



by Vittorio Pesce



A SPECIAL ROLL-BENDING MACHINE FOR GIANT OIL PIPELINES

HOW AN "ASIAN GIANT" MANAGED TO SOLVE A COMPLEX PRODUCTIVE PROBLEM THROUGH THE ITALIAN TECHNOLOGY.

Hyundai RB, a division of the well-known Korean Hyundai Corporation specializing in "Roll Bending", is among the most important worldwide manufacturers of oil pipelines and facilities for the delivery of gas and raw materials for the heavy industry. The company headquarters are located near the Ulsan harbour in South Korea, and hosts many departments devoted to sheet metal roll-bending.

LOOKING FOR THE RIGHT MACHINE

About two years ago, the Korean giant received the order to create a colossal oil pipeline made up of welded steel pipes: every pipe should have been 150 mm thick and 4,500 mm long. This is why Hyundai RB needed a machine able to bend plate of un-

usual dimensions. The Korean technicians identified in MG S.r.l., located in Fossano (near Cuneo), the right company which could deliver such a machine. Massimo Rocca, the current President of the company, says: «We were contacted by Hyundai RB in April 2010. On the one hand, we were honoured to work for such an important customer and, what is more, in one of the few areas we were not present yet; on the other hand, we knew we had the right know-how and experience to complete such an important project». As a matter of fact, MG has already produced and sold several machines capable of bending very thick materials, up to 250 mm. After the meeting held in Fossano in June 2010 between the MG sales manager, Angelo Manassero, and the vice-president and some Hyundai RB delegates, after visiting some

THE MACHINE

MG45150W roll-bending machine installed with two MG operators.

WORLDWIDE ITALIAN TECHNOLOGY

Based in Fossano (near Cuneo), MG S.r.l. was founded in 1959 and currently specializes in the production of hydraulic bending machines (both manual or CNC) for sheet metal and pipes, with two, three or four rolls. The company exports its standard and special machines all over the world, and offers a wide range of models with work lengths from 500 mm to 800 mm,

and capacity from 1 to 200 mm. The bending machines series PK, AR, MG, AK and MH are the result of continuous research and product update through advanced solutions and components: they are designed and built to achieve performances that are 3 times higher than the upper diameter roll and on sheets with yield point equal to 260N/mm². According to the MG

technology, the bending rolls' movement is planetary or by "variable geometry" to meet the newest market trends, and all secondary transmission components are replaced by an efficient coupling of planetary gears directly on rolls, bearings and hydraulic motors. The latter solution avoids energy dispersal since frictions are minimal and allow focusing all machine force on sheet or pipe bending.



WORKING TEAM

Engineers by MG S.r.l. in Fossano (near Cuneo) and Ulsan Hyundai RB (South Korea) near the machine.

customers, the representatives of the Korean brand withdrew all reservations, being persuaded by the product quality as well as the professionalism of the company from Piedmont. After the "ad hoc" designing and manufacturing phase, carried out according to the specifications of the customer, and after the positive tests performed in the plant in Fossano with the Hyundai RB engineers, the machine was entirely disassembled and prepared for being delivered at the Ulsan plant in Korea, where it was installed and started in September 2010.

A HIGHLY ENGINEERING GIANT

MG45150W is a 3-roll bending machine capable of bending 150 mm up to 4,500 mm wide steel sheets, total weight equal to 270 tons, 13,000 mm long, over 6 meters high. It features a heat interchanger which avoids oil overheating despite the high atmospheric temperatures it works in. Moreover, like the other CNC machines by MG, it is equipped with Touch Command numeri-

cal control, of own production, working on Linux platform. Besides being capable of reproducing the steps of a totally automated roll-bending cycle after data acquisition by the operator, the platform allows to enter them by touching the screen even with thick work gloves. «MG45150W allows to reproduce not only the traditional fender, but also the most different shapes, such as ellipses», says Massimo Roccia.

IT'S A TAKE!

After almost one year and a half from the starting of MG45150W roll-bending machine, Hyundai RB engineers are extremely satisfied of the machine operability: they are currently operating it at full capacity, 7 days a week. Massimo Roccia says: «Our customers' satisfaction has been and still is total, since they met all goals they had set when purchasing the new roll-bending machine, in particular as for productivity, reliability and quality. Just think that our first fender has been used

OUR SECRET? EXPORTING QUALITY

Luckily, the worldwide difficult economic situation and the crisis of the European politics and finance have not stricken all companies. Massimo Roccia says: «We are satisfied since we manage to be competitive all over the world thanks to our productive structure - it is rather agile due to our 60 employees living in Fossano - and to our global commercial network. Nowadays the market is surely a battle field: it is necessary to be quick, offer reliable quality machines at competitive prices; it is even more necessary to export abroad and try to reach those countries with higher growth rates. Given such characteristics, no lack of orders will be suffered».

in the pipeline production, even though the machine was still in its testing phase. In short, we have succeeded in meeting the need of such an important company which is extremely demanding as for roll-bending and this fills our company with even greater pride and satisfaction». ■

FIRST PRODUCT

Fender manufactured during the test performed in Hyundai RB plant in Ulsan.



WORK IN PROGRESS

MG 45150W construction phases.



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