



OFFSHORE VIBRATORY HAMMERS PRODUCT RANGE

DIESEKO GROUP



PILING & VIBRO EQUIPMENT

FOUNDATION EQUIPMENT FROM **DIESEKO GROUP**

The Dieseko Group, which was established in 1974, is a manufacturer of a wide range of products for the foundation industry. The range is divided into five product lines: vibratory hammers and impact hammers, piling and drilling rigs, soil improvement equipment, dredging equipment and hydraulic power units.

Dieseko Group is owner of the brands PVE Piling & Vibro Equipment, ICE International Construction Equipment and Woltman Piling & Drilling Rigs. Dieseko Group also supplies Bell Dredging equipment.

Dieseko Group engineers develop foundation equipment in accordance with the latest regulations. The experienced engineers in the sales and rental department have a profound knowledge of the equipment and are always standing by to advise clients on their specific needs. Spare parts are in stock for all machines, which can be shipped quickly to dealers and clients worldwide, to avoid downtime on projects. Service engineers are available 24/7 to support clients on site. With over 60 dealers and branches worldwide, Dieseko Group is a reliable partner for all foundation contractors for consultation, sales, rental and financing.

DIESEKO GROUP PILING EQUIPMENT



VIBRATING

NORMAL FREQUENCY



PRESSING

OFFSHORE



RESONATING

VARIABLE MOMENT



PILE DRIVING

EXCAVATOR MOUNTED



DRILLING





PVE OFFSHORE VIBRATORY EQUIPMENT

APPLICATIONS

- Heavy duty steel driving and extraction projects
- Decommissioning of offshore structures
- Highly efficient for driving XL monopiles

ADVANTAGES

- Significant time saving, upending option/self handling/pitching option
- Reduction of noise pollution (less than 140 dB)
- Less pile fatigue resulting in cost efficient pile design and longer lifetime of structures
- More accurate positioning
- Correction during driving is possible

EQUIPMENT

- Excellent quality
- Forced lubrication system
- Cooling system
- Wide range of clamping solutions
- Silent power packs
 - Open loop hydraulic system
 - Advanced iQan intelligence and control
 - Tier/Stage 2 to 4-Final compliant
 - Suitable for driving other hydraulic equipment
- Equipment is offshore certified (DNV 2.7.1 or equivalent)

DIESEKO GROUP

- Over 40 years of experience with a proven track record
- Consultancy and R&D to ensure the best solution for your project
- Sustainable technology reduces your carbon footprint
- 24/7 worldwide support
- Large spare parts inventory
- Largest rental fleet in the world
- ISO 9001 certified, FPAL registered, IRO member



INDUSTRIAL



RURAL



HARBOR



OFFSHORE





PVE VIBRATORY HAMMERS FOR:

- Initiation/Start-up piles
- Jacket installation
- PLEM installation
- Conductor installation
- Anchor piles
- Pipe support piles
- Extraction of followers
- Decommissioning of offshore structures

OIL AND GAS A LONG TRACK RECORD

Dieseko Group has a long track record of installing piles in the North Sea for the oil and gas sector. Since the late 1980s, our vibratory hammers have been used on numerous projects. Based on our experiences we design, test and produce equipment to serve the highly demanding offshore oil and gas sector worldwide.

ADVICE AND ENGINEERING

PVE offers a wide range of tailor-made solutions and new products demonstrate our engineering capabilities and achievements. Deck layout options and handling activities can be discussed during the early project stages in order to determine most efficient arrangements. Our engineering team is available to investigate new technical and business opportunities and to advise our customers on project specific requirements.

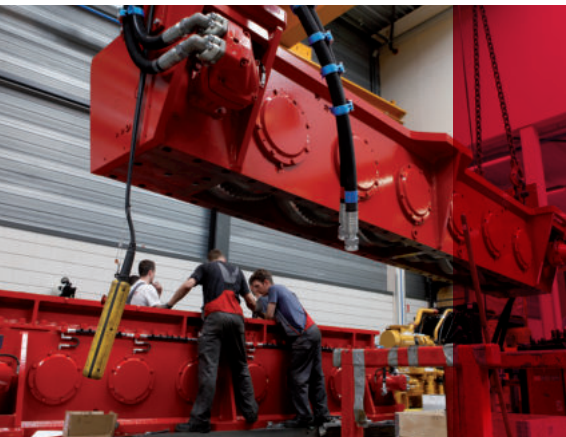
PILE VERTICALITY MONITORING

Real-time monitoring of pile inclination is an important feature of our total solution. Our system is extensively proven and tested to be a reliable monitoring device.

DECOMMISSIONING OF OFFSHORE STRUCTURES

Our vibratory hammers can extract the entire foundation, without leaving debris on the seabed.



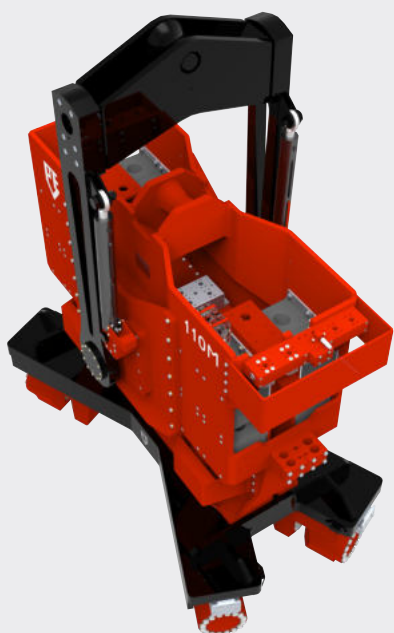


PATENTED INNOVATIONS

COUPLING GEARBOXES

PVE has developed a patented synchronization module that enables you to couple two PVE GIANT gearboxes.

- Double the power
- Deployment of single and double gearboxes
- Unique multi-usage vibratory equipment with only one suppressor



Our innovations are driven by our customers needs and our desire to provide solutions with tangible benefits. Two major breakthrough, patented, PVE innovations are:

UPENDING AND DRIVING IN ONE SEQUENCE

One of our most innovative solutions is the upending vibratory hammer. Due to tilting the vibratory hammer is able to clamp onto horizontally stored piles and drive them vertically without any other handling operations.

- Highly efficient
- Huge time savings, thus cost savings
- Unique multi-usage vibratory equipment

This development originates from the offshore industry and has now been adopted for onshore applications. For this purpose, Dieseko Group has developed an add-on upending mechanism. It is fully hydraulic and can be adjusted to suit the various types of Dieseko Group vibratory hammers.





RWE TEST PVE 500M: FAST AND QUIETER

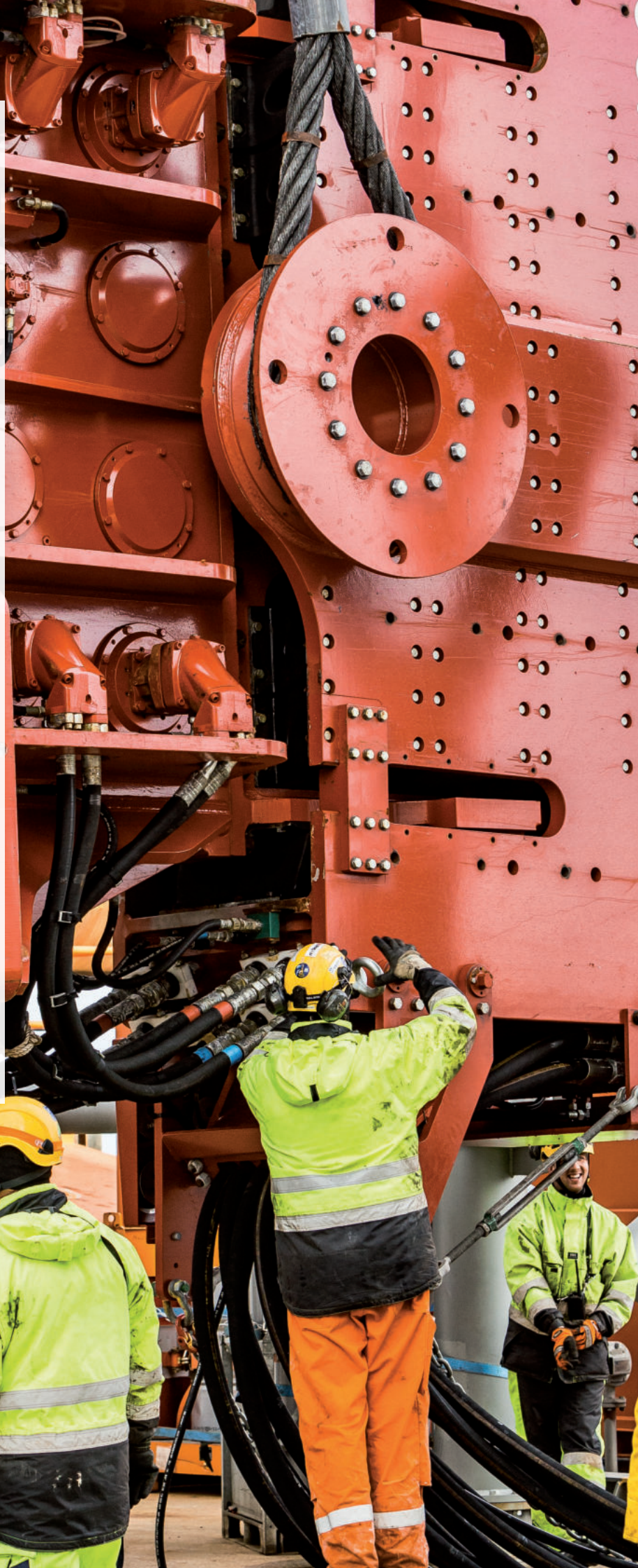
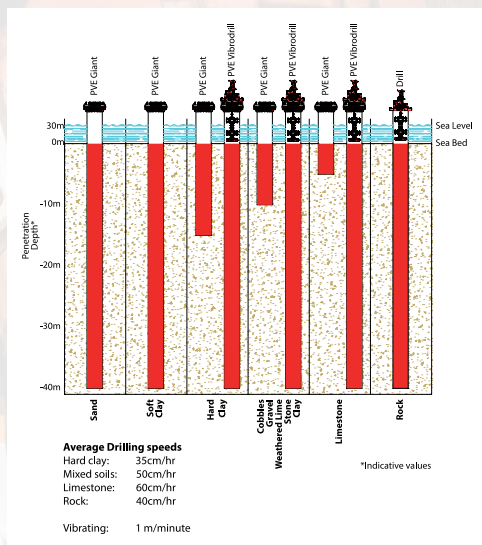
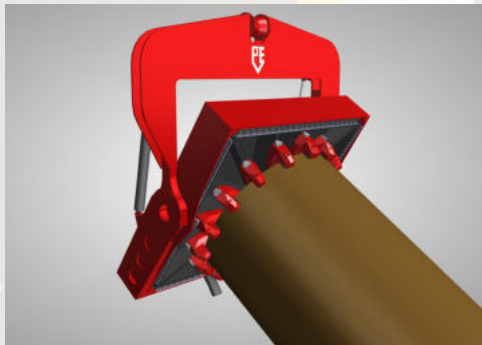
Vibratory piling is up to ten times faster and quieter compared to impact hammering. That is the most important outcome of a series of independent tests carried out by RWE Innogy, Bilfinger Offshore, DONG Energy, EnBW, E.ON and Vattenfall. Industry partners decided to do a full scale test in Cuxhaven, where three pairs of vibro driven and impact driven piles (diameter 4.3 m, length 21.5 m, wall thickness 40-45 mm, weight 92 tonnes) were installed to a depth of 18.5 m in order to compare their behaviour under lateral load.

The tests, which were carried out with our PVE 500M, show that the vibratory installation method has a major beneficial impact on the lateral load-bearing capacity of piles. That is why we are working hard to convince utilities, contractors and certifying bodies to use vibratory hammers as an alternative solution to impact hammer driving. The test results show that our PVE vibratory hammers are a cost effective solution with less handling time and installing monopiles faster. The penetration speed of the pile exceeded all expectations.



XXL MONOPILES

New designs show that future XXL monopiles will have a diameter of 10 metres. Our hammers are designed to handle even the largest monopiles and, therefore, meet the future standard. The newly designed PVE Giant can lift up to 800 tonnes and drive with an eccentric moment of up to 2000 kgm. PVE designed for this modular concept the patented coupling and synchronization of gearboxes.





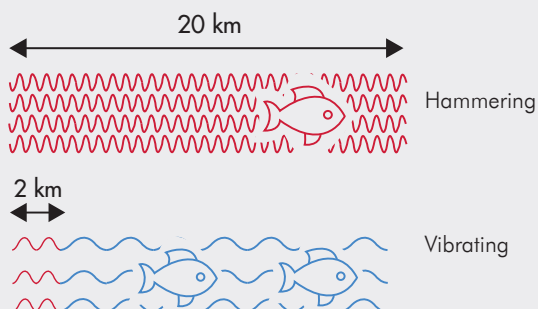
OFFSHORE WIND TIME SAVING INNOVATIONS

TIME SAVING AND ENVIRONMENTALLY FRIENDLY

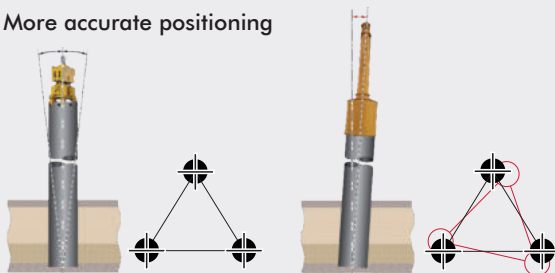
PVE offshore vibro technology is highly efficient. Our vibratory hammers offer minimal noise emission levels for a reduced impact to sea life and the environment. With a specialised R&D department and a long-term relationship with geotechnical specialists, we are able to provide the competitive edge.

To meet the demands and expectations of our offshore customers, we have developed specific equipment that reduces the driving time as well as handling time. A striking example is our patented upending PVE 300MU vibratory hammer.

Minimizing damage to marine life



More accurate positioning

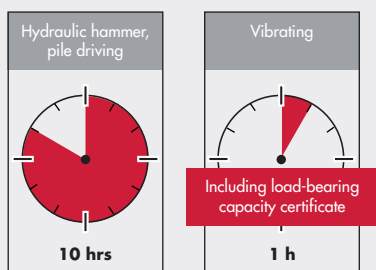


Vibratory:
Possibility to correct
angle during insertion

Impact Hammer:
NO possibility to correct

Significant time savings

Time based on steel pile Ø 3.5m, length 60m insertion depth 24m



PVE 300MU (UPENDING)

In the offshore wind market, saving time is gaining money as the total project time decreases. The PVE 300MU upending vibratory hammer moves horizontally stored piles into the vertical position. Thus they are lifted, positioned and vibrated in one sequence.

PVE 250M / 500M

The gearbox of the GIANT series, with a lifting head, creates a monobloc vibratory hammer up to 500 kgm. These mean machines have already proved themselves in the biggest piling jobs.

PVE 2000M GIANT

The PVE 2000M Giant can drive and extract large diameter XXL monopiles.

DECOMMISSIONING MET MASTS

The decommissioning of met masts is necessary in an increasing number of projects. Our vibratory hammers can extract the entire met mast foundation, without leaving debris on the seabed.



VIBRO PILE DRIVABILITY 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.

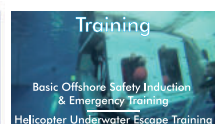
CARBON FOOTPRINT

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.



PRODUCT RANGE VIBRATORY HAMMERS



PVE OFFSHORE VIBRATORY HAMMERS

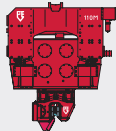
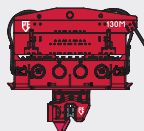
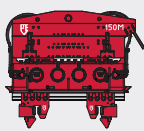
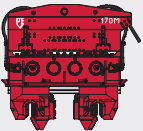
The PVE M-series hydraulic vibratory hammers provide excellent performance and precision and are built to be extremely robust. This M-series is developed for driving heavy and starts at 110 kgm eccentric moment up to 2000 kgm.

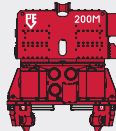
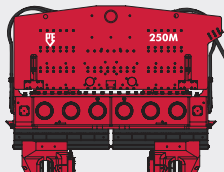
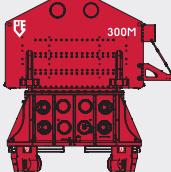
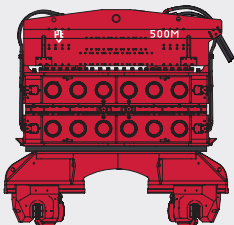
RENTAL FLEET

Do you need to be fully operational on site within a few days? Dieseko Group offers a wide range of offshore vibratory hammers for rent which are suitable for small and big projects.

The machines have a centrifugal force from 1000 to a gigantic 44000 kN and are operated by certified staff.

NORMAL FREQUENCY VIBRATORY HAMMERS

					
		110M	130M	150M	170M
Eccentric moment	kgm	110	130	150	170
Max. centrifugal force	kN	2198	2794	3224	3654
Max. frequency	rpm	1350	1400	1400	1400
Max. amplitude *)	mm	31	25	26,3	29,7
Max. static line pull	kN	800	1260	1260	1260
Max. oil flow	L/min	956	1293	1293	1293
Dynamic weight *)	kg	7000	10420	11400	11455
Total weight *)	kg	12000	16900	17780	17850
L x W x H *)	mm	3240 x 1105 x 2560	3862 x 1217 x 2425	3862 x 1217 x 2425	3862 x 1217 x 2425
Recommended power pack		1000	1400	1400	1400
Recommended Sheet pile clamp		350TU	350TU	-	-
Recommended Tube clamp set		150TC	175TC	200TC	350TC

					
		200M	250M	300M	500M
Eccentric moment	kgm	200	250	300	500
Max. centrifugal force	kN	4300	5374	6150	10748
Max. frequency	rpm	1400	1400	1400	1400
Max. amplitude *)	mm	19	24,6	21	33
Max. static line pull	kN	1800	3640	4000	2270
Max. oil flow	L/min	1680	1600	3200	2600
Dynamic weight *)	kg	21000	20330	27250	30300
Total weight *)	kg	29000	26599	47000	38200
L x W x H *)	mm	3860 x 1600 x 3405	5165 x 1270 x 3020	5035 x 1800 x 4395	5122 x 1217 x 3390
Recommended power pack		1600	1600	3200	3200
Recommended Sheet pile clamp		-	-	-	-
Recommended Tube clamp set		150TC	350TC	210TC	350TC

*) = excluding clamp & hoses

PRODUCT RANGE CLAMPS





CLAMPS





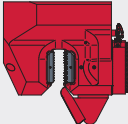
PVE has developed a wide range of heavy duty clamping systems, beams and cross beams for driving piles. Our experts are on hand to offer advice on the best clamping solutions for your application.

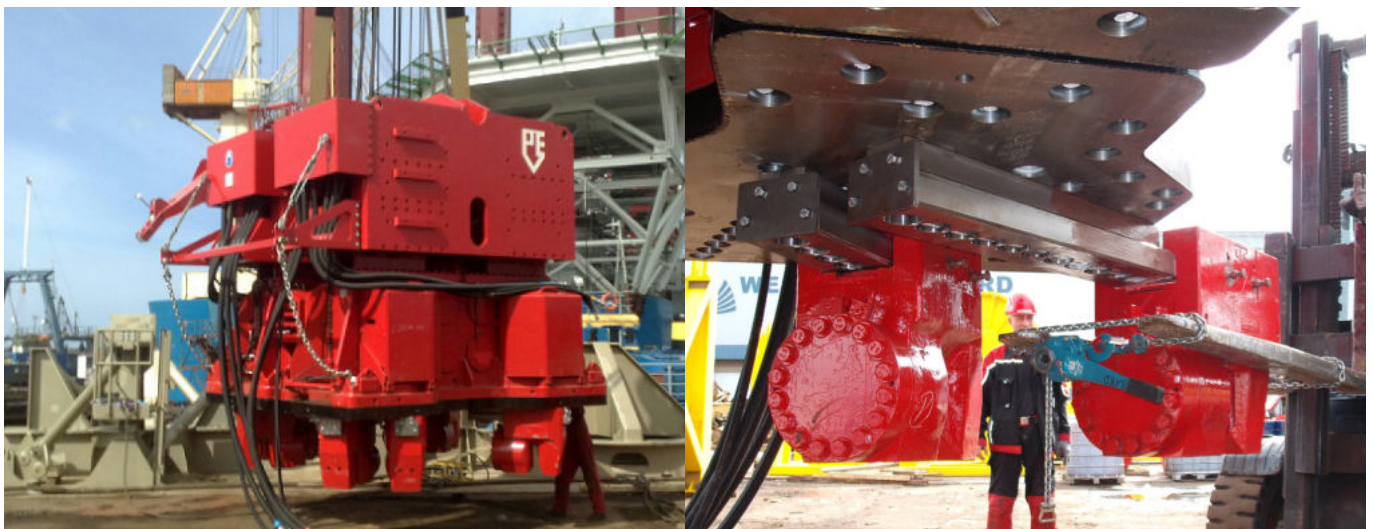
- TU series: sheets pile clamps for single or double sheets, H-beams, anchors
- TC series: tube clamps for tubes or multiple sheets

SHEET PILE CLAMPS

			
		200TUP	350TU
Clamping force	kN	2000	3500
Working pressure	bar	300	320
Weight	kg	2000	2600
L x W x H	mm	1130 x 530 x 920	1242 x 540 x 940

TUBE CLAMP SETS

						
		150TC	175TC	200TC	210TC	350TC
Clamping force	kN	1500	175	2000	2000	3500
Working pressure	bar	300	300	320	320	320
Weight	kg	1300	1300	1350	1600	2980
L x W x H	mm	797 x 420 x 750	797 x 420 x 750	915 x 430 x 1092	975 x 430 x 1102	1228 x 600 x 925
Min. inside tube Ø	mm	638	638	725	848	1097



PRODUCT RANGE POWER PACKS



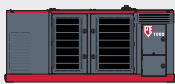








VERSATILE POWER

PVE offshore power packs are driven by top brand engines and pumps. The available engines range from Tier 2 to durable Tier 4 final, so we are able to offer a solution for each geographic region and requirement.

Intelligent iQan motor management software controls the engines and special features such as GPRS tracking and remote monitoring are available. The main benefit of the PVE open loop power pack system is that the risk of overheating is greatly reduced.

POWER PACKS

						
		1000	1000	1000	1400	1600 short
Diesel engine		Volvo TAD 1384 VE (2x)	Caterpillar C27	Volvo TAD 1352 GE (2x)	Volvo TAD 1353GE (2x)	Volvo TWD 1683 VE (2x)
Emission standard		Stage V / Tier 4F	Stage V / Tier 4F	Stage IIIA / Tier 3	Stage - / Tier 3	Stage V / Tier 4F
Max. power	kW/HP	750/1020	709/950	726/988	820/1116	1170/1592
Max. frequency	rpm	1900	1800	1800	1800	1900
Working pressure	bar	350	350	350	350	350
Max. oil flow	l/min	1051	1100	1051	1476	1710
Weight filled up	kg	14000	12700	13870	13870	18900
L x W x H	mm	5372 x 2480 x 2406	5075 x 2300 x 2415	5372 x 2480 x 2430	5370 x 2480 x 2430	5875 x 2900 x 2510

					
		1600	1600	1600	3200
Diesel engine		Volvo TWD 1683 VE (2x)	Caterpillar C18 (2x)	Volvo TAD 1643 VE (2x)	Volvo TAD 1643 VE (4x)
Emission standard		Stage V / Tier 4F	Stage V / Tier 4F	Stage - / Tier 2	Stage - / Tier 2
Max. power	kW/HP	1170/1592	1126/1510	1130/1536	2260/3072
Max. frequency	rpm	1900	1800	1850	1850
Working pressure	bar	350	350	350	350
Max. oil flow	l/min	1620	1620	1665	3330
Weight filled up	kg	18000	18000	15000	31000
L x W x H	mm	8075 x 2200 x 2540	8075 x 2200 x 2540	5470 x 2480 x 2520	9075 x 2500 x 2693

OUR POWER PACKS DRIVE:

- Winches
- Augers
- Cranes
- Pumps
- SPMT'S
- Vibratory hammers
- Impact hammers
- And much more hydraulic equipment







GLOBAL SERVICE NETWORK

Dieseko Group B.V.

(headquarters)
Lelystraat 49
3364 AH Sliedrecht, the Netherlands
Tel: (+31) 184 410 333
info@diesekogroup.com
www.diesekogroup.com

Woltman Piling & Drilling Rigs

Ambachtsweg 16
3381 LN Giessenburg, the Netherlands
Tel: (+31) 184-652044
info@woltmanrigs.com
www.woltmanrigs.com

PVE Equipment USA Inc.

5011 Vernon Road
Jacksonville, FL 32209, USA
Tel: (+1) 904 765 66 86
info@pveusa.com
www.pveusa.com

Pilequip Pty. Ltd.

39 Chapman Road
Vineyard NSW 2765, Australia
Tel: +61 2 9838 3144
info@pilequip.com.au
www.pilequip.com.au

Dieseko Polska Spółka z o.o.

Struga 61
70-784 Szczecin, Poland
Tel: +48 736 241 696
polska@diesekogroup.com
www.diesekogroup.com

Shanghai ICE Construction Equipment Trading Company

No.88, Building 31, ChuanSha International Industrial Garden,
6999 ChuanSha Road, PuDong District,
201202 Shanghai, P.R. China
Tel: (+86) 21 3468 8990
info@icevibro.com
www.icevibro.com

Dieseko Group certified dealer:

DIESEKO GROUP



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