ITALIAN MACHINE TOOLS, ROBOTICS & AUTOMATION INDUSTRY ~ NEWS

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AMAPLAST
ITALIAN PLASTICS AND RUBBER PROCESSING MACHINERY AND MOULDS MANUFACTURERS' ASSOCIATION

UCIMU
UCIMU-SISTEMI PER PRODURRE

FICEP

WORKING WITH THE RIGHT ENERGY – FICEP DIRECT DRIVE FORGING PRESSES DD SERIES

Ficep meets the requirements of the forging sector with a range of products that makes use of all the necessary technologies for the development of a complete line, from the cutting of the bars to hot forging presses. The flagship of the range is represented by the **Direct Drive presses (DD).**

The achievement of finished parts in only one stroke and without scrap is the highest aspiration of the companies that produce components through the forging process. It is no doubt a high level to target, influenced also by working conditions that can hardly be kept under control, such as the temperature of the part, or environmental factors, such as the humidity of the air, that may alter the press functioning—not to mention the evolution of the materials to be forged, which more and more require systems equal to the task. Through the years, many technical innovations have allowed the screw presses to conform themselves to the market requirements (mainly regarding the quality of the part and to the efficiency of the process). From this point of view, one of the most recent evolutions is represented by the Direct Drive range of presses developed by Ficep, whose latest version is characterized by the presence of a system for energy recovery, which leads to a significant reduction in consumption in machines that are traditionally voracious users of energy.

Precision and Efficiency

The Direct Drive system operates like a numerical control; it is sufficient to set the value of the speed required by the ram at the impact moment, and the system will automatically operate during the down stroke to accelerate or slow down the die's drop. In order to determine the process reliability, we are able to guarantee, one detail is sufficient: thanks to the electronics supplied by Siemens, we guarantee a 0.5% precision on the energy value of the ram at the end of the drop. This result could also be achieved thanks to the complete elimination of the motion transmission that had a considerable influence on the process variability, while simultaneously allowing us to simplify the press maintenance activity. Obviously, we have introduced additional improvements in all parts of the press, such as new profiles for screws and nuts to reduce friction and the use of new, more compact motors with increased efficiency.
The close cooperation with Siemens and the will to bring constant improvements to their solutions recently lead Ficep to develop a new version of DD presses characterized by the presence of a **Kinetic Energy Recovery System**

(KERS) to recover part of the energy used during the forging process. Thanks to the utilization of a second brushless motor, more compact but with a very high rotation speed, the energy that would normally be lost to brake the press is stored to be re-used in the following forging cycle, with a total energy saving that in particular conditions can reach 60%. The possibility to finely adjust the ram speed and to modify the relevant stroke makes these presses extremely versatile and attractive for a considerable number of applications. We have a complete portfolio from this point of view that covers all sizes. The DD presses can be used in the **automotive sector** and in **agricultural and earth-moving machinery** where a considerable portion is dedicated to the production of axle shafts for heavy transport.
In the **aerospace and energy production fields**, the high resistance of the titanium alloys, aluminum, and special steels for high temperatures requires considerable forging strengths, which makes our structurally sturdy presses particularly suitable for the forging of the relevant components.

The **petrochemical sector** requires the use of important press sizes to process flanges in special duplex and super duplex steels containing alloying elements that lose their characteristics when exposed to high temperatures. It is therefore mandatory to work the raw part at temperatures lower than those typical of the forging process, and with force and energy remarkably higher. Furthermore, we can also boast a great success in the field of **medical prosthesis** (in this case, medium-small press sizes are involved).

Complete Lines

Experience in the forging field led Ficep to approach this sector as a partner supplier of all necessary technologies to complete the working process, with the only exception being the heating systems (which can be integrated at the request of the customers. The manufacturing unit in Gazzada Schianno (VA) also produces machines to cut the bars (these can be disc saws or cold, warm, or hot shears) and supplies the automation to handle the slugs from the cutting area to the heating system and then to the preforming or forging presses.

As the machines started becoming more and more accurate, the customers' attention moved to different phases of the process where the operator's activity could negatively influence the final result. This is the reason why the automation spread so quickly: the automated systems always take the same time to bring the piece from the heater to the press, and therefore the piece is always processed at the same temperature. Today, even the lubrication of the dies is carried out with robots that distribute a uniform layer on the entire surface of the die, thus assuring an optimal sliding of the material on every area of the die. These operations are quite simple, but they ensure the

preservation of quality for the entire production batch and the reduction to a minimum of the scraps, which represents the main target of our customers. Everything is designed to comply with the requirements concerning the new concept of Industry 4.0, allowing the machines produced by Ficep to face the new challenges of the future with enthusiasm.

Discover more about our DD presses series on https://ficepgroup.com/en/products/dd/

FICEP company profile

FICEP is the world's leading machine tool manufacturer for the fabrication of structural steel and forging industry, with an experience of over 9 decades. Our extensive and innovative product range and its aggressive penetration of the world market has been achieved by the creation of many subsidiaries all over the world.

Located next to the Alps in Varese, Italy, we have specialized production facilities. The main location in Gazzada Schianno, which comprises over 100.000 sqm, also contains Headquarters, R&D, Academy of Technology, Showroom and the main after sales service departments.

Our mission is to satisfy the demand of machinery and systems for the high quality processing of metal profiles in the most profitable markets on a global basis, promoting the Ficep brand and trademark with prestige. Our wide range of machinery fully satisfies always more demanding requests and cover all needs in the structural steel and fabrication industry.

Find out more on https://ficepgroup.com/en/

The project Piattaforma India has been promoted by UCIMU – Association of Italian Machine Tools Manufacturers and AMAPLAST – Italian Plastics and Rubber Processing Machinery and Moulds Manufacturers Association. The two associations agreed on the idea that promoting a network of associations and entrepreneurs who have developed knowledge and experience on the Indian market, can be useful in favoring of new paths of development for business. The Indian companies who are interested to form JV, cooperation, technical tie up, purchase machinery etc from/with Italian companies can contact below mentioned address for any assistance:

Contact information of Piattaforma India desk:

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