

## Retrofit of an Atlas CW900 Slitter Rewinder

Upgrade of the complete control and drive technology while maintaining the existing motors, plus creation of the operating interface and integration in the company-internal ERP system by means of WinCC.



Before A



Before B



### Task:

Modernisation of an Atlas CW900 slitter rewriter of the model year 1996

The slitter rewriter was equipped with the following technology: 1 S5 115U control unit with a CPU945

The control and drive technology was outdated and the components were no longer available as spare parts. Given on the old technology, reliable service could not be ensured anymore. Since the Atlas Slitter is used at a key position for our customers, the downtime had to be kept as short as possible.

### Concept and implementation:

Following intense research and preparation by our Engineering team, a cost and timing concept could be developed that was excellent for all involved.

To keep downtimes and costs as low as possible, we decided for maintaining the DC winding motors and the DC positioning motors. The control unit, the decentralised I/Os, drive controllers and the operating panel were completely overhauled.

To our software engineers this meant they had to analyse the control unit to the last detail and later simulate it in precisely this way.

The effort was worthwhile and the Atlas Slitter could be reintegrated in the production process after only a very short downtime. The customer thanked the Lebbing engineering & consulting team for the very good and on-time implementation. For this reason, the customer now has a system, which is reliable for the long haul, meets the requirements in the state of the art in terms of safety, automation and drive technology.

## Facts:

The system was equipped with new control cabinets and a new operating panel. The existing Siemens ET 200B in the switch cabinets was replaced for an ET 200M and an ET 200S in the field. Since the emergency stop circuit no longer met the current safety regulations, it too was upgraded. The hazard areas are now monitored by safety light barriers and the safe speed is now recorded on the main drive.

It was requested that the existing field wiring be kept. Therefore, the circuit diagram was laid out so that the existing item designation could be maintained as is. On the customer's request, the circuit diagram was created by means of Aucos Elcad, version 7.11.0.

The centrepiece of the now "state of the art" Atlas Slitter is a Siemens S7-412-2 CPU and a CP443-1 Ethernet connection for integration in the company network. The

internal communication with the drives and the decentralised peripheries takes place via a Profibus data node. A hardware interface was created for the auxiliary units.

The main drive is now supplied by a Sinamics DCM DC converter. It combines operating, control and power elements in one device.

The winding arms are positioned by means of brush-type DC servomotors with rare-earth magnets. These motors, in combination with the RTS servo drives used by us, are particularly well suitable for small power systems.

For the rewinders, AC servomotors with shrunk-on disk rotors are used. They have a low moment of inertia and offer high torque at a small installation size. These motors are supplied by an AC servo controller for very dynamic and precise positioning tasks.



Holger Kempe / Project Manager  
Thomas Lebbing / Management



After A



After B

LEBBING engineering & consulting GmbH versteht sich sowohl als Partner des Maschinenbauers als auch des Maschinenbetreibers. Die Kernkompetenz liegt im Bereich der Elektro- und Automatisierungstechnik.

**Leistungsangebot** | Projektierung und Bau von Schaltanlagen, Automatisierung und Visualisierung von Produktionsprozessen, Modernisierung/Retrofit von Maschinen und Anlagen

**Mitarbeiterzahl** | 65 **Gründungsjahr** | 1998

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