PRONAR

MUNICIPAL MACHINES CATALOGUE

KEY FEATURES AND TECHNICAL DATA

machines for summer road and green areas maintenance

soil preparation

winter road maintenance machinery

pronar.pl/en

PRONAR

Pronar is a company with over 30 years of production and sales experience and declared as one of the fastest developing companies in Central and Eastern Europe. We are the leader in the production of agricultural, recycling and municipal machinery, disc wheels (biggest manufacture in Europe, second biggest in the world), driving systems, gears pneumatic and hydraulic components. All crucial components and whole machines are manufactured in-house in nine modern factories. Pronar employs over 3000 people, from which 170 are highly qualified engineers. They are supported by results of research conducted by own research and development center. An undoubted advantage of Pronar is its own airfield and a fleet of airplanes used for quick business communication and emergency service cases.

Pronar constantly invests in new factories and high-tech manufacturing equipment. Every year we implement new production techniques like very precise machining centers, welding robots, water jets, 3D laser cutters and welders. As a result, our customers can be sure that their machines were made with the utmost care and precision.

Products carrying Pronar logo can be found in over 80 countries around the world and on every continent - whole Europe, USA, Canada, Mexico, Chile, China, South Korea, Japan, Australia and many others. Customers appreciate their high quality, ease of use and service, as well as very good after-sales support. Every day we are driven by a passion to create innovative solutions that allow us to compete with the largest players in global markets.

machines
for summer road
and green areas
maintenance

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sweepers
ZM-1250 | 1400 | 1600 | 2000 | 2000M

Sweepers are designed for cleaning hard-paved surfaces. They enable removal and collection of dirt or (without waste collection tank and with angled brush) only sweeping to the right or left side.

The sweepers can be optionally equipped with sprinkler system (reduced emission of powder and dust) and with a side disk brush (for sweeping along kerbs). They are used by road maintenance services for cleaning of the road-bed prior to application of asphalt layer on renovated road sections. They can be also used by municipal services, as well as in agriculture, forestry and water management establishments for cleaning roads and other paved surfaces. In winter, the sweeper can be used for snow clearing. Thanks to an adjustable drawbar the sweeper is designed for hitching to the tractor's category II or III front or rear three-point hitch. The machine consists of a frame to which a hydraulically driven roller brush is attached and a waste collection tank that is suspended on the frame by means of extension arms. The waste tank is emptied by tipping it over by means of a hydraulic cylinder.

OPTIONAL EQUIPMENT

- sprinkler system with 200 l water tank
- side brush
- front supporting wheel (to be installed on the front of the carrying vehicle)
- lighting
- slow-moving vehicle triangle bracket
- forklift, backhoe loader mountings (according to customer's demand)
- reinforced support wheel

TECHNICAL DATA	ZM-1250	ZM-1400	ZM-1600	ZM-2000	ZM-2000M	
Efficiency	7500	8300	9500	11875	11875	[m²/h]
Weight	195	245	249	320	405	[kg]
Waste tank capacity	155	175	200	250	250	[dm³]
Working width	1250/1820*	1400/1950*	1600/2000*	2000/2400*	2000/2400*	[mm]
Working speed	6	6	6	6	6	[km/h]
Recommended brush speed	100	100	100	100	100 - 200	[rpm]
Maximum brush speed	130	130	130	130	370	[rpm]
Length (rear-hitched version)	1750	1750	1750	1750	1716	[mm]
Length (front-hitched version)	1700	1700	1700	1820	2263	[mm]
Width	1710	1710	1910	2330	2244	[mm]
Height	820	820	820	820	1079	[mm]
Mounting method on tractor	3pt hitch cat. I or II narrow	3pt hitch cat. I or II narrow	3pt hitch cat. I or II narrow	3pt hitch cat. II or III	3pt hitch cat. I or II	[-]
Power supply	12	12	12	12	12	[V]
Hydraulic supply	16-20 13-25	16-20 13-25	16-20 13-25	16-20 13-25	16-20* 13-25*	[MPa] [l/min]
Drive	hydraulic	hydraulic	hydraulic	hydraulic	PTO	[-]

*working with side brush

ZM-1250 SWEEPER

ZM-2000 SWEEPER

ZM-1400 SWEEPER

ZM-2000M SWEEPER

sweepers
ZM-2300M

Pronar ZM-2300M sweeper is designed to clean city streets. Tiltable bottom of the waste tank allows a smooth passage over bumps and speed humps. The jack-screw stepless height adjustment mechanism allows for regulation of the sweeping roller wich maximizes the lifespan of the bristles and maximizes the effects. Additional side disc brushes (left & right) allows sweeping curbs in any direction. The brush speed may be adjusted independantly depending on the working conditions.

TECHNICAL DATA	ZM-2300M	
Efficiency	19020	[m²/h]
Weight (withouth side brush, with waste tank)	735	[kg]
Waste tank capacity	470	[dm³]
Working width	2300	[mm]
Working speed	6	[km/h]
Recommended brush speed	150	[rpm]
Maximum brush speed	195	[rpm]
Length	2260	[mm]
Width	2525	[mm]
Height	1060	[mm]
Mounting method on tractor	3pt. hitch cat. II	[-]
Power supply	12	[V]
Hydraulic supply	16	[MPa]

ZM-2300M

Suspended on a floating arm side disc brushes (600 mm diameter each) increase the working width of the machine and remove debris from hard to reach places

Turning actuator allows sweeping to the left or right (work with raised or without tank)

Sprinkler system reduces dust emission

sweepers
ZM-1500 PLUS | 1800 PLUS | 2300 PLUS

Designed for cleaning roads, pavements and squares; for technological cleaning of the ground prior to laying asphalt paving; sweeping of dirt or a fresh, thin layer of snow to the right or left side without collecting it (with a raised hopper).

The working element is a roller brush with a horizontal axis of rotation, driven by a counter-rotating hydraulic motor; the wearable brush is lowered manually by leaps and bounds using two lateral crank-and-pinion mechanisms; the waste is dumped into a hopper with a sealing lip to the ground, dragged in front of the brush and hydraulically emptied; the machine is suspended in front of or behind the carrier on torsionally rigid or swing (wishbone) suspension systems; two or three articulated running wheels; sweeping without waste collection is possible after the hopper has been lifted.

ADDITIONAL EQUIPMENT

- hydraulic for high flows up to 150l/min
- outline lighting
- front support wheel
- suspension system according to individual orders
- version adapted for left-hand traffic

TECHNICAL DATA	ZM-1500PLUS	ZM-1800PLUS	ZM-2300PLUS	
Efficiency	9000	10800	13800	[m2/h]
Weight (without side brush, with tank)	422/ 357/ 482	445/380/505	480/405/540	[kg]
Standard suspension system	Swing-arm without fixing elements	Swing-arm without fixing elements	Swing-arm without fixing elements	[-]
Electrical power supply	12 or 24	12 or 24	12 or 24	[V]
Hydraulic power supply	16 – 20	16 – 20	16 – 20	[MPa]
Working speed	6	6	6	[km/h]
Waste tank capacity	170	200	250	[dm3]
Roller brush speed	180	180	180	[rpm]
Side brush speed	180	180	180	[rpm]
Overall widths without brush / with brush / with working brush	1910 / 1970/ 2150	2210 / 2270/ 2450	2710 / 2770/ 2950	[mm]
Length (version: installation on the back of the carrier)	1895	1895	1895	[mm]
Length (version: front mounting)	2100 / 2200*	2100 / 2200*	2100 / 2200*	[mm]
Height with rigid three-point hitch (with sprinklers)	950 / 1440	950 / 1440	950 / 1440	[mm]

*-with side brush

ZM-1800 PLUS

Outline lighting

Side brush – right or left side brush

Additional water tank

bucket sweeper
ZM-H22

The ZM-H22 bucket sweeper from Pronar Municipal Machinery is a simple and efficient solution for dirt, sand, debris and snow sweeping of areas like: harbours, sawmills, asphalt construction sites or all kinds of industrial sites. The operator is able to sweep while driving forwards as well as driving backwards. The sweeper features: brush speed regulation, a metal dirt container equipped in a replaceable wear-resistant steel blade, as well as a floating adaptor placed at the rear of the dirt bucket. The Bucket itself works like a shovel and can be easily hydraulically emptied.

ADDITIONAL EQUIPMENT

- water sprinkler system including tank
- 12 V / 24 V Power supply
- clearance lights (12 V / 24 V)
- support wheels or support rollers

NEW

ZM-H22

TECHNICAL DATA	ZM-22H	
Weight of the standard version	996	[kg]
Geometric container capacity	1300	[l]
Attachment to the carrier	Euro front attachment with floating position	[-]
Hydraulic oil demand	45/70	[l/min]
Hydraulic oil pressure	160/210	[bar]
Recommended operating speed	Up to 6	[km/h]
Maximum transport speed	25	[km/h]
Sweeping width	2200	[mm]
Width	2545	[mm]
Length	2090	[mm]
Height	1220	[mm]
Sweeping roller diameter	900	[mm]
Minimum lifting capacity (of the carrier vehicle)	2500	[kg]
Weight (of carrier vehicle)	8-12	[t]

Wide opening angle performed by two hydraulic cylinders

Durable support rollers

EURO suspension system

sweeper
ZM-28H

The ZM-28H sweeper is designed for cooperation with slow-moving vehicles in sweeping away pollution, leaves and snow. It can be attached to carriers with various suspension systems and various hydraulic installations with exhaustion from 60 to 140 l/min.

TECHNICAL DATA	ZM-28H	
Working width: - straight - max turning angle	2800 2600	[mm]
Max turning angle	±25	[°]
Brush diameter	650	[mm]
Max brush speed	200	[rpm]
Working pressure	21	[MPa]

ZM-28H

8 types of roller brush available (4 hardness levels of bristles of the brush and 2 types of rings flat or „honeycomb")

The work position indicator helps to set the optimum height of the carrier suspension

Self-adjusting wheels with infinitely variable height adjustment

truck sweeper
ZM-S25

Thanks to its large working width, the PRONAR ZM-S25 sweeper significantly increases the functionality of a truck, particularly in the case of vehicles involved in road construction.

Thanks to the implementation of a polypropylene or polypropylene and steel wire roller brush, the machine is perfectly suited for cleaning sand, snow, soil, or remnants after road milling from pavements. It is driven by hydraulic motors, and a hydraulic cylinder has been implemented for raising and lowering, which ensures failure-free machine operation. Working angle adjustment also improves the sweeper's functionality, and in the standard version, adjustment takes place mechanically by means of a blockade that makes it possible to set the machine at the following angles: 0°, 15° and 30°. Optionally, the working angle can be set within the range from 0° to 30° using a hydraulic cylinder, which improves the comfort and precision of work. Leading of the brush over the surface is adjusted using support wheels, improving brush life. Thanks to mounting on a type A or type B DIN 76060 mounting plate, the machine is capable of cooperating with most trucks.

TECHNICAL DATA	ZM-S25	
Working width (straight setting)	2500	[mm]
Working width (30° angle)	2155	[mm]
Height max.	1240	[mm]
Brush diameter	650	[mm]
Weight	420	[kg]
Supply	hydraulic	[-]
Required oil pressure	16	[MPa]
Required oil flow	40	[l/min]
Controls	control panel (24V or 12V)	[-]
Adjustment of turning angle	manual or hydraulic	[-]

ZM-S25

Hydraulic brush rotation ± 30°

Aggregation on the tractor

Aggregation with a truck

sweeper
ZM-P16

ZM-P sweeper represents an innovative solution developed by Pronar. The standard sweeper may be fitted with one of available drives - PTO or hydraulic.

ZM-P sweeper is destined for hitching to tractor's rear three-point hitch, and optionally, the hydraulic version can be mounted on the front of a tractor. The ZM-P16 model may be equipped with a sand spreader and a special „comb" brush. This combination is perfectly suited for minimising the effects of winter in cities — snow is removed from the pavement, and the sand spreader minimises the risk of pedestrians slipping on the cleaned surface.

EQUIPMENT FOR ZM-P SERIES SWEEPERS

- hydraulic drive
- mechanical drive from PTO
- mechanical drive and sprinkler system
- hydraulic drive of sweeper and spreader

TECHNICAL DATA	ZM-P16	
Working width (straight setting)	1600	[mm]
Working width (30° angle)	1440	[mm]
PTO speed	540	[rpm]
Mounting	3pt hitch cat. I or II	[-]
Brush drive	mechanical by PTO or hydraulic	[-]
Brush speed	150 – 350	[rpm]
Working speed	<40	[km/h]

ZM-P16

PTO drive

Special brush for sweeping-out snow

trailed sweeper
ZMC2.0

Pronar ZMC 2.0 trailed vacuum sweeper is adapted for work with tractors with at least 60 HP. It has been designed to perfectly clean roads, large warehouse surfaces, and areas paved with asphalt, concrete or cobblestones.

The sweeping unit consists of 2 hydraulic rotary disc brushes that sweep the debris into the machine's interior, where a vacuum suction system moves it to a 2.1 m^3 container at the rear of the sweeper. The sprinkler system, consisting of a pump, water tank, and spraying nozzles, effectively prevents formation of dust during operation. Machine control is fully automated. An electrical control panel can be used to adjust all sweeper functions, including unloading of the machine. A hydraulically articulated drawbar enables precise following of the curb contour.

ADDITIONAL EQUIPMENT

- side attachment for collecting leaves
- additional water tank (200 l)
- chute
- pneumatic single-conduit brake system
- hydraulic brake system

TECHNICAL DATA	ZMC2.0	
Efficiency	13800	[m²/h]
Weight	2300	[kg]
PTO Power demand	61 (45)	[HP (kW)]
PTO Recommended speed	1000	[rpm]
Waste tank capacity	2,1	[m3]
Working width regulation	2000 – 2300	[mm]
Working speed	6	[km/h]
Supplying of hydraulics, sprinkler and fan	mechanical from PTO	[-]
Water tank capacity	240 + 200*	[dm³]
Hydraulic feed for drawbar turning	16	[MPa]
Dumping height	1660	[mm]
Width/length/height	2175/3510/2230	[mm]
Height with a raised tank	3770	[mm]
Permissible load on coupling (not less than)	650	[kg]
Transport speed max.	25	[km/h]

*additional water tank

ZMC2.0

Hydraulic hopper dumping system

Side attachment for collecting leaves

Adjustable side brush

Additional water tank (200 l)

trailed sweeper
ZMC3.1

Two rotary disc brushes clean the surface, a roller brush sweeps the debris onto a scraper conveyor belt, which conveys it to the waste container. The sweeper is great at cleaning roads, city streets, large squares, warehouse facilities, as well as car parkings and pedestrian areas. It performs ideally in road cleaning after the winter. The operator can hydraulically dump the load without any need to leave the tractor cabin by using the steering panel. The machine is also equipped with a sprinkler system, and water tank that can hold up to 1120 litres of water.

OPTIONAL EQUIPMENT

- upper drawbar – replaces the lower drawbar
- vibrator – for easy emptying of the waste tank
- working lights – work zones for disc brushes
- left side brush hydraulic adjustment – tilt control from the cab
- additional warning lamps – mounted on the top cover
- wheel chocks – 2 wheel chocks with brackets
- PTO shaft
- right side brush
- increasing sweeping width, range 700 mm beyond the machine outline
- chute extensions – reduces the height of unloading by 100mm
- pressure washer – water pressure up to 150 bar
- sprinkler pressure adjustment – sprinkler pressure setting from the operator's panel
- galvanized frame – in standard version painted
- diffrent coulors – after agreeing with customer

TECHNICAL DATA	ZMC3.1		
Efficiency	54000		[m³/h]
Weight	3300	without water in the sprinkler system	[kg]
PTO Power demand	50 / 35	power on carrier PTO	[HP (kW)]
PTO shaft type	PTO shaft type 1 WG ISO500; n=540 rpm	Ø35 6 splines clockwise rotation looking at the front of the PTO shaft	[-]
Mounting	lower transportation hitch	-	[-]
Working width	2400-2700, max. 3100	300mm - adjustment range, without/with side brush	[mm]
Electric power supply	12	from carrier battery	[V]
Electric supply of lighting	12	from 7-pole socket	[V]
Working speed	1-20	depends on the amount of pollution	[km/h]
Waste tank capacity	3	-	[m³]
Water tank capacity	1120	-	[dm³]
Width	2100	without the bristles of disc brushes	[mm]
Length	5140/4980-5100	lower drawbar/upper drawbar depending on drawbar position	[mm]
Height / Height with a raised tank	2320/4420	without warning lights (beacon)	[mm]
Roller brush	D=Ø750; L=1100	assembled from disc segments, material: wire, PPM, mix of wire segments and PPM	[mm]
Disc brush	d=Ø760; D=Ø1100; H=260	material: wire, PPM, mix of wire segments and PPM	[mm]

ZMC3.1

Control panel – all sweeper functions are controlled using a panel located in the tractor cab

Side brush – right or left side brush – increasing sweeping width, range 700 mm beyond the machine outline

Easy access to interior

rear flail mowers
BKL120M | BKL140M

Kosiarki bijakowe z serii BKL służą do prac związanych z utrzymaniem powierzchni zielonych, zieleni miejskiej, boisk piłkarskich oraz sadów. Po założeniu odpowiednich noży, kosiarki można stosować do prac napowietrzających z równoczesnym koszeniem.

Podstawowe zespoły kosiarki to: rama, układ zawieszenia, wał bijakowy z wymiennymi nożami, wał kopiujący, układ przeniesienia napędu wraz z przekładnią kątową.

W ramie zamontowano dwa wały: tnący (służący do koszenia) oraz kopiujący mający za zadanie ustawienie wysokości koszenia. Kosiarki posiadają układ zawieszenia ruchomy (z możliwością przesuwu bocznego kosiarki) lub stały.

TECHNICAL DATA	BKL120M zawiesz. stałe	BKL120M zawiesz. ruchome	BKL140M zawiesz. stałe	BKL140M zawiesz. ruchome	
Horizontal shift of the mower (parameter A)*	–	350	–	350	[mm]
Cutting width	1200		1400		[mm]
Weight	200	235	215	250	[kg]
Minimal power demand	30 (22)	30 (22)	30 (22)	30 (22)	[KM (kW)]
PTO speed (std/optional)	1000/540	1000/540	1000/540	1000/540	[obr./min]
Mounting on front 3pt hitch	kat. I	kat. I	kat. I	kat. I	[-]
Mounting on rear hitch	kat. I	kat. I	kat. I	kat. I	[-]
Flail shaft diameter	ø 102	ø 102	ø 102	ø 102	[mm]
Tracing shaft diameter	ø 102	ø 102	ø 102	ø 102	[mm]
Flail shaft rotation speed	3000	3000	3000	3000	[obr./min]
Number of flail blades	24	24	24	24	[szt.]

BKL 120M

BKL 140M

Wał tnący z wymiennymi nożami

Układ zawieszenia ruchomy (przesuw hydrauliczny poprzeczny 350 mm)

rear-side flail mowers
BK110M | 140M | 160M | 180M | 200M | 250M

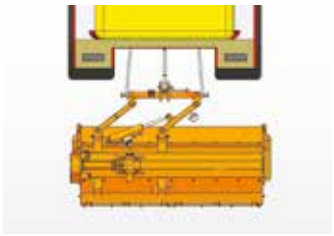
Pronar BK-series mulchers (rear-front flail mowers) fit perfectly with green areas, orchards and agriculture area maintenance tasks.

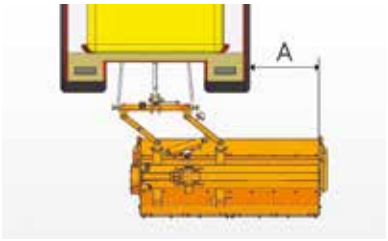
High quality and great durability of these machines are ensured by use of wear-resistant materials in the production process.

THE FEATURES OF MODERNISED FLAIL MOWERS BK M - SERIES

- possibility of aggregation on both rear and front for tractor enable the user to create efficient mowing sets (together e.g. with hydraulic arms of WWT-series)
- a big range of mowing widths
- reinforced flail shaft for heavy duty tasks
- solid mounting of belt pulleys - for long and trouble free operations
- wide range of flail knives and hammers

TECHNICAL DATA	BK110M	BK140M	BK160M	BK180M	BK200M	BK250M	
Length in transport position	1140	1140	1420	1420	1420	1420	[mm]
Width in transport position	1370	1590	1810	2070	2280	2720	[mm]
Height in transport position	920	920	1020	1020	1020	1020	[mm]
Cutting width	1100	1400	1600	1800	2000	2500	[mm]
Horizontal shift of the mower (parameter A)*	440	440	785	785	785	785	[mm]
Weight	350	390	525	560	600	660	[kg]
Minimal power demand	25 (18)	30 (22)	40 (29)	50 (37)	70 (51)	90 (66)	[HP (kW)]
PTO speed (std/optional)	1000/540	1000/540	1000/540	1000	1000	1000	[rpm]
Mounting on front 3pt hitch	cat. I	cat. I	cat. II	cat. II	cat. II	cat. II	[-]
Mounting on rear hitch	cat. I i II	cat. I i II	cat. II i III	cat. II i III	cat. II i III	cat. II i III	[-]
Flail shaft diameter	ø 133	ø133	ø152	ø152	ø160	ø160	[mm]
Tracing shaft diameter	ø133	ø133	ø152	ø152	ø160	ø160	[mm]
Flail shaft rotation speed	2550	2550	2450	2450	2450	2450	[rpm]
Number of flail blades	10	12	14	16	18	22	[pcs]





* - Regulation of mower position (parameter A - see table)

BK160M

Flail shaft with flail hammers

Intersecting gear and belt drive - overload protection of the mower

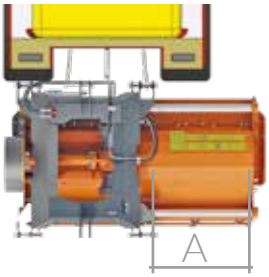
cross traverse flail mowers
BKD160P | 180P | 200P | 202P

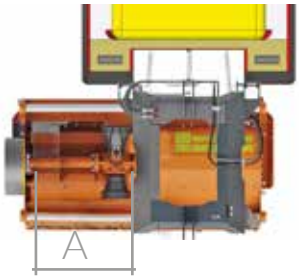
BKD-series cross traverse flail mowers allow cutting on both sides of tractor. Two-sided frame and transmission gives possibility for mounting both on front and rear tractor 3pt. hitch without mower disassembly. Cross movement provided by tractor hydraulics.

BKD MOWERS FEATURES

- mounting on front or rear of tractor
- reinforced flail shaft
- intersecting angle gear with directional clutch
- solid mounting of belt pulleys - for long and trouble-free operations

TECHNICAL DATA	BKD160P	BKD180P	BKD200P	BKD202P	
Length in transport position	1140	1140	1140	1140	[mm]
Width in transport position	1870	2090	2310	2310	[mm]
Height in transport position	1025	1025	1025	1025	[mm]
Cutting width	1600	1800	2000	2000	[mm]
Horizontal shift of the mower (parameter A)*	440	440	440	440	[mm]
Position of the mower relative to the carrier	right	right	right	left	[-]
Weight	635	690	730	730	[kg]
Minimal power demand	40 (29)	50 (37)	70 (51)	70 (51)	[HP (kW)]
PTO speed std/optional	1000	1000	1000	1000	[rpm]
Mounting on front 3pt hitch	cat. I i II	cat. I i II	cat. I i II	cat. I i II	[-]
Flail shaft diameter	159	159	159	159	[mm]
Tracing shaft diameter	159	159	159	159	[mm]
Flail shaft rotation speed	2450	2450	2450	2450	[rpm]
Number of flail blades	14	16	18	18	[pcs]





* - Regulation of mower position (parameter A - see table)

BKD200P

Hydraulic shift

Double-sided 3-point hitch

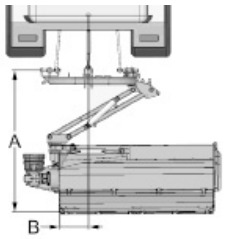
Adjustable height of skids

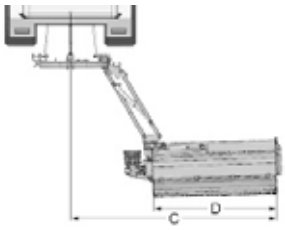
rear-side flail mowers
BBK120M | 140M | 160M | 180M | 200M | 202M

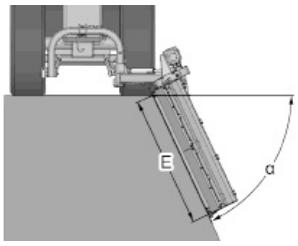
Similarly to rear-front flail-mowers (BK series), the BBK series rear-side flail-mowers, are designed for maintaining urban greenery infrastructure, in orchards as well as on forested grounds.

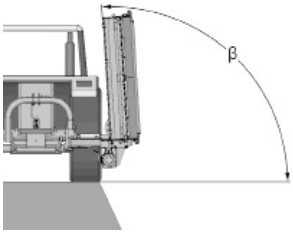
They are suspended on a pantograph, which enables effective mowing of roadside ditches and use on uneven terrain. A large horizontal hydraulic traverse enables mowing with the entire working width of the mower beyond the tractor's outline. A replaceable jacket inside the mower, made of abrasion-resistant steel, protects the machine's housing against damage.

TECHNICAL DATA	BBK120M	BBK140M	BBK160M	BBK180M	BBK200M	BBK202M	
Length in transport position	1900	1900	1900	1900	1900	1900	[mm]
Width in transport position	1770	1770	1660	1660	1660	1660	[mm]
Height in transport position	1750	1950	2160	2380	2600	2600	[mm]
Position of the mower relative to the carrier	right	right	right	right	right	left	[-]
Cutting width	1200	1400	1600	1800	2000	2000	[mm]
Horizontal shift of the mower (hydraulic shift)	1820	1820	1820	1820	1820	1820	[mm]
Weight	750	770	740	795	840	870	[kg]
Minimum power demand	30 (22)	30 (22)	50 (37)	60 (44)	70 (51)	70 (51)	[HP (kW)]
Max. PTO speed	540	540	540	540	540	540	[rpm]
Mounting on tractor	3pt hitch cat. II and III	3pt hitch cat. II and III	3pt hitch cat. II and III	3pt hitch cat. II and III	3pt hitch cat. II and III	3pt hitch cat. II and III	[-]
Flail shaft diameter	ø133	ø133	ø160	ø160	ø160	ø160	[mm]
Tracing shaft diameter	ø133	ø133	ø160	ø160	ø160	ø160	[mm]
Flail shaft rotation speed	2500	2500	2450	2450	2450	2450	[rpm]
Number of flail blades	10	12	14	16	18	18	[pcs]
Mower working range							
A	1890	1890	1890	1890	1890	1890	[mm]
B	390	390	390	390	390	390	[mm]
C	2620	2830	3040	3260	3480	3480	[mm]
D	1210	1410	1620	1840	2060	2060	[mm]
E	1200	1400	1610	1830	2050	2050	[mm]
Working angle – downwards	65	65	65	65	65	65	[°]
Working angle – upwards	94	94	94	94	94	94	[°]
Setting cutting height	20, 40, 60	20, 40, 60	20, 40, 60	20, 40, 60	20, 40, 60	20, 40, 60	[mm]









Vertical rest position

Hydraulic adjustment of the working angle

Working position

Terrain copying accuracy

flail mower with hooper
BKR120H | 160H

Flail mowers BKR120H / BKR160H are designed for works connected with municipal maintenance, cities green areas, football fields and orchards. By amending cutting knives, the mowers could be adjusted to aerating works while simultaneous mowing.

The basic mower assemblies are: a frame with a mounting system, a grass tank, a cutting unit consisting of a flail shaft with replaceable knives, a copying shaft, a drive system and covers. Two shafts are mounted in the frame: cutting (for cutting) and copying shafts with the task of setting the cutting height. The articulated frame is fitted with a hydraulically operated lifting grass hopper. The grass container is tilted hydraulically by means of two actuators.

TECHNICAL DATA	BKR120H	BKR160H	
Weight	400	530	[kg]
Lenght	1545		[mm]
Width	1440	1840	[mm]
Height	1375		[mm]
Cut width	1200	1600	[mm]
Handy grass container capacity	0,75	1	[m³]
Emptying height	2000		[mm]
Central gear	Angular with directional clutch		[-]
V-belt	Welded 3/Xpa1320	Welded 3/XPA1320	[-]
Working shaft diameter	108		[mm]
Tracing shaft diameter	108		[mm]
Working shaft speed	3000		[rpm]
Number and type of cutting knives	40	50	[pcs.]
Hooper height adjustment	25-100 (Stepless, via adjustment of tracing shaft and support wheels)		[mm]
Work pressure	160		[dm³]
Carrier requirements			
Min. Power requirement	25/19	30/22	[HP(kW)]
Suspension system	cat. I/II according to iso 730-1		[rpm]
PTO shaft	540 type 1 (1 3/8" – 6 lugs)		[-]
Hydraulic driven	two sections of double sided work		[-]
Socket size	1/2"		WG ISO 7241-1

BKR160H

High unloading

Low unloading

knives

flail mowers

FLAIL KNIVES AND HAMMERS

Pronar offers a wide variety of flail knives and hammer for all models of mulchers and mowing heads. This allows to choose a knife type adapted to the needs and may increase work effectiveness and efficiency.

Type	Model	Approx. weight	Name	Max. diameter of cut material (mm)	Application	Fits
A		0,4	Flail hammer (light)	40	grass, stalks, stems, thin bushes, thin branches, stubble, crop residues	GK100L, 120L, 140L
B		0,7	Flail hammer	60	grass, stalks, stems, thin bushes, thin branches, stubble, crop residues	GK110, 140, BK, BKD and BBK series
C		1,5	Flail hammer (heavy)	100	grass, stalks, stems, thin bushes, thin branches, stubble, crop residues	GK110, 140, BK, BKD and BBK series
D		0,2	Y knife (light)	30	grass, stalks, stems, thin shrubs	GK80L
E		0,4	Y knife	30	grass, stalks, stems, thin shrubs	GK100L, 120L, 140L
F		1	Y-knife (heavy)	60	grass, stalks, stems, bushes, branches	GK110, 140, BK, BKD and BBK series
G		0,4	YI knife (light)	30	grass, stalks, stems, thin shrubs	GK80L
H		0,5	YI knife	40	grass, stalks, stems, thin shrubs, branches	GK100L, 120L, 140L
I		1,4	YI knife (heavy)	60	grass, stalks, stems, thin shrubs, branches	GK110, 140, BK, BKD and BBK series
J		1,6	YY knife (heavy)	60	grass, stalks, stems, thin bushes, thin branches, stubble, crop residues	GK110, 140, BK,BKD and BBK series
K		1,2	TI knife	60	grass, stalks, stems, thin bushes, thin branches, stubble, crop residues	GK110, 140, BK, BKD and BBK series
L		1,5	M knife	60	grass, stalks, stems, thin bushes, thin branches, stubble, crop residues	GK110, 140, BK, BKD and BBK series
M		0,1	Mallet	20	grass, stalks, stems, bushes, branches	GK80L, 100L, 120L,140L
N		0,1	Twist knife	20	grass, stalks, stems, thin shrubs	GK80L, 100L, 120L,140L
O		0,2	Curved mallet	20	grass, stalks, stems, thin shrubs	GK100L, 120L, 140L

working heads

COMPATIBILITY

Pronar offers rear- and front- mounted hydraulic multifunctional arms for different vehicles. These heads increase the functionality of carriers through the use of different types of operating heads for different operations.

CONNECTORS DIAGRAM

MODEL	GK80L	GK100L		GK140L	GK110	GK140	GP200	GT150	GN200	GF100S	GO800		GF040K	GC060K GC090K
WWT420	S	S	S	S	X	X	O	S	X	O	O	O[1)]	S	O[1)]
WWT480	S	S	S	S	X	X	O	S	X	O	O	O[1)]	S	O[1)]
WWT600	O	O	O	O	S	S	S	S	S	S	S	S[1)]	S	S[1)]
WWT600P	O	O	O	O	S	X	S	S	S	S	S	S[1)]	S	S[1)]
WWT700T	O	O	O	O	S	X	S	S	S	S	S	S[1)]	S	S[1)]
WWT800T	O	O	O	O	S	S	S	S	S	S	S	S[1)]	S	X
WWP500	X	X	O	O	S	S	S	O	O	O	S	S	S	S
WWP500U	X	X	O	O	S	S	S	O	O	O	S	S	S	S
WWP500UH	X	X	O	O	S	S	S	O	O	O	S	S	S	S
WWP600	X	X	O	O	S	S	S	O	O	O	S	S	S	S
WWT600K	O	O	O	O	S	S	S	S	S	S	S	S	S	S
S – standard; X – not available; O – optional (available after changing connector type)														

1) - obstructed view of the head from the driver's position

WWT480 + GK80L

WWT600 + GK110

WWP600 + GO800

WWP500 + GK110

WWT700T + GK110

WWT700T + GP200

mowing heads
GK80L | 100L | 120L | 140L | 142L | 110 | 140

Cutting heads for WWP500, WWP500UH, WWP600 multifunction arms are used for mowing grass, cutting bushes and shredding of cut tree branches. Design of multifunction arm enables operation in hard to reach areas such as roadside ditches behind protective barriers, slopes, drainage ditches, roadsides. The cutting head leaves the cutting area with evenly ground material, which also forms a fertilising layer.

TECHNICAL DATA	GK80L	GK100L	GK120L	GK140L	GK142L	GK110	GK140	
Working width	800	1000	1200	1400	1400	1100	1400	[mm]
Working shaft diameter	76	76	89	89	89	133	133	[mm]
Copying shaft diameter	89	89	101,6	101,6	89	133	133	[mm]
Hydraulic engine power	38 (28)	38 (28)	38 (28)	38 (28)	38 (28)	48 (35)	48 (35)	[HP (kW)]
Connector size	60x60	60x60	60x60	60x60	60x60	80x80	80x80	[mm]
Weight	115	155	185	205	205	294	318	[kg]
Drive	direct hydraulic	direct hydraulic	direct hydraulic	direct hydraulic	direct hydraulic	direct hydraulic	direct hydraulic	[-]
Number of knives	44	48	52	60	60	10	12	[pcs]
Oil flow	80	80	80	80	80	90	90	[l/min]
Oil pressure	21	21	21	21	21	25	25	[MPa]

GK80L | 100L | 120L | 140L | 142L | 110 | 140

GK110

GK140

GK80L

specialized heads
GT150 | GN200 | GP200 | GF100S

Pronar set of trimming heads has been designed to meet the tasks of green-area and orchard maintenance. Three types of tools available allow you to choose a head adequate to the task. We recommend the aggregation with multifunctional arms mounted on tractors with creeper systems.

GT150

Light and precise head designed for trimming of thin branches during maintenance of i.e. hedges Light wieght allows for work with small tractors. The thickness of the cut branches - max 2 cm.

TECHNICAL DATA	GT150	
Working width	1500	[mm]
No. of cutting knives	19	[pcs.]
Max. cutting diameter	20	[mm]
Min oil working pressure	12	[MPa]
Min. oil flow	60	[l/min]
Weight	85	[kg]
Connector	140x140 plate	[mm]

GN200

The scissor head perfectly copes with thick bushes and is intendedfor pruning of roadside trees and other forestry areas. Thickness of cut branches - up to 10cm.

TECHNICAL DATA	GN200	
Working width	2000	[mm]
No. of cutting knives	14	[pcs.]
Max. cutting diameter	100	[mm]
Min oil working pressure	12	[MPa]
Min. oil flow	80	[l/min]
Weight	250	[kg]
Connector	140x140 plate	[mm]

GF100S

Milling head for road maintenence works and leveling of road verges.

TECHNICAL DATA	GF100S	
Milling shaft diameter	435	[mm]
Max. milling depth	65	[mm]
No. of milling knives	22	[pcs.]
No. of coils	5,5	[pcs.]
Nominal oil pressure	21	[MPa]
Nominal oil flow	80	[l/min]
Weight	235	[kg]

GP200

The GP200 is the perfect for cutting branches of roadside trees, line regulation of hedges and vineyards. The mechanism does not require gear lubrication allows you to work in harsh conditions.

TECHNICAL DATA	GP200	
Working width	2000	[mm]
Number of cutting discs	4	[pcs.]
Disc diameter	600	[mm]
Min. oil working pressure	22	[MPa]
Min. oil flow	60	[l/min]
Weight	232	[kg]
Connector	80x80 beam	[mm]

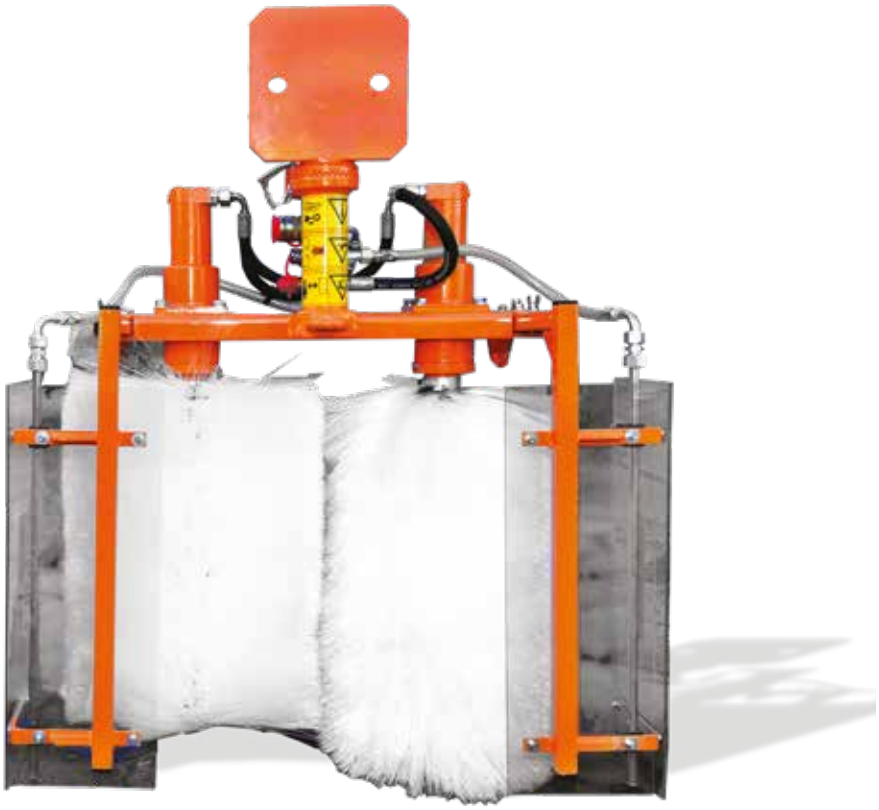
specialized head
GM500

GM 500 sign washer designed to clean signs leading pillars and protective barriers. Together with PRONAR R1000 tank, they make a perfect sign cleaning set.

TECHNICAL DATA	GM500	
Brush diameter	400	[mm]
Brush length	500	[mm]
Nom. oil working pressure	10	[MPa]
Min. oil flow	80	[l/min]
Water pump efficiency	80	[l/min]

Easy disassembly of protective frame for the purpose of washing road signs

GM500



Working in narrow streets

Requires a water source mounted on a carrier

specialized heads
GF040K | GC060V | GC090V

The GF040K head, used as an optional equipent on the multifunction arm, is used to perform cleanup work to mill felled tree trunks.

The main assemblies of the milling head are: frame, working blade, powerdrive and cover. On the frame a hydraulic motor has been mounted, on which the working blade with interchangeable knives is mounted. Left and right knives mounted on both sides of the blade allow for milling of trunks in both directions. The drive is transmitted from the arm to the working disc via a hydraulic motor.

TECHNICAL DATA	GF040K	
Lenght	740	[mm]
Width	520	[mm]
Height	560	[mm]
Cutting disc diameter (* including knives)	400/480*	[mm]
Working disc speed	2400	[rpm]
Drive	Hydraulic	
Nominal oil pressure	210	[bar]
Nominal oil pump capacity	80	[l/min]
Mounting method	Square plate 140x140 - 6 bolts M14x50	
Number of cutting knives	16	[pcs.]
Weight	145	[kg]

MILING HEAD GF040K

Accuracy and precision of milling

Replaceable knives

CLEANING HEAD GC060V

The head is used as an equipment of multifunctional arms. It is used to sweep and weed out the road edges. The use of different brushes allows to adjust the head to the prevailing conditions. The main assemblies of the head are: frame, cleaning brush, drive system, cover and spray nozzle. On the frame a hydraulic motor is mounted on which the brush is mounted. Drive is transmitted from the arm through the hydraulic motor to the disc brush. In addition, on the frame there is a cover limiting the spread of material and a spray nozzle to prevent dusting.

TECHNICAL DATA	GC060V	*GC090V	
Lenght	950	1000	[mm]
Width	670	950	[mm]
Height	730	730	[mm]
Number of brushes	1	1	[pcs.]
Brush tilt range	0 - 25	0 - 25	[°]
Brush rotation speed	0 - 285	0 - 285	[rpm]
Brush speed adjustment	stepless	stepless	[-]
Mounting method	Connection TYPE 80	Connection TYPE 80	[-]
Drive	Hydraulic	Hydraulic	[-]
Nominal oil pressure	210	210	[bar]
Nominal oil capacity	40	40	[l/min]
Maximal oil pump capacity	90	90	[l/min]
Weight	120	135	[kg]

Cleaning flat surfaces from persistent dirt

Removing vegetation from around curbs

Effective cleaning

multifunctional arm
DURING WORK

Multifuntcional arms due to the possibility of using several types of working heads are universal tool carries in plants and companies dealing with municipal services and road and roadside maintenance. Arm construction and large range allows to perform treatments in hard to reach places such a roadside ditches behind guard rails, slopes, drainage ditches.

MULTIFUNCTION ARM WWP500
MOWING HEAD GK140

MULTIFUNCTION ARM WWP500U
MOWING HEAD GK110

MULTIFUNCTION ARM WWT480
BRANCH TRIMMER GT150

MULTIFUNCTION ARM WWT420
MOWING HEAD GK80L

MULTIFUNCTION ARM WWT700T
SCISSOR HEAD GN200

MULTIFUNCTION ARM WWT600
MOWING HEAD GK140

multifunction front arms
WWP500 | 600

PRONAR WWP500 / WWP600 universal multifunction arms are designed for operation with tractors equipped with a front PTO and front 3pt hitch.

Thanks to the possibility of installing several types of working heads, they are universal tool carriers at municipal companies, enterprises providing public services and maintaining roads and roadside areas. The arm design and its outreach range of 6 m or 7 m allow cutting in hard to reach areas such as roadside ditches behind protective barriers, slopes, drainage ditches, etc. Multifunction arm is controlled from the cab using the joystick. They can operate both on the right side and after the manual rearrangement on the left side of the tractor. The boom can be moved hydraulically along the rail to the left or right. Self-aligning heads mounted on a floating arm enable perfect ground surface tracking.

STANDARD EQUIPMENT

- drive from front tractor PTO
- joystick control
- hydraulic horizontal movement
- parking rack
- mounting plate installed in the place of the arms of the front 3-point hitch appropriately to the tractor model and front 3-point hitch size

OPTIONAL EQUIPMENT

- rear ballast
- axle lock (appropriately to the given tractor model)

TECHNICAL DATA	WWP500	WWP600	
Working range of multi-functional arm with GK110	5,55	6,25	[m]
Mounting on tractor	by replacing the front three point hitch arms	by replacing the front three point hitch arms	[-]
Working head supply	hydraulic	hydraulic	[-]
Connector size	80x80	80x80	[mm]
Hydraulic pump power	51 (37,5)	53 (39)	[HP (kW)]
Nominal oil flow rate (pump delivery)	90	90	[l/min]
Nominal oil pressure	24	24	[MPa]
Oil tank capacity	75	75	[l]
Controls	electric	electric	[-]
Set weight (with cutting head)	890	980	[kg]
Transport width	2400	2720	[mm]
Min. tractor weight	4000	4500	[kg]
Min. tractor power	75 (55)	80 (59)	[HP (kW)]
PTO speed	1000	1000	[rpm]

WWP500 | 600

WWP600 multifunction arm with GP200 saw for branch cutting

WWP600 with GO800 ditch digger. Long reach fits perfectly for desludging

WWP600 boom with GK mowing head

rear multifunction arms
WWT420 (424C) | 480 (484C)

PRONAR WWT420/480 rear universal multifunction arms are an alternative to the front-mounted WWP series. They are designed for operation with tractors equipped with rear PTO and 3 point hitch.

Thanks to compatibility with several types of working heads, they are universal tool carriers. The reach of the arm enables access to difficult areas, e.g. behind barriers. In combination with the BK series mower the operator gets an excellent unit for mowing grasslands along roads. The multifunction arm is controlled from the operator's cabin using pull rods. The working arm can operate on the right side of the tractor.

TECHNICAL DATA	WWT420 (424C*)	WWT480 (484C*)	
Position of the multifuntcion arm relative to the carrier	right	right	[-]
Horizontal range (measured to centre of connection)	3,2	3,8	[m]
Horizontal range (measured with GK100L head)	4,2	4,8	[m]
Working head supply	hydraulic - own	hydraulic - own	[-]
Connector size	60x60	60x60	[mm]
Nominal oil pressure	21,5	21,5	[MPa]
Max. power of hydraulic system	44 (32)	44 (32)	[HP (kW)]
Oil tank capacity	130	130	[l]
Head rotation angle	205	205	[°]
Transport length	0,8	0,8	[m]
Transport width	1,46	1,65	[m]
Transport heigth	1,73	1,96	[m]
Steering type	Mechanical - pulling rods (Electric on-off control)*	Mechanical - pulling rods (Electric on-off control)*	[-]
Arm protection	mechanical protector	mechanical protector	[-]
Weight	620	645	[kg]
Lighting bar	optional	optional	[-]
Oil radiator	optional	optional	[-]
Mounting on rear 3pt hitch	cat. I or II	cat. I or II	[-]
Rear PTO	540	540	[rpm]
Min. tractor weight	2000	2100	[kg]

MULTIFUNCTION ARM WWT480 WITH GK80L HEAD

rear multifunction arms
WWT604K | 608K

They are perfect for mowing or clearing roadside ditches and pruning branches anywhere where access to other equipment is difficult due to protective barriers or difficult terrain.

The control is electric on-off or proportional electric. In this model, the articulated arm allows to position the working head between the axes of the carrier during operation. This setting allows the operator to control the device without having to turn his head back.

TECHNICAL DATA	WWT604K/608K*	
Arm position relative to the carrier	right	[-]
Working range (with flail mower GK110 attached)	6	[m]
Transport position	Mounting on rear 3 point hitch	[-]
Rear PTO	540	[rpm]
Hydraulic head drive circuit	90 250	[l/min] [bar]
Hydraulic circuit of the arm drive	20 180	[l/min] [bar]
Oil tank capacity	180	[l]
Horizontal range (measured to centre of connection)	1,7	[m]
Main arm rotation angle	90	[°]
Steering type	Electric on-off control (Proportional electric control)*	[-]
Lighting beam	standard	[-]
Oil cooler	standard	[-]
Floating position of the head	standard	[-]
Arm shock absorption	standard	[-]
Rear 3 point hitch suspension lock	standard	[-]

MULTIFUNCTION ARM
WWT608K WITH FLAIL MOWER GK110 ATTACHED

rear multifunction arms
WWT600 | 620D | 600P | 700T | 800T

WWT600 and WWT700 complement Pronar offer for long reach multifunctional arms mounted on rear 3 point hitch. Thanks to a wide variety of working heads they are perfect for roadside and slope maintenance.

FEATURE

- long arm reach allows work in hard to reach areas
- mounting on rear 3pt hitch is gentle for tractor axis
- wide variety of working heads increase range of tractor usage
- hydraulic acumulators protection system
- standard oil cooler prevents oil overheating and provides uninterrupted work
- wear-resistant steel used in production process for high durability

TECHNICAL DATA	WWT600 (WWT604D*)	WWT620D (WWT624D*)	WWT600P (WWT604P*)	WWT700T (WWT704T*)	WWT800T (WWT804T*)	
Connector size	80x80	80x80	80x80	80x80	80x80	[mm]
Horizontal range (measured to centre of connection)	5,17	5,17	5,25	6,27	7,42	[m]
Horizontal range (measured with GK110 head)	6,12	6,12	6,13	7,16	7,42	[m]
Working head supply	Own hydraulic system	Own hydraulic system	Own hydraulic system	Own hydraulic system	Own hydraulic system	[-]
Nominal oil pressure	21,5	21,5	21,5	21,5	21,5	[MPa]
Max. power of hydraulic system	54(39,5)	54/(39,5)	54(39,5)	54(39,5)	54(39,5)	[HP (kW)]
Nominal Oli flow	80	80	80	80	80	[l/min]
Oil tank capacity	180	180	180	180	240	[l]
Head rotation angle	205	205	205	205	215	[°]
Transport length	1,35	1,35	2,54	1,35	2,24	[m]
Transport width	1,63	1,63	1,63	1,63	1,38	[m]
Transport heigth	3,56	3,56	3,46	3,58	3,65	[m]
Position of the multifuntcion arm relative to the carrier	right	left	right	right	right	[-]
Steering type	Mechanical - pulling rods (Electric on-off control)*	Mechanical - pulling rods (Electric on-off control)*	Mechanical - pulling rods (Electric on-off control)*	Mechanical - pulling rods (Electric on-off control)*	Mechanical - pulling rods (Electric on-off control)*	[-]
Arm protection	Hydraulic fuse	Hydraulic fuse	Hydraulic fuse	Hydraulic fuse	Hydraulic fuse	[-]
Weight	970	970	1100	1120	1500	[kg]
Lighting bar	Standard	Standard	Standard	Standard	Standard	[-]
Oil radiator	Standard	Standard	Standard	Standard	Standard	[-]
Mounting on rear 3pt hitch	cat. II	cat. II	cat. II	cat. II	cat. II or III	[-]
Rear PTO	540	540	540	540	540	[rpm]
Min. tractor weight	4500	4500	5000	5500	6000	[kg]

MULTIFUNCTION ARM WWT600 WITH GK140

WWT600 – arms for working with heavy heads for most difficult conditions

MULTIFUNCTION ARM WWT600 WITH GN200

WWT600P – parallel system for head angle keep when adjusting arm

multifunction front arms
WWP500U | 500UH

The PRONAR WWP500U and WWP500UH multifunction arms are designed for operation with MB Unimog carrying vehicles or other similar vehicles with similar specification. The power arm is mounted on a mounting plate compliant with the DIN standard at the front of the vehicle.

Arms are controlled from the operator's cabin by joystick and can be used with a wide range of heads manufactured by Pronar. The multifunction arm can be operated on the right side or, after the manual reconfiguration, on the left side of the carrying vehicle. Working head and the multifunctional arm can be supplied from arm's own hydraulics driven by PTO (UH version) or directly from carrier hydraulics (U version).

STANDARD EQUIPMENT

- hydraulic drive (from carrier) or PTO 1000 rpm
- joystick control
- horizontal hydraulic traverse
- mounting on type A or B DIN 76060 mounting plate
- parking rack

OPTIONAL EQUIPMENT

- axle lock (appropriately to the given Unimog model)
- rear ballast
- type A or B mounting plate (faceplate) installed on the front of the vehicle

TECHNICAL DATA	WWP500U	WWP500UH	
Transport width	2400	2400	[mm]
Transport heigth	2020	2020	[mm]
Connection size	80x80	80x80	[mm]
Horizontal range (measured to centre of connection)	4750	4750	[mm]
Horizontal range (measured with GK110 head)	5500	5500	[mm]
Vertical range	5250	5250	[mm]
Vertical range (measured with GK110 head)	6100	6100	[mm]
Turning angle (may be used on left or right side)	180	180	[°]
Angle range	0 – 180	0 – 180	[°]
Weight	760	1080	[kg]
Control own – Joystick mounted in tractors cabin	electric, 12 or 24	24	[V]

CARRIER REQUIREMENTS WITH USE OF	WWP500U	
ARM MOVEMENT HANDLING One circuit of single- or double- action hydraulics with work position lock		
Min. oil flow	20	[l/min]
Min. pressure	20	[MPa]
No. of connectors	2 (supply, return)	[-]
TOOL DRIVE Power hydraulics with continuous operation		
Min. oil flow	90	[l/min]
Nominal pressure	25	[MPa]
No. of connectors	3 (supply, return, leakage drain)	[-]

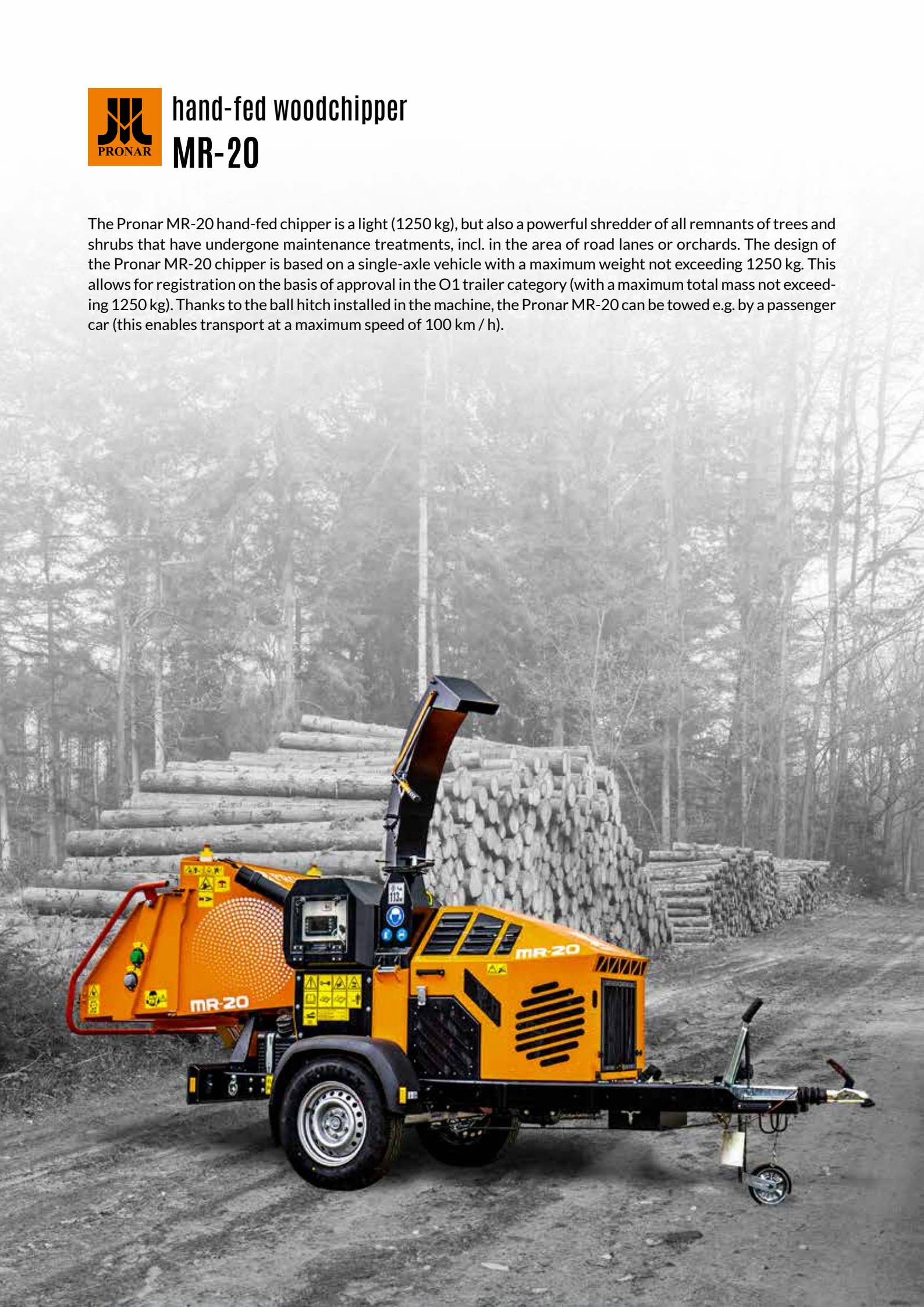
CARRIER REQUIREMENTS WITH USE OF	WWP500UH	
Direction of shaft rotation (when looking at the front of the shaft)	left	[-]
PTO speed	1000	[rpm]
Nominal oil flow	90	[l/min]
Nominal pressure	21,5	[MPa]

Mowing of a hard-to-reach roadside using a WWP500U multifunction arm and GK 110 head

Mowing of a hard-to-reach roadside using a WWP500UH multifunction arm and GK 110 head

hand-fed woodchipper
MR-20

The Pronar MR-20 hand-fed chipper is a light (1250 kg), but also a powerful shredder of all remnants of trees and shrubs that have undergone maintenance treatments, incl. in the area of road lanes or orchards. The design of the Pronar MR-20 chipper is based on a single-axle vehicle with a maximum weight not exceeding 1250 kg. This allows for registration on the basis of approval in the O1 trailer category (with a maximum total mass not exceeding 1250 kg). Thanks to the ball hitch installed in the machine, the Pronar MR-20 can be towed e.g. by a passenger car (this enables transport at a maximum speed of 100 km / h).



TECHNICAL DATA	MR-20	
Total weight	1260	[kg]
Dimensions (length, width, height) Ramp extended	4180/1466/2470 (*1810 with folded chute)	[mm]
Dimensions (length, width, height) folded ramp	3685/1466/2470 (*1810 with folded chute)	[mm]
Suspension system	Sprung axle 1500 kg, an overrun brake + hand brake	
Engine	Kubota WG1605-G-E3, 57 HP, Gasoline	
Fuel tank capacity	35	[l]
Oil tank capacity	25	[l]
Flywheel	Ø730x30	[mm]
Sided cutting knives	2x268 mm (two-sided)	
Material feeding system	2 rollers Ø170 mm (hydraulic drive)	
Material feeding system control	Water and shock-resistant mechanical buttons	
Inlet opening (hopper)	200x255 ~8x10	[mm] [in]
Coupling Ball	Ø50	[mm]

Easily towable by a passenger car, thanks to 50 mm ball hitch

The risk of damaging the display box is reduced near to 0% thanks to polycarbonate protection shield

hand-fed woodchipper
MR-15

The MR-15 shredder is a light shredder (750 kg), but also a powerful one . Machine should be used for all trees and shrubs remains that have undergone maintenance treatments, including in the field of roads or orchards.

The construction of the MR-15 chipper is based on a single-axle vehicle with a maximum weight not exceeding 750 kg. This allows for registration and road approval on the basis of approval in the O1 trailer category (with a maximum laden mass not exceeding 750 kg).

Thanks to the ball hitch lock installed in the machine, the MR-15 can be towed e.g. by a passenger car (this enables transport at a maximum speed of 100 km / h).

TECHNICAL DATA	MR-15	
Total weight	750	[kg]
Dimensions (length, width, height) unfolded ramp	3760/1290/2350 (*1680 without chute)	[mm]
Dimensions (length, width, height) folded ramp	3350/1290/2350 (*1680 without chute)	[mm]
Suspension system	Sprung axle 750 kg, an overrun brake + hand brake	[-]
Engine	B&S Vanguard EFI 37 HP 993cc V - Twin petrol	[-]
Fuel tank capacity	35	[l]
Oil tank capacity	18	[l]
Flywheel	Ø580x25	[mm]
Sided cutting knives	2x 213 mm (two-sided)	[-]
Material feeding system	2 rollers Ø125 mm (hydraulic drive)	[-]
Material feeding system control	Water and shockproof mechanical buttons	[-]
Inlet opening (hopper)	150x191 ~6x8	[mm] [in]
Ball hitch	Ø50	[mm]

MR-15

Loading ramp and safety bar

Main beam headlights - provide good visibility to other road users

slurry tanks
T314 | T315 | T316

Slurry tanks PRONAR T314/T315/T316 are an exceptionally durable constructions, high resistance to corrosion and multifunctionality are just some of the advantages of our slurry trucks. Customers can choose between three available tank capacity 4000 l 5000 l 6000 l, made of steel with improved strength properties. The construction of the lower frame ensures that the container does not transfer load as is the case with cars self-supporting.

The 6000 ltr. container has an inner partition 'breakwater', the aim of which is to prevent a substance from waving. Vehicles have a double protection system which secures the pump from flooding. A special overpressure valve helps to avoid too high pressure.

STANDARD

- wagon construction is a single-axle frame with attached tank
- the tank is made of high-durability steel and has special welded-in ring frames to stiffen the construction
- braking system – single or double wire pneumatic instalation
- the machine is equipped with 6 meters long suction hose (4",diameter 110 mm) with suction basket attached on the back
- parking brake- manual crank brake
- type of drawbar support- simple telescopic
- lighting system 12V. Spiral connecting cable of lighting system

TECHNICAL DATA	T314	T315	T316	
Allowable total weight	5800	7200	8650	[kg]
Load capacity	4400	5500	6600	[kg]
Empty weight	1400	1700	2050	[kg]
Tank capacity	4000	5000	6000	[l]
Tank lenght	2840	3460	4120	[mm]
Tank diameter	1400	1400	1400	[mm]
Tank wall thickness	5	5	5	[mm]
Dimensions (length, width, height)	5350/2050/2380	5965/2300/2430	6708/2400/2610	[mm]
Tank mounting	on the suspension frame	on the suspension frame	on the suspension frame	[-]
Filling system/discharge system	Pneumatic: underpressure/ overpressure	Pneumatic: underpressure/ overpressure	Pneumatic: underpressure/ overpressure	[-]
Wheel track	1650	1770	1860	[mm]
Suspension	one axle, rigid	one axle, rigid	one axle, rigid	[-]
Hitch-ring load	1000	1300	1400	[kg]
Tyres	400/60 R15,5	500/50 R17	500/60 R22,5	[-]
Maximum speed	40	40	40	[km/h]
Minimum tractor power requirement	45/33	54/40	65/48	[HP/kW]
PTO range	540	540	540	[rpm]
Maximum compressor efficiency	4350	6150	6150	[L/min]
Maximim filling time	4	4	5	[-]

T315

Drain connection at the lowest point of the tank

Spouting spoon

Rotary vane vacuum pump

soil preparation

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road grader
RD-Z24

The road grader is a machine for grading and repairing gravel roads as well as for other preparatory work in the vicinity of traffic routes and public areas.

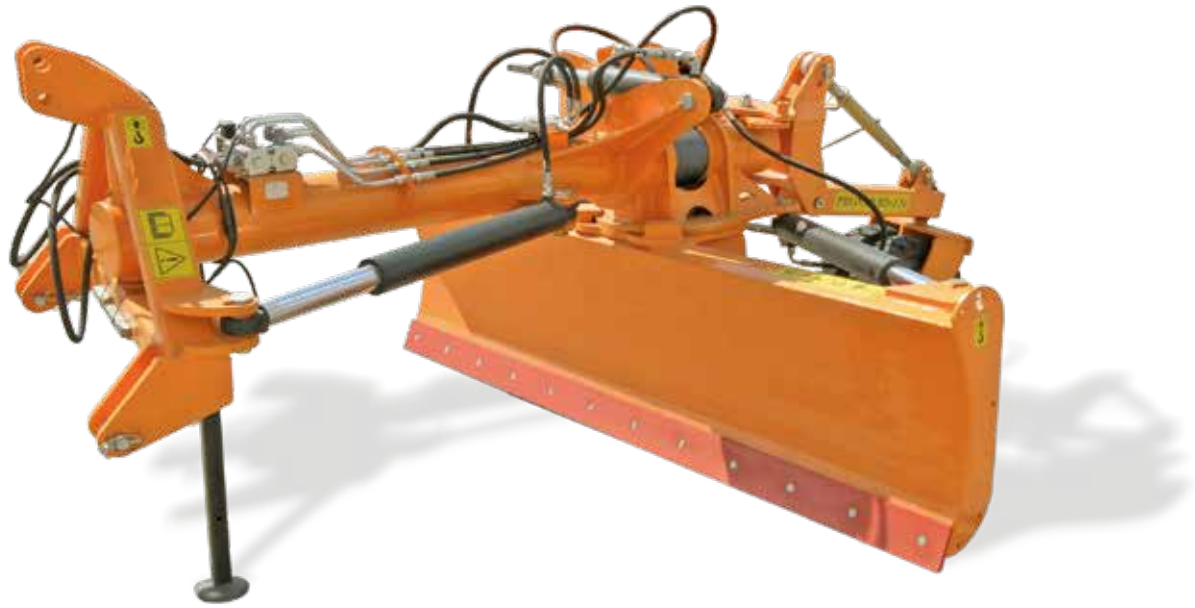
The materials used in the manufacturing process guarantee high strength and durability. Thanks to 5 hydraulic cylinders, the machine can be optimally adapted to different tasks — mouldboard can be adjusted in 3 planes. It can be used to repair gravel and forest roads, to create land for construction of new traffic routes, and to prepare grounds for investment. Thanks to the implementation of a system of hydraulic cylinders, it is ideally suited for grading soil.

OPTIONAL EQUIPMENT

- rippers
- hydraulic control of support wheels

TECHNICAL DATA	RD-Z24	
Working width - straight - at max. turn angle	 2400 2078	 [mm]
Max. frame turn angle	30	[±°]
Vertical blade rotation angle	30	[±°]
Horizontal blade turning angle	45	[±°]
Weight	930	[kg]
Mounting on tractor	3pt hitch cat. II	[-]
Power demand	100-180 (74-132)	[HP (kW)]
Working speed max.	10	[km/h]

RD-Z24



The mouldboard is equipped with a steel blade made of wear-resistant steel

Support wheels mounted at the rear of the machine

road grader
RD-C25

The RD-C25 front-mounted grader is used for efficient levelling of sub-base surfaces for car parks, squares, roads and many others. The precision of the work performed, even on complex spatial terrain, is ensured by the use of the Leica Geosystem levelling system for the grader, which has the option to use a 3D cad file uploaded by an architect. Depending on the level of complexity of construction work, the levelling system can be purchased in various configurations.

The levelling can be controlled by manual control via joystick (standard equippment) or either automatic 2D laser control via leveller in two planes (optional equippment) as well as automatic 3D laser control via GPS & total station in three planes (optional equippment).

The automatic laser systems from Leica Geosystems, simplify and precise the work considerably, by eliminating the need for constant control, readjustment and surface measurement. The operator's work with the Leica Geosystems automatic levelling system switched on, makes work easier and up to three times faster, eliminating the need for constant control of surveying measurements.

The RD-C25 grader is front-mounted with an adapted bolt-on suspension system for wheeled or tracked loaders.

OPTIONAL EQUIPMENT

- hydraulic blade angle control (with 45° angle adjustment)
- manually or hydraulically controlled side wings (with stepless angle adjustment 0°- 45°- 90°)
- hydraulically controlled side wings (with stepless 0°-90° angle adjustment)
- front lights (position, dipped, main beam)
- leica geosystem levelling system (automatic 2d or 3d control)
- 24v version of grader hydraulics and lighting
- bolt-on suspension system adapted to the carrier
- hydraulic quick couplings adapted to the carrier

NEW

RD-C25

TECHNICAL DATA	RD-C25	
Drive	Hydraulic	[-]
Weight	1114	[kg]
Maximum width with unfolded side wings	3010	[mm]
Minimum width with maximum tilted dozer blade	2050	[mm]
Length without suspension	2440	[mm]
Working height (dozer blade + scraper bar)	500	[mm]
Height	1390	[mm]
Hydraulic side shift	+/- 450	[mm]
Hydraulic height adjustment	260	[mm]
Hydraulic side angle adjustment	+/- 35	[°]
Hydraulic tilt	+/- 35	[°]
Manual scraper angle adjustment *(in 9° steps)	45	[°]
Minimum weight (of carrier vehicle)	3.2 - 5	[t]
Minimum lifting capacity (of carrier vehicle)	1300	[kg]
Required hydraulic sections	1	[pcs.]
Hydraulic oil flow	40(min.) - 100(max.)	[l/min]
Minimum hydraulic oil pressure	160	[bar]
Supply voltage	12 / 24	[V]

soil stabilizer
SGD-25Z

The SGD-25Z soil stabilizer is a high-performance machine powered by the tractor's PTO and mounted on its rear three-point hitch. Power is transmitted from the tractor through a telescopic universal shaft to the central gearbox, which then drives the working shaft via belt and cylindrical gears. The reinforced drive system ensures optimal performance in tough working conditions.

The working shaft is equipped with holders for mounting replaceable round milling cutters with carbide tips, ensuring high efficiency in soil processing. The machine comes standard with hydraulically adjustable side covers and a rear flap, as well as hydraulic control of the working shaft height. The variable mixing chamber allows for precise adaptation of the stabilization process to field conditions.

All functions are controlled using a joystick installed in the operator's cabin. Additionally, the machine can be equipped with various types of rear flap scrapers, an anti-blade plate, and rear road lighting.

APPLICATION

The SGD-25Z stabilizer is designed for soil preparation before compaction by mixing pre-spread stabilizing components, which improve the bearing capacity and cohesion of the substrate.

NEW

SGD-25Z

TECHNICAL DATA	SGD-25Z	
Weight (with leveling plate)	5 200	[kg]
Recommended engine power	280	[kW]
Mounting method to carrier	3-point linkage, Cat. 3 according to ISO 730	[-]
Power take-off shaft	1¾" z=20; compliant with Type 3 according to ISO 500; n=1000 rpm	[-]
Working speed	0.1 – 2 (depending on working conditions)	[km/h]
Max transport speed	25	[km/h]
Working width	2 500	[mm]
Width	2 930	[mm]
Lenght	2 520	[mm]
Height	1 906	[mm]
Transport height	1 520	[mm]
Working shaft diameter	1200	[mm]
Max working depth	600	[mm]

Working shaft with visible milling cutters and deflector plates.

Shaft lifting mechanism enabling variable mixing chamber volume.

soil stabilizer
SGD-21

The PRONAR SGD-21 is is a PTO-driven tiller and soil stabilizer which prepares soil structures for road and areal constructions. In addition, it serves for the recultivation of agricultural and green areas. This professional rear attachment device can be equipped with limitting skids up to a depth of 150mm. The maximum working depth to be reached is around 400 mm.

NEW

SGD-21

TECHNICAL DATA	SGD-21	
Number of working tools	66 teeth (on the working shaft)	[-]
Weight with dozer blade	4410	[kg]
Weight with leveling roller	5010	[kg]
Power requirement (of towing vehicle)	184	[hp]
Working speed	0.1-2	[km/h]
Maximum transport speed	25	[km/h]
Working width	2100	[mm]
Width	2430	[mm]
Length with dozer blade	2244	[mm]
Length with conditioning roller	2655	[mm]
Height	1520	[mm]
Working shaft diameter	870	[mm]
Standard equipment	Dozer blade	[-]
Additional equipment	Leveling roller	[-]

Soil loosening teeth

Levelling roller

Changeable coulter

winter road maintenance machinery

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snow plough PU-1400

FEATURES AND STANDARD EQUIPMENT

- two extreme working positions
- rubber blade
- clearance lights

ADDITIONAL OPTIONS

- skids
- metal blade
- can be mounted on various types of carrying vehicles such as: loaders, front loaders, carrying vehicles equipped with an A-frame, agricultural tractors

TECHNICAL DATA	PU-1400	
Working width - straight - at max. turn angle	 1400 1260	 [mm]
Max. frame turn angle	25	[±°]
Working height	600	[mm]
Weight	175	[kg]
Power demand	up to 22 (30)	[kW/HP]
Working speed max.	10	[km/h]

PU-1400

snow plough
PU-2200E

FEATURES AND STANDARD EQUIPMENT

- two extreme working positions
- rubber blade
- clearance lights
- mechanical turning
- without linkage system

ADDITIONAL OPTIONS

- skids
- can be mounted on various types of carrying vehicles without the need to use a front 3 - point hitch
- hydraulic steering system
- support wheels
- lifting actuator

TECHNICAL DATA	PU-2200E	
Working width - straight - at max. turn angle	 2190 1930	[mm]
Max. frame turn angle	30	[±°]
Working height	835	[mm]
Weight	360	[kg]
Power demand	up to 44 (60)	[kW/HP]
Working speed max.	10	[km/h]

PU-2200E

snow ploughs
PU-2600 | 3300

FEATURES AND STANDARD EQUIPMENT

- rubber or metal blade
- transverse ground tracking linkage
- slides made of wear-resistant steel
- anti-collision protection: mouldboard deflection to the front (independently left/right) if an obstacle is run into

ADDITIONAL OPTIONS

- adjustable support wheels
- fenders protecting against curbs
- flanges increasing working width (standard in PU-3300)
- tarpaulin anti-dust screen
- overload protection
- can be mounted on various types of carrying vehicles such as: trucks and multi-functional vehicles, backhoe loaders, loaders, front loaders
- long screens

TECHNICAL DATA	PU-2600	PU-3300	
Working width - straight - at max. turn angle	2900 2500	3300 2900	[mm]
Max. frame turn angle	30	30	[±°]
Working height	1040	1040	[mm]
Weight	660	680	[kg]
Power demand	59-110 (80-150)	59-110 (80-150)	[kW/HP]
Working speed max.	10	10	[km/h]

PU-3300

Segmented mouldboard with spring safeguard

Skids made of abrasion-resistant steel

Rubber blade

snow ploughs
KACPER PU-1700 | 2100

FEATURES AND STANDARD EQUIPMENT

- four extreme working positions
- rubber or metal blade
- tiltable cutting edge
- clearance lights

ADDITIONAL OPTIONS

- skids
- adjustable support wheels
- hydraulic shock absorption
- ground tracking linkage system
- can be mounted on various types of carrying vehicles such as: trucks and multi-functional vehicles, backhoe loaders, loaders, front loaders

TECHNICAL DATA	PU-1700	PU-2100	
Working width - straight - at max. turn angle	1930 1680	2210 1920	[mm]
Max. frame turn angle	30	30	[±°]
Working height	900	900	[mm]
Weight	280	300	[kg]
Power demand	25-55 (15-40)	25-55 (15-40)	[kW/HP]
Working speed max.	10	10	[km/h]

KACPER PU-1700

Rubber blades with shock absorption

Metal blades with shock absorption

Metal skids

snow ploughs
PUV-1400 | 1600

FEATURES AND STANDARD EQUIPMENT

- four extreme working positions
- rubber blade
- tiltable cutting edge
- clearance lights

ADDITIONAL OPTIONS

- skids
- adjustable support wheels
- hydraulic shock absorption
- ground tracking linkage
- metal blade
- can be mounted on various types of carrying vehicles such as: loaders, front loaders, carrying vehicles equipped with an A-frame, agricultural tractors

TECHNICAL DATA	PUV-1400	PUV-1600	
Working width - straight - at max. turn angle	1320 1280	1415 1390	[mm]
Max. frame turn angle	30	30	[±°]
Working height	860	675	[mm]
Weight	200	155	[kg]
Power demand	up to 22 (30)	up to 22 (30)	[kW/HP]
Working speed max.	10	10	[km/h]

PUV-1400

Working at an angle of 30°

Electrohydraulic adjustment of the working angle

Clearance lights

snow ploughs
PUV-2600 | 2800 | 3000 | 3300

FEATURES AND STANDARD EQUIPMENT

- 4 extreme working positions
- cutting edge with shock absorption
- HARDOX metal blade
- ground tracking linkage system
- skids made of abrasion-resistant steel
- clearance lights

ADDITIONAL OPTIONS

- support wheels with stepless adjustment
- hydraulic shock absorption
- rubber blades
- mounting on any carrying vehicle, according to the customer's order

TECHNICAL DATA	PUV-2600	PUV-2800	PUV-3000	PUV-3300	
Working width - straight - at max. turn angle	2360 2320	2550 2490	2710 2660	2970 2930	[mm]
Max. frame turn angle	27	27	27	27	[±°]
Working height	835	835	935	935	[mm]
Weight	600	650	800	850	[kg]
Power demand	80-150 (59-110)	80-150 (59-110)	100-200 (74-147)	100-200 (74-147)	[HP (kW)]
Working speed max.	10	10	10	10	[km/h]

PUV-3300

Spring shock absorption of the blade

Hydraulic shock absorption

Rubber blade

snow ploughs
PUV-1350M | 1500M | 1800M | 2000M

FEATURES AND STANDARD EQUIPMENT

- 4 extreme working positions
- cutting edge with shock absorption
- HARDOX metal blade
- ground tracking linkage system
- skids made of abrasion-resistant steel
- clearance lights

ADDITIONAL OPTIONS

- support wheels with stepless adjustment
- hydraulic shock absorption
- rubber blades
- mounting on any carrying vehicle, according to the customer's order

TECHNICAL DATA	PUV-1350M	PUV-1500M	PUV-1800M	PUV-2000M	
Working width - straight - at max. turn angle	1210 1170	1345 1305	1600 1560	1775 1730	[mm]
Max. frame turn angle	30	30	30	30	[±°]
Working height	625	635	660	670	[mm]
Weight	145	154	185	200	[kg]
Power demand	30 (22)	30 (22)	50 (37)	50 (37)	[HP (kW)]
Working speed max.	10	10	10	10	[km/h]

PUV-2000M

The possibility of designing the suspension on any carrier

Split working blades

Hydraulic shock absorption

snow ploughs
PUV-2600M | 2800M | 3000M | 3300M

FEATURES AND STANDARD EQUIPMENT

- 4 extreme working positions
- cutting edge with shock absorption
- HARDOX metal blade
- ground tracking linkage system
- skids made of abrasion-resistant steel
- clearance lights

ADDITIONAL OPTIONS

- support wheels with stepless adjustment
- hydraulic shock absorption
- rubber blades straight
- mounting on any carrying vehicle, according to the customer's order
- HARDOX or perfored blades, straight or 30°

TECHNICAL DATA	PUV-2600M	PUV-2800M	PUV-3000M	PUV-3300M	
Working width - straight - at max. turn angle	 2335 2075	 2500 2240	 2655 2395	 2845 2570	[mm]
Max. frame turn angle	33	33	33	35	[±°]
Working height	855	865	880	1015	[mm]
Weight	680	700	730	860	[kg]
Power demand	80-150 (59-110)	80-150 (59-110)	80-150 (59-110)	100-200 (74-147)	[HP (kW)]
Working speed max.	10	10	10	10	[km/h]

PUV-2800M

Clearance lights

Spring shock absorption of the blade

Support wheel

snow ploughs
PUV-3600HD | 4000HD

FEATURES AND STANDARD EQUIPMENT

- 4 extreme working positions
- cutting edge with shock absorption
- HARDOX metal blade
- ground tracking linkage system
- skids made of abrasion-resistant steel
- clearance lights

ADDITIONAL OPTIONS

- support wheels with stepless adjustment
- hydraulic shock absorption
- rubber blades straight
- mounting on any carrying vehicle, according to the customer's order
- HARDOX or perfored blades, straight or 30°

TECHNICAL DATA	PUV-3600HD	PUV-4000HD	
Working width - straight - at max. turn angle	 3115 2955	 3420 3140	 [mm]
Max. frame turn angle	35	35	[±°]
Working height	1164	1206	[mm]
Weight	1025	1270	[kg]
Power demand	110-220 (81-162)	120-250 (88-183)	[HP(kW)]
Working speed max.	10	10	[km/h]

PUV-4000HD

Blades with 30 degrees (perpendicular available)

Rubber supporting wheels

Blade spring protection

universal scraper blade
PU-T20

FEATURES AND STANDARD EQUIPMENT

- 2 extreme working positions
- rubber or metal blade
- capability of grading unpaved roads
- capability of operating on front or rear three-point hitch of tractor

TECHNICAL DATA	PU-T20	
Working width - straight - at max. turn angle	 2000 1530	 [mm]
Max. frame turn angle	40	[±°]
Working blade height	654	[mm]
Weight	400	[kg]
Power demand	max. 150 (110)	[HP (kW)]
Working speed max.	10	[km/h]

PU-T20

Possibility of aggregation at the back of the carrier

Possibility of aggregation at the front of the carrier

Hydraulic turning

scraper PUU-3700

FEATURES AND STANDARD EQUIPMENT

- adjustment of working width by setting angle of two side mouldboards and the central mouldboard
- rubber blades
- electro-hydraulic control

ADDITIONAL OPTIONS

- support wheels
- perforated mouldboard extensions for silage
- top extensions for snow
- clearance lights
- adjustment of transverse plough position by means of hydraulic cylinders within the range of ±12°
- anti-dust screen for snow
- metal blades

TECHNICAL DATA	PUU-3700	
Working width - straight - at max. turn angle	 3690 2140	 [mm]
Max. frame turn angle	30	[±°]
Turning angle of side wing to the front/back	+90°/-60°	[±°]
Working blade height	975	[mm]
Weight	1275	[kg]
Power demand	up to 300 (221)	[HP (kW)]
Working speed max.	20	[km/h]
Requirements concerning carrying vehicle hydraulics	2	[pcs]

PUU-3700

Hydraulic adjustment of the wing position in the range of -60° to +90°

Support wheels

sand spreaders
PS-250 | 250M

FEATURES AND STANDARD EQUIPMENT

- container cover
- hydraulic drive
- mixer
- dose adjusted manually
- stainless steel spreading disk

ADDITIONAL OPTIONS

- PTO drive
- dose adjusted manually with a hydraulically closed shute
- PTO shaft
- dose adjusted hydraulically

TECHNICAL DATA	PS-250	PS-250M	
Load capacity	300	600	[kg]
Tank capacity	250	500	[l]
Power demand	15 (11)	15 (11)	[HP (kW)]
Spreading width	adjustable 1 – 6	adjustable 1 – 6	[m]
Mounting on tractor	3pt hitch cat. I or II narrow	3pt hitch cat. I or II narrow	[-]

PS-250M

Adjustment of spreading width

Sieve and mixer in funnel

Stainless steel spreading disc

sand spreader PW-120

The PW120 spreader has the option of aggregation on the rear or front of the carrtier. It fits to small tractors, loaders, front loaders etc. and it is used to spreading flat surfaces with sand, salt or mixture thereof.

FEATURES AND STANDARD EQUIPMENT

- PTO 540 rpm
- electric with steering panel
- hydraulic with manual flow regulator (20-70 l/min, 17,5 Mpa)

ADDITIONAL OPTIONS

- suspension on the front or rear of the carrier using a bolted suspension system (possibility of desiging suspenion to any carrier)
- scraper (50x5, 50x3, 25x3) bolted
- rear lighting

TECHNICAL DATA	PW120	
Weight	170	[kg]
Tank capacity	385	[l]
Load capacity	580	[kg]
Spreading width	1,2	[m]
Mounting on tractor	3pt. hitch cat I or II narrow	[-]

PW-120

Manually - folding tarpaulin with position lock secures material against atmospheric agents

A safety grille protects the spreading system against stone damage and lumpy material and prevents injury to the operator

Manual regulation of spreading density by roller shutter pressure

self-loading spreader
HZW150 | 200

Pronar HZW self-loading spreaders are equipped with roller dispensing system with a constant spreading width. They are suitable for spreading aggregate on sidewalks and parking lots, because they are safe to use and do not shoot stones. The suspension allows the machines to be mounted on Euro frames (frontloaders), and after the use of an adapter - on tractor 3pt hitch.

TECHNICAL DATA	HZW150	HZW200	
Carrying capacity	1300	1600	[kg]
Tank capacity	0,8	1	[m^3]
Spreading width	1,5	2	[m]
Power supply	PTO or hydraulic	PTO or hydraulic	[-]
Nom. tractor hydraulic output	30	30	[l/min]
PTO nom. Speed	540	540	[rpm]
Spreading speed	5 - 40	5 - 40	[km/h]
Mounting (optional)	Euro (3 pt. hitch)	Euro (3 pt. hitch)	[-]
Required 3pt capacity	2000	3000	[kg]
Weight	360	500	[kg]

HZW200

Canvas cover with frame protects the material from snow and rain

Safety grill for homogeneous spreading material

Working roller with slats dispense the material on the road

self-loading spreader HZS10

FEATURES AND STANDARD EQUIPMENT

- canvas cover
- control panel for setting spreading parameters as a standard equipment of sand spreader
- stainless steel spreading system

ADDITIONAL OPTIONS

- mixer
- vibrator

TECHNICAL DATA	HZS10	
Carrying capacity	1700	[kg]
Tank capacity	1	[m^3]
Spreading width	adjustable 2 – 6	[m]
Power supply	Hydaulic	[-]
Nom. tractor hydraulic output	40	[l/min]
Spreading speed	5 - 40	[km/h]
Mounting (optional)	3pt hitch cat. II	[-]
Demanded 3pt hitch capacity	2500	[kg]
Weight	555	[kg]

HZS10

Control panel

Additional mixer facilitates aggregate breaking

Stainless steel spreading disc

trailed sand spreader KCT07

Pronar KCT07 spreader is a solution for low-power tractors. It allows work with the simplest tractors without hydraulic system. The spreader is towable, so that it does not overload the compact carriers. Its size allows you to work on the sidewalks.

TECHNICAL DATA	KCT07	
Load capacity	1120	[kg]
Tank capacity	0,7	[m^3]
Spreading width	1,5 - 4	[m]
Min. power requirement	20 (14,7)	[HP (kW)]
Max. working speed	15	[km/h]
Recommended PTO speed (mechanical version)	300	[rpm]
Max. hydraulic pressure (hydraulic version)	20	[MPa]
Nominal oil flow (hydraulic version)	16-50	[l/min]
Weight	345	[kg]

*with flow rate of 16 l/min, the spreading width is max. 3 m

KCT07

Covers for setting spreading width and limit scattering

PTO drive for tractors without hydraulic system

Sieve for better material comminutement

trailed sand spreaders
T130 | T131 | T132

FEATURES AND STANDARD EQUIPMENT

- canvas cover protecting cargo
- two stainless steel spreading units
- conveyor belt
- hydraulic drive
- charging sieve as a standard equipment

FEATURES AND OPTIONAL EQUIPMENT

- spare wheel
- side service platform (in T131 and T132 sand spreaders)

TECHNICAL DATA	T130	T131	T132	
Carrying capacity	2520	3800	5500	[kg]
Loadbox capacity	2	3	4	[m^3]
Spreading width	1800 – 2800	1800 – 2800	1800 – 2800	[mm]
Minimum tractor power demand	48 (35)	60 (44)	70 (51)	[HP (kW)]
Minimum hydraulic system output	32	32	32	[l/min]

T130 | T131 | T132

Adjustable spreading width

2 stainless steel spreading discs

Side service platform (T131 & T132)

snow blowers
OW1.5 | 2.1M(H) | 2.4M(H)

FEATURES AND STANDARD EQUIPMENT

- blade and slides made of „Hardox" abrasion-resistant steel
- hydraulically rotated discharge chute
- mechanical drive powered by front PTO
- mounted on 3pt hitch

FEATURES AND OPTIONAL EQUIPMENT

- mounting system on rear 3pt hitch and on construction machinery
- hydraulic drive for OW2.1 and OW2.4
- high-discharge chute

TECHNICAL DATA	OW 1.5	OW 2.1M(H)	OW 2.4M(H)	
Weight	320	650 (737)	740 (830)	[kg]
Working width	1500	2100	2330	[mm]
Working height	580	780	780	[mm]
Number of augers	1	1	2	[-]
Required tractor PTO speed (left or right)	540 or 1000	540 or 1000	540 or 1000	[rpm]
Discharge distance	5 – 20	5 – 30	5 – 30	[m]
PTO power demand	25-60 (18-44)	50-95 (37-70)	70-150 (51-110)	[HP (kW)]
Working pressure*	–	25	25	[MPa]
Demanded oil output*	–	100 – 140	135 – 195	[l/min]

for blower with hydraulic supply*

OW 2.4H

High-discharge chute

Transmission with two PTO outputs (rear-540 / front-1000 rpm)

Hydraulic discharge chute rotation and adjustment of throwing distance

snow blowers
OW2.4L

FEATURES AND STANDARD EQUIPMENT

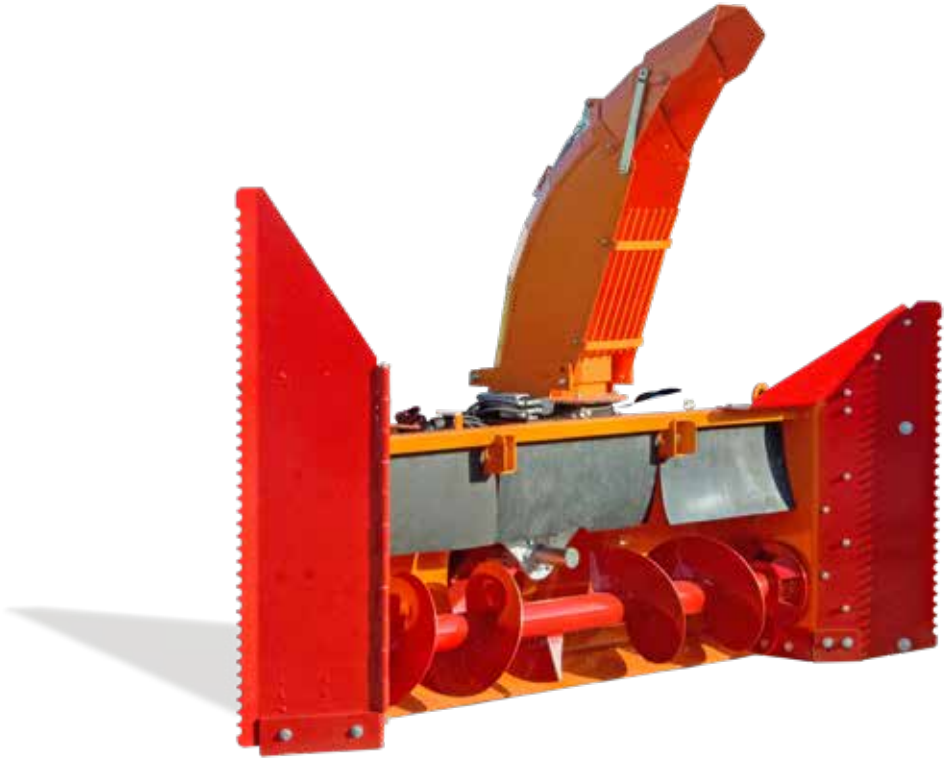
- blade and skids are make of „Hardox" wear-resistant steel
- chute hydraulically adjusted
- front and rear PTO mechanical drive
- front and rear 3pt hitch suspension

FEATURES AND OPTIONAL EQUIPMENT

- suspension system designed to work with construction machinery and rear 3pt hitch
- hydraulic drive
- rigid side extensions left and right
- clearance lights

TECHNICAL DATA	OW2.4L	
Weight	850	[kg]
Working width (without extensions)	2400	[mm]
Gullet width	2200	[mm]
Working height	920	[mm]
Blowing distance	5 – 30	[m]
Number of augers	1	[-]
Required PTO speed (direction: clockwise)	540	[rpm]
Mounting on	Category II and III 3 pt hitch	[-]
PTO power demand	60-150 / (45-110)	[HP (kW)]
Working speed	2	[km/h]

OW2.4L



Hydraulic control of the widening

Slides and support wheels to maintain the distance between the surface and the blades (to limit the thickness of the swept layer)

snow blower
OFW2.6

OFW2.6 is designed for the toughest winter jobs. The heavy duty construction allows for crushing snow and ice and throwing the material away from the de-snowed paths and roads. Aggregation for carriers with a communal plate DIN or tractor three-point hitch gives wide possibilities of application, not only in municipal companies. Use of high quality materials ensures long-term operations.

FEATURES AND STANDARD EQUIPMENT

- possibility of adjusting working degree
- skids, plowshares, auger and dispensing chute made of Hardox
- working height of 1,2 m
- discharge distance up to 30m
- PTO drive (1000rpm) left or right
- 3-pt hitch cat. II or III (tractor) or DIN type A (truck) mountings available
- auger and rotor overload protection

TECHNICAL DATA	OFW2.6	
Weight	1700	[kg]
Clearing width	2640	[mm]
Working height	1245	[mm]
Required tractor PTO speed: 3pt hitch - left or right DIN plate std 76060 - left only	1000	[rpm]
PTO power demand	140 (103)	[HP (kW)]
Discharge distance	5 – 30	[m]
Auger diameter	950	[mm]
Rotor diameter	880	[mm]

OFW 2.6

Rubber covers protect against dusting

Snail-cutter for cutting frozen snow and ice.
Working height of 1.245m

Skids or supporting wheels

truck snow ploughs
PU-S25H | S32H | S35H

FEATURES AND STANDARD EQUIPMENT

- plastic mouldboard
- electro-hydraulic control with “floating” position,
- available power supply 12V and 24V
- fenders protecting against curbs included
- road lighting and clearance lighting as a standard equipment
- own hydraulic system
- press-down function

ADDITIONAL OPTIONS

- mounting on carrying vehicles other than trucks
- blades shock absorption
- steel blades
- support wheels
- flags
- two actuators

TECHNICAL DATA	PU-S25H	PU-S32H	PU-S35H	
Working width with bumper - straight - at max. turn angle	 2690 2550	 3370 3175	 3634 3415	[mm]
Max. frame turn angle	30	30	30	[±°]
Working heigth	930	1070	1070	[mm]
Electric supply	12 or 24	12 or 24	12 or 24	[V]
Carrier payload (vehicle truck)	6	8	8	[t]
Weight	430	635	670	[kg]
Mounting on DIN plate std 76060	type B	type A	type A	[-]

PU-S32H

Control panel

Powerpack and own driving lights

Clearance lights

snow plough
PUD-S43

Diagonal snow plough equipped with mouldboard capable of turning 46 degrees towards carrier. Automatic blade adjustment to road inclination (terrain copying) within ±6.4°. The plough is available in different versions: on the tractor - the plow suspension is rigidly attached to the subframe without a lift cylinder: for a truck - the suspension system is based on a „Finnish" plate mounted on four pendulums to the carrying frame, which is regulated by a actuator with a moulboard floating function in the height range 0-400 mm (possibility of locking the float for plough aggregation).

TECHNICAL DATA	PUD-S43	
Working width (46° - 0°)	2940-4270	[mm]
Max. frame turn angle	0 - 46°	[°]
Tracinging terein angle	±6,4	[°]
Terein tracing height	400	[mm]
Power supply	12 lub 24	[V]
Weight	1400	[kg]
Working speed	maks. 70	[km/h]
Dimensions (width/length/height)	5130/2545/1930	[mm]
Mounting on the carrier	Mounting system according to „Finnish" standard	[-]

PUD-S43

Support wheel

Hydraulic system

Skids

truck snow ploughs
PU-S25HL | S27HL | S30HL | S34HL

FEATURES AND STANDARD EQUIPMENT

- electrohydraulic control with “floating” position
- available power supply: 12V and 24V
- road lights and clearance lights
- fenders protecting against curbs
- own hydraulic system
- press-down function
- easy mouldboard change

ADDITIONAL OPTIONS

- mounting on carrying vehicles other than trucks
- blades shock absorption
- steel blades
- support wheels
- flags
- two actuators

TECHNICAL DATA	PU-S25HL	PU-S27HL	PU-S30HL	PU-S34HL	
Working width at max. turn angle	2155	2380	2630	2970	[mm]
Max. frame turn angle	30	30	30	30	[±°]
Working heigth	930	1060	1060	1060	[mm]
Electric supply	12 or 24	12 or 24	12 or 24	12 or 24	[V]
Carrier payload (vehicle truck)	6	8	8	8	[t]
Weight	450	530	550	590	[kg]
Mounting on DIN plate std 76060	type A or B	type A or B	type A or B	type A or B	[-]

PU-S34HL

Clearance lights

Support wheel

truck snow plough
PUT-S58

FEATURES AND STANDARD EQUIPMENT

- working width adjustment
- KÜPER metal-ceramic-rubber cutting edge
- clearance lights
- power suppy from three or four pairs of quick couplers

ADDITIONAL OPTIONS

- KÜPER skids
- adjustable support wheels
- own hydraulic system

TECHNICAL DATA	PUT-S58	
Working width - straight - at max. turn angle	(folded/unfolded) 3900 / 5855 3455 / 5150	[mm]
Max. mouldboard turn angle	30	[±°]
Working heigth	1090	[mm]
Electric supply	24	[V]
Carrier payload (vehicle truck)	8	[t]
Weight	1760	[kg]
Mounting on DIN plate std 76060	type A	[-]

PUT-S58

Optional regulated support wheel

Position marking lights

Mounting – DIN type A municipal plate

segmented snow ploughs
PUS-S27 | S32 | S34 | S36 | S40

FEATURES AND STANDARD EQUIPMENT

- rubber blades (rigid suspension)
- wheels
- parking supports (on four castor wheels)
- power supply from 2 pairs of quick coupler on the carrying vehicle (1 pair on carrying vehicle with floating position)
- In-cabin control panel
- electrical power supply from battery
- linkage: DIN A; DIN B, SETRA
- clearance lights
- side fenders
- 2 mouldboard turning actuators
- 1 mouldboard raising actuator
- 1 pressing spring per segment

ADDITIONAL OPTIONS

- hydraulic power supply - power-pack with floating and pressing functions; control panel in cabin
- 24 V electrical power supply from battery
- power supply from 1 pair of quick couplers on carrying
- electrical power supply from battery
- dust screen
- perforated steel blades (rigid)
- KÜPER blades (mounting with shock absorption)
- KÜPER skids
- road lights
- warning signs + flags
- 2 pressing springs per segment

TECHNICAL DATA	PUS-S27	PUS-S32	PUS-S34	PUS-S36	PUS-S40	
Working width - straight - at max. turn angle	 3200 2350	 3700 2790	 3900 2960	 4100 3135	 4500 3490	[mm]
Max. mouldboard turn angle	30	30	30	30	30	[±°]
Working height	1040	1040	1040	1040	1040	[mm]
Electric supply	24	24	24	24	24	[V]
Weight	930	1030	1050	1100	1200	[kg]
Working speed max.	60	60	60	60	60	[km/h]
Linkage	type A, type B Setra	type A, type B, Setra	type A, type B, Setra	type A, type B, Setra	type A, type B, Setra	[-]

PUS-S34

Optional adjustable support wheel

Low beam headlights

Mounting – DIN type A municipal plate

tiltable snow plough
PUL-S45

Special truck-mounted plough with a side wing. The 0.75 m wide wing may be hidden in the outline of the plough reducing its width and facilitating passage. Complementary with PUB-S33 plough.

TECHNICAL DATA	PUL-S45	
Working width with max. turn	3930	[mm]
Max. turning angle	30	[°]
Max. working speed	60	[km/h]
Max. working height	1090	[mm]
Weight	1280	[kg]
Mounting on municipal plate	DIN A, B, Setra	[-]

PUL-S45

side truck snow plough
PUB-S33

Special plough mounted on a plate connection between the axles of the vehicle. Increases the width of the vehicle by about 2,3 m. It may be complied by PUL-S45 snow plough. Suspension allows terrain - copying by +/- 5 °

FEATURES

- rubber or KÜPER blades
- own hydraulics or from a carrier
- ± 5° terrain adjustment
- clearance lights
- parking trolley

TECHNICAL DATA	PUB-S33	
Working width	2340	[mm]
Max. blade turn angle	0 - 45	[°]
Working speed max.	60	[km/h]
Working height	1400	[mm]
Weight	850	[kg]
Mounting on dedicated linkage		[-]

PUB-S33

truck sand spreader
PT70 SERIES

FEATURES AND STANDARD EQUIPMENT

- spreader driven by:
  independent combustion engine SPT70
  truck hydraulics HPT70
- three capacities of loadbox: 7, 8 or 9m^3
- control of spreading parameters by Bosch Rexroth electro-hydraulic package
- spreading intensity independent of speed
- canvas cover protecting cargo
- spreading sensor optical or touch
- brine system
- RORO loading system

ADDITIONAL OPTIONS

- automatic regulation of parameters depending on weather
- stainless or galvanized frame and/or loadbox
- data kit for downloading distance, time and spreading/brining parameters; software, wiring and CAN-USB module

TECHNICAL DATA	HPT70 / SPT70	
Brine tank capacity	2700	[l]
Spreader capacity	7, 8 or 9	[m^3]
Salt spreading intensity	adjustable 5 – 40	[g/m^2]
Aggregate spreading intensity	adjustable 50 – 200	[g/m^2]
Working speed	10 – 70	[km/h]

PT70 SERIES

Hooper system with spreading disc

The material is transported by a belt conveyor to the charging system

RORO (Roll-on / Roll-off) system for easier loading of PT70 spreader on the carrier platform

truck sand spreader
PT40 SERIES

FEATURES AND STANDARD EQUIPMENT

- spreader driven by:
  independent combustion engine SPT40
  truck hydraulics HPT40,
- adjustable capacity of de-icing material tank within the range of 4.5–6 m^3
- control of spreading parameters by Bosch Rexroth
- electro-hydraulic package
- canvas cover protecting cargo
- spreading sensor optical or touch
- brine system

ADDITIONAL OPTIONS

- adjustable supports for loading and unloading of the machine from the vehicle
- automatic regulation of parameters depending on weather
- data kit for downloading distance, time and spreading/brining parameters; software, wiring and CAN-USB module

TECHNICAL DATA	HPT40 / SPT40	
Brine tank capacity	1800	[l]
Spreader capacity	adjustable from 4,5 to 6	[m^3]
Salt spreading intensity	adjustable 5 – 40	[g/m^2]
Aggregate spreading intensity	adjustable 50 – 200	[g/m^2]
Working speed	10 – 70	[km/h]

PT40 SERIES

Brine tank

Bosch-Rexroth control panel

Hydraulic supply couplers HPT40

truck sand spreader HPT25

FEATURES AND STANDARD EQUIPMENT

- spreader's drive powered by truck's hydraulics
- control of spreading parameters by Bosch Rexroth electro-hydraulic package
- spreading intensity independent of speed
- tarpaulin cover protecting cargo
- spreading sensor
- brine system

ADDITIONAL OPTIONS

- adjustable supports for loading and unloading of the machine from the vehicle
- automatic regulation of parameters depending on weather
- data kit for downloading distance, time and spreading/brining parameters; software, wiring and CAN-USB module

TECHNICAL DATA	HPT25	
Brine tank capacity	900	[l]
Spreader capacity	2,5	[m^3]
Salt spreading intensity	adjustable 5 – 40	[g/m^2]
Aggregate spreading intensity	adjustable 50 – 200	[g/m^2]
Working speed	10 – 70	[km/h]

HPT25

Adjustable spreader unit height

Easy-to-use control panel

HPT25 sand spreader

truck sand spreaders
EPT15 | 21

FEATURES AND STANDARD EQUIPMENT

- conveyor belt and spreading disk powered by electric motors
- canvas cover
- the spreader's standard equipment consists of control panel for setting parameters
- stainless steel spreading disk
- beacon light
- load box sieve
- parking supports

ADDITIONAL OPTIONS

- cargo supports
- power supply 24V
- semi-frame for hook loader (special order)

This machine is designed for cooperation with shipping vehicles and trucks with a carrying capacity of at least 2.8 tons.

TECHNICAL DATA	EPT15	EPT21	
Weight	340	385	[kg]
Spreader capacity	1,5	2,1	[m^3]
Electric supplying	12 or 24	24	[V]
Spreading width	adjustable 2 – 4	adjustable 2 – 4	[m]
Aggregate spreading intensity	adjustable 50 – 150	adjustable 50 – 150	[g/m^2]
Working speed max.	40	40	[km/h]

EPT15

Stainless steel spreading disk

Tiltable spreader unit

Capability of aggregation with a hook loader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