

Power Transmission World

+
tecniche nuove

5
october
2016

ONLINE MAGAZINE

ISSN 2280-2045 - Year V - A bimonthly publication



EVENTS MEC SPE will return to Parma, 23 - 25 March 2017 • **FEATURE FOCUS** En Route as a Pioneer in Thread Technology • **SUPPLIERS PROFILE** Certified pneumatic Cylinders • **TIPS FROM THE WORLD** A Simulation Table for a new Approach to Automotive Testing

En route as a pioneer in thread technology

The first of the high-helix screw drive originated in the Swiss village of Burg in the late 1980s. The rolled high-helix lead screw Speedy, with a diameter of 10 mm and a pitch of 50 mm, came into being a quarter of a century ago.

□ Ursula Schädeli

cess of projects in drive technology. It has been exhausting the potential contained therein in its pioneering role for a considerable amount of time.

The journey of the original Speedy started at the end of the 1980s

The success story of the Europe-wide 'first cold-formed high-helix lead screw' with the huge pitch ratio 10 x 50 mm therefore started at the end of the 1980s. A Swiss industrial company was looking for a very accurate and reliable drive solution for a novel measuring system. The servo-hydraulic linear amplifier formed the centre of this ultramodern testing facility. A milled, precisely working threaded slide drive should manage the integrated automa-

tion function, or the positioning or feed tasks. However, manufacture was extremely expensive. The customer was therefore looking for a high-precision and reliable lead screw which could be manufactured in the cost-effective thread rolling procedure. In thread rolling, the lengthwise fibres of the material are deflected rather than cut, in contrast to milling or turning. A compressed, smooth-rolled, extremely resilient surface is created. The company contacted Eichenberger – and it transpired that its dimensional requirements were established as high class: Diameter 10 mm with quintuple pitch. Although cold-formed sliding screws themselves have been known for many years, such highly rolled pitches were considered revolutionary

at the time. At the time, tool procurement was very limited and there were still no CNC-controlled machines able to fulfil these requirements. And it was therefore necessary to master two challenges simultaneously. On the one hand to manufacture the thread rolling tool for the high-helix screw, on the other hand to design the suitable tool for the nut.

Who invented it?

Over the years, the developers at Eichenberger intensively refined the cold-forming technology. Enormous know-how resulted and different screw types were created in the most diverse of dimensions, pitches and first and foremost thread profile forms. Symmetrical and asymmetri-



The original, Speedy archetype, diameter 10 mm, pitch 50 mm.



Core competence thread rolling: infeed process.



Core competence thread rolling: run-through process.

We live in the most efficient society ever. People require technologically based comforts. This will be the case in future too. For drive systems, users are now increasingly looking for economic, energy-saving overall solutions with low operating costs and machinery manufacturers expect a technological advance which reinforces its position in competition. The requirements

for automated movement processes are therefore increasing at an unstoppable rate. Mechanics boosts and requires this necessity for the solution of practical tasks.

Eichenberger Gewinde AG has principally devoted itself to thread technology and has been rolling customer-specific, high-precision and sophisticated screws for five decades. The thread specialist has developed its own

processes over the years. With a great wealth of experience and a great deal of technical know-how, it assists its partners in developing their innovations. Modern drive systems combine mechanics, electrical engineering and information technology. The thread specialist from Switzerland is aware that the adaptability of mechanically dynamic functional elements makes a considerable contribution to the suc-



Speedy small sliding thread drive solution.