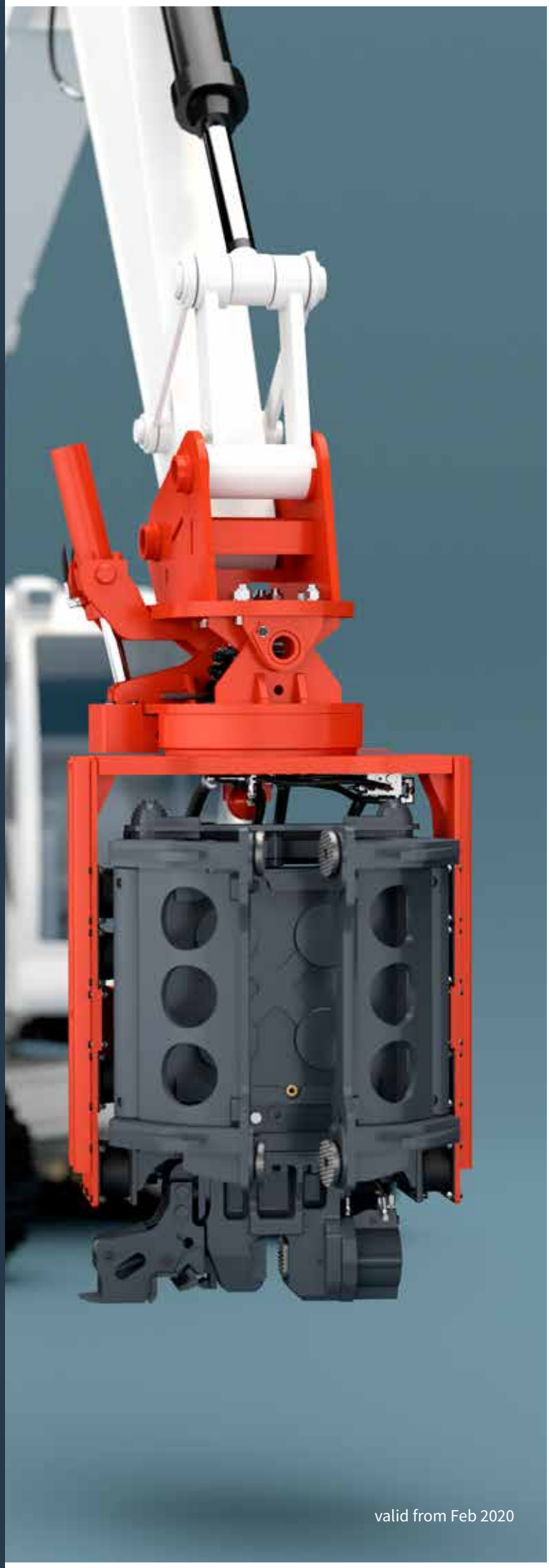
MOVAX

INNOVATIVE PILING SOLUTIONS

MOVAX PRODUCT CATALOGUE 2020



valid from Feb 2020

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HIGHER PRODUCTIVITY – SIGNIFICANT SAVINGS

EFFICIENT – FAST – VERSATILE – ACCURATE – SAFE

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INTRODUCTION: THE MOVAX WAY-OF-PILING

Movax Oy is a Finnish, privately-owned company, established in 1993, which specialises in the design, development and manufacturing of excavator-mounted piling equipment with advanced control and information management systems. Movax Oy, which is part of the Terra Patris Group, is located in Hameenlinna, Finland and represented by a network of partners all over the world.

The MOVAX way-of-piling is the optimum solution for constructing foundations, building retaining walls – both permanent and temporary – and cofferdams, and when performing trenching and excavation work in a wide range of applications.

The comprehensive range of excavator-mounted MOVAX piling equipment includes vibratory-type, side grip PILE DRIVERS and impact-type, hydraulic PILING HAMMERS for driven pile applications, PRE-AUGERS for assisting pile driving in difficult site and soil conditions, and telescopic, kelly bar-type PILING DRILLS.

MOVAX MULTI-TOOL PILING LEADERS provide a customised solution for a variety of piling requirements. The versatile, excavato-mounted multi-tool piling leaders are available for different size excavators and with tooling for driven piles, per-augering and bored piles (kelly bar, CFA).

MOVAX piling equipment and multi-tool piling leaders are controlled with the state-of-the-art Movax Control System (MCS™) providing efficiency, productivity, accuracy and safety.

The innovative MOVAX Information Management System (MIMS)provide eseential information about the MOVAX piling equipment and the piling process, forhigher productivity & quality, reliability and availability.

MOVAX is not merely piling equipment but a most efficient, fast, flexible, accurate and safe way-of-working – the MOVAX way-of-piling – which results in a higher productivity and thus significant time and cost savings in a wide range of applications and different works.

With more than 2,000 units delivered – to more than 60 countries, on six continents – Movax Oy is a proven supplier of innovative piling solutions

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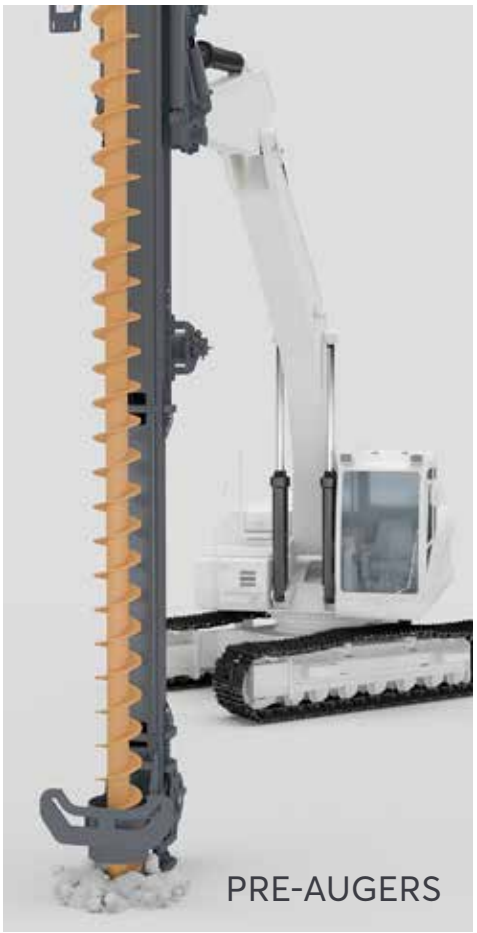
SIDE GRIP PILE DRIVERS

PILING HAMMERS

PILING DRILLS



PRE-AUGERS

SOLUTIONS

PILING EQUIPMENT

MOVAX piling equipment is available for different piling technologies, including driven and bored piles, varying conditions and requirements and for all kinds of piles including sheet piles, H-beams, tubular steel piles, timber piles - and for cast-in-situ.

Side grip pile drivers (SG) are the optimum solution for a wide range of piling requirements and a variety of site and soil conditions – especially when a high-degree of precision is required, and for piling in sensitive environments and when limited space or access is available. The same unit can handle, pitch and drive piles and is capable of accomplishing the whole process without the need of manual handling or assisting machinery.

Piling hammers (DH) are utilised to drive load-bearing piles and to assist in sheet pile driving, even in the most difficult soil conditions. MOVAX piling hammers are the optimum solution to complete a pile installation after reaching refusal with a side grip pile driver or when load testing is required. The piling hammers can be either excavator or excavator leader mast mounted.

Pre-augers (PA) are designed to support MOVAX side grip pile drivers and piling hammers in difficult soil conditions.

Piling drills (KB) are designed for cast in-situ piling. MOVAX piling drills are especially suitable for sites with confined spaces and when limited space or headroom is available.

Manipulators (MPM) are designed for fast, flexible and efficient handling of different kinds of masts, gantries, and poles as well as a wide range of piles. The MOVAX manipulator is designed for superior maneuverability, safety and accuracy.

The **MOVAX Control System (MCS)** links the excavator with MOVAX's piling equipment. The system controls the auxiliary hydraulics of the excavator and all the functions of MOVAX's piling equipment.

The **MOVAX Information Management System (MIMS)** provides essential information about the piling process and the pile installation – mLogbook - as well as about the MOVAX piling equipment itself – mFLeet Management.

MPL-200
with hydraulic hammer

MPL-300
with pre-auger

MPL-300
with kelly drive

MPL-400
with impact
hammer

CUSTOMISED SOLUTIONS

MULTI-TOOL PILING LEADERS

The customised MOVAX multi-tool piling leader (MPL) adds a further dimension to the MOVAX way-of-piling. The excavator mounted MOVAX multi-tool piling leader provides a versatile solution for a wide range of piling requirements in a variety of site and soil conditions, and for different types of piles and piling technologies, including driven and bored piles.

The MOVAX multi-tool piling leaders are available with a wide range of tooling including;

- vibratory pile drivers
- hydraulic, double-acting impact hammers
- hydraulic hammers
- rotary drives for pre-augering
- rotary drives for cast-in-situ (kelly bar) and CFA

The **MOVAX Control System (MCS)** links the excavator with the MOVAX Multi-tool piling leader and associated tooling. The system controls the auxiliary hydraulics of the excavator and all the functions of MOVAX's Multi-tool piling leader and the piling and drilling tooling. The system utilizes inclination and pressure sensors to monitor for instance the pile driving process – thus assisting the operator to achieve better efficiency, increased productivity and higher accuracy.

MOVAX Stability Monitoring System is availble for the Multi-tool piling leader for added safety, whenever required.

MOVAX WAY-OF-PILING

RAIL

ROAD

UTILITIES

PIER & WATERWAYS

CIVIL

ENERGY & ENVIRONMENT


BAMBUSIDE

PRODUCTS & SERVICES

PILE DRIVERS

MOVAX side grip pile drivers are excavator-mounted, high frequency, vibratory-type pile drivers - available with fixed or variable eccentric (resonance free) moment - for handling, pitching, driving and extracting different types of piles in a wide range of site and soil conditions.

FEATURES

- Suitable for a wide range of piling and foundation applications
- Suitable for different site and soil conditions, including sensitive environments and when a high degree of precision is required or when limited space is available
- Excavator-mounted – available for different excavator models/sizes, for crawler and wheeled excavators, railroaders etc; designed to work on a standard excavator with normal auxiliary hydraulics
- Available in different models, sizes and configurations to meet a wide range of piling needs
- Available for a wide range of piles including sheet piles, trench sheets, H-piles, tubular steel piles, timber piles etc.
- Available with fixed or variable eccentric moment
- Based on the MOVAX Modular System (MMS™) which enables the use of the same unit on multiple different piling work
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™); mFleet Management for monitoring MOVAX piling hammer operation, performance and condition and mLogbook for monitoring and reporting the piling works

HANDLING, PITCHING, DRIVING AND EXTRACTING PILES

SIDE GRIP PILE DRIVERS

SELECTION

Models **SG-45** to **SG-75** are resonance-free, variable (V) or fixed eccentric moment vibratory-type side grip pile drivers which can be fitted onto a wide selection of crawler and wheeled excavators as well as railroaders. The resonance-free (V) models are intended for sensitive environments when disturbances to the surroundings must be mininimized. Vibratory side grip pile driver models **SG-15N**, **SG-30N** and **SG-40N** are available as fixed eccentric only. The MOVAX side grip is always selected in accordance with the carrier (brand/model) in question in order to ensure optimum performance at all conditions. The arms/clamp system is selected based on the owners or operators operational requirements.

The model **SG-75** is designed for larger excavators whereas the **SG-45** to **SG-60** models are the optimum choice for medium sized excavators. The **SG-45** to **SG-75** models are suitable for a wide variety of applications and work ranging from civil, road and rail to mining, environmental, energy and piers & waterways. The resonance-free SG (V)-models are recommended when working in urban areas and when disturbances to the surroundings have to be minimized.

Models **SG-30N** and **SG-40N** are suited for the utility sector, especially where work is required to be undertaken by wheeled or small tracked excavators.

The **SG-15N** is suitable for the utility sector, ground workers and earth movers, and is the optimum solution for smaller wheeled or tracked excavators.

The following selection chart provides the general guidelines for selecting the correct MOVAX model for the excavator or carrier (size/ton) in question.

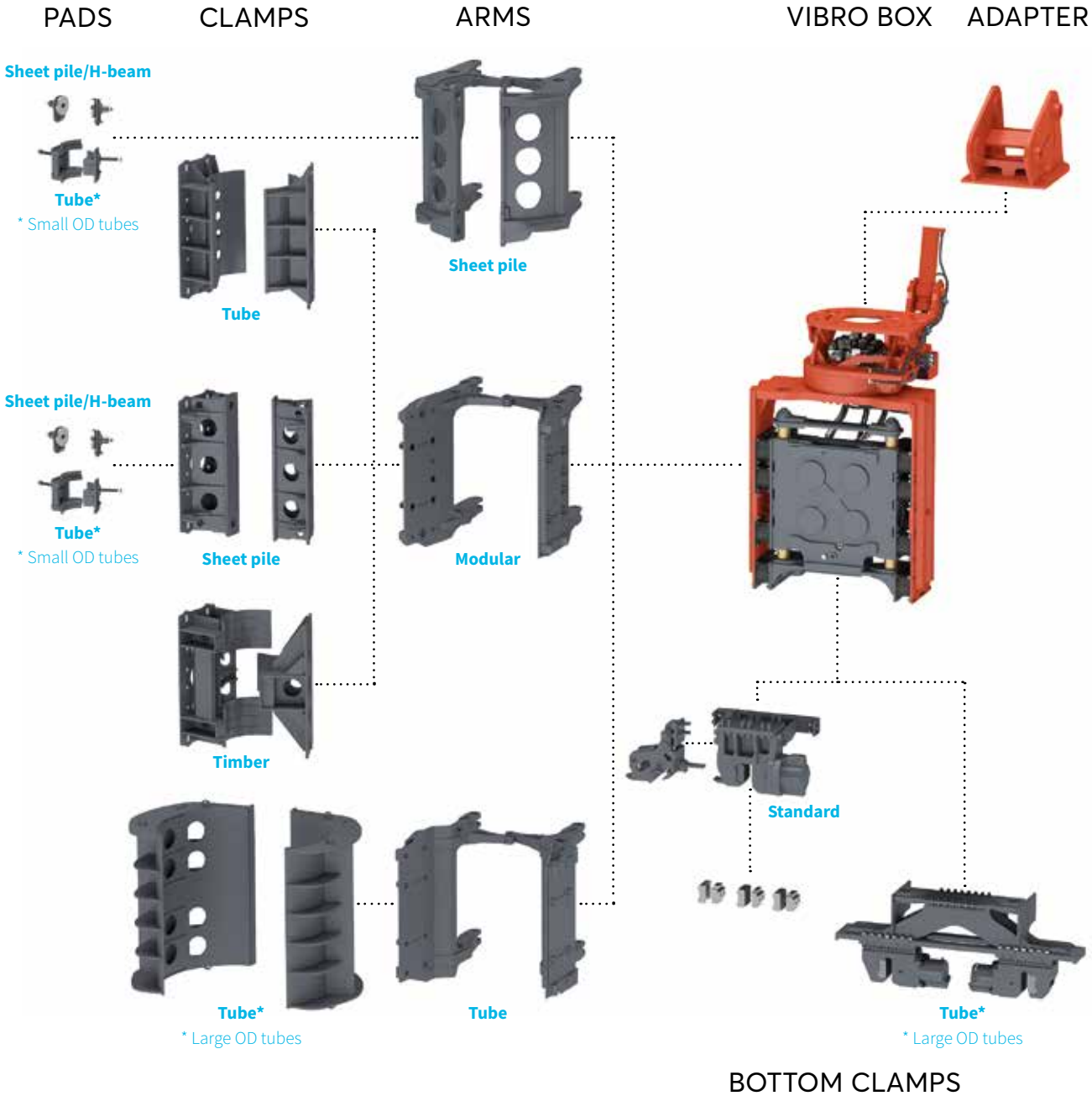
Excavator size	33–40 ton	28–32 ton	23–28 ton	20–24 ton	17–21 ton	13–16 ton	7–11 ton
Pile size (length / weight)							
6 m / 2 800 kg 12 m / 1 900 kg 16 m / 1 300 kg	SG-75 SG-75V						
8 m / 2 300 kg 12 m / 1 800 kg 16 m / 1 200 kg		SG-60 SG-60V	SG-50 SG-50V	SG-45 SG-45V			
6 m / 1 200 kg 8 m / 1 000 kg 10 m / 900 kg					SG-40N	SG-30N	
4 m / 400 kg 6 m / 200 kg							SG-15N
Suitable piles							
Sheet piles (/ Trench sheets)	width 400–1200 mm				width 400–1200 mm		width 400–600 mm (width 394–705 mm)
H-beams	H180–H500				H180–H400		H140–H300
Timber piles	Ø 160–420 mm & Ø 430–600 mm				Ø 120–250 mm & Ø 220–325 mm		Ø 100–200 mm & Ø 200–300 mm
Tube piles	Ø 88.9–1220 mm				Ø 88.9–457 mm		Ø 88.9–323.9 mm

NOTE! Preliminary selection. When making the final selection excavator engine size and hydraulic system design (oil pump arrangement, oil flow rate/ pressure etc), excavator lifting capacity and stability as well as soil and site conditions shall be taken into account. In order to ensure proper operation and performance it is of vital importance that the excavator is selected correctly.

SIDE GRIP PILE DRIVERS

MOVAX MODULAR SYSTEM

MOVAX side grip pile drivers are capable of taking care of the entire piling process from handling, pitching and driving to exctracting piles without the need of manual handling or assisting machinery and personnel. Due to the MOVAX Modular System (MMS™) - with interchangeable arms, clamps and pads - the same side grip pile driver can furthermore be utilised to handle a wide range of different type of piles ranging from sheet piles, tube piles and H- beams to timber piles.



NOTE! The MOVAX side grip pile driver is always equipped with one arm/clamp system. The unit is equipped with either sheet pile arms, modular arms or modular tube arms, and the bottom clamp. The modular arms can further be equipped with clamps for sheet piles, tube piles or timber piles. The tube arms are equipped with the desired size tube pile clamps.

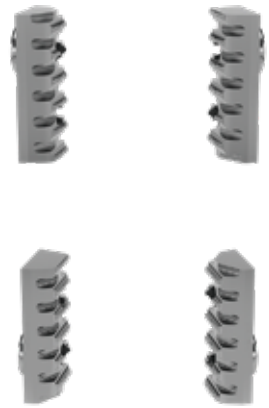
MOVAX MODULAR SYSTEM

SHEET PILE ARMS

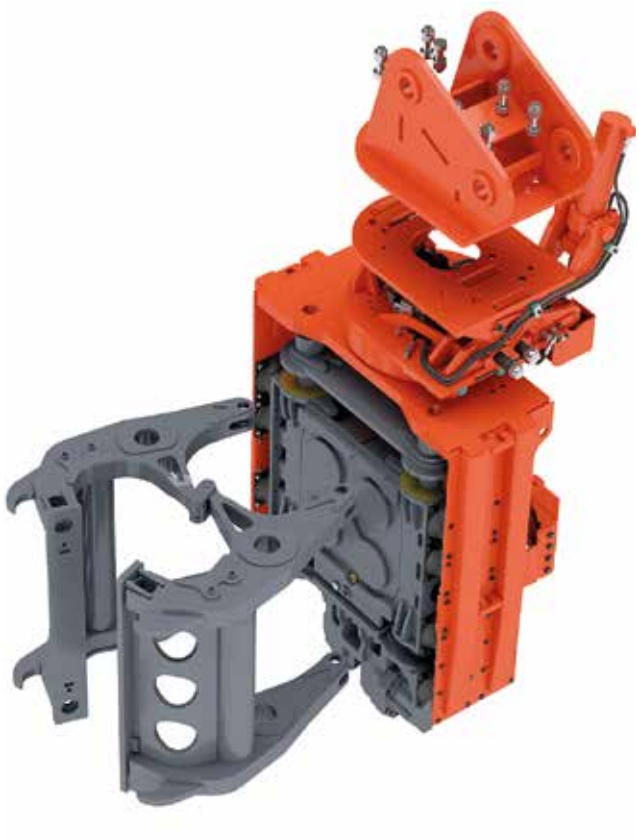
Sheet pile arms are suitable for driving sheet piles, H-beams and tubular steel pipes up to OD 273 mm.
Note! Each tube size requires its own tube pads with matching size in order to ensure proper operation.

Standard jaw pads
for sheet piles and H-beams

Tube pads
for tubular steel piles (up to OD 275 mm)



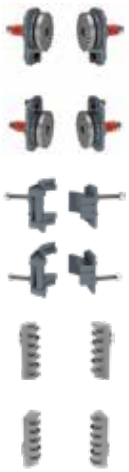
Customised pads
are available for rail track etc (by request)



MOVAX MODULAR SYSTEM

MODULAR ARMS

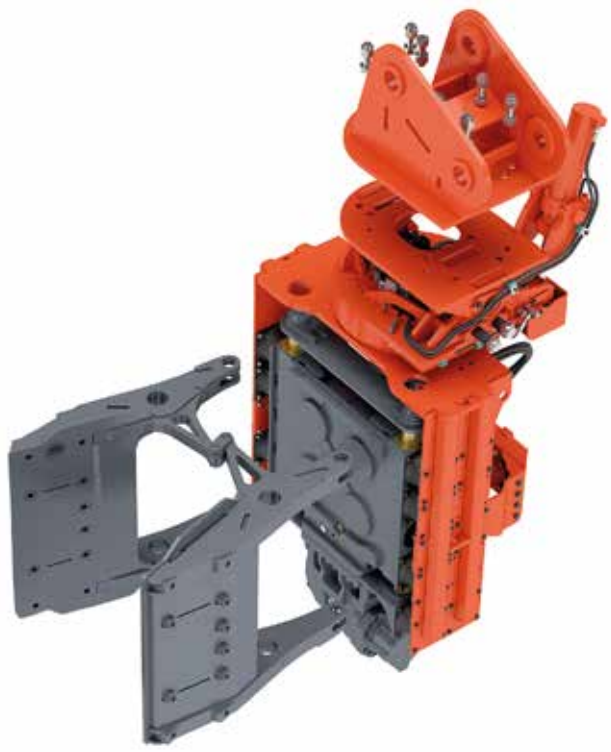
Modular arms are suitable for driving sheet piles, H-beams, timber piles and tubular steel piles up to OD 762 mm/ with tube pads up to OD 273 mm and up to 762 mm with tube clamps. Note! Each tube size requires its own tube pads/clamp with matching size in order to ensure proper operation.



Sheet pile clamps
for sheet piles and H-beams/tubular steel piles up to 273 mm

Tube clamps
for tubular steel piles up to 762 mm

Timber clamps
for timber piles



MOVAX MODULAR SYSTEM

TUBE ARMS

Tube arms are suitable for driving large OD tubular steel piles up to OD 1220 mm. Note! Each tube size requires its own tube clamp with matching size in order to ensure proper operation.

Tube clamps
for tubular steel piles from OD 508 mm to 1220 mm

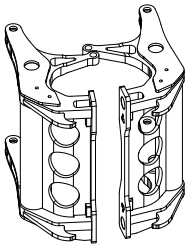
Side grip pile drivers (SG)

MOVAX Side grip pile drivers are available with interchangeable arm-, clamp-, and pad alternatives. MOVAX Side grip pile drivers are delivered with one arm-, clamp- and pad-system and the standard bottom clamp. Additonal arms, clamps or pads can be delivered (shipped loose) as required.

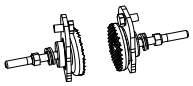
Special sheet pile arms are optimized for sheet pile handling, pitching, driving and extracting whereas the **tube arms** are the optimum solution for large diameter tubular steel piles. **Modular arms** provide the greatest versatility with easy-to-change clamps/pads and are thus intended for a wide range of different type of piles, including sheet piles, H-beams, timber piles and tubular steel piles. Customised arm-, clamp- and pad-options are available upon request.

SHEET PILE ARMS

Special sheet pile arms are the optimum solution when handling, pitching, driving and exctrating only – or mainly – sheet piles and/or H-beams. The special sheet pile arms can also be utilised to drive smaller diameter tubular steel piles or micropiles. Each tubular steel pile size requires its own, individial tube pad.

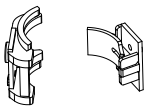


Sheet pile pads



SG-45 (V) ... SG-75 (V) w 400–1200 mm / H180–H500

Tube pads

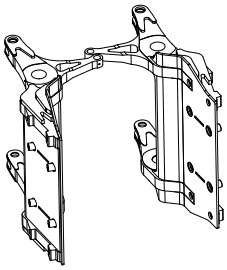


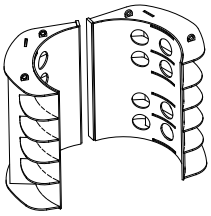
standard sizes

Ø 88.9	Ø 127	Ø 219.1
Ø 101.6	Ø 139.7	Ø 273
Ø 114.3	Ø 168.3	

TUBE ARMS

Special modular tube arms are utilised to handle and drive large diameter tubes. A tandem bottom clamp is available for the same tube sizes as the tube arms.





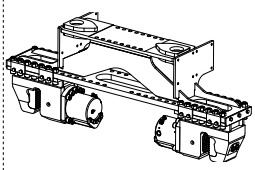
TUBE PILE CLAMPS

Each tubular steel pile size requires its own, individial tube clamp. Tube clamps are available for the following range of tube sizes (OD):

SG-45...SG-75 Ø 508–1220 mm

standard sizes

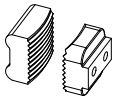
Ø 508	Ø 813
Ø 610	Ø 914
Ø 711	Ø 1016
Ø 762	Ø 1220



TANDEM BOTTOM CLAMP

available for SG-45 – SG-75

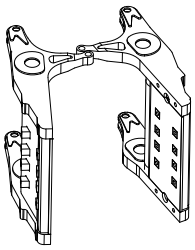
Tube pads



Ø 508–1220 mm

MODULAR ARMS

Modular arms are utilised for a wide range of different type of piles (sheet piles, H-beams, tubular steel piles, timber piles) and can be equipped with a variety of clamps/pads.



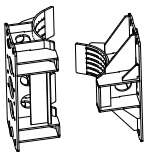
TUBE PILE CLAMPS

Each tubular steel pile size requires its own, individial tube clamp. Tube clamps are available for the following range of tube sizes (OD)

SG-45 (V) ... SG-75 (V)	Ø 88.9–762 mm
SG-30N...SG-40N	Ø 88.9–457 mm
SG-15N	Ø 88.9–323.9 mm

standard sizes

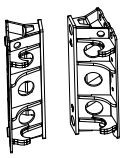
Ø 88.9	Ø 168.3	Ø 457
Ø 101.6	Ø 219.1	Ø 508
Ø 114.3	Ø 273	Ø 610
Ø 127	Ø 323.9	Ø 711
Ø 139.7	Ø 406.4	Ø 762



TIMBER PILE CLAMPS

A range of timber pile sizes can be driven with the same timber clamps. Timber pile clamps are available for the following range of timber pile sizes (OD):

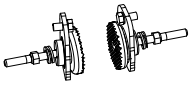
SG-45 (V) ... SG-75 (V)	Ø 160–420 mm & Ø 430–600 mm
SG-30N - SG-40N	Ø 120–250 mm & Ø 220–325 mm
SG-15N	Ø 100–200 mm & Ø 200–300 mm



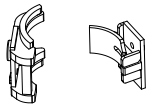
SHEET PILE CLAMPS

Sheet pile clamps can be utilised for sheet piles, H-beams and smaller steel tubes. Each tubular steel pile size requires its own, individial tube pad.

Sheet pile pads



Tube pads

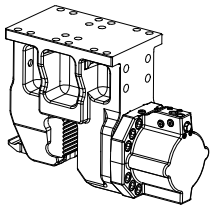


standard sizes

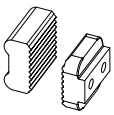
SG-45 (V) ... SG-75 (V)	w 400–1200 mm/H180–H500	Ø 88.9	Ø 127	Ø 219.1
SG-30N...SG-40N	w 400–1200 mm/H180–H400	Ø 101.6	Ø 139.7	Ø 273
SG-15N	w 400–600 mm/H140–H300	Ø 114.3	Ø 168.3	

BOTTOM CLAMP

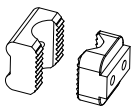
The (standard) bottom clamp is utilised for the completion of the pile driving and is suitable for all kinds of piles including sheet piles, H-beams and tubular piles. Double (sheet) pile pads are recommended when driving douple sheet piles (both U and Z). Timber piles require top hitter. A 4th jaw can be provided for added pile handling capabilities.



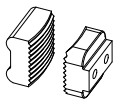
Sheet pile pads



Double (sheet) pile pads



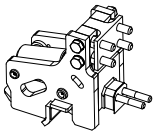
Tube pads



Ø 323.9–508
Ø 508–762

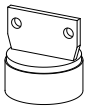
4TH JAW

(optional, available for SG-45 – SG-75)



TOP HITTER

(optional, for tubular steel piles and timber piles)




VOLVO
KOBELCO
VOLVO
ECR235CL

SIDE GRIP PILE DRIVERS

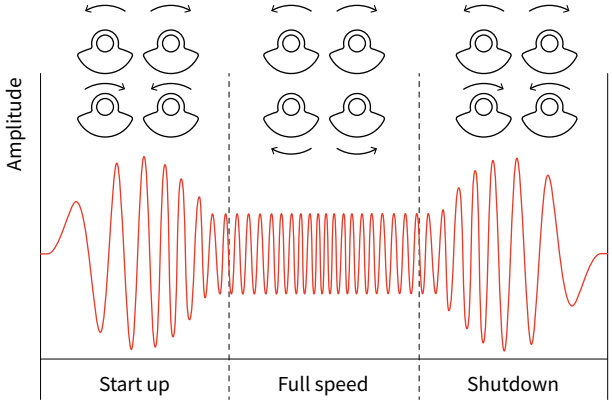
RESONANCE FREE

MOVAX side grip pile drivers are available in two different configurations: with fixed eccentric moment and resonance free (V-models).

Disturbances to the surrounding environments can be minimised by operating at high frequencies (typically above 38 Hz) to avoid oscillation at the natural frequencies of the surrounding structures. MOVAX SG-V-models are high frequency (38–50 Hz) resonance-free vibratory pile drivers which allow starting up and shutting down the side grip pile driver without vibration. This is achieved by shifting the upper row eccentrics with respect to the lower row eccentrics. The total eccentric moment of the side grip pile driver can thus be varied between 0% and 100%; hence variable eccentric moment. The resonance-free start-up and shutdown means that the SG-V -models are the ideal solution when working in urban areas or in sensitive environments. In addition to safer vibration, the SG-V-models also cause less noise and are faster and more comfortable to use.

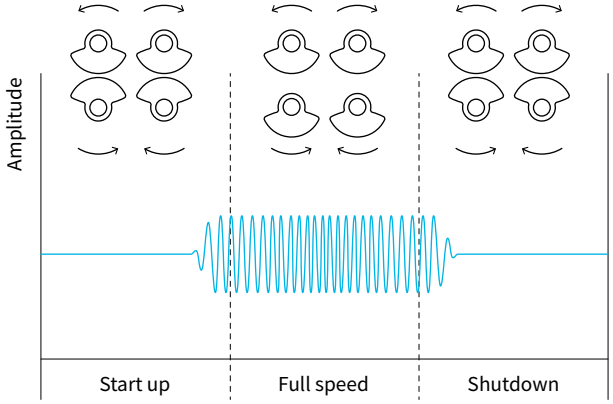
STANDARD ECCENTRIC MOMENT

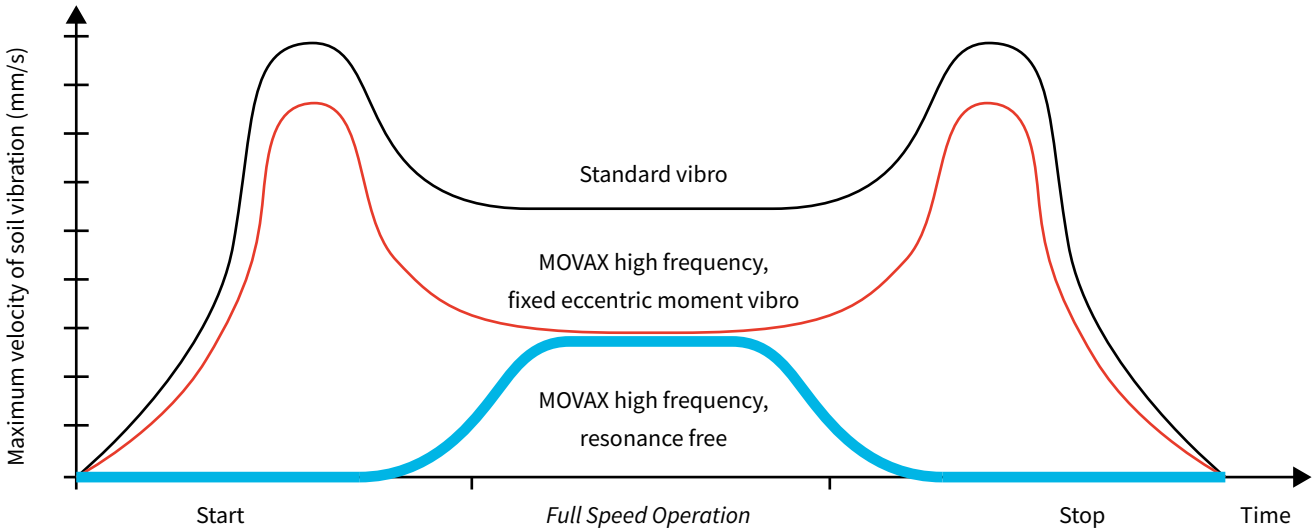
SG-MODELS



RESONANCE FREE

SG (V)-MODELS





SIDE GRIP PILE DRIVERS

PILE HANDLING AND DRIVING

MOVAX side grip pile drivers are capable of handling, pitching, driving and extracting a wide range of different piles without manual handling or the need of assisting machinery or personnel.

HANDLING

PITCHING

DRIVING (SIDE GRIP ARMS/CLAMPS)

DRIVING (BOTTOM CLAMP)

The MOVAX side grip pile driver is always equipped with one arm/clamp system. The arm/clamp system is selected based on the type of piles to be driven.

SHEET PILE ARMS

Special sheet pile arms are optimized for handling, pitching, driving and extracting sheet piles and H-beams (the sheet pile arms can further be equipped with tube pads for smaller OD tubes).

Lifting lever

4th jaw (optional)

Clamp hooks

Clamping the web

Handling/pitching/driving/extracting (sheet piles)

Handling/pitching/driving/extracting (H-beams)

MODULAR ARMS

Modular arms are designed for versatility and to handle, pitch, drive and extract sheet piles, tube piles or timber piles.

Handling/pitching/driving/extracting (sheet piles)

Handling/pitching/driving/extracting (tube piles)

Handling/pitching/driving/extracting (timber piles)

TUBE ARMS

The tube arms are optimized for handling, pitching, driving and extracting larger tube piles.

Handling/pitching/driving/extracting (tube piles)

SIDE GRIP PILE DRIVERS

SG-75V

FEATURES

- Designed to match the capabilities of larger excavators and to combine a robust structure with excellent pile handling characteristics.
- Fitted with heavy-duty arms/clamps capable of driving a wide range of piles including sheet piles, H-piles, tubular steel piles and other pile sections.
- High frequency pile driver with variable eccentric moment. Disturbances of the surrounding environment is minimised by operating at a high frequency and thus avoiding an oscillation of the soil and the surrounding structures at their natural frequencies.
- Based on the MOVAX Modular System (MMS™). The unit is always equipped with one of the standard arm/clamp systems and the bottom clamp. Customised arms and clamps are available upon special request.
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™)

TECHNICAL DATA

Weight (excl. adapter)*	kg	3500–3750
Height	mm	2615
Depth	mm	1115
Width	mm	1270
Eccentric moment	kgm	7,6
Centrifugal force, max	kN	750
Frequency	1/min	2300–3000
Ground vibration		low
Resonance-free start/stop		yes
Driving method		vibration
Swing/tilt angle	°	360 / ±30
Return pressure, max	bar	5
Pressure setting	bar	350
Excavator class	t	33–40
Engine power, min TIER III / TIER IV	kW	180/200

* with standard bottom clamp, exact weight depends on the side arm/clamp system

SUITABLE PILES

TYPES AND DIMENSIONS

Sheet piles	width	400–1200 mm
	depth	265 mm
H-beams	size	H180–H500
Timber piles	size	Ø 160–420 mm
Tubular piles, tubes*	size	up to Ø 762 mm

*up to Ø1220 mm with tube arms and tandem bottom clamp

LENGTH & WEIGHT

6 m x 2 800 kg
12 m x 1 900 kg
16 m x 1 300 kg

SIDE GRIP PILE DRIVERS

SG-60V

FEATURES

- Designed to match the capabilities of larger excavators and to combine a robust structure with excellent pile handling characteristics.
- Fitted with heavy-duty arms/clamps capable of driving a wide range of piles including sheet piles, H-piles, tubular steel piles and other pile sections.
- High frequency pile driver with variable eccentric moment. Disturbances of the surrounding environment is minimised by operating at a high frequency and thus avoiding an oscillation of the soil and the surrounding structures at their natural frequencies.
- Based on the MOVAX Modular System (MMS™). The unit is always equipped with one of the standard arm/clamp systems and the bottom clamp. Customised arms and clamps are available upon special request.
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™)

TECHNICAL DATA

Weight (excl. adapter)*	kg	2650–2950
Height	mm	2550
Depth	mm	1180–1436
Width	mm	1193
Eccentric moment	kgm	6,1
Centrifugal force, max	kN	600
Frequency	1/min	2300–3000
Ground vibration		low
Resonance-free start/stop		yes
Driving method		vibration
Swing/tilt angle	°	360 / ±30
Return pressure, max	bar	5
Pressure setting	bar	350
Excavator class	t	28–32
Engine power, min TIER III / TIER IV	kW	135/160

* with standard bottom clamp, exact weight depends on the side arm/clamp system

SUITABLE PILES

TYPES AND DIMENSIONS

Sheet piles	width	400–1200 mm
	depth	265 mm
H-beams	size	H180–H500
Timber piles	size	Ø 160–420 mm
Tubular piles, tubes*	size	up to Ø 762 mm

*up to Ø1220 mm with tube arms and tandem bottom clamp

LENGTH & WEIGHT

8 m x 2 300 kg
12 m x 1 800 kg
16 m x 1 200 kg

SIDE GRIP PILE DRIVERS

SG-50V

FEATURES

- Designed to match the capabilities of larger excavators and to combine a robust structure with excellent pile handling characteristics.
- Fitted with heavy-duty arms/clamps capable of driving a wide range of piles including sheet piles, H-piles, tubular steel piles and other pile sections.
- High frequency pile driver with variable eccentric moment. Disturbances of the surrounding environment is minimised by operating at a high frequency and thus avoiding an oscillation of the soil and the surrounding structures at their natural frequencies.
- Based on the MOVAX Modular System (MMS™). The unit is always equipped with one of the standard arm/clamp systems and the bottom clamp. Customised arms and clamps are available upon special request.
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™)

TECHNICAL DATA

Weight (excl. adapter)*	kg	2500–2800
Height	mm	2530
Depth	mm	118–1436
Width	mm	1193
Frequency	1/min	2300–3000
Eccentric moment	kgm	5,1
Centrifugal force, max	kN	500
Ground vibration		low
Resonance-free start/stop		yes
Driving method		vibration
Swing/tilt angle	°	360 / ±30
Return pressure, max	bar	5
Pressure setting	bar	350
Excavator class	t	23–28
Engine power, min TIER III / TIER IV	kW	125/135

* with standard bottom clamp, exact weight depends on the side arm/clamp system

SUITABLE PILES

TYPES AND DIMENSIONS

Sheet piles	width	400–1200 mm
	depth	265 mm
H-beams	size	H180–H500
Timber piles	size	Ø 160–420 mm
Tubular piles, tubes*	size	up to Ø 762 mm

*up to Ø1220 mm with modular tube arms and tandem bottom clamp

LENGTH & WEIGHT

8 m x 2 300 kg
12 m x 1 600 kg
16 m x 1 200 kg

SIDE GRIP PILE DRIVERS

SG-45V

FEATURES

- Designed to match the capabilities of larger excavators and to combine a robust structure with excellent pile handling characteristics.
- Fitted with heavy-duty arms/clamps capable of driving a wide range of piles including sheet piles, H-piles, tubular steel piles and other pile sections.
- High frequency pile driver with variable eccentric moment. Disturbances of the surrounding environment is minimised by operating at a high frequency and thus avoiding an oscillation of the soil and the surrounding structures at their natural frequencies.
- Based on the MOVAX Modular System (MMS™). The unit is always equipped with one of the standard arm/clamp systems and the bottom clamp. Customised arms and clamps are available upon special request.
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™)

TECHNICAL DATA

Weight (excl. adapter)*	kg	2490–2790
Height	mm	2530
Depth	mm	118–1436
Width	mm	1193
Frequency	1/min	2300–3000
Eccentric moment	kgm	4,6
Centrifugal force, max	kN	450
Ground vibration		low
Resonance-free start/stop		yes
Driving method		vibration
Swing/tilt angle	°	360 / ±30
Return pressure, max	bar	5
Pressure setting	bar	350
Excavator class	t	20–24
Engine power, min TIER III / TIER IV	kW	100/120

* with standard bottom clamp, exact weight depends on the side arm/clamp system

SUITABLE PILES

TYPES AND DIMENSIONS

Sheet piles	width	400–1200 mm
	depth	265 mm
H-beams	size	H180–H500
Timber piles	size	Ø 160–420 mm
Tubular piles, tubes*	size	up to Ø 762 mm

*up to Ø1220 mm with modular tube arms and tandem bottom clamp

LENGTH & WEIGHT

8 m x 2 300 kg
12 m x 1 600 kg
16 m x 1 200 kg

SIDE GRIP PILE DRIVERS

SG-75

FEATURES

- Designed to match the capabilities of larger excavators and to combine a robust structure with excellent pile handling characteristics.
- Fitted with heavy-duty arms/clamps capable of driving a wide range of piles including sheet piles, H-piles, tubular steel piles and other pile sections.
- High frequency pile driver with fixed eccentric moment.
- Based on the MOVAX Modular System (MMS™). The unit is always equipped with one of the standard arm/clamp systems and the bottom clamp. Customised arms and clamps are available upon special request.
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™)

TECHNICAL DATA

Weight (excl. adapter)*	kg	3370–3620
Height	mm	2615
Depth	mm	1115
Width	mm	1270
Frequency	1/min	2300–3000
Eccentric moment	kgm	7,6
Centrifugal force, max	kN	750
Ground vibration		normal
Resonance-free start/stop		no
Driving method		vibration
Swing/tilt angle	°	360 / ±30
Return pressure, max	bar	5
Pressure setting	bar	350
Excavator class	t	33–40
Engine power, min TIER III / TIER IV	kW	180/200

* with standard bottom clamp, exact weight depends on the side arm/clamp system

SUITABLE PILES

TYPES AND DIMENSIONS

Sheet piles	width	400–1200 mm
	depth	265 mm
H-beams	size	H180–H500
Timber piles	size	Ø 160–420 mm
Tubular piles, tubes*	size	up to Ø 762 mm

*up to Ø1220 mm with modular tube arms and tandem bottom clamp

LENGTH & WEIGHT

6 m x 2 800 kg
12 m x 1 900 kg
16 m x 1 300 kg

SIDE GRIP PILE DRIVERS

SG-60

FEATURES

- Designed to match the capabilities of larger excavators and to combine a robust structure with excellent pile handling characteristics.
- Fitted with heavy-duty arms/clamps capable of driving a wide range of piles including sheet piles, H-piles, tubular steel piles and other pile sections.
- High frequency pile driver with fixed eccentric moment.
- Based on the MOVAX Modular System (MMS™). The unit is always equipped with one of the standard arm/clamp systems and the bottom clamp. Customised arms and clamps are available upon special request.
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™)

TECHNICAL DATA

Weight (excl. adapter)*	kg	2550–2850
Height	mm	2550
Depth	mm	118–1436
Width	mm	1193
Frequency	1/min	2300–3000
Eccentric moment	kgm	6,1
Centrifugal force, max	kN	600
Ground vibration		normal
Resonance-free start/stop		no
Driving method		vibration
Swing/tilt angle	°	360 / ±30
Return pressure, max	bar	5
Pressure setting	bar	350
Excavator class	t	28–32
Engine power, min TIER III / TIER IV	kW	135/160

* with standard bottom clamp, exact weight depends on the side arm/clamp system

SUITABLE PILES

TYPES AND DIMENSIONS

Sheet piles	width	400–1200 mm
	depth	265 mm
H-beams	size	H180–H500
Timber piles	size	Ø 160–420 mm
Tubular piles, tubes*	size	up to Ø 762 mm

*up to Ø1220 mm with modular tube arms and tandem bottom clamp

LENGTH & WEIGHT

8 m x 2 300 kg
12 m x 1 800 kg
16 m x 1 200 kg

SIDE GRIP PILE DRIVERS

SG-50

FEATURES

- Designed to match the capabilities of larger excavators and to combine a robust structure with excellent pile handling characteristics.
- Fitted with heavy-duty arms/clamps capable of driving a wide range of piles including sheet piles, H-piles, tubular steel piles and other pile sections.
- High frequency pile driver with fixed eccentric moment.
- Based on the MOVAX Modular System (MMS™). The unit is always equipped with one of the standard arm/clamp systems and the bottom clamp. Customised arms and clamps are available upon special request.
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™)

TECHNICAL DATA

Weight (excl. adapter)*	kg	2400–2700
Height	mm	2530
Depth	mm	1180–1436
Width	mm	1193
Frequency	1/min	2300–3000
Eccentric moment	kgm	5,1
Centrifugal force, max	kN	500
Ground vibration		normal
Resonance-free start/stop		no
Driving method		vibration
Swing/tilt angle	°	360 / ±30
Return pressure, max	bar	5
Pressure setting	bar	350
Excavator class	t	23–28
Engine power, min TIER III / TIER IV	kW	125/135

* with standard bottom clamp, exact weight depends on the side arm/clamp system

SUITABLE PILES

TYPES AND DIMENSIONS

Sheet piles	width	400–1200 mm
	depth	265 mm
H-beams	size	H180–H500
Timber piles	size	Ø 160–420 mm
Tubular piles, tubes*	size	up to Ø 762 mm

*up to Ø1220 mm with modular tube arms and tandem bottom clamp

LENGTH & WEIGHT

8 m x 2 300 kg
12 m x 1 600 kg
16 m x 1 200 kg

SIDE GRIP PILE DRIVERS

SG-45

FEATURES

- Designed to match the capabilities of larger excavators and to combine a robust structure with excellent pile handling characteristics.
- Fitted with heavy-duty arms/clamps capable of driving a wide range of piles including sheet piles, H-piles, tubular steel piles and other pile sections.
- High frequency pile driver with fixed eccentric moment.
- Based on the MOVAX Modular System (MMS™). The unit is always equipped with one of the standard arm/clamp systems and the bottom clamp. Customised arms and clamps are available upon special request.
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™)

TECHNICAL DATA

Weight (excl. adapter)*	kg	2390–2690
Height	mm	2530
Depth	mm	1180–1436
Width	mm	1193
Frequency	1/min	2300–3000
Eccentric moment	kgm	4,6
Centrifugal force, max	kN	450
Ground vibration		normal
Resonance-free start/stop		no
Driving method		vibration
Swing/tilt angle	°	360 / ±30
Return pressure, max	bar	5
Pressure setting	bar	350
Excavator class	t	20–24
Engine power, min TIER III / TIER IV	kW	100/120

* with standard bottom clamp, exact weight depends on the side arm/clamp system

SUITABLE PILES

TYPES AND DIMENSIONS

Sheet piles	width	400–1200 mm
	depth	265 mm
H-beams	size	H180–H500
Timber piles	size	Ø 160–420 mm
Tubular piles, tubes*	size	up to Ø 762 mm

*up to Ø1220 mm with modular tube arms and tandem bottom clamp

LENGTH & WEIGHT

8 m x 2 300 kg
12 m x 1 600 kg
16 m x 1 200 kg

SIDE GRIP PILE DRIVERS

SG-40N

FEATURES

- Designed for the utility sector; especially when work is required to be undertaken by wheeled or small tracked excavators.
- Fitted with heavy duty modular arms and with clamps/pads capable of driving a wide range of piles including sheet piles, H-piles, tubular steel piles and other pile sections.
- High frequency pile driver with fixed eccentric moment.
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™)

TECHNICAL DATA

Weight (excl. adapter)*	kg	1505
Height	mm	2042
Depth	mm	1138
Width	mm	1030
Frequency	1/min	2300–3000
Eccentric moment	kgm	4,1
Centrifugal force, max	kN	400
Ground vibration		normal
Resonance-free start/stop		no
Driving method		vibration
Swing/tilt angle	°	360 / ±30
Return pressure, max	bar	5
Pressure setting	bar	350
Excavator class	t	17–21
Engine power, min TIER III / TIER IV	kW	85/95

* exact weight depends on clamp/pad-system

SUITABLE PILES

TYPES AND DIMENSIONS

Sheet piles/ Trench sheets	width	400–1200 mm
	depth	260 mm
H-beams	size	H180–H400
Timber piles	size	Ø 120–325 mm
Tubular piles, tubes	size	Ø 90–457 mm

LENGTH & WEIGHT

6 m x 1 200 kg
8 m x 1 000 kg
10 m x 900 kg

SIDE GRIP PILE DRIVERS

SG-30N

FEATURES

- Designed for the utility sector; especially when work is required to be undertaken by wheeled or small tracked excavators.
- Fitted with heavy duty modular arms and with clamps/pads capable of driving a wide range of piles including sheet piles, H-piles, tubular steel piles and other pile sections.
- High frequency pile driver with fixed eccentric moment.
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™)

TECHNICAL DATA

Weight (excl. adapter)*	kg	1485
Height	mm	2042
Depth	mm	1138
Width	mm	1030
Frequency	1/min	2300–3000
Eccentric moment	kgm	3,1
Centrifugal force, max	kN	300
Ground vibration		normal
Resonance-free start/stop		no
Driving method		vibration
Swing/tilt angle	°	360/±30
Return pressure, max	bar	5
Pressure setting	bar	350
Excavator class	t	13–16
Engine power, min TIER III / TIER IV	kW	65/70

* exact weight depends on clamp/pad-system

SUITABLE PILES

TYPES AND DIMENSIONS

Sheet piles/ Trench sheets	width	400–1200 mm
	depth	260 mm
H-beams	size	H180–H400
Timber piles	size	Ø 120–325 mm
Tubular piles, tubes	size	Ø 90–457 mm

LENGTH & WEIGHT

6 m x 1 200 kg
8 m x 1 000 kg
10 m x 900 kg

SIDE GRIP PILE DRIVERS

SG-15N

FEATURES

- Designed for the utility sector; especially when work is required to be undertaken by wheeled or small tracked excavators.
- Fitted with heavy duty modular arms and with clamps/pads capable of driving a wide range of piles including sheet piles, tubular steel piles and other pile sections.
- High frequency pile driver with fixed eccentric moment.
- Controlled with the MOVAX Control System (MCS™); MCS Lite or MCS Lite Plug & Play.

TECHNICAL DATA

Weight (excl. adapter)*	kg	760
Height	mm	1500
Depth	mm	900
Width	mm	850
Frequency	1/min	2300–3000
Eccentric moment	kgm	1,6
Centrifugal force, max	kN	150
Ground vibration		normal
Resonance-free start/stop		no
Driving method		vibration
Swing/tilt angle	°	360 / ±30
Return pressure, max	bar	5
Pressure setting	bar	250
Excavator class	t	7–11
Engine power, min TIER III / TIER IV	kW	38/38

* exact weight depends on clamp/pad-system

SUITABLE PILES

TYPES AND DIMENSIONS

Sheet piles / Trench sheets	width	400–600 mm / 394–705 mm
	depth	150 mm
H-beams	size	H140–H300
Timber piles	size	Ø 100–323 mm
Tubular piles, tubes	size	Ø 80–323 mm

LENGTH & WEIGHT

4 m x 400 kg
6 m x 200 kg


MOVAX
ATLAS


LIEBHERR
844
Urð og Grjót
LIEBHERR

PRODUCTS & SERVICES

PILING HAMMERS

MOVAX Piling Hammers are hydraulic, double acting impact-type, piling hammers utilised for driving load-bearing piles or assisting in sheet pile driving in even the most difficult soil conditions. MOVAX piling hammers can be utilised to complete a pile installation after reaching refusal with a side grip pile driver or when load testing is required. MOVAX piling hammers can further be utilised independently for driving a wide range of piles including sheet piles, H-beams, tubular steel piles, timber piles or pre-cast concrete piles.

The MOVAX hydraulic piling hammer can be excavator-, MOVAX multi-tool piling leader-, (third party) piling rig- or crane mounted.

FEATURES

- Suitable for different site and soil conditions
- Suitable for a wide range of piles including sheet piles, H-beams, tubular steel piles, timber piles, pre-concrete piles etc
- Mounting options:
  - Excavator stick-mounted; designed to work on a standard excavator with normal auxiliary hydraulics
  - MOVAX multi-tool piling leader-mounted; leader mounted on excavator boom/designed to work on a standard excavator with normal auxiliary hydraulics)
  - Crane-mounted; available with hydraulic power pack
  - Piling rig-mounted
- Controlled with the MOVAX Control System (MCS™)
- Available with pile handler (when excavator-mounted), capacity 2,5 tons, for handling of different type of piles. The pile handler can be added later to an existing MOVAX DH piling hammer.
- Available with the MOVAX Information Management System (MIMS™); mFleet Management for monitoring the MOVAX piling hammer and mLogbook for monitoring and reporting the piling works.

DRIVING LOAD BEARING PILES AND ASSISTING IN SHEET PILE DRIVING

PILING HAMMERS

SELECTION

The MOVAX piling hammer is selected based on the size and type of piles to be driven and the type of carrier as well as based on the required load bearing capacity (when driving load bearing piles). The piling hammer is suitable for all kinds of piles ranging from sheet piles to tubular steel piles and precast concrete piles. A specific pile cap is provided for the type of pile in question.

EXCAVATOR MOUNTED (STICK MOUNTED)

Depending on the reach of the excavator the maximum pile length is approximately 6–7 meters when the MOVAX piling hammer is installed directly onto the excavator stick.

Excavator size	 (20) 23–50 ton	 (28) 30–50 ton	 (33) 35–50 ton	 (38) 40–50 ton
Pile size (length / weight)				
max pile length based on excavator reach and stability	DH-15	DH-25	DH-35	DH-45
Suitable piles				
Sheet piles	width 400–700 mm			
H-beams	H180–H500		H180–H700	
Precast concrete piles (max)	508 mm x 508 mm			
Timber piles	Ø 90–510 mm			
Tube piles	Ø 88.9–762 mm		Ø 88.9–1200 mm	

MOVAX MULTI-TOOL PILING LEADER-MOUNTED (BOOM MOUNTED)

Excavator size	 30–50 ton	 35–50 ton	 35–50 ton
Pile size (length / weight)			
max pile lenght 12 meters	DH-15	DH-25	DH-35
Suitable piles			
Sheet piles	width 400–700 mm		
H-beams	H180–H500		H180–H700
Precast concrete piles (max)	508 mm x 508 mm		
Timber piles	Ø 90–510 mm		
Tube piles	Ø 88.9–762 mm		Ø 88.9–1200 mm

PILING RIG MOUNTED

The mounting on a third party piling rig shall always be checked by Movax Oy.

CRANE MOUNTED

The mounting on a crane shall always be checked by Movax Oy.

NOTE! Preliminary selection. When making the final selection the required load bearing capacity and pile length/weight shall be taken into account. Local laws, rules and regulations must be taken into account when selecting the piling hammer for a specific excavator.
( ) to be checked

PILING HAMMERS

MOVAX MODULAR SYSTEM

MOUNTING OPTIONS

The MOVAX piling hammers can be mounted directly onto the excavator (stick), onto MOVAX own Multi-tool piling leader, or a third-party piling rig or crane.

Excavator-mounted

MOVAX multi-tool piling leader-mounted

Piling rig-mounted

Crane-mounted

Due to the modular design the same MOVAX piling hammer can be used on all the various carriers with minimum modifications. The mounting bracket, top cover and lower frame must be selected in accordance with the mounting option.

MOUNTING BRACKET

Each mounting option requires its own mounting bracket (except crane-mounting which do not require a mounting bracket).

Excavator-mounted

MPL-mounted

Piling rig-/crane-mounted

TOP COVER

The top cover is the same for the excavator- and multi-tool piling leader (MPL)- mounted DH piling hammer. When mounting the DH on a third party piling rig or on a crane a top cover with lifting lugs is required.

Excavator- and MPL-mounted

Piling rig-/crane-mounted

LOWER FRAME

The lower frame is the same for the excavator-, multi-tool piling leader (MPL)- and piling rig-mounted DH piling hammer. The crane-mounted piling hammer is equipped with a pile sleeve (“bell”) with pile guides available separately for tubular piles and sheet piles.

Excavator-, MPL- & piling rig-mounted

Crane mounted (with Bell)

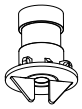
MOVAX MODULAR SYSTEM

PILING HAMMERS (DH)

PILE CAPS

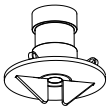
MOVAX double acting piling hammers can be equipped with the following standard type of pile caps (customized pile caps are availble upon request):

SHEET PILES / H BEAMS



DH-15, DH-25, DH-35 and DH-45 (S)

for PU and GU sheet piles 600 mm /
H-beam < 500 mm



DH-15, DH-25, DH-35 and DH-45 (M)

for AU sheet piles > 700 mm / H-beams < 700 mm

TUBULAR PILES, MICROPILES

DH-15 and DH-25

XS Ø 88,9–219,1 mm

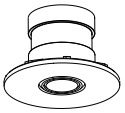
DH-35 and DH-45

XS Ø 88,9–323,9 mm

TUBULAR PILES

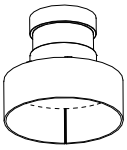
Excavator-mounted
DH-15, DH-25

S max Ø 273–508 mm
M max Ø 406,4–762 mm



Excavator-mounted
DH-35, DH-45

S max Ø 323,9–508 mm
M max Ø 406,4–762 mm
(L max Ø 762–1200 mm; by request)

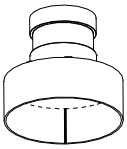


Leader-mounted & piling rig-mounted
DH-15, DH-25

S max Ø 323,9–508 mm
M max Ø 559–762 mm

Crane-mounted
DH-15, DH-25

Ø 406,4–762 mm



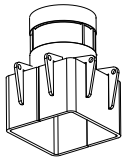
DH-35, DH-45

S max Ø 273–508 mm
M max Ø 457–762 mm
(L max Ø 762–1200 mm; by request)

DH-35, DH-45

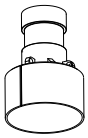
M Ø 406,4–762 mm
(L Ø 762–1200 mm; by request)

PRE-CAST CONCRETE PILES



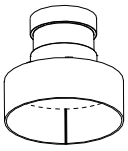
Customised, available from 180 x 180 mm to 508 x 508 mm

TIMBER PILES



DH-15, DH-25

XS max Ø 90–220
S max Ø 220–510



DH-35, DH-45

XS max Ø 90–325
S max Ø 270–510

NOTE! A single pile cap can handle the given range.

PILING HAMMERS

DH-45

FEATURES

- Hydraulic, double-acting impact hammer
- Excavator, MOVAX multi-tool piling leader, piling rig or crane mounted
- Excavator mounted
  - incorporates a 1.3 m leader
  - mounting with pin adapter (tilt +/-152°, no rotation)
- MOVAX multi-tool piling leader mounted
  - incorporates a 1.3 m leader
- Available with drive caps for a range of different pile sections
- Available with pile handler
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™)

TECHNICAL DATA

		Excavator mounted	Excavator leader-mounted	Piling rig mounted	Crane mounted
Total weight (excl. adapter)*	kg	6700	5850**	5850**	5850**
Ram weight	kg	4000	4000	4000	4000
Blows per minute	1/min	0–100	0–100	0–100	0–100
Impact energy	kNm	0–45	0–45	0–45	0–45
Drop height	m	0–1,2	0–1,2	0–1,2	0–1,2
Pressure relief set max	bar	350	350	350	350
Operating pressure	bar	280	280	280	280
Oil flow rate	l/min	80–120	80– 120	80– 120	80– 120
Tilt angle	°	+/-15	N/A	N/A	N/A
Total height	mm	4930	4930	5080	5080
Frame width	mm	650	650	650	650
Transport width	mm	1200	1200	1200	1200
Transport depth	mm	1870	1870	1870	1870
Excavator class					
Excavator mounted	t	(38) 40–50	40–50	-	-

* including tilt device

** excluding leader adapter

PILING HAMMERS

DH-35

FEATURES

- Hydraulic, double-acting impact hammer
- Excavator, MOVAX multi-tool piling leader, piling rig or crane mounted
- Excavator mounted
  - incorporates a 1.3 m leader
  - mounting with pin adapter (tilt +/-15°, no rotation)
- MOVAX multi-tool piling leader mounted
  - incorporates a 1.3 m leader
- Available with drive caps for a range of different pile sections
- Available with pile handler
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™)

TECHNICAL DATA

		Excavator mounted	Excavator leader-mounted	Piling rig mounted	Crane mounted
Total weight (excl. adapter) *	kg	5750	4900**	4900**	4900**
Ram weight	kg	3100	3100	3100	3100
Blows per minute	1/min	0–100	0–100	0–100	0–100
Impact energy	kNm	0–35	0–35	0–35	0–35
Drop height	m	0–1,2	0–1,2	0–1,2	0–1,2
Pressure relief set max	bar	350	350	350	350
Operating pressure	bar	250	250	250	250
Oil flow rate	l/min	80– 120	80– 120	80– 120	80– 120
Tilt angle	°	+/-15	N/A	N/A	N/A
Total height	mm	4460	4460	4610	4610
Frame width	mm	650	650	650	650
Transport width	mm	1200	1200	1200	1200
Transport depth	mm	1870	1870	1870	1870
Excavator class					
Excavator mounted	t	(33) 35–50	35–50	-	-

* including tilt device

** excluding leader adapter

PILING HAMMERS

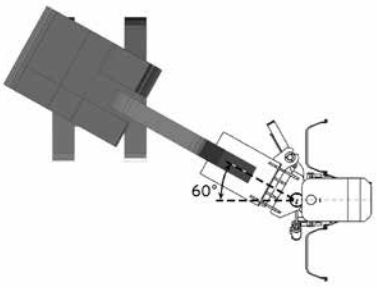
DH-25

FEATURES

- Hydraulic, double-acting impact hammer
- Excavator, MOVAX multi-tool piling leader, piling rig or crane mounted
- Excavator mounted
  - incorporates a 1.3 m leader
  - standard mounting with pin adapter (tilt +/-15°, no rotation)
  - Available with optional bolt-on-plate mounted rotation device (tilt +/-15°, rotation +/- 60°).
- MOVAX multi-tool piling leader mounted
  - incorporates a 1.3 m leader
- Available with drive caps for a range of different pile sections
- Available with pile handler
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™)

TECHNICAL DATA

		Excavator mounted	Excavator leader-mounted	Piling rig mounted	Crane mounted
Total weight (excl. adapter)					
with tilt device	kg	4400	3700	3700	3700
with tilt+rotation device	kg	4700	N/A	N/A	N/A
Ram weight	kg	2060	2060	2060	2060
Blows per minute	1/min	0–100	0–100	0–100	0–100
Impact energy	kNm	0–25	0–25	0–25	0–25
Drop height	m	0–1,2	0–1,2	0–1,2	0–1,2
Pressure relief set max	bar	350	350	350	350
Operating pressure	bar	200	200	200	200
Oil flow rate	l/min	80– 120	80– 120	80– 120	80– 120
Tilt angle	°	+/-15	N/A	N/A	N/A
Rotation angle	°	+/-60	N/A	N/A	N/A
Total height	mm	4460	4460	4610	4610
Frame width	mm	500	500	500	500
Transport width	mm	1200	1200	1200	1200
Transport depth	mm	1870	1870	1870	1870
Excavator class		(28) 30–50	35–50	-	-



Tilt/rotation device

PILING HAMMERS

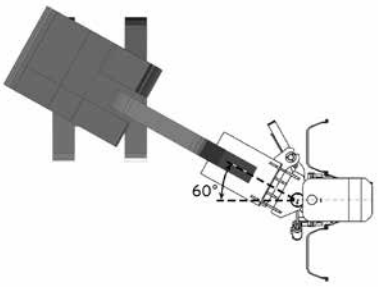
DH-15

FEATURES

- Hydraulic, double-acting impact hammer
- Excavator, MOVAX multi-tool piling leader, piling rig or crane mounted
- Excavator mounted
  - incorporates a 0.7 m leader
  - standard mounting with pin adapter (tilt +/-15°, no rotation)
  - Available with optional bolt-on-plate mounted rotation device (tilt +/-15°, rotation +/- 60°).
- MOVAX multi-tool piling leader mounted
  - incorporates a 0.7 m leader
- Available with drive caps for a range of different pile sections
- Available with pile handler
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™)

TECHNICAL DATA

		Excavator mounted	Excavator leader-mounted	Piling rig mounted	Crane mounted
Total weight (excl. adapter)					
with tilt device	kg	3500	2800	2800	2800
with tilt+rotation device	kg	3800	N/A	N/A	N/A
Ram weight	kg	1360	1360	1360	1360
Blows per minute	1/min	0–100	0–100	0–100	0–100
Impact energy	kNm	0–15	0–15	0–15	0–15
Drop height	m	0–1,2	0–1,2	0–1,2	0–1,2
Pressure relief set max	bar	350	350	350	350
Operating pressure	bar	150	150	150	150
Oil flow rate	l/min	80– 120	80– 120	80– 120	80– 120
Tilt angle	°	+/-15	N/A	N/A	N/A
Rotation angle	°	+/-60	N/A	N/A	N/A
Total height	mm	3850	3850	4000	4000
Frame width	mm	500	500	500	500
Transport width	mm	1200	1200	1200	1200
Transport depth	mm	1870	1870	1870	1870
Excavator class	t	(20) 23–50	30–50	-	-



Tilt/rotation device


MOVAX
CAT

PRODUCTS & SERVICES

PRE-AUGERS

MOVAX pre-augers are excavator-mounted auger drive attachments utilised to support MOVAX side grip pile drivers and/or piling hammers in difficult soil conditions.

FEATURES

- Excavator mounted auger drive attachments for pre-augering in soil conditions
- Hydraulically operated drive with infinitely variable speed
- Vertical movement of the auger drive is realized with two hydraulic winch drives to enable small bore holes where soil removal is required
- Availabe in two lengths, up to 6 m and 12 m
- Equipped with auger selected in accordance with soil conditions.
- Controlled with the MOVAX Control System (MCS™)

ASSISTING PILE DRIVING & EXCTRACTION
IN DIFFICULT SOIL CONDITIONS

PRE-AUGERS

PA-50S

FEATURES

- Excavator mounted auger drive attachment for pre-augering. Utilized in support of MOVAX SG side grip pile drivers and DH piling hammers. Hydraulically operated drive with infinitely variable speed
- Vertical movement of the auger drive is realized with two hydraulic winch drives to enable small bore holes where soil removal is required
- Equipped with auger selected in accordance with soil conditions.
- Controlled with the MOVAX Control System (MCS™)

TECHNICAL DATA

Weight (excl. adapter)	kg	4500
Height without auger	mm	8900
Depth without adapter	mm	1500
Width	mm	1300
Tilt angle	°	+/-8
Excavator class	t	25–50
Flow rate	l/min	240
Operating pressure	bar	350
Drilling depth	m	up to 6
Maximum torque	kNm	50*
Rotation speed	rpm	0–40
Crowd force	kN	25
Extraction force	kN	57
Auger diameter	mm	400**

*Customised auger drives available upon request
**Other diameters available upon request
Drilling depths between 6–12 meters available upon request.

PRE-AUGERS

PA-50L

FEATURES

- Excavator mounted auger drive attachments for pre-augering. Utilized in support of MOVAX SG side grip pile drivers and DH piling hammers. Hydraulically operated drive with infinitely variable speed
- Vertical movement of the auger drive is realized with two hydraulic winch drives to enable small bore holes where soil removal is required
- Equipped with auger selected in accordance with soil conditions.
- Controlled with the MOVAX Control System (MCS™)

TECHNICAL DATA

Weight (excl. adapter)	kg	5600
Height without auger	mm	14800
Depth without adapter	mm	1500
Width	mm	1300
Tilt angle	°	+/-8
Excavator class	t	35–50
Flow rate	l/min	240
Operating pressure	bar	350
Drilling depth	m	up to 12
Maximum torque	kNm	50*
Rotation speed	rpm	0–40
Crowd force	kN	25
Extraction force	kN	57
Auger diameter	mm	400**

*Customised auger drives available upon request

**Other diameters available upon request


MOVAX
CAT

PRODUCTS & SERVICES

PILING DRILLS

MOVAX Piling drills are excavator-mounted, auger drive attachments for cast in-situ (concrete) piling. MOVAX Piling drills are explicitly designed for soil removal tasks.

FEATURES

- Suitable for different site conditions, also for sites with limited headroom
- Excavator mounted; designed to work on a standard excavator with normal auxiliary hydraulics
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™)

CAST-IN SITU PILING

PILING DRILLS

TAD-32

FEATURES

- Excavator-mounted auger drive attachments for cast in-situ piling and other earth drilling work. Especially suitable for work in confined spaces while still being good at reaching over obstacles. The telescopic design keeps the machine low and allows working on sites with limited headroom without compromising on drilling depth.
- Hydraulically operated telescopic drill with two extension.
- Available with different type of augers for normal soil conditions, hard clay, hard soil etc.
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™)

TECHNICAL DATA

Weight (excl. adapter and auger)	kg	3200
Height without auger	mm	3855
Depth of piling drill	mm	1673
Width of piling drill	mm	1013
Excavator class	t	24–35
Oil flow rate	l/min	75–250
Max return pressure	bar	5
Drilling depth	m	9
Hole diameter*	mm	400–1000
Drill speed range	rpm	11–74
Side tilt angle	°	±30
Torque	Nm	30000
Auger pressing force	N	15000
Auger pulling force	N	30000

* depending on soil conditions and tooling


MOVAX

PILING DRILLS

KB-70S

FEATURES

- Excavator-mounted auger drive attachments for cast in-situ piling and other earth drilling work. Especially suitable for work in confined spaces while still being good at reaching over obstacles. The telescopic design keeps the machine low and allows working on sites with limited headroom without compromising on drilling depth.
- Equipped with interlocking telescopic kelly bar
- Available with different type of augers for normal soil conditions, hard clay, hard soil etc.
- Controlled with the MOVAX Control System (MCS™)
- Available with the MOVAX Information Management System (MIMS™)

TECHNICAL DATA

		Drilling depth 12 m	Drilling depth 15 m
Weight (excl. adapter and auger)	kg	5500	5800
Height	mm	4500	4500
Excavator class			
- stick mounted	t	(*30) 35–50	35–50
- boom mounted	t	25–50	25–50
Oil flow rate	l/min	100–200	100–200
Oil pressure	bar	350	350
Drilling depth	m	12	15
Hole diameter**	mm	420–1500	420–1500
Drill speed range	rpm	10–120	10–120
Side tilt angle	°	±15	±15
Torque	kNm	70	70
Extraction force	kN	57	57
Crowd force	kN	190	190

* suitability of excavator to be confirmed

** depending on soil conditions and tooling


MOVAX

CUSTOMISED SOLUTIONS

MULTI-TOOL PILING LEADERS

The MOVAX multi-tool piling leader adds a further dimension to the MOVAX way-of-piling. The excavator mounted MOVAX multi-tool piling leader provides a versatile solution for a wide range of piling requirements in a variety of site and soil conditions, and for different types of piles and piling technologies.

The MOVAX multi-tool piling leaders are available with a wide range of tooling or different piling and foundation applications. The leader as well as the tooling are designed to work on a standard excavator with normal auxiliary hydraulics. The MOVAX multi-tool piling leaders and tooling are controlled with the MOVAX Control System. An optional MCS stability monitoring system is available upon request.

The MOVAX multi-tool piling leader includes the following customised product range:

MPL-400

- Heavy duty, multi-purpose piling leader
- Excavator class 35–50 ton
- Excavator boom-mounted

MPL-300

- Multi-purpose piling leader
- Excavator class 20–35 ton
- Excavator stick- or boom-mounted

MPL-200

- Micropiling leader (incl solar piling)
- Excavator class 8–30 ton
- Excavator stick-, boom or chassis-mounted

TOOLS FOR A WIDE RANGE OF PILING TECHNOLOGIES

MULTI-TOOL PILING LEADER

MPL-400

FEATURES

- Excavator boom-mounted, heavy duty Multi-tool piling leader
- Tooling alternatives include vibratory pile driver, hydraulic double-acting piling hammer and rotary drives for pre-augering and cast-in-situ
- Suitable for a wide range of piling applications, including driven piles (sheet piles, tubular steel piles, H-beams and precast concrete piles) and bored piles (drilled shaft (kelly bar) and CFA)
- Multi-tool piling leader and tooling designed to work on a standard excavator with normal auxiliary and bucket hydraulics. All leader related hydraulics are integrated onto the leader itself
- Equipped with a fully integrated service winch for handling of piles and tooling
- Tooling can be easily changed and the leader can also be attached and detached enabling other usage of the excavator
- The Multi-tool piling leader and the tooling is operated with the MOVAX Control System, MCS Pro
- Excavator mounted MCS stability monitoring system available upon request.

TECHNICAL DATA

Weight (approx. excl. tooling)	kg	7000
Height	m	14
Extraction force	t	12 or 24
Crowd force	t	12
Auxiliary winch	t	6
Excavator class	t	35–50

TOOLING

Vibratory pile driver	kgm	10
Hydraulic piling hammer	kNm	35/45
Pre-augering	kNm	max 100 kNm / 12 m

SUITABLE PILES

DRIVEN PILES

sheet piles	size	U and Z piles / 12 m
H-beams	size	up to H500 / 12 m
tubular piles	size	up to Ø 800 mm / 12 m or up to Ø 1200 mm / 8 m
Precast concrete piles	size	up to 300 x 300 mm / 12 m

MULTI-TOOL PILING LEADER

MPL-300

FEATURES

- Excavator stick- or boom-mounted, Multi-tool piling leader
- Tooling alternatives include vibratory pile driver, hydraulic double-acting piling hammer and rotary drives for pre-augering and cast-in-situ
- Suitable for a wide range of piling applications, including driven piles (sheet piles, tubular steel piles, H-beams and precast concrete piles) and bored piles (drilled shaft (kelly bar) and CFA)
- Multi-tool piling leader and tooling designed to work on a standard excavator with normal auxiliary hydraulics
- Available with a fully integrated service winch for handling of piles and tooling
- Tooling can be easily changed and the leader can also be attached and detached enabling other usage of the excavator
- The Multi-tool piling leader and the tooling is controlled with the MOVAX Control System (MCS™)

TECHNICAL DATA

Weight (approx. excl. tooling)	kg	3900
Height	m	14
Extraction force	t	6 or 12
Crowd force	t	2,5
Auxiliary winch	t	2,5
Excavator class	t	20–50

TOOLING

Vibratory pile driver	kgm	6
Hydraulic piling hammer	kNm	15/25
Pre-augering	kNm	max 50 kNm / 12 m

SUITABLE PILES

DRIVEN PILES

sheet piles	size	U and Z piles / 12 m
H-beams	size	up to H500 / 12 m
tubular piles	size	up to Ø 508 mm / 12 m OR up to Ø 762 mm / 8 m
Precast concrete piles	size	up to 250 x 250 mm / 12 m

MULTI-TOOL PILING LEADER

MPL-200

FEATURES

- Excavator stick-, boom- or chassis-mounted Multi-tool piling leader, designed especially for micropiling and solar piling applications. Mounting option depends upon tooling and excavator class.
- Tooling alternatives include vibratory pile driver, hydraulic hammer and rotary drives for pre-augering and cast-in-situ
- Suitable for a wide range of piling applications, including driven piles (sheet piles, tubular steel piles, H-beams and precast concrete piles) and bored piles (drilled shaft kelly bar). Effective pile length six (6) meters (for driven piles per single pile section)
- Multi-tool piling leader and tooling designed to work on a standard excavator with normal auxiliary hydraulics. All leader related hydraulics are integrated onto the leader itself.
- Tooling can be changed easily and fast and the Multi-tool piling leader can also easily, fast and flexibly be attached and detached enabling other usage of the excavator
- The Multi-tool piling leader and the tooling is controlled with the MOVAX Control System (MCS™)

TECHNICAL DATA

Weight (approx. excl. tooling)	kg	1800
Height	m	7,8
Excavator class	t	8–30

TOOLING

Vibratory pile driver	kgm	1,6
Hydraulic piling hammer	Nm	1200–3400
Pre-augering	kNm	max 12 kNm / 6 m

SUITABLE PILES

DRIVEN PILES

sheet piles	size	U and Z piles / 6 m
H-beams	size	up to H200 / 6 m
tubular piles	size	up to Ø 220 mm / 6 m

PRODUCTS & SERVICES

MANIPULATORS

MOVAX manipulators are designed for fast, flexible and efficient handling of different kinds of masts, gantries, and poles as well as a wide range of piles. Based on the patented side grip technology, the MOVAX manipulator is designed for superior maneuverability, safety and accuracy.

The manipulator is capable of handling different type of profiles ranging from double-U-, U-, H-, and I- to rectangular- and tubular-shapes as well as sheet piles, tubular piles, timber piles and precast concrete piles. Soft gripping surfaces prevent efficiently damaging sensitive masts, gantries or poles.

The MOVAX Manipulator is controlled by the MOVAX Control System for fast, precise and easy operation with the utmost safety.

FEATURES

- Suitable for a wide range of different type of profiles
- Available for masts, poles gantries and different type of piles
- Available with gripping surfaces tailor-made for the profile to be handled
- Controlled with the MOVAX Control System (MCS™); MCS Lite or MCS Pro

HANDLING PILES


MOVAX
MOVAX

MANIPULATORS

MPM-4000

FEATURES

- 360 degree continuous rotary gear for unlimited and precise handling and positioning
- Adapter plates available to suit most brands of quick hitches or pin-connection
- Fast connection to base machine with one cable and two hoses
- Clamping inserts available with soft gripping surfaces to prevent damage on galvanized pole
- Controlled with the MOVAX Control System (MCS™); MCS Lite or MCS Pro.
  - Easy & exact pile positioning with integrated inclination sensor and MCS display
  - Smooth movements with thumb wheel operated proportional control valves
  - Clamping pressure shown on screen
  - Integrated safety lock valves on cylinders
  - Safety switch for clamp opening
  - Adjustable gripping force to prevent damage of for instance galvanized poles or other sensitive profiles

TECHNICAL DATA

Weight (excl. adapter)	kg	1650–1950
Height	mm	1580
Depth	mm	2050
Width	mm	960
Excavator or Rail Road Vehicle class	t	18–35
Rotation angle	°	+/-60
Tilting angle	°	360
Tilting torque	Nm	20000
Relief valve pressure max	bar	350
Minimum pressure required	bar	180
Required oil flow	l/min	85
Maximum working load	kg	4000

SUITABLE PROFILES

TYPES AND DIMENSIONS

Square sections and H-beams	size	from 120x120 up to 650x650
Tubular sections	size	100–630 mm
Sheet piles	size	max depth 265 mm
Timber poles and piles		160–420 mm

MOVAX CONTROL SYSTEM

The MOVAX Control System (MCS™) links the excavator with MOVAX's pile drivers, piling hammers, pre-augers and piling drills – and Multi-tool piling leaders. The system controls the auxiliary hydraulics of the excavator and all the functions of MOVAX's piling and drilling equipment. The system utilises inclination and pressure sensors to monitor for instance the pile driving process – thus assisting the operator to achieve better efficiency, increased productivity and higher accuracy.

The MOVAX Control System is available in three versions: MCS Lite, MCS Pro and MCS Pro+auto. MCS Lite is a basic control system including all the necessary controls to operate MOVAX piling and handling equipment. MCS Lite is available for fixed or temporary installation (MCS Lite plug & play). MCS Pro includes additional sensors providing added information and intelligence concerning the piling process and the MOVAX equipment. MCS Pro+auto further adds the auto control function to the MCS Pro control system.

FEATURES

- Ergonomic and informative user interface
- Colour display
- All functions effortlessly controlled using switches and thumbwheels on the control grips
- Compatible with all MOVAX piling and handling equipment

FOR ALL MOVAX PILING EQUIPMENT AND HANDLING EQUIPMENT

MOVAX CONTROL SYSTEM

MCS Lite

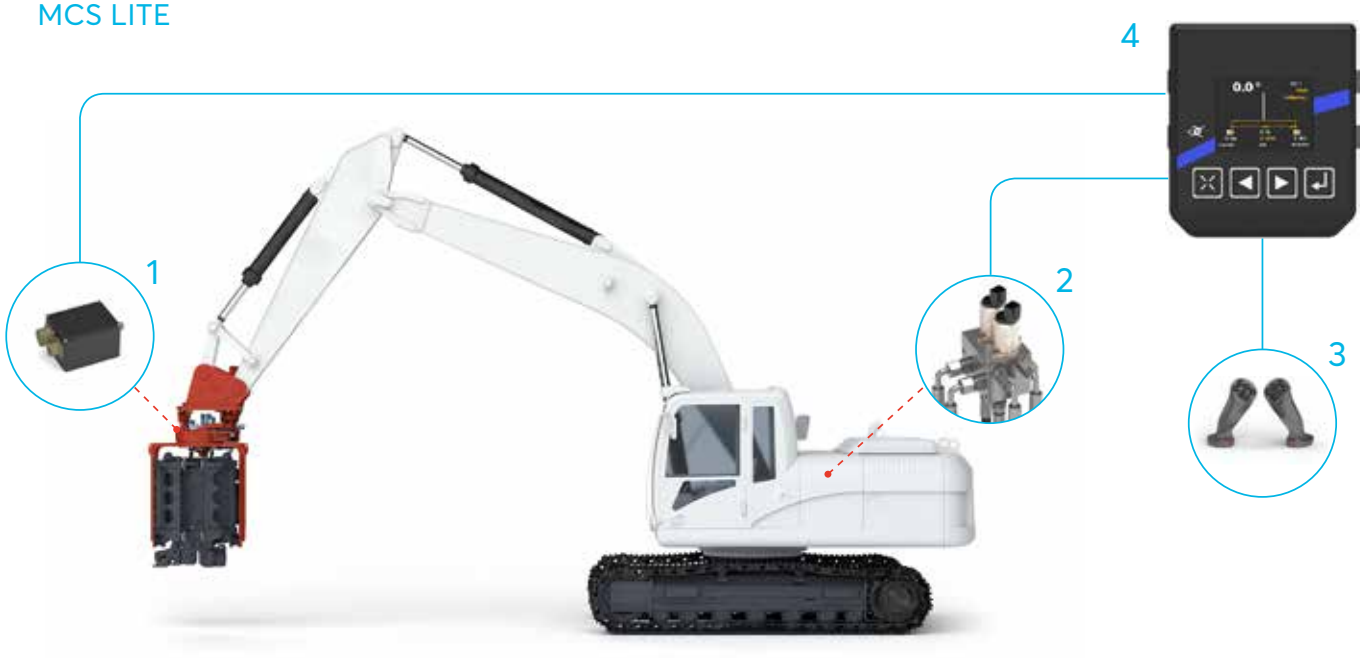
The MOVAX Control System MCS Lite is a basic control system that gives the operator control over all the hydraulic functions on the MOVAX piling equipment. The excavator side of the system is simplified, making it suitable for shorter-term use and for a second excavator that is used occasionally for pile driving. MCS Lite is compatible with MOVAX piling equipment fitted for the MCS Pro or MCS Pro+auto.

MCS Lite has a cab-mounted electronic control module with a 3.2″ display. The module is capable of controlling the excavator's auxiliary hydraulics with a proportional pilot valve for the required hydraulic power for the MOVAX equipment.

The display provides the operator with information about MOVAX: angles, vibro frequency or piling hammer impact energy rate and hydraulic pressure. Basic service interval and system diagnostic data are also available to the operator.

The system is delivered with ergonomic control grips with rollers and switches that allow complete operation with a single grip. The control grips include extra switches and rollers for accommodating functions from the excavator's original handles.

MCS LITE



1. MOVAX module
2. Valve Block / 3. Grips / 4. Display

MOVAX CONTROL SYSTEM

MCS Lite Plug & Play

The MCS Lite Plug & Play is based on the MCS Lite but intended for fast and easy installation and dismantling allowing also the relocation of the control system flexibly from one excavator to the other. The MCS Lite Plug & Play gives the operator control over all the hydraulic functions of the MOVAX piling equipment. The MCS Lite Plug & Play is partially fitted onto the MOVAX piling equipment and partially onto the excavator.

The MOVAX Module (MXM) installed onto the MOVAX piling equipment controls the hydraulic valves on the pile driver and monitors the operation with an inclinometer and pressure sensors.

The carrier-mounted excavator module (EXM) controls the carrier's auxiliary hydraulics which is utilised to power all the functions of the MOVAX piling equipment. The cab-mounted excavator module is equipped with a 3,2" display and a quick connection box.

The MCS Lite Plug & Play has a cab-mounted electronic control module (Excavator module with display (EXM)) with a 3,2" display. The MCS Lite Plug & Play is equipped with ergonomic grips with rollers and buttons which allow complete operation with a single grip. The grips are equipped with clamps for easy and fast installation.

QUICK INSTALLATION

1. Install the display module (EXM) in the excavator cabin on the right hand side. Select location with good visibility.
2. Attach the MOVAX joystick next to the original joystick using the special clamp provided.
3. Connect the joystick wire, power cable and hammer activation cable to the display module.
4. Run the bus cable from the excavator cabin to the end of the stick.

MCS LITE PLUG & PLAY

1. MOVAX module
2. Grip / 3. Display

MOVAX CONTROL SYSTEM

MCS Pro

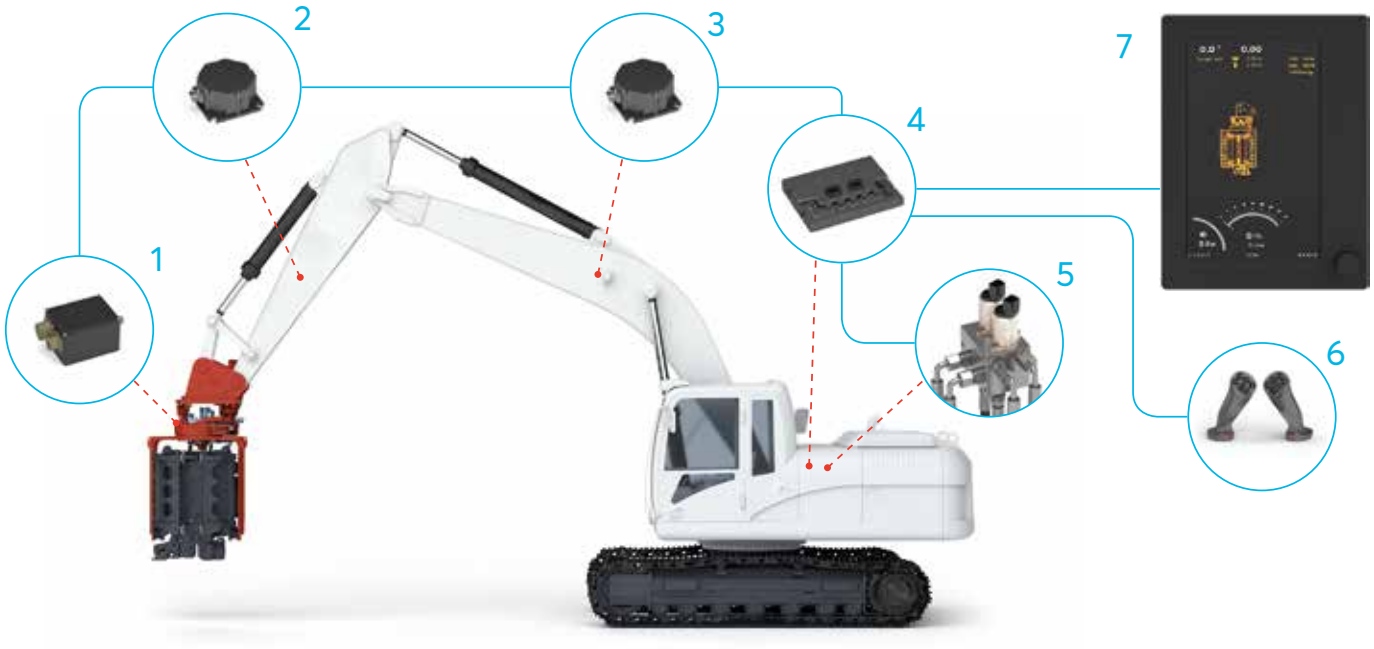
The MOVAX Control System MCS Pro is an advanced, state-of-the-art control system for easier, precise and more productive and efficient operation.

The visual user interface of the MCS Pro is based on a 7" display with easy-to-read graphical symbols for the position, vibro frequency or piling hammer impact energy rate, and hydraulic pressure. It has user-friendly menus for calibrating and optimising the performance of both the Movax equipment and the excavator hydraulics. The MCS Pro provides full system diagnostics directly on the screen and can be set to remind the operator of critical maintenance tasks, such as changing oil and oil filter.

The control grips with proportional rollers are ergonomically shaped and designed for simultaneous control of multiple operations. The grips have a large number of switches and rollers to accommodate non-MOVAX functions as well.

MCS Pro can be upgraded to meet different needs. Versatile connectivity makes it possible to add pressure sensors, a boom-mounted camera or a wireless site camera for top-level safety, productivity and accuracy.

MCS PRO



1. MOVAX module
2. Stick boom sensor / 3. Main boom sensor / 4. Excavator module / 5. Valve Block / 6. Grips / 7. Display
8. Camera (optional)

MOVAX CONTROL SYSTEM

MCS Pro+auto

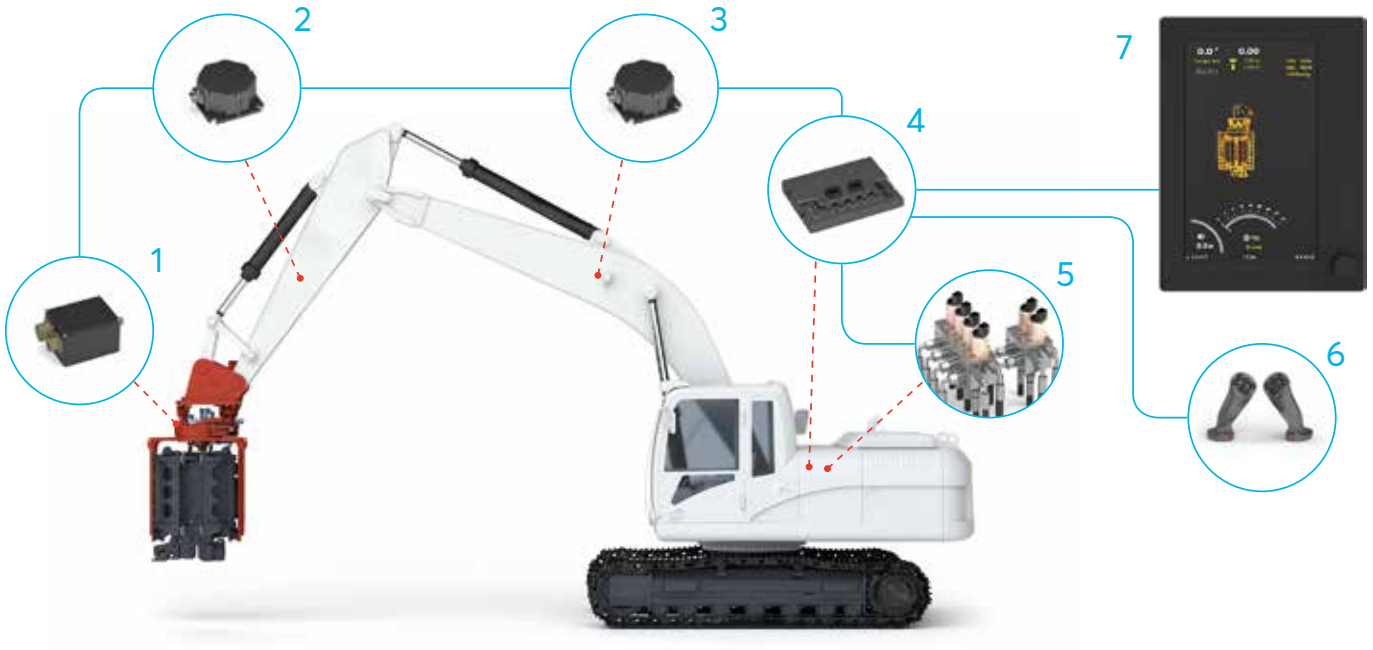
The MOVAX Control System MCS Pro+auto is an advanced, state-of-the-art control system for easier, precise and more productive and efficient operation.

The visual user interface of the MCS Pro+auto is based on a 7″ display with easy-to-read graphical symbols for the position, vibro frequency or piling hammer impact energy rate, and hydraulic pressure. It has user-friendly menus for calibrating and optimising the performance of both the Movax equipment and the excavator hydraulics. The MCS Pro+auto provides full system diagnostics directly on the screen and can be set to remind the operator of critical maintenance tasks, such as changing oil and oil filter.

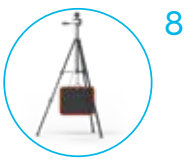
The control grips with proportional rollers are ergonomically shaped and designed for simultaneous control of multiple operations. The grips have a large number of switches and rollers to accommodate non-MOVAX functions as well.

The MCS Pro+auto control feature makes the excavator mounted MOVAX side grip pile drivers and piling hammers travel in a straight line by taking over a demanding part of the boom control. The system is based on angle sensors on the excavator and the MOVAX piling equipment and proportional pilot valves mounted on the excavator. The smart user interface allows the operator to switch the automatic control on or off at any time while keeping his/her hands on the controls at all times.

MCS Pro+auto can be upgraded to meet different needs. Versatile connectivity makes it possible to add pressure sensors, a boom-mounted camera or a wireless site camera for top-level safety, productivity and accuracy.



1. MOVAX module
2. Stick boom sensor / 3. Main boom sensor / 4. Excavator module / 5. Valve Block / 6. Grips / 7. Display
8. Camera (optional)



MOVAX CONTROL SYSTEM

MCS Stability Monitoring System

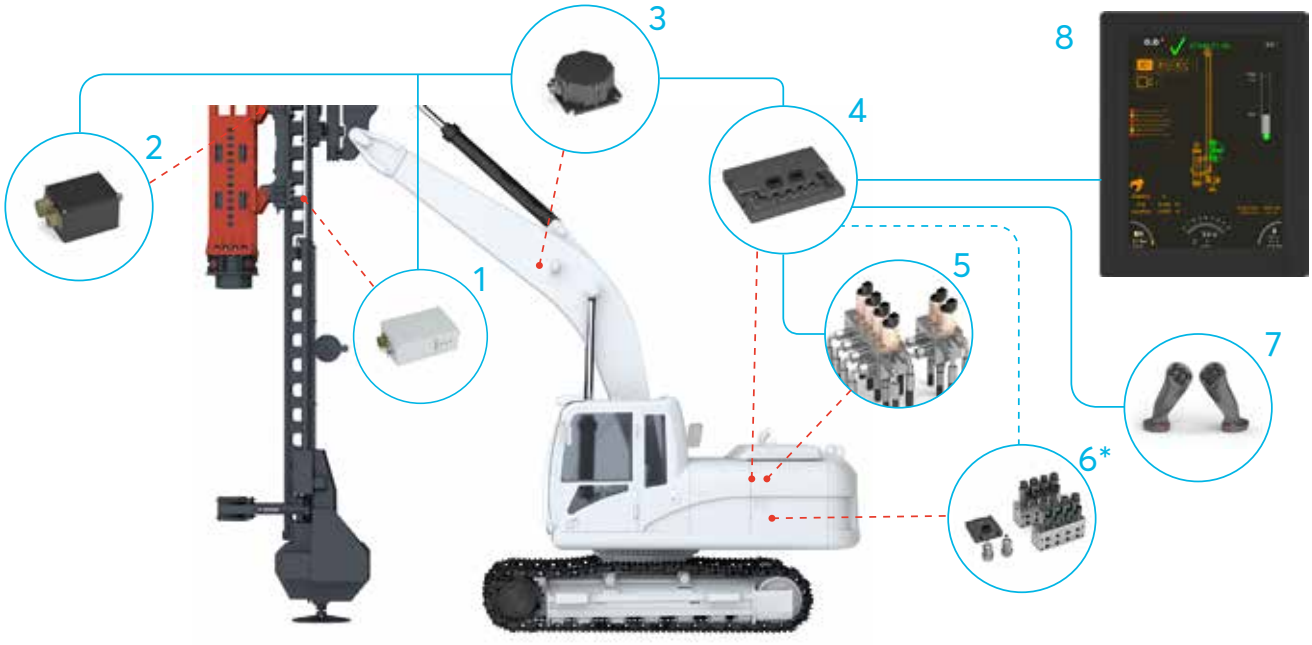
The MCS Stability Monitoring System is available for MOVAX multi-tool piling leaders to ensure safe operation at all times.

The MCS Stability Monitoring System calculates the stability level based on both weights and positions of the excavator, the multi-tool piling leader and its tooling. The motion is cut before entering an unstable area and in addition the system allows movement only in a safe direction. The stability status is a shown with graphical indicator on the MCS Pro display.

The MCS Stability Monitoring System requires MCS Pro.

The stability kit includes the following:

- Electronic Control Unit
- Valve block assembly
- Slew limit switches
- Cable set



1. MOVAX MPL module

2. MOVAX module/ 3. Main boom sensor / 4. Excavator module / 5. Valve Block

6. Stability Monitoring System / 7. Grips / 8. Display

MOVAX CONTROL SYSTEM

FEATURES

MOVAX CONTROL SYSTEM FEATURES

	Lite	Pro	Pro+auto
Colour display	3.2”	7”	7”
Ergonomic control grips with thumb wheels	✓	✓	✓
Proportional control for excavators AUX hydraulics	✓	✓	✓
Frequency / RPM (SG vibro)	✓	✓	✓
Impact energy rate (piling hammer)	✓	✓	✓
Movax angle (bucket cylinder operated)	✓	✓	✓
Movax angle (side tilt)	✓	✓	✓
Distance and height position	NA	✓	✓
Auto Control	NA	optional	✓
System diagnostics	✓	✓	✓
Camera Input	NA	optional	optional
Wireless site camera on tripod	NA	optional	optional
Software update via USB memory stick	NA	optional	optional

NOTE! The MOVAX module is provided with the MOVAX piling equipment.

MOVAX INFORMATION MANAGEMENT SYSTEM (MIMS)

The MOVAX Information Management System (MIMS) provides essential information about the piling process and the pile installation as well as about the MOVAX piling equipment itself. The information is on one hand intended for MOVAX piling equipment operators and maintenance personnel and for the owner's and engineers designing and overseeing a piling or foundation project. The goal is increase the availability of the MOVAX piling equipment and to improve the quality of the piling or foundation project and to save costs in reporting and testing.

mFLEET Management provides essential information about the operation, performance and condition of the MOVAX piling equipment. mFLEET Management is designed to assist in troubleshooting, diagnostics and analysis as well as for fast and efficient customer technical support.

mLOGBOOK, a mPILING Management data suite tool, is a documentation and reporting tool which provides essential data related to the piling process.

DATA COLLECTION AND TRANSFER

The MIMS hardware (HW), which is connected to the MOVAX Control System and installed onto the excavator, rail roader or other carrier is utilised for data collection and data transfer. The MIMS HW includes a fully integrated 3G/GPS-system providing the remote connection as well as the location of the carrier and the MOVAX piling equipment.

The MIMS HW includes the following;

- MOVAX remote module (MRM) with GPS and 3G-antennas
- Cabling, connectors
- Mounting kit

The system will automatically regonize the specific MOVAX piling equipment (SG vibratory pile driver, DH piling hammer etc.) connected to the carrier and collect the data accordingly.

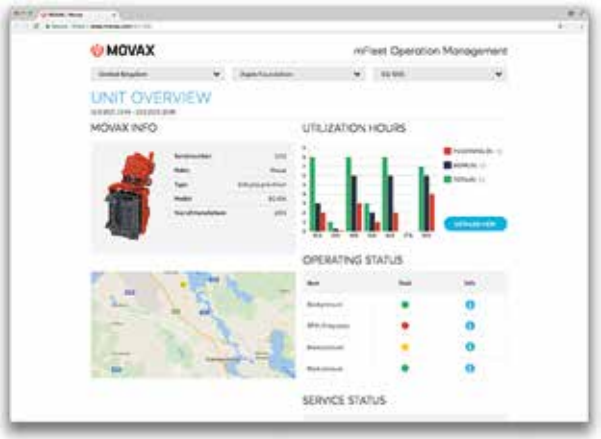
The information is sent to and stored in the MOVAX mCLOUD data storage. The information stored in the mCLOUD data storage is accessed through a web-based user interface. The information can also be accessed through the mobile MOVAX mAPP.

DATA STORAGE AND USER INTERFACE

The information stored in the mCLOUD data storage is accessed through a web-based user interface.

mFLEET MANAGEMENT (SOFTWARE)

The mFLEET Management-data suite provides basic operational information about the MOVAX piling equipment as well as the global positioning data of the MOVAX piling equipment and the excavator (or carrier) it is connected to. The operational information, including operational and service hours, rpms/ frequencies, pressures etc, is presented in an easy-to-view format and the time to be reviewed can be selected flexibly. The mFLEET Management includes further the tools & reports utilised for analysis and more detailed diagnostics. With the mFLEET Management it is possible to prevent failures, predict maintenance requirements and analyse and solve any unexpected problems.



mFleet Management is compatible with MCS Lite, MCS Pro and MCS Pro+auto.

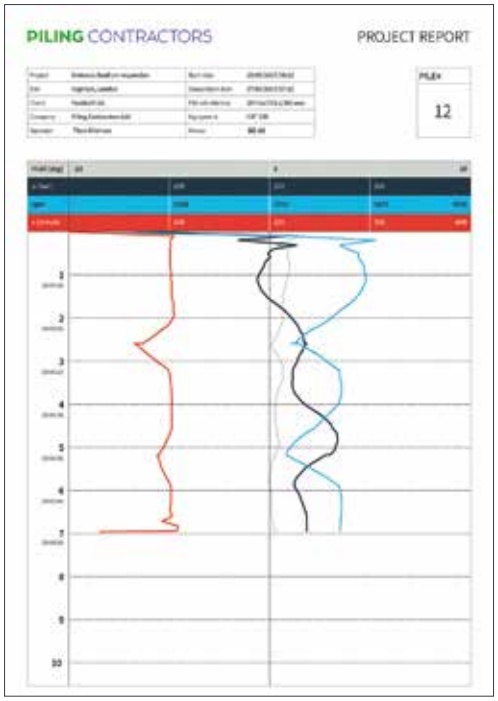
mLOGBOOK (SOFTWARE)

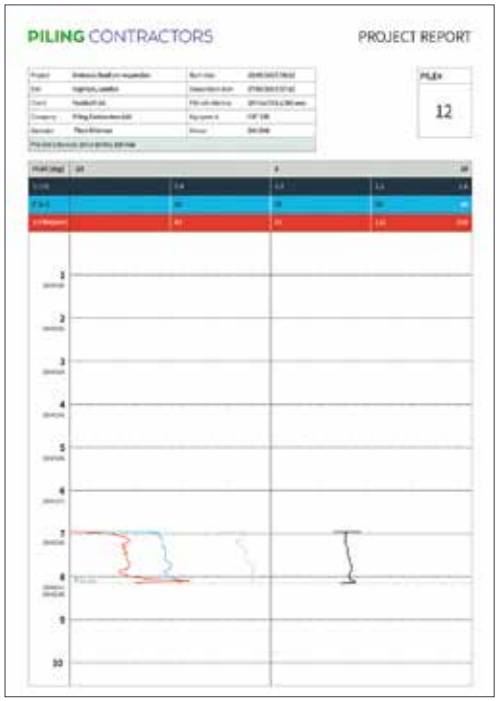
mLogbook, which is the first of the mPiling Management data suite tools, is a documentation and reporting tool which provides essential data related to the piling process.

The piling information collected by the MOVAX Control System is stored in the MOVAX Control System's excavator module. To report the piling works the operator only has to input the pile number, the system will take care of the rest. Data concerning site and pile information is added by the user (engineer or equal) and the system will generate automatically illustrative, ready-made reports - including both measured and calculated data - which provide essential information about the piling process and its quality.

Specific reports are generated for MOVAX piling equipment including MOVAX side grip pile drivers and MOVAX piling hammers. The MOVAX side grip pile driver report includes information about the verticality and penetration rate whereas the MOVAX piling hammer report includes information related to the load bearing capacity of the pile (or pile set).

mLogbook requires MCS Pro or MCS Pro+auto.





MOVAX mAPP

The mobile MOVAX mAPP is designed for fast and easy access of technical information related to the MOVAX piling equipment including, Operating and maintenance manuals, Spare parts books, as well as to access the mFleet Management (SW) information utilising a smart phone or tablet. The mAPP is available for both IOs and Android.

Features

- Mobile access to mFleet Management, including automatic notifications related to the operating and service status of the MOVAX piling equipment *)
- Newsletters and service bulletins
- Mobile access to Operating and Maintenance Manuals
- Mobile access to Spare parts books
- Tools for communication to both Movax Oy and Movax Oy's local representative
- Compatible with Android and IOs
- Compatible with the MOVAX Information Management System

*) requires MIMS HW and corresponding SW

SERVICES

INSTALLATION SUPERVISION & COMMISSIONING

Movax Oy provides on-site installation supervision and start-up & commissioning services to ensure proper installation and efficient and safe start-up of the equipment.

TRAINING

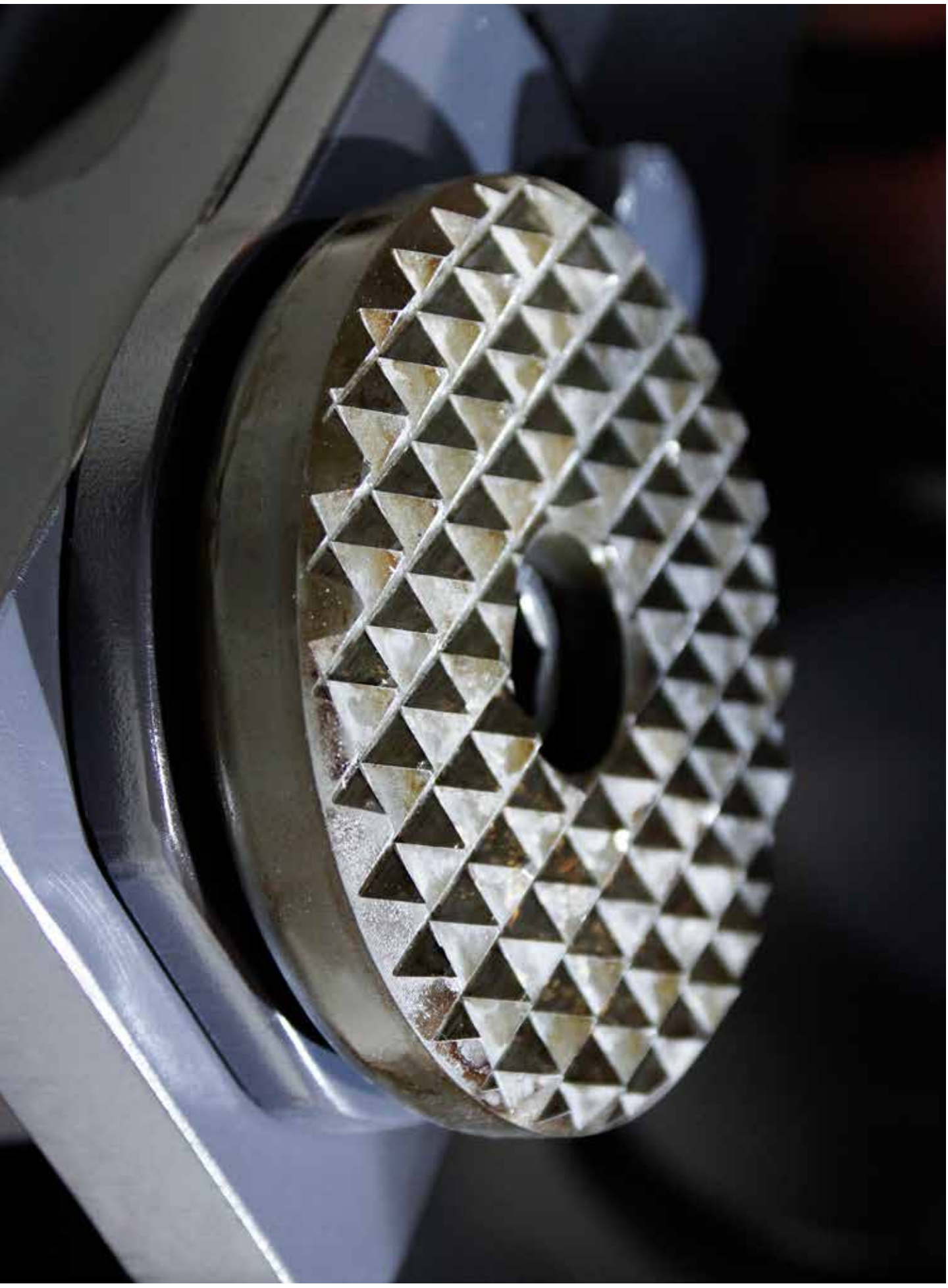
Movax Oy's comprehensive and versatile training ensures optimum performance and safe operation under all conditions throughout the entire life-cycle of the MOVAX equipment. Operational and maintenance training is provided by Movax Oy's service engineer during start-up and commissioning.

Movax Oy also offers further, more detailed, operational and/or maintenance training at Movax Oy's premises in Hämeenlinna, Finland, where also simulator-based training is available. These technical and practical training programmes can be tailored to meet any and all specific requirements.

MAINTENANCE, SERVICE AND SPARE PARTS

Movax Oy offers reliable and professional service, repair and maintenance services. Daily problems are quickly solved by contacting our specialists and trouble-shooting services can be provided either remotely or at the customer's premises or job site.

Movax Oy also maintains a large stock of spare and wear parts which can be delivered to most parts of the world within hours from order.



QUALITY

STATE-OF-THE ART MANUFACTURING

Movax Oy manufactures its products by itself - supported by a proven, high-quality network of partners. State-of-the-art production machinery, reliable partners and optimised logistics ensure both quality and cost-efficiency. Only high-class materials and components are utilised to manufacture MOVAX piling equipment.

Movax Oy's operations are ISO-9001 certified.

CERTIFIED MANAGEMENT SYSTEM

Movax has a certified Quality Management Systems according to ISO 9001-2015.

QUALITY SYSTEM CERTIFICATION
DNV·GL
ISO 9001

CE

MOVAX WAY-OF-PILING

Higher productivity and significant savings

MOVAX

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