, thanks to pull-out capstans driven by independent motors.

D.c. current annealing process with extremely precise current’s control even at very slow speeds, to guarantee perfect annealing from 0 m/sec speed.

All the shafts are individually motor driven to adapt (automatically) the kinematic to each wire diameter.

The total absence of transmission belts enhances the reliability and substantially reduces maintenance on the annealers.

Ergonomic design and easily accessible parts, both on the front and the rear side, for quick operations and simple maintenance.

AM annealers’ family can be engineered in a large variety of different executions, to meet any production requirement in terms of number of wires, diameter range and production speed.

**AM CONTINUOUS ANNEALERS**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>AM</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROCESSING MATERIAL</td>
<td>Cu</td>
</tr>
<tr>
<td>MAX SPEED</td>
<td>m/sec</td>
</tr>
<tr>
<td>NUMBER OF WIRES</td>
<td>N°</td>
</tr>
<tr>
<td>WIRE DIA.</td>
<td>mm</td>
</tr>
<tr>
<td>ANNEALING CURRENT</td>
<td>A</td>
</tr>
<tr>
<td>MAX ANNEALING VOLTAGE</td>
<td>V</td>
</tr>
<tr>
<td>ANNEALING RINGS DIA.</td>
<td>mm</td>
</tr>
<tr>
<td>MOTORS POWER</td>
<td>kW</td>
</tr>
<tr>
<td>WIRE COOLANT REQUIREMENTS</td>
<td>l/min</td>
</tr>
<tr>
<td></td>
<td>bar</td>
</tr>
<tr>
<td>COMPRESSED AIR REQUIREMENTS</td>
<td>Nl/min</td>
</tr>
<tr>
<td></td>
<td>°C</td>
</tr>
<tr>
<td>STEAM REQUIREMENTS</td>
<td>Kg/h</td>
</tr>
<tr>
<td>NYTROGEN REQUIREMENTS</td>
<td>Nl/min</td>
</tr>
</tbody>
</table>
Euroalpha multiwire drawing machines can be engineered for drawing Aluminium and Aluminium wires, in either their executions: conventional gear-driven or innovative limited-slip.

Consistent results are guaranteed by high-precision design and manufacturing of the equipment, as well as thanks to the full technological support on the process from our technical team, who has been experienced aluminium multiwire drawing for more than one decade.

**D3 MULTIWIRE DRAWING MACHINE**

**ALUMINIUM WIRES**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>PROCESSING MATERIAL</th>
<th>D3-G</th>
<th>D3-M</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Al – Al Alloys</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAX SPEED</td>
<td>m/sec</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>NUMBER OF WIRES</td>
<td>N°</td>
<td>8 ÷ 16</td>
<td>20 ÷ 25</td>
</tr>
<tr>
<td>MAX NUMBER OF WIRES PER ROW OF CAPSTANS</td>
<td>N°</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>MAX INLET DIA.</td>
<td>mm</td>
<td>2.50 (230 N/mm²)</td>
<td></td>
</tr>
<tr>
<td>OUTLET DIA.</td>
<td>mm</td>
<td>0.15 ÷ 0.60</td>
<td></td>
</tr>
<tr>
<td>NUMBER OF DRAFTS</td>
<td>N°</td>
<td>21 ÷ 26</td>
<td></td>
</tr>
<tr>
<td>DRAWING CAPSTANS DIA.</td>
<td>mm</td>
<td>120 / 100</td>
<td></td>
</tr>
<tr>
<td>WIRE ELONGATION</td>
<td>%</td>
<td>26 / 19</td>
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</tr>
<tr>
<td>SLIP CONTROL ON EACH DRAFT</td>
<td>%</td>
<td>5 ÷ 38</td>
<td></td>
</tr>
<tr>
<td>MOTORS POWER</td>
<td>kW</td>
<td>85 ÷ 190</td>
<td></td>
</tr>
<tr>
<td>DRAWING LUBRICANT REQUIREMENTS</td>
<td>l/min</td>
<td>400 ÷ 950</td>
<td></td>
</tr>
<tr>
<td></td>
<td>bar</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>°C</td>
<td>35 ÷ 40</td>
<td></td>
</tr>
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