

# OUTRIGGER FOR COMPACT CARRIER VEHICLES



# Outrigger KBM 350

The KBM 350 outrigger is supplied as a combined rear and front attachment for small tractors from 19 KW (25 HP) upwards. A conversion from front to rear attachment as well as left-hand to right-hand work is possible.

It is easily attached to the three-point hydraulics cat. I + II. The drive of the working equipment is hydraulic. The integrated hydraulic system is driven via the tractor's PTO shaft. The outrigger arms are operated via the supplied electro-hydraulic control unit. Due to the compact design, there is no line-of-sight obstruction even as front attachment during transport drives.

The parallel guided outrigger arm of the KBM 350 outrigger allows for trouble-free working, even in direct vicinity to the tractor. When the machine is protected against unintentional collision with obstacles via a hydraulic impact protection.

The drive for swivelling movements of the work tools is installed in the outrigger arm. The swivelling speed of the work tool remains constant throughout the turn at a swivel angle of 270°. The work tool is kept precisely in position (hydraulic locking function).

The mowing head is equipped with flails as standard. The consistently attached scanning roller guarantees a constant cutting height and high ground adjustment of the mower. As an alternative to the flails, a rotor shaft with swash plates can be installed as well.

The KBM 350 embankment mower includes a well-structured control with clear symbols, an indicator lamp for the floating position and a dial switch for the automated transport and working position. The arm functions are controlled via an ergonomically positioned single-lever joystick with armrest.

**The technical data and an overview of the possible attachments are given on pages 6 and 7.**



*KBM 350 in combination with USM 13*



*KBM 350 as rear attachment with flail mowing head*



*KBM 350 in transport position*



# Outrigger

## UNA 100 and UNA 200



UNA 200 on wheel loader



UNA 200 mowing verges



UNA 200 with hedge cutter HS 16



UNA 200 in transport position on John Deere tractor, divided build

The UNA 100 and UNA 200 uni arms are specially designed as attachments on multi-purpose municipal vehicles with their own hydraulic system and hydraulically height-adjustable front attachment plate.

The basic devices are used to hold various working equipment. The working equipment can be used on the left, right and in front the vehicle by means of a hydraulic drive. Thanks to the symmetrical design of the basic devices and the individual working equipment, the outrigger may be located on the right or alternatively the left.

To absorb the momentum of the outrigger when the UNA 200 is fully extended, supporting wheels are available.

Some carrier vehicles may be equipped with vehicle related axis blockings. For transport, the outrigger UNA 100 or UNA 200 is folded in front of the carrier vehicle. This way, the view of the road is not restricted.

- Working area: left, right and in front of the vehicle
- Work in front of, below and behind the guiding devices (UNA 200)
- Work on embankments
- Working width starting from the middle of the vehicle up to 3.40 m.
- Can be folded in in front of the vehicle for transport
- Free view on transport drives
- Evasion device when driving against obstacles
- Mechanical arm pre-adjustment
- Extremely high-performance mowing head at low dead weight

The technical data and an overview of the possible attachments are given on pages 6 and 7.



# Outrigger DBM 400

The Dücker outrigger DBM 400 can be used universally with a range of up to 4.45 metres, a low transport width and a large number of work implements.

The DBM 400 has specifically been designed for front attachment to municipal carrier vehicles or tractors and can be held by the three-point linkage in sizes cat. I. + II. or via an attachment plate.

With its special kinematics, the Dücker outrigger DBM 400 permits flexible and easy use in nearly any working position.

Conversion of the working position from right-hand work to left-hand work is possible easily and quickly.

- Working area: left, right and in front of the vehicle
- Work in front of, below and behind the guiding devices
- Work on embankments
- Working width starting from the middle of the vehicle up to 4.45 m
- Can be folded in in front of the vehicle for transport, thus providing free view on transport drives
- Evasion device when driving against obstacles
- Extremely high-performance mowing head at low dead weight
- Mechanical arm pre-adjustment

The Dücker outrigger DBM 400 may optionally be equipped with an integrated hydraulic system. They are driven by the PTO shaft of the carrier vehicle. On request, the hydraulic unit can also be delivered divided in rear attachment. On request, we optionally equip the hydraulic unit of the outrigger DBM 400 with a blower for cleaning the street.

**The technical data and an overview of the possible attachments are given on pages 6 and 7.**



*DBM 400 mowing*



*DBM 400 in transport position on Fendt tractor*

*DBM 400 outrigger mowing*



## Outrigger DBM 400 with DÜCKER-Tasttronic

The DÜCKER-Tasttronic is available as an option on the outrigger DBM 400.

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 over-ridden 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 technical data and an overview of the possible attachments are given on pages 6 and 7.**



*DBM 400, integrated hydraulic system*



*Hydraulic system in rear three-point (divided build), optionally with blower*



*DBM 400 with hedge cutter HS 16*

## Working Equipment



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



**HS 16  
Hegde-Cutter**  
Working width: 1600 mm  
Cutting thickness: until 45 mm  
Weight: approx. 120 kg



**HS 130 HR  
Hegde-Cutter**  
Working width: 1300 mm  
Cutting thickness: bis 25 mm  
Weight: approx. 165 kg



**TMK 10  
Flail-Mower-Head**  
Working width: 1000 mm  
Revolutions of shaft: 2200 rpm  
Weight: 180 kg



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



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



**LPW 500 Reflector post- and  
signs-cleaner**  
Working width: 500 mm  
Revolutions of shaft: 375 rpm  
Weight: 150 kg



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

## KBM 350 control



*KBM 350 electro-hydraulic  
control*

## Controler UNA 100, UNA 200 and DBM 400



*Electro-hydraulic proportional  
CAN-BUS Control, with multi-  
controller, keypad und EloBau-  
Joystick (button joystick)*



*Electro-hydraulic proportional  
CAN-BUS Control with multicon-  
troller, keypad and Gessmann-  
Joystick (rocker-joystick)*



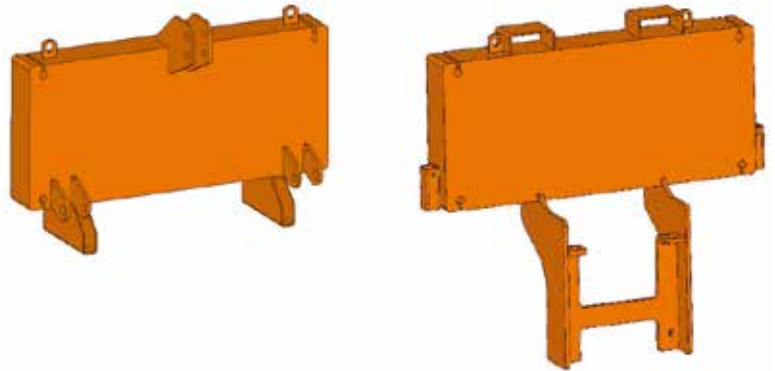
*Electro-hydraulic proportional  
CAN-BUS Control with multicon-  
troller, keypad and Danfoss-  
Joystick (Rollen-Joystick)*



## Counterweights and attachment plate

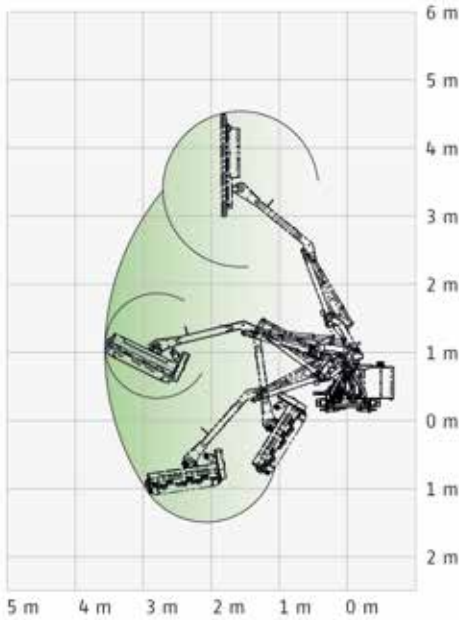


Attachment plate size F2

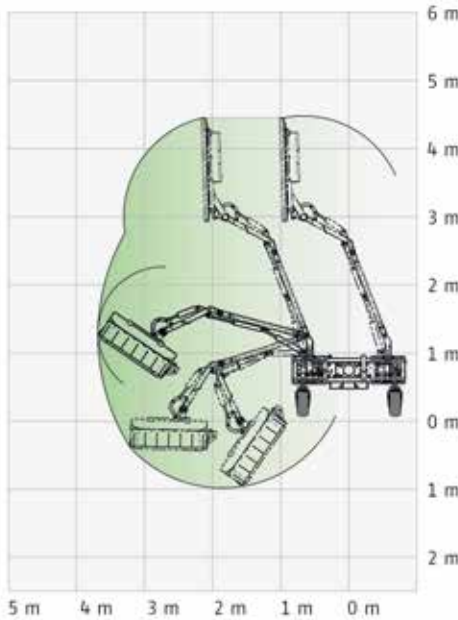


Counterweights for three-point or attachment fittings

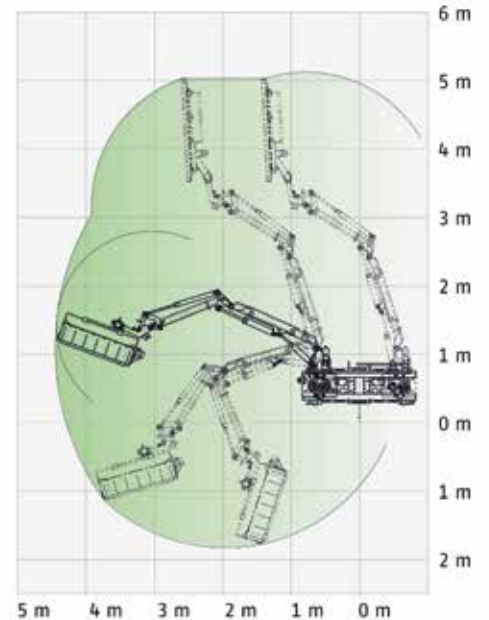
## Range diagrams



KBM 350 ranges



UNA 200 ranges



DBM 400 ranges

## Technical data

	<b>KBM350</b>	<b>UNA 100</b>	<b>UNA 200</b>	<b>DBM 400</b>
Range	3,50 m	1,80 m	3,40 m	4,45 m
Transport width	1,65 m	1,65 m	1,65 m	1,70 m
Weight basic device	470 kg	225 kg	320 kg	380 kg
Displacement by	-	1,15 m	1,15 m	1,15 m
Swivel angle of equipment	270°	140°	140°	180°
Right- and left-hand work	ja	ja	ja	ja
Drive for working equipment 60 ltr. / 200 bar	Front or rear PTO shaft		Power hydraulics from the vehicle or front PTO shaft	
Control	Electro-hydraulic control		Electro-hydraulic control or from the vehicle	
Attachment	Front or rear attachment Three-point cat. I + II		Front attachment plate or three-point hitch cat. I + II	

***Technology for environmental landscape maintenance and agriculture***



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