



RAIL TECHNOLOGY

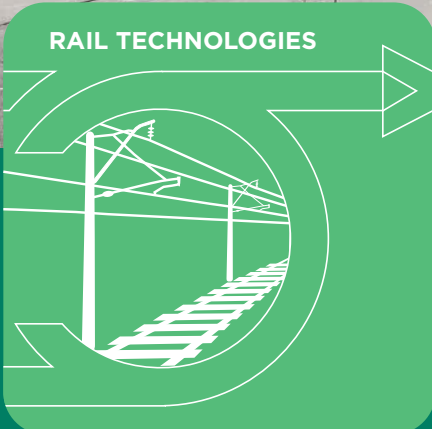
CATENARY AND RAIL CONSTRUCTION



RAIL TECHNOLOGIES

STRINGING MACHINES
MADE IN GERMANY

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Over 30 years of experience
in project management,
development and
manufacturing of machines
for rail projects all over the
world



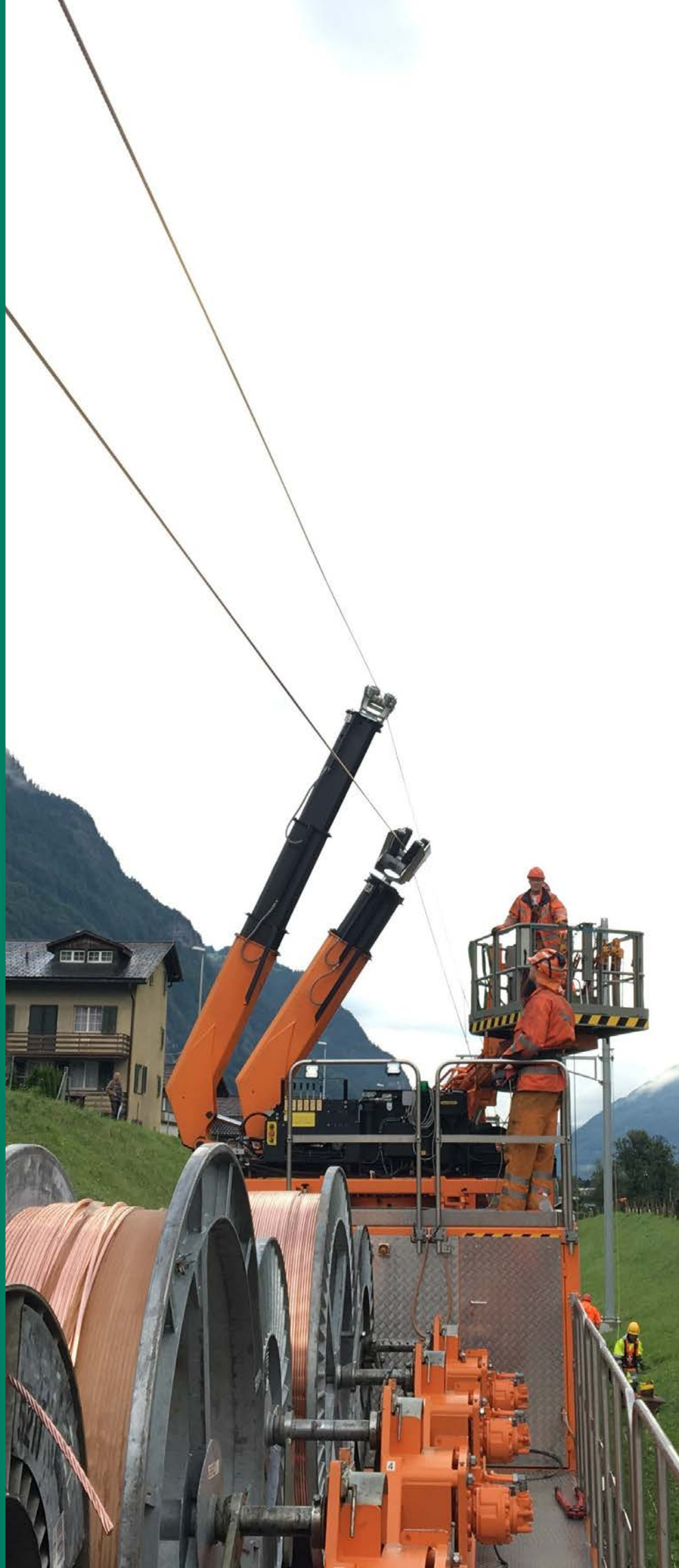
Expert consulting and
24/7 After Sales Support



More than 200 machines
in use worldwide



Minimal maintenance due
to intelligent design



ZECK - HIGH-PERFORMING, DURABLE, AND RELIABLE MACHINES

For more than 50 years, ZECK has been manufacturing high-quality and innovative special machines for the construction and maintenance of overhead power lines, catenary, underground cable and antenna. Our machines are employed in renowned projects all around the world.

Customized catenary installation units

Our catenary installation units guarantee a careful and precise installation of catenary. Our machines can be designed according to individual client specifications. ZECK units are installed on rail-road units or rail wagons, that are used in the construction of urban and intercity railways. This way local directives can be considered.

Saving time during the installation of wires

The wire installation with final installation force reduces the installation time by up to 70%. This has been made possible by a transfer of technology as well as the close cooperation with catenary installation companies and wire manufacturers.

NEW! Rail-road machines for catenary installation and rail construction

By acquiring the French company Maintenance du Centre (MdC) in 2017, we have expanded our product range, which now includes rail-road machines for catenary installation and rail construction. The all-terrain and versatile machines have proven their value in the French market for 30 years.

Find out more about our exciting new developments and profit from our vast experience in your own projects.

We are looking forward to a successful cooperation.

Michael Zeck

RR C-POD 9



KEY FACTS

- Rail-road elevated working platform
- Rerailing by radio-/cable remote control
- Rail-bound traveling mechanisms can be adapted to a track gauge of 1000 mm and 1435 mm for rerailing purposes
- High climbing ability of crawler chassis
- Compliance with Machinery Directive 2006/42/CE, EN 280-2015

ENGINE | POWER TRANSMISSION

- Max. 18.8 kW (25.2 hp), emission stage 5
- Water-cooled diesel engine
- 12 V system with high capacity battery
- Powered by 6 independent hydraulic engines (4 for rail operation, 2 for road use)

BRAKING SYSTEM

- Safety parking brake at 2 rail wheels and both crawlers

FRAME

- Coupling device at front and rear

OPERATION

- Control panel in work basket
- Emergency hand pump
- Work light in basket
- Safe rear access from between the rails
- Use of work basket on crawler chassis (no driving movement possible when not in rest position)
- Working under live line possible due to lifting limiter

EQUIPMENT

- Automatic load limitation for the work basket
- Battery master switch
- Electric components with IP65 and IP67 protection
- Electronic control of all machine functions by integrated diagnostic system (automatic blocking of lifting operations)
- Rerailing by radio-/cable remote control
- Mechanical opposite track blocking
- Electric warning horn

OPTIONAL EQUIPMENT

- 230 V electric supply with 3.5 kVA (socket in basket)
- Electric tank pump
- Scotches

TECHNICAL DATA

Safe working load (per work basket)	200 kg
Max. working height	8.5 m
Max. lateral reach	3.6 m (right/left)
Min. curve radius	35 m
Max. superelevation of the track	200 mm
Max. rail inclination	60 ‰
Max. driving speed road	4.5 km/h
Max. driving speed rail	17 km/h
Max. working speed rail	2.5 km/h

NOISE LEVEL

Sound pressure level at full throttle (Lp)	79 dB (A)
Sound pressure level in neutral (Lp)	72 dB (A)

TANK CAPACITY

Hydraulic	30 l
Diesel	30 l

DIMENSIONS | WEIGHT

Length x width (rail)	3.73 - 2.04 m
Height on rail wheels (over upper surface of rail)	2.4 m
Length x width (road)	3.65 - 2.34 m
Height on road wheels	2.22 m
Work basket	0.76 x 0.5 m
Net weight	2800 kg

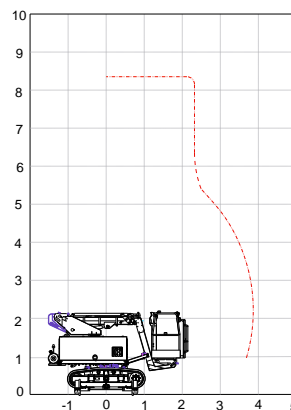
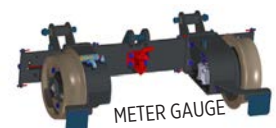


Diagram refers to the working area with rail axle interaxes 1000 mm.



- Re-railing support
- Wind gauge
- Key safe
- Oil collection kit
- Fire extinguisher
- First aid kit
- Biodegradable hydraulic oil
- Back pad for working platform
- Measuring device for height and lateral position of contact wire
- Tandem trailer (RR C-POD + trailer = total weight below 3.5 t)
- Tow bar
- Particulate filter
- Tool box
- Sanding system
- Crossarm to lift the machine
- Noise reduction kit
- Hydraulic emergency unit (external)

COMING SOON

TECHNICAL DATA (STANDARD GAUGE 1435 MM)

Safe working load (per work basket)	200 kg
Max. working height	9.65 m
Max. lateral reach	3.6 m (right/left)
Min. curve radius	35 m
Max. superelevation of the track	200 mm
Max. rail inclination	40 ‰
Max. driving speed road	4.5 km/h
Max. driving speed rail	19.9 km/h
Max. working speed rail	2.5 km/h

NOISE LEVEL

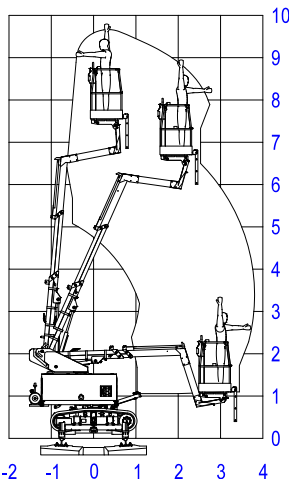
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Sound pressure level in neutral (Lp)	72 dB (A)

TANK CAPACITY

Hydraulic	30 l
Diesel	30 l

DIMENSIONS | WEIGHT

Length x width (rail)	3.73 - 2.04 m
Height on rail wheels (over upper surface of rail)	2.4 m
Length x width (road)	3.65 - 2.34 m
Height on road wheels	2.22 m
Work basket	0.76 x 0.5 m
Net weight	2700 kg



KEY FACTS

- Rail-road elevated working platform
- Rerailing by radio-/cable remote control
- High climbing ability of crawler chassis
- Compliance with Machinery Directive 2006/42/CE, EN 280-2015
- DB Netz authorization to work

ENGINE | POWER TRANSMISSION

- Max. 18.8 kW (25.2 hp), emission stage 5
- Water-cooled diesel engine
- 12 V system with high capacity battery
- Powered by 6 independent hydraulic engines (4 for rail operation, 2 for road use)

BRAKING SYSTEM

- Safety parking brake at 2 rail wheels and both crawlers



FRAME

- Coupling device at front and rear

OPERATION

- Control panel in work basket
- Emergency hand pump
- Work light in basket
- Safe rear access from between the rails
- Use of work basket on crawler chassis (no driving movement possible when not in rest position)
- Working under live catenary possible due to lifting limiter

EQUIPMENT

- Automatic load limitation for the work basket
- Battery master switch
- Electric components with IP65 and IP67 protection
- Electronic control of all machine functions by integrated diagnostic system (automatic blocking of lifting operations)
- Rerailing by radio-/cable remote control
- Mechanical opposite track blocking
- Electric warning horn

OPTIONAL EQUIPMENT

- 230 V electric supply with 3.5 kVA (socket in basket)
- Electric tank pump
- Scotches
- Re-railing support
- Wind gauge
- Key safe
- Rear carrier basket with quick-action coupling for trailer coupling
- Oil collection kit
- Fire extinguisher
- First aid kit
- Biodegradable hydraulic oil
- Back pad for working platform
- Measuring device for height and lateral position of contact wire
- Tandem trailer (RR C-POD + trail = total weight below 3.5 t)
- Tow bar
- Particulate filter
- Tool box
- Crossarm to lift the machine
- Noise reduction kit
- Hydraulic emergency unit (external)

TECHNICAL DATA (STANDARD GAUGE 1435 MM)

Safe working load (per work basket)	165 kg
Max. working height	10 m
Max. lateral reach	5.3 m (right/left)
Min. curve radius	30 m
Max. superelevation of the track	200 mm
Max. driving speed road	4 km/h
Max. working speed rail	7 km/h
Max. driving speed rail	19 km/h
Max. rail inclination	40 ‰

TANK CAPACITY

Hydraulic	70 l
Diesel	65 l

DIMENSIONS | WEIGHT

Length x width (rail)	3.24 x 3.05 m
Height on rail wheels (over upper surface of rail)	3.7 m
Length x width (road)	3.0 - 2.5 m
Height on road wheels	3.46 m
Work basket	0.85 x 0.65 m
Net weight	5500 kg



KEY FACTS

- Rail-road vehicle with two individual work baskets
- Telescopic masts to work at overhead wiring
- Radio and cable remote control for rerailing and transport journeys on road
- High climbing ability
- Compliance with Machinery Directive 2006/42/CE, EN 280-2015

ENGINE | POWER TRANSMISSION

- Max. 36.4 kW (48.8 hp)
- Oil-cooled diesel engine
- 24 V system with high capacity battery
- Powered by 8 independent hydraulic engines (4 for rail operation, 4 for road use)

BRAKING SYSTEM

- Safety multi-disk brakes at 2 rail wheels
- Hydraulic brake at all 4 rail wheels
- 2 of 4 road wheels equipped with safety multi-disc brakes

FRAME

- Hydraulic steering
- 4 coupling devices (front, back, left and right)

OPERATION

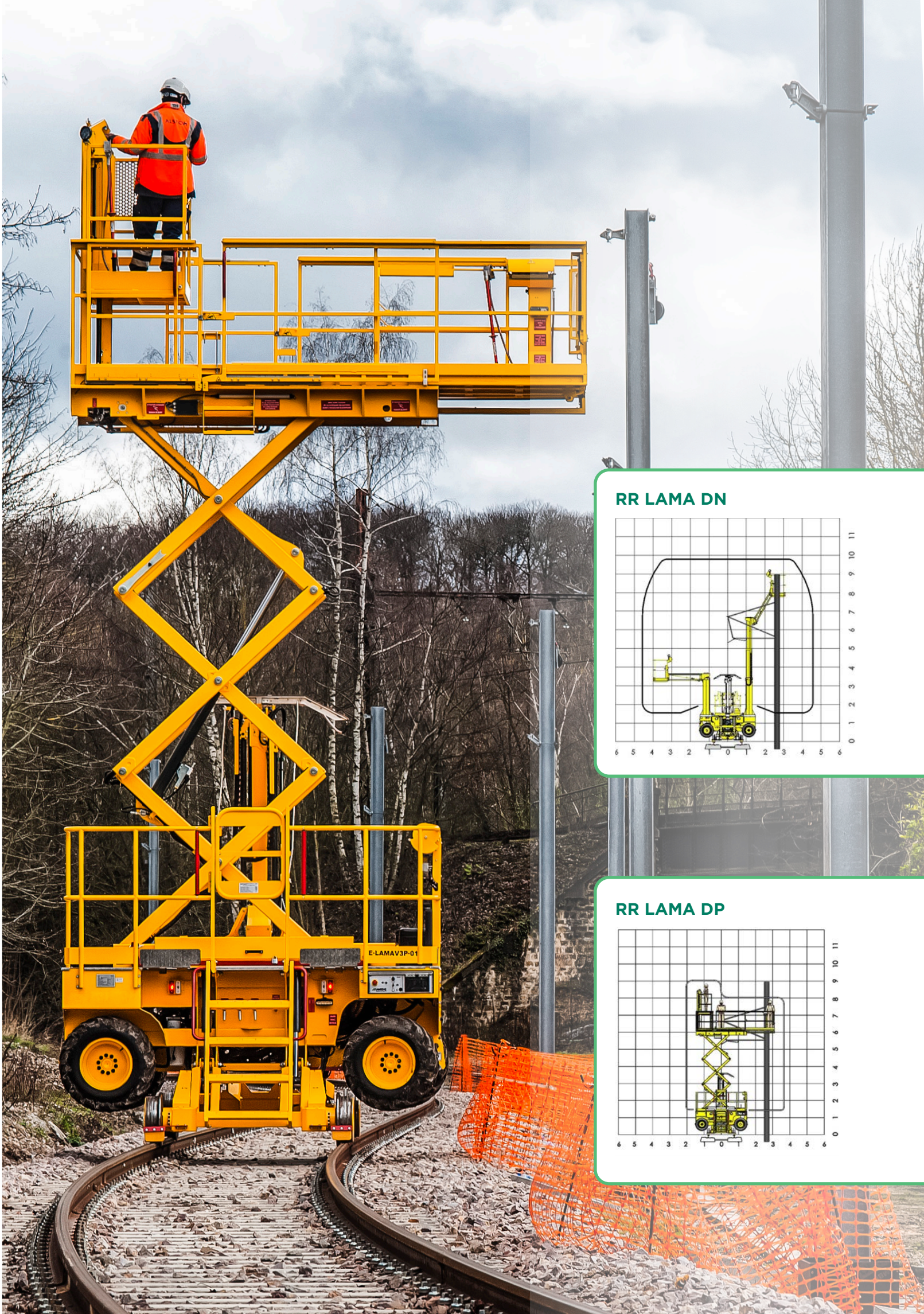
- Control panel in each basket
- Electrically controlled emergency hydraulic system
- Safe access from between the tracks
- Working lights at front and rear
- Emergency hand pump

EQUIPMENT

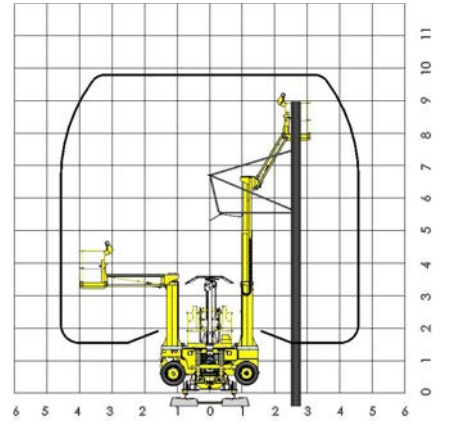
- Automatic load limitation for the work basket
- Battery charge indicator
- Battery master switch
- Electric components with IP65 and IP67 protection
- Electronic monitoring of all safety-related machine functions by integrated diagnostic system (automatic blocking of lifting operations)
- Driving on road controlled by radio-/cable remote control
- Radio remote control and separate cable remote control
- Opposite track blocking
- Electric warning horn
- Lockable oscillating axle for road and rail
- Lifting arm simple

OPTIONAL EQUIPMENT

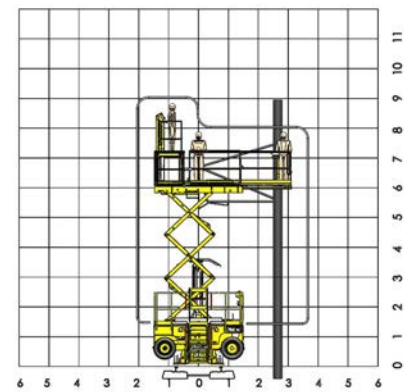
- 220 V electric supply with differential circuit breaker
- Diesel engine according EU emissions directive
- Rail wheel for tramway gauge
- Scotches
- Re-railing support
- Wind gauge
- Key safe
- Oil collection kit
- Fire extinguisher
- Biodegradable hydraulic oil
- Pantograph measurement
- Pantograph equipotential bonding
- Clamp press
- Site localization
- Remote diagnosis
- Use of work basket on road wheels (when stationary)
- Protective grate towards catenary
- Telescopic arm



RR LAMA DN



RR LAMA DP





TECHNICAL DATA (STANDARD GAUGE 1435 MM)

Total working load - Platform + basket	400 kg
Working load basket	165 kg
Max. working height platform	8.07 m
Max. lateral reach	3.6 mm
Max. height basket (above upper surface of rail)	9.07 m
Min. curve radius	30 m
Max. superelevation of the track	200 mm
Max. driving speed road	4 km/h
Max. driving speed rail	19 km/h
Max. working speed rail	7 km/h

TANK CAPACITY

Hydraulic	70 l
Diesel	65 l

DIMENSIONS | WEIGHT

Length x width (rail)	3.1 - 3.2 m
Height on rail wheels (over upper surface of rail)	3.62 m
Length x width (road)	3.1 - 2.5 m
Height on road wheels	3.4 m
Working platform	3.62 - 1.13 m
Work basket	0.8 x 0.56 m
Net weight	5650 kg

KEY FACTS

- Rail-road vehicle with large platform and one basket
- Radio and cable remote control for rerailling and transport journeys on road
- Excellent all-terrain capability
- Compliance with Machinery Directive 2006/42/CE, EN 280-2015

ENGINE | POWER TRANSMISSION

- Max. 36.4 kW (48.8 hp)
- Oil-cooled diesel engine
- 24 V system with high capacity battery
- Powered by 8 independent hydraulic engines (4 for rail operation, 4 for road use)

BRAKING SYSTEM

- Safety multi-disk brakes at 2 rail wheels
- Hydraulic brake at all 4 rail wheels
- 2 of 4 road wheels equipped with safety multi-disk brakes

FRAME

- Hydraulic steering
- 4 coupling devices (front, back, left and right)

OPERATION

- Control panel in each basket
- Electrically controlled emergency hydraulic system
- Safe access from between the tracks
- Working lights at front and rear
- Street lighting
- Emergency hand pump

EQUIPMENT

- Automatic load limitation for the work basket
- Battery charge indicator
- Battery master switch electric components with IP65 and IP67 protection
- Electronic monitoring of all safety-related machine functions by integrated diagnostic system (automatic blocking of lifting operations)
- Driving on road controlled by radio-/cable remote control
- Radio remote control and separate cable remote control
- Opposite track blocking
- Guard iron in front of each rail wheel
- Electric warning horn

OPTIONAL EQUIPMENT

- 220 V electric supply with differential circuit breaker
- Rail wheel for tramway gauge
- Diesel engine according EU emissions directive
- Scotches
- Re-railing support
- Wind gauge
- Key safe
- Oil collection kit
- Fire extinguisher
- Pantograph measurement
- Pantograph equipotential bonding
- Protective grate towards catenary
- Clamping press
- Position localization
- Remote diagnosis
- Use of work basket on road wheels (when stationary)

TECHNICAL DATA (STANDARD GAUGE 1435 MM)

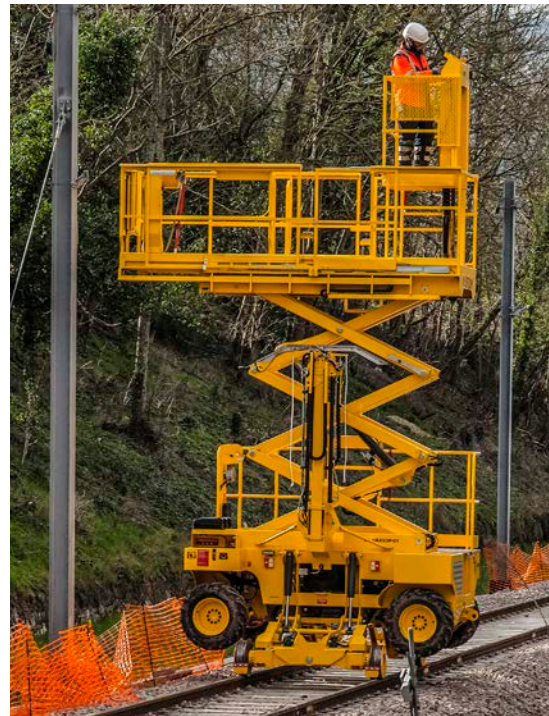
Total working load - Platform + basket	400 kg
Working load basket	165 kg
Max. working height platform	8.07 m
Max. lateral reach	3.6 mm
Max. height basket (above upper surface of rail)	9.07 m
Min. curve radius	30 m
Max. superelevation of the track	200 mm
Max. driving speed road	4 km/h
Max. driving speed rail	19 km/h
Max. working speed rail	7 km/h

TANK CAPACITY

Hydraulic	70 l
Diesel	25 l

DIMENSIONS | WEIGHT

Length x width (rail)	3.1 - 3.2 m
Height on rail wheels (over upper surface of rail)	3.62 m
Length x width (road)	3.1 - 2.5 m
Height on road wheels	3.4 m
Working platform	3.62 - 1.13 m
Work basket	0.8 x 0.56 m
Net weight	6050 kg



KEY FACTS

- Rail-road vehicle with large platform and one basket
- Radio and cable remote control for rerailing and transport journeys on road
- Excellent all-terrain capability
- Compliance with Machinery Directive 2006/42/CE, EN 280-2015
- Hybrid

ENGINE | POWER TRANSMISSION

- Electric motor 20 kW
- Battery range 8 hours/cycle
- Battery recharged by diesel engine or via electric power grid
- Oil-cooled diesel engine
- Max. 18.4 kW @ 2600 1/min
- Powered by 8 independent hydraulic engines (4 for rail operation, 4 for road use)

BRAKING SYSTEM

- Safety multi-disk brakes at 2 rail wheels
- Hydraulic brake at all 4 rail wheels
- 2 of 4 road wheels equipped with safety multi-disk brakes

FRAME

- Hydraulic steering
- 4 coupling devices (front, back, left and right)

OPERATION

- Control panel in each basket
- Emergency hydraulic system
- Safe access from between the tracks
- Working lights at front and rear
- Street lighting
- Emergency hand pump

EQUIPMENT

- Automatic load limitation for the work basket
- Battery charge indicator
- Battery master switch
- Electric components with IP65 and IP67 protection
- Electronic monitoring of all safety-related machine functions by integrated diagnostic system (automatic blocking of lifting operations)
- Driving on road controlled by radio-/cable remote control
- Radio remote control and separate cable remote control
- Opposite track blocking
- Guard iron in front of each rail wheel
- Electric warning horn

OPTIONAL EQUIPMENT

- 220 V electric supply with differential circuit breaker
- Rail wheel for tramway gauge
- Re-railing support
- Scotches
- Wind gauge
- Key safe
- Oil collection kit
- Fire extinguisher
- Pantograph measurement
- Pantograph equipotential bonding
- Clamping press
- Position localization
- Protective grate towards catenary
- Remote diagnosis
- Use of work basket on road wheels (when stationary)
- Diesel engine according EU emissions directive
- Back pad for working platform



TECHNICAL DATA (STANDARD GAUGE 1435 MM)

Safe working load (work basket)	230 kg
Max. working height	15.4 m
Max. lateral reach	8.95 m (right/left)
Min. curve radius	35 m
Rotation boom arm	360°
Rotation work basket	90° (right/left)
Rotation oscillating arm	130°
Max. superelevation of the track	200 mm
Max. rail inclination	8 %
Max. driving speed road (4 gears)	6 km/h
Max. driving speed rail (3 gears)	19.9 km/h
Max. working speed rail	2 km/h

TANK CAPACITY

Hydraulic	70 l
Diesel	70 l

DIMENSIONS | WEIGHT

Length (work position, work basket lowered)	7.4 m
Height on rail wheels (over upper surface of rail)	2.4 m
Length x width (transport position)	4.7 m x 1.8 m
Height on road wheels	2.3 m
Work basket	0.8 x 1.4 m
Net weight	8300 kg

KEY FACTS

- Rail-road telescopic working platform
- Compliance with Machinery Directive 2006/42/CE, EN 280-2015

ENGINE | POWER TRANSMISSION

- Max. 28 kW (37.6 hp)
- Water-cooled diesel engine
- Hydrostatic drive

BRAKING SYSTEM

- Safety multi-disc brake at both road axles
- 4 rail wheels equipped with negative multi-disc brake
- Electric / hydraulic parking brake

FRAME

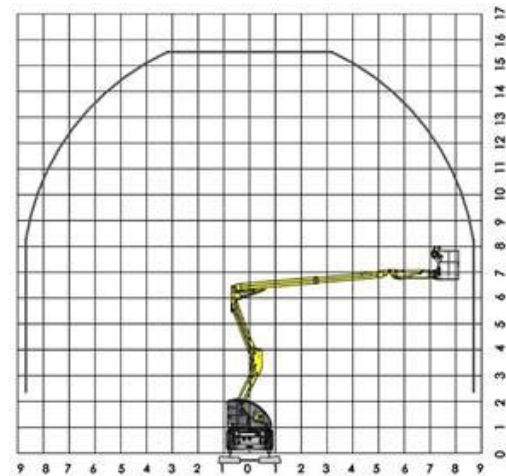
- Hydraulic steering
- Coupling device at front and rear

OPERATION

- Emergency manual pump
- Multi-functional proportional control (all arm movements can be controlled simultaneously)
- Clearly structured control panel

EQUIPMENT

- Automatic load limitation for the work basket
- Battery charge indicator
- Battery master switch
- Electric components with IP65 and IP67 protection
- Tow bar



OPTIONAL EQUIPMENT

- 230 V electric supply in work basket with differential circuit breaker
- Diesel engine according EU emissions directive
- Rail axles for narrow gauge
- Rail wheel for tramway gauge
- Use of work basket on road wheels (when stationary)
- Fire extinguisher

TECHNICAL DATA (STANDARD GAUGE 1435 MM)

Safe working load (work basket)	230 kg
Max. working height	15.5 m
Max. lateral reach	9 m (right/left)
Turning radius	12 m
Min. curve radius	35 m
Rotation boom arm	280°
Rotation work basket	90° (right/left)
Rotation oscillating arm	130°
Max. superelevation of the track	200 mm
Battery performance	80 V 465 Ah
Independent electric operation	approx. 28 h
Max. driving speed road (4 gears)	27.7 km/h
Max. driving speed rail (3 gears)	19.9 km/h
Max. working speed rail	2 km/h

TANK CAPACITY

Hydraulic	70 l
Diesel	70 l

DIMENSIONS | WEIGHT

Length (work position, work basket lowered)	8.3 m
Height on rail wheels (over upper surface of rail)	3.3 m
Length x width (transport position)	7.2 m x 2.3 m
Height on road wheels	3.2 m
Work basket	0.8 x 1.4 m
Net weight	12150 kg

KEY FACTS

- Rail-road telescopic working platform
- Hybrid drive (patent pending)
- Zero-emission, silent electric operation for tunnels and urban areas
- Excellent all-terrain capability due to oscillating articulated joint
- Compliance with Machinery Directive 2006/42/CE, EN 280-2015
- Homologation for road service

ENGINE | POWER TRANSMISSION

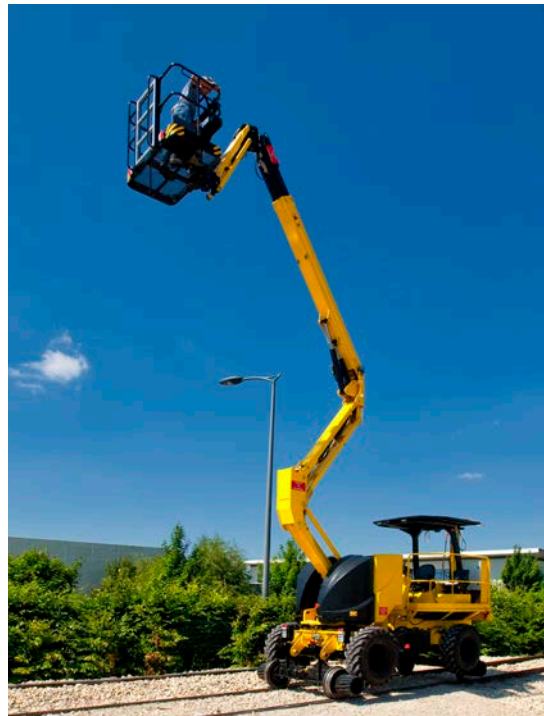
- Max. 55.4 kW (74.3 hp), emissions level V
- Water-cooled diesel engine
- 12 V-system with high-capacity battery (Deep Cycle)
- Rail wheels driven by transmitted friction by road wheels (friction drive)
- Powershift transmission - 4 gears

BRAKING SYSTEM

- Safety multi-disc brake at both road axles
- 4 rail wheels equipped with negative multi-disc brake
- Electric / hydraulic parking brake

FRAME

- Automatic oscillating axle blocking
- Three point Kinglink and central oscillating bearing
- Hydraulic steering
- Coupling device at front and rear



OPERATION

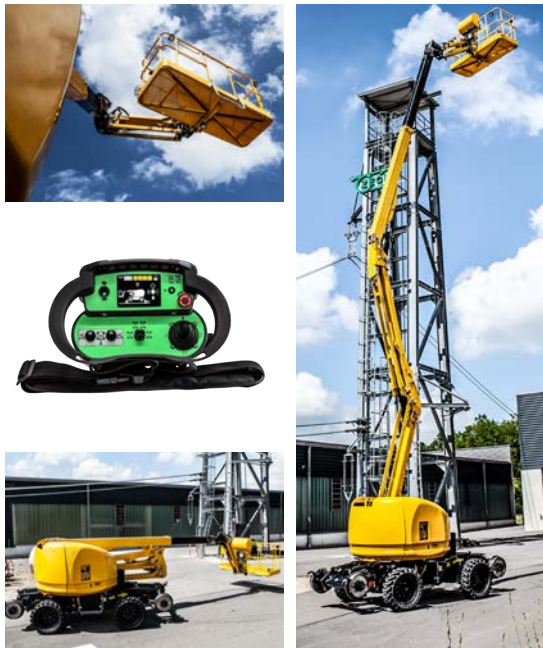
- Working lights at front and rear
- Joystick on armrest of seat for rail operation
- Electric / hydraulic emergency pump
- Multi-functional proportional control (all arm movements can be controlled simultaneously)
- Safe access from between the tracks
- Clearly structured control panel

EQUIPMENT

- Automatic load limitation for the work basket
- Battery charge indicator
- Battery master switch
- Adjustable, turnable and suspended seat
- Electric components with IP65 and IP67 protection
- Electronic supervision of track superelevation of frame and platform with automatic blocking of operating maneuvers
- Safety roof ROPS | FOPS
- Lighting system for road use and signal lamp with rotating beacon
- Warning horn electric (road) and pneumatic (rail)
- Central lubrication point for upper joint bolt
- Cyclonic air pre-filter

OPTIONAL EQUIPMENT

- 230 V electric supply in work basket with differential circuit breaker
- Diesel engine according EU emissions directive
- Closed cabin with heating system, illumination, and windshield wipers
- Hydraulic supply 400 bar for pressing tools in basket
- Rail axles for narrow gauge
- Rail wheel for tramway gauge
- Use of work basket on road wheels (when stationary)
- Fire extinguisher



TECHNICAL DATA (STANDARD GAUGE 1435 MM)

Safe working load (work basket)	400 kg
Max. working height	18.2 m
Max. lateral reach	9.9 m (right/left)
Rotation boom arm	360°
Rotation work basket	90° (right/left)
Rotation oscillating arm	70° (right/left)
Min. curve radius (rail)	35 m
Max. superelevation of the track	200 mm
Max. rail inclination	40 ‰
Max. driving speed road (4 gears)	5 km/h
Max. driving speed rail (3 gears)	19.9 km/h
Max. working speed (rail)	1.8 km/h

NOISE LEVEL

Sound pressure level (Lp)	74 dB (A)
Acoustic power level (Lw)	100.9 dB

TANK CAPACITY

Hydraulic	70 l
Diesel	65 l

DIMENSIONS | WEIGHT

Length (road)	8.3 m
Height on rail wheels (over upper surface of rail)	2.64 m
Height on road wheels	2.45 m
Width	2.4 m
Work basket	2.4 x 0.8 m
Net weight	13200 kg

KEY FACTS

- Universally applicable rail-road elevated working platform
- Radio-/cable remote control with display for safe and quick rerailling as well as driving on the road
- DB Netz authorization to work
- Compliance with Machinery Directive 2006/42/CE and EN 280-2015
- Swiveling JIB: Rotation on work basket and oscillating arm

ENGINE | POWER TRANSMISSION

- Diesel engine, max. 55 kW (73.8 hp), minimal noise due to low drive speed
- Water-cooled diesel engine, emission level V with particulate filter
- Hydrostatic drive
- 24 V system with high capacity battery

BRAKING SYSTEM

- Parking brake at 4 road wheels
- Parking brake at 4 rail wheels

FRAME

- Coupling device at front and rear

OPERATION

- Multi-function proportional control
- Clearly structured control panel
- Emergency hand pump
- Working platform can be used on road as well as rail
- Driving under live catenary possible due to lifting limiter
- Hydraulic 4-wheel steering (road)

EQUIPMENT

- Automatic load limiter for the work basket with 2 load ranges
- Battery charge indicator
- Battery master switch

- Electric components with IP65 and IP67 protection
- Lockable oscillating axle for road and rail
- Electronic control of all machine functions by integrated diagnostic system (automatic blocking of lifting operations)
- Opposite track blocking

OPTIONAL EQUIPMENT

- 230 V electric supply with 3.5 kVA (socket in basket)
- Rail wheels for other track gauges
- Electric tank pump
- Emergency diesel engine for emergency operation with reduced performance: in case of engine failure operation via control panel, in case of control failure operation via operating levers
- Electric/hydraulic emergency pump
- Scotches
- Re-railing support
- Wind gauge
- Key safe
- Rear carrier basket with quick-action coupling for trailer coupling
- Oil collection kit
- Fire extinguisher
- First aid kit
- Biodegradable hydraulic oil
- Back pad for working platform
- Illumination system
- Pantograph measurement
- Pantograph equipotential bonding



KEY FACTS

- Electric operation with replaceable rechargeable batteries 4 x 4.4 kWh
- Battery capacity 4 to 5 hrs
- Universally applicable rail-road elevated working platform
- Radio-/cable remote control with display for safe and quick rerailing as well as driving on the road
- DB Netz authorization to work
- Compliance with Machinery Directive 2006/42/CE and EN 280-2015
- Swiveling JIB: Rotation on work basket and oscillating arm

ENGINE | POWER TRANSMISSION

- Diesel engine, max. 55 kW (73.8 hp), minimal noise due to low drive speed
- Water-cooled diesel engine, emission level V with particulate filter
- Lithium battery pack, 17.6 kWh 48V
- Hydrostatic drive
- 24 V system with high capacity battery

BRAKING SYSTEM

- Parking brake at 4 road wheels
- Parking brake at 4 rail wheels

FRAME

- Coupling device at front and rear

OPERATION

- Multi-function proportional control
- Clearly structured control panel
- Emergency hand pump
- Working platform can be used on road as well as rail
- Driving under live catenary possible due to lifting limiter
- Hydraulic 4-wheel steering (road)

TECHNICAL DATA (STANDARD GAUGE 1435 MM)

Safe working load (work basket)	400 kg
Max. working height	18.2 m
Max. lateral reach	9.9 m (right/left)
Rotation boom arm	360°
Rotation work basket	90° (right/left)
Rotation oscillating arm	70° (right/left)
Min. curve radius (rail)	35 m
Max. superelevation of the track	200 mm
Max. rail inclination	40 ‰
Max. driving speed road (4 gears)	5 km/h
Max. driving speed rail (3 gears)	19.9 km/h
Max. working speed (rail)	1.8 km/h

NOISE LEVEL - DIESEL OPERATION

Sound pressure level (Lp)	74 dB (A)
Acoustic power level (Lw)	100.9 dB

TANK CAPACITY

Hydraulic	70 l
Diesel	65 l

DIMENSIONS | WEIGHT

Length (road)	8.3 m
Height on rail wheels (over upper surface of rail)	2.64 m
Height on road wheels	2.45 m
Width	2.4 m
Work basket	2.4 x 0.8 m
Net weight	13500 kg

EQUIPMENT

- Automatic load limiter for the work basket with 2 load ranges
- Battery charge indicator
- Battery master switch electric components with IP65 and IP67 protection
- Lockable oscillating axle for road and rail
- Electronic control of all machine functions by integrated diagnostic system (automatic blocking of lifting operations)
- Opposite track blocking

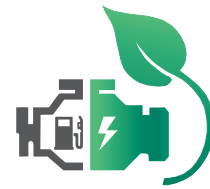
OPTIONAL EQUIPMENT

- 230 V power supply (3.5 kVA) work basket socket with diesel engine battery charger
- Rail wheels for other track gauges
- Electric tank pump
- Scotches
- Re-railing support
- Wind gauge
- Key safe
- Rear carrier basket with quick-action coupling for trailer coupling
- Oil collection kit
- Fire extinguisher
- First aid kit
- Biodegradable hydraulic oil
- Back pad for working platform
- Illumination system
- Pantograph measurement
- Pantograph equipotential bonding
- Spare rechargeable battery





RR A-POD 16 HEV



TECHNICAL DATA

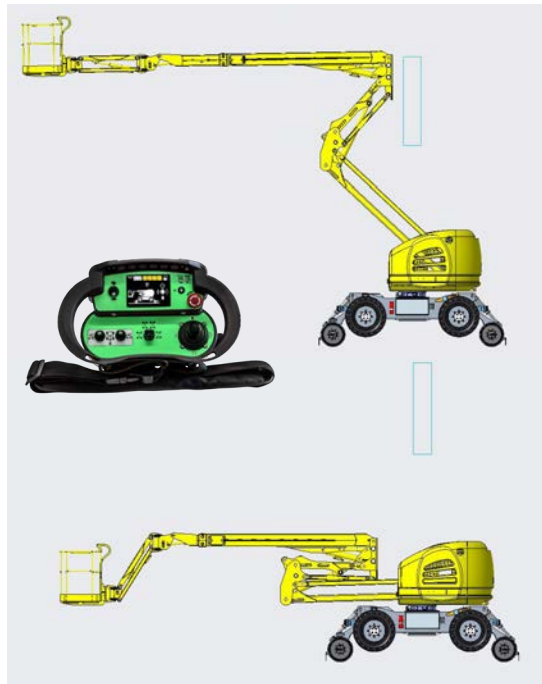
Safe working load (work basket)	400 kg
Max. working height	16 m
Max. lateral reach	9 m (right/left)
Rotation boom arm	360°
Rotation work basket	90° (right/left)
Rotation oscillating arm	70° (right/left)
Max. superelevation of the track	200 mm
Max. rail inclination	60 ‰
Min. curve radius (rail)	35 m
Max. driving speed rail (3 gears)	19.9 km/h
Max. working speed (rail)	1.8 km/h

NOISE LEVEL - DIESEL OPERATION

Sound pressure level (Lp)	77 dB (A)
Acoustic power level (Lw)	103 dB (A)

DIMENSIONS | WEIGHT

Length (road)	9.87 m
Height on rail wheels (over upper surface of rail)	2.64 m
Height on road wheels	2.45 m
Width	2.4 m
Work basket	1.8 x 0.9 m
Net weight	14000 kg



KEY FACTS

- Electric operation with replaceable rechargeable batteries 4 x 4.4 kWh
- Battery capacity 4 to 5 hrs
- Universally applicable rail-road elevated working platform
- Radio-/cable remote control with display for safe and quick rerailing as well as driving on the road
- DB Netz authorization to work
- Compliance with Machinery Directive 2006/42/CE and EN 280-2015
- Swiveling JIB: Rotation on work basket and oscillating arm

ENGINE | POWER TRANSMISSION

- Diesel engine, max. 55 kW (73.8 hp), minimal noise due to low drive speed
- Water-cooled diesel engine, emission level V with particulate filter
- Lithium battery pack, 17.6 kWh 48V
- Hydrostatic drive
- 24 V system with high capacity battery

BRAKING SYSTEM

- Parking brake at 4 road wheels
- Parking brake at 4 rail wheels

FRAME

- Coupling device at front and rear

OPERATION

- Multi-function proportional control
- Clearly structured control panel
- Emergency hand pump
- Working platform can be used on road as well as rail
- Driving under live catenary possible due to lifting limiter
- Hydraulic 4-wheel steering (road)

EQUIPMENT

- Automatic load limitation
- Battery charge indicator
- Battery master switch
- Electric components with IP65 and IP67 protection
- Electronic control of all machine functions by integrated diagnostic system (automatic blocking of lifting operations)
- Opposite track blocking
- Lockable oscillating axle for road and rail

OPTIONAL EQUIPMENT

- Recharging via diesel engine
- 230 V electrical supply (socket in work basket)
- Rail wheels for other track gauges
- Electric tank pump
- Scotches
- Re-railing support
- Wind gauge
- Key safe
- Oil collection kit
- Fire extinguisher
- First aid kit
- Biodegradable hydraulic oil
- Back pad for working platform
- Illumination system
- Pantograph measurement
- Pantograph equipotential bonding
- Multi-track axles ranging from 1000 mm to 1668 mm

ZECK GmbH | Columba-Schonath-Str. 6 | 96110 Schesslitz | GERMANY
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Subject to modifications and errors. Some illustrations may show optional equipment. Technical data may vary depending on machine type. Performance data is valid at 20 °C and sea level.

09|2023

COMING SOON



TECHNICAL DATA (STANDARD GAUGE 1435 MM)

Safe working load	5000 kg
Turning radius	12 m
Min. curve radius	35 m
Max. driving speed road (4 gears)	27.7 km/h
Max. driving speed rail (3 gears)	19.9 km/h

NOISE LEVEL

Sound pressure level (Lp)	85 dB (A)
Acoustic power level (Lw)	103 dB (A)

TANK CAPACITY

Hydraulic	70 l
Diesel	70 l

DIMENSIONS | WEIGHT

Length x Width	5.0 m x 2.3 m
Height on rail wheels (over upper surface of rail)	3.3 m
Height on road wheels	3.2 m
Height elevated skip	3.9 m
Net weight	6070 kg
Total weight	11070 kg

KEY FACTS

- Rail-road dumper
- Radio remote control for rerailing and for transport journeys
- Excellent all-terrain capability due to oscillating articulated joint
- Compliance with Machinery Directive 2006/42/CE
- Homologation for road service

ENGINE | POWER TRANSMISSION

- Max. 55.4 kW (74.3 hp), emissions level V
- Water-cooled diesel engine
- 12 V system with high capacity battery
- Rail wheels driven by transmitted friction by road wheels (friction drive)
- Powershift transmission - 4 gears

BRAKING SYSTEM

- Safety multi-disk brake at both road axles
- 4 rail wheels equipped with negative multi-disc brake
- Electric / hydraulic parking brake

FRAME

- Automatic oscillating axle blocking
- Three point Kinglink and central oscillating bearing
- Coupling device at front and rear
- Hydraulic steering

HYDRAULIC SKIP

- Skip made of steel plates, turnable 90° to the left and right
- Automatic locking of skip in central position
- Box-type profile to reinforce skip
- Tilting of skip while driving in longitudinal direction

OPERATION

- Working lights at front and rear
- Battery master switch
- Joystick on armrest of seat for rail operation
- Electric / hydraulic emergency pump
- Safe access from between the tracks
- Lighting system for road use and signal lamp with rotating beacon
- Clearly structured control panel

EQUIPMENT

- Lockable cover for hydraulic and diesel tank and engine maintenance points
- Electric components with IP65 and IP67 protection
- Electronically and hydraulically controlled sliding plate for spillage and liquid substances
- Opposite track blocking
- Safety roof ROPS | FOPS
- Warning horn electric (road) and pneumatic (rail)
- Cyclonic air pre-filter
- Adjustable, turnable, and suspended seat

OPTIONAL EQUIPMENT

- Diesel engine according EU emissions directive
- Closed cabin with heating system, illumination, and windshield wipers
- High-pressure cleaner with suction strainer and reeling device for one hose (max. 10 m)
- Rail axles for narrow gauge
- Rail wheel for tramway gauge
- Fire extinguisher

TECHNICAL DATA (STANDARD GAUGE 1435 MM)

Max. tensioning force	10 kN
Drum width	700 – 1200 mm
Outer drum Ø	1200 – 1650 mm
Max. drum weight	2500 kg
Telescopic mast with pulley head (above upper surface of rail)	3.5 – 6.2 m
Turning radius	12 m
Min. curve radius	35 m
Max. driving speed road (4 gears)	27.7 km/h
Max. driving speed rail (3 gears)	19.9 km/h
Max. working speed	6.7 km/h

NOISE LEVEL

Sound pressure level (Lp)	85 dB (A)
Acoustic power level (Lw)	103 dB (A)

TANK CAPACITY

Hydraulic	70 l
Diesel	70 l

DIMENSIONS | WEIGHT

Length	5.0 m
Width (rail)	3.0 m
Height on rail wheels (over upper surface of rail)	3.4 m
Width (road)	2.5 m
Height on road wheels	3.2 m
Net weight	7570 kg
Total weight incl. drum	10070 kg

KEY FACTS

- Railroad vehicle for winding and unwinding of wire
- Radio remote control for drum control
- High constant tensioning force due to hydraulic drum brake and special pulley head (patent pending)
- Excellent all-terrain capability due to oscillating articulated joint
- Compliance with Machinery Directive 2006/42/CE
- Homologation for road service

ENGINE | POWER TRANSMISSION

- Water-cooled diesel engine
- Max. 55.4 kW (74.3 hp), emissions level V
- 12 V system with high capacity battery
- Rail wheels driven by transmitted friction by road wheels (friction drive)
- Powershift transmission - 4 gears

BRAKING SYSTEM

- Safety multi-disk brake at both road axles
- 4 rail wheels equipped with negative multi-disc brake
- Electric / hydraulic parking brake

FRAME

- Welded steel frame with 4 mechanically lockable container twistlocks
- Three point Kinglink and central oscillating bearing
- Automatic oscillating axle blocking



- Two hydraulically operated treadplates (right and left side)
- Two foldable ladders at the front (right and left side)
- Hydraulic steering
- Coupling device at front and rear

OPERATION

- Indication of nominal and actual installation tensioning force
- Working lights at front and rear
- Battery master switch
- Radio remote control for loading and unloading of the drum, gripping the drum, extending and retracting the walkway and locking of gripping arm in working position
- Cable remote control
- Joystick on armrest of seat for rail operation
- Electric / hydraulic emergency pump
- Safe access from between the tracks
- Lighting system for road use and signal lamp with rotating beacon
- User-friendly control panel and control cabinet
- Installation mast with turnable pulley head for zigzag guidance of the unwinding wire

EQUIPMENT

- Lockable cover for hydraulic and diesel tank and engine maintenance points
- Electric components with IP65 and IP67 protection
- Closed cabin with heating system, illumination, and windshield wipers
- Safety roof ROPS | FOPS
- Drum holding fixtures for drum diameters of > 1650 mm and drum weights up to 3500 kg
- Warning horn electric (road) and pneumatic (rail)
- Warning signal for safety brake
- Cyclonic air pre-filter
- Adjustable, turnable, and suspended seat

OPTIONAL EQUIPMENT

- Diesel engine according EU emissions directive
- Rail axles for narrow gauge
- Rail wheel for tramway gauge
- Fire extinguisher



TECHNICAL DATA (STANDARD GAUGE 1435 MM)

Max. tensioning force	900 Nm
Max. unwinding speed	3 km/h
Min. drum Ø	1000 mm
Max. drum Ø	2200 mm
Max. drum width	1700 mm
Max. drum weight	2000 kg
Max. payload trailer	2500 kg
Max. driving speed road	80 – 100 km/h
Max. driving speed rail	15 km/h

TANK CAPACITY

Hydraulic	20 l
Gasoline	6 l

DIMENSIONS | WEIGHT

Length	4.5 m
Width	2.4 m
Height on road wheels	2.0 m
Height on rail wheels (over upper surface of rail)	3.3 m
Net weight drum stand	700 kg
Net weight trailer with drum stand	3500 kg

KEY FACTS

- Rail-road drum stand
- Drum stand to wind/unwind wire/cable under mechanical tension
- Application as mobile drum stand or as transport trailer on the rail
- Free wheel device for the drum
- Compliance with Machinery Directive 2006/42/CE
- Homologation for road service

ENGINE

- Max. 8.7 kW (11.7 hp)
- Gasoline engine with electric start
- 12 V system (65 Ah)

DRIVE SYSTEM

- Universal drum shaft with 2 adjustable drum fixing cones
- Free wheel device for the drum
- Hydraulic manual pump for emergency mode
- Integrated hydraulic motor to power the rubber wheels

EQUIPMENT

- 2 spring-mounted axle chassis with brake, lighting system and mudguard for up to 80 – 100 km/h
- Adjustable height of drum via two hydraulic cylinders
- Adjustment of tensioning force via hydraulic pressure
- Parking brake
- Friction emergency brake to end the installation process
- Drawbar adjustable in height
- Rail wheel axle with bogie for increased stability
- Front support via robust mechanical support winch

OPTIONAL EQUIPMENT

- Model with transport trailer
- Biodegradable hydraulic oil
- Reel with dismountable flange HT/TBF for reeling old rope
- Fire extinguisher



RR Trailer 6

TECHNICAL DATA (STANDARD GAUGE 1435 MM)

Rail working load	12000 kg
Road working load	3000 kg
Min. curve radius	90 m
Max. superelevation of the track	200 mm
Max. rail inclination	35 ‰
Max. driving speed road	15 km/h
Max. driving speed rail	20 km/h

DIMENSIONS | WEIGHT

Length	7.82 m
Width	2.53 m
Loading bed length	6 m
Height on road wheels	1.59 m
Height on rail wheels (over upper surface of rail)	1.19 m
Ground clearance, road rail	0.20 m 0.74 m
Net weight trailer	4000 kg

KEY FACTS

- Rail-road trailer
- 2 rail axles - 1 road axle
- Negative brake on rail wheels

EQUIPMENT

- Height-adjustable drawbar
- Twistlock fastening
- Foldable, removable side wall
- Pivoting stanchions
- Inner wall can be moved laterally
- Hydraulic support
- 4 attachment and lifting points
- 2 lateral tool boxes



CATENARY INSTALLATION UNIT

Wire installation with tensioning force of 10 - 30 kN with individually controlled capstan units for 1, 2, or 3 wires

As a load on a rail-bound vehicle or rail-road truck

	PAGE	RAIL-BOUND VEHICLE	RAIL-ROAD TRUCK
BM 954	28	X	
BM 957	29	X	
BM 984	30	X	
BM 988	31	X	
BM 982	32	X	
BM 974	33	X	
BM 966	34	X	X
BM 971	35	X	X
BM 925	36	X	X
BM 921-500	37	X	X

Wire installation with tensioning force of < 10 kN by hydraulically tensioned drum stands

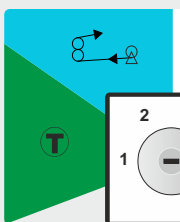
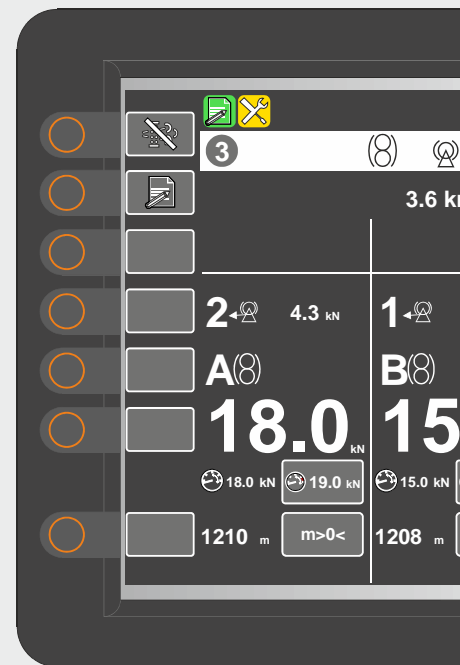
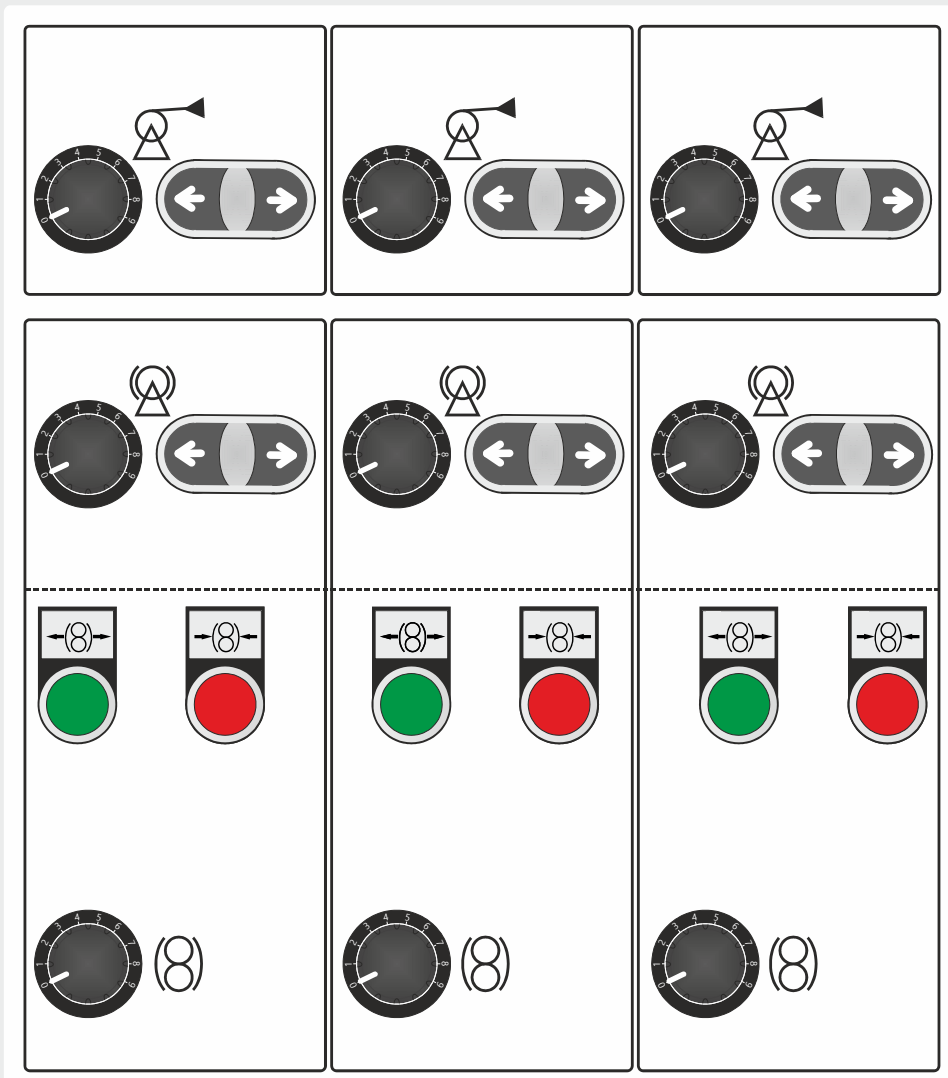
	PAGE	RAIL-BOUND VEHICLE	RAIL-ROAD TRUCK
BM 987	38	X	X
BM 959	39	X	X
BM 960	40	X	
BM 935	41	X	X
TBH 20 Z972	44	X	X
TBH 20 Z292	45	X	X
TBF 20-2W Z240	46		



ZECK OPERATOR INTERFACE - ZOI 3.0

PRECISE CONTROL AND EASY OPERATION

- 12" Touch screen with function keys
- Control of tensioning forces as well as the drive and control units with integrated diagnostic system
- PLC control for maximum productivity and safety
- ZECK stringing data record system with USB interface
- GPS modem with remote diagnosis*
- Communication with carrier vehicle by hardware or CAN*



INTELLIGENT TENSION SUSTAINER (ITS)*

- In error mode, the machine will temporarily continue working with the last set tensioning force

LOADSENSING SYSTEM

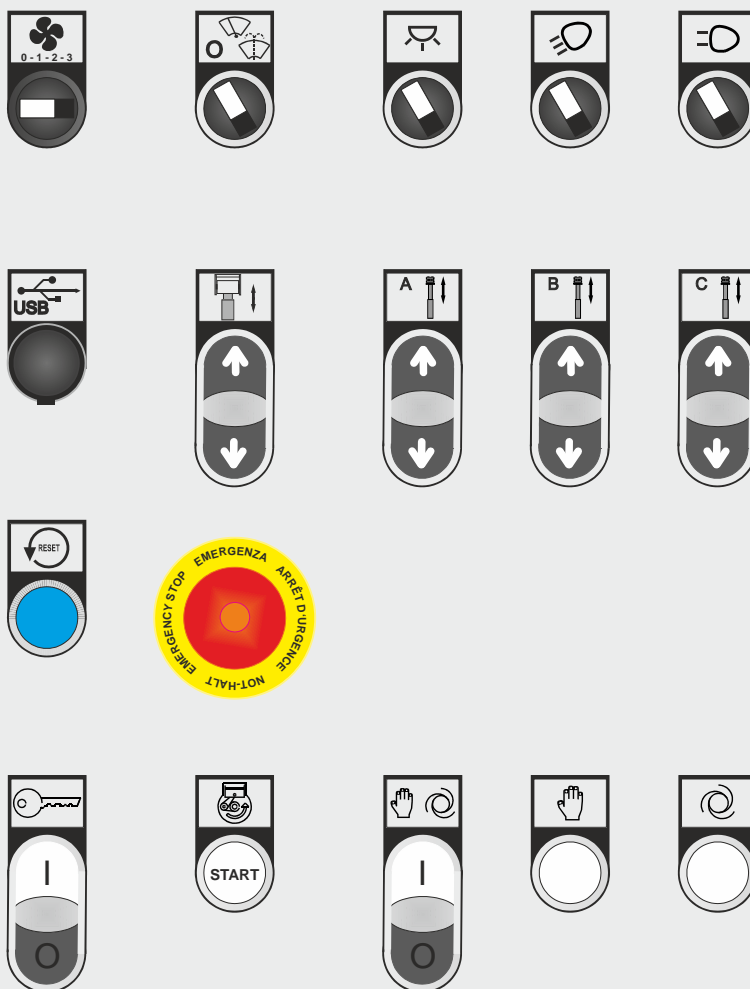
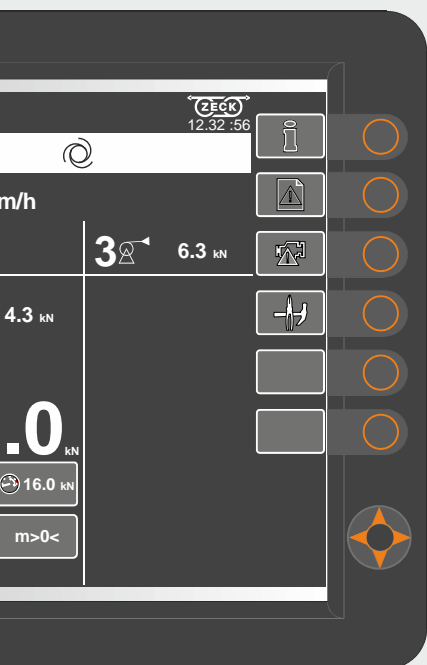
- Efficient control of machine due to hydraulic supply as needed (energy-efficient)

SETUP MODE

- Easy operation with cable remote control
- Precise control via joystick
- Increased efficiency during installation of wire

ELECTRONIC CONTROL OF DRUM STAND PRETENSION*

- Continuous pretension independent of drum size and uncoil diameter



HP-ATS, HIGH PRECISION AUTOMATIC TENSIONING SYSTEM*

- Highly precise automatic tensioning system for tolerances of $\pm 1\%$ of the set nominal tensioning force
- Careful wire installation due to soft start-up and stopping

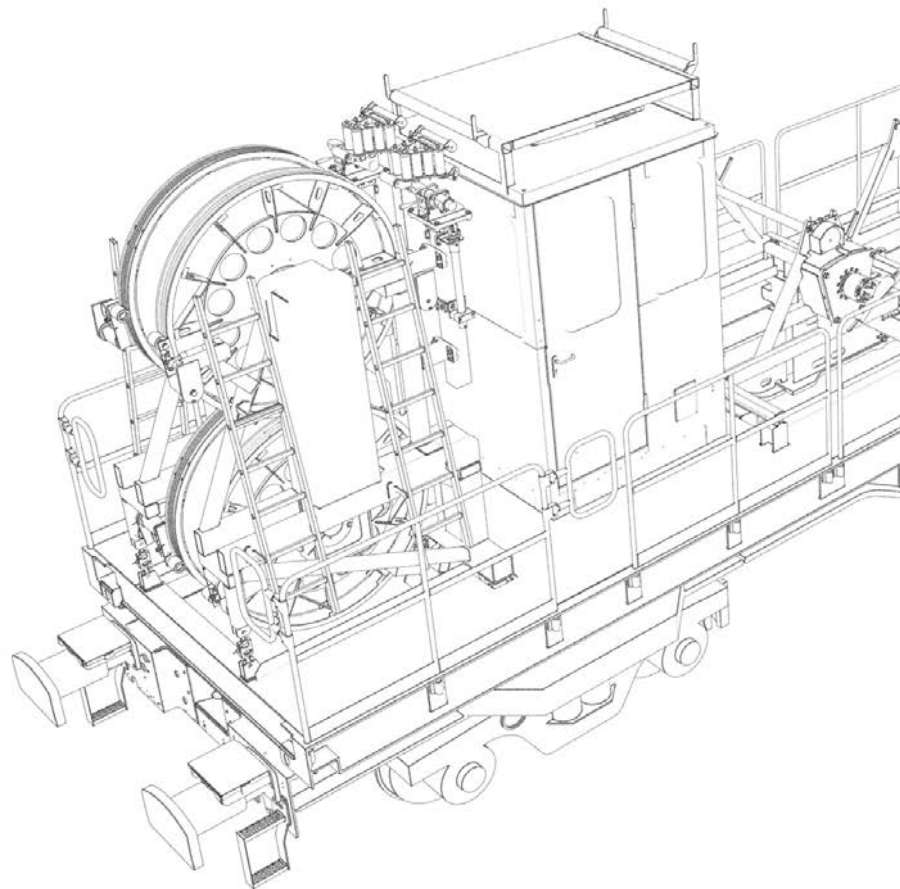
*optional

WELL THOUGHT OUT DOWN TO THE FINEST DETAIL



BULL WHEEL UNIT

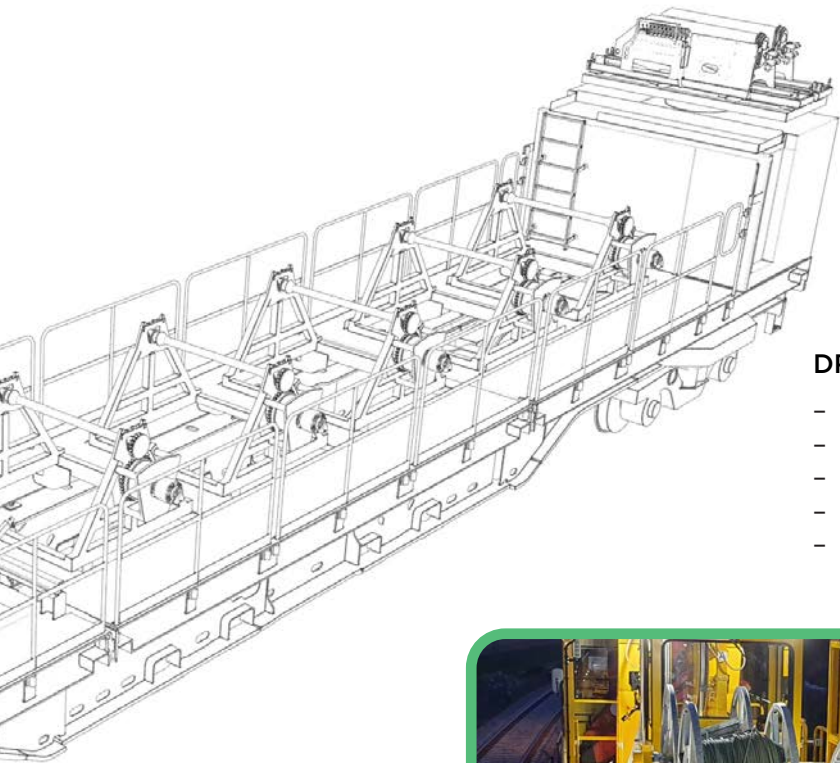
- For 1,2 or 3 wires - individually controlled
- Max. tensioning force 30 kN
- Wire guiding system without bending cycle
- Approved for "SIEMENS ICE CATENARY SYSTEM"
- Groove lining in various designs for a max. wire diameter of 15, 22, or 27 mm*
- Less wire required with only 3 groove turns
- Wire straightener*



CONTAINER FRAME ATTACHMENT SYSTEM*

- Quick mounting and dismounting on carrier vehicles (10', 20' or 30')





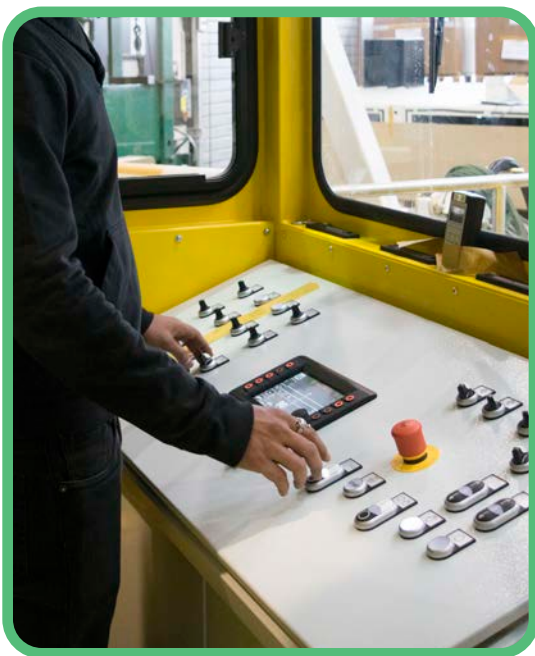
DRUM STAND

- Up to 6 fix-mounted, hydraulic drum stands
- With manual parking brake
- Automatically laterally displaceable*
- Swiveling frame*
- Hydraulic drum clamping fixture without drum shaft*



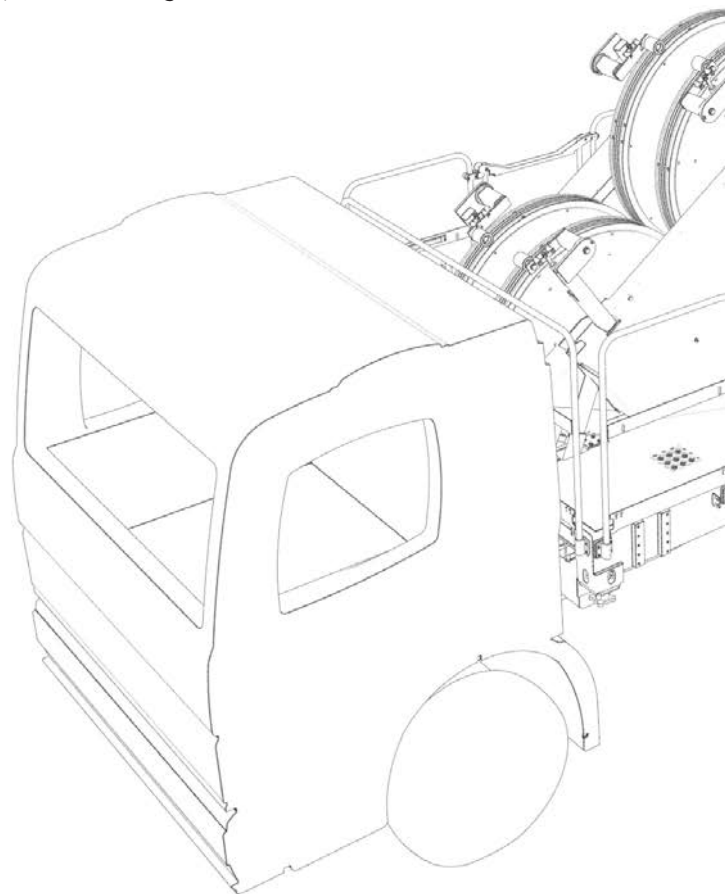
*optional

PRECISE • EFFICIENT • ECONOMIC



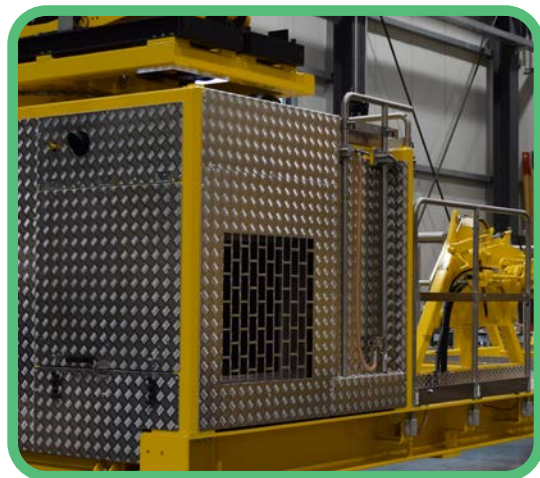
CONTROL DESK

- With overhead cover
- Soundproof cabin, optional with ventilation system, heating system, air conditioning*



ENGINE

- Electronically controlled and water-cooled diesel engine with CAN interface
- In compliance with the EU emissions directive*
- With particulate filter*
- Without diesel engine: hydraulic and electrical supply by carrier vehicle*

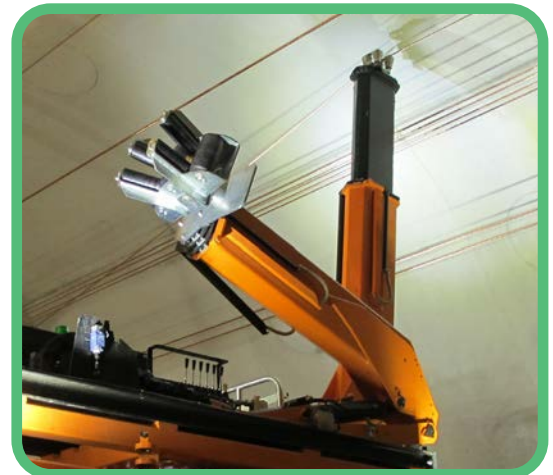
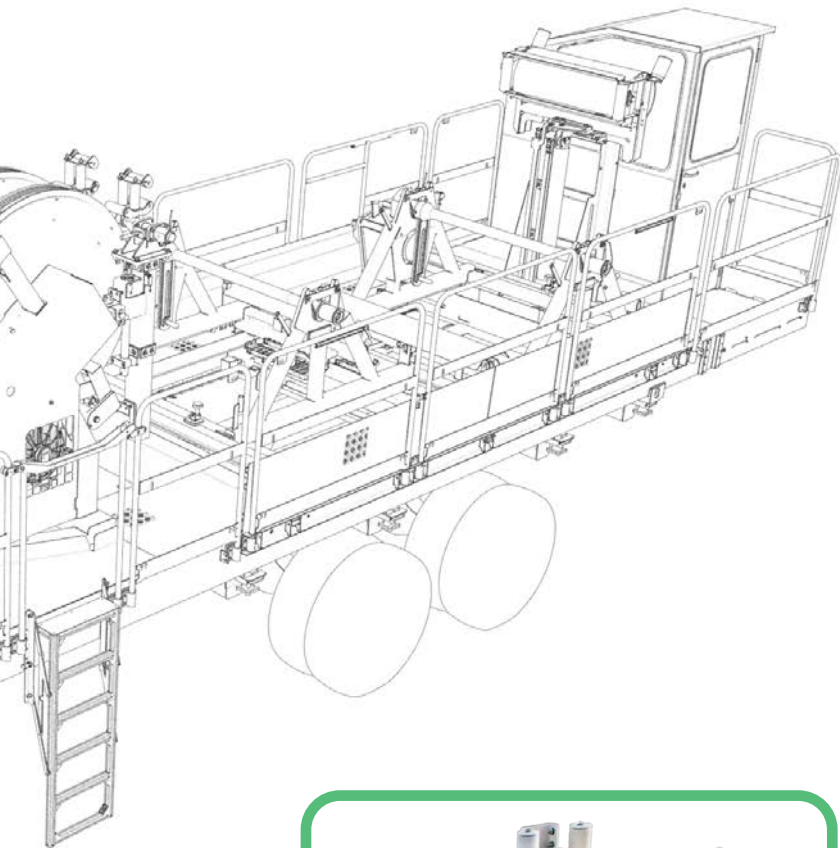


HYDRAULIC TELESCOPIC CRANE

- To load/unload drums
- With rail homologation, opposite track blocking and radio remote control*

HYDRAULIC EMERGENCY UNIT

- Facilitates transport position (clearance outline) of machine in case of failure of drive unit



WIRE GUIDING SYSTEM*

- 2 hydraulically controlled guidance arms with large lateral reach. Individually controlled by radio remote control
- Mast adjustable in height with large guide pulley for prepositioning the wires



*optional



TENSIONER PERFORMANCE

Max. tensioning force	2 x 27 kN
Max. speed	5 km/h

BULL WHEEL

Number	4 (2 x 2)
Diameter	1500 mm
Groove Ø	15 mm (opt. 22, 27 mm)

DRUM STAND

Number	6
Max. drum weight	3500 kg
Max. drum Ø	3 - 2000 mm
Max. drum Ø	3 - 1600 mm

DIMENSIONS | WEIGHT

Length x Width x Height	18.4 x 2.8 x 3.3 m
Net weight	approx. 25000 kg

KEY FACTS

- Electronically controlled catenary installation unit installed on a rail-bound vehicle
- New construction: simultaneous installation of 2 new wires with a final tensioning force of 2 x 27 kN
- Wire exchange: simultaneous installation of 1 new wire while pulling in 1 old wire

ENGINE

- Max. 92.5 kW (124 hp)
- Liquid-cooled diesel engine with electronic rpm-control
- 24 V system with high capacity battery

BULL WHEEL UNIT

- 2 individually controlled bull wheel units
- Each bull wheel with planetary gear and hydraulic motor as completely enclosed drive unit (highly efficient, minimal maintenance)

DRUM STAND

- 6 hydraulic drum stands (1 can be automatically moved laterally 5 fix-mounted)
- Free wheel device directly at the drive
- Individual control of each drum stand, with planetary gear and hydraulic motor as completely enclosed drive unit
- Careful catenary installation with minimal wire deflection between drum and bull wheel (< 3°)
- Universal drum shaft with adjustable drum driving bolt, suitable for all drum types (wooden drum, steel drum with 3 or 4 spokes)
- 2 drum fixing cones, can be adjusted with socket wrench to safely fix the drum

WIRE GUIDING SYSTEM

- 2 hydraulically controlled guidance arms with large lateral reach: right/left ca. 4.5 m, height: ca. 8.5 m (over upper surface of rail), extension possible
- Individually controlled by radio remote control

CONTROL SYSTEM

- HP-ATS (High Precision Automatic Tensioning System): Tensioning forces with tolerances between the nominal and actual value of only ± 1 %
- Careful wire installation due to soft start-up and stopping
- PLC control for maximum productivity and safety
- Clearly structured control desk with color display to control the tensioning forces as well as the drive and control units with integrated diagnostic system
- ZECK stringing data record system with USB interface
- Electronically controlled drum stand pretension. Continuous pretension independent of drum size and unroll diameter

EQUIPMENT

- Lockable, soundproof cabin with ventilation system, windshield wipers, seat and control panel
- Lighting for working in darkness
- Base frame made of steel profiles 2 x 30' with accommodations for container corner fittings (according to DIN ISO 1161)
- Circumferential railing as fall prevention system

OPTIONAL EQUIPMENT

- Diesel engine according EU emissions directive
- Diesel particulate filter (DPF)
- Arctic kit with preheating system for up to -30 °C
- Biodegradable hydraulic oil
- Printer for ZECK Stringing Data Record System
- Remote diagnosis via GSM/GPS modem
- ITS, Intelligent Tension Sustainer: In error mode the machine temporarily continues tensioning with last set tensioning force
- Air conditioning for cabin

Special designs on request

TENSIONER PERFORMANCE

Max. tensioning force	2 x 20 kN
Max. speed	5 km/h

BULL WHEEL

Number	4 (2 x 2)
Diameter	1400 mm
Groove Ø	16 mm (opt. 22, 27 mm)

DRUM STAND

Number	4
Max. drum weight	3500 kg
Max. drum Ø	1800 mm

DIMENSIONS | WEIGHT

Length x Width x Height	19.3 x 2.8 x 2.8 m
Net weight	approx. 10500 kg


KEY FACTS

- Electronically controlled catenary installation unit installed on a rail-bound vehicle
- New construction: simultaneous installation of 2 new wires with a final tensioning force of 2 x 20 kN
- Wire exchange: simultaneous installation of 1 new wire while pulling in 1 old wire

ENGINE

- Max. 92.5 kW (124 hp)
- Liquid-cooled diesel engine with electronic rpm-control
- 24 V system with high capacity battery

BULL WHEEL UNIT

- 2 individually controlled bull wheel units
- Each bull wheel with planetary gear and hydraulic motor as completely enclosed drive unit (highly efficient, minimal maintenance)

DRUM STAND

- 4 hydraulic drum stands (can be automatically moved laterally)
- Free wheel device directly at the drive
- Individual control of each drum stand, with planetary gear and hydraulic motor as completely enclosed drive unit
- Careful catenary installation with minimal wire deflection between drum and bull wheel (< 3°)
- Universal drum shaft with adjustable drum driving bolt, suitable for all drum types (wooden drum, steel drum with 3 or 4 spokes)
- 2 drum fixing cones, can be adjusted with socket wrench to safely fix the drum

WIRE GUIDING SYSTEM

- Two hydraulically controlled guidance arms with large lateral reach: right/left approx. 4.5 m, height: approx. 8.5 m (over upper surface of rail), extension possible
- Individually controlled by radio remote control

CONTROL SYSTEM

- HP-ATS (High Precision Automatic Tensioning System): Tensioning forces with tolerances between the nominal and actual value of only $\pm 1\%$
- Careful wire installation due to soft start-up and stopping
- PLC control for maximum productivity and safety
- Clearly structured control desk with color display to control the tensioning forces as well as the drive and control units with integrated diagnostic system
- ZECK stringing data record system with USB interface
- Electronically controlled drum stand pretension. Continuous pretension independent of drum size and unroll diameter

EQUIPMENT

- Lockable, soundproof cabin with ventilation system, windshield wipers, seat and control panel
- Lighting for working in darkness
- Base frame made of steel profiles 2 x 30' with accommodations for container corner fittings (according to DIN ISO 1161)
- Circumferential railing as fall prevention system

OPTIONAL EQUIPMENT

- Diesel engine according EU emissions directive
- Diesel particulate filter (DPF)
- Arctic kit with preheating system for up to -30 °C
- Biodegradable hydraulic oil
- Printer for ZECK Stringing Data Record System
- ITS, Intelligent Tension Sustainer (in case of failure, machine temporarily continues tensioning with last set tensioning force)
- Remote diagnosis via GSM/GPS modem
- Air conditioning for cabin

Special designs on request



TENSIONER PERFORMANCE

Max. tensioning force	2 x 30 kN
Max. speed	5 km/h

BULL WHEEL

Number	4 (2 x 2)
Diameter	1500 mm
Groove Ø	16 mm (opt. 22, 27 mm)

DRUM STAND "VARIO"

Number	4
Max. drum weight	3500 kg
Max. drum Ø	2000 mm

DIMENSIONS | WEIGHT

Length x Width x Height	18.4 x 2.9 x 3.2 m
Net weight	approx. 21600 kg

KEY FACTS

- Electronically controlled catenary installation unit installed on a rail-bound vehicle
- TB "VARIO" with hydraulic clamping for comfortable, safe and quick drum change. No drum shaft needed!
- New construction: simultaneous installation of 2 new wires with a final tensioning force of 2 x 30 kN
- Wire exchange: simultaneous installation of 1 new wire while pulling in 1 old wire

ENGINE

- Max. 100 kW (134.1 hp)
- Liquid-cooled diesel engine with electronic rpm-control
- 24 V system with high capacity battery

BULL WHEEL UNIT

- 2 individually controlled bull wheel units
- Each bull wheel with planetary gear and hydraulic motor as completely enclosed drive unit (highly efficient, minimal maintenance)

DRUM STAND

- 4 drum stands (2 laterally displaceable, 2 fix-mounted) with hydraulic drum clamping system (without drum shaft) for easy handling of the drum free wheel device directly on the drive
- Individual control of each drum stand, with planetary gear and hydraulic motor as completely enclosed drive unit
- Careful catenary installation with minimal wire deflection between drum and bull wheel (< 3°)

WIRE GUIDING SYSTEM

- 2 hydraulically controlled guidance arms with large lateral reach: right/left ca. 4.5 m, height: ca. 8.5 m (over upper surface of rail), extension possible
- Mast adjustable in height with large roller guidance for 1 or 2 wires for the careful prepositioning of the wire
- Individually controlled by radio remote control

CONTROL SYSTEM

- HP-ATS (High Precision Automatic Tensioning System): Tensioning forces with tolerances between the nominal and actual value of only ± 1 %
- Careful wire installation due to soft start-up and stopping
- PLC control for maximum productivity and safety
- Clearly structured control desk with color display to control the tensioning forces as well as the drive and control units with integrated diagnostic system
- ZECK stringing data record system with USB interface
- Electronically controlled drum stand pretension. Continuous pretension independent of drum size and unroll diameter

EQUIPMENT

- Lockable, soundproof cabin with ventilation system, windshield wipers, seat and control panel
- Lighting for working in darkness
- Base frame made of steel profiles 2 x 30' with accommodations for container corner fittings (according to DIN ISO 1161)
- Remote diagnosis via GSM/GPS modem
- Circumferential railing as fall prevention system
- Winch to reduce the catenary wire length

OPTIONAL EQUIPMENT

- Diesel engine according EU emissions directive
- Diesel particulate filter (DPF)
- Arctic kit with preheating system for up to -30 °C
- Biodegradable hydraulic oil
- Printer for ZECK Stringing Data Record System
- ITS, Intelligent Tension Sustainer: In error mode the machine temporarily continues tensioning with last set tensioning force
- Air conditioning for cabin

Special designs on request

TENSIONER PERFORMANCE

Max. tensioning force	2 x 20 kN
Max. speed	5 km/h

BULL WHEEL

Number	4 (2 x 2)
Diameter	1400 mm
Groove Ø	16 mm (opt. 22, 27 mm)

DRUM STAND "VARIO"

Number	2
Max. drum weight	3500 kg
Max. drum Ø	2000 mm

DIMENSIONS | WEIGHT

Length x Width x Height	12.2 x 2.7 x 2.85 m
Net weight	approx. 15600 kg


KEY FACTS

- Electronically controlled catenary installation unit installed on a rail-bound vehicle
- TB "VARIO" with hydraulic clamping for comfortable, safe and quick drum change. No drum shaft needed!
- New construction: simultaneous installation of 2 new wires with a final tensioning force of 2 x 20 kN
- Wire exchange: simultaneous installation of 1 new wire while pulling in 1 old wire

ENGINE

- Max. 55.4 kW (74.3 hp)
- Liquid-cooled diesel engine with electronic rpm-control
- Diesel engine according EU emissions directive
- 24 V system with high capacity battery

BULL WHEEL UNIT

- 2 individually controlled bull wheel units
- Each bull wheel with planetary gear and hydraulic motor as completely enclosed drive unit (highly efficient, minimal maintenance)

DRUM STAND

- 2 drum stands (2 laterally displaceable) with hydraulic drum clamping system (without drum shaft) for easy handling of the drum, free wheel device directly on the drive
- Individual control of each drum stand, with planetary gear and hydraulic motor as completely enclosed drive unit
- Careful catenary installation with minimal wire deflection between drum and bull wheel (< 3°)

WIRE GUIDING SYSTEM

- Two hydraulically controlled guidance arms with large lateral reach: right/left approx. 4.5 m, height: approx. 8.0 m (over upper surface of rail), extension possible
- Individually controlled by radio remote control

CONTROL SYSTEM

- HP-ATS (High Precision Automatic Tensioning System): Tensioning forces with tolerances between the nominal and actual value of only ± 1%
- Careful wire installation due to soft start-up and stopping
- PLC control for maximum productivity and safety
- Clearly structured control desk with color display to control the tensioning forces as well as the drive and control units with integrated diagnostic system
- ZECK stringing data record system with USB interface
- Electronically controlled drum stand pretension. Continuous pretension independent of drum size and unroll diameter

EQUIPMENT

- Lockable, soundproof cabin with ventilation system, windshield wipers, seat and control panel
- Lighting for working in darkness
- Base frame made of steel profiles 1 x 40' with accommodations for container corner fittings (according to DIN ISO 1161)
- Remote diagnosis via GSM/GPS modem
- Circumferential railing as fall prevention system

OPTIONAL EQUIPMENT

- Diesel particulate filter (DPF)
- Arctic kit with preheating system for up to -30 °C
- Biodegradable hydraulic oil
- Printer for ZECK Stringing Data Record System
- ITS, Intelligent Tension Sustainer: In error mode the machine temporarily continues tensioning with last set tensioning force
- Air conditioning for cabin

Special designs on request



TENSIONER PERFORMANCE

Max. tensioning force	2 x 20 kN
Max. speed	5 km/h

BULL WHEEL

Number	4 (2 x 2)
Diameter	1500 mm
Groove Ø	22 mm
Optional	16 or 27 mm

DRUM STAND "VARIO"

Number	2
Max. speed	5 km/h
Max. drum Ø	1800 mm

DIMENSIONS | WEIGHT

Length x Width x Height	10.8 x 2.55 x 2.95 mm
Net weight	approx. 12800 kg

KEY FACTS

- Electronically controlled catenary installation unit installed on a rail-bound vehicle
- TB "VARIO" with hydraulic clamping system for comfortable, safe and quick drum change. No drum shaft needed!
- New construction: simultaneous installation of 2 new wires with a final tensioning force of 2 x 20 kN
- Wire exchange: simultaneous installation of 1 new wire while pulling in 1 old wire
- Installed on a platform trailer or rail wagon

ENGINE

- Max. 55 kW (73.8 hp)
- Liquid-cooled diesel engine with electronic rpm-control
- 24 V system with high capacity battery

BULL WHEEL UNIT

- 2 individually controlled bull wheel units
- Each bull wheel with planetary gear and hydraulic motor as completely enclosed drive unit (highly efficient, minimal maintenance)

DRUM STAND

- 2 drum stands (2 laterally displaceable) with hydraulic drum clamping system (without drum shaft) for easy handling of the drum, free wheel device directly on the drive
- Individual control of each drum stand, with planetary gear and hydraulic motor as completely enclosed drive unit
- Careful catenary installation with minimal wire deflection between drum and bull wheel (< 3°)

WIRE GUIDING SYSTEM

- 1 hydraulically controlled guidance arms with large lateral reach: right/left ca. 4.5 m, height: ca. 8.5 m (over upper surface of rail), extension possible
- Individually controlled by radio remote control

CONTROL SYSTEM

- HP-ATS (High Precision Automatic Tensioning System): Tensioning forces with tolerances between the nominal and actual value of only ± 1 %
- Careful wire installation due to soft start-up and stopping
- PLC control for maximum productivity and safety
- Clearly structured control desk with color display to control the tensioning forces as well as the drive and control units with integrated diagnostic system
- ZECK stringing data record system with USB interface
- Electronically controlled drum stand pretension. Continuous pretension independent of drum size and unroll diameter

EQUIPMENT

- Lockable, soundproof cabin with ventilation system, windshield wipers, seat and control panel
- Lighting for working in darkness
- Base frame made of steel profiles 2 x 30' with accommodations for container corner fittings (according to DIN ISO 1161)
- Remote diagnosis via GSM/GPS modem
- Circumferential railing as fall prevention system
- Winch to reduce the catenary wire length

OPTIONAL EQUIPMENT

- Diesel engine according EU emissions directive
- Diesel particulate filter (DPF)
- Arctic kit with preheating system for up to -30 °C
- Biodegradable hydraulic oil
- Printer for ZECK Stringing Data Record System
- ITS, Intelligent Tension Sustainer: In error mode the machine temporarily continues tensioning with last set tensioning force
- Air conditioning for cabin

Special designs on request

TENSIONER PERFORMANCE

Max. tensioning force	2 x 20 kN
Max. speed	5 km/h

BULL WHEEL

Number	4 (2 x 2)
Diameter	1300 mm
Groove Ø	15 mm (opt. 22, 27 mm)

DRUM STAND

Number	4
Max. drum weight	3500 kg
Max. drum Ø	1800 mm

DIMENSIONS | WEIGHT

Length x Width x Height	13.7 x 2.93 x 3.29 m
Net weight	approx. 17500 kg


KEY FACTS

- Electronically controlled catenary installation unit installed on a rail-bound vehicle
- New construction: simultaneous installation of 2 new wires with a final tensioning force of 2 x 27 kN
- Wire exchange: simultaneous installation of 1 new wire while pulling in 1 old wire

ENGINE

- Max. 70 kW (93.9 hp)
- Liquid-cooled diesel engine with electronic rpm-control
- 24 V system with high capacity battery

BULL WHEEL UNIT

- 2 individually controlled bull wheel units
- Each bull wheel with planetary gear and hydraulic motor as completely enclosed drive unit (highly efficient, minimal maintenance)

DRUM STAND

- 4 hydraulic drum stands (fix-mounted)
- Free wheel device directly at the drive
- Individual control of each drum stand, with planetary gear and hydraulic motor as completely enclosed drive unit
- Universal drum shaft with adjustable drum driving bolt, suitable for all drum types (wooden drum, steel drum with 3 or 4 spokes)
- 2 drum fixing cones, can be adjusted with socket wrench to safely fix the drum

WIRE GUIDING SYSTEM

- 2 hydraulically controlled guidance arms with large lateral reach: right/left ca. 4.5 m, height: ca. 8.5 m (over upper surface of rail). Extension possible.
- Individually controlled by radio system

CONTROL SYSTEM

- HP-ATS (High Precision Automatic Tensioning System): Tensioning forces with tolerances between the nominal and actual value of only $\pm 1\%$
- Careful wire installation, thanks to soft start-up and stopping
- PLC control for maximum productivity and safety
- ZECK stringing data record system with USB interface
- Clearly structured control desk with color display to control the tensioning forces as well as the drive and control units with integrated diagnostic system

EQUIPMENT

- Lockable, soundproof cabin with ventilation system, windshield wipers, seat and control panel
- Lighting for working in darkness
- Base frame made of steel profiles with anchoring eye bolts
- Circumferential railing as fall prevention system

OPTIONAL EQUIPMENT

- Diesel engine according EU emissions directive
- Diesel particulate filter (DPF)
- Arctic kit with preheating system for up to $-30\text{ }^{\circ}\text{C}$
- Biodegradable hydraulic oil
- Printer for ZECK Stringing Data Record System
- Electronically controlled drum stand pretension. Continuous pretension independent of drum size and unroll diameter
- Remote diagnosis via GSM/GPS modem
- Air conditioning for cabin
- Drum winch to install the remaining length of the contact wire on the drum

Special designs on request



TENSIONER PERFORMANCE

Max. tensioning force	2 x 20 kN
Max. speed	5 km/h

BULL WHEEL

Number	4 (2 x 2)
Diameter	1400 mm
Groove Ø	16 mm (opt. 22, 27 mm)

DRUM STAND

Number	2
Max. drum weight	3500 kg
Max. drum Ø	1800 mm

DIMENSIONS | WEIGHT

Length x Width x Height	9.1 x 2.5 x 2.4 m
Net weight	approx. 8890 kg

KEY FACTS

- Electronically controlled catenary installation unit installed on a rail-bound vehicle or a rail-road truck
- New construction: simultaneous installation of 2 new wires with a final tensioning force of 2 x 20 kN
- Wire exchange: simultaneous installation of 1 new wire while pulling in 1 old wire

ENGINE

- Without diesel engine (hydraulic and electric supply by carrier vehicle)
- 24 V system

BULL WHEEL UNIT

- 2 individually controlled bull wheel units
- Each bull wheel with planetary gear and hydraulic motor as completely enclosed drive unit (highly efficient, minimal maintenance)

DRUM STAND

- 2 hydraulic drum stands (can be automatically moved laterally)
- Free wheel device directly at the drive
- Individual control of each drum stand, with planetary gear and hydraulic motor as completely enclosed drive unit
- Careful catenary installation with minimal wire deflection between drum and bull wheel (< 3°)
- Universal drum shaft with adjustable drum driving bolt, suitable for all drum types (wooden drum, steel drum with 3 or 4 spokes)
- 2 drum fixing cones, can be adjusted with socket wrench to safely fix the drum

WIRE GUIDING SYSTEM

- Mast adjustable in height with large roller guidance for 1 or 2 wires for the careful repositioning of the wire

CONTROL SYSTEM

- HP-ATS (High Precision Automatic Tensioning System): Tensioning forces with tolerances between the nominal and actual value of only ± 1 %
- Careful wire installation due to soft start-up and stopping
- PLC control for maximum productivity and safety
- Electronically controlled drum stand pretension, independent of drum size and unroll diameter
- ZECK stringing data record system with USB interface
- Clearly structured control desk with color display to control the tensioning forces as well as the drive and control units with integrated diagnostic system

EQUIPMENT

- Lockable, soundproof cabin with ventilation system, windshield wipers, seat and control panel
- Lighting for working in darkness
- Base frame made of steel profiles 1 x 20' with accommodations for container corner fittings (according to DIN ISO 1161)
- Circumferential railing as fall prevention system

OPTIONAL EQUIPMENT

- Printer for ZECK Stringing Data Record System
- Remote diagnosis via GSM/GPS modem
- ITS, Intelligent Tension Sustainer (in case of failure, machine temporarily continues tensioning with last set tensioning force)
- Air conditioning for cabin

Special designs on request

TENSIONER PERFORMANCE

Max. tensioning force	2 x 15 kN
Max. speed	5 km/h

BULL WHEEL

Number	4 (2 x 2)
Diameter	1100 mm
Groove Ø	16 mm (opt. 22, 27 mm)

DRUM STAND

Number	2
Max. drum weight	3500 kg
Max. drum Ø	1600 mm

DIMENSIONS | WEIGHT

Length x Width x Height	7.4 x 2.5 x 2.4 m
Net weight	approx. 8000 kg


KEY FACTS

- Electronically controlled catenary installation unit installed on a rail-bound vehicle or a rail-road truck
- New construction: simultaneous installation of 2 new wires with a final tensioning force of 2 x 15 kN
- Wire exchange: simultaneous installation of 1 new wire while pulling in 1 old wire

ENGINE

- Max. 55 kW (73.8 hp)
- Liquid-cooled diesel engine with electronic rpm-control
- 24 V system with high capacity battery

BULL WHEEL UNIT

- 2 individually controlled bull wheel units
- Each bull wheel with planetary gear and hydraulic motor as completely enclosed drive unit (highly efficient, minimal maintenance)

DRUM STAND

- 2 hydraulic drum stands (can be automatically moved laterally)
- Free wheel device directly at the drive
- Individual control of each drum stand, with planetary gear and hydraulic motor as completely enclosed drive unit
- Careful catenary installation with minimal wire deflection between drum and bull wheel (< 3°)
- Universal drum shaft with adjustable drum driving bolt, suitable for all drum types (wooden drum, steel drum with 3 or 4 spokes)
- 2 drum fixing cones, can be adjusted with socket wrench to safely fix the drum

CONTROL SYSTEM

- HP-ATS (High Precision Automatic Tensioning System): Tensioning forces with tolerances between the nominal and actual value of only $\pm 1\%$
- Careful wire installation due to soft start-up and stopping
- PLC control for maximum productivity and safety
- ZECK stringing data record system with USB interface
- Electronically controlled drum stand pretension. Continuous pretension independent of drum size and unroll diameter
- Clearly structured control desk with color display to control the tensioning forces as well as the drive and control units with integrated diagnostic system
- EQUIPMENT
- Lighting for working in darkness
- Base frame made of steel profiles 1 x 20' with accommodations for container corner fittings (according to DIN ISO 1161)
- Circumferential railing as fall prevention system
- Overhead cover with control panel

OPTIONAL EQUIPMENT

- Diesel engine according EU emissions directive
- Diesel particulate filter (DPF)
- Arctic kit with preheating system for up to -30 °C
- Biodegradable hydraulic oil
- Printer for ZECK Stringing Data Record System
- Remote diagnosis via GSM/GPS modem
- ITS, Intelligent Tension Sustainer (in case of failure, machine temporarily continues tensioning with last set tensioning force)

Special designs on request



TENSIONER PERFORMANCE

Max. tensioning force	28 kN
Max. speed	5 km/h

BULL WHEEL

Number	2
Diameter	1500 mm
Groove Ø	16 mm (opt. 22, 27 mm)

DRUM STAND

Number	2
Max. drum weight	3500 kg
Max. drum Ø	1800 mm

DIMENSIONS | WEIGHT

Length x Width x Height	9.0 x 2.5 x 2.7 m
Net weight	approx. 7500 kg

KEY FACTS

- Electronically controlled catenary installation unit installed on a rail-bound vehicle or a rail-road truck
- New installation: Installation of 1 new wire with a final tensioning force of 28 kN
- Wire exchange: simultaneous installation of 1 new wire while pulling in 1 old wire

ENGINE

- Max. 36 kW (48.2 hp)
- Liquid-cooled diesel engine with electronic rpm-control
- 24 V system with high capacity battery

CRANE

- Hydraulic telescopic crane to load/unload drums, with railway certification, opposite track blocking, and radio remote control

BULL WHEEL UNIT

- 1 individually controlled bull wheel unit
- Each bull wheel with planetary gear and hydraulic motor as completely enclosed drive unit (highly efficient, minimal maintenance)

DRUM STAND

- 2 hydraulic drum stands (can be automatically moved laterally)
- Free wheel device directly at the drive
- Individual control of each drum stand, with planetary gear and hydraulic motor as completely enclosed drive unit
- Careful catenary installation with minimal wire deflection between drum and bull wheel (< 3°)
- Universal drum shaft with adjustable drum driving bolt, suitable for all drum types (wooden drum, steel drum with 3 or 4 spokes)
- 2 drum fixing cones, can be adjusted with socket wrench to safely fix the drum

WIRE GUIDING SYSTEM

- Mast adjustable in height with large roller guidance for 1 wire for the careful repositioning of the wire

CONTROL SYSTEM

- HP-ATS (High Precision Automatic Tensioning System): Tensioning forces with tolerances between the nominal and actual value of only ± 1 %
- Careful wire installation due to soft start-up and stopping
- PLC control for maximum productivity and safety
- Electronically controlled drum stand pretension. Continuous pretension independent of drum size and unroll diameter
- ZECK stringing data record system with USB interface
- Clearly structured control desk with color display to control the tensioning forces as well as the drive and control units with integrated diagnostic system

EQUIPMENT

- Lighting for working in darkness
- Base frame made of steel profiles 1 x 20' with accommodations for container corner fittings (according to DIN ISO 1161)
- Circumferential railing as fall prevention system
- Overhead cover with control panel

OPTIONAL EQUIPMENT

- Diesel engine according EU emissions directive
- Diesel particulate filter (DPF)
- Arctic kit with preheating system for up to -30 °C
- Biodegradable hydraulic oil
- Remote diagnosis via GSM/GPS modem
- ITS, Intelligent Tension Sustainer: In error mode the machine temporarily continues tensioning with last set tensioning force

Special designs on request

TENSIONER PERFORMANCE

Max. tensioning force	28 kN
Max. speed	5 km/h

BULL WHEEL

Number	2
Diameter	1100 mm
Groove Ø	16 mm (opt. 22, 27 mm)

DRUM STAND

Number	2
Max. drum weight	3500 kg
Max. drum Ø	1 - 1600 mm
Max. drum Ø	1 - 2000 mm

DIMENSIONS | WEIGHT

Length x Width x Height	6.7 x 2.5 x 2.6 m
Net weight	approx. 5850 kg


KEY FACTS

- Electronically controlled catenary installation unit installed on a rail-bound vehicle or a rail-road truck
- New installation: Installation of 1 new wire with a final tensioning force of 28 kN
- Wire exchange: simultaneous installation of 1 new wire while pulling in 1 old wire

ENGINE

- Max. 18.8 kW (25.2 hp)
- Liquid-cooled diesel engine with electronic rpm-control
- Diesel engine according EU emissions directive
- 12 V system with high capacity battery

BULL WHEEL UNIT

- 1 individually controlled bull wheel unit
- Each bull wheel with planetary gear and hydraulic motor as completely enclosed drive unit (highly efficient, minimal maintenance)

DRUM STAND

- 2 hydraulic drum stands (can be automatically moved laterally)
- Free wheel device directly at the drive
- Individual control of each drum stand, with planetary gear and hydraulic motor as completely enclosed drive unit
- Careful catenary installation with minimal wire deflection between drum and bull wheel (< 3°)
- Universal drum shaft with adjustable drum driving bolt, suitable for all drum types (wooden drum, steel drum with 3 or 4 spokes)
- 2 drum fixing cones, can be adjusted with socket wrench to safely fix the drum

CONTROL SYSTEM

- HP-ATS (High Precision Automatic Tensioning System): Tensioning forces with tolerances between the nominal and actual value of only ± 1%
- Careful wire installation due to soft start-up and stopping
- Electronically controlled drum stand pretension, independent of drum size and unroll diameter
- Operating elements for tensioning force and all machine functions

EQUIPMENT

- Lighting for working in darkness
- Base frame made of steel profiles 1 x 20' with accommodations for container corner fittings (according to DIN ISO 1161)
- Circumferential railing as fall prevention system
- Overhead cover with control panel

OPTIONAL EQUIPMENT

- Diesel particulate filter (DPF)
- Arctic kit with preheating system for up to -30 °C
- Biodegradable hydraulic oil
- Remote diagnosis via GSM/GPS modem
- Mast adjustable in height with large roller guidance for 1 or 2 wires for the careful prepositioning of the wire
- ITS, Intelligent Tension Sustainer: In error mode the machine temporarily continues tensioning with last set tensioning force

Special designs on request



DRUM STAND

Number	2
Max. drive torque	3000 Nm
Max. drum weight	4500 kg
Max. drum Ø	2000 mm

DIMENSIONS | WEIGHT

Length x Width x Height	6.5 x 2.5 x 2.3 m
Net weight	approx. 5800 kg

KEY FACTS

- TB "VARIO" with hydraulic clamping for comfortable, safe and quick drum change. No drum shaft needed!
- Catenary installation unit installed on a rail-bound vehicle or a rail-road truck
- New construction: simultaneous installation of 2 new wires via 2 hydraulic drum stands
- Wire exchange: simultaneous installation of 1 new wire while pulling in 1 old wire

ENGINE

- Max. 43.7 kW (59.5 PS)
- Liquid-cooled diesel engine with electronic rpm-control
- Diesel engine according EU emissions directive
- 12 V system with high capacity battery

DRUM STAND

- 2 drum stands (laterally displaceable) with hydraulic drum clamping system (without drum shaft) for easy handling of the drum free wheel device directly on the drive
- Individual control of each drum stand, with planetary gear and hydraulic motor as completely enclosed drive unit

WIRE GUIDING SYSTEM

- Mast adjustable in height with large roller guidance for 1 or 2 wires for the careful repositioning of the wire

CONTROL SYSTEM

- ATS, Automatic Tensioning System
- Operating elements for tensioning force and all machine functions
- Radio remote control for drum stands and guidance mast

EQUIPMENT

- Lighting for working in darkness
- Base frame made of steel profiles 1 x 20' with accommodations for container corner fittings (according to DIN ISO 1161)
- Circumferential railing as fall prevention system

OPTIONAL EQUIPMENT

- Biodegradable hydraulic oil
- Electronic tensioning force control of drum stands. Indication of nominal and actual force on radio remote control

Special designs on request

DRUM STAND

Number	2
Max. drive torque	2800 Nm (opt. 5600 Nm)
Max. drum weight	3500 kg
Max. drum Ø	2000 mm

DIMENSIONS | WEIGHT

Length x Width x Height	6.2 x 3.1 x 2.9 m
Net weight	approx. 5100 kg


KEY FACTS

- Catenary installation unit installed on a rail-bound vehicle or a rail-road truck
- New construction: simultaneous installation of 2 new wires via 2 hydraulic drum stands
- Wire exchange: simultaneous installation of 1 new wire while pulling in 1 old wire

ENGINE

- Max. 18.8 kW (25.2 hp)
- Liquid-cooled diesel engine with electronic rpm-control
- Diesel engine according EU emissions directive
- 12 V system with high capacity battery

DRUM STAND

- 2 hydraulic drum stands (fix-mounted)
- Free wheel device directly at the drive
- Individual control of each drum stand, with planetary gear and hydraulic motor as completely enclosed drive unit
- 2 drum fixing cones, can be adjusted with socket wrench to safely fix the drum

WIRE GUIDING SYSTEM

- Mast adjustable in height with large roller guidance for 1 or 2 wires for the careful repositioning of the wire

CONTROL SYSTEM

- ATS, Automatic Tensioning System
- Operating elements for tensioning force and all machine functions
- Radio remote control for drum stands and guidance mast

EQUIPMENT

- Lighting for working in darkness
- Base frame made of steel profiles 1 x 20' with accommodations for container corner fittings (according to DIN ISO 1161)
- Circumferential railing as fall prevention system

OPTIONAL EQUIPMENT

- Diesel particulate filter (DPF)
- Arctic kit with preheating system for up to -30 °C
- Biodegradable hydraulic oil
- Electronic tensioning force control of drum stands. Indication of nominal and actual force on radio remote control

Special designs on request



DRUM STAND

Number	4
Max. drive torque	4500 Nm
Max. drum weight	3500 kg
Max. drum Ø	1800 mm

DIMENSIONS | WEIGHT

Length x Width x Height	18.3 x 2.8 x 3.3 m
Net weight	approx. 31200 kg

KEY FACTS

- Completely electronically controlled catenary installation unit installed on a rail-bound vehicle
- New construction: simultaneous installation of 2 new wires
- Wire exchange: simultaneous installation of 1 new wire while pulling in 1 old wire
- Machine can be operated in both directions

ENGINE

- Max. 55 kW (73.8 hp)
- Liquid-cooled diesel engine with electronic rpm-control
- 24 V system with high capacity battery

CRANE

- Hydraulic telescopic crane (Palfinger PR 220; 22.5 m, range 11 m) to load/unload drums, with railway certification, opposite track blocking, and radio remote control

DRUM STAND

- 4 hydraulic drum stands (2 mounted in rotating bearings, 2 fix-mounted)
- Free wheel device directly at the drive
- Individual control of each drum stand, with planetary gear and hydraulic motor as completely enclosed drive unit
- Universal drum shaft with adjustable drum driving bolt, suitable for all drum types (wooden drum, steel drum with 3 or 4 spokes)
- 2 drum fixing cones, can be adjusted with socket wrench to safely fix the drum

WIRE GUIDING SYSTEM

- 2 masts adjustable in height with large roller guidance for 1 or 2 wires for the careful prepositioning of the wire

CONTROL SYSTEM

- Careful wire installation, thanks to soft start-up and stopping
- ATS, Automatic Tensioning System
- PLC control for maximum productivity and safety
- Electronically controlled drum stand pretension, independent of drum size and unroll diameter
- Clearly structured control desk with color display to control the tensioning forces as well as the drive and control units with integrated diagnostic system

EQUIPMENT

- Lighting for working in darkness
- Base frame made of steel profiles 2 x 30' with accommodations for container corner fittings (according to DIN ISO 1161)
- Circumferential railing as fall prevention system
- Overhead cover with control panel at both ends of the wagon

OPTIONAL EQUIPMENT

- Diesel engine according EU emissions directive
- Diesel particulate filter (DPF)
- Arctic kit with preheating system for up to -30 °C
- Biodegradable hydraulic oil
- Radio remote control for drum stands and guidance mast

Special designs on request

DRUM STAND

Number	1
Max. drive torque	2800 Nm (opt. 5600 Nm)
Max. drum weight	3500 kg
Max. drum Ø	1800 mm

DIMENSIONS | WEIGHT

Length x Width x Height	4.1 x 2.4 x 2.96 m
Net weight	approx. 3250 kg


KEY FACTS

- Catenary installation unit installed on a rail-bound vehicle
- Hydraulic drum drive for the installation of new wire or the pulling in of old wire
- Hydraulic lifting mast with rope guide

ENGINE

- Max. 18.8 kW (25.2 hp), according to EU emissions directive
- Water-cooled diesel engine, with noise reduction kit
- 12 V system with high capacity battery

DRUM STAND

- 1 hydraulic drum stand (fix-mounted)
- Free wheel device directly at the drive
- Individual control of each drum stand, with planetary gear and hydraulic motor as completely enclosed drive unit
- Universal drum shaft with adjustable drum driving bolt, suitable for all drum types (wooden drum, steel drum with 3 or 4 spokes)
- Drum fixing cones can be adjusted with socket wrench to safely fix the drum

WIRE GUIDING SYSTEM

- Mast adjustable in height with large roller guidance for 1 wire for the careful prepositioning of the wire, lift: 3.2 m

CONTROL SYSTEM

- Operating elements for tensioning force and all machine functions

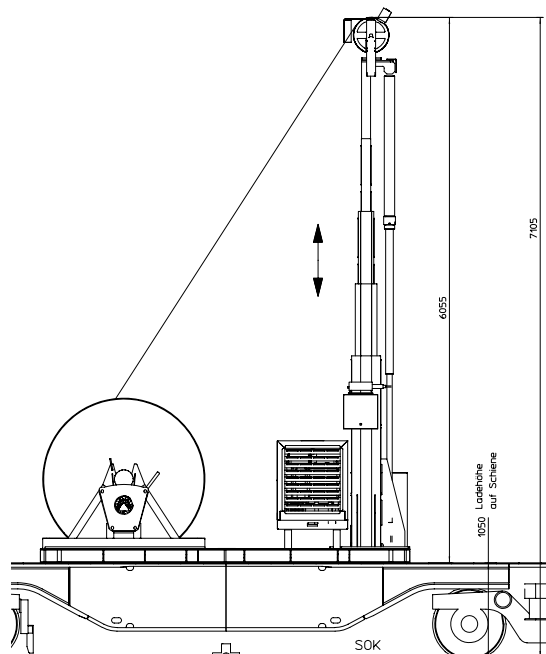
EQUIPMENT

- Base frame made of steel profiles with fastening straps

OPTIONAL EQUIPMENT

- Diesel particulate filter (DPF)
- Radio remote control for drum stands and guidance mast
- Biodegradable hydraulic oil

Special designs on request





PERFORMANCE IN PULLING MODE

Max. pulling force	10 kN
Max. speed	3 km/h

CAPSTAN

Number	2
Diameter Ø	16 mm

ROPE DRUM CAPACITY

$K = 250100 / (\text{Ø} \times \text{Ø})$; e.g. Ø 10 mm	approx. 2500 m
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DIMENSIONS | WEIGHT

Length x Width x Height	3.7 x 1.6 x 1.6 m
Net weight	approx. 1300 kg

KEY FACTS

- Puller for feeder cable in catenary construction, construction of medium-voltage overhead power lines and underground cable projects
- Completely electronically controlled puller with capstans (Ø 220 mm) made of hardened steel and a groove diameter of 16 mm with a max. pulling force of 10 kN
- Free wheel mode (diesel engine off) so that the rope can be pulled out quickly at up to 8 km/h with minimal force.

ENGINE

- Max. 18.8 kW (25.2 hp)
- Liquid-cooled diesel engine with electronic rpm-control
- Diesel engine according EU emissions directive
- 12 V system with high capacity battery

DRIVE

- Each capstan with planetary gear and hydraulic motor as completely enclosed drive unit (highly efficient, minimal maintenance)
- Each capstan with an automatically activated safety brake
- Automatic rope guiding device
- Hydraulic free wheel activation for the reel allows easy removal of the rope without a bull wheel
- Reel can be removed
- Hydraulic reel drive with planetary gear and hydraulic motor (minimal maintenance)

CONTROL SYSTEM

- Control of rope direction and rope speed (infinite) by joystick
- PLC control for maximum productivity and safety
- Clearly arranged control panel with color display for the supervision of pulling and tensioning force as well as hydraulic, drive, and electric systems
- ZECK stringing data record system with USB interface
- Automatic hydraulic oil cooling system
- Adjustable overload protection

EQUIPMENT

- 1-axle chassis with suspended axle, brake, lighting and mudguard for up to 100 km/h
- Rigid drawbar with car coupling
- Lockable aluminum cover (checker plate)
- Back support via robust mechanical support legs
- Front support via robust mechanical support

OPTIONAL EQUIPMENT

- Height-adjustable drawbar with detachable towing device for passenger vehicles or trucks
- Cable or radio remote control
- Lockable toolbox
- Grounding plate
- Biodegradable hydraulic oil
- Different rope versions available (steel or synthetic fiber)
- Cover made from smooth aluminum sheet according to RAL color chart

Special designs on request



DRUM STAND

Number	1
Max. tensioning torque	2800 Nm
Max. drum weight	2000 kg
Max. drum Ø	1600 mm (self-loaded) 1800 mm (loaded by crane)
Max. drum width	1100 mm

DIMENSIONS | WEIGHT

Length x Width x Height	1.40 x 1.96 x 2.20 m
Weight	approx. 1,830 kg



KEY FACTS

- Hydraulic drum drive with slew ring for independent loading of the drum
- Suitable for wooden and steel drums
- Installation of new wire or removal of old wire

CONTROL SYSTEM

- PLC controlled machine, including force measurement
- Radio remote control with display, incl. holding fixture on drum stand

Special designs on request

DRUM STAND

- Universal drum shaft with adjustable drum driving bolt, suitable for all drum types (wooden drum, steel drum with 3 or 4 spokes)
- 2 drum fixing cones, can be adjusted with socket wrench to safely fix the drum





DRUM STAND WITH INTEGRATED UNIT

Number	1
Max. drive torque hydr.	2800 Nm
Max. drum weight	3000 kg
Max. drum Ø	2000 mm

DIMENSIONS | WEIGHT

Length x Width x Height	3.2 x 2.5 x 1.7 m
Net weight	approx. 1600 kg

KEY FACTS

- Catenary installation unit installed on a rail-bound vehicle
- Hydraulic drive for the installation of new wire or the pulling in of old wire
- Additional disk brake for installation of new wire

ENGINE

- Max. 18.8 kW (25.2 hp)
- Liquid-cooled diesel engine with electronic rpm-control
- Diesel engine according EU emissions directive
- 12 V system with high capacity battery

DRUM STAND

- Drum stand with planetary gear and hydraulic motor as encapsulated drive unit
- Free wheel device directly at the drive
- Universal drum shaft with adjustable drum driving bolt, suitable for all drum types (wooden drum, steel drum with 3 or 4 spokes)
- 2 drum fixing cones, can be adjusted with socket wrench to safely fix the drum
- Fixture for hydraulic drum drive and hydraulically activated coupling

CONTROL SYSTEM

- Operating elements for tensioning force and all machine functions

EQUIPMENT

- Base frame with anchoring eye bolts, optionally with container corner fittings (according to DIN ISO 1161)
- Lockable aluminum cover

OPTIONAL EQUIPMENT

- Diesel particulate filter (DPF)
- Biodegradable hydraulic oil
- Radio remote control
- Noise reduction kit

Special designs on request





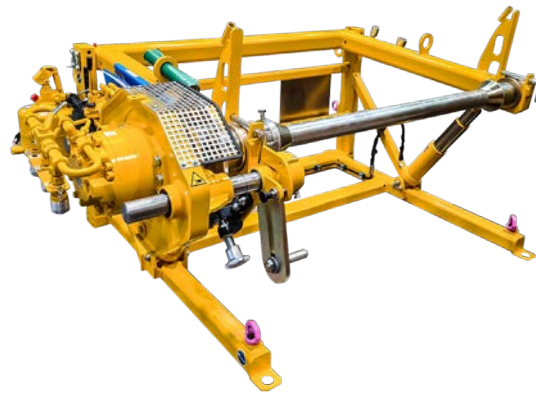
TBH 20 Z292

DRUM STAND

Number	1
Max. tensioning torque	1400 Nm
Max. drum weight	3000 kg
Max. drum Ø	2000 mm

DIMENSIONS | WEIGHT

Length x Width x Height	1.4 x 1.6 x 0.9 m
Weight	approx. 620 kg



KEY FACTS

- Mechanically braked drum stand for installation of new wire
- Optionally equipped with hydraulic drum drive for installation of new wire or removal of old wire

DRUM STAND

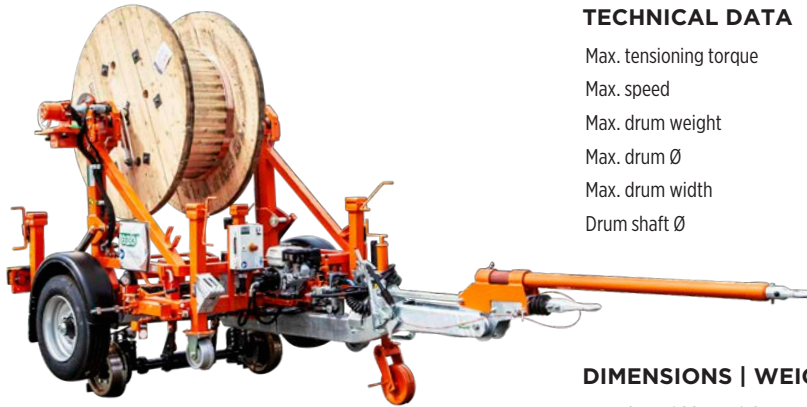
- Universal drum shaft with adjustable drum driving bolt, suitable for all drum types (wooden drum, steel drum with 3 or 4 spokes)
- 2 drum fixing cones, can be adjusted with socket wrench to safely fix the drum
- Drum stand with disk brake activated manually by hydraulic caliper via manual pump

OPTIONAL EQUIPMENT

- Hydraulic drive (max. drive torque 2650 Nm)
- Hydraulic power unit with gas/diesel engine or electric motor
- ATS, Automatic Tensioning System
- Radio remote control
- Biodegradable hydraulic oil

Special designs on request

TBF 20-2W Z240



TECHNICAL DATA

Max. tensioning torque	1200 Nm
Max. speed	6 km/h
Max. drum weight	2000 kg
Max. drum Ø	2000 mm
Max. drum width	1150 mm
Drum shaft Ø	70 mm

DIMENSIONS | WEIGHT

Length x Width x Height	4.5 x 2.48 x 2.1 m
Max. total weight	approx. 3500 kg

KEY FACTS

- Drum carrier with rail/road traveling mechanism (gauge 1435 mm)
- Mechanically braked drum stand for installation of new wire
- Hydraulic supply by carrier vehicle or integrated ZECK hydraulic power unit
- Optionally equipped with hydraulic drum drive for installation of new wire or removal of old wire

DRUM STAND

- Hydraulically activated disk brake
- Free wheel device directly at the drive
- Individual control of each drum stand, with planetary gear and hydraulic motor as completely enclosed drive unit
- Universal drum shaft with adjustable drum driving bolt, suitable for all drum types (wooden drum, steel drum with 3 or 4 spokes)
- 2 drum fixing cones, can be adjusted with socket wrench to safely fix the drum

CONTROL SYSTEM

- Hydraulic manual pumps for:
- Hydraulic disk brake
- Loading/unloading of rail-bound traveling mechanism
- Lifting/lowering of rail-bound traveling mechanism
- Releasing of the parking brake at the rail-bound traveling mechanism
- Direct acting overload protection

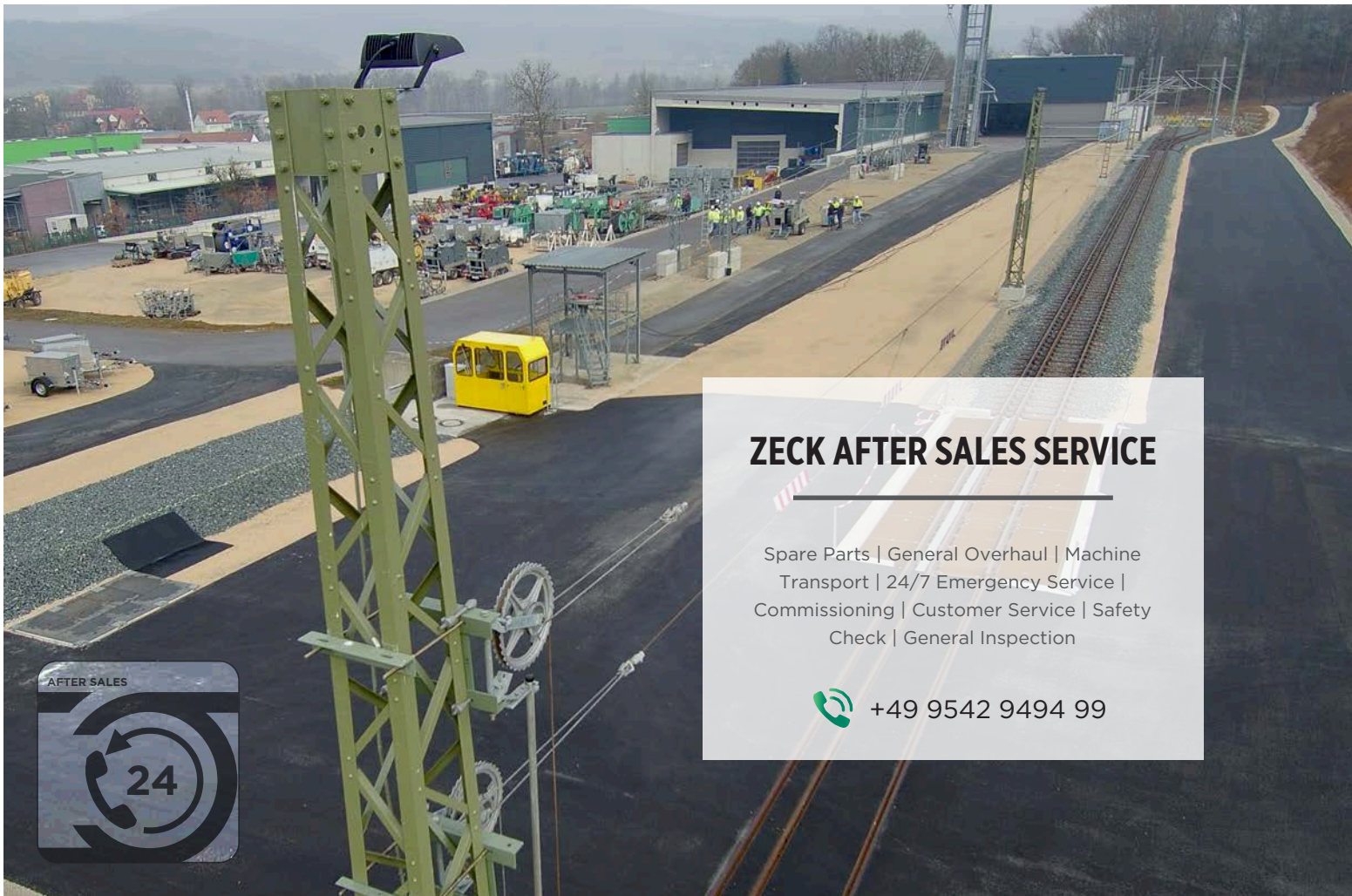
EQUIPMENT

- 2-axle chassis with suspended axle, brake, lighting and mudguard for up to 80 km/h
- Back support via robust mechanical support legs
- Rail chassis with 2 rear rail wheels and 1 front rail wheel
- Front support via robust mechanical support winch

OPTIONAL EQUIPMENT


- Reel with dismountable flange HT/TBF and higher rope capacity to wind up old rope
- Hydraulic power unit with gasoline engine
- Optionally equipped with diesel engine or electric motor
- ATS, Automatic Tensioning System
- Cable or radio remote control
- Biodegradable hydraulic oil
- Hydraulic drive (max. drive torque 2650 Nm)
- Adjustable rail chassis for different gauges

Special designs on request



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