

Downhole
Temperature
Measurement

DOWNHOLE

Temperature Measurement



 Part of your business

WIKA Downhole Temperature Measurement

WIKA Instruments Ltd. has produced over 3000 downhole assemblies for customers worldwide. We have more than 20 years experience in manufacturing, installing and servicing downhole thermocouples and are a world leader in downhole temperature measurement production.



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Typical Installation Assemblies

Observation Well Assemblies (soft cable to MI cable)

These well assemblies are manufactured with a durable soft cable and mineral insulated (MI) cable combination.



26 POINT DOWNHOLE



36 POINT DOWNHOLE WITH SINKER

Observation and Production Well Assemblies (MI cable)

These well assemblies are constructed completely with high temperature single, duplex or triplex MI cable with special high pressure sealing collars (transitions). They may be manufactured with different sheath materials (316SS, Inconel 600, Incoloy 825).



10 POINT DOWNHOLE

Manufacturing

WIKAI has perfected the process of manufacturing downhole thermocouples year round while maintaining ideal conditions. We are capable of manufacturing downholes greater than 5 kilometers in length and with up to 60 points. Special high pressure transitions are used to achieve desired lengths without jeopardizing quality or durability. Steel crimp rings are utilized to bundle multiple sensing strings prior to installation.

WIKAI has manufactured downhole thermocouples to suit the following applications:

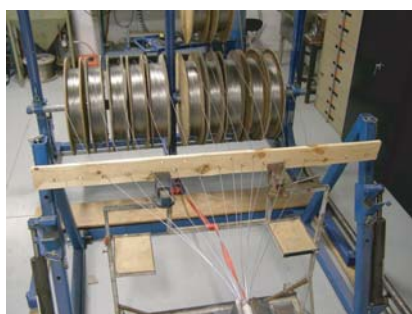
- Coil Tube
- Pump-in
- Clamped to production tubing
- Clamped to casing



MI CABLE SPLICE



CRIMP RING



OB ASSEMBLY RIG



OB WELL SPOOL

Mineral Insulated (MI) Cable

Advantages

- Repeatability
- Accuracy
- High mechanical durability
- Variety of sheath material options
- Proven technology
- High temperature resistance
- Continuous length up to 3281 ft [1000m] for $\varnothing 1/8"$ [3.2mm]



Services

Along with our quality manufacturing practices, instrumentation expertise in the petroleum industry and diverse flexibility we offer the following services for every unique application:

- On-site supervision and installation
- Strategic alliances with certified installers
- Customer specific and innovated designs
- Consulting services
- 24 hour service
 - Supervision
 - Cable termination
 - Repair
 - Service vehicles



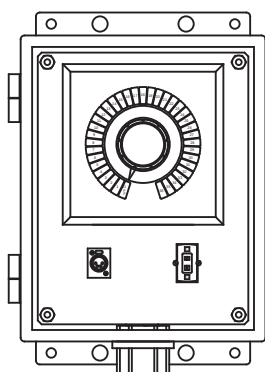
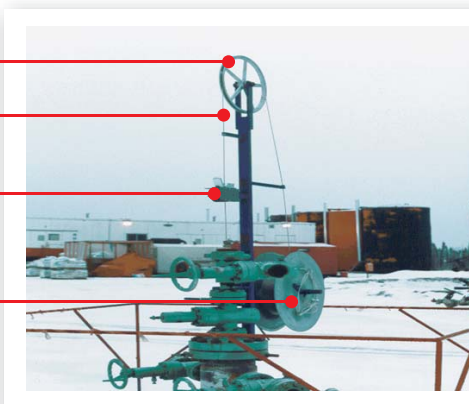
WIKAI SERVICE TRUCK

Options

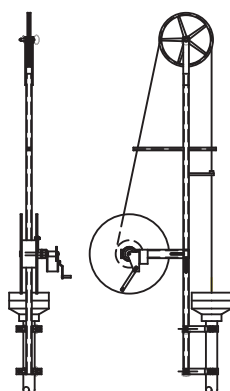
WIKAI also offers accessories and design options for all applications:

- Junction boxes
- Adjustment rigs
- Support cables
- Bubble tubes
- Data loggers
- Pack-offs
- Hard cable to surface
- Soft cable to surface

Sheave
Thermocouple
Depth Meter
Instrument Reel



JUNCTION BOX



ADJUSTMENT RIG



SOFT CABLE

Quality

WIKAI is committed to providing high-quality products. Our stringent quality program ensures that all manufactured product comply with industry quality standards.

- Traceability of construction materials, complete with Mill Test Reports
- All test equipment calibrations NIST/NRC traceable
- ASTM E608 Standard specifications for MI cable
- ISO 9001:2008 registered

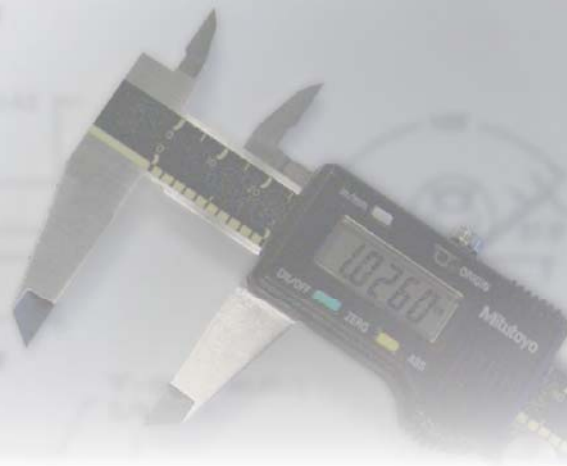


Testing

- Full function, loop resistance and insulation resistance tests prior to, during and upon completion of manufacturing.
- All thermocouple junctions, junction splices and extension splices are steam and furnace tested to ensure performance at elevated temperatures.

Tolerances

- Thermocouple output: $\pm 2.2^{\circ}\text{C}$ or 0.75% of reading (whichever is greater).
- Sensing point locations: $\pm 10''$.



Application Data

Type of well:	SAGD ☐	Observation ☐	Production ☐	Cased ☐	Open ☐
Diameter of hole:					
Diameter of casing:					
Diameter of tubing:					
Pressure:					
Material in hole, i.e. water, cement:					
Depth of material:					
Weight of material:					
Temperature:	Operating:	Design:			
Depth:	Overall:	Vertical:		Horizontal:	
Length of heat zone:					
Thermocouple, free hanging or strapped:					
MI Cable sheath material:					
MI Cable diameter:					
ISA calibration:					
Number of Points:					
Placement of points:					
Dimensional data:					
Type of extension cable (if applicable):					
Length of extension cable:	In hole:	Out of hole:			
Support cable:	YES ☐	NO ☐			
	Length:	Diameter:		Material:	
Additional equipment					
Installation:	YES ☐	NO ☐			
Drawing of wellhead and well available:	YES ☐	NO ☐			
Accessibility of location:					

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Company:	Address:		
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Tel:	Fax:	Email:	
Field Location:	Field Contact:		

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