



NORBAR - TORQUE TOOLS FOR INDUSTRY



ABOUT NORBAR

GLOBAL SERVICE

We are the world's foremost specialist in torque control and we are engaged solely in the design, development and production of torque tightening and measuring equipment.

Our customers include manufacturers and engineering services in such diverse sectors as aerospace, energy, oil and gas, mining and sub-sea.

We operate sales and service branches in North America, Australia, New Zealand, Singapore and China. In addition, we have distributors of our torque control products in more than 70 countries around the world.

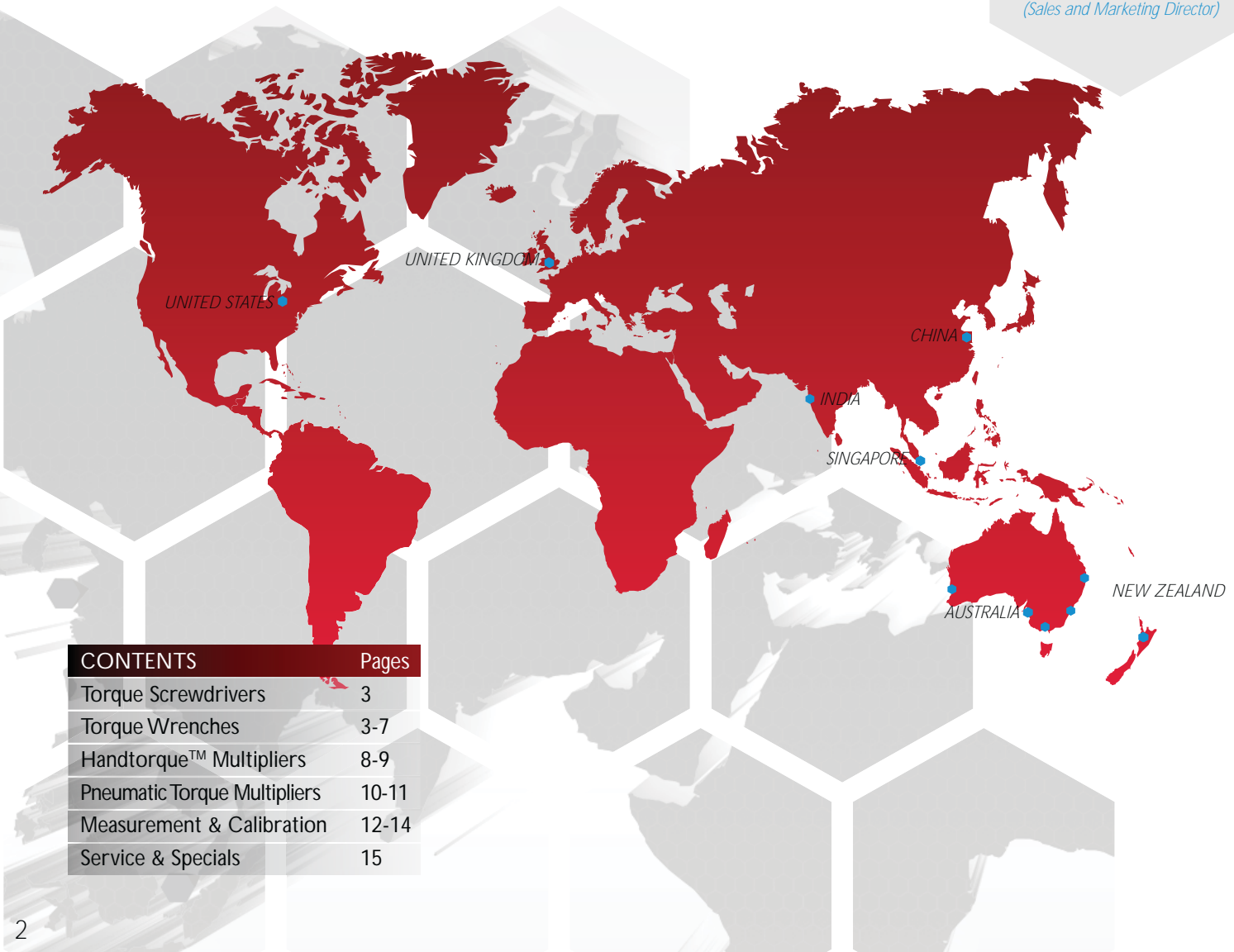
A FAMILY BUSINESS

The Brodey family has owned Norbar since Bill Brodey founded the company in 1942. We are now the third generation of the family to manage the business and are passionate about its every aspect.

We continue to invest in the very latest design, manufacturing and quality control technology to achieve the highest level of innovation and precision in the field of torque control and equipment.



The Norbar Directors
front row, left to right:
Neill Brodey (Managing Director)
Craig Brodey (Chairman)
back row, left to right:
Catherine Rohll (Commercial Director)
Philip Brodey
(Sales and Marketing Director)



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TORQUE SCREWDRIVERS TORQUE WRENCHES



TRUTORQUE™ For top of the range comfort and ease of use

- Supplied with traceable calibration certificate
- Lock prevents inadvertent change to torque setting
- Strong yet soft handle for comfort and slip resistance
- Handle and lens materials resistant to commonly used industrial chemicals

TRUTORQUE™ SCREWDRIVER

- Accuracy exceeds the requirements of ISO6789
- Supplied with 1/4" hexagon bit holder
- Bit holder can be removed and replaced with widely available screwdriver blades
- Single scale, either N-m or lbf-in

TRUTORQUE™ WRENCH

- Accurate to +/-3% of reading
- Micrometer scale for simple, error free setting
- Available with either dual scale (N-m and lbf-ft) or single denomination torque scale
- Reversible ratchet with narrow engagement angle

Range N-m	Model
Screwdrivers	
0.3-1.5	TTs1.5
0.6-3.0	TTs3.0
1.2-6.0	TTs6.0
Wrenches	
1-20	TT20
8-50	TT50
20-100	TT100
30-150	TT150
40-200	TT200
50-250	TT250
60-300	TT300

TORQUE WRENCHES

PROFESSIONAL 'P' TYPES

For production line applications requiring a sealed torque setting

'P' Type wrenches have no scale and must be set against a suitable torque measuring device (see pages 12 and 13).

- Accurate to within +/-3% of torque setting
- Colour coded adjustment seals and locking tool provided
- On request 'P' Type wrenches can be set, marked with the setting and certified

Range N·m	Model
'P' Type Ratchet	
8-60	60P
20-100	100P
40-200	200P
60-300	300P
80-400	400P

PROFESSIONAL TORQUE HANDLES

For situations where an alternative end-fitting is the solution

- Two styles of fitting are catered for: 16mm spigot and rectangular female type, 9 x 12mm and 14 x 18 mm
- Accessories available include a huge range of open, ring and flare spanners in metric and imperial sizes
- Special fittings can be engineered to order (see page 15)
- Torque handles are available either as adjustable type or 'P' Type



Torque Wrench fittings and accessories

Professional Torque Handles



Range N·m	Model
Adjustable Torque Handle	
8-60	60TH
20-100	100TH
40-200	200TH
60-300	300TH
80-400 (only female ended version)	400TH
'P' Type Torque Handle	
8-60	60THP
20-100	100THP
40-200	200THP
60-300	300THP
80-400 (only female ended version)	400THP

Professional 'P' Type Torque Wrench



PROFESSIONAL TORQUE WRENCH

For applications requiring the most accurate and durable wrench available

- Accurate to +/-3% of reading
- Supplied with traceable calibration certificate
- Clear scale for simple, error free setting
- Lock prevents inadvertent change to torque setting
- Push through ratchet on 'Industrial' models allows clockwise and anti-clockwise torque control
- Supplied in moulded box for protection and storage

Range N·m	Model
8-60	60
20-100	100
40-200	200
60-300	300
60-330	330
80-400	400



TORQUE WRENCHES

INDUSTRIAL TORQUE WRENCH

For ultimate torque control in heavy duty applications

- Unique 'break action' mechanism gives unparalleled control over the applied torque
- Perfect for wheel nuts and many other applications
- Accurate to $\pm 4\%$ of reading
- Supplied with traceable calibration certificate
- Supplied in carry case (except Torque Handle version)
- NEW FEATURE**
- Split versions available for when storage space is limited such as vehicle tool kits

Range N·m	Model
100-500	3AR
150-700	4R
200-800	4AR
300-1000	5R
700-1500	5AR
900-2000	6R



Industrial 'Split' version



PROFESSIONAL TORQUE WRENCH MODELS 550 – 1500

For precision applications to 1500 N·m

- Exceptionally clear torque signal from unique mechanism
- Non length dependant so can be used with or without the supplied extension handle (optional on Model 550)
- Extension handle significantly reduces operator effort to achieve high torque values
- Accurate to $\pm 3\%$ of reading
- Supplied with traceable calibration certificate
- Supplied in carry case

Range N·m	Model
110-550	550
200-800	800
300-1000	1000
500-1500	1500

HANDTORQUE™ MULTIPLIERS

For reducing the effort of applying high torque, safely

- Multipliers consist of one or more precisely engineered gear stages
- Handtorques are typically offered in ratios of 5:1, 25:1 or 125:1 for easy calculation of input torque
- Multiplication accuracy of better than +/-4%
- Anti Wind-up ratchets that eliminate backlash for safer and more comfortable operation are available on most models
- A wide selection of reaction arms make Handtorque Multipliers adaptable for most applications
- Electronic torque transducers available for most models for precise torque control



HT3 1300 N·m

HANDTORQUE™ HT3 TORQUE MULTIPLIER

For tough, versatile and well priced multiplier kits

- True 5:1 torque multiplication
- Supplied with two reaction styles for maximum versatility
- Supplied in carry case
- Ideal for heavy vehicle tool kits

Range N·m	Model
1300	HT3/1300
2700	HT3/2700

Handtorque™ Small Diameter Series HT60/25

Handtorque™ Standard Series HT13/125



HT52 Series



HANDTORQUE™ HT-52 AND HT-72

For applications where compact size and weight are critical

- The smallest and lightest multipliers available for their output
- HT-52 combined with a suitable torque wrench has a combined weight of under 3.5 kg – half the weight of a typical 1000 N·m torque wrench

Range N·m	Model
1000	HT52
2000	HT72

HANDTORQUE™ SMALL DIAMETER AND STANDARD SERIES

For the most comprehensive selection of manual torque multipliers

- Models from 1700 to 300,000 N·m for every conceivable application
- Hugely versatile reaction system with both standard and customised arms available
- Precision engineered for accuracy and durability
- The Norbar HT range is unrivalled in both breadth and quality

Range N·m	Models
1700	HT1 & HT2
3000	HT30
3400	HT5 & HT6
4500	HT45
6000	HT7 & HT60
9500	HT9
20000	HT11
34000	HT12
47500	HT13
300000	HT15

PNEUTORQUE® PNEUMATIC TORQUE MULTIPLIERS

For accurate torque control with minimal noise and vibration

- Pneutorques consist of a durable air motor driving a Norbar epicyclic gearbox
- Depending on the ratio of the attached gearbox, torque from 100 N·m to 300,000 N·m can be generated
- Tools are supplied with their own, unique air pressure versus torque graph and traceable calibration certificate
- Electronic torque transducers for precise torque monitoring or closed loop 'shut-off' systems are available
- Pneutorques offer reduced operator fatigue and make a massive contribution to the reduction of noise and vibration in the workplace compared with other tightening methods
- Pneutorques are not just for bolting. They can be used in any application where smooth, controlled torque is required. They are frequently used for valve actuation and barring over of heavy machinery such as turbines, industrial and marine engines.

PNEUTORQUE® PTM-52 AND PTM-72

For light weight and high speed

- Exceptionally compact 52mm and 72mm gearboxes result in light, well balanced tools
- Fast operation for rapid bolt run-down – 800 N·m version has a free speed of 175 rpm
- Internal Control (IC) versions incorporate torque transducer, torque setting and display panel and solenoid valve to shut off the air supply at the desired torque
- External Control (EC) versions incorporate torque transducer and output for an external controller. Ideal for production lines.
- PTME versions have an integral extended reaction nose for reaching recessed bolts. The perfect tool for truck and bus wheel nuts.

Range N·m	Model
100-500	PTM-52 500
160-800	PTM-52 80
200-1000	PTM-72 1000
270-1350	PTM-72 1350
400-2000	PTM-72 2000

PNEUTORQUE® PTM-92 AND PTM-119

For an ideal balance of speed, weight and robustness

- Fast operation for rapid bolt run-down – 2700 N·m version has a free speed of 57 rpm
- Gearboxes designed for durability but 3500 N·m version still weighs just 8.5 kg
- All models supplied as standard with light but robust aluminium reaction plate
- Optional torque transducers for precise torque control

Range N·m	Model
540-2700	PTM-92 2700
700-3500	PTM-92 3500
900-4500	PTM-119 4500
1200-6000	PTM-119 6000



Pneutorque® PTM-52 Series Stall Model



Pneutorque® PTM-92 Series Stall Model

PNEUTORQUE® SMALL DIAMETER AND STANDARD SERIES

For longevity and versatility

- The original pneumatic torque wrench and, in many respects, still the best
- Durable air motors and gearboxes. There are many examples of tools lasting more than 20 years that are still in daily use
- All tools available with Manual Two Speed (MTS) as an option to increase run-down speed by a factor of five
- Tools up to PT9 (9500 N·m) available with Automatic Two Speed (AUT) as an option to increase run down speed by a factor of five
- Over-slung handle gives better balance than pistol grip on larger capacity tools
- Huge range of tools – by far the largest available – for almost limitless applications right up to 300,000 N·m
- Optional torque transducers for precise torque control
- Optional angle sensor or turns counter which can be combined with torque measurement for torque angle (or turns) analysis
- All models are also available fitted with a remote motor

Range N·m	Models
160-680	PT1
270-1200	PT1A
515-1700	PT2
880-2700	PT2700
880-3400	PT5 & PT6
900-4500	PT4500
1200-5500	PT5500
1762-6000	PT7
2710-9500	PT9
440-20000	PT11
9500-34000	PT12
13550-47000	PT13
22375-100000	PT14
85000-300000	PT18



PT7 AUT

MEASUREMENT & CALIBRATION

TRUCHECK™ AND TRUCHECK™ PLUS

For simple, cost effective testing of torque wrenches

- Allows torque tool performance to be monitored and tools kept in peak condition
- Two versions, TruCheck and TruCheck Plus
- Basic version has no settable options. Ideal for non-expert users
- TruCheck Plus allows selection of torque units and modes for 'click' and dial type wrenches
- 'Plus' version allow operator to set a target value and tolerance
- Supplied with traceable calibration certificate

Range N-m	Model
0.1-3.0	TruCheck 3.0
1.0-10	TruCheck 10
1.0-25	TruCheck 25
10-350	TruCheck 350
100-1000	TruCheck 1000
200-2000	TruCheck 2000

PROFESSIONAL TORQUE TESTER - PRO-TEST™

For high accuracy, robust construction and versatile mounting

- The first choice of industrial, military and laboratory customers worldwide
- Tough, cast aluminium casing
- Two part display / transducer unit allows for numerous mounting possibilities
- User can select language of operation (most European languages available)
- ISO 6789 mode calculates the torque wrench calibration points and tolerance
- Memory function displays the 5 previous readings taken
- Supplied with a UKAS accredited calibration certificate

Range N-m	Model
0-60	Pro-Test 60
0-400	Pro-Test 400
0-1500	Pro-Test 1500

TORQUE TOOL TESTER - TTT™

For laboratory level accuracy and access to Norbar's complete transducer range

- Can be connected to a huge range of Norbar transducers
- 'SMART' intelligence for transducer recognition (no transducer set-up)
- Up to three transducers can be connected simultaneously
- Pictorial display panel for ease of calibration mode selection
- User can select language of operation (most European languages available)
- Supplied with a UKAS accredited calibration certificate



Professional Torque Tester - Pro-Test



Range of Transducers

Torque Screwdriver Tester - TST



Torque Tool Tester - TTT



T-Box



TORQUE SCREWDRIVER TESTER - TST™

For calibrating manual and powered torque screwdrivers

- Features an integral torque transducer for testing low capacity torque tools
- For power tools, a Joint Simulator Rundown Assembly is provided
- One connector for external transducers is provided giving access to Norbar's complete transducer range
- All other features are as Torque Tool Tester - TTT

Range N-m	Model
0.04-2	TST 2
0.5-10	TST 10
1.25-25	TST 25

Connectivity with any of Norbar's torque transducers

T-BOX™

For the complete solution to torque and angle measurement and data collection

- 145mm colour touch screen and icons to guide the user through T-Box's comprehensive functions
- Suitable for use with all torque controlled power tools. Features a new 'Pulse Tool Mode' to accurately determine the output from impulse tools
- Graphical analysis and display of joint profiles
- Up to four transducers can be connected simultaneously
- Large capacity memory can store in excess of 100,000 test results
- Can connect to external devices via USB, RS-232-C and analogue 'Ancillaries' port
- Case design allows for portable use or bench mounting using the supplied stand
- Supplied with Norbar's Torque Data Management System (TDMS) software for complete tool management and data archiving
- TDMS enables data to be viewed graphically, in an SPC format or as a calibration certificate
- Supplied with a bi-directional UKAS accredited calibration certificate

TruCheck

TruCheck Plus 3.0 N-m

MEASUREMENT & CALIBRATION

CALIBRATION BEAM

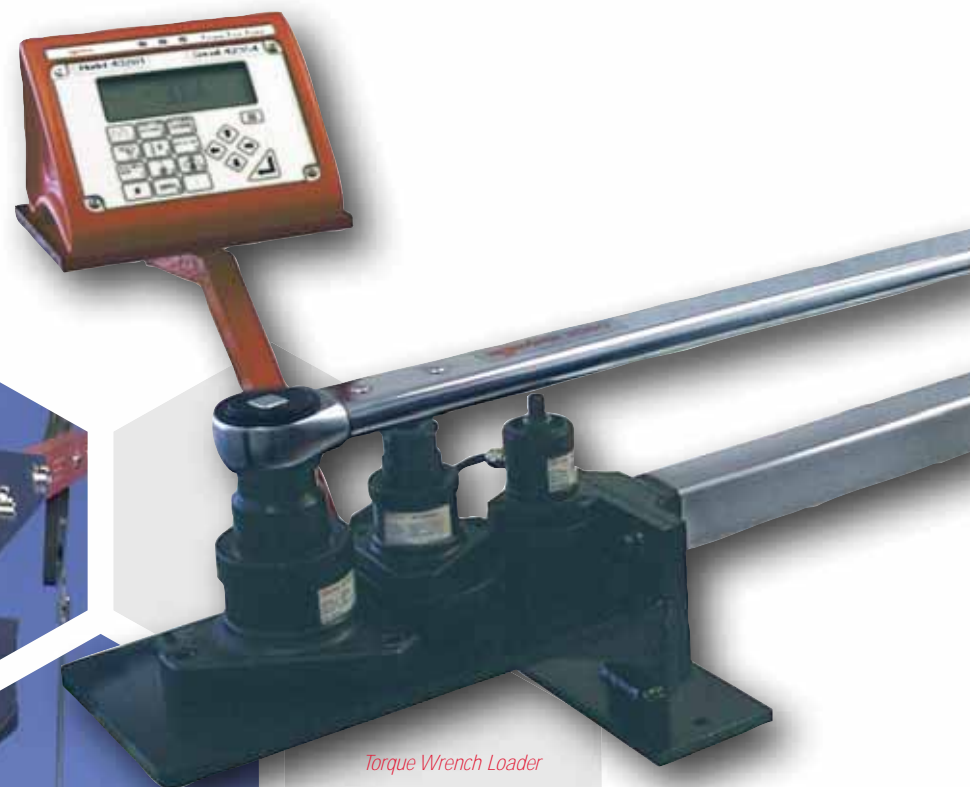
For the static calibration of torque transducers

- Norbar calibration beams are designed for the precise application of a known torque as a reference value to torque transducers
- Calibration Disc and Radius Ended beams have no bearings to cause energy loss during loading
- Designed to minimise the bending moment in the transducer during torque loading
- Radius ended beams allow calibration to the highest class of accuracy specified by BS7882:2008
- Radius Ended Beams are designed with a ± 8 degree usable arc within which the calibration accuracy is unaffected
- Square drives are precision machined to minimise play between the beam and transducer

TORQUE WRENCH LOADER

For accurate torque wrench calibration

- Loaders remove much of the 'human element' from torque wrench calibration and allow more repeatable results than loading by hand
- Wrenches are loaded in accordance with the relevant international standard, ISO 6789:2003
- ISO 1500 loader is available in a powered version to further reduce human influence on the test and remove physical effort
- ISO 1500 and ISO 2700 allow for quick and easy interchange of transducers
- TWL 1500 loader utilises the wide calibration range of Norbar's FMT transducers to give a total calibration range of to 1500 N-m with three simultaneously mounted transducers



Torque Wrench Loader

Calibration Beam

SERVICE & SPECIALS

UKAS ACCREDITED CALIBRATION LABORATORY

(Laboratory number 0256)

Norbar was the first torque equipment manufacturer to have an in-house UKAS (United Kingdom Accreditation Service) torque calibration laboratory and continues to offer the most comprehensive service available. The laboratory has approval for torques between 0.005 N-m and 108,500 N-m. A UKAS calibration service is available for all makes of torque wrenches, torque multipliers and torque measuring devices within this range.

Norbar's laboratory operates to BS EN ISO/IEC 17025:2005 which sets standards for the technical competence of the laboratory. This should not be confused with laboratories claiming ISO 9000:2000 which relates only to a laboratory's quality management systems.

- UKAS accredited laboratory for torques between 0.005 N-m and 108,500 N-m.
- UKAS accredited for the calibration of manual torque multiplying gearboxes to 6,800 N-m.
- UKAS accredited for voltage calibration of torque display instruments.
- UKAS accredited for length certification of Norbar calibration beams.



0256

ENGINEER TO ORDER

Our wide range of standard equipment notwithstanding, there are applications when something special is required. As an ISO 9001 accredited company, Norbar will undertake the design and manufacture of special equipment against agreed customer specifications.

These projects range from modified torque wrench end fittings to complete torque and angle control of multi-spindle nut runners. Relevant European safety directives are applied where appropriate, leading to well engineered, reliable products that are designed to make tasks safer and easier.



Example of an engineer to order project for the sub sea industry



GLOBAL SERVICE

Norbar is the only torque equipment manufacturer capable of offering tool and instrument recalibration services to the original factory standard on four continents. Our accredited laboratories in Australia, USA and Singapore operate the same equipment and procedures as the UKAS accredited laboratory within our headquarters in the UK. A further Norbar laboratory is in operation in Shanghai.



NORBAR TORQUE TOOLS LTD

Beaumont Road, Banbury, Oxfordshire, OX16 1XJ
UNITED KINGDOM
Tel + 44 (0)1295 753600
Email sales@norbar.com



NORBAR TORQUE TOOLS PTY LTD

45-47 Raglan Avenue, Edwardstown, SA 5039
AUSTRALIA
Tel + 61 (0)8 8292 9777
Email enquiry@norbar.com.au



NORBAR TORQUE TOOLS INC

36400 Biltmore Place, Willoughby, Ohio 44094
USA
Tel + 1 866 667 2272
Email inquiry@norbar.us



NORBAR TORQUE TOOLS (SHANGHAI) LTD

E Building - 5F, No. 1618 Yishan Road, Minhang District, Shanghai
CHINA 201103
Tel + 86 21 6145 0368
Email sales@norbar.com.cn



NORBAR TORQUE TOOLS PTE LTD

Eunos Tech-Park, 60 Kaki Bt Pl # 09-16
SINGAPORE 415979
Tel + 65 6841 1371
Email singapore@norbar.com.au



NORBAR TORQUE TOOLS (NZ) LTD

65a O'Rorke Road, Penrose, Auckland
NEW ZEALAND
Tel + 64 9579 8653
Email nz@norbar.com.au

www.norbar.com

