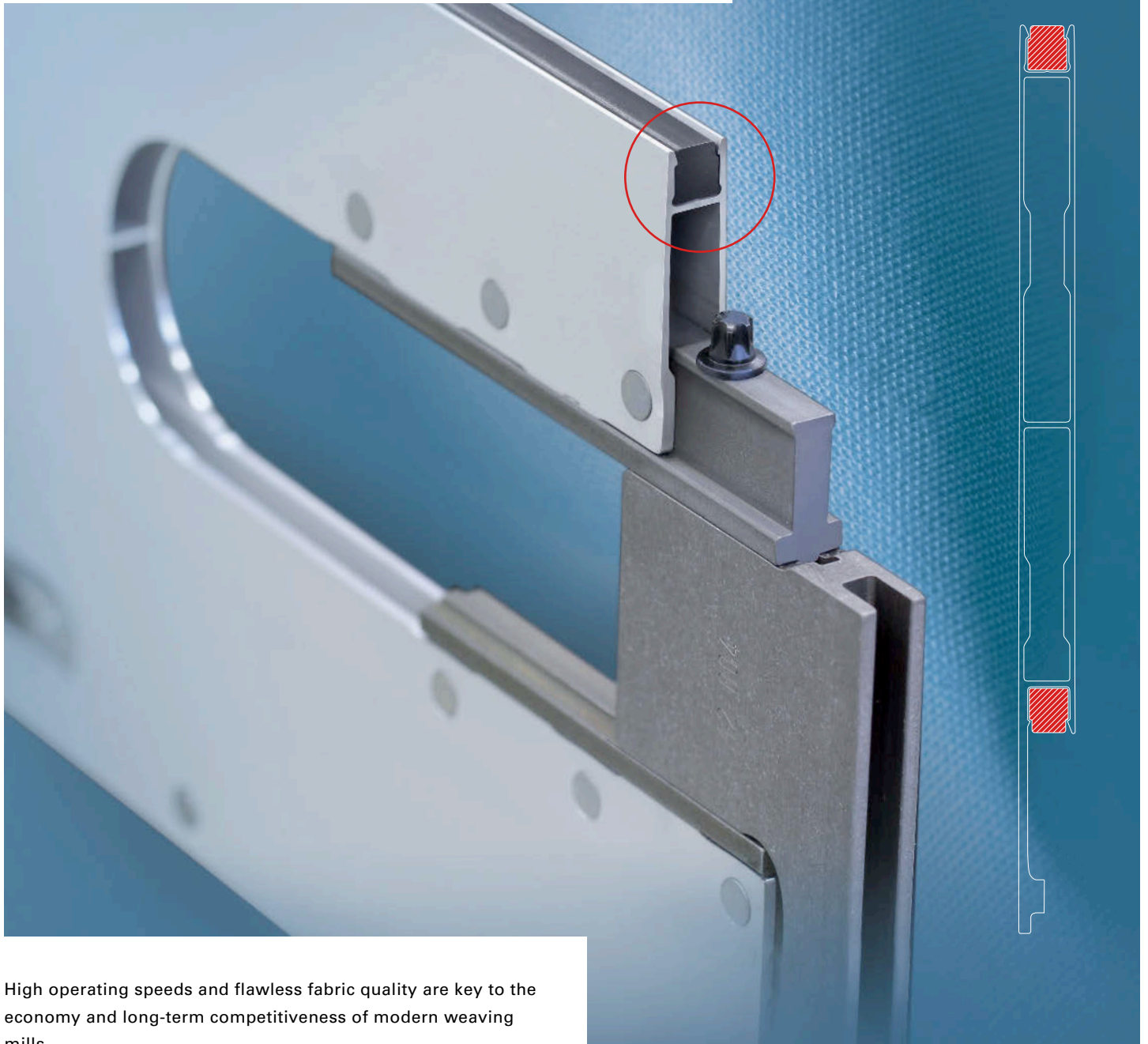


ALtop HYBRID®

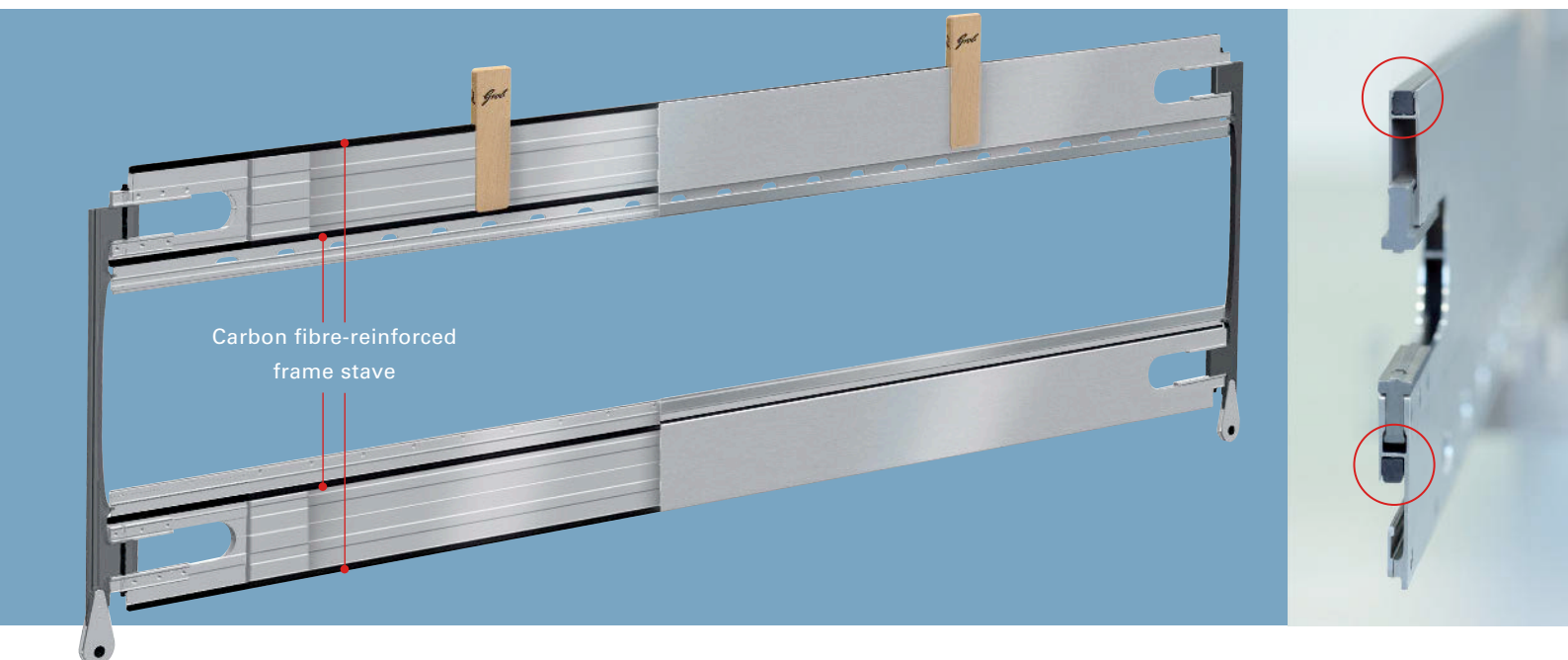
THE HIGH-PERFORMANCE HEALD FRAME



High operating speeds and flawless fabric quality are key to the economy and long-term competitiveness of modern weaving mills.

With the ALtop Hybrid® heald frame, Groz-Beckert provides a **carbon fibre-reinforced**, high-performance heald frame based on an innovative lightweight design concept. This new heald frame is especially unique due to the outstanding bending resistance of its frame staves.

DEVELOPED TO FULFILL THE MOST STRINGENT DEMANDS



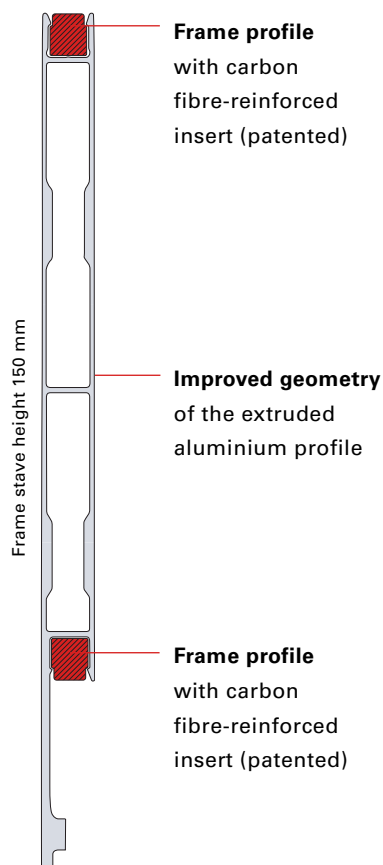
Reliable Groz-Beckert quality for weaving machines

Lightweight design facilitates maximum speeds

An innovative design incorporating sectional aluminium and high-performance carbon fibres makes the extremely lightweight frame staves ideally suited to withstand the dynamic loads of modern high-speed weaving machines. This is an especially critical factor in applications with positively-controlled heald frame movements.



Frame profile of the ALtop Hybrid®



Innovative carbon fibre profile arrangement

For nominal weaving machine widths of up to 2800 mm, double carbon fibre-reinforced frame staves with a height of 150 mm are used both for the upper and the lower frame stave.

For larger nominal widths and heald frames with three or four drive points, a double carbon fibre-reinforced frame stave with a height of 150 mm is used above. Below, a geometrically adapted light metal frame stave is used, providing for the unrestricted positioning of driving connections.

IMPROVED COST-EFFECTIVENESS



Benefits of the ALtop Hybrid®:

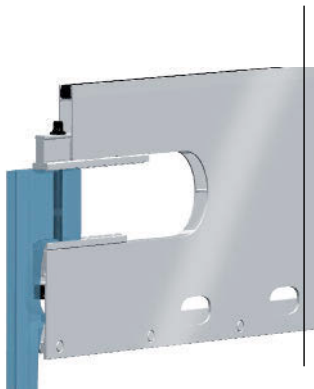
- Maximum bending resistance of frame staves
- Suitable for automatic drawing-in on conventional machines
- Applicable for use without intermediate support even at wider nominal widths
- Innovative design with two high-performance carbon fibre profiles in the same frame stave (patented).

Customer benefits:

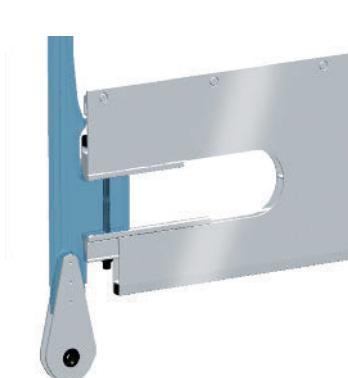
- Improved machine operating speed potential
- Facilitates the manufacture of flawless fabrics
- Reduces spare part requirements due to a long service life and simple handling

Functional corner connection

The corner connection contains no moving components. This guarantees a firm screw connection and simple, precise lateral support positioning, insuring that the frame will withstand extreme loads but at the same time facilitating simple, reliable warp preparation (patented).



UPPER CORNER CONNECTION

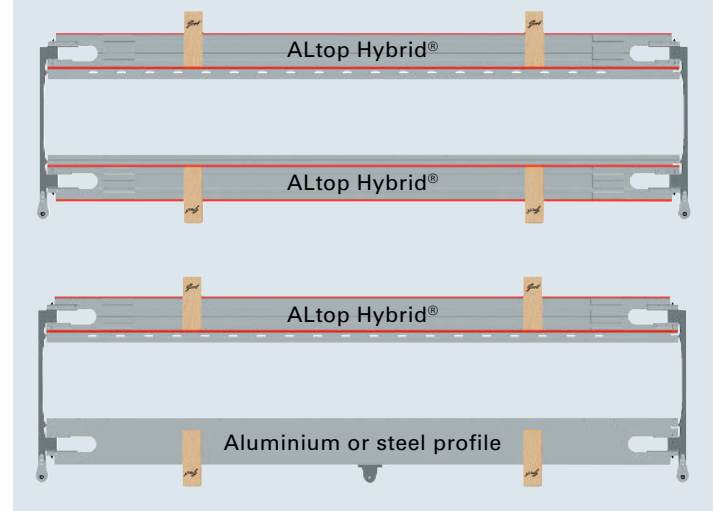


LOWER CORNER CONNECTION

Without intermediate support

Operation without an intermediate support substantially reduces weaving machine downtime in both drawing-in and pattern changes. It also eliminates potential fabric quality problems during the weaving process relating to intermediate supports.

Flexibility of Design Alternatives



VARIED RANGE OF APPLICATION ON AIR-JET, PROJECTILE, AND RAPIER WEAVING MACHINES

Heald frame with three and more drive points

If several driving connections below are required, the lower frame stave provides optimum stability at the same time as the stability of the upper stave is insured through its double carbon fibre reinforcement, permitting operation without intermediate supports.

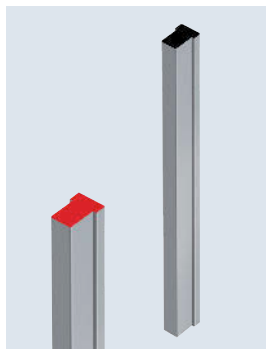
THE ALtop HYBRID® IN APPLICATION

The material: extremely lightweight but still durable and resistant to bending

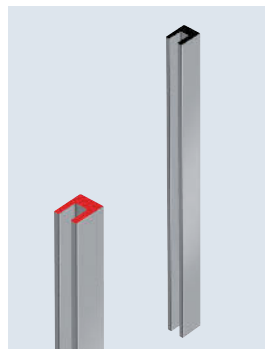
Selected materials increase the service life of heald frames and machines. The low weight simplifies handling in daily operation.

Extremely narrow tolerances

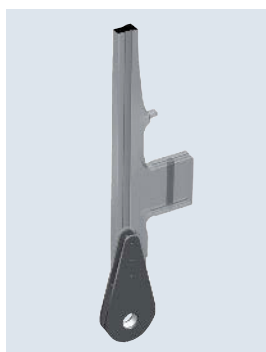
Groz-Beckert heald frames are manufactured using a process-reliable method which ensures adherence to the closest tolerances in series production. This is pivotal to the trouble-free application of heald frames in the weaving process.



T-SHAPED



U-SHAPED



DRIVE DRC 1E



DRIVE DRC 1E

The DRC 1E has a bronze hexagonal drive with minimal backlash and excellent emergency running properties.

Drives from other manufacturers can also be used on request.

Application example air-jet weaving machine:

Machine width	1900 mm	3400 mm
Movement profile	Cam shedding motion – P0	Dobby – P2
Number of frames	4	8
Lift	80 mm	100 mm
Number of healds/warp ends	10,000	22,000
Weft insertion	approx. 1,500/minute	approx. 600/minute

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