Modernisation of hydraulic lifts

HydroElite® drive and control system

Hydroware

Modernise, rather than replace

When a hydraulic lift is getting old, you can replace it with a new one.

But in many cases, it is less costly and more sustainable to modernise it. It can be given the most modern drive and control system, while maintaining the often very robust and valuable existing infrastructure.

Over the last 20 years, many lift manufacturers have decided to design their lifts in a less modular way than previously. This means that these lifts are more difficult to modernise than before.

In this brochure we explain the advantages of modernisation with the innovative and proven HydroElite system.

HydroElite® – robust, economical, convenient.

HydroElite is a drive and control system for hydraulic lifts. By providing both the drive and control, we can guarantee frictionless functionality and easy handling from the very beginning. The robust, modular design of HydroElite makes it ideal for modernisation. HydroElite is available in 4 versions, which we present to you in this brochure.

By exchanging your old hydraulic drive, you can save up to 70 % energy. You will also increase the lift's reliability, capacity and comfort.

Hydroware: Top quality from Sweden for 20 years.

Hydroware produces and develops the drive and control system in Sweden. A reliable professional partner in the area of hydraulic lift modernisation with over 20 years experience.

10 reasons

for the leader in matters of drive and control systems

Successful Modernisation

- All from one supplier. Control and drive are coordinated and harmonise perfectly with each other
- Our complete package saves you a lot of work and coordination
- Immediate commissioning possible, all systems are pre-set and tested in a test station at the production facility

Swedish quality

- High level of vertical integration at our headquarters in Sweden certified to ISO 9001:2015
- Use of high-quality brand components
- All systems fully tested in the test stations before delivery

Unique technology

- Unique servo-valve allows direct approach to floor without creeping, similar to frequency-controlled traction lifts
- Thanks to the servo valve, Hydroware is able to operate existing systems, where other manufacturers must refuse
- Permanent self-learning/- and self-adjusting valve system, no adjustments necessary

Sustainability

- 50 - 70 % lower energy consumption compared to other electronical valves
- Use of existing mechanical and electrical supply connections possible. The available main supply connection value can often be reduced by one third

Fast delivery

- Delivery within only 5-6 weeks
- Express deliveries within 1-2 weeks available on request
- Direct delivery to the construction site possible

Quick installation

- Short assembly times due to preset parameters and pre-wired installation
- Assembly run without the need for installing complete shaft wiring looms
- Easy installation or retrofitting of additional components through freely programmable outputs/inputs and bus technology
- For faster installation, the assembly run can also be carried out with a wireless installation handle
- Open control, with plain text display and plain text error description and no extra tools for maintenance or commissioning

Technical Support

- English-speaking support for the complete product (control and drive) with on-site support and training.
- 24-hour spare parts service, 20-year spare parts availability, online documentation
- Commercial and technical advice on site, including site visits of complex and special modernisation solutions

Complete lift systems

- Complete lift systems as tailor-made solutions based on existing shaft dimensions, pit and headroom
- Standard solutions for narrow lifts
- Flexible car lifts and freight lifts
- All the advantages of the HydroElite drive unit
- Focus on robust and sustainable hydraulic lifts

Higher Lift Performance & Reliability

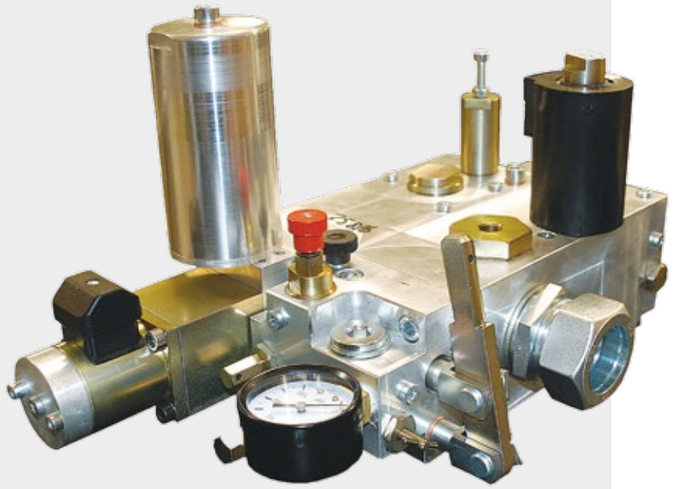
- The unique servo-valve allows direct approach to floor without creeping. This allows shorter travel times and more trips per hour than with a comparable electronic valve
- No by-pass of oil – Temperature problems of the hydraulic drive caused by frequent travel are eliminated by the regulating servo valve
- Oil coolers are no longer necessary

Competent partner

- Over 20 years experience in hydraulic lift modernisation
- Future-proof, 15 % of the employees work in research and development
- Certified to ISO 9001:2015

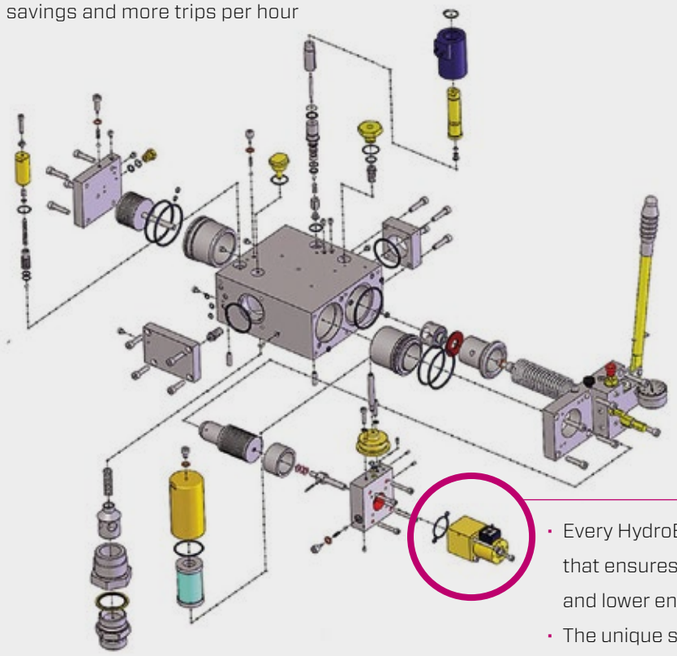
Our centrepiece: **the unique servo valve**

The outstanding characteristics of our directly controlled servo valve has played a large part in our long history of success.



The benefits at a glance

- All units have the same servo valve
- Direct approach to floor without creeping, which gives excellent travel comfort
- Self-learning and self-adjusting valve system – quick and simple commissioning and no manual adjustments
- The frequency control is used solely to cut power demand
- The servo valve is controlled directly by the absolute positioning encoder
- No need for by-pass of oil, means no additional heating of the oil
- Oil cooler is normally not required
- The elimination of oil by-pass and the direct approach to floor means maximum energy savings and more trips per hour



- Every HydroElite is fitted with the unique servo valve that ensures shorter travel times, higher capacity and lower energy consumption
- The unique servo valve enables the lift to arrive directly at the floor without creeping

Integrated system

To modernise your hydraulic lift with HydroElite you will receive the following components:

The control module with the servo valve, floor modules, shaft information cable, travelling cable, cabin module with inspection control.

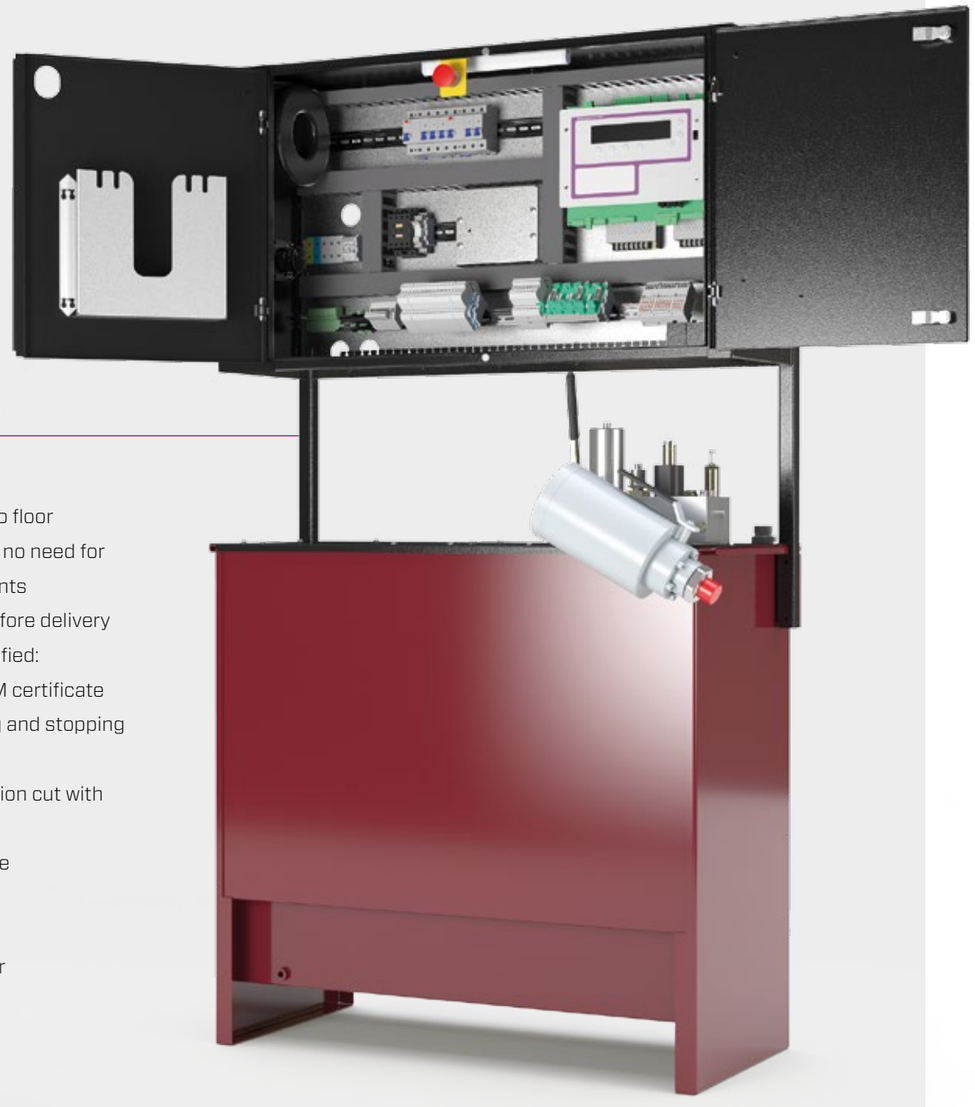
HydroElite® **VENI**

HydroElite VENI reduces the energy consumption up to 50 % in comparison to other conventional electronical or mechanical systems. It is equipped with the unique servo valve system from Hydroware, which means short reaction times, no by-pass of the oil and travels with direct approach to the floor, without creeping.

The lift gets the absolute best features for an electronically controlled valve with soft starter, and can only be compared to frequency controlled systems today.

With the same manufacturer for both drive and control system you get fast and smooth order handling, quick installation, easy inspection, a reliable final product, same support contact for both drive and control unit and a satisfied lift user.

HydroElite VENI is certified according to EN81-20/50 and has a common certificate for A3/UCM.

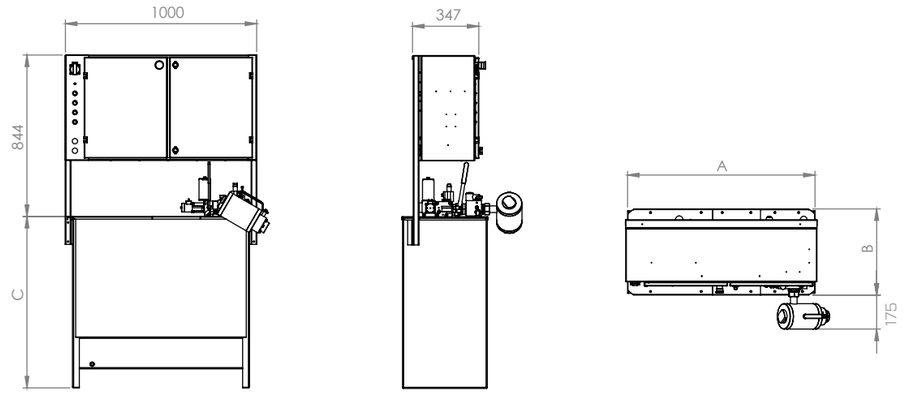


VENI at a glance

- Quick installation
- Direct approach to floor
- Self-learning with no need for manual adjustments
- Test of system before delivery
- EN81-20/50 certified: one common UCM certificate for both detecting and stopping devices
- Energy consumption cut with up to 50 %
- Unique servo valve (no by-pass oil)
- Soft-starter
- Submerged motor

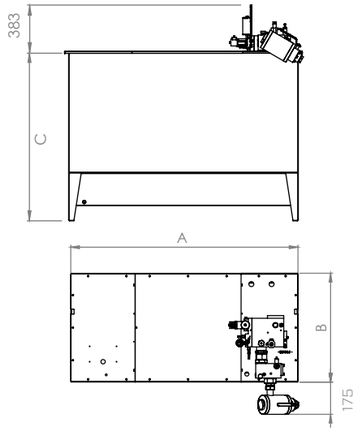
Dimensions

Tank	Pump (l/min)	Valve size	Dimensions (mm)			Weight without oil (kg)	Oil volume (l)	
			A	B	C		max	useful
230	55-210	1,25"	980	450	900	250	230	160
440	55-210	1,25"	1.100	615	1.000	300	440	300
440	250-440	2"	1.100	615	1.000	300	440	300
700	250-800	2"	1.360	750	1.000	390	700	460

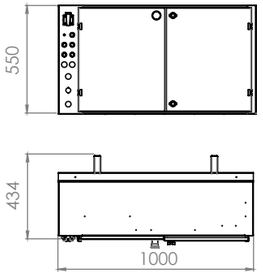


Variants with separate wall-mounted cabinet

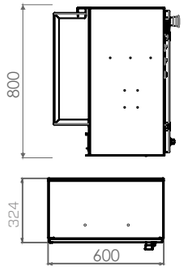
Tank	Pump (l/min)	Valve size	Dimensions (mm)			Weight without oil (kg)	Oil volume (l)	
			A	B	C		max	useful
950	250-800	2"	1.570	750	1.120	450	950	665
1.200	250-800	2"	1.750	850	1.120	520	1.200	700



Standard cabinet
1.000 x 550 x 434 mm



Cabinets for limited spaces
800 x 800 x 336 mm

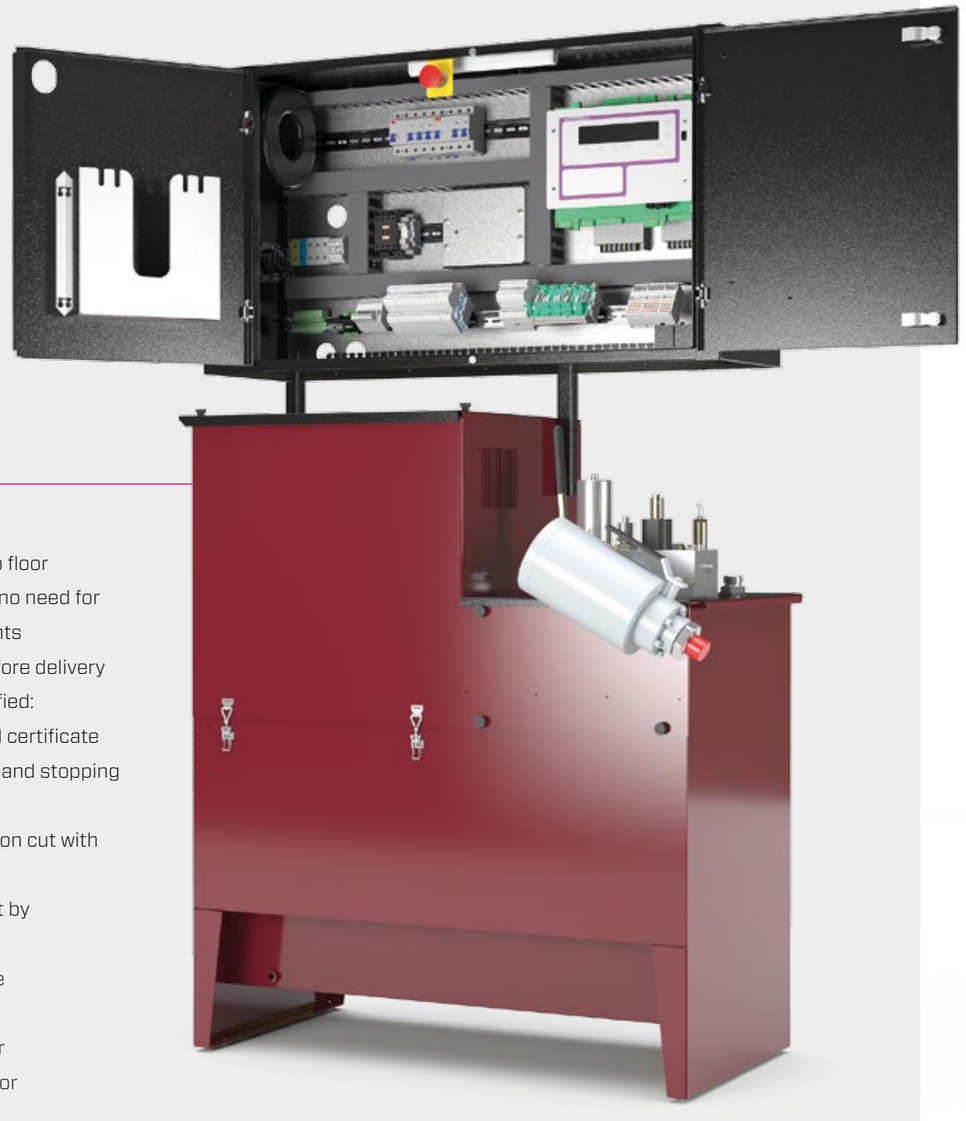


HydroElite® **VIDI**

With **HydroElite VIDI** the power demand and the energy consumption is dramatically reduced – up to 70 % compared to other systems with electronical or mechanical valves.

Thanks to the possibility of slightly lowering the speed for trips upwards with higher loads, the power demand can be reduced as much as up to 70 % compared to other systems on the market.

The use of highly efficient IE2 air cooled motors means that the energy consumption will be cut with another 20 %, compared to HydroElite Veni. The other advantages, thanks to the unique servo valve, are also experienced with the **HydroElite VIDI.**

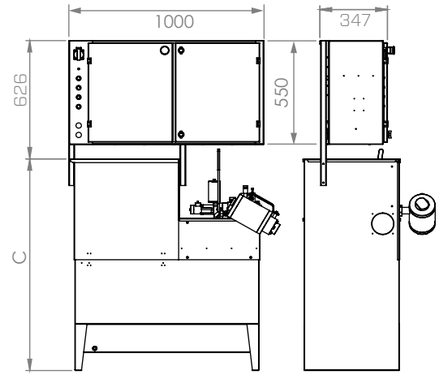


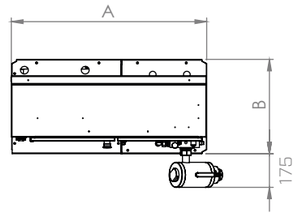
VIDI at a glance

- Quick installation
- Direct approach to floor
- Self-learning with no need for manual adjustments
- Test of system before delivery
- EN81-20/50 certified: one common UCM certificate for both detecting and stopping devices
- Energy consumption cut with up to 70 %
- Power demand cut by 50–70 %
- Unique servo valve (no by-pass oil)
- Frequency inverter
- Air cooled IE2 motor

Dimensions

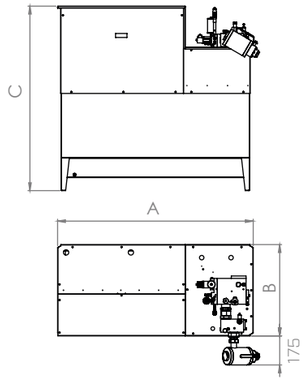
Tank	Pump (l/min)	Motor (kW)	Valve size	Dimensions (mm)			Weight without oil (kg)	Oil volume (l)	
				A	B	C		max	useful
150	45-150	4-15	1,25"	1.000	500	1.122	250	150	62-98
190	45-150	4-15	1,25"	1.000	600	1.122	260	190	77-121
290	180-330	11-22	2"	1.200	600	1.222	290	290	95-215



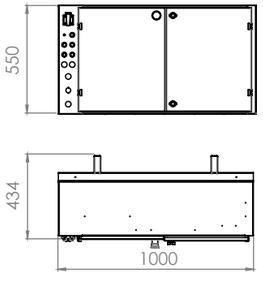


Variants with separate wall-mounted cabinet

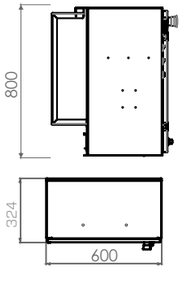
Tank	Pump (l/min)	Motor (kW)	Valve size	Dimensions (mm)			Weight without oil (kg)	Oil volume (l)	
				A	B	C		max	useful
475	150-600	15-45	2"	1.500	700	1.415	360	475	190-350
590	150-600	15-45	2"	1.500	700	1.575	400	575	190-350
975	180-600	15-55	2"	1.900	900	1.600	550	975	455-720
Extra oil tank	---	---	---	1.000	800	750	150	400	300



Standard cabinet
1.000 x 550 x 434 mm



Cabinets for limited spaces
800 x 800 x 336 mm



HydroElite® **MRL**

HydroElite MRL is the machine room less option. Many aspects speak in favour of placing the drive and control system outside the shaft. The system cabinet only needs an area of 0.3-0.9 square meters somewhere in the building where the elevator is located. The system cabinet does not have to be next to the lift.

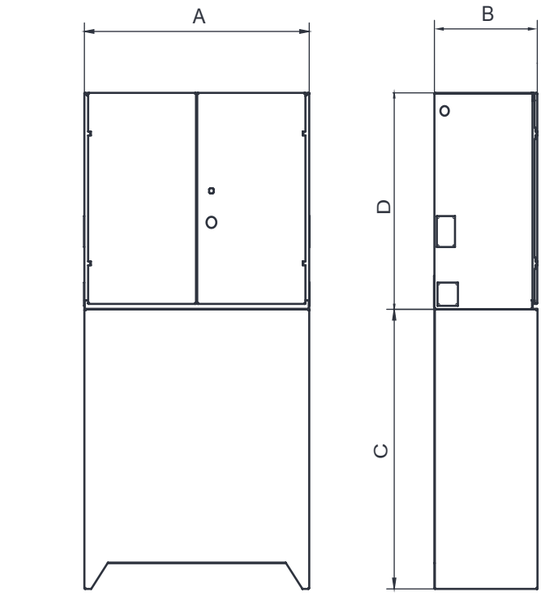
MRL at a glance

All advantages as with VENI and VIDI:

- The machine-room-less alternative
- Built in oil spillage tray
- EN81-20/50 certified, one common UCM certificate for both detecting and stopping devices

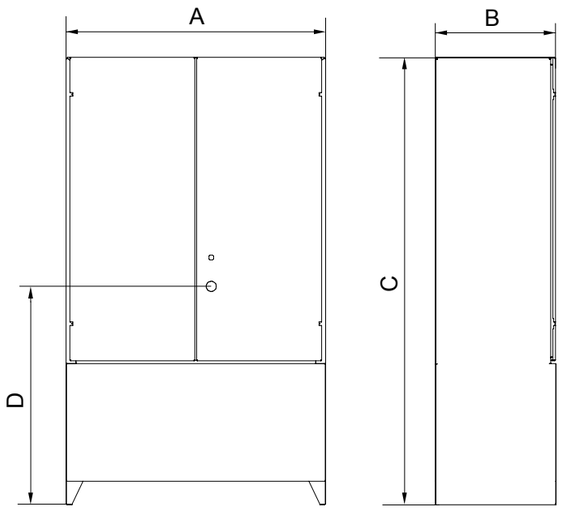
Dimensions VENI

Tank VENI	Pump (l/min)	Valve size	Dimensions (mm)				Oil volume (l)	
			A	B	C	D	max	useful
MRL 150	55-150	1,25"	670	454	1.085	840	150	120
MRL 200	55-210	1,25"	990	454	1.085	840	230	160
MRL 365	250-440	2"	1.200	550	1.085	865	365	250



Dimensions VIDI

Tank VIDI	Pump (l/min)	Valve size	Dimensions (mm)				Oil volume (l)	
			A	B	C	D	max	useful
MRL 150	45-150	1,25"	1.105	565	1.900	926	150	62-98
MRL 290	180-330	2"	1.305	665	2.000	1.026	300	95-215



HydroElite® **MINI**

HydroElite MINI – for narrow motor rooms.

HydroElite MINI is used when there is not enough space for the transport to the motor room or where the building is equipped with a too narrow motor room for a standard tank solution. The tank volume is 90 litres and the controller is housed in a separate cabinet. **HydroElite MINI** can be used for elevators up to about 630 kg and 5-6 floors.

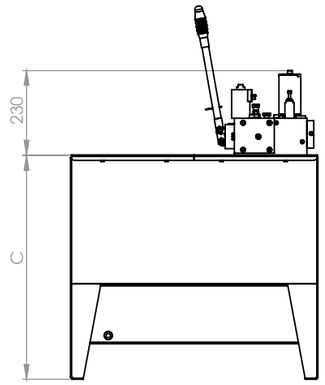
MINI at a glance

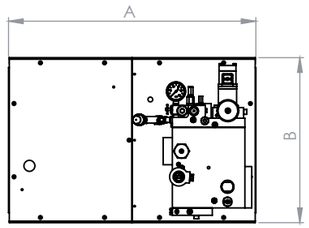
All advantages as with VENI:

- The custom made alternative for narrow spaces
- Comes with separate control cabinet, pre-wired with plugs
- Quick installation
- Direct approach to floor
- Self-learning with no need for manual adjustments
- Test of system before delivery
- Energy consumption cut by 50 %
- EN81-20/50 certified, one common UCM certificate for both detecting and stopping devices

Dimensions

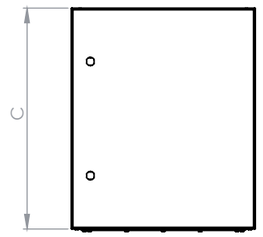
Pump (l/min)	Motor (kW)	Valve size	Dimensions (mm)			Weight without oil (kg)	Oil volume (l)	
			A	B	C		max	useful
45-125	4-9,5	1,25"	675	450	610	130	90	50

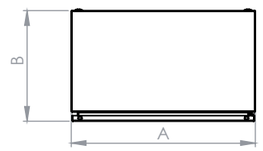




Separate wall-mounted cabinet

Cabinet size	Dimensions (mm)		
	A	B	C
50 x 60	500	300	600
60 x 80	600	325	800





HydroElite® VIDI vs other Systems

Rated load

speed: 0.6 m/s – floors: 4 – journeys/year: 100 000

325 kg	Electr. reg. valve	HydroElite® VENI	HydroElite® VIDI
Isolator (A)	35	20	**10**
Energy consumption/year (kWh/year)	3600	1800	**1100**
Nominal current (A)	22	19	**9**
Motor (kW)	9,5	7,7	**5,5**
Inverter (kW)	- - -	- - -	**4**
Tank volume (l)	200	230	**135**
Traffic capacity without cooler, journeys/h	59	126	**150**

630 kg	Electr. reg. valve	HydroElite® VENI	HydroElite® VIDI
Isolator (A)	50	35	**16**
Energy consumption/year (kWh/year)	5100	2500	**1700**
Nominal current (A)	29	27	**13**
Motor (kW)	12,5	11	**7,5**
Inverter (kW)	- - -	- - -	**5,5**
Tank volume (l)	200	230	**135**
Traffic capacity without cooler, journeys/h	52	105	**122**

1000 kg	Electr. reg. valve	HydroElite® VENI	HydroElite® VIDI
Isolator (A)	63	35	**16**
Energy consumption/year (kWh/year)	7000	3500	**2500**
Nominal current (A)	48	32	**17**
Motor (kW)	22	14,7	**11**
Inverter (kW)	- - -	- - -	**7,5**
Tank volume (l)	400	230	**135**
Traffic capacity without cooler, journeys/h	55	84	**99**

1600 kg	Electr. reg. valve	HydroElite® VENI	HydroElite® VIDI
Isolator (A)	80	63	**25**
Energy consumption/year (kWh/year)	11400	5700	**3800**
Nominal current (A)	64	52	**25**
Motor (kW)	29,4	24	**15**
Inverter (kW)	- - -	- - -	**11**
Tank volume (l)	400	400	**290**
Traffic capacity without cooler, journeys/h	44	85	**103**

2 000 kg	Electr. reg. valve	HydroElite® VENI	HydroElite® VIDI
Isolator (A)	100	63	**35**
Energy consumption/year (kWh/year)	13500	6700	**4600**
Nominal current (A)	80	63	**29**
Motor (kW)	36,8	29	**18,5**
Inverter (kW)	- - -	- - -	**15**
Tank volume (l)	700	400	**290**
Traffic capacity without cooler, journeys/h	51	72	**85**

Engineering expertise:
Your partner from quotation to maintenance

At Hydroware you are buying more than just a product. Automatically you get access to our extensive practical experience in modernising lifts. From measurement to approval and certification, it is great to have experienced engineers by your side.

We provide online support, over the phone or onsite, for example with:

- A design programme to determine the drive size and control unit included in the offer price
- Telephone support or On-site support from experienced staff specialised in hydraulic lifts
- Special control options or functions from software developers in project development
- Flexible processing options for complex modernisations, such as double pistons, high lifting capacities and severe space constraints
- Technical consultation and quotation
- Special system construction with qualified suppliers
- Documentation and certification for distribution online

Quick Installation: Wireless installation handle

If you use the option with Hydroware's wireless installation handle, you can control the lift wirelessly from the cabin roof. An installation run can be carried out as soon as the new unit is placed and connected to the power supply. An installation run does not require shaft installation or connected bridges, which means there is no annoying wiring or restricted mobility. This makes the installation even quicker!

Wireless installation handle can be set for each HydroElite modernisation.

Technical Support: 24 hour spare parts service

Our comprehensive product support package:

- English speaking local support for the complete product (drive and control unit) with onsite support when needed
- 24 hour spare parts service, 20 year spare parts availability
- Onsite commercial and technical consultation including measurement & site inspection
- Supporting complex modernisation solutions
- Onsite training for installation, test & maintenance
- Fair prices for spare parts

Some part out of order? Direct line to our support service: **support@hydroware.co.uk, support@hydroware.se** or **+46 (0) 472 45156**

One-Stop-Shop: Accessories from one hand

Together with the products made by Hydroware we deliver optimised components like:

- Operating panels and indicators
- Cylinders
- Hydraulic oil and additives
- Rupture valves
- High pressure hoses
- Shaft light and emergency light
- Doors

and much more

And of course, new hydraulic lifts!

Practical tips

Important information on the design of a control and drive unit

Please note that you must read the system information carefully. It specifies the drive and control unit.

Pay close attention to:

- Minimum and maximum car pressures
- Pump capacity and travel speed
- Cylinder type/specifications/piston diameter
- Cabin weight, nominal load
- the motor's KW values
- the machine room/shaft distance

Look at the current record sheets for the precise specification data. Please note that, aside from the drive and control unit, other lift components may be considered as part of modernisation, as they contribute considerably to operational safety and reliability.

Hydraulics:

- 2:1 roping system and pulleys, check the condition
- Cylinder, check the seal and whether it is "dry" or not
- Check high pressure hoses and rupture valves

Doors:

- Condition of the doors, conformity to norms, locking magnets, door drive, door monitoring, light barriers, sills, rollers

Safety spaces:

- Ensure safety spaces, separate requirements, observe the norms and local regulations

Lighting:

- Make sure that the lighting in shaft, motor room and car is sufficient

United Kingdom: Hydroware (UK) Ltd
NN18 9NX Registered address 6A Ryder Court
Saxon Way East, Corby, Northamptonshire, United Kingdom
Phone +44 (0) 1858 437 585, Fax +46 (0) 472 149 64
www.hydroware.co.uk

Headquarters: Hydroware AB
Box 66, SE-342 21 Alvesta
Visiting address: Fabriksgatan 13
Phone +46 (0) 472 451 00, Fax +46 (0) 472 149 64

Hydroware