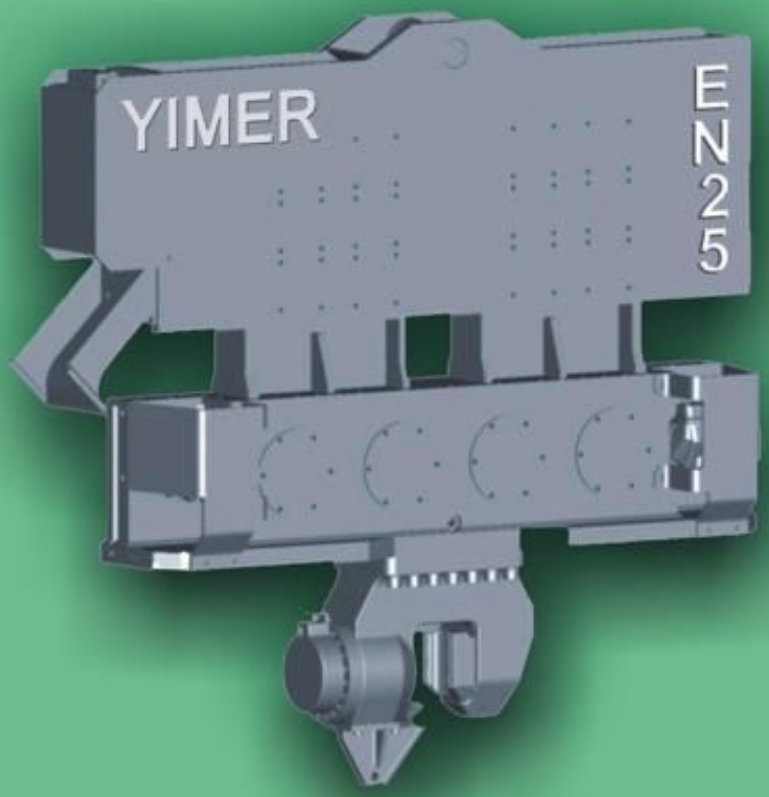
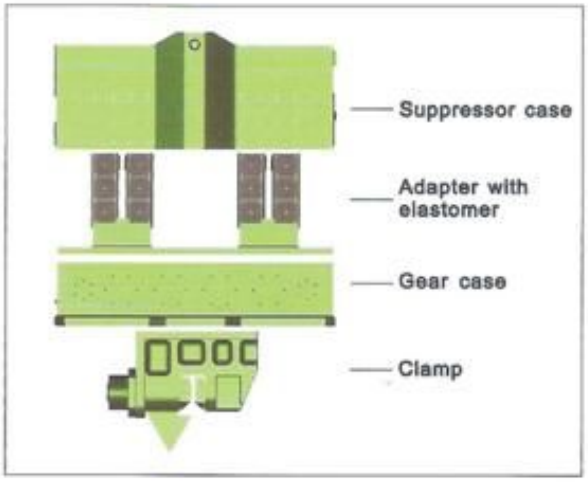
EFE foundation
equipment & technologies

YIMER

HYDROVIBRO HAMMERS



BUILT FOR THE WORKS



Composition of HydroVibro

The traditional hydraulic vibratory hammer consisted in vibratory hammer and power pack. (as shown on picture) as among to driving the sheet pile and steel round pipe and other profiles.

Configuration

HydroVibro:

There are suppressor, gearcase and camp device.

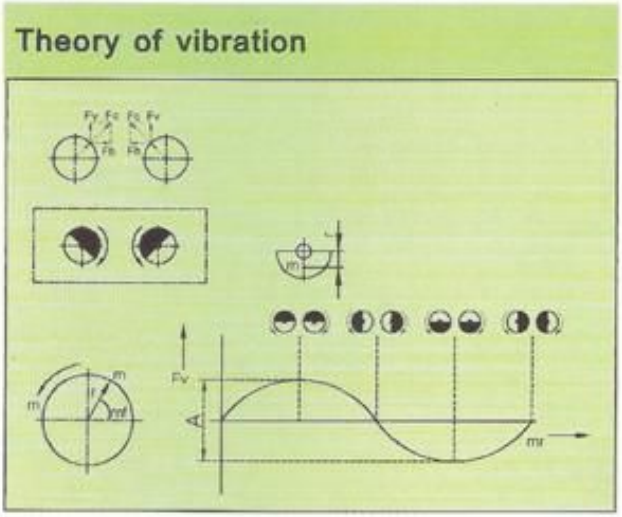
Power Pack:

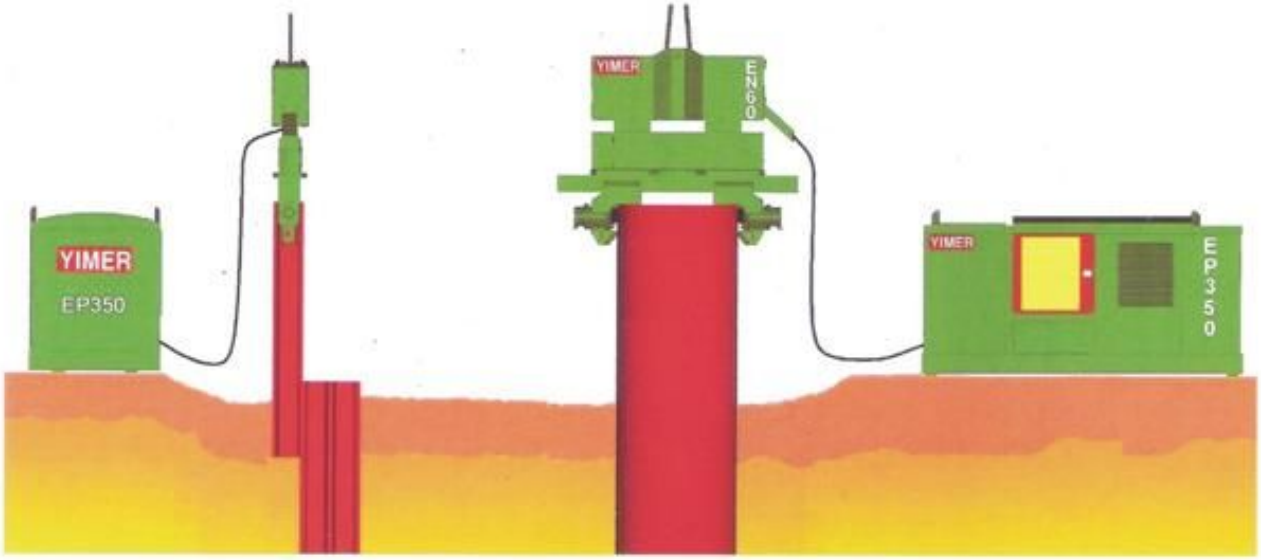
It combined with diesel engine (power plant) and hydraulic system with related to accessories.

Working principle of HydroVibro hammer

The heart of gearcase is utilized the heavy high precision roller bearing to counter-rotating the eccentrics. The top of the suppressor is absorned the vibration caused by the gearcase before as protection the carrier (lifting mechanism), Underside of the gearcase is the clamp device which transformed the vibration to the rammed section, such as sheet piles, steel round piles etc.

The power by power pack is required enough well-balaneed hydraulic power supply to start and drive the vibratory hammer.





Driving

-Sheet piles

-Steel round pipes

-H Beam profile

-I profile

-Concrete piles

-Vertical drains

-Vibro piles

-In-situ concrete piles

-Soil improvement

-Diaphragm wall

-Soil compaction

-Wooden piles

-Offshore

Safety

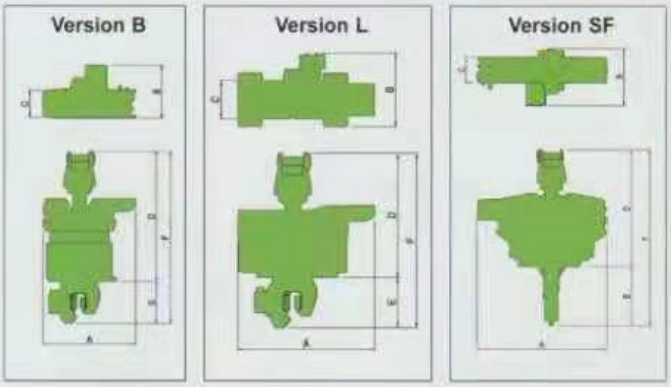
YIMER HydroVibro hammers are fulfil the CE as safty indication.

TECHNICAL DATA

YIMER

		emv28	emv38	emv645	emv850	emv955	emv1270	emv1480	emv418C	emv160C
Eccentric moment	kgm	3.3	5	6	8	9	12	14	18	22
Max. Centrifugal force	kN	280	380	450	500	619	750	810	1100	1300
Max. Frecuency	rpm	2800	2500	2500	2300	2350	2300	2300	2300	2300
Max. Amplitude without clamp	mm	11	12.5	17.5	15	24.5	17	20.5	19	15.5
Max. Amplitude with clamp	mm	8.5	9	13	11	17	13.5	14.5	14.5	15.5
Max. Line-pull	kN	120	120	120	120	150	240	240	240	360
Max. Hydraulic power	kW	63	71	83	83	150	240	187	260	320
Max. Operating pressure	bar	350	350	350	350	350	350	340	340	350
Max. Oil flow	l/min	110	170	200	200	200	300	330	330	570
Dynamic weight withou clamp	kg	576	585	590	610	610	1400	1189	1315	1900
Dynamic weight withclamp	kg	730	875	880	900	970	1800	1745	1895	2900
Clamp force	kN	500	500	500	500	650	1000	1000	1000	1500
Total weight	kg	860	1465	1490	1490	1690	2600	2965	3005	4600
Transport weight	kg	970	1515	1540	1540	1740	2900	3029	3105	4700

Version L	A	B	C	D	E	F
emv 28L	1384	647	310	1237	540	1777
emv 38L	1384	708	332	1237	540	1777
emv 645L	1384	708	332	1237	540	1777
emv 850L	1384	708	332	1237	540	1777

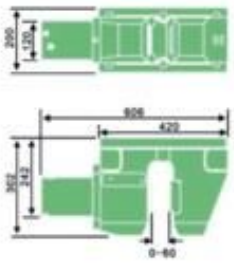


A=Length
B=Width
C=Throat width
D=Hammer height
E=Clamp height
F=Total height

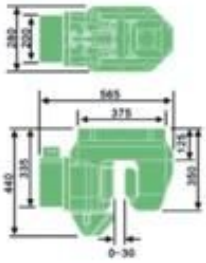
Version B	A	B	C	D	E	F
emv 28	1115	568.5	310	718	365	1083
emv 38	1115	618.2	332	980	497	1477
emv 645	1115	618.2	332	980	497	1477
emv 850	1394	708.8	332	718	497	1215
emv 955	1306	637	332	1056	497	1553
emv 1270	1650	505	350	1108	718	1826
emv 1480	1780	780	340	1122	718	2397
emv 418C	1780	780	340	1122	718	2397
emv 160C	2050	820	340	2215	900	3115

Version SF	F	B	C	D	E	F
emv 280	1646	660	310	1706	700	2406
emv 380	1646	700	332	1706	700	2406
emv 450	1646	700	332	1706	700	2406
emv 500	1646	700	332	1706	700	2406
emv 550	1646	700	332	1706	700	2406
emv 700	2132	800	350	1840	700	2540
emv 800	232	824	350	1996	700	2696
emv 1100	232	824	350	1996	700	2696

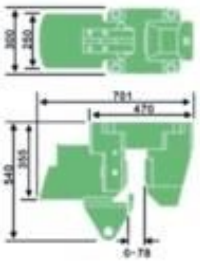
CLAMPS



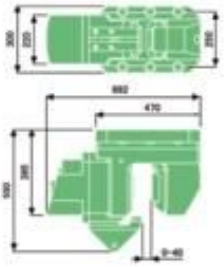
MP20S



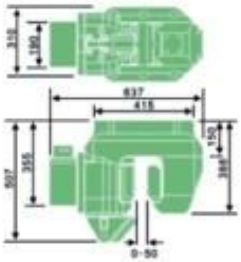
MP40S



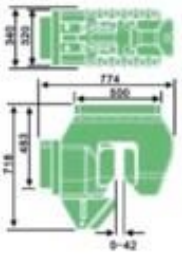
MP50



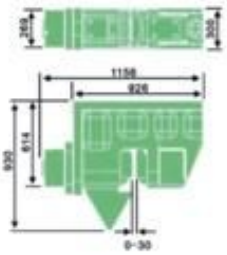
MP50S



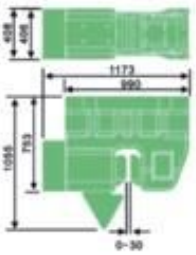
MP65S



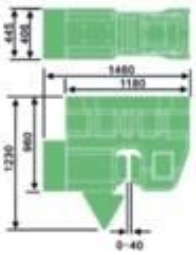
MP100S



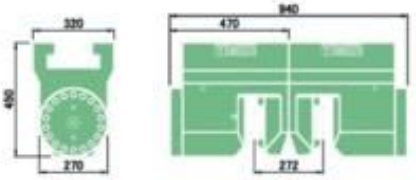
MP130S



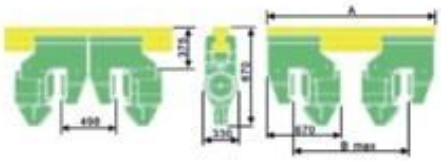
MP250S



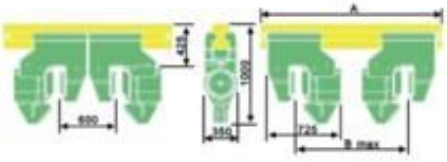
MP350S



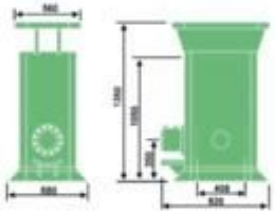
D110



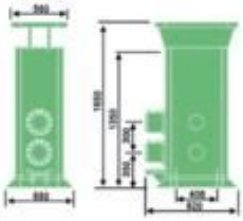
D160



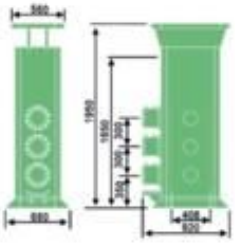
D260



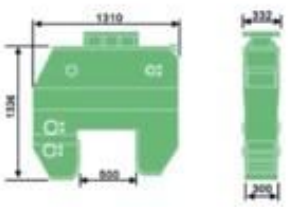
60CC



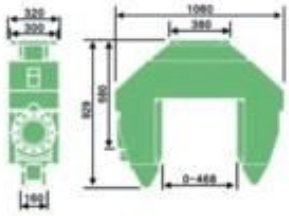
120CC



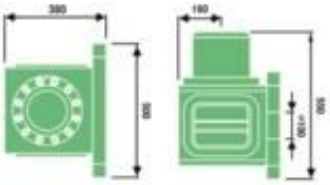
180CC



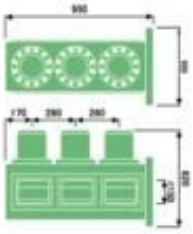
CX60



CXE60



A645



A955

Note: There are available on Design and Build for special clamp from your demends.

TECH INFO

Vibratory hammer pile driving method

The principle of vibratory driving is the reduction of friction between the pile and the sois.The vibrations will temporarily disturb the soil around the pile,causing minor lipuefaction,which results in a noticeable decrease in resistance between soil and pile.This enables the pile to be driven into the ground with very little added load,i.e.its own weight plus the weight of the driver.
The vibratoryhammer pile driver is also a very efficient piling extraction.The decrease in resistance Between soil pile enables extraction to accur with a greatly reduced upward pull compared with the static extraction force which would be required to extract a similar pile.
Soil characteristics
The density of relation to penetrometer and pressuremeter-test results as non-cohesive soils as shown in table

DPH 1	SPT 2	CPT 3	Pressuremeter Test		Density
N10	N30	qs	ql	Em	
		MN/m^2	MN/m^2		
	<4	2.5	<0.2	1.5	Very loose
3	4 to 10	2.5 to 7.5	0.2 to 0.5	1.5 to 5.0	Loose
3 to 15	4 to 30	7.5to 15	0.5 to 1.5	5.0 to 1.5	Medium dense
15 to 30	30 to 50	15 to 30	1.5 to 2.5	15 to 25	Dense
>30	>50	>25	>2.5	>2.5	Very dense

1 Dynamic probing heavy
2 Standard penetration test(dynamic)
3 Cone penetration test(static)

The consistency of cohesive soils in relation to SPT,CPT and pressuremeter-test results is as follows:

SPT	CPT	Pressuremeter Test		Consistency	Undrained Shear strength
N30	qs	ql	Em		
	MN/m^2	MN/m^2			KN/m^2
<2	<2.5	<0.5	1.50	Very soft	20
2 to 4	0.25 to 0.5	0.15 to 0.35	1.50 to 5.25	Soft	20 to 40
				Soft to firm	40 to 50
4 to 8	0.5 to 1.0	0.35 to 0.55	5.25 to 8.25	Firm	50 to 75
				Firm to stiff	75 to 100
8 to 15	1.0 to 2.0	0.55 to 1.0	8.25 to 20	stiff	100 to 150
15 to30	2.0 to 4.0	1.0 to 2.0	20 to 40	Very stiff	150 to 200
>30	>4.0	>2.0	>40	Hard	200

*SPT values are not normally used for evaluating clay layers. NOTE: 1MN/ m2=10bar.

Table of driving for choice of sheet pile section.

Spt minimum Dominant N value	Wall modulus (cm^3/m)	
	Low-yield Steel	High yield Steel
0-10	500	
11-20		500
21-25	1000	
26-30		1000
31-35	1300	
36-40		1300
41-45	2300	
46-50		2300
51-60	3000	
61-70		3000
71-80	4000	
81-140		4000

Where N represents the Standard penetration Test value.

"Dominant" means the average of the high values for the soils to be penetrated.

Where piles are to be driven only to a toe-hold in rock,the N value shall be divided by a factor of for that stratum only.