

PRESSURE TEMPERATURE SPINNER (PTS) TOOL (E-LINE AND MEMORY)

The PTS tool is designed to continuously measure and record downhole temperatures, pressures and flows in geothermal wells.

The tool is capable of operating up to 350°C and 350 bar pressure. Interchangeable impellers allow the impeller best suited to the flow conditions in the well to be used. The PTS tool can be used in e-line mode on mono conductor with real time data to surface, or on slickline in memory mode.

In memory mode, the logged data is downloaded to a laptop at the surface and merged with the logged surface parameters. Logged data remains in the tools memory until it is cleared by the operator.

The PTS tool is a significant improvement over other downhole tools available.



APPLICATIONS

The PTS tool is suitable for production testing, reinjection testing and for logging shut geothermal wells.

FEATURES & BENEFITS

- Designed, assembled and calibrated in NZ
- Runs on standard mono conductor wirelines & slicklines with no change required to hardware
- 3 spinner channels, offering increased reliability and confidence
- Interchangeable impellers to meet operational needs
- Fast response, robust quartz pressure sensor with high resolution for gathering accurate pressure gradient data
- Operating in downhole memory mode, provides a cost effective alternative to e-line and ease of use for field operators where real time data is not required
- Calibration data for temp & pressure is stored permanently in the tool
- Uphole software checks tool status & performs diagnostics in e-line mode while logging, providing confirmation of correct operation and confidence in results
- Temperature limitations of mono-conductor cable can be overcome, by running the PTS tool in memory mode on slickline



- Can be run as a PT only tool without spinner
- Sampling rate fixed at 4 readings per second
- Easy to service and maintain

PHYSICAL SPECIFICATION (ASSEMBLED)

	Memory		E-line	
Length⁽¹⁾	2.37m	93.3 in	2.59 m	102 in
Weight⁽¹⁾	19.8 kg	43.6 lb	22.7 kg	50.0 lb
Heatshield	46.5 mm OD x 1.78 m	1.83 in OD x 69.9 in	46.5 mm OD x 1.92 m	1.83 in OD x 75.8 in
Mitco Spinner	54 mm OD x 241 mm (2 125 in OD x 9.48 in)			
Bow Spring Assembly	70 – 115 mm OD min (2.75 – 4.5 in)			
Material	Stainless Steel Alloys			

⁽¹⁾Includes Rope Socket/Cablehead, Heatshield, Payload, Mitco Spinner & Centraliser

OPERATING ENVIRONMENT

Max. Temperature	350°C	660°F
Operating Temperature⁽²⁾	280°C (>8 hrs) 300°C (6 hrs)	535°F (>8 hrs) 570°F (6 hrs)
Max. Pressure	35.0 MPa	5075 psi

⁽²⁾with memory heatshield

TEMPERATURE, PRESSURE & SPINNER SENSORS

Temperature		Pressure		Spinner	
Sensor	Platinum resistance	Sensor	Quartz	Sensor	3 x reed switches / Magnetic
Range	0°C to 350°C	Range	344 bar	Range	Detection 60-18,000 RPM+direction Recommended 300-10,000 RPM
Accuracy	0.25°C	Accuracy	0.02 %FS	Accuracy	0.02 Hz
Resolution	0.01°C	Resolution	0.002 bar	Pitch (in)	3, 5, 10, 20
Temp. Compensated	Yes	Temp. Compensated	Yes	Impeller	Helical

MISCELLANEOUS

Memory Capacity	479,350 data sets (33 hrs) sampling pressure, temperature & spinner
Recording Rate	4 records / second
Operating Voltage	3.0 Vdc
Battery	Size AA, Single, Primary Lithium Thionyl Chloride, maximum logging time 24 hours
Interface	Ethernet
Spinner Options	Mitco Spinners: 1.69", 2.125" and 3.0" O.D (Impellers available to suit these sizes) MB Century Spinner: 3.1" (78 mm) O.D.

Product Code: PTS-3R

SRO RELATED PRODUCTS

- SRO Box. Product codes: SRO-SS, SRO-RM2U19
- Electronic depth encoder and cable
- Uphole Logger software. Software is compatible with Windows XP and 7. CSV data output incl. time, depth, temp, press, frequency, line tension and wellhead pressure
- 0131-357 Cablehead for mono-conductor cable, 46.5 mm OD, using Brass Cone Type II termination method

Note: Description and specifications are subject to change without notification