HAUG Ionization

The HAUG Single-cable-technology

Ionization system for bobbin, bank and warp creels

Jürgen Homolka
HAUG GmbH & Co. KG

Ionization systems

HAUG

Ionization system for bobbin, bank and warp creels with the HAUG Single-Cable-Technology

Jürgen Homolka

Elimination of electrostatic charges right on the bobbin creel!

Well-known manufacturers pay particular attention to the further development of ionization systems for the textile industry. Since spinning involves the processing of individual yarns over long distances allowance must be made for the considerable differences compared to the processing of endless fabrics. Precisely for such needs a practical, special ionization device with the well-established HAUG-Single-Cable-Technology was developed which offers significant assembly advantages on the bobbin and warp creel.

The ambient conditions in the production rooms are unstable. Both room temperature and relative air humidity largely depend on the overall climatic conditions.

Low air humidity, higher room temperature and synthetic materials are unfavourable conditions which lead to increased electrostatic charges. The “internal condition“ on and in the bobbin is also determined by these influences.

The situation is more favourable if, for example, conditioned material (from air-conditined storage) is being processed. But this is not usually the case. In addition, residual charges from the previous winding process are “preserved” in the bobbin, which in turn leads to more difficult processing conditions. These considerations apply to the external working conditions when the machine is not in operation. But what about when the machine is running?

Photo 1: The HAUG Single-Cable-Technology

Conditions when the machine is running

Working speed plays a major part here. It is generally $\leq$ 300 m/min but, as working speed increases, so does the speed at which the yarn moves away from the bobbin. It will rise even faster as the bobbin diameter gets smaller. However, it is just this separation of the yarn from the fixed bobbin which determines electrostatic charges. And if synthetic materials or blended fabrics are processed, static electricity will increase because of the reduced electrical conductivity of the material.

On the bobbin creel, the yarn runs through the guide eyes at great speed. For reasons of wear, these eyes are often made of a ceramic or other dielectric material. Eyes which are made of such materials often give rise to increased static electricity because of friction and subsequent separation through the deflection of the yarn behind the outlet. These influences will necessarily lead to disrupted production processes.

The electrostatically charged material attracts dust and sus-pended particles from the air, which is a particular disadvan-tage in the case of bright material. The presence of unipolar charges, i.e. electrostatic charges with the same sign (+) positive or (-) negative is revealed by mutual repulsion and attraction of the individual yarns in a yarn sheet. These cause the yarns to wave and an unsteady take-off which can often only be compensated by reduced working speed. However, increased yarn breakage is particularly disadvantageous.

Design of the HAUG Single-cable-technology

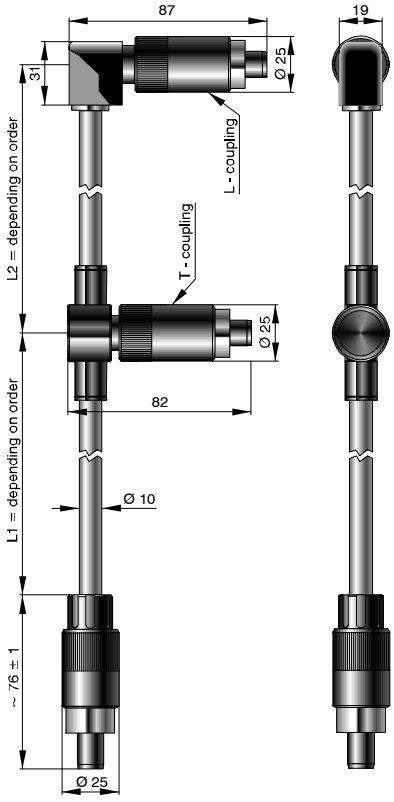
This special ionization system for bobbin and warp creels uses a tubular holder as a carrier. This tube accommodates brackets for fastening the ionizing bars and the power pack can also be fitted to it. The ionizing bars are fitted and connected electrically via a special high-voltage cabel, type AT....L.

With this line, each ionizing bar is connected electrically and contacts the high-voltage power pack at the end. The particular advantage lies in the combination of mechanical fastening and electrical connection. In the case of several levels, only one line each leads from the power pack. In addition, the adjustability of the height permits adjustment to millimetre precision. The best possible utilization of the generated ions for charge balancing is achieved when the ionizing bar/yarn sheet gap is optimal.

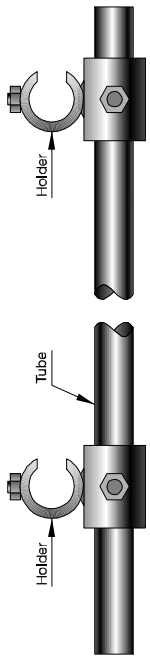
A further advantage is the arrangement of the special ionization system from the centre of the creel. This gives the operator generous handling room from outside. The system also offers advantages in the fitting of the ionization device, in cleaning and in servicing.

Particular attention was paid to safety considerations. All ionizing bars have absolute protection to CE standard. contacting is effected by means of the System X-2000. This gas-tight, coaxial high-voltage connection is unique and protected by international property rights.

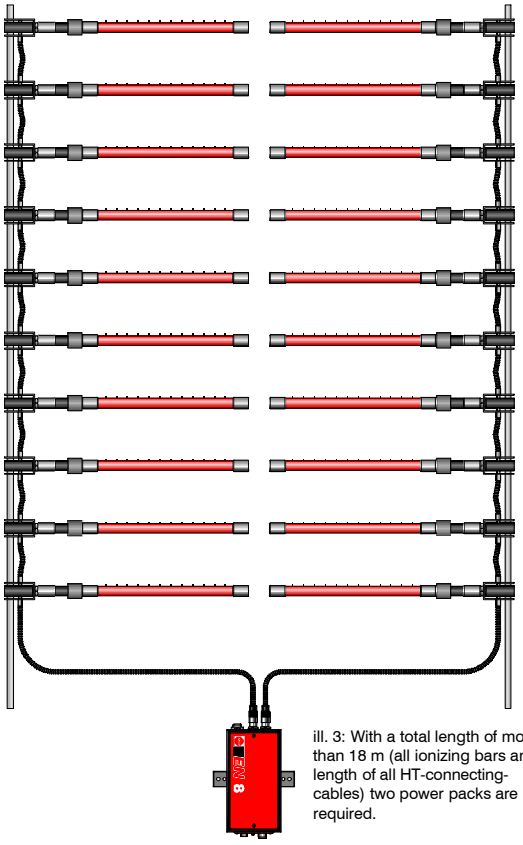
Photo 2: Special ionization system for bobbin and warp creels



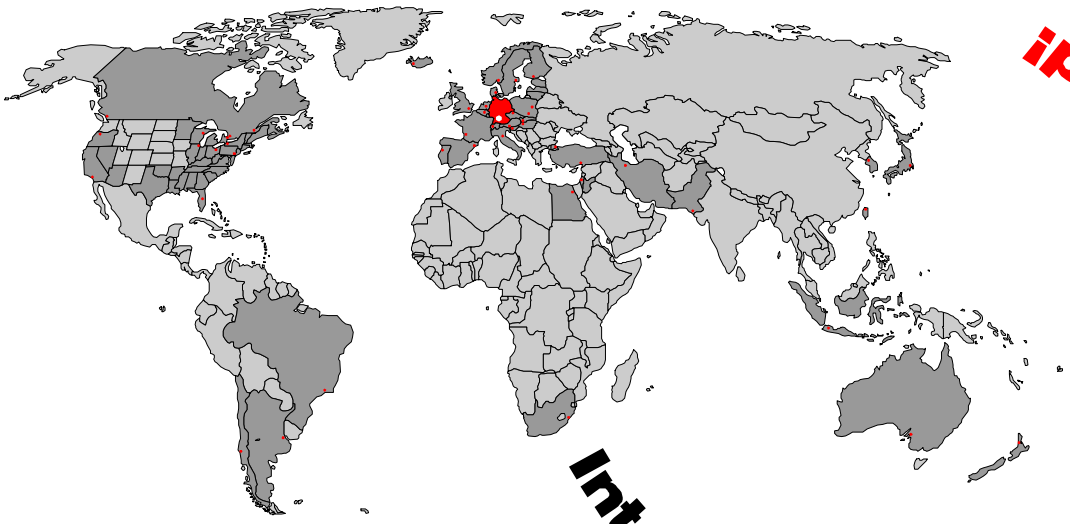
ill. 1: One cable connects several ionizing bars at once



ill. 2: Tubular holders



ill. 3: With a total length of more than 18 m (all ionizing bars and length of all HT-connecting-cables) two power packs are required.



International - all over the world!

HAUG®

HAUG GmbH & Co. KG **Germany**
Friedrich-List-Str. 18
D-70771 Leinf.-Echterdingen
Phone: +49 711 / 94 98-0 www.haug.de
Telefax: +49 711 / 94 98-298 E-mail: info@haug.de

HAUG Biel AG **Schwitzerland**
Johann-Renfer-Str. 60
CH-2500 Biel-Bienne 6
Phone: +41 32 / 344 96 96 www.haug-ionisation.com
Telefax: +41 32 / 344 96 97 E-mail: info@haug-biel.ch

HAUG North America **Canada**
Limited Partnership
1200 Aerowood Drive, Units 14 & 15
Mississauga, ON L4W 2S7, Canada
Phone: +1 905 / 206 97 01 www.haug-static.com
Telefax: +1 905 / 206 08 59 E-mail: info@haug-static.com