



This photograph illustrates foresight, confidence and courage: part of a modern and efficient new machine assembly works recently designed and built by goods and movement specialist Feltre.

CREDIT: WTP

A view of the Italian tannery machine construction industry

A week's round of visits by our Machinery Consultant, close to the normal Italian summer shut-down, to most of the tannery machinery manufacturers based in the Arzignano cluster found ongoing technical progress, together with an encouraging commercial climate. Whilst the main objective of the meetings focused on innovations and updating technology, as well as performance of existing plant, the state of business also came up for discussion.

Despite the slowdown of the Chinese market and a perceived weakness of the automotive leather industry, not only current order books are said to be satisfactory but new enquiries are at a good level. Principals and sales managers of the machinery businesses were interviewed. It is significant that at the companies visited, clients from abroad were also seen in discussion. Generally output in the current year is expected to be up from that in 2013 or 2014, which already showed recovery from the crisis years.

From a technical point of view, consolidation of the trend to computer programming and control of tannery machines is clearly evident. Gone are the days when tannery machinery design was permanently lagging a step or two behind other machines, such as were then well advanced in electronic management, as for example in engineering and textile manufacture. Design and development of tannery plant now is increasingly producing intelligent systems where machines are able to make decisions. Programmed devices able to correct deviations and set values exist or, when unable to do so, can stop

the process. Touch screens set up with appropriate icons have become the order of the day and the concept of robotics is not far away in this field.

Tannery machine drives; a new era dawns

Presently such machines are normally powered by conventional three phase, squirrel cage electric motors. In the 1960s the electrical engineering industry developed the so-called brushless electric motor and, whilst this is not the place to explain their construction, their advantages lie in simpler electronic speed control, greater power and lower electricity demand. In the early years their cost was substantially greater than that of the conventional motor but they are now more competitive for use in tannery machine drives. Some machine builders in this sector are beginning to fit these.

It appears that this change is a fundamental one when one looks at the four stages in the development of machine drives. The first, of course, in the 1800s, was the pulley and belt system, the second the direct electric motor drive with mechanical gearboxes, the third additionally with transistor controls and the fourth with hydraulic motors. With the brushless motor in particular, the expensive hydraulic motor system with its high maintenance requirements, cooling equipment and imprecise control, can be eliminated in a number of cases.

In the following issues *World Leather* will report in detail on a number of innovations and developments which are taking place in this year. ●