



**SMOOTHDRILL®
PRODUCTS**

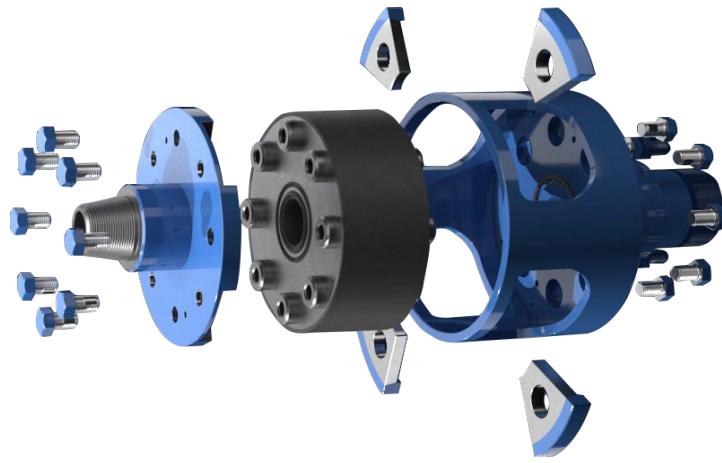


**Increase
productivity
while protecting
equipment**

Features

Benefits

Safety	<ul style="list-style-type: none">■ Modular construction■ Replaceable wear items■ Less handling■ No welding
Longer Drill Life	<ul style="list-style-type: none">■ Protects drive heads and mast from damage caused by axial and torsional shock vibration
Repairable on Drill	<ul style="list-style-type: none">■ Less downtime■ Simple redress/repair
Hard Faced Wear Surfaces	<ul style="list-style-type: none">■ Increased life of shock absorber and element



Model Size	Load Range (Pull Down)	Clearance Diameter	Shoulder to Shoulder Length	Assembly Weight
28"	Up to 150,000 lbs.	34"	36"	2,300 lbs.
22"	Up to 90,000 lbs.	27"	30"	1,275 lbs.
18"	Up to 75,000 lbs.	22"	28"	835 lbs.
14"	Up to 60,000 lbs.	20"	28"	650 lbs.

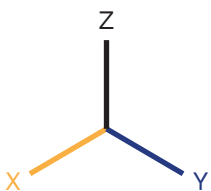
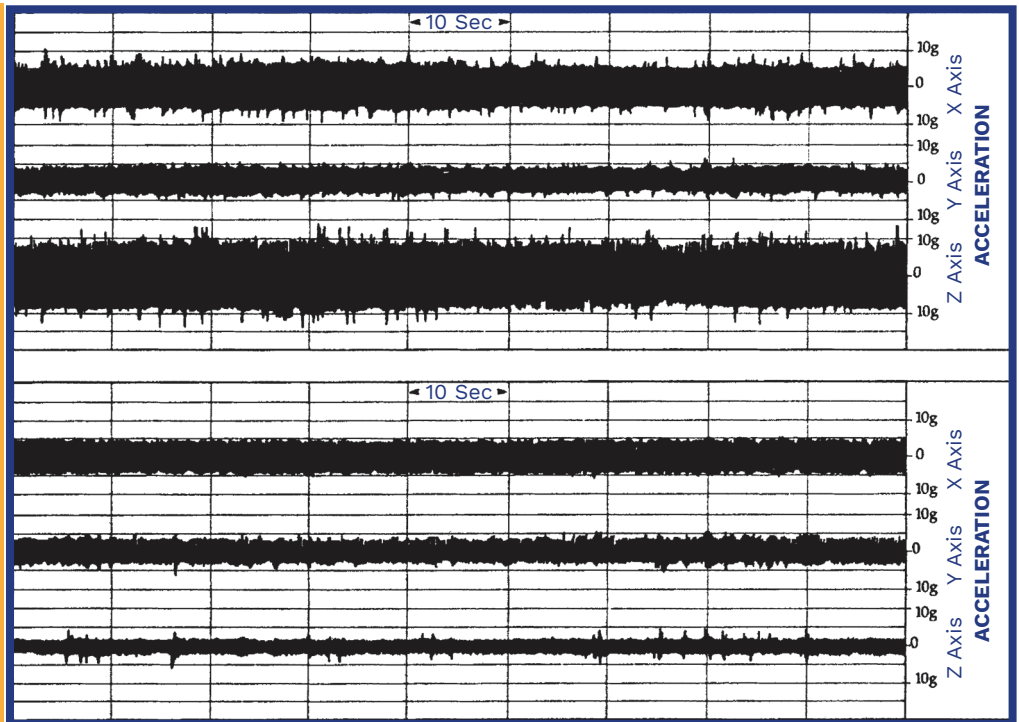
Effectiveness of SmoothDrill® in Blasthole Drilling

A field study was conducted by an independent geotechnical and materials engineering company using an accelerometer to evaluate SmoothDrill® effectiveness. The actual charts to the right show results from a blasthole drill equipped with a SmoothDrill® and one with a standard coupling.

Testing conditions were identical: Pulldown was 85,000 lbs., rotary speed was 90rpm and average penetration rate was 0.80 ft./min.

The upper vibrograph represents vibrations at the drill head without SmoothDrill® and the lower vibrograph represents the vibrations with SmoothDrill®.

The third chart reveals a summary comparison of the 2 vibrographs.



Aspect	Without SmoothDrill ®	With SmoothDrill ®
X Axis Average Acceleration	9g	5.5g
X Axis Peak Acceleration	12g	9g
Y Axis Average Acceleration	5g	4.5g
Y Axis Peak Acceleration	9g	11g
Z Axis Average Acceleration	12g	2.5g
Z Axis Peak Acceleration	22g	11g
Reduction of Vibrations in X Axis	$(9g - 5.5g) / 9g = 39\%$	
Reduction of Vibrations in Y Axis	$(5g - 4.5g) / 5g = 10\%$	
Reduction of Vibrations in Z Axis	$(12g - 2.5g) / 12g = 79\%$	