



Total Piling Solutions

## CONTROL SYSTEM mControl+ LITE

TECHNICAL SPECIFICATION



VALID FROM JAN 2023



HIGHER PRODUCTIVITY –  
SIGNIFICANT SAVINGS

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

# MOVAX WAY-OF-PILING

## INTRODUCTION

Movax Oy, established in 1993, is a Finnish-based, privately-owned world-leading innovator, developer and manufacturer of excavator-mounted piling and foundation equipment with highly advanced automatic control systems and information management solutions.

### A TOTAL SOLUTION

Movax Oy focuses solely on solutions for the piling & foundation industry. The comprehensive range of excavator-mounted piling & foundation equipment and customized solutions cover a complete range of piling technologies - including both driven and bored piles.

### UNIQUE, VALUE-ADDING TECHNOLOGY

Movax Oy's piling and foundation equipment provide the optimum way-of-working - **MOVAX WAY-OF-PILING™** - when constructing foundations, building retaining walls, both temporary and permanent, cofferdams and when performing trenching and excavation work and soil stabilisation in a wide range of applications.

### QUALITY BUILT-TO-LAST

MOVAX is made with high-class materials, equipment and components – and modern, state-of-the-art production technologies and machinery ensuring the highest possible quality of manufacture. Movax Oy's Quality Management Systems is certified in accordance with ISO 9001:2015.

### GLOBALLY PROVEN

With almost **30 years of experience** and more than **3000 units delivered** to all over the world and with a clear focus on the piling and foundation industry, MOVAX has a deep understanding and know-how of varying site and soil conditions - and of all kinds of different type of excavators and rail roaders. Movax Oy's experience also covers a wide range of applications ranging from Rail, Road and Civil to Waterways & Piers, Utilities and Environmental & Energy.

### GLOBALLY LOCAL CUSTOMER CARE

Movax Oy focuses on superior customer service and support together with a world-wide network of local partners, established in more than 30 countries all over the world, performing trenching and excavation work in a wide range of applications from civil/structural, rail and road to waterways & piers, utilities and environmental.



### INNOVATION & CONTINUOUS DEVELOPMENT

Movax Oy is the inventor of the modular, vibratory side grip pile driver technology. Movax Oy's inventions have resulted in numerous patents (50+) and its trademark, MOVAX®, is registered and well known for the quality it represents all over the world.

Movax Oy is strongly committed to continuously develop its products and services in close cooperation with its customers and local partners.



## TOTAL SOLUTION

# PILING, FOUNDATION & SOIL STABILISATION

MOVAX excavator mounted piling equipment and customised solutions are available for different piling technologies, including both driven and bored piles, and for varying site and soil conditions and requirements.

The MOVAX Control System links the excavator with the MOVAX piling equipment and customised solutions whereas the MOVAX Information Management System (MIMS) provides essential information about the piling process and the pile installation - and about the MOVAX piling equipment.



### PILE DRIVERS

Side grip vibratory-type pile driver for handling, pitching, driving & extracting a complete range of driven piles, including sheet piles, H-beams, tubular steel piles and timber piles.



### PILING HAMMERS

Hydraulic, double-acting impact-type piling hammers for driving load-bearing piles or assisting in sheet pile driving in even the most difficult soil conditions.



### PILING DRILLS

Telescopic/kelly bar-type piling drills for bored, cast-in-situ (concrete) piles.



### MOVAX CONTROL SYSTEM

The **MOVAX Control System (mControl+)** controls all MOVAX piling equipment and customised solutions. The system controls the auxiliary hydraulics of the excavator and all the functions of MOVAX's piling equipment.





## MULTI-TOOL PILING LEADERS

Customised multi-purpose piling leaders with tooling including vibratory pile driver, piling hammer and rotary drives for pre-augering and CFA piling.



## COLUMN STABILISATION LEADERS

Customised column stabilisation leader for increasing strength, improving deformation properties and to increase stiffness of soft soil.



## INFORMATION MANAGEMENT

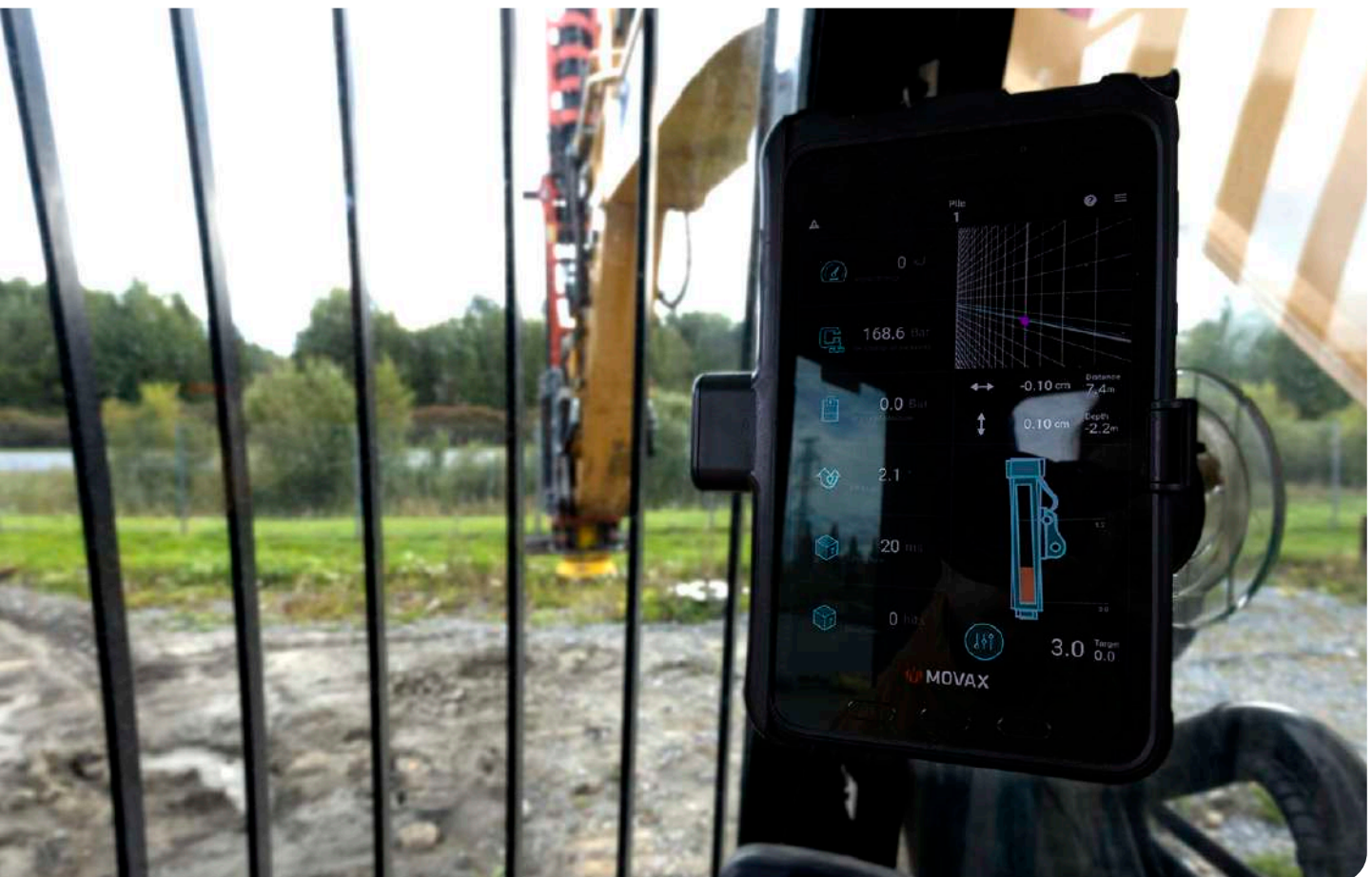
The **MOVAX Information Management System (MIMS)** provides essential information about the piling process and the pile installation – mLogbook - as well as about the MOVAX piling equipment itself – mFleet Management.

## PRODUCTS & SERVICES

# MOVAX CONTROL SYSTEM

The MOVAX Control System, **mControl+**, links the carrier (excavator, railroader or equal) with the MOVAX piling equipment and customised solutions. The system controls the auxiliary hydraulics of the excavator which in turn is utilised to control the MOVAX piling equipment, the MOVAX multi-tool piling leaders including the tooling connected to the leader and the MOVAX column stabilisation leader.

The excavator's auxiliary hydraulics is controlled by the standard auxiliary pilot circuit of the excavator which is controlled by mControl+. The mControl+ control system utilizes inclination and pressure sensors to monitor the operation and the pile driving and stabilisation processes - thus effectively and efficiently assisting the operator in performing all the required control functions and tasks.



Control system for  
MOVAX PILING EQUIPMENT & CUSTOMISED SOLUTIONS

# FEATURES

- **Advanced MOVAX control system available in two different versions:**
  - Automatic control system with autoT<sup>™</sup> tip-control, **mControl+ PRO**
  - Manual control system, **mControl+ LITE**
- **Commanding the standard auxiliary hydraulic circuit of the excavator.**  
The excavator's auxiliary pilot circuit is controlled optionally:
  - Hydraulically, with a hydraulic valve block
  - Electronically, with a PWM-module
  - Through a CAN interface
- **Ergonomic and informative user interface**
  - Easy-to-read graphical symbols for different functions
  - User-friendly menus for calibration and performance optimisation
  - Colour display
  - All functions are effortlessly controlled using switches and thumb wheels on the control grips
- **System diagnostics - available directly on the mControl+ display**
  - Available (optional) with connectivity to MOVAX Information Management System, mFleetManagement and mLogbook



## NOTE!

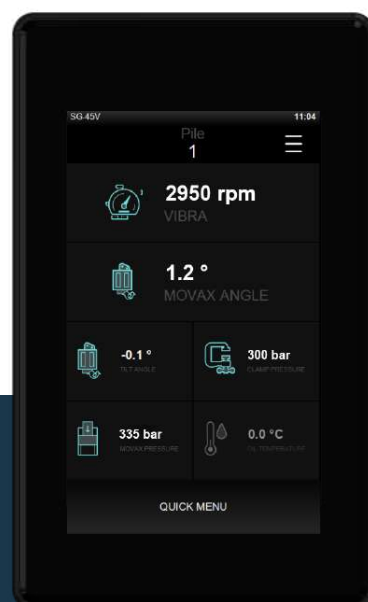
*mLogbook requires mControl+ PRO.*

*The pilot circuit control is dependent on the excavator brand & model (year). For excavators with the CAN interface currently available, please contact Movax Oy.*

*mControl+ PRO is compatible with all MOVAX piling equipment and customized solutions, including MOVAX multi-tool piling leaders and MOVAX column stabilisation leaders.*

*mControl+ LITE is utilised to control the MOVAX piling equipment.*

*mControl+ LITE can be upgraded to mControl+ Pro.*



# MOVAX CONTROL SYSTEM

## mControl+ LITE

The **mControl+ LITE** is a state-of-the-art control system which utilises either proportional pilot valves, a PWM controller or a CAN pilot circuit/interface for the control of the excavator's auxiliary hydraulics.

The mControl+ LITE is installed onto the excavator without making any changes to the original functionality of the excavator whatsoever. mControl+ LITE is utilised to control all MOVAX piling equipment, including side grip pile drivers, piling hammers, piling drills and manipulators.

mControl+ LITE provides basic information about the operation thus assisting the operator in the piling process.



1. MOVAX module (MXM) / 2. MOVAX angle sensor (MXS) / 3. Pilot circuit control a) hydraulic valve block, b) PWM control c) CAN interface / 4. Excavator module (EXM) / 5. Control grips / 6. mControl+ LITE display

The mControl+ LITE is installed onto the excavator without making any changes to the original functionality of the excavator whatsoever. mControl+ LITE is utilised to control all MOVAX piling equipment, including side grip pile drivers, piling hammers, piling drills and manipulators.



# FEATURES

## Display

The mControl+ LITE is equipped with an independent 5" display.

## Control grips

The mControl+ LITE is equipped with ergonomic control grips with multiple rollers and buttons which allow complete operation with a single grip. The control grips include extra buttons and rollers for accommodating functions from the excavator's original handles.

## Control modules

mControl+ LITE is equipped with two electronic control modules, one Excavator module (EXM) and one MOVAX module (MXM). The excavator cab-mounted EXM controls the excavator's auxiliary hydraulics with either proportional valves, a PWM controller or a CAN bus control circuit. The type of pilot circuit control is dependent on the excavator brand and model. The MXM, installed and delivered with the MOVAX equipment, controls the hydraulic valves on the MOVAX piling equipment, Multi-tool piling leaders and Column stabilisation leaders, and monitors the operation with angle- and pressure sensors.

### NOTE!

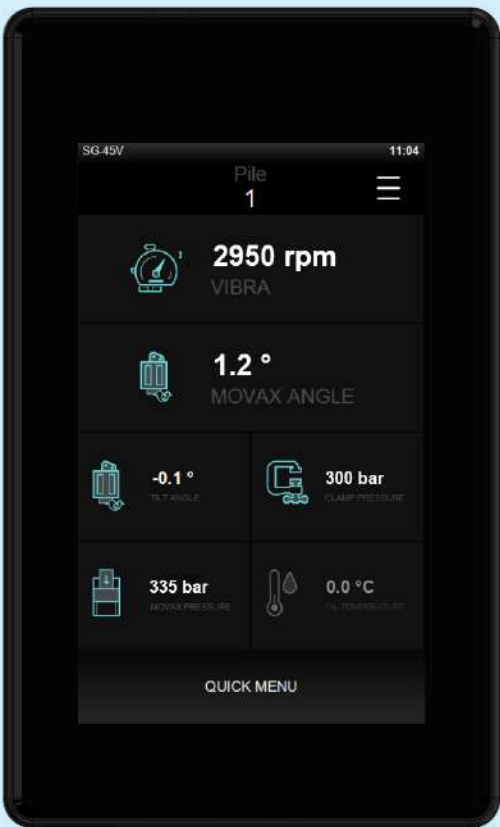
MOVAX piling equipment are always supplied with the MOVAX module factory installed.

## OPTIONS

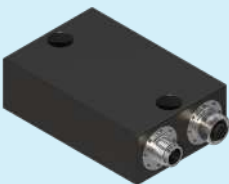
mControl+ LITE is available with the following options:

Information	Software licenses for mFleetManagement
Control grips	Ergonomic control grips with 3-rollers
autoT™ -automatic control	Upgrade kit for upgrading the mControl+ LITE to mControl+ PRO

Update kits are available to connect existing MOVAX side grip pile drivers and piling hammers to mControl+ LITE.



Control grips



Angle sensor



PWM module



HIGHER PRODUCTIVITY - SIGNIFICANT SAVINGS  
*fast. efficient. versatile. accurate. safe. reliable.*

Movax Oy

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