

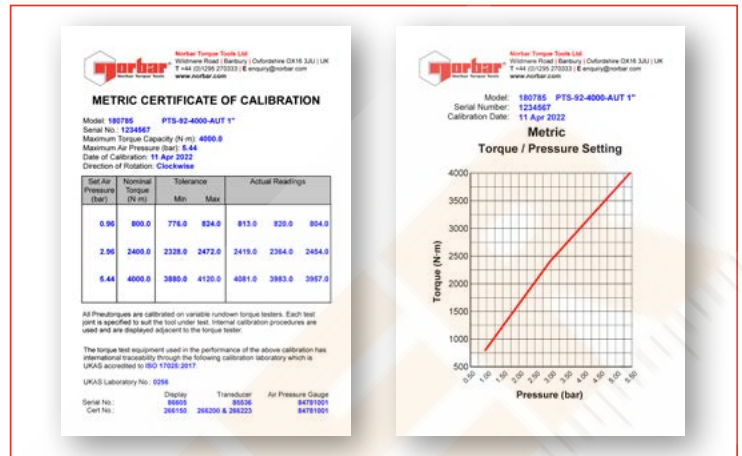


PNEUMATIC TORQUE TOOLS

What is a PneuTorque® Pneumatic Torque Tool?

The PneuTorque® consists of a robust air motor driving a Norbar multiplier with three or more stages of epicyclic gearing.

Torque control is achieved through adjustment of the air pressure. An air pressure versus torque graph and a calibration certificate is supplied with each tool and allows specific torque values to be set. For more critical applications, PneuTorques can be fitted with a torque transducer and the precise torque output displayed. The tool can then be shut off at the desired torque either manually or automatically using suitable control circuitry.



Why use PneuTorque® Pneumatic Torque Tools?

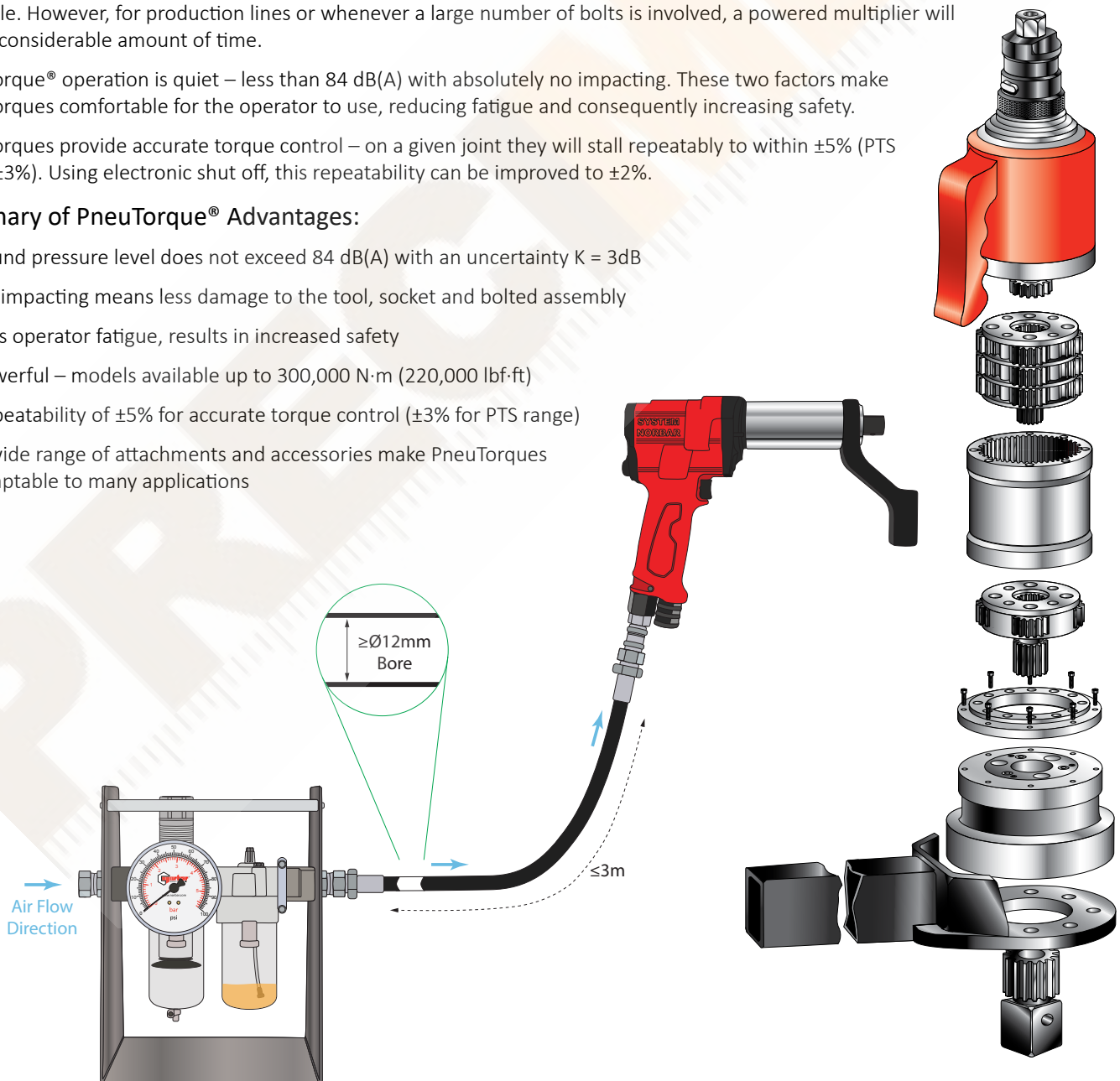
Hand operated torque multipliers are ideal for low volume or intermittent use or when there is no power source available. However, for production lines or whenever a large number of bolts is involved, a powered multiplier will save a considerable amount of time.

PneuTorque® operation is quiet – less than 84 dB(A) with absolutely no impacting. These two factors make PneuTorques comfortable for the operator to use, reducing fatigue and consequently increasing safety.

PneuTorques provide accurate torque control – on a given joint they will stall repeatably to within ±5% (PTS tools, ±3%). Using electronic shut off, this repeatability can be improved to ±2%.

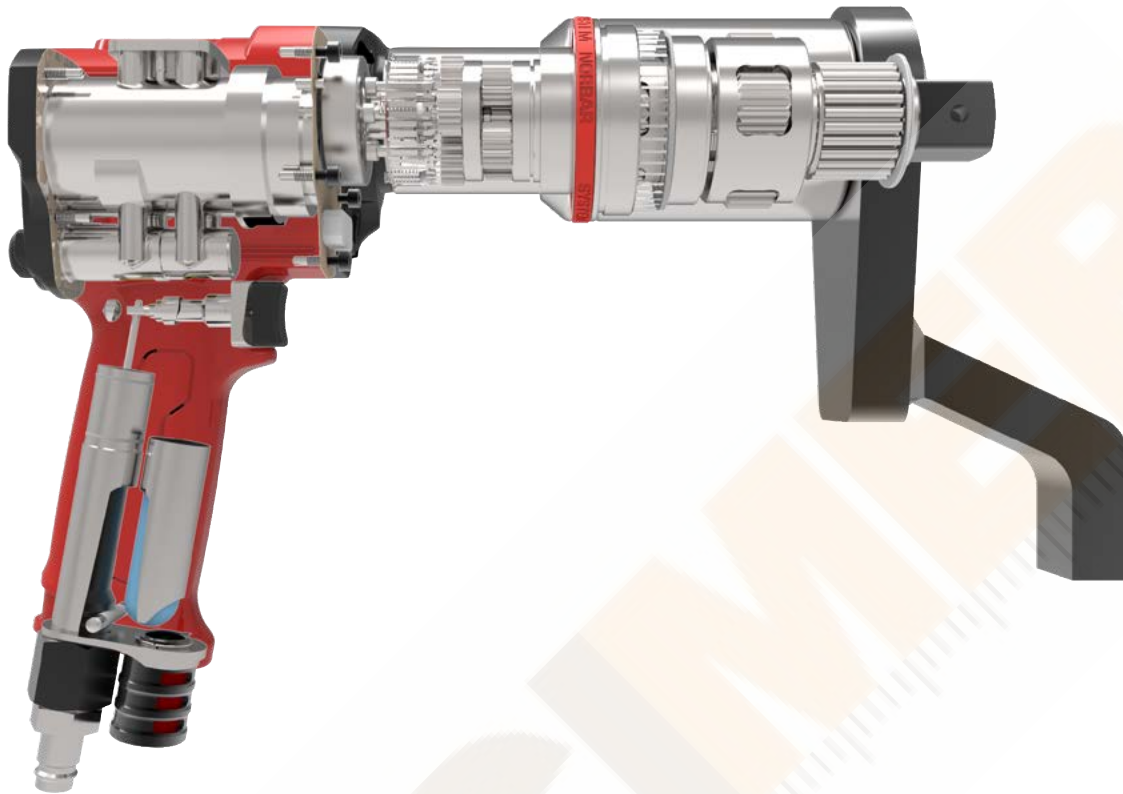
Summary of PneuTorque® Advantages:

- Sound pressure level does not exceed 84 dB(A) with an uncertainty K = 3dB
- No impacting means less damage to the tool, socket and bolted assembly
- Less operator fatigue, results in increased safety
- Powerful – models available up to 300,000 N.m (220,000 lbf-ft)
- Repeatability of ±5% for accurate torque control (±3% for PTS range)
- A wide range of attachments and accessories make PneuTorques adaptable to many applications





PNEUMATIC TORQUE TOOLS



PneuTorque® Applications

The smooth and continuous torque output of the PneuTorque® makes these tools suitable for a wide range of bolting and non-bolting applications.

Bolting

PneuTorques are ideally suited to tightening and untightening bolts of up to 150 mm diameter. The following is just a small selection of applications:

- Wheel nuts on trucks, buses and large machinery
- Structural steelwork
- High pressure joints e.g. Pipelines, boiler feed pumps and pressure vessels
- Engine head bolts
- Injector heads on plastic injection moulding machines
- Heat exchangers
- Heavy vehicle production eg. chassis and suspension bolts



Non-bolting

Whenever a high continuous torque is needed, PneuTorques can be used as the power source. Typical applications include:

- Valve Actuation and valve grinding
- Powering wagons and gantries
- Barring of large diesel engines (turning the crankshaft) during build
- Weld testing by applying test torques
- Roller adjustment in steel mills and paper mills
- Valving of gas bottles





PNEUTORQUE® PTS™ SERIES



The PTS™ is the result of an extensive design project to produce an efficient air motor in an accurate torque tool. The air motor is then married to Norbar's respected gearbox range, sharing common torque reaction accessories with PTM, EvoTorque® 2 and EBT.

- Pistol grip handle for operator comfort
- Designed to offer excellent power-to-weight ratio
- Easily accessible switch for forward and reverse operation
- $\pm 3\%$ repeatability of reading from 20% to 100% of range
- Air coupling designed for safety and rapid operation
- Quiet operation - The sound pressure level is 77 dB(A) [the PTS™ 4000 is 79 dB(A)]. Uncertainty $K = 3$ dB
- Directional exhaust barrel directs exhaust away from operator
- Replaceable square drive
- Fast operation for rapid bolt rundown
- Non-impacting - exceptionally low vibration levels (0.343 m/s^2), make these tools comfortable and safe for operator use
- Steel reactions supplied as standard. Bespoke reactions available upon request

When the tool is to be used for untightening bolts, Norbar recommends the selection of single speed versions. In the case of prevailing torque lock-nuts or partially tightening bolts, the Auto Two Speed version of the tools will generally give no advantage and single speed tools should be selected.

11	PTS SERIES - STALL TOOLS - BI-DIRECTIONAL - SINGLE SPEED
180241.B06	3/4" sq. dr., 100 - 500 N·m, 74 - 370 lbf-ft
180242.B06	3/4" sq. dr., 160 - 800 N·m, 118 - 590 lbf-ft
180243.B06	3/4" sq. dr., 200 - 1,000 N·m, 147 - 738 lbf-ft
180244.B08	1" sq. dr., 270 - 1,350 N·m, 200 - 1,000 lbf-ft
181454	1" sq. dr., 400 - 2,000 N·m, 295 - 1,475 lbf-ft
180246.B08	1" sq. dr., 540 - 2,700 N·m, 398 - 1,991 lbf-ft
180250.B08	1" sq. dr., 800 - 4,000 N·m, 590 - 2,950 lbf-ft
180249.B12	1 1/2" sq. dr., 1,400 - 7,000 N·m, 1,030 - 5,200 lbf-ft

11	PTS SERIES - STALL TOOLS - BI-DIRECTIONAL - AUTO TWO SPEED
180781	3/4" sq. dr., 200 - 1,000 N·m, 147 - 738 lbf-ft
180782	1" sq. dr., 270 - 1,350 N·m, 200 - 1,000 lbf-ft
180784	1" sq. dr., 540 - 2,700 N·m, 398 - 1,991 lbf-ft
180785	1" sq. dr., 800 - 4,000 N·m, 590 - 2,950 lbf-ft
180788	1 1/2" sq. dr., 1,400 - 7,000 N·m, 1,030 - 5,200 lbf-ft

