1. Product Name

■ NOVA Truck Lock™ Low Profile—Flange Style

2. Manufacturer

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3. Product Description

General Description

The NOVA Truck Lock vehicle restraint keeps dock operations safe and secure during loading and unloading. Trucks and trailers are held firmly in place by a high-visibility barrier-style ram bar which can withstand a pullout force of over 30,000 pounds to prevent accidental separation from the loading dock during the cargo handling process. The 7½ inch version is the lowest stored height of any restraint in the industry, allowing service to a wider range of truck types.

The "Bolt-In" (Flange) Style housing is designed to be anchored to the concrete drive—not attached to the dock wall. This will provide years of trouble free service without any damage to the building. The zinc plated housing is completely self-contained and is designed to handle the harshest of loading dock environments. This style allows for easier movement to other dock positions in the event of required location changes.

Operation

After the truck/trailer backs into position against the dock bumpers, the dock attendant switches the Truck Lock to the **RESTRAIN** position activating the restraint. The outside light turns red and inside light turns green, and after verifying the ram bar is above the RIG (Rear Impact Guard), the attendant may enter the trailer. When the attendant has completed the loading/unloading process, switch the Truck Lock to the **RELEASE** position deactivating the restraint and lowering the ram bar. The outside light turns green and inside light turns red.

Activation System

The restraint is activated by turning a switch or moving a slide bar on the control console to the **RESTRAIN** position. Ram bar is raised by a high strength nylon coated stainless steel aircraft grade cable and guided over heavy duty pulleys with shielded bearings. The switch controls a pneumatic cylinder that actuates the cable and is located inside the building within a powder coated steel enclosure. The mechanical version uses a slide bar located inside the building within a powder coated steel enclosure to actuate the cable. The powered system requires air be supplied from plant system or by small compressor. Air must be minimum of 80 psi and maximum of 130 psi. Air must be dry and clean. Air usage is approximately 0.020 cubic feet per operation. Duration of normal power stroke is about two seconds.

Structural

The housing is constructed from ASTM A-500 Grade B rectangular steel tubing, 6 × 3 × ¼ inches thick, capped with ram sheath cast of 55,000 psi minimum yield strength steel and fully welded to the housing tube. Half-inch thick truck side gussets composed of 36,000 psi minimum yield steel is welded to and reinforces the housing tube and ram sheath.

The housing and gussets are welded to a 25 inches long × 16 inches wide, tapering to 9¼ inches wide × $\frac{3}{8}$ inch thick base plate of 36,000 psi minimum yield strength steel. The ram bar vertical barrier is made from $4\frac{5}{16}$ inches wide × 1 inch thick ASTM A514 Grade B plate with a minimum yield strength of 100,000 psi. The housing is embedded into the approach with seven (7) $\frac{5}{8}$ inch × 5 inches long heavy duty hex head anchor screws.

Electrical

The control box comes with a 6-foot power cord factory installed.

The drop cord can be plugged into any 120VAC 60Hz outlet and only draws 0.5 amps. All components are UL listed or recognized for industrial use. All LED lights (interior and exterior) operate on a 12V circuit. A qualified electrician is not required to install a Truck Lock as they are considered low voltage, however, always follow local ordinances and codes to determine actual site requirements.

Communication System

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

Inside: constant flashing red or green LED lights with signs help the dock attendant know when it is safe to perform loading/unloading operations.

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

Audible Alarm Override: a push-button allows personnel to override the audible alarm. When the audible alarm is in override the inside red and green lights continue to flash simultaneously while the outside light flashes red and the audible alarm is silenced.

LED Lights: standard LED lights provide long life and reduced electrical power consumption.

Safety Features

- Full communication package with signage and inside/outside red/green LED lights in opposing mode
- Audible alarm built into the control panel alerts the dock attendant to potentially unsafe conditions

Standard Features

- 7½ inch retracted height for use with lift gates and steep decline approach
- Non-impact design
- Manual or powered versions
- LED inside and outside light communication package
- Can withstand over 30,000 pounds of pullout force
- Ram bar yield strength of 100,000 psi
- Zinc-plated
- All activation components mounted inside the building
- Low maintenance design, very few moving parts
- Installs at more nontraditional dock types
- Small foot print
- Versatility in handling a larger variety of trucks
- Flange mount design can be relocated

Optional Features

- Compressor/wall bracket
- Truck sensor
- Interconnect with leveler or door
- Interlock with leveler or door
- Open dock stanchion
- Metal building mount kit
- Swivel brackets

Benefits

- Powered or manual versions
- Highly visible inside/outside light communication
- Restraint raises above RIG
- Ram bar yield stength of 100,000 psi
- Can withstand over 30,000 pounds of pullout force
- Zinc-plated finish provides exceptional corrosion resistance
- Flood proof design
- Low energy consumption
- 7½" retracted height is the lowest stored restraint in the industry, allowing service to a wider range of truck types
- All activation components inside building—no expensive motors or switches outside subjected to the harsh environment
- Restraint will remain in position and can be released normally in the event of a loss of electricity
- Environmentally friendly biodegradable fluid provides lubrication and prevents freezing under normal conditions

Accessories

Compressor

Use as an alternative to plant air or where plant air is not available. Compressor can operate up to 15 locks within a 300 feet maximum distance. Oil-less and maintenance free.

Concrete Hole Form—New Construction

Place the hole form in correct position prior to pouring concrete for the approach. Ten-inch diameter form has 12-inch sections.

Console Support—Metal Building

Use in a non-structural area of metal building wall. Anchors to floor for optimal placement.

Console Support—Open Dock (Stanchion) Kit

Use where there are no walls to attach console. Mounts to edge of dock face.

Interconnect—Dock Door or Leveler

Restraint can be operated normally or interconnected to a dock leveler or door. Set the Truck Lock operating switch on the control box to auto. The ram bar then automatically raises and lowers when the door opens or closes, or as soon as the lip on the dock leveler raises or lowers. Dealer must specify type required—dock door or leveler—switch plate and wiring is different for each.

Interlock—Dock Door or Leveler

Cuts power to an overhead door or powered leveler. Until ram bar is raised, the door or dock leveler cannot be operated. Once restraint is raised (ram bar up and inside green light is on), a relay inside the restraint control box is energized, restoring power to the dock door or leveler.

Rebar Installation Kit

Use when installing lock in asphalt or other non-concrete approaches.

Sensor Switch Kit

When the RIG activates the sensor wand, a flashing blue light on the control box indicates a truck is present. Once the truck is restrained, the blue indicator light and a green indicator light become steady, indicating that the truck is safe to load/unload.

Swivel Brackets

Use to guide Truck Lock cabling around corners or up curb on the dock wall. Multiple configurations can be used in a variety of combinations:

- Upper Pulley Swivel Bracket 41-3-912
- Lower Pulley Swivel Bracket 41-3-908
- 180° to 270° Swivel Bracket 41-3-903
- 90° to 180° Swivel Bracket 41-3-906

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 233—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 and 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:

Extended Two-Year General Warranty—for a period of two (2) years from date of shipment, this warranty specifically applies to; the ram housing assembly, console assembly, pulleys and brackets and control box only.

Extended Ten-Year Structural Warranty—for a period of ten (10) years from date of shipment, product will carry a prorated structural warranty. This warranty specifically applies to; the ram bar, ram housing, housing cover and console cover only.

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

- ARCAT®
- Additional product information is available from the manufacturer upon request