

# Designed for demanding hazardous environments





# Safety comes first

You can't completely eliminate danger in explosive atmospheres, but with the right equipment and the right training, you can boost work efficiency while improving safety and minimizing the risk to product, equipment and people.

## Cranes and hoists for hazardous environments

Operating in explosive atmospheres means there are different needs for lifting equipment, ranging from standard products to highly advanced solutions. Because of this, we have designed our products to be optimized for your specific and often unique lifting requirements.

**Equipment that gives you the highest lifecycle value**  
Our cranes deliver high-quality performance using the best technology available, and are built to last. Our carefully designed equipment combined with regular maintenance results in less risk in your hazardous work environment and a reliable, long-term investment. We call this highest lifecycle value.

From the earliest design phase, through technical optimization for your specific lifting needs, we carefully choose all components to give you the extra level of safety you require in the hazardous atmospheres of your processes.

When a Konecranes product becomes part of your process, its high efficiency lets you maximize the productivity of your uptime. With regular maintenance, easily available spare parts and 24/7 customer service through our extensive global network, you minimize the cost of downtime.



### Products for a wide range of applications

We offer a wide range of equipment for all kinds of hazardous environments including:

- Oil refineries, rigs and processing plants
- Chemicals
- Printing industries, paper and textiles
- Aircraft refueling and hangars
- Surface coating
- Sewerage treatment plants
- Gas pipelines and distribution centers
- Gas power plants
- LNG Natural gas plants
- Grain handling & storage
- Woodworking
- Sugar refineries
- Metal surface grinding

### Product certifications



Quality is especially important in hazardous environments, where safety and efficiency are key. Multiple certifications—including IECEx for the world, ATEX for Europe, CSA US for the United States and CCC for China—verify the high standard of our products.



# Environment definitions

Each regional certification has its own definition of hazardous environments. Here are examples from two different certifications.

## ATEX definitions

### EX zones – gas environment

#### ZONE 1

A place in which an explosive atmosphere consisting of a mixture with air or flammable substances in the form of gas, vapor or mist is likely to occur in normal operation occasionally.

#### ZONE 2

A place in which an explosive atmosphere consisting of a mixture with air or flammable substances in the form of gas, vapor or mist is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

### EX zones – dust environment

#### ZONE 21

A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is likely to occur in normal operation occasionally.

#### ZONE 22

A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is not likely to occur in normal operation, but if it does occur, will persist for a short period only.

## CSA US definitions

### CLASS 1

A location made hazardous by the presence of flammable gases or vapors that may be present in the air in quantities sufficient to produce an explosive or ignitable mixture.

### DIVISION 2

A location where a classified hazard does not normally exist, but might appear under abnormal conditions.

### ZONE 2

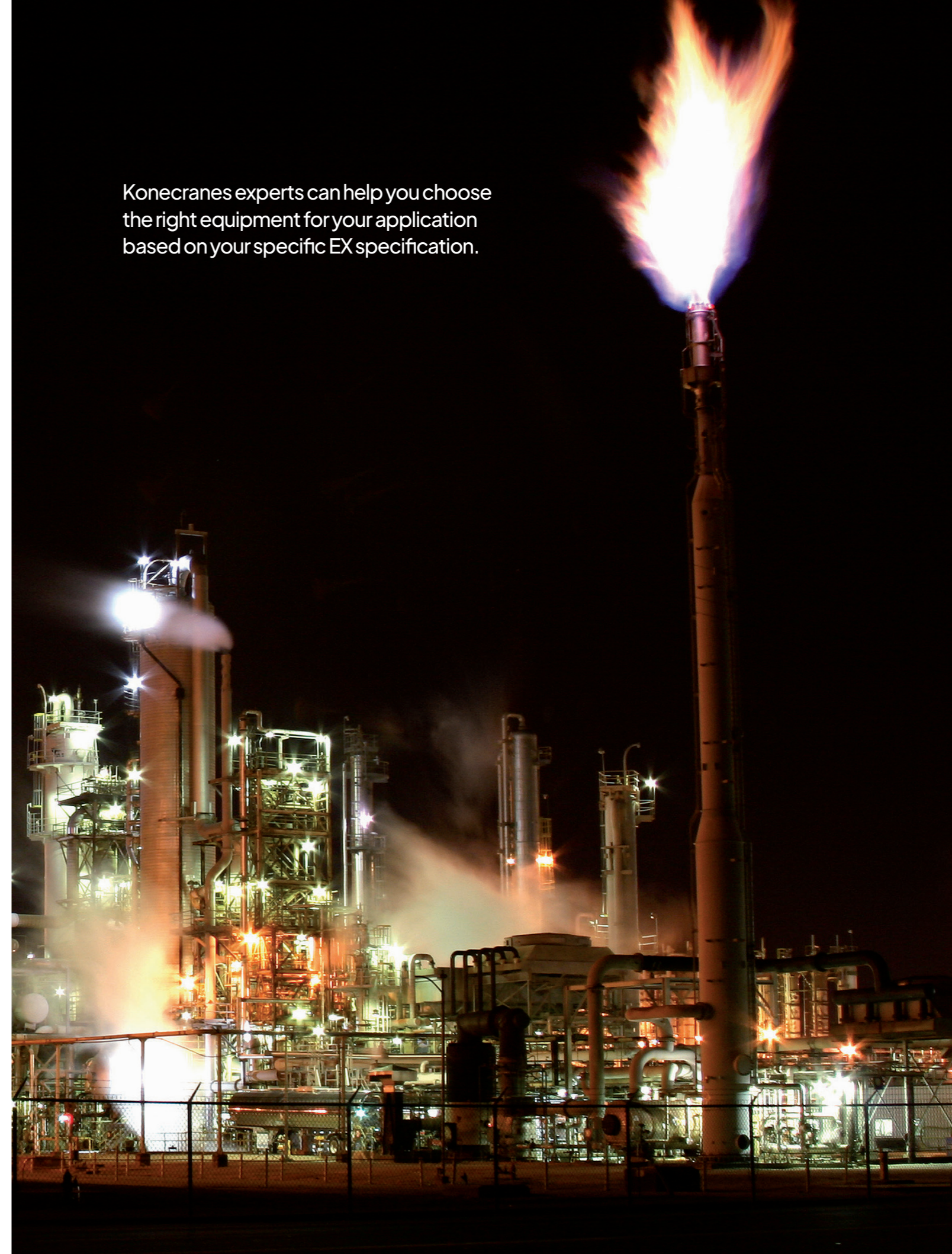
An area in which an explosive gas atmosphere does not normally exist.

## Product suitability for gas/dust environment

	ZONE 2/ZONE 22	ZONE 1/ZONE 21	ZONE 0/ZONE 20	CLASS 1 DIV 2
EXCXT wire rope hoist crane	✓	✓	✗	✓
EXCXT wire rope hoist	✓	✓	✗	✓
EX electric chain hoist crane	✓	✓	✗	✓
EX C-series electric chain hoist	✓	✓	✗	✗
EKM2 manual hoist	✓	✓	✗	✗
EX jib crane	✓	✓	✗	✗

To find the right solution for each environment, we need to know the kind of explosive atmosphere in which you will be using your lifting device.

Konecranes experts can help you choose the right equipment for your application based on your specific EX specification.





# Konecranes EXCXT wire rope hoist

This hoist represents the ideal in safety and quality within the lifting equipment industry. An innovative mechanical configuration prevents sparking – ideal for use around the flammable materials that may occur in hazardous environments – and its intuitive controls and high-level motor and gear technology have made it the industry benchmark.

## SAFETY

- The Konecranes EXCXT is certified according to most EX approvals, such as ATEX, IECEx, CSA and CCC
- Reliable contactor controls
- 2-step hoisting limit switch for safe load handling
- Reliable mechanical overload protection

## PERFORMANCE

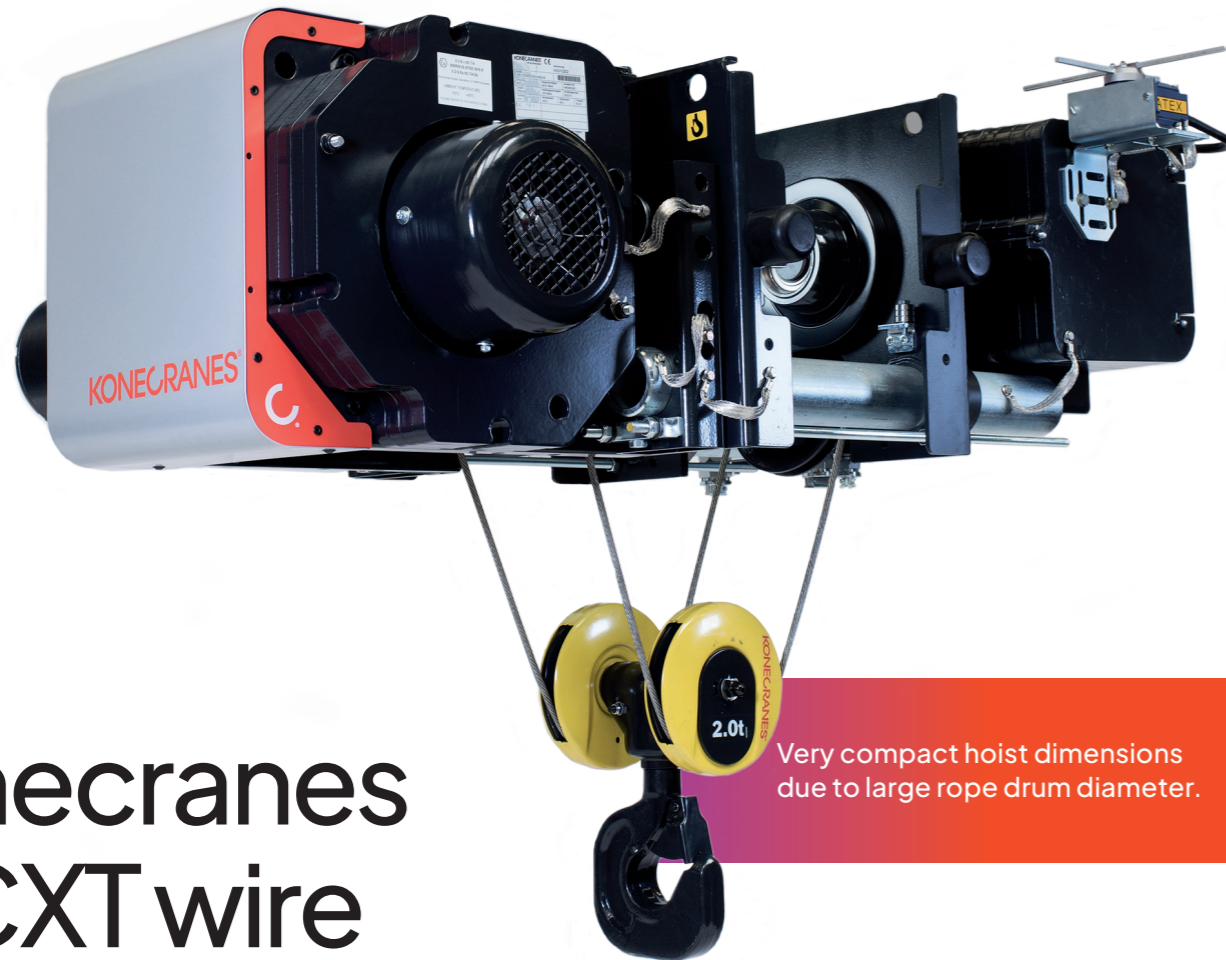
- Lifting capacity up to 80 tons
- Easy load handling with precise movements and ergonomic controls
- Large rope drum diameter keeps hoist compact
- IP66 hoisting and travelling motors
- Heavy-duty 50% ED hoisting motors
- 2-speed hoisting with 6:1 speed ratio enables easy and accurate load handling

## OPTIONS

- Fixed hoists and solo hoists for monorail use
- Buy with a whole crane or install as a modernization to extend the life of your existing equipment

## Product suitability for gas/dust environment

ZONE 2 / ZONE 22	ZONE 1 / ZONE 21	ZONE 0 / ZONE 20	CLASS 1 DIV 2
✓	✓	✗	✓



# Konecranes EXCXT wire rope hoist crane

In your everyday work, you must be able to rely on your tools. This is especially true in a hazardous environment, where safety is the most important factor. With this crane, you get all the benefits of the Konecranes EXCXT hoist, as well as the following additional features.

## SAFETY

- Crane electrics located in EX enclosures, which consist of a flameproof D-type section and increased safety E-type sections
- EX-certified crane components
- Minimized hook approaches due to compact hoist
- Reliable mechanical overload protection

## PERFORMANCE

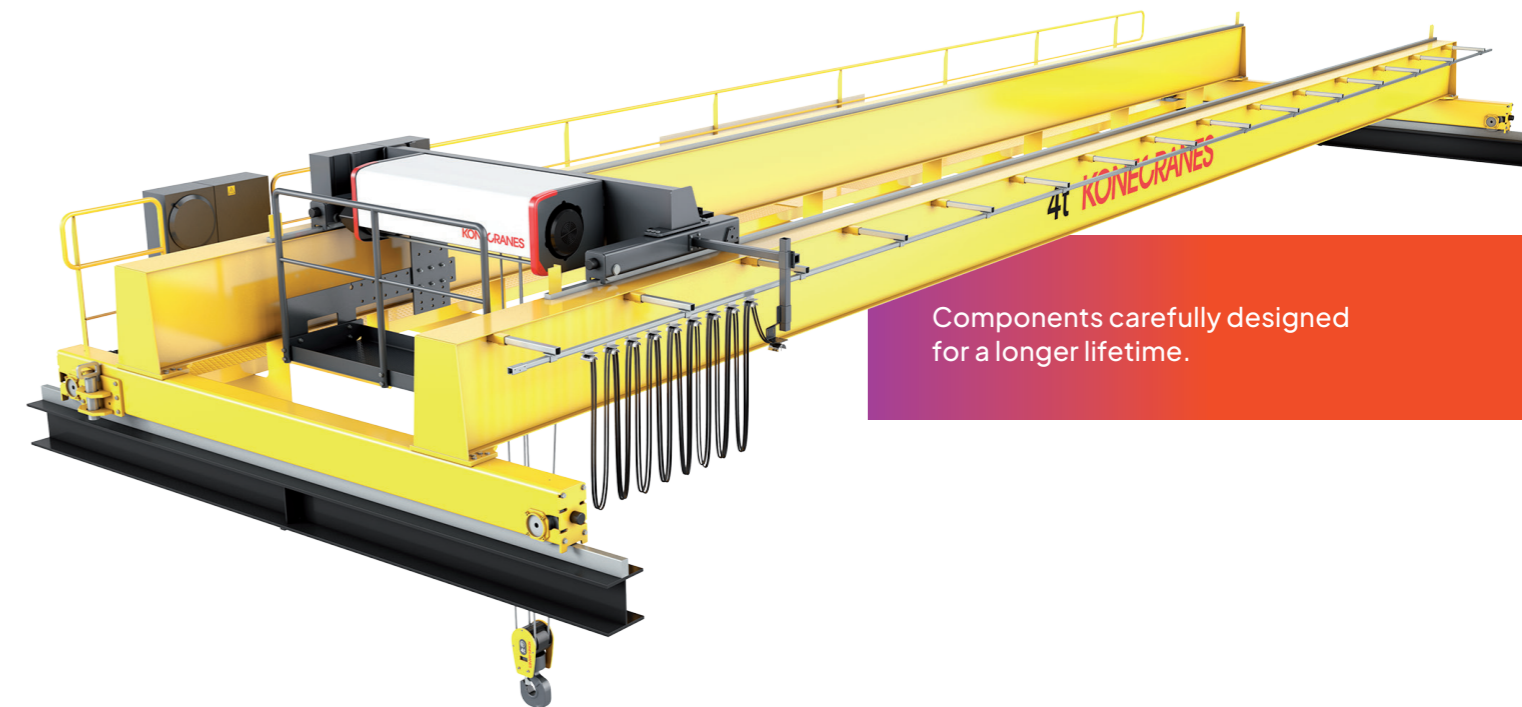
- Lifting capacity up to 80 tons
- Design allows compact dimensions
- Sturdy steel structure for strength and durability

## OPTIONS

- Multiple options available such as radio controls, crane lights and stand-by heaters for humid conditions

## Product suitability for gas/dust environment

ZONE 2 / ZONE 22	ZONE 1 / ZONE 21	ZONE 0 / ZONE 20	CLASS 1 DIV 2
✓	✓	✗	✓





# Konecranes EX C-series electric chain hoist for Zone 1/2/21

The hoist is designed and tested specifically to fulfil ATEX and IECEx requirements for use in Zone 1, 2 and 21 explosive atmospheres.



Smooth and efficient load handling with 2-speed hoisting and inverter controlled trolley travelling.

This durable hoist gives you the high level of performance and reliability you need for an unpredictable hazardous environment. It has the flexibility to be configured to your particular conditions and is designed to increase the safety of your operators and the surrounding area.

## SAFETY

- Available with various EX approvals
- Slipping clutch helps prevent overload
- Self-adjusting hoisting brake requiring little maintenance. Brake located inside "d" enclosure, well protected against the environmental conditions.
- Service-friendly "D" and "E" technology electric cubicles with separate flameproof "D" section
- Accurate and smooth inverter controlled trolley travelling

## PERFORMANCE

- Lifting capacity up to 2.5 tons
- Accurate inverter controlled trolley travelling and 2-speed hoisting control designed for smooth and efficient load handling
- High-performance 60% ED, 360 starts per hour
- Geared hoisting limit switch (slow and stop for both direction)

## OPTIONS

- Hook suspended hoist
- Manual chain travel trolley
- Low or normal headroom trolley
- Motorized or push trolley
- Buy as a single hoist, as part of a new crane, or install as a modernization hoist to extend the life of your existing equipment

### Product suitability for gas/dust environment

ZONE 2 / ZONE 22	ZONE 1 / ZONE 21	ZONE 0 / ZONE 20	CLASS 1 DIV 2
✓	✓	✗	✗

# Konecranes EX electric chain hoist crane

Suitable for a wide range of hazardous environments, the flexibility of this crane is its best feature. Its high level of reliability and ease of use means more safety, more productivity, and much less downtime. With this crane, you get all the benefits of the Konecranes EX C-series electric chain hoist, as well as these additional features:

## SAFETY

- EX-certified crane components
- Optimized approach dimensions due to compact hoist

## PERFORMANCE

- Lifting capacity up to 2.5 tons
- Ergonomic controls

## OPTIONS

- Radio control, crane lights, and standby heaters for cold and humid conditions



Suitable for demanding Zone 1 and Zone 21 explosive atmospheres.

### Product suitability for gas/dust environment

ZONE 2 / ZONE 22	ZONE 1 / ZONE 21	ZONE 0 / ZONE 20	CLASS 1 DIV 2
✓	✓	✗	✓





Designed and tested specifically to fulfil ATEX Zone 22 environment requirements.

# Konecranes EX C-series electric chain hoist for Zone 22

The Konecranes C-series electric chain hoist for Zone 22 is our most advanced electric chain hoist to date. Designed and tested to meet the dust hazardous environment Zone 22 requirements and built smart with our Core of Lifting components, the hoist is tough, safe, precise and reliable.

The key components of the Konecranes EX C-series hoists —gears, motors and controls, all of which we have designed and manufactured—work together seamlessly as the **Core of Lifting**.

#### SAFETY

- Safe, reliable and easy to operate
- Maximum surface temperature 120°C (@40°C ambient temperature) and the most demanding III C dust classification provides long and safe use in Zone 22 dust hazardous environments
- Temperature monitoring helps prevent overheating
- Ingress protection IP66

#### PERFORMANCE

- Lifting capacity up to 1 ton
- 2-speed hoisting and trolley travelling enables smooth and accurate load handling
- Wide ambient temperature range from -20°C to +40 °C

#### OPTIONS

- Available hoist suspensions: eye and hook
- Available trolley models: push, chain travel and motorized
- Multiple options available such as stainless steel chain, second hoisting brake, food safety lubricants and self locking hook

#### Product suitability for gas/dust environment

ZONE 2 / ZONE 22	ZONE 1 / ZONE 21	ZONE 0 / ZONE 20
Zone 22 only	X	X





Jib cranes offer outstanding performance and flexibility.

## EX Jib crane

The Konecranes jib cranes are easy to install and operate. Used almost everywhere, you can find them in small workshops, big factory assembly lines and manufacturing plants. Their flexible application clearly demonstrates our technical knowledge and long experience in the design of cranes.

### SAFETY

- Main disconnect switch as standard
- Separate emergency stop button on hoist pendant

### PERFORMANCE

- Lifting capacity up to 40 tons
- Designed for accurate load handling with 2-speed hoisting
- Low deadweight reduces structural stress

### OPTIONS

- Flexible enough to use almost anywhere: durable, even if your needs change
- Can be equipped with EXCXT, Konecranes EX C-series hoist or EKM2 manual hoists

### Product suitability for gas/dust environment

ZONE 2 / ZONE 22	ZONE 1 / ZONE 21	ZONE 0 / ZONE 20
✓	✓	✗

# Konecranes EKM2 manual hoist

When you don't need to lift every day, the Konecranes EKM2 manual hoist combined with the EKPT manual trolley offers an optimal, cost-effective solution. It's ideal when your facility has less frequent lifting needs, or you want a spare hoist to support your other lifting equipment during busy periods. Stainless steel chain and corrosion protection give your hoist a longer lifetime.

### SAFETY

- Stainless steel hand chain
- Copper-coated hooks and trolley wheels prevent sparks
- Overload limiter
- Spark prevention features
  - Stainless steel hand chain
  - Copper-coated hooks and trolley wheels help prevent sparks
  - Rubber buffers help prevent collisions

### PERFORMANCE

- Lifting capacity up to 20 tons
- ISO hooks with safety latch to ease load handling
- Hoists and trolleys powder painted for corrosion protection

### OPTIONS

- Chain collectors
- Push trolley, chain travel trolley or hook suspended hoist

### Product suitability for gas/dust environment

ZONE 2 / ZONE 22	ZONE 1 / ZONE 21	ZONE 0 / ZONE 20
✓	✓	✗



Konecranes manual hoists are a simple and reliable solution for hazardous environments.



# Maximize crane reliability and performance

Regular inspections and preventive maintenance help identify risks and opportunities for improvement while supporting compliance with safety regulations.

## Service programs tailored to your operations

Preventive maintenance conducted at regularly scheduled intervals can often be the most effective way to maintain and potentially extend the lifespan of your cranes. Konecranes experts can help you build a service program—from basic inspections to a comprehensive maintenance program—tailored to your operations.

## The right parts at the right time

Keeping parts in inventory, especially in process-critical operations, can further reduce downtime when performing maintenance or repairs. Our parts experts can provide you with a comprehensive parts package specifically designed

according to your application and usage requirements.

## EX crane modernizations

Instead of replacing an entire crane, a modernization is a cost-saving alternative designed to extend the service life of your crane and meet current regulatory, maintenance and production requirements. Our customers with equipment for hazardous environments most often replace hoists, trolleys and traveling machinery for better capacity, speed, duty and load control. Also, it is possible upgrade the equipment to a higher EX classification.

After modernization, you can rely on the new components are approved according to the latest EX regulations.



Learn more about Konecranes Service:  
[konecranes.com/service](https://konecranes.com/service)

## Why choose Konecranes as your crane service provider?

We have the largest and most extensive service network in the industry, servicing hundreds of thousands of assets each year of all different makes and models. You get the advantage of local inspectors and technicians with access to a wealth of knowledge from around the globe.

We take a comprehensive, systematic and collaborative approach to managing your assets throughout their lifecycle. We take time to meet with you one-on-one to share our findings, provide recommendations based on our industry-leading expertise and discuss how each action impacts your operations and the entire health of your business.



## CUSTOMER STORY

# Modernization with Konecranes EXCXT improves safety and reliability

SABIC, the Saudi Basic Industries Corporation, is one of the world's leading manufacturers of chemicals, fertilizers, plastics and metals. At its Wilton site in Teeside, SABIC UK produces petrochemicals, including propylene and ethylene.

The modernization of its 20-ton pneumatic maintenance cranes has improved safety and reliability and extended crane life. Inspection and maintenance contracts make long-term use of Konecranes expertise and global service.

The plant's old cranes were fully pneumatic, with air-driven motors for all movements. The modernization included removal of the trolleys, a complete stripping of existing controls, installation of new trolleys and electrical control systems, and new power supply systems for the crane, trolley and crane controllers.

## New hoists with secure futures

"Konecranes EXCXT hoists were the right solution for this project," says Heikki Kreku, a Konecranes UK engineering manager. Thanks to the refurbishment, spare parts are now readily available. The crane modernization has greatly reduced the risk that SABIC UK might run into any problems during a plant maintenance turnaround event.

SABIC was very pleased with the result of this modernization project. They also appreciated the safe working practice and professional conduct of the Konecranes site technicians involved. Inspection and maintenance contracts are now in place for both SABIC UK sites, Wilton and North Tees.





Konecranes is a global leader in material handling solutions, serving a broad range of customers across multiple industries. We consistently set the industry benchmark, from everyday improvements to the breakthroughs at moments that matter most, because we know we can always find a safer, more productive and sustainable way. That's why, with around 16,600 professionals in over 50 countries, Konecranes is trusted every day to lift, handle and move what the world needs. In 2023, Group sales totalled EUR 4.0 billion. Konecranes shares are listed on Nasdaq Helsinki (symbol: KCR).

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