



## RENEWHydro™ Hydraulic Modernization Product Definition

Control Manufacturer(s) / Model(s)	Elevator Controls (Vantage) - Pixel or GAL (Vantage) eHydro
Pump Unit Manufacturer	BoreMax (Vantage)
Door Equipment Manufacturer / Model(s)	GAL (Vantage) - MOVFR II (Harmonic) or MOVFE-HL (Linear)
Fixture Manufacturer / Model(s)	GAL (Vantage) - Conventional, Premium, California Compliant or Vandal Resistant
Electrical Manufacturer / Model(s)	Draka - Basic or Full

Class of Loading	Class A
Operation	Simplex or Duplex
Speed	50 - 150 fpm
Capacity	1500 lbs. - 5000 lbs.
Stops (Maximum)	5
Openings Front (Maximum)	5
Openings Rear (Maximum)	5
Horsepower Range	10 HP - 50 HP
Line Voltage	208 - 575 VAC, 3 Phase, 60 Hz / 220 VAC, 1 Phase, 60 Hz
Fixture Voltage	24 VDC
Travel (Maximum)	60' - 0"
Valve Manufacturer / Coil Voltage	Maxton / Conventional Down Flow Control w/120 VAC coils and 96" long coil wires
Submersible Pump Manufacturer	Settima or IMO
Submersible Pump Motor Manufacturer(s)	Imperial, Lincoln or US Motors, 6/12 Lead Motors with 108" wickless motor leads
Control and Pump Unit Location	Adjacent/Adjoining at Lowest Landing within 30 wire feet to hoistway wall / Remote Option
Transferable Oil (Maximum)	142 Gallons
Gallons Per Minute (GPM) - Maximum	255
Oil Line Diameters	1 1/2", 2", 2 1/2" and 3"
Hoistway and Machine Room Environmental Conditions	NEMA 1
Operating Conditions	32° - 104° Fahrenheit, Non-Condensing Humidity up to 95%

### Control Standard Features

Elevator Controls - Pixel	GAL eHydro
3 points of control access - LCD Interface at Control, Top of Car and Car Operating Panel (COP)	User Interface via control mounted LCD Display / eHydro App
Solid state starter (Sprecher+Schuh)	Solid state starter (Sprecher+Schuh)
Maxton valve interface with 120 VAC coils	Maxton valve interface with 120 VAC coils
NEMA 1 enclosure wall mount enclosure with lift off door & lock	NEMA 1 enclosure wall mount enclosure with lift off door
Landa™ Absolute positioning with stainless steel coded tape, cartop positioning unit and top & bottom rail bracket mounting system	APS Absolute positioning with camera, optical tape and mounting
Pre-wired Top of Car Inspection Station (NEMA 1) - Cartop controller with Inspection Station switch gear, stop button, fire indicator, cartop light & guard, GFCI receptacle, alarm bell and crosshead mounting system	Cartop controller with Inspection Station switch gear, stop button, fire indicator, cartop light & guard, GFCI receptacle, alarm bell and crosshead mounting system
GAL MOVFR II or MOVFE-HL serial door operator interface with pre-connectorized cable	GAL MOVFR II or MOVFE-HL serial door operator interface with pre-connectorized cable
CAN-bus network: Car calls, hall calls, hoistway access, Fire Phase I switch and light and hall lanterns	Serial Link: Car calls, hall calls and hall lanterns
TOC to COP wire harnesses - Plug and Play	TOC to COP wire harnesses - Plug and Play
CAT5e Pre-Connectorized Network Cables & Splitters	CAT5e Network Cable Spool, Field Cut To Length and Field Applied Connectors
Serial position indicator interface	Serial position indicator interface
Fire service operation (per applicable code)	Fire service operation (per applicable code)
Hoistway access inspection operation	Hoistway access inspection operation
In-car inspection operation	In-car inspection operation
Elevator fan & light timer with auto-shutdown operation	Elevator fan & light timer with auto-shutdown operation
GFIC & Enclosure Light	GFIC & Enclosure Light
Independent service operation	Independent service operation
Nudging with reduced torque & buzzer	Nudging with reduced torque & buzzer
Anti-nuisance	Anti-nuisance
Low oil switch operation	Low oil switch operation
Low pressure switch operation	Low pressure switch operation
Hot oil switch operation	Hot oil switch operation

### Control Options

Battery Lowering Device
Auxiliary COP Interface
Hall Lantern Interface
COP Pushbutton / Basic Security
Keyed Car Call Lockout Interface
Cardreader Car Call Lockout Interface
Cardreader Hall Call Lockout Interface
Attendant (Porter) Operation

Car to Lobby Operation
Dual Piston Synchronization Circuit
Pit Flood Switch Interface
Sabbath Operation
EMT Operation
Door Hold Operation
Emergency Generator Interface

## Submersible Pump Unit Standard Features

Valve	Maxton Conventional Down Flow Control w/120 VAC coils and 96" long coil wires
Submersible Pump Manufacturer(s)	Settima or IMO
Submersible Pump Motor Manufacturer(s) / Duty	Imperial, Lincoln or US Motors
Submersible Pump Motor Duty	80 Starts Per Hour (SPH) with over-temperature thermostat, UL/CSA CUS Certified
Submersible Pump Motor Lead	Imperial, Lincoln or US Motors, 6/12 Lead Motors with 108" wickless motor leads
Muffler	BoreMax 8" blow-out proof chamber style muffler
Internal Tank Component Access	Louvered and hinged removable tank lid with allows frontal access to valve adjustments, test ports while reducing the overall hoisting height for pump/motor removal and replacement.
Motor / Pump Vibration Isolation	Oil resistant and compression rated isolated removable pump/motor/valve/muffler chassis
Tank Structural	Structural channel tank bottom reinforcement / steel mounting foot channels and internal structural tank reinforcements
Tank Vibration Isolation	1/2" vibratory isolation pads
Tank Construction	14 gauge tank walls (12 gauge for 48" W), 7 gauge tank bottom, 16 gauge lid
Tank Sizes	Four standard tank sizes which appear on quote based on configuration for field planning purposes. 33" W x 18" D x 48" H   38" W x 20" D x 48" H   42" W x 26" D x 48" H   48" W x 30" D x 48" H.
Oil Level Gauge	Corrosion / Rust resistant aluminum housing with glass sight gauge measuring 21" H x 1" W
Test Port Valve / Pressure Gauge	1/8" NPT Test Port shut-off valve with built-in pressure test gauge
Return Line	Schedule 40 fitted with perforated oil diffuser
Feed Line	Schedule 80 pipe, isolated from tank wall, grooved and fitted with grooved coupling

### PUMP UNIT OPTIONS

Shut Off Valve	1 1/2", 2", 2 1/2" or 3", Grooved or Threaded (NPT)
Bladder Type Suppressor	Nitrogen Gas Charged Bladder with blow-out proof enclosure
Isolation Couplings	Noise, vibration and metallic and electrical isolation preventing electrolysis, Threaded (NPT)
Pipe Rupture / Overspeed Valve	Protects against elevator car overspeed in the down direction due to supply line failure and car overload situations. Detects overspeed condition if an abnormally high rate of flow between the pipe rupture / overspeed valve and the main valve is detected.
Low Pressure Switch	ASME A17.1-2010 Rule 3.26.8 - When cylinders are installed with the top of the cylinder above the top of the storage tank, a pressure switch shall be activated by the loss of positive pressure at the top of the cylinder. The switch shall prevent automatic door opening and the operation of the lowering valve or valves. The door(s) shall be permitted to open by operation of the in-car door button, when the car is within the unlocking zone.
Low Oil Switch	Detects a low oil condition with the car at the uppermost landing when the transferable oil volume has been evacuated from the oil reservoir. ASME A17.1-2010 and newer editions require that a low oil condition be detected and the car removed from service.
Hot Oil Switch	Detects an oil temperature of 149° Fahrenheit or greater and removes the car from service. ASME A17.1-2010 and newer editions require that a hot oil condition be detected and the car removed from service.
120 Starts Per Hour (SPH) Submersible Motor	Offers a higher duty cycle for 10 HP to 40 HP applications. 50 HP is only available in 80 SPH.
Tank Heater with Automatic 100°F Thermostat	Oil viscosity is controlled by an automatic tank heater which helps prevent hard starts, poor ride quality and the increased risk of packing damage due to cold oil conditions.
Oil Cooler Pre-Plumbing (Cooler By Others)	2) 3/4" Pre-welded ports with plumbed down pipes allow for the field connection of an oil cooler suction and return line.
Control Mounting Means - Uni-strut or Shelf Angle	Control mounting to the front of the submersible tanks via welded uni-strut or a shelf angle allows for compact installations and self-contained wiring. Mounting and wiring to be performed by the elevator contractor.
Junction Box	4" L x 4" W x 2" D box allows for valve coil, sensor or motor lead junctions. Junction boxes are installed in the quadrant(s) requested on the survey forms.
Threaded Oil Line Fitting	Threaded National Pipe Thread (NPT)

## Door Equipment Bundles

GAL-MOVFR II (Harmonic) Bundles	
Door Equipment Bundles	Features
Door Operator Bundle ( <b>MOVFR II Bundle I</b> )	Door Operator, Gate Switch, Arm(s), Car Door Clutch (Additional If Required) and Scanguard "Plug and Play" Infrared Door Protection w/Integrated Power Supply. Standard features include VVVF closed loop motor control, built-in diagnostics, up to 5 preset parameters, CAN serial communication connection, NEMA 1 enclosure and a Heavy Duty 1/2 HP 220-230 VAC motor.

Door Operator Bundle + Car Door Equipment Bundle ( <b>MOVFR II Bundle II</b> )	Door Operator package including gate switch, drive arm(s), car door clutch (additional clutch if required), nudging and Scanguard "Plug and Play" Infrared Door Protection w/Integrated Power Supply, <b>PLUS</b> Car Door Hangers, 3.25" Car Door Rollers, Wiper Kits, Tracks and Headers. Standard features include VVVF closed loop motor control, built-in diagnostics, up to 5 preset parameters, CAN communication connection, NEMA 1 enclosure and a Heavy Duty 1/2 HP 220-230 VAC motor.
Door Operator Bundle + Car Door Equipment + Hatch Door Equipment ( <b>MOVFR II Bundle III</b> )	Door Operator, Gate Switch, Arm(s), Car Door Clutch (Additional If Required) and Scanguard "Plug and Play" Infrared Door Protection w/Integrated Power Supply. Standard features include VVVF closed loop motor control, built-in diagnostics, up to 5 preset parameters, CAN communication connection, NEMA 1 enclosure and a Heavy Duty 1/2 HP 220-230 VAC motor, <b>PLUS</b> Car Door Hangers, 3.25" Car Door Rollers, Wiper Kits, Tracks and Headers, <b>PLUS</b> Hatch Door Hangers, 3.25" Hatch Door Rollers, Top Safety Retainers, Tracks, Spring Door Closers (Optional Reel Closers), Interlocks, Keepers, Roller Releases, Pick up Rollers, Linkage and Hardware.

<b>GAL-MOVFE-HL (Linear) Bundles</b>	
<b>Door Equipment Bundles</b>	<b>Features</b>
Door Operator / Car Door Equipment Bundle ( <b>MOVFE-HL Package I</b> )	Door Operator / Car Door Equipment package including gate switch, linear door brackets, car door clutch (additional clutch if required), nudging and Scanguard "Plug and Play" Infrared Door Protection w/Integrated Power Supply, Car Door Hangers, 3.25" Car Door Rollers, Wiper Kits, Tracks and Headers. Standard features include VVVF dual loop (position and velocity) feedback, built-in diagnostics, keypad programmer with LCD display, CAN communication connection, NEMA 1 enclosure and a Heavy Duty 1/2 HP motor.
Door Operator / Car Door Bundle + Hatch Door Equipment ( <b>MOVFE-HL Package II</b> )	Door Operator / Car Door Equipment package including gate switch, linear door brackets, car door clutch (additional clutch if required), nudging and Scanguard "Plug and Play" Infrared Door Protection w/Integrated Power Supply, Car Door Hangers, 3.25" Car Door Rollers, Wiper Kits, Tracks, Headers, <b>PLUS</b> Hatch Door Hangers, 3.25" Hatch Door Rollers, Top Safety Retainers, Tracks, Spring Door Closers (Optional Reel Closers), Interlocks, Keepers, Roller Releases, Pick up Rollers, Linkage and Hardware. Standard features include VVVF dual loop (position and velocity) feedback, built-in diagnostics, keypad programmer with LCD display, CAN communication connection, NEMA 1 enclosure and a Heavy Duty 1/2 HP motor.

<b>DOOR EQUIPMENT OPTIONS</b>	
	Handheld GAL-MOVFR II or MOVFE-HL parameter unit w/ 7' cable
	Door unlocking key
	Reel Door Closer Substitution (ISS and CP door types)
	Formula Systems Infrared Light Curtain (2D)
	Tri-Tronics Infrared Light Curtain (2D)
	Formula Vision 3 Infrared Light Curtain (3D)

## Fixtures

<b>General</b>	
Wiring and Testing	Pre-Wired and Pre-Tested
Choice of Finish	Stainless Steel # 4, Stainless Steel # 8, Muntz # 4, Muntz # 8
Pushbutton Types	Conventional, Premium, CA Compliant or Vandal Resistant
Pushbutton Illumination:	Blue, White, Green or Red
Standard Features	Emergency Light, Fire Phase II Cabinet w/ FEOK-1 or Local Fire Key, ILCO Barrel Key Switches Installed in COP (Fan, Light, Inspection, Independent Service, Run-Stop), Braille Tags, Nudging and Call Acknowledgement Buzzers, Engraving (Car Label, Capacity, No Smoking), Emergency Light, Service Cabinet, 120 VAC / 15 A / GFIC, and Rath Auto-Dialer
Code Compliance	CSA, CSA/US and Local Code Compliance

<b>Car Fixtures</b>	
Car Operating Panel	Applied w/ Back Box
Car Position Indicator	7.0" LCD with Passing Chime
Car Lantern(s)	Single or Dual: Vertical 2 5/8" Triangular w/Chime, Vertical 3" Round w/Chime, Vertical Vandal Resistant w/Chime
Emergency Phone	Rath or Provisions for Phone Supplied By Others

<b>Car Fixture Options</b>	
	Mini-Swing Car Operating Panel
	Full Swing Car Operating Panel
	Auxiliary Car Operating Panel
	Attendant Operation
	Door Hold Button
	Card Reader Cutout w/ 3.25" W x 3.35" H Black Translucent Plexiglass Lens
	Card Reader Override Switch
	Keyed Floor Lockouts
	Voice Annunciation
	Voice Annunciation On/Off Switch
	Certificate Frame
	Cab Lighting Dimmer

Reset Switch
"Pull to Stop" Emergency Stop Button
Spare Keyswitch(s)
Phone Jack
No Smoking International Symbol

<b>Hall Fixtures</b>
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Hall Stations	Flush Mounting
Riser	Single
Access	In Hall Stations (Standard)

<b>Hall Station Options</b>
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Surface Mounting
2.8" Digital Position Indicator
Emergency Power Switch
Emergency Power LED (Main)
Card Reader Provisions (Card Reader By Others)
Keyed Floor Lockout Type
Car-To-Lobby Key Switch
Hospital Service (Code Blue) Operation w/ Indicator
EMT Operation w/MEDECO MA Lock and Key
Access Stations - Flush w/ Box or Jamb Mounted if not in Terminal Hall Station(s)

<b>Hall Lanterns</b>
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Hall Lantern Types (Horizontal or Vertical)	Flush - ADA Arrows w/ Chime
	Flush - Vandal Resistant ADA Arrows w/ Chime
	Surface - ADA Arrows w/ Chime
	Surface - Vandal Resistant ADA Arrows w/ Chime

<b>Hall Position Indicators</b>
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Hall Position Indicator Types (Main or Typical Landings)	Flush - 4.3" LCD
	Surface - 4.3" LCD

<b>Hall Lantern / Hall Position (Combination) Indicators</b>
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Combination Hall Lantern / Hall Position Indicator (Main or Typical Landings)	Flush - ADA Arrows w/ Chime & 4.3" LCD
	Flush - Vandal Resistant ADA Arrows w/ Chime & 4.3" LCD
	Surface - ADA Arrows w/ Chime & 4.3" LCD
	Surface - Vandal Resistant ADA Arrows w/ Chime & 4.3" LCD

<b>Additional Fixture Options</b>
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Tamper Resistant Fastening
Additional Key Sets

<b>Electrical Bundles</b>
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Pre-Planned RENEWHydro™ electrical bundles are offering in Basic and Full Options briefly described below. For planning purposes, request an associated list of materials from your Vantage Sales Representative. Due to the many variations associated with modernization, the Full pre-planned electrical packages are intended to be as comprehensive as possible, but may require some items to be acquired locally or result in some additional materials. Pre-Planned standardized electrical packages assume maximum floor heights of 15' - 0" and a maximum machineroom wire footage not to exceed 30' - 0" measured from inside of hoistway with the control located at the lowest landing, adjacent and adjoining the hoistway. Remote machineroom applications available up to 100 wire feet remote measured from inside of hoistway wall to the control location following the wire path. Remote Full electrical bundles include the extended wire lengths, but EMT, ducting, fittings, etc. are to be provided By Others. Remote Full electrical bundles include hoistway and machineroom related electrical materials. Substitutions to be provided By Others.

<b>BASIC</b> Electrical Bundle	Traveling Cable, Hoistway Cable, Door Lock Wire, 2) Kellem Grips
<b>FULL</b> Electrical Bundle	Traveling Cable, Hoistway Cable, Door Lock Wire, 2) Kellem Grips, Main Wireway w/ Fittings and Hardware, Strain Bars, 2 1/2"   1 1/2"   3/4" EMT and Fittings, 2 1/2"   1 1/2"   3/4" Preformed EMT Sweeping Ells, 2 1/2"   1 1/2"   3/4" EMT Straps, 2 1/2" LB, Pullbox, 2 1/2" Chase Nipple, 1/2" FMC w/ Straight & 90s and Clamps, Pit Switch (Toggle), Wire Nuts, 4x4 Junction Boxes, 8" Cable Ties and Electrical Tape.

Revision 2

Revision Date: 1/4/2021