Offshore Foundation Solutions
Vibratory Hammers
Dieseko is the global player in the foundation technology market based in the Netherlands.

Products marketed under brands ICE, PVE and Woltman.

Shareholder of Bell Dredging Pumps.

Clear focus on foundation equipment.

World leader in vibratory equipment.
INTRODUCTION
OVER 40 YEARS HISTORY

PVE
- 1974 Founding Dieseko – Bolnes
ICE

- 1977 Founding ICE – Amsterdam as an importer of American vibratory hammers
2008 Founding of DIESEKO GROUP

PVE and ICE merge and they join forces in a single strong company with a comprehensive product portfolio and global service network.

Dieseko Group starts as a house of brands.
2009 The new emerging market: offshore
- Developing the 200M ‘twin’ for the constructions of wind farms.
- The PVE 200M active in Bard1 offshore project
• 2010
  • PVE 300M, Dieseko Group once again introduces the biggest vibratory hammer in the World
  • With the establishment of ICE China in Shanghai a fully owned rental fleet comes available.
  • With the Vibroflot, a new product is added to the range
• 2011
  • A rental fleet is established in Brazil
2012
- The award for “Best Managed Companies” is won again
- Dieseko Group provides two sets of the PVE 300 MU upending vibratory hammer, to the prestigious Global Tech wind farm in Germany
2014

- Dieseko Group celebrates 40th anniversary.
- Introduction of PVE 500M, the world’s biggest mono bloc vibro hammer.
- Branches and dealers
- Certification / Quality
- Employees
- Safety
- Awards
- Partners and suppliers
ORGANIZATION
DIESEKO GROUP

- Branches and dealers
- Certification / Quality
- Employees
- Safety
- Awards
- Partners and suppliers
ORGANIZATION
DIESEKO GROUP

- Branches and dealers
- Certification / Quality
- Employees
- Safety
- Awards
- Partners and suppliers

200 Employees worldwide
ORGANIZATION

DIESEKO GROUP

- Branches and dealers
- Certification / Quality
- Employees
- Safety
- Awards
- Partners and suppliers
ORGANIZATION
DIESEKO GROUP

- Branches and dealers
- Certification / Quality
- Employees
- Safety
- Awards
- Partners and suppliers
PARTNERS AND SUPPLIERS

- Branches and dealers
- Certification / Quality
- Employees
- Safety
- Awards
- Partners and suppliers

ORGANIZATION

DIESEKO GROUP
DRIVEABILITY STUDIES

- Allnamics + GeoDrive
- Minimising risk
- Selecting most suitable hammer
- Advise for customers
DRIVEABILITY STUDIES

VIBRO PILE DRVABILITY PREDICTION AND POST PILING ANALYSIS
Dieseko Group works with reputable third parties to undertake vibro pile drivability predictions. After piling our measuring equipment - which can record amplitude, acceleration, centrifugal force and hydraulic pressure - is examined a post piling report can be supplied upon request. This enables us, geotechnical experts and the industry in general, to benefit from our experience on numerous projects onshore and offshore.

CARBON FOOTPRINT
Sustainability is embedded in our R&D, processes and products. Vibrating is an environmentally friendly foundation technique, as vibrations cause minimal noise and ground disturbance. PVE equipment is developed and produced according to the latest regulations. Together we can minimise your carbon footprint.

CERTIFICATION
All our equipment is offshore certified (DNV 2.7.1 or equivalent) including auxiliary equipment.

QHSE is KEY in the offshore sector and Dieseko Group recognises the importance of this. We have the FPAL certification and work following ISO 9001 standards.
WHY DIESEKO?

- More than 45 years experience in Vibro Equipment
- Sustainable and durable quality of our products
- Global dealer network (service 24/7)
- Co-engineering together with our clients
Benefits PVE Vibratory Hammer

Balanced equipment;
- Better kN – kgm – amplitude weight ratio

Hydraulic power (kW) vs centrifugal force (kN);
- \((\text{m}^3/\text{sec} \times \text{pressure})\) vs kN

High torque;
- Max force even in tough conditions

Forced lubrication;
- Better cooling – less wear and tear

Additional gearbox cooling;
- Longer life-time, no overheating
Benefits PVE Vibratory Hammer

- Forced lubrication + additional cooling
- High performance
- Increased life-time
  - Bearings
  - Oil
  - Gears

LESS MAINTENANCE
Benefits of Power packs

- High reliability
- Better cooling
- Additional cooling system
- Variable pumps
- Easy troubleshooting iQan
- Sound proof
- Multi purpose hydraulic power packs
Vibratory Hammers vs. Conventional Methods

1. Installation Speed Significant time saving
2. Noise reduction (< 140 dB)
3. Accurate positioning
   • Option to extract piles
   • Less fatigue
     • Cost efficient pile design
     • Longer life-time of structure
Installation speed

- **Handling time** (less than 1 hour)

- **Driving time 1 meter per 1 minute**
  (rule of thumb)
Noise Reduction
Between 6 and 11 October 2016, 4 monopiles (3200-3700mm dia) were retracted from the seabed at “Windpark Lely” with our PVE 500M vibratory hammer. During the work extensive underwater sound measurements were performed, resulting in positive indications of noise levels compared to “German requirements”.

**Conclusions**

The measured sound levels of both the Sound Exposure Level (SEL) and the peak-to-peak Sound Pressure Level (SPL\textsubscript{peak-peak}) are substantially lower than the threshold levels that are set by the German authorities (i.e. SEL 160 dB re 1μPa\textsuperscript{2} and SPL\textsubscript{peak-peak} 190 dB re 1μPa\textsuperscript{2}) at a distance of 750m from the source. Sound levels are measured without any mitigation measure in force to reduce sound propagation. It is expected that for comparable foundations and vibro-hammer intensities in offshore conditions, the source level will not deviate considerably from the levels measured during this campaign. Therefore, the threshold levels are likely not to be exceeded at the specified distance of 750m. It is recommended to validate this by actual measurements under representative offshore conditions to provide solid proof.
300M The Netherlands
300M Singapore
PVE 500M
UPENDING
UPENDING
Also available as (after market) add-on