

MINING / CONSTRUCTION

Super Turbo Bolter

DESCRIPTION

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.

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

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 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.

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



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.

APPLICATION AND USE

Typical applications include mining, quarrying, tunnelling and civil engineering. Leg mounted Super Turbo roof bolting machines are designed to drill vertical roof holes and place bolts.

ADVANTAGES

- Leg Extension
- Impact Resistant and Hard Wearing Leg Material
- High Performance Piston Motor
- Light and strong
- High speed drilling and bolt insertion
- Effective high performance thrust
- High torque motor
- Optional chuck speed
- Reduced noise and vibration
- Balanced for ease of handling
- Two and three stage machines available

TECHNICAL DATA

POWER REQUIREMENTS

Parameter	Details
Operating air pressure	400 kPa - 620 kPa
Air consumption	2.8 - 3.4 m ³ /min
Water pressure	1030 - 2755 kPa
Water volume	9 - 18 litre/min

PERFORMANCE AT 620 KPA OPERATING PRESSURE

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

CHUCK SPEED AND TORQUE

Parameter	Gear 11 tooth	Gear 12 tooth	Gear 13 tooth
Free rotation speed	600 rpm	650 rpm	700 rpm
Output stall torque	235 Nm	200 Nm	165 Nm
Maximum torque	350 Nm	350 Nm	350 Nm

SPECIFICATIONS

Machine type	No. of stages	Closed height	Extended height	Weight
ST 1000/500 3S	3	1000 mm	3000 mm	38 kg
ST 1200/700 3S	3	1200 mm	3800 mm	41 kg
ST 1345/900 2S	2	1345 mm	3450 mm	41 kg
ST 1500/1300 2S	2	1500 mm	3900 mm	42 kg
ST 1700/1500 2S	2	1700 mm	4600 mm	43 kg
Chuck size	19 mm or 22 mm (other options available)			

APPLICATION METHOD

1. Position the machine on the leg to suit the position of the bolt installation
2. Place the correct length drill rod complete with bit into the drill chuck
3. Commence thrusting slowly until the drill bit contacts the strata, at this stage start to rotate the drill to core the hole.
4. Turn water ON and increase both THRUST and ROTATION to achieve an acceptable rate of penetration.
5. DO NOT apply too much thrust on commencement of drilling as this may bend / damage the drill steel.
6. When full depth of hole is achieved, maintain drill rotation whilst turning the thrust control to OFF.
7. Continue rotating whilst operating the retract control to achieve a clean hole.
8. Turn water off.
9. Retract the leg unit to its fully retracted position.
10. Turn all controls to the off position.
11. Install resin and bolts following manufacturers recommendations.
12. Reposition machine for next hole and repeat drilling cycle.

PACKAGING AND TRANSPORTATION

Machine type	Details
ST 1000/500 3S	Box 1100x520x470
ST 1200/700 3S	Box 1300x520x470
ST 1345/900 2S	Box 1445x520x470
ST 1500/1300 2S	Box 1600x520x470
ST 1700/1500 2S	Box 1800x520x470

APPROVALS AND CERTIFICATES

- Certificate ATEX

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