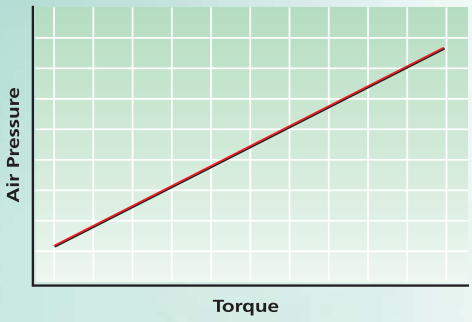
Pneutorque® Pneumatic Multipliers

What is a Pneutorque Pneumatic Wrench?

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

Torque control is achieved by 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.



Air pressure graph supplied with each tool.

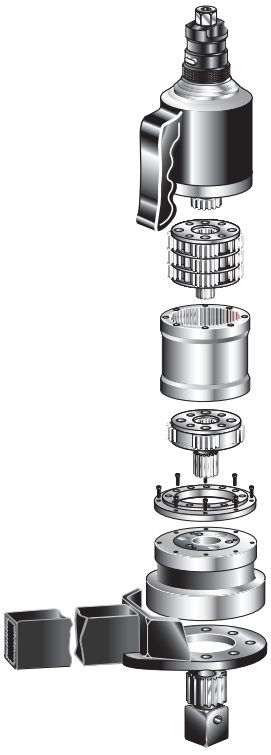
The Lubro Control Unit, 16074, is Norbar's filter / regulator / lubricator. It is supplied with 3m of high quality steel braided air hose and a 100mm pressure gauge for accurate setting.

Why use Pneutorque Pneumatic Wrenches?

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.

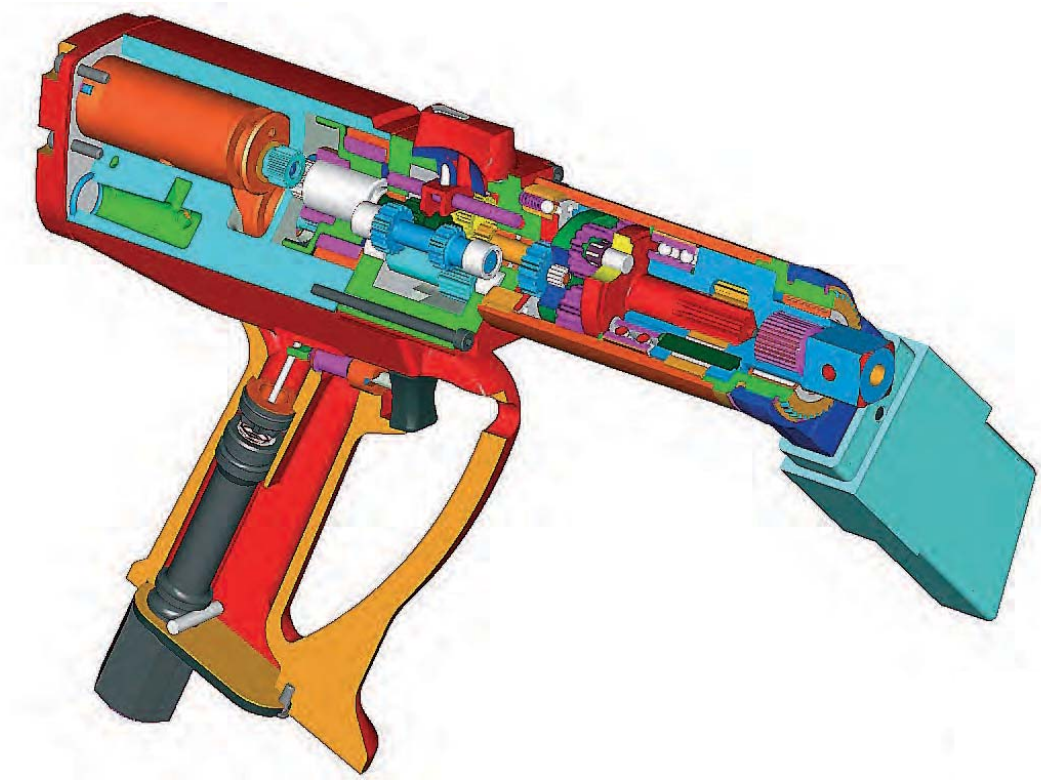
Pneutorque operation is quiet – less than 85dB(A) with absolutely no impacting. These two factors make Pneutorques comfortable for the operator to use, reducing fatigue and consequently increasing safety.

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



Summary of Pneutorque Advantages

- Sound pressure level does not exceed 85dB(A) when tested in accordance with ISO3744:1994.
- 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.
- A wide range of attachments and accessories make Pneutorques adaptable to many applications.



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 suitable for tightening and untightening bolts of up to 150mm diameter. The following is just a small selection of applications:

- Wheel nuts on trucks, buses and large machinery.
- Structural steelwork.
- High pressure joints eg. 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:

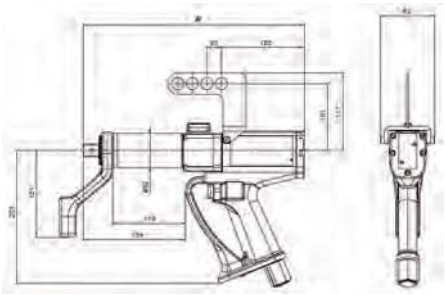
- Ball valve operation.
- Powering wagons and gantries.
- Barring of large diesel engines (turning the crankshaft) during build.
- Weld testing by applying test torques.
- Roller adjustment in steel mills and paper mills.
- Valving of gas bottles.

Ball valve actuation using PT13

Gas bottle valving and de-valving using PT1500

Pneutorque® PTM-52 Series
Stall Models

The PTM-52 is engineered to be one of the lightest and fastest tools of its type on the market. The exceptionally compact 52mm diameter gearbox means that the tool is well balanced, light weight and provides excellent access to bolts.



PTM-52-800-B

- Fast – 800 N.m version has a free speed of 175 rpm for rapid bolt run-down.
- Light weight – single direction stall tool weighs just 3.8 kg.
- Quiet – less than 85 dB(A) when under load.
- Non impacting – low vibration levels make these tools comfortable and safe to use.
- Square drive is quickly and easily replaceable.
- On Bi-directional tools, the direction control knob is locked while the tool is running to prevent accidental damage to the gearbox.
- 'Soft Start' trigger control aids socket location and allows gradual and safe reaction location.
- For safety, gearbox can rotate independently from the handle so that reaction forces are not transmitted back to the operator.
- 1" square drive available, Part No. 18545.

500 and 800 N.m Tools - Stall

Model	Direction of Operation	Square Drive	Part No.	Range		Free Speed †	Length 'A'	Tool Weight	Reaction Weight
		in		N.m	lbf.ft	rpm	mm	kg	kg
PTM-52-500-F	Forward only	¾	18100.F06	100-500	74-370	245	284	3.8	0.85
PTM-52-500-B	Bi-directional	¾	18100.B06	100-500	74-370	245	333	4.1	0.85
PTM-52-800-F	Forward only	¾	18101.F06	160-800	118-590	175	284	3.8	0.85
PTM-52-800-B	Bi-directional	¾	18101.B06	160-800	118-590	175	333	4.1	0.85

† Speed at maximum air pressure.

Pneutorque® PTM-52 Series Internal Control and External Control Models

The integration of electronic torque measurement and control into the PTM-52 Series is achieved with the minimum impact on overall tool size and weight. The actual applied torque is accurately measured at the output of the tool meaning that a repeatability of +/-2% can be guaranteed.

PTM-52-800-B-IC

Shut-Off, Internal Control – these tools include a torque transducer, easy to read LED display, control panel and a solenoid valve to shut off the air supply once the desired torque has been reached. The tolerance band within which the bolt must be tightened can be set on the tool handle control panel. When the tool is operated, the actual applied torque is displayed along with one of three coloured LEDs to indicate a low, within tolerance or high result. The tool can be operated in either N.m or lbf.ft.

Shut-Off, External Control – this version of the PTM-52 incorporates a transducer, solenoid valve and three coloured LEDs for the indication of low, within tolerance or high results. However, all control functions and torque display are housed in an external controller unit (purchased separately). External controllers can give a much greater range of functionality than is possible on the 'Internal Control' version of the tool.

Tool controller in wall box for external control versions. Part No. 60244 without printer or 60254 with printer. Cable for use with PTM tools, Part No. 61127.600.

500 and 800 N.m Tools - Shut-Off, Internal

Model	Direction of Operation	Square Drive	Part No.	Range		Free Speed †	Length 'A'	Tool Weight	Reaction Weight
		in		N.m	lbf.ft	rpm	mm	kg	kg
PTM-52-500-B-IC	Bi-directional	¾	18110.B06	100-500	74-370	245	397	4.9	0.85
PTM-52-800-B-IC	Bi-directional	¾	18111.B06	160-800	118-590	175	397	4.9	0.85

500 and 800 N.m Tools - Shut-Off, External

Model	Direction of Operation	Square Drive	Part No.	Range		Free Speed †	Length 'A'	Tool Weight	Reaction Weight
		in		N.m	lbf.ft	rpm	mm	kg	kg
PTM-52-500-B-EC	Bi-directional	¾	18120.B06	100-500	74-370	245	397	4.9	0.85
PTM-52-800-B-EC	Bi-directional	¾	18121.B06	160-800	118-590	175	397	4.9	0.85

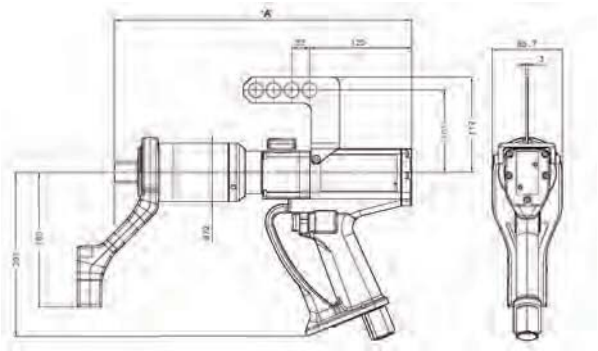
† Speed at maximum air pressure.

Pneutorque® PTM-72 Series
Stall Models

PTM-72 tools use the same 'twin motor' handle as the PTM-52 but fitted with a durable 72mm gearbox to allow higher torque outputs. The 'twin motor' concept gives the benefit of high run-down speeds while adding very little to the size and weight of the tool.

PTM-72-1000-B

- Fast - 1000 N.m version has a free speed of 140 rpm for rapid bolt run-down.
- Light weight - single direction 2000 N.m stall tool weighs just 6.2 kg.
- Quiet - less than 85 db(A) when under load.
- Non impacting - low vibration levels make these tools comfortable and safe to use.
- Square drive is quickly and easily replaceable.
- On Bi-directional tools, the direction control knob is locked while the tool is running to prevent accidental damage to the gearbox.
- 'Soft Start' trigger control aids socket location and allows gradual and safe reaction location.
- For safety, gearbox can rotate independently from the handle so that reaction forces are not transmitted back to the operator.
- 1" square drive available for the 1000 N.m version, Part No. 18492.



1000, 1350 and 2000 N.m Tools - Stall

Model	Direction of Operation	Square Drive	Part No.	Range		Free Speed †	Length 'A'	Tool Weight	Reaction Weight
		in		N.m	lbf.ft	rpm	mm	kg	kg
PTM-72-1000-F	Forward only	¾	18102.F06	200-1000	147-738	140	316	5.8	0.7
PTM-72-1000-B	Bi-directional	¾	18102.B06	200-1000	147-738	140	365	6.1	0.7
PTM-72-1350-F	Forward only	1	18103.F08	270-1350	200-1000	105	316	5.8	0.7
PTM-72-1350-B	Bi-directional	1	18103.B08	270-1350	200-1000	105	365	6.1	0.7
PTM-72-2000-F	Forward only	1	18104.F08	400-2000	295-1475	70	349	6.2	0.7
PTM-72-2000-B	Bi-directional	1	18104.B08	400-2000	295-1475	70	398	6.5	0.7

† Speed at maximum air pressure.

Pneutorque® PTM-72 Series
Internal Control and External Control Models

The integration of electronic torque measurement and control into the PTM-72 Series is achieved with the minimum impact on overall tool size and weight. The actual applied torque is accurately measured at the output of the tool meaning that a repeatability of +/-2% can be guaranteed.

Shut-Off, Internal Control - these tools include a torque transducer, easy to read LED display, control panel and a solenoid valve to shut off the air supply once the desired torque has been reached. The tolerance band within which the bolt must be tightened can be set on the tool handle control panel. When the tool is operated, the actual applied torque is displayed along with one of three coloured LEDs to indicate a low, within tolerance or high result. The tool can be operated in either N.m or lbf.ft.

PTM-72-2000-B-EC

Shut-Off, External Control - this version of the PTM-72 incorporates a transducer, solenoid valve and three coloured LEDs for the indication of low, within tolerance or high results. However, all control functions and torque display are housed in an external controller unit (purchased separately), see page 43 for details. External controllers can give a much greater range of functionality than is possible on the 'Internal Control' version of the tool.

1000, 1350 and 2000 N.m Tools - Shut-Off, Internal

Model	Direction of Operation	Square Drive	Part No.	Range		Free Speed †	Length 'A'	Tool Weight	Reaction Weight
		in		N.m	lbf.ft	rpm	mm	kg	kg
PTM-72-1000-B-IC	Bi-directional	¾	18112.B06	200-1000	147-738	140	422	7.4	0.7
PTM-72-1350-B-IC	Bi-directional	1	18113.B08	270-1350	200-1000	105	422	7.4	0.7
PTM-72-2000-B-IC	Bi-directional	1	18114.B08	400-2000	295-1475	70	453	7.8	0.7

1000, 1350 and 2000 N.m Tools - Shut-Off, External

Model	Direction of Operation	Square Drive	Part No.	Range		Free Speed †	Length 'A'	Tool Weight	Reaction Weight
		in		N.m	lbf.ft	rpm	mm	kg	kg
PTM-72-1000-B-EC	Bi-directional	¾	18122.B06	200-1000	147-738	140	422	7.4	0.7
PTM-72-1350-B-EC	Bi-directional	1	18123.B08	270-1350	200-1000	105	422	7.4	0.7
PTM-72-2000-B-EC	Bi-directional	1	18124.B08	400-2000	295-1475	70	453	7.8	0.7

† Speed at maximum air pressure.

Pneutorque® PTME-72 Series
Stall Models

The PTME-72 series of tools was designed to meet the needs of the commercial vehicle wheel market.

The integrated reaction foot is designed specifically to reach recessed wheel bolts and the 72mm diameter gearbox is selected to cope with the high frequency of use demanded by busy tyre shops.

- Fast - 1000 N.m version has a free speed of 140 rpm for rapid bolt run-down time.
- Light weight, for ease of handling.
- Quiet - less than 85 db(A) when under load.
- Non-impacting - low vibration levels make these tools comfortable and safe to use.
- Square drive is quickly and easily replaceable.
- On Bi-directional tools, the direction control knob is locked while the tool is running to prevent accidental damage to the gearbox.
- 'Soft Start' trigger control aids socket location and allows gradual and safe reaction location.
- For safety, gearbox can rotate independently from the handle so that reaction forces are not transmitted back to the operator.
- Internal and External Control models also available.

PTME-72-1000-B

1000 and 2000 N.m Tools - Stall

Model	Direction of Operation	Square Drive	Part No.	Range		Free Speed †	Length 'A'	Tool Weight	Reaction Weight
		in		N.m	lbf.ft	rpm	mm	kg	kg
PTME-72-1000-F	Forward only	¾	18140.F06	200-1000	147-738	140	378.9	6.9	n/a
PTME-72-1000-B	Bi-directional	¾	18140.B06	200-1000	147-738	140	428.4	7.2	n/a
PTME-72-1000-B	Bi-directional	1	18149.B08	200-1000	147-738	140	434.6	7.2	n/a
PTME-72-2000-F	Forward only	1	18141.F08	400-2000	295-1475	70	437.2	7.4	n/a
PTME-72-2000-B	Bi-directional	1	18141.B08	400-2000	295-1475	70	486.9	7.7	n/a

† Speed at maximum air pressure.

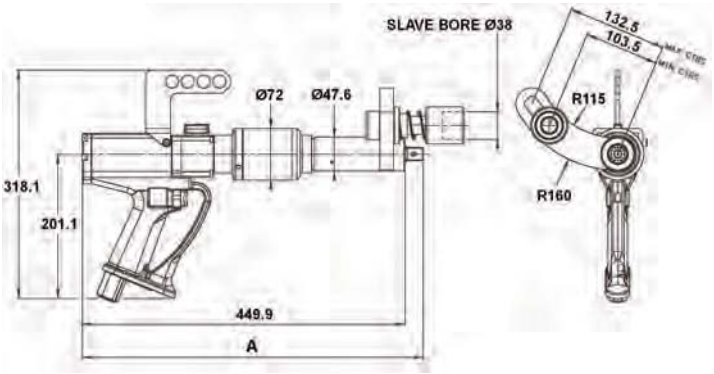
Pneutorque® TrukTorque™ Stall Models

The TrukTorque™ pneumatic torque multiplier features a special curved reaction arm designed to handle bolt tightening on the front and rear wheels of trucks and buses. The design easily accommodates wheel trims and deeply recessed wheel bolts.

TrukTorque™ has none of the noise and vibration problems associated with impact wrenches and can provide accurate torque control without the need to check every wheel bolt with a manual torque wrench.

- Maximum torque of 1000 N.m (738 lbf.ft) covers all truck and buses.
- Free running speed of 140 rpm for rapid bolt rundown.
- The reaction socket is spring loaded to locate on the next available nut for safe and secure reaction.
- Robust and lightweight. TrukTorque is lighter than comparable impact wrenches.
- Compatible with most trucks and bus wheels.

TrukTorque™



Application Guide

Wheel Stud PCD	Number of Studs	Nut A/F
335 mm	10	30 - 33 mm
285.75 mm	10	30 - 33 mm
285 mm	8	30 - 33 mm
275 mm	8	30 - 33 mm
225 mm	10	30 - 33 mm

TrukTorque™

Model	Direction of Operation	Square Drive	Part No.	Range		Free Speed †	Length 'A'	Tool Weight	Reaction Weight
		in		N.m	lbf.ft	rpm	mm	kg	kg
TrukTorque™	Bi-directional	¾	18162.B06	200-1000	147-738	140	474.9	9.4	n/a
TrukTorque™	Bi-directional	1	18162.B08	200-1000	147-738	140	483	9.4	n/a

† Speed at maximum air pressure.

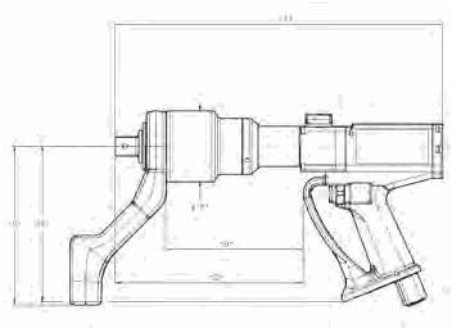
Pneutorque® PTM-92 and PTM-119 Series Stall Models

The latest extension to the PTM tool range brings the speed advantage of the twin motor handle to higher capacity Pneutorque models.

Coupled with new gearbox designs, these new models deliver an ideal balance between robustness, speed and weight.

PTM-92-3500

- Fast - 2700 N.m version has a free speed of 57 rpm for rapid bolt run-down time.
- Light weight - PTM-92-2700 weighs just 8.5kg. All models are fitted as standard with a light but robust aluminium reaction plate.
- Other reaction styles are available for maximum versatility.
- Quiet - less than 85 db(A) when under load.
- Non impacting - low vibration levels make these tools comfortable and safe to use.
- Square drive is quickly and easily replaceable.
- Bi-directional. The direction control knob is locked while the tool is running to prevent accidental damage to the gearbox.
- 'Soft Start' trigger control aids socket location and allows gradual and safe reaction location.
- For safety, gearbox can rotate independently from the handle so that reaction forces are not transmitted back to the operator.



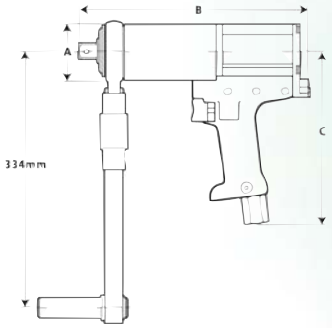
2700, 3500, 4500 and 6000 N.m Tools - Stall

Model	Square Drive	Part No.	Range		Free Speed †	Length 'A'	B	C	D	E	Tool Weight	Reaction Weight
	in		N.m	lbf.ft	rpm	mm	mm	mm	mm	mm	kg	kg
PTM-92-2700-B	1	18106.B08	540-2700	400-2000	57	387	178	243	205	92	8.5	1.35
PTM-92-3500-B	1	18107.B08	700-3500	520-2600	41	387	178	243	205	92	8.5	1.35
PTM-119-4500-B	1½	18108.B12	900-4500	660-3300	32	456	197	277	200	119	12.5	2.1
PTM-119-6000-B	1½	18109.B12	1200-6000	885-4500	25	456	197	277	200	119	12.5	2.1

† Speed at maximum air pressure.

Pneutorque® 72mm Series
Single Speed and Automatic Two Speed Models

- 72mm gearbox diameter allows excellent access.
- Powerful – up to 2000 N.m output.
- Switchable forward and reverse operation.
- Quiet – less than 81dB(A), and non impacting for low operator fatigue.
- 'Soft Start' trigger control aids socket location and allows gradual and safe reaction take up.
- For safety, gearbox can turn independently from the handle. Torque reaction is never transmitted back to the operator.
- All torques can be achieved at less than 6 bar (90 psi).
- Automatic Two Speed models offer all of the advantages of the single speed versions but with the additional benefit of a run down speed five times greater than the final torque speed.



72mm Series, Single Speed

Model	Square Drive	Part No.	Range		Free Speed†	A	B	C	Tool Weight	Reaction Weight
	in		N.m	lbf.ft	rpm	mm	mm	mm	kg	kg
PT 72/500	¾	18023	90-500	66-370	35	72	301	223	6.4	1.7
PT 72/1000	¾	18022	190-1000	140-740	15	72	301	223	6.4	1.7
PT 72/1000	1	18026	190-1000	140-740	15	72	301	223	6.4	1.7
PT 72/1500	1	18021	300-1500	220-1110	9	72	301	223	6.4	1.7
PT 72/2000	1	18033	400-2000	300-1450	6	72	301	223	6.4	1.7

† Speed at maximum air pressure.

72mm Series, Automatic Two Speed

Model	Square Drive	Part No.	Range		Free Speed†	A	B	C	Tool Weight	Reaction Weight
	in		N.m	lbf.ft	rpm	mm	mm	mm	kg	kg
PT 72/500 AUT	¾	18023.AUT	203-500	150-370	170	72	373	223	8.7	1.7
PT 72/1000 AUT	¾	18022.AUT	488-1000	360-740	75	72	373	223	8.7	1.7
PT 72/1000 AUT	1	18026.AUT	488-1000	360-740	75	72	373	223	8.7	1.7
PT 72/1500 AUT	1	18021.AUT	760-1500	560-1110	45	72	373	223	8.7	1.7
PT 72/2000 AUT	1	18033.AUT	1000-2000	750-1450	30	72	373	223	8.7	1.7

†Speed at maximum air pressure and in high gear.

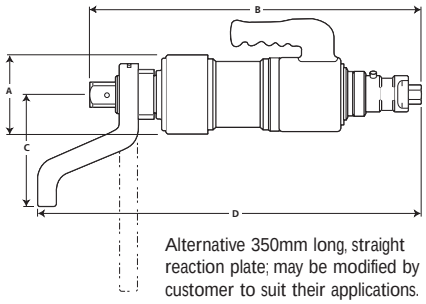
Pneutorque® Small Diameter Series
Single Speed Models

These Pneutorque models share the same features as the 'Standard' Series, but have a higher torque output for a given gearbox diameter.

- Reduced diameter allows improved access.
- High torque output – up to 5500 N.m.
- Reversible – Pneutorques can be used for tightening and untightening.
- Reaction foot can slide on the spline to allow for sockets of various lengths (except PT4500).
- Electronic torque transducers can be fitted for precise torque monitoring.
- PT4500 has integral angle protractor for easy torque and angle tightening.
- PT4500 employs a pistol grip style motor.

PT5500

PT4500



Alternative 350mm long, straight reaction plate; may be modified by customer to suit their applications.
PT2700 Part No. 16686
PT4500 and PT5500 Part No. 16687

Small Diameter Series, Single Speed

Model	Square Drive	Part No.	Range		Free Speed†	A	B	C	D min	D max	Tool Weight	Reaction Weight
	in		N.m	lbf.ft	rpm	mm	mm	mm	mm	mm	kg	kg
PT 2700	1	18027	880-2700	650-2000	5	108	437	140	469	498	14.5	2
PT 4500	1	18038	900-4500	660-3300	4	108*	390	175	-	484	13.7	4
PT 5500	1½	18028	1200-5500	885-4000	2.5	119	512	154	566	592	17.9	4

† Speed at maximum air pressure.
** Maximum width 140mm.*

Pneutorque® Small Diameter Series
Two Speed Models

- Two Speed Models offer all of the advantages of single speed versions but with the additional benefit of a run down speed five times greater than the final torque speed.
- Reduced diameter allows improved access.
- High torque output – up to 5500 N.m.
- Reversible – Pneutorques can be used for tightening and untightening.
- Reaction foot can slide on the spline to allow for sockets of various lengths (except PT4500).
- Electronic torque transducers can be fitted for precise torque monitoring.
- PT4500 has integral angle protractor for easy torque and angle tightening.
- PT4500 employs a pistol grip style motor.

Manual 2 Speed

PT5500 AUT

Small Diameter Series, Manual Two Speed

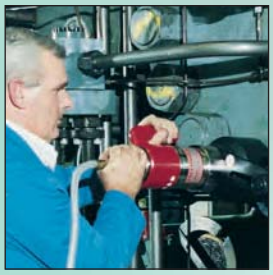
Model	Square Drive	Part No.	Range		Free Speed†	A	B	C	D min	D max	Tool Weight	Reaction Weight
	in		N.m	lbf.ft	rpm	mm	mm	mm	mm	mm	kg	kg
PT 2700 MTS	1	18027.MTS	880-2700	650-2000	25	108	524	140	556	585	18.0	2
PT 5500 MTS	1½	18028.MTS	1200-5500	885-4000	12.5	119	598	154	652	678	21.4	4

Small Diameter Series, Automatic Two Speed

Model	Square Drive	Part No.	Range		Free Speed†	A	B	C	D min	D max	Tool Weight	Reaction Weight
	in		N.m	lbf.ft	rpm	mm	mm	mm	mm	mm	kg	kg
PT 2700 AUT	1	18027.AUT	880-2700	650-2000	25	108	506	140	538	567	18	2
PT 4500 AUT	1	18038.AUT	2400-4500	1750-3300	13.5	108*	462	175	-	556	16	4
PT 5500 AUT	1½	18028.AUT	1762-5500	1300-4000	12.5	119	581	154	635	661	21.4	4

† Speed at maximum air pressure and in high gear

** Maximum width 140mm.*



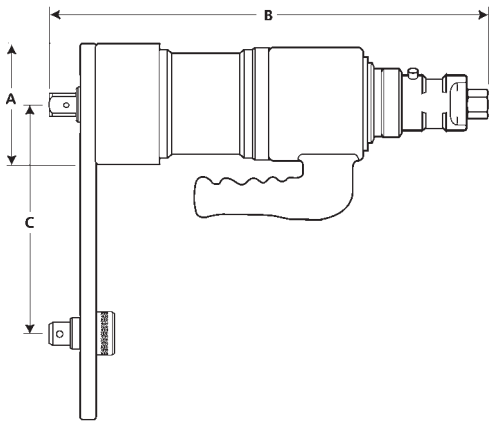
Pneutorque® Standard Series
Models to 3400 N.m, Single Speed

Based on the original Pneutorque, the 'Standard Series' Range is a direct result of over 40 years of refinement and development necessary to keep pace with industry's requirements today.

In use on many thousands of applications worldwide, Pneutorque Wrenches continue to represent the foundation of Norbar's powered tool range.

- Models available for almost every bolting application.
- Forward and reverse operation.
- Low operator fatigue – quiet, non impacting or pulsing.
- Repeatability of ±5%.
- Other reaction styles can be designed to suit specific applications.
- Electronic torque transducers can be fitted for precise torque monitoring.

PT5



PT2

Standard Series to 3400 N.m, Single Speed

Model	Square Drive	Part No.	Range		Free Speed†	A	B	C min	C max	Tool Weight	Reaction Weight
	in		N.m	lbf.ft	rpm	mm	mm	mm	mm	kg	kg
PT 1	¾	16031	160-680	120-500	30	108	368	83	217	10.6	2.2
PT 1	1	16011	160-680	120-500	30	108	373	83	217	10.6	2.2
PT 1A	1	16097	270-1200	200-900	15	108	373	83	217	11.1	2.2
PT 2	1	16013	515-1700	380-1250	9	108	373	83	217	11.1	2.2
PT 5	1	16015	880-3400	650-2500	5	119	424	83	264	14	2.5
PT 6	1½	16017	880-3400	650-2500	5	119	430	83	264	14	2.5

† Speed at maximum air pressure.

Pneutorque® Standard Series Models to 3400 N.m, Two Speed

Two Speed models offer all of the advantages of single speed versions but with the additional benefit of a run down speed five times greater than the final torque speed.

- Models available for almost every bolting application.
- Forward and reverse operation.
- Low operator fatique – quiet, no impacting or pulsing.
- Repeatability of ±5%.
- Other reaction styles can be designed to suit specific applications.
- Electronic torque transducers can be fitted for precise torque monitoring.

PT5 AUT *PT2 MTS*

Standard Series to 3400 N.m, Manual Two Speed

Model	Square Drive	Part No.	Range		Free Speed†	A	B	C min	C max	Tool Weight	Reaction Weight
	in		N.m	lbf.ft	rpm	mm	mm	mm	mm	kg	kg
PT 1 MTS	¾	16031.MTS	160-680	120-500	150	108	454	83	217	14.1	2.2
PT 1 MTS	1	16011.MTS	160-680	120-500	150	108	459	83	217	14.1	2.2
PT 1A MTS	1	16097.MTS	270-1200	200-900	75	108	459	83	217	14.6	2.2
PT 2 MTS	1	16013.MTS	515-1700	380-1250	45	108	459	83	217	14.6	2.2
PT 5 MTS	1	16015.MTS	880-3400	650-2500	25	119	510	86	264	17.5	2.5
PT 6 MTS	1½	16017.MTS	880-3400	650-2500	25	119	516	86	264	17.5	2.5

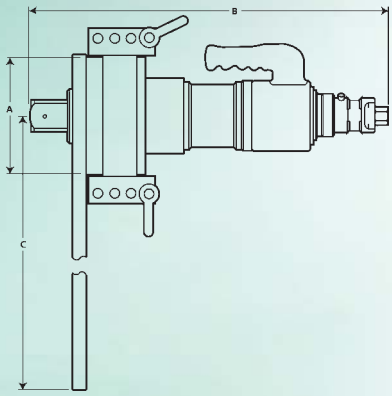
Standard Series to 3400 N.m, Automatic Two Speed

Model	Square Drive	Part No.	Range		Free Speed†	A	B	C min	C max	Tool Weight	Reaction Weight
	in		N.m	lbf.ft	rpm	mm	mm	mm	mm	kg	kg
PT 1 AUT	¾	16031.AUT	160-680	120-500	150	108	437	83	217	14.1	2.2
PT 1 AUT	1	16011.AUT	160-680	120-500	150	108	442	83	217	14.1	2.2
PT 1A AUT	1	16097.AUT	270-1200	200-900	75	108	442	83	217	14.6	2.2
PT 2 AUT	1	16013.AUT	515-1700	380-1250	45	108	442	83	217	14.6	2.2
PT 5 AUT	1	16015.AUT	880-3400	650-2500	25	119	493	86	264	17.5	2.5
PT 6 AUT	1½	16017.AUT	880-3400	650-2500	25	119	499	86	264	17.5	2.5

†Speed at maximum air pressure and in high gear

Pneutorque® Standard Series
Models to 100,000 N.m, Single Speed

- Models available for almost every bolting application, up to 100,000 N.m.
- Forward and reverse operation.
- Low operator fatigue – quiet, no impacting or pulsing.
- Repeatability of ±5%.
- Other reaction styles can be designed to suit specific applications.
- Electronic torque transducers can be fitted for precise torque monitoring. See page 83.
- Models 13 and 14 supplied with blank reaction plate for fabrication to specific requirements.



PT7 PT11

Standard Series to 100,000 N.m, Single Speed

Model	Square Drive	Part No.	Range		Free Speed†	A	B	C min	C max	Tool Weight	Reaction Weight
	in		N.m	lbf.ft	rpm	mm	mm	mm	mm	kg	kg
PT 7	1½	16066	1762-6000	1300-4500	2.5	144	457	146	333	19.7	6.3
PT 9	1½	16072	2710-9500	2000-7000	1.8	184	452	169	351	24.4	8.3
PT 11	2½	16046	4400-20000	3250-14700	1.2	212	546.3	-	500	38.6	13.3
PT 12	2½	18086	9500-34000	7000-25000	0.5	240	593	Blank Plate		49.8	6.5
PT 13	2½	16052	13550-47000	10000-35000	0.3	315	629	Blank Plate		102.2	6.9
PT 14	3½	16045	22375-100000	16500-73500	0.2	315	726	Blank Plate		119.4	10.4

† *Speed at maximum air pressure.*

Pneutorque® Standard Series
Models to 300,000 N.m, Two Speed

Two Speed Models offer all of the advantages of single speed versions but with the additional benefit of a run down speed five times greater than the final torque speed.

- Models available for almost every bolting and torque application, up to 300,000 N.m .
- Forward and reverse operation.
- Low operator fatigue – quiet, no impacting or pulsing.
- Repeatability of ±5%.
- Other reaction styles can be designed to suit specific applications.
- Electronic torque transducers can be fitted for precise torque monitoring. See page 83.
- Models 13 and 14 supplied with blank reaction plate for fabrication to specific requirements.

PT7 AUT

PT14 MTS


PT13 and PT14 are supplied on a trolley and with a Lubro Control Unit

Standard Series to 300,000 N.m, Manual Two Speed

Model	Square Drive	Part No.	Range		Free Speed†	A	B	C min	C max	Tool Weight	Reaction Weight
	in		N.m	lbf.ft	rpm	mm	mm	mm	mm	kg	kg
PT 7 MTS	1½	16066.MTS	1762-6000	1300-4500	12.5	144	543	146	333	23.2	6.3
PT 9 MTS	1½	16072.MTS	2710-9500	2000-7000	9	184	538	169	351	27.9	8.3
PT 11 MTS	2½	16046.MTS	4400-20000	3250-14700	6	212	632	-	500	42.1	13.3
PT 12 MTS	2½	18086.MTS	9500-34000	7000-25000	2.5	240	679	Blank Plate		53.3	6.5
PT 13 MTS	2½	16052.MTS	13550-47000	10000-35000	1.5	315	716	Blank Plate		105.7	6.9
PT 14 MTS	3½	16045.MTS	22375-100000	16500-73500	1	315	800	Blank Plate		122.9	10.4
PT 18 MTS	-	16054.MTS	85000-300000	62500-220000	0.4	520	930	-		380	-

† Speed at maximum air pressure.
PT 18 part number does not include an output drive or reaction. These components will be engineered uniquely for each application.

Standard Series to 100,000 N.m, Automatic Two Speed

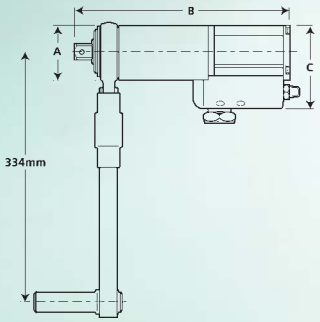
Model	Square Drive	Part No.	Range		Free Speed†	A	B	C min	C max	Tool Weight	Reaction Weight
	in		N.m	lbf.ft	rpm	mm	mm	mm	mm	kg	kg
PT 7 AUT	1½	16066.AUT	1762-6000	1300-4500	12.5	144	526	146	333	23.2	6.3
PT 9 AUT	1½	16072.AUT	2710-9500	2000-7000	9	184	521	169	351	27.9	8.3

†Speed at maximum air pressure and in high gear

Pneutorque® Remote Control 72mm Series

Remote control versions have no direction/shut-off control on the tool but rely on external pneumatic circuitry to provide this function. This opens up numerous application possibilities for the Pneutorque ranging from simple stall shut-off in a hazardous working environment to sophisticated, multi-spindle torque and angle shut-off systems.

- Stall control gives repeatability of ±5% on a given joint.
- Torque transducers and angle encoders available for all models. These form the basis of sophisticated control systems giving repeatability of up to ±2%. See page 83.
- Automatic Two Speed gearbox reduces run-down times.
- Each gearbox supplied with a standard reaction device or, on request, one specifically designed to suit the application.



PT1000 Remote

72mm Series, Remote Control

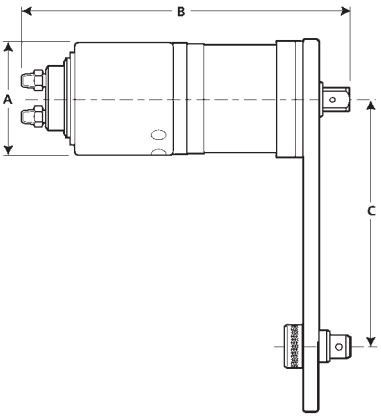
Model	Square Drive	Part No.	Range		Free Speed†	A	B	C	Tool Weight	Reaction Weight
	in		N.m	lbf.ft	rpm	mm	mm	mm	kg	kg
PT 500	¾	18031	90-500	66-370	35	72	290.2	111	6.4	1.7
PT 500 AUT	¾	18031.AUT	203-500	150-370	170	72	362.2	111	8.7	1.7
PT 1000	¾	18030	190-1000	140-740	15	72	290.2	111	6.4	1.7
PT 1000 AUT	¾	18030.AUT	488-1000	360-740	75	72	362.2	111	8.7	1.7
PT 1000	1	18032	190-1000	140-740	15	72	290.2	111	6.4	1.7
PT 1000 AUT	1	18032.AUT	488-1000	360-740	75	72	362.2	111	8.7	1.7
PT 1500	1	18029	300-1500	220-1110	9	72	290.2	111	6.4	1.7
PT 1500 AUT	1	18029.AUT	760-1500	560-1110	45	72	362.2	111	8.7	1.7
PT 2000	1	18034	400-2000	300-1450	6	72	290.2	111	6.4	1.7
PT 2000 AUT	1	18034.AUT	1000-2000	750-1450	30	72	362.2	111	8.7	1.7

†Speed at maximum air pressure and in high gear where applicable.

Pneutorque® Remote Control Standard Series

All Standard and Small Diameter Series Pneutorques are available fitted with the remote motor.

- Stall control gives repeatability of ±5% on a given joint.
- Torque transducers and angle encoders available for all models. These form the basis of sophisticated control systems giving repeatability of up to ±2%. See page 83.
- Automatic Two Speed gearbox reduces run-down times.
- Each gearbox supplied with a standard reaction device or, on request, one specifically designed to suit the application.



PT2 Remote

Standard Series, Remote Control

Model	Square Drive	Part No.	Range		Free Speed†	A	B	C min	C max	Tool Weight	Reaction Weight
	in		N.m	lbf.ft	rpm	mm	mm	mm	mm	kg	kg
PT 1	¾	16031.X	160-680	120-500	30	108	292	83	217	10.6	2.2
PT 1 AUT	¾	16031.XAUT	160-680	120-500	150	108	361	83	217	14.1	2.2
PT 1	1	16011.X	160-680	120-500	30	108	298	83	217	10.6	2.2
PT 1 AUT	1	16011.XAUT	160-680	120-500	150	108	366	83	217	14.1	2.2
PT 1A	1	16097.X	270-1200	200-900	15	108	298	83	217	11.1	2.2
PT 1A AUT	1	16097.XAUT	270-1200	200-900	75	108	366	83	217	14.6	2.2
PT 2	1	16013.X	515-1700	380-1250	9	108	298	83	217	11.1	2.2
PT 2 AUT	1	16013.XAUT	515-1700	380-1250	45	108	366	83	217	14.6	2.2
PT 5	1	16015.X	880-3400	650-2500	5	119	348	86	264	14	2.5
PT 5 AUT	1	16015.XAUT	880-3400	650-2500	25	119	417	86	264	17.5	2.5

†Speed at maximum air pressure and in high gear where applicable.