PTC
FAYAT GROUP

VIBRODRIVERS ON CRANES

FOR PILE DRIVING AND EXTRACTING



03-2025

PTC

PTC, a FAYAT Group company, is specialised in the design and manufacturing of equipment for deep foundations and shoring works solutions: vibrodrivers.

PTC's wide range of products and services allows us to answer all contractors' needs.

In complement to sales activities, PTC offers vibrodrivers for rental.

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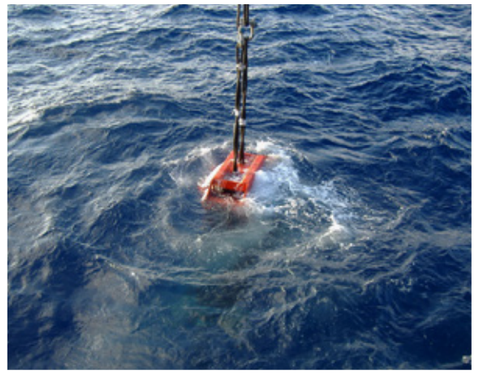




Des solutions innovantes pour
EVERY APPLICATION













JOB ANALYSIS

A job in threefold: vibrodriver, pile and soil characteristics.



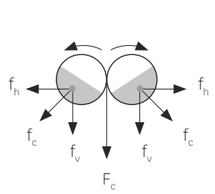
1 Yoke / Extraction box | **2** Vibrator gearbox | **3** Clamping head | **4** Profiles | **5** Power pack

1 VIBRODRIVER

Principle: vibrodriver overcomes the soil resistance.

The vertical vibration eliminates temporarily the lateral friction between soil and pile. Thus allowing for easy pile driving or extracting by using either the equipment weight or the crane force.

In the vibrator, each eccentric pair turns at the same revolution speed in opposite directions, producing a vertical vibration. The eccentrics generate a centrifugal force f_c. The horizontal forces f_h are cancelled at the same time that the vertical components f_v are added, resulting in a total centrifugal force F_c. The yoke located above the gearbox prevents the transmission of vibrations to the crane, thanks to shock absorbers' design.



2 PILES

Vibrodrivers can work free-hanging on lattice-boom as well as telescopic boom cranes, and can be used to drive a wide variety of profiles: sheet piles, H and I beams, casings and tubes, timber and pre-cast concrete piles.

- Sheet piles
- H & I beams
- Casings & tubes
- Timber piles
- Pre-cast concrete piles

3 SOIL CHARACTERISTICS

PTC has the expertise to support its customers for any soil investigation they might need. PTC will help and assist to select the best equipment in order to best match work configuration by studying soil technical data and the type of profile to be driven.

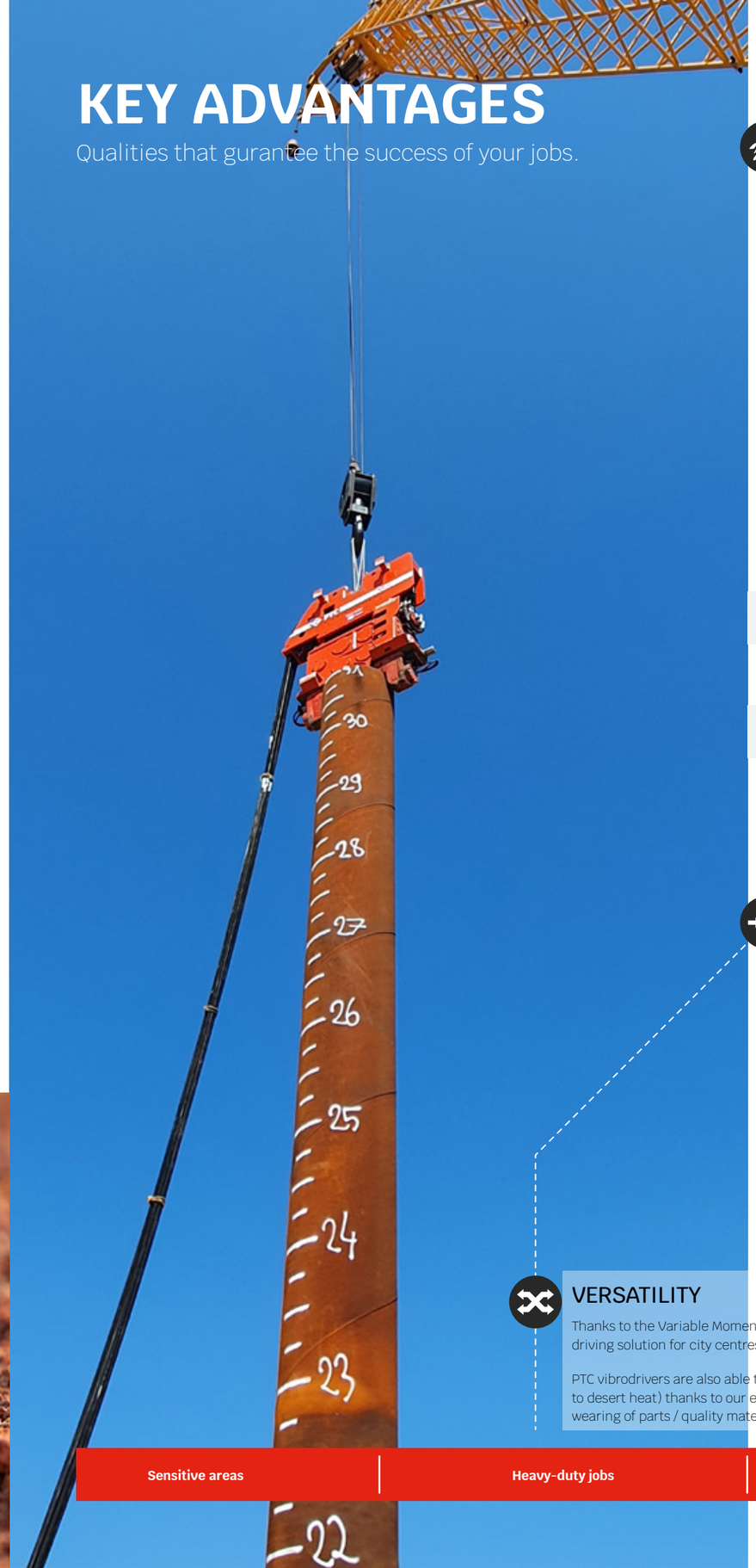
Important soil data are:

- Cohesive or non-cohesive soil
- Soil layers diversity
- Material properties
- Penetration depth



KEY ADVANTAGES

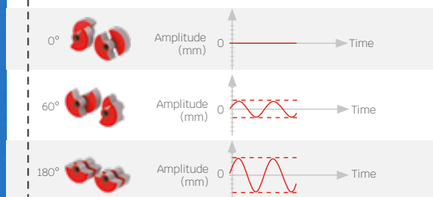
Qualities that gurantee the success of your jobs.



VARIABLE MOMENT TECHNOLOGY

Patented technology allowing driving with adjustable amplitude thanks to the variation of the eccentric's relative positions.

- Resonance-free start-up and stop.
- Suitable for telescopic booms and leads.
- Amplitude adjustment at any time thanks to a continuous variation of the eccentric moment.
- The variation of the eccentric moment facilitates the positioning of the pile during driving operations:
  - ◇ Better control on pile verticality and for guiding.
  - ◇ Desired driving depth reached with more accuracy.
  - ◇ Ajdustment of driving velocity.



COMPACTNESS

We have always paid particular attention to the design of our vibrodrivers. Our machines are the most compact on the market today, and allow our clients to work easily and comfortably no matter their jobsite configuration.

This compactness is achieved without any compromise on the machine's hard-wearing or temperature maintenance (effective oil cooling circuit), allowing our clients to couple ease of working and extreme conditions.

VERSATILITY

Thanks to the Variable Moment technology, our contractors benefit from a driving solution for city centres and areas near sensitive structures.

PTC vibrodrivers are also able to operate in extreme conditions (from arctic cold to desert heat) thanks to our experience put in their design and to the hard-wearing of parts / quality materials used.

Sensitive areas | **Heavy-duty jobs** | **Extreme weather conditions**

THREE VIBRODRIVERS RANGES



The best range for your application depends on the proximity to the existing sensitive structures. If the piling works are done in a sensitive area (city centre), and you wish to control the vibration and limit the particle velocity (mm/s), PTC's vibrodrivers with Variable Moment (HFV & HV ranges) are the best choice. For contractors working on other structures, standard vibrodriver with a fixed eccentric moment (HD) are the best fit.

Soil and pile properties (height, weight, and pile type) are key to determine what eccentric moment and centrifugal force is required to drive the pile to the desired depth.

RANGE
HFV

URBAN

High frequency and Variable Moment technology.
The HFV range allows to adjust the amplitude at any time, thus it is highly recommended for "vibration-sensitive" applications: city centres, or near existing structures (bridges, railways, old houses, gas pipelines, etc.). The HFV vibrodrivers are suitable for telescopic cranes thanks to their resonance-free start-up and stop.

RANGE
HV

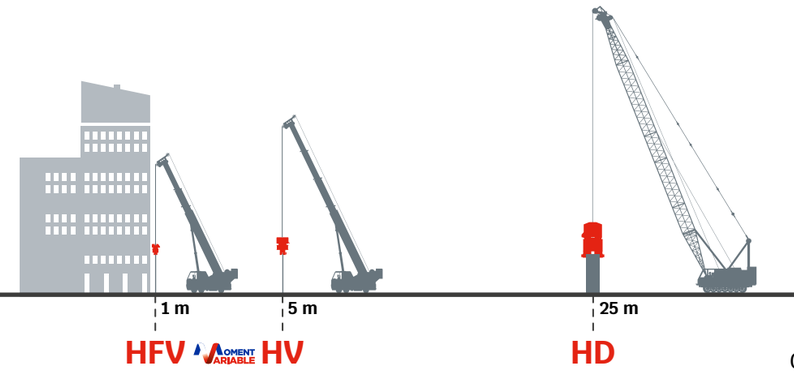
SUBURBAN

Standard frequency and Variable Moment technology.
The HV range offers the comfort and the advantages of the Variable Moment technology while working at standard frequency. Therefore, it requires less powerful power packs than high frequency vibrodrivers. These vibrodrivers are suitable for telescopic cranes thanks to their resonance-free start-up and stop.

RANGE
HD

HEAVY-DUTY

Standard frequency and fixed eccentric moment.
The most famous range of heavy-duty vibrodrivers in the world, known for their endless lifespan, capable of driving sheet piles and casings of up to 100 tons. This mechanically ultra-resistant range has high-filtering capacities to absorb vibrations in order to protect cranes and booms.



URBAN RANGE: HFV

High frequency and Variable Moment technology.

The HFV range (high frequency) allows to adjust the amplitude at any time, thus it is highly recommended for sensitive areas: city centres, or near sensitive existing structures (bridges, railways, old houses, pipelines, etc.). The HFV vibrodrivers are suitable for telescopic boom cranes thanks to their resonance-free start-up and stop. The VIBMASTER® monitoring system is highly recommended..

VARIABLE MOMENT TECHNOLOGY

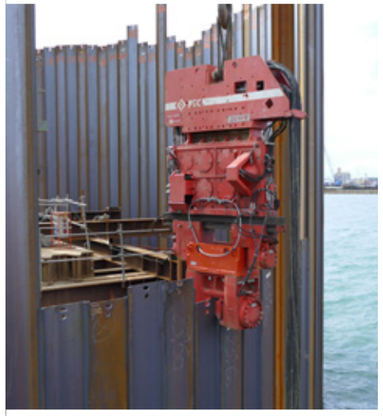
OPTIMUM COMPACTNESS

SUITABLE FOR VIBRATION-SENSITIVE JOBSITES

SUITABLE FOR TELESCOPIC CRANES

		10HFV	16HFV	24HFV	32HFV	40HFV	48HFV
TECHNICAL DATA							
Eccentric moment	kg.m	0-10	0-16	0-24	0-32	0-40	0-46
Hydraulic power	kW	143 I 163	222	356	368	496	624
Max. eccentric rotation speed	Hz // rpm	38 // 2300	38 // 2300	38 // 2300	38 // 2300	38 // 2300	38 // 2300
Max. centrifugal force	kN	580	930	1390	1860	2330	2665
Max. line pull capacity	kN	245	330	410	660	825	825
Vibrating weight without clamp	kg	1015	2488	2588	3920	4125	4235
Total weight without clamp	kg	1990	3679	3772	6300	6975	7085
Max. amplitude vibrodriver alone	mm	20	13	19	17	20	22
Length	mm	1405	2184	2184	2300	2300	2300
Width	mm	662	794	794	880	921	921
Center width	mm	385	330	330	330	400	400
Height without clamp	mm	1497	2017	2017	2530	2397	2397
FEATURES							
Driving of raked piles up to 45°		No	Yes	Yes	Yes	Yes	Yes
Forced and cooled lubrication		Option	Yes	Yes	Yes	Yes	Yes
RECOMMENDED POWER PACK							
Type		240 I 400	400	650	650	900	1200
RECOMMENDED CLAMPS							
Sheet piles		Agriplex 90t	Agriplex 120t	Agriplex 170t	Agriplex 240t	Agriplex 350t	Agriplex 350t
Clamps total weight	kg	330	750	1250	2150	2835	2835
Casings and tubes		2 clamps 42t	2 clamps 55t	2 clamps 85t	2 clamps 120t	2 clamps 150t	2 clamps 150t
Clamps total weight	kg	790	900	1212	1600	2900	2900
Diameter (min. / max. w/o accessories)	mm	250 / 1000	270 / 1450	340 / 1380	590 / 1720	665 / 1660	665 / 1660
Diameter (max. with accessories)	mm	1000	1750	1680	3420	2260	2260
Concrete and wooden piles		-	Multigrip 120t	Multigrip 180t	-	-	-
Clamps total weight	kg	-	1560	2300	-	-	-















SUBURBAN RANGE: HV

Standard frequency and Variable Moment technology.

The HV range offers the comfort and the advantages of the Variable Moment technology while working at standard frequency. Therefore, it requires less powerful power packs than high frequency vibrodrivers. These vibrodrivers are suitable for telescopic cranes thanks to their resonance-free start-up and stop. The VIBMASTER® monitoring system can take advantage of this range and is greatly recommended.
Our HV vibrodrivers do not need high revolution speed to work effectively. They harness the full potential of the H / HD vibrodrivers with all the technicity of the Variable Moment technology.

VARIABLE MOMENT TECHNOLOGY

OPTIMUM COMPACTNESS

SUITABLE FOR URBAN AND RURAL AREAS

SUITABLE FOR TELESCOPIC CRANES

		24HV	30HV	48HV	60HV
TECHNICAL DATA					
Eccentric moment	kg.m	0-24	0-28	0-48	0-55
Hydraulic power	kW	140	216	292	373
Max. eccentric rotation speed	Hz // rpm	27 // 1600	29 // 1760	27 // 1600	29 // 1740
Max. centrifugal force	kN	670	950	1340	1820
Max. line pull capacity	kN	250	310	625	625
Vibrating weight without clamp	kg	2588	2614	4075	4140
Total weight without clamp	kg	3900	3970	6500	6750
Max. amplitude vibrodriver alone	mm	19	21	24	27
Length	mm	2184	2184	2300	2300
Width	mm	794	794	880	880
Center width	mm	330	330	330	330
Height withoutclamp	mm	2017	2017	2530	2530
FEATURES					
Driving of raked piles up to 45°		Option	Option	Option	Option
Forced and cooled lubrication		Option	Option	Option	Option
RECOMMENDED POWER PACK					
Type		240	400	500	650
RECOMMENDED CLAMPS					
Sheet piles		Agriplex 85t	Agriplex 120t	Agriplex 170t	Agriplex 240t
Clamps total weight	kg	470	750	1250	2150
Casings and tubes		2 clamps 42t	2 clamps 55t	2 clamps 85t	2 clamps 120t
Clamps total weight	kg	614	900	1212	1600
Diameter (min. / max. w/o accessories)	mm	250 / 1500	270 / 1450	340 / 1980	590 / 1720
Diameter (max. with accessories)	mm	1800	1750	3680	3420
Concrete and wooden piles		Multigrip 120t	Multigrip 120t	Multigrip 180t	-
Clamps total weight	kg	1560	1560	2300	-













HEAVY-DUTY RANGE: HD

Standard frequency and fixed eccentric moment.

The most famous range of heavy-duty vibrodrivers in the world, known for their longevity guarantee. This range is designed with hard-wearing materials and is manufactured for the strongest mechanical resistance. In spite of all this robustness, H / HD vibrodrivers have high vibration-absoption capacities to get steady vibrations in order to protect boom cranes. This range adapts well to sheet piles applications and driving of casings of up to 100 tons.

LARGE INFRASTRUCTURES

EXTREME ROBUSTNESS

SUITABLE FOR ANY JOB

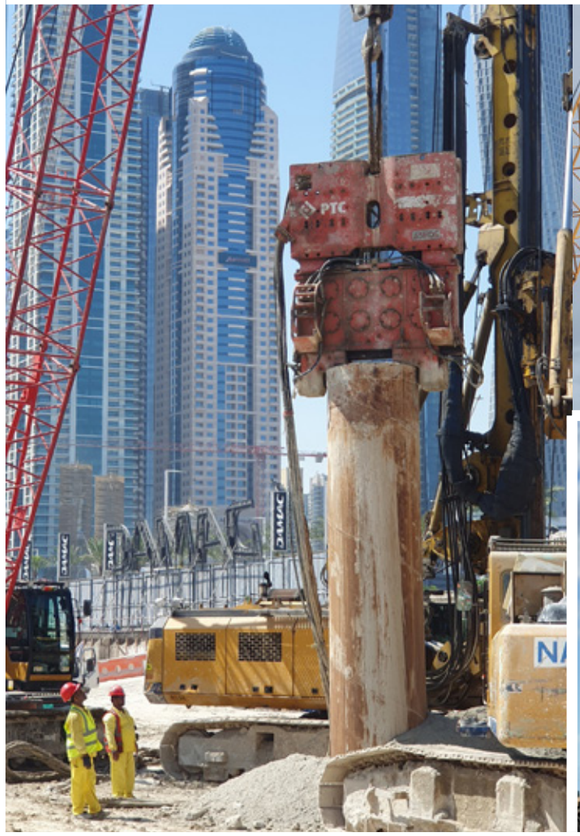
		32HD	50HD	65HD	75HD	90HD	130HD	200HD
TECHNICAL DATA								
Eccentric moment	kg.m	33	47	66	75	88	130	197
Hydraulic power	kW	198	292	344	373 | 513	519	513 | 653	688
Max. eccentric rotation speed	Hz // rpm	28 // 1650	25 // 1500	26 // 1560	25 // 1500	27 // 1610	23 // 1350 | 1380	23 // 1380
Max. centrifugal force	kN	985	1150	1760	1850	2501	2620 | 2740	4115
Max. line pull capacity	kN	430	625	700	840 | 960	1000	1400	2100
Vibrating weight w/o clamp	kg	2350	3060	4700	4845	6000	8400	14200
Total weight w/o clamp	kg	4150	5800	6550	10610	8500	13500	20600
Max. amplitude vibrodriver alone	mm	28	30	28	31	29	31	28
Length	mm	2500	2500	2300	3500	2300	2300	2300
Width	mm	730	915	910	945	930	1500	1520
Center width	mm	330	330	330	400	370	800	800
Height w/o clamp	mm	1885	2197	2598	2197	2700	2960	4250
FEATURES								
Driving of raked piles up to 45°		-	Yes	Option	Option	Option	-	Yes
Forced and cooled lubrication		Option	Option	Option	Option	Option	Option	Option
RECOMMENDED POWER PACK								
Type		400	500	650	650 | 900	900	900 | 1200	1200
RECOMMENDED CLAMPS								
Sheet piles		Agriplex 120t	Agriplex 170t	Agriplex 240t	Agriplex 240t	Agriplex 350t	Agriplex 350t	-
Clamps total weight	kg	750	1250	2150	2150	2835	2835	-
Casings and tubes		2 clamps 55t	2 clamps 85t	2 clamps	2 clamps 120t 2 clamps 150t	2 clamps 150t	2 clamps 150t 4 clamps 85t | 120t	2 clamps 250t 4 clamps 150t
Clamps total weight	kg	900	1212	1600	1600 2900	2900	2900 9970	10500 13140
Diameter (min. / max. w/o accessories)	mm	270 / 2250	340 / 2180	590 / 1720	590 / 2820 665 / 2760	665 / 1660	665 / 1660 2111 | 1853	840 / 940
Diameter (max. with accessories)	mm	-	3680	3420	- 3160	2260 +	3160 3658 | 3400	3000 3342
Concrete and wooden piles		Multigrip 120t	Multigrip 180t	-	-	-	-	-
Clamps total weight	kg	1560	2300	-	-	-	-	-















POWER PACKS

Complying with current environmental regulations.



PTC offers multi-purpose power packs that feature state-of-the-art automation, a screen for work ergonomics and easy transfer from one machine to another, as well as an open loop circuit, which allows the power pack to supply power to multiple equipment:
vibrodrivers, hydraulic hammers, vibrolances, drills and more.

		240VO	400VO	400CO	500VO	650VO	650CO	900VO	900CO	1200VO
ENGINES										
Engine EU stage V - US EPA Tier 4f		Volvo TAD 582 VE	Volvo TAD 883 VE	Caterpillar C9.3B	-	Volvo TAD 1385 VE	Caterpillar C15	Volvo TWD 1683 VE	-	x2 Volvo TAD 1385 VE
Engine power	kW / hp	160 / 215	235 / 315	250 / 335	-	405 / 543	403 / 540	585 / 785	-	810 / 1086
Max. rotation speed	rpm	2000	1800	1900		1900	2100	1900	-	1900
Engine EU stage IIIA - US EPA Tier 3		Volvo TAD 552 VE	Volvo TAD 853 VE	Caterpillar C9.3B LRC	Volvo TAD 1353 VE	Volvo TAD 1651 VE	Caterpillar C15	-	-	x2 Volvo TAD 1651 VE
Engine power	kW / hp	160 / 215	235 / 315	250 / 335	345 / 463	430 / 577	403 / 540	-	-	860 / 1153
Max. rotation speed	rpm	2000	1800	1800	1900	1900	2100	-	-	1900
Engine EU stage II - US EPA Tier 2		-	-	-	-	-	-	Volvo TAD 1643 VE	Caterpillar C18	-
Engine power	kW / hp	-	-	-	-	-	-	565 / 758	571 / 776	-
Max. rotation speed	rpm	-	-	-	-	-	-	1900	2100	-
TECHNICAL DATA										
Nominal hydraulic flow	L / min	240	380	380	510	650	650	900	900	1200
Max. hydraulic pressure	bar	350	350	350	350	350	350	350	350	350
Oil capacity	L	710	710	700	1300	1300	1300	1500	1500	1960
Fuel capacity	L	595	595	650	1330	1330	1330	1330	1330	2150
Length	m	3500	3500	3850	4800	4800	4800	4800	4800	6500
Width	m	1600	1600	1600	2000	2000	2000	2000	2000	2175
Height	m	2150	2150	2083	2430	2400	2305	2430	2375	2415
Weight (with fuel)	kg	5100	5300	5780	9135	9300	9850	9950	10200	16200
FEATURES										
Open loop circuit		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ECOMODE		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quick couplings		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Connecting hoses length	m	15 / 30 / 45 / 60	15 / 30 / 45 / 60	15 / 30 / 45 / 60	15 / 30 / 45 / 60	15 / 30 / 45 / 60	15 / 30 / 45 / 60	15 / 30 / 45 / 60	15 / 30 / 45 / 60	15 / 30 / 45 / 60
Connecting hoses weight	kg	125 / 250 / 375 / 500	175 / 350 / 525 / 700	175 / 350 / 525 / 700	325 / 650 / 975 / 1300	325 / 650 / 975 / 1300	325 / 650 / 975 / 1300	350 / 700 / 1050 / 1400	350 / 700 / 1050 / 1400	350 / 1100 / 1650 / 2200

Ecomode

The **Ecomode** is included in PTC power packs. It reduces fuel consumption up to 20%, polluting emissions and noise. It automatically adjusts the speed of the diesel engine to only supply the power that is needed according to soil conditions.

- Variable engine speed
- Variable displacement
- Up to 20% decrease in fuel consumption
- Up to 35% decrease in polluting gases
- Constant hydraulic flow
- Same vibrodriver performances
- Significant sound-level reduction

CLAMPING HEADS

A wide range to match the variety of pile types and sizes.

AGRIPLEX

A fixed clamp for sheet piles or H beams.



DUPLEX

Two clamps for tubes, casings, and double sheet piles, which can slide on T-bars.

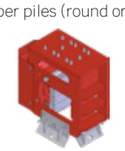


AGRIPLEX	LENGTH	WIDTH	HEIGHT	OPENING	WEIGHT	CLAMPING FORCE
22 t	487 mm	240 mm	310	20 mm	85 kg	203 kN
60 t	632 mm	330 mm	479 mm	40 mm	290 kg	603 kN
60 t extended	732 mm	330 mm	479 mm	30 mm	300 kg	603 kN
85 t	857 mm	280 mm	480 mm	37 mm	470 kg	814 kN
90 t	662 mm	330 mm	484 mm	40 mm	330 kg	860 kN
120 t	888 mm	460 mm	615 mm	35 mm	750 kg	1216 kN
170 t	1027 mm	510 mm	695 mm	50 mm	1250 kg	1570 kN
240 t	1270 mm	526 mm	977 mm	51 mm	2150 kg	2368 kN
350 t	1470 mm	550 mm	900 mm	70 mm	2835 kg	3440 kN

DUPLEX	LENGTH	WIDTH	HEIGHT	OPENING	WEIGHT	CLAMPING FORCE
42 t	407 mm	300 mm	400 mm	37 mm	207 kg	424 kN
55 t	483 mm	340 mm	452 mm	40 mm	350 kg	565 kN
85 t	530 mm	325 mm	574 mm	50 mm	506 kg	814 kN
120 t	693 mm	400 mm	562 mm	52 mm	700 kg	1216 kN
150 t	815 mm	416 mm	752 mm	60 mm	1300 kg	1570 kN
250 t	1155 mm	526 mm	850 mm	60 mm	2400 kg	2368 kN

MULTIGRIP

A helmet clamp for pre-cast concrete or timber piles (round or square).



60 t

120 t

180 t





MULTIGRIP	60 t	120 t	180 t
LENGTH	780	1560	2300
WIDTH	603	1207	1811
HEIGHT	1021	1290	1290
OPENING	484	652	652
MIN. / MAX.	840	1130	1685
MIN. / MAX.	140 / 350	290 / 500	290 / 500
WEIGHT	160 / 350	300 / 500	300 / 500
CLAMPING FORCE	590	1 180	1 770

INTERMEDIATE PLATES

To adapt the clamping system to the specific needs of the jobsite.



DUPLEX WITH STRAIGHT BEAM

For large tubes.



DUPLEX WITH INTERMEDIATE PLATE

For double U sheet piles.



DUPLEX WITH INTERMEDIATE PLATE

For double Z sheet piles.



QUADRIPLEX WITH INTERMEDIATE SQUARE PLATE

For small and medium tubes.



QUADRIPLEX WITH SPREADER BEAM

For large and heavy tubes.

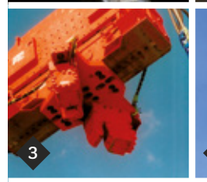


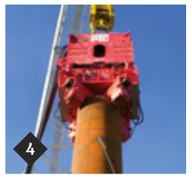
COMBINED CLAMP SYSTEM

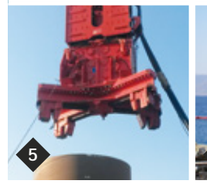
For a fast switch of clamp (Agriplex - Duplex) when driving sheet piles and tubes.

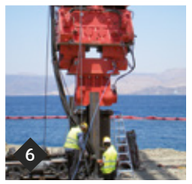






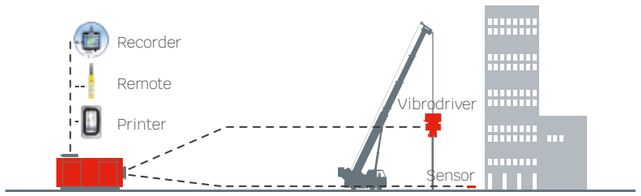






VIBMASTER®

Monitoring and amplitude regulation according to soil velocity.



Vibmaster® is a patented monitoring system for PTC vibrodriver applications. It allows to continuously control the driving of piles and sheet piles through the reading of: vibrodriver pressure, to display the power supplied, and soil particle velocity (in mm/s), to control the vibrations transmitted to the ground.

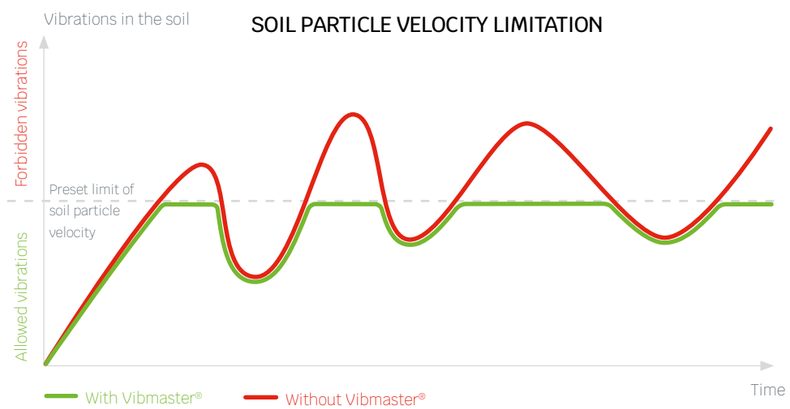
Optional measures: vibrodriver's vibration frequency and amplitude, verticality and depth of penetration (in meters).

The Vibmaster® working with HFV and HV vibrodrivers enables to set a limit to the soil particle velocity that will not be exceeded. This system is required in sensitive and restricted areas such as, city centres, jobsites near buildings, or jobsites next to railways.

To connect to your PTC power pack, all you need is to install a junction box inside the power pack and then connect it to all the components: the remote control box, the sensors and the monitoring panel, which displays the measurements in real time.

Monitor in real time a variety of working parameters to be sure to comply with the job site requirements. In addition, you can get a copy of the data on a USB key or store the data on your computer, to analyse the work data and prepare better for the next jobsite or to show it to a certification body.

SOIL PARTICLE VELOCITY LIMITATION



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