

Light-Metal Rerailing Systems



Hegenscheidt-MFD
light-metal rerailing systems,
reliable, safe and strong
for all railway vehicles



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The oil-hydraulic rerailing equipment of light-metal alloy with re-pressure system

Hegenscheidt-MFD rerailing system – high safety and ease of operation

For more than 100 years Hegenscheidt-MFD has been a reliable partner to railway organizations. The acknowledged high level of Hegenscheidt-MFD railway technique is based on continuous and close co-operation with the leading railway organizations in the world. Due to its intensive dedication to the search for solutions to overcome problems occurring with railway traffic 1962 developed rerailing equipment has become the basis of current rerailing technique all over the world.

Today Hegenscheidt-MFD rerailing equipment renders its contribution to the maintenance of railway traffic in more than 70 countries in the world.

The double-acting re-pressure system, which has already been well proved in the field of industrial hydraulics, is also incorporated in the Hegenscheidt-MFD rerailing equipment. Thus all operations of lifting, lowering, pushing and pulling can be completely controlled accurately to the mm and corrected so that the maximum level of safety is achieved.

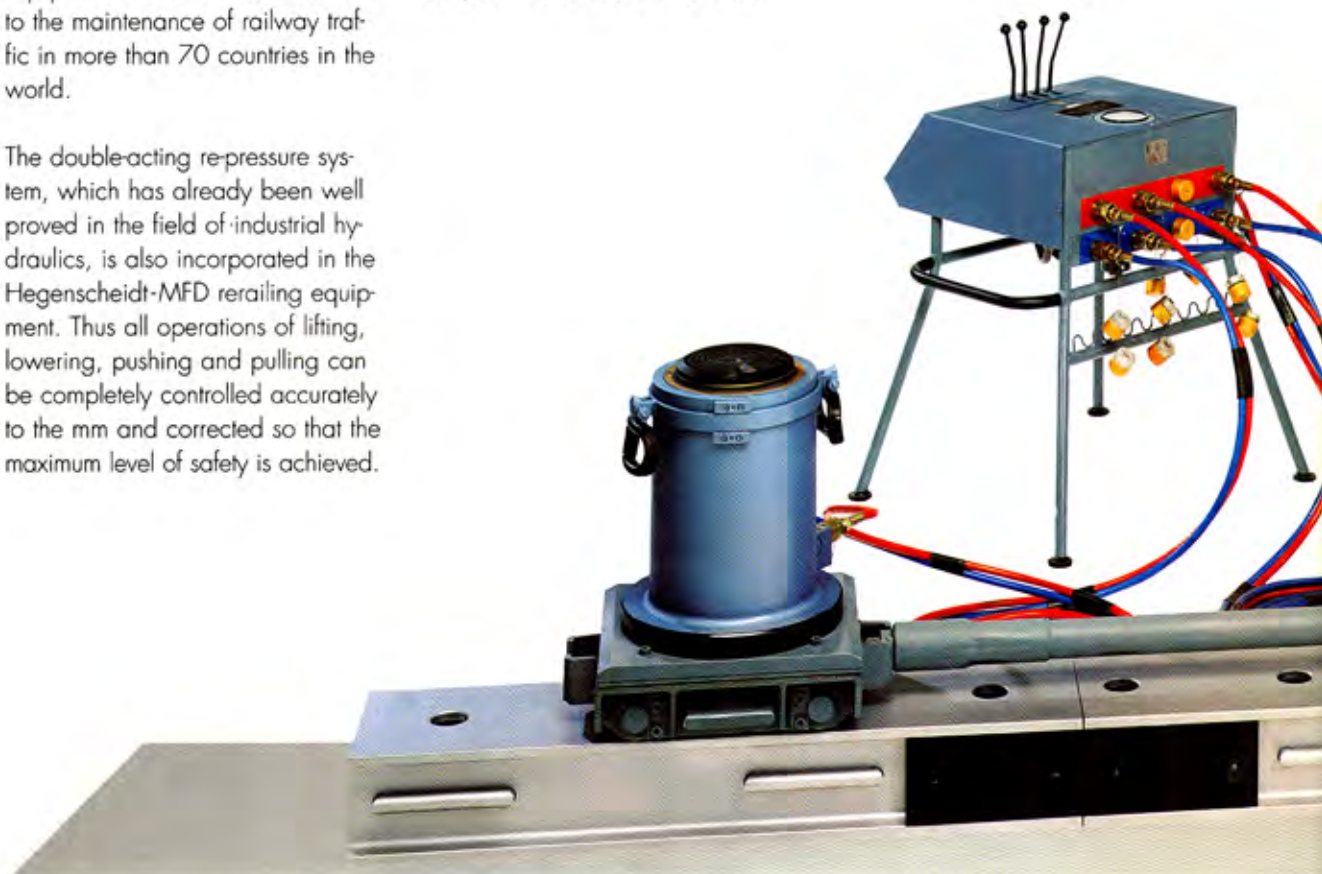
The individual components of the Hegenscheidt-MFD rerailing system are adapted to each other in relation to their size, lifting height, carrying capacity and power in such a way that they meet the latest trends of railway technique. Consequently, as a result, a method has been found to connect rescue devices and air bags to the Hegenscheidt-MFD rerailing system by means of newly developed pressure intensifiers and hydraulically driven air compressors.

The design of the system is such that according to the composition of the components all types of rail vehicle (tramways, underground and mainline railways, locomotives and power cars, steelworks cars including the heaviest torpedo ladle cars) can be raised and rerailed.

Additionally this system is particularly suitable for raising and displacing bridges and other heavy loads.

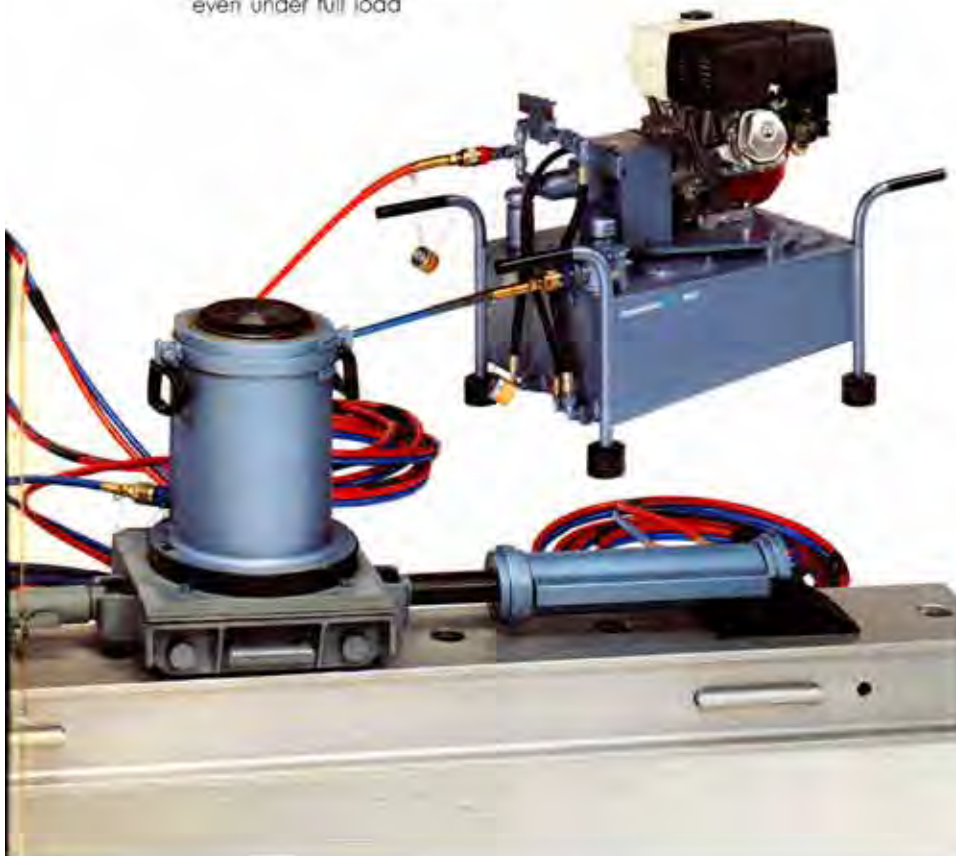
Hegenscheidt-MFD rerailing equipment can be used on both single and multi track lines. In the case of multi track lines the secondary track is not blocked and, moreover, it is not necessary to remove the contact wires of electrified lines.

Hegenscheidt-MFD rerailing system is subject to the highest safety requirements which is proved by its characteristic features such as ease of operation, simple handling, stable design and stability under load.



Special features

- double-acting hydraulic re-pressure system (300 bar)
- fully controllable operations of lifting, lowering, pushing and pulling accurately to the mm
- high stability of the jacks under load due to integral bottom flange
- hydraulically releasable return valves to secure the load against accidental lowering in case of pressure loss (e.g. hose severance)
- protection of the jacks against overload or misoperation by means of two integral overload valves per jack
- jerk-free operation of the jacks even under full load
- reduced wear due to roller-burnished and hard-anodized contact surfaces
- computer calculated designs and use of high-strength light-metal alloy
- extensive integrated jack programme covering all normally occurring modes of application
- reliable and safe operation covering a wide temperature range of $-40\text{ }^{\circ}\text{C}$ up to $+70\text{ }^{\circ}\text{C}$
- easy and quick connection of the individual components by means of manually screwed hose couplings with positive colour coding
- no oil leakage during coupling or uncoupling of the jacks
- coupling/uncoupling also possible under load
- light rerailing bridges manufactured from profile sections which have been computer calculated and optimized as to static and dynamic properties
- operation of the entire system by one operator from the control desk so that workers need not enter the load area
- possibility to use rescue devices by means of pressure intensifiers
- possibility to use pneumatically operated air bags by connecting a special hydraulically operated air compressor
- all system components are weight-optimized to ensure easy portability



Hydraulic power systems

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Pump set with	Order No.	Output ltr/min	Oil capacity ltr	Usable capacity ltr	Power kW	Length mm	Width mm	Height mm	Weight** kg
Four-stroke engine*	02-4000	11.3	68	60	8.1	1160	570	785	93
Diesel engine*	02-6000	11.0	68	60	6.3	1160	570	896	108
Electric motor	02-8000	9.45	68	60	4	1160	570	900	100
Electric motor with 4-fold control block	02-8400	9.45	68	60	4	1160	570	1200	132

* also available with electric starter

** Excluding oil



Small pump sets

The small pump sets have been specially developed for light construction vehicles which are mainly

used by suburban transport operators. They have a reduced oil capacity, lower weight and appropriate low price.

Add-on hydraulics

Pump set with	Order No.	Output ltr/min	Oil capacity ltr	Usable capacity ltr	Power kW	Length mm	Width mm	Height mm	Weight** kg
Four-stroke engine	02-4020	2.88	25	20	2.9	1000	485	618	48
Four-stroke engine with 2-fold control block	02-4220	2.88	25	20	2.9	1000	485	874	74
Four-stroke engine with 3-fold control block	02-4320	2.88	25	20	2.9	1000	485	874	77
Electric motor	02-8020	2.25	25	20	1.5	1000	485	533	55
Electric motor with 2-fold control block	02-8220	2.25	25	20	1.5	1000	485	874	71
Electric motor with 3-fold control block	02-8320	2.25	25	20	1.5	1000	485	874	74
Electric motor with 4-fold control block	02-8420	2.25	25	20	1.5	1000	485	874	76

Add-on hydraulic	02-9000	approx. 10	68	60	—	—	—	—	—
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** Excluding oil



Hand pumps

The hand pump is an independent and complete unit for minor rerailing operations particularly where no separate power supply is available or if a pump set with combustion engine cannot be used e.g. due to explosion hazard. Due to the re-pressure system the hand pump can perform all functions such as lifting, lowering, pushing and pulling without restriction and with full working pressure of 300 bar.

Type	Order No.	Output cm ³ /Double-stroke	Oil capacity ltr	Usable capacity ltr	Length (mm) Working/Transport position	Width mm	Height mm	Weight kg
HP 2/20 2 Connections	02-1220	35	20	18	1300/680	450	730	68
HP 2/30 2 Connections	02-1230	35	30	28	1300/680	450	730	75
HP 3/20 3 Connections	02-1320	35	20	18	1300/680	450	730	70
HP 3/30 3 Connections	02-1330	35	30	28	1300/680	450	730	77

Control unit



The control unit is the central point from which all operations of the rerailing process can be controlled. It allows the connection of four hydraulic components. This number can be increased by using distribution valves (order no. 09-2200).

Length: 790 mm
Width: 720 mm
Height: 980 mm

It is arranged in a portable frame with stable legs. All in-built parts are protected by a cover with integral tray for tools, etc.

Lifting jack series 400



These lifting jacks made of high-strength light-metal alloy operate with the hydraulic re-pressure system at 300 bar. A releasable return valve with pressure protection at both ends is mounted on the fixed integral bottom flange which ensures optimum stability. Thus any

accidental lowering of the load (for instance in case of hose severance) is prevented. Furthermore the lifting jacks are completely protected against overload and pressure multiplication. Safe and jerk-free operation is guaranteed even under full load.

With all lifting jacks of low construction it is possible to extend the stroke step by step by using piston support pieces and cylinder support rings (support set).

Type	EH 400-250	TH 400/200-250	EH 400-470	TH 400/200-470
Order No.	04-1041	04-1042	04-2041	04-2042
Closed height	mm 250	250	470	470
Number of pistons	1	2	1	2
Total stroke	mm 122	230	320	635
Stroke I	mm 122	122	320	320
Stroke II	mm —	108	—	315
Rated force I	kN 400	400	400	400
Effective force I	kN 495	495	495	495
Rated force II	kN —	200	—	200
Effective force II	kN —	191	—	191
Oil capacity	l 2.0	2.7	5.3	7.3
Weight	kg 30	31	45	48
Usable with support rings	yes	yes	on request	on request
Stroke extension	mm 360	360	on request	on request

Lifting jack series 600

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Type	EH 600-250	TH 600/300-250	EH 600-450	TH 600/300-450	EH 600-130	TH 600/300/100-170
Order No.	04-1061	04-1062	04-2061	04-2062	04-1065	04-1069
Closed height	mm 250	250	450	450	130	170
Number of pistons	1	2	1	2	1	3
Total stroke	mm 110	215	278	566	45	204
Stroke I	mm 110	110	278	278	45	78
Stroke II	mm —	105	—	288	—	63
Stroke III	mm —	—	—	—	—	63
Rated force I	kN 600	600	600	600	600	600
Effective force I	kN 681	681	681	681	581	681
Rated force II	kN —	300	—	300	—	300
Effective force II	kN —	285	—	285	—	285
Rated force III	kN —	—	—	—	—	100
Effective force III	kN —	—	—	—	—	72
Oil capacity	ltr 2.5	3.5	6.3	9.1	0.9	2.5
Weight	kg 37	38	54	58	22	28
Usable with support rings	yes	yes	on request	on request	yes	yes
Stroke extension	mm 320	320	on request	on request	on request	228

Also available as integration jacks.

Lifting jack series 900

4

All jacks of the four series complement each other as to their lifting capacities as well as closed heights and pistons strokes so that they are fully compatible with each other. For instance, with the series 1200, a lifting operation started with a jack of low construction can be continued with a jack of high construction, when the stroke of the low one has reached its limits. In this case a total stroke of more than 658 mm is achieved.



Type	EH 900-250	TH 900/450-250	EH 900-425	TH 900/450-425
Order No.	04-1091	04-1092	04-2091	04-2092
Closed height	mm 250	250	425	425
Number of pistons	1	2	1	2
Total stroke	mm 97	185	250	500
Stroke I	mm 97	97	250	250
Stroke II	mm —	88	—	250
Rated force I	kN 900	900	900	900
Effective force I	kN 896	896	896	896
Rated force II	kN —	450	—	450
Effective force II	kN —	429	—	429
Oil capacity	ltr 2.9	4.2	7.5	11.0
Weight	kg 48	49	63	66
Usable with support rings	yes	yes	on request	on request
Stroke extension	mm 300	300	on request	on request

On special request three-piston jacks can also be supplied out of this series.

Lifting jack series 1200

Flat-type jacks (pancake design) have been developed within the series 600 and 1200 in order to deal with extremely low lifting points. With these jacks the stroke can be extended by means of support sets so that it is possible to continue the work with a jack of standard low construction if necessary when all the support pieces have been placed in position.



04-1125



04-1122



04-2122



Example
Three-piston jack

Type	EH 1200-250	TH 1200/600-250	EH 1200-420	TH 1200/600-420	EH 1200-140
Order No.	04-1121	04-1122	04-2121	04-2122	04-1125
Closed height	mm 250	250	420	420	140
Number of pistons	1	2	1	2 *	1
Total stroke	mm 90	180	243	488	41
Stroke I	mm 90	90	243	243	41
Stroke II	mm —	90	—	245	—
Rated force I	kN 1200	1200	1200	1200	1200
Effective force I	kN 1140	1140	1140	1140	1140
Rated force II	kN —	600	—	600	—
Effective force II	kN —	581	—	581	—
Oil capacity	litre 3.4	5.1	9.2	14.0	1.6
Weight	kg 56	57	75	79	45
Usable with support rings	yes	yes	on request	on request	yes
Stroke extension	mm 260	260	on request	on request	on request

On special request three-piston jacks can also be supplied out of this series.

Additionally to the above mentioned jacks it is also possible to supply jacks with a capacity of 1,500 kN, 1,600 kN, 2,000 kN and more.

Lifting jacks and accessories

4



Single-piston jacks EH 350 and EH 200

These jacks can be used for various jobs when fitted with different add-on units:

1. By using the claw (order no. 04-0041-01) long strokes are attained from low lifting points.
2. When fitted with the pressure head (supplied as a standard accessory) this jack is used where long strokes are required from high lifting points.
3. When used in conjunction with the head piece (order no. 06-2352) and rounded head piece (order no. 06-2353) together with the rocker bearing support (order no. 06-3351) this jack forms an important part of the uprighting device.



Single-piston jack EH 100

The single-piston jack has been designed for use with inside lifting points as sometimes found on tramway and Metro cars.

adaptors, threaded connections and inserted items. The bayonet catch can be positioned on the upper part, the middle or any other place.

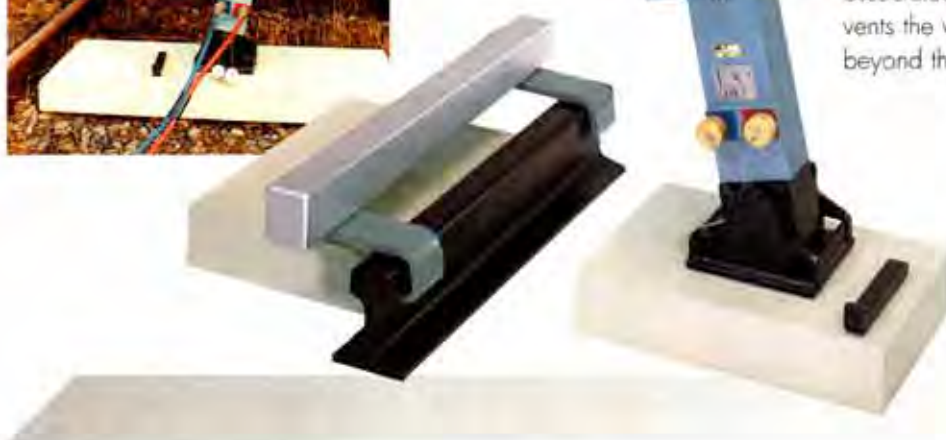
The outer body can be brought into line with the corresponding lifting devices by use of various

The jacks can also be supplied with a longer or shorter stroke.



Tilting jack

The tilting jack is used for lifting two-axle vehicles and putting them back on the track. During this operation the tilting jack performs the lifting motion and lateral displacement simultaneously and the associated hooked wheel stop prevents the wheel from coming down beyond the rail.



04-0021-2

Type		EH 350-1030 with claw	EH 350-658 without claw	EH 200-658	EH 100-380	EH 100-455	EH 200-597 (Tilting jack with tilting and stopping device)
Order No.		04-0041-P	04-0041	04-0021-1*	04-0010	04-0011	04-0021-2
Closed height	mm	1030	1030	658	380	455	597
Height of outer body	mm	—	—	—	735	810	—
Number of pistons		1	1	1	1	1	1
Total stroke	mm	825	825	416	225	300	400
Rated force	kN	350	350	200	100	100	200
Effective force	kN	339	339	190	115	115	199
Oil capacity	lit	9.3	9.3	2.6	0.87	1.15	2.7
Weight	kg	125	70	41	24/5	27/8	57/16
Height at claw	mm	105	—	100	—	—	—

* incl. wacker bearing support

Equipment for lateral displacement

5

Pushing and pulling of the lateral displacing equipment enables derailed vehicles (which have already been lifted) to be traversed and aligned accurately on the track.

Amongst other things this equipment allows rigid connection of the components to be used for the lateral displacement. This ensures safe securing of the load even in case of superelevations. The components for the lateral displacement described below should be selected in accordance with the requirements.



Rerailing bridges

The bridges are hollow extruded sections of high-strength light-metal alloy. The surface is protected against corrosion by a special treatment.

The carrying capacity of the rerailing bridges (total height 180 mm/95 mm) is 600/100 kN over a free span of 1.5 m. For higher loads the bridge must be supported over the full length in which case the carrying capacity is increased to 1200/600 kN per roller carriage.

All bridges can be coupled together and are equipped with four handles which can be pushed in. The upper side is provided with bores to accommodate the counter support.



Bridge coupling

The bridge coupling is used for joining together two rerailing bridges.

When ordering this item the overall height of the bridge (see table) must be noted.

Type	Order No.	Height mm	length mm	Width mm	Weight kg
AB 4500-180	05-2450	180	4500	280	175
AB 3300-180	05-2330	180	3300	280	128
AB 2250-180	05-2225	180	2250	280	88
AB 1200-180	05-2120	180	1200	280	47
BK 180	05-2000	180	—	—	37.5
AB 4500-95	05-1450	95	4500	280	125
AB 3300-95	05-1330	95	3300	280	92
AB 2250-95	05-1225	95	2250	280	63
AB 1200-95	05-1120	95	1200	280	34
BK 95	05-1000	95	—	—	22

Displacing jack

The displacing jack has a pushing force of 120 kN and a pulling force of 60 kN. Thus it allows both pushing and pulling of lifted loads during the lateral displacement. This is an essential advantage of the re-pressure system.

Furthermore the displacing jack is also used as part of the axle pusher unit.



Type	Order No.	Closed height mm	Number of pistons	Total stroke mm	Rated pushing force kN	Effective pushing force kN	Rated pulling force kN	Effective pulling force kN	Oil capacity lit	Weight kg
EH 120/60-575	05-0011	575	1	350	120	129	60	57.8	1.5	16.5



Single-counter support

To be inserted into the bores of the rerailing bridge. It is used to locate the displacing jack.

Twin counter support

Used only as twin arrangement in combination with the twin head socket.

Twin head socket

To be nested in one pocket of the roller carriage and used to accommodate two parallel working displacing jacks. Used only in combination with a twin counter support.



Equipment for lateral displacement

5

The roller carriages are used for traversing the load on the rerailing bridge. Well dimensioned rollers with maintenance-free bearings permit easy lateral transport requiring only little force. Load indications for the roller carriages are as per chart.



05-1015

Roller carriage 150 kN

Provided with one pocket to accommodate for instance a displacing jack, a distance bar or stopping device.

Due to the extremely low construction height this type of roller carriage is mainly used with tramway and Metro cars.



05-1016

Roller carriage 150 kN with plate

With detachable rotating and sliding plate to compensate for radial forces occurring when loads lifted on one end only are being displaced (also deliverable with only one pocket).



05-2061

Roller carriage 600 kN

Provided with two pockets to accommodate a displacing jack, a distance bar or stopping device.



05-2062

Roller carriage 600 kN with plate

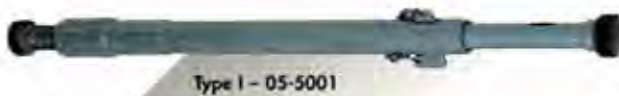
With detachable rotating and sliding plate to compensate for radial forces occurring when loads lifted on one end only are being displaced.

Type	Designation	Order No.	Max. load kN	Total height mm	Total height with plate mm	Weight kg	Weight of the detachable plate kg
	Roller carriage						
RW 150	150 kN, without plate	05-1015	150	66	—	18	—
RWP 150	150 kN, with plate	05-1016	150	66	101	18	11.5
RW 600	600 kN, without plate	05-2061	600	108	—	58	—
RWP 600	600 kN, with plate	05-2062	600	108	140	58	24
RW 1200	1200 kN, without plate	05-2121	1200	108	—	70	—
RWP 1200	1200 kN, with plate	05-2122	1200	108	140	70	24



Stopping device for roller carriages

Used in combination with one counter support for locking the roller carriages when relocating the displacing jacks (especially in case of superelevations).



Distance bar type I

To couple two roller carriages, length continuously adjustable from 1027 mm to 1904 mm.



Distance bar type II

To couple two roller carriages, length continuously adjustable from 1050 mm to 2645 mm.

Equipment for uprighting operations

6

This equipment is used for raising overturned vehicles. It consists mainly of the single-piston jacks 350 kN (order no. 04-0041) with head pieces, rounded head pieces and rocker bearing supports together with the lifting cable ladders.



Lifting cable ladder, carrying capacity 350 kN

This replaces the missing fixed points on an overturned vehicle to locate the lifting jacks.

It consists of:

- lifting cable ladder 3025 mm long
- fixing bolt
- fastening rope 4 m long
- retaining rope 6 m long



Rocker bearing supports

Used to compensate the angular movement of the jack and for safely transmitting the counter force to the ground.

Head piece and rounded head piece

Used to accommodate the loops of the lifting cable ladder in place of the pressure head of the jack.



Haulage device

Used either for moving rail-guided vehicles with blocked axles or for pulling apart vehicles which are locked together due to an accident. The device is attached to the track by means of rail blocks, wedges and retaining ropes. It can also be used to raise overturned vehicles: tractive power 250 kN.

Weight: approx. 107 kg plus accessories (2 rail blocks, 4 wedges, swivels, fastening rope, pulling rope and retaining rope)

Order no. 07-1250



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Auxiliary trucks

Used to move vehicles when important travelling gear parts are defective.

The individual components of the auxiliary truck can be assembled on site. The damaged vehicle can then be hauled to the nearest workshop for repair.

Type	Order No.	Carrying capacity kN	Weight kg
HAW 220	08-1220	220	580
HAW 160	08-1160	160	110



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Accessories

9



Axle pusher unit

To be used in combination with the displacing jack to move a wheel resting on the rail by its flange or if necessary as an auxiliary device for the lateral displacement of a lifted vehicle.

This device often saves a complete lifting operation. It consists of two retaining ropes with hooks and bolts together with a crossbeam of light-metal alloy.



09-1000

High-pressure hoses

The high-pressure hoses bound in pairs serve to connect the control desk, pump set and hydraulic components. The screw couplings at both ends of the hoses are provided with oil retaining valves so that oil leakage is prevented even in uncoupled condition. The screw couplings can be coupled manually under residual pressure. Coupling under working pressure is also possible by means of suitable tools.

The hose couplings shown are to extend the hoses to the required length.

Pair of high-pressure hoses

Length: 5 m

Order No. 09-2005

Length: 10 m

Order No. 09-2010

Hose coupling

Order No. 09-2100



Distribution valve

For connecting an additional hydraulic component.

Distribution valves with regulators are able to compensate for any loss of pressure in the pipes so that simultaneous lifting or lowering of the jacks is possible.



Bogie suspensions

To be used for bogies which are not firmly attached to the vehicle. Type A is hooked on the vehicle frame.

Type B clamps itself additionally to the vehicle frame during the lifting process.



Carrier vehicles

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These combined road/rail vehicles can transport rerailling equipment as well as all the necessary devices to the site of accident by the quickest route.

The add-on hydraulic unit especially developed by Hegenscheidt-MFD is attached to the front of the vehicle and replaces the pump set and the control desk otherwise required.

The space saved this way in the loading area can be used to store other equipment.

The Hegenscheidt-MFD system provides an optimum load distribution and most convenient arrangement of the devices in the vehicle.

The equipment of the carrier vehicles can be adapted by Hegenscheidt-MFD to individual requirements.



Rescue devices and accessories



As supplements to the rerailing system Hegenscheidt-MFD also offers rescue devices.

These devices can be operated in conjunction with the rerailing hydraulics by means of a pressure intensifier which has been developed especially for this purpose.

For further information please ask for our special leaflet.

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Air bags and accessories



In case of difficult rerailing situations (extremely low lifting points, derailments close to tunnel walls, etc.) the use of air bags has proved to be very favourable.

For this purpose a hydraulically operated compressor, which generates the necessary compressed air through direct connection to the Hegenscheidt-MFD rerailing system, has been developed.

An important feature is that due to this design the available amount of compressed air is almost unlimited (more than 500 ltr/min at 8 bar).

For further information please ask for our special leaflet.

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List of order numbers

Hydraulic power systems and control unit

Order No.	Designation	Weight (kg)	Type	Page
02-1220	Hand pump with 2 connections, 20 ltr-tank	68	HP 2/20	7
02-1230	Hand pump with 2 connections, 30 ltr-tank	75	HP 2/30	7
02-1320	Hand pump with 3 connections, 20 ltr-tank	70	HP 3/20	7
02-1330	Hand pump with 3 connections, 30 ltr-tank	77	HP 3/30	7
02-4000	Pump set with four-stroke engine, 68 ltr-tank	93	PA-4	6
02-4020	Pump set with four-stroke engine, 25 ltr-tank	48	PA-4K	6
02-4220	Pump set with four-stroke engine and 2-fach control block, 25 ltr-tank	74	PA-4/2K	6
02-4320	Pump set with four-stroke engine and 3-fach control block, 25 ltr-tank	77	PA-4/3K	6
02-6000	Pump set with diesel-engine, 68 ltr-tank	108	PA-D	6
02-8000	Pump set with electric motor, 68 ltr-tank	100	PA-E	6
02-8020	Pump set with electric motor, 25 ltr-tank	55	PA-ESK	6
02-8220	Pump set with electric motor and 2-fach control block, 25 ltr-tank	71	PA-ESK2	6
02-8320	Pump set with electric motor and 3-fach control block, 25 ltr-tank	74	PA-ESK3	6
02-8400	Pump set with electric motor and control block, 68 ltr-tank	132	PA-ES	6
02-8420	Pump set with electric motor and 4-fach control block, 25 ltr-tank	76	PA-ESK4	6
02-9000	Add-on hydraulics for carrier vehicles	—	ABH	6
03-1004	Control desk to the pump set	47	SP	7

Lifting jack series 400

Order No.	Designation	Weight (kg)	Type	Page
04-1041	Single-piston jack 400 kN, height 250 mm, stroke 122 mm	30	EH 400-250	8
04-1042	Telescopic jack 400/200 kN, height 250 mm, stroke 230 mm	31	TH 400/200-250	8
04-1044	* Support set for jacks 04-1041 and 04-1042	25	A 400-250	—
04-2041	Single-piston jack 400 kN, height 470 mm, stroke 320 mm	45	EH 400-470	8
04-2042	Telescopic jack 400/200 kN, height 470 mm, stroke 635 mm	48	TH 400/200-470	8

Lifting jack series 600

04-1061	Single-piston jack 600 kN, height 250 mm, stroke 110 mm	37	EH 600-250	9
04-1062	Telescopic jack 600/300kN, height 250 mm, stroke 215 mm	38	TH 600/300-250	9
04-1064	* Support set for jacks 04-1061 and 04-1062	29	A 600-250	—
04-1065	Flat-type jack 600 kN, height 130 mm, stroke 45 mm	22	EH 600-130	9
04-1066	* Support set for jack 04-1065, height 130 mm	10	A 600-130	—
04-1069	Three-piston jack 600/300/100 kN, height 170 mm, stroke 204 mm	28	TH 600/300/100-170	9
04-1070	* Support set for jack 04-1069, height 170 mm	17	A 600/300/100-170	—
04-2061	Single-piston jack 600 kN, height 450 mm, stroke 278 mm	54	EH 600-450	9
04-2062	Telescopic jack 600 kN, height 450 mm, stroke 566 mm	58	TH 600/300-450	9

Lifting jack series 900

04-1091	Single-piston jack 900 kN, height 250 mm, stroke 97 mm	48	EH 900-250	10
04-1092	Telescopic jack 900/450 kN, height 250 mm, stroke 185 mm	49	TH 900/450-250	10
04-1094	* Support sets for jacks 04-1091 and 04-1092	33	A 900-250	—
04-2091	Single-piston jack 900 kN, height 425 mm, stroke 250 mm	63	EH 900-425	10
04-2092	Telescopic jack 900/450 kN, height 425 mm, stroke 500 mm	66	TH 900/450-425	10

Lifting jack series 1200

04-1121	Single-piston jack 1200 kN, height 250 mm, stroke 90 mm	56	EH 1200-250	11
04-1122	Telescopic jack 1200/600 kN, height 250 mm, stroke 180 mm	57	TH 1200/600-250	11
04-1124	* Support set for jacks 04-1121 and 04-1122	41	A 1200-250	—
04-1125	Flat-type jack 1200 kN, height 140 mm, stroke 41 mm	45	EH 1200-140	11
04-1126	* Support set for jack 04-1125, height 140 mm	13	A 1200-140	—
04-2121	Single-piston jack 1200 kN, height 420 mm, stroke 243 mm	75	EH 1200-420	11
04-2122	Telescopic jack 1200/600 kN, height 420 mm, stroke 488 mm	79	TH 1200/600-420	11

* Support set, each consisting of: 1 Cylinder support ring No. 1, 3 Cylinder support rings No. 2-4, 4 Piston support pieces, 1 Special pressure piece, 1 Mounting lever

Order No.	Designation	Weight (kg)	Type	Page
04-0010	Single-piston jack with outer body 100 kN, height 380 mm, stroke 225 mm	24/5	EH 100-380	13
04-0011	Single-piston jack with outer body 100 kN, height 455 mm, stroke 300 mm	27/8	EH 100-455	13
04-0021-1	Single-piston jack 200 kN, height 658 mm, compl. with claw and rocker bearing support	41	EH 200-658	13
04-0021-2	Single-piston jack 200 kN, height 597 mm, compl. with tilting and stopping device	57/16	EH 200-597	13
04-0041	Single-piston jack 350 kN, height 1030 mm, stroke 825 mm	70	EH 350-1030	13
04-0041-P	Single-piston jack 350 kN with claw, height 1030 mm, stroke 825 mm	125	EH 350-1030-P	13

Single-piston jacks

Order No.	Designation	Weight (kg)	Type	Page
05-0011	Displacing jack, 120/60 kN, height 575 mm	16.5	EH 120/60-575	15
05-1000	Set of bridge couplings to bridge of 95 mm height	22	BK 95	14
05-1015	Roller carriage 150 kN without plate	18	RW 150	16
05-1016	Roller carriage 150 kN with plate	18/11.5	RWP 150	16
05-1120	Rerailing bridge 1.20 m long, 95 mm high	34	AB 1200-95	14
05-1225	Rerailing bridge 2.25 m long, 95 mm high	63	AB 2250-95	14
05-1330	Rerailing bridge 3.30 m long, 95 mm high	92	AB 3300-95	14
05-1450	Rerailing bridge 4.50 m long, 95 mm high	125	AB 4500-95	14
05-2000	Set of bridge couplings to bridge of 180 mm height	37.5	BK 180	14
05-2061	Roller carriage 600 kN without plate	58	RW 600	16
05-2062	Roller carriage 600 kN with plate	58/24	RWP 600	16
05-2120	Rerailing bridge 1.20 m long, 180 mm high	47	AB 1200-180	14
05-2121	Roller carriage 1200 kN without plate	70	RW 1200	16
05-2122	Roller carriage 1200 kN with plate	70/24	RWP 1200	16
05-2225	Rerailing bridge 2.25 m long, 180 mm high	88	AB 2250-180	14
05-2330	Rerailing bridge 3.30 m long, 180 mm high	128	AB 3300-180	14
05-2450	Rerailing bridge 4.50 m long, 180 mm high	175	AB 4500-180	14
05-3000	Twin head socket	9	DA	15
05-4001	Single counter support	8	G	15
05-4002	Twin counter support	16	DG	15
05-5001	Distance bar 1027-1904 mm	35	AH1	17
05-5002	Distance bar 1050-2645 mm	38	AH11	17
05-6000	Stopping device for roller carriages	12	HV	17

Equipment for lateral displacement

Order No.	Designation	Weight (kg)	Type	Page
06-1350	Lifting cable ladder complete	33	SL	18
06-2352	Head piece to single-piston jack 350 kN	9	KSL	18
06-2353	Rounded head piece to single-piston jack 350 kN	5	KRSL	18
06-3351	Rocker bearing support to single-piston jack 350 kN	16.5	GP	18

Equipment for uprighting operations

Order No.	Designation	Weight (kg)	Type	Page
07-1250	Haulage device 250 kN, complete with accessories	107/250	ZE 250	19

Haulage device

Order No.	Designation	Weight (kg)	Type	Page
08-1160	Auxiliary truck 160 kN	110	HAW 160	19
08-1220	Auxiliary truck 220 kN	580	HAW 220	19

Auxiliary truck

Order No.	Designation	Weight (kg)	Type	Page
09-1000	Axle pusher	24.5	AE	20
09-2005	Pair of high-pressure hoses, 5 m long	5	HS-5	21
09-2010	Pair of high-pressure hoses, 10 m long	9	HS-10	21
09-2100	Hose coupling	0.3	SV	21
09-2200	Distribution valve	7	VST	21
09-2201	Distribution valve with regulator	8		21
09-3001	Bogie suspension type A with chain	3.5/13	DHA	21
09-3002	Bogie suspension type B with chain	14/13	DHB	21

Accessories

Questionnaire for offer

Vossloh Rail Systems GmbH

Rerailing systems department

P.O.Box 14 08

D-41804 Erkelenz

Fax: +49/24 31/86-4 76

1. Type of vehicles _____
 2. Max. weight of vehicles and track gauge _____
 3. Number of bogies _____
 4. Number of axles per bogie _____
 5. Are the bogies fixed on the frame? Yes No
 6. Location of lifting points _____
(If possible, please enclose sketch or drawing of vehicle)
 7. Only open track or also tunnel running _____
(In case of tunnels existing please enclose cross section drawing of the tunnel and of the vehicles)
 8. Requested driving source: Hand pump Pump set
 9. Which driving mode is requested for the pump set?
 Electric motor Diesel-engine four-stroke engine
- If electric motor requested, please indicate voltage, frequency and number of phases:
- _____

Should the rerailing equipment

- | | | |
|--|------------------------------|-----------------------------|
| 10. be suitable for raising overturned vehicles? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 11. also be suitable for separating vehicles which are accidently locked together? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 12. also include rescue devices? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 13. also be suitable for transporting with blocked axles? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 14. also include air bags? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Special features: _____

Additional requirements:

Other products of the Hegenscheidt-MFD railway technology programme



Underfloor-wheel lathes

Numerically controlled, with wear measuring device and automatic machining sequence

Double underfloor-wheel lathes

Numerically controlled, for simultaneous machining of two wheel sets of a bogie



Heavy-duty portal-type wheel lathes

Numerically controlled, with friction roller drive and 2 saddles



Universal wheel lathes

Numerically controlled with one saddle for universal machining jobs around the wheel set

Hydraulic wheel presses

For mounting and stripping wheels, brake disks, etc., without turning the wheel set end for end



Tying devices for resilient tyres

(In combination with the hydraulic wheel press)

Vertical wheel lathes

For complete machining of wheels, tyres and rims of railway vehicles

Tyre separating and stripping devices

For removing the tyres from the rims



Machines for rolling-in retaining rings

For rolling-in retaining rings of tyred wheel sets

Diagnostic equipment

For monitoring tyre wear

Hegenscheidt  MFD



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HOESCH LIGHT - METAL RERAILING SYSTEMS

