



SPECIAL FEATURES FOR R&M HOISTS

R&M Materials Handling, Inc. offers pre-engineered, complete modular crane packages with advanced hoists, such as our Spacemaster® SX wire rope hoists and high-capacity SXL and PDW open winch hoists. We develop highly engineered, custom solutions for your crane by selecting from our broad range of special features to create a complete system that includes all the functionality you need.



WE'RE PROUD TO HAVE STANDARD OFFERINGS

THAT MANY OTHER LIFTING EQUIPMENT COMPANIES
CONSIDER ADD-ON OPTIONS.

However, every industry has its own needs, so we offer special features you can choose for your specific application. We've cross-referenced our special features by application and industry to help you customize your hoist to your needs.



APPLICATIONS & INDUSTRIES



PRECISION CONTROLS FOR PICKING & PLACING



Anti-Sway Technology

ControlMaster® Anti-Sway System can be selected for bridge traveling or for both trolley and bridge traveling. It can be added to cranes with one hoist or two similar hoists. A special encoder on the hoist supplies a signal back to the Height Measuring Unit to accurately predict and counteract the natural pendulum movement of the load automatically. This removes human error and makes the process faster and safer for the operator and the load.

Variable Speed Controls

Infinitely variable speed control gives the user the flexibility to control, accelerate and hold any speed from the minimum to the maximum. The multi-step parameter setting (MS) allows the inverter to be set at two distinct and programmable operating speeds. With either option, the smooth ramp-up and ramp-down prevent load swing and reduce brake wear often associated with contactor controls.

Quick Load / Unload Features

Inverter hoisting controls offer an extended speed range, allowing the unloaded hook to travel faster than the rated hoist speed. This improves load handling when the load is on the hook, and when the hook is empty, it can be quickly moved and reset for the next load.

Load Stabilization

Load floating smart controls suspend the load in a stopped position for a predefined time after the hoisting movement stops without closing the hoist brake. This allows the load to settle completely before taking the next positioning action.

Gentle Material Handling

Inching and micro-speed controls provide a way to approach the load destination with great accuracy through a slow speed range. Depending on the selections and configuration, these motions can be operator-controlled or preset with automation.

Automation Integration

Closed-loop inverter controls, along with smart features, allow for full automation of standard picking and placing processes to save time, increase production capacity and improve operator safety. Automation removes human error from repetitive, precise movements.

Below-the-Hook Devices

R&M's equipment can integrate with specialty below-the-hook devices such as magnets, shakers, rotating blocks, spreaders and vacuum lifters.

Load-Turning

Load-turning features help increase speed and safety during a load-turning process, such as die-flipping. This feature protects the hoist from side pull outside of the allowable range, improving operator safety and reducing the risk of costly equipment damage.

Advanced Positioning Systems

Smart features and automation provide a way to approach the load destination with great accuracy and minimized operator interaction. This leads to improved safety and increased productivity.

HIGH-SPEED & HEAVY-DUTY CLASS OPERATIONS



Quick Load / Unload Features

Inverter hoisting controls offer an extended speed range, improving load handling when the load is on the hook. This reduces downtime and increases productivity.

Robust Construction

The Process Duty Winch (PDW) provides excellent performance in process duty applications for Class D and Class E duty cycles. It is available for loads between 6 - 70 tons (6,300 - 70,000 kg) and with a wide range of hoist speeds and lifts.

Protecting Your Investment

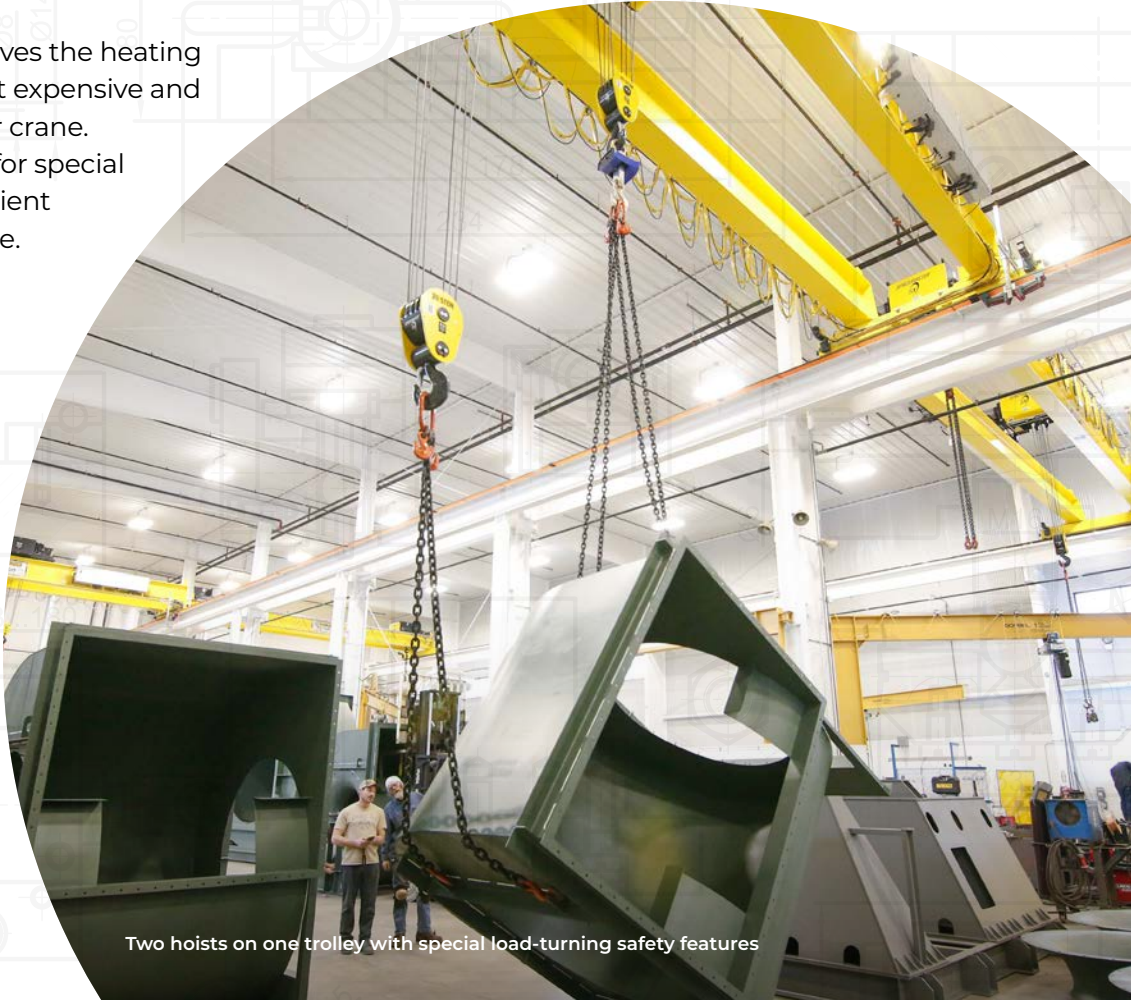
Class H motor insulation improves the heating capacity of the motor, the most expensive and critical component of a hoist or crane. Class H motors are often used for special applications, such as high ambient temperatures or heavy-duty use. Keeping them insulated in these environments is critical to their performance.

Condition Monitoring

HoistMonitor® Enclave is added to all R&M wire rope hoists for overload protection, hoist duty class monitoring, shock load prevention, improved safety and lengthening the life of the hoist.

Remote Monitoring to Reduce Downtime

The HoistMonitor Enclave, coupled with our gateway modem, provides wireless connections for remote monitoring of parameters, which can prevent breakdowns and allow for predictive maintenance and troubleshooting without additional service visits.



Two hoists on one trolley with special load-turning safety features

HIGH-RISK & EXTREME ENVIRONMENTS



Critical Lifts

A variety of smart controls and safety features are added to the hoist and crane components when operators must come in close contact with the load as a part of the standard operating procedure. Depending on the application, these could include true vertical lift, anti-sway, micro-speeds and additional redundant limits and/or brakes.

Redundant Braking

A second hoist brake can be added to the SX2, SX3, SX4 or SX5 hoists for additional safety. Both brakes open simultaneously, but the closing of the second brake is momentarily delayed, avoiding rapid stop and excessive brake wear. With this momentary delay, the second brake acts as a holding brake that reduces the risk of falling loads that could damage the load and injure employees. For larger hoists (SX5-7, SXL and PDW), a hoist drum brake can be added for additional safety.

Explosion-Proof and Non-Sparking

R&M's Spacemaster EX hoist is available with a Class I, Division 1 or Class I, Division 2 rating. Non-sparking options include bronze-coated hooks, brass wheels, brass drop lugs on the trolley and stainless steel wire rope. Additional control options, like an explosion-proof radio control unit, improve crane safety and productivity by allowing the operator a greater range of movement while maintaining clear sight lines to the load.



Equipment rated for Class I, Division 2 hazardous locations in a municipal power plant



Safety Features

The run and fault supervision feature checks for any active faults from those functions that could be activated. If a fault exists, lifting, lowering or both (depending on the faulted function) will be disabled until the fault is cleared. If no defaults are detected, then lifting or lowering will be allowed. Anti-collision devices prevent cranes on the same runway from approaching each other at a high rate of speed.

Dust and Moisture Resistance

IP66 protection is added to the motors and electrical panels to prevent dust and moisture from entering the components. The bottom side drum cover provides additional protection from dust and moisture coming from below the hoist. Rail sweeps are added if the trolley rail can be covered with dust or debris, even indoors, like in a paper mill or steel fabrication facility.

Weather Resistance

Rain covers protect the hoist and traveling machinery from overhead precipitation. IP66 protection includes a specially sealed motor, brake and electrical panels for humid or dusty conditions. Rail sweeps are added if the trolley rail can be covered with snow, dust or debris, and special paint thicknesses can be added to protect the hoist body from corrosive atmospheres, like in offshore applications. Anti-jump catches can be added to the top running double girder trolley to prevent the trolley from leaving the rail in cases of high winds.

High Altitude

When operating at high altitudes > 3,300 ft (1000 m), the hoist's capacity is reduced, so the hoist motor, trolley and bridge motors will need to be

upsized. R&M's wide range of available motor and gear pairs can often accommodate this need without having to unnecessarily upsize the mechanical components.

Corrosive Environments / Galvanizing

Special paint and special paint thicknesses can be applied to better protect against corrosive vapors, such as hydrochloric acid, sulfuric acid or sulfur dioxide, rising from preparation pools. Specialty cast iron motor housings are also available for galvanizing applications.

Clean Room Compatibility

Overhead Lifting Information (OLI) lets you view the HoistMonitor data remotely through a wireless connection, so you don't have to enter the clean room to check on stats, such as the condition of the hoist and its motor, brakes or contactors. Inverter-based intelligent features help with load handling and positioning, minimizing contamination possibilities.

Extreme Temperature Protection

Standby heating for hoist, bridge and trolley motors prevent condensation from building up on the motor windings during prolonged periods of idleness. Special metal types for some structural components, the elimination of plastic parts and synthetic lubricants are also applied in extremely low-temperature applications (below -40° F (-40° C)). Fan and air-conditioned cooling types may be used in very warm climates to protect the electronic components.

EXTREME DIMENSIONS - LIFTS, SPANS & RUNWAYS



Cantilever Cranes

Bridge girders on an underrunning crane can be engineered with a cantilever on either or both ends to extend the span for the application while utilizing the existing runway structure.

Extended Reach

Specialty hoist drums are available for some double girder and normal headroom hoists to achieve longer than standard lift heights. In some applications, a cost-effective alternative is to increase the reach of the hoist by adding additional rope to the drum and extending the headroom of the hoist.



High-capacity crane with SXL hoist for metal fabrication

Multiple Runways

Multiple runways on an underrunning crane allow for very long open spans to be achieved in lighter capacity applications without the use of large and costly box girders. If you have a multiple-runway application, consider increased travel speeds to cover the span or runway effectively and use RaCon® radio controllers for optimum floor coverage and ease of operation.

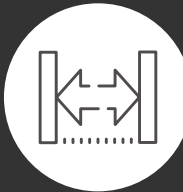
Long Spans

Bogie end trucks are recommended in long-span applications. Because the four-wheel design disperses the wheel loads, smaller rail sizes can be used. Additionally, bogie end carriages make installation quicker and safer in long-span applications. Box girders are ideal for carrying heavier loads on longer spans. R&M's design tool specifies a torsional style box beam, which optimizes the usage of steel, end truck size and loading on the runway.

Heavy Usage

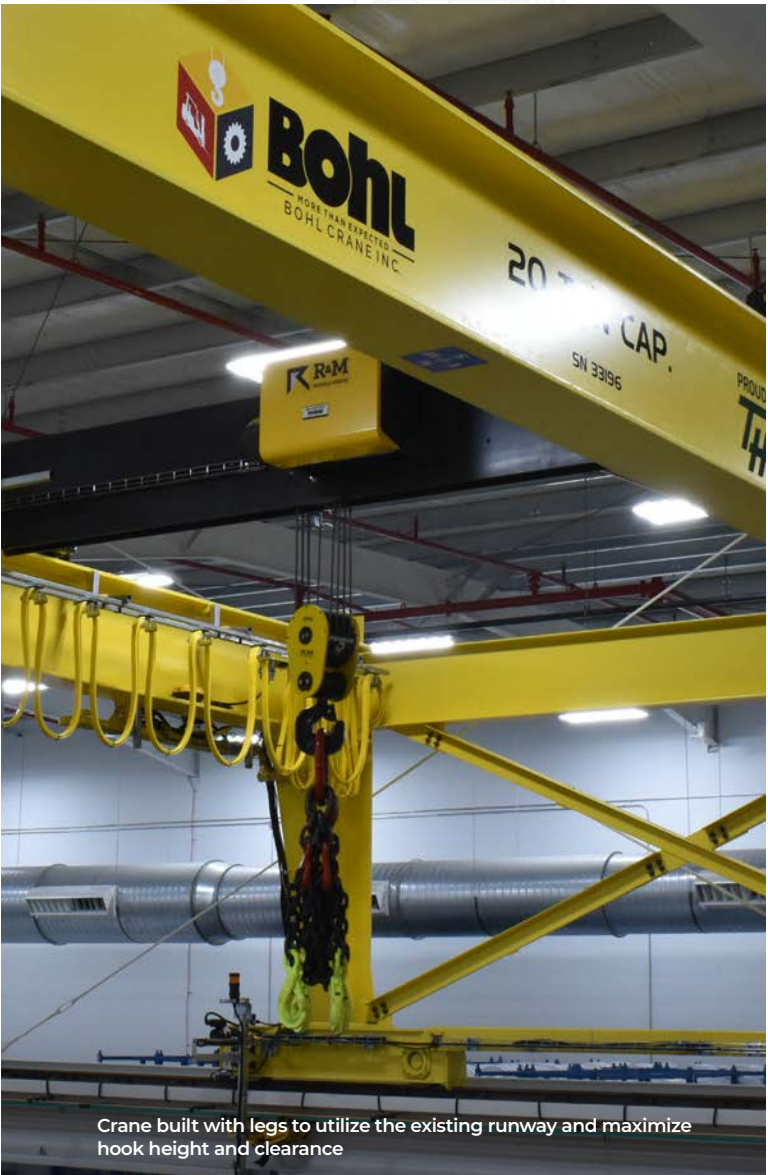
Heavy-duty wire rope is recommended when the hoist is used at constant near capacity and has a high duty cycle. Class H trolley motor insulation improves the motor's heating capacity, which is often needed in heavy-duty applications. Another option is to de-rate a larger hoist, effectively reducing the calculated duty cycle for the application. Inverter controlled hoisting also improves the hoist lifetime by reducing wear to the rope and hoist brake, while also offering improved operator safety and performance.

RECONFIGURING EXISTING BUILDING SPACES



Space Optimization

R&M's proprietary design software utilizes your building's existing dimensions to optimize the hook height and overhead clearance of the crane. The low headroom Spacemaster SX hoist's unique drum design also helps to improve trolley end approach. This customized approach to crane design means improved floor coverage and a maximized space within the building envelope.



Crane built with legs to utilize the existing runway and maximize hook height and clearance

Flexible Trolley Configurations

A variety of specialty designs are available as an alternative to our standard normal and double girder trolley options. Normal headroom trolleys can be turned 90 degrees or provided as a lug mount connection to accommodate space requirements. Double girder trolleys are also available in both high and low connection types, with a wide range of trolley gauges to accommodate the replacement of older hoists and trolleys, which were often larger in size. Our flexible trolley gauge hoist allows for quick delivery of replacement double girder hoists with custom gauges.

Gantry and Stooled Up Cranes

Gantry cranes offer flexible configurations that allow them to be used in multiple areas. Whether double-legged or single-legged, gantry cranes can be used for a wide range of capacities and lifts. They are ideal for moving heavy loads to and from different areas, such as from room to room or indoors to outdoors. In cases where an existing runway is being re-used for a new crane, a stooled up design employs many of the same design principles as a gantry, while maximizing headroom and lifting capabilities on the existing runway.



RISE ABOVE WITH R&M MATERIALS HANDLING, INC.

At R&M Materials Handling, Inc., we want to ensure you get exactly what you need for your application and industry. Our goal is to deliver products that exceed expectations. We leverage our 90 years of experience to ensure your hoist has all the functionality you need.

R&M Materials Handling, Inc. may alter or amend the technical specifications identified herein at any time with or without notice.
R&M Materials Handling, Inc. is a proud member of the following organizations:



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