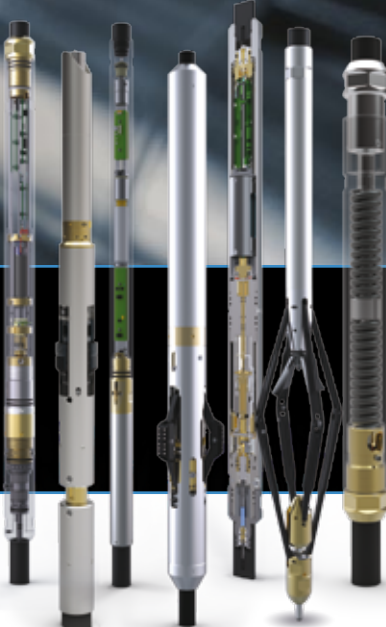
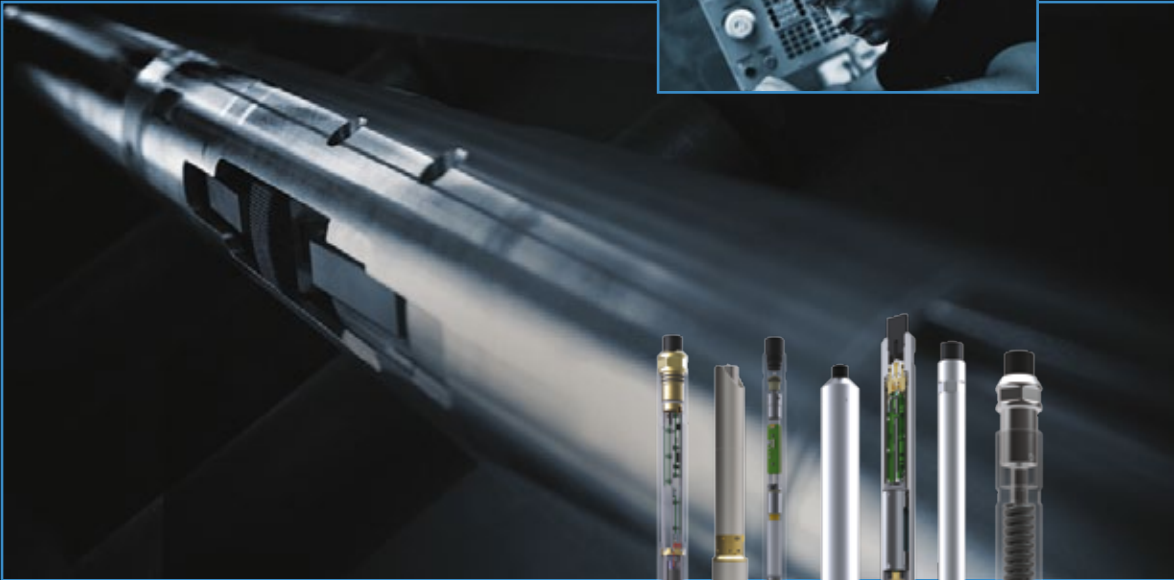


Corporate Brochure

- > Production Logging Systems
- > Ballistics Delivery Systems



PROUD TO WORK WITH

> Baker Hughes



> Bonnetts Energy Group



> Schlumberger



> Pure Energy



> Weatherford



> AIP



> Halliburton



> AWLCO



> Aker Solutions



Guardian

The world's leading designer and manufacturer of Production Logging and advanced Ballistics Delivery Systems, for the oil and gas industry.

When you are working in extreme conditions and to time sensitive deadlines, it is essential to have complete confidence in not only the quality of the tools and equipment that you rely upon, but also the service provided.

Long established, at Guardian we provide a complete turnkey solution for clients, from design and in-house manufacture through to comprehensive field based training and commissioning. Our commitment to quality and innovation has enabled us to design and manufacture a totally unique and market leading range of perforating technology (Ballistics Delivery Systems) to feature alongside an extensive and increasing range of production logging tools and surface equipment.

Working with all the international and many national service companies and operators around the world we take an innovative, consultative approach to deliver the first class service on which we pride ourselves. With extensive experience within the oil and gas industry, a proven background in special engineering product development and dedication to providing exceptional service with a fast, global turnaround, you can be confident Guardian is the right choice to support your next project.



> Guardian's Mission

To use our intrinsic culture of innovative thinking to deliver leading edge technology to the global oil and gas industry, enabling our clients to capitalise on increasingly challenging opportunities.



PRODUCTION LOGGING SYSTEMS



Optimised production and well performance monitoring

When operating in the harshest environments you need to be assured of robust, reliable Production Logging equipment, ultimately providing access to the most accurate well performance information. Guardian's range of Production Logging tools and equipment will provide you with reliable production monitoring information and ultimately a deeper level of understanding on which to base critical decisions, from planning through to subsequent well intervention.

- > **measure pressure, fluid composition (capacitance and density), temperature, flow, diameter, gamma ray and CCL**
- > **analyse well performance and productivity index**
- > **diagnose potential well issues before problems occur**
- > **ensure that production monitoring campaigns are successful and subsequent production optimisation decisions are well informed**
- > **modular designs – solutions for every wellbore requirement**
- > **bespoke individual tool design and build on request**

Our dedication to providing accurate, reliable instruments and first class customer service, coupled with some of the shortest delivery times in the industry, ensures that we remain the preferred choice for international and national service

> Production Logging Specification Overview

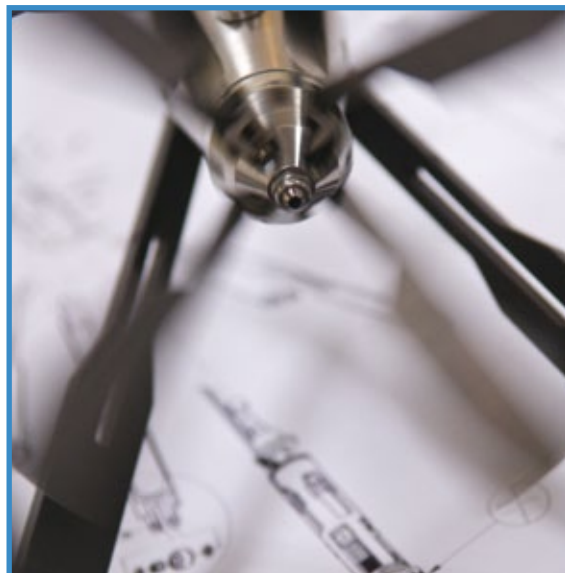
- > Diameter: 1 11/16" (43mm)
 - > Pressure: 20 kpsi
 - > Temp: 350°F (177°C)

companies around the world. **Production Logging Systems:**

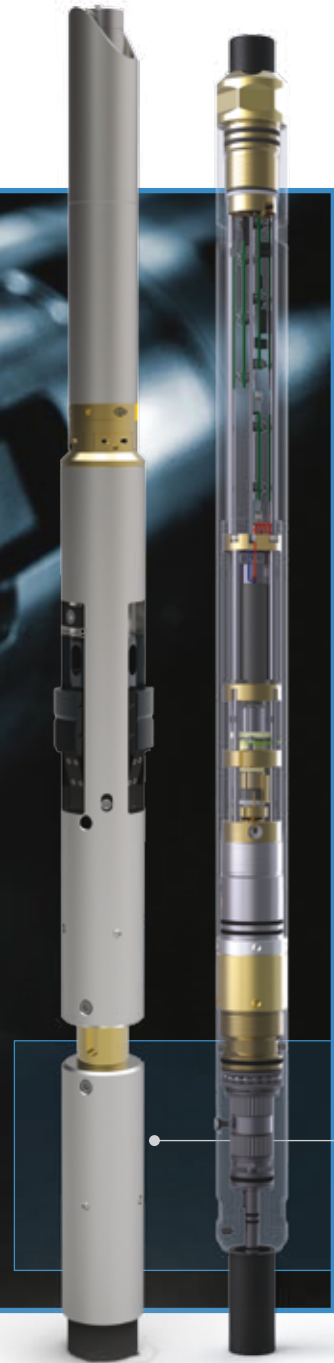
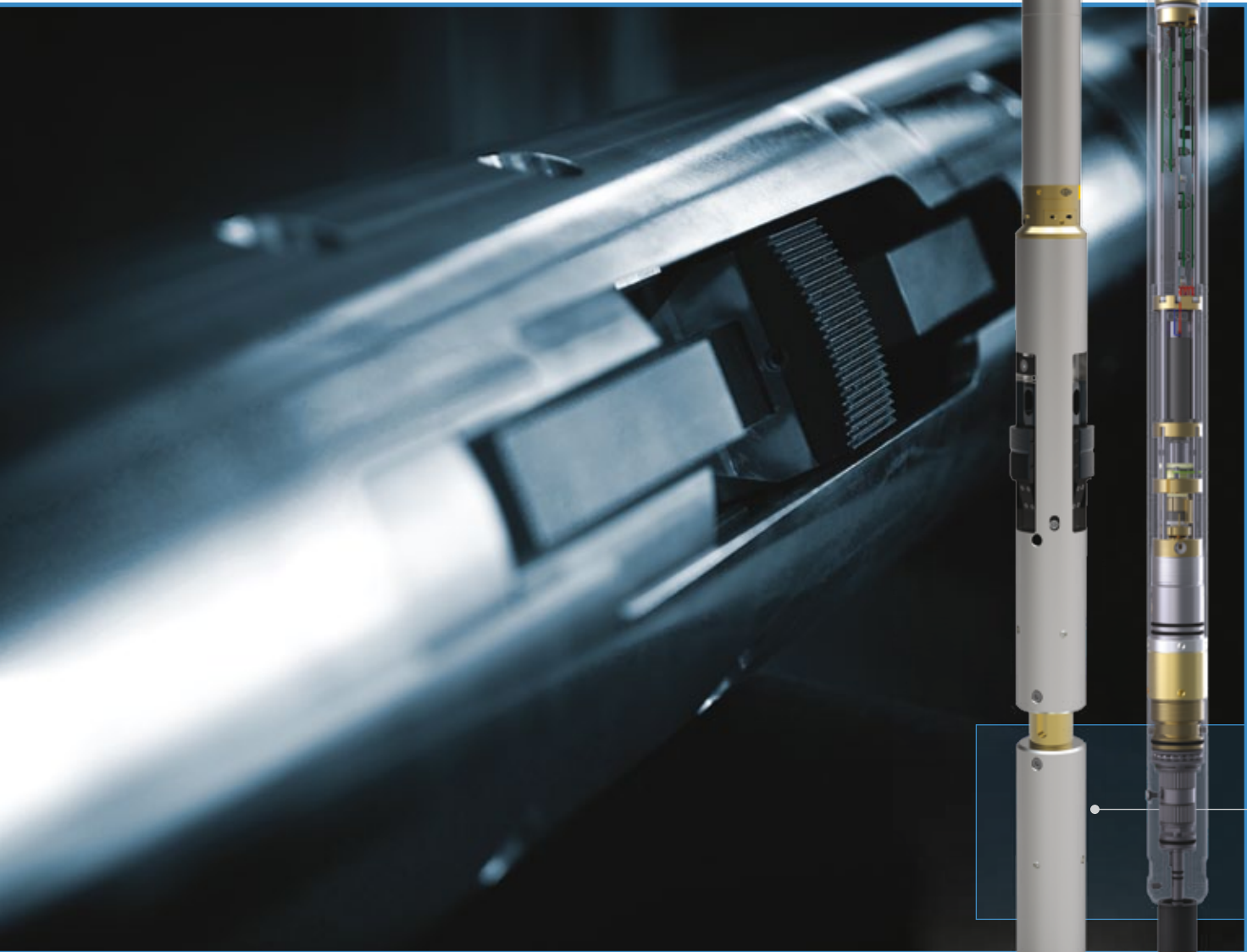
- > Wide range of Flowmeters
- > Fluid Density
- > Gamma Ray, CCL, Temperature
- > Quartz Pressure, Water Hold up
- > X-Y Calliper, Fullbore Spinner
- > Cable Head Tension / Voltage
- > SRO & Memory Telemetry
- > Centralisers, Knuckle Joint, Swivel Joint

Surface Equipment:

- > SRO Telemetry Panel
- > Memory Depth Recorder
- > Warrior Acquisition System



BALLISTICS DELIVERY SYSTEMS



Perforation accuracy and enhanced safety

Guardian's unique range of perforating tools and equipment, have been developed to provide a number of advantages over existing technology. Whether your requirement is to enhance safety whilst perforating, acquire real-time reservoir information while you perforate, rotate guns to a specific orientation or protect your tools and wireline from being damaged during perforating, our wide range of Ballistic Delivery System products provide the perfect solution:

- > enhance safety whilst perforating
- > address wellbore assurance concerns
- > improve accuracy and reduce in-well time
- > orientate guns to optimise production or fracturing
- > protect downhole tools and wireline from being damaged during perforating and ensure safe retrieval from the wellbore
- > create bespoke, individual tools built to suit project requirements

Whether your priority is fast delivery, reliable equipment, industry-leading customer support, or all of the above, you can be confident Guardian is the right choice to support your existing and future operations.

Downhole Tools

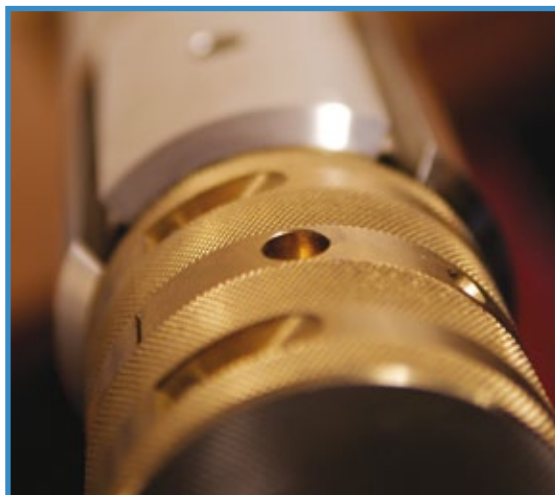
- > Addressable Release Tools (ART)
- > Voltage Protection Module (VPM)
- > Instrument Dynamics Controller (IDC)
- > Powered Swivel Joint (PSJ)
- > Gun Brake System (GBS)
- > Shock Absorbers (SAT)
- > Metal Anomaly Locator (MAL)
- > Correlation Tools (AGC)
- > Cablehead Tension (ACT)
- > Pressure While Perforating (PWP)
- > Autonomous Downhole Controller (Battery Backup) (ADC)

Surface Equipment

- > Multi Purpose Control Panel (MPP)
- > Addressable Release Tool Control Panel (ACP)
- > Voltage Protection Module Control Panel (VCP)

> Ballistics Delivery Specification Overview

- > Diameter: 1 11/16" (43mm) – 3 1/8" (79mm)
 - > Pressure: 30kpsi
 - > Temp: up to 475°F (246°C)



EQUIPMENT RENTAL

Your backup resource

In our fast moving environment, operational requirements change on a daily basis and having the ability to immediately access key technology can be critical to success.

At Guardian we hold a varied range of equipment in stock and ready for hire, so that no matter how large or small your requirement you can be assured of the best possible service and a solution to suit.

- > test – evaluate equipment and technology before buying
- > tight timescales - hire for that unexpected job
- > contingency hire - whilst own bespoke equipment is in manufacture

A selection of our most popular surface equipment, production logging and perforating tools and equipment are available for immediate use, ensuring that a rapid response is always available.



SUPPORT, TRAINING AND COMMISSIONING

Support you can rely on time and time again

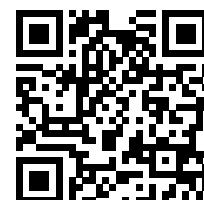
At Guardian we provide complete end to end customer support, from planning and design through to a comprehensive after sales service which includes true **24/7 technical support**.

We are dedicated to ensuring that your operation runs as smoothly as possible and our support extends to field based training from our technical team of expert engineers, as well as commissioning assistance should it be required.

Full colour operation and maintenance manuals are also available in a standard, easy to understand format and can be downloaded via the client area of our website. Manuals contain all the reference information you may need, from full operational, disassembly/assembly details to servicing and valuable trouble-

shooting tips.

Everyone at Guardian, from the engineers and technicians who design and build our tools through to the logistics people who ship the final product out, understands that service doesn't stop at the product. Commitment to providing such highly technical equipment demands that we deliver first class support and simply the best technical documentation in the business.



INNOVATION & QUALITY CONTROL

Designed and manufactured to withstand the toughest working environments

Experts in our sector, we are innovators at heart, designing and developing new technologies and tools which challenge the traditional, providing advantages over existing techniques and technology.

Renowned within the industry for accurate, reliable equipment and a responsive service, all Guardian tools and equipment are designed and manufactured in-house. This enables us to deliver existing designs often within 6-8 weeks and manufacture urgently required parts within 2 working days. However most importantly this helps us ensure optimum reliability by in-house testing and rigorous quality control.

All Guardian tools and equipment are designed to NACE specifications for H₂S and CO₂ resistance and where applicable are 20 kpsi rated and tested at temperatures of up to 400°F (204°C). Additionally we combine rigorous reliability and inspection checks with an aerospace based quality tracking system for complete product assurance.

Working in accordance with ISO 9001, our stringent in-house testing ensures the very best in product quality, reliability and safety. Whilst our one year mechanical and electrical warranty, provides reassurance and additional peace of mind.



> Our Locations

A quick and dynamic response wherever you may be...

> Canada

C/O Titan Specialties ULC
9757-51 Ave.
Edmonton, Alberta
T6E 4W8, Canada

> USA

C/O Titan Specialties
16770 Imperial Valley Drive
77060 Houston
Texas, USA

> United Kingdom

Guardian Engineering Centre
Merlin House
Brunel Court
Village Farm Industrial Estate
Pyle, Wales, UK, CF33 6BL



> China

Room 2210 Huana Plaza
No. 474, Xier Road
Dongying City
Shandong Province
P.R.China, 257000

> Dubai

Jebel Ali Free Zone
Dubai

> Singapore

Coming in 2012

Website: www.ggtg.net

To discuss an existing project or your individual requirements:

Call: +44 (0) 1656 742 100

Email: sales@ggtg.net