

# Kit POT

## Integrated System for Pull-Out Tests (POT) on Steel Profiles



The Novatest **POT system** is a complete and modular solution designed to perform **mechanical tests** on steel profiles driven into the ground, essential for assessing load-bearing capacity and soil-structure interaction in photovoltaic, agrivoltaic, and road infrastructure projects. The tests include:

- Vertical compression test: assesses the axial load-bearing resistance of the pile.
- Lateral pull-out test: simulates horizontal loads, such as wind pressure or lateral vehicle impacts.
- Vertical pull-out test: evaluates the resistance of the pile to being pulled out from the ground..

These tests are essential to ensure the stability and safety of both solar panel support structures and guardrail posts, by verifying proper anchorage to the ground and resistance to natural and dynamic loads such as wind, snow, and vehicular impacts.

### Training and Field Support Services

Novatest does not only supply the equipment, but also offers a full package of services to guarantee efficient and safe test execution in the field:

- **Technical training:** theoretical and practical courses to ensure correct use of equipment and proper interpretation of results.
- **Operational support:** assistance during test execution, with expert personnel available on-site or remotely.
- **Maintenance and calibration:** periodic verification and calibration services to ensure measurement accuracy.

Thanks to this integrated approach, Novatest is a reliable partner for companies involved in the construction of photovoltaic and agrivoltaic plants, offering advanced technical solutions and continuous, qualified support in the field.

## Technical features:

### Complete POT system composition:

- Manual lever pump, 0.5 L reservoir
- Flanged pressure gauge adapter with 3/8" NPT F quick screw coupling
- High-precision digital pressure gauge NVT700 with calibration report traceable to LAT
- "R8" flexible hose L=2 m with 3/8" NPT M screw couplings and protective caps
- Single-acting hydraulic cylinder, spring return, 10-ton capacity, 50 mm stroke
- Analog dial gauge, 100 mm stroke (\*)
- Magnetic base holder
- No. 2 steel plates, 28x28 cm
- No. 2 custom steel sleeves for lateral pull-out tests
- No. 2 omega shackles with tubular continuous ring
- 65 kN instrumented shackle
- Monochannel handheld data acquisition unit
- 3-ton lever hoist (\*\*)
- Reference tripod for dial gauge or displacement sensor

(\*) As an alternative to the analog gauge, the data acquisition process can be automated with the NOVALog unit, a 100 mm potentiometric displacement transducer, and a pressure transducer.

(\*\*) As an alternative to the lever hoist, a 5-ton pulling hydraulic cylinder with 140 mm stroke, lifting eye bolts, and chains can be used.

## Accessories:

### 1. Compression Test Kit

Hydraulic pump with 0.5 L reservoir

Digital pressure gauge

2 m connection hose

Single-acting hydraulic cylinder, spring return, 10-ton capacity, 50 mm stroke

Analog dial gauge, 100 mm stroke

Magnetic base holder with support bracket

Digital alternative:

- NOVAllog data acquisition unit
- 100 mm potentiometric displacement transducer
- 0–700 bar pressure transducer

### 2. Lateral Pull-Out Test Kit

- No. 2 custom steel sleeves for the pile section
- No. 2 standard shackles
- Instrumented shackle
- Monochannel reader for the instrumented shackle
- 3-ton lever hoist with chains

Hydraulic alternative:

- 5-ton pulling cylinder, 140 mm stroke with eye bolts and chains
- Hydraulic pump with 0.5 L reservoir
- 2 m connection hose with 3/8" NPT screw couplings and protective caps

Common components:

- Reference tripod or bar for dial gauge/displacement sensor
- Analog dial gauge, 100 mm stroke
- Magnetic base holder with support bracket

Digital alternative:

- NOVAllog data acquisition unit
- 100 mm potentiometric displacement transducer
- 0–700 bar pressure transducer

### 3. Vertical Pull-Out Test Kit

- Mechanical clamp for steel profile
- No. 2 standard shackles
- Instrumented shackle
- Monochannel reader for the instrumented shackle
- 3-ton lever hoist with chains

#### Hydraulic alternative:

- 5-ton pulling cylinder, 140 mm stroke with eye bolts and chains
- Hydraulic pump with 0.5 L reservoir
- 2 m connection hose with 3/8" NPT screw couplings and protective caps

#### Common components:

- Reference tripod or bar for dial gauge/displacement sensor
- Analog dial gauge, 100 mm stroke
- Magnetic base holder with support bracket

#### Digital alternative:

- NOVAlog data acquisition unit
- 100 mm potentiometric displacement transducer
- 0–700 bar pressure transducer

