Absolute reliability is one of the most important features for a wire rope hoist. To ensure the highest possible reliability levels in day-to-day operation, our crane systems are made to the most stringent quality standards. ABUS GM electric wire rope hoists are produced using the most advanced technology available and continue to bear witness to their reliability, safety and durability year after year, from motor to rope, gearbox, brakes and electrical and electronic systems.

Apart from quality, versatility is an outstanding feature of ABUS GM electric wire rope hoists. These units cover an extremely wide load capacity range, from 1,000 kg to 120 tonnes. And the comprehensive standard equipment means that even a standard ABUS electric wire rope hoist is a versatile unit right from the start. Additional equipment is also available for special applications. Order an ABUS GM electric wire rope hoist and you can be sure that you have opted for a top-quality material handling unit.
ABUS GM wire rope hoists – quality features

**Hoisting gear**
Lightweight gear units with silent-running flat bevelled gears deliver the torque required. Four different gear ratios are available for each model.

**Rope guide**
A resilient low-friction plastic rope guide designed as an expanding ring provides positive guidance for the rope. The rope guide also reduces wear on the rope and rope drum. It is also easy to install, reducing maintenance requirements for the unit as a whole.

**Bottom block**
The elegant bottom blocks are equipped with edge protectors around the rope opening. Long service lives and high safety levels are outstanding features of the resilient annealed steel rollers with machined rope grooves and annealed load hooks.

**Safety brake**
The dual-disk electromagnetic brake features automatic braking in the event of a power failure. Asbestos-free brake linings designed for approx. 1 million braking operations make for long maintenance intervals.

**Cross travel drive**
Two compact epicyclic reduction gears with pole-changing brake motors directly drive two wheels.

**Cross travel trolley**
Hoist trolleys are fitted with four flanged wheels with permanently lubricated roller bearings, designed for use on tracks with parallel flanges. Wheels for tracks with inclined flanges are available as an option.

**ABUS emergency limit switch**
Two standard switching points for the highest hook position ensure double safety.

**Electrical system**
The easy-to-service control system with ABUS LIS control unit includes motor protection functions, operating hours meter and overload protection function.

**Easy plug-in connector**
The factory-fitted ABUS plug and socket connections reduce installation and maintenance work to a minimum. Connections are easy to assemble and dismantle. Furthermore, incorrect connections are impossible.

**Hoist motor**
Sturdy pole change motors with cylindrical rotors and integrated safety brakes are the power house of ABUS wire rope hoists.
ABUS electric wire rope hoists – the technology

GM electric wire rope hoists demonstrate the high quality level achieved by ABUS:

- developed using advanced calculation and CAD programs
- future-oriented technology: two-speed hoist and cross travel drives, standard motor protection functions
- made and tested at advanced production facilities, with an ISO 9001 quality system ensuring constant high levels of quality

- optimized by continuous incorporation of experience obtained in testing and use
- reliable, durable units for load capacities from 11 to 120 t with the CE mark for use in the European Economic Area;
  7 basic types available in various models with speeds, lifting heights and drive groups for a wide range of applications.

Hoist design
ABUS wire rope hoists are extremely compact units, robust and easy to maintain, which can easily stand up to comparison with the competition. Outstanding design features include the parallel configuration of rope drum and hoist motor, modular design and the functional arrangement of all components. Joints with direct fits between components such as hoist motor, gears, rope drum and limit switches save parts and improve reliability. Modular hoist motors increase flexibility in type selection and facilitate potential service requirements.

Hoist motors
ABUS uses sturdy cylindrical rotor pole change motors with elegant continuous cast aluminium sections, integrated safety brakes and easy-to-use plug and socket connectors. Hoists are supplied as insulation class F, IP55 protected units. Stator subdivisions are optimized for higher electrical efficiency, smooth running and improved thermal capacity in service with frequent switching operations, allowing smaller sizes compared with conventional motors. Automated winding production ensures reproducible quality.

Hoist gears
Precision flat bevelled gear units in light alloy housings with case-hardened gears, high-grade surface treatment and permanent oil lubrication ensure high reliability and smooth running with a minimum of maintenance.

Hoist brakes
Dual-disk electromagnetic brakes ensure automatic braking on power failure. Environmentally sound brake linings designed for approx. 1 million braking operations allow long maintenance intervals.

Hoist brakes
Dual-disk electromagnetic brakes ensure automatic braking on power failure. Environmentally sound brake linings designed for approx. 1 million braking operations allow long maintenance intervals.

Rope drive
Low weight and compact dimensions are top priorities in the ABUS design brief, which is why ABUS development engineers have selected high-strength galvanized wire ropes with compacted strands and a special structure for use on ABUS wire rope hoists. Combined with wear-resistant rope drums and rollers, these ropes make it possible to produce an extremely compact rope drive without making any sacrifices in terms of reliability and durability.

Electrics
The control systems used for ABUS wire rope hoists feature proven technology and are of modular design, covering a very wide operating range. All motion functions are designed for two-stage pole change operation. The systems are designed for ease of installation and maintenance and reliable operation, with fuseless circuitry, ducted wiring and non-screwed terminals.

Supporting structure, trolleys and drive systems
The hoist types described on pages 8 to 11 are the result of integrating standard hoists in chassis designed for different applications and combining them with various types of travelling gear. Compact dimensions, low headroom dimensions, favourable end approach dimensions, practicality and quality are outstanding features of all these hoists. In the case of crab units, the supporting structure is connected to the end carriages by machined joints and bolts, allowing accurate wheel positioning to precision engineering standards. In addition, artificed end carriage joints ensure that all four wheels are always firmly positioned on the tracks and that the wheel loads on the crane bridge are properly distributed in accordance with the structural design of the system. The travelling gear includes flanged wheels with roller bearings. In combination with individual drive systems, they form compact direct drive units requiring almost no maintenance. As regards mains operation, pole change cylindrical-rotor motors with smooth start-up characteristics, additional balance weights on the motor shaft and integrated disk brakes make for smooth acceleration and braking almost unaffected by the load on the system. Other optional features available for even smoother running include smooth starting units and smooth switching relays.
ABUS GM wire rope hoists for single-girder cranes

**Type E – monorail hoist**
A compact designed monorail hoist with low headroom dimensions and two direct drive cross travel motors. The cross travel trolley is adjustable to suit various flange widths. These most cost effective and frequently ordered hoists have a load range from 1 t to 16 t SWL.

<table>
<thead>
<tr>
<th>Model</th>
<th>Reeling</th>
<th>Load cap (t)</th>
<th>Hook path (m)</th>
<th>C (mm)</th>
<th>H (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM 800</td>
<td>4/1</td>
<td>3.2</td>
<td>6</td>
<td>9</td>
<td>400</td>
</tr>
<tr>
<td>GM 1000</td>
<td>2/1</td>
<td>2.5</td>
<td>12</td>
<td>18</td>
<td>24</td>
</tr>
<tr>
<td>GM 2000</td>
<td>2/1</td>
<td>5.0</td>
<td>6</td>
<td>9</td>
<td>20</td>
</tr>
<tr>
<td>GM 3000</td>
<td>2/1</td>
<td>6.3</td>
<td>6</td>
<td>9</td>
<td>20</td>
</tr>
<tr>
<td>GM 5000</td>
<td>2/1</td>
<td>8.3</td>
<td>12</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>4/1</td>
<td>10.0</td>
<td>6</td>
<td>10</td>
<td>15</td>
<td>580</td>
</tr>
<tr>
<td>GM 6000</td>
<td>2/1</td>
<td>10.0</td>
<td>12</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td>4/1</td>
<td>12.5</td>
<td>6</td>
<td>10</td>
<td>-</td>
<td>580</td>
</tr>
</tbody>
</table>

**Type U – monorail hoist with twin trolleys**
A monorail hoist with twin trolleys for high load capacities and long hook paths. Cross travel trolley designed for direct drive without exposed reduction gearing. As the load is distributed over eight wheels, ordinary rolled section beams can be used for monorail track applications. With short spans, even high-load cranes can be operated on ordinary rolled section beams using this hoist. Load capacity range: 6.3 t to 25 t.

<table>
<thead>
<tr>
<th>Model</th>
<th>Reeling</th>
<th>Load cap (t)</th>
<th>Hook path (m)</th>
<th>C (mm)</th>
<th>H (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM 5000</td>
<td>4/1</td>
<td>20.0</td>
<td>6</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>GM 6000</td>
<td>2/1</td>
<td>12.5</td>
<td>12</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>4/1</td>
<td>25.0</td>
<td>6</td>
<td>10</td>
<td>15</td>
<td>1854</td>
</tr>
</tbody>
</table>

**Type S – side-mounted hoist**
With its optimized hook height, this hoist, which can be used on crane bridges with a span of up to 35 m or more, has advantages over other types in terms of investment return.

- Compared with a single-girder crane using a type E monorail hoist, the building height can be reduced.
- Compared with a double-girder crane of about the same height, the loads on the crane track and the building are significantly lower.

**Support rollers with swivel mount**

**Comparison of the headroom of different hoists, SWL 10 t, span 25 000 mm**

- Single-girder crane with type E monorail hoist
- Double-girder crane with type D crab unit
- Single-girder torsion box crane with type S side-mounted hoist

* Observe national regulations regarding clearance dimensions!
ABUS GM crab units for double-girder cranes

Type D – standard crab unit
A compact designed crab unit for the medium load capacity range, with articulated end carriage joints ensuring positive contact of all four wheels with the track, with two direct drive cross travel motors.

Load capacity range: 1 t to 63 t.

Type DQA – ultra low headroom crab unit
An ultra low headroom crab unit with the rope drum axis in the direction of cross travel, articulated end carriage joints ensuring positive contact of all four wheels with the track, two direct drive cross travel motors.

Load capacity range: 1 t to 40 t.

Type DA – low headroom crab unit
In contrast to type D, the supporting member with the hoist between the end carriages is equipped with articulated joints. The hoist headroom is therefore reduced to a minimum. This is the option to use where very little space is available above the crane, as an alternative to type DQA, also a low headroom option.

Type DQA – ultra low headroom crab unit
An ultra low headroom crab unit with the rope drum axis in the direction of cross travel, articulated end carriage joints ensuring positive contact of all four wheels with the track, two direct drive cross travel motors. Load capacity range: 1 t to 40 t.

Type Z – twin barrel crab unit
A compact designed crab unit with twin barrels and articulated end carriage joints ensuring positive contact of all four wheels with the track, two direct drive cross travel motors. Load capacity range: 8 t to 120 t.

Vari-Speed for type Z
Vari-Speed offers four different lifting speeds for twin barrel hoists. This feature is obtained by operating the two pole change hoist motors either together or alternately.

The operating times of the hoist motors in alternating operation are controlled by special software as a function of travel, taking into consideration the maximum rope deflection allowed.

Four lifting speeds are obtained by combining parallel and alternating operation.

1/12 1/6 1/3 1/1 1/2 precision lifting speed
1/6 precision lifting speed
1/3 main lifting speed
1/1 main lifting speed

Cross travel drives for type Z

Wheel diameter ø 280 mm
Epicyclic geared motors

Wheel diameter ø 350 mm
Flat-gear motors
ABUS GM wire rope hoists: special designs

A number of special designs are available for various applications. Our specialist staff will be pleased to advise you.

Explaination of type designation

<table>
<thead>
<tr>
<th>GM 800</th>
<th>2000</th>
<th>L-20</th>
<th>4</th>
<th>4</th>
<th>1</th>
<th>6000</th>
<th>4</th>
<th>E</th>
<th>100</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main trolley speed (m/min)</td>
<td>Trolley wheel diameter (mm)</td>
<td>Trolley type</td>
<td>Model generation</td>
<td>Hook path (mm)</td>
<td>No. of driven ropes</td>
<td>No. of falls</td>
<td>FEM group</td>
<td>Rope speed (m/min)</td>
<td>Type of motor</td>
<td>Load capacity (kg)</td>
</tr>
</tbody>
</table>

Previous designation: GM 820 L6-204.41.06.3.E
New designation (36 – 43 characters): GM 800.2000L-204.41.6000.4.E 100.20

Reeving of the ABUS electric wire rope hoists

<table>
<thead>
<tr>
<th>Type 2/1 – E, D, U</th>
<th>Type 4/2 – D</th>
<th>Type 6/2 – Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 4/1 – E, D, U</td>
<td>Type 8/2 – D</td>
<td>Type 8/2 – Z</td>
</tr>
<tr>
<td>Type 6/1 – D</td>
<td>Type 4/2 – Z</td>
<td>Type 10/2 – Z</td>
</tr>
<tr>
<td>Type 12/2 – Z</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A subject you cannot afford to neglect: drive group (FEM group) selection

Apart from the type of hoist required, the load capacity, the hook path and the lifting speed, the drive group must be selected to ensure the hoist’s service life. Standard hoists are normally designed for a mean theoretical service life of 10 years, subject to operation in accordance with FEM 6.7.11. If the drive group selected is not appropriate in view of actual service conditions, the actual service life may be considerably shorter than 10 years. The result is a significant increase in downtime for maintenance, repairs and overhauls.

In accordance with FEM 9.511. If the drive group selected is not appropriate, the actual service life cannot exceed the theoretical service life. If the drive group selected is appropriate, the actual service life does not exceed the theoretical service life stated in the operating instructions. When the theoretical service life has expired, the hoist must be decommissioned. Continued operation is allowed if it has been determined that there are no objections to continued operation and the conditions for continued operation have been defined. Normally, a full overhaul of the hoist will be required in general, the inspector will determine the conditions for continued operation. The objective of these requirements is to ensure that each hoist is only operated within its safe working period (S.W.P.).

The following table indicates the theoretical service life in hours for DSA groups 1A, 1Am, 2 and 3.

<table>
<thead>
<tr>
<th>Type</th>
<th>Load Capacity</th>
<th>Theory</th>
<th>1</th>
<th>Service life</th>
<th>No. of operating hours</th>
<th>500</th>
<th>1000</th>
<th>1500</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>63000</td>
<td>16000</td>
<td>2m</td>
<td>5160</td>
<td>16; 30; 45; 12.5/2; 10/1.6; 8/1.3</td>
<td>16/2.6; 12.5/2; 10/1.6; 8/1.3</td>
<td>14/1.8; 11/1.3; 9/1.1</td>
<td>11/1.1; 9/1.0; 7.5/0.9</td>
<td></td>
</tr>
<tr>
<td>1Am</td>
<td>63000</td>
<td>16000</td>
<td>3m</td>
<td>7160</td>
<td>16; 30; 45; 12.5/2; 10/1.6; 8/1.3</td>
<td>16/2.6; 12.5/2; 10/1.6; 8/1.3</td>
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<td>11/1.1; 9/1.0; 7.5/0.9</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>63000</td>
<td>16000</td>
<td>2m</td>
<td>6050</td>
<td>12; 20; 30; 37</td>
<td>16/2.6; 12.5/2; 10/1.6; 8/1.3</td>
<td>14/1.8; 11/1.3; 9/1.1</td>
<td>11/1.1; 9/1.0; 7.5/0.9</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>63000</td>
<td>16000</td>
<td>2m</td>
<td>5050</td>
<td>12; 20; 30; 37</td>
<td>16/2.6; 12.5/2; 10/1.6; 8/1.3</td>
<td>14/1.8; 11/1.3; 9/1.1</td>
<td>11/1.1; 9/1.0; 7.5/0.9</td>
<td></td>
</tr>
</tbody>
</table>

In addition to the mean working time per day, the theoretical service life is determined that there are no objections to continuing operation. The correct assessment of the load spectrum is essential for determining the appropriate drive group. The value is given by the following equation:

\[ T_{\text{mean}} = \frac{t_{\text{op}} \times \sum k_{\text{oper}} \times \sum k_{\text{max}}}{100} \]

where:
- \( T_{\text{mean}} \) is the mean working time per day (in hours)
- \( t_{\text{op}} \) is the mean working day (in hours)
- \( k_{\text{oper}} \) is the percentage of operating time
- \( k_{\text{max}} \) is the percentage of maximum load

The selection of the next highest FEM group results in a doubling of the theoretical service life if the operating conditions determined (see service life) remain unchanged.

Theoretical load spectrum - Theoretical service life D (h)

<table>
<thead>
<tr>
<th>Line load spectrum</th>
<th>Definition of load spectrum</th>
<th>Mean working time (tm) per working day (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>1 light</td>
<td>3 200 6300 12 500 25 000 50 000</td>
</tr>
<tr>
<td>Medium</td>
<td>2 medium</td>
<td>5 3000 12500 25 000 200 50 000</td>
</tr>
<tr>
<td>Heavy</td>
<td>3 heavy</td>
<td>8 4000 12500 50 000 25 000 10 000</td>
</tr>
</tbody>
</table>

FEM 9.755 can be selected using the following table.

<table>
<thead>
<tr>
<th>Type</th>
<th>Load Capacity</th>
<th>Theory</th>
<th>1</th>
<th>Service life</th>
<th>No. of operating hours</th>
<th>500</th>
<th>1000</th>
<th>1500</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>63000</td>
<td>16000</td>
<td>2m</td>
<td>5160</td>
<td>16; 30; 45; 12.5/2; 10/1.6; 8/1.3</td>
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<td>1Am</td>
<td>63000</td>
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<td>3m</td>
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<td>16; 30; 45; 12.5/2; 10/1.6; 8/1.3</td>
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<td>11/1.1; 9/1.0; 7.5/0.9</td>
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<tr>
<td>2</td>
<td>63000</td>
<td>16000</td>
<td>2m</td>
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<td>12; 20; 30; 37</td>
<td>16/2.6; 12.5/2; 10/1.6; 8/1.3</td>
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<tr>
<td>3</td>
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<td>14/1.8; 11/1.3; 9/1.1</td>
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<td></td>
</tr>
</tbody>
</table>

Type FEM ISO Hook path

<table>
<thead>
<tr>
<th>Type</th>
<th>Load Capacity</th>
<th>Theory</th>
<th>1</th>
<th>Service life</th>
<th>No. of operating hours</th>
<th>500</th>
<th>1000</th>
<th>1500</th>
<th>2000</th>
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</thead>
<tbody>
<tr>
<td>1A</td>
<td>63000</td>
<td>16000</td>
<td>2m</td>
<td>5160</td>
<td>16; 30; 45; 12.5/2; 10/1.6; 8/1.3</td>
<td>16/2.6; 12.5/2; 10/1.6; 8/1.3</td>
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<td>11/1.1; 9/1.0; 7.5/0.9</td>
<td></td>
</tr>
<tr>
<td>1Am</td>
<td>63000</td>
<td>16000</td>
<td>3m</td>
<td>7160</td>
<td>16; 30; 45; 12.5/2; 10/1.6; 8/1.3</td>
<td>16/2.6; 12.5/2; 10/1.6; 8/1.3</td>
<td>14/1.8; 11/1.3; 9/1.1</td>
<td>11/1.1; 9/1.0; 7.5/0.9</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>63000</td>
<td>16000</td>
<td>2m</td>
<td>6050</td>
<td>12; 20; 30; 37</td>
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<tr>
<td>3</td>
<td>63000</td>
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<td>5050</td>
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<td>14/1.8; 11/1.3; 9/1.1</td>
<td>11/1.1; 9/1.0; 7.5/0.9</td>
<td></td>
</tr>
</tbody>
</table>

(All data may be subject to changes)

* not available with type 4
### ABUS wire rope hoist selection table

#### ABUS wire rope hoist selection table for crane units, type D / type DB

<table>
<thead>
<tr>
<th>SWL (kg)</th>
<th>Reeling 6/2</th>
<th>Reeling 4/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>8000</td>
<td>GM 5080 2m M5 9; 15; 20</td>
<td>GM 5100 2m M5 10; 15; 20</td>
</tr>
<tr>
<td>10000</td>
<td>GM 5100 2m M5 10; 15; 20</td>
<td>GM 5120 2m M5 10; 15; 20</td>
</tr>
<tr>
<td>12500</td>
<td>GM 5125 2m M5 10; 15; 20</td>
<td>GM 5150 2m M5 10; 15; 20</td>
</tr>
<tr>
<td>16000</td>
<td>GM 71150 2m M5 12; 15; 20</td>
<td>GM 71350 2m M5 12; 15; 20</td>
</tr>
<tr>
<td>20000</td>
<td>GM 71500 2m M5 12; 15; 20</td>
<td>GM 71750 2m M5 12; 15; 20</td>
</tr>
<tr>
<td>25000</td>
<td>GM 72000 2m M5 12; 15; 20</td>
<td>GM 72500 2m M5 12; 15; 20</td>
</tr>
<tr>
<td>32000</td>
<td>GM 72500 2m M5 12; 15; 20</td>
<td>GM 73000 2m M5 12; 15; 20</td>
</tr>
<tr>
<td>40000</td>
<td>GM 73500 2m M5 12; 15; 20</td>
<td>GM 74000 2m M5 12; 15; 20</td>
</tr>
</tbody>
</table>

#### ABUS wire rope hoist selection table for twin barrel crab units, type Z / type ZB

<table>
<thead>
<tr>
<th>SWL (kg)</th>
<th>Reeling 6/2</th>
<th>Reeling 4/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>8000</td>
<td>GM 5084 2m M5 9; 15; 20</td>
<td>GM 5104 2m M5 10; 15; 20</td>
</tr>
<tr>
<td>10000</td>
<td>GM 5104 2m M5 10; 15; 20</td>
<td>GM 5124 2m M5 10; 15; 20</td>
</tr>
<tr>
<td>12500</td>
<td>GM 5125 2m M5 10; 15; 20</td>
<td>GM 5152 2m M5 10; 15; 20</td>
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### Accessories

ABUS LIS control system – the nerve centre of your ABUS wire rope hoist

ABUS wire rope hoists are equipped with an intelligent LIS control system, available in two versions – LIS-SE and LIS-SV. Both versions feature an overload protection device which reliably protects the hoist against overloading. While the LIS-SV uses a strain gauge signal to measure the load, the LIS-SE calculates the current load on the hook on the basis of three-phase current and voltage measurements made while the motor is running. Both types of control unit may be equipped with an optional load display for visualizing the load.

All LIS control units are equipped with an operation hour meter for determining the expended portion of the service life. For precise determination of the remaining service life, a load population recorder in accordance with FEM 9.755 is available as an option. This ensures safe working periods over the entire service life of the hoist. The load population recorder is designed to allow the relevant values to be read out easily by the operator.

In addition to these features, LIS control units are designed for a number of other functions to ensure safe, low-maintenance operation of all ABUS wire rope hoists. The combination of actively fail-safe electric and electronic circuitry meets the highest safety requirements and is in accordance with the diversity and active fail-safe requirements of the applicable standards.

The integrated motor overcurrent protection system and the guided start-up function reliably protect the hoist motor against thermal overloading, provided that a proper use is given. If the motor current continuously exceeds the maximum value, the overcurrent protection function shuts down the motor. The guided start-up function prevents excessive inchoating operation when the high hoist speed is selected.

Another function with considerable benefit to the user is regenerative braking. During each braking operation from high hoist speed, the motor is briefly operated as a generator to slow the hoist before the mechanical brakes are operated, significantly extending the service life of the brake linings.

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### Technical features

- Overload protection
- Load evaluation by strain gauge sensors
- Load evaluation by current/voltage measurements
- Adjustment by integrated digital terminal
- Load evaluation with integrated 4-digit display or load display
- Overload protection by strain gauge signal
- Isolated control signal circuits
- Motor control design
- All connections by plug-in connectors

### Signal processing unit

- Measurement axle installed in anchor point cross arm
- Current sensor
- Large load display

### Load display in pendant control

- Measurement axle
- Measurement axle
ABULiner frequency converter

The ABULiner, a microprocessor-controlled frequency converter unit, allows infinitely variable speed control. When fitted to a cross travel drive, the ramps set ensure smooth acceleration and deceleration. The ramp is adapted to the load to prevent large loads from swinging. If an ABULiner is fitted to a hoist motor, the motor can be operated at up to twice the rated maximum lifting speed, depending on the actual load (this function is optional). This feature permits significant time savings, especially on systems with large hook paths. The acceleration ramp and the braking ramp can be set separately. For applications requiring extremely low lifting speeds, such as toolmaking and mould production, the ABULiner can be installed in such a way as to operate only on the precision lifting speed. With this version, infinitely variable speed control is only possible if the precision lifting speed is selected.

Electronic motor control systems

The AZS electronic smooth starting unit from ABUS, which is equally well-suited for crane and trolley travel, minimizes jolting during acceleration. The patented ABUS SU smooth switching relay is triggered each time the unit is switched from high to low speed, ensuring a significant reduction in the braking torque caused by operation of the motor as a generator and minimizing load swing. The smooth starting unit and the smooth switching relay work harmoniously in combination, making for extremely convenient operation.

Hook block scale

For many crane operators, it is important to know what is hanging on the hook: weighed goods being charged on to customers, loading trucks, supplying production equipment with weighed material, observing safety instructions for loads or determining the weight of containers - often the ABUS hook block scale is the economically advantageous solution. ABUS hook block scale is a digital commercial scale of Accuracy Class III with EU approval from The National Metrology Institute of Germany. The crane scale is calibrated and supplied ready for use.

Electric emergency lowering system for hoist motors

The emergency lowering system ensures that the load can be lowered safely even in the event of a power supply failure. If the mains power supply is interrupted, the operator can initiate controlled lowering by pressing the “lowering” button on the pendant control. The lowering operation can be stopped at any point.

During emergency lowering, power for the motor brake is supplied by a battery. To prevent uncontrolled lowering, one winding of the pole change motor is operated as a generator.

Electronic synchronization control system

The electronic synchronization control system compensates for differences in the speeds of several hoists operated together as a result of different loads. The unit controls two or more hoists in synchronized operation with a minimum of effort, without switching off the faster-running motor in main lifting speed. The electronic synchronization control system can be fitted inexpensively to standard hoists driven by pole change motors. No mechanical modifications or additional electronic components are needed. Differences in the levels of the lifting height are easily compensated by individual operation of the hoists before the system is switched to synchronized-speed operation. Time-consuming adjustment of the length of the individual load lifting tackles is therefore no longer necessary.

Further options on request
ABUS modular wire rope hoist: Technical Intelligence in top shape

The modular ABUS wire rope hoist covers the load capacity range up to 5 t, 2 fall in the range 1 t – 2.5 t and 4 fall from 2 t to 5 t.

The modular wire rope hoist is driven by a trolley travel motor operated with a frequency converter. The hoist drive has a 4-pole hoist motor with frequency converter control as standard. The lifting speed can be either infinitely adjustable or used to simulate pole switching. The maximum lifting speed is load dependent and achieves double the nominal lifting speed when running empty. A patented inductive measurement technique guarantees the load measurement even when the hoist is at a standstill.

The reeving of the wire rope hoist can be converted: from 4 fall (4/1) to 2 fall (2/1) and vice versa. This is of benefit if the operating conditions change or the wire rope hoist is to be sold. The conversion is quick and easy, since the deflection roller crosshead and the fixed point crosshead are mounted through a reliable bolt connection on the trolley frame and can be easily changed as required. The ABUS modular wire rope hoist is equipped with adjustable and cushion-mounted track guide rollers as standard and thus preserves the lower flange of the crane.

The hoist frame consists of bolted and compressed side walls. This innovative and patented type of connection from ABUS impresses with its high precision and stability.

The convenient folding mechanism makes assembly of the wire rope hoist on the crane very simple. The switch cabinet of the wire rope hoist has a modular design and can be purchased on the open market from the production of well-known manufacturers – a huge service advantage!

The ABUS modular wire rope hoist is equipped with an LED matrix display, which shows various operating information, such as the status reports of the crane components. Errors can thus be quickly and easily identified and eliminated. The LED display shows the characters with plenty of contrast and can be easily read.

The ABUS modular wire rope hoist has a modern, functional look, which is complemented by a very high-quality designer colour concept.
ABUControl: lifts cranes to a new level

Travel profiles can be used to adapt ABUS cranes to your circumstances. Cranes with two fixed speeds move in a completely different way to cranes controlled by frequency converter, for example. Travel and hoist profiles allow cranes to be adapted to your current or required situation. This means your crane operators no longer have to adjust existing cranes and perceive the increased productivity of an additional crane system.

Operating data, settings, service information. By means of the modern KranOS interface, you can keep tabs on the crane. For wireless use with any laptop or tablet with browser. Speeding up regular annual inspections into the bargain.

ABUControl relies on tried-and-trusted freely available components from renowned electronics manufacturers. Replacement or repair requires neither ‘specialist knowledge’ nor ‘software licences’. You remain in complete control of the crane at all times and have a free choice of service partner. ABUControl - a unique promise for simple maintenance and repairs.

The ABUS sway control increases safety and convenience during transportation of goods in sensitive areas. Sway control is based on mathematical calculations. Travel speeds, acceleration and deceleration of crane and hoist, the hook position and length of the load lifting attachment are taken into account. Even people who rarely operate cranes can transport loads safely with the aid of the sway control feature.

The ABUS synchronisation control of two hoists on one crane enables the safe handling of long products. Divergence of lifting speeds is prevented effectively through constant regulation even where different wire rope hoists are used. This requires the crane to be equipped with a frequency converter for lifting. Travel speeds are regulated even on cranes which run in tandem. Two cranes, maximum of four hoists and their hoisting motions, all regulated.
ABUS quality standards:
Precise, modern production processes

Steel trolley frames are manufactured using a 10-axis welding robot, ensuring short processing times and constantly high welding quality.

Advanced CNC lathes are used to turn the rope drums in one operation, an approach that ensures perfectly smooth running of the rope drums during operation.

Installation of the crab unit

ABUS deliberately specialises in off-floor lifting and load handling systems for loads up to 120t. Not only because this load range includes by far the majority of all materials handling applications, but also because specialisation enables us to utilise rationalisation potential most effectively.

ABUS offers a comprehensive range of readily available, efficient load handling systems: jib cranes, overhead cranes, monorail trolley tracks, electric wire rope and chain hoists, a wide variety of components and, last but certainly not least, the HB-System. Our services range from the development of solutions for bespoke applications right through to implementing complete materials handling systems.

ABUS crane systems – getting into the nuts and bolts of materials handling solutions

And all our services are characterised by the special ABUS attitude: we offer not only a bare product, but also practical advice and assured quality. The product guarantee which we offer is still unique in our field and individual user support and a nationwide after-sales service network with rapid, effective response are all part of the ABUS service.
Further product information...
... regarding the ABUS product range can be forwarded to you on request. They are also available to view and download directly from our homepage.

Please send your enquiry to
fax to: +49 2261 37-247 by email to: info@abuscranes.com

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Company: ________________________________
Street: ________________________________
Postcode/Town: ________________________________
Phone: ________________________________
E-Mail: ________________________________

Date __________________________ Signature __________________________

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