

Super Turbo Bolter

And associated drilling equipment
for the mining industry



Solutions from Materials Technology



Minova manufacture a range of compressed air operated, telescopic leg type drilling/bolting machines. These are lightweight, high performance machines, which were developed originally for the mining industry.

The design of the machines makes them readily adaptable to different types of drilling and bolting applications, and as such they can be used in the tunnelling and civil engineering industries. The machines offer flexibility, rapid set-up, low maintenance and operation costs and ease of use.

Minova are able to provide design proposals for the mount and operation of machines to suit different application.

Minova Super Turbo Bolter



The flagship of the Minova range of machines is the Super Turbo Bolter, which has been designed for the drilling and installation of roofbolts and long tendons, and is supplied in six standard sizes.

Benefits to the user:

- **Leg Extension**

Due to the side mounting of the motor the design of the Super Turbo Bolter enables it to achieve greater extension on two leg stages than other machines on 3 stages.

This is very important since there is almost 50% more thrust developed when drilling or installing a bolt using the Super Turbo Bolter as compared to other machine types which require a 3rd stage leg for similar reach.

Other benefits of this design arrangement are faster drilling times and less drill steel changes.

- **Impact Resistant and Hard Wearing Leg Material**

The Super Turbo leg assembly is made of fundamentally different materials and construction technique when compared to other machines which gives it a much longer operational life and resistance to damage. This gives the user longer machine availability rates and reduces leg replacement costs.

- **High Performance Piston Motor**

The Super Turbo Bolter is powered by a four cylinder high performance and low maintenance motor. This motor design gives higher and consistent power output with longer service intervals.

- **Lightweight and strong**

The careful selection of materials and design allows the Super Turbo to be the lightest and strongest machine available which enables it to operate reliably and effectively in even the toughest mining environments.



Machine power requirements

Operating air pressure	400 kPa – 620 kPa	60 – 90 psi
Air consumption	2.8 – 3.4 m ³ /min	100 – 120 cfm
Water pressure	1030 – 2755 kPa	150 – 400 psi
Water volume	9 – 18 litres/min	2 – 4 gal/min

Performance (at 90psi operating pressure)

Thrust at stage 1	10.1 kN
stage 2	8.3 kN
stage 3	6.3 kN

Chuck speed and torque

Free rotation speed	600 rpm	650 rpm	700 rpm
Output stall torque	245 Nm	200 Nm	165 Nm
Maximum torque	350 Nm	350 Nm	350 Nm

Specifications

Part Number	No.of stages	Closed height	Open height	Weight kg
ST 1000/500 3S	3	1000 mm	3000 mm	37.5
ST 1200/700 3S	3	1200 mm	3800 mm	40.5
ST 1345/900 2S	2	1345 mm	3450 mm	40.5
ST 1345/900 3S	3	1345 mm	4400 mm	43.0
ST 1500/1300 2S	2	1500 mm	3900 mm	43.0
ST 1700/1500 2S	2	1700 mm	4600 mm	45.5
Chuck size	19mm hex. standard (other options available)			

Features of the Super Turbo Bolter

- High speed drilling and bolt insertion
- Effective high performance thrust
- High torque motor
- Optional chuck speed
- Lightweight
- Reduced noise and vibration
- Balanced for ease of handling
- Two and three stage machines available
- Suitable for roof bolting and cable bolting
- UK Coal Approved Ref: RJB 31G





Other technologies available include:

- **Rock bolting systems**
resin capsules, roof bolters and bolts
- **Ground support**
high volume output grouts for strata support
- **Sprayable membranes**
polymer systems for strata control
- **Strata injection systems**
for ground consolidation and water sealing

Minova Remote Rib Bolter



A versatile bolting system for a variety of strata reinforcement applications.



Machine Specifications

	Closed Height	Open Height	Weight kg
Drill/Feed unit	1700mm	Stroke 1200mm	45
Stinger	2400mm	4300mm	30

Recommended pressures and flows

Operating air pressure	400 kPa – 620 kPa	60 – 90 psi
Air consumption	2.8 – 3.4 m ³ /min	100 – 120 cfm
Water pressure	1030 – 2755 kPa	150 – 400 psi
Water volume	9 – 18 litres/min	2 – 4 gal/min

Drill/feed unit performance

Output torque at stall	220Nm	160 lbf/ft
Chuck speed	500 rpm	
Thrust at 620 kPa (90 psi)	10 kN	2250lbf
Retract force	3.7 kN	830 lbf

Stinger performance

Thrust at 620 kPa (90 psi)	10 kN	2250 lbf
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Features of the Remote Rib Bolter

- Eliminates vibration problems
- High speed drilling
- Power retract
- Remote Controls on Umbilical
- 360° rotation
- Easy and safe operation
- Low maintenance cost
- Mounting option available
- UK Coal Approved Ref: RJB 375G



Minova Stinger



Features of the Minova Stinger

- Supplied with top spike or mesh catcher
- Easy to handle
- One size for a full range of road way heights
- Power retract
- Low maintenance costs
- Latest technology and approved materials
- Twin foot spikes giving good stability
- Built in dump valve prevents damage and over pressurising of the leg
- UK Coal approved Ref: RJB 367C

The Minova Stinger is a lightweight aid to safe and efficient roof bolting.

Versatile uses include locating and supporting 'W' straps and mesh during roof bolt installations.

The provision of a control handle allows the operator to remain under supported ground giving added protection.



Specifications and Machine Details

Closed height	2400 mm	7' 10"
Extended height	4300 mm	14'
Weight	30 kg	66 lb
Operating pressure	620 kPa	90 psi
Thrust at 620 kPa	10 kN	2250 lbf



Details of the Stinger tops

Minova Remote Cable Bolter

The Minova Remote Cable Bolter is designed for rapid, large diameter and long hole drilling with unrivalled performance.



Features of the Minova Remote Cable Bolter

- Eliminates vibration problems
- Remote Controls on Umbilical
- Effective high performance thrust
- High torque motor
- Optional chuck speed
- Light weight
- Reduced noise
- Low maintenance cost
- UK Coal Approved Ref: RJB 375G

Machine Specifications

	Closed Height	Open Height	Weight
Drill unit	1000 mm	2300 mm	35 kg
Stinger	2400 mm	4300 mm	30 kg

Recommended pressures and flows

Operating air pressure	400 kPa – 620 kPa	60 – 90 psi
Air consumption	2.8 – 3.4 m ³ /min	100 – 120 cfm
Water pressure	1030 – 2755 kPa	150 – 400 psi
Water volume	9 – 18 litres/min	2 – 4 gal/min

Drill unit performance

Output torque at stall	245 Nm	180 lbf/ft
Chuck speed	500 rpm	
Thrust at 620 kPa (90 psi)		
Stage 1	10 kN	2250 lbf
Stage 2	8.3 kN	1854 lbf

Stinger performance

Thrust at 620 kPa (90 psi)	10 kN	2250 lbf
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