



Trakcja System



# EQUIPMENT CATALOGUE



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# EQUIPMENT BASE

**The Trakcja System equipment base** means several dozen equipment units and machines as well as vehicles used to carry out complicated traction work.

The equipment has all the required approvals and is serviced regularly.

The machine stock is systematically extended by successive modern equipment units and machines.





# SPECIALIST RAILWAY VEHICLES



# MAINTENANCE TRAIN

## PS-00 M/B (2 pcs.)

The **PS-00 M/B maintenance train** is intended to build, repair and maintain the traction network.

The vehicle is a mobile, two-unit set made up of a drive unit and a trailer unit. It is provided with a fixed platform located at the height of 3.95 m, a Palfinger mobile platform, a network position equalizer, lifting rollers and a Palfinger dual-function hydraulic crane that can lift and handle loads as well as, upon mounting an accessory basket, operate as a working platform of a long reach. A control, and measuring pantograph is mounted on the PS-00 M/B maintenance train, also used to bond the de-energized traction network.

SPECIFICATION	
Track width	1,435 m
Length	25,88 t (2 x 12,94 t)
Weight	60 t (2 x 30 t)
Mobile platform	Type PA 95, lifting capacity - 600 kg, Max. horizontal reach from the track axis - 6.21 m Max. working reach from the track axis - 6.7 m Max. height of the basket floor from the rail head - 7.2 m
Hydraulic crane	Lifting torque - 136.4 kNm Max. lifting height from the rail head - 17.0 m
Network position equalizer	Type - KPS.05 (two-arm: for the carrying cable and the contact wire) lifting capacity- 350 daN / insertion force - 350 daN
Measuring pantograph	Type PDO-20.01 approved for operation with and without voltage





# PMS ASSEMBLY AND MAINTENANCE TRAIN

(3 pcs.)

The **PMS assembly and maintenance train** is intended to carry out work on the railway traction network.

It is made up of two units equipped with fixed working platforms, two independent mobile platforms, a two-arm network positioning unit and two network equalizers.

Each set is equipped with a measuring pantograph, allowing to correct, on a current basis and finally, the height of the traction being installed.



A third unit is attached to the set, used to hang out the network under tension, provided with a set of drums to wind up and out the network.

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## SPECIFICATION

Track width	1,435 m
Overall length	40,00 m
Basket lifting capacity	250 kg
Max. height of the basket lift	6,795 m
Max. basket horizontal reach	4,000 m



# VEHICLE TO MAINTAIN THE NETWORK AND THE LIGHTING

## PUSiO.06 (1 pc.)

The vehicle type **PUSiO.06** is intended to conduct maintenance work as well as repairs of the traction network and overhead power lines in a voltage-free state.

The equipment units needed to carry out work on the traction network are mounted on the vehicle: a pantograph with a measuring system, rollers to lift the network, a positioning unit, a network equalizer, a mobile working platform with the dimensions 2.1 m x 5.5 m, allowing to carry out work at maximum load of 500 kg, including the weight of 3 operators and necessary tools as well as a Hiab hydraulic crane provided with an accessory working basket adapted to the work of 2 operators, with a maximum lifting capacity of 300 kg at the maximum reach of 10.4 m.



A third unit is attached to the set, used to hang out the network under tension, and provided with a set of drums to wind up and out the network.

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### DANE TECHNICZNE

Track width	1,435 m
Overall length	16,06 m
Working platform lifting capacity	300 kg
Max. platform lifting height	5,6 m
Max. working platform horizontal reach	4,5 m
Max. crane lifting capacity	4200 kg
Max. reach of the crane-mounted working basket	10,4 m





# HBW SPECIAL VEHICLE

(1 pc.)

**A vehicle to carry out work on the railway traction network with a working platform** is a mobile rail vehicle.

The train is provided with a hydrostatic working drive, a mobile scissor platform with the dimensions 2.7 m x 1.8 m, an HMF hydraulic crane and a measuring pantograph.

## SPECIFICATION

Track width	1,435 m
Overall length	15,20 m
Working platform lifting capacity	450 kg
Max. working platform lifting capacity	5,6 m
Max. working platform horizontal reach	3,2 m
Max. crane lifting capacity	2500 kg



# MOTOR TROLLEY

## WM-15A (2 pcs.)

The motor trolley type **WM-15 A** is intended for the attendance of the work related to the railway infrastructure, the transportation of materials, equipment and work teams.

The trolley is provided with a tilting load box of an area of 16 m<sup>2</sup> and a hydraulic crane.

The PWM-15 trailer is an additional accessory to WM-15A, also provided with a tilting load box of a load area of 29 m<sup>2</sup> and with the dimensions of 6.1 m x 2.7 m controlled from the motor trolley operating panel.



### SPECIFICATION

Track width	1,435 m
Overall length	12,45 m
Max. crane lifting capacity	1,5 t
Max. load capacity	15 t



# SET TO WIND UP AND OUT OF THE NETWORK UNDER TENSION

## PWS (7 pcs.)

The set of equipment units mounted on the platform is used to hang out the traction network under tension and to wind it up on drums.

The set to hang out the traction network is made up of a hydraulic power unit, 3 drum racks, 2 telescopically lifted rollers and a hydraulic system.

Each rack has a hydraulic drive allowing rotation in both directions with a stepless adjustment of the tensioning torque. The rollers located on the ends are used to raise the conductors to a specific height, or, in the case of winding up on the conductors' leading - from above onto the drum.

### SPECIFICATION

Track width	1,435 m
Overall length	19,90 m
Tension force	8 kN



# SPECIALIST TWO-WAY VEHICLES





# COLMAR CRANE

## T10000FSC (1 pc.)

The **Colmar T10000FSC crane** is used for heavy work related to the installation of the traction network supporting structures, and to the installation of signal gates, too.

The crane performs perfectly in the situations where a very large reach is required. The most important features of the crane are: max. lifting capacity of 14 ton, a reach of above 15 m, rubber caterpillars of a variable track spacing.



### SPECIFICATION

Track width	1,435 m
Maximum reach	15,20 m
Maximum lifting capacity	14 t
Weight	42 t

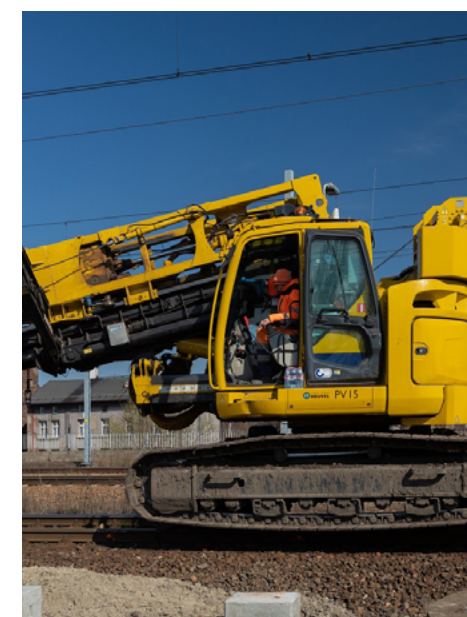
# PILE DRIVER

## PV 15 RPR (2 pcs.)

The **PV 15 RPR pile driver** is designed to set up reinforced concrete piles being a foundation to fasten traction poles in the ground. The device allows to carry out both the pile driving process both from the tracks and from another ground.

The pile driver is built on the basis of the Kobelco caterpillar excavator which is provided with: 2 rail trolleys (1 fixed trolley, 1 torsion trolley), a 3-part telescopic mast, a winch (a master winch and an auxiliary winch) and a hydraulic ram.

SPECIFICATION	
Maximum vertical pile weight	2580 kg
Excavator caterpillars	600 mm
Engine	124 KW/166 KM at 2,000 RPM
Mast horizontal extension	850 mm
Distance between the mast pile centre and the centre of rotation	min 2900 mm, max 3750 mm
Maximum pile length	7 m
Winch	5 t (master), 3 t (auxiliary)
Maximum impact force	19,62 kNm





# TWO-WAY EXCAVATOR

## Atlas 1604K-ZW (8 pcs.)

**The Atlas 1604K-ZW rail-road excavator** is used to carry out work both on railway line and roads.

The broad range of the attached peripherals makes it a universal machine. By means of it, earth, load, demolition work and drillholes can be done. The excavator can also be used as a railway traction vehicle to pull railcars.

The excavator is provided with: a 600 mm, 1000 mm drilling rig; a hydraulic demolition hammer; a hydraulic arm extension (jib); a hydraulic escarpment bucket; a bucket with a rotator; a 3000 mm, 6000 mm grab bucket and a hook.

SPECIFICATION	
Working weight	21,00 - 23,00 t
Engine power	15 KM
Maximum digging depth	5,5 m
Maximum reach	8,3 m
Breaking force	82 kN



# ROAD-RAIL VEHICLE

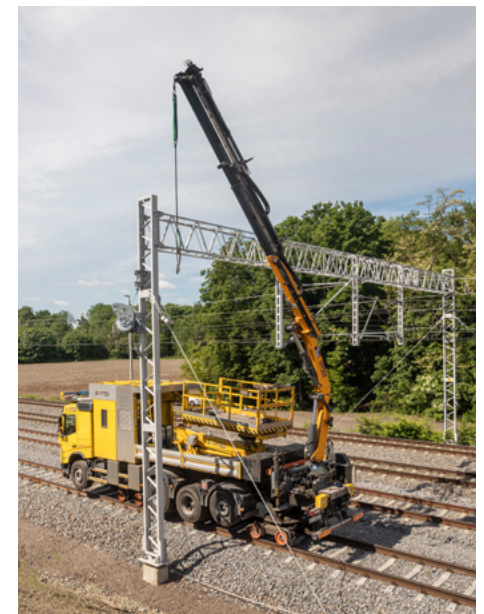
## Copma ZDS-5 (1 pc.)

**The ZDS-5 road-rail vehicle** is intended for carrying out installation, repair and maintenance work on overhead contact lines and power lines.

The following devices, necessary for carrying out line works, are installed on the vehicle: a pantograph with a measuring system, a line position corrector, a mobile working platform with the dimensions of 2.2 m x 4.5 m enabling work to be carried out with a maximum load of 500 kg, including the weight of 3 workers and the necessary tools, and a hydraulic crane equipped with an accessory man basket adapted for 2 people and with a maximum reach of 14 m.

The vehicle is equipped with a low-emission internal combustion engine built to Euro 6 standard. The low fuel consumption in relation to locomotives and other tractive units not only reduces operating costs, but above all the environmental impact.

SPECIFICATION	
Working platform capacity	500 kg
Maximum working platform floor height from rail head	6,5 m
Maximum working platform side reach	6,5 m
Maximum crane capacity	9,4 t
Maximum capacity of crane fitted with working platform	250 kg (2 people)
Maximum reach of crane	14 m
Positioning unit for lines	4,5 kN
Measuring pantograph	measuring range 4900 mm-6000 mm





# TWO-WAY TRUCK WITH A LIFTING PLATFORM

## Mercedes Benz 1420 (1 pc.)

The **Mercedes Benz 1420 truck** is used at the disassembly and assembly of the traction accessories when building, maintaining and repairing overhead power lines for rail vehicles.

The truck chassis is equipped with rail travelling trolleys provided with a hydrostatic drive.

Mobility is the advantage of the vehicle of that type.



### SPECIFICATION

Power	155 kW
Mobile platform lifting capacity	350 kg
Maximum lifting height	7,17 m
Platform side reach	2.65 m from the truck axis
Measuring pantograph	typ PP 1600

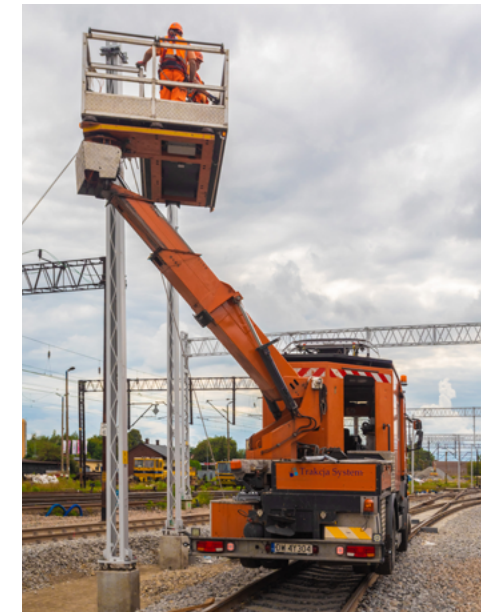
# TWO-WAY TRUCK WITH A LIFTING PLATFORM

## Mercedes Benz Atego 1840 (1 pc.)

The **Mercedes Benz Atego 1840 truck** is used for the disassembly and assembly of the traction network equipment as well as for the maintenance and repairs of overhead power lines.

The truck chassis is equipped with rail travelling trolleys provided with a hydrostatic drive.

Mobility is the advantage of the truck of that type.



### SPECIFICATION

Power	205 kW
Platform lifting height	11,3 m
Maximum basket side reach	9,3 m / 8,1 m
Basket size	3 m x 1,3 m
Platform lifting capacity	350 kg
Basket rotation	360 °
Measuring pantograph	Type Fb 700.87



# TWO-WAY TRUCK WITH A LIFTING PLATFORM

## VOLVO FL6/SVABO VRB91 (1 pc.)

The **VOLVO FL6/SVABO VRB91** truck is used for the disassembly and assembly of the traction network equipment as well as for the maintenance and repairs of overhead power lines.

The truck chassis is equipped with rail travelling trolleys provided with a hydrostatic drive.

The truck has been proved with 2 independently controlled working platforms: a large one with the dimensions 2.0 m x 3.8 m and a small one with the dimensions: 2.3 m x 1.5 m as well as a measuring pantograph.

### SPECIFICATION

Maximum large platform lifting capacity	750 kg / 3 operators
Maximum small platform lifting capacity	650 kg / 3 operators
Maximum large platform lifting height	4,55 m
Maximum small platform lifting height	6,90 m
Side reach	ca. 2.65 m from the truck axis
Measuring pantograph	Type Fb PDO-20.1



# TWO-WAY TRUCK WITH A LIFTING PLATFORM

## MAN-OMF-G (1 pc.)

The **MAN-OMF-G truck** is used for the disassembly and assembly of the traction network equipment as well as for the maintenance and repairs of overhead power lines.

The truck chassis is equipped with rail travelling trolleys provided with a hydrostatic drive.



### SPECIFICATION

Power	162 kW
Platform lifting capacity	350 kg
Maximum lifting height	8,27 m
Maximum side reach	3,35 m



# TWO-WAY TRUCK WITH A LIFTING PLATFORM

## Mercedes Axor 1833 (1 pc.)

The **Mercedes Benz Axor 1833 truck** is used for the disassembly and assembly of the traction network equipment as well as for the maintenance and repairs of overhead power lines.

The truck chassis is equipped with rail travelling trolleys provided with a hydrostatic drive. The truck has a work cab for the team of fitters that allows to secure the operators against weathering conditions and to carry out the auxiliary work indispensable at the assembly of the traction accessories.

### SPECIFICATION

Power	240 kW
Platform lifting capacity	11,5 m
Maximum lifting height	300 kg
Maximum side reach	11 m



# SKYBOOM TWO-WAY BASKET LIFT

## LH-300 (2 pcs.)

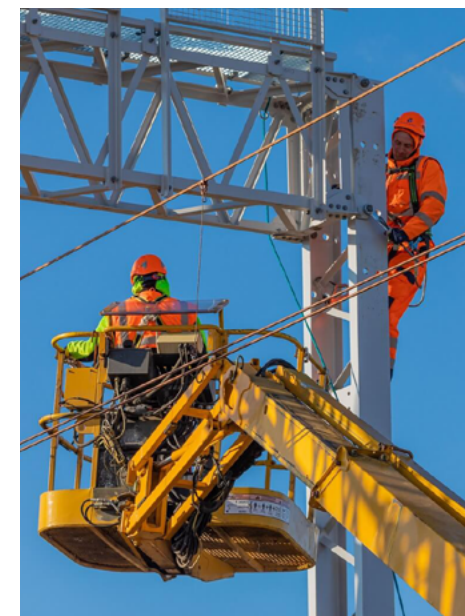
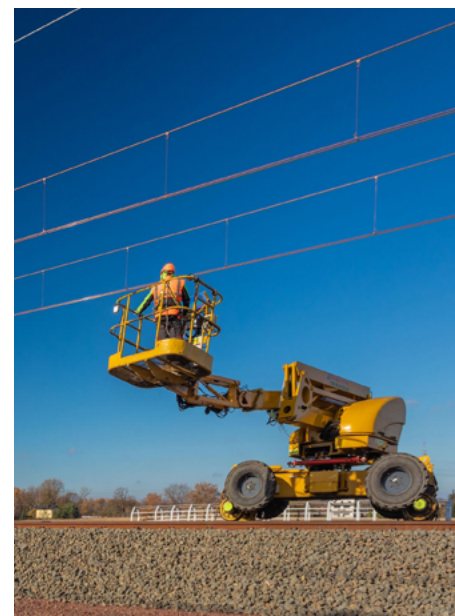
The **LH-300 rail-road vehicle** has rail trolleys the undoubted advantage of which is the friction drive applied directly on the rail wheel axle that eliminates the contact of road wheels with the rail.

The vehicle control follows from the working level using a control panel mounted in the basket the lifting capacity of which totals 300 kg and is capable to accommodate 3 operators. The compact structure of the vehicle provides a perfect manoeuvrability, and the capacities offered by the jib make this vehicle extremely effective.

The vehicle has been provided with a dual emergency folding system as well as a series of security devices guaranteeing a safe work for the operating personnel.

### SPECIFICATION

Maximum platform load	300 kg (3 operators max.)
Maximum work height	18 m
Working reach	9.2 m from the track axis





# TWO-WAY MOBILE PLATFORM

## Lor'Axe 4-AXE (1 pc.)

The **Lor'Axe 4-AXE two-way mobile platform** is a vehicle intended to carry out work at height.

The lift is provided with 2 independently operating working platforms and a bonding pantograph. Mobility is its enormous advantage – the set includes a special truck trailer allowing a rapid and cheap change in location.

The lift can operate in 3 operating modes: road, off-road and rail modes.



# TWO-WAY MOBILE PLATFORM

## Lor'Axe 3.2 (1 pc.)

The **Lor'Axe 3.2 two-way mobile platform** is a vehicle intended to carry out work at height.

The lift is provided with 2 independently operating working platforms and a bonding pantograph. Mobility is its enormous advantage – the set includes a special truck trailer allowing a rapid and cheap change in location.

The lift can operate in 3 operating modes: road, off-road and rail modes.



### SPECIFICATION

Basket 1	
Load capacity:	265 kg / 2 operators
Working height:	8,0 m
Basket 2	
Load capacity:	165 kg / 1 operator
Side reach:	8,9 m
Working height:	2,7 m



# TRUCKS WITH A (HDS) HYDRAULIC TRUCK CRANE



# TRUCK

## DAF CF 75 (1 pc.) and DAF CF 83 (1 pc.)

The **DAF CF truck** is a vehicle used to logistically secure construction sites.

The truck is provided with a crane type HDS allowing to load and unload the objects being transported.

SPECIFICATION	
Power	183 kW
Load box	8,1 x 2,5 m
Load capacity	14,28 t
Truck crane	Palfinger PK18500
	max. load capacity 5.85 t
	HIAB 166B-2CL
	max. load capacity 5.0 t





# TRUCK

## IVECO TRAKKER MTGC4 truck model AT 340T (1 pc.)

The **IVECO TRAKKER MTGC4 truck model AT 340T** is a vehicle used to logistically secure construction sites.

The truck is equipped with a crane type HDS allowing to load and unload the objects being transported. It has a unilaterally tilting load box.



SPECIFICATION	
Load capacity	16,742 t
Truck crane	Palfinger PK23001-EH D radio controlled, with a 5.7 t maximum lifting capacity Max. reach 16 m

# TRUCK

## VOLKSWAGEN CRAFTER WITH HDS (4 pcs.)

**The Volkswagen Crafter truck with HDS** is a vehicle intended to logistically provide construction sites with tools and materials.

The use of light trucks allows to decrease the logistic costs while conveying loads with small overall dimensions and a small weight.



### SPECIFICATION

Crane type	Hyva HA28-E2
Maximum crane lifting capacity	2,085 t



# TRUCK

## MAN TGS 26.360 (1 pc.) and 26.400 (1 pc.)

The **MAN TGS truck** is a vehicle used to logistically secure construction sites.

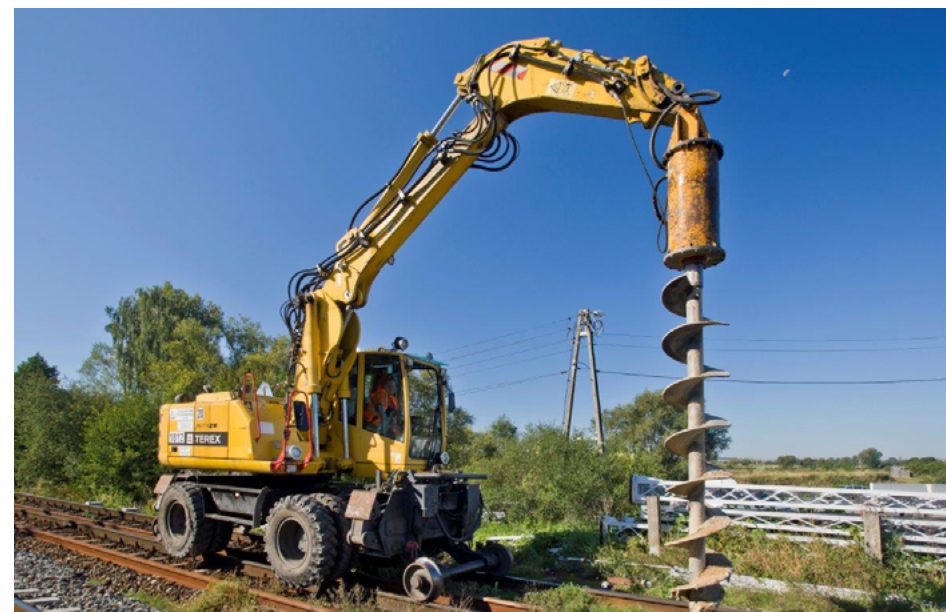
The truck is equipped with a crane type HDS allowing to load and unload the objects being transported.



### SPECIFICATION

Power	265 kW
Load box	7,5 x 2,5 m
Load capacity	12,7 t
Truck crane	Palfinger 20002
	5.8 t max. lifting capacity
	HIAB 144E-3 HIDUO
	5.6 t max. lifting capacity

# THE REMAINING MACHINERY AND EQUIPMENT



# ROTARY TELESCOPIC LOADER

## MERLO ROTO 33.16 KS (1 pc.)

The **MERLO ROTO rotary telescopic loader** is an extraordinarily functional and all-purpose machine.

The rotary head with large maximum rotation angles and a resistant and long telescopic arm provides the maximum functionality.

The loader is equipped with a fork and a 4.5 m extensible working platform.

SPECIFICATION	
Maximum lifting capacity	3000 kg
Maximum lifting height	15,81 m
Weight	12000 kg
Length	6,037 m
Width	2,24 m
Height	2,79 m
Engine power	74,9 kW





# MINI-EXCAVATOR

## CAT type 301.7D (1 pc.) and 302.7D (1 pc.)

The **CAT mini-excavator** is used to perform earth work in the places of a restricted manoeuvre.

The huge advantage of the machine is its agility and mobility. The structure of the machine the turret of which remains during the rotation within the chassis outline allows the operator to work in tight places, on the other hand, the lower weight allows to reduce the transportation cost.

SPECIFICATION	
Power output	15,2 kW
Engine model	Yanmar 3TNV76
Operating weight	2670 kg
Height	2408 mm
Chassis length	2006 mm
Chassis width	1570 mm
Maximum reach at the chassis level	4481/4681



# MINI-EXCAVATOR

## CAT type 302 CR (1 pc.) and 304E CR (1 pc.)

The **CAT mini-excavator** is used to perform earthwork in the places of a restricted manoeuvre.

The huge advantage of the machine is its agility and mobility. The structure of the machine the turret of which remains during the rotation within the chassis outline allows the operator to work in tight places, on the other hand, the lower weight allows to reduce the transportation cost.

SPECIFICATION	
Power output	30 kW
Engine model	CAT C2.4
Operating weight	3884 kg
Height	2500 mm
Chassis length	2200 mm
Chassis width	1950 mm
Maximum reach at the chassis level	5220 / 5350
Hill climbing ability	30° / 58°
Drive speed	3.3 km/h, 5,2 km/h





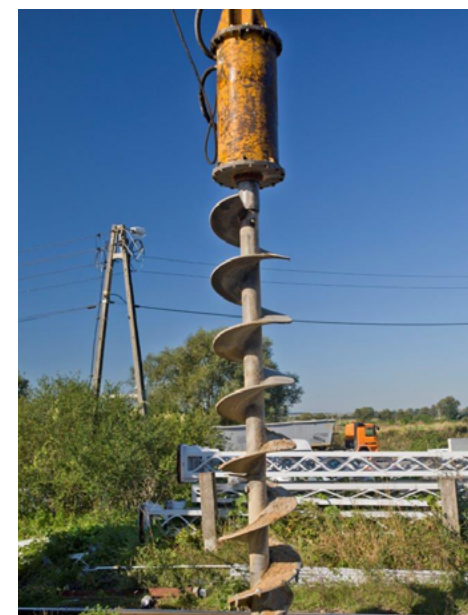
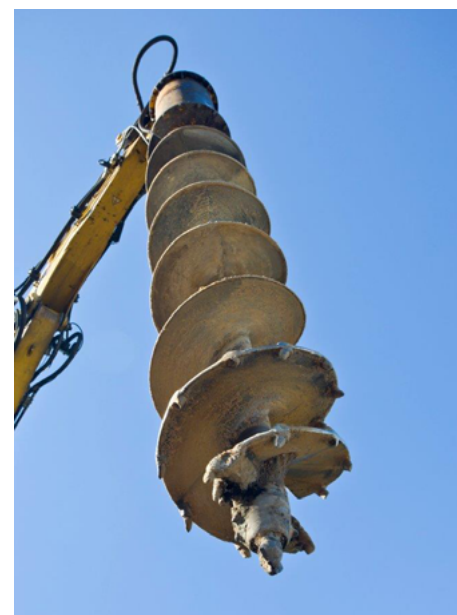
# DRILLING RIG FOR EXCAVATORS

## Type WPK-40 (2 pc.)

The **WPK-40 drilling rig** is a popular accessory to excavators, allowing to drill different sorts of holes in the soil, e.g., for power poles and piles for traction foundations.

The drilling rigs are powered from the hydraulic system of the machine on which they are mounted.

SPECIFICATION	
Drilling diameter	Up to 800 mm
Drilling depth	Dependent on the diameter of the hole being drilled, it can total 8-16 m.
Torque	19000 Nm
Speed	0-58 obr./min
Working pressure	Up to 400 bar
Weight	ca. 530 kg



# HYDRAULIC HAMMER

(2 pcs.)

**The hydraulic hammer**, adapted to be installed on the excavator jib, features a much higher effectiveness as compared to the equipment of this type using an electric drive or a pneumatic drive.

The main area of application of the hammer is the demolition of buildings, the removal of road pavements and the acquisition of materials in open pit mines (e.g., aggregates).

In our business branch, as an accessory to the ATLAS 1604 ZW two-way excavator, it is most often used to crumble old foundations.

SPECIFICATION	
Type	D&A 150DP
Manufacturer	D&A Heavy Industries Co. Ltd.
Weight	1150 kg
Tip diameter	115 mm
Working pressure	160-190 bar
Impact	320-900 BPM, 46 mm
Impact energy	Up to 3200 J





# CRUSHING JAW FOR CONCRETE

## HAMMER MUSTANG RH16 (1 pc.)

The **Hammer Mustang RH16 rotary crushing jaw** allows to crush piles and recover steel and concrete crumble.

The crushing jaw is to be mounted on the Atlas excavator.



### SPECIFICATION

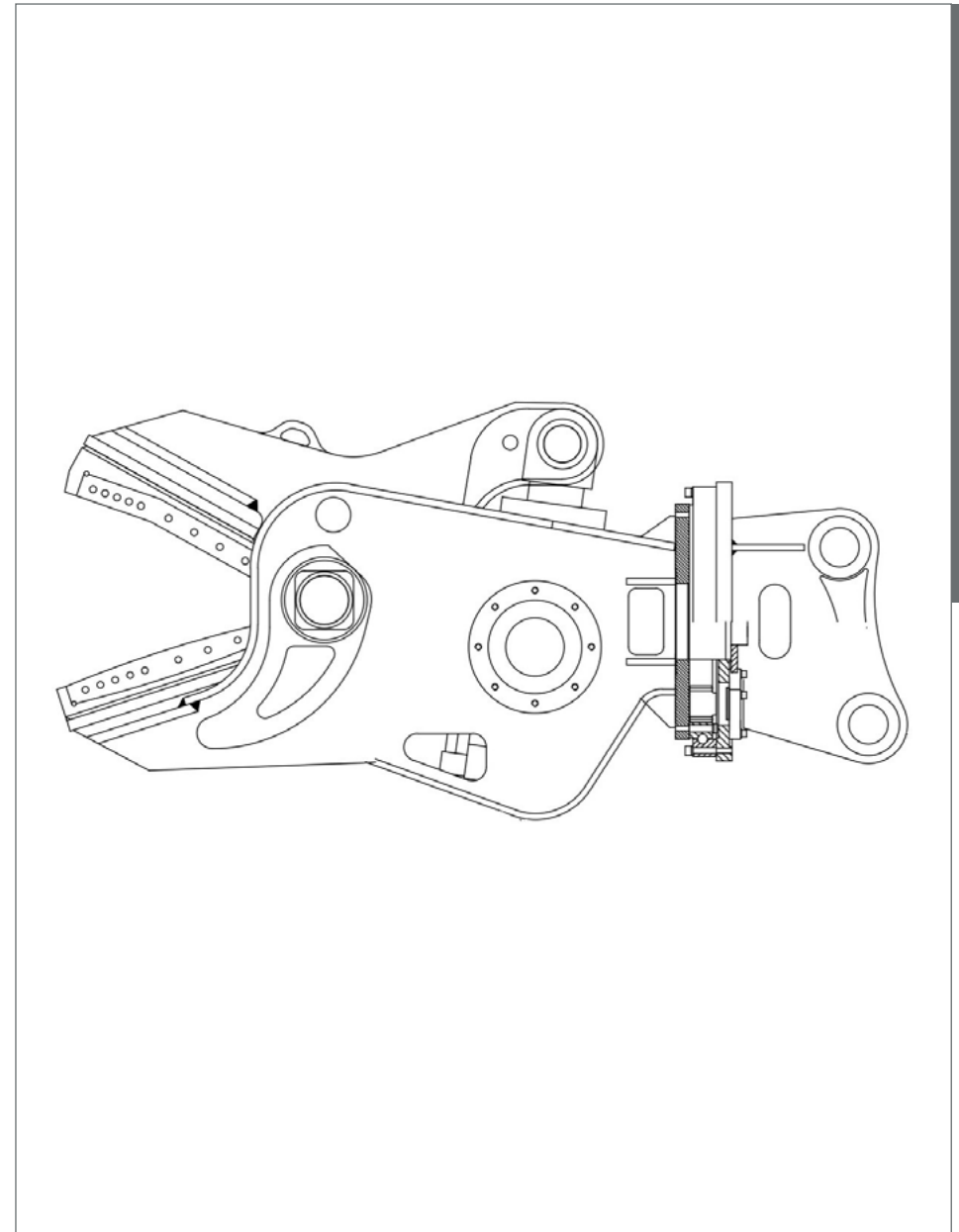
Weight	1570 kg
Adapted for operation with excavator	15-24 t
Jaw length	820 mm
Jaw opening	850 mm
Rotator	360°



# STEEL DEMOLITION SHEAR

## DHMS-200 (1 pc.)

The **DHMS-200 steel demolition shear** is used for fast and efficient cutting of steel structures. It significantly reduces the time it takes to prepare steel waste for scrapping compared to other cutting methods.



### SPECIFICATION

Maximum jaw opening	510 mm
Maximum cutting force	195 t
Length of blades	500 mm
Rotator	360°