

# LUKAS

Germany's finest hydraulics.

**NEW:** With increased work safety

# FAST & SAFELY ON TRACK.

Leading rerailing systems from Germany.



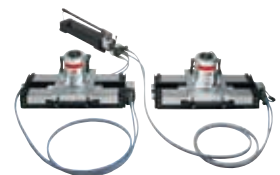
Powering



Controlling



Lifting



Traversing

# DON'T LOSE A SECOND.

Opt now for the leading system.

The thoughtfully designed **LUKAS** rerailing system has been the global leader for decades. Invest in true quality and in a product that helps you get derailed vehicles of all kinds back on track quickly, precisely and safely and gets your tracks back in service as soon as possible while minimising your downtime expenses.

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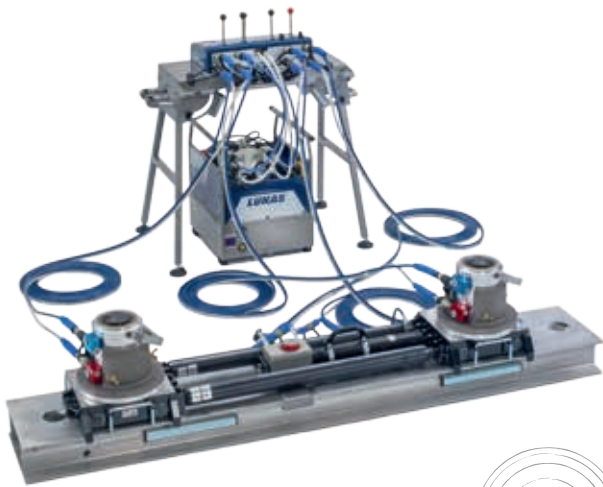
## The DUO traversing unit – the smart solution

Only with **LUKAS** can you move a load over the entire bridge length in both directions with millimetre precision at a safe distance from the control desk – without the need for manual repositioning!

With separate oil flows, you can drive the lifting cylinders individually or synchronously as needed using identical hydraulic cylinders operated from the control desk. No more constant adjustments – now your job is simple and safe. For you that means working with top safety and convenience from outside the danger zone. Make the change now!

## System components

- + Motor pump
- + Control desk
- + Telescopic cylinders
- + DUO traversing unit
- + Mechanical aids including rerailing bridge, roller carriage and distance bars
- + Pulling unit
- + Long-stroke cylinders and accessories for uprighting overturned rail vehicles



**LUKAS** rerailing systems work with hydraulics, allowing effortless lifting and lateral shifting of even the heaviest rail vehicles. The required oil pressure is generated by a high-quality motor pump, while the load can be lifted and lowered and the hydraulic cylinders laterally shifted with precision from the control desk.

## The top benefits at a glance

### **Smart & safe**

Our rerailing equipment features outstanding user-friendliness and well-designed technology, as demonstrated by its high level of user safety: you can operate our systems at a safe distance. This clever system takes no risks and counteracts unfavourable load distributions. A pressure gauge is assigned to every oil flow or to every lifting or traversing cylinder, making the operating pressure visible.

### **Strong & fast**

Work with the internationally proven pressure of 530 bar and a smart traversing system that shortens procedures and saves valuable time.

### **Compact & light**

All components are very compact thanks to their high operating pressure and lightweight design, so you have more space in your rail-road vehicle and can transport your rerailing equipment to its destination easily and set it up there effortlessly.

### **Top quality & versatility**

Made in Germany: **LUKAS** rerailing systems are developed and produced in Germany, so they meet the highest quality standards.

## A strong partner – from the start.

Get exactly what you need: We'll assist you with your individual rerailing concepts. We'll work out the exact requirements for various scenarios

tailored to your needs and provide detailed information about the relevant products. Just contact us!



## Master powerful forces safely.



GC 650-2POWER



PC 650-2POWER

### Hydraulic power units

You can rely on our compact power sources to supply the power you need for all equipment in the unique **LUKAS** rerailing system. Get a strong power source with the powerful P 650 motor pumps and save valuable time on every step while easily minimising sources of error.

#### Well-designed: smart and convenient

Their compact, low-weight design makes handling easy. Ergonomically positioned retractable handles make them easy to carry and efficient to store. Practical quick couplers secure the load and prevent accidental uncoupling so you're ready to work in seconds.

#### Fast and flexible

Adaptable: Depending on your needs, you can choose a gasoline (GC-650) or an electric (PC-650) motor as your power unit. Gasoline motors are available with and without e-starters.

Our two-stage power units work with two flow rates for faster travel without load and controlled extension and retraction under load.

#### Better safe than sorry

Work with two- or four-flow radial piston pumps. Depending on your requirements, up to 4 hydraulic cylinders can be supplied with identical oil flows. Now identical lifting cylinders can be synchronously extended and retracted from the control desk.

#### Unbeatable strong

The working pressure of compact power units is 530 bar resulting in a very high capacity of the telescopic lifting rams and a compact and lightweight design.

#### More is less

More space in your service vehicle – easier transport: The tank volumes for the hydraulic power units were adjusted to the relatively low oil volume of the hydraulic cylinders.

Your needs determine the optimum design.

### Benefits

- + Separate oil flows for synchronised lifting
- + Operating pressure 530 bar / 53 MPa
- + High operating pressure enables compact cylinder design
- + Two working speeds for fast extension without load
- + Controlled extension and retraction speeds under load
- + These high-performance drive units have a compact design for easy transport and space-saving storage


**GC 650-4POWER**

**PC 650-4POWER**

Type	GC 650-2POWER	PC 650-2POWER
Flow capacity, low/high pressure	2 x 3.1 / 0.9 l/min	2 x 2.6 / 0.7 l/min
Useable oil quantity	23 l	23 l
Motor	4-cycle gasoline*	230 V – 50 Hz
Motor output	4.2 kW	2.2 kW
Motor pump l x w x h, approx.	537 x 451 x 600 mm	537 x 451 x 577 mm
Weight (incl. hydraulic oil)	80 kg	76 kg

\* optionally without electronic starter, weight 74 kg

Type	GC 650-4POWER	PC 650-4POWER
Flow capacity, low/high pressure	4 x 2.6 / 0.7 l/min	4 x 2.2 / 0.6 l/min
Useable oil quantity	40 l	40 l
Motor	4-cycle gasoline*	400 V – 50 Hz
Motor output	5.1 kW	3.5 kW
Motor pump l x w x h, approx.	537 x 451 x 677 mm	537 x 451 x 672 mm
Weight (incl. hydraulic oil)	103 kg	99 kg

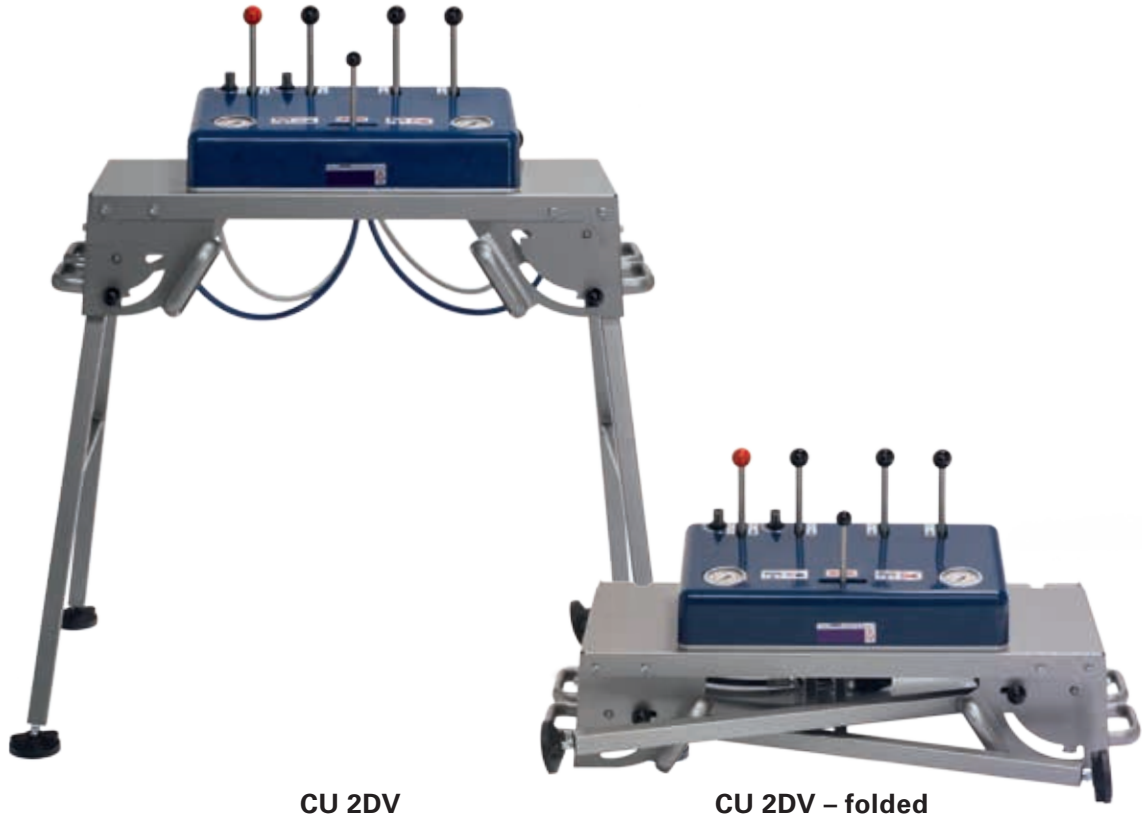
\* optionally without electronic starter, weight 97 kg


**GC 650-2POWER with CU 2DV**

**GC 650-2POWER with CU 2DV**

The power unit and the control desk can be set up together or at any separation (e.g. 20 m).

## ▶ The safe command centre.



CU 2DV

CU 2DV – folded

### ▶ CU control desk

With the new CU 2DV or CU 4DV control desk, you have everything under control – at a safe distance. Move derailed vehicles precisely and easily from one place without having to enter the danger area.

#### **Clear objective: precise control**

Thanks to separate oil flows, you can drive each cylinder separately or all of them synchronously, with an oil flow available for each cylinder to give you extremely precise control for safe and synchronised lifting of the load without unwanted counter-movements.

#### **Easy to operate – quick on the job**

With its smooth, easy-to-use control valves you can lift, lower, traverse and position rail vehicles while precisely monitoring the forces at all times. The unit's clear labelling makes handling easier when things get serious. A pressure gauge is assigned to each hydraulic cylinder so you can keep the load under precise control.

#### **Easy handling, minimal space requirements**

Well-designed: The new control desk's support frame is foldable to save space in your service vehicle. Choose from two different sizes to meet your requirements.

### ▶ On the job





CU 4DVV

## Benefits

- + Separate oil flows for synchronised lifting
- + Precision force control
- + User-friendly valve arrangement with automatic spring reset (deadman switch) in case of sudden operator incapacity
- + Clearly labelled for ease of use
- + Needs little space: collapsible frame
- + Big base plates for optimum stability
- + Ergonomically positioned handles for easy transport

	CU 2DV	CU 4DVV
Valves for lifting/lowering	2	4
Traversing with	1 DUO traversing unit	2 DUO traversing units
Dimensions: l x w x h	1030 x 640 x 1112 mm	1310 x 640 x 1112 mm
Weight	43.5 kg	68 kg

## High-performance hand pumps.

The robust, two-stage hand pumps are ready at any time in case of an emergency. They offer the option to use the telescopic jacks in environments with a risk of explosion. These high-performance hand pumps can be used to lift or traverse the load with one or two compact traversing units. With these hand pumps you can work quickly and precisely at all times.

ZPH 3/4-2D



ZPH 3/8-2D

### Benefits

- + Rapid traversing possible thanks to the high output rate of the pump
- + Suitable for use in environments with a risk of explosion, such as tunnels or underground shafts
- + Effortless work thanks to low leverage forces
- + For two double-acting jacks

	ZPH 3/4-2D	ZPH 3/8-2D
<b>Oil output rate: low pressure</b>	10.8 cm <sup>3</sup>	10.8 cm <sup>3</sup>
<b>Oil output rate: high pressure</b>	4.2 cm <sup>3</sup>	4.2 cm <sup>3</sup>
<b>Capacity of oil reservoir</b>	5.25 l	10.5 l
<b>Usable quantity</b>	4 l	8 l
<b>Dimensions l x w x h</b>	940 x 260 x 182 mm	940 x 260 x 182 mm
<b>Weight</b>	16 kg	21 kg



### Hydraulic hoses: fast and easy connection

All components of the rerailing system are connected with an all-purpose hose type that you can use to easily connect the power unit with the control desk, or to connect to the lifting cylinder and the DUO traversing cylinder. The hose pair is equipped with non-interchangeable safety couplings and is available in lengths of 10 m and 20 m.

#### Weight

10 m hose pair 7 kg  
20 m hose pair 11 kg



# ▶ Truck mounted system – the faster solution.

## ▶ The vario set for rail-road vehicles

Two-track vehicles for road and rail use enable you to respond to various scenarios fast and flexibly. We have developed the perfect rerailing solution for these vehicles: the vario set. The pump is mounted on the vehicle's frontal power take-off with a swivelling control desk on the vehicle front.

## ▶ Benefits

- + Complete system with all the necessary components
- + Much lighter and more compact because power and control units are located outside on the vehicle
- + Faster setup
- + Safe operation with unrestricted view of the accident site
- + Simplified connection thanks to hoses with quick-lock couplings
- + Can be retrofitted on all vehicles with frontal power take-off

## ▶ Areas of application

- + Lifting with up to 3 double-acting telescopic rams
- + Traversing with the DUO traversing unit
- + Uprighting overturned rail vehicles with the uprighting equipment
- + Releasing wedged rail vehicles with pulling equipment

### Two-stage pump with:

low pressure circuit and high pressure circuit

### Output rate:

LP 0.75 l/min per 100 min<sup>-1</sup>  
HP 0.4 l/min per 100 min<sup>-1</sup>

### Max. permissible speed:

1,500 min<sup>-1</sup>

### Output rate at max. permissible speed:

LP 11 l/min, HP 5.6 l/min

### Oil tank usable volume:

Min. 30 l

### Weight (without oil):

86 kg

## ▶ On the job



## ▶ Your strongest assistants.

Lifting



## ▶ Telescopic rams

Beside their enormous strength, our telescopic rams also feature thought-out design. High-strength, light alloy aluminum makes them resistant to corrosion and easy to maintain. Thanks to the telescopic design, they combine long piston strokes with a relatively low height.

### Optimised surfaces

The surfaces of the piston rods are hard-anodised to protect against damage; the piston guard plates are corrugated and are made from high-strength steel. Best quality for a long service life – at your side.

### Integrated hose-break safety valve

The **LUKAS** hose pairs have an integrated quick stop feature that prevents the uncontrolled lowering of the load, for example if the hose has been damaged.

### Perfect coordination

The piston strokes and forces of the various cylinders are coordinated down to the last detail. This means that you remain in control even in difficult situations - fast and safe.

## ▶ On the job





	<b>HP 10   T 280 R</b>	<b>HP 25   T 185 R</b>	<b>HP 25   T 450 R</b>
<b>Piston lifting force 1/2/3</b>	650 / 301 / 104 kN	650 / 301 kN	650 / 301 kN
<b>Piston stroke 1/2/3</b>	94 / 95 / 90 mm	95 / 90 mm	228 / 223 mm
<b>Total stroke</b>	279 mm	185 mm	451 mm
<b>Height</b>	215 mm	215 mm	380 mm
<b>Oil volume</b>	1.4 l	1.3 l	2.8 l
<b>Weight</b>	14.8 kg	14.8 kg	23.8 kg

	<b>HP 30   T 500 R</b>	<b>HP 50   T 185 R</b>	<b>HP 50   T 400 R</b>
<b>Piston lifting force 1/2</b>	650 / 301 kN	1,066 / 504 kN	1,066 / 504 kN
<b>Piston stroke 1/2</b>	250 / 250 mm	89 / 96 mm	195 / 204 mm
<b>Total stroke</b>	500 mm	185 mm	399 mm
<b>Height</b>	465 mm	234 mm	400 mm
<b>Oil volume</b>	3.25 l	2 l	4.3 l
<b>Weight</b>	26.0 kg	24 kg	41 kg

	<b>HP 65   T 400 R</b>	<b>HP 130   115 R</b>
<b>Piston lifting force 1/2</b>	1,665 / 703 kN	1,348 kN
<b>Piston stroke 1/2</b>	198 / 201 mm	115 mm
<b>Total stroke</b>	399 mm	115 mm
<b>Height</b>	400 mm	272 mm
<b>Oil volume</b>	7.0 l	2.9 l
<b>Weight</b>	63 kg	53 kg



## ► The right response to every situation.



### ► Stacking sets

If you are faced with the need of an extraordinary long stroke, the stacking sets can be used to increase the maximum lifting height by up to 495 mm. Depending on the number and height of piston and stacking rings, you can respond in a flexible way with these accessories.

Stacking set for	HP 10/T, HP 25/T	HP 50/T 185 R	HP 50/T 400 R
Stacking ring, number / height	4 / 65 mm	4 / 65 mm	2 / 150 mm
Piston ring, number / height	3/65 mm + 1/45 mm	3/65 mm + 1/45 mm	1/20 mm + 1/123 mm + 1/150 mm
Fork levers, quantity	1	1	1
Max. stroke extension	260 mm	260 mm	360 mm
Total weight	14.5 kg	21 kg	22.2 kg

Stacking set for	HP 65/T 400 R	HP 130/115 R
Stacking ring, number / height	3/133.4 mm	1/110 mm + 4/95 mm
Piston ring, number / height	1/20 mm + 2/135 mm + 1/100 mm	5 / 95 mm
Fork levers, quantity	1	1
Max. stroke extension	400 mm	495 mm
Total weight	42 kg	47 kg

### ► Base plates

Safety first. The base plates increase the jack's ground area and improve its stability many times over. Essential for all lifting tasks!

Base plate for	HP 10 / T...	HP 25 / T...	HP 30 / T...
Weight	7.2 kg	7.2 kg	7.2 kg

Base plate for	HP 50 / T...	HP 65 / T...
Weight	9 kg	24.5 kg





## ▶ Lifting adapters

### Tilt adapter plates

- + Maximum load up to 40 t
- + Tilt angle 5°
- + Weight 1.1 kg

### Lift rod adapters

For lifting rail vehicles with lift rods with a radius of 40 mm or 80 mm.



## ▶ Special jack for low-floor vehicles.

## ▶ Internal jacks

**LUKAS** internal jacks are valuable additions to the rerailing concept of vehicles with low ground clearance. Not only in tunnels or in wilderness areas they allow for easy initial lifting. Therefore manufacturers of low-floor vehicles install bayonet adapters in the vehicle floor depending on design and weight.

In this way you can insert the **LUKAS** internal jacks into the vehicle floor with piston facing downwards and extend them slowly. Thus you create enough ground clearance to take over the load with telescopic cylinders or insert the traversing equipment.



The internal jacks are equipped with bayonet fittings. You can choose between 3 types with different operating pressures and lifting strokes.

- + HP 7/360 R 69kN / 360mm stroke
- + HP 10/250 R 100kN / 250mm stroke
- + HP 21/300 R 204kN / 300mm stroke



HP 21/300 R



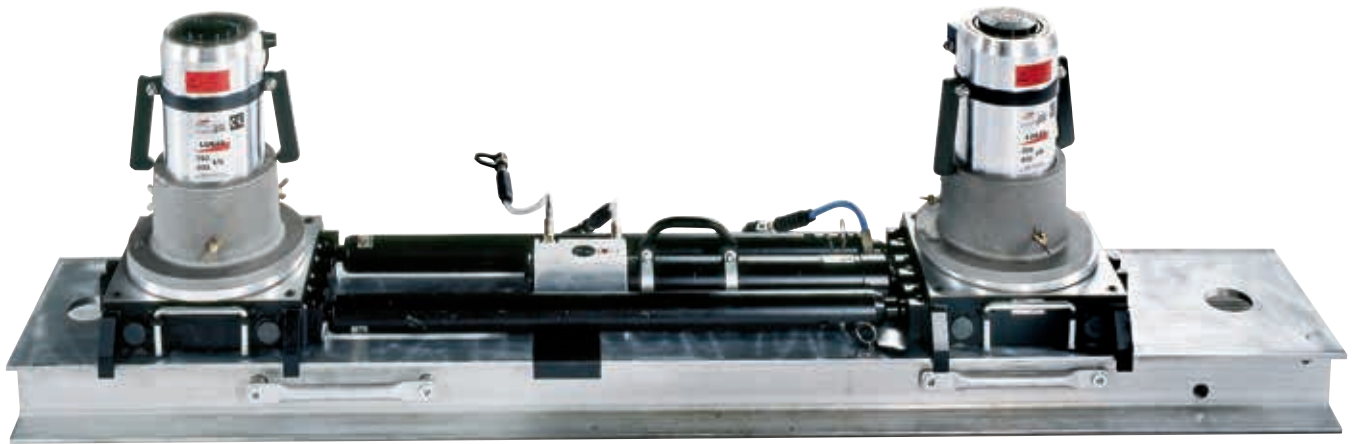
HP 10/250 R



HP 7/360 R

All jacks are double-acting and are retracted hydraulically.

## ▶ The safest way to traverse.



### ▶ DUO traversing unit

The DUO traversing unit is the only system on the market that allows you to perform the entire operation from a safe distance without manual repositioning, even for heavy loads.

#### **Work stress-free with maximum safety**

A locking pin is integrated in the DUO traversing unit. So you can stay outside the danger area while traversing. It is operated from the control desk when locking and unlocking. This safe approach makes it possible to move loads over long distances in both directions.

For you that means time savings and safety since manual repositioning of an arrester is unnecessary.

#### **Depend on it**

The DUO traversing unit and the roller carriage are equipped with lateral guides to ensure straight movement along the bridge.

Integrated sliding plates compensate for vehicle bowing during movement of the load.

To ensure optimum stability and prevent tilting of the cylinders, **LUKAS** uses a rerailing bridge with 350 mm width and roller carriages with Teflon-coated sliding plates.

You avoid inconvenient and time-consuming repositioning.

### ▶ Benefits

- + Work from the control table – at a safe distance
- + Movement in two directions over the entire length of the bridge
- + No manual positioning of arresters in the danger area
- + Minimises working in ergonomically unhealthy postures
- + Integrated sliding plates compensate for bowing of vehicle
- + 90 mm bowing without lowering load and repositioning supports
- + Roller carriage with 4 slots to insert distance bars and the DUO traversing unit
- + 2 adjustable distance bars connect the roller carriages and enable safe traversing on the bridge
- + Low total system weight





① DUO traversing unit

Push/ pull force	170 / 90 kN
Stroke	320 mm
Dimensions*: l x w x h	668 x 360 x 174 mm
Weight	23 kg

① DUO traversing unit, heavy load

Push/ pull force	337 / 207 kN
Stroke	320 mm
Dimensions*	653 x 320 x 186 mm
Weight	42 kg

② Roller carriage

Permissible load	750 kN
Height	112 mm
Weight	42 kg

② Heavy load roller carriage

Permissible load	1,000 kN
Height	140 mm
Weight	62 kg

③ Adjustable distance bars (set)

	Short	Long
Length max./min.	1,830 / 1,030 mm	2,800 / 1,500 mm
Weight	40 kg	58.5 kg

\*with guide plates

## ▶ A secure base for traversing.



### ▶ Rerailing bridges

The rerailing bridge is used as soon as you have raised the derailed vehicle. You can then move the vehicle sideways with one or two roller carriages and the DUO traverse unit. When the vehicle is in the right position, lower it onto the rails. **Connecting rerailing bridges:** You can extend the bridges with connecting elements, enabling you to respond to various track widths. Important: The connection points must be supported securely.

#### Height 85 mm (low-floor vehicles)

Length m	1.1	2.2	3.3
Width mm	350	350	350
Weight kg	34	68	102

#### Height 140 mm

Length m	1.1	2.2	3.3	4.4
Width mm	350	350	350	350
Weight kg	40	80	120	160


#### Height 184 mm

Length m	1.1	2.2	3.3	4.4
Width mm	350	350	350	350
Weight kg	70	140.5	211	281

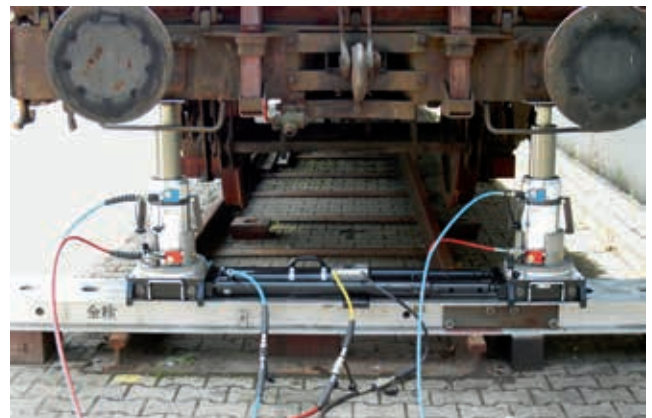
#### Connection elements for bridges

Height mm	85	140	184
Weight kg	9.6	18	21

#### Maximum bridge capacity

	Height 85 mm	Height 140 mm	Height 184 mm
 Full support	350 kN	1,000 kN	1,200 kN
 with 1 m distance between supports	60 kN	500 kN	900 kN
 with 1.43 m distance between supports	50 kN	400 kN	650 kN

### ▶ On the job



Two bridges can be connected. The connection points must be supported.



## ➤ Rerailing accessories.

### ➤ Tilting jack

Depending on the model, you can rerail some vehicles with a HP 25 / K 400 R jack, radius plate and wheel stop with minimal effort. The diagonal stroke movement lifts and traverses the rail vehicle at the same time. The wheel stop stops the traverse movement as soon as the wheels are positioned over the rails. Additionally, the tilting jack is used for uprighting rail vehicles with the lifting belt. For further information see the next chapter, "Uprighting".

### ➤ On the job



#### Required components

- ① Tilting jack HP 25 / K 400R
- ② Radius plate
- ③ Wheel stop

<b>Weight</b>	18.6 kg
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### ➤ Axle pusher

If the wheels are positioned with the wheel flange on the rails, the axle pusher will push the vehicle back into the track. Important: To operate this system you also need cylinder LZM 10/160 and the appropriate piston guard plate. Both components are not included in the scope of delivery of the axle pusher.

### ➤ On the job



	LZM 10/160	Axle pusher
<b>Stroke</b>	160 mm	-
<b>Lifting force</b>	100 kN	-
<b>Weight</b>	3.8 kg	11 kg

# Ready for action when a crane is not an option.

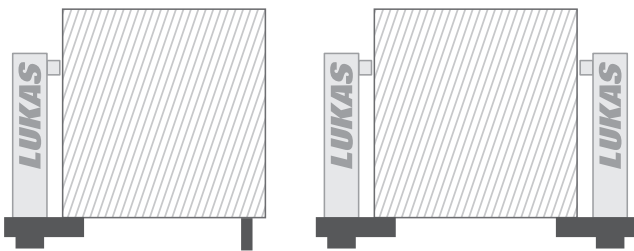
## Uprighting system

Our uprighting system is the perfect answer in case of an accident with an overturned rail vehicle that cannot be rescued with a crane. This enables you to upright overturned rail vehicles with ease, so that you can subsequently rerail them.

### Mode of operation:

You place the lifting belt ④ around the overturned rail vehicle and fasten it to the frame with a holding rope ⑤ and shackle ⑥. A jack (HP 25 / K 400 R) and a radius plate ③ are used to start lifting the vehicle gently and securely. Using the tilting jack ② and then the claw jack ① lift the vehicle onto the sling before using a second claw jack when the first is fully extended, continuing the uprighting work.

## On the job



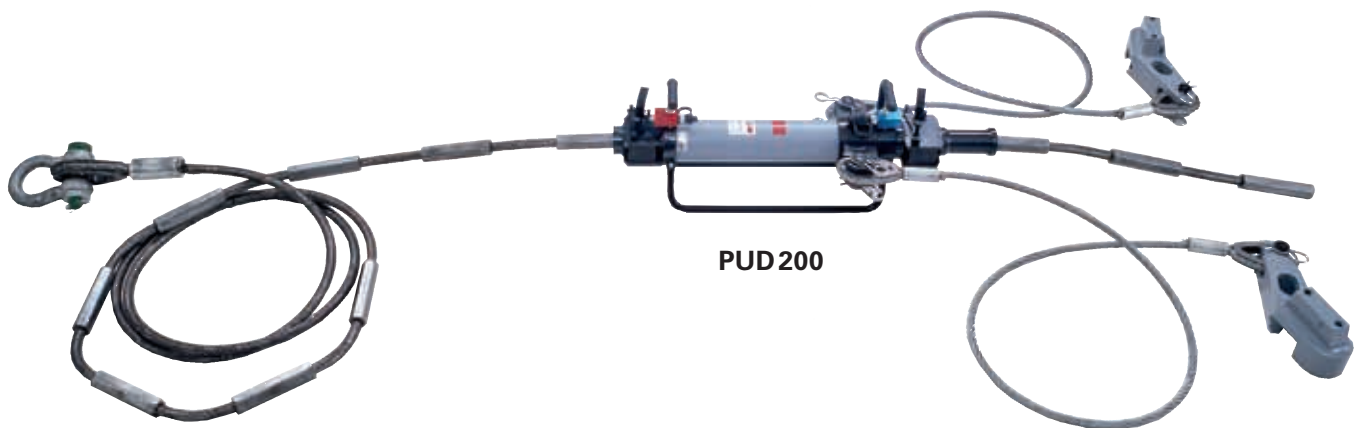
### Lifting with the claw jack

The claw jack is supplied with a base plate so that it can be used to lift loads, such as iron slab trucks.



	① Claw jack HP 50/P 850R	② Tilting jack HP 25/K 400R	③ Radius plate	④ Sling	⑤ Holding rope	⑥ Shackle
<b>Permissible load</b>	-	-	-	400 kN	500 kN	250 kN
<b>Pressure</b>	520 kN	266 kN	-	-	-	-
<b>Stroke</b>	850 mm	400 mm	-	-	-	-
<b>Height (retracted)</b>	1,150 mm	599 mm	-	-	-	-
<b>Oil volume</b>	8 l	1.55 l	-	-	-	-
<b>Weight</b>	52 kg	22 kg	7 kg	51 kg	15 kg	12.8 kg

## ▶ Pulling device.



## ▶ Separating wedged vehicles with the pulling equipment

The powerful pulling device is used whenever vehicles are wedged together due to an accident. This simple but powerful product can also be used as a fast and safe way to unblock the way when a train is jammed between the walls of a tunnel or bridge or when an obstacle blocks the track.

Huge benefit: The device can be fastened to the rails or a ground anchor, independent from the track width. The pulling device consists of a 9.5 m pulling rope and a pulling jack with holding ropes and rail attachments.

Please specify the relevant rail profile for your project.

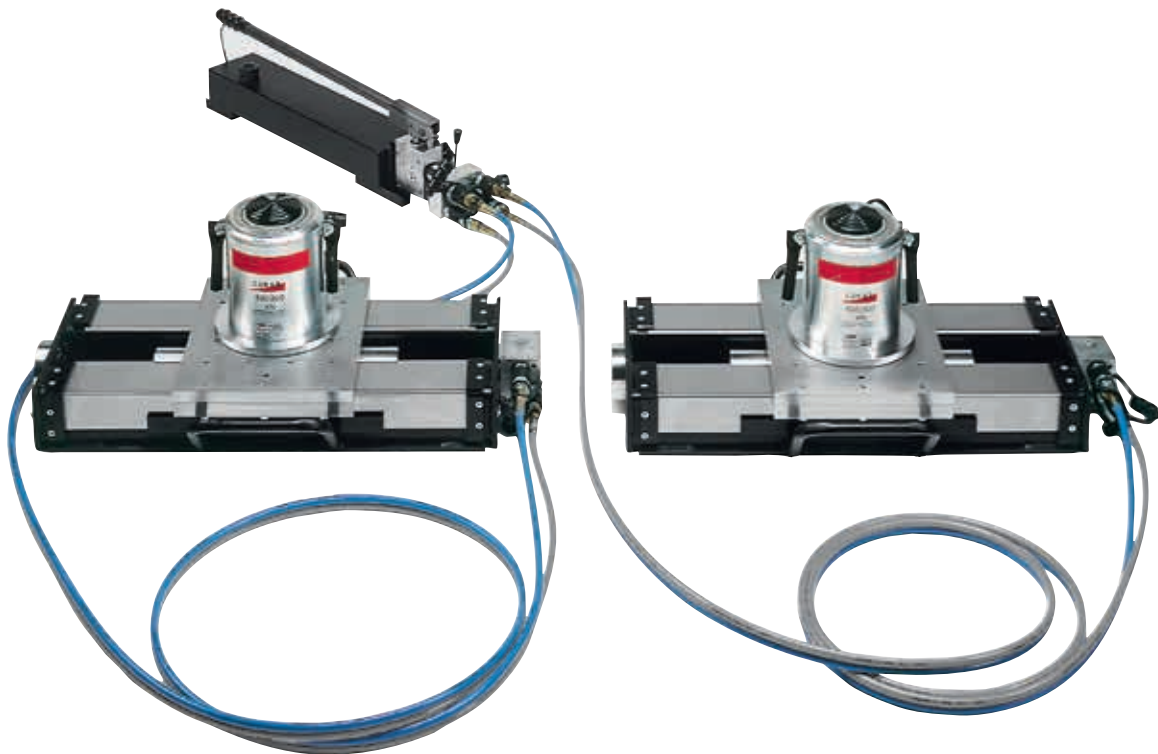
Pulling device	PUD 200
Pulling force	220 kN
Oil volume	1 l
Weight	194 kg

## ▶ On the job





## ► For fast and precise rerailing.



### ► Compact traversing unit for light rail vehicles

On a suitable surface, light rail vehicles can be traversed using the compact traversing unit, which allows you to rerail with absolute precision. This is thought through in detail to ensure that your rescue mission runs smoothly and safely. Use one or two units, depending on the weight of the accident vehicle.

### ► Benefits

- + Easy transport thanks to low weight and compact dimensions
- + Fast change of direction directly on the hand pump
- + Moving light alloy sliding plates compensate the bowing of the vehicle
- + Minimal friction resistance thanks to stainless steel sliding surfaces

<b>Transverse movement to</b>	300 mm
<b>Dimensions l x w x h</b>	865 x 375 x 153 mm
<b>Weight</b>	73 kg

#### Permissible loads:

Single-point lifting: 200 kN (20 t)  
i.e. rail vehicles weighing up to 400 kN (40 t)

Two-point lifting 2 x 150 kN (15 t)  
i.e. rail vehicles weighing up to 600 kN (60 t)

### ► On the job



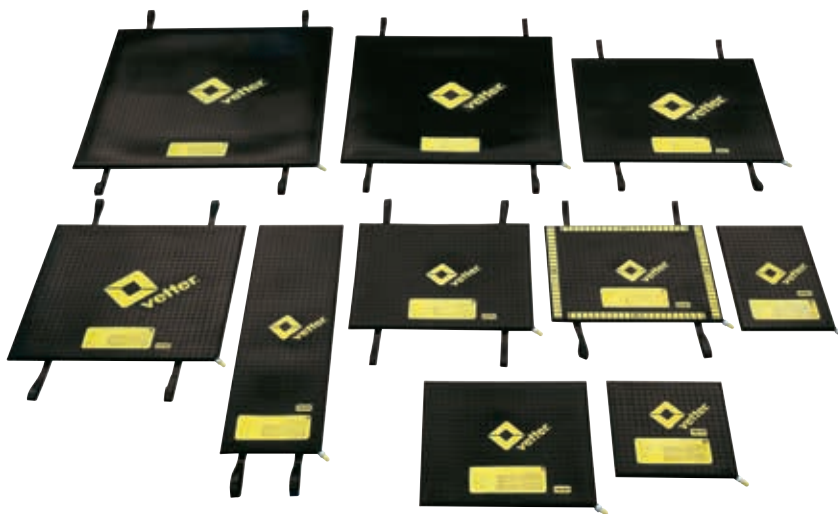


# ▶ Leading emergency pneumatics for initial lifting.

## ▶ VETTER - Emergency Pneumatics

Our sister company, Vetter, offers worldwide leading emergency pneumatics. Vetter lifting bags are very useful accessories for rail road accidents. With their low insertion height of just 25 mm in certain cases, they are perfectly suited for first lifts. The aramide-reinforced bags are enormously powerful and are capable to lift even large loads: their lifting force ranges from 31 to 68 tonnes per bag. The low weight enables you to respond quickly and flexibly in an emergency.

## ▶ On the job



You will find more rescue products in the general catalogue "Vetter Rescue Products" and at [www.vetter.de](http://www.vetter.de)

Mini lifting bags	V31	V40	V54	V68
<b>Max. lifting force</b>	31,400 kg	39,600 kg	54,400 kg	67,700 kg
<b>Max. extension height</b>	37.0 cm	40.2 cm	47.8 cm	52.0 cm
<b>Dimensions</b>	65 x 69 cm	78 x 69 cm	86 x 86 cm	95 x 95 cm
<b>Insertion height</b>	2.5 cm	2.5 cm	2.5 cm	2.5 cm
<b>Nominal content</b>	57.5 l	75.0 l	124.2 l	161.9 l
<b>Air requirement at 8 bar</b>	517.5 l	675.0 l	1,117.8 l	1,457.1 l
<b>Max. working pressure</b>	8 bar	8 bar	8 bar	8 bar
<b>Test pressure</b>	12 bar	12 bar	12 bar	12 bar
<b>Burst pressure</b>	38.0 bar	38.0 bar	36.0 bar	32.5 bar
<b>Weight</b>	9.5 kg	11.8 kg	17.2 kg	21.9 kg

### Double controller 8 bar

Plastic housing, deadman safety system

Inflation hose, 5 m, yellow

Inflation hose, 10 m, red

Inflation hose, 10 m, yellow

Pressure reducer 200/300 bar with manual connection

Adapter set



Adapter Set

## ➤ Because you never get a second chance.



You will find more rescue products in the general catalogue "LUKAS Rescue Tools" and at [www.lukas.com](http://www.lukas.com)

## ➤ eDRAULIC 2.0: Everything else is just theory

In 2010 **LUKAS** changed the world of rescue tools - and is a step ahead again in 2014 with the second generation. We have taken the experience from 4 years of real-life scenarios by real firefighters and incorporated it into improvements that make the original even better. Use our lead to your advantage.

### Cutter S 700 E2

Blade opening	192 mm
Dimensions: l x w x h	920 x 296 x 262 mm
Weight*	21.8 kg

### Spreader SP 300 E2

Spreading force	50-324 kN
Spreading distance	725 mm
Pulling force up to	44 kN
Pulling distance	573 mm
Dimensions: l x w x h	955 x 345 x 276 mm
Weight*	23.7 kg

### Rescue ram R 411 E

Piston stroke	360 mm
Lifting force	103 kN
Retracted length	545 mm
Extended length	905 mm
Extended length with extension	1,205 mm
Dimensions: l x w x h	545 x 150 x 265 mm
Weight*	17.7 kg

\* Weight without battery or power supply

## ➤ Advantages

- + On-off principle: press the button and start working
- + A complete rescue set that makes power units and hoses obsolete
- + Makes rescue faster and safer  
Quick switch from mains to battery operation
- + eDRAULIC takes up much less space in your vehicle
- + Approx. 50% lighter than a conventional rescue set
- + Maximum freedom of movement – especially in traffic pile-ups and off-road

The world's leading rescue tools from **LUKAS** are very easy to use and deliver very high performance. Their superior performance makes all the difference when you really need it. On the job. Choosing the right tool is vital when accidents occur with rail vehicles, so that you can create rescue openings and open jammed doors, safely and reliably.



**For optimal cutting:  
Cutters**

**S 700 - ALPHA CUTTER, S510, S311**

This innovative and superior cutter gives you maximum power reserves. Also S 510 and its lightweight counterpart, the S 311, are characterised by a well-balanced set of features that are specially tailored to metal constructions.

**On the job**



Cutter	S700	S510	S311
<b>Cutting class acc. EN 13204</b>	BC 182H-21	BC 180H-19	BC 150G-14
<b>Blade opening</b>	185 mm	182 mm	150 mm
<b>Oil volume</b>	325 cm <sup>3</sup>	150 cm <sup>3</sup>	98 cm <sup>3</sup>
<b>Dimensions: l x w x h</b>	778 x 300 x 258 mm	772 x 245 x 165 mm	705 x 201 x 163 mm
<b>Weight</b>	20.8 kg	19.1 kg	13.9 kg

## ► For spreading, squeezing and peeling.

### SP 510 - POWERFUL, WIDE-OPENING SPREADER

The great power, enormous spreading distance and intuitive handling of this tool enable you to perform fast and secure rescue work on heavy rail vehicles.

### SP 310 - THE VERSATILE TOP SPREADER

It offers a perfect mix of power, weight, opening width and handling. Its flexibility has impressed rescue organisations and railway companies throughout the world.



Spreader	SP310	SP510
Spreading force	46 to 256 kN	62 to 230 kN
Spreading distance	720 mm	800 mm
Squeezing force	122 kN	70.4 kN
Pulling distance up to	604 mm	665 mm
Pulling force up to	51 kN	55 kN
Oil volume	243 cm <sup>3</sup>	425 cm <sup>3</sup>
Dimensions: l x w x h	790 x 400 x 190 mm	900 x 380 x 215 mm
Weight	19.9 kg	25 kg



## ► Covering large distances: Rescue rams

Telescopic rescue ram	R 420	R 424
Total stroke	575 mm	875 mm
Stroke/lifting force, piston 1	295 mm / 266 kN	445 mm / 266 kN
Stroke/lifting force, piston 2	280 mm / 133 kN	430 mm / 133 kN
Extended length	1,055 mm	1,500 mm
Oil volume	1,410 cm <sup>3</sup>	2,139 cm <sup>3</sup>
Dimensions: l x w x h	480 x 112 x 211 mm	625 x 112 x 211 mm
Weight	16.8 kg	21.0 kg



## High performance power units

### P 650 - RESCUE WITH TURBO FUNCTION

Rescue at twice the speed! Every second counts in rescues, which is why **LUKAS** has provided its P 650 series with a turbo function. With a one hand movement you can double the oil flow to one tool in order to work twice as fast. Available with gasoline or electric motors, for simultaneous use of two rescue tools.



#### SIMO Power (2 tools)

<b>Motor:</b>	4-stroke gasoline motor or electric motor 230 V/50 Hz,
<b>Oil output rate: low pressure/high pressure</b>	Gasoline: 2 x 3.1 l/min - 2 x 0.9 l/min / Electric: 2 x 2.55 l/min - 2 x 0.7 l/min
<b>Turbo oil output rate: low pressure/high pressure</b>	Gasoline: 1 x 6.05 l/min - 1 x 1.7 l/min / Electric: 1 x 5.0 l/min - 1 x 1.4 l/min
<b>Usable oil quantity</b>	4.8 l
<b>Dimensions: l x w x h</b>	485 x 440 x 445 mm
<b>Weight:</b>	P650 SG 42 kg / P650 SE 41 kg

### P 630 SG – FOR MOBILE USE

The gasoline-powered P 630 SG is the perfect power unit for all operations requiring mobility. It combines light weight and maximum power in a unique way and also features the turbo function to speed up rescues considerably, making it a friend for all helpers who need to change locations quickly.

#### P 630 SG

<b>4-stroke gasoline motor</b>	2.2 kW
<b>Oil output rate: low pressure/high pressure</b>	2 x 3.0 l/min - 2 x 0.7 l/min
<b>Turbo oil output rate: low pressure/high pressure</b>	1 x 5.8 l/min - 1 x 1.35 l/min
<b>Usable oil quantity:</b>	3 l
<b>Dimensions: l x w x h</b>	495 x 360 x 445 mm
<b>Weight:</b>	23.9 kg



# ▶ Auxiliary Car DOLLY

## ▶ DOLLY XL, M and S – Auxiliary Cars for each Type of Application

Blocked or defective rail wheels and wheel sets of all kinds of rolling stock represent an enormous challenge for rail operators. To avoid follow-up costs the removal of the rolling stock from the track must be fast, safe and without damaging the rail infrastructure and rolling stock.

For this purpose the product line auxiliary car DOLLY is recommended.

A solution for the recovery of rail vehicles has to match perfectly with the existing rolling stock, the railway infrastructure and the rescue concept. Therefore, each auxiliary car is planned and designed individually. Please ask for the questionnaire for the auxiliary car DOLLY in order to prepare an individual offer for you.

In addition to the standard models presented in the following, we can also implement your individual requirements to an auxiliary towing car or rollboy.



**DOLLY XL**



**DOLLY M**



**DOLLY S**

Type	DOLLY XL	DOLLY M	DOLLY S
<b>Typical scope of use</b>	Main line railway vehicles	Main/Light railway vehicles	Metro/light railway vehicles
<b>Typical axle load</b>	25 t	20 t	12 t
<b>Main features</b>	Assembly directly around the defective axle	Tool-free mounting	Tool-free mounting
<b>Lifting of rail vehicle</b>	appr. 30 mm by lifting jack or similar	appr. 200 mm by rerailing system	appr. 200 mm by rerailing system
<b>Weight</b>	appr. 450 kg	appr. 280 kg	appr. 140 kg

## ▶ On the job





## Your strong partner and hydraulics expert

### **Long-lasting at your side.**

Our products are characterised by a long service life and require little maintenance. You can rely on **LUKAS** products to provide strong support in all situations.

### **Our experience - your benefit.**

Since 1948, **LUKAS** has been manufacturing hydraulic products for a wide range of applications. You benefit from this experience to the present day – thanks to sophisticated products and regular innovations that make your work easier.

### **Optimum support worldwide.**

Our worldwide dealer and service network means that there is always a **LUKAS** partner near you. The **LUKAS** team assists our partners at any time, guaranteeing you the best possible advice and support.

### **Our commitment – Made in Germany.**

**LUKAS** produces its equipment in Germany. That does not just mean final assembly, it means full manufacture. A highly motivated team in Erlangen, is passionate about producing tools for those who face challenges in the field of rerailing and rescue.



## Part of the international IDEX Corporation

LUKAS Hydraulik GmbH is part of the international IDEX Corporation which invests in successful medium-sized companies in highly specialised markets worldwide. All companies which belong to the group have two things in common: strong technical orientation and innovative strength.

As our customer, you will benefit from our international practical knowledge and the intensive transfer of skills and know-how within the corporate group which contributes to the development of sophisticated and high-performing products. Make them your first choice – because you never get a second chance!





Experience the technology that keeps railways running smoothly.

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**Arrange an appointment for consultation.**

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