

SHAREATE

Single Roller Bit



SHAREATE TOOLS LTD.

Introduction of single roller bit

● Product range

SHAREATE TOOLS LTD., aiming at complexity and variability of rotary drill bit market, has developed a series of rotary drill bits with single roller, two roller and tricone roller, which can adapt to the compressive strength from strongly weathered rock to slightly aerated rock from 50MPa to 150MPa, to meet customer's specific need to the greatest extent, also can customize bit model according the market requirements.

● Product feature

1. Bearing structure

Roller bit adopting steel ball lock sliding bearing and the bearing surface welding wear-resistant alloy which has high wear-resisting performance, silver treatment of bearing surface improving the lubrication which reducing friction surface temperature and bearing anti-seizure ability, effectively improve the bearing life and reliability under the condition of high pull-down and high speed drilling.

2. Sealing structure

Two bearing structures are available:

- High saturated butadiene rubber o-ring seal, optimized seal

compression volume which improves bearing seal reliability.

- Flat composite sealing ring, special composite material and structure which improve the wear resistance.

3. Lubrication system

New type of high temperature environmental protection grease with low wear and vacuum grease injection, it can improve high temperature resistance which provides good lubrication for bearing system and ensures normal operation of the sealing ring, effectively improves the bearing working life.

4. Cutting structure

Single cone bit adopts high strength and toughness carbide insert which improves impact resistance and reduces the risk of broken insert, optimized design of cutting rows and quantity of inserts, the exposed height and unique shape of insert which have high wear resistance and excellent cutting ability.

5. Lug structure

Lug back is protected by welding carbide layer and inserts, both sides of lug are welded with protection wear-resistant carbide layer to reduce the wear of cuttings to the bit.

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● Application

Medium, breazed granite, limestone, dolomite, graveletc. Medium and high compressive strength formation, strong homogeneity, medium and low abrasive formation.

Compressive strength : 50 ~ 130MPa

● Special Feature

| | |
|--------------------|----------------------------------|
| IADC Code: | 6-1-7 |
| Bearing: | Journal bearing |
| Sealing: | Flat composite ring |
| Cutting structure: | Conical |
| Rows/Qty: | 7/52 |
| Shirttail/Lug | Welding carbide & adding inserts |



● Crashing rock width

114~118mm

● Recommend pull-down

Pull-down on the Cylinder: 20--30 T (maximum pull-down on every single cone bit: 5-6 T)

- Operating suggestions

| Rock formation | Recommend pull-down | Recommend ROP | |
|----------------------------|---------------------|----------------|----------------------|
| | | Hole depth (m) | Rotation Speed (RPM) |
| Medium hard (50-100Mpa) | 20-30 T | 0.8-1.5 | 12-16 |
| | | 1.5-2 | 10-12 |
| | | 2 -2.5 | 6-10 |
| | | 2.5-2.8 | 3-6 |
| Hard (80-150Mpa) | 20-35 T | 0.8-1.5 | 10-12 |
| | | 1.5-2 | 8-10 |
| | | 2 -2.5 | 5-8 |
| | | 2.5-2.8 | 2-5 |

Note: in the same parameter range, if the cylinder diameter is larger, then rotation speed will be lower. The rated pull-down on single cone bit is 5-7 T, and rated speed is 60-100rpm.

9 YHV637

● Application

Granite, basalt, quartz porphyry, gravel, etc. Medium and high compressive strength formation, strong formation homogeneity, mixed formation, high abrasive formation.

Compressive strength :80 ~ 150MPa

● Special Feature

| | |
|--------------------|-------------------------------------|
| IADC Code: | 6-3-7 |
| Bearing: | Journal bearing Flat composite |
| Sealing: | ring |
| Cutting structure: | Conical |
| Rows/Qty: | 6/42 |
| Shirttail/Lug | Welding carbide & adding inserts |



● Crashing rock width

114~120mm

● Recommend pull-down

Pull-down on the Cylinder: 20--35 T (maximum pull-down on every single cone bit: 5-6 T)

- Operating suggestions

| Rock formation | Recommend pull-down | Recommend ROP | |
|----------------------------|---------------------|----------------|----------------------|
| | | Hole depth (m) | Rotation Speed (RPM) |
| Medium hard (50-100Mpa) | 20-30 T | 0.8-1.5 | 12-16 |
| | | 1.5-2 | 10-12 |
| | | 2 -2.5 | 6-10 |
| | | 2.5-2.8 | 3-6 |
| Hard (80-150Mpa) | 20-35 T | 0.8-1.5 | 10-12 |
| | | 1.5-2 | 8-10 |
| | | 2 -2.5 | 5-8 |
| | | 2.5-2.8 | 2-5 |

Note: in the same parameter range, if the cylinder diameter is larger, then rotation speed will be lower. The rated pull-down on single cone bit is 5-7 T, and rated speed is 60-100rpm.



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