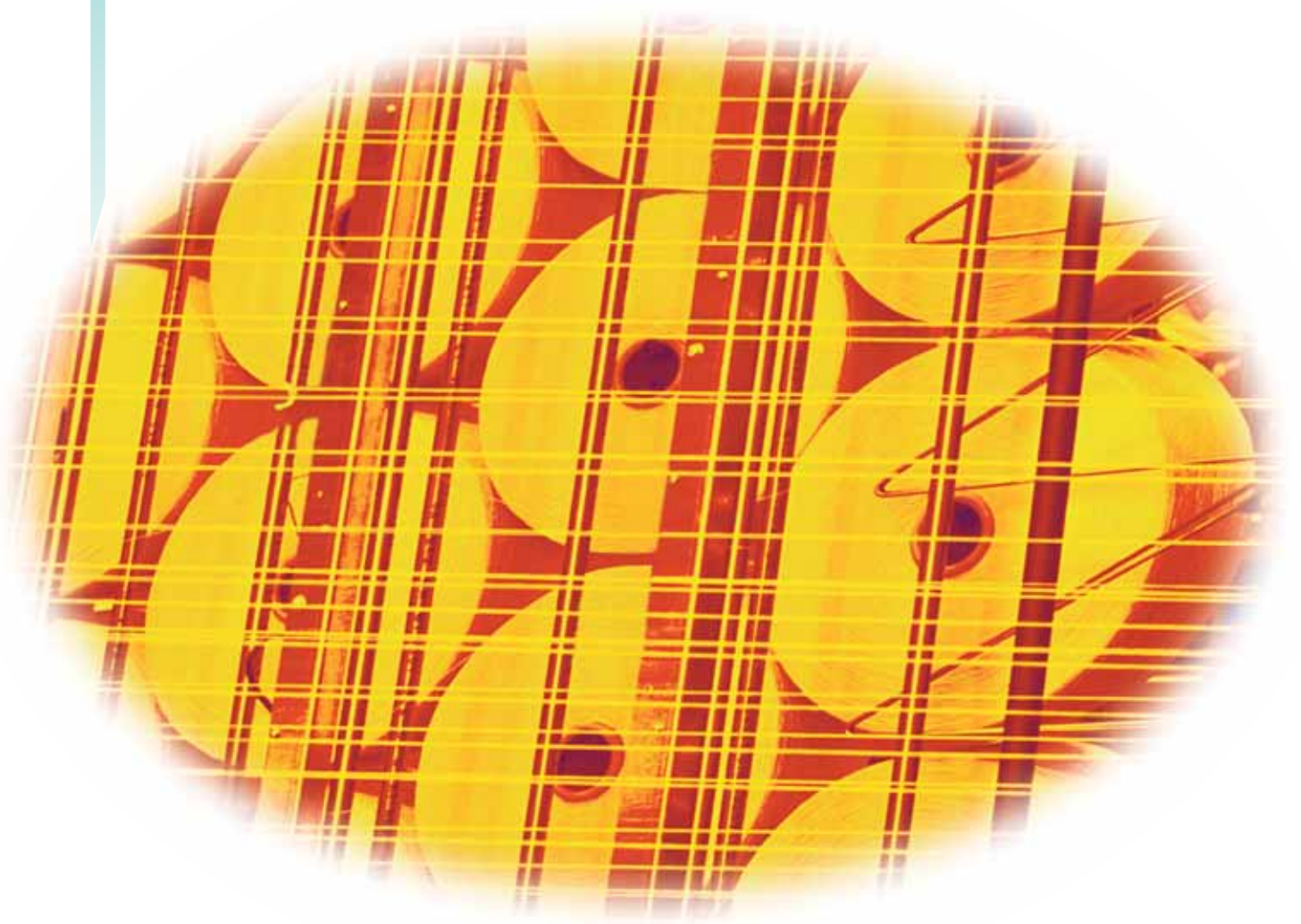




*KARL MAYER*

# Warp News Letter Preparation



## GV – To' V' OR NOT TO' V'

### The concept

The requirement of the production manager is quite simple, transfer the yarn from the package to the beam as efficiently and quickly as possible in such a way that the next process, usually sizing, can be carried out with optimal conditions. Looking into this a little bit deeper reveals that though this brief may sound simply, to achieve this goal requires sound engineering and some "thinking outside the box".

Naturally the yarn tension has to be considered – the first rule in warp preparation, not only to give a good tension but also to ensure that the "weak" yarns are eliminated before the next process. Points also to be considered: how to make the machine operator friendly and yet efficient and also how to stop the complete unit quickly in the event of a yarn breakage or disturbance.

### The design

The KARL MAYER engineers took this brief and went to town on an ultimate solution for V type creels. The concept centres around the endless chain mechanism, a tried and tested solution to load from one side of the creel whilst running from the other. The down-time for creel lot change is kept to a complete minimum, shortest distance to get the new package lot to the running position.

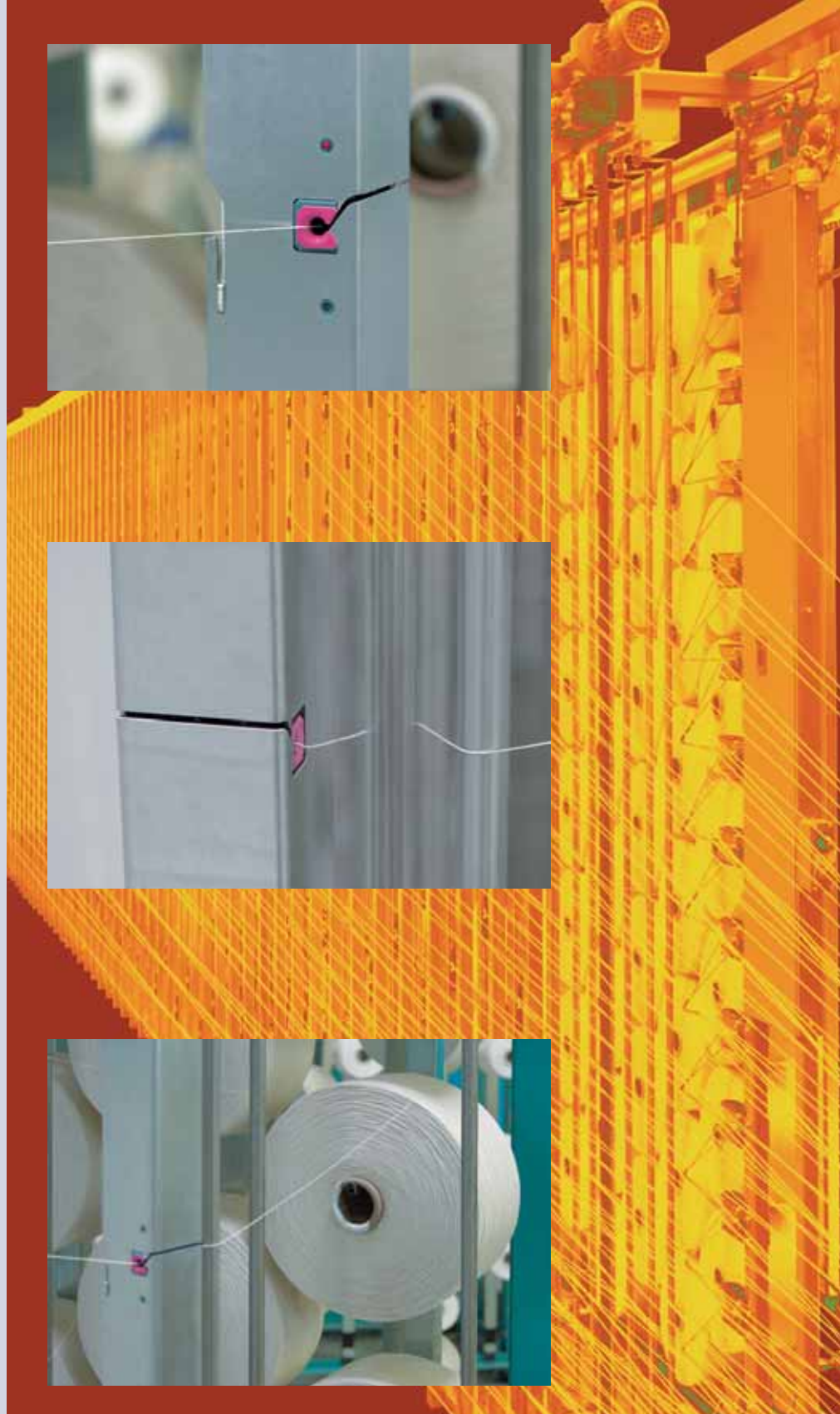
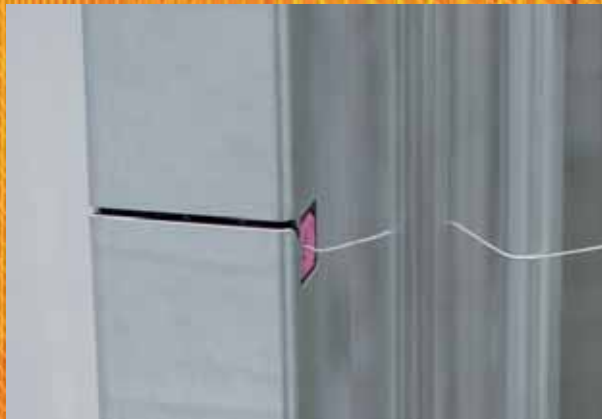
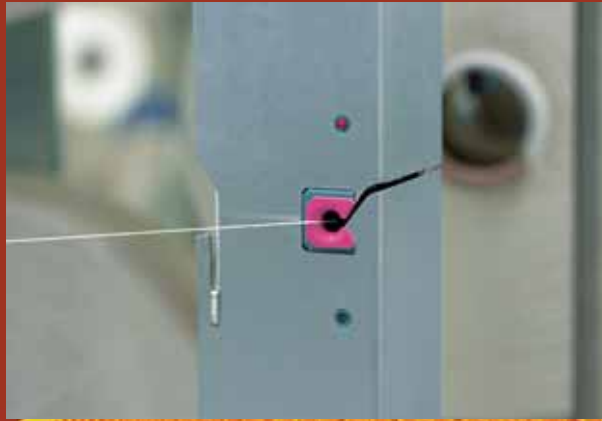
The great challenge was how to integrate the clamping unit and stop motion to work efficiently despite the adverse conditions associated with warping spun yarns i.e. the dust build-up that can render these components inoperative within a matter of hours.

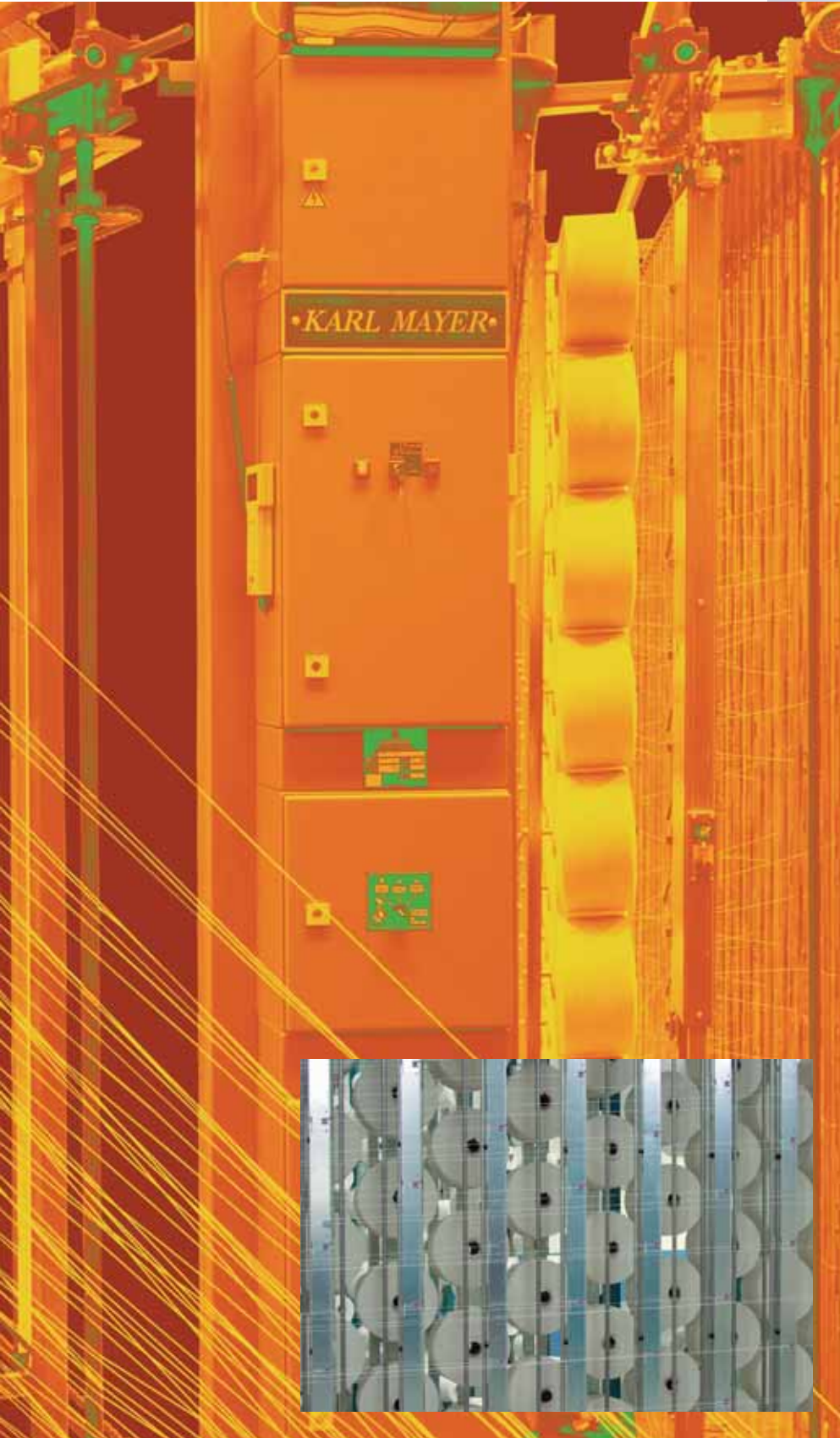
The solution to this problem proved to be not only revolutionary but also gave an added benefit of giving the ends a "soft angle" around the usual corner that the ends have to go endure

### Complete control

Coming from the package the ballooning of the end has to in some way be limited to stop it touching and twisting with neighbouring packages, this is achieved very easily with two vertical rods.

The next step is to in some way add and control tension to the end that is coming from the package in order that all ends at the front of the creel have a uniform tension. This not only means applying a tension but also "evening out" tension differences from front to back. As with the ballooning rods, the answer was to make the yarn wrap around two rods, so giving a tension and adjust this angle of wrap from





front to back so producing an even tension across the yarn sheet. All of this, not forgetting of course, that the rods have to be moved out of the way during package change and if there is a problem with a package in the creel (for the operator to reach the package). So far so good, then came the revolution!

### **Flat yarn sheet**

When the machine stops at the front, the ends have to be kept tight in the creel to avoid a sagging yarn sheet, in turn giving loss of tension, in turn giving ends twisting. For this purpose a yarn clamp was developed by KARL MAYER that was made out of spring steel and gently but firmly clamps the individual ends. Also needed in the vicinity of the clamp are an optical end break detector and an air jet device that keeps the area free from fly. The contact points obviously being the area where fly has most tendency to accumulate. The obvious solution to the engineers at KARL MAYER was to put it all in a box and keep the dust where it can not get everywhere and be blown away directly. So the concept was born of an enclosed channel with integrated clamp, end break detector and air jet all enclosed to allow the air jet to blow efficiently where needed.

### **Soft Angle**

At this stage the engineers did not know that they had actually stumbled on something bigger than just an efficient clamping and detection system, for once this channel is fitted in the creel it reduces the angle that the yarn has to go through, so giving the revolutionary "soft angle" concept in the V creel. As the channel is effectively square, it can be placed so that the end enters through an angle and exits through an angle, so avoiding the critical ninety degrees that can weaken an end. The lessened angle also reduces fly/dust build-up.

### **Winning again**

So the revolutionary KARL MAYER V creel was born, and with the sales to date shows that KARL MAYER through it's sound engineering and customer orientation has delivered what the customer needs and in turn made the production manager smile at last!

## Germany

KARL MAYER Textilmaschinenfabrik GmbH  
Brühlstraße 25  
D-63179 Obertshausen  
Tel. +49 6104 4020  
Fax +49 6104 402 600  
E-Mail: [info@karlmayer.de](mailto:info@karlmayer.de)

KARL MAYER MALIMO  
Textilmaschinenfabrik GmbH  
Mauersbergerstraße 2, D-09117 Chemnitz  
PF 713, D-09007 Chemnitz  
Tel. +49 371 81430  
Fax +49 371 8143110  
E-Mail: [info@karlmayer.de](mailto:info@karlmayer.de)

## Italy

KARL MAYER ROTAL S.r.L.  
Via Trento N° 117  
38017 Mezzolombardo (TN)  
Tel. +39 0461 608611  
Fax +39 0461 601790  
E-Mail: [info@karlmayerrotal.it](mailto:info@karlmayerrotal.it)

## Japan

NIPPON MAYER LTD.  
No. 27-33 1-chome, Kamikitano  
Fukui-City, 918-8522  
Tel. +81 776 54 5500  
Fax +81 776 27 3400  
E-Mail: [info@nipponmayer.co.jp](mailto:info@nipponmayer.co.jp)

## P.R. China

KARL MAYER Textile Machinery LTD.  
159, East Renmin Road  
Hutang Town, Wujin District  
Changzhou City  
Jiangsu Province, Postcode: 213161  
Tel. +86 519 6198888  
Fax +86 519 6190000  
E-Mail: [info@karlmayer.com.cn](mailto:info@karlmayer.com.cn)

KARL MAYER (H.K.) LTD.  
Suite 1413, 14th Floor  
Ocean Center, Harbour City,  
Tsim Sha Tsui, Kowloon  
Tel. +852 27239262  
Fax +852 27398730  
E-Mail: [info@karlmayer.com.hk](mailto:info@karlmayer.com.hk)

## UK

KARL MAYER Textile Machinery LTD.  
Kings Road, Shepshed,  
Leic. LE 12 9HT  
Tel. +44 1509 502056  
Fax +44 1509 508065  
E-Mail: [info@karlmayer.co.uk](mailto:info@karlmayer.co.uk)

## USA

KARL MAYER North America  
Mayer Textile Machine Corp.  
310 North Chimney Rock Road  
Greensboro, North Carolina 27409  
Tel. +1 336 2941572  
Fax +1 336 8540251  
E-Mail: [info@karlmayerusa.com](mailto:info@karlmayerusa.com)

[www.karlmayer.de](http://www.karlmayer.de)



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