



Barbco Inc.

Manufacturer in the Trenchless
Technology Industry



Conventional Auger Boring

Auger Boring Machines (ABM)

- Variety of sizes depending on manufacturer
- **Casing attachment for 20' /40'** sections of casing
- Compatible with multiple cutting head styles (dirt, rock, sand, etc.)



Guided Steering Systems

- ▶ Grade Steering System
- ▶ Pilot Tube / Pathfinder System
- ▶ Boring Machine Tunnel Attachment (BMTA) System
- ▶ TriBor Machine



Grade Steering Systems

- ▶ Hinges welded at 3 and 9 o'clock on casing
- ▶ Steering Knuckle welded to change direction up and down
- ▶ Adjusted manually by operator at boring machine
- ▶ Water level gives visual representation of cutting head height in ground



Grade Steering System



Pilot Tube / Pathfinder System

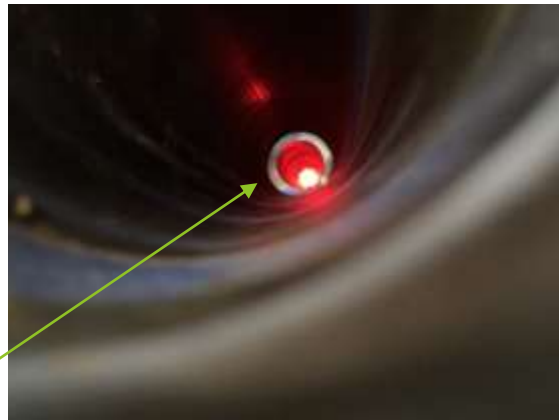
- Works in conjunction with an ABM
- Installations up to 60” tubes
- Allows operator to control line and grade



Pathfinder



Pathfinder



LED light within tube

Camera and monitor focused on LED light



Boring Machine Tunnel Attachment (BMTA)



- Manufactured for 48”-120” diameter bores
- Designed for large scale tunnelling
- Cost effective method
- BMTA provides 360-degree steering control
- Uses laser and centerline to stay on track





BMTA



TriBor

- ▶ Hybrid tunneling machine combining an ABM, GBM, and HDD
- ▶ Available sizes: TriBor 30, 36, & 48
- ▶ Accommodates almost any downhole steering system





TriBor

TriBor 30
Powerpack



FlexBor Technology



- ▶ Environmentally friendly tooling
- ▶ **Virtually eliminates “frac-outs”** associated with HDD
- ▶ Cuttings removed with assistance of air and/or water
- ▶ Usability on all boring rigs
- ▶ Air and Water requirements are based on distance of bore, soil type and hole diameter.
- ▶ Can be used in all ground conditions.



FlexBor Video



<https://www.youtube.com/watch?v=fTtva6vEgo8>



Frac-outs and FlexBor

Directional bore operations have a potential to release drilling fluids into the surface environment through frac-outs (A frac-out is the condition where drilling mud is released through fractured bedrock into the surrounding rock and sand and travels toward the surface.)

The FlexBor system utilizes casing to hold the cuttings and pressures created during the process which eliminates concerns for inadvertent returns.



