STAHL CraneSystems
By Columbus McKinnon

CRANE TECHNOLOGY

HOISTS AND COMPONENTS

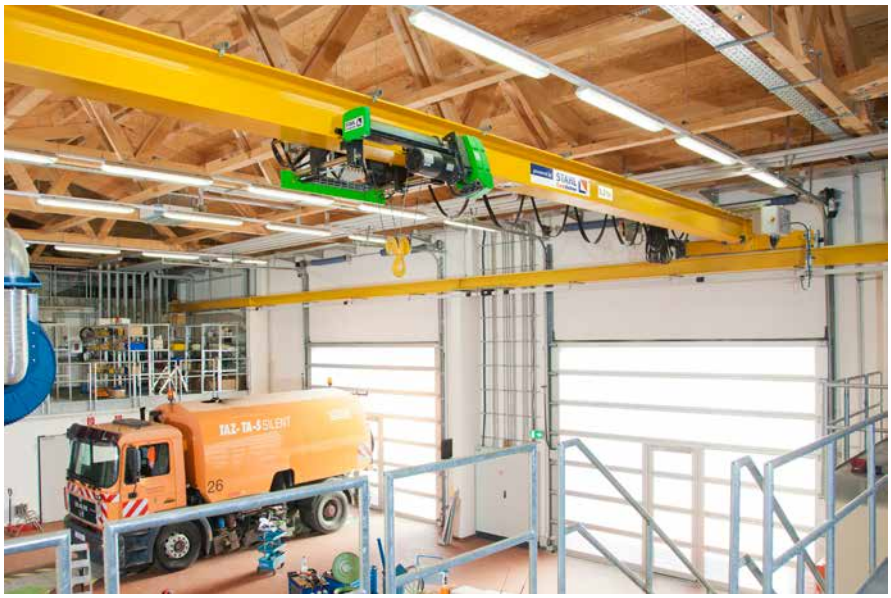
THE CRANE TECHNOLOGY

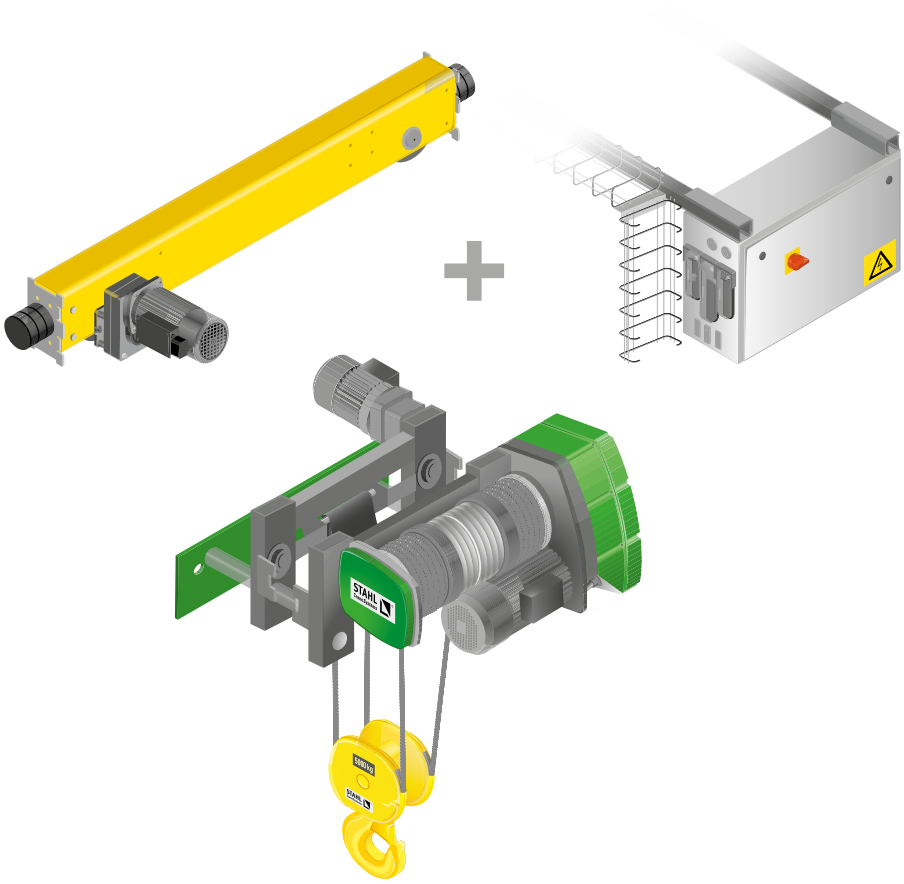
The hoisting and crane technology from STAHL CraneSystems ranks among the most distinctive and comprehensive on offer worldwide. The high-quality components are among the best available anywhere from a technical point of view. Users, crane manufacturers and system builders value these economical components and complete solutions that prove their worth in use day after day.

Thanks to our sound know-how and decades of experience, we are able to offer sophisticated products, from chain and wire rope hoists to crane endcarriages, travel drives and wheel blocks as well as crane electrics from easy-to-use control pendants to complex control systems. On top of this, there is our extensive portfolio of hoisting equipment. Our customers can rely on all components working together efficiently like fine clockwork. Our hoisting and crane technology stands out for offering the right solution for every field. And for completely unusual requirements, our experts from the engineering department devise special custom solutions. Modern production procedures and certified processes guarantee consistent high quality.

Even in potentially explosive work areas, you do not need to forego hoisting and crane technology from STAHL CraneSystems. If wanted, the complete programme but for a few exceptions is available in explosion-proof design for Zone 1, Zone 2, Zone 21 and Zone 22. It is not for nothing that we are one of the market leaders in explosion-proof hoisting technology and crane components.

The single girder overhead travelling crane with an SH wire rope hoist is used specifically to lift and precisely move loads such as truck tyres and heavy vehicle attachments safely and efficiently.





THE FACTS

- One of the most comprehensive hoisting and crane technology programmes worldwide
- Modular design of the hoisting and crane technology systems
- Reliable, low-maintenance, service-friendly components
- Ambient temperature range: Different ambient categories for indoor and outdoor
- Corrosion categories C2 – C5
- Custom solutions through engineering
- Own production in Germany
- Optionally available in explosion-proof design according to ATEX or IECEx

THE WIRE ROPE HOIST AND WINCH PROGRAMMES

Behind the attractive design of STAHL CraneSystems' wire rope hoists lies a compact, robust and largely low-maintenance construction. They are reliable, powerful and long-lived.

The wire rope hoists and winches are manufactured in systematic modular design and dimensioned for a safe working load range from 500 kg to 250,000 kg. We offer our versatile SH series in five frame sizes with 26 S.W.L. variants for the safe working load range from 500 kg to 32,000 kg. The upper safe working load range to 125,000 kg is covered by the field-proven AS model. The SHW 8 winch programme extends the range of application into the high-load bracket to 250,000 kg. Off-standard applications and customised solutions can be achieved cost-effectively thanks to the modular design of the standard components of all wire rope hoists and winches.

The SH and AS wire rope hoist programmes and the SHW winch programme are also available in explosion-proof design complying with ATEX or IECEx.

In our engineering department engineers and technicians develop individual custom and off-standard solutions tailored to your specific requirements from one of the largest portfolios of standard components available. They naturally conform to the latest national and international directives & laws.

INFORMATION MATERIAL

- You can find more information in our brochures »The SH wire rope hoist«, »The AS 7 wire rope hoist« and» The SHW 8 winch«, which we will gladly send to you by post.

Type	Load capacity up to [kg]	Stationary	OE double rail crab	Monorail trolleys KE	UE	DKE
SH 3	3,200	Standard	Standard	Standard	Standard	Standard
SH 4	6,300	Standard	Standard	Standard	Standard	Standard
SH 5	10,000	Standard	Standard	Standard	Standard	Standard
	12,500	Standard	Standard	Standard	Standard	Option
SHR 6	16,000	Standard	Standard	Standard	Standard	Option
SH 6	25,000	Standard	Standard	Option	Standard	Option
	32,000	Standard	Standard	Option	Option	Option
ASR 7	32,000	Standard	Standard	Option	Option	Option
AS 7	80,000	Standard	Standard	Option	Option	Option
AS 7 ZW	125,000	Standard	Standard	Option	Option	Option
SHW 8	250,000	Standard	Standard	–	–	–

THE CHAIN HOIST PROGRAMME

The chain hoist programme ranks among the most distinctive and comprehensive on offer worldwide and has been used thousands of times for decades. It is robust and reliable and requires little maintenance. The innovative and pioneering design of the chain hoist offers considerable economic advantages and is especially suitable for rugged use in heavy industry.

With 13 S.W.L. ranges from 125 kg to 6,300 kg, three construction types and various suspensions, the ST model series permits countless possible combinations. Time and again they result in new, practical off-standard designs, such as the dual chain hoist with fixed or variable spacing between hooks.

This program is available in the S.W.L. range from 250 kg to 5,000 kg in explosion-proof design for Zone 1, Zone 21 and Zone 22 according to ATEX and IECEx.

In our engineering department engineers and technicians develop individual custom and off-standard solutions tailored to your specific requirements from one of the largest portfolios of standard components available. They naturally conform to the latest national and international directives & laws.

INFORMATION MATERIAL

- You can find more information in our brochure »The ST chain hoist«, which we will gladly send to you by post.

Type	Load capacity up to [kg]	Stationary	Push trolley	Electric trolley	Articulated trolley	Short head-room trolley	Extra short headroom trolley	Dualchain hoist	Big Bag
ST 05	125 – 630	Standard	Standard	Standard	Standard	Standard	Standard	Standard	–
ST 10	500 – 1,000	Standard	Standard	Standard	Standard	Standard	–	Standard	Standard
ST 20	1,000 – 2,000	Standard	Standard	Standard	Standard	Standard	–	–	–
ST 30	1,250 – 3,200	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
ST 32	1,250 – 3,200	Standard	Standard	Standard	Standard	Standard	–	–	–
ST 50	2,500 – 5,000	Standard	Standard *	Standard	Standard	Standard	Standard	Standard	Standard
ST 60	3,200 – 6,300	Standard	Standard *	Standard	Standard	Standard	Option	Standard	–

*Only available with 1/1 reeving in the standard range.

Higher safe working loads on request.

THE ELECTRICAL COMPONENTS

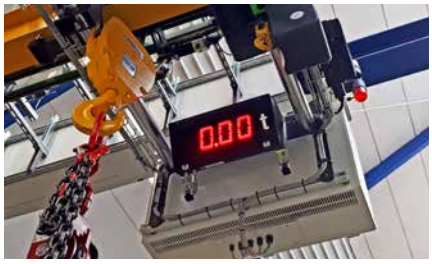
The standard equipment for a crane system can be complemented according to specific applications. Various control and monitoring components are available for selection, such as safety spacing in different performance levels and optional frequency inverters for hoists and travel drives. By integrating these features, the safety of material transport is enhanced and the system lifespan is extended.

POWER SUPPLY

- Cable power supply complete with galvanised C-rail, mounting hardware, cantilever arms for clamping, cable trolley, cables and terminal box
- Plastic conductor line complete in straight sections, including mounting and connection hardware, current collector trolley

CONTROLS

- KSG distributed control: lifting and cross travel on the crab, long travel at the crane bridge
- KSK complete control: all electrical devices in a panel box, for universal use
- 2 speeds, IP55 protection
- Temperature range –20 °C to +40 °C, –40 °C, to +70 °C available on request



LOAD DISPLAY

- Four- or six-digit, 7-segment SLD load display, large format, luminous red
- Choice of 100 or 150 mm digit height
- Combinable with the hoist's overload sensor and the SMC Multicontroller available as an option, no additional fixtures or load attachment devices are required, the headroom of the hoist remains unchanged

CONTROL PENDANT

- Robust control pendant with EMERGENCY STOP palm button and control cable
- All switching elements for hoist, cross, and long travel are 2-step
- IP65 protection
- Additional buttons, such as horn activation, can be easily fitted

RADIO REMOTE CONTROLS

- Robust Magnetek control units with buttons or master switch design
- Good ergonomics for high ease of use
- IP66 protection
- Explosion-proof versions on request

FREQUENCY INVERTER

- Extension of system service life through stepless acceleration and deceleration
- Reduced load swing through soft starting and braking, fast and precise positioning of the load

THE CRANE ENDCARRIAGES AND TRAVEL DRIVES

The robust crane endcarriages are manufactured in modern series production and are easy to mount on both suspension cranes and overhead cranes. The high-quality self-lubricating ball graphite cast iron wheels are available in various diameters. The buffer stops are supplied as standard. The use of frequency-controlled travel drives enables fast and precise positioning of the load without swinging.

ENDCARRIAGES BRIDGE CRANES

- 9 different wheel diameters from 90 mm to 500 mm
- Spans up to 55 m
- Safe working loads from 125 kg to 250,000 kg
- Higher safe working loads on request

ENDCARRIAGES SUSPENSION CRANES

- 4 different wheel diameters from 80 mm to 200 mm
- Spans up to 36 m
- Safe working loads from 125 kg to 25,000 kg
- Higher safe working loads on request

WHEEL BLOCK

- 6 different sizes for wheel loads to 30,000 kg
- 3 standard configurations for connection to customer structures
- Low-maintenance direct drive with two speeds
- Maintenance-free anti-friction bearing

TRAVEL DRIVES

- Low-maintenance crane travel drive
- In standard version with two speeds in a ratio of 1:4 or with stepless frequency control in a ratio of 1:10
- Integrated disc brake

THE VARIABLE FREQUENCY DRIVES

When it comes to intelligent lifting, Magnetek IMPULSE® drives continuously monitor many environmental and functional components of a hoist, such as motor temperature, end of travel and slow down l imits, brake functionality, motor speed, and more. Variable frequency drives maintain safe functional thresholds, which decreases mechanical fatigue and increases reliability and uptime.

THE FACTS

- Programming various drive parameters
- Parameter backup (store and copy)
- Monitoring functions of the drive
- Reading of alpha-numeric fault diagnostic instructions
- Remote monitoring

PRODUCT SPOTLIGHT

IMPULSE•VG+ and IMPULSE•G+ Mini

For hoist motion, the IMPULSE®·VG+ Series 4 drive provides reliable, user-friendly controls and industry-leading features to keep you working safely. IMPULSE·VG+ is available for monorail, double-girder, and base-mount hoists. The easy-to-use keypad provides five lines of 16 characters each and includes soft keys and upgraded parameter selection. The display makes navigation and reading diagnostics even easier.

For trolley motion, the IMPULSE®·G+ Mini drive allows for expanded speed adjustments, improved load control, high duty cycles, and increased crane life. The IMPULSE·G+ Mini's size permits the use of smaller control enclosures, reducing the overall cost of an installation. Hardware and software are designed and extensively tested specifically for the operating conditions seen in overhead material handling applications. IMPULSE·G+ Mini is available for traverse motions for monorail and double-girder hoists. It is also available for long travel on cranes.

IMPULSE•VG+ standard and optional features	
ENCODER FEEDBACK IMPULSE drives continuously monitor motor speed and load to ensure optimal performance and safe load control.	**PHASE LOSS DETECTION** Detects if incoming power phase is lost and maintains a safe state of the load.
SLACK ROPE DETECTION Provides annunciation of slack cable condition to operators.	**SLIP COMPENSATION** Automatically compensates for motor slip.
BRAKE CHECK AT STOP Tests that brakes can safely hold a load at the end of a run and the motor will maintain control of the load in case of brake failure.	**TORQUE PROVING AT START** Determines if the motor can safely control a load before opening the brake to provide additional safety.
DYNAMIC BRAKING Dynamically decelerates motors without the use of brakes. Brakes would only be used for parking and emergency braking, reducing brake lining wear and tear.	**SAFE TORQUE OFF** Provides redundant hardware safety circuit that guarantees motor and brake power are removed when an E-STOP switch or safety controller opens drive input.
HOOK HEIGHT MEASUREMENT Incremental encoder signal determines hook height from a calibrated position.	**MICRO-SPEED™** Allows operators to scale motor speed, which is useful for load positioning.
SHORT CIRCUIT PROTECTION Detects if a motor has a short circuit and can prevent additional failure of the control system.	

IMPULSE•G+ Mini standard and optional features	
SAFE OPERATING WINDOWS™ Reduce the possibility of programming unsafe parameters.	**QUICK STOP™** Reduces the possibility of crane collision.
MOTOR THERMAL OVERLOAD PROTECTION Reduces the possibility of motor damage.	**AUTO TUNING** Non-rotational auto tuning for performance-demanding applications.
MICRO-SPEED™ Allows operators to scale motor speed, which is useful for load positioning.	**SAFE TORQUE OFF** Provides redundant hardware safety circuit that guarantees motor and brake power are removed when an E-STOP switch or safety controller opens drive input.
SWAY CONTROL Greatly reduces the amount of unwanted sway when moving a load.	**SAFETY** EN 61800-5-2, EN 61508, SIL2, Hardware Base Block Circuit.

IMPULSE•VG+

IMPULSE•G+ MINI

THE STF CHAIN HOIST

The STF chain hoist combines the proven technology of the ST chain hoist with the advantages of the Magnetek IMPULSE® frequency inverters. Equipped with the IMPULSE®·G+ Mini as standard, the STF chain hoist not only allows precise movements, but also provides valuable diagnostic and performance information such as the current status of the chain hoist via data exchange with IoT networks.

The IMPULSE·G+ Mini frequency inverter can be connected to fieldbus systems such as Modbus, Profibus or Ethernet, making it an important step towards Industry 4.0.

The STF chain hoist is equipped with overspeed protect ion, standstill monitoring (SRC rotation control) and an advanced 1024 PPR tachometer. This ensures greater safety for the operator and less stress on structural, mechanical and control components. The fast programmability of the frequency inverter, coupled with the easy commissioning of the chain hoist, also offers a safe, highly reliable and simple plug-and-play application.

THE FACTS

- Standard with Magnetek IMPULSE·G+ Mini
- Optional frequency-controlled drive
- Simple connection to IoT networks
- Increased safety through overspeed protection and standstill monitoring (SRC rotation control)
- 1024 PPR tachometer for reliable feedback in harsh environments
- Simple plug-and-play application
- IP66 protection available as an option, braking resistance also optionally available in IP67

THE RADIO REMOTE CONTROLS

Our extensive portfolio of Magnetek-brand radio remote controls can be customised to meet the needs of almost any application. Our rugged pushbutton and joystick controllers provide equipment operators with better positioning for job visibility, safety, data feedback, and extended machine life. From traditional units to our most sophisticated systems, our product portfolio provides total radio control when combined with a variety of receivers. Magnetek radios are compliant with EN ISO 13849-1 PL d and are optionally available in explosion-protected design in compliance with ATEX/IECEx. Radios for tandem cranes are designed to EN 15011.

FLEX WAVE™

The Flex Wave offers secure and dependable communications, innovative performance, and advanced features that enhance safety and efficiency for your lifting and positioning applications. Transmitters are ergonomic and lightweight to provide comfort to operators and are constructed of industrial-strength nylon and fiberglass composite materials for long-lasting operation.

- Channel scanning schemes for anti-interference
- Zero G to prevent unintended equipment motion
- IP66 rating for indoor or outdoor environments
- Options for added protection and flexibility, such as a rubber boot or vinyl cover

FLEX VUE®

The Flex VUE includes a high-resolution, built-in colour display that keeps operators informed of system status and diagnostics at all times to maintain effective system functionality. With diagnostic information available at your fingertips, you can address issues more quickly, plan maintenance, and ultimately reduce downtime.

- Quick configuration to get you up and running fast
- Adjustable speed control for precise control of machine movement
- Nylon housing that withstands shock, water, heat, and harsh environments
- Compact and lightweight design to prevent operator fatigue

MLTX2™

The MLTX2 is one of the most lightweight bellybox transmitters available today, designed to enhance operator comfort. Choose from a variety of levers, joysticks, and toggle switches to customise to your exact needs.

- Access code system for peace-of-mind, as the signal only operates the intended equipment
- Synthesised frequency generation to enhance reliable operation
- IP66 rating to withstand harsh, industrial environments
- Available with ATEX and IECEx approvals for Zone 0, Zone 1, and Zone 2 applications:
  - ATEX Approval: II 1 G Ex ia IIC T3/T4 Ga
  - IECEx Approval: Ex ia IIC T3/T4 Ga
- Optional graphic display and two-way feedback to keep you informed of system status at al l times

EXPERTISE IN **EXPLOSION PROTECTION**

STAHL CraneSystems is known internationally as an explosion protection specialist and is a world market leader in explosion-proof crane technology. The safety of people and machines in areas subject to gas and dust explosion hazards is our top priority. Here we make no compromises.

As developer of numerous innovations in this field, we have influenced the progress in crane technology perceptibly. Experience and know-how from many decades, our own fundamental research and development, approvals from the German national metrology institute PTB and other test institutes in many countries underline our expertise.

Explosion-proof hoisting und crane technology from STAHL CraneSystems ranks among the safest technology on the market in the chemical, petrochemical and pharmaceutical industries, the food processing industry as well as the power supply, shipbuilding, offshore and natural gas liquefaction industries (LNG).

The explosion-proof hoist and crane components and their supplementary equipment are based without exception on our standard programmes. All components – from motor and brake to controls and control pendant – come from our own production with certified quality assurance systems. This ensures the complete, high-quality explosion protection on which users, crane manufacturers and system builders around the world have relied for decades.

The strict ATEX directives and IECEx regulations for mechanical and electrical explosion protection are naturally fulfilled.

THE FACTS

- International specialist for explosion-proof hoisting and crane technology
- One of the most extensive product portfolios for Zone 1, Zone 2, Zone 21 and Zone 22 worldwide
- All hoisting and crane technology as well as additional equipment available in explosion-proof design
- Design to ATEX or IECEx in certified quality
- Country-specific certifications available

INFORMATION MATERIAL

- You can find more information in our brochures »Expertise in explosion protection« and »The LNG engineering solution«, which we will gladly send to you by post.

Use	Category	Protection against	Explosion protection class
Zone 1	Ex II 2 G	Gas	Ex db eb IIB T4 Gb or Ex db eb IIC T4 Gb
Zone 2*	Ex II 3 G	Gas	Ex db eb ec IIB T3 (T4) Gc or Ex db eb ec IIC T3 (T4) Gc
Zone 21	Ex II 2 D	Dust	Ex tb IIIC T120 °C Db
Zone 22	Ex II 3 D	Dust	Ex tc IIIC T120 °C Dc
Class I, Zone 1 Class I, Div 2	–	Gas	Class I, Zone 1, AEx db eb IIC T4 Gb Class I, Division 2, Groups A, B, C, D, T4

*Zone 2 design is available as standard in the wire rope hoist p rogramme (Chain hoist Zone 1 for use in Zone 2)

THE CRANEKITS

With the standard CraneKits for suspension, single girder and double girder overhead travelling cranes, STAHL CraneSystems offers crane builders worldwide the possibility to complete orders effectively and economically with manageable planning outlay. This includes support from our engineering team if wanted. Customer advisory services, planning, construction of the crane system as well as service and the provision of spare parts stay in the hands of the crane builders locally.

STAHL CraneSystems provides the intuitive, structured planning software with continuously updated database. This program grants access to our complete standard programme. Our planning software enables clear, simple configuration of the crane system, time-saving preparation of quotations and trouble-free ordering. With a 2D or 3D visualisation, you can immediately see what your system will look like. You obtain exact details regarding the technology and prices.

STAHL CraneSystems manufactures the hoists, components and other equipment to a high standard of quality and tests the modules for hoisting, travel and control technology exhaustively.
The finished CraneKit is delivered preassembled. Assembly of the crane system on site is based on the user-friendly principle of plug-and-play where this is technically possible and meets requirements. And should you ever need help in assembly, the STAHL CraneSystems factory service centre will be glad to help you.

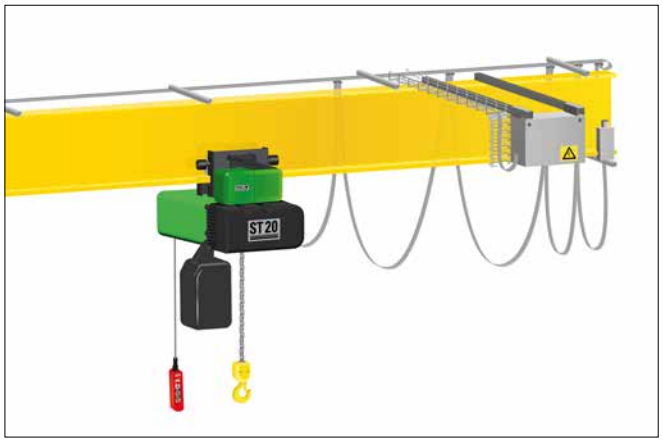
THE FACTS

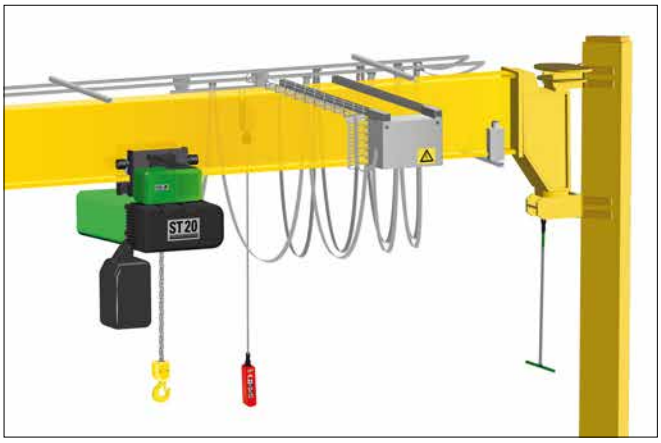
- Effective and economical
- Intuitive, structured software
- Up-to-date database
- Optional support by engineering team or factory service centre
- Optionally available in explosion-proof design according to ATEXor IECEx

MONORAIL SYSTEMS AND JIB-CRANES CRANEKIT

As an extension to the standard CraneKit, a special ly assembled kit for monorail systems and jib cranes is available. The kit consists of hoist, power supply, control pendant, terminal box, equipment box and other options – for example, limit switch actuators, travelling stops, SMC Multicontroller, risers and main switches. On re-quest, the product portfol io can also be configured in an explosion-proof design according to ATEX or IECEx.

The kit design is determined by the direction in which the operator looks at the power supply. With a left-hand kit design, the feed point is on the left-hand side – or optionally on the right. The electric terminal box and the trolley drive are on the side opposite the power supply line. The towing arm is on the drum side in the case of a wire rope hoist and opposite the trolley drive in the case of a chain hoist.
Special solutions are available on request, including kits for curved tracks, spur rails and bracket cranes, distance controls and integration of an on-site slewing drive.





FUNCTIONS	Standard	Optional
Ambient temperature	–20 °C to +40 °C	To +55 °C
Environment	Indoor	Outdoor
Explosion protection	–	ATEX or IECEx
Runway length	To 40 m	Longer runway lengths on request
Control pendant	Control pendant moves with hoist	Radio remote control or radio remote control with emergency control pendant
	Control pendant can be separately movable	
Hoist drive	2-step	Frequency controlled
Hoist types	Chain hoist	All hoist options
	Wire rope hoist	
Plug-and-Play	The control pendant on the hoist is pluggable. On the Jib-Crane with distributed control, the main power supply is pluggable up to 16 mm^2.	–

THE SINGLE GIRDER OVERHEAD TRAVELLING CRANE

The single girder overhead travelling crane with STAHL CraneSystems components and with load capacity of up to 25,000 kg is flexible and astonishingly adaptable. Its use enables rational, cost-effective material flow solutions to be achieved even in low-ceilinged or small buildings. The crane bridge girder is individually adapted to the ceiling structure by means of different connection variants and utilises the existing space to the full. A further increase in lifting height is provided by the use of a cantilever trolley with extremely short headroom or a chain hoist in extra short headroom trolley version.

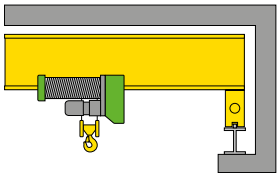
In standard design, the single girder overhead travel ling crane is equipped with a festoon cable system along the crane bridge and a control pendant. Radio control is also available on request. When used indoors and in dry conditions, a conductor line along the crane bridge is available. This permits even better utilisation of space. In this case, the signals for control ling the crane are always transmitted by radio.

THE FACTS

- Flexible and adaptable through different installation variants
- Low-maintenance, low-noise direct drive with disc brake and centrifugal mass
- Soft starting and braking; optionally with frequency inverter
- Explosion-proof versions or off-standard solutions through engineering
- Worldwide network of certified partners, crane manufacturers and system builders

CRANE-GIRDER CONNECTION

The crane bridge girders are adapted individually to the ceiling construction with different connection variants. This allows optimum utilisation of space. The lifting height can be increased further by using a cantilever trolley with extremely low headroom or a chain hoist in extra short headroom trolley design.



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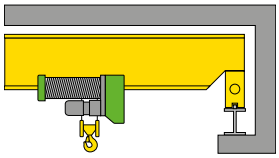

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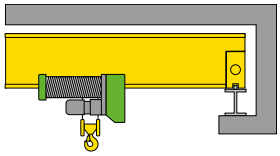

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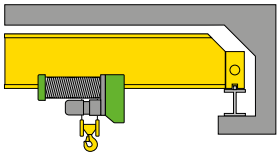

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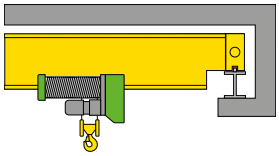


Type ›S-L-EC‹

FUNCTIONS	Standard	Optional
Hoist capacity	Chain hoist up to 6.3 t	other capacities on request
	Wire rope hoist up to 25 t	
Span	40 m	wider spans on request
Classification	U4/Q2	U2/Q1…U6/Q4
Location	indoor	outdoor
Drives	2-step	inverter
Long travel speed	40 m/min	80 m/min
		120 m/min on request
Cross travel speed	32 m/min	40 m/min
		63 m/min on request
Lifting speed	5 m/min	20 m/min
		40 m/min on request

THE DOUBLE GIRDER OVERHEAD TRAVELLING CRANE

It is reassuring to know that STAHL CraneSystems' technology is in use wherever safety and cost-effectiveness are required. Whether in concrete factories, the motor industry or in power stations. Large, unwieldy loads up to 250,000 kg can be handled safely and precisely with the double girder overhead travelling crane. It is integrated into planned or existing buildings by employing special installation variants.
The power supply is the same as for the single girder overhead travelling crane.

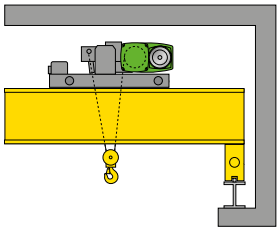
Extensive equipment packages increase productivity and safety in day-to-day operation. Components from the condition monitoring programme monitor loads and record crane data and operating times. Further requirements such as continuously variable speeds, higher crane travel speeds, maintenance platforms on the crane bridge, walkable hoists or cabs for the crane operators are achieved with crane components from STAHL CraneSystems.

THE FACTS

- Flexible and adaptable through different installation variants
- Low-maintenance, low-noise direct drive with disc brake and centrifugal mass
- Soft starting and braking; optionally with frequency inverter
- Explosion-proof versions or off-standard solutions through engineering
- Worldwide network of certified partners, crane manufacturers and system builders
- Equipped as standard with coupled crane endcarriages

CRANE-GIRDER CONNECTION

The double girder overhead travelling crane allows safe and precise handling of large, bulky loads. It is adapted to planned or existing buildings by means of various special installation alternatives. Numerous additional options are available to increase productivity and safety in day-to-day use.



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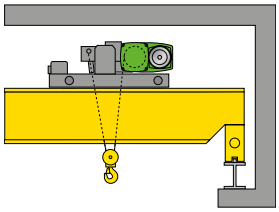

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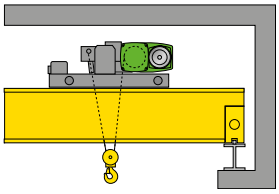

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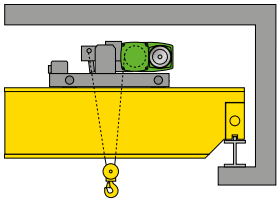

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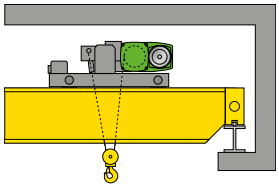


Type›S-L-SC‹

FUNCTIONS	Standard	Optional
Hoist capacity	Chain hoist up to 6.3 t	other capacities on request
	Wire rope hoist up to 25 t	
Span	40 m	55 m with coupled crane endcarriages
Classification	U4/Q2	U2/Q1…U6/Q4
Location	indoor	outdoor
Drives	2-step	inverter
Long travel speed	40 m/min	80 m/min
		120 m/min on request
Cross travel speed	32 m/min	40 m/min
		80 m/min on request
Lifting speed	5 m/min	20 m/min
		40 m/min on request

THE SINGLE GIRDER SUSPENSION CRANE

When space is tight, the single girder suspension crane is just the thing for you. It needs very little space and runs on the lower flange of the crane runway, which is mounted on supporting beams or directly on the ceiling. In this way the whole width of the building can be used. The clearance between the load hook and the side walls is very small, guaranteeing optimum utilisation of space.

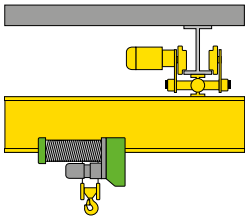
The load capacity of STAHL CraneSystems' single girder suspension cranes extends up to 25,000 kg in basic version. Higher load capacities or double girder suspension designs can be built on request. A further feature of this crane is the possibility of connecting two suspension cranes with a crane interlock and enabling hoists to cross over both with and without load. A number of sensors register the approach and correct position of the crane bridges. When both bridges are in the same position they are automatically interlocked and a mechanism releases the hoist travel, enabling it to cross over to the neighbouring crane. It can thus reach any required destination in the system. It is also possible for the hoist to transfer to a spur runway.

THE FACTS

- Flexible and adaptable through different installation variants
- Low-maintenance, low-noise direct drive with disc brake and centrifugal mass
- Soft starting and braking; optionally with frequency inverter
- Movable trolley suspensions balance out crane runway tolerances
- Optional crane locking for safe material transport across several hall bays
- Explosion-proof versions or off-standard solutions through engineering
- Worldwide network of certified partners, crane manufacturers and system builders

CRANE-GIRDER CONNECTION
Standard

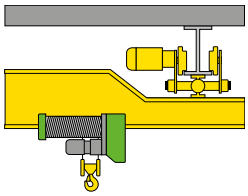
The standard crane girder connection for rolled profile or box girders.



Type ›U-E-NC‹

CRANE-GIRDER CONNECTION
Raised

Raised crane girder for optimum headroom.



Type ›U-H-SC‹

FUNCTIONS	Standard	Optional
Hoist capacity	Chain hoist up to 6.3 t	other capacities on request
	Wire rope hoist up to 25 t	
Span	36 m	wider spans on request
Classification	U4/Q2	U2/Q1…U6/Q4
Location	indoor	outdoor
Drives	2-step	inverter
Long travel speed	40 m/min	80 m/min
		100 m/min on request
Cross travel speed	32 m/min	40 m/min
		63 m/min on request
Lifting speed	5 m/min	20 m/min
		40 m/min on request

QUALITY FROM A SINGLE SUPPLIER

STAHL CraneSystems is proud to be a leader in the field of hoists and crane technology. It is the job of our experts to keep rethinking the lifting and conveying of loads and to adapt these tasks to changing industrial innovations. On the way to playing an instrumental role at all times, our experienced engineers and practice-orientated specialists use their sound know-how to advance our technology further. Always with the benefits for our customers and modern technology, high performance and durability in mind.

From carefully selected raw materials and precision manufacture of components to high-quality final product: every product from STAHL CraneSystems stands out for its uncompromising quality, high reliability and maximum performance. The precisely matched individual components are manufactured in our own production plants using the latest manufacturing methods, with demanding work steps being performed by hand. Experienced personnel at our production site in Germany assemble the complete hoists and all crane components and test them exhaustively. Our integrated quality management system meets national and international verification requirements.

THE FACTS

- 145 years of know-how and experience
- Own manufacture and certified processes ensure high quality, reliability and safety
- Production plant in Germany
- Manufacture using the latest technology
- Integrated quality management
- All components tested before delivery


STAHL
CraneSystems

THE CRANE TECHNOLOGY IN USE

Experts everywhere immediately recognise the hoists and crane components from STAHL CraneSystems as they are used worldwide in a multitude of different projects in crane and systems building. Innovative, well-conceived to the last detail and manufactured with the greatest of care, countless specific solutions for interesting challenges and requirements are devised with our know-how and our engineering. In such projects our crane technology demonstrates a flexibility and efficiency well above average. STAHL CraneSystems is represented on all continents by subsidiaries, distributors and crane-building partners.

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1 LNG wire rope hoists in safety level 1 are used on an LNG
2 terminal in northern China. The customised hoists are based on the SH 6 Ex wire rope hoist and are mounted on a slewing crane on the LNG tank. With a lifting height of 58 metres, they are used for loads up to 3,500 kg in weight. The wire rope hoists were adapted for use on the LNG tank according to Chinese specifications. Robust technology, a corrosion-resistant coating and an enclosure ensure that the maintenance crane is ready for use in the harsh coastal climate at all times. The slewing cranes are equipped on both sides with maintenance bridges.

3 An explosion-proof ST 20 chain hoist with a lifting capacity of up to 1,600 kg is used in a chemical plant for outdoor maintenance work. The narrow construction of the explosion-proof chain hoist allows use of the entire width of the crane bridge. The travel drives of the endcarriages for suspension cranes are also constructed in explosion-proof design.

4 A magnet crane lifts variously long steel rods weighing up to 14,000 kg using a two-part lifting beam. When lifting short rods, the two-part lifting beam can be inclined so that only two of the four magnets are used. Additional load measuring bolts enable exact measurement of the weight. The double girder overhead travelling crane is equipped with two SH wire rope hoists with a lifting capacity of 8,000 kg each. To increase the lifting height, the SH wire rope hoists run above the crane bridges. The complete crane control equipment is located on the crane bridge, and operation is effected by radio remote control.

5 Thanks to intelligent crane control, which analyses the load and position data of all cranes, trolleys and hoists in real time and controls the movements of the complete system on the basis of this data, the load of the crane system on the building could be reduced to a minimum.

6 A portal crane with special hoists is used in an independent Dutch research institute. Firstly, an SH 6 Twin Drive Concept wire rope hoist with a safe working load of 12,500 kg and permanent brake, drive and load monitoring. Secondly, an AS 7 wire rope hoist with monorail trolley and a lifting capacity of 12,500 kg. Both wire rope hoists can be l inked for tandem operation per remote control. Other interesting features of the high-tech crane are a side crane cantilever arm, a mobile cab, a lifting platform for personnel and energy recuperation.

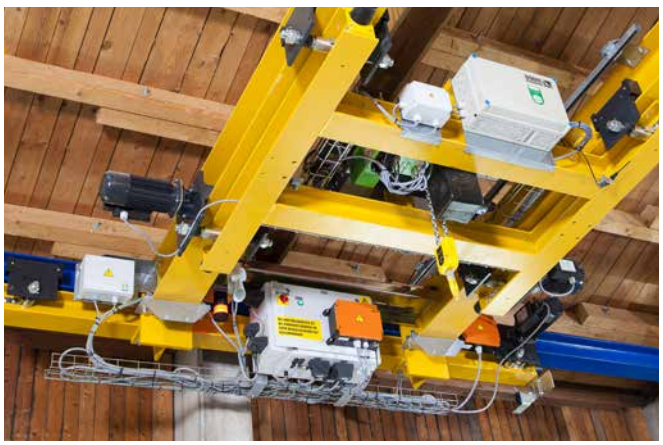
THE CRANE TECHNOLOGY IN USE

1 A special chain hoist with 12-fold sheeved chain is used for a maintenance crane in the metallurgical plant of a nickel mine. This custom solution, which achieves a safe working load of 30,000 kg, consists of four coupled ST 50 chain hoists. The compact chain hoist is mounted on the double rail crab of a double girder suspension crane.

2 Seven fully automatic, wireless-connected cranes work in the press plant of a car manufacturer. Frequency-controlled SHWF 8 winches and frequency-controlled ASF 7 wire rope hoists with lifting capacities of 16,000 kg to 60,000 kg are used. The hoists are equipped for extra high speeds and work with tool grippers.

3 Two radio remote controlled single girder overhead travelling cranes with a lifting capacity of 6,300 kg each work in a joinery for solid wood buildings in Bavaria. They are responsible for all transportation from the untreated timber beams to the finished wood walls, which are then loaded on to HGVs.

4 5 There is only one engine maintenance plant in Europe for the Rolls-Royce engine type Trent, which is used in the Airbus models A 330, A 340 and A 380. It is one of the most modern and advanced maintenance operations worldwide and uses the highly efficient ›vertical strip‹ method. STAHL CraneSystems wire rope hoists in the series SHF 3 to SHF 6 are used here. The hoists work without lateral hook movement and extremely low load swing for precise positioning of the load.



6 A new crane at a haulage company was retrofitted to lift loads of up to 100,000 kg. Since the existing crane runway was only designed for loads up to 25,000 kg, a special crane control with safety spacing in performance level PL d is used. Multiple redundant systems are used to monitor the crane, e .g. the SMC Multicontroller and two high-precision distance lasers for permanent monitoring of the distance. The compact AS 7 twin hoist is used for lifting.

7 A grab crane works in a hot, dusty cooling hall for cast steel moulds for safe and quick picking up and loading of the steel cylinders. Two robust frequency-controlled ASF 7 wire rope hoists with individually fabricated rope drums are mounted on a double rail crab. The low-stress and low-wear hoisting movements are carried out thanks to intelligent rope reeving, which keeps the gripper free of vibration, stable and vertically under the hoists when moving with load.

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KÜBLER SPEDITION
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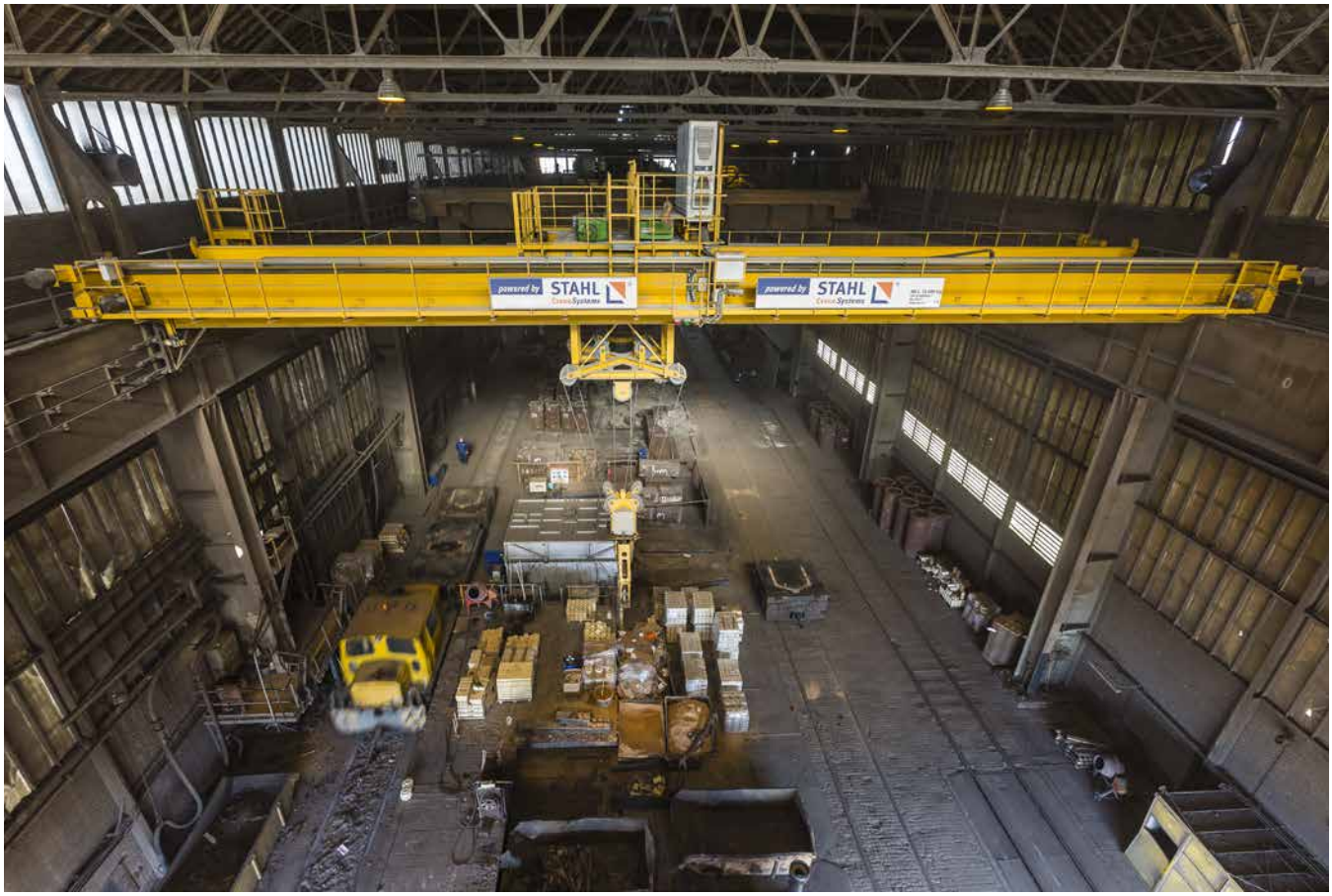
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THE CRANE TECHNOLOGY IN USE

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1 The double girder overhead travelling crane with a span of 24 m is equipped with an AS 7 wire rope hoist with a lifting capacity of 5 t. Two load ropes ensure stable and low-swing operation of the bulk grab. The crane, whose crane and crab travel drives are equipped with frequency inverters, is controlled from a central control point.

2 Two frequency-controlled AS 7 wire rope hoists in twin implementation are used to transport coils in a production plant. Space in the 65 m long hall is tight as there is a large production machine in the middle. This area of the hall must be bypassed in normal operation.

3 Four bracket cranes for a leading German car manufacturer. Two bracket cranes were installed on each side of the hall: one crane with one SH 50 electric wire rope hoist and one crane with two SH 60 electric wire rope hoists, each with a load capacity of 8,000 kg. All the cranes were equipped with crane spacing. Optical sensors prevent the accidental collision of two cranes in operation on one travel axis.

4 A single girder suspension crane with 3 endcarriages is used in a hanger in the USA to help in the assembly of the tail parts of the Airbus A 380 and Boeing 747. The ST chain hoist with a safe working load of 1,000 kg used is mounted on a cantilever arm of the travel carriage with 800 mm feed. The cantilever arm can be rotated in an angle of 180°. With this auxiliary movement, the crane is able to move the elements of the rudder sideways without using the trolley of the crane.

5 A special stacker crane is used in a company in Bavaria in the semi-automatic production of pre-cast concrete parts. The crane is equipped with a lift mast. It lifts the concrete components, which can weigh up to 5,700 kg, out of the production line and stacks them on transport vehicles.

6 The maximum permissible safe working load of the crane system of 12,500 kg is distributed among four SH 3 wire rope hoists. Every wire rope hoist has a lifting capacity of 3,200 kg. The movements of the cranes, two hoists and pal let gripper are controlled with a radio remote control with joystick.

THE CRANE TECHNOLOGY IN USE

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1 The double girder overhead travel ling crane manufactured in Künzelsau and South Africa has reached the petrochemical plant in Ghana. The system with a total lifting capacity of up to 7 5,000 kg is equipped with an AS 7 wire rope hoist and an SH 6 wire rope hoist as auxiliary hoist. For the intercontinental transport, the engineering specialists at STAHL CraneSystems devised an ingenious special construction. For the load test and testing of the SMC and SLE output devices, the big bags had to be filled with water in dry Ghana.

2 A double girder overhead travel ling crane with an SHW 8 winch with safe working load of 85,000 kg is used in a hydro-electric power plant in Switzerland for maintenance and in-spection work on a turbine 40 m below. An SH wire rope hoist with lifting capacity of 10,000 kg and a lifting height of 40 m is used as auxil ary hoist. Thanks to the special controller, the crane can be control led particularly precisely and finely. The travelling and lifting speeds move in a range of a few millimetres per second.

3 A single girder overhead travel ling crane with an SH 40 wire rope hoist works in the modern mechanical production plant of a foundry for high-strength castings. The hoist has a safe working load of 4,000 kg and is equipped with heat protection shields.

4 A special crane with height-reduced suspended crane end-carriages and an individually adapted custom hoist works in a chemical plant in Germany. The custom hoist is an STD 50 dual chain hoist with two synchronised rope lead-offs. An ST 20 chain hoist serves as an auxiliary hoist.

5 Two ST 50 chain hoists at a time lift complete car bodies and transport them through the assembly line. 6 A portal crane with a lifting capacity of 50,000 kg is used for maintenance work at a sluice. The AS 7 wire rope hoist is located under a protective cover and the travel carriage is easy to reach via a maintenance bridge. This portal crane can be dismantled completely, transported by ship and assembled again. Even after several months of storage, it can be assembled ready-for-use within 48 hours.

6 The crane operator operates this crane system above a paper machine via radio remote control. The heavy reel of paper needs to be turned so that it can be placed in the holders of t he machine. To this end, it is lifted by two SH 6 wire rope hoists with independent load hooks. They can be set on the right hook spacing on the jointly used rail using an electric drive.


STAHL
ST20

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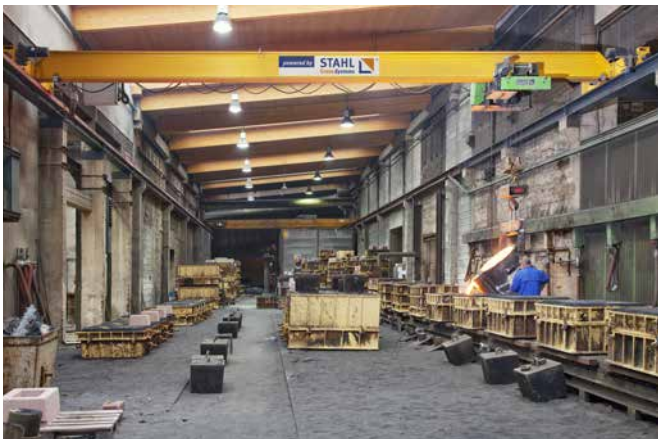
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ST50

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THE INDUSTRY-LEADING SERVICE AND TRAINING

Quality down to the last detail is the standard STAHL CraneSystems is committed to. Not only when it comes to crane technology, but also when it comes to support. You will find hoisting and crane technology from STAHL CraneSystems around the world. Developed by engineers and experts, manufactured with the greatest care and in keeping with our renowned and trusted standard of quality.

Many companies from around the world and various fields have opted for maximum safety and quality – for products from STAHL CraneSystems. We rely exclusively on capable and professional crane manufacturer and system builders to distribute our products. From them you can expect optimum support when it comes to your individual crane system with hoisting and crane technology from STAHL CraneSystems. Consulting and erection of a new system, system-orientated testing and maintenance, modernisation, spare parts supply and training courses. Together with our subsidiaries and partners, we offer you perfectly coordinated support all over the world.

We constantly keep our local crane building partners up to date with training courses, seminars and information material.

SPARE PARTS – AVAILABLE AROUND THE CLOCK

Our own subsidiaries and numerous partners around the world ensure a reliable supply of spare parts and expert assistance in your area. Even decades after a series has been discontinued, spare parts are available all over the world around the clock.

TRAINING COURSES – EDUCATIONAL OFFERS FOR ALL

We are dedicated to safety. With training courses, webinars, and online safety tools and information, we keep our regional crane manufacturing partners and end users educated on how to best use and service our products. This information covers all of our main product lines, providing practical and theoretical knowledge relevant to individual products and full crane systems. For training materials or information on our full training offering, visit www.cmco.com

FACTORY SERVICE CENTRE – ON DUTY AROUND THE WORLD

To help support our customers, our factory service center is available to provide assistance and expertise to field technicians as well as crane and systems manufacturers– anytime, anywhere. With modern diagnostic tools and condition monitoring systems, we are here to support your service and maintenance needs. We will help ensure your system and operators stay safe. You can rely on us. You can reach our factory service centre at: field.service@stahlcranes.com
You can also contact our internal sales team at customer.service@stahlcranes.com and via the customer hotline +49 7940 128-2000.

MARKETINGPORTAL PLUS – OUR ONLINE SUPPORT

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