

# Spiral Indicator



## Applications

The spiral probe controls the orientation of the inclinometer. If the piping is not perfectly installed, the orientation of the probe inside the inclinometer casing can vary. This could cause inaccuracy in data reduction.

The Spiral Indicator monitors and measures the variation of the direction of the probe (torsion tube inclinometer). The actual azimuth position can be obtained at very step and can be used to process data.

## Technical features

The OTR Spiral Indicator system is designed for measurements the torsion of inclinometer tubes in aluminum or ABS from 45 to 75 mm inner diameter. The system allows to display the deviation to the north of the guide in which it is inserted the probe. The Spiral Indicator allows to perform a normal measurement inclinometer through two MEMS sensors mounted on board. It can be used directly with a laptop and allows to enter data spiral in data processing software. The measure of the torsion can be performed on 1, 2 or all 4 guides the inclinometer tube depending on the accuracy required (normally 1 guide is enough). The probe step is 0.5 meters and the measurement can be performed with a step of 0.5, 1, 1.5 meters depending on the required specification.

## Uses

The measure with the Spiral Indicator system is recommended when:

- the installation of the pipe inclinometer is very deep
- inclinometer readings indicate the presence of a movement in a suspect direction
- when it is required a very accurate measurement
- when installation of inclinometer casing has been problematic

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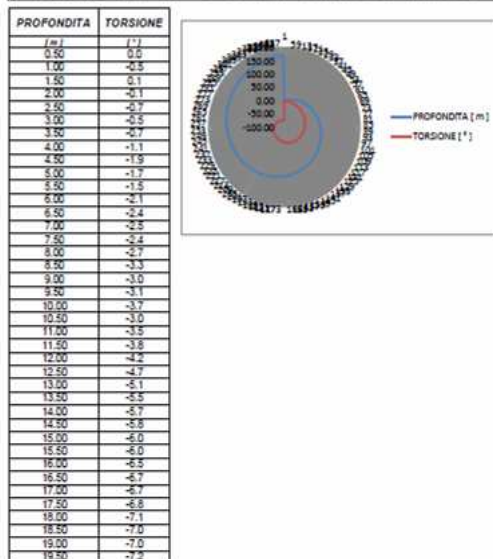


## Technical specifications

Spiral Indicator	
Code	OINCLIS0360
Principle of functioning	triaxial magnetometer
Compass sensor	magnetic compass (flux gate) with 3-axis tilt-compensated self-and temperature
Inclinometer sensor	biaxial MEMS
Temperature drift	<100 ppm/°C
Range compass sensor	0...360° for magnetic compass
Range inclinometer	+/-50°
Connector	MIL C26482 connector
Max pressure guaranteed	15 Bar
Probe body	Stainless steel, diameter 30 mm
Wheel base	50 cm
Carrying whells	30 mm
Wheel carriages	Detachable wheel carriages 650 KN pull
Weigth	2.2 Kg

Compatible with inner tubes  $\phi$  45 to 75 mm.

OTR		SPIRALATURA INCLINOMETRO		IN-SJ
Identificazione della verticale		Client:	DIGA4	Data
Pannello misura = 50 cm		Q. tubo = 0m	Q. piede tubo = +170m	
<small>CONVENZIONE: TORSIONE ORARIAMENTE POSITIVA, ANTICLOCKWISE NEGATIVA</small>				



Example of data processing

## Advantages of the spiral Indicator with magnetometer than a torsion system

- the instrument is mechanically more robust and reliable;
- the torsion measure is done so with absolute direct comparison between the position of each point with respect to the north of the pipe and his head;
- low-cost and high versatility (can also be used as a probe for the inclinometer measures verticality in general);
- compatibility with OTR cables for inclinometer probes and on demand with cable with 6 conductors



Measure