

Next Generation Ultrasonic Bone Cement Removal System



Summit
Medical 

TORS

TORS INTRODUCTION

The Next Generation Ultrasonic Bone Cement Removal System

The system features patented ultrasonic technology and offers multiple tip geometries suitable for hip, knee, and upper extremity applications.

The patented probe helix can transform a proportion of the ultrasonic vibration from longitudinal to torsional.

TORS is an ultrasonic surgical device intended to be used for the removal of polymethylmethacrylate (PMMA) bone cement in orthopaedic applications.



Hip



Knee



Elbow



Shoulder

SYSTEM OVERVIEW

- The generator provides two cement channels to allow rapid probe interchange
- The sterilisable instrument tray consists of transducers, cables and extension bars
- The single use handpiece houses the transducer, providing unique ergonomic grip and finger switch
- The tips can be provided as single-use or reusable according to requirements. The reusable tip use and cleaning is described in the relevant User Manual



PLUG AND PLAY GENERATOR

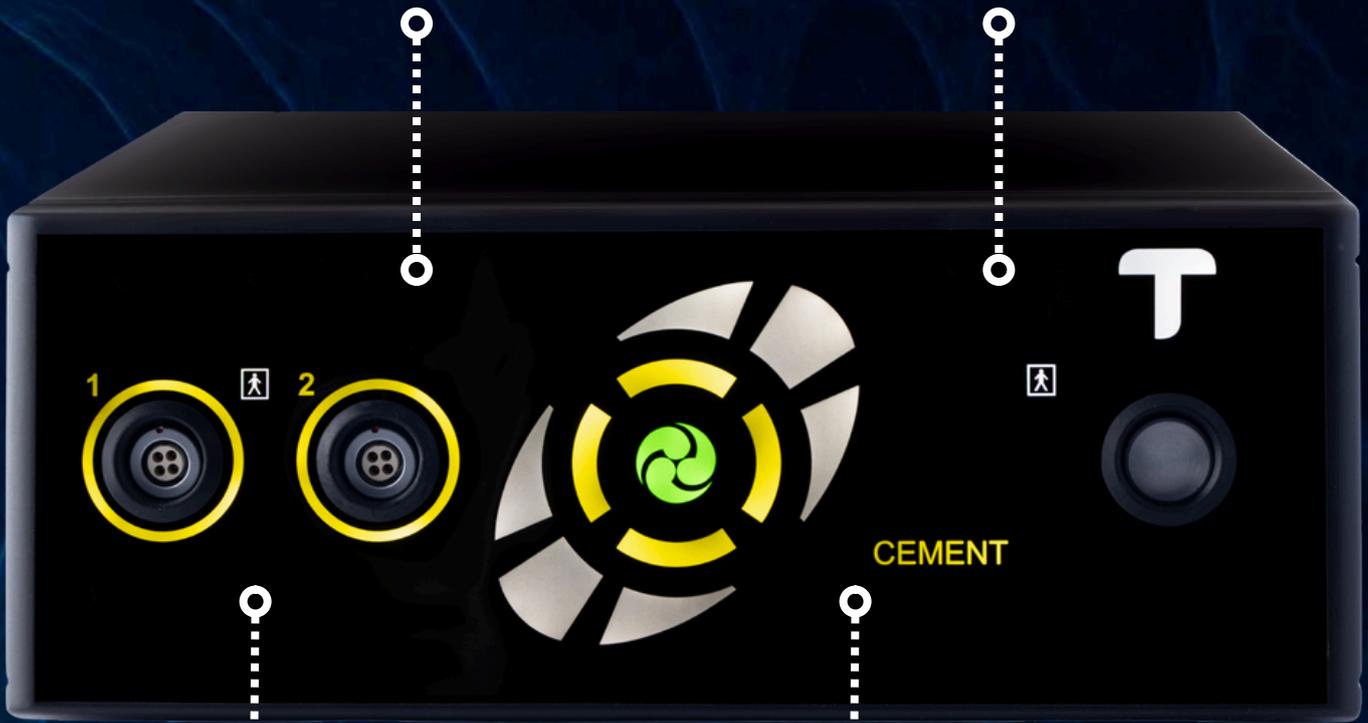
- The plug and play generator provides two cement channels to allow for efficient tip interchange during surgery.
- The illuminated display gives clear indications when in use.
- The generator can be activated by either the handpiece or foot pedal.
- The resonant frequency of the connected transducer and tip is continually and automatically tracked during use. No calibration or set-up required.



PLUG AND PLAY GENERATOR

volume control
(on the rear panel)

36kHz
resonant frequency



two working
channels



CEMENT

visual
display



TORS TRANSDUCER AND HANDPIECE

TRANSDUCER



The sealed, autoclavable transducer contains piezoelectric ceramics which convert high-frequency alternating current to a high-frequency mechanical vibration. TORS operates with a frequency of 36kHz.

AXIAL GRIP HANDPIECE



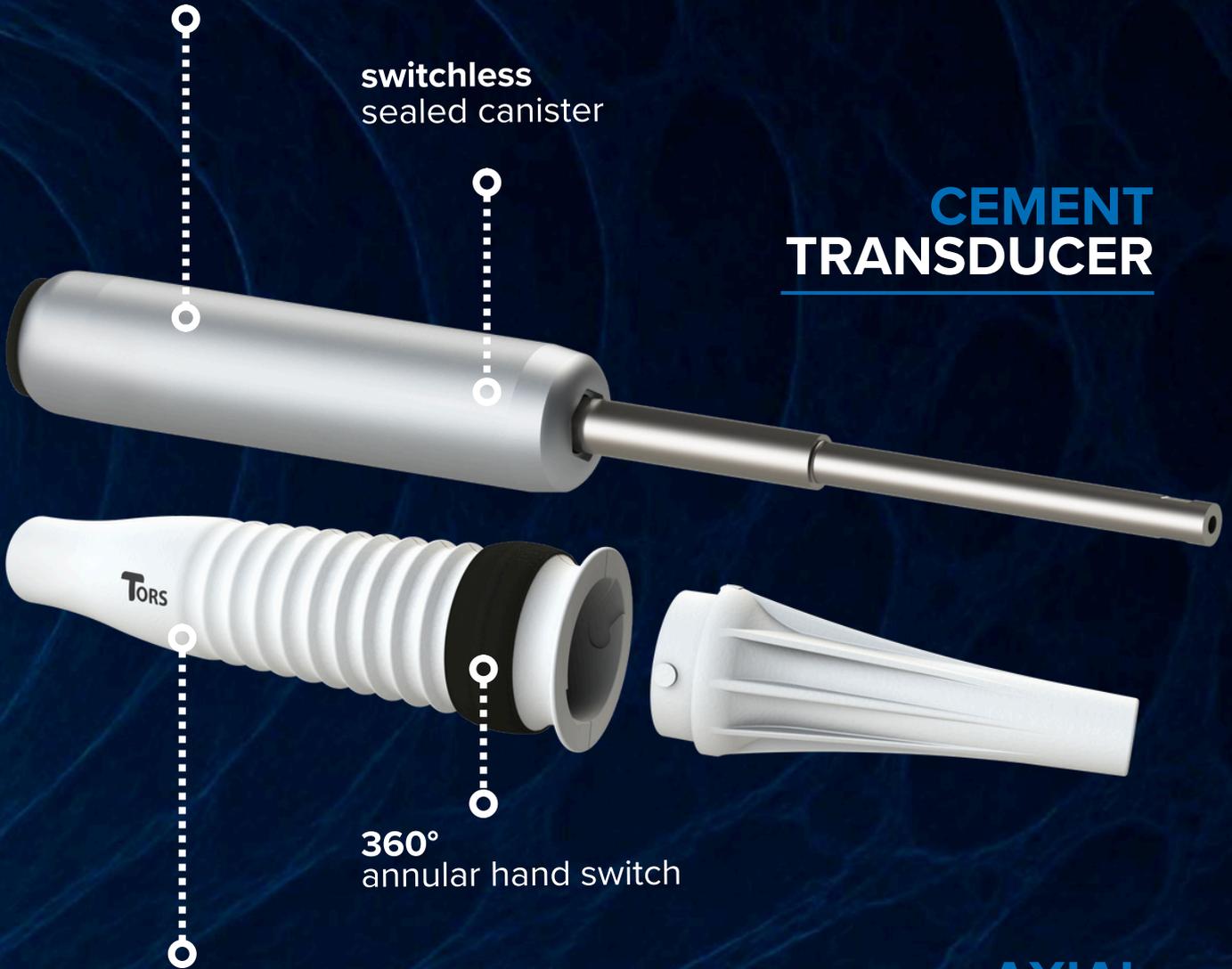
A lightweight, single-use, ergonomic outer handpiece with annular switch. A foot pedal is available for alternative activation.



ultrasonic technology
piezoelectric ceramics

switchless
sealed canister

CEMENT TRANSDUCER



360°
annular hand switch

Ergonomic handpiece

- Protects Cement Transducer
- Comfortable axial grip
- Lightweight and robust

AXIAL HANDPIECE

TIPS OVERVIEW



PIERCERS

- 6, 8, 10, 12, 14mm, conical
- 4mm non-flanged for plug

SCRAPERS

- 6, 8, 10, 12, 14mm
- with serrated flange, designed for retrograde cement removal

CHISEL

- 6mm width

EXTENSION BAR

- 70mm (short), 130mm (long)
- straight or curved to facilitate distal cement removal

MADE FROM
Ti-6Al-4V alloy

WIDE RANGE WORKING TIPS

PIERCERS – the conical shape of the tip integrates multiple, faceted cement ports designed to work into the cement mantle. The unique 4mm piercer can be used to penetrate high-density polyethylene restrictors.

SCRAPERS – textured rear-face, designed to remove cement from the sides of the medullary canal in a retrograde fashion.

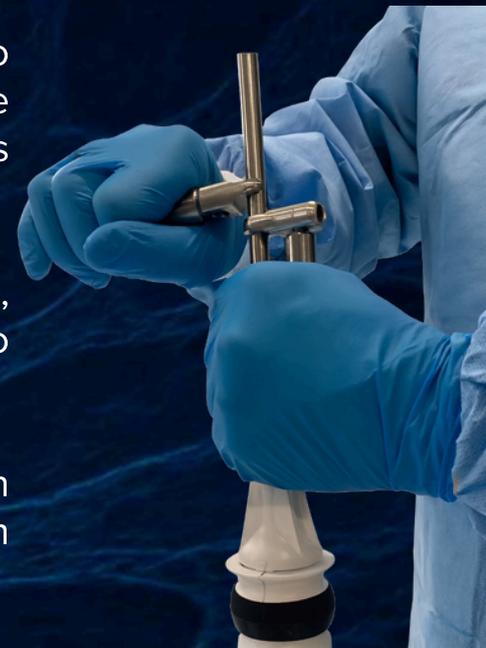
FINE ACCESS – a tip range specifically designed to access small and difficult to reach areas.

EXTENSION BARS – to allow work in a deeper space, tuned so that there is no loss or gain in displacement. The curved extension bar can assist when working distally in the femur.

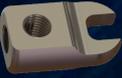
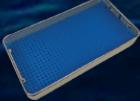
WRENCHES - the supplied wrenches allow the tips to be tightened to the end of the transducer. Use the wrenches to ensure the ultrasonic vibration passes through the length of the instrument.

AUDIBLE FEEDBACK - if the tip head contacts bone, an audible squeal may occur and provide feedback to the user.

UNIQUE MACHINING - the patented probe helix can transform a proportion of the ultrasonic vibration from longitudinal to torsional.



ORDERING INFORMATION

<p>T1G Generator</p>	
<p>T1CT Cement Transducer</p>	
<p>T1CC Cement Cable</p>	
<p>T1FC Cement Footswitch</p>	
<p>T1AH Single-Use Cement Axial Grip Handpiece</p>	
<p>T1W9 Adaptable Wrench 9mm</p>	
<p>T1WH9 Adaptable Wrench Head 9mm</p>	
<p>T1WH Adaptable Wrench Handle</p>	
<p>T1S TORS Wrench (Spanner)</p>	
<p>T1AT Autoclave Tray</p>	

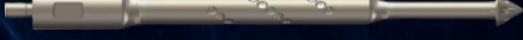
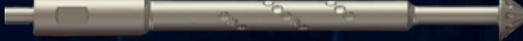
Piercers 200mm

P4N2 Cement 200mm Ø4mm Piercer Probe (Single-use – Non-sterile)	
P6N2 Cement 200mm Ø6mm Piercer Probe (Single-use – Non-sterile)	
P8N2 Cement 200mm Ø8mm Piercer Probe (Single-use – Non-sterile)	
P10N2 Cement 200mm Ø10mm Piercer Probe (Single-use – Non-sterile)	
P12N2 Cement 200mm Ø12mm Piercer Probe (Single-use – Non-sterile)	
P14N2 Cement 200mm Ø14mm Piercer Probe (Single-use – Non-sterile)	

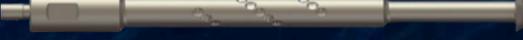
Scrapers 200mm

S6N2 Cement 200mm Ø6mm Scraper Probe (Single-use – Non-sterile)	
S8N2 Cement 200mm Ø8mm Scraper Probe (Single-use – Non-sterile)	
S10N2 Cement 200mm Ø10mm Scraper Probe (Single-use – Non-sterile)	
S12N2 Cement 200mm Ø12mm Scraper Probe (Single-use – Non-sterile)	
S14N2 Cement 200mm Ø14mm Scraper Probe (Single-use – Non-sterile)	

Piercers 100mm

<p>P6N1 Cement 100mm Ø6mm Piercer Probe (Single-use – Non-sterile)</p>	
<p>P8N1 Cement 100mm Ø8mm Piercer Probe (Single-use – Non-sterile)</p>	
<p>P10N1 Cement 100mm Ø10mm Piercer Probe (Single-use – Non-sterile)</p>	
<p>P12N1 Cement 100mm Ø12mm Piercer Probe (Single-use – Non-sterile)</p>	
<p>P14N1 Cement 100mm Ø14mm Piercer Probe (Single-use – Non-sterile)</p>	

Scrapers 100mm

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<p>S12N1 Cement 100mm Ø12mm Scraper Probe (Single-use – Non-sterile)</p>	
<p>S14N1 Cement 100mm Ø14mm Scraper Probe (Single-use – Non-sterile)</p>	

Chisel Tip 100mm

<p>C6N1 Cement 100mm Width 6mm Chisel Probe (Single-use – Non-sterile)</p>	
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Fine Access Tips

<p>FAH4N2 Fine Access Cement 200mm Ø4mm Hoe Probe (Single-use – Non-sterile)</p>	
<p>FAP4N2 Fine Access Cement 200mm Ø4mm Piercer Probe (Single-use – Non-sterile)</p>	
<p>FAP6N2 Fine Access Cement 200mm Ø6mm Piercer Probe (Single-use – Non-sterile)</p>	
<p>FAS6N2 Fine Access Cement 200mm Ø6mm Scraper Probe (Single-use – Non-sterile)</p>	

Extension Bars

<p>ESR1 Straight Extension Bar Short (Reusable)</p>	
<p>ESR2 Straight Extension Bar Long (Reusable)</p>	
<p>ECR1 Curved Extension Bar Short (Reusable)</p>	

Note:

Please check with your representative which probes are available in the standard set. A range of additional probes is available upon request.



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