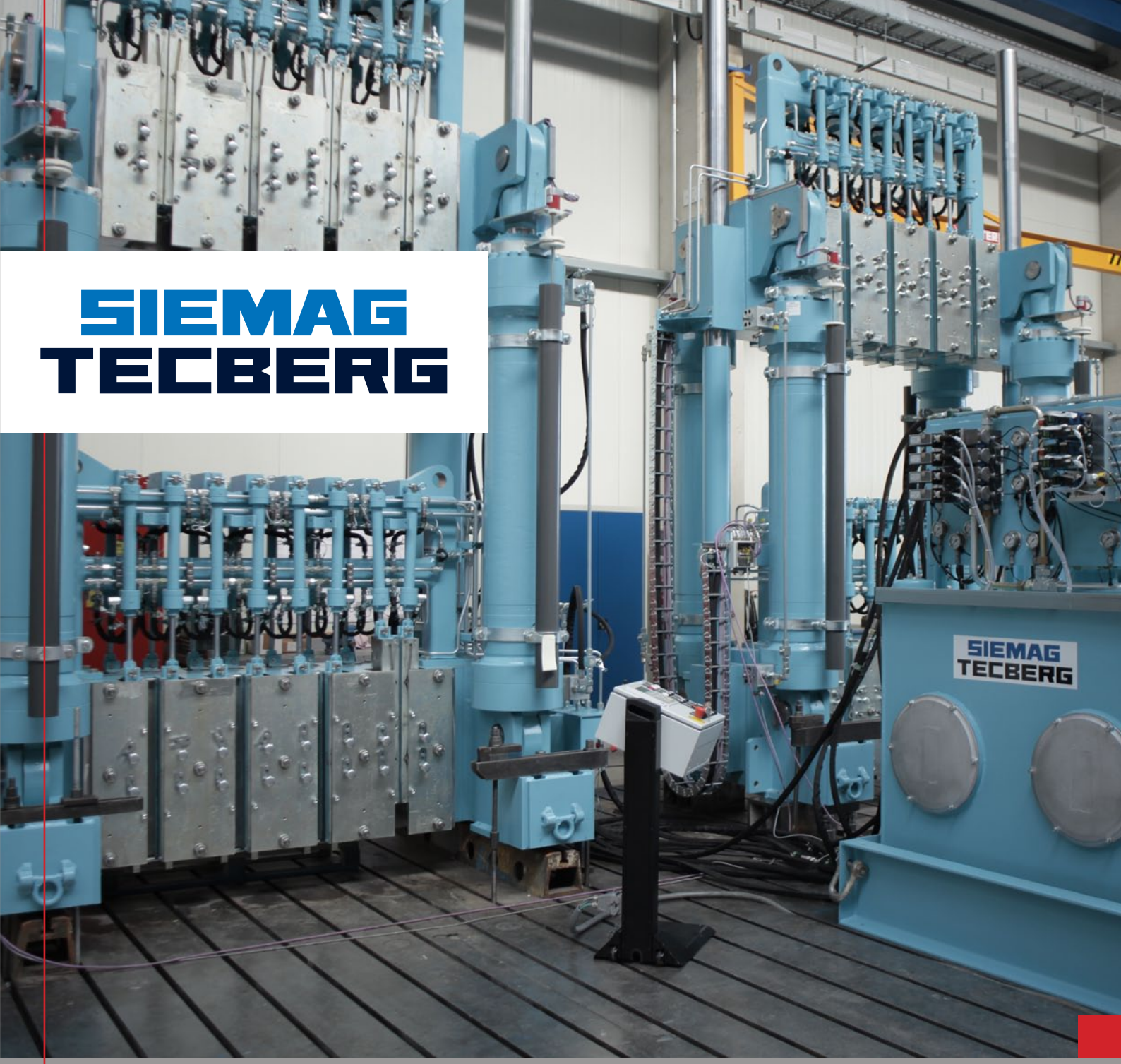


SIEMAG TECBERG

TECHNICAL INFORMATION

CLAMPING AND LIFTING DEVICE (CLD) FOR SINGLE AND MULTI-ROPE KOEPE HOISTING INSTALLATIONS

TECHNICAL INFORMATION

CLAMPING AND LIFTING DEVICE (CLD)

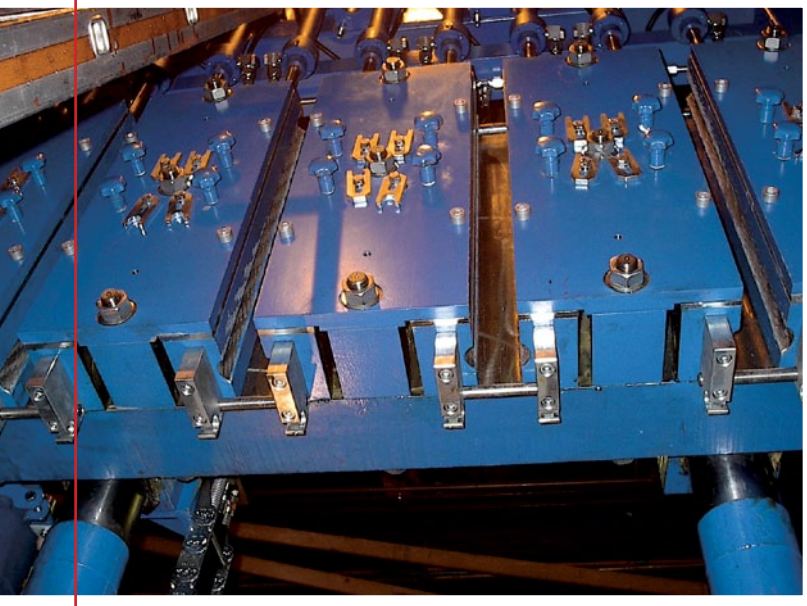
Rope handling for the very wide range of maintenance and service duties at friction hoisting installations is significantly simplified by the use of a clamping and lifting device. Such a device can clamp all ropes of a hoisting compartment simultaneously without any major work being required beforehand, and can hold the ropes in place, lift or lower them under maximum load, with any total lifting distance which is achieved by cyclic movements of the clamping beam.

The preferred rope pulling direction for accomplishing slack ropes above a conveyance – in particular with floor-mounted winders – is downwards. However, to accomplish slack ropes on the winder or on the head sheaves, it is necessary to pull the ropes upwards. Both tasks are executed by the patented two-directional clamp. Double-tapered clamping insets run nearly maintenance-free on supporting wedges by means of heat-treated roller bodies. A constant clamping force is established proportionally to the rope force. Hydraulic clamping cylinders serve to open and close the insets synchronously and reliably initiate the clamping operations. The clamping devices are arranged on both the stationary (lower) and moveable (upper) rope clamping beam. The latter one is moved by means of lifting cylinders and is responsible for the rope lifting and lowering operations. During no-lift strokes the lower, stationary clamping beam holds the ropes in place.

The clamping and lifting device is normally stored at an adequate distance from the winding ropes where it is protected by a weather-proof shelter. From this position it can be moved, as required, into the winding compartments and be arranged for the pre-selected pulling direction.
Apart from the clamping and lifting operations, the device may also be shifted hydraulically.
All functions are usually monitored by a PLC system in order to reliably ensure trouble-free operation.

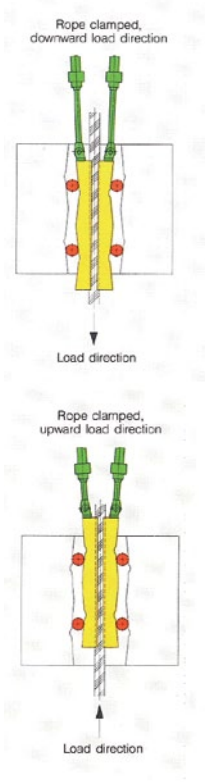
ADVANTAGES

- Simultaneous clamping of all ropes and lifting or lowering of one hoisting compartment
- Lifting and lowering of one hoisting compartment under maximum load
- Application in two compartments of one hoisting installation or in two hoisting installations of one shaft
- Accomplish slack ropes, e.g. for rope shortening on surface, at the best accessible location

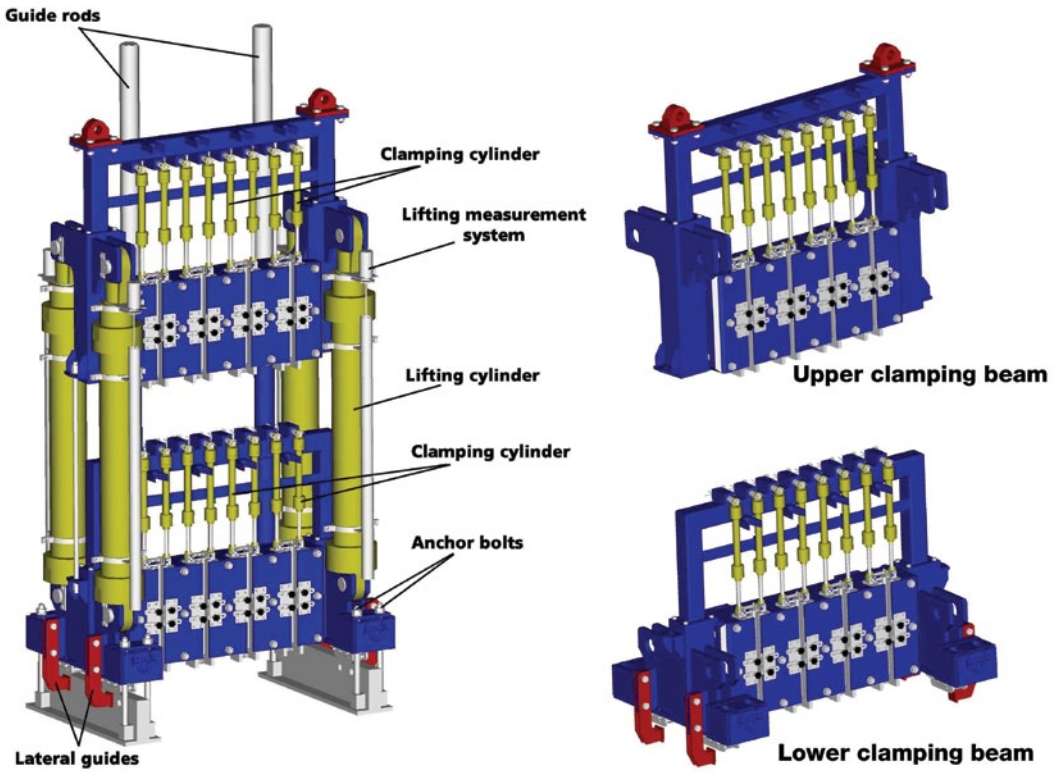


View onto the Clamping Beam

Lower Clamping Beam with Travelling Device



Principle of the Clamping and Lifting Device with Two-Directional Clamps



4-Rope Clamping and Lifting Device

APPLICATIONS

Unless there are no special local restrictions, a clamping and lifting device can perform the following tasks and functions:

- Simultaneous clamping and lifting or lowering of all ropes of one winding compartment
- Lifting and lowering of one hoisting compartment under maximum load
- Use in two compartments of a hoisting installation or also in two hoisting installations of one shaft
- Accomplishment of slack ropes for rope shortening on surface at the best accessible location
- The winder motor does not require dimensioning for such load cases, but for usual hoisting purposes
- Provision of sufficiently slack ropes for pulling the rope over the winch during rope changes without using additional auxiliary ropes
- Provision of slack ropes for work on the winder or the head sheaves
- Lifting and lowering of the conveyance for longer distances in an emergency case,
- Free selection of the pulling direction without prior modifications
- Hydraulic control of all functions,
- Monitoring and interlocking to protect against faulty operation
- Use as a rope installation and rope-changing device

TECHNICAL DATA (METRIC DIMENSIONS)

Type of Hoisting	All single and multi-rope friction hoisting
Cylinder Stroke (Lifting or Lowering)	± (0.8 - 2 m)
Total Working Distance (Lifting or Lowering)	Unlimited total working distance by executing the required number of strokes
Stroke	About 1 m/min
Rope-Changing Stroke	About 3.5 m/min
Rope Load of all Ropes	Unlimited (executed 6 - 250 t)
Number of Ropes	Unlimited (executed 1 - 10)
Rope Diameter	Unlimited
Type of Rope	All (minimum friction values required)
Rope Spacing	Min. spacing required for higher rope loads

Hydraulic Unit

Control Panel