

THE MULTI-PURPOSE ABI RIG

VIBRATING



IMPACTING



DRILLING



HAMMER&STEEL



PRESSING



FOR FOUNDATIONS & SHORING

ABI - THE MANUFACTURER

ABI Germany has manufactured over 2200 of its unique Mobilram rigs over the last thirty-five years



MOBILRAM MAST

Mast crowd and pullback for all applications including drilling, vibrating & pressing piles
Self-leveling mast with one touch of a button



Telescopic mast



Track under obstacles



180 degree slewing of the mast

RAPID CHANGING DEVICE



The docking system allows swapping of attachments for vibrating, drilling, impacting and pressing within 5 minutes

COMBINED WITH CFA & KNUCKLE FOR HIGH PRODUCTION DRILLING & VIBRATING



Pre-drilling

HIGH PRODUCTION DUE TO:

FAST DRILLING:

CFA drilling average = 1500 ft/8hr with down crowd and long strokes

FAST AUGER HANDLING:

Knuckle device allows quick handling of an auger



Vibrating Beams

HIGH PRODUCTION DUE TO:

FAST DRIVING:

Hard soil (60-100 blows) turns soft with pre-drilling = less time vibrating, less vibration power needed

FAST SWAPPING:

Change attachments in under 5 minutes

JOB SITE HANDLING & MANAGEMENT

Handling of piles is safer, faster and easier than ever before



1

Chains on the hammer lift the pile.



2

Chains position piles under the jaw



3

The jaws lock the pile to the rig



4

The pile is locked and is easy to handle at waist level

Operating either side of the tracks with minimal space



The mast rotates 180 degrees around its own axis



VARIABLE MOMENT & SPEED HAMMER



Vibrating near homes and buildings without causing damage or disturbance



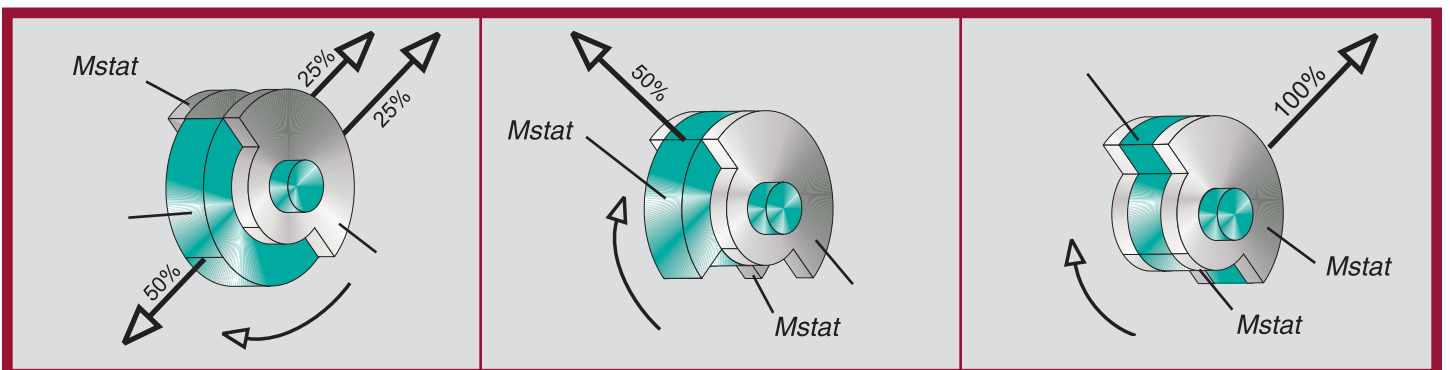
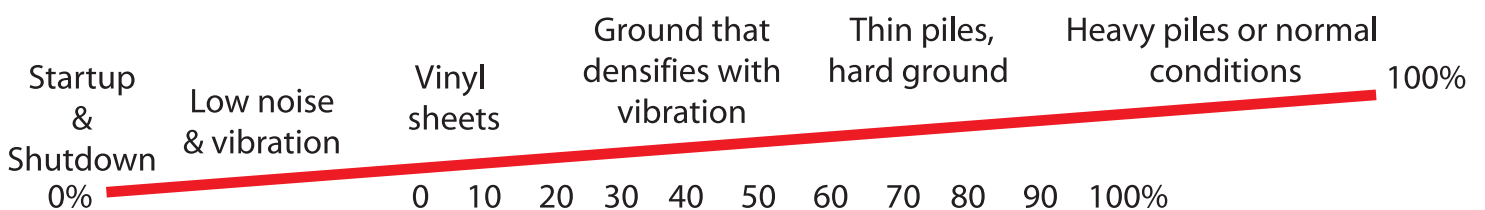
Vibration free start up/shutdown

High frequency (2600 rpm)

Narrow, compact design

Hammer adjusts power to most ground conditions

Controls power to minimize vibrations to surroundings



0% static moment,
no vibration, 100% RPM,
no centrifugal force

50% static moment, moderate
vibration, 100% RPM,
1/2 the centrifugal force

100% static moment,
max. vibration, 100% RPM,
full centrifugal force

VIBRATION APPLICATIONS



S H E E T S



B E A M S



V E R T I C A L
T I E D O W N S

S T O N E
C O L U M N S

C A S I N G

DRILLING APPLICATIONS



DUAL ROTARY
HEAD FOR
SECANT PILE



FULL
DISPLACEMENT

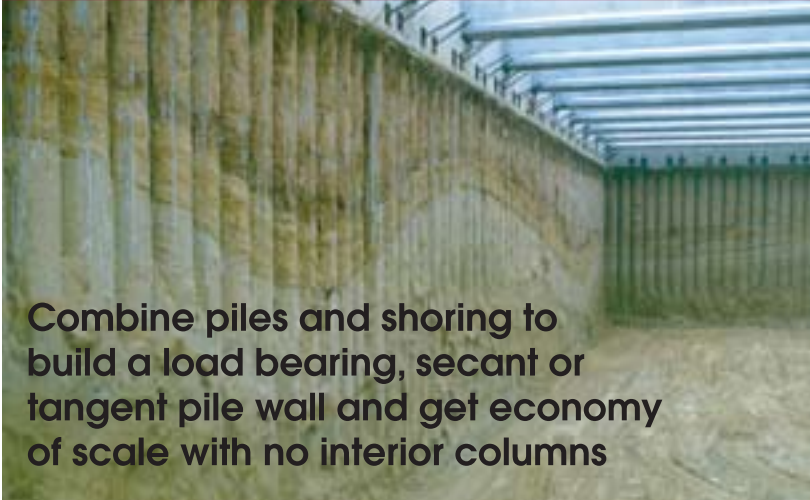


AUGER
CAST

SOIL
MIXING



DUAL ROTARY HEAD



Combine piles and shoring to build a load bearing, secant or tangent pile wall and get economy of scale with no interior columns

Casing and auger rotate in opposite directions drilling very straight, a few inches away from the adjacent structure



PRESSING SHEETS



Press 4 sheets at a time and get high productivity

Low noise

Press sheets near structures

Vibration free shoring



SINGLE MAST (SM) MOBILRAM

DESCRIPTION		SM 11/14V	SM 12/16HD	SM 18/22HD	SM 18/24SD
Max overall height	ft	63	68	91	97
Min overall height	ft	52	55	79	79
Max stroke	ft	41	52	72	78
Max pulling force**	lbs	44,000	74,800	80,000	110,000
Max torque	ft. lbs	73,700	110,500	190,000	190,000
Max pile & attachment	lbs	22,000	26,400	33,000	55,000
Base Machine		SR 25 T	SR 35 T	SR 50 T	SR 50 T
CAT engine, Tier 3	Model/Hp	C9/354	C18/639	C18/700	C18/700
Rig Weight min	lbs	93,700	100,600	150,000	144,000*
Rig Weight max (no attachments)	lbs	114,000	127,000	182,000	212,000
Rig Length	ft	54	57	80	80
Rig Width	ft	10.5	10.5	11.2	11.2
Rig Height	ft	11.3	11.35	12.5	12.8/13-11.3*

*removable tracks **mast planted on the ground ALL SPECIFICATIONS ARE APPROXIMATE AND SUBJECT TO CHANGE, February 2012

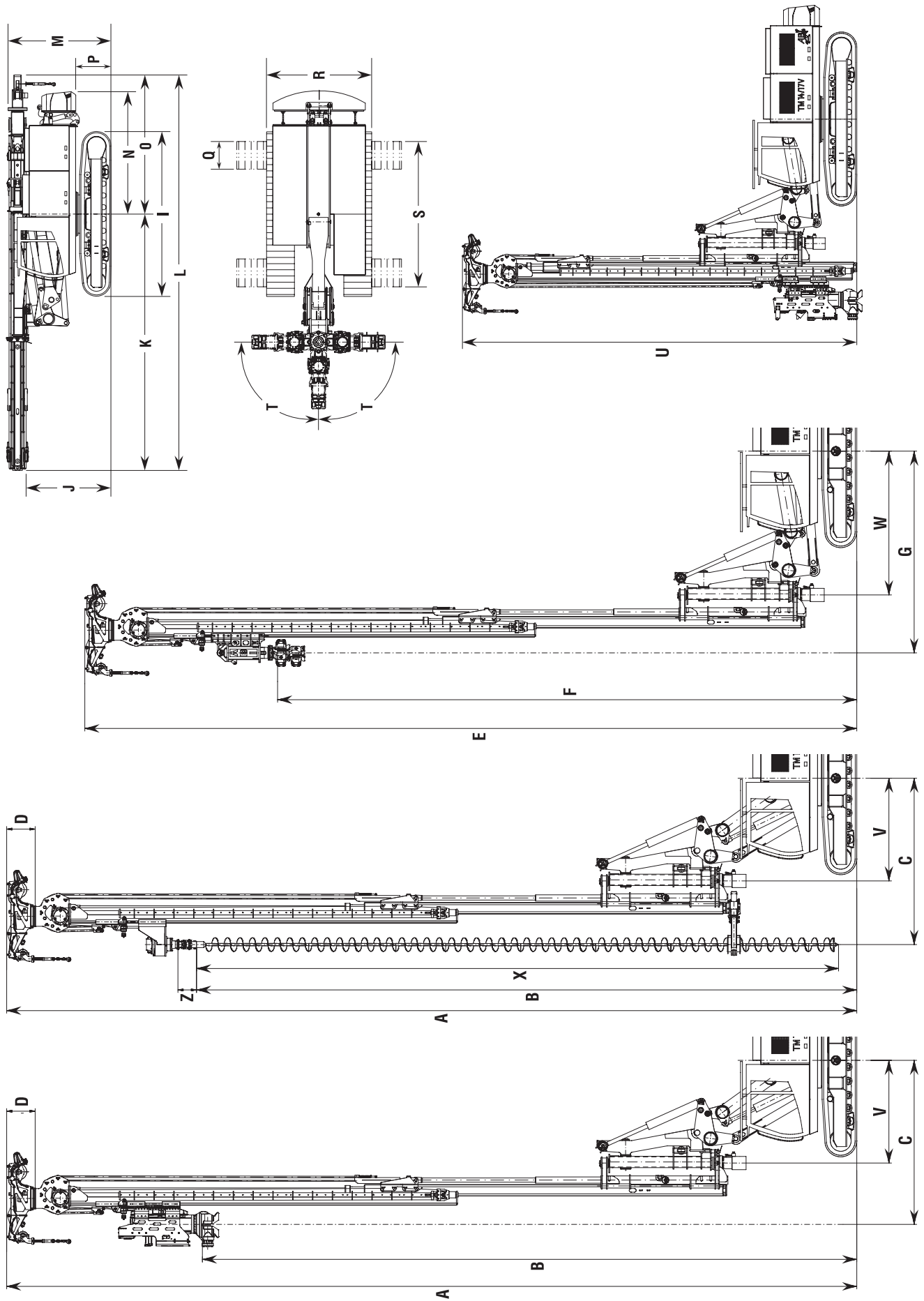
MORE PULLING FORCE, MORE TORQUE, MORE PILE LOAD, LESS FLEX



TELESCOPIC MAST (TM) MOBILRAM

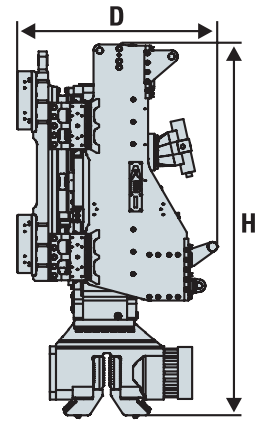
Rig Dimension in feet		TM 10/12.5	TM 11/14	TM 13/16	TM 14/17V	TM 22	TM 20/25
Min reach							
Overall height	A	52.84	61	66.78	73.9	88.8	103.93
Max stroke vibro hammer	B	40.01	45.9	52.49	56.89	72.1	86.22
Max stroke drill	B	40.99	47.06	52.85	57.4	72.2	87.41
Max stroke double head	B	n/a	n/a	49.31	53.74	73	81.56
Max stroke press	B	n/a	n/a	n/a	57.13	72.9	86.99
Center rig to center vibro	C	13.93	14.33	13.4	14.25	15.4	15.1
Center rig to center drill	C	13.57	14.19	13.51	14.45	15.4	15.83
Center rig to center double head	C	n/a	n/a	14.17	15.09	16.1	15.99
Center rig to center press	C	n/a	n/a	n/a	15.09	15.6	14.87
Winch height	D	n/a	2.47	2.47	2.47	2.7	2.24
Center rig to center mast slewing	V	9.38	9.59	8.92	8.92	9.6	8.9
Max Auger Length	X	39.37	45	51	55	70.5	83
Knuckle Joint Length	Z	1.74	1.73	1.73	1.73	2.6	special
Max Reach							
Overall height	E	46.2	52.82	56.93	67.11	79.9	102.42
Max stroke vibro hammer	F	33.4	38.48	42.65	50.10	63.2	84.71
Max stroke drill	F	34.4	38.87	43.01	50.60	63.1	85.90
Max stroke double head	F	n/a	n/a	39.46	46.94	70.7	80.05
Max stroke press	F	n/a	n/a	n/a	50.34	63.8	85.48
Center rig to center vibro	G	17.2	19.12	18.99	17.81	21.3	18.53
Center rig to center drill	G	16.9	18.98	18.86	18.02	21.3	19.25
Center rig to center double head	G	n/a	n/a	19.52	18.66	18.7	19.42
Center rig to center press	G	n/a	n/a	n/a	17.53	21.6	18.3
Center rig to center mast slewing	W	12.7	14.38	14.27	12.50	15.6	12.33
Attachment's Lowest Position							
Height below grade vibro	H	-7.6	-7.44	-9.87	-5.67	-9.0	-0.59
Height above grade drill	H	-6.7	-7.05	-9.48	-5.16	-9.1	0.60
Height below grade double head	H	n/a	n/a	-13.02	-8.82	-8.3	-5.24
Height below grade press	H	n/a	n/a	n/a	-5.43	-8.3	-0.18
Lowest mast height	U	21.6	33.7	36.5	39.6	47.4	64
Transport Dimensions							
Track length	I	16.2	15.42	15.41	16.76	17.5	19.75
Height below mast	J	8.7	9.08	8.30	8.41	8.8	9.49
Rig center to mast front	K	21.4	26.90	29.90	22.24	22.7	33.84
Overall length	L	32.5	38.56	39.37	41.01	47.5	64.43
Overall height	M	11.2	11.31	11.15	11.15	11.8	12.63
Center rig to rear counterweight	N	11.1	11.66	12.46	12.99	13.5	15.46
Center rig to rear mast	O	less than N	less than N	less than N	18.76	24.8	30.59
Ground clearance	P	3.8	4.03	3.60	3.39	3.9	4.57
Track shoe width standard	Q	2.6	2.29	2.95	2.95	3.0	2.95
Track width transport	R	11.2	10.17	10.82	11.15	11.2	11.15
Track width	S	11.1	10.17	10.82	13.78	15.4	15.74
Mast slewing (Degrees)	T	200	200	200	180	180	180
Transport weight	lbs	75,000	103,000	109,000	124,000	165,000	198,000
Transport weight without counterweight	lbs	67,000	83,000	94,800	102,000	131,120	164,120
							
Other Specifications							
Max crowd force	lbs	16,500	20,225	20,225	27,000	33,000	44,945
Max pulling force	lbs	30,800	39,325	39,325	44,945	66,000	66,180
Max pile & attachment (moving)	lbs	13,200	19,800	19,800	22,000	28,600	33,000
Max line pull aux winch	lbs	6,600	11,235	11,235	11,235	11,235	11,235
Max variable vibro (Model / tons)		12V/60	12V/80	20V/100	20V/110	30V/160	30V/160
Mast width	in	17.7	19.7	19.7	19.7	21.7	23.6
Max torque single head	ft lbs	22,100	31,000	31,000	73,700	110,550	190,000
Max torque double head (ft lbs x 1000)		n/a	24/18	48/24	74/48	110/55	147/88
Diesel hammer Model		n/a	D19*	D19*	D19/D30*	D30*	D30/D46*
Soilmixing drill heads	type	single	single	single	double	triple	triple
Engine power (over 750 not tier 3 or 4)	Hp	271	354	548	630	710	710

*Diesel hammer only 10 ft above ground ALL SPECIFICATIONS ARE APPROXIMATE AND SUBJECT TO CHANGE, February 2012



ABI VIBRATORS FOR MOBILRAMS

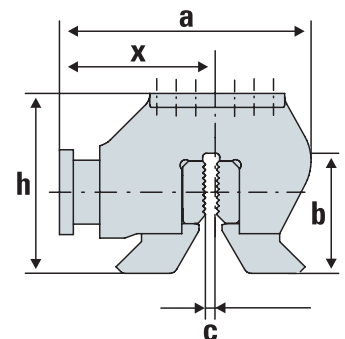
		VARIABLE SPEED AND VARIABLE MOMENT VIBRATORS			NON VARIABLE
TECHNICAL DATA MRZV-VV		17VV	24VV	30VV	22S
Static moment	in/lbs	1475	2083	2604	1900
Amplitude x2	in	0.62	0.66	0.72	0.63
RPM	RPM	1800-2600	1950-2600	2100-2600	2,035
Centrifugal force	tons	67-82	112-132	168-184	110
Min Hp required	Hp	344	630	630	536
Max pile weight*	lbs	4,400	6,600	7,040	7,040
Weight	lbs	7,524	9,834	13,134	9,460
Standard jaw		SKZ 1120	SKZ 1120	SKZ 1800	SKZ 1120
Height (H)	in	101	113	127	107
Width	in	27	27	27	27
Depth (D)	in	64	62	64	60
Mast rail to center jaw	in	25.6	25.6	25.6	25.6



		VARIABLE MOMENT VIBRATORS			
TECHNICAL DATA MRZV-V		12V	20V	30V	36V
Static moment	in/lbs	1000	1700	2600	3124
Amplitude x2	in	0.43	0.60	0.60	0.70
RPM (/60=Hz)	RPM	2,135	2,140	2,135	2,020
Centrifugal force	tons	67	112	168	176
Min Hp required	Hp	274	536	633	633
Max pile weight*	lbs	4,400	6,600	7,040	7,040
Weight	lbs	7,348	9,581	12,738	12,848
Standard jaw		SKZ 720	SKZ 1120	SKZ 1800	SKZ 1800
Height	in	94	107	118	118
Width	in	27	27	26	26
Depth	in	55	55	60	60
Mast rail to center jaw	in	25.6	25.6	25.6	25.6



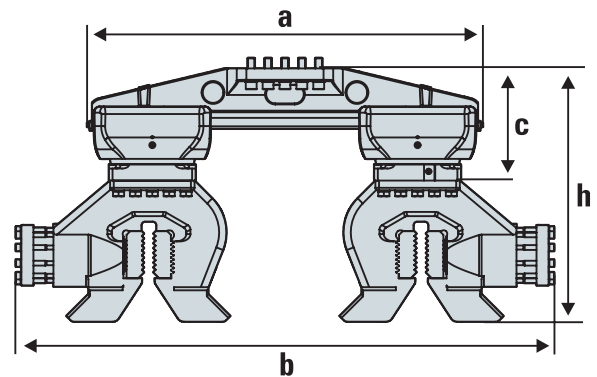
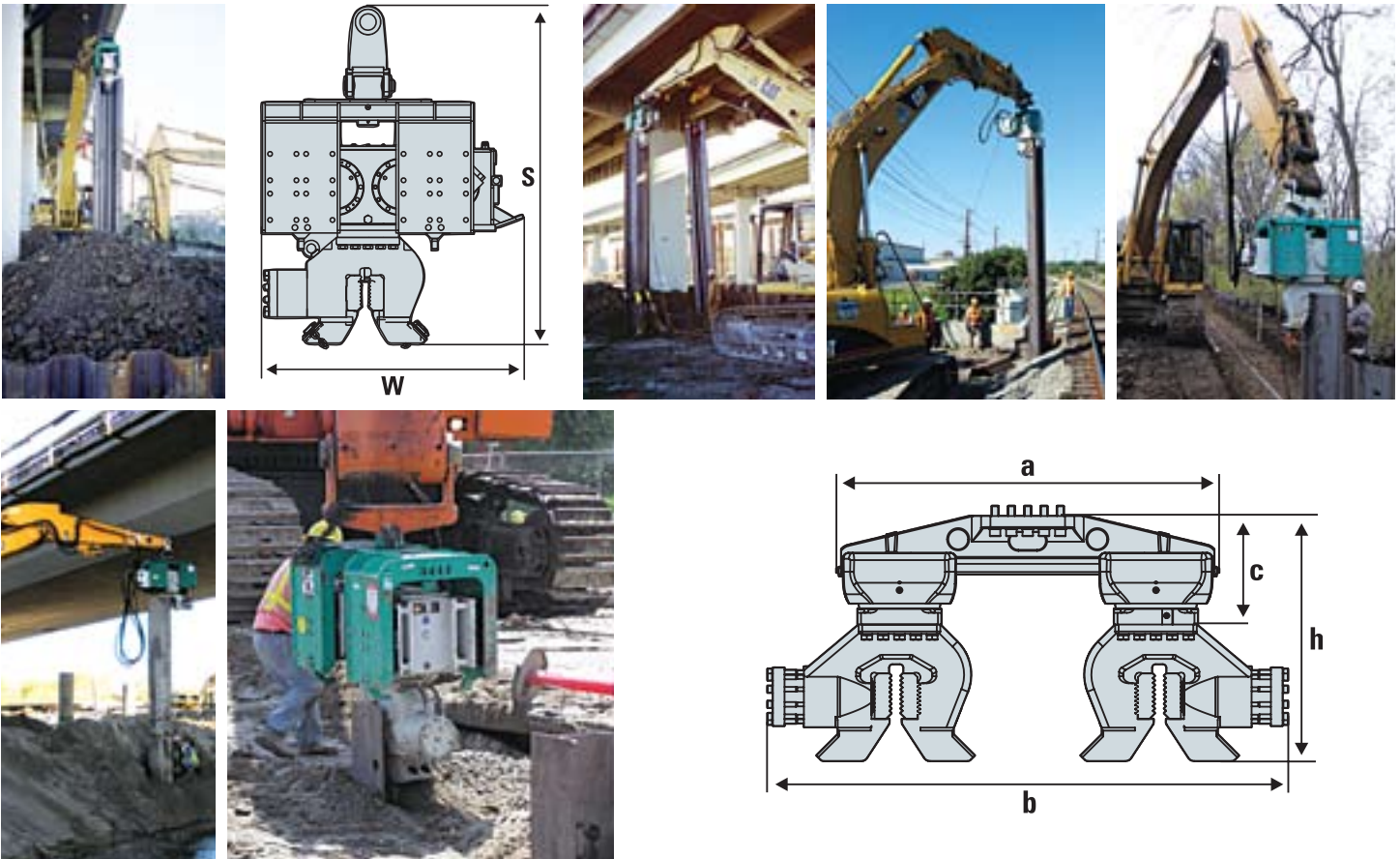
		ABI MOBILRAM VIBRO CLAMPS			
TECHNICAL DATA CLAMPS		EKZ 530	SKZ 720	SKZ 1120	SKZ 1800
Max centrifugal force	tons	48.4	66	100	160
Clamping force	tons	58.3	79.2	123.2	198
Hyd pressure	psi	7,056	7,056	7,056	7,056
a (cyl to edge)	in	27.4	35.2	36.6	46.7
b (throat depth)	in	12.8	16.3	17	19.8
c (jaw opening)	in	1.2	1.6	1.6	1.6
jaw flange width	in	13.8	13.8	13.8	13.8
h (height of jaw)	in	17.5	23	25.6	30.5
x (center to edge)	in	18.9	22	23	27.8
Min I beam web	size	W10	W12	W12	W16
Casing inner dia min	in	12	14	18	24
Weight	lbs	495	1,144	1,507	2,904



ABI VIBRATORS FOR EXCAVATORS

EXCAVATOR VIBRO

DESCRIPTION		HVR 45	HVR 60	HVR 85	HVR 100
Static moment	in	390	520	737	867
Pull back force	lbs	8,800	8,800	17,600	17,600
RPM	RPM	2,460	2,460	2,300	2,135
Centrifugal force	tons	33	44	55	55
Hp required	Hp	93	131	174	227
Max pile weight*	lbs	1,760	2,200	3,300	3,520
Weight incl. clamp	lbs	2,600	2,950	5,000	5,000
Exc pin to end (S)	in	46	47	56	56
Width (W)	in	41	46	57	57
Depth	in	24	24	30	30
Standard jaw		EKZ 360	SKZ 480	SKZ 600	SKZ 600



		HVR CLAMPS			DUAL PIPE CLAMPS	
TECHNICAL DATA CLAMP		EXZ 360	SKZ 480	SKZ 600	MKZ 800	MKZ 1250
Max centrifugal force	tons	33	44	55	88	132
Clamping force	tons	39.6	52.8	66	116.6	158.4
Hyd pressure	psi	3,528	3,528	5,880	7,056	7,056
a (beam width)	in	25.6	30.5	35.2	51.2	64.8
b (max jaw width)	in	10.6	12.2	16.3	68.5	87.4
c (beam to jaw flange)	in	0.9	1.2	1.6	16.5	18.3
Jaw flange width	in	11.8	13.8	13.8		
h (overall height of unit)	in	15	16.9	23	34.1	41.9
x (center to edge)	in	16.7	20.3	22	18.9	22
Min I beam web	Size	W8	W6-8, W12 up	W6, W12 up	n/a	n/a
Casing inner diameter	in	8	10	12	18 - 30	24.4 - 42.9
Weight	lbs	374	594	1,144	2,948	4,268

*higher values upon request ALL SPECIFICATIONS ARE APPROXIMATE AND SUBJECT TO CHANGE, February 2012

DRIVING PILES FOR SOLAR WITH ABI EQUIPMENT



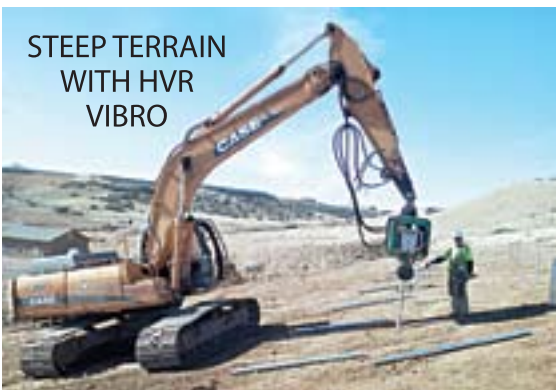
W6
BEAMS &
LARGER



3" PIPE & LARGER

- Vertically Accurate 1/2 degree
 - Height accurate to 1/4"
 - Position within 1" accuracy

- Extract, re-drive and recompact soils
- Drive diverse pile sizes, lengths and shapes
- Clamp the pipe pile inside or outside



STEEP TERRAIN
WITH HVR
VIBRO



PREDRILL & VIBRATE



- 200+ piles/day vibrated with 3 personnel
- 700+/day pushed in with 3 personnel
- Most cost efficient and precise installation

- Predrill in difficult ground conditions
- Reverse auger and leave soils in the hole
- Vibrate pile in crushed soils and recompact



PUSHED IN
SIGMA PILES



BATTER
PILE



PREDRILL CALICHE UP TO
300 BLOWS/FT

DRILL HEADS FOR ABI RIGS

MDBA - ALL MOTOR DRIVEN DRILL HEADS

DESCRIPTION		4000	4500	7000	10000
Max torque	ft lbs	28,006	32,428	48,642	73,700
Max pressure	psi	4,700	4,700	4,700	4,700
Oil flow/RPM	gal/RPM	2	2.3	3.5	1.2
Max RPM	RPM	120	120	80	80
Horsepower needed	Hp	268	375.2	375.2	415.4
Center shaft hole	in	3.5	3.5	3.5	8.9
Guide to drill axis	in	23.6	23.6	23.6	31.5
Weight w/knuckle	lbs	3,586	3,586	4,466	8,228



MDBA 7000
24" x 50 ft



MDBA 4500
Predrilling
14" x 30 ft



MDBA 7000
& 10000
Double
Head
Drilling
24"
Secant
Wall



DELMAG BT 260
(190,000 ft lbs)
on ABI TM 20/25

IMPACTING PILES



Impacting sheets, pipe & beams
that have been vibrated with
the same rig



SALES • RENTAL • CONSULTING • TOOLING

CORPORATE HEADQUARTERS

Hammer & Steel Inc.
11916 Missouri Bottom Road
St. Louis, MO 63042

Toll Free: 1-800-325-7453
Tel: 1-314-895-4600
Fax: 1-314-895-4070

BRANCH OFFICES & STORAGE YARDS

Benicia, CA • 877-224-3356
Green Cove Springs, FL • 904-284-6800
Houston, TX • 936-257-8790
Minneapolis, MN • 952-469-6060
Kansas City, KS • 913-681-9295
Washington, D.C. • 301-906-9030