

GeoDrilling International



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TSi and Massenza create new benchmark in sonic drilling

To better meet the needs of the drilling sector North America's Terra Sonic International is combining its sonic drilling knowledge with the hydraulic rig designs of Massenza to bring a new line of sonic drill rigs to the market. The first offering from this new partnership is the TSi 150CC-MM8



The TSi 150CC-MM8 combines Massenza's MM8 drill rig with Terra Sonic International's 150 sonic drill head

US-based Terra Sonic International and Massenza Drill Rigs, headquartered in Italy, have announced a partnership to produce a new line of sonic drill rigs.

The first rig to be produced by the alliance, the Terra Sonic International 150CC-MM8, was unveiled at the 2021 Geofluid Expo in Piacenza, Italy. "The TSi 150CC-MM8 combines the unrivalled reliability of the Massenza MM8 drill rig with the power and efficiency of the TSi 150 sonic drill head," says Rudolph John Lehman, Terra Sonic International president and CEO.

The MM8 platform from Massenza was combined with Terra Sonic International's proven controls, architecture, hydraulic systems, and related technology to accommodate and actuate the TSi 150 sonic drill head. It features an articulating mast that allows drilling at angles between vertical

and 130 degrees in any direction. The innovative mast makes the TSi 150CC-MM8 ideal for micro-piles, anchors, geotechnical investigations and geothermal boreholes.

SONIC POWER

The TSi 150 Sonic Oscillator proffers the world's most productive and efficient use of sonic power with an oscillator frequency of 0 to 150Hz, oscillator force up to 50,000lbs and a maximum torque of 4,677ft.-lbs. Available acceleration is maximised through the use of specially-designed Terra Sonic International tooling and proprietary sonic threads to propagate the energy wave and allow drilling and sampling to the deepest depths of any sonic drill system available today.

The enthusiasm that Terra Sonic International and Massenza share for creating the ultimate sonic drill rig can be felt on

both continents. According to Silvia Azzoni, Massenza's sales manager, there could not be a better time for the joint venture. "At Massenza, we've always strived to meet the needs of the changing drilling industry while recognising newer opportunities," she says.

"We thoroughly analysed the market and realised that the drilling industry is embracing sonic at an ever-increasing rate. It's obvious that a large part of the future of drilling belongs to sonic technology. Reaching that future is closer if we work together with a sonic drilling leader. Terra Sonic International is that leader."

Mark Knolle, a 30-year veteran of the sonic drilling market, sees the partnership as an opportunity to leverage the experience of these two renowned companies in the European sonic drilling market. "Terra Sonic International is truly honoured to have the opportunity to collaborate with Massenza Drilling to bring our world-class Terra Sonic International sonic technology to a trusted European-built rig platform for ease of service and maintenance, and, ultimately, the highest drilling productivity levels in the European market," he says.

Knolle continues: "Terra Sonic International will produce sonic rigs that encompass our proven hydraulic design technology which generates the most powerful, high-frequency sonic drilling. Leveraging our more than 500 combined years of sonic drilling experience, Terra Sonic International does not just sell sonic drill rigs, we are the industry's sonic drilling partner to provide driller training, tooling, as well as

service and support to ensure sonic drilling success for our customers.”

INDUSTRY ROOTS

Terra Sonic International and Massenza each has very deep roots in the drilling industry. Massenza was founded by its namesake, Giuseppe Massenza, in the early 1920s near Parma in Northern Italy. Massenza operated a contracting business which he combined with a workshop that provided maintenance and repairs for drilling rigs. The drilling industry was still based on traditional, mechanical methods and Massenza recognised a market need for a hydraulic drill. The development of his hydraulic drill led to the founding of Massenza Hydraulic and eventually Massenza Drill Rigs. Embracing sonic drilling was the next logical step for a company that has met the changing demands of the drilling industry for more than 100 years.

Terra Sonic International began in the 1990s as Prosonic, building sonic rigs to support sonic drilling operations all over the US and around the world. Prosonic started with two sonic drill rigs and grew to a fleet of 50 in only seven years. Every Prosonic rig was designed and manufactured by the same engineers and master drillers who still comprise Terra Sonic International today. The Terra Sonic International drilling team now brings more than 500 years of combined experience to the sonic drilling industry. Terra Sonic International is the only drill rig manufacturer in the world that is exclusively dedicated to sonic.

INTERNATIONAL FOOTPRINT

The international footprint created by the Terra Sonic International and Massenza partnership is timely. The prevalence of the green energy sector and geothermal systems on a global scale and the increasing shift from fossil fuels have had a profound impact on the drilling market. There is a growing demand for—and increasing scarcity of—precious earth ▶

“Brings more than 500 years of combined experience to the sonic drilling industry”

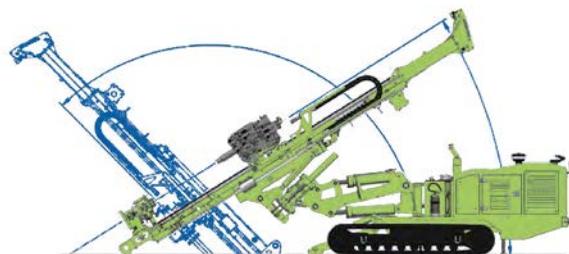


The TSi 150 Sonic Oscillator provides an oscillator frequency of 0 to 150Hz, oscillator force up to 50,000lbs and a maximum torque of 4,677ft-lbs

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The remote control option of the existing Massenza MM8 is carried over to the new TSi 150CC-MM8

metals such as gold and silver, rare earth elements like neodymium, terbium, and dysprosium, and critical earth elements including lithium and cobalt.

The sonic drilling method has completely redefined the economies of scale in applications such as alluvial and placer deposit mining, mineral and aggregate exploration, tailings and leach pad drilling. Sonic drilling provides superior recoveries in soft materials and the ability to drill efficiently through harder materials like

interlayered weathered rock, cobbles, and boulders.

ADVANTAGEOUS

As sonic drilling becomes more universal, some drill manufacturers refer to any rapid, percussive drilling method as sonic drilling. True sonic drilling is defined by drilling that reaches the frequency threshold of 150Hz. Acceleration velocity is one of the biggest advantages created by true sonic drilling. Maximum amplitude is maintained at the bit face, allowing for deeper and faster penetration at all times, not intermittently. The result is drilling that is three to five times faster than conventional drilling, and even as much as 10 times faster in some applications and no premature refusal.

Other advantages provided by the TSi 150CC-MM8 include continuous, near in-situ core samples. The ease with which the drill string passes through

most formations means the core sample remains intact, providing an excellent and accurate representation of the formation being evaluated.

The rig also offers superior versatility for many applications. It can be used for angle or multi-cased wells without leaving the casing in the ground and can shift to split spoons, Shelby tubes or diamond coring.

The Terra Sonic International and Massenza partnership underscores the international acceptance of sonic drilling in virtually every sub-market of the drilling industry. "Terra Sonic International is the most experienced manufacturer of sonic drill rigs in the world and the foremost in North America," Azzoni says. "Europe's growing demand for sonic has led to our partnership. Our customers will have access to the most powerful sonic drill heads and the highest quality and most reliable drilling rigs." ▾



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