

OUR VISION

Tools that are robust , combinable, and able to run in both real time and memory situation are what we provide. We design our tools to work within the proprietary GDTbus protocol so that everything is modular in nature . By doing so it allows our customers to pick and choose what sensors they want to provide for their services. It all works together and simultaneously. There are no “project” tools in our product line, we make sure that our customers maintain the flexibility to add to what they currently own

Our telemetry is designed to be simple to use and implement in older units in the field as well as new ones . The telemetry is fully compatible with the warrior Well Logging System and does not require and additional cards or panels to get 50 kbps transmission rate. If our customers need more speed, we can obtain 200 kbps with additional hardware on surface.

When switching from running in real time to memory, you use the same sondes. Easy configuration for individual sonde sample rate(s), tool hibernation timing(s),and merging surface depth data to down hole tool data gives our customers the ability to quickly swap to alternative conveyance methods. Our software has easy export ability to get the data into the hands of analysts quickly.

All connectors are standard “GO” pin, so our customers can use the auxiliary equipment they already own and maintain. We also carry a wide assortment of running gear to fully prepare for difficult logging situations if a key part is missing from a customer’s inventory.

PARTNER NOT SUPPLIER

We establish relationships that go past beyond the point of sale.



24 HOUR SUPPORT

Our support team is available to help when issues arise day or night.

PLUG AND PLAY

No additional panels or cards needed for SDS Warrior compatibility.



CONFIDENCE IN EXPERIENCE

Our mechanical, electrical, and petroleum engineers have come from the wireline field.

TARGETED TECHNOLOGY

R&D Focused on partners needs and requests to impact the market at a local level.



MEMORY AND SRO

All of our tools can be run in both memory and real time deployment.

www.GlobalDownholeTools.com

www.GlobalWellMeasurements.com

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I. High Pressure High Temperature Series (HPHT)

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2. Wireline Telemetry Cartridge (WTC23)
3. Gamma Ray & CCL (GCT23)
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Data Acquisition Panel (ACQ01)

Real-Time Surface Readout for Universal Data Acquisition

DESCRIPTION

The Data Acquisition Panel (ACQ) provides real-time surface readout (SRO) capabilities, delivering seamless and reliable monitoring for downhole operations.

Designed to support various telemetry protocols and input signals, the ACQ ensures accurate data acquisition for wireline tools across multiple applications



KEY FEATURES

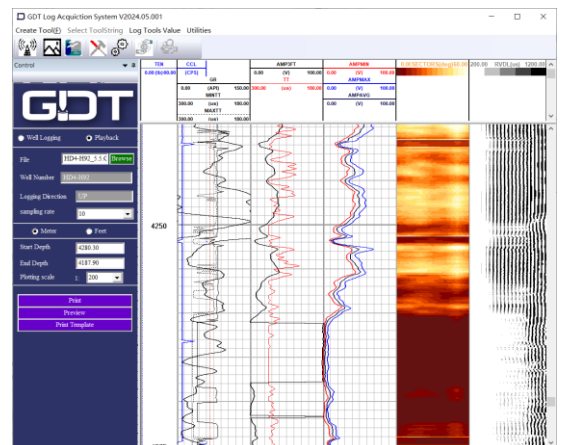
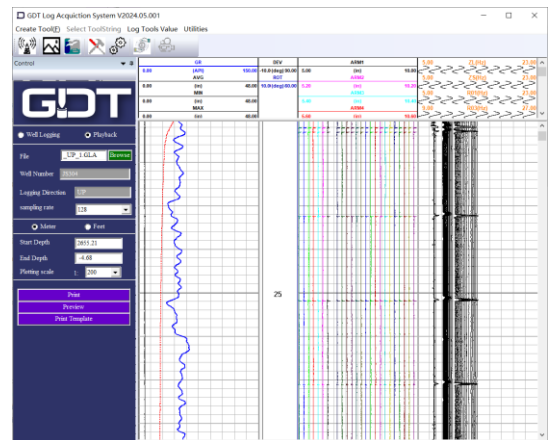
- **Multi-Telemetry Compatibility:** Supports AMI code GDTbus, Sondex cable bus instruments, 5.6 kHz Manchester code tools, and 20.833 kHz production logging tools.
- **Analog Signal Support:** Acquires data from analogue signal instruments for flexible operations.
- **Pulse Signal Integration:** Capable of handling both positive and negative pulse signal instruments.
- **Real-Time Readout:** Provides continuous surface data for efficient monitoring and analysis.
- **Reliable Performance:** Ensures seamless operation across diverse toolsets and telemetry systems.

SPECIFICATIONS

Input voltage (AC): 110 / 220V $\pm$ 10%

Supply voltage range (DC): Up to 300 V

Max. output power: 500W



Wireline Telemetry Cartridge (WTC02)

Real-Time Data Transmission that Supports Multiple AMI Telemetry Bus Protocols

DESCRIPTION

- The Wireline Telemetry Cartridge (WTC) enables real-time communication between downhole tools and surface systems, ensuring accurate data transmission and tool control during wireline logging operations.
- Its versatile design supports multiple AMI telemetry protocols for flexibility

WARRIOR COMPATABILITY

- No additional card or hardware needed for Warrior System which regularly updated
- Tools come with exported Warrior configuration file for quick integration
- Combinable with other tools with GWMGDT platform

MULTIPLE-TELEMETRY COMPATABILITY

- WTC supports AMI (Alternate Mark Inversion) coded tools and others for seamless integration.

SPECIFICATIONS

Protocol	GWMGDT-Bus
Diameter	1-11/16" or 43 mm
Maximum Temperature	350° F or 175° C
Maximum Pressure	15,000 psi
Voltage	180 VDC
Current Rating	1.5 A
Default Uplink Rate	50 kbps
Minimum Uplink Rate	12.5 kbps
Maximum Uplink Rate	200 kbps
Downlink Rate	300 kbps



Short-Stack PLT Series

Memory Control Panel (MCP01)

Downhole Memory Cartridge (DMC02)



Versatile memory logging system for slickline and coil tubing deployment

DESCRIPTION

The Memory Control Panel (MCP) enables programming of downhole tools, acquiring data from downhole tools, acquiring depth and surface tension data from the conveyance system, and connecting to computer interface for data management.

The Downhole Memory Cartridge (DMC) is the interface between the MCP and the downhole tools or sensors.

The system supports AMI coding and others for seamless integration.

APPLICATIONS

- Deployments using slickline, coiled tubing, or other deployment methods
- Depth-based correlation of time with downhole data
- Downhole logging data management with both time and depth domains
- Combinable with other tools with GWMGDT platform in both re and memory modes



MCP



DBC
Downhole
Battery
Housing

DMC
Downhole
Memory
Cartridge

DMC02 SPECIFICATIONS

Protocol	GWMGDT-Bus
Diameter	1-11/16" or 43 mm
Maximum Temperature	350° F or 175° C
Maximum Pressure	15,000 psi
Voltage	13.5 – 20 VDC
Current Rating	15 – 30 mA
Stand-by Current	2 mA
Sampling Rates	20 m-sec to 24 hr. (in 20 m-sec increments)
Download Rate	20 MB/sec to CPU
Memory Capacity	Up to 1GB
Bus Data Rate	500 kbps
Battery Capacity	6.2Ah or 26.5Ah

Short-Stack PLT Series

Gamma Ray & CCL (GCT02)

DESCRIPTION

Measurements of naturally occurring gamma-rays that are emitted by the formation and the wellbore including those emitted by the radioactive scale.

Gamma rays are detected by a 4-inch Sodium Iodide (NaI) scintillation crystal, amplified by a photomultiplier tube with a 1.6 kV high-voltage power supply and counted, then sent to the appropriate telemetry channel.

The Casing Collar Locator (CCL) is built-in together with the Gamma Ray for efficiency and faster tool string preparation.



APPLICATIONS

- Depth correlation with both Gamma-Ray and CCL with other logs
- Shale indicator and shale estimate
- Identification of radioactive scale
- Trace Monitoring
- Determination of stratigraphic boundaries
- Combinable with other tools with GWMGDT platform in both real-time and memory modes

SPECIFICATIONS

Protocol	GWMGDT-Bus
Diameter	1-11/16" or 43 mm
Maximum Temperature	350° F or 175° C
Maximum Pressure	15,000 psi
Voltage	15 to 18 VDC
Current	35 mA
Measurement Range	Up to 60,000 CPS
Sensor	Sodium Iodide (NaI) Crystal
Statistical Fluctuation	< 10%
Logging Speed	30 ft / min

GWM-GDT Short-Stack PLT Series

Production Logging Short-Stack

(PLS02)

DESCRIPTION

Production Logging Short-Stack module consists of the following sensors:

- **Fluid Density** by measuring inertial response of a vibrating tuning fork
- **Temperature** by measuring the resistance of the sensor
- **Capacitance Water Holdup** by measuring the dielectric constant of borehole fluid
- **Quartz Pressure** by measuring the quartz frequencies
- **In-line Flowmeter** by measuring the rotations of the spinner
- **Resistivity** by measuring the resistance of the sensors
- **Flowmeter Electronics** to allow Full-bore Spinner and Continuous Spinner to be connected to the module

Tool-bus Protocol		GWMGDT-bus
Diameter		1-11/16" or 43 mm
Temperature Rating		350° F or 175° C
Pressure Rating		15,000 psi
Fluid Density	Measurement Range	Up to 1.25 gr/cc
	Accuracy	0.03 gr/cc
	Resolution	0.01 gr/cc
	Response Time	< 1 sec
Temperature	Measurement Range	Up to 350° F
	Accuracy	+/- 1° C
	Resolution	0.01° C or 0.018° F
	Response Time	< 0.5 sec
Capacitance Water Holdup	Measurement Range	Up to 45%
	Accuracy	1%
	Resolution	0.1%
Quartz Pressure	Measurement Range	Up to 10,000 psi
	Accuracy	0.02% FS
	Resolution	0.008 psi
	Response Time	< 1 sec
	Ageing or Drift	< 3 psi / year
In-line Flowmeter	Output	8 pulses / rev
Resistivity Water Holdup	Water Hod-up Accuracy	5%



Fluid Density Acoustic (FDA02) Tool

Redefining Accuracy and Reliability in Fluid Density Measurement

DESCRIPTION

The Fluid Density Acoustic (FDA) tool measures the density of wellbore fluids using the inertial response of a vibrating tuning fork. This advanced, non-radioactive design provides precise and reliable data across a wide range of well conditions

APPLICATIONS

- Precise identification of fluid types and densities.
- Accurate detection of fluid levels in the well-bore.
- Ideal for deployment in both vertical and highly deviated wells.

KEY FEATURES

- Non-Radioactive Design: Safer and environmentally friendly.
- High Precision: Delivers accurate density measurements up to 0.01 gr/cc.
- Rapid Response: Provides real-time data with a response speed of < 0.3 seconds.

SPECIFICATIONS

TOOLBUS	GDTbus
DIAMETER	1-11/16"
MAX.TEMPERATURE	350° F (175° C)
MAX.PRESSURE	15,000 psi
SUPPLY VOLTAGE	15 to 18 VDC
CURRENT	50 mA
RESOLUTION	0.01 gr/cc
ACCURACY	0.03 gr/cc
RANGE	Up to 1.3 gr/cc
RESPONSE SPEED	< 0.3 s



Rapid Response Temperature (RDT02) Tool

Precision Temperature Measurement for Enhanced Well Diagnostic

DESCRIPTION

The Rapid Response Temperature (RDT) tool accurately measures borehole fluid temperature, enabling the detection of fluid entry points, gas leaks, and injection zones.

Designed for high-resolution and rapid response, it provides critical data to optimize production and assess well integrity.

APPLICATIONS

- Identify downhole and surface leakage.
- Assist in detecting fluid movement behind casing pipes.
- Distinguish productive zones from non-productive zones.
- Detect liquid levels in the wellbore.
- Determine precise injection points.
- Support production logging for more accurate flow rate analysis.

KEY FEATURES

- **High Resolution:** Captures subtle temperature changes with precision.
- **Rapid Response:** Enables real-time decision-making.
- **Versatile Diagnostics:** Adapts to various well conditions and challenges

SPECIFICATIONS

PROTOCOL	GDTbus
DIAMETER	1-11/16"
MAX.TEMPERATURE	350° F (175° C)
MAX.PRESSURE	15,000 psi
SUPPLY VOLTAGE	15 to 18 VDC
CURRENT	50 mA
RESOLUTION	0.01° C or 0.018° F
ACCURACY	+/- 1° C
RESPONSE TIME	< 0.5 s



Quartz Pressure & CCL (QPC02) Tool

Unmatched Precision and Accuracy for Downhole Pressure Measurements

DESCRIPTION

The Quartz Pressure & CCL (QPC) tool uses a quartz resonator to measure frequency changes in response to downhole pressure, delivering highly accurate fluid pressure data. Engineered for extreme conditions, it ensures stability, repeatability, and long-term reliability.

APPLICATIONS

- Continuous monitoring of downhole pressure.
- Accurate detection of fluid movement and reservoir behavior.
- Support for production optimization and well integrity analysis.
- Records reservoir pressure drawdown and buildup data during flowing tests.
- Identification of casing collar locations (CCL) for logging operations.

KEY FEATURES

- **Quartz Resonator Technology:** Exceptional stability and long-term reliability for continuous monitoring.
- **High Accuracy:** Measures downhole pressure with an accuracy of 0.01% of full scale.
- **High Resolution:** Resolves pressure changes as small as 0.008 psi.
- **Low Drift:** Minimal performance degradation over time, even in challenging environments.

SPECIFICATIONS

PROTOCOL	GDTbus
DIAMETER	1-11/16"
MAX.TEMPERATURE	350° F (175° C)
MAX.PRESSURE	15,000 psi
SUPPLY VOLTAGE	15 to 18 VDC
CURRENT	35 mA
RESOLUTION	0.008 psi
ACCURACY	0.01% of Full Scale
DRIFT	< 3 psi / PSI
RESPONDE SPEED	< 1 second
RANGE	Up to 16,000 psi



In-Line Flowmeter Jeweled (IFJ02) Tool

Precise Flow Rate Measurements with Tool Combinability

DESCRIPTION

The In-Line Flowmeter Jeweled (IFJ) tool is a specialized device designed to measure the flow rate of liquids and gases directly within a pipeline. By allowing the fluid to pass through the meter body, it delivers accurate and reliable flow measurements in various well conditions.

APPLICATIONS

- Measure flow rate in tubing, casing, and open holes.
- Detect production loss due to crossflow or thief zones.
- Locate packer and plug leaks.
- Identify lost-circulation zones in open holes.
- Additional spinner measurement in high deviation or horizontal wells.

KEY FEATURES

- **Compact Design:** Can be run alongside other PL tools above and below the sensor and in restricted diameter areas where full-bore spinners are not feasible.
- **Versatile Measurement:** Suitable for tubing, casing, open holes, and sand screens.
- **High Deviation Capability:** Equipped with additional spinner measurement for high deviation/horizontal wells.
- **Inline Design:** Provides direct and accurate flow rate measurements

SPECIFICATIONS

PROTOCOL	GDTbus
DIAMETER	1-11/16" and 2-1/8"
MAX. TEMPERATURE	350° F (175° C)
MAX. PRESSURE	15,000 psi
DIRECTIONAL OUTPUT	UP and DOWN
SPINNER THRESHOLD	7 ft / min
MANIMUM FLUID VELOCITY	3,000 ft / min
OUTPUT	8 TO 10 PULSES PER REV
HOUSING MATERIAL	Corrosion Resistance Throughout



Capacitance Water Hold-up / Temperature / Flowmeter Electronics (HTF02)

Three Sensors Combined with a Single Electronics Section

DESCRIPTION

HTF combines three sensor together with a single electronics section

The Hold-Up Capacitance section of the tool measures the dielectric constant of the fluid to determine water hold-up. As hydrocarbons and water have different dielectric constants, the capacitance is a function of the dielectric constant of the fluid.

The Temperature section of the tool measures the borehole fluid temperature by measuring the resistance of the sensor.

The Flowmeter Electronics interface with spinner mechanical sections at the bottom of the tool

APPLICATIONS

- Fluid hold-up measurement
- Locate hydrocarbon and water interface in shut-in well condition
- Identify water entry into hydrocarbon
- Identify hydrocarbon entry into water
- Time lapse temperature survey
- Identify fluid movement behind pipe

SPECIFICATIONS

TOOLBUS	GDTbus
DIAMETER	1-11/16"
MAX.TEMPERATURE	350° F (175° C)
MAX.PRESSURE	15,000 psi
SUPPLY VOLTAGE	15 to 18 VDC
CURRENT	45 mA
CAPACITANCE MEASUREMENT	Up to 45%
CAPACITANCE ACCURACY	1%
CAPACITANCE RESOLUTION	0.1%
CAPACITANCE RESPONSE TIME	< 10 mS
TEMPERATURE SENSITIVITY	0.01° C or 0.018° F
TEMPERATURE ACCURACY	+/- 1° C
TEMPARTURE RESPONSE TIME	< 0.5 S



Short-Stack PLT Series

Production Logging Short-Stack (PLS02)



DESCRIPTION

Production Logging Short-Stack consists of the following sensors:

- **Fluid density** acoustic sensor which measures density of borehole fluids using the inertial response of a vibrating tuning fork
- **Temperature** sensor which measures the borehole fluid temperature by measuring the resistance of the sensor
- **Quartz pressure** sensor accurately measures downhole
- **Inline flowmeter** allows other production logging sensors run below and above it
- **Capacitance** sensor measures the dielectric constant of borehole fluid to determine water hold-up.
- **Resistivity** sensor measures resistivity of the borehole fluid to help determine fluid typing

SPECIFICATIONS

Protocol	GWMGDT-Bus
Diameter	1-11/16” or 43 mm
Maximum Temperature	350° F or 175° C
Maximum Pressure	15,000 psi
Fluid Density Sensitivity	0.01 gr/cc
Fluid Density Accuracy	0.03 gr/cc
Fluid Density Measurement Range	Up to 1.3 gr/cc
Temperature Sensitivity	0.01° C
Temperature Accuracy	+/- 1° C
Temperature Response Time	< 0.5 s
Capacitance Measurement	Up to 45%
Capacitance Accuracy	1%
Capacitance Resolution	0.1%
Capacitance Response Time	< 10 ms
Pressure Sensitivity	0.008 psi
Pressure Accuracy	0.02 %
Pressure Measurement Range	Up to 16,000 psi



Dual X-Y Caliper Tool (DCT04)

DESCRIPTION

The X-Y caliper tool is mainly used in conjunction with the centering tool string. The tool has two sets of caliper arms distributed at a 90 ° angle. Under the action of a spring, each independent arm opens and closely adheres to the wellbore wall. During the logging process, the diameter of the well can be measured

APPLICATIONS

- Measure the X and Y diameters at a relative 90 ° angle
- Measure casing corrosion and deformation
- Check the blockage of the casing
- Correct tool data based on flow velocity measurements

SPECIFICATIONS

Tool Bus Protocol	GWMGDT-Bus
Diameter	1-11/16" or 43 mm
Temperature Rating	350° F or 175° C
Pressure Rating	15,000 psi
Length	1.7 ft /min
Weight	500 ft / min
Measurement Range	2" to 9" (50.8 mm to 228.6 mm)
Accuracy	0.20"
Resolution	0.015"



Full-Bore Spinner (FBS02)

For Reliable Flow Measurements

DESCRIPTION

The Full-Bore Spinner Caged (FBS) tool is designed to be run at the bottom of a production logging tool string, with spinner blades and cage assembly that collapse to the tool diameter, allowing it to pass through tubing restrictions without damage.

Its large diameter impeller ensures accurate flow rate measurement across a wide casing cross-section.

APPLICATIONS

- Measure flow rate in tubing, casing, and open holes.
- Detect production loss due to crossflow or thief zones.
- Locate packer and plug leaks.
- Identify lost-circulation zones in open holes.
- Additional spinner measurement in high deviation or horizontal wells.

KEY FEATURES

- Collapsible Design: Spinner blades and cage assembly collapse to tool diameter for smooth passage through tubing restrictions.
- Large Diameter Impeller: Measures flow rates with wide coverage over a large casing cross-section.
- Versatile Measurement: Suitable for casing, open holes, and sand screens.



SPECIFICATIONS

Tool Bus Protocol	GWMGDT-Bus
Diameter	1-11/16" or 43 mm
Maximum Temperature	350° F or 175° C
Maximum Pressure	15,000 psi
Spinner Threshold	1.7 ft /min
Maximum Fluid Velocity	500 ft / min

Continuous Flowmeter with Jeweled Bearings (CFJ02) Tool

Precision Flow Measurements for High Fluid Velocity Flow

DESCRIPTION

The Continuous Flowmeter with Jeweled Bearings (CFJ) tool is specifically designed for logging in high fluid velocity wells, such as gas wells, and can also be used in sand-producing wells.

This tool provides accurate flow measurements, enabling operators to optimize production and monitor well integrity

APPLICATIONS

- Measure flow rate in tubing, casing, and open holes.
- Detect production loss due to crossflow or thief zones.
- Locate packer and plug leaks.
- Identify lost-circulation zones in open holes.
- Additional spinner measurement in high deviation or horizontal wells.

KEY FEATURES

- High Fluid Velocity Capability: Ideal for use in gas and sand-producing wells with high fluid velocities.
- Jeweled Bearings: Ensures high durability and reliability for long-term use in demanding environments.
- Versatile Measurements: Suitable for tubing, liner, casing for full-bore spinner is undeployable



SPECIFICATIONS

Tool Bus Protocol	GWMGDT-bus
Diameter	1-11/16" and 2-1/8"
Temperature Rating	350° F
Pressure Rating	20,000 psi
Directional Output	Up and Down Flow Directions
Fluid Velocity Threshold	8 ft / min
Maximum Fluid Velocity	4,000 ft / min
Output	8 to 10 Pulses per Rev
Housing Material	Corrosion Resistance Throughout

Multi-finger Imaging Tool (MFI 24)

Industry-Leading Pipe ID Caliper Measurement and 3D Imaging

DESCRIPTION

The Multi-Finger Imaging Tool has been designed to provide the most accurate pipe ID caliper measurements in the industry. The high-quality output data allows for 3-D imaging and calculation of corrosion, dent, or scale deposition.

The MFI tool can be combined with any other tool in the GDTbus suite using an SRO Wireline Telemetry Cartridge (WTC) or Downhole Memory Cartridge (DMC).

All MFI tools have a built-in orientation sensor that allow for relative bearing and deviation data correction. Temperature correction is hardware based so no software drift files are needed. The mechanical design allows for easy finger replacement in the field.

APPLICATIONS

- Tubular damage analysis
- Perforation mapping
- Quantification of scale build up and corrosion
- Accurate location mapping of holes and anomalies
- Identification of completion items

SPECIFICATIONS

PROTOCOL	GDTbus		
DIAMETER	1-11/16" (43mm)	2-7/8" (73mm)	4" (102mm)
MAX.TEMPERATURE	350°F (175°C)		
MAX.PRESSURE	15,000psi (100MPa)		
LENGTH	49.88" (1,267mm)	58.2" (1479mm)	60.51" (1537mm)
FINGERS	24	40	60
MEASUREMENT RANGE	Up to 7.09"	Up to 7.48"	Up to 15.5" with Extended Arms
MOTOR CURRENT	<300mA		
VOLTAGE	18 VDC		
CURRENT	25 mA	30 mA	30 mA
ACCURACY	±0.03"	±0.03"	±0.03"
VERTICAL RESOLUTION	0.082"	0.110"	0.167"
RADIAL RESOLUTION	0.003"	0.005"	0.005"
FINGER FORCE	0.75lbs-1.25lbs (0.34kg-0.57kg)		
INCLINOMETER	±4.5deg		
LOGGING SPEED	30ft/min (10m/min)		



Multi-finger Imaging Tool (MFI 40)

Industry-Leading Pipe ID Caliper Measurement and 3D Imaging

DESCRIPTION

The Multi-Finger Imaging Tool has been designed to provide the most accurate pipe ID caliper measurements in the industry. The high-quality output data allows for 3-D imaging and calculation of corrosion, dent, or scale deposition.

The MFI tool can be combined with any other tool in the GDTbus suite using an SRO Wireline Telemetry Cartridge (WTC) or Downhole Memory Cartridge (DMC).

All MFI tools have a built-in orientation sensor that allow for relative bearing and deviation data correction. Temperature correction is hardware based so no software drift files are needed. The mechanical design allows for easy finger replacement in the field.

APPLICATIONS

- Tubular damage analysis
- Perforation mapping
- Quantification of scale build up and corrosion
- Accurate location mapping of holes and anomalies
- Identification of completion items

SPECIFICATIONS

PROTOCOL	GDTbus		
DIAMETER	1-11/16" (43mm)	2-7/8" (73mm)	4" (102mm)
MAX.TEMPERATURE	350°F (175°C)		
MAX.PRESSURE	15,000psi (100MPa)		
LENGTH	49.88" (1,267mm)	58.2" (1479mm)	60.51" (1537mm)
FINGERS	24	40	60
MEASUREMENT RANGE	Up to 7.09"	Up to 7.48"	Up to 15.5" with Extended Arms
MOTOR CURRENT	<300mA		
VOLTAGE	18 VDC		
CURRENT	25 mA	30 mA	30 mA
ACCURACY	±0.03"	±0.03"	±0.03"
VERTICAL RESOLUTION	0.082"	0.110"	0.167"
RADIAL RESOLUTION	0.003"	0.005"	0.005"
FINGER FORCE	0.75lbs-1.25lbs (0.34kg-0.57kg)		
INCLINOMETER	±4.5deg		
LOGGING SPEED	30ft/min (10m/min)		



Multi-finger Imaging Tool (MFI 60)

Industry-Leading Pipe ID Caliper Measurement and 3D Imaging

DESCRIPTION

The Multi-Finger Imaging Tool has been designed to provide the most accurate pipe ID caliper measurements in the industry. The high-quality output data allows for 3-D imaging and calculation of corrosion, dent, or scale deposition.

The MFI tool can be combined with any other tool in the GDTbus suite using an SRO Wireline Telemetry Cartridge (WTC) or Downhole Memory Cartridge (DMC).

All MFI tools have a built-in orientation sensor that allow for relative bearing and deviation data correction. Temperature correction is hardware based so no software drift files are needed. The mechanical design allows for easy finger replacement in the field.

APPLICATIONS

- Tubular damage analysis
- Perforation mapping
- Quantification of scale build up and corrosion
- Accurate location mapping of holes and anomalies
- Identification of completion items

SPECIFICATIONS

PROTOCOL	GDTbus		
DIAMETER	1-11/16" (43mm)	2-7/8" (73mm)	4" (102mm)
MAX.TEMPERATURE	350°F (175°C)		
MAX.PRESSURE	15,000psi (100MPa)		
LENGTH	49.88" (1,267mm)	58.2" (1479mm)	60.51" (1537mm)
FINGERS	24	40	60
MEASUREMENT RANGE	Up to 7.09"	Up to 7.48"	Up to 15.5" with Extended Arms
MOTOR CURRENT	<300mA		
VOLTAGE	18 VDC		
CURRENT	25 mA	30 mA	30 mA
ACCURACY	±0.03"	±0.03"	±0.03"
VERTICAL RESOLUTION	0.082"	0.110"	0.167"
RADIAL RESOLUTION	0.003"	0.005"	0.005"
FINGER FORCE	0.75lbs-1.25lbs (0.34kg-0.57kg)		
INCLINOMETER	±4.5deg		
LOGGING SPEED	30ft/min (10m/min)		



Electro-Magnetic Thickness Tool

EMT-A (Average)

DESCRIPTION

The Electromagnetic Thickness Tool – Average (EMT-A) detects variations in pipe metal thickness by examining the flux changes between transmitter and receiver coils. Three pickup coils allow the tool to have 120° radial coverage view of casing. The phase shift of the received signal is directly affected by metal thickness which can be used in detecting casing damage. Three pickup coils allow the tool to have 120° radial coverage view of casing. When run with the Multi-finger Imaging Tool(MFI),a determination can be made as to whether the metal loss detected is from the ID or OD of the casing

Applications

- Casing Thickness
- Casing Damage
- Borehole Temperature

SPECIFICATIONS

PROTOCOL	GDTbus
DIAMETER	2 7/8"(73mm)
MAX.TEMPERATURE	350°F (175℃)
MAX.PRESSURE	15000psi(100MPa)
LENGTH	34.65"(880mm)
LOGGING SPEED	30ft/min(10m/min)
MATERIALS	H2S Tolerant
MAX. OD CASING	9-5/8"(244mm)
ACCURACY	± 20% Wall Thickness



Electro-Magnetic Thickness Tool

EMT-R (Radial)

DESCRIPTION

The Electromagnetic Thickness Tool – Radial (EMT-R) is designed to detect the damage of tubulars by calculating the remaining wall thickness and corrosion extent. Twelve bow-spring arms contain sensors that measure residual thickness based on the remote field eddy current principle. Directional readings allow more precise tubular yield pressure calculations.

Applications

- Measure the remaining wall thickness of casing
- Determination of the type(s) of damage: pits, penetrations , cracks in transverse or longitudinal plane.
- Sectorized sensors allow localized identification of damage
- Inner and Outer wall damage identification
- Casing collar identification

SPECIFICATIONS

PROTOCOL	GDTbus
DIAMETER	1-11/16"(43mm)
MAX.TEMPERATURE	350°F (175°C)
MAX.PRESSURE	15000psi(100MPa)
LENGTH	85.86"(2181mm)
LOGGING SPEED	30ft/min(10m/min)
MATERIALS	H2S Tolerant
MEASUREMENT RESOLUTION	15% Wall Thickness
MEASUREMENT RANGE	2" – 7"(63-324mm)
ACCURACY	± 20% Wall Thickness



Electro-Magnetic Thickness Tool

EMT-S (Scanning)

DESCRIPTION

The Electromagnetic Thickness Tool – Scanning (EMT-S) is designed to detect the damage of tubulars by calculating the remaining wall thickness and corrosion extent. It can accurately indicate the column structure and location of other objects in concentric pipe. High resolution and fast sampling enable EMT-S to scan tubular geometry to provide positional location of nonconformities.

Applications

- From short sensor calculate the inner pipe thickness
- From long sensor calculate the multi layer pipe thickness total thickness
- Determination of the type(s) of damage: pits, penetrations , cracks in transverse or longitudinal plane.
- Determination of inner casing penetration
- Locating inner and outer tubulars in concentric casing
- Wellbore temperature logging

SPECIFICATIONS

PROTOCOL	GDTbus
DIAMETER	1-11/16"(43mm)
MAX.TEMPERATURE	350°F (175°C)
MAX.PRESSURE	15000psi(100MPa)
LENGTH	78.74"(2000mm)
LOGGING SPEED	20ft/min(350m/hr)
MATERIALS	H2S Tolerant
WEIGHT	20lb(9kg)
MEASUREMENT RANGE	2 ½" – 12 ¾"(63-324mm)
MEASUREMENT ACCURACY	0.02"(0.5mm) Single Pipe 0.06"(1.5mm) Double Pipe
MIN. AXIAL DETECTABLE LENGTH	1.5" (40mm) Single Pipe 2" (50mm) Double Pipe
MIN AXIAL DETECTABLE LENGTH	1/6 of the perimeter
THICKNESS RANGE(MAX.)	.5"(12mm) Single Pipe 1"(25mm) Double Pipe



Radial Bond Tool 6-sector x 60°

OD: 1-11/16" (RBT02)

DESCRIPTION

The RBT is equipped with one transmitter and two receivers constructed out of piezoelectric crystals. The near receiver, located 3ft from the transmitter, is constructed of an 8-sector radial sensor. The primary amplitude is constructed from radial signals at the near receiver while the Variable Density Log is constructed from the far receiver. The RBT can be deployed in deviated holes and combines easily with any of the GDT logging tools. The tool is comprised of H2S resistant materials throughout. All RBT tools have a built-in orientation sensor that allow for relative bearing and deviation data.

The analog wave form is completely digitized downhole and converted back to analog at surface for interpretation. By digitizing downhole the tool is able to:

- By-pass analog calibration pulse issues on H2S line transmission
- Store and revert to a calibrated configuration upon power up. Internal memory settings for sensor pickups circumvent the need for free pipe calibration

Applications

- Provide quantitative analysis of cement bond in eight 45 degrees segments for identification of channels in cement.
- identification of intervals of uniform bonding and detection of cement quality in casing sizes from 4 1/2 to 13 3/8 in
- Quantitative analysis of cement bond to casing
- Qualitative analysis of cement bond to formation

SPECIFICATIONS

PROTOCOL		GDTbus	
DIAMETER	1-11/16”(43mm)	2-7/8”(73mm)	
MAX.TEMPERATURE	350°F （175℃）		
MAX.PRESSURE	20000psi(140MPa)		
LENGTH	114.3”(2902mm)	107.2”(2718mm)	
TRANSMITTER	1 Piezoelectric		
RECIEVERS	6(60 Deg)	8(45 Deg)	
VOLTAGE	18 VDC		
CURRENT	82mA	50mA	
LOGGING SPEED	35ft/min(11 m/min)		
CASING DIAMETER	1 -3/4 -7”(45-177.8mm)	4-1/2”-13-3/8”(114-340mm)	



Radial Bond Tool 8-sector x 45°

OD: 2-7/8" (RBT05)

DESCRIPTION

The RBT is equipped with one transmitter and two receivers constructed out of piezoelectric crystals. The near receiver, located 3ft from the transmitter, is constructed of an 8-sector radial sensor. The primary amplitude is constructed from radial signals at the near receiver while the Variable Density Log is constructed from the far receiver. The RBT can be deployed in deviated holes and combines easily with any of the GDT logging tools. The tool is comprised of H2S resistant materials throughout. All RBT tools have a built-in orientation sensor that allow for relative bearing and deviation data.

The analog wave form is completely digitized downhole and converted back to analog at surface for interpretation. By digitizing downhole the tool is able to:

- By-pass analog calibration pulse issues on H2S line transmission
- Store and revert to a calibrated configuration upon power up. Internal memory settings for sensor pickups circumvent the need for free pipe calibration

Applications

- Provide quantitative analysis of cement bond in eight 45 degrees segments for identification of channels in cement.
- identification of intervals of uniform bonding and detection of cement quality in casing sizes from 4 1/2 to 13 3/8 in
- Quantitative analysis of cement bond to casing
- Qualitative analysis of cement bond to formation

SPECIFICATIONS

PROTOCOL		GDTbus	
DIAMETER	1-11/16”(43mm)	2-7/8”(73mm)	
MAX.TEMPERATURE	350°F （175℃）		
MAX.PRESSURE	20000psi(140MPa)		
LENGTH	114.3”(2902mm)	107.2”(2718mm)	
TRANSMITTER	1 Piezoelectric		
RECIEVERS	6(60 Deg)	8(45 Deg)	
VOLTAGE	18 VDC		
CURRENT	82mA	50mA	
LOGGING SPEED	35ft/min(11 m/min)		
CASING DIAMETER	1 -3/4 -7”(45-177.8mm)	4-1/2”-13-3/8”(114-340mm)	



DNST DUAL SPECTRAL NOISE TOOL (DNST02)

DESCRIPTION

The Spectral Noise Tool is used to detect the incoming noises in the wellbore generated at different spectral frequencies from different sources. By analyzing the frequency spectrum, the nature of fluids may be determined, and leaks can be located.

Noise logging is applicable to oil/gas/water wells. It increases the success rate of locating leaks and channeling in tubulars . When combined with temperature and flowrate measurements ,extensive quantitative interpretation can be performed.

Real time monitoring combined with the ability to save the audio to digital file provides ability to meet greater compliance regulations.

Applications

- Location of production interval and productivity evaluation(Especially horizontal wells and heavy oil wells)
- Fluid identification and flow rate evaluation
- Inspection of the channeling behind casing, leaks, back-flows, sand production, and effect of packers

SPECIFICATIONS

PROTOCOL	GDTbus
DIAMETER	1-11/16"(43mm)
MAX.TEMPERATURE	350°F (175°C)
MAX.PRESSURE	20000psi(100MPa)
LENGTH	33.29"(846mm)
LOGGING SPEED	30ft/min(10m/min)
WEIGHT	30lb(13.7kg)
OPERATING FREQUENCY	100Hz-12.8KHz
FREQUENCY RESOLUTION	100Hz
MATERIALS	2S Tolerant



Ultrasonic Spectral Noise Tool 60 kHz (USN02)

DESCRIPTION

The Spectral Noise Tool is used to detect the incoming noises in the wellbore generated at different spectral frequencies from different sources.

By analyzing the frequency spectrum, the nature of fluids may be determined, and leaks and flow behind tubing or casing can be located.

Noise logging is applicable to oil/gas/water wells. When combined with temperature and flowrate and other production logging sensors measurements, extensive quantitative interpretation can be performed.

APPLICATIONS

- Location of production interval and productivity evaluation (especially horizontal wells and heavy oil wells)
- Leak detections
- Flow behind tubing and behind casing detections
- Detection of sand productions from inflow into the well
- Combinable with other tools with GWMGDT platform in both real-time and memory modes

SPECIFICATIONS

Protocol	GWMGDT-Bus
Diameter	1-11/16" or 43 mm
Maximum Temperature	350° F or 175° C
Maximum Pressure	15,000 psi
Operating Frequencies	0.1 to 10 kHz 8 kHz to 60 kHz
Recording Modes	Dynamic and Stationary Measurements



Addressable Release Tool (ART02 & ART05)

Providing a positive control in releasing the tool in the string

DESCRIPTION

Addressable Release Tool is designed for use in wells where controllable release of a stuck tool-string may be required, or higher pulling weight would be desirable.

Deployment of an ART can eliminate the risk of cable damage due to excess over-pull.

APPLICATIONS

- When mechanical weak-point set at the maximum value to allow maximum pull
- Deployment in highly deviated wells where high cable tensions are expected, and it may not be possible to break the mechanical weak point

SPECIFICATIONS

TOOL DIAMATER	1-11/16" and 2-7/8"
Release time	2.5 minutes
MAX.TEMPERATURE	350° F (175° C)
MAX.PRESSURE	15,000 psi
HOUSING MATERIAL	Corrosion Resistance Throughout



FREEPOINT ANCHOR SYSTEM (FAS)

DESCRIPTION

The Freepoint Anchor System is a suite of tools that determines stuck point from measuring torque and stretch of downhole tubulars. The system is comprised of a surface control panel (FCP), collar locator (FCT), upper anchor (FAU), freepoint sensor section (FST), and lower anchor (FAL). The upper and lower anchors operate independently to provide repeatable grip force while also maximizing access to high-angle and horizontal environments.

APPLICATIONS

- Identification of stuck or partially stuck pipe, tubing, or casing
- High angle and horizontal wells

SPECIFICATIONS

PROTOCOL	GDTm	
DIAMETER	1-3/8" (35mm)	
MAX. TEMPERATURE	350°F (175°C)	
MAX. PRESSURE	15,000psi (103MPa)	
ANCHOR FORCE	875 lbs (400kg)	
ANCHOR ARM LENGTH	1.19" (30mm)	1.77" (45mm)
ANCHOR RANGE	2" – 3- 1/2"	3- 1/2" - 5"
FULL MAKEUP LENGTH	138" (3500mm)	
MOTOR RUN TIME	< 3 min	



Motorized Mechanical Anchor (MAT02)

DESCRIPTION

GDT’s Motorized Mechanical Anchor Sub is a universal sub for applications of Free point Tools and drill pipe/case/tubing cutting tools

Applications

- Freepoint anchor
- Pipe cutting anchor

SPECIFICATIONS

PROTOCOL				
DIAMETER		1-11/16”(43mm)		
MAX.TEMPERATURE		350°F（175℃）		
MAX.PRESSURE		15000psi(100MPa)		
LENGTH		41.9”(1065mm)		
ANCHOR POWER		9000lbs(4000kg)		
ANCHOR FINGER TYPE		H2S Tolerant		
MEASUREMENT RESOLUTION		15% Wall Thickness		
Anchor Size	56-60mm	60-65mm	65-70mm	70-78mm
Open/Close Voltage		60VDC/-40VDC		



CONTINUOUS GYRO TOOL (GYR02)

DESCRIPTION

The Continuous Gyro Tool (CGT) consists of a built in MEMS gyroscope and a MEMS accelerometer. It provides high speed positional, orientation, and high side information for calculating borehole surveys.

The CGT tool can be combined with other downhole logging tools such as pressure, temperature, and correlation sensors to provide extensive downhole reference and measurements.

SPECIFICATIONS

Tool-bus	GWMGDT-bus	
Tool OD or Diameter	1-11/16" (43 mm)	1-13/16" (46 mm)
Temperature Rating	Standard 257° F (125° C)	With Flask 350° F (175° C) for four hours
Pressure Rating	15,000 psi	
Inclination	Up to 90°	+/- 0.1°
Azimuth	Up to 360°	+/- 2.0°
North-seeking Time	150 sec	
Vibration Rate	Less than 200 Hz	
Voltage	18 VDC	
Current	200 mA	
Tool Length	410 mm	



Single Roller Centralizer (RCT02) Tool

Enhancing Tool String Alignment for Accurate Measurements

DESCRIPTION

The Single Roller Centralizer (RCT) is designed to centralize the tool string during operations such as production logging, ensuring accurate measurements by maintaining proper alignment within the wellbore. Its robust frame with a single roller at each pivot point minimizes friction while maintaining contact with the wellbore wall.

APPLICATIONS

- Centralizing the tool string during production logging for improved measurement accuracy.
- Suitable for a variety of well orientations (vertical, deviated, horizontal).
- Enhancing stability and alignment by reducing the borehole friction in complex wellbore environments..

KEY FEATURES

- **Improved Centralization:** Ensures precise alignment of the tool s for accurate measurements and optimal cementing quality.
- **Three-Arm Configuration:** Provides enhanced stability and ensu that the tool string remains centered in the wellbore.
- **Reduced Friction:** Rollers minimize friction between the tool strin and the wellbore wall for smoother operations and less equipment wear.

SPECIFICATIONS

TOOL DIAMATER	1-11/16"
OPENING DIAMETER	9"
MAX.TEMPERATURE	350° F (175° C)
MAX.PRESSURE	15,000 psi
HOUSING MATERIAL	Corrosion Resistance Throughout



Knuckle Joint (KJH02)

DESCRIPTION

The Knuckle Joint is a simple ball-shaped connecting mechanism, providing flexible movements within a limited angle.

It enables the tool-string to bend within $\pm 10^\circ$ angle along X and Y axis, to increase maneuverability of tool-string downhole in the well.

The feed-through line runs through a metal-to-metal-sealed stainless-steel housing, which provides higher strength and reliability.

APPLICATIONS AND FEATURES

- Movements within $\pm 10^\circ$ along X and Y axis
- Simple design for easy maintenance
- Minimum tool length



SPECIFICATIONS

Protocol	N/A
Diameter	1-11/16" or 43 mm
Maximum Temperature	350° F or 175° C
Maximum Pressure	15,000 psi
Maximum Movement Angle	+/- 10°
Maximum Pull	15,000 lbs

HPHT Short-Stack PLT Series

Memory Control Panel (MCP01)

Downhole Memory Cartridge (DMC23)



Versatile memory logging system for slickline and coil tubing deployment

DESCRIPTION

The Memory Control Panel (MCP) enables programming of downhole tools, acquiring data from downhole tools, acquiring depth and surface tension data from the conveyance system, and connecting to computer interface for data management.

The Downhole Memory Cartridge (DMC) is the interface between the MCP and the downhole tools or sensors.

The system supports AMI coding and others for seamless integration.

APPLICATIONS

- Deployments using slickline, coiled tubing, or other deployment methods
- Depth-based correlation of time with downhole data
- Downhole logging data management with both time and depth domains
- Combinable with other tools with GWMGDT platform in both re and memory modes



MCP



DBC
Downhole
Battery
Housing

DMC
Downhole
Memory
Cartridge

DMC23 SPECIFICATIONS

Protocol	GWMGDT-Bus
Diameter	1-13/16" or 46 mm
Maximum Temperature	230° C or 450° F for 6 hours 220° C or 430° F for 8 hours
Maximum Pressure	20,000psi
Voltage	13.5 – 20 VDC
Current Rating	15 – 30 mA
Stand-by Current	2 mA
Sampling Rates	20 ms to 24 hr (in 20 ms increments)
Download Rate	20 MB/sec to CPU
Memory Capacity	1GB
Communication Rate	500 kbps
Battery Capacity	6.2Ah or 26.5Ah

Wireline Telemetry Cartridge (WTC23)

Real-Time Data Transmission that Supports Multiple Telemetry Protocols

DESCRIPTION

- The Wireline Telemetry Cartridge (WTC) enables real-time communication between downhole tools and surface systems, ensuring accurate data transmission and tool control during wireline logging operations.
- Its versatile design supports multiple AMI telemetry protocols for flexibility

WARRIOR COMPATABILITY

- No additional card or hardware needed for Warrior System which regularly updated
- Tools come with exported Warrior configuration file for quick integration
- Combinable with other tools with GWMGDT platform

MULTIPLE-TELEMETRY COMPATABILITY

WTC supports AMI coded tools and others for seamless integration.

SPECIFICATIONS

Tool Bus Protocol	GWMGDT-Bus
Diameter	1-13/16" or 46 mm
Maximum Temperature	230° C or 450° F for 6 hours 220° C or 430° F for 8 hours
Maximum Pressure	20,000 psi
Voltage	180 VDC
Current Rating	1.5 A
Default Uplink Rate	50 kbps
Minimum Uplink Rate	12.5 kbps
Maximum Uplink Rate	200 kbps
Downlink Rate	300 bps



HPHT Short-Stack PLT Series

Gamma Ray & CCL (GCT23)

DESCRIPTION

Measurements of naturally occurring gamma-rays that are emitted by the formation and the wellbore including those emitted by the radioactive scale.

Gamma rays are detected by a 4-inch Sodium Iodide (NaI) scintillation crystal, amplified by a photomultiplier tube with a 1.6 kV high-voltage power supply and counted, then sent to the appropriate telemetry channel.

The Casing Collar Locator (CCL) is built-in together with the Gamma Ray for efficiency and faster tool string preparation.

APPLICATIONS

- Depth correlation with both Gamma-Ray and CCL with other logs
- Shale indicator and shale estimate
- Identification of radioactive scale
- Trace Monitoring
- Determination of stratigraphic boundaries
- Combinable with other tools with GWMGDT platform in both real-time and memory modes

SPECIFICATIONS

Tool Bus Protocol	GWMGDT-Bus
Diameter	1-13/16" or 46 mm
Maximum Temperature	230° C or 450° F for 6 hours 220° C or 430° F for 8 hours
Maximum Pressure	20,000 psi
Voltage	15 to 18 VDC
Current	35 mA
Measurement Range	Up to 60,000 CPS
Sensor	Sodium Iodide (NaI) Crystal
Statistical Fluctuation	< 10%
Logging Speed	30 ft / min



HPHT Short-Stack PLT Series

Production Logging Short-Stack (PLS23)

DESCRIPTION

Production Logging Short-Stack module consists of the following sensors:

- **Fluid Density** by measuring inertial response of a vibrating tuning fork
- **Temperature** by measuring the resistance of the sensor
- **Capacitance** by measuring the dielectric constant of borehole fluid
- **Quartz pressure** by measuring the quartz frequencies
- **Inline flowmeter** by measuring the rotations of the spinner
- **Resistivity** by measuring the resistance of the sensors
- **Flowmeter Electronics** to allow Full-bore Spinner and Continuous Spinner to be connected to the module

SPECIFICATIONS

Tool-bus Protocol		GWMGDT-bus
Diameter		1-13/16" or 46 mm
Temperature Rating		230° C or 450° F for 6 hours 220° C or 430° F for 8 hours
Pressure Rating		20,000 psi
Fluid Density	Measurement Range	Up to 1.3 gr/cc
	Accuracy	0.03 gr/cc
	Resolution	0.01 gr/cc
	Response Time	< 1 sec
Temperature	Measurement Range	Up to 350° F
	Accuracy	+/- 1° C
	Resolution	0.01° C or 0.018° F
	Response Time	< 0.5 sec
Capacitance Water Holdup	Measurement Range	Up to 45%
	Accuracy	1%
	Resolution	0.1%
Quartz Pressure	Accuracy	0.02% FS
	Resolution	0.008 psi
	Response Time	< 1 sec
	Ageing or Drift	3 psi / year
Inline Flowmeter	Threshold	5 to 7 ft / min
	Flow Output	8 to 10 pulses / rev
Resistivity Water Holdup	Water Hod-up Accuracy	5%



Continuous Flowmeter with Jeweled Bearings (CFJ) Tool

Precision Flow Measurements for High Fluid Velocity Flow

DESCRIPTION

The Continuous Flowmeter with Jeweled Bearings (CFJ) tool is specifically designed for logging in high fluid velocity wells, such as gas wells, and can also be used in sand-producing wells. This tool provides accurate flow measurements, enabling operators to optimize production and monitor well integrity

APPLICATIONS

- Measure flow rate in tubing, casing, and open holes.
- Detect production loss due to crossflow or thief zones.
- Locate packer and plug leaks.
- Identify lost-circulation zones in open holes.
- Additional spinner measurement in high deviation or horizontal wells.

KEY FEATURES

- High Fluid Velocity Capability: Ideal for use in gas and sand-producing wells with high fluid velocities.
- Jeweled Bearings: Ensures high durability and reliability for long-term use in demanding environments.
- Versatile Measurements: Suitable for tubing, liner, casing for full-bore spinner is undeployable



SPECIFICATIONS

Tool Bus Protocol	GWMGDT-bus
DIAMETER	1-11/16" and 2-1/8"
MAX.TEMPERATURE	450° F
MAX.PRESSURE	20,000 psi
DIRECTIONAL OUTPUT	UP and DOWN
SPINNER THRESHOLD	5 ft / min
MAXIMUM FLUID VELOCITY	4,000 ft / min
OUTPUT	8 TO 10 PULSES PER REV
HOUSING MATERIAL	Corrosion Resistance Throughout

HPHT Short-Stack PLT Series

Full-Bore Spinner (FBS23)

Reliable Flow Measurements

DESCRIPTION

The Full-Bore Spinner Caged (FBS) tool is designed to be run at the bottom of a production logging tool string, with spinner blades and cage assembly that collapse to the tool diameter, allowing it to pass through tubing restrictions without damage.

Its large diameter impeller ensures accurate flow rate measurement across a wide casing cross-section.

APPLICATIONS

- Measure flow rate in tubing, casing, and open holes.
- Detect production loss due to crossflow or thief zones.
- Locate packer and plug leaks.
- Identify lost-circulation zones in open holes.
- Additional spinner measurement in high deviation or horizontal wells.

KEY FEATURES

- Collapsible Design: Spinner blades and cage assembly collapse to tool diameter for smooth passage through tubing restrictions.
- Large Diameter Impeller: Measures flow rates with wide coverage over a large casing cross-section.
- Versatile Measurement: Suitable for casing, open holes, and sand screens.
- High Deviation Capability: Equipped with additional spinner measurement for high deviation/horizontal wells.



SPECIFICATIONS

Protocol	GWMGDT-Bus
Diameter	1-13/16" or 46 mm
Maximum Temperature	450° F
Maximum Pressure	20,000 psi
Spinner Threshold	1.7 ft /min
Maximum Fluid Velocity	600 ft / min

Single Roller Centralizer (RCT02) Tool

Enhancing Tool String Alignment for Accurate Measurements

DESCRIPTION

The Single Roller Centralizer (RCT) is designed to centralize the tool string during operations such as production logging, ensuring accurate measurements by maintaining proper alignment within the wellbore. Its robust frame with a single roller at each pivot point minimizes friction while maintaining contact with the wellbore wall.

APPLICATIONS

- Centralizing the tool string during production logging for improved measurement accuracy.
- Suitable for a variety of well orientations (vertical, deviated, horizontal).
- Enhancing stability and alignment by reducing the borehole friction in complex wellbore environments..

KEY FEATURES

- **Improved Centralization:** Ensures precise alignment of the tool s for accurate measurements and optimal cementing quality.
- **Three-Arm Configuration:** Provides enhanced stability and ensu that the tool string remains centered in the wellbore.
- **Reduced Friction:** Rollers minimize friction between the tool strin and the wellbore wall for smoother operations and less equipment wear.

SPECIFICATIONS

TOOL DIAMATER	1-11/16"
OPENING DIAMETER	9"
MAX.TEMPERATURE	450° F
MAX.PRESSURE	20,000 psi
HOUSING MATERIAL	Corrosion Resistance Throughout



Knuckle Joint (KJH23)

DESCRIPTION

The Knuckle Joint is a simple ball-shaped connecting mechanism, providing flexible movements within a limited angle.

It enables the tool-string to bend within $\pm 10^\circ$ angle along X and Y axis, to increase maneuverability of tool-string downhole in the well.

The feed-through line runs through a metal-to-metal-sealed stainless-steel housing, which provides higher strength and reliability.

APPLICATIONS AND FEATURES

- Movements within $\pm 10^\circ$ along X and Y axis
- Simple design for easy maintenance
- Minimum tool length

SPECIFICATIONS

Protocol	N/A
Diameter	1-11/16" or 43 mm
Maximum Temperature	450° F
Maximum Pressure	20,000 psi
Maximum Movement Angle	+/- 10°
Maximum Pull	15,000 lbs





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