HSD Series
Rail Dock Leveler
Four Movement Hydraulic Telescopic Dock Leveler

ARCHITECTURAL SPECIFICATIONS

GENERAL
HSD series Dock levelers are available in ONE Heavy duty style.

- HSD Series - Four Movement with Telescopic Ramp Platform

DESCRIPTION
Adjustable hydraulic dock leveler with four movements:
(1) Up, (2) Down, (3) Forward, (4) Reverse. Dock leveler to be _____ ft. long x _____ ft. wide with a rollover capacity of ______ lbs. Platform to extend horizontally ______ in. and have 24’ vertical travel. Platform to be solid and able to compensate for canted railroad cars up to (4”), and constructed of floor plate reinforced by split box beams, with 3/4” 55,000 yield strength fixed lip. Dock leveler shall be complete with 2 HP, 5.8 GPM electro-hydraulic power unit and 3 1/4” ID double acting hydraulic cylinders. Dock leveler to be equipped with full range safety skirts, hydraulic velocity fuse, cross traffic/maintenance safety support legs. Dock leveler to meet or exceed OSHA requirements, ANSI MH 30.1-1993 and CS 202-56 specs. To be Beacon Model ____________ as sold by Beacon Machinery, Inc.

SCOPE
The Beacon HSD Series Levelers are designed for docks that service incoming or outgoing box cars, flat bed cars and refrigerator railroad cars. These levelers are designed to extend out toward the railroad car.

The HSD Series 100% hydraulically adjustable dock levelers have four movements:
1-UP; 2-DOWN; 3-FORWARD; 4-REVERSE
Size and movements are nominal dimensions.

Total control of all movements is achieved with the use of clearly marked switches and pushbuttons. The standard models are capable of a working range of 12” above and 12” below the level position. The platform extends 42” beyond the dock face. This long extension allows the HSD Series Leveler to take the place of dangerous and cumbersome dock plates. HSD Series Levelers have a side safety curb to provide forklift run off. The platform of the HSD Series is solid and can compensate up to 4 inches for out-of-level railroad car beds. The platform resists break-in attempts through dock areas.

DIMENSIONS

MODEL DL. WTH DL. LNG DL. HGT PIT. WTH PIT. LNG PIT. HGT
HSD26OX 72” 10’ 32” 74” 10’ 32.5”
HSD26OX3 217” 10’ 32” 219” 10’ 32.5”

CAPACITY - All models are available in 20, 30, 40, 50 and 60,000 lb. rollover capacities.

OPERATION

Controls
There are four controllable movements for the dock leveler. These movements are controlled by means of the control switches which are mounted near the dock leveler. There are four switches on the control panel as follows.

3 RAMP CONTROL STATION

"Ramp 1/Off-On" - This is a two position rotary switch. This switch activates or deactivates the leveler on the operator’s left.

"Ramp 2/Off-On" - This switch turns the middle leveler off or on.

"Ramp 3/Off-On" - This switch turns the right hand leveler off or on.

The above switches are used to activate only the levelers needed to load a railcar, use two levelers for a 12’ door and three levelers for a 20’ door.

"Up/Down" - This is a three position rotary switch, it is spring centered from "Up", on the left, to "Off", in the middle. It is detented at "Down", on the right. The dock leveler will move up when this switch is turned to the left and held there. The dock will stop its upward travel when the handle is released. It will move downward only when the handle is turned to the right. If the switch is left in this position the dockboard will “float” with the rail car bed.

"Forward" - This is a constant pressure pushbutton. Contact is made when the button is pushed in and held. The slide deck will move forward or extend when this button is used.

"Reverse" - This is also a constant pressure pushbutton. Contact is made when the button is pushed in and held. The slide deck will move in reverse and retract when this button is used.

"Emerg. Stop" - This is a push-pull type pushbutton. When the button is pushed in, all power to the leveler is cut off and the dockboard will stop in any travel mode. Only when the button is pulled out will the unit operate normally.

Loading/Unloading - The dock leveler should always be in the retracted position and resting on the support legs when not in use. After a rail car is pulled into position and its doors opened, the operation is as follows:

1. "Up/Down" - Move platform up to dock level.
2. "Forward" - Move platform forward to meet car.
3. "Revers" - Move platform reverse to clear car.
4. "Up/Down" - Move platform up to dock level.

Loading/Unloading - Ramp levelers are used to load railcars. Levelers are designed to extend out toward the railroad car.
1. Raise leveler a few inches higher than the floor of the car.

2. Extend the leveler until the angle guide under the lip is in position against railcar.

3. Levelers are then lowered until outer lip end rests on door sill. At this point the ramp will continually rest on the door sill, moving up or down with the railroad car as long as the control switch is switched to the "down" position.

4. When the loading/unloading operation is complete, raise the ramp to maximum position, retract totally and then lower to the floor level position and support legs are seated on the pads.

The ramp shall be designed to perform the required functions (raise, lower, extend, retract). The surface of the ramp platform and extension shall be of non-skid steel floor plate sufficiently rigid to accommodate the rated capacity. The dock ramp shall be a packaged type, completely assembled unit with all components and load bearing structural members within its own steel frame, requiring only anchoring in position and electrical connections.

**CONSTRUCTION**

The HSD Series platform is made up of a rear deck and a sliding deck. The rear deck is attached at the rear of the frame and the sliding deck moves inside the rear deck to extend out to the railroad car.

On our 20,000 lb. rollover, the rear deck is constructed of 3/8" thick steel treadplate reinforced with welded composite beams and the sliding deck is constructed of 1/4" thick steel treadplate reinforced with welded composite beams.

The extension will have 5/8" thick safety curbs the length of the extension. Slots are provided for installation with fork truck.

5/8" threaded holes for lifting eyes, use for installation with overhead crane.

All units come with full range safety skirts.

The surface of the ramp platform and lip shall be of non-skid steel floor plate.

All concrete work by contractor. Pit to be constructed per drawing supplied for each installation. All curb angles by contractor.

**HYDRAULICS**

5.8 gpm pump, three solenoid controlled valves and a pressure relief valve.

The HSD, Series' 7 gallon oil reservoir, with a sight gage and filler-breather cap, is mounted nearby.

Cylinders shall be single/double acting accurately machined.

All levelers have two 3 1/4" I.D. hydraulic lift cylinders with 2" diameter solid hard chrome plated rods.

The HSD Series have 3 1/4" I.D. extension cylinders.

**ELECTRICAL**

The HSD electro-hydraulic power unit is complete with a 2 hp. totally enclosed fan cooled electric motor.

The pushbutton controls are pre-wired and mounted in a fully gasketed, Nema 4X noncorrosive indoor-outdoor enclosure box.

All motors are totally enclosed and fan cooled and are rated at 208/240/440 volts, 3 phase, 60 Hz. Other motor types are available on request.

All provided electrical components, connections and wiring are UL listed, approved or recognized. Motor starter, disconnect switch, transformer, wiring and conduit are not supplied as standard equipment.

**SAFETY EQUIPMENT**

A hydraulic safety fuse is provided to limit loaded platform free fall to 3 inches should a train car separate from the dock.

Mechanical legs on the HSD Series act as safety supports for the platform during maintenance service.

Full range safety skirt toe guards are standard with every leveler.

**PAINT**

Durable polyurethane enamel paint is used on all parts of the leveler. The platforms, toeguards and major moving parts are safety yellow while the frames, hydraulic cylinders and other components are safety blue.

**OWNERS MANUAL**


**LEVELER WARRANTY**

HSD comes with a Limited Warranty-5 Years on structure, 3 Years on hydraulic components and 1 Year on electrical components.