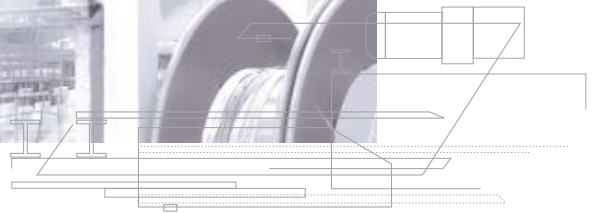


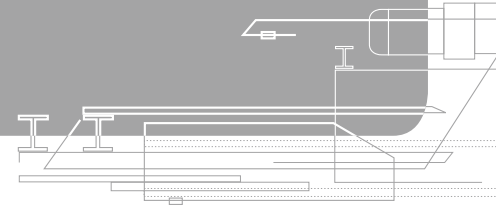
The crane systems



Partner of Experts

STAHL
CraneSystems 

The crane systems



The hoisting and crane technology from STAHL

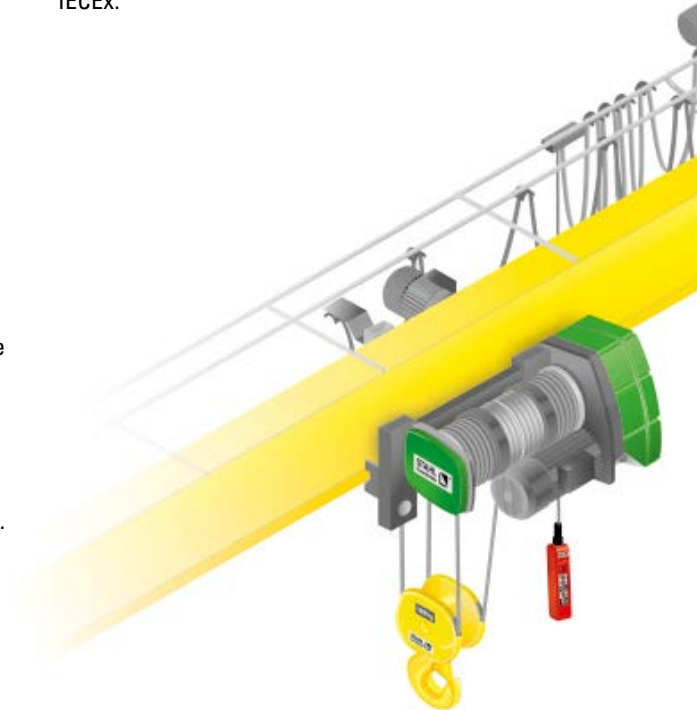
CraneSystems ranks among the most distinctive and comprehensive on offer worldwide. The high-quality components are among the best available anywhere from a technical point of view. Users, crane builders and systems builders appreciate these cost-effective systems and overall solutions that prove themselves in use day for day.

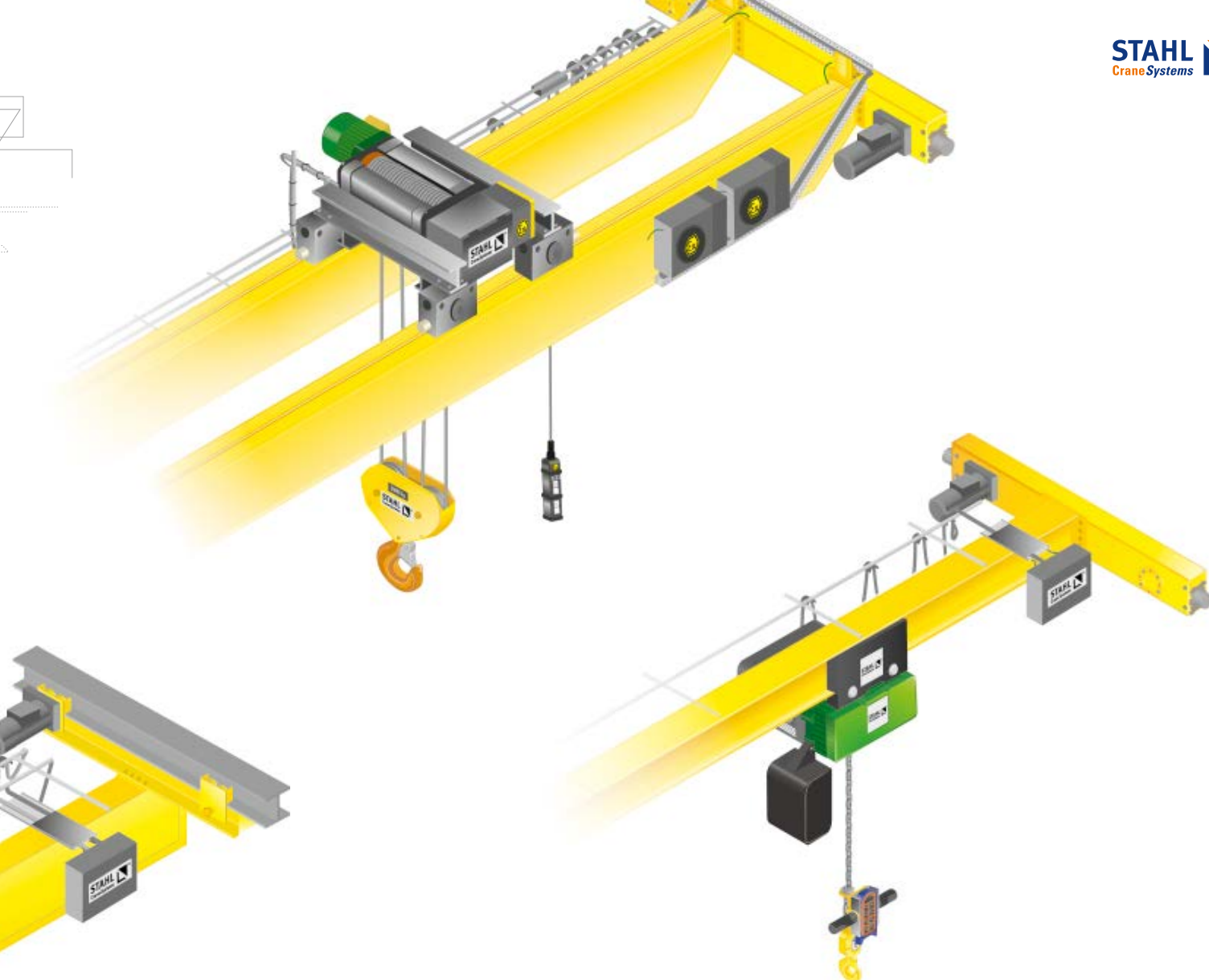
Anything is possible, from simple workplace solutions to interconnecting system solutions covering more than one building to complex automation, depending on your requirements and ideas. The load capacity range for which our single and double girder overhead travelling cranes and underhung cranes are used extends from 125kg to 160,000kg.

Various off-standard designs are available for use in particular conditions. For example, cranes in tandem operation, with one or two hoists, with crane spacing or obstacle avoidance, in combination or for outside use in wind and weather – none of these are a problem. Our crane technology will convince you with the right solution for every area. And for really unusual requirements, our experts in the Engineering Department will design matching customised solutions. Up-to-date production techniques and certified processes guarantee the consistently high quality. Even in hazardous areas you don't need to manage without crane technology from STAHL CraneSystems. On request, the whole programme with very few exceptions is available in explosion-protected design for Zone 1, Zone 2, Zone 21 and Zone 22. Not for nothing are we one of the market leaders for explosion-protected hoist technology and crane components.

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
- Off-standard solutions through engineering
- Own production in Germany
- Optionally available in explosion-proof design according to ATEX or IECEx.





The types of construction

The single girder overhead travelling crane

The single girder overhead travelling crane with components from STAHL CraneSystems and with load capacity of up to 16,000 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 crab with extremely short headroom or a chain hoist in extra short headroom trolley version.

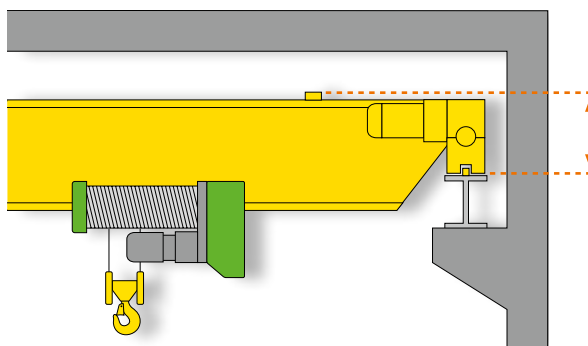
In standard design, the single girder underhung crane is equipped with a festoon cable system along the crane bridge and a control pendant. Radio control is also available on request. When used indoors and in dry conditions, a conductor line along the crane bridge is available. This permits even better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

The facts

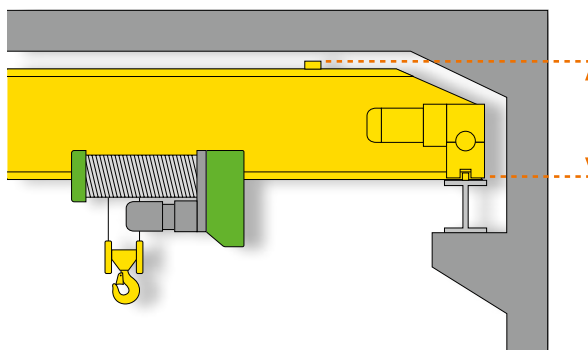
- Flexible and adaptable through different installation variants
- Low-maintenance, low-noise direct drive with disc brake and centrifugal mass
- Soft starting and braking; optionally with frequency inverter
- Explosion-proof versions or off-standard solutions through engineering
- Worldwide network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



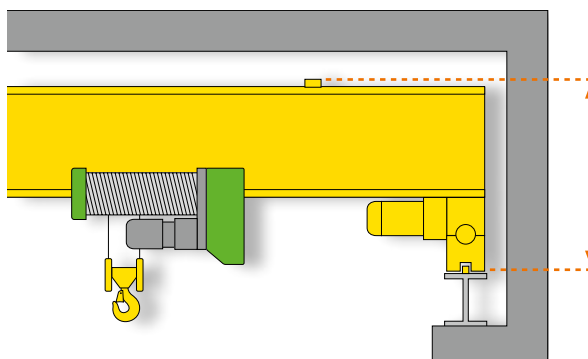
»EL-A« design



»EL-B« design



»EL-C« design



Type	S.W.L. up to max. [t]*	Span up to max. [m]*	Hoists
EL-A	16	28	Chain hoist up to 6.3 t Wire rope hoist up to 16 t
EL-B	16	28	
EL-C	10	23	

* Higher S.W.L.s and wider spans on request

The double girder overhead travelling crane

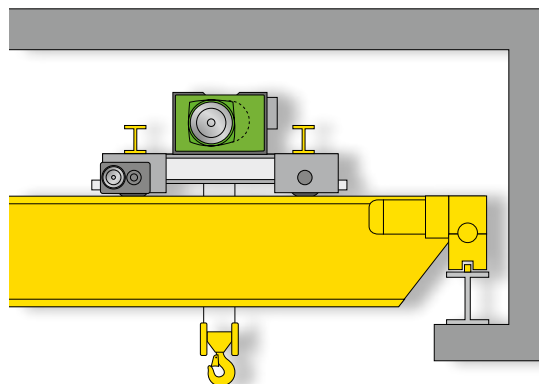
It is reassuring to know that STAHL CraneSystems' technology is in use wherever safety and cost-effectiveness are required. Whether in concrete factories, the motor industry or in power stations. Large, unwieldy loads up to 160,000 kg can be handled safely and precisely with the double girder overhead 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





ZL-A design

Type	S.W.L. up to max. [t] *	Span up to max. [m] *	Hoists
ZL-A design	160	32.5	SH wire rope hoist, AS7 wire rope hoist SW winch and SHW 8 winch

* Higher S.W.L.s and wider spans on request



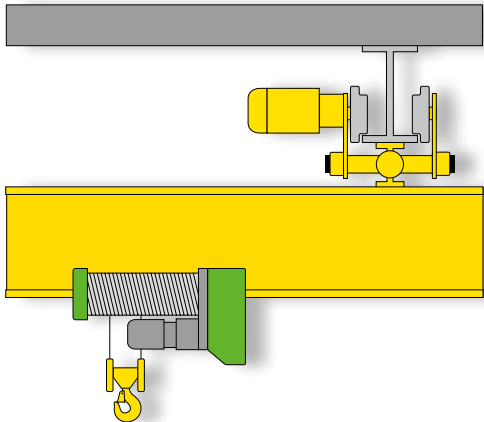
The single girder underhung crane

When space is tight, the single girder underhung 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 underhung cranes extends up to 10,000 kg in basic version. Higher load capacities or double girder underhung designs can be built on request. A further feature of this crane is the possibility of connecting two underhung 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

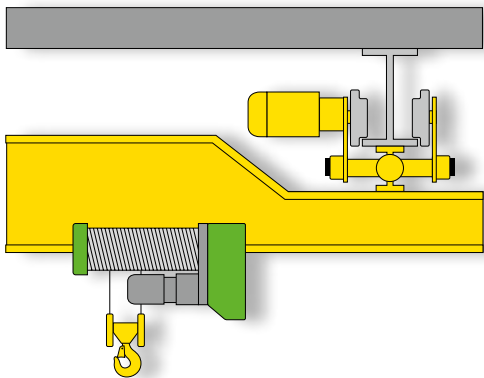
- Flexible and adaptable through different installation variants
- Low-maintenance, low-noise direct drive with disc brake and centrifugal mass
- Soft starting and braking; optionally with frequency inverter
- Explosion-proof versions or off-standard solutions through engineering
- Worldwide network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





»EH-A« design

The headroom of the single girder underhung crane with rolled profile girder is very low. It is mounted directly on the ceiling of the building or a steel substructure.



»EH-B« design

The crane bridges are angled for wide spans and high load capacities.

Type	S.W.L. up to max. [t]*	Span up to max. [m]*	Hoists
EH-A	10	20	Chain hoist up to 6.3 t
EH-B	10	20	Wire rope hoist up to 10 t

* Higher S.W.L.s and wider spans on request

The product portfolio

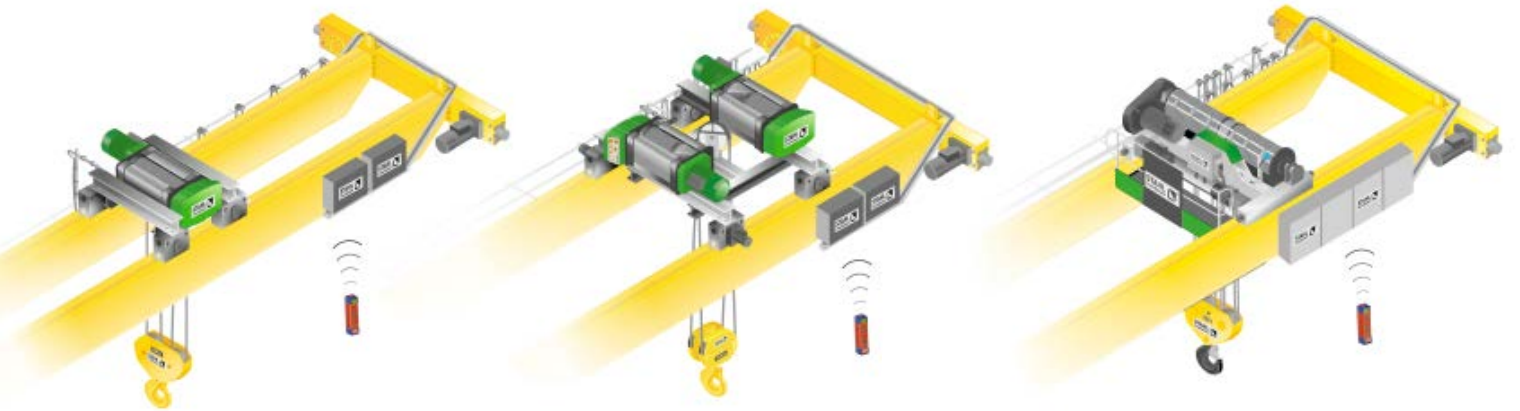
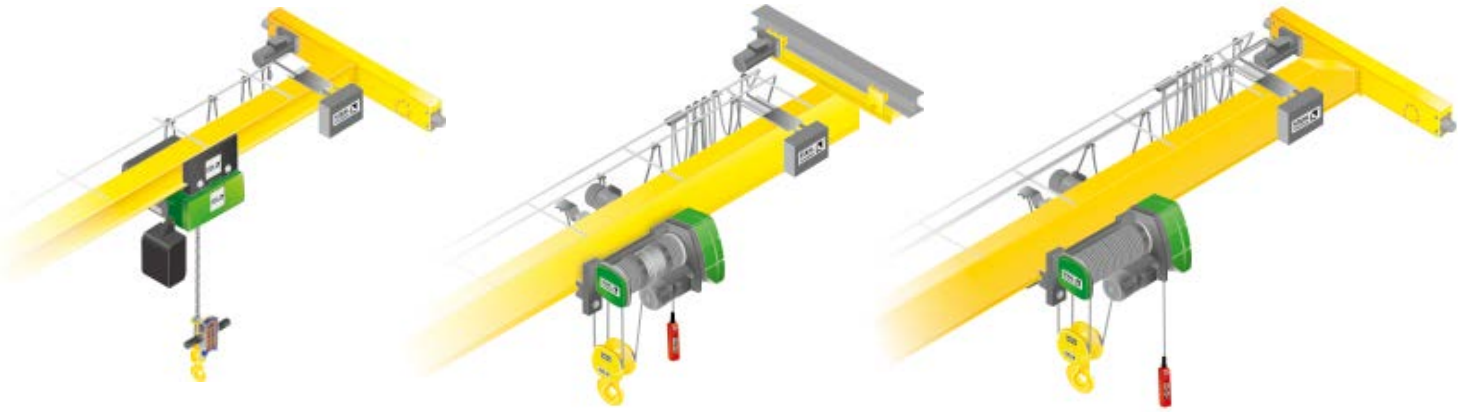
No other manufacturer offers as many hoist variants in different types of construction and lifting capacity variants, as many off-standard solutions and crane components as STAHL CraneSystems. In our technical department in Künzelsau, the standard programme is constantly being supplemented by mature off-standard solutions. The short distance between the technical department and our own ultra-modern production contributes substantially to the quality of our work. We can respond quickly to unusual enquiries and implement new insights from R&D directly in production. Hoists in twin drive version for transporting molten metal and the chain hoist in the extra short headroom trolley version are just two examples of off-standard solutions that were so successful that we have included them in our standard programme. Development and production of all STAHL CraneSystems products are subject to our strict quality assurance management.

As one of the world market leaders for explosion-proof hoisting and crane technology, we also offer our hoists and components in explosion-proof design for Zone 1, Zone 2, Zone 21 and Zone 22 according to ATEX or IECEx.

The facts

- One of the largest and most comprehensive portfolios of hoisting and crane technology worldwide
- International specialist for explosion-protected hoist and crane technology
- Mature off-standard hoists and customised solutions
- Quick, individual hoist production in Germany
- Largely maintenance-free components
- Low wear, long service life in acc. with ISO
- Optionally available in explosion-proof design according to ATEX or IECEx.

➔ You can find further information in our brochures "The ST chain hoist", "The SH wire rope hoist", "The AS 7 wire rope hoist", "The ASR 7 wire rope hoist" and "The SHW 8 winch", which we will gladly send to you by post.



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.



■ Standard □ Option

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

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

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 160,000 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 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 160,000 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.



■ Standard
□ Option

Type	S.W.L 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	■	■	□	□	□

The electrical components

There are standard contactor controls available for all common control voltages. In their basic version, the components are supplied with plug connections as far as this is technically possible and meets requirements. The standard equipment can, however, be supplemented effectively with options to suit your specific application. You can choose between different control and monitoring components as well as optional frequency inverters for hoists and travel drives. This equipment will increase safety in material handling and lengthen the service life of your system.

Cable power supply systems



- Delivery complete with galvanised C-rail, mounting hardware, cantilever arms for clamping, cable trolley, cables and terminal box

Plastic bus bar



- Delivery complete in straight sections, including mounting and connection hardware, current collector trolley

Radio remote control units



- Pushbutton units with belt clip, optionally with signal feedback from the crane
- Robust plastic housing
- IP 65 protection
- Other radio remote control units on request

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
- IP 55 protection
- Temperature range -20°C to $+40^{\circ}\text{C}$

Frequency inverter for »Drive«



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

Control pendant



- Robust control pendant with EMERGENCY STOP pushbutton and control cable
- All switching elements for hoist, travel carriage and crane are 2-step
- IP 65 protection
- Additional buttons, for example to activate a horn, can be integrated
- Optional load display. All data shown can be read out on a notebook with the help of the SMC multicontroller.

The crane endcarriages and travel drives

The robust crane endcarriages from STAHL CraneSystems are manufactured in modern series production. They are easy to mount on both suspension cranes (underslung cranes) and bridge cranes. The wheels, made of high-quality spheroidal graphite cast iron with self-lubrication, come in various diameters. The buffer stops are delivered as standard. Movement for your crane. The frequency-controlled travel drives enable quick and precise positioning of the load without swinging. The low-noise gears ensure smooth starting, steady acceleration and soft braking, thereby ensuring high operational reliability and long service life.

Endcarriages for bridge cranes



- 9 different wheel diameters from 90 mm to 500 mm
- Spans up to 40 m
- Safe working loads from 125 kg to 160,000 kg
- Higher safe working loads on request

Endcarriages for suspension cranes



- 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

Load display



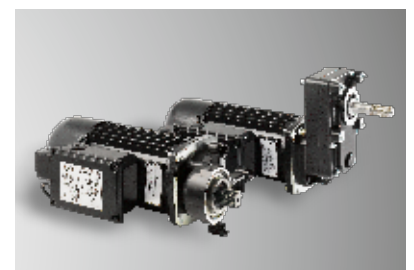
- 4-digit, 7-segment SLD load display (Stahl Load Display), large-format, luminescent red digits, available with various interfaces including CAN
- Height of digits selectable between 60 mm, 100 mm and 150 mm
- No additional sensor required as standard load sensor is used

Wheel block



- 6 different sizes for wheel loads from 5,000 kg 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 engineering

Engineering means innovation and individuality. Constantly redefining the lifting and transporting of loads for complex requirements even in explosive areas is a job for STAHL CraneSystems' experts. Drawing on one of the widest product ranges of standard components, they regularly develop up-to-date, individual, off-standard and customised solutions. 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 well thought-out standard programme is the basis for the most varied solutions. Chain hoists, wire rope hoists, winches, drive technology, control technology and condition monitoring systems; in terms of technology and cost-effectiveness, our mature products rank in the premium class. We ensure their successful use with our competent consulting, innovative development, quality-orientated production and on-schedule delivery, erection and installation.

Customised system solutions individually adapted to your precise requirements are our forte. The experience and knowledge gained from over 140 years of crane technology give us the flexibility to develop and produce the optimum solution for your project in short time. On request, all standard and customised solutions are available in explosion-protected design for Zone 1, Zone 2, Zone 21 and Zone 22.

The facts

- Ideally adapted to your project
- Each hoist is the result of over 140 years of experience and expertise
- Short development time
- Cost-effective thanks to modular system
- Technically mature thanks to the use of field-proven standard components
- Our own production ensures high quality and reliability
- All customised solutions optionally available in explosion-protected design complying with ATEX or IECEx



Example 1 Upgrading and safety spacing

In the context of upgrading an electric motor factory, the existing crane system was adapted to today's requirements and equipped with ultramodern safety spacing technology. First of all, the concrete crane runway was reinforced to 32,000kg capacity with suspended steelwork. The two existing 16t cranes were then replaced by two cranes for 32,000kg lifting capacity. There are two AS7 wire rope hoists with 32,000 kg S.W.L. each mounted on each of these cranes. They lift and rotate the electric motors.

The cranes can only utilise the full lifting capacity if they are in different sections of the crane runway. The capacity of the crane runway is considerably higher in the region of the supporting pillars so that the crane bridges can operate closer to one another here and with a higher load on the crane runway. The total load could exceed the maximum working load permissible at these points depending on the position of the crane bridges. In order to prevent this, information on the actual load on the hoists, the positions of the two crane bridges on the crane runway and the positions of the four wire rope hoists are evaluated with the aid of sophisticated safety spacing technology.

All hoists are equipped with redundant load cells for monitoring the load. The failsafe position measuring system for the crane endcarriages and the failsafe data transmission between the cranes monitor the positions and spacings of the crane bridges. The SIEMENS S7 control evaluates the data and releases or blocks the hoist and travel motions.

The crane system is classified in Performance Level PLd to DIN EN ISO 13849-1.

The facts

- Two double girder overhead travelling cranes of 32,000 kg load capacity
- Two AS7 wire rope hoists with 32,000 kg load capacity on each crane
- Tandem operation of the double rail crabs and hoists
- Redundant load cells for hoist load monitoring
- Failsafe position measuring system with toothed belt
- Failsafe data transmission between crane bridges
- SIEMENS S7 control
- Safe to Performance Level PL d



Example 2 Gantry crane with off-standard hoists

Deltares, based in Delft in the Netherlands, is an independent institute for applied research in the field of water and substrates, that advises states across the world on protection against natural catastrophes and floods. In Delft, Deltares operates a flume in which dykes and breakwaters can be tested in realistic conditions.

A gantry crane that can travel over the whole length of the basin is used to construct the test dykes consisting of sand and stone. STAHL CraneSystems' engineers designed a wire rope hoist with a shovel grab on the basis of the SH6 wire rope hoist as TDC twin drive concept. With two rope drums and two synchronously controlled hoist motors it reaches a hoisting speed of up to 25 m/min. A newly developed reeving system, in which the compensating sheave is situated horizontally alongside the wire rope hoist, reduces the standard headroom by 30 %. Operating with two motor-gear units permits controlled, steady movement of the grab shovel. A second hoist, an AS7 wire rope hoist with an off-standard monorail trolley, can lift smaller construction vehicles onto the bed of the flume. Both wire rope hoists can be coupled for tandem operation, for example to position the steel partition wall with which the basin can be shortened for certain trials. Due to the specified high classification of ISO M6 for both hoists, an AS7 wire rope hoist with specially designed monorail trolley was selected as auxiliary hoist.

Other interesting features of the high tech crane are side jibs, a mobile cab, a lifting platform for transporting personnel and energy feedback.

The facts

- SH 6 twin drive concept wire rope hoist with 12,500 kg S.W.L., continuous monitoring of brakes, drives and load
- AS 7 with monorail trolley and 12,500 kg S.W.L.
- Tandem operation of hoists
- ST chain hoist with 1,000 kg S.W.L.
- Classification: ISO M6
- Mobile operator's cab



Example 3 Communicative cranes

The new crane systems of a Slovakian manufacturer of sluice and hydro-electric power station components in Dubnica nad Váhom are based on a load cell, exact, laser-supported position detection of crane bridges and trolleys as well as the distances between the cranes themselves and constant communication between the cranes.

Every crane is equipped with redundant PLC controllers that analyse the data of all cranes in real time, even when a crane is not in operation or switched off. When the defined limits are approached, the controllers lower the individual hoisting or travel speeds of the individual cranes, trolleys or hoists, or reduce the speeds of the complete crane system. When one or more of the crane bridges reach the total permissible load of the building together, all movements are stopped, which would lead to a further increase in the load. The maximum permissible load also depends on the position of the trolleys. All movements and the relationships between the crane bridges are analysed. The effects of the load on the building are calculated separately by every crane taking the data of the other cranes into account. The cranes communicate constantly on redundant, separate WiFi channels.

The larger machinery parts can be lifted in tandem mode, alternatively of the two hoists or two trolleys on the crane, or the crane of every bay. The high lifting capacities are achieved by combining multiple hoists from STAHL CraneSystems.

The facts

- 4 double girder overhead travelling cranes with lifting capacities of 180,000 kg, 90,000 kg, 175,000 kg and 85,000 kg
- 2 ASF7ZW wire rope hoists with a lifting capacity of 125,000 kg, each with an ASF7 as auxiliary hoist
- 2 ASF7 wire rope hoists with a lifting capacity of 50,000 kg, each with an ASF7 as auxiliary hoist
- Frequency inverter for soft, smooth hoisting and travel movements
- Redundant PLC controllers
- Load cell and laser-supported position detection of the crane bridges



Explosion-protected crane technology



STAHL CraneSystems is known internationally as an explosion protection specialist and is regarded as world market leader in explosion-protected 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 had palpable influence on crane technology. Experience and expertise from many decades, our own fundamental research and development, approvals from the Federal Physico-Technical Institute (PTB) and other test institutes in many countries underline our expertise.

Explosion-protected hoist 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, power supply, shipbuilding, offshore and natural gas liquefaction industries (LNG). Without exception, it is based on our standard programmes, including accessories. All components come from our own production with certified quality assurance system, 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 or IECEx regulations on mechanical and electrical explosion protection are of course met.

The facts

- 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 according to ATEX or IECEx in certified quality
- ➔ For more information please ask for our brochures "Expertise in explosion protection" and "The LNG engineering solution", which we will gladly send to you by post.

Application	Category	Protection against	Explosion protection
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

* Zone 2 design is available as standard only in the wire rope hoist programme



1 The explosion-protected tandem crane with two SH Ex wire rope hoists and radio remote control is used in the construction of a compressor station for a natural gas pipe. The SH 40 Ex wire rope hoists are designed for load capacities of 3,200 kg, they comply with the ATEX directives as regards design and safety.

2 An explosion-protected ST 20 chain hoist with load capacity of up to 1,600 kg is used in a chemical plant for maintenance work outdoors. The slim construction of the explosion-protected chain hoist permits the whole width of the crane bridge to be utilised. Naturally, the endcarriages for the underhung crane are also explosion-protected.



3 The gantry crane with two explosion-protected SH wire rope hoists and a total load capacity of 5,000 kg is used in the refinery of a petrochemical company. It transports waste material containing sulphur, oxygen and nitrogen, generated in crude oil processing.



4 Off-standard LNG hoists from STAHL CraneSystems are used for maintenance work on the pumps in liquefied gas tanks. The wire rope hoists are equipped with two separately driven rope drums with 2,400 kg S.W.L. each. An additional small slewing crane is equipped with an SH 30 Ex wire rope hoist and used as an auxiliary crane for transporting tools and components onto the tank's platform.



Support

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.





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

We constantly keep our regional crane manufacturing partners up to date with training courses, seminars and information material. And you too as end customer 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 develop a special programme for your individual specifications and requirements.

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



Factory service centre – on duty around the world

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

You can reach our factory service centre at customer.service@stahlcranes.com



MarketingPortal plus – our online support

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Crane systems in action

Experts in all countries immediately recognise hoist and crane components from STAHL CraneSystems. For they are in action all around the world in the most diverse projects in crane and systems building. Innovative, thought through down to the most minor detail and manufactured with the greatest care, customised solutions for interesting fields of activity and challenges are repeatedly developed with our expertise and our engineering. Our crane technology thus proves its well above average flexibility and cost-effectiveness. STAHL CraneSystems is represented on all continents by subsidiaries, sales and crane building partners.



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1 Two frequency-controlled AS7 wire rope hoists in twin design are used for transporting coils in a production plant. Space in the 65 m long building is restricted, as a large production machine is situated in the central area. This region of the building must be bypassed in normal operation.

2 Two radio-controlled single girder overhead travelling cranes with an S.W.L. of 6,300 kg operate in a joiner's shop for solid wood buildings in Bavaria. They transport all the materials, from the raw wooden beams to the finished panels which are then loaded onto lorries.

4 A number of ST chain hoists are used in England for the maintenance and replacement of train rails. All hoists are equipped with off-standard load lifting equipment. The chain hoists are centrally controlled to ensure that they work in synch. Gear limit switches disconnect the hoists, the hoisting motion is reliably limited.

5 A custom-built crane with low headroom underhung crane end-carriages and an individually adapted off-standard hoist operates in a chemical plant in Germany. The off-standard hoist is an STD 50 dual chain hoist with two synchronous hook lead-offs. An ST 20 chain hoist acts as auxiliary hoist.

6 86 cranes with a total of 120 wire rope hoists operate in the plant of a Chinese CNC machine tool manufacturer. 15 AS7 wire rope hoists and 105 SH wire rope hoists are in use. On 35 of the crane bridges, combinations of wire rope hoists with higher load capacities and auxiliary hoists with faster hoisting speeds are used on double rail crabs. The crane with the highest load capacity is equipped with an AS7 wire rope hoist with 75,000 kg S.W.L. and an SH 60 wire rope hoist with 20,000 kg S.W.L. as auxiliary hoist.



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1 A single girder overhead travelling crane with an SH 40 wire rope hoist operates in the up-to-date mechanical production shop of a foundry for high-tensile cast parts. The hoist has a load capacity of 4,000 kg and is equipped with heat protection plates.

2 There is only one engine maintenance plant in Europe for the Rolls-Royce Trent engines used in Airbus models A 330, A 340 and A 380. It is one of the most up-to-date and progressive maintenance plants in the world, employing the highly efficient »vertical strip« process. Here STAHL CraneSystems wire rope hoists of the SHF 3 to SHF 6 series are in use. The hoists have true vertical lift and extremely low load swing to enable precise positioning of the load.

4 An off-standard stacker crane is used in the semi-automatic production of pre-cast concrete parts at a company in Bavaria. The crane is equipped with a lifting mast. It lifts the concrete elements, weighing up to 5,700 kg, from the production line and stacks them on transport carts.

5 Two ST 50 chain hoists at a time lift complete car bodies and transport them through the assembly line.

6 The double girder overhead travelling crane manufactured in Künzelsau and South Africa has reached the petrochemical plant in Ghana. The system with a total lifting capacity of up to 75,000 kg is equipped with an AS7 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.









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- 1 Seven fully automated cranes with wireless connection operate in the pressing shop of a motor manufacturer. Frequency-controlled SHWF 8 winches and frequency-controlled ASF 7 wire rope hoists with load capacities from 16,000 kg to 60,000 kg are in use. The hoists are equipped for particularly high speeds and for working with tool grabs.
- 2 A gantry crane with a load capacity of 50,000 kg is used for maintenance work on a lock. The AS7 wire rope hoist is protected by a roof and the crab is easily accessible via a maintenance bridge. This gantry crane can be completely dismantled, transported by ship and re-assembled. Even after several months in storage it can be assembled and be ready for operation within 48 hours.
- 3 The crane operator operates the crane system over a paper machine with radio control. The paper reel weighing several tonnes must be rotated for it to be mounted in the machine's take-up fixture. It is lifted by two SH 6 wire rope hoists with independent load hooks. These can be adjusted to the correct distance between hooks by an electric drive on the common travel rail.
- 4 The maximum load capacity of the crane system of 12,500 kg is distributed over four STAHL CraneSystems SH 30 wire rope hoists. Each wire rope hoist has a load capacity of 3,200 kg. The movements of the cranes, the two hoists and the pallet grab are controlled by a joystick radio remote control.
- 5 An SHW8 winch with a load capacity of 85,000 kg is used for assembly and maintenance work on a turbine situated 40 m below it. An SH wire rope hoist with a load capacity of 10,000 kg and a lifting height of 40 metres acts as auxiliary hoist.
- 6 Gantry cranes with off-standard undercarriages are used for renovating the busy Margaret Bridge in Budapest, Hungary. The cranes travel directly on the bridge, the off-standard undercarriages distribute the load of up to 16,000 kg so that there is no danger of the bridge collapsing.



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1 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.

3 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 linked 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.



4 LNG wire rope hoists in safety level 1 are used on an LNG 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.

5 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 A380 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.

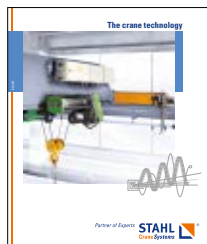
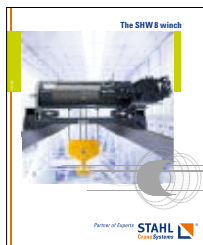
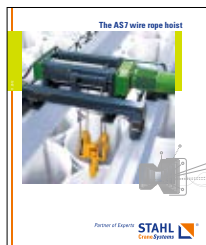
6 A new crane at a haulage company was retrofitted to lift loads of up to 100,000 kg. Since the existing crane runway was only designed for loads up to 25,000 kg, a special crane control with safety spacing in performance level PL d is used. Multiple redundant systems are used to monitor the crane, e.g. 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.



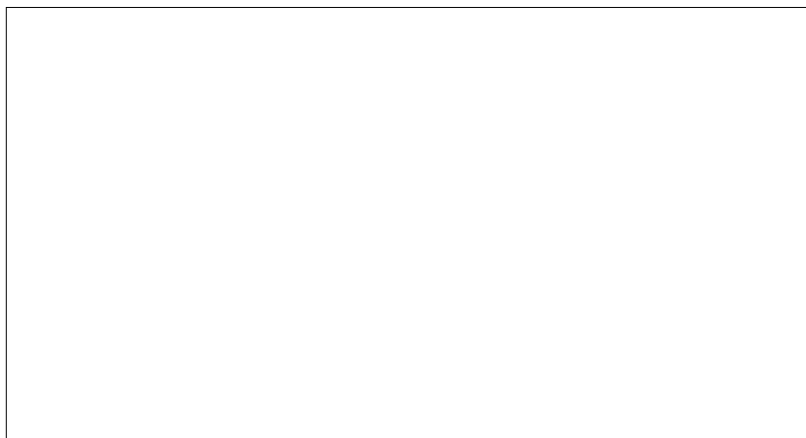
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