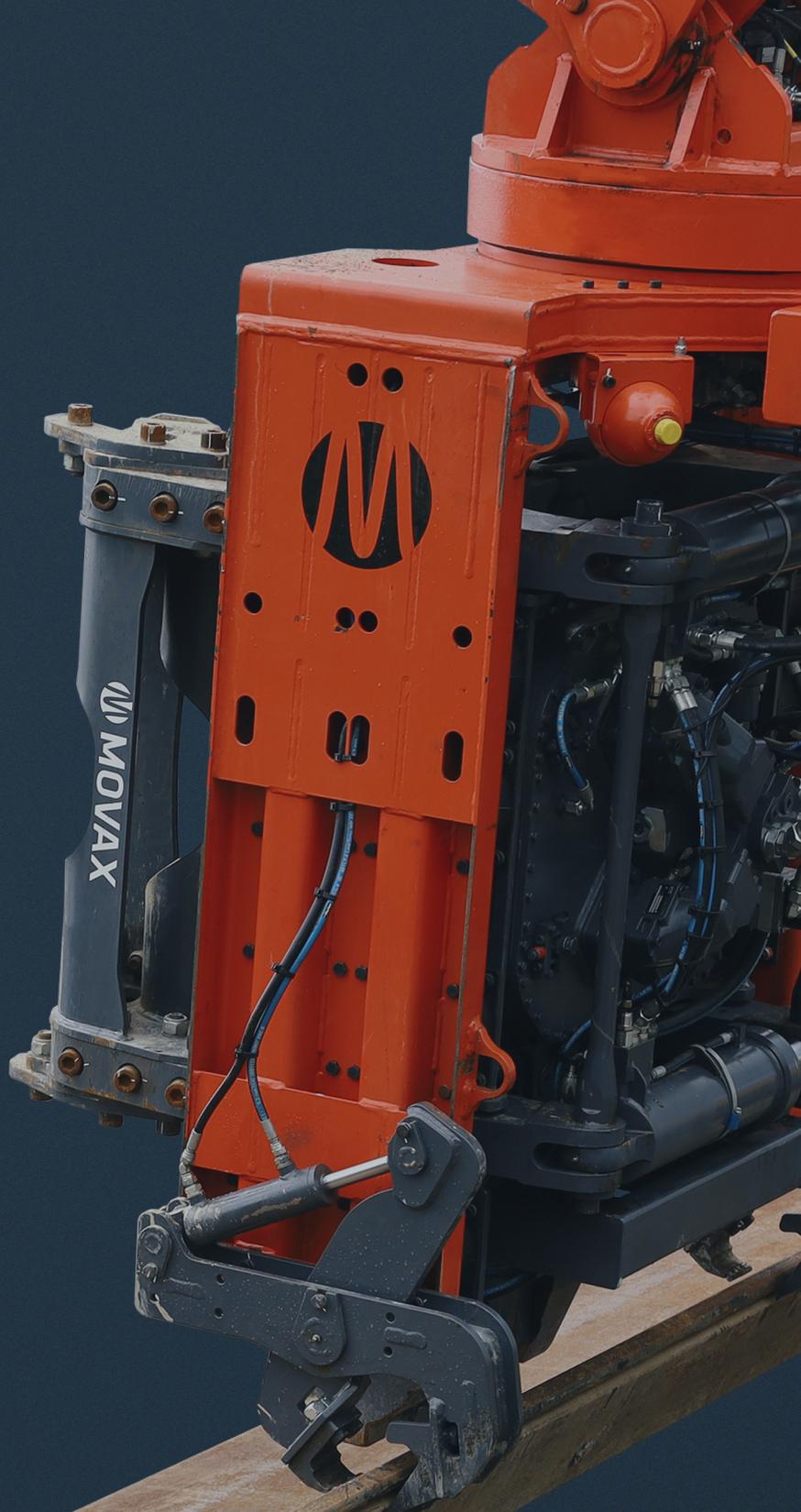




MODELS SG-45VA TO 80VA/F

TECHNICAL
SPECIFICATION



VALID
FROM
JAN25

INTRODUCTION

SIDE GRIP TECHNOLOGY

MOVAX Side grip pile drivers are excavator-mounted, high-frequency, vibratory-type pile drivers providing the optimum solution for a wide range of piling requirements – especially when a high degree of precision is required; and for piling in sensitive environments and when limited space, head room or access is available.



HANDLING

HIGHER PRODUCTIVITY – SIGNIFICANT SAVINGS

Efficient. Fast. Versatile. Accurate. Safe. Reliable.

The same unit can handle, pitch and drive – and extract – different type of piles and is capable of accomplishing the entire piling process without the need of manual handling or assisting machinery. Furthermore there is no need for additional work, material and tools.



MOVAX mControl+ control system ensures a fast, efficient, accurate and safe pile driving process leading to higher productivity and quality.



PITCHING

DRIVING/EXTRACTING

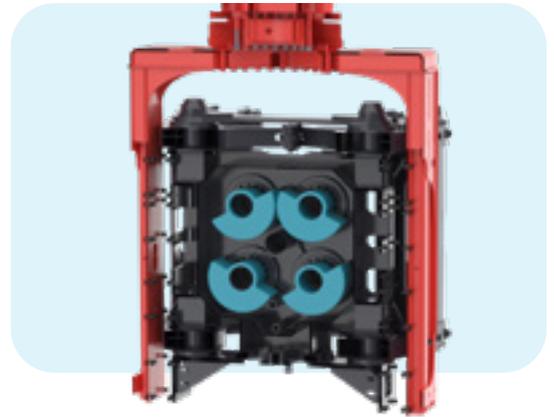


INTRODUCTION

VIBRATORY PILE DRIVER TECHNOLOGY

Vibratory pile drivers work by reducing the resistance and formation of the ground by the means of vibration. Vertical vibrations are transferred from the vibratory pile driver to the pile via a hydraulic arm or clamp (gripping the pile).

The vibration then travels from the pile to the soil, thus reducing the friction between the pile and the ground allowing the pile to be driven or extracted with less force. The pile is driven to the ground by a combination of the vibrator's weight, centrifugal force it produces and the downward force put out by the excavator.



The nature of vibration is to move through matter - everything has its natural resonance, i.e. the frequency in which they have a tendency to vibrate and oscillate. In order to avoid oscillation and thus disturbances to the surroundings, including the ground itself, buildings and structures, it is recommendable to avoid vibrating at natural frequencies.

Vibratory pile drivers are designed for operation at either a high frequency (HF) typically above 33 Hz/2300 rpm or at a low frequency (LF) typically below 24 Hz/1700 rpm.

MOVAX side grip vibratory pile drivers

MOVAX invented the side grip technology in 1993. Since the first fixed eccentric model designed primarily to handle and drive sheet piles the MOVAX side grip pile driver have over the years developed to a versatile modular design side grip pile driver capable of handling a wide range of different type of piles from sheet piles and H-beams to tubular piles, trench sheets and timber piles. The resonance-free technology was introduced to allow operation in sensitive conditions.

The nextGeneration, variable active, side grip pile driver introduced in 2023 takes the technology yet again to the next level in efficiency and performance.

1993

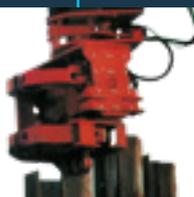
Established in Hämeenlinna, Finland

1995-2000

SP-40, SP-50:
B, C and D-models

2006-2012

SP-50, SP-60:
F-models



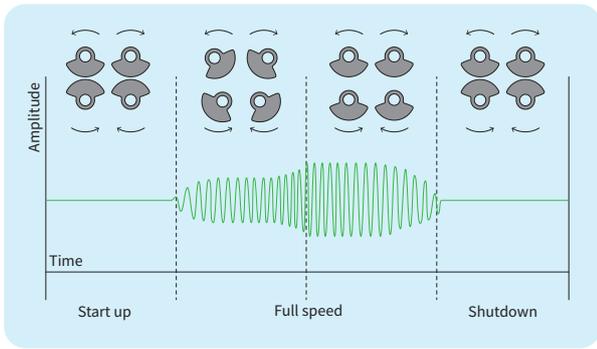
1994

1st side grip pile driver,
UV-50/UV-75

2000-2007

SP-40, SP-50, SP-60:
E-models





Variable active eccentric moment

The variable active technology allow the adjustment of the eccentric moment - and thus the amplitude - during pile driving or extraction. The variable active moment optimizes the use of the excavators hydraulic power by maintaining the highest possible force in challenging soil conditions and preventing the formation of resonance frequencies throughout the piling process.

The start-up and shutdown of **variable active type** vibratory pile drivers are resonance free, thus minimizing any disturbances to the surrounding soil or structures.

EXCAVATOR CLASS/		33-50 t					
PILE SIZE (length/weight)							
6 m x 2800 kg	SG-80VA						
12 m x 1900 kg							
16 m x 1300 kg							
SUITABLE PILES							
Sheet piles / trench sheets				width			
				400-1200 mm			
H-beams				H100-H500			

SIDE GRIP VIBRATORY PILE DRIVERS

TECHNICAL DATA

Models SG-45VA to SG-80VA/F

Model		SG-45VA	SG-50VA	SG-65VA	SG-80VA	SG-80F
Weight (with sheet pile clamps, excl. adapter)	kg	2490	2500	2550	3200	3100
Height	mm	2840	2840	2840	2860	2860
Depth	mm	1295	1295	1295	1295	1295
Width	mm	1170	1170	1170	1230	1230
Frequency		38-50 Hz (2300-3000 RPM)				38-50 Hz (2300-3000RPM)
Eccentric moment (max)	kgm	4,6	5,1	6,6	8,1	8,1
Centrifugal force (max)	kN	450	500	650	800	800
Ground vibration		Minimal				Normal
Resonance free start/stop		Yes				No
Active variable eccentric moment		Yes				No
Swing/tilt angle	°	360/±45				360/±45
Pile length/weight		8 m / 2300 kg 12 m / 1600 kg 16 m / 1200 kg		8 m / 2300 kg 12 m / 1800 kg 16 m / 1200 kg	6 m / 2800 kg 12 m / 1900 kg 16 m / 1300 kg	6 m / 2 800 kg 12 m / 1 900 kg 16 m / 1 300 kg
Return Pressure	bar	5				5
Pressure setting	bar	350				350
Excavator class	t	20-24	23-28	28-32	33-50	33-50
Engine power, min., TIER III	kW	100	125	135	180	180
Engine power, min., TIER IV	kW	120	135	160	200	200



