

**NV Mechanics Design Ltd**  
 North Vancouver, BC, Canada  
 Tel: +01 604-250-3375  
[sales@mechanicsdesign.com](mailto:sales@mechanicsdesign.com)  
[www.mechanicsdesign.com](http://www.mechanicsdesign.com)  
[www.winch101.com](http://www.winch101.com)



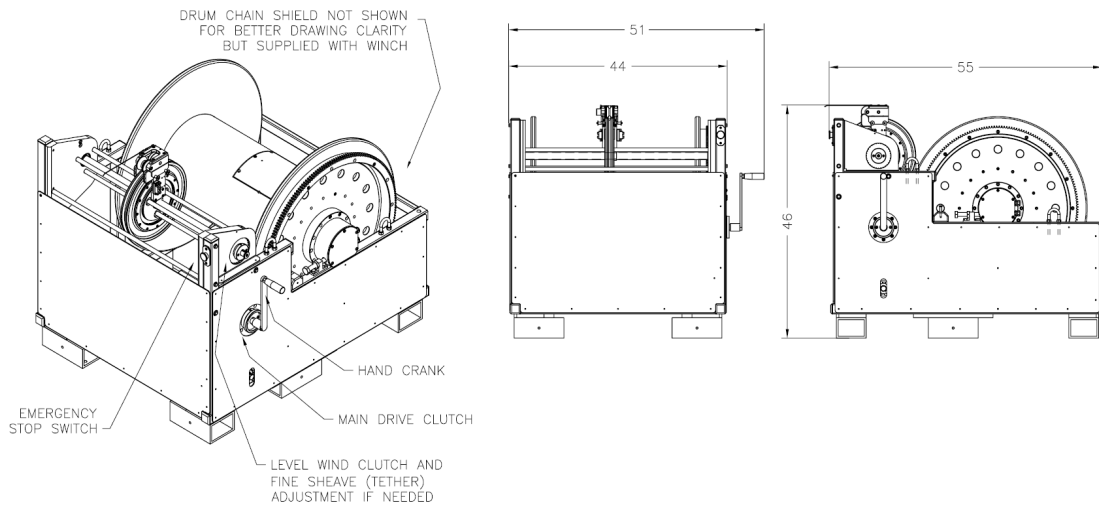
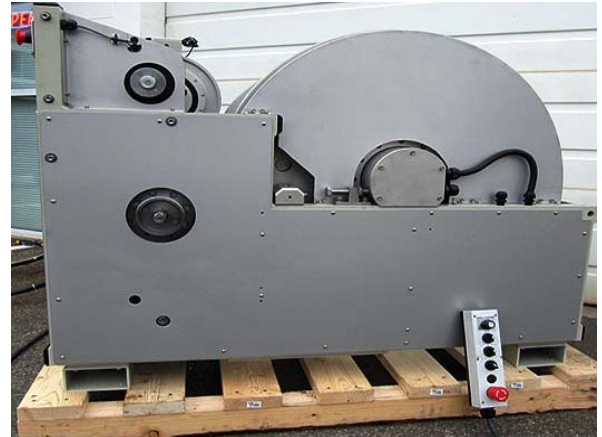
## Instrumentation / Industrial Winches

### Level Wind Retrofit

NV Mechanics Design Ltd. designs and manufactures Wireline / Instrumentation Winches.

We provide a full range of custom-engineered Winch Systems designed to handle up to 15,000 feet of umbilical, adjustable on the fly Level Wind Control so the umbilical can be easily changed based on the application.

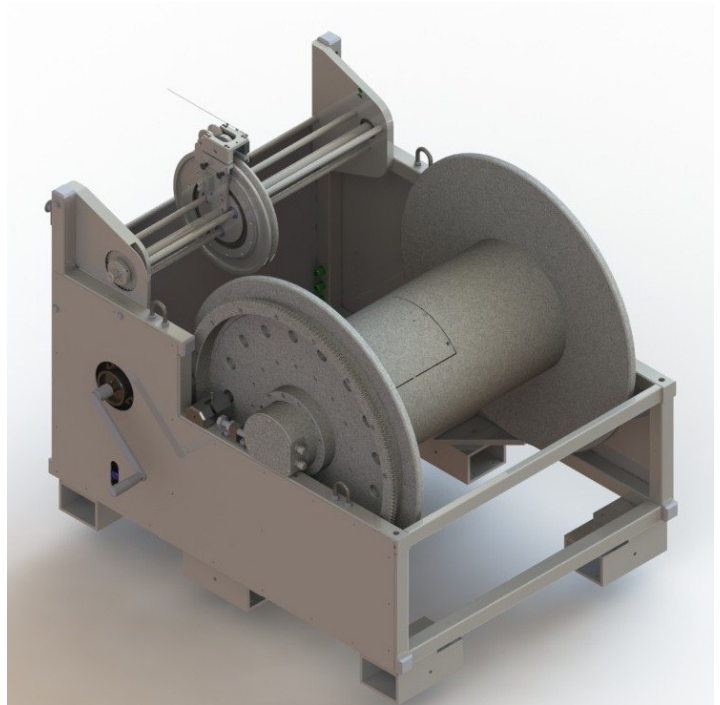
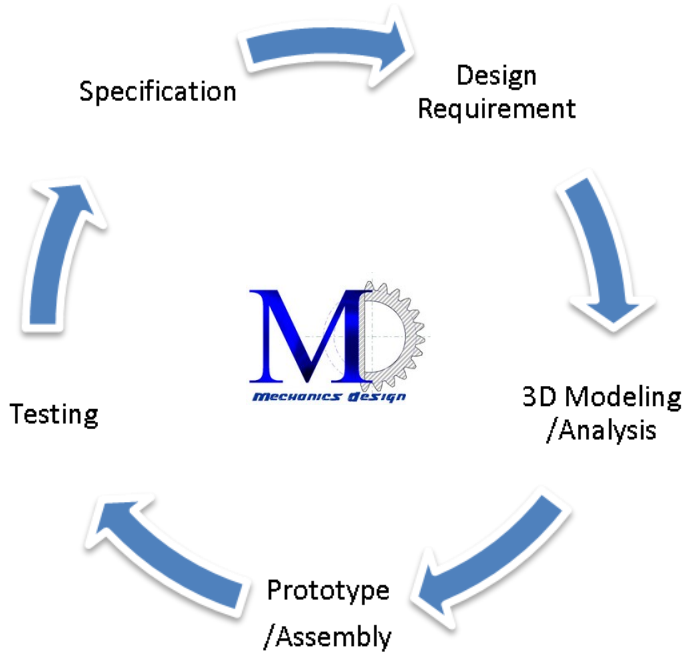
Electrical and Fiber Optical Slip rings are integrated into the system based on customer specifications.



Instrumentation Winch Specifications	
Winch Capacity	Up to 15,000 ft of Umbilical (Electro-Optical)
Length	54"
Width	44"
Height	46"
Weight	350 lbs w/o Umbilical
Umbilical Specifications	Diameter range from 0.1 to 1.25"
Max Pulling Force	1200 at Full Drum
Max Pulling Force	2500 at Empty Drum
Max Drum Speed at Bare Drum	90 - 110 ft/min
Max Drum Speed at Full Drum	160 - 180 ft/min
Drum Diameter	12 to 16" based on min bedding radius
Winch Flanges Diameter	36" (drum with 10,000 wrapped is 34" dia)
Electric Motor Specifications	Baldor Electric Motor 5 HP, 1750 1 or 3 phases 110/230/460 VAC
Controller	IP66/NEMA 4X Baldor VS1MX microdrive

### Design and Manufacturing Services

We can help you design the right winch for your application and to suit your budget and schedule. Custom Control System is available to be integrated with your system - Software, Mechanical, Electrical Integration. Electrical and Fiber Optical Slip rings are integrated into the system based on customer specifications. Complete Technical Documentation will be provided with our Custom Winches.



### Handheld Winch Controller LCD Display

The winches are programmable for starting and stopping of umbilical payout at distances and duration specified by customer. The dial potentiometer on the control panel adjusts the Level Wind advance rate. It is displayed in units of mm per winch turn, and is adjustable between 0 and 25 mm/turn in 0.01 mm steps. The advance rate can be adjusted at any time during the winch operation, and the rate takes effect immediately.



**Automatic Level Wind—Tension and Payout Distance Control**



**Structure**—Welded Aluminum, compact, weigh less and DNV 2.7-3 compliant.  
**Safety** - Winches are safer for both Operators and Equipment, cable is enclosed inside the cover, have 3 (three) E-Stop Buttons, 2 (two) Safety Clutches, Mechanical or Electrical Brakes.



Baldor MICROdrive provides, variable torque, constant torque or constant horsepower and features Volts per Hertz Control with peak overload capacity of 175%.

Integral keypad, operator interface and local speed control with power ratings up to 10 HP in 460V version.

Electrical Slip Rings allows for speeds up to 250 rpm continuous in 6, 12, 18 and 24 ten amp(10A) circuits.

Optical Slip Rings can handle power up to 23 dBm

Connectors types for RPT-FC, SC, ST, SMA or LC(PC and APC)

Estimated Life Cycle—200 to 400 million revolutions

Maximum Speed—2000 rpm

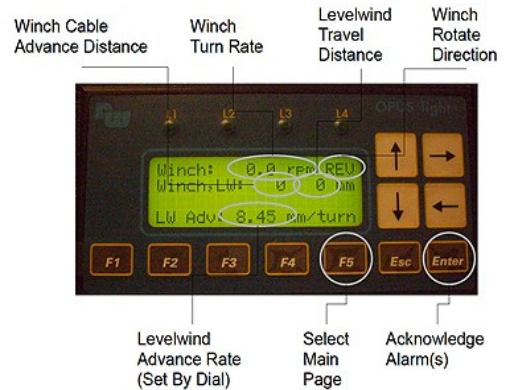
Fiber Optics Types—SM/MM, 3mm Kevlar/PVC Or 2.9mm armor

## Replace Existing Level Wind with an Electronic Controlled Level Wind

It is an add on module to your Existing Winch, requires 110 or 220 VAC and a quadrature encoder to the drum. An Electronic Level Wind will save you a lot of money anytime you have to change the umbilical size or you need Heave Compensation, Tension Control, etc.

### Mechanical Interface

We will retrofit any existing winch regardless of length and size of the drum. Drive Mechanism for the Electronic Level Wind Control is not connected to the Winch Drive, the Sheave diameter will fit any bending radius of Umbilical.



### Wireless Controller

Using a Remote Radio Wireless Transmitter will allow the Winch system to be remotely controlled up to 330ft/100m away. The Receiver is mounted by the Winch and receives signals from the Radio Wireless Transmitter, it is completely waterproof and safe from interference with other equipment.



### Industries Served

Municipal - Pipe and Tunnel Inspections

Oil and Gas - Wireline, Downhole Inspections

Exploration - Drilling Terrestrial/Offshore

Marine Applications - Underwater Surveying Municipal - Pipe and Tunnel Inspections

### Testimonials

*The service is excellent and the personnel at NV Mechanics Design Ltd I work with are Professional Engineers with extensive experience in Subsea, Marine, Tunnel and Pipe Inspection Industry. No request is out of the question and the Electrical Industrial Winch was delivered on time and on budget. Our technical requests on implementing Optical, Electrical Slip rings into a very small envelope, a modular Winch Control System that allows Electronic Level Wind, Load Sensing and Cable Payout measurements were met very successfully. A very responsive team and easy company to work with "*

**James Milward**

Robotics Manager

Pure Technologies Ltd

[www.puretechnologiesltd.c](http://www.puretechnologiesltd.c)