



drilling & geotechnical

# THRUST BORING



## What is Thrust Boring?

Thrust boring is a trenchless construction technique used to install underground pipes, cables, or conduits without disrupting the surface above.

The boring method uses the combination of water flush and thrust boring, allowing them to work in almost any kind of soil. The process involves using hydraulic jacks to push a casing or pipe through the soil along a pre-determined path, creating a stable borehole.

This method is ideal for crossing beneath roads, railways, and other existing infrastructure, minimizing surface disturbance and reducing the need for extensive excavation.

Thrust boring is highly efficient, precise, and cost-effective, making it a preferred solution for projects requiring minimal environmental impact and minimal disruption to traffic and nearby structures.

## Applications

- **Utility Crossings:** Installing water, gas, electrical, or telecom lines beneath roads, railways, and highways.

- **Urban Infrastructure Projects:** Laying pipelines in densely populated areas with minimal excavation and traffic impact.
- **River or Canal Crossings:** Creating subsurface routes below water bodies without disturbing the environment.
- **Factory or Building Grounds:** Installing conduits beneath existing structures or floors without structural alteration.
- **Pipeline Replacements or Expansions:** Adding or upgrading underground utilities without removing existing installations.

## Benefits

- Minimal Surface Disruption Without open-cut trenches.
- Efficient and Time-Saving
- Environmentally Friendly
- Cost-Effective
- Safe for Existing Infrastructure
- Suitable for Hard-to-Reach Areas

## Equipment Highlight

Our in-house developed thrust boring rig is easy to mobilize and specifically engineered for low-clearance and confined spaces, allowing precise underground installation of pipes and conduits with minimal surface disruption.



Thrust Boring Rig



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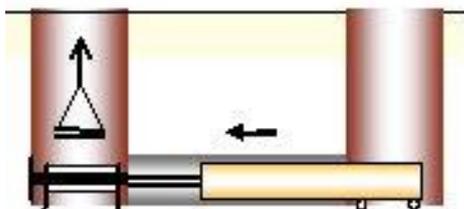
# THRUST BORING

## Technical Specification

- Utilizes a combination of water flush, continuous auger, and/or thrust boring methods
- Thrust capacity up to 125 tons and pullback force up to 95 tons
- 1530 mm of width and 6175 mm of length. The length can be extended to 6485 mm, allowing the use of longer drilling tools and pipes
- 2957 kg of weight.
- Capacities of 110 m of drilling and ranging from 98 mm to 1100 mm of drilling diameters.
- In-house control system using LED.
- Engineered to perform effectively in almost all soil types

## Typical Sequence

1. Pilot Hole Drilling
2. Alignment Check
3. Pull Method by Reaming
4. Cleaning
5. Product Pipe Installation



Thrust Boring Diagram

## Why Choose Geonusa Utama?

- 15+ years of experience in geotechnical solutions
- Proven track record in infrastructure and private sector
- Committed to safety and quality
- Experienced team and in-house equipment

## Our Projects



Oil pipeline installation at Balongan, West Java, Indonesia (2025)



Gas pipeline installation at Jangkrik, Balikpapan (2014)

## Contact Us:

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