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HYDROELITE FOR SALES AND OPERATIONS EMPLOYEES IN LIFT INDUSTRY

INTRODUCTION

This manual is created to help employees involved in sales and operation to have better understanding of HydroElite modernisation solutions by Hydroware.

HydroElite is complete and fully engineered modernisation system for hydraulic lifts. It has two options

- **VENI** – Soft Starter option
- **VIDI** – VF option

As part of the order processing, Hydroware appoints dedicated electrical engineer with knowledge of our local requirements who works with IGF Link to customise the system. Complete system is fully engineered in the factory before manufacturing and supplied wiring diagrams are as installed.

Any type of door operator can be interfaced with the controller. Every system is delivered with 24V battery backup and electrical emergency lowering without doors operation. Designs with door operators having 24V power input option like Wittur AMD will open the doors after landing on electrical emergency lowering. Car light and fan timers can be configured on your request. All of the above is part of the standard HydroElite packages and is delivered at no extra cost.

The modern and flexible controller can be configured to any special modes. In Australia we have done hospital service, dangerous goods mode, access control and interfacing with the third party monitoring systems.

As distributor for Hydroware products in Australia and New Zealand, IGF Link provides comprehensive technical support for the complete system during the Australian normal working hours. Our support start from the tendering process when we are helping sales engineers to select the most appropriate solution. We cross check all input data to eliminate any eventual mistake during the site surveys. Briefing the site mechanics before their first HydroElite installation is what we insist and what we always do. This way the lift mechanics will gain confidence and will be able to install the equipment in timely manner. Always keep in mind - we are just a call away for any type of consultation about HydroElite systems.

All systems are tested in the factory which guarantee trouble free site installation.

This manual is not substitute for your company safety rules!

HYDROELITE SYSTEM

The heart of the system is a unique patented valve, that through servo technology, obtains travel patterns identical to traction lifts with Variable Speed Drives. The controller creates and then follow rigidly created pattern to enable arrival of the lift in to the floors with direct approach that dramatically reduces the energy consumption and also increases the traffic capacity.


The combination of shaft encoder, servo valve and controller, ensures that the ride experienced is always smooth and accurate.

ZERTIFIKAT

CERTIFICATE

CERTIFICADO

CERTIFICAT



Industrie Service

Certificate

about the energy efficiency of lifts according to VDI 4707 Part 1

TUV SUD Industrie Service GmbH
Geschäftsfeld Fördertechnik
Westendstr. 1169, 80686 München – Deutschland
attests the operating company


Hydroware Elevation Technology AB
Fabriksgatan 13,
SE-342 21 Alvesta - Schweden

that the lift facility hereinafter called is permitted to be labeled with the energy efficiency class as follows:

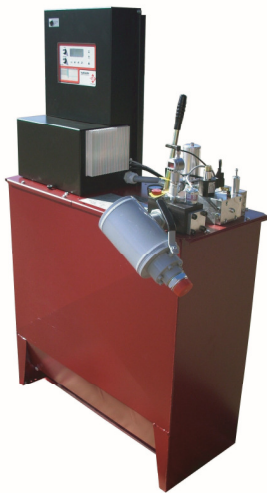
Manufacturer	Hydroware Elevation Technology AB	Energy efficiency class
Location	Sweden 2111, Jakt 5, Schweden 342 21 Alvesta	A
Lift model	Hydro Elevation	B
Model no.	80700	C
Lift type	Passenger lift	D
Rated load	100 kg	E
Rated speed	3.4 m/s	F
Operating steps per year	365	G
Standby demand	Specific to model demand: 1.5 kW (reference)	
Energy demand (class A)	Specific to model demand: (energy demand class F)	

Usage category 1 according to VDI 4707
Classification of energy efficiency classes in this position
under actual usage.


This certificate is valid until the next modification of the lift.
Certificate registry number: 11.09.44378.002
Munich, September 15th 2011

Certification body for lifts and safety components
Christian Rühmeyer


Note
TUV SUD Industrie Service GmbH is also notified according to the LRT Directive 95/16/EC, identification number 0026



VENI Power Unit

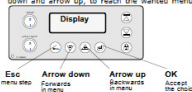
	Hydroelite 3G-1 TEST INSTRUCTION	Technical Documentation
	PROTECTION AGAINST UNINTENDED CAR MOVEMENT (UCM) EN 81-2 A3	T 101 04 EN 2012/04/30 Edit 1.2
	TECHNIC	KJ/BB Side 1

Perform this test with empty car

- Run the lift to lowest floor.
- Disconnect wire at P204/5.

Attention!
Before disconnecting wire at P204/5, switch always off fuse F1 (safety circuit).
Be then sure that the wire do not have contact with anything before the fuse F1 is switched on and the test is continuous (the loose wire has safety circuit voltage (110-230 VAC) during the test).

- Press OK button once to come to menu mode, thereafter you use the display buttons, arrow down and arrow up, to reach the wanted menu mode.



Esc → Arrow down → Arrow up → OK

to menu mode → Forward → Backwards → Accept the choice

- Go to menu 4.8 UCM Test and press OK.

Commissioning 4.8
OK Test
1 1-0

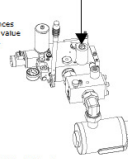
- Press OK to give command to next floor in up direction. **This command must be done within 3 seconds, otherwise you have to repeat from point 4)**

Commissioning 4.8.1
OK Test Up
1 1-0
OK Test
1 1-0

- Check what distance the lift has moved before stop. The distances shall comply with EN 81-2:1998-A2:2009 Figure 4 (the display value Commissioning 4.8.1 OK Test Up -999- if the car action is 0.75 m).

Commissioning 4.8.1
OK Test Up
Testing
P204/5 open

Commissioning 4.8.1
OK Test Forward
Balance -999
P204/5 open



- Connect wire at P204/5, see clause 2.
- Press Esc to leave the UCM Test mode.
- Run the lift to next floor up.
- Disconnect wire at P204/5, see clause 2.
- Go to menu 4.8 UCM Test and press OK.
- Press OK to give command in down direction and press manually the VMD valve (eg. with a screw driver) and keep it pressed until the lift stops (this command must be done within 3 seconds, otherwise you have to repeat from point 11).

Commissioning 4.8.1
OK Test Down
Press OK button
1 1-0

- Check what distance the lift has moved before stopping. This distances shall comply with EN 81-2:1998-A2:2009 Figure 4 (the display value shall be more than -999 at car height 2 m).

Commissioning 4.8.1
OK Test Down
Testing
P204/5 open

- Connect wire at P204/5 and press Esc to leave the UCM Test mode, see clause 2.



VIDI Power Unit

HydroElite package is consist of

- Hydraulic power unit with external door lock valve
- Controller
- VENI system is delivered with Soft Starter, VIDI is delivered with Emerson (Control Techniques) Variable Speed Drive
- Distribution board with main CB and three RCD's, wired for electrical emergency lowering
- Complete shaft information system with absolute encoder
- Pre terminated traveling cables with hangers and wedges
- Shaft wiring with exclusion of door lock and 240V wiring
- Car and landing nodes with terminals for easy field wiring
- Car top inspection unit
- Stop switches on top of the car and pit
- Miscellaneous material for mechanical installation and cables for local wiring

In addition to the standard packages we can supply any other hydraulic component like flexible hoses, cylinders, pipe rupture valves, oil heaters or coolers and connectors. As well, we can complement the package with door protection units, appointments and emergency light units.

MAIN FEATURES

INCREASED PASSENGER SAFETY

- HydroElite packages by Hydroware are designed to comply with the current and upcoming EN81 standards as well as the current AS1735.3. This group compliance increases passenger safety especially in the area of Unintended Movement Control. The controller checks daily individual valves when the lift is idle to verify correct operations.
- The **complete system** operation is tested and certified by TUV. Testing instructions are certified as well to ensure correct commissioning and testing procedures.
- There is no system for hydraulic lifts that can match the safety and reliability of HydroElite packages. There are many hydraulic power unit manufacturers and controller manufacturers on the market today. Most of the power units imported in Australia can be completed with appropriate controller for AS1735 compliance. None of the controllers for hydraulic lifts offered and/or sold in Australia have features to comply with UMC requirements.

SHORTEST DELIVERY AND INSTALLATION TIMES

- Typical manufacturing time for HydroElite is 4-5 weeks. For urgent requests we can arrange manufacturing in one week. Please note that if urgent manufacturing is

required, it is always good to pre-alert the factory about the system so they will have the components in stock. Transport time is approximately 8 weeks for sea freight and 1 week for airfreight.

- If the appointments are supplied as part of the complete package, they will be pre-terminated and tested with the system. This will shorten the installation time further but the manufacturing time is 5 weeks and accelerated dispatch in one week cannot be arranged.
- Wiring between the controller and the power unit is done in the factory. All other wiring is pre-terminated. Setting the floor zones, acceleration/deceleration rates and points as well as gains and the rest of the fine tuning typically take 10-15 minutes due to automatic controller features. Because of all these features the **Installation time is reduced for at least 40%.**

HIGHEST ENERGY EFFICIENCY, HIGHEST STARTS PER HOUR AND LOWEST INSTALLED POWER

- Very fine oil flow regulation enables direct arrival in landing without dragging in slow speed. With this oil heating is decreased significantly increasing the starts per hour and decreasing the energy consumption.
- External motor for VIDI (VF Hydro) enables additional 20% savings in both energy consumption and installed power.
- Direct arrival in landings further increases the traffic capacity.

INSTALLATION

It is difficult to estimate precisely the installation time of HydroElite because every site is specific. The case studies below are outlining the past experience.

During the installation training in Sweden we witnessed two experienced lift mechanics replacing the complete HydroElite system inclusive of new pre-wired appointments supplied by Hydroware in 3.5 days. The wiring rules in EU are more relaxed than in Australia and as a rough estimate, HydroElite in Australia can be installed in 5-7 days. The first installation for particular company or region could take a day or two longer.

Please check <https://www.youtube.com/watch?v=j1xo500tkgs> for a video on HydroElite installation.

Two companies in Australia requested our full time attendance on site and both Geelong and Perth projects were finished in the scheduled time.

Perth project was 4000kg 0.4 m/s lift with 3 landing and 2 car entrances. Existing fixtures were retained. In 5 normal working days, we had the lift fully commissioned and tested and the lift contractor spent another day to fix the broken lock roller and take the redundant

material from site. In the 5 days, the material was delivered on site, and site induction was completed.

Geelong project was 1156kg 0.6 m/s lift with 7 landing and 1 car entrances. New pre-wired surface mount appointments by Hydroware were installed as well. The lift contractor had his mechanic booked for this installation 42 hours.

Delivering the equipment on site

As every site is specific, delivering of the equipment on site will be different. HydroElite systems are packed on fully enclosed crate as per the photo below.



Considerations for the delivery

- Distance from storage to the site
- Vehicle for transport
- Height restrictions on site
- Site access

Fitting of the tank and the controller in the Lift Motor Room

For smaller lifts, the controller is attached to the tank and all wiring between the two are done in the factory. If required for the transport to the Lift Motor Room, the controller can be removed from the tank by disconnecting of two connectors – motor power and valve block connectors.

If the tank is bigger, the controller is separate but pre-wired with looms terminated in appropriate coil connectors, tested as a part of the system in the factory.

The controller is set with all parameters and shorts to run on construction mode immediately after connecting the hose and mains. The system is delivered with pendent control handle wired through 30m cable as shown on the quick manual.

If additional works are required like new door equipment or car interior, we recommend installing new tank and the controller and then run the lift on construction mode with the new and more reliable equipment.

The tank sizes and weights can be found on the second page of the product brochures available from our web site

VENI – Soft Starter <http://www.igfl.com.au/wp-content/uploads/2013/07/VENI.pdf>

VIDI – VF Hydro <http://www.igfl.com.au/wp-content/uploads/2013/07/VIDI.pdf>

The tank size which is always specified in our proposals is the amount of oil required. For example for tank 400, approximately 400 litres of oil grade 46 should be delivered on site.

We always try to deliver complete solution inclusive of flexible hose (complete or short piece) hydraulic adaptors and pipe rupture valves as required. This way the installation team will have everything delivered on site and work without interruption. If these items are supplied by the lift company, the site supervisor/team leader/project manager should arrange delivery at the beginning of the second day latest.

More details on the installation process can be found in the HydroElite Quick Installation Manual which can be downloaded from our web site

<http://www.igfl.com.au/wp-content/uploads/2016/01/HydroEliteQuickInstallationManual.pdf>

Following the experiences with the Australian HydroElite installations, we recommend the program/sequence of work below. As all sites are different, the time spent for different tasks will vary. The program below is for site with easy access and sufficient space in the Lift Motor Room and the lift shaft. Otherwise additional day, or in extreme cases two days may be required.

- **Day 1**
 - Deliver the equipment on site
 - Disconnect the power
 - Mark and separate wires for the lock contacts, shaft safety and shaft lights
 - Cut all redundant wires and remove existing controller
 - Pump the existing oil out
 - Disconnect the existing tank and remove from Lift Motor Room
 - If connecting new hose or pipe rupture valve, prop the car for pit access
 - Fit in place new tank and controller
 - Re-connect the flexible hose (fit new hose and pipe rupture valve)
 - Fill new tank with oil
- **Required tools/equipment** – the first day is critical because specific tools/materials are required. Also, there is no to many other tasks that can be done.
 - Notice to the management to disconnect / re-connect the power or knowing the location of the main CB for the lift
 - Hydraulic oil grade 48 and oil pump
 - Containers to pump out existing oil
 - Two Stillson Pipe Wrenches to handle flexible hoses
 - Pallet trolleys to move tank and controller

- **Day 2**
 - Re-connect door locks and pit stop switches
 - Re-connect the oil cooler if any, hoses and power
 - Re-connect the power
 - Run the lift up/down on construction mode
 - Remove redundant equipment from the shaft and top of the car
 - Fit new serial cable in the shaft
 - Fit hall nodes

- **Day 3**
 - Hang flexes
 - Fit top of the car node
 - Fit shaft information system
 - Re-connect landing push buttons, arrows and chimes

- **Day 4**
 - Re-connect door operators, COP's, door protection units
 - Plug flexes in car node and controller
 - Re-connect all car safety circuits

- **Day 5**
 - Learn hydraulic, floor levels
 - Test and hand over
 - Finish of minor works, clean up, fit all covers etc.