Next Generation
Ultrasonic Bone Cement
Removal System

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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

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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

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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.

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PLUG AND PLAY GENERATOR

volume control
(on the rear panel)

36kHz
resonant frequency

two working
channels

visual
display

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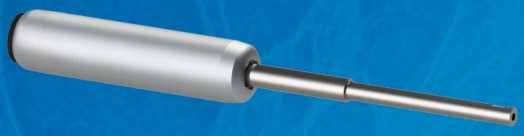
TRANSDUCER AND HANDPIECE

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.

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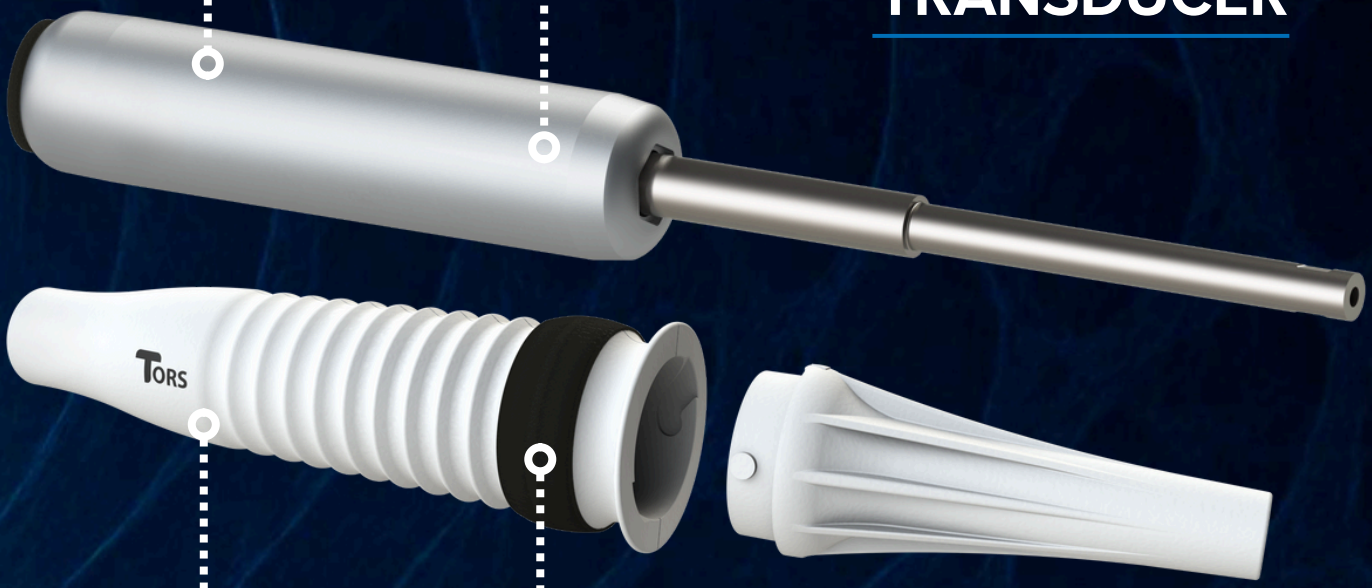
ultrasonic technology
piezoelectric ceramics

switchless
sealed canister

CEMENT TRANSDUCER



360°
annular hand switch

AXIAL HANDPIECE

ergonomic handpiece

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

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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

EXTENSION BAR

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

MADE FROM Ti-6Al-4V alloy

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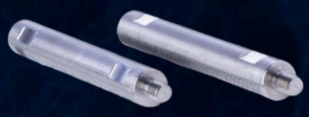
WIDE RANGE WORKING TIPS

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.

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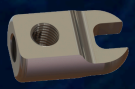
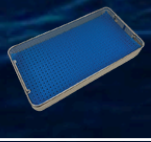
ORDERING INFORMATION

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

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Piercers 200mm

P4R2 Cement 200mm Ø4mm Piercer Probe (Reusable)	
P6R2 Cement 200mm Ø6mm Piercer Probe (Reusable)	
P8R2 Cement 200mm Ø8mm Piercer Probe (Reusable)	
P10R2 Cement 200mm Ø10mm Piercer Probe (Reusable)	
P12R2 Cement 200mm Ø12mm Piercer Probe (Reusable)	
P14R2 Cement 200mm Ø14mm Piercer Probe (Reusable)	

Scrapers 200mm

S6R2 Cement 200mm Ø6mm Scraper Probe (Reusable)	
S8R2 Cement 200mm Ø8mm Scraper Probe (Reusable)	
S10R2 Cement 200mm Ø10mm Scraper Probe (Reusable)	
S12R2 Cement 200mm Ø12mm Scraper Probe (Reusable)	
S14R2 Cement 200mm Ø14mm Scraper Probe (Reusable)	

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Fine Access Tips

FAH4R2 Fine Access Cement 200mm Ø4mm Hoe Probe (Reusable)	
FAP4R2 Fine Access Cement 200mm Ø4mm Piercer Probe (Reusable)	
FAP6R2 Fine Access Cement 200mm Ø6mm Piercer Probe (Reusable)	
FAS6R2 Fine Access Cement 200mm Ø6mm Scraper Probe (Reusable)	

Extension Bars

ESR1 Straight Extension Bar Short (Reusable)	
ESR2 Straight Extension Bar Long (Reusable)	
ECR1 Curved Extension Bar Short (Reusable)	

TORS Cleaning Cell for Reusable Probes

T1CW **TORS Cleaning Cell**	

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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LIT239-04