



**DAWSON**  
CONSTRUCTION PLANT LTD

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# EXCAVATOR MOUNTED VIBRATORS

INNOVATIVE  
PILING  
EQUIPMENT

HYDRAULIC PILING HAMMERS	EXCAVATOR MOUNTED VIBRATORS	EXCAVATOR MOUNTED DRILL	QUIET, VIBRATION-LESS PUSH-PULL PILING	PILE EXTRACTION
SHEET PILE GUIDE FRAMES	SHEET PILE CAPPING SYSTEMS	CFA CLEANERS	PILE POINTS & SPLICERS	HANDLING / LIFTING

## Principal Advantages

Compact, robust and reliable  
- no electrics!

Simple and fast attachment  
to excavator

Minimal height to maximise  
pile length

Slim design to drive single  
sheet piles

High power to weight ratio

Universal joint suspension for  
easy alignment of piles

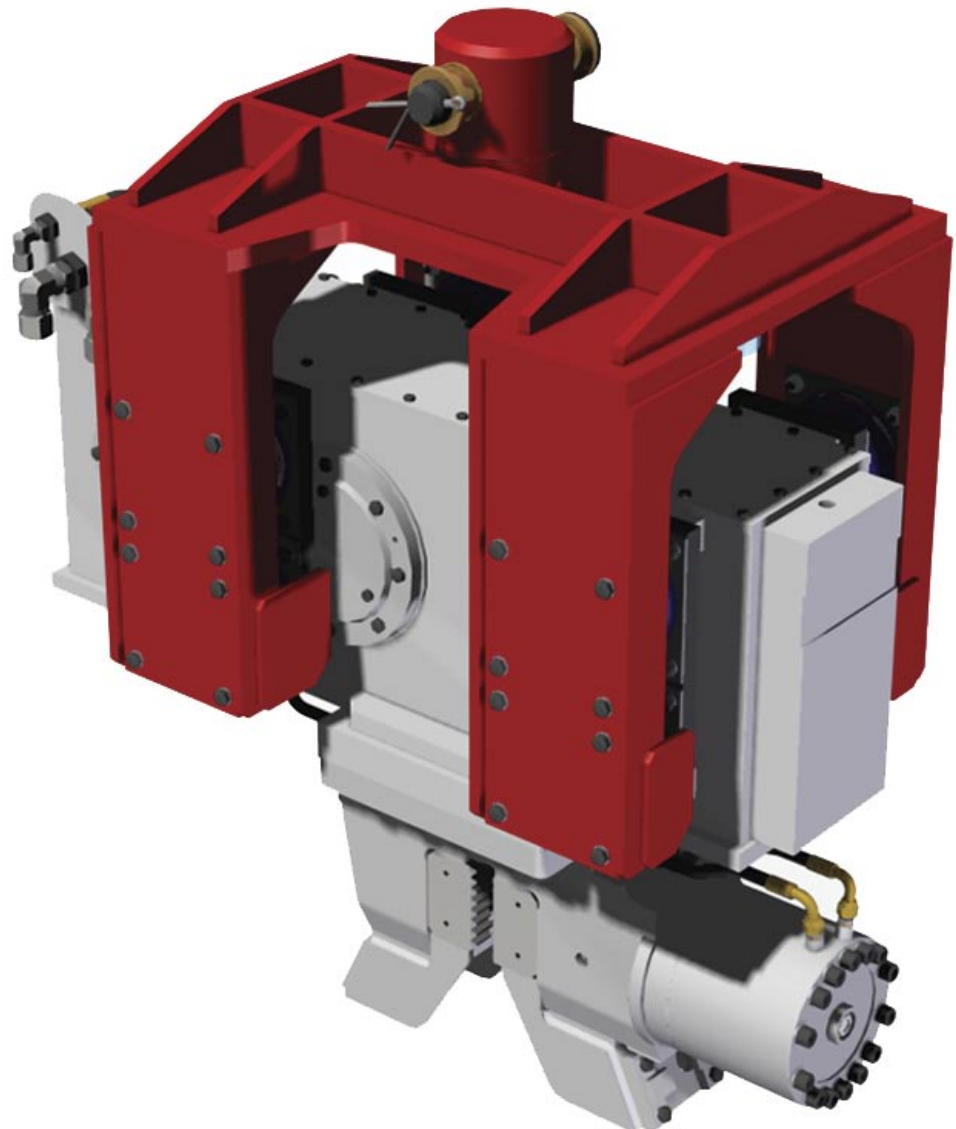
Extremely low vibration  
transmitted to the excavator

Environmentally friendly - low noise/  
localised directional vibration

Automatic hydraulic clamp  
operation

Flexibility in application

Flow regulator prevents excessive  
oil supply to vibrator



Dawson excavator mounted vibrators have been designed specifically to work in place of an excavator bucket to drive and extract piles. The pile can be lifted to vertical using the built-in lifting chain where it is then gripped tightly in a powerful hydraulic jaw. Once secured, the pile is then vibrated with high frequency vibrations so as to 'fluidise' the soil resisting the pile.

Down-crowd force applied by the excavator boom, coupled with the self-weight of the pile and the vibrator, provides sufficient force to push the pile into the ground. Naturally, the process works in reverse for pile extraction. The equipment offers a highly productive and cost effective piling rig based around a standard, readily available excavator!



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# EXCAVATOR MOUNTED VIBRATORS

SPECIFICATION	UNITS	Vibro Model				
		EMV70	EMV300	EMV300A	EMV450	EMV550
STATIC MOMENT	in.lbs	60	400	400	606	674
	kgm	0.7	4.6	4.6	6.9	8.3
FREQUENCY	vpm	3,000	2,400	2,400	2,460	2,500
CENTRIFUGAL FORCE	lbs	15,730	67,420	67,420	100,000	125,592
	kN	70	300	300	450	550
AMPLITUDE - PEAK TO PEAK	ins	0.134	0.58	0.58	0.5	0.51
	mm	3.4	14.7	14.7	12	13
MINIMUM REQUIRED FLOW RATE	gpm	8	35	35	52	68
	l/min	30	130	130	195	256
MAXIMUM ALLOWABLE FLOW RATE	gpm	32	67	67	94	107
	l/min	120	250	250	350	400
MINIMUM HYDRAULIC PRESSURE	psi	3,480	4,060	4,060	3,915	3,625
	bar	240	280	280	270	280
MAXIMUM HYDRAULIC PRESSURE	psi	5,076	5,076	5,076	5,076	5,076
	bar	350	350	350	350	350
MINIMUM HYDRAULIC MOTOR POWER	hp	16	80	80	118	160
	kW	12	60	60	88	120
DYNAMIC MASS	lbs	900	1,380	1,380	2,240	2,576
	kg	410	625	625	1,008	1,150
TOTAL MASS	lbs	1,150	2,112	2,123	2,834	3,360
	kg	520	960	965	1,275	1,500
MAXIMUM PILE MASS	lbs	1,760	1,760	1,760	2,240	3,136
	kg	800	800	800	1,000	1,400
MAXIMUM PUSH/PULL LOADING	lbs	6,171	17,600	33,600	33,600	33,600
	kg	2,800	8000	15,000	15,000	15,000
TYPICAL EXCAVATOR WEIGHT	Ton	5.5 to 17	13 to 39	13 to 39	27 to 50	33 to 60
	Tonne	5 to 15	12 to 35	12 to 35	25 to 45	30 to 55
CLAMP FORCE	Tonne	30	36	36	54	66
DIMENSIONS mm (inch)	A	360 (14.2)	560 (22)	615 (24)	615 (24)	750 (29.5)
	B	25 (1)	25 (1)	25 (1)	32 (1.25)	40 (1.5)
	C	250 (10)	250 (10)	250 (10)	230 (9)	230 (9)
	D	455 (18)	582 (23)	582 (23)	640 (25)	850 (33.5)
	E	340 (13.4)	429 (17)	429 (17)	510 (20)	560 (22)
	F	672 (26.5)	816 (32)	927 (36.5)	945 (37)	985 (39)
	G	942 (37)	1085 (43)	1200 (47.25)	1250 (49)	1400 (55)
	H	150 (6)	150 (6)	150 (6)	160 (6.4)	195 (7.7)



Specifications of EMV Product Range

