



Shock Sub SHOCK ABSORBER



INNOVATION

Our design engineers carefully analyze each drilling application and develop practical and comprehensive solutions for even the most complex challenges.



QUALITY

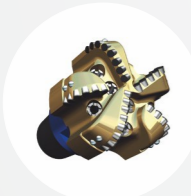
Meticulous craftsmanship is one of our hallmarks. No product leaves our factory without passing some of the strictest quality control standards in the industry.



SERVICE

Our marketing teams and field engineers, with local knowledge and experience, offer one-on-one support to customers around the world.

BESTE offers a full line of fixed cutter bits and premium downhole drilling tools.



Matrix and Steel Body PDC Bits



Bi-Center Bits



Mud Motor



Shuriken® Reamer



Stiletto® Under Reamer



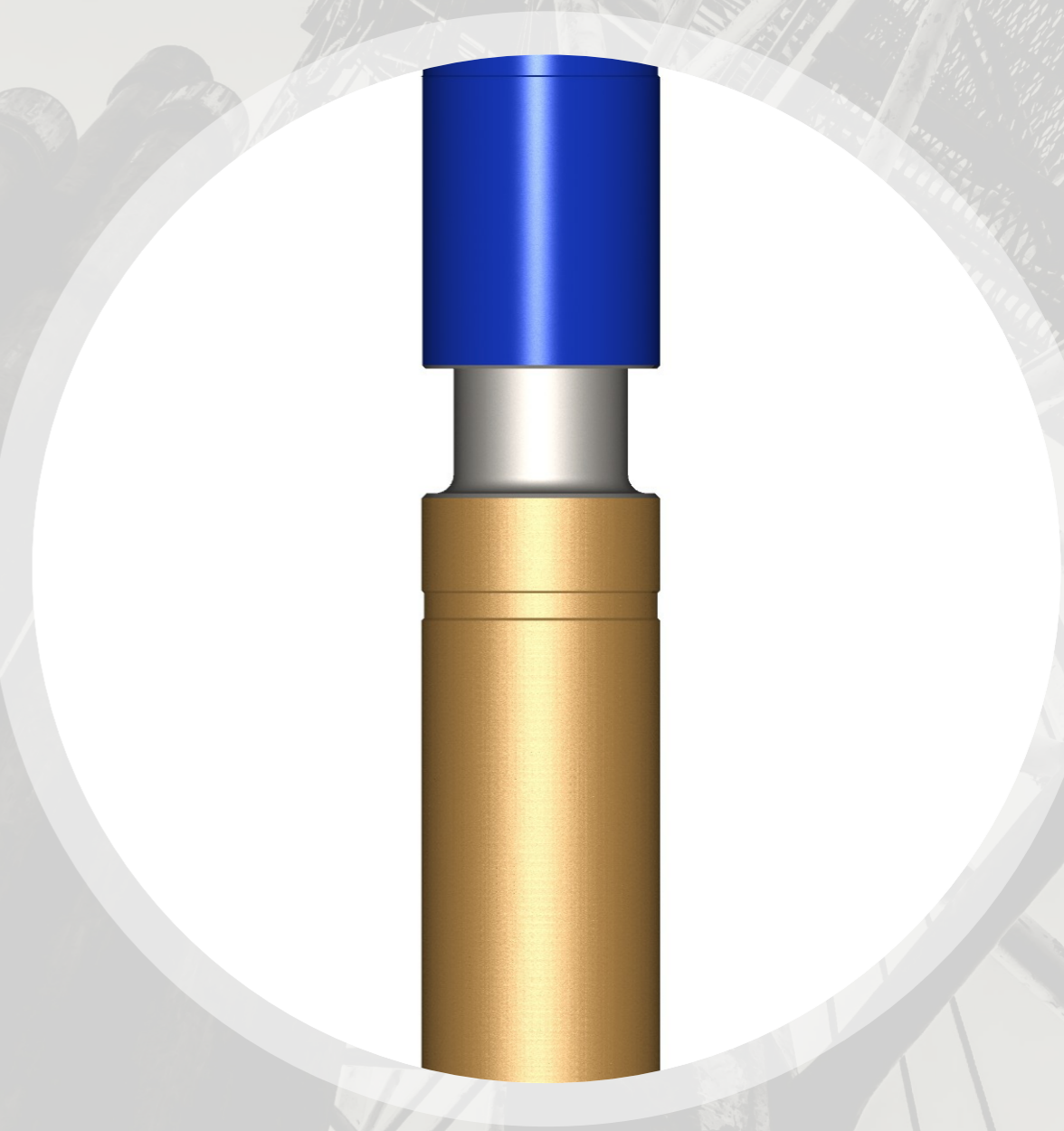
EXCITE® Circular Impact Accelerator



BESTE

Shock Sub SHOCK ABSORBER

Effective vibration damping of the drill string



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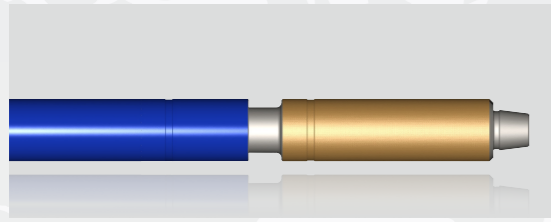
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Shock Sub SHOCK ABSORBER

Effective vibration damping of the drill string



When drilling in hard rocks, broken formations, and alternating soft and hard formations, with each rotation of the drill bit, it can generate a "peak and valley" vibration mode at the bottom of the well, resulting in periodic vibration of the drill string. The use of shock absorber in BHA can reduce the adverse effects of axial load fluctuations during drilling operations.

The shock sub incorporates a mandrel with a male spline interlocked with a female drive cylinder. This interlock allows for controlled upward and downward movement while transferring the rotational loads to the drill string. Constant load is maintained regardless of hole depth, bit weight, pump pressure or torque. The BESTE shock sub features seals that isolate drilling fluid from the internal components.

Working Principle

- Energy absorption is accomplished through the use of a Belleville spring assembly
- Force dampening is accomplished through the use of fluid mechanical and mechanical friction

Benefits

- Improve ROP
- Longer bit life
- Reduce the vibration load of drilling equipment
- Protect BHA and drill string
- Decrease drilling cost per foot

Specification

Tool Joint Connection	Tensile Strength lbf(N)	Tensile Strength kN(kN)	Tool Joint Connection	Tensile Strength lbf(N)	Tensile Strength kN(kN)	Tool Joint Connection	Tensile Strength lbf(N)	Tensile Strength kN(kN)
4.75 (121)	1.75 (44)	3-1/2 IF BOX 3-1/2 IF BOX	415000 (1846000)	17500 (23700)	600 (270)	11.5 (3.5)		
5.0 (127)	1.75 (44)	Xt39 BOX Xt39 PIN	589000 (2620000)	31000 (42000)	800 (360)	11.5 (3.5)		
6.5 (165)	2.25 (57)	4-1/2 IF BOX 4-1/2 XH PIN	800000 (3559000)	57000 (77282)	1300 (590)	12.0 (3.68)		
8.0 (203)	3 (76)	6-5/8 REG BOX 6-5/8 REG PIN	1100000 (4893000)	84000 (113900)	1800 (817)	13.5 (4.12)		
9.5 (241)	3 (76)	7-5/8 REG BOX 7-5/8 REG PIN	1800000 (8007000)	150000 (203373)	2700 (1225)	13.5 (4.12)		
12.0 (305)	3.25 (83)	7-5/8 H90 BOX 7-5/8 H90 PIN	2300000 (10230000)	240000 (325400)	4500 (2014)	13.8 (4.12)		
14.0 (356)	3.25 (83)	8-5/8 H90 BOX 8-5/8 H90 PIN	2300000 (10230000)	400000 (542300)	6200 (2182)	14.3 (4.36)		

Features

- Variable spring rate meets different operational requirements
- Long stroke provides maximum travel
- Suitable for temperatures up to 300 °F [149°C] for standard seal kits or 500°F[260°C] for high temperature seal kits
- The spring compresses or elongates according to the axial load to maintain stable bit weights
- High lateral stiffness
- Larger inner bore allows high flow rates and passing of wire line equipment
- Able to operate at wide range of bit weights
- The shock sub does not need to be activated to operate

High Strength Construction

- High-strength ductile materials
- Key components are cold-worked, for better fatigue life
- Can withstand high-pressure and high-temperature environments
- Super HVOF mandrel coating for extreme corrosion and wear resistance
- Heavy Duty mud scrapers and seals
- Heavy Duty drive system for resistance to torque and impact damage
- FEA fatigue analysis design

Maximum Hole Size:

Tool size inches	Maximum Hole Size inches
4.75	7.875
5	8.75
6.5	10.625
8	14.75
9.5	17.5
12	22
14	26

