



## 1. Product Name

- NOVA NHS Series Hydraulic Dock Leveler  
(45,000–100,000 pounds)

## 2. Manufacturer

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## 3. Product Description

### General Description

NOVA's NHS Series Premium Hydraulic Dock Levelers incorporate the use of hydraulics to raise and lower both the platform and lip. A single push-button activates a hydraulic pump for operating both the leveler platform and lip cylinders. Unit conforms to OSHA, U.S. Department of Commerce Standard CS-202-56 and is manufactured in compliance with the American National Standard of Safety Performance and Testing of Dock Leveling Devices (ANSI) MH 30.1.

### Operation

The push-button is depressed and held activating the hydraulic system that lifts the deck from a stored position. When the deck reaches the fully elevated position, the lip cylinder is activated extending the lip assembly. The attendant releases the push-button when the lip is fully extended and the deck descends to the trailer bed. The lip will rest on the trailer bed and the deck will float with the trailer (12 inches above/below dock operating range). After loading/unloading is complete, the attendant depresses the push-button lifting the leveler from the trailer bed. The push-button is held until the lip falls pendant and then released allowing the leveler to rest in the lip keepers.



### Structural

The platform is constructed of ¼ inch thick four-way high tensile 50,000 minimum yield A572 safety tread plate for 45,000, 55,000 and 75,000 pound Comparative Industry Rating (CIR) capacity units. The 100,000 pound CIR unit is ⅜ inch thick safety tread plate of same specification.

Platforms are reinforced and supported by full length 6 inch-high structural channels for 45,000 pound CIR, 6 inches structural channel and I-beam for 55,000 pound CIR and 8 inches structural channel and I-beam for 75,000 and 100,000 pound CIR units—welded to the deck and front and rear header for firm structural support. Front and rear header plates are ½ inch thick × 7 inches high hot rolled steel for the 45,000 pound and 55,000 pound CIR units and 8 inches high for the 75,000 pound and 100,000 pound CIR units.

NHS series lips are four-way safety tread plate. The 45,000 pound and 55,000 pound CIR are ⅝ inch thick, the 75,000 CIR unit is ¾ inch thick and the 100,000 pound CIR is 1 inch thick. The standard lip length is 16 inches on the 45,000 pound and 55,000 pound CIR capacities and 18 inches on the 75,000 pound and 100,000 pound CIR capacities. Hinge tubes are 2⅛ inches OD × ½ inch wall, 2⅝ inches OD × ¾ inch wall or 3⅛ inches OD × 1 inch wall depending on CIR. All lip hinge pins are 1 inch diameter M1044 steel. Steel header gussets are standard on all NHS Series models. All units have grease fittings as standard. All platforms are designed to compensate for up to 4 inches of canted trailer bed.

### Hydraulics

The platform is raised by a main hydraulic cylinder; all hydraulic hoses are routed under the leveler platform, away from debris. The ramp cylinder is a hard chrome-plated

double acting design with a 3-inch bore for 45,000 pound and 55,000 pound CIR units, a 4-inch bore for 75,000 CIR units, and two 4-inch bore cylinders for the 100,000 CIR units. The main cylinder is equipped with a velocity safety stop to limit free fall of a loaded platform to 3 inches. Lip operation is controlled by a hard chrome plated cylinder having a 2-inch bore and is fully yieldable. The motor pump is mounted up for easy access and to clear debris in pit and includes a translucent reservoir for monitoring fluid level.

### Electrical

The hydraulic power unit motor is a 1.25 HP TENV at 120V or 208V single phase or 208V, 230V, 460V, or 575V three-phase. The electrical control panel is NEMA 12 enclosure. All electrical components, connections and wiring are UL listed or recognized.

### Safety Features

A velocity fuse limits the unit to a 1–3-inch drop in a fully loaded free fall situation. Full range telescoping toe guards close off sides even in highest upward position. Built-in maintenance inspection strut that is lockout/tagout compliant is included. Lip keepers are cross-traffic support and serve as automatic night lock security against theft.

### Color

Levelers are painted gray.

### Dock Bumpers

Two laminated 4-inch 1014 bumpers are standard on the 45,000 and 55,000 pound CIR units. Laminated, 6-inch 1014 bumpers are standard on the 75,000 and 100,000 pound CIR units.

### Standard Features

- 1¼ HP frame-mounted single- or three-phase motor
- Full-range telescoping toe guards
- Night locks, cross-traffic support
- Integral tamper-proof velocity safety stop
- 16-inch yieldable lip (45,000 and 55,000 pound units)
- 18-inch yieldable lip (75,000 and 100,000 pound units)
- Easy clean frame design
- Below dock end load capability
- Positive lip extension and retraction with true regenerative hydraulic control
- NEMA 12 panel
- Two 4-inch 1014 laminated bumpers (6-inch 1014 on 75,000 and 100,000 pound units)
- Structural steel support members

### Optional Features

- Rubber weather seal

- Brush weather seal
- V-112 bumpers
- B-610-14 bumpers (standard on 75,000 and 100,000 pound units)
- Three-wheel support
- 18-inch lip (standard on 75,000 and 100,000 pound units)
- 20-inch lip
- 5-inch barrier lip
- 24-inch riser kit (24-inch pit depth is standard on all 10-foot long levelers and 75,000 and 100,000 pound units)
- Wash down
- 2-inch foam insulation
- Auto-return to dock
- E-stop/independent lip
- NEMA 4 (push-button box)
- Spray metalized
- Control box stanchion
- Cut down leveler length or width
- Stainless steel pins and lip rods
- Steel pan: 4-sided
- Quick pit: 3-sided

### Benefits

- Easy push-button operation for smooth, consistent operation with a hydraulic system that provides for full float at all positions
- Positive lip extension and retraction with true regenerative hydraulic control
- Below dock end load capability
- Full width rear hinge mounted in compression with structural channel support
- Structural C- and I-beam deck supports
- Velocity fuse hydraulic fail safe stops platform with 1–3-inch in free fall situation
- Integral maintenance strut is lockout/tagout compliant
- Subframe design allows for easy quick pit clean out

### Recommended Safety Equipment for Dock Levelers

NOVA Truck Lock and Lock & Load vehicle restraint systems help prevent unexpected trailer departure from the loading dock and minimize trailer creep during the loading/unloading process.

## 4. Technical Data

### Applicable Standards

American National Standards Institute (ANSI)

- ANSI MH30.1-2007—For the Safety, Performance and Testing of Dock Leveling Devices
- 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 A786/A786M—Standard Specification for Hot-Rolled Carbon, Low-Alloy, High-Strength Low-Alloy and Alloy Steel Floor Plates
- ASTM D4950—Standard Classification and Specification of Automotive Service Greases

#### American Welding Society (AWS)

- AWS D1.1—Structural Welding Code—Steel

#### Military Standards (MIL)

- MIL-L-5606—Performance Specification: Hydraulic Fluid, Petroleum Base; Aircraft, Missile and Ordnance

#### 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

#### Society of Automotive Engineers (SAE)

- SAE J514—Metallic Tube Connections for Fluid Power and General Use

#### 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

Unit shipped completely assembled and ready for installation in preformed concrete pit. Pit construction to be in accordance with certified NOVA pit detail drawings.

## 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 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:

**Structural Warranty** (for Levelers with rated capacity of  $\geq$  45,000 pounds CIR)—for a period of five years from the date of shipment, this warranty specifically applies to; the deck section, lip section, frame, rear hinge assembly and front hinge assembly only.

**Hydraulic Warranty** (for Levelers with rated capacity of  $\geq$  45,000 pounds CIR)—for a period of five years from the date of shipment, this warranty specifically applies to; the hydraulic pump and motor, all hydraulic cylinders, hydraulic pressure lines and fittings only.

Complete warranty terms and conditions are available online at [www.novalocks.com](http://www.novalocks.com).

## 8. Maintenance

Regular maintenance must be performed on a weekly and quarterly schedule. Complete Owner's/User's manual is available at [www.novalocks.com](http://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