

savings that are

Right on the Button!

When considering button bit grinding equipment look to the leader. CME Blasting and Mining Equipment has developed the most sophisticated grinding solution in the world. Since 1978, CME has focused on precision components, worldwide service ability, large spare parts inventory, and an in-house technical team to personally

answer your questions. Learn how CME can save you up to 35% in operating costs. That's big savings! And we can prove how you can do it! Call us for a personalized plan that's *Right on the Button* for you.

Overdrilling your bits does not make economic sense

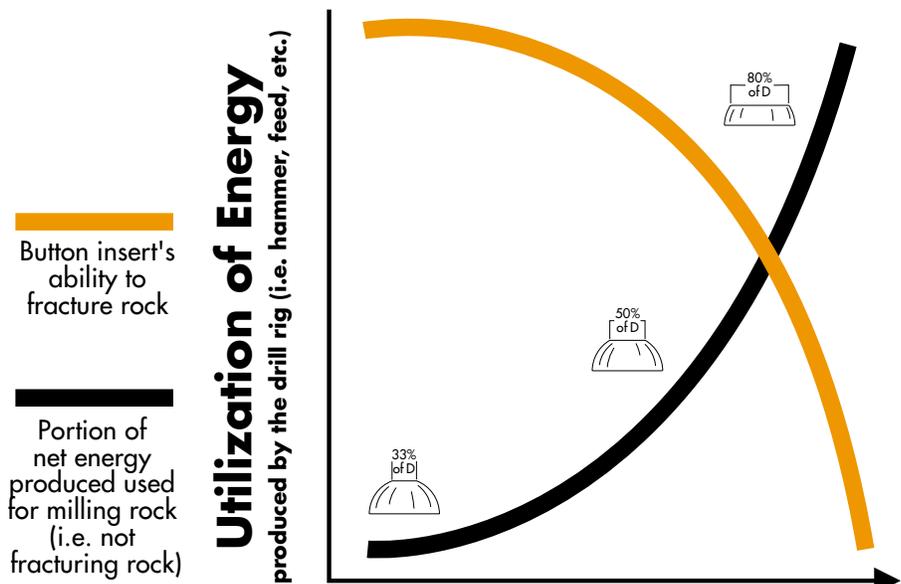
If we ignore the very real and well recognized losses in production, energy utilization, and the added wear and tear on the drill string and rig that blunt drill bits in effect cause, and instead focus on the cost of grinding, the effects are stunning.

Since there are so many actual, in practice variables in the button wear configurations of button bits, we can make some theoretical calculations that will adequately demonstrate the effect of the relationship between button flatness, the volume of carbide needed to be removed to return a button bit into service, and Grinding Cup life.

If we compare grinding of buttons with 50% wear flats versus buttons with 80% wear flats, the estimated Grinding Cup life can be 6 times greater when grinding the buttons with lesser wear. In this case, this difference in estimated Grinding Cup life is simply due to the 6

times greater volume of carbide needed to be removed from the buttons with the greater wear. The relationship between buttons with 33% and 80% wear flats is even more astounding. The graph clearly shows how the effect of over-drilling bits can

result in significant added costs in Grinding Cup consumption. It is equally important, however, to recognize cost factors such as the added time required to restore over-drilled bits, as well as the wear and tear on the Grinder and other service equipment.



Common features of all CME grinding equipment

The grinding method works on the same principle on all patented CME grinders: the grinder head, once positioned on top of the button, aligns the grinding cup over the center of the button, ensuring proper grinding of each carbide insert handsfree. Worn gauge and face buttons are

restored to their original shape fast and efficiently with the help of timed cycles.

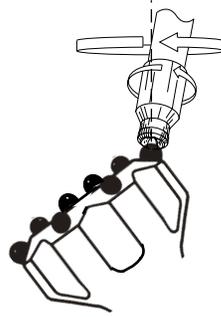
To ensure optimum results, Super Diaroc HD for maximum performance and Super Diaroc G2 grinding cups have been developed for grinding carbide

buttons and steel in one easy step. CME Super Diaroc HD and Super Diaroc G2 grinding cups are available in ballistic, semi-ballistic/conical, and spherical profiles ranging from 6mm to 26mm. No tools are required for grinding cup replacement.

JUNIOR™

The Junior is designed to be installed in either a stationary or mobile location. This permits grinding on the road or in a workshop.

The Junior is easy to operate. Features such as a timer, self-centering head, automatic flushing and cooling, automatic feed device, and wheels makes this grinder one of the most versatile and effective solutions for your grinding needs.



Grinder Operation



Standard Super Diaroc G2™

Premium Super Diaroc HD™



TECHNICAL DATA*

Spindle Speed:
22,000 RPM

Working Air Pressure:
7-8 bar (110-115 psi)

Air Consumption:
2.2 m³/min (78 ft³/min)

Max. Water/Coolant Press.:
4 bar (60 psi)

Min. Air Supply Line C6:
19mm (3/4") ID

Weight excl. packaging:
76 Kg (168 lbs)

Grinder Dimensions:
870 x 930 x 1600mm
34" x 36" x 63"

Weight incl. packaging:
144 Kg (317 lbs)

Transport Dimensions:
1300 x 800 x 760mm
51" x 32" x 30"

Sound Level:
87 dB(A)

Vibration Level (ISO-DIS 8662):
<2.5 m/s²

* semi-hydraulic version also available

Bit Holder Capacity:

Threaded Bits*
Bit Skirt Diameter:
max 146mm (5 3/4")

Down The Hole Bits
Bit Shank Diameter:
max 146mm (5 3/4")

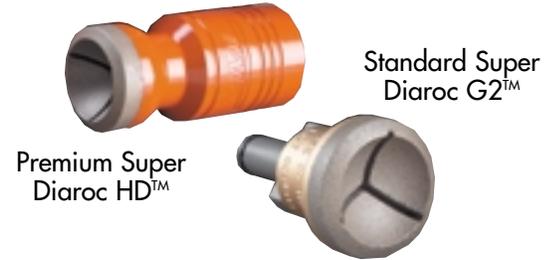
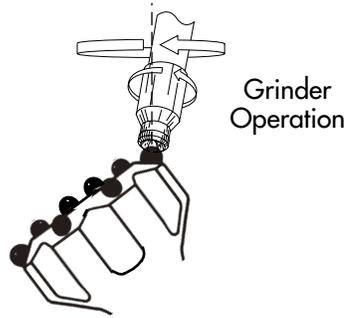
* use Multi-Bit Adapter for inserting up to 3 smaller bits.

Junior

MINI JUNIOR™

The Mini Junior is designed specifically for mounting on a drill rig, but can easily be set up to operate in any workshop.

The Mini Junior is the smallest of the family, but performs equally as well as any of its bigger siblings. Capable of handling both DTH bits up to 10" (254mm) and Threaded Bits gives the operator the versatility to take on virtually any project.



TECHNICAL DATA*

- Spindle Speed:**
22,000 RPM
- Working Air Pressure:**
7-8 bar (100-115 psi)
- Air Consumption:**
2.2 m³/min (78 ft³/min)
- Max. Water/Coolant Press.:**
4 bar (60 psi)
- Min. Air Supply Line C6:**
19mm (3/4") ID
- Weight excl. packaging:**
48 Kg (106 lbs)
- Grinder Dimensions:**
500 x 500 x 850mm
20" x 20" x 34"
- Weight incl. packaging:**
65 Kg (143 lbs)
- Transport Dimensions:**
900 x 500 x 550 mm
36" x 20" x 22"
- Sound Level:**
92 dB(A), 82 dB(A)**
- Vibration Level (ISO-DIS 8662):**
<2.5 m/s²

* semi-hydraulic version also available

** with 20 mm silencer hose attached to exhaust outlet (to lead away noise)

Bit Holder Capacity:

Threaded Bits

Bit Skirt Diameter:
max 146 mm (5³/₄")

Down The Hole Bits

Bit Shank Diameter:
max 146 mm (5³/₄")

Mini Junior

SINGLE ROBOT ARM™

The Single Robot Arm can facilitate a multiple number of Threaded and/or DTH bits (38mm-165mm). This machine is ideal for workshops that maintain a higher volume of bits in turnover. The operator can effectively set up two bits on one side of the work bench while the grinder is in operation on the other side of the work bench.



TECHNICAL DATA*

Spindle Speed:
22,000 RPM

Working Air Pressure:
7-8 bar (100-115 psi)

Air Consumption:
2.2 m³/min (78 ft³/min)

Max. Water/Coolant Press.:
4 bar (60 psi)

Min. Air Supply Line C6:
19mm (3/4") ID

Weight excl. packaging:
170 Kg (374 lbs)

Grinder Dimensions:
1260 x 1150 x 2000mm
50" x 45" x 79"

Weight incl. packaging:
220 Kg (484 lbs)

Transport Dimensions:
1300 x 800 x 760mm
51" x 32" x 30"

Sound Level:
87 dB(A)

Vibration Level (ISO-DIS 8662):
<2.5 m/s²

* semi-hydraulic version also available

Bit Holder Capacity:

Threaded Bits

Bit Skirt Diameter:
max 100mm (4")

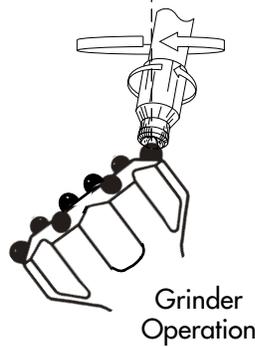
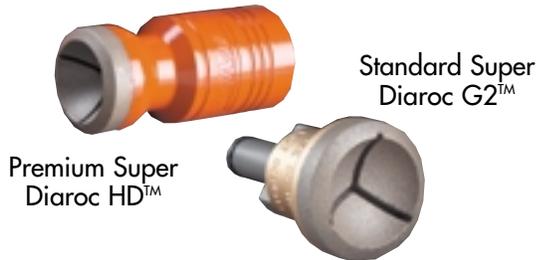
Down The Hole Bits

Bit Shank Diameter:
max 100mm (4")

Single Robot Arm

DOUBLE ROBOT ARM™

The Double Robot Arm is the ideal system for handling jobs that require bigger demands. Available in either one or two arm configuration and various bit holders allows the machine to adapt and/or perform to your needs.



TECHNICAL DATA**

Spindle Speed:
22,000 RPM

Working Air Pressure:
7 bar (100-115 psi)

Air Consumption:
2.2 m³/min (78 ft³/min)*

Max. Water/Coolant Press.:
4 bar (60 psi)

Min. Air Supply Line C6:
19mm (3/4") ID

Weight excl. packaging:
315 Kg (693 lbs)***

Grinder Dimensions:
1650 x 1150 x 2000mm
65" x 45" x 79"

Weight incl. packaging:
345 Kg (759 lbs)

Transport Dimensions:
1720 x 900 x 750mm
68" x 36" x 30"

Sound Level:
87 dB(A)*

Vibration Level (ISO-DIS 8662):
<2.5 m/s²

* Specification listed is per
Robot Arm

** semi-hydraulic version also
available

*** Complete with two (2) Robot
Arms

Bit Holder Capacity:

Threaded Bits*

Four bits with bit skirt diameter:
max 146mm (5 3/4")

Down The Hole Bits

Four bits with bit shank diameter:
max 146mm (5 3/4")

*use Multi-Bit Adapter for insert-
ing up to a total of 12 smaller
Threaded Bits.

Optional Bit Holders

Multi-Bit Holder for Threaded Bits only

(up to 8 bits/Bit Holder)

-Skirt diameter, max 70mm (2 3/4")

Large DTH Bit Holder

(includes mechanical tilting and
pneumatic bit indexing) - Shank
diameter, max 190mm (7 1/2")

- Bit Head diameter, max 559mm
(22")

Double Robot Arm fitted with one arm

VS-200 GTA™ VS-220 HD™

HAND-HELD GRINDERS

This high powered grinder head, primarily designed to be used in the powerful CME semi-automatic button bit grinders, is configured for hand-held use by ergonomic placement of a very efficient throttle and support handle. This high powered grinder incorporates both the HD and GTA chuck design depending on the level of performance required. Simplicity in design with unmistakable finesse, while applying the latest manu-

facturing processes available, has resulted in a grinder with truly the operator in mind. Ergonomics and power are combined to give the operator a very powerful tool to get the job done quickly and effectively. The refinements to the porting in the grinder coupled with a 33% increase in the effective motor displacement and an efficient throttle handle design has resulted in record breaking power and torque levels.



VS 220-HD™

TECHNICAL DATA

Spindle Speed:
22,000 RPM

Power Output:
1.8 kW (2.4 Hp)

Working Air Pressure:
7-8 bar (100-115 psi)

Air Consumption:
2.2 m³/min (78 ft³/min)

Max. Water Pressure:
4 bar (60 psi)

Air Hose Diameter
(recommended):
19 mm (3/4" ID)

Water Hose Diameter
(recommended):
6 mm (1/4" ID)

Weight excl. packaging:
2.6 Kg (5.7 Lbs)

Weight incl. packaging:
3.5 Kg (7.7 Lbs)

Transport Dimensions:
460 x 250 x 200 mm
18" x 10" x 8"

Sound Level:
92 dB(A), 82 dB(A)*

Vibration Level (ISO-DIS 8662):
<2.5 m/s²

* VS-220 HD with 50 mm (2")
ID Silencer Hose

Grinding Instructions

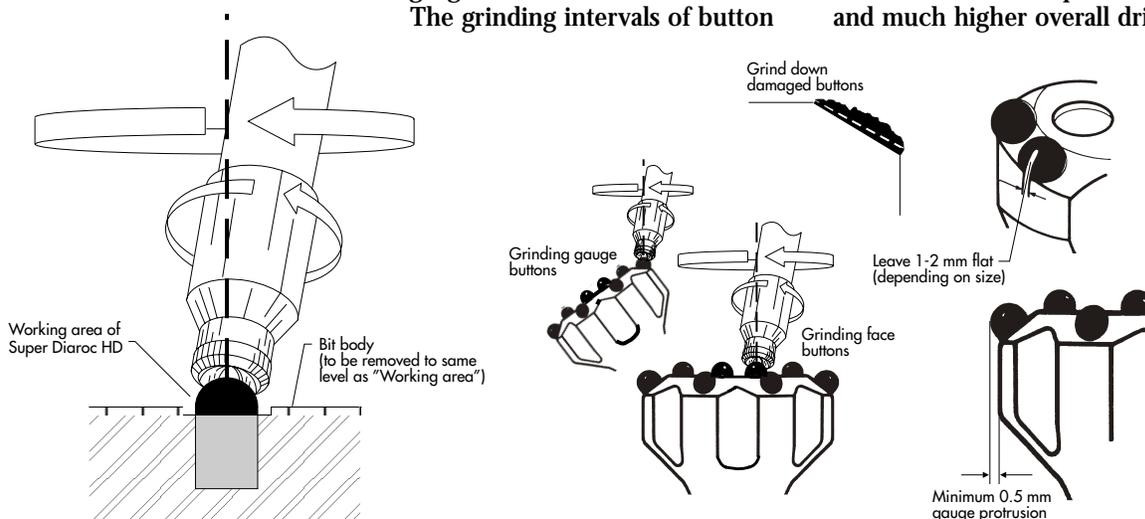
Grinding of button bits should optimally be done when the wear on the buttons is to a maximum of one half of the button diameter.

The button protrusion should be no less than half of the button diameter. If necessary, uniformly remove the appropriate amount of steel from face and gauge of bit.

The grinding intervals of button

bits should be closely followed by the drill operator.

Improper handling of the button bit will result in decreased bit life, a drastic reduction in penetration rate, and much higher overall drilling cost.



To grind a button correctly, oscillate the grinder in an orbital motion around the axis of the button insert.

GRINDING CUPS

CME grinding cups are specially designed for use in CME grinding machines. Two models, Super Diaroc HD for maximum performance and Super Diaroc G2, have been developed using premium grade materials and the latest manufacturing techniques combined with field testing to ensure optimized grinding results and long service life.

Conventional grinding cups are limited as they are unable to control excessive vibration during the grinding cycle. As the tool vibrates the profile breaks down over its life and eventually flattens the

face of the grinding cup. As a result, the carbide profile flattens and protrusion of the carbide insert is reduced which affects the bit's ability to penetrate the rock effectively. This means diminished productivity and increased costs during drilling because the re-sharpened carbide inserts are unable to crush rock efficiently.

Premium materials, precision manufacturing technology, innovative design and longtime global experience sets CME apart from the competition.

- Specially formulated matrix for maximum performance
- Maintain proper carbide profile time and time again
- Strategically positioned flushing outlets for improved flushing and cooling
- Maximize drilling economy
- Field Proven

Premium Super Diaroc HD™



Standard Super Diaroc G2™

BIT BLASTER™ MINI BIT BLASTER™



Bit Blaster

The Bit Blaster and Mini Blaster are capable of handling threaded bits and DTH bits up to 10" (254mm).

The process of steel removal is carried out by uniformly blasting specially formulated steel grit of selected hardness, at controlled volumetric ratio and pressure, over the face and gauge of the bit using timed cycles while the bit is rotated. The result is rapid, controlled

removal of steel from the face and selected areas of the bit gauge which results in proper restoration of button protrusion.

Other methods of steel removal such as hazardous acid baths or grinding are much less productive and will raise several concerns about the safety of workers and the surrounding environment.



Mini Bit Blaster

TECHNICAL DATA

Mini Bit Blaster

Working Air Pressure:
7 bar (100 psi)

Air Consumption:
3.2 m³/min (115 ft³/min)

Operational Noise Level
(ISO 3744): 90 db(A)

Bit Type and Size:
Max Threaded bit diameter is 152mm (6")
Max DTH bit diameter is 254mm (10") with a max shaft diameter of 190mm (7 1/2")

Electrical requirements:
please specify

Empty Weight :
480 Kg (1056 lbs)

Operational Weight :
595 Kg (1310 lbs) plus weight of bits

Shipping Weight :
approx. 700 Kg (1541 lbs)

Blaster Dimensions:
1295 x 1440 x 1676mm
51" x 57" x 66"

Dust Collector Dimensions:
762 x 762 x 2413 mm
30" x 30" x 95"
(incl. stack silencer)

Transport Dimensions of Blaster:
1320 x 1470 x 1905mm
52" x 58" x 75"

Bit Blaster specifications are available upon request.

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