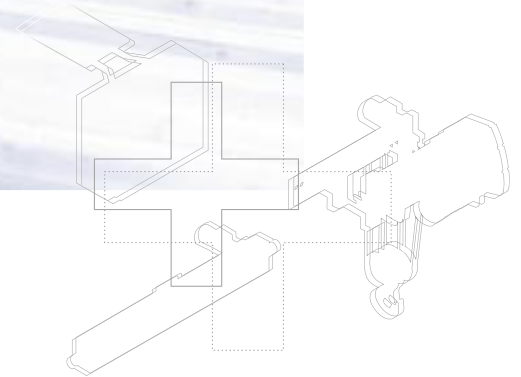


The crane components

03.2016

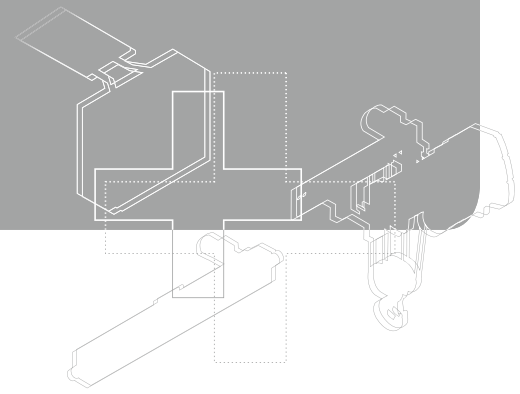


Partner of Experts

STAHL
CraneSystems



The crane components



As regards technology and cost-effectiveness, high-quality crane components from STAHL CraneSystems rank among premium products throughout the world. Thanks to our well-founded expertise and decades of experience we have on offer technically mature products, from crane endcarriages to travel drives, wheel blocks and crane electrics from simple-to-operate control pendants to complex control systems. Our customers can rely on all components meshing like precisely engineered gearwheels and working together efficiently. Nearly all components and systems are also available in explosion-protected design complying with ATEX and IECEx.





The facts

- Over 140 years of experience and expertise are behind each crane component
- One of the world's largest product portfolios
- A complete range of hoisting technology
- High-quality drive and control technology
- Own production
- All crane components available in explosion-protected design



An overview



Explosion-protected crane travel drives

The control technology



Overload cut-off



Emergency hoist limit switch (gear limit switch)



Radio remote control equipment



SMC Multicontroller

Suspension crane endcarriages



The drive technology



Crane travel drives



Frequency inverter for ›Hoist‹ and for ›Cross/long travel‹



Overhead travelling crane endcarriages



Control pendants

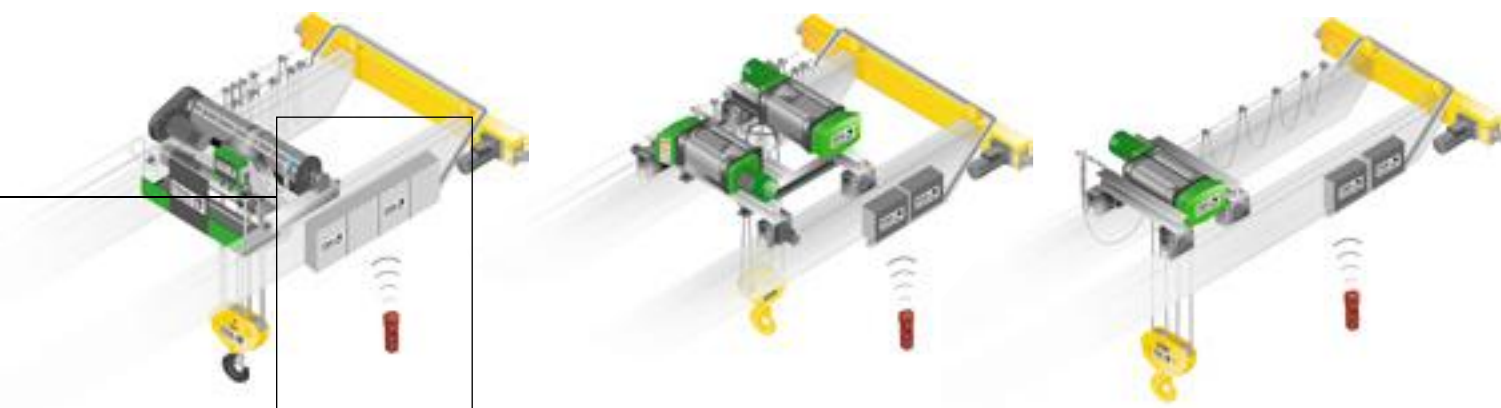
Travel limit switches for ›Cross/long travel‹



Load display



Signalling devices



The hoisting technology



STD dual chain hoist



SH wire rope hoist



ST chain hoist standard headroom



SW winch



SC chain hoist



ST chain hoist short headroom



AS 7 wire rope hoist



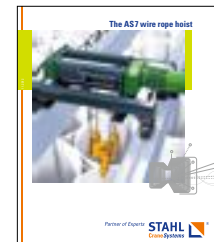
Hoisting technology

The wire rope hoist and winch programmes

Behind the attractive design of STAHL CraneSystem's 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 25,000 kg. The SHA wire rope hoist range with innovative motor concept covers the S.W.L. range from 3,200 kg to 10,000 kg with six S.W.L. variants. The upper safe working load range to 125,000 kg is covered by the field-proven AS model. The SHW and SW winch programmes extend the range of application into the heavy lifting range up 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.

→ For more information, visit www.stahlcranes.com or ask for our brochures "The SH wire rope hoist", "The AS7 wire rope hoist" and "The SW winch", which we will gladly send to you by post.





- Standard
- Option

Type	S.W.L. up to [kg]	Stationary	OE double rail crab	Monorail trolleys		
				KE	UE	DKE
SH 3	3,200	■	■	■	■	■
SH 4	6,300	■	■	■	■	■
SH 5	10,000	■	■	■	■	■
	12,500	■	■	■	■	□
SHR 6	16,000	■	■	■	■	□
SH 6	25,000	■	■	□	■	□
ASR 7	32,000	■	■	□	□	□
AS 7	80,000	■	■	□	□	□
AS 7 ZW	125,000	■	■	□	□	□
SHW 8	160,000	■	■	□	□	□
SW	250,000	■	■	□	□	□

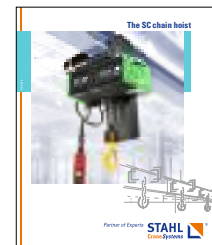
The chain hoist programmes

The ST and SC chain hoist programmes from STAHL CraneSystems rank among the most distinctive and comprehensive on offer worldwide. The robust classic ST, which proves its worth day in day out, demonstrates its efficiency in six variants for the safe working load range from 125 kg to 6,300 kg. The complete programme is available in explosion-proof design complying with ATEX or IECEx.

The SC chain hoist supplements the ST chain hoist programme and will convince you with its mature design, one of the most up to date available at present. It is available in the load capacity range from 63 kg to 5,000 kg in five variants.

The innovative and pioneering chain hoist design offers considerable economic advantages and is suitable for rugged use in industry. The different construction types and various suspensions permit 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.

➔ For more information, visit www.stahlcranes.com or ask for our brochures "The ST chain hoist" and "The SC chain hoist", which we will gladly send to you by post.





■ Standard
□ Option

Type	S.W.L. up to [kg]	Stationary	Push trolley	Electric trolley	Articulated trolley	Short headroom trolley	Extra short headroom trolley	Dual chain hoists STD	STD Vario
ST 05	63 – 630	■	■	■	■	■	■	■	□
ST 10	200 – 1,000	■	■	■	■	■	□	■	□
ST 20	250 – 2,000	■	■	■	■	■	□	□	□
ST 30	250 – 3,200	■	■	■	■	■	■	■	□
ST 32	500 – 3,200	■	■	■	■	■	■	■	□
ST 50	500 – 5,000	■	■*	■	■	■	■	■	□
ST 60	500 – 6,300	■	■*	■	■	■	□	■	□

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

■ Standard
□ Option

Type	S.W.L. up to [kg]	Stationary	Push trolley CTP	Electric trolley CTN	Articulated trolley CTA	Short headroom trolley CTL	Extra short headroom trolley CTS	Dual chain hoist CTD
SC 02	63 – 320	■	■	■	□	□	□	–
SC 05/SCF 05	125 – 630	■	■	■	□	□	□	□
SC 10/SCF 10	500 – 2,500	■	■	■	□	□	□	□
SC 16	800 – 3,200	■	■	■	□	□	□	□
SC 25	800 – 5,000	■	■*	■	□	□	□	□

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

The drive technology

The crane endcarriages and travel drives

The robust crane endcarriages from STAHL Crane-Systems are manufactured in modern series production. They are extremely easy to mount on both suspension cranes and overhead travelling cranes. The various wheel diameters permit suitable solutions to be found for all applications. All wheels can be delivered in brass for special cases and where increased safety is required.

The finely-tuned travel drives set your crane in motion and help to position the load quickly and precisely without troublesome swinging. The integrated centrifugal mass and low-noise gears ensure smooth starting, steady acceleration and soft braking. High operational reliability and long service life are guaranteed.

As an international specialist in explosion-proof hoisting and crane technology, we also offer the crane endcarriages and travel drives in explosion-proof design for Zone 1 and Zone 21 with ATEX or IECEx certification.



Overhead travelling crane endcarriages



- 7 different wheel diameters from 90 mm to 500 mm
- Spans up to 40 m
- Safe working loads from 125 kg to 50,000 kg
- Higher safe working loads on request

Suspension crane endcarriages



- 4 different wheel diameters from 80 mm to 200 mm
- Spans up to 28 m
- Safe working loads from 125 kg to 16,000 kg

Frequency inverter for Hoist and for Cross/long travel



- Stepless acceleration and braking extend system life
- Smooth starting and braking ensures minimum load swing

Crane travel drives



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

Explosion-proof crane travel drives



- Explosion-proof sliding rotor motor with conical brake and centrifugal mass
- Pole-changing motors with two travel speeds in ratio 1:4 standard

The control technology

The electrical components

Standard contactor controls are available for all common control voltages. Fundamental electrical components are supplied with plug connections as far as is technically possible and meets requirements. However the standard equipment can be effectively supplemented by options to suit your specific application. You can choose from different control and monitoring components and optional frequency inverters for hoists and travel drives.

This equipment will increase safety in material handling and extend the system service life.

Control pendants



- Robust control pendant with EMERGENCY STOP palm button and control cable
- All switching elements for hoist, cross and long travel are 2-step.
- IP 65 protection
- Additional buttons, for example to activate a horn, can easily be fitted.
- Optional load display. All data displayed can be read out on a notebook with the aid of the SMC Multicontroller.

Radio remote control units



- Pushbutton devices with belt clip, with signal feedback from crane as an option.
- Robust plastic casing
- IP 65 protection
- Other radio remote control devices on request

Travel limit switches for ›Cross/long travel‹



- Travel limit switches on trolley/crab for cross travel, optional
- Limiting for both directions of travel
- Switchover from ›fast/slow‹ (predisconnect)
- Obstacle avoidance from one or both directions of travel
- Switch contacts designed for control current
- IP 66 protection

SLE and SMC evaluation devices



- Constant monitoring of load even when hoist is at a standstill
- Monitoring of motor temperature of hoist and travel motor
- Recording of operating data, e.g. operating hours, motor management
- Output relay for additional functions

SMC offers in addition

- Programming/read-out by means of laptop
- Suitable for use with frequency inverter
- Slack rope monitoring
- Calculation of full load operating hours, load spectrum and motor switching operations
- Load display can be connected

Overload cut-off



- Continuous monitoring of suspended loads with dual load sensor
- Limitation of the maximum load by sensors at the rope suspension point or at the gear torque support
- For crane manufacturers: overload cut-off also for 1/1 or 2/2 reeving by gear or shear force sensors
- The ST and SC chain hoists have an adjustable slipping clutch.

Hoist limit switch



Wire rope hoist

- A gear limit switch for top and bottom hook position and an operational hoist limit switch for top hook position are fitted as standard.
- As an option, the switch can be equipped with up to eight switching elements. This permits for example additional stopping positions and operational limiting in bottom hook position.

Chain hoist

- Cut-off in top hook position or cut-off in top and bottom hook position
- As an option, the chain hoist can also be equipped with a gear limit switch with up to eight switching elements.

Load display



- SLD (Stahl load display) four-figure 7-segment load display, large-format, luminescent, red digits, is available with various interfaces including CAN.
- Height of digits can be chosen from 60, 100 or 150 mm.
- No additional sensor required as standard load sensor is used.

Signalling devices



- Visual and acoustic signalling devices such as horn and flashing light can be mounted on hoists and trolleys.
- The signalling devices can be activated by a button on the control pendant.

Expertise in explosion technology



STAHL CraneSystems is known internationally as an explosion protection specialist and is a world market leader in explosion protection 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. Hoisting and 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).

Without exception, the explosion-protected hoist and crane components and their supplementary equipment are based on our standard programmes. All components come from our own production with certified quality assurance systems, from motor and brake to controls and control pendant. For this ensures the complete, high-quality explosion protection on which users, crane manufacturers and system manufacturers all over the world have relied for decades. The strict ATEX directives and IECEx regulations on mechanical and electrical explosion protection are of course met.

The facts

- International specialist for explosion-protected hoisting and crane technology
 - One of the world's most comprehensive product portfolios for Zone 1, Zone 2, Zone 21 and Zone 22
 - All additional equipment available in explosion-protected design
 - Design and maintenance to ATEX and IECEx in certified quality
- For more information, visit www.stahlcranes.com or ask for 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 de IIB T4 Gb or Ex de IIC T4 Gb
Zone 2*	Ex II 3 G	Gas	Ex de nA IIB T3 (T4) Gc or Ex de nA IIC T3 (T4) Gc
Zone 21	Ex II 2 D	Dust	Ex tb IIIC T 120 °C Db
Zone 22	Ex II 3 D	Dust	Ex tc IIIC T 120 °C Dc

* Versions for Zone 2 are only available as standard in the wire rope hoist programme.

Quality from a single supplier

Engineering

Engineering means innovation and individuality. Constantly redefining the lifting and transporting of loads for complex requirements even in hazardous areas is a job for STAHL CraneSystems' experts. Drawing on one of the widest product ranges of standard components, they regularly develop modern, individual off-standard and customised solutions which meet all national and international directives and laws.

Hardly any other manufacturer of lifting and crane technology can offer you this diversity of precisely designed top quality customised solutions in conjunction with maximum cost-effectiveness.

The facts

- Perfectly adapted to your project
- Short development period
- Modular system ensures cost-effectiveness
- Engineering support from STAHL CraneSystems experts
- Assistance from customer service for complicated problems



Manufacture and production

From carefully selected raw materials and precision manufacture of components to high-quality final product. Every product from STAHL CraneSystems is characterised by uncompromising quality, high reliability and maximum performance. The precisely coordinated individual components are manufactured in our own production plants using ultra-modern manufacturing methods; demanding production steps are performed by hand. In our production plants in Europe, experienced skilled workers assemble and thoroughly test the entire hoists and all crane components. Our integrated quality management system meets national and international verification requirements.

The facts

- High quality and reliability thanks to manufacture by ourselves
- Production plants in Europe
- Manufactured using ultra-modern technology
- Integrated quality management
- All components tested before delivery



Support

Quality right down to the most minor detail is the standard STAHL CraneSystems is committed to. Not only in the field of crane technology, but also on the subject of support. You will find lifting and crane technology from STAHL CraneSystems all around the world. Developed by engineers and experts, manufactured with maximum care following our well-known standard of quality. All around the world, many companies from various fields have decided on maximum safety and quality, on products from STAHL CraneSystems.

When it comes to sales, we are committed exclusively to capable, professional crane manufacturing partners. You can expect optimum support from them when your individual crane system with components from STAHL CraneSystems is at stake. Consulting and erection of a new system, system-oriented testing and maintenance, modernisation, spare parts supply and training courses. Together with our subsidiaries and crane manufacturing partners we offer you perfectly coordinated support all over the world.





Spare parts – accessible right around the clock

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



Training courses

We constantly keep our regional crane manufacturing partners up to date with training courses, seminars and information material. You too can profit directly from our expertise. We impart practical and theoretical knowledge in our own training centre or on your premises. The seminars on offer in the form of individual, basic and advanced courses cover all main product groups. However we would also be pleased to match a special programme to your individual specifications and requirements.

You will find our current seminar programme at www.stahlcranes.com/en/support



Factory service centre – in action all over the world

Our factory service centre is a service for our customers: wherever you are we assist your crane or systems manufacturer with our experience and expertise whenever he needs us. Up-to-date diagnostic apparatus and condition monitoring systems stand by to support professional service and maintenance work. Not only you, but your system, are in safe hands. You can rely on us.

Your will find our online service at mpplus.stahlcranes.com and you can reach our factory service centre on customer.service@stahlcranes.com



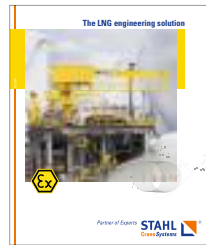
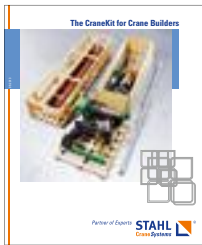
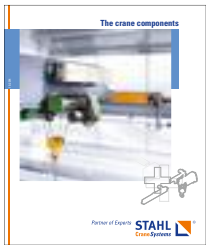
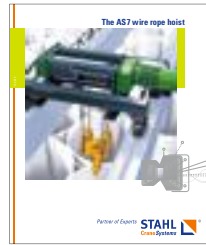
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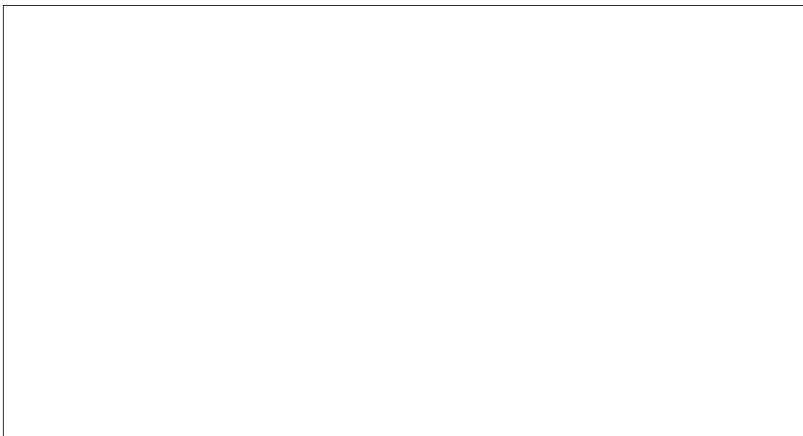
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Presented by



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Partner of Experts



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