

# ABI Machines at Work



Applications

## ABI MOBILRAM-System

ABI MOBILRAM-System is an ideal machine for all common civil engineering works such as piling, extracting, augering, drilling and vibration-free piling. The heart of this system is a slewable and in all directions inclinable telescopic or alternatively fixed leader mast mounted to a special carrier. The leader mast serves as a guidance for the attachments and is available with a usable length up to 25 m.

The ABI MOBILRAM-System is characterised by compact transport dimensions and small working space requirements on building sites. Quick and safe set up from the transport position to the working position and back takes place unassisted in one step. The ABI attachments can be mounted fast and safe through the rapid change device or the state of the art Docking-System.

High driving efficiency is reached using pre-stressing and extracting forces. These forces can be adapted optimally to the existing soil conditions. Guidings with minimal clearance provide high stability and precision, good noise and vibration insulation as well as reduced wear and tear.

Among further advantages the system offers:

- good stability and high usable loads
- self-propelled carrier with high engine power
- low manpower requirements
- variety of attachments



ABI MOBILRAM-System - telescopic leader mast positioning of steel sheet piles



Driving tubular piles with ABI MOBILRAM-System and DELMAG diesel pile hammer



Installing cast-in-situ piles with ABI MOBILRAM-System and auger drive MDBA



Pressing of steel sheet piles with ABI Hydro-Press-System



## Applications

- Driving and extracting of steel profiles, sheet piles, beams, full displacement mandrels/probes
- Augering and drilling, CFA, part and full displacement auger, kelly drilling, drilling with or without casing, soil mixing applications
- Vibration free piling - static pressing and extracting of steel sheet piles
- Impacting of full displacement profiles, casings, pre-fab concrete piles



Vibropile installation with lost plate



Placing soft gel injection tubes with MRZV-V and mandrel



Installing cut-off wall with the fixed static moment vibrator MRZV-S

## Ergonomic control system

- Menu guided control via touch screen
- Contrast image enhancement
- Trouble description in clear language

### Optional:

- Built in data recording computer
- Data logging
- Data storage and transfer via USB stick and job site print out
- System diagnostic via mobile phone
- Theft prevention and global positioning as tracing feature





ABI MOBILRAM-System in transport configuration

## Transport

- Compact transport dimensions
- Fast folding down of the telescopic leader mast in the transport position and setting up into the working position unassisted
- Transport weight reduction due to the detachable counterweight

## Carrier

- Specific carrier
- High engine power
- Engine emissions according to the latest requirements
- Heavy duty turntable

### Optional:

- Telescopic undercarriage
- Detachable counterweight
- Biological degradable hydraulic oil



HD-kinematics of telescopic leader mast



SD-kinematics of fixed leader mast



Compact dimensions - ABI MOBILRAM-System in transport configuration drives into the tight site

## Telescopic and fixed leader masts

- Tubular or box mast design
- Compact robust structure
- Rugged kinematics
- High reach and torque absorption
- Usable length up to 25 m



## Attachments

- Pile driving and extracting vibrator MRZV-S
- Variable moment vibrator MRZV-V and MRZV-VV
- Auger drives and rotaries MDBA and VDW
- Hydro-Press-System
- DELMAG diesel pile hammers

## Typical pile types:

- Cold formed steel sheet piles
- Hot rolled steel sheet piles
- H+I beams and pipes/tubes

## Change of attachments:

- Quick and safe attachment change through the rapid change device or the Docking-System
- Simple low risk procedure
- Environmentally friendly

## Advantages of Docking-System:

- No crossed lines
- Optional identification of attachments
- Easier monitoring of maintenance works



Driving U-shaped sheet piles with a variable moment vibrator MRZV-V



Driving steel sheet piles, piles are fed by crane



Docking-System just about to lock



Attachment completely connected



Pile driving from a barge



## ABI pile driving and extracting vibrators

- Vibrators MRZV-S with fixed static moment
- MRZV-V vibrators with a variable static moment for resonance-free starting and stopping
- Vibrators MRZV-VV with a variable static moment and variable displacement hydraulic motors

### Field of application

- Driving and extracting of all common steel sheet piles, H+I-beams and casings
- Vibropile installation, a driven cast-in-situ foundation pile
- Soil improvement
- Geotextil columns installation
- Wick drain installation
- Soft gel horizontal diaphragm installation



MRZV-V with casing clamp assembly driving geotextil columns



Driving H-beams for foundation



Variable moment vibrator MRZV-VV with double clamp assembly for driving double U- and Z-shaped steel piles and casings



Driving sheet piles to a maximum depth



## ABI auger drives MDBA

- Vibration-free
- Low noise emissions
- Equipped with high pressure swivel
- High production rates
- Twinmix or Triplemix design

## Field of application

- Ground release drilling
- Soil mixing wet (WSM) and dry (DSM) method
- Cased drilling with casing turn device
- Part and full displacement augering
- Rock drilling with rock tools or DTH hammers



Exposed mixed element with reinforcement installed with the Triplemix auger drive TMBA



Finished exposed mixed secant pile wall



Installing CFA piles



Wet Speed-Mixing with TMBA auger drive



Pre-boring with auger drive MDBA



## ABI double auger head system VDW

- Vibration-free pile installation
- Noise reduced
- Economical
- Easy set up due to cardanic joint
- Suitable in most soil formations

### Field of application

- VDW-method is well suited for the installation of single, contiguous and secant pile walls
- Soil removal and replacement
- Displacement augering



ABI MOBILRAM-System setting up casing and auger tool



In front of the wall procedure VDW installing secant pile wall



Drilling VDW piles to secure an excavation



Circular cover dam done with VDW-method



Finished wall exposed mirroring the drill through brick wall



Straight wall with H-beam reinforcement



## ABI Hydro-Press-System

- For vibration-free and low noise installation and removal of steel sheet piles
- Application in sensitive areas as near hospitals, historical buildings etc.
- High productive due to panel operation of 3 or 4 sheets at a time
- HPS-Press for cold rolled U sheet piles  
HPU-Press for hot rolled U sheet piles  
HPZ-Press for hot rolled Z sheet piles



Pitching the profiles with the HPZ press



HPZ during pressing



Threading Z-shaped sheet piles in interlock of previous pressed sheet panel



Pressing U-sheet piles panel with the HPU press direct onto an existing buildings



## Add-on vibrators HVR and add-on auger drives BA/DBA

- Excavator stick boom mounted
- Controlled and fed by the excavator's hydraulic system
- High frequency and revolution
- Low weight
- Compact design



Driving sheets in sandy soils



Limited headroom application



Pitching the sheet with the vibrator, safe and fast



ABI auger drive with casing twister for foundation piles along rail way



Auger drive DBA with continuous flight auger



Besides standard machines and equipment ABI has made in the past custom tailored machines. We have the means to design and manufacture to special needs.



Timber pile driver off shore



ABI MOBILRAM-System on John Deere carrier



ABI fixed leader mast MY



Kelly drilling with ABI fixed leader mast SM 9/10 with extra long reach



ABI MOBILRAM-System on MANTIS carrier



Marken der  
Brands of **ABI Gruppe**



For further informations please contact your ABI sales assistant.  
Or you visit us on the Internet at [www.abi-gmbh.de](http://www.abi-gmbh.de).  
Design subject to modifications. The details in this leaflet have to be  
regarded as approximate. The illustrations also can contain special  
outfits which are not part of the standard scope of supply.

ABI Maschinenfabrik  
und Vertriebsgesellschaft mbH  
Am Knüchel 4  
D-63843 Niedernberg  
Germany

Telefon: +49 (0) 6028 123-101, -102  
Telefax: +49 (0) 6028 123-109  
eMail: [info@abi-gmbh.de](mailto:info@abi-gmbh.de)