

# PAJARI

INSTRUMENTS LTD.

## TROPARI SDP

Azimuth & Inclination



ACCURATE & RELIABLE SURVEYING MADE EASY FOR OVER 65 YEARS.



ISO 9001:2008  
FM 63929

**DESIGNED TO GIVE THE MOST COST EFFICIENT BOREHOLE SURVEYS UNDER ALL DRILLING CONDITIONS, THIS INSTRUMENT HAS SERVED THE SURVEYING MARKET WORLD-WIDE FOR OVER SIX DECADES. THIS EXPERIENCE WITH IMPROVED MATERIALS AND TECHNIQUES MEANS THE TROPARI HAS REMAINED RELIABLE AND MODERN.**



## **Profile**

A singleshot micro-mechanical borehole surveying instrument that works with the earth's magnetic and gravity fields.

The TROPARI system is easy to use and maximizes profits by minimizing capital costs, operating costs and person power.

This instrument provides both direction (azimuth) and inclination which can be used to define the attitude of the borehole at the survey depth. Regular surveys at intervals as the borehole progresses will allow a plot of the borehole to be drawn.

The versatility of the TROPARI makes it the first choice in mineral exploration, site engineering, mining, and tunneling operations where ease of use, reliability, and economy come first.

As with all our products the application hardware can be customized to suit special needs and large hole sizes. We take pride in our time proven ability to provide customers with solutions for their special hardware needs.

## **Benefits**

- A cost effective solution for continuous or periodic service.
- Up-holes, down-holes, horizontal or inclined holes of any angle can be surveyed without modification.
- No films, batteries, hazardous liquids or other operating expendables are required.
- It is environmentally and human health friendly.
- There is no need to guess whether the instrument is operating accurately since it can be quickly checked in the field.
- Very wide operating temperature range with options to further increase the limits.
- Single shot surveying at the bottom as the hole progresses identifies hole deviations in time for efficient correction.

# OUR EXTENSIVE KNOWLEDGE OF DRILL HOLE SURVEYING COMES FROM OVER SIX DECADES OF DESIGNING AND MANUFACTURING SURVEYING SYSTEMS FOR CUSTOMERS WORLD-WIDE.

## Surveying Applications

Site Engineering  
Exploration  
Mining  
Tunneling  
Directional Drilling  
*Contact us for your application*



## Surveying Methods

### Inner Tube Sub

This method is used while the hole is being drilled in wireline drilling application. The survey train is attached to the core barrel by an inner tube sub which replaces the core lifter casing. Therefore, survey lowering and retrieval utilizes the normal core barrel train and overshot used in drilling. The survey train travels through the bit beyond the magnetic influence of the drill rods. Standard and special core barrel sizes are available.

### Landing Coupling

This method is also used in wireline drilling applications; however the survey train is connected to a landing coupling which comes to rest on the inner kerf of the bore hole drill bit. A spearhead directly mounted to the survey train means the core barrel assembly is not used. This reduces the equipment the operator has to work with while still using a normal overshot for retrieval of the survey train. This further increases efficiency resulting in larger profits.

### Cable Lowered & Rod Insertion

The **cable lowered method** is used for either cased or uncased holes that are larger than 35.6mm (1.399") and are inclined greater than 45°; this range can be increased by using roller sections. The **rod insertion method** can be used in shallow, horizontal or upward direction holes and for other applications such as conventional drilling. The rod insertion method survey train includes a connector which attaches the instrument to the insertion rods or drill rods. Note that holes cased in steel can only be measured for inclination.



# TROPARI SDP - Surveying Instrument Specifications

## Features

Great value  
Swiss manufactured engine  
Positive engagement inclinometer  
Utilizes corrosion resistant alloys  
Wide temperature range  
No batteries to replace or recharge

## Dimensions & Weight

Diameter 31.7mm (1.248")  
Length 58mm (2.283")  
Weight 90gm (3.2oz)

## Measurement Range

Inclination +/- 90°  
Azimuth 0 to 360°

## Accuracy

Inclination +/- 0.5°  
Azimuth +/- 0.5°

## Temperature

Standard -20°C (-4°F) to +160°C (320°F)  
Optional Low Limit -50°C (-58°F)  
Optional High Limit +250°C (482°F)

## Time Setting Range

Standard 0 to 90 minutes

## Accessories Included

Instrument Box (with Desiccant Container)  
Capstan Bar  
Eye Loop (10x magnification)

## Typical Application Hardware

- Inner Tube Sub Survey Method  
Inner Tube Sub  
Survey Rod & Coupling  
Container  
Wrench Assembly  
Centralizer  
Impact Foot  
Transit & Rod Cases

- Landing Coupling Survey Method  
Landing Coupling  
Survey Rod & Coupling  
Container  
Wrench Assembly  
Centralizer  
Impact Foot  
Transit & Rod Cases

- Open Hole Survey Method  
Cable Swivel or Spearhead  
Survey Rod & Coupling  
Container  
Wrench Assembly  
Centralizer  
Impact Foot  
Transit & Rod Cases

We also manufacture custom application hardware



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