

DELMAG Overview

Drilling Rigs, Diesel Pile Hammers
and Lead Systems



DELMAG has a long tradition, founded already in the year 1922 as "Deutsche Elektromaschinen- und Motorenbau Aktiengesellschaft" (German electro machines and engine construction incorporated company) by fusion of the two forerunner companies "Esslinger woodworking machine factory Pflüger & Steinert" and "Walter Fischer & Co."

The beginnings were shaped by innovations and the first combustion powered impact hammer was patented in the year 1926. The "DELMAG frog" for soil compaction was born 1933. In the year 1940 the diesel impact hammer was introduced and achieved a break-through with high acceptance in the construction industry.

The pile driving technology came increasingly after 1945 to the fore. The diesel pile hammers as main product were systematically developed and in addition the compactors were ready for the market.

Beside diesel pile hammers in the 60's the drilling rigs for installation of cast-in-situ concrete piles were integrated in the product range. The first hydraulic drilling rig RH 155 came onto the market in the year 1968. Due to further investments in development the next drilling rig generation with the model RH 1413 was presented in the year 1982. In the next years DELMAG continued focusing on the production of drilling rigs and diesel pile hammers.



Since in the middle of the 90's further series of drilling rigs were developed continuously adapting market requirements.

In the year 2000 the company ABI GmbH from Niedernberg (Germany) searched for a suitable partner for the extension of their product range. They decided for the enterprise DELMAG - its drilling rigs are the perfect complementation of the product program and offer many synergy effects. In the year 2002 Mr. Matthias Heichel was appointed as managing director.



In the present the main focus of the production is further-on drilling rigs and diesel pile hammers. Drilling rigs are used for foundation pile installations as well as for well drillings and soil mixing applications. The existing models are continuously developed and adapted to customer requirements.

DELMAG diesel pile hammers are looking at a long tradition. The sturdy piling equipment is manufactured with piston weights up to 20 t. They are not depending on any guidance and power supply due to their own diesel drive.

Beside the conventional products also custom-tailored products are developed and built. DELAQUA compact is such an example. The construction consists of lightweight designed barge and a fold-away leader mast with hydraulic impact hammer. DELAQUA can be used for piling works in standing waters and in rivers. The short set up times and simple operation with low manpower enable fast deployment by incidents as floods or contamination of flowing waters.



DELMAG Drilling Rigs



The current RH series convinces of their compactness and efficiency. Higher performance is achieved by smaller weight and compact transportation dimensions. The modern kinematics allows folding down the mast backwards for transport, so that the set up times are strongly reduced. Smaller models can be transported inclusive Kelly bar and rotary head.

Further characteristics are the use of a reversing winch for the pre-stressing function, as well as the positioning of the winches at the mast easy visible for the operating personal.

High stability and structural safety of the machine are additionally supported by telescopic under carriage and detachable counterweight. The operators comfort is optimized using a modern hydraulic and electronic control.

The application range can be extended using casing oscillators.

Despite of the modernization the current DELMAG drilling rig has kept its legendary robustness and reliability.



DELMAG Drilling Rigs



The all new CAN-Bus technology is the main part of new control system with touch screen colour display. Application and working mode related pop up screen menus simplify the operation of the drilling rig. On demand date, time and many other parameters can be recorded and also immediate printed, or to be used later stored on a PCMCIA-card. Optionally a system diagnostic via mobile phone modem is available.

Merits:

- menu leaded control with touch screen
- contrast image enhancement
- trouble description in clear language
- less wiring needed by SPS technology

optional:

- built in recording computer
- automatic tool identification
- system diagnostic via mobile phone
- theft prevention and global positioning as tracing feature



Kelly drilling

- Installation of foundation piles with or without casing and shoring systems like soldier pile walls, tangential or secant walls
- Well drilling
- Drilling depths up to 60 m
- Drilling diameter from 400 to 2400 mm
- Drilling in light and hard soils
- Utilization of hydraulic casing oscillator possible



Continuous flight auger – Part displacement – Full displacement

- Installation of CFA piles and ground release drilling
- Drilling in light soils
- Drilling depths up to 24 m
- Common drilling diameters between 500 – 900 mm
- High extraction forces
- Concreting while extracting the auger tools (auger flights, part and full displacement tools) possible
- Monitoring system for quality management available
- Optional accessories like concrete swivel, auger flight picking aid and guide, Kelly extension or mast extension are available.



Dual Rotary Head

- Installation of CFA piles and shoring systems as soldier pile walls, tangential or secant walls
- Drilling in all light soils
- Drilling depths up to 15 m
- Casing diameters between 540 - 880 mm
- Augering and casing in one step
- Auger flight and casing can be moved up and down independently
- Installation of reinforcement before extracting the casing or after concreting



DELMAG Diesel Pile Hammer



The DELMAG diesel pile hammer is an extremely rugged and reliable impact hammer. It works after the principle of impact atomization. The self-ignition of the compressed fuel/air mixture is used to fire the hammer. Neither steam, air, hydraulic or electric units nor their disturbing and hazardous lines for power supply are needed.

The pile helmet is pressed onto the pile before the piston strikes, due to the compressed air in the cylinder. Consequently damages to the pile heads are reduced.



Field of application

- Driving of steel and concrete piles
- Determination of pile load capacity
- Usable in all displaceable soils



Characteristics

- Impact weights between 500 and 20000 kg
- At drop heights up to 3,5 m an impact energy up to 680 kNm is reached
- Simplicity
- Low-maintenance
- High reliability
- Adjustable fuel pump
- Alternative fuels can be used
- No additional supply from carrier or power pack needed



DELMAG Lead Systems



Depending on design, DELMAG lead systems can be used to guide equipment like diesel pile hammers, hydraulic impact hammers, vibrators for piling and extracting and drilling tools. The light construction and high stability count to the merits.

DELMAG offers:

- Swinging Leads
- Fixed Leads
- Rope Suspended Leads



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DELMAG Lead Systems



- Swinging leads can be attached to any model of crane with proper capacity. When using an adapter with rope pulleys to reeve in the crane rope, batter piles with an inclination up to 45° can be driven.
- Fixed leads can be attached to the boom point of crawler cranes. Using a telescopic spotter, various inclinations are possible. Optionally a hydraulic mast slewing device is available.
- Rope suspended leads guide the hammer in „riding-hammer“ applications. They are mainly used for off-shore projects to drive pipe piles up to a diameter of 4200 mm or to drive sheet or H-piles.

