



# JK&T EQUIPMENT

*Microtunneling Solutions*



JK&T EQUIPMENT PTE. LTD.



# At JK&T, we are committed to our clients' success.

*Our focus is on delivering not just high quality products, but also strong after-sales support so clients can enjoy seamless and uninterrupted operations.*

## ABOUT US

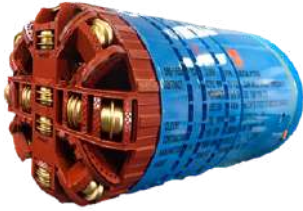
We are a construction equipment supplier specialised in providing microtunneling solutions for civil engineering projects in Singapore, Malaysia and Hong Kong.

Our team started off as the official distributor of RASA pipe jacking system in the 1990s. We have since expanded our supply scope to be a one-stop service for underground construction needs, backed by a team of highly skilled engineers to provide troubleshooting support.

Through more than 30 years, we have stood firm to a "**Customer First**" service philosophy, and this will continue to guide JK&T in the way we do business.



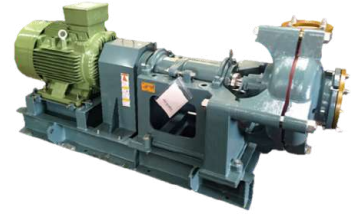
# OUR PRODUCTS



**01**  
PIPE JACKING  
EQUIPMENT



**02**  
GYRO  
NAVIGATION



**03**  
SLURRY  
PUMP



**04**  
AUTOMATIC  
BENTONITE  
INJECTION  
SYSTEM (ABIS)



**05**  
SLURRY  
MANAGEMENT  
SYSTEM



**06**  
CUTTER &  
ROLLER BITS



**07**  
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POLYMER  
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# RASA PIPE JACKING MACHINE

## A TRENCHLESS TECHNOLOGY

Pipe jacking, also known as microtunneling, is a trenchless method of installing pipelines underneath highways, buildings, rivers and more.

Due to less surface works, it is highly efficient and greatly reduces any adverse impact on its surrounding environment.

## KEY FEATURES:

- **Powerful Crushers**

The machine adopts a two-stage crushing mechanism for thorough excavation work.

- **Customised To Precision**

With a variety of cutter disks for different ground conditions, the cutter head can be customised for best excavation performance.

- **Economical**

The simple design and ease of operating the RASA machine allow operators to keep costs low, while maximising its fullest capabilities.



## KEY MACHINE TYPES:

### DH

**ID: 600-3000mm**

By changing its cutter disk, the DH is capable of excavating through various ground conditions.

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### DHL

**ID: 1000-2400mm**

Specially built for long distance jacking, the DHL is capable of jacking 300-1000m distance in 1 span.

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### DHFS

**ID: 300-700mm (Hydraulic)**

**ID: 250-500mm (Electric)**

The DHFS is uniquely designed such that it can be divided into 4 smaller segments for small starting shafts.



# 40 Years Proven Success

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Since 1980, RASA has sold over 1,200 machines across more than 14 countries. Each machine is uniquely designed and manufactured to specific requirements.

# PIPE JACKING ACCESSORIES

**HYDRAULIC UNIT**



**JACKING FRAME**



**GROUTING PUMP**



**INTERMEDIATE JACKS**



**SLURRY HOSE**



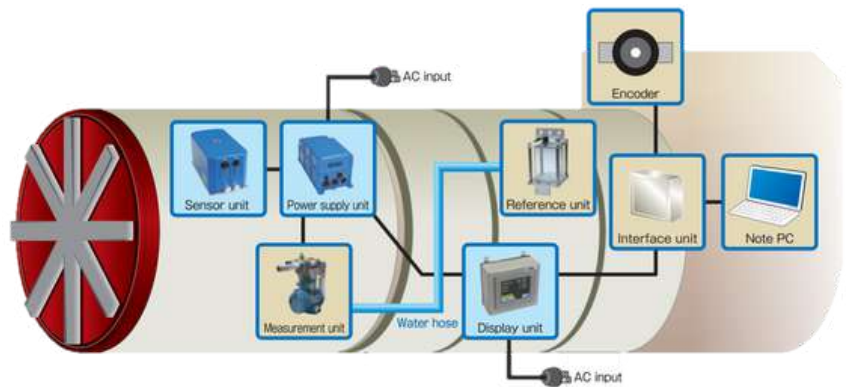
**SLURRY HOSE FITTINGS**



# GYRO NAVIGATION SYSTEM

## KEY FEATURES:

- Suitable for long and curved pipeline construction.
- Accurate real-time machine position is determined by the north-seeking Gyrocompass and Distance Meter.
- User-friendly graphics and software for easy handling.
- Database is automatically saved and updated.
- It is a standalone system that can be installed across all pipe jacking machines from any manufacturer.



STOPPING START I/F OK GYRO OK

MEASUREMENT

HRZ. DEVIATION

AZIMUTH

PLANE

EXC. INFO

MEASURED

DATA HISTORY

SURVEY INPUT

SETTINGS

ALIGNMENT

COMM. CHECK

HRZ. Dis.: 30.00m  
15.00m Ahead

# Tunnelling Precision

Using fibre optic technology, TOKYO KEIKI Gyro Navigation systems provide great precision and optimum machine control in long and curved pipe jacking projects.

HRZ. Dis.: 14.000  
EXC. Dis.: 14.000  
Elevation: 0.001

PITCHING

ROLLING

DEV TRACK (HRZ)

LEFT -50 mm

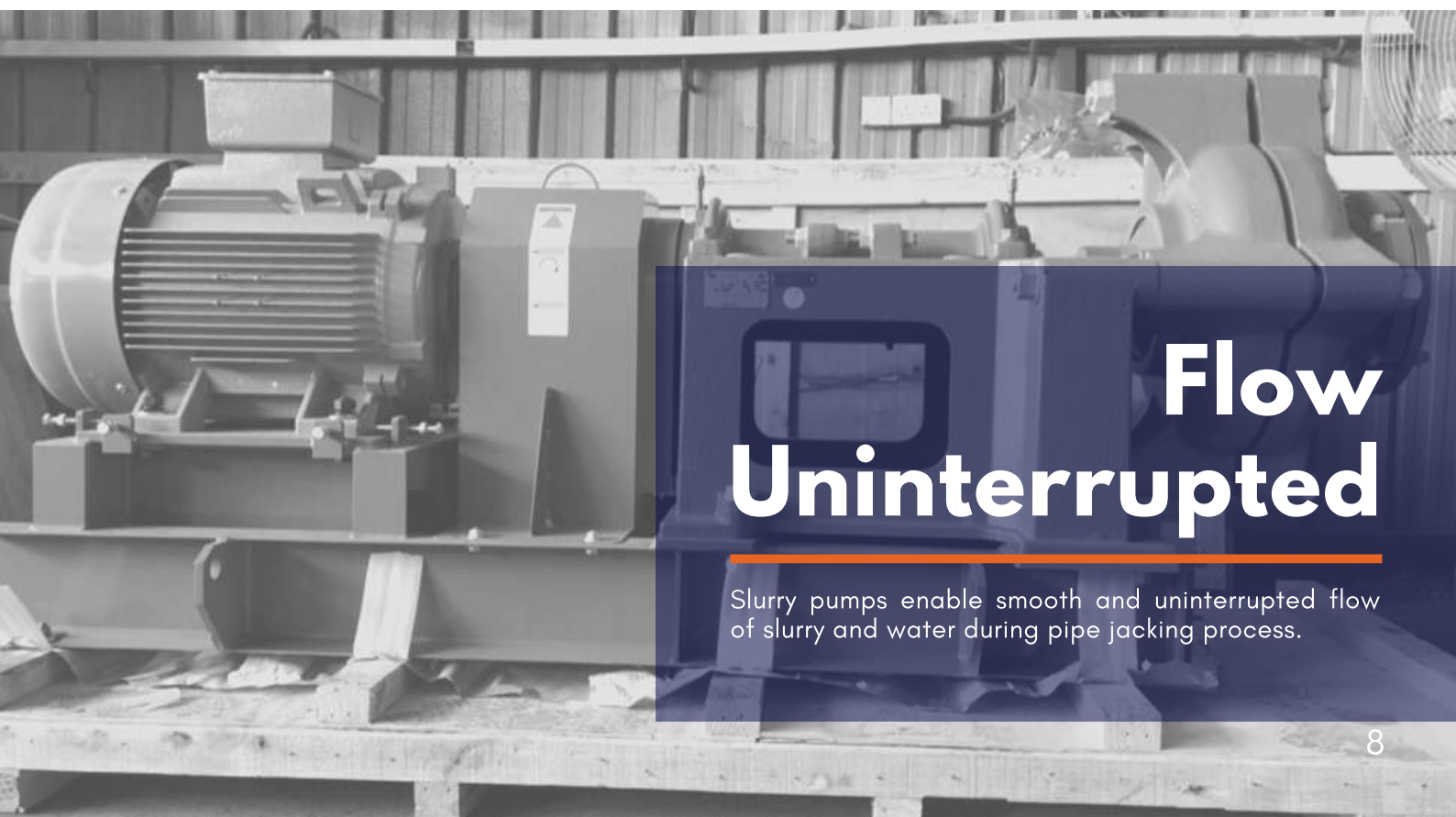
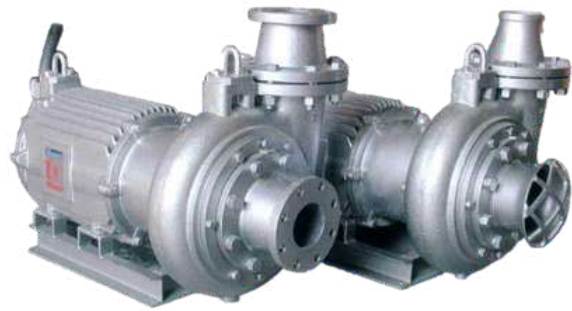
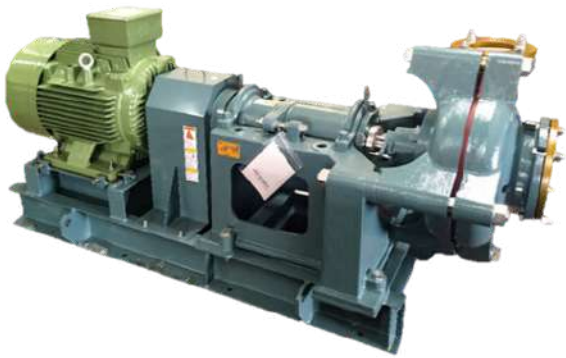
Cutter Rotating: OFF  
Main Jack Stroke: 2820  
Interm. Jack Stroke: 0  
Encoder: 14.000

7

# SLURRY PUMP

## KEY FEATURES:

- Our slurry pumps are available in various sizes, depending on pipe diameter and jacking requirements.
- The pumps work well with all pipe jacking machines in ensuring smooth and uninterrupted slurry and water flow.



**Flow  
Uninterrupted**

Slurry pumps enable smooth and uninterrupted flow of slurry and water during pipe jacking process.

# AUTOMATIC BENTONITE INJECTION SYSTEM (ABIS)

## KEY FEATURES:

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- Mainly used in longer spans of pipe jacking projects, the ABIS minimises frictional force by injecting bentonite onto the pipes' outer surface during jacking operations.
- Amount of bentonite released can be controlled via valve control modules, which are monitored remotely from a touchscreen display in the control cabin.
- As a result of reduced friction, a lower jacking force is required.



## Minimising Jacking Friction

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With the right amount of bentonite injected onto the pipes' outer surface, the ABIS minimises frictional force during jacking, which in turn reduces the jacking force required.

# SLURRY MANAGEMENT

## DESANDER

- Separates large solids from drilling mud.
- Cut point: 40 microns (e.g. rocks, sand, silt)



## DECANTER CENTRIFUGE

- Using centrifugal forces, finer solids are separated from water which can then be reused in jacking operations or disposed.
- Cut point: 2-5 microns (e.g. fine silt, clay)



## FILTER PRESS

- Separates water from mud by forcing liquid through a filter cloth using high pressure.



# Work Efficiency

The use of onsite slurry treatment systems provides long-term cost savings, work efficiency and environmental sustainability.

# CUTTER & ROLLER BITS

## CUTTER BITS

Manufactured with high quality tungsten carbide, our cutters work effectively against most challenging ground conditions.

They can be manufactured as per drawings or samples to fit machines across various manufacturers.



## ROLLER BITS

Our roller bits are made of an alloy steel that is known for its hardness and abrasion-resistant properties.

They can be customised in terms of diameter, cutter type and mounting type.



## Quality Assurance

With over 30 years of specialised experience in pipe jacking, you can be assured the highest quality cutters and technical expertise from JK&T.

# EQUIPMENT SPARE PARTS

As your one-stop supplier, JK&T also provides a variety of electrical and mechanical parts for your equipment. These include ANYWIRE terminals, OTOWA surge protective devices, inclinometer sensors, butterfly valves and more. Contact us for more information.

## **ANYWIRE TERMINALS & CONVERTERS**



## **DUPLINE DECENTRAL RELAY**



## **PRESSURE RELIEF VALVES**



## **OTOWA SURGE PROTECTIVE DEVICES**



## **INCLINOMETER SENSORS**



## **DAITO SLURRY PRESSURE GAUGE**



## **PRESSURE TRANSDUCER**



## **BUTTERFLY VALVE**



## **TAIWA & CF CONNECTORS**



# CHEMICAL ADDITIVES

## POLYMER

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- A cost-effective viscosifier.
- Minimal disposal cost and environmentally-friendly.



## BENTONITE

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- Suitable for enhancing jacking performance in challenging ground conditions.



## POLY ALUMINIUM CHLORIDE

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- Acts as a flocculant to enhance wastewater treatment process.



## CALCIUM CHLORIDE

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- Suitable for use with Decanter Centrifuge to improve slurry treatment.



## Optimising Performance

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We offer a variety of additives that will enhance performance in pipe jacking and slurry treatment.

# POLYMER CONCRETE PIPES

- **HIGH STRENGTH**

Built to withstand great jacking forces and ground pressure, the pipes can be installed smoothly without breakage.

- **CORROSION-RESISTANT**

Unlike conventional pipes, polymer concrete is highly resistant to chemical attacks, making it most effective for sewage transportation.

- **EASE OF HANDLING**

Thinner and lighter than similar strength class jacking pipes, polymer concrete pipes allow for easy loading and unloading.



- **COST EFFICIENT**

Maintenance costs are low since the pipes are maintenance-free and have a longer life cycle.

- **SMOOTH EXTERIOR**

Its smooth exterior helps to reduce friction during jacking, enabling a lower jacking force.



**100 Years  
Certified Life Span**

Complied with BS EN 14636-1:2009, the pipes are put through a series of stress and resistance tests, and have been certified with a life span strength of at least 100 years.



OUR VISION

*To be the  
leading  
microtunneling  
supplier  
in Asia.*





## JK&T EQUIPMENT PTE. LTD.

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