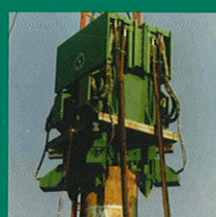
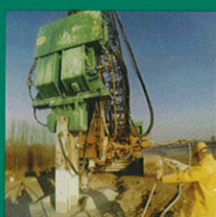
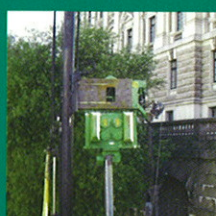
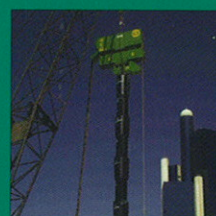




international
construction
equipment



Technical Information

Update 01-2004

TIMECO S.r.l. Macchine per scavi e palificazioni

Via Monza, 87
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Tel. 02/95384064
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Normal Frequency Vibratory Hammers

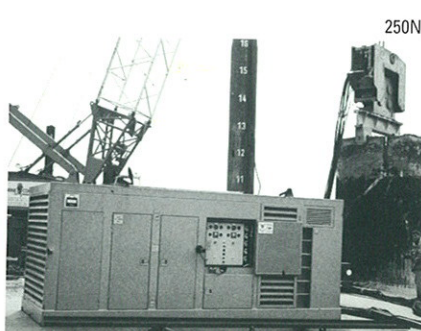
Technical specifications

TYPE		416L	3220	815C	6420	1412C	230NF	250NF
Eccentric moment	kgm	23	32	46	64	110	110	110
Max. centrifugal force	kN	645	1400	1250	2530	2300	2300	2500
Max. frequency	rpm	1600	2000	1570	1900	1380	1380	1450
Max. amplitude excl. clamp	mm	19.5	16.5	23.5	25.5	34.5	34.5	34.5
Max. amplitude incl. clamp	mm	16.0	13	18.0	17	24.5	24.5	24.5
Max. static line-pull	kN	360	400	400	500	800/1200*	800/1200*	800/1200*
Max. hydraulic power	kW/HP	193/262	277/377	346/470	490/665	470/640	470/640	657/895
Max. operating pressure	bar	340	340	340	340	340	340	340
Max. oil flow	l/min.	340	490	610	836	830	830	1160
Dyn. weight excl. clamp	kg	2350	3850	3950	5000	6400	6400	6415
Dyn. weight incl. clamp	kg	2840	4950	5050	7500	8900	8900	8915
Total weight excl. clamp	kg	3900	6150	7450	7000	10750	10750	10765
Total weight incl. clamp	kg	4390	7250	8550	9500	13250	13250	13265
Transport weight	kg	4740	7750	9250	10400	14350	14350	15865
RECOMMENDED UNIVERSAL CLAMP		100TU	160TU	160TU	320TU	320TU	320TU	320TU
RECOMMENDED CAISSON CLAMP		2 x 81TC	2 x 81TC	2 x 81TC	2 x 200TC	2 x 200TC	2 x 200TC	2 x 200TC
MEASUREMENTS (SEE DRAWING)								
A	mm	2650	2665	3250	2625	3250	3426	3426
B	mm	485	895	1015	938	1200	1218	1218
C	mm	340	457	370	420	804	440	440
D	mm	1560	2130	2543	2430	3600	2404	2404
E	mm	515	668	668	668	800	800	845
F	mm	2075	2798	3211	3098	4400	3204	3249
RECOMMENDED POWER PACK:		335 PP/RF	525 PP/RF	525 PP/RF	1000 PP/RF	1000 PP/RF	1000 PP/RF	1250 PP/RF
HYDRAULIC HOSES								
Length	m	30	30	45	45	45	45	45
Weight	kg	350	450	750	900	900	900	1250

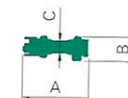
* Option



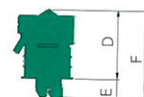
1412C



250NF



A= Length
B= Width
C= Throat width



D= Hammer height
E= Clamp height
F= Total Height

Amplitude during vibration of hammer + sheetpile:

$$\text{Amplitude} = \frac{2000 \times \text{Eccentric moment}}{\text{Dynamic weight incl. clamp + weight sheetpile}}$$

Example: ICE 416L vibratory hammer + sheetpile (2000 kg)

$$\text{Amplitude} = \frac{2000 \times 23}{2840 + 2000} = 9.5 \text{ mm}$$

Centrifugal force in case of a different frequency

$$\text{Centrifugal force} = 0.011 \times (\text{frequency})^2 \times \text{Eccentric moment}$$

Example: ICE 416L vibratory hammer working with a frequency of 1400 rpm (in stead of 1600 rpm)

$$\text{Centrifugal force} = 0.011 \times 1400^2 \times 23 = 495880 \text{ N} = 496 \text{ kN}$$

Excavator Mounted Vibratory Hammers

Technical specifications

TYPE		5EM	10EM	15EM	20EM	230M	328M	428M	625M
Eccentric moment	kgm	0.5	1.0	1.5	2.0	2.2	3.2	4.0	6.0
Max. centrifugal force	kN	22	44	95	125	220	275	345	410
Max. frequency	rpm	2000	2000	2400	2400	3000	2800	2800	2500
Max. amplitude excl. clamp	mm	7,5	11.0	7.5	9.5	9.5	13.0	14.5	21.0
Max. amplitude incl. clamp	mm	3	5,5	5.0	6.5	7.0	9.5	10.0	14.5
Max. static line-pull	kN	22	22	55	55	100	100	120	120
Max. hydraulic power	kW	11	15	28	35	38/45*	46/55*	71/85*	83/100*
Max. operating pressure	bar	210	210	210	210	350	350	350	350
Max. oil flow	l/min.	32	42	79	101	90	110	170	200
Dyn. weight excl. clamp	kg	135	180	400	420	475	495	545	575
Dyn. weight incl. clamp	kg	315**	360**	580**	600**	640	660	795	825
Total weight excl. clamp	kg	250	315	680	705	710	720	815	845
Total weight incl. clamp	kg	420**	495**	860**	885**	875	885	1065	1095
Transport weight	kg	435	510	875	900	975	995	1165	1195
RECOMMENDED CLAMP		(16TU)	(16TU)	16TU	16TU	35TU	35TU	50TU	50TU
MEASUREMENTS (SEE DRAWING)									
A	mm	719	719	1154	1154	1230	1230	1300	1300
B	mm	500	600	690	690	575	575	710	710
C	mm	434	431	656	656	303	303	303	303
D	mm	337**	337**	337**	337**	755	755	769	769
E	mm	771**	768**	993**	993**	340	340	385	385
F	mm	-	-	-	-	1095	1095	1145	1145
HYDRAULIC HOSES		-							
Length	m	-	-	-	-	2.9	2.9	2.9	2.9
Weight	kg	-	-	-	-	35	35	35	35

TYPE		230SH	328SH	428SH	625SH	5RFSH	7RFSH
Eccentric moment	kgm	2.2	3.2	4.0	6.0	0 - 5.0	0 - 7.0
Max. centrifugal force	kN	220	275	345	410	0 - 345	0 - 410
Max. frequency	rpm	3000	2800	2800	2500	2500	2300
Max. amplitude excl. clamp	mm	8.0	11.0	12.5	17.5	11.0	15.5
Max. amplitude incl. clamp	mm	6.0	8.5	9.0	13.0	8.5	12.0
Max. static line-pull	kN	100	100	120	120	120	120
Max. hydraulic power	kW	38/45*	46/55*	71/85*	83/100*	63/75*	77/93*
Max. operating pressure	bar	350	350	350	350	340	340
Max. oil flow	l/min.	90	110	170	200	150	185
Dyn. weight excl. clamp	kg	555	575	650	680	900	900
Dyn. weight incl. clamp	kg	720	740	900	930	1150	1150
Total weight excl. clamp	kg	1105	1115	1210	1230	1800	1800
Total weight incl. clamp	kg	1270	1280	1460	1480	2050	2050
Transport weight	kg	1370	1380	1560	1580	2150	2150
RECOMMENDED CLAMP		35TU	35TU	50TU	50TU	50TU	50TU
MEASUREMENTS (SEE DRAWING)							
A	mm	1830	1830	1830	1830	1920	1920
B	mm	655	655	700	700	700	700
C	mm	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
D	mm	1023	1023	1010	1010	1161	1161
E	mm	340	340	385	385	385	385
F	mm	1363	1363	139	1395	1546	1546
HYDRAULIC HOSES							
Length	m	2.9	2.9	2.9	2.9	2.9	2.9
Weight	kg	35	35	35	35	35	35

* 250/300 bar

** Including adaptor plate

Excavator Mounted Vibratory Hammers

Technical specifications

TYPE		230B	328B	428B	625B	5RFB	7RFB	11RFB	1223B
Eccentric moment	kgm	2.2	3.2	4.0	6.0	0 - 5.0	0 - 7.0	0 - 11.0	11.5
Max. centrifugal force	kN	220	275	345	410	0 - 345	0 - 410	0 - 670	670
Max. frequency	rpm	3000	2800	2800	2500	2500	2300	2350	2300
Max. amplitude excl. clamp	mm	8.0	11.0	12.5	17.5	10.0	14.0	15.5	16.0
Max. amplitude incl. clamp	mm	6.0	8.5	9.0	13.0	8.0	11.5	12.0	13.0
Max. static line-pull	kN	100	100	120	120	120	120	180	180
Max. hydraulic power	kW	38/45*	46/55*	71/85*	83/100*	63/75*	77/93*	135/163*	135/163*
Max. operating pressure	bar	350	350	350	350	340	340	340	340
Max. oil flow	l/min.	90	110	170	200	150	185	325	325
Dyn. weight excl. clamp	kg	555	575	650	680	960	985	1425	1400
Dyn. weight incl. clamp	kg	720	740	900	930	1210	1235	1835	1800
Total weight excl. clamp	kg	915	925	1030	1050	1240	1265	1735	1800
Total weight incl. clamp	kg	1080	1090	1280	1300	1490	1515	2135	2200
Transport weight	kg	1180	1190	1380	1400	1590	1615	2235	2300
RECOMMENDED CLAMP	kg	35TU	35TU	50TU	50TU	50TU	50TU	80TU	80TU
MEASUREMENTS (SEE DRAWING)									
A	mm	1115	1115	1115	1115	1165	1165	1480	1700
B	mm	530	530	612	612	615	615	426	434
C	mm	258	258	332	332	354	354	346	405
D	mm	980	980	1003	1003	1217	1217	1435	1168
E	mm	340	340	385	385	385	385	495	703
F	mm	1320	1320	1388	1388	1602	1602	1930	1871
HYDRAULIC HOSES									
Length	m	2,9	2,9	2,9	2,9	2,9	2,9	-	-
Weight	kg	35	35	35	35	35	35	-	-

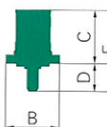
* 250/300 bar

REMARK: 14RFB and 18RFB available as well

MEASUREMENTS EM-Series

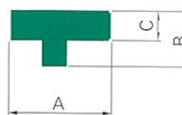


A= Length

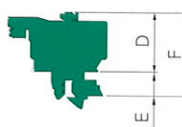


B= Width
C= Hammer height
D= Clamp height
E= Total height

MEASUREMENTS M-, SH- and B-Series



A= Length
B= Width
C= Throat width



D= Hammer height
E= Clamp height
F= Total height

428SH



11RFB



Resonance Free Vibratory Hammers

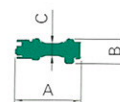
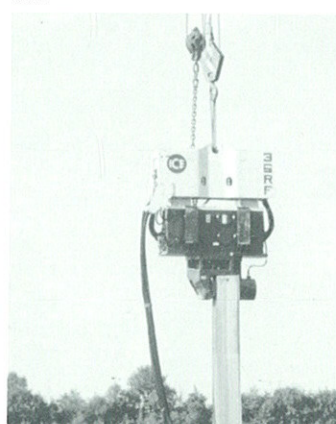
Technical specifications

TYPE		5RF	7RF	11RF	14RF	18RF	18RF-ts	23RF	28RF	32RF	36RF	36RF-ts	46RF	64RF
Eccentric moment	kgm	0 - 5	0 - 7	0 - 11	0 - 14	0 - 18	0 - 18	0 - 23	0 - 28	0 - 32	0 - 36	0 - 36	0 - 46	0 - 64
Max. centrifugal force	kN	0 - 345	0 - 410	0 - 670	0 - 810	0 - 850	0 - 1015	0 - 1334	0 - 1600	0 - 1400	0 - 1600	0 - 2080	0 - 2670	2670
Max. frequency	rpm	2500	2300	2350	2300	2100	2300	2300	2300	2000	2000	2300	2300	1950
Max. amplitude excl. clamp	mm	10.0	14.0	15.5	11.5	14.5	14.5	12.0	14.5	16.0	18.5	18.5	18.5	25.5
Max. amplitude incl. clamp	mm	8.0	11.5	12.0	9.5	12.0	11.5	9.0	11.0	12.5	11.5	11.5	12.5	17
Max. static line-pull	kN	120	120	180	240	240	240	360	500	360	500	500	800	800
Max. hydraulic power	kW/HP	85/116	104/142	184/250	213/289	226/301	282/383	278/378	417/566	295/401	430/584	495/673	678/920	490/665
Max. operating pressure	bar	340	340	340	340	340	340	340	340	340	340	340	340	340
Max. oil flow	l/min.	150	185	325	375	399	497	506	735	520	760	874	1196	1170
Dyn. weight excl. clamp	kg	960	985	1425	2420	2500	2500	3900	3800	3935	3900	3900	5000	5000
Dyn. weight incl. clamp	kg	1210	1235	1835	2910	2990	3120	5000	5100	5035	6400	6400	7500	7500
Total weight excl. clamp	kg	1485	1510	1735	3420	3430	3510	5300	5800	5335	5900	5900	6700	7000
Total weight incl. clamp	kg	1735	1760	2135	3910	3920	4120	6400	7100	6435	8400	8400	9200	9500
Transport weight	kg	2040	2065	2400	4285	4295	4425	6900	8000	6935	9300	9300	10050	10400
RECOMMENDED UNIVERSAL CLAMP		50TU	50TU	80TU	100TU	100TU	130TU	160TU	200TU	160TU	320TU	320TU	320TU	320TU
RECOMMENDED CAISSON CLAMP		-	-	-	2X81TC	2X81TC	2X81TC	2X81TC	2X200TC	2X81TC	2X200TC	2X200TC	2X200TC	2X200TC
MEASUREMENTS (SEE DRAWING)														
A	mm	1418	1835	1919	1919	1919	1815	2175	2625	2175	2647	2625	2770	2770
B	mm	615	615	426	590	590	590	717	777	717	777	777	817	817
C	mm	354	354	346	355	355	355	410	355	410	355	355	420	420
D	mm	1557	1557	1735	2043	2043	2043	2475	2365	2475	2365	2365	2855	2855
E	mm	385	385	495	515	515	515	668	700	668	668	700	668	800
F	mm	1942	1942	2230	2558	2558	2558	3143	3065	3143	3033	3065	3523	3655
RECOMMENDED POWER PACK:		180 PP/RF	180 PP/RF	335 PP/RF	335 PP/RF	335 PP/RF	525 PP/RF	525 PP/RF	1000PP/RF	525 PP/RF	1000PP/RF	1000PP/RF	1250PP/RF	1250PP/RF
HYDRAULIC HOSES														
Length	m	30	30	30	30	30	30	45	45	45	45	45	45	45
Weight	kg	350	350	375	375	375	375	950	950	950	950	950	1250	1250

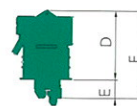
REMARK: Leader guided H14RF available as well

18RF-ts

36RF



A= Length
B= Width
C= Throat width



D= Hammer height
E= Clamp height
F= Total Height

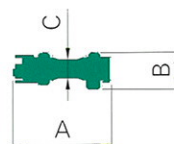
The data, values and measurements are based on current values at the time our brochure was compiled.
Due to constant new developments and improvements we reserve the right to make changes without prior notice.

High Frequency Vibratory Hammers

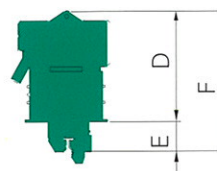
Technical specifications

TYPE		625	1223	1423C	423
Eccentric moment	kgm	6.0	11.5	14.0	23.0
Max. centrifugal force	kN	410	670	810	1334
Max. frequency	rpm	2500	2300	2300	2300
Max. amplitude excl. clamp	mm	17.5	16.5	16.5	12.5
Max. amplitude incl. clamp	mm	13.0	13.0	13.0	9.5
Max. static line-pull	kN	120	240	240	400
Max. hydraulic power	kW/HP	113/154	184/250	209/284	320/435
Max. operating pressure	bar	340	340	340	340
Max. oil flow	l/min.	200	325	368	565
Dyn. weight excl. clamp	kg	685	1400	1700	3750
Dyn. weight incl. clamp	kg	935	1800	2190	4850
Total weight excl. clamp	kg	1210	2145	2750	6050
Total weight incl. clamp	kg	1460	2545	3240	7150
Transport weight	kg	1685	2895	3490	7650
RECOMMENDED UNIVERSAL CLAMP		50TU	80TU	100TU	160TU
RECOMMENDED CAISSON CLAMP		-	2 x 81TC	2 x 81TC	2 x 81TC
MEASUREMENTS (SEE DRAWING)					
A	mm	1418	1590	1919	2665
B	mm	625	500	760	895
C	mm	384 ¹	405	355	457
D	mm	1343	1835	1630	2130
E	mm	385	495	515	668
F	mm	1728	2330	2145	3070
RECOMMENDED POWERPACK:					
		180 PP/RF	335 PP/RF	335 PP/RF	525 PP/RF
HYDRAULIC HOSES					
Length	m	30	30	30	30
Weight	kg	200	350	350	450

1423C



A= Length
B= Width
C= Throat width



D= Hammer height
E= Clamp height
F= Total Height

Power Packs

Technical specifications

TYPE		100PP	180 PP/RF	335 PP/RF	525 PP/RF	1000 PP/RF	1250 PP/RF
Engine	make	J. Deere	J. Deere	Caterpillar	Caterpillar	Caterpillar	Caterpillar
	type	4045T	6068T	C-9	C15	3412E	C16 (2 pcs)
Power	kW/HP	77/103	128/174	250/335	392/525	746/1000	924/1256
Max. oil flow	l/min	120	210	410	650	1090	1368
Max. pressure	bar	340	340	340	340	340	370
Weight	kg	2000	2950	5600	7000	12500	15000
MEASUREMENTS							
Length	mm	2500	2500	4000	4500	5000	5500
Width	mm	1200	1200	1650	1740	2250	2380
Height	mm	1570	1740	1940	2240	2500	2470

NOTE: weight of power pack includes filled hydraulic- and dieseltanks.

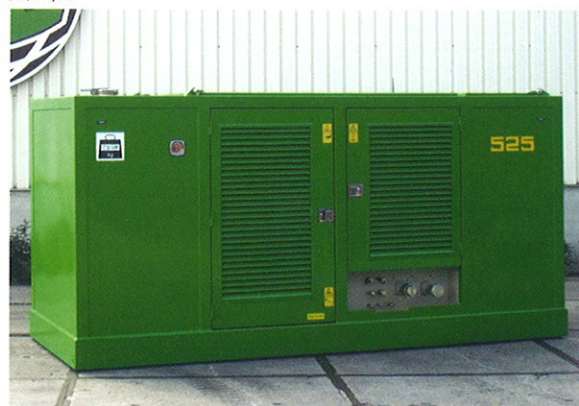
Our open system power packs can, amongst others, also be used for driving:

- impact hammers
- augers
- winches
- pumps
- demolition hammers
- crushers
- breakers

335PP/RF



525PP/RF



Clamps

Technical specifications

TYPE		16TU	35TU	50TU	80TU	100TU	130TU	160TU	200TU	320TU
Clamp model		Universal	Universal	Universal	Universal	Universal	Universal	Universal	Universal	Universal
Clamping Force	kN	160	350	500	800	1000	1300	1700	2000	3200
Max. Operating pressure	bar	320	320	320	320	320	320	320	320	320
Weight	kg	125*	165	250	400	490	610	1100	1300	2500

TYPE		60TP	120TP	180TP	81TC	200TC
Clamp model		Pile clamp	Pile clamp	Pile clamp	Caisson	Caisson
Clamping Force	kN	600	1200	1800	800	2000
Max. Operating pressure	bar	320	320	320	320	320
Weight	kg	750	1350	2000	480	1350

MEASUREMENTS (SEE DRAWING)		A	B		C	D	E	F	Weight (kg)
			min	max					Beam+clamps
81TC	mm	1520	450	1070	610	300	920	420	1220
	mm	2200	450	1750	610	300	920	420	1460
	mm	2350	450	1900	610	300	1090	590	2140
	mm	2400	450	1840	610	300	860	360	1420
	mm	2600	450	2150	610	300	1090	590	2260
	mm	3400	450	2950	610	300	1110	610	2810
200TC	mm	2400	700	1590	913	430	1165	470	3140
	mm	2600	700	1900	913	430	1400	701	4000
	mm	3400	700	2700	913	430	1420	725	4580
	mm	3800	700	3100	913	430	1600	901	5150
	mm	4500	700	3800	913	430	1600	901	5650
X-BEAM 81TC		4050	995	3600	913	430	1286	786	6600

REMARKS

- Concrete pile clamp CPC available soon
- Offshore clamp VDC available as well

