



1. Product Name

■ NOVA OmniLock™ Vehicle Restraint

2. Manufacturer

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3. Product Description

General Description

The NOVA OmniLock™ is a rotating hook-style vehicle restraint featuring an innovative patent-pending design to release RIG Wedge. RIG Wedge occurs when a trailer is pushed forward during loading or unloading, applying excessive pressure to the restraint's hook from the trailer's Rear Impact Guard (RIG). As a result the truck driver must reverse the trailer to release the restraint. The newly designed hook operating mechanism allows the restraint to overcome RIG Wedge by relieving pressure on the hook when it disengages from the trailer's rear impact guard, allowing the hook to rotate down. The OmniLock™ also utilizes a secondary engagement zone to securely restrain RIGs with plates, including Intermodal chassis.

Its spring-loaded housing lowers with truck contact, positions the unit with the RIG bar and automatically adjusts to trailer float. The roller slope extension decreases the resistance of carriage travel while it adjusts to the height of the RIG and features a wheel that effortlessly rolls over the pavement to prevent marks/gouges on the dock approach pavement.

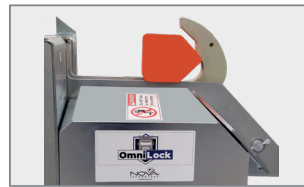
The OmniLock™ has a vertical engagement range of 9 to 31-inches (220 to 787-millimeters) and mounts to the dock face above ground level to stay clear of accumulated precipitation and debris. Its elevated installation protects it from the elements, along with watertight connectors and zinc plating for added corrosion resistance.



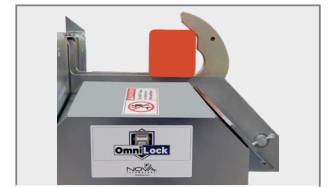
Secures RIG bars with plates, including Intermodal chassis



Secures 4 1/2" Reinforced RIG bars



Secures Pentagonal RIG bars



Secures Stanard RIG bars

Operation

As the trailer backs into position, the RIG contacts the spring-loaded steel housing, which rides down in its track and allows the RIG to move over the top of the housing. The dock attendant pushes the **RESTRAIN** button, which activates the hook to secure the trailer to the dock. The rotating hook can withstand a pull-away force of over 32,000-pounds. The OmniLock™ restraint maintains contact with the RIG and adjusts automatically with trailer float motion to ensure proper engagement at all times. After service is complete, the dock attendant pushes the **RELEASE** button. In the event a trailer's RIG is missing or damaged, the OmniLock™ will communicate a fault condition and auto-store the floating hook. An audible alarm and flashing red light alert the operator when a trailer has not been properly secured. The operator may then override the fault condition and secure the trailer by other means. The communication system automatically adjusts to reflect the current operational mode.

Structural

The Hook can withstand a pull-away force of over 32,000-pounds. It is made from A514 Grade B steel and is driven with a 1 1/4-inch diameter shaft made from cold-rolled 1008 steel. The carriage side plates are constructed from abrasion-resistant 200F steel for maximum defense against wear from contact and friction with the RIG. The 1 1/4-inch diameter carriage axles and 2 5/16-inch diameter rollers are both made from cold-rolled 1045 steel. The roller track is formed out of ASTM A572 Grade 50 steel into a 6 3/8 x 3-inch channel with 7/8-inch flanges. The roller track is attached to the dock face with 15 heavy-duty sleeve anchors that each measure 5/8 x 4-inch long.

Electrical

All operator controls are mounted in a control panel that remains fully operational at all times. A specially engineered electric motor and sensor system are enclosed in a steel housing. Electrical components and wiring are UL Listed® or Recognized®. The OmniLock™ requires a power source of 110/115 volt single-phase with a 15 amp service circuit.

NOTE: Unless specified on quotation, NOVA Technology will not provide any conduit, disconnects, junction boxes or other electrical components.

Communication System

Outside Signal Lights: constant flashing red or green LED lights with signs instruct the truck driver when it is safe to back into or pull away from the loading dock.

Control Box LED Signal Lights: constant flashing red or green LED lights with signs inform the dock attendant when it is safe to perform loading/unloading operations.

Audible Alarm: in addition to the flashing red light and automatically storing the hook, the interior alarm warns the dock attendant when a RIG has not been properly engaged.

Horn Override: the customizable keypad allows authorized personnel to override the restraint using a programmable password. This causes the inside red and green lights to flash simultaneously while the outside red light flashes. Other products that interface with the restraint through either an interlock or combination control box are able to be operated as normal.

LED Lights: standard LED lights provide longevity and reduce electrical power consumption.

Features and Benefits

- Hook design enables the restraint to overcome "RIG Wedge" by relieving pressure on the hook from the RIG as it disengages
- Secondary engagement mode safely and effectively restrains RIGs with plates including Intermodal chassis
- Secures all standard RIG bars, including rectangular, pentagonal, 4 1/2" reinforced RIG bars, and RIG bars with



- plates, including Intermodal chassis
- Hook is rotationally upward biased and will continuously secure the RIG when a trailer shifts while restrained, even if power is lost
- Hook extends when releasing to ensure proper disengagement from the docked trailer even when "RIG Wedge" occurs
- Automatically resets hook if the trailer is not properly restrained
- PLC-based control box provides maintenance
- Roller slope extension eliminates gouging and marking on the dock approach surface
- Compatible with interlock and combination control boxes to integrate with doors, gates, and levelers
- Standard bypass/override is password-protected for use by authorized personnel only
- Over 32,000-pounds of restraining force
- LED inside and outside light communication package
- Interior and exterior signage
- Low-profile carriage with an engagement range of 9 to 31-inches
- Zinc-plated track and housing provides high corrosion resistance
- The motor is IP67 compliant
- Easy drop-in design enables use in all lock & load style roller tracks (survey required)

Optional Features

- IntelliDock Combination control box
- Open dock stanchion for control box
- Articulated slope extension
- Projection brackets and reinforcing plates
- Green light interlock with leveler, door, or gate
- Password protected hook release

4. Technical Data

Applicable Standards

American National Standards Institute (ANSI)

- ANSI MH30.3—Vehicle Restraining Devices Safety, Performance and Testing
- ANSI Z535.1—Safety Color Code
- ANSI Z535.3—Criteria for Safety Symbols
- ANSI Z535.4—Product Safety Signs and Labels

American Society for Testing Materials (ASTM)

- ASTM A6/A6M—Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes and Sheet Piling
- ASTM A36/A36M—Standard Specification for Carbon Structural Steel
- ASTM A370—Standard Test Methods and Definitions for Mechanical Testing of Steel Products
- ASTM B117—Standard Practice for Operating Salt Spray (Fog) Apparatus
- ASTM D4950—Standard Classification and Specification of Automotive Service Greases

American Welding Society (AWS)

- AWS D1.1—Structural Welding Code, Steel

Federal Motor Vehicle Safety Standards and Regulations (FMVSS)

- FMVSS 223—Laboratory Test Procedure for FMVSS 223 Rear Impact Guards
- FMVSS 224—Rear Impact Protection

National Electrical Manufacturers Association (NEMA)

- NEMA 250—Enclosures for Electrical Equipment (1000 Volts Maximum)

National Fire Protection Association (NFPA)

- NFPA 70—National Electric Code (NEC)
- NFPA 79—Electrical Standard for Industrial Machinery

Underwriters Laboratories, Inc. (UL)

- UL 508 A—Standard for Industrial Control Panel

Environmental Considerations

NOVA Technology uses environmentally-friendly material in its packaging where available.

5. Installation

Product installation instructions are available online at www.novalocks.com.

6. Availability & Cost

Availability

NOVA Technology products and services are sold entirely through the NOVA nationwide dealer network.

For a dealer in your area, routine service, preventative maintenance, product questions, or to request a quote, contact NOVA Technology.

Cost

Pricing information may be obtained from an authorized NOVA dealer.

7. Warranty

In addition to the Standard Product Warranty provided with all NOVA Products, NOVA Technology guarantees materials, components and workmanship to be free of defects for the following extended periods, provided the purchaser maintains and operates the Omni-Lock™ in accordance with the Owner's Manual:

- **Extended Two Year General Warranty**—for a period of two (2) years from date of shipment, this warranty only applies to the roller track assembly, carriage assembly and control box
- **Extended Five Year Structural Warranty**—for a period of five (5) years from date of shipment, product will carry a prorated structural warranty. This warranty only applies to the roller track, carriage weldment, chain cover, floating hook and lower spring bar

8. Maintenance

Product maintenance and operation are specific to product types and are available online at www.novalocks.com.

9. Technical Services

Technical assistance, including more detailed information, product literature, test results, project lists, or assistance in preparing project specifications, is available by contacting NOVA Technology.

10. Filing Systems

- Additional product information is available upon request.

NOVA Technology engages in ongoing product development and reserves the right to make changes and improvements to any of the products described in this document without prior notice.