

OUTRIGGER MBM 400

UNA 450-600

DUA 700-800

MK 25



DÜCKER Working Equipment



TMK 10/13
Flail-Mower-Head
 Working width: 1000/1300 mm
 Revolutions of shaft: 2200 rpm
 Weight: 180 kg/210 kg



MKL 10
Flail-Mower-Head
 Working width: 1000 mm
 Revolutions of shaft: 2700 rpm
 Weight: 180 kg



MKT 10/13
Flail-Mower-Head
 Working width: 1000/1250 mm
 Revolutions of shaft: 2100 rpm
 Weight: 240 kg/270 kg



VMS 1200
Flail-Mower-Head
 Working width: 1220 mm
 Revolutions of shaft: 2400 rpm
 Weight: 320 kg



HSL 15
Cuttersystem
 Working width: 1500 mm
 Cutting thickness: until 30 mm
 Weight: approx. 85 kg



HS 16/20
Hegde-Cutter
 Working width: 1600/2000 mm
 Cutting thickness: until 45 mm
 Weight: approx. 120 kg/130 kg



AWS 13/22
Branch- and Hedge-Cutter
 Working width: 1300/2200 mm
 Cutting thickness: until 110 mm
 Weight: approx. 160 kg / 230 kg



LPS 20
Clearance-Gauge-Cutter
 Working width: 2000 mm
 Revolutions of saw blades:
 2600 rpm
 Weight: approx. 220 kg



PFP 600/900
Pavement Cleaner
 Working width: 600/900 mm
 Revolutions of shaft: 150 rpm
 Weight: 140 kg/190 kg



RWB 600
Radial-Weed-Brush
 Working width: 600 mm
 Revolutions of shaft: 150 rpm
 Weight: 320 kg



TTM 13
Flail-Mower-Head
 Working width: 1300 mm
 Revolutions of shaft: 2800 rpm
 Weight: 270 kg



GMK 12
Brushwood-Mower-Head
 Working width: 1200 mm
 Cutting thickness: until 60 mm
 Revolutions of shaft: 2700 rpm
 Weight: 350 kg



GSF 600
Ditch-Bottom-Cleaner
 Working width: 600 mm
 Revolutions of shaft: 800 rpm
 Weight: 230 kg



LPW 500 Reflector post- and
 signs-cleaner
 Working width: 500 mm
 Revolutions: max. 375 rpm
 Weight: 150 kg



SWA 900
Sign-Washer-Machine
 Width of brush: 900 mm
 Revolutions of brush: 250 rpm
 Weight: 155 kg



TWA 18
Tunnelwashermachine
 Width of brush: 1800 mm
 Revolutions of brush: 280 rpm
 Weight: 285 kg

The MBM 400 outrigger



The MBM 400 in action on the Ladog



The MBM 400 with MKT mowing head on the Multihog



The MBM 400 in transport position

The MBM 400 outrigger is meant especially for the front attachment to municipal carrier vehicles or tractors with 80 HP. The working equipment is driven via a front PTO shaft driven hydraulic system, which is integrated in the device. On request, the power hydraulics of the carrier vehicle can also be used. The MBM is equipped with a hydraulic displacement of 1.40 m.

The basic device is used to hold various working equipment. The working equipment can be used in front of and near the vehicle by means of a hydraulic drive. Thanks to the symmetrical design of the basic device and the individual working equipment, working is optionally possible on the right and the left side.

The outrigger with flail mower is used for clean and problem-free mowing of side verges, embankments and areas. The dimensioning of the flail enables a mowing and mulching of difficult material too, such as reed grass and shrubs.

The good view of the working mowing gear as well as the simple operation, which is realised by a separate electric hydraulic control (can also be realised by the vehicle hydraulics) ensures the safe and simple handling. The roller mounted over the entire mowing width ensures a very good ground adjustment of the mowing head, even on uneven surfaces.

The various possible applications of the attachments ensure that the outrigger can be used all year round. An attachment overview is given on page 2.

The technical data is given on pages 10 and 11.

The MBM 400 on the Fendt mowing an embankment



The UNA 450, UNA 500 and UNA 600 outrigger

The UNA 450, UNA 500 and UNA 600 outriggers are universal outrigger arms that can be attached to the front quick-change plate. The working range of the outriggers extends from left-hand work to working directly in front of the vehicle, right up to right-hand work over a total range of approx. 15 m (UNA 600). The outrigger arm, which is attached on a displacement frame, is hydraulically moved by 1.60 m.

Due to this placement it is not necessary to readjust the outrigger or the work tools when mowing at obstacles such as reflector posts, safety planks, milestones, traffic signs etc., as the work always remains on the same, parallel height when moving the outrigger. This ensures the fatigue-proof, comfortable and safe operation of the device.

The UNA 450, UNA 500 and UNA 600 outriggers are protected by mechanical and hydraulic impact protections.

A floating position allows the work tool to automatically adapt to the terrain.

The available tools can be mechanically rotated horizontally by 360°.

The various possible applications of the attachments ensure that the outrigger can be used all year round. An attachment overview is given on page 2.

The extremely compact transport position of the outriggers provides the driver with a completely free view of the road.

The technical data is given on pages 10 and 11.



The UNA 500 in action



UNA 600 with AWS, left-hand working



UNA 500 in transport position

The UNA 450 in action on the U 318





Elobau joystick (button joystick) and multicontroller



Gessmann joystick (rocker switch joystick) and multicontroller



Danfoss joystick (roll joystick) and multicontroller

The control of the MBM 400 as well as UNA 450, UNA 500 and UNA 600 outriggers

CAN BUS control, optionally with Tasttronic

The hydraulic valves of the outrigger are controlled via an ergonomically shaped single-lever joystick. This joystick allows for the operation of all movements on 2 levels. Additionally, the Tasttronic can be activated by pressing a button.

The supplied display serves for basic settings, operating data recording and test options. All control data are processed by a computer and transferred to the hydraulic valve.

The operating unit is equipped with a joystick, multicontroller and touch display.

All functions can be operated either via the touch display or via the rotary encoder on the multicontroller. All operating and diagnostic data can be called up via the colour display.

The arm movements are controlled via the joystick.



UNA 500 in action on the wheel loader



UNA 500 in divided build (hydraulic unit in rear attachment)



The UNA 500 in action on the JCB tractor



UNA 600 as rear attachment

The DUA 700 and DUA 800 outriggers

The universally applicable DUA 700 and DUA 800 outriggers are designed for front attachment to the vehicle plate. The equipment plate of the outriggers is equipped with exchangeable arrester hooks size 3 or size 5. The attachment on the attachment plate is ensured via collar screws or swivel screws.

The outriggers are movably installed on a sturdy displacement frame. Thus, the working range of the outrigger extends from left-hand work to working directly in front of the vehicle, right up to right-hand work over a total range of approx. 15 m (DUA 800). In doing so, the outrigger arm, which is attached on a displacement frame, is hydraulically moved by 1.60 m.

It is not necessary to readjust the outrigger arms or the work tools when mowing at obstacles such as reflector posts, safety planks, milestones, traffic signs etc., as the work always remains on the same, parallel height when moving the outrigger.

A floating position allows the work tool to automatically adapt to the terrain. This ensures the fatigue-proof, comfortable and safe operation of the device.

The device plate with interim piece, moving frame rotor, turning column and the outrigger arms are made of a robust fine-grained steel welding structure. A hexagon profile is used for the arms as optimal twisting and bending protection.

At the end of last arm, a swivel head is installed to take up the work equipment with a swivel range of 270°. The swivel mechanism is integrated within the outrigger arm, so that no cylinders or deflection levers are in the way outside of it.

The technical data is given on pages 10 and 11.

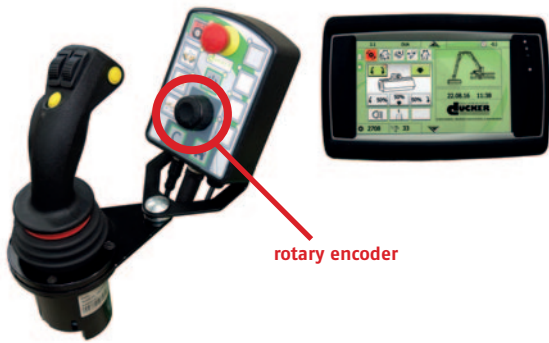


DUA 800 - The telescope arm enables the operator to run over traffic signs.



The DUA 700 with AWS 22 on the Unimog





Single-lever joystick with multicontroller and touch display

The control of the DUA outrigger

The operating unit is made up of a **joystick**, a **multicontroller** and a **touch display**. The **joystick** proportionally operates all outrigger arm movements; automatic functions such as the Tasttronic can be activated by pushing buttons.

The multicontroller switches all functions immediately necessary for mowing operation. The built-in **rotary encoder** is used for display navigation and for selecting and setting various device functions.

The high-resolution 7-inch **touch display** displays the current operating states; basic settings can be changed using the touch function. It is easy to read even in unfavourable conditions such as sunlight.

Next to the rotary encoder in the keypad of the multicontroller, the display can also be directly navigated via the touch display.

All components are interconnected via a CAN BUS system.

Various attachments

The various possible applications of the attachments ensure that the outrigger can be used all year round. An attachment overview is given on page 2.



DUA 700 in action on the Claas tractor



DUA in transport position on Deutz tractor

The DUA 700 consists of two outrigger arms and one bridge arm. Range up to 6.80 m. Here in action on the JCB tractor



The MK 25 mowing combination

The MK 25 mower combination was created by combining two proven basic devices. It consists of the DUA embankment mower and the RSM edge-strip mower.

Both devices are co-mounted on the displacement frame with a displacement range of 1.60 m. This way, each device can be optimally adjusted and the advantages of the displacement can be fully exploited. This combination allows for mowing the first and second cut during one working step with one operator.

The standard Tasttronic on the DUA and the computer based control of the RSM edge-strip mower relieve the strain on the operator.

If necessary, the RSM edge-strip mower can be disassembled within a short time, thus providing a full front outrigger with all exchangeable work tools.

The edge-strip mower can also be used as a stand-alone device.

The MK mower combination is either driven by a PTO shaft, which then operates a hydraulic system integrated in the machine, or by the hydraulic system of the carrier vehicle.

**The technical data is given on pages 10 and 11.
An attachment overview is given on page 2.**



MK 25 mower combination in action on the Fendt



MK 25 mower combination in action on the John Deere tractor

MK 25 mower combination consisting of DUA 800 and RSM in use on the Unimog





MK mower combination consisting of DUA 700 and RSM on Fendt tractors for simultaneous mowing behind and under guide devices



MK mower combination in divided build (hydraulic unit in rear attachment) on Steyr tractor



MK 25 mower combination in transport position on the Steyr



MK 25 in transport position lowered to the rear with parking frame

The RSM edge-strip mower

The RSM edge-strip mower works with a computerized control system that makes the most of mowing around reflector posts, traffic signs and trees. Due to the unique kinematic arrangement of the pivot points and the specially designed sequence of the mowing head guidance, mowed material behind the reflector post can be reached in large parts.

The mowing head is swivelled forward and guided by a parallel-guided arm. This provides the operator with a good view on the working equipment. The displacement allows for the precise adjustment of the mower unit, even in tight conditions.

It is driven either by the power hydraulics of the carrier vehicle or the front PTO shaft. Automated buttons in the control panel facilitate operation, e.g. at the touch of a button the mowing head moves into the working position or back into the transport position.

All functions are automatically executed, manual override is possible at any time. The support pressure of the mowing head can also be smoothly varied. On embankments, the mowing head automatically adjusts to the inclination. Conversion from right-hand to left-hand work is quickly performed.

The control of the DUA and RSM 13 outrigger

The operating unit of the mower combination is made up of two **joysticks**, a **multicontroller** and a **touch display**. The **joystick** operates all outrigger arm movements proportionally, the second joystick serves for controlling of the edge-strip mower. Automatic functions such as Tastronic can be activated by pressing a button. **On customer request, the outrigger and edge-strip mower functions can be factory set on a joystick.**

The **multicontroller** switches all functions immediately necessary for mowing operation. The built-in **rotary encoder** is used for display navigation and for selecting and setting various device functions.

The high-resolution 7-inch **touch display** displays the current operating states; basic settings can be changed using the touch function. It is easy to read even in unfavourable conditions such as sunlight.

Next to the rotary encoder in the keypad of the multicontroller, the display can also be directly navigated via the touch display.

All components are interconnected via a CAN BUS system.



Single-lever joystick with multicontroller as well as touch display and single-lever joystick for controlling the RSM

The DÜCKER-Tasttronic

The microprocessor-controlled control developed by DÜCKER provides all functions of the proportional single-lever control. In addition, the fully encapsulated signal recording integrated in the mowing head allows for automatic and very precise level adjustment. This allows for safe work at high driving speeds. The Tasttronic does not comprise any movable, dirt and dust sensitive actuators. The signal recording is performed by means of flexion and torsion measurements using strain gauges.

Another strong point is working on counter-embankments even if the driver does not drive at an exact distance. The Tasttronic can be overridden or switched off at any time. An emergency stop function provides the necessary safety. The Tasttronic protects the outrigger, the mowing head and the sod. The operator concentrates on driving and traffic while the mowing works largely automatic.

The MK 25 mower combination is equipped with the DÜCKER Tasttronic as standard. It is available as special equipment for the outriggers of the MBM, UNA and DUA series.

Torsion frame, vehicle plate and Counterweight from DÜCKER



hydraulic torsion frame on the Unimog



Vehicle plate with hydraulic axle support



Counterweight in the attachment fittings of the Unimog

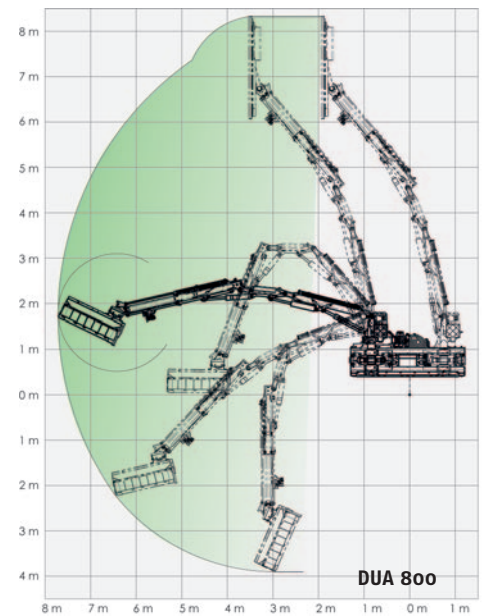
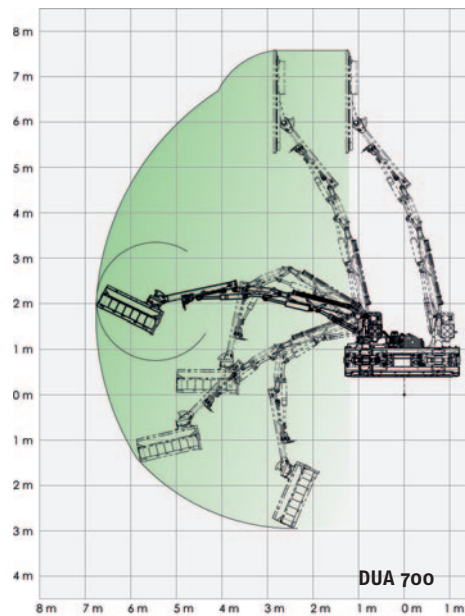
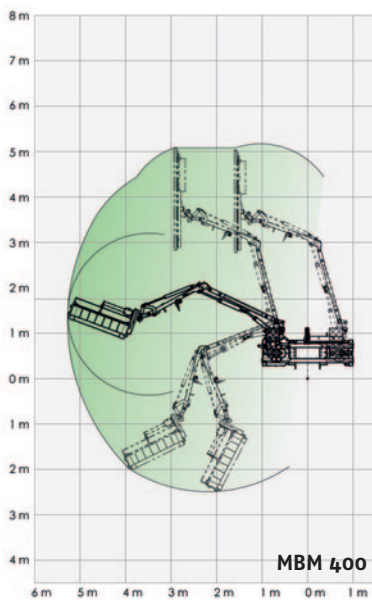
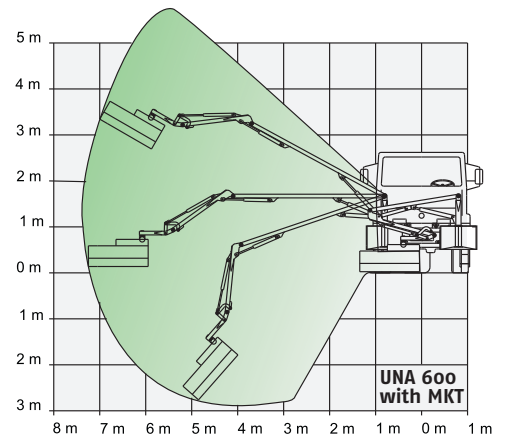
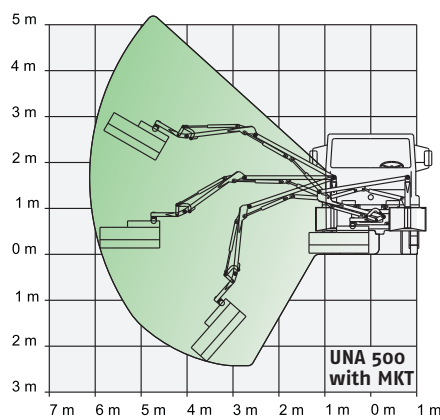
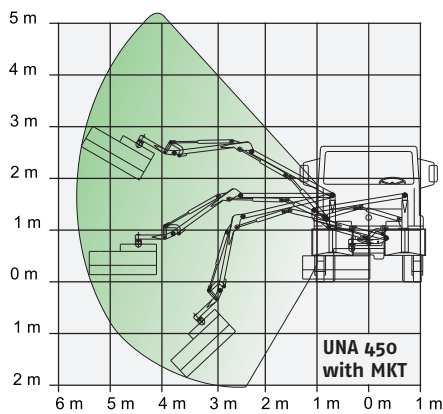


VSM 1200 mowing head with Tasttronic

Technical data

Outrigger	MBM 400	UNA 450	UNA 500
Range	5,3 m	5,4 m	6 m
Transport width	2 m	2,2 m	2,4 m
Weight basic device	750 kg	850 kg	900 kg
Displacement by	1,40 m	1,40 m	1,60 m
Swivel angle of equipment	170°	170°	170°
Right- and left-hand work	yes	yes	yes
Speed	650 U/min	650 U/min	650 U/min
Hydraulic drive for working equipment	45 ltr. / 320 bar	45 ltr. / 320 bar	45 ltr. / 320 bar
Control	CAN BUS control, optionally with outrigger relief control and		
Attachment	Front attachment		

The ranges of the DÜCKER outriggers



UNA 600	DUA 700	DUA 800	MK 25-700	MK 25-800
7,3 m	6,8 m	7,8 m	6,3 m (6,8m)	7,3 m (7,8 m)
2,5 m	2,5 m	2,5 m	2,5 m	2,5 m
1050 kg	1050 kg	1250 kg	2100 kg	2300 kg
1,70 m	1,60 m	1,60 m	1,10 m (1,60 m)	1,10 m (1,60 m)
170°	270°	270°	270°	270°
yes	yes	yes	yes	yes
650 U/min	710 U/min	710 U/min	710 U/min	710 U/min
45 ltr. / 320 bar	68 ltr. / 340 bar	68 ltr. / 340 bar	68 ltr. / 340 bar	68 ltr. / 340 bar

Tasttronic

CAN BUS control with standard outrigger relief and optionally Tasttronic

plate size 3 or 5

Technology for environmental landscape maintenance and agriculture



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