Dawson Construction Plant Ltd
Chesney Wold,
Bleak Hall,
Milton Keynes,
MK6 1NE, England
Tel: +44 (0)1908 240300
Fax: +44(0)1908 240222

DAWSON
CONSTRUCTION PLANT LTD

EXCAVATOR MOUNTED VIBRATORS

INNOVATIVE
PILING
EQUIPMENT

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

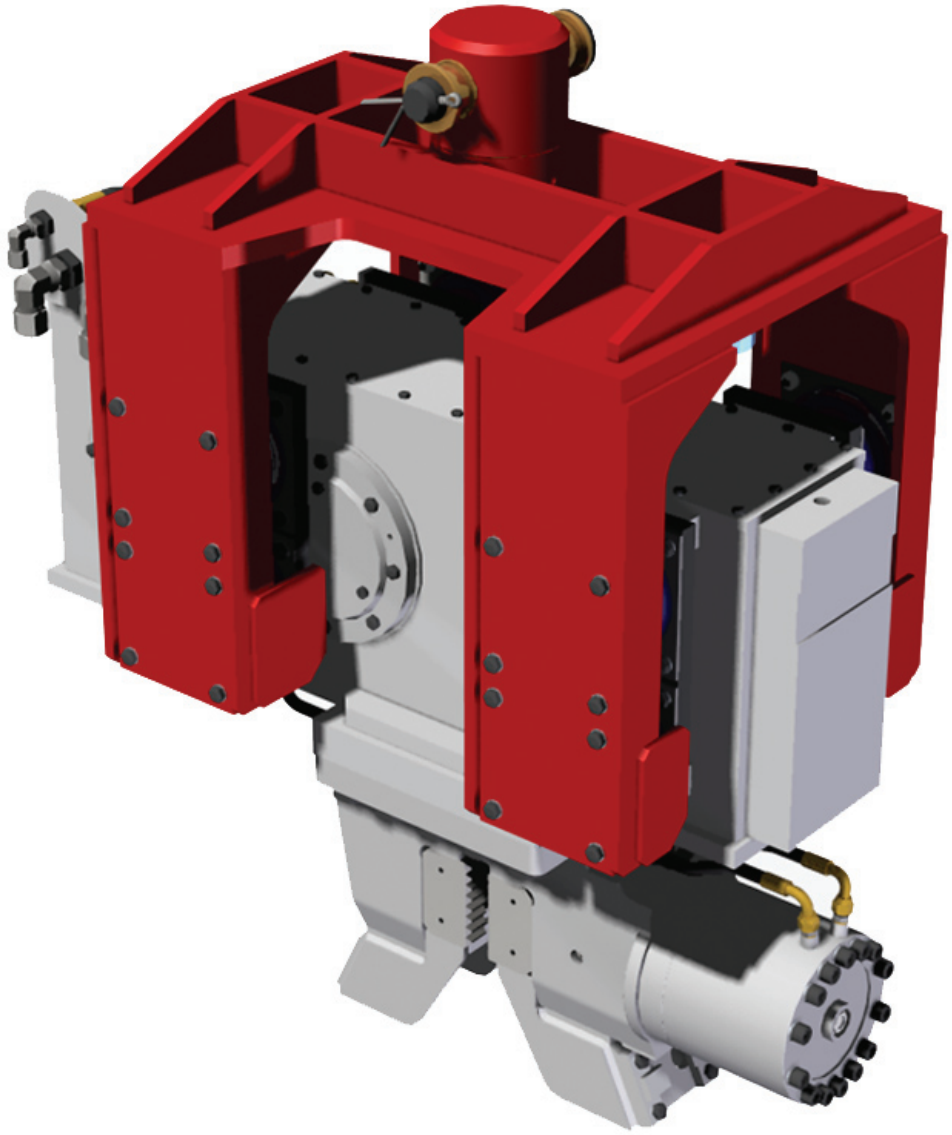
Extremely low vibration transmitted to the excavator

Enviromentally friendly - low noise/ localised directional vibration

Automatic hydraulic clamp operation

Flexiblity 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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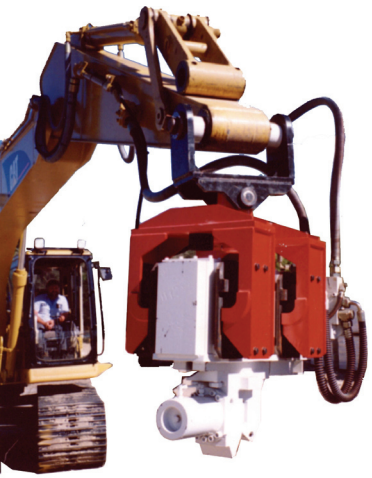
CHARACTERISTIC	UNITS	EMV70	EMV300	EMV300A	EMV400	EMV400D	EMV525
STATIC MOMENT	in.lbs	60	400	400	545	545	674
	kgm	0.7	4.6	4.6	6.2	6.2	7.6
FREQUENCY	vpm	3,000	2,400	2,400	2,460	2,460	2,500
CENTRIFUGAL FORCE	lbs	15,730	67,420	67,420	91,340	91,340	119,880
	kN	70	300	300	400	400	525
AMPLITUDE - PEAK TO PEAK	ins	0.134	0.58	0.58	0.55	0.5	0.51
	mm	3.4	14.7	14.7	14	12	13
MINIMUM REQUIRED FLOW RATE	gpm	8	35	35	52	52	68
	l/min	30	130	130	195	195	256
MAXIMUM ALLOWABLE FLOW RATE	gpm	32	67	67	94	94	107
	l/min	120	250	250	350	350	400
MINIMUM HYDRAULIC PRESSURE	psi	3,480	3,480	3,480	3,480	3,480	3,625
	bar	240	240	240	240	240	280
MAXIMUM HYDRAULIC PRESSURE	psi	5,076	5,076	5,076	5,076	5,076	5,076
	bar	350	350	350	350	350	350
MINIMUM HYDRAULIC MOTOR PRESSURE	hp	16	70	70	107	107	160
	kW	12	52	52	80	80	120
DYNAMIC MASS	lbs	900	1,380	1,380	2,038	2,240	2,576
	kg	410	625	625	910	1,000	1,150
TOTAL MASS	lbs	1,150	1,890	1,890	2,632	2,834	3,360
	kg	520	860	860	1,175	1,265	1,500
MAXIMUM PILE MASS	lbs	1,760	1,760	1,760	2,240	2,240	3,136
	kg	800	800	800	1,000	1,000	1,400
MAXIMUM PUSH/PULL LOADING	lbs	6,171	17,600	33,600	33,600	33,600	33,600
	kg	2,800	8000	15,000	15,000	15,000	15,000
TYPICAL EXCAVATOR WEIGHT	Ton	5.5 to 17	13 to 39	13 to 39	27 to 50	27 to 50	33 to 60
	Tonne	5 to 15	12 to 35	12 to35	25 to 45	25 to 45	30 to 55
DIMENSIONS mm (inch)	A	360 (14.2)	560 (22)	615 (24)	615 (24)	615 (24)	750 (29.5)
	B	25 (1)	25 (1)	25 (1)	25 (1)	32 (1.25)	40 (1.5)
	C	250 (10)	250 (10)	250 (10)	220 (8.7)	230 (9)	230 (9)
	D	455 (18)	582 (23)	582 (23)	640 (25)	640 (25)	850 (33.5)
	E	340 (13.4)	429 (17)	429 (17)	510 (20)	510 (20)	560 (22)
	F	672 (26.5)	816 (32)	927 (36.5)	970 (38)	945 (37)	985 (39)
	G	942 (37)	1085 (43)	1200 (47.25)	1250 (49)	1250 (49)	1400 (55)
	H	150 (6)	150 (6)	150 (6)	150 (6)	160 (6.4)	195 (7.7)



Specifications of EMV Product Range