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 that can withstand a pullout force of over 30,000-pounds to prevent accidental separation from the loading dock. The 7 1/2-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 into the concrete drive. This installation method provides years of trouble-free service without any damage to the building, unlike other restraints that attach to the dock wall. This style also allows for easier movement to other dock positions in the event of required location changes. The zinc-plated housing is completely self-contained and is designed to handle the harshest loading dock environments.

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 the 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 the 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. The ram bar is raised by a high-strength, nylon-coated, aircraft-grade stainless steel 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. Powered operations require air from a plant system or small compressor. Air must be dry, clean and at a minimum of 80 PSI and maximum of 130 PSI. Air usage is approximately 0.02-cubic-feet per operation. The duration of a normal power stroke is about two seconds.

Structural

The vertical ram bar is made from 4 5/16-inch wide by 1-inch thick ASTM A-514 Grade B plate with minimum yield strength of 100,000 PSI. The housing is constructed from 6 x 3 x 1/4-inch ASTM A500 Grade B rectangular steel tubing, capped with a ram sheath cast of 55,000 PSI minimum yield strength steel and fully welded to the housing tube. Half-inch thick gussets made from 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-inch long x 16-inch wide (tapers to 9 1/4-inch wide) x 3/8-inch thick base plate of 36,000 PSI minimum yield strength steel. The housing is embedded into the approach with seven heavy-duty 5/8 x 5-inch long hex head anchor screws.

Electrical

The control box comes with factory-installed, 6-foot power cord. 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 24V 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, the interior alarm warns the dock attendant a fault condition is present and if the vertical barrier is unable to fully extend to engage the RIG.

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 reduce 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

- Lifetime warranty - longest warranty in the industry
- 7 1/2-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 footprint
- Versatility in handling a larger variety of trucks
- Flange mount design can be relocated

Optional Features

- Compressor/wall bracket
- IntelliDock Combination control box (powered versions only)
- 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
- 7 1/2-inch retracted height is the lowest stored restraint in the industry, allowing service to a wider range of truck types
- All activation components are mounted inside the building and protected from harsh environments/weather
- 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

Oil-free air compressor requires little to no maintenance and can operate up to 15 vehicle restraints within 300-feet.

Concrete Hole Form—New Construction

For new constructions, a hole form can be positioned prior to pouring the concrete for the dock approach. The 10-inch diameter form comes in 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.

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.

Sensor Switch Kit

When the RIG activates the sensor wand, a flashing red light on the control box indicates a truck is present. Once the truck is restrained, the red 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 INTERNATIONAL, LLC expressly warrants materials, components and workmanship to be free of defects for the following extended periods, provided the purchaser maintains and operates the Truck Lock™ in accordance with the Owner's Manual:

- **Extended 5-Year General Warranty**—for a period of five (5) years from the date of shipment, this warranty specifically applies to the control box only.
- **Extended Limited Lifetime General Warranty**— the Lifetime Warranty applies for the duration of time in which the original purchaser of the Truck Lock™ owns the building or structure at which the Truck Lock™ is installed in its original location. This warranty specifically applies to the ram housing assembly, ram bar, housing cover, console assembly, pulleys, cable and brackets 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

■ 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.