

**Kordil EPS®**

# **Excavator Positioning System Brochure**

**Made in Türkiye | Made by Kordil**

**We provide 100% Customer Satisfaction & Lifetime Free Software Update**



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**Kordil is an ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certified company**

# Kordil EPS (R) – Excavator Positioning System

## What is Kordil EPS

**Kordil EPS** is an advanced excavator and dredger positioning system developed by **Kordil**. It provides precise real-time guidance to machine operators using GNSS sensors and onboard software with **2D, 3D, and Difference View** displays besides the profile views. The system helps operators excavate, dredge, fill, and grade accurately to design levels without constant surveyor support. It improves productivity, reduces over-digging, saves fuel and time, and increases safety near pipelines, structures, and restricted areas. Kordil EPS is used on excavators, dredgers, cranes, and heavy construction machinery for marine, offshore, and land projects.

## Accuracies

|                     |                                               |
|---------------------|-----------------------------------------------|
| Horizontal Accuracy | 0.20 m 20 m total boom length with RTK        |
| Vertical Accuracy   | ±5 cm @ 20 m total boom length                |
| Heading Accuracy    | 0.08°                                         |
| Positioning Mode    | RTK GNSS (Standard), DGPS + Tide (Optional)   |
| Working Temperature | -40°C to +85°C                                |
| Storage Temperature | -40°C to +85°C                                |
| Power Consumption   | 200 W                                         |
| Supply Voltage      | 12 / 24 VDC depending on onboard power source |

## Main Accessories

|                  |                                                                 |
|------------------|-----------------------------------------------------------------|
| GNSS System      | Kordil H4 GNSS (Multi GNSS, Multi Frequency, Multi Consolation) |
| Motion Sensors   | Kordil IMU, Version 3                                           |
| Sensor Interface | Kordil ATK7- Proprietary                                        |
| Software         | Kordil EPS- Proprietary                                         |
| Computer         | Kordil OEM (Industrial & High Level, Modern, Windows 11+)       |
| Monitor          | Kordil OEM Daylight 15"                                         |

## Optional Accessories

|                   |                                              |
|-------------------|----------------------------------------------|
| GNSS Base Station | Kordil H4 GNSS (with built in PC with NTRIP) |
| UHF Radio         | Kordil UHF35 Radio Modems                    |

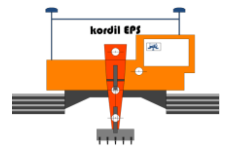
## Support & Warranty

Warranty period is 1 year, and 1-year reactive remote support; full satisfaction warranty

## Applications

Kordil positioning systems are applicable to virtually all operations involving excavators and heavy machinery, delivering exceptional performance across a wide range of demanding projects, including:

- Dam construction
- Breakwater construction
- Flood protection barriers
- Ice protection barriers
- Shore protection works
- Road construction
- Seabed levelling
- Access channel excavation
- Grading and land reclamation
- Offshore installations
- Underwater installations
- Mining operations
- Complex slope shaping
- Pipeline trenching
- Topographic surveying



## Installation

Installation is carried out by Kordil's qualified technical team and is completed efficiently to ensure full system readiness. Limited on-site support and access arrangements from the customer may be required during the installation process.

## Support

Kordil is committed to providing comprehensive after-sales support to ensure long-term performance and customer satisfaction, including:

- Senior-level training and remote technical assistance
- Fast and responsive warranty service
- Free software maintenance and regular upgrades
- Lifetime software update support
- Remote update and recalibration services following machinery modifications, such as bucket, boom, breaker, or jackhammer configuration changes

## Reasons to Choose Kordil EPS

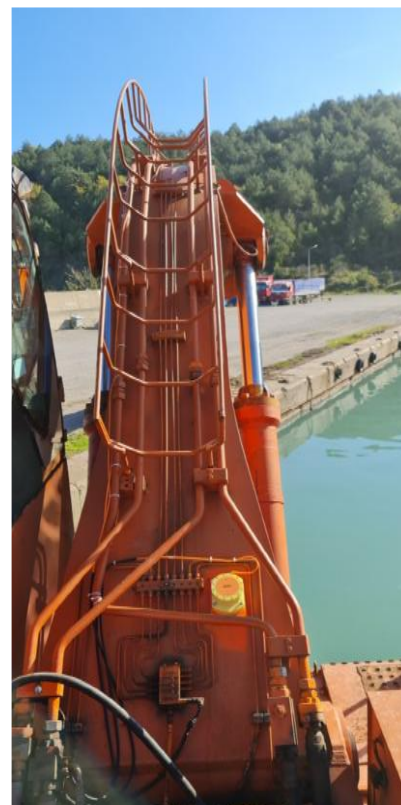
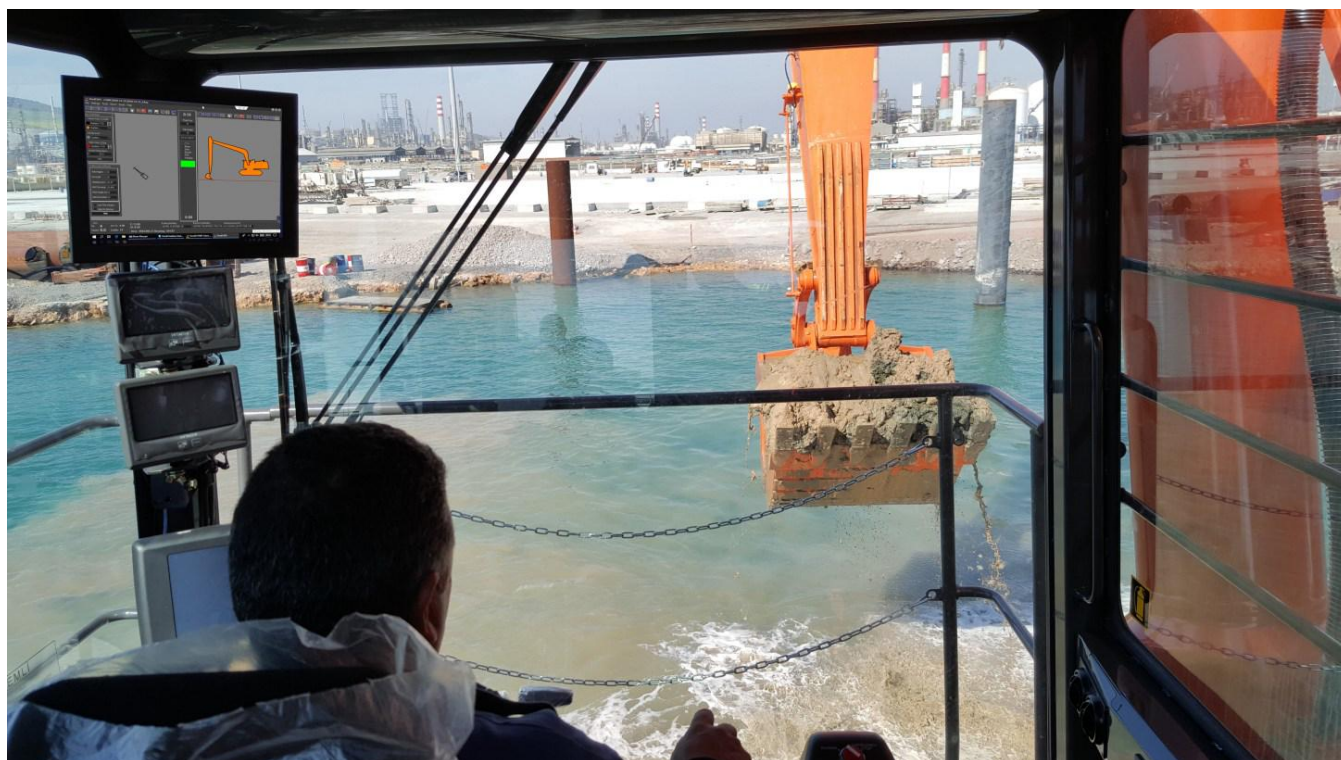
Kordil EPS delivers everything required to monitor, control, record, and optimize your excavation and construction operations in real time. Designed for productivity, precision, and safety, it transforms machinery into intelligent, high-performance working platforms.

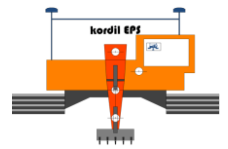
Key advantages include:

- Robust, durable, custom-engineered installation
- Designed for continuous 24/7 operation in harsh environments
- Live survey data and dynamic profile updates
- Display of up to 6 design profiles plus 1 actual survey profile
- On-board surveying via joystick or push-button XYZ logging
- Side view, top view, 3D view, and difference view guidance screens
- Minimal surveyor intervention required
- Full sensor data recording for traceability and reporting
- GNSS correction via IP, NTRIP, CORS, and L-Band services
- Optional radio correction through local base station
- Shock and vibration resistance for breakers and rock works
- KMZ, XYZ, and DXF data compatibility
- Lambert, TM, and UTM projection support
- IP69 waterproof sensor options up to 100 m depth
- Operator-friendly software designed for long working hours
- High-visibility displays for day and night use
- Remote screen monitoring over IP networks
- Continuous software upgrades and support
- Configurable for land, marine, offshore, and subsea operations

Kordil EPS enables operators to visualize ongoing work, record completed production and execute tasks with precision in real time. The operator display can also be securely monitored over IP networks, allowing supervisors, engineers, and project managers to observe live operations, provide remote support, review progress, and enhance decision-making from any authorized location.

## Installation Pictures

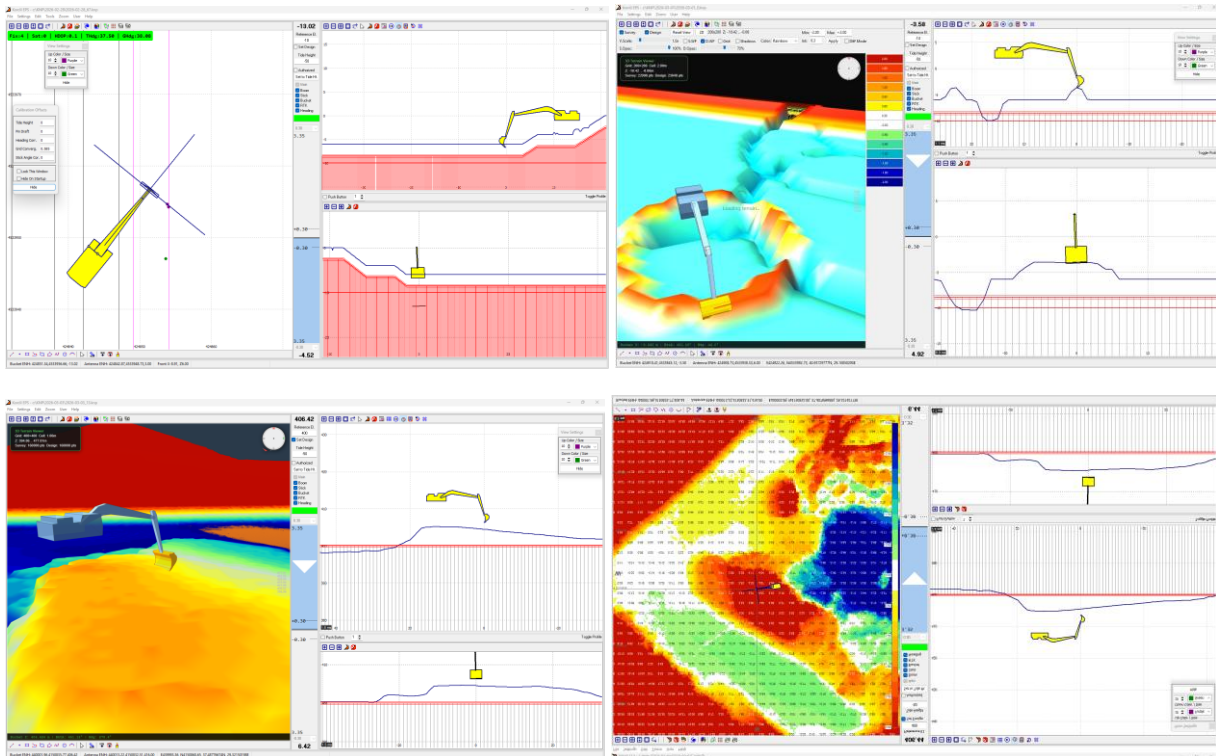




performance and work progress, while the Difference Matrix offers clear indication and understanding of cut/fill performance against design levels. In the Difference Matrix, white represents a perfect result, red indicates high areas, and the blue spectrum indicates low areas; all colors are fully adjustable by the user. All three windows can be selected instantly with a mouse click. The Profile View displays up to six design profiles together with one live survey profile for accurate real-time monitoring.

## Operator View

Simplified CAD and marking and color implementation related to design profile. Difference matrix with difference from design profile, and 3D design and survey model (all dynamically updated).



## Calibration (One-Time Setup)

All sensor calibrations and shape definitions are carried out automatically through the system interface with one click. Manual calculations and adjustments are also possible when required. A simplified 3D model of the vessel or machine is automatically generated using basic shapes, eliminating the need for advanced 3D design work.

Kordil EPS Superfast Calibration

0.00 0.00  
0.00 2.00  
-0.04 -2.88  
1.30 -4.01  
1.40 -3.12  
1.19 -1.89

-0.04 -2.88  
9.95 -2.88  
3.00 -1.02  
9.23 -2.47  
10.01 -2.72  
10.06 -2.73

9.95 -2.88  
14.94 -2.88  
14.95 -2.79  
14.99 -2.80  
15.01 -2.82  
15.03 -2.85

Boom & Stick Calibration

Boom Sensor Avg: -5.98 deg  
Boom Sensor StdDev: 0.0005 deg  
Boom Computed: 0.00 deg  
Boom Angle Corr: 5.98 deg  
Stick Sensor Avg: -5.98 deg  
Stick Sensor StdDev: 0.0005 deg  
Stick Computed: 0.00 deg  
Stick Angle Corr: 84.02 deg  
Bucket Vert. Dev: -0.78 dm

Calculate  
Apply Corrections

13 0.00 0.00  
0 1.58 -0.04  
2 2.26 -0.04

Boom Length: 3.9900  
Stick Length: 4.9870  
Ant-Pin Y Off: -0.04  
Ant-Pin X Off: 1.58  
Ant-Pin Vt Off: 2.88

Calculate Shape  
Apply to Vessel Shape

Bucket

No. of Break Points: 10  
Bucket Length: 2.1  
Bucket Contour

| # | TeethToPin | StickToPin | PinToPin | X0    | Y0     |
|---|------------|------------|----------|-------|--------|
| 1 | 0.000      | 8.441      | 8.441    | 0.000 | 0.000  |
| 2 | 2.280      | 7.329      | 7.094    | 1.840 | 14.937 |
| 3 | 8.660      | 6.273      | 2.109    | 5.908 | 23.378 |
| 4 | 8.478      | 5.747      | 0.685    | 6.693 | 22.031 |
|   |            |            |          |       | 17.046 |
|   |            |            |          |       | 3.028  |
|   |            |            |          |       | 0.000  |

ID, from Teeth, from Pin (offsets)

Compute Bucket  
Apply to Vessel Shape

Installation Parameters

| Main Ang | Boom Ang | Stick Ang | Lever Ang | Buck. Ang |
|----------|----------|-----------|-----------|-----------|
| 0.00     | 0.00     | 0.00      | 64.02     | 0.00      |

Main Angle Corr: 0  
Boom Angle Corr: 0  
Stick Angle Corr: 60.04  
Buck. Angle Corr: 70  
Boom Coeff: 1  
Stick Coeff: 1  
Bucket Coeff: 1  
Main Coeff: 1  
Roll Coeff: 1  
Roll Correction: 0

Update Rate (1000): 500  
DTM Size: 1  
Length of Sections: 200

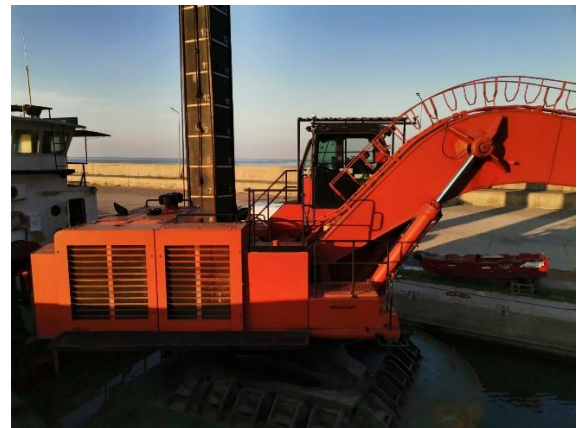
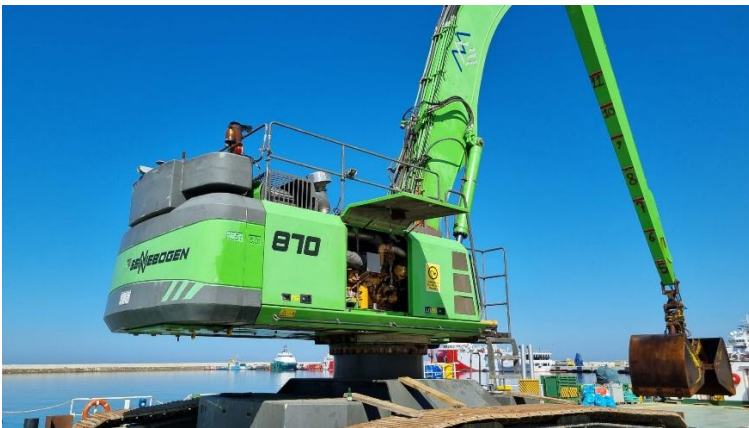
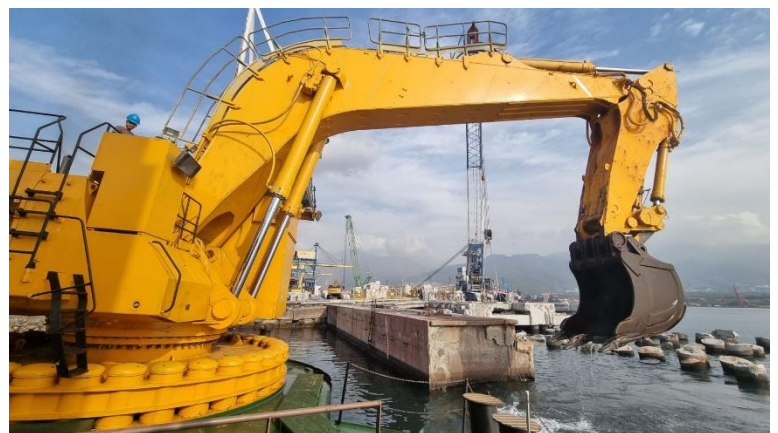
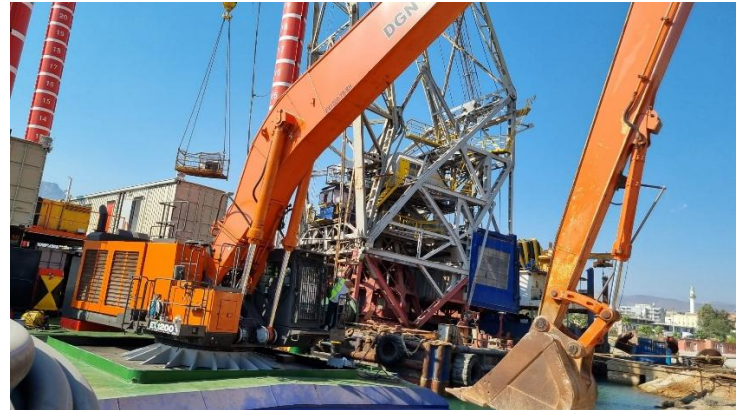
Elevation Correction Geoidal Separation Ant. Height Coeff: 0  
Grid Heading Buck. dist.: 0  
Roll: 0

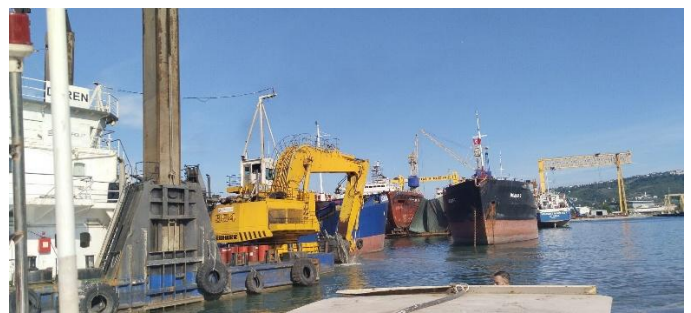
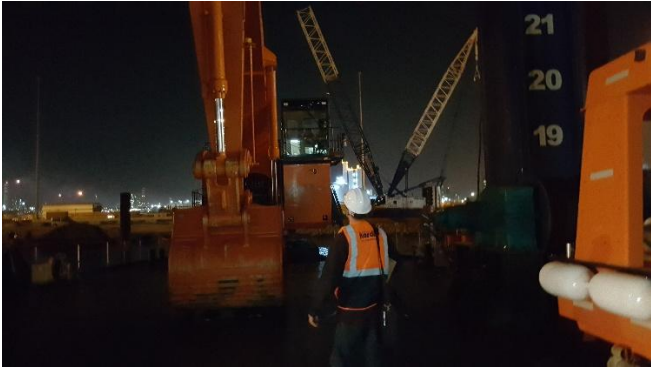
Latency (millisecond)  
Current: 0  
Averaged: 0  
Tolerance: 0

Configuration File  
C:\Users\KNP\AppData\Roaming\Kordil\EPS\Kor

Lock / Unlock  
Mark  
Hide  
Save

## Project Pictures (Selected)







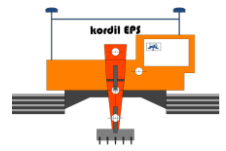


## About Us

Kordil specializes in the design and manufacture of custom-engineered positioning systems for excavators, dozers, graders, cranes, wheeled and crawler machinery, heavy construction equipment, ships, barges, offshore platforms, caisson foundations, pipelines, underwater robotic systems, and unmanned surface vessels. Our solutions integrate advanced electromagnetic, mechanical, and acoustic positioning technologies, with the majority of systems developed and manufactured entirely in-house.

Supported by proprietary software platforms, Kordil delivers comprehensive positioning solutions tailored to demanding operational environments. Our software is continuously enhanced to meet evolving industry requirements and customer expectations.

While our core operations are locally based, our services are strengthened by an international knowledge network and access to highly experienced specialists. By combining engineering expertise, technology, and field experience, Kordil provides integrated solutions that enable clients to achieve optimum performance, efficiency, and reliability.



## Other Products by Kordil

[Kordil Bathymetry Studio](#)

[Kordil KBS200](#) and [Kordil KBS30200](#) Singlebeam Echosounder Systems

[Kordil CPS: Crane Positioning System \(2D/3D optional\)](#)

[Kordil Navigation Pro \(multipurpose positioning system\)](#)

- Crane Edition (2D)
- Oil & Gas Rig Move Edition
- Split Barge Edition
- Spreader Barge Edition
- Barge Edition
- Dredger Edition
- Piling Barge Edition
- Deformation Monitoring
- Floating Early Warning
- Kordil Data Collector

Kordil Subbottom Processing Software

Kordil Serrail Splitter

Kordil Comport Monitoring

Kordil Coordinates Processing

Kordil NTRIP Client

Kordil NTRIP Caster (Server)

Kordil Remote Screen

Kordil Singlebeam Editing

Kordil Screen Recorder

[Kordil Geodesy Tools \(KGT\)](#)

[KordilMetoccean](#)

[Kordil GNSS-H4 GNSS Heading & Position with PC and Software](#)

[Kordil KD300 Side Scan Sonar Winch System](#) and [Kordil KD600 Side Scan Sonar Towing Winch](#)

[Kordil UHF35 Radio Modem](#)

[Kordil RC Boat](#)

[Kordil TG05 Tide Gauge](#)