

# **HYWEMA®**

## **LIFTING EQUIPMENT**



**Mobile Vehicle Lifts Type RG**

# Plug and work – HYWEMA®'s workshop design concept



- 1) Vehicle Lift with lifted vehicle
- 2) Vehicle Lift and Axle Stands in joint operation
- 3) Type AV LB 7.5 Axle Stands
- 4) Type AV KB 7.5 Axle Stands
- 5) Axle Stand with adapter attached
- 5.1) Type LAN FL 30/20 Adapter
- 5.2) Type LAN U120 Adapter
- 5.3) Type LAN V100 Adapter
- 5.4) Type LAN RE 45/60 Adapter
- 5.5) Type LAN RE 65/90 Adapter
- 6) Type TR cross beam system in use
- 7) RG with the type RG-VG Vario-Fork
- 8) Type RH3W Wheel Jack
- 9) Aggregate Lifting Table  
Type AHT  
Type AHT-SPF  
(with float-mounted platform)
- 10) Vehicle Lift taking up a wheel
- 11) Power cable is connected to the supply in the control box
- 12) Start the lifting process either at the control box or using remote control.



## Advantages of use

Unrestricted access to the vehicle and freedom of movement under the entire vehicle and no tracks or supports to get in the way while mechanics are working.

With the mobile Vehicle Lifts Type RG, the workshop space remains ideally variable with no rails to fall over and no pits. Being able to use machinery and aids at ground level facilitates many of the daily tasks on and in particular under the vehicles. With the corresponding accessories from our range of workshop aids, the Vehicle Lifts can be used for several workplaces.





# Quality, reliability, durability and, at the same time,



## Field of application

With mobile Vehicle Lifts Type RG, all the work that can occur in a vehicle-repair workshop environment - whether repairs, servicing, cleaning or inspection of buses, commercial and special vehicles can be performed reliably, safely, quickly and, as a result, economically.

Work can be carried out at various places in the workshop or **outside in a suitable yard**. As a result, mobile Vehicle Lifts Type RG are to be found in any workshop that needs to be able to adapt rapidly to the changing demands of the market.





, safety that has been proven many times over.



## Construction

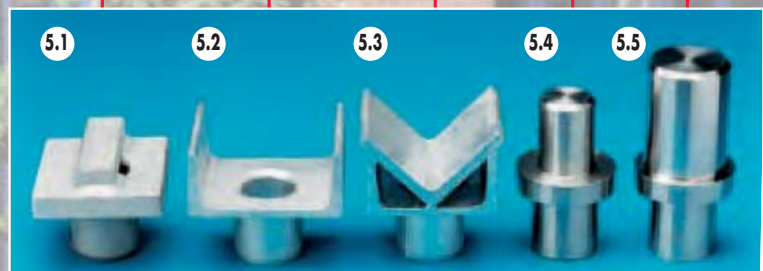
Mobile, electro-mechanical Vehicle Lift System tried and tested for decades.

All components are designed for durability and reliability in day-to-day work in the modern workshop. As such, these lifts are an investment in the future and will help to prevent downtimes. A notable feature is our **intrinsically safe spindle system**. In contrast to other systems, ours do not require additional safety devices.

The system is constructed in such a way that complex, failure-prone controllers are not required.

The Vehicle Lift system has a user-friendly control system and simplified preventive maintenance and repair procedures.

Our safety-first approach takes a weight off your mind during your day-to-day work.



**PLUG and WORK**

### Drive

For over 50 years, the superior, **intrinsically safe**, electro-mechanical **HYWEMA® spindle system** has proven its worth time and again. In contrast to other systems, ours do not require additional safety devices.

**Bellows** protect the entire spindle system to a high degree against moisture, dust and other dirt. The **HYWEMA® Quick Check System** enables operators to perform rapid status checks of the entire Vehicle Lift set without having to remove time-consuming cover panels.

### Travel gear

**Stepless** hydraulically adjustable, electrically monitored steering gear, with positioning aids for larger wheels. Heavy-duty plastic wheels in the bases and the large-format steering gear guarantee ease of movement and excellent handling. The base frame is **bevelled** by 45° on both sides and enables easy positioning even in cluttered workshop environments.

### Controller

The compact operator guided controller is **hoseproof** to IP 55, equipped with remote control and attached to one Lift for convenience. Automatic phase sequence recognition, selector switches for all the control options and indicator lamps for each Lift, self-diagnostic system in the event of a fault, all these are to the exacting **HYWEMA®** standards. The **remote control system** enables the owner of the installation to have all the raising and lowering motions **operated by a single worker**. No additional confirmation button is required. **The installation has been specifically designed to allow workers to operate below a moving load.**

### Cables

Plug and work system on each Vehicle Lift. Every cable is fitted with industrial grade plug-and-play connectors, is particularly robust, **resistant to oils and acids** and, as a result, ideally suited to tough workshop environments.

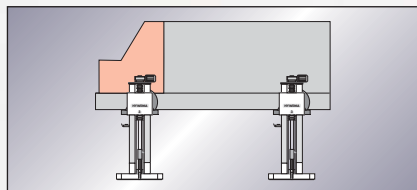
### Paint finish

Finished with a high-grade **two-component textured paint** to make the installation resistant to oils, grease, water, coolants and many solvents. This **special paint finish** is abrasion and impact-resistant and elastic. Individual parts are powder coated.

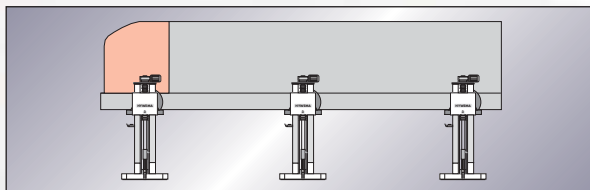
### Optional extras

- Ceiling-drop cables
- Galvanised version specially for wet environments
- Adjustable lift forks for different sized wheels
- Sockets for 230 V connections on switch box
- Special travel gear
- And if you feel anything is missing in this list - **please ask!**

### Layout of set



4-part set



6-part set

Total lifting capacity per set				per Vehicle Lift
4x	6x	8x	Type	
8.000 Kg	–	–	RG 2,0	2.000 kg
26.000 Kg	39.000 kg	52.000 kg	RG 6,5	6.500 kg
30.000 Kg	45.000 kg	60.000 kg	RG 7,5	7.500 kg
Permissible lifting capacity per Vehicle Lift				RG 35
				35.000 kg

### System benefits

- ☐ Hoseproof to IP 55 as standard
- ☐ Spindles fully enclosed in bellows



- ☐ Bevelled base frame
- ☐ Height of steering gear is infinitely adjustable, electrically monitored on each Vehicle Lift
- ☐ Intrinsically safe spindle system
- ☐ Electrically monitored nuts



- ☐ Floor-friendly wheels
- ☐ High-grade PUR 2-component textured paint finish / individual parts are powder coated



- ☐ Robust, resistant workshop cables and industrial quality plugs
- ☐ Travel gear also suitable for low-floor buses
- ☐ Initial inspection of every single Vehicle Lift and the complete unit at our factory
- ☐ Immediately ready for use after delivery. Not necessary to unpack or assembly anything. Plug and work.





**HYWEMA**

Wuppertaler Strasse 134-148  
D-42653 Solingen/Germany

Phone: +49-212-25 77-0  
Fax: +49-212-25 77-100

www.hywema.de  
E-Mail: sales@hywema.de

# Product information

## HYWEMA® mobile Vehicle Lift for tough workshop environments

HYWEMA® Lifting Platforms initially developed the first mobile Vehicle Lift arrays in the mid-1960s. Considered at that time to be a revolution on the shop floor, this technology is now an essential tool and aid in the highly technical field of commercial vehicle repair and maintenance in which electronic systems play a central role.



The advantages of Vehicle Lift arrays are evident and, in terms of accessibility under the vehicle, mobility and universal applicability in all fields of application, undisputed.

Nearly all actions can be carried out from normal, strain-free postures and with optimum freedom of movement. Long service lifetimes, dependability, easy operation and handling of HYWEMA® Vehicle Lift arrays are characteristics that stand out and are the result of decades of experience and continuous development in cooperation with our customers.

Our in-house customer services department is still supporting machine arrays produced between 1972 and 1975.

The experience gathered in this way is confirmation of our approach to providing customers with easy-to-operate Vehicle Lift arrays designed to meet the needs of the workshop. We deliberately avoid complex and individually configured electronic control systems and Bluetooth systems for wireless working. Too many factors can interfere with the operation of the lifts. This is particularly problematic when several Vehicle Lift arrays are working within one workshop. Where a fault occurs, it is necessary in such cases to call on the help of experts and special replacement parts from the manufacturer involved. Quick assistance from the customer's own electrical fitters is usually not an option.

HYWEMA®'s Vehicle Lift arrays are built using standard components made by renowned manufacturers and can be easily operated by any mechanical or electrical fitter and, in the event of a failure, put back into service after the shortest possible downtime.

Standard components can usually be sourced locally and are available immediately with no delays.



Our Vehicle Lift arrays are intended for raising nearly all commercial vehicles, are equipped with adjustable adapter forks to cover the range of tyre sizes, have our tried-and-tested sophisticated electromechanical spindle system offering a large working range, coupled with a compact, space-saving control interface. No other preparation is required to operate our installations, our philosophy of workshop-compliant Vehicle Lift arrays is "plug and work" and this will stay unchanged for the next 50 years.



## HYWEMA® Mobile Vehicle Lifts at MAN in Abu Dhabi

At present Abu Dhabi the capital city of the United Arab Emirates develops its public bus network to one of the most modern worldwide.



Service at MAN in Abu Dhabi

A small part of the development is HYWEMA® Mobile Vehicle Lifters type RG 5 HD, which MAN uses for maintenance of their modern low-floor buses type Lion's City and Lion's Regio.

Particularly in areas with extreme temperatures over +40 C° and exposure to dust the Mobile Vehicle Lifts of HYWEMA® push their strong advantages.

With the consistent renouncement on electronic parts which leads fast to failure of the complete system at higher temperatures, HYWEMA® lifting equipment offers the better solution.

The entire spindle system of the Mobile Vehicle Lifters coated with bellows excellently protected against dust, dirt and other external impacts. All electrical components are splash-proof according protection class IP 55.



Set of 8 Mobile Vehicle Lifts for the German Armed Forces

World-wide armed forces rely on Mobile Vehicle Lifts from Solingen, among others also the German Armed Forces on the Afghanistan mission.

HYWEMA® Mobile Vehicle Lifts are not only at high temperatures the right tool for lifting vehicles; also in ice-cold regions the Mobile Vehicle Lifts are ready for use.

HYWEMA® lifting equipment exclusively manufactures only

in Germany according the valid European Machinery Directive.

**HYWEMA® - The best solution for elevated requirements.**



## HYWEMA® - Mobile Vehicle Lifts in a commercial vehicle garage



To make maximum use of its existing equipment, a commercial vehicle repair shop in Munich purchased a new mobile set of vehicle lifts, Type RG SA, which is compatible with its existing installation. Controlled via the mobile control console and fitted with electronic, PC based synchro-motion, the unit can be operated in 6-way or 8-way mode for maintenance work on heavy vehicles.

Since the unit has to cope with lifting vehicles with 12.00 R 24 wheel sizes, the fork and base frame of the new Vehicle Lifts had to be widened. However, special adapters make it possible to lift vehicles with standard wheels with no problem.

Dirt-resistant bellows protect the HYWEMA® anti-crash spindle system to make working under raised loads permissible and safe.

HYWEMA® is certified to DIN EN ISO 9001:2008 and manufactures in compliance with EN 1493 Vehicle Lifts and the European Machinery Directive 2006/42/EC, and its products bear the CE mark.

## HYWEMA® Helicopter Lifting System for the NH 90



HYWEMA® has supplied several lifting systems to the German Army for lifting its NH 90 helicopters. Using the Mobile Vehicle Lift type RG as a basis, Hywema developed the NH 90 Heli-Lift in close cooperation with the approvals section. The helicopter is raised to working height via specially adapted nose and tail cross beams applied at the defined lifting points. The adapters can be finely adjusted to the correct positions in the x / y direction on the cross beams.

Lifting is by means of the tried-and-tested self-locking spindle system, with its electrically monitored safety nut and an electronic synchro-motion controller. As an additional safety feature, it is necessary to keep a confirmation button pressed when raising or lowering the helicopter. The working height is 1,800 mm if the units are located independently but this can be adjusted if the customer so wishes to match the working height to the maintenance docks.

This helicopter lifting system has been tested and approved by the German Army's Technical and Airworthiness Centre for Aircraft, i.e. its functional readiness and operating safety have been certified.



## Universal, Mobile and Ready for a Global Mission



Set of 8 mobile vehicle lifts type RG 6,5 HD-SA

HYWEMA® - Lifting Equipment developed different mobile vehicle lift systems for several bases of the German armed forces.

Specially designed for operation of the so called Quick Reaction Force (QRF) HYWEMA® delivered a complete vehicle lift set type RG-SA (8 lifts x 6,5 tons each = capacity 52 tons) with accessories.

On one side the mobile lift had to consist of two sets of 4 lifts each, which is combinable as one set of 8 lifts. On the other side the lifts had to be qualified for the transport in All-Side-Open-Containers.

After delivery and still successfully operating in Afghanistan, the complete mobile vehicle lift system was additionally tested by the Germany armed forces at a later point in time.

Including impact and vibration tests, vehicle lifts, accessories and even control boxes proved no defects or damages.

The mobile HYWEMA® - Lifting System type RG 6,5 HD-SA passed all the tests. Therefore our systems can practically use everywhere.

HYWEMA® - The best solution for lifted demands

# Product information

## HYWEMA® Vehicle Lifts in use with municipal authorities



HYWEMA® has supplied mobile Vehicle Lifts type RG 6.5 HD-VG to a large waste disposal and management company in Baden-Württemberg, Germany.

The installation, consisting of four vehicle lifts with a total lifting capacity of 26,000 kg, enables the vehicles and their attachments to be safely serviced while ensuring ergonomically correct working conditions.

Since the forks are adjustable, vehicles with a wide range of differing wheel sizes can be serviced.

The unit is operated via a control box type SK4A3-F which allows each Vehicle Lift to be operated separately, per axle or all four jacks together.

The Vehicle Lifts are powered electromechanically through HYWEMA® safety spindle drives. Each lifting spindle is protected by a bellows cover on all sides, while the electrical components have ingress protection rating IP 55, i.e. protection against contact and water jets.

The construction conforms to European Machinery Directive 2006/42/EC and EN1493:2010 relating to vehicle Lifting Platforms and is provided with CE markings and a Declaration of Conformity.



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## HYWEMA® Mobile Vehicle Lifts

### Vehicle Lift Systems for the new airport in Berlin



HYWEMA® has also fitted out the workshops at the new Berlin Brandenburg International Airport (BBI) with Vehicle Lift Systems.

Now that the two airports of Berlin Tegel and Schönefeld and their workshops have been merged, there are several machine systems in use at this new location. All the workshops for ground support equipment and the airport fire brigade have Vehicle Lift Systems type RG 6,5 at their disposal.

Different groups of these can be used as 4, 6 or 8-way systems. Some of the special-purpose vehicles (e.g. airport sweepers and blowers) require correspondingly special adaptations. As a result, HYWEMA® developed adapters that are simply pushed onto the ends of the forks. In addition, vehicles with tyre sizes of up to 16.00 R 20 can be handled. The running gear is designed to match the geometry of the vehicles and has ground clearance of only 80 mm.



All the systems feature the self-locking spindle system and electrically monitored safety nut. The spindle system is enclosed all-round with bellows to provide optimum protection against damp, dirt and dust.

HYWEMA® is certified to DIN EN ISO 9001:2008 and manufactures in compliance with the European Machinery Directive, and its products bear the CE mark.

## HYWEMA® - mobile vehicle lift system used for the fire brigade and for the disaster management

**A lot of car workshops in the fire station worldwide use HYWEMA® - Mobile Vehicle Lifting Systems type RG.**

What kinds of experiences regarding the daily use were collected in the last years?

The vehicle fleet in fire brigades varies and extends from different types like command cars, ambulances, fire engines, pump rescue ladders, up to turnable-ladders. Overall there are a lot of different vehicles that have to be repaired and maintained. The HYWEMA® - mobile vehicle lifts have a single capacity of 5,000 kg up to 15,000 kg. They can be used as a group of 4 lifts or as a group of 6 or 8, for heavy vehicles. Therefore it is possible to lift up all kinds of fire brigade vehicles, for maintenance and overhauling performances.

The spindle is all-round protected with a bellow, while the electronic components are executed for the protection class IP 55 (splash water).

The wheels on a lifted vehicle can be removed when using additional support stands type AV with step less spindle adjustment. Therefore former repair works on brakes, the steering and the axle mounting can be performed a lot easier.



The under-carriage washes after using the vehicles in the terrain and the following preserving operations can easily be performed.

The general inspection and inspections in between can also be performed with ease, because the whole area beneath the vehicles gets a better overview and there are no disturbing pit edges that obstruct you.

**Beside the ease for the workshop personal, there is an additional advantage for the versatile use of those lifting sets, that has to be positively rated.**

Ergonomically incorrect positions of former times can now be completed without a big effort.

**The lifting process can be performed at any place with our mobile devices.** The manoeuvrable lifting set can be used in the workshop, in the washing-bay or even on the yard. After all operations are done the lifting set is stored in the equipment room absolutely space-saving.





# Technical description

## HYWEMA® - for Mobile Vehicle Lift Type RG

### Technical Data

#### Location

In all work areas such as workshops, vehicle washing systems or outdoor, repair of vehicle body and care of under bodies.

#### Technical design

Proven, self inhibiting spindle system using state of the art technology. This is why no additional catching devices and braking engines are necessary.

#### Slanted base

Slanted base frame designed to use the minimum amount of space and to support all forces (therefore subsequent adjusting using spindles and plumb lines is unnecessary). The large base area gives rise to a small specific floor load, i.e. the floor is not destroyed.

#### Two columns guiding frame

The device support guide (wheel slot) is designed for long-term and extreme stress in two columns. Lateral forces which may occur are taken up by the wide frame. It is not possible for the equipment to tilt. The spindle is centred between both columns.

#### Safety drive

The lifting process takes place via a self-inhibiting, correctly dimensioned threaded spindle.

The self-inhibition is not only completely effective in the static position, but also during the lifting and lowering process (safety for the person under the vehicle). The equipment is driven via a worm gear pair engine which is directly flanged on at the top of the spindle. The threaded spindle moves a HYWEMA safety nut along with the carry nut, up or down without load. There is a fully automatic bearing nut control in the entire working area.

If necessary, the HYWEMA safety nut takes over the supporting function and switches off the entire system. The vehicle which has been lifted can only be moved down using the "Lower" button.

#### Monitoring the load up take device

Each lift is equipped with a monitoring switch to monitor the load uptake device for unintentional blocking of the load uptake device.

#### Spindle system protector

The spindle protector is completely enclosed by harmonica bellows and therefore optimally protected against water, cleaning agents, dust and dirt.

#### Wide loads

The weight carriers are precisely guided with large heavy duty rollers in the TWO PILLAR system. This means that tilting is totally impossible. The forwards slanted face panel and the low lying tyre stop prevents wheel covers and body parts being damaged.

#### Long wheel supporting forks

The long wheel supporting forks with the backwards tilted face panel makes it possible to drive directly up to the vehicle and to safely support the wheels.

#### Traverse

The use of standard and special traverses as an option is possible at any time. The upgrade can be used without any complicated rebuilding of the system.



## HYWEMA® - for Mobile Vehicle Lift Type RG

### Technical Data

#### Adjustable undercarriage

Smooth running, sloping undercarriage with large wheels on double ball bearings. The continuously adjustable manual hydraulic „independent of the steering shaft“ makes it possible to lift and lower the vehicle wheels using low wheel supporting forks which are not lifted during lifting.

#### Smallest turning circle

The ability to directly drive up to and extend from the vehicle wheel using the steering shaft (no lateral wheels) and the slanted undercarriage result in the smallest turning circle and the smallest necessity for manoeuvring (e.g. an absolute necessity in vehicle wash halls or in the case of very narrow spaces).

#### Optimum conditions

The HYWEMA compact control box type SK on RG 1 with monitoring light indicators has been designed for single, pairs and overall operation, i.e. each axle can be lifted or set down individually.

#### Protection type for the system

Electrical: Protection class IP 55 water jets, for use in car washes as well as outdoor and to maintain the under body  
Mechanical: The spindle is protected by a bellow against any external effects like water, cleaning products, dust and dirt.

#### HYWEMA® Safety Systems

- |                                                                                                 |                                                                                                                                                                                         |
|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ↺ EMERGENCY STOP - push-button with detent                                                      | ↺ Automatic monitoring of load uptake device                                                                                                                                            |
| ↺ Lockable main switch                                                                          | ↺ Automatic monitoring of wear and tear of the nut systems with re-lifting safety device                                                                                                |
| ↺ Self-inhibiting spindle system (no additional catching devices and breaking motors necessary) | ↺ Automatic standstill monitoring of one or more lifts                                                                                                                                  |
| ↺ Isolating transformer for control voltage with safety device                                  | ↺ Spindle system completely covered by harmonica bellows to the protected against dust, dirt and water                                                                                  |
| ↺ Phase sequence relay to ensure the correct power supply with phase control                    | ↺ Optical control of all functions via indicator lights                                                                                                                                 |
|                                                                                                 | ↺ According to valid standard for vehicle lifts EN 1493:2010, and Machinery Directive 2006/42/EG: The complete installation delivered with CE-marking and EC-declaration of conformity. |

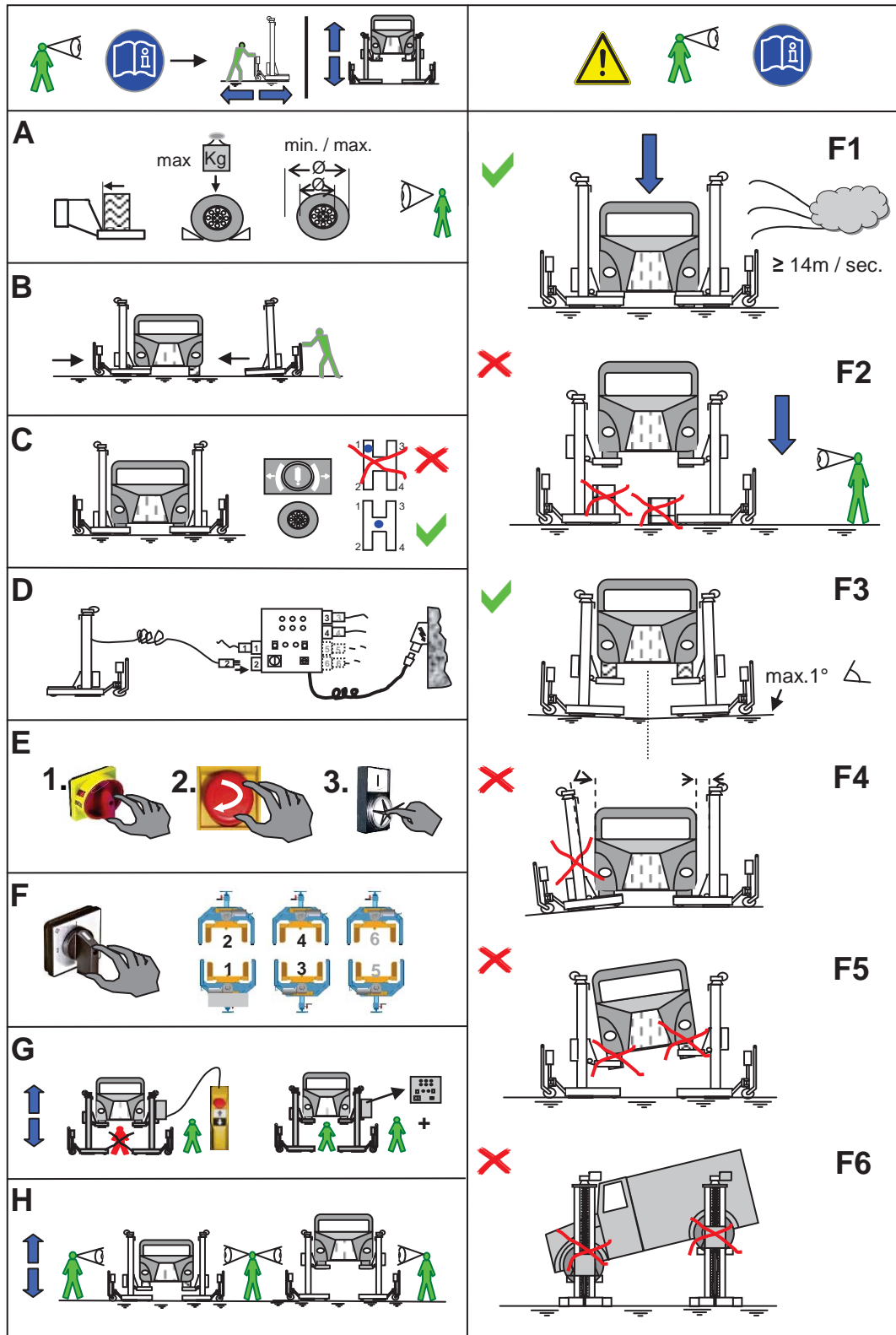
#### Service

HYWEMA systems are equipped with a special Quick-Check-Device for later checks and maintenance.

#### Successful

HYWEMA mobile Vehicle-Lifts Type RG have been used successfully for more than 40 years in more than 60 countries world-wide and continuously being adapted to state of the art technology.

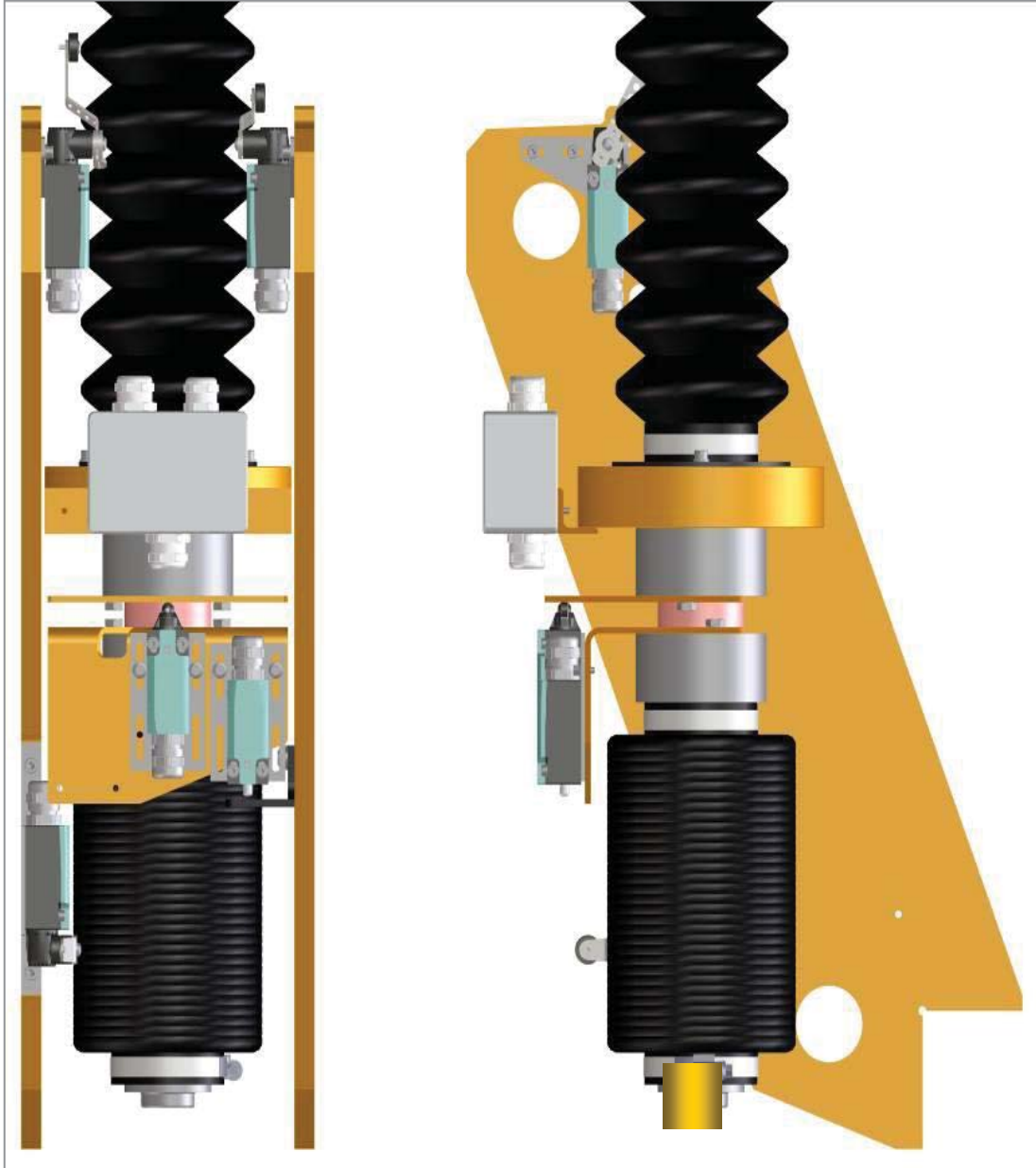
## HYWEMA® - operating instructions



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## HYWEMA® - Spindle system RG



# Product Information

## HYWEMA® - Tire Size & Reception Area

Type Vehicle Lift		Ø min. Rim > d < [mm]	max. Wide > B < [mm]	Ø Tire > D < [mm]		Tire Type
RG 2,0 [A3]		390	290	min. max.	610 786	175 70 R14 7.00 R16
RG 2,0 [A4]		440	290	Min. Max.	660 870	225/55 R16 10 R17,5
RG 5,0		570	320	min. max.	940 1140	8R22,5 / 8.25-20 13R22,5 / 12.00-20
RG 6,5 / RG 7,5		570	320	min. max.	940 1140	8R22,5 / 8.25-20 13R22,5 / 12.00-20
RG 7,5 VG	VB-A	570	320	min. max.	940 1140	8R22,5 / 8.25-20 13R22,5 / 12.00-20
	VB-B	470		min. max.	810 940	7.50 R16 7.50 R20
	VB-C	450		min. max.	690 810	6.00 R16 8.00 R17,5
	VB-D	390		min. max.	550 690	155 R13 205/65 R15

Type Fork Adapter			Ø min. Rim > d < [mm]	max. Wide > B < [mm]	Ø Tire > D < [mm]		Tire Type
RA1	RG5,0	Yes	390	230	min. max.	550 690	155 R13 205/65 R15
	RG6,5	Yes					
	RG7,5	Yes					
RA2	RG5,0	Yes	450	230	min. max.	690 810	6.00 R16 8.00 R17,5
	RG6,5	Yes					
	RG7,5	Yes					
RA5	RG2,0 [A3]	Yes	350	230	min. max.	550 690	155 R13 205/65 R15
RA6	RG2,0 [A4]	Yes	360	230	min. max.	610 660	175/70 R14 205/65 R15



d = Diameter Rim

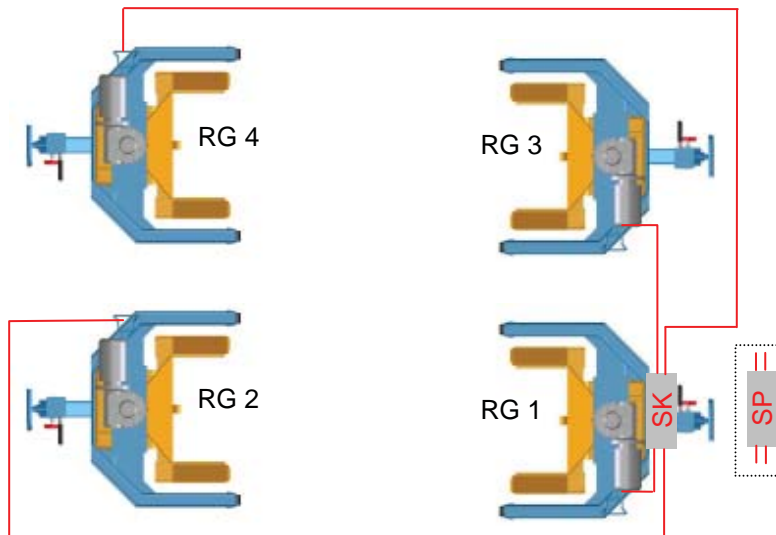
D = Diameter Tire

B = Wheel Width



# Product Information

## HYWEMA® - Vehicle Lifts Cabling Diagram Set 4/6

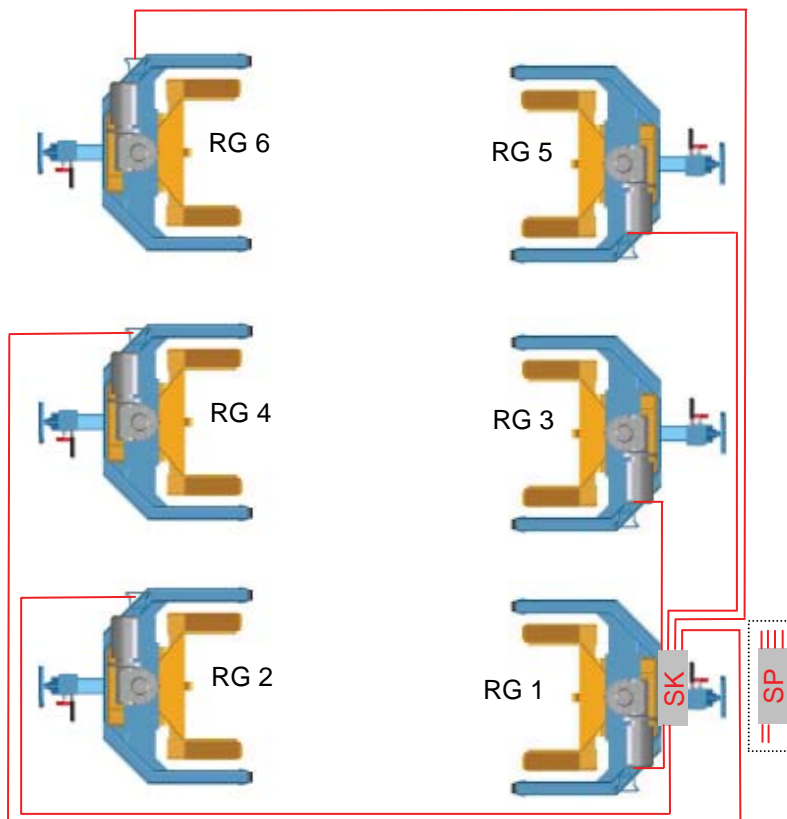


Set of 4  
Cable lengths to vehicle lifts from  
cable set R081900A0

Control Box	RG	mtr.
SK	1	0.46
	2	10.0
	3	10.0
	4	15.0

cable set R081905A0

Control Panel	RG	mtr.
SP	1	10.0
	2	10.0
	3	10.0
	4	15.0



Set of 6  
Cable lengths to vehicle lifts from  
cable set R081920A0

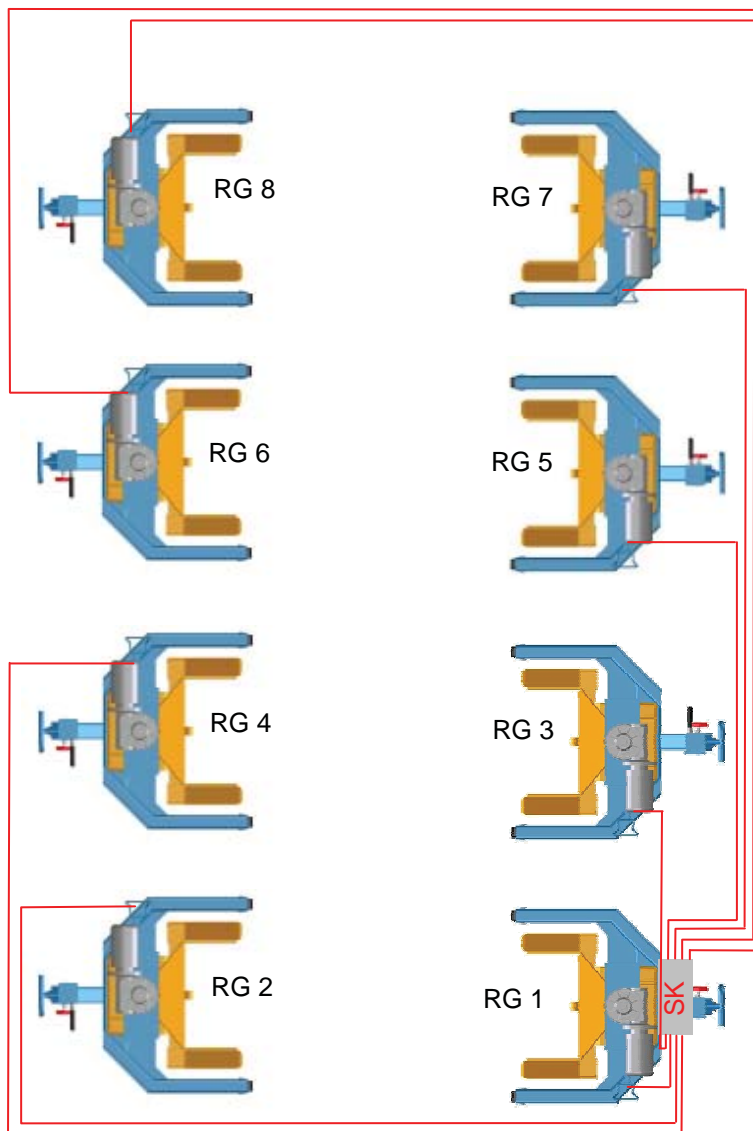
Control Box	RG	mtr.
SK	1	0.46
	2	10.0
	3	10.0
	4	15.0
	5	15.0
	6	20.0

cable set R081925A0

Control Panel	RG	mtr.
SP	1	10.0
	2	10.0
	3	10.0
	4	15.0
	5	15.0
	6	20.0

# Product Information

## HYWEMA® - Vehicle Lifts Cabling Diagram Set 8



Set of 8		
Cable lengths to vehicle lifts from		
cable set R081950A0		
Control Box	RG	mtr.
SK	1	0.46
	2	10.0
	3	10.0
	4	15.0
	5	15.0
	6	20.0
	7	20.0
	8	25.0
cable set R081955A0		
Control Panel	RG	mtr.
SP	1	10.0
	2	10.0
	3	10.0
	4	15.0
	5	15.0
	6	20.0
	7	20.0
	8	25.0



**Operating Voltage: 3 Ph +N +PE / 400V / 50 Hz**

(Direction of rotation right hand)

Set	Engine Power in kW / Current in amperes (A)	Control Box	Connection Cable With Plug Attached on the control box	Female Socket Provided by the customer	Protection Provided by the customer
4x RG 2,0	1,5 kW / 3,4 A = <b>13,6 A total</b>	SK 4 A 3-F	5-pin 16 A male CEE-plug	5-pin 16 A female CEE-socket	16 A slow blow
4x RG 5,0	2,2 kW / 4,7 A = <b>18,8 A total</b>	SK 4 A 3-F	5-pin 32 A male CEE-plug	5-pin 32 A female CEE-socket	32 A slow blow
4x RG 6,5	2,2 kW / 4,7 A = <b>18,8 A total</b>	SK 4 A 3-F	5-pin 32 A male CEE-plug	5-pin 32 A female CEE-socket	32 A slow blow
4x RG 7,5	2,85 kW/8,0 A = <b>32,0 A total</b>	SK 4 A 3-F	5-pin 32 A male CEE-plug	5-pin 32 A female CEE-socket	32 A slow blow
6x RG 5,0	2,2 kW / 4,7 A = <b>28,2 A total</b>	SK 6 A 3-F	5-pin 32 A male CEE-plug	5-pin 32 A female CEE-socket	32 A slow blow
6x RG 6,5	2,2 kW / 4,7 A = <b>28,2 A total</b>	SK 6 A 3-F	5-pin 32 A male CEE-plug	5-pin 32 A female CEE-socket	32 A slow blow
6x RG 7,5	2,85 kW / 8,0 A = <b>48,0 A total</b>	SK 6 A 3-F	5-pin 63 A male CEE-plug	5-pin 63 A female CEE-socket	63 A slow blow

**For protection at the customer's site, a fuse (slow blow) or 3 contacts circuit breaker (trigger characteristic D) is needed.**

