



GAODETEC JET GROUTING EQUIPMENT

We full strive for shared NORMS and VALUES:

- Safety and Stringent quality control
- Maneuverability and Operator comfort
- Reliability
- Technical sophistication & after-sales full support

Distributor



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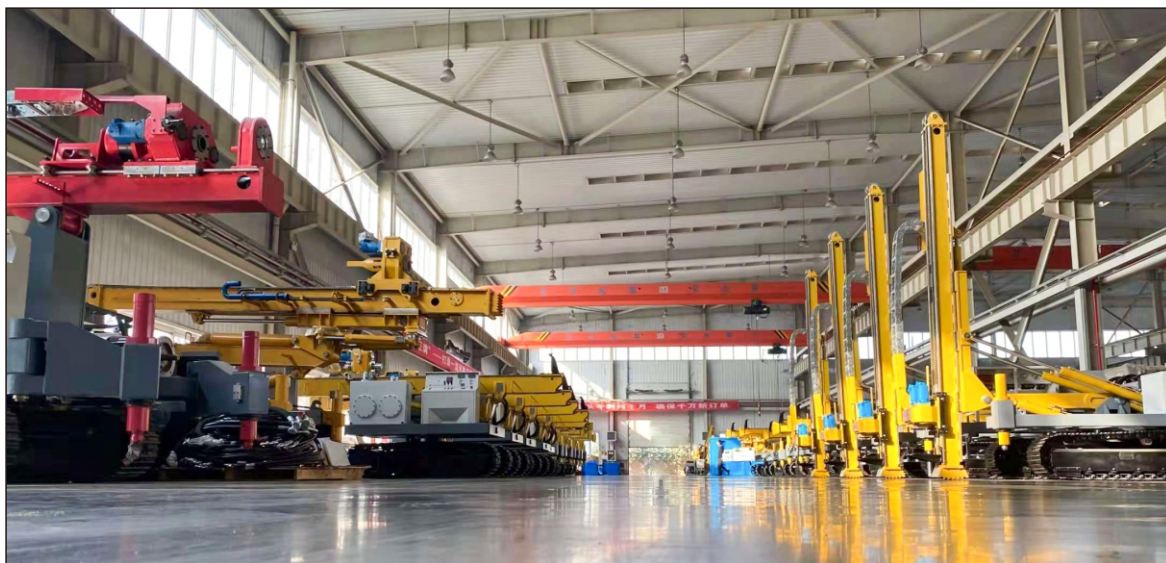
GAODE EQUIPMENT CO., LTD.

COMPANY PROFILE

Gaode Equipment Co., Ltd. Short name Gaodetec. Professional sales of jet grouting equipment.

Gaodetec jet grouting equipment includes: jet grouting drilling rig, high pressure jet grout pump, high shear mixer unit, drilling tools etc.

Jet grouting is a method of soil stabilization which involves the injection of a stabilizing fluid into the subsoil (or the soil under treatment) under high pressure under high velocity. The injection process involves a certain amount of site preparation as well as injection equipment. The soil stabilization by jet grouting is occurs due to the hardening of grouted fluid within the soil. These hardened bodies forms like cemented columns which are grouted in numerous numbers as per requirement, thus stabilizing the soil. These columns are called as jet columns or jet grouted columns or soilcrete columns.



Jet Grouting Methods

Now based on what system of fluid is employed for the grouting process, the method of jet grouting varies. Mainly the available techniques are grouped in three main jet grouting systems namely:

Single Fluid: Water + Cement

Double Fluid: Air + Grout

Triple fluid systems: Water, air and grout

Single Fluid Jet Grouting System (Jet-1)

Grout slurry is pumped through the rod and exits the horizontal nozzles in the monitor with a high velocity. This energy causes the erosion of the ground and the placement and mixing of grout slurry on the soil. In the gravelly soils, soilcrete column diameter of 500mm to 600mm can be achieved. In loose, silty and sandy soils, larger diameters are possible. Single jet grouting is generally less effective in cohesive soils.

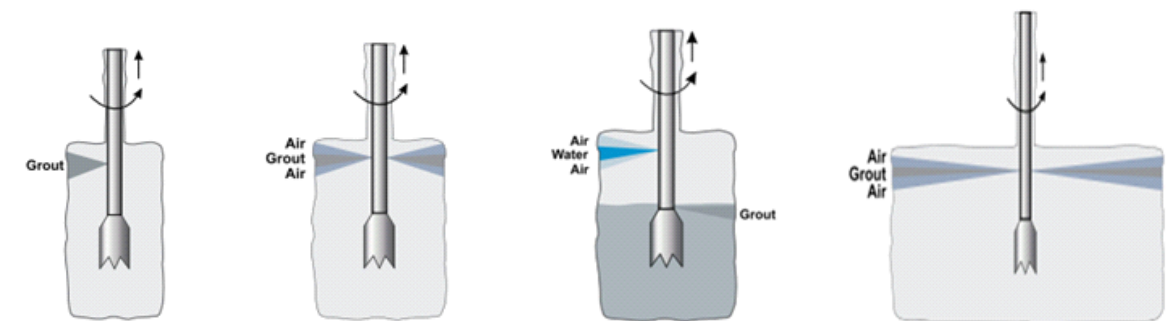
Double Fluid Jet Grouting System (Jet-2)

A two phase internal rod system is employed for the separate supply of grout slurry and air down to different, concentric nozzles. Grout slurry is used for eroding and mixing with the soil. The air shrouds the grout slurry jet and increase erosion efficiency. Soilcrete column diameters are about 600mm to 800mm. The double fluid system is more effective in cohesive soils than the single fluid system.

Triple Fluid Jet Grouting System (jet-3)

Grout slurry, air and water are pumped through different lines to the monitor. High velocity coaxial air and water form the erosion medium. Grout slurry emerges at a lower velocity from separate nozzles below the erosion jet. Soilcrete column diameters are about 800mm to 1000mm. Triple fluid jet grouting is the most effective system for cohesive soils.

Gaodetec also developed DG multi-pipes jet grouting equipment to get more deep and more big diameter soilcrete columns.



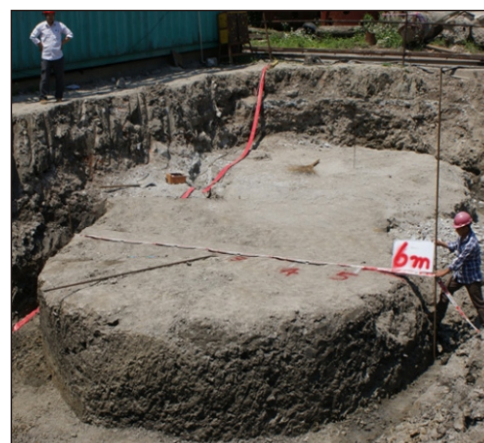
DG Multi-Pipes Jet Grouting Drilling Rig (suitable for MJS technology)

Application:

Suitable for build big diameter, deep soilcrete columns. Usually be applied to railway, highway, bridge, roadbed, dam foundation and other industrial and civil buildings, such as foundation reinforcement, water insulation and plugging engineering, soft foundation treatment and geological disaster control etc.

Features:

1. Compact drill rig structure: combined with electric control and hydraulic control, convenient for operation.
2. it can show and print slurry volume, air volume, ground pressure, rotation speed, lifting speed, lifting distance, step distance, swing angle, etc; data.
3. In order to prevent the drill rods from falling into the hole, equipped with 4 flanges upper and lower grippers, ensure that at least one of the upper and lower grippers can tighten the drill rod when performing the reverse.
When the upper and lower grippers act together, it must be ensured that one of the two grippers tightens the drill pipe, and the other gripper or chuck can be opened.
4. The drilling rig has a large pulling force, which can meet the construction of extra-large pile diameter.
The maximum effective reinforcement depth can reach 100m.
5. Optional wireless transmission for monitoring and equipment control on the drilling rig, with a stable wireless transmission range of 200m to 300m;
6. The drilling rig is forced to discharge the slurry through the pressure monitoring in the ground and the special mud discharge pipeline, which has a minimal impact on the surrounding ground disturbance and effectively protects the safety of the surrounding buildings and facilities.
7. The drilling rig adopts international first-class hydraulic electrical components and advanced hydraulic and electrical control system, so the equipment is durable.



Optional:

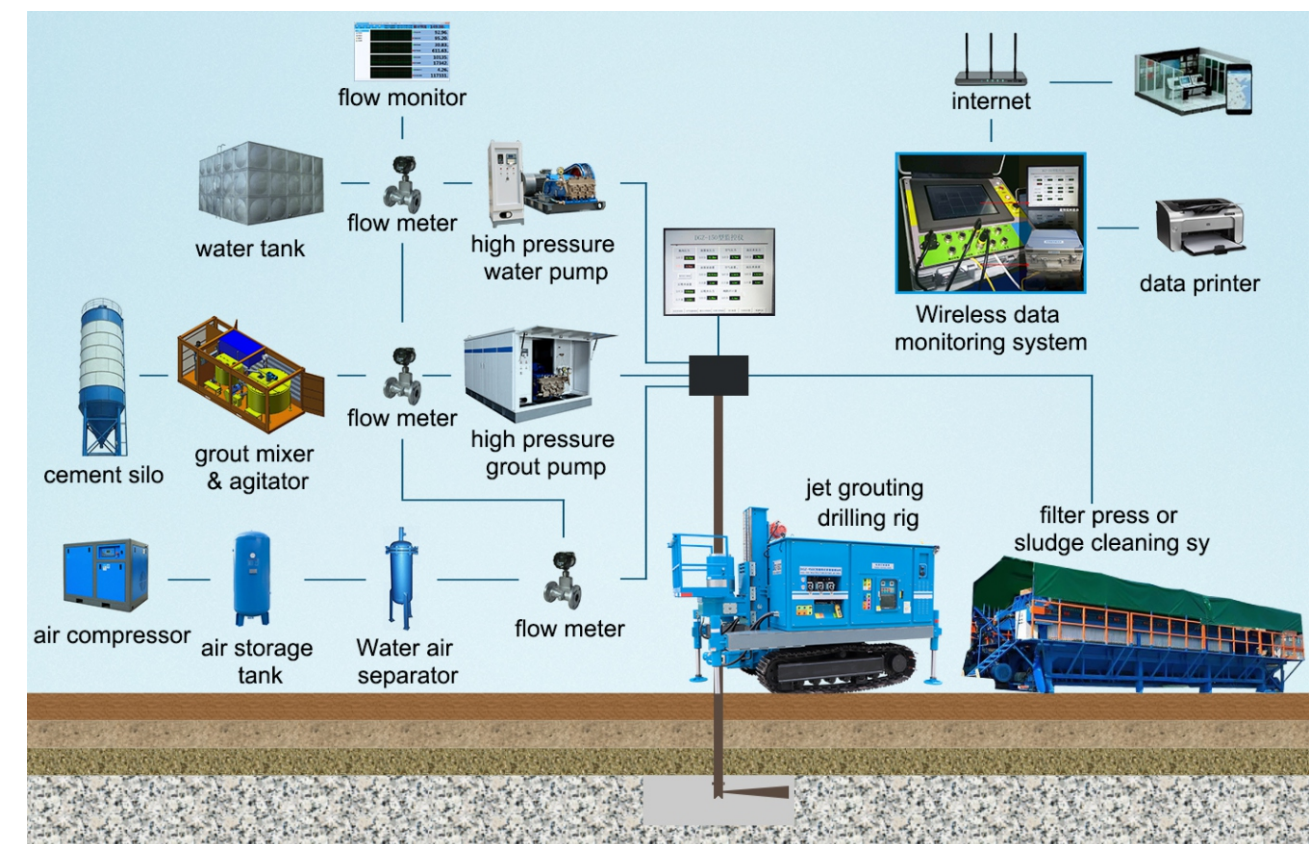
DGZ-150L crawler type 360° rotation multi-pipes jet grouting drilling rig;

DGZ-150B skid type multi-pipes jet grouting drilling rig;

DGZ-150C/DGZ-150SD crawler type multi-pipes jet grouting drilling rig;

Relative devices:

GO series high pressure jet grout pump, GMA series container type high speed grout mixer unit, fluid director, DG-142 multi-pipe drilling rod, drill bit etc.



DGZ-150L crawler type 360° rotation multi-pipes jet grouting drilling rig



Extra features:

1. DGZ-150L with a dedicated driving operation room, more convenient to operate. The operate panel also could be pulled out to operate.
2. DGZ-150L equipped with a crawler chassis, which can be rotated 360°, and the machine can be moved to the hole quickly.
3. The rig column can swing from 0° to 90°, and can carry out multi-angle construction.

Applicable construction projects:

water proof curtain, foundation reinforcement, jet grouting, building rectification, grouting bottom sealing, roadbed reinforcement, shaft support, pipe shed support, foundation reinforcement, soil remediation.

Specification sheet:

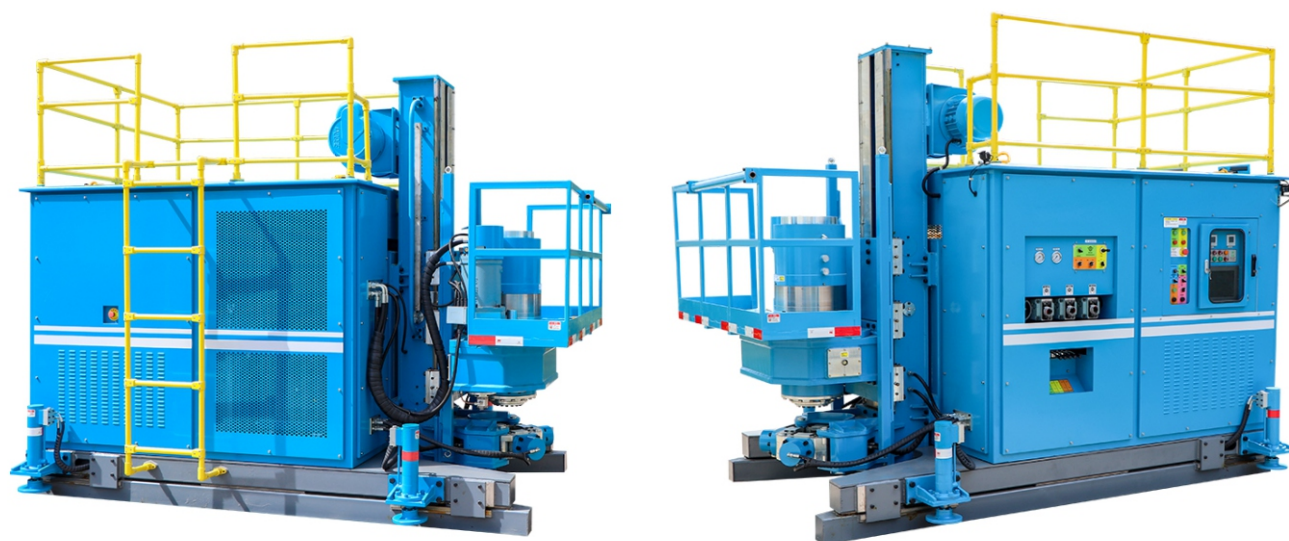
Model	DGZ-150L	
Column type	0° to 90° rotation	
Spindle bore Diameter	150 mm	
Spindle Speed	High speed	0~48rpm
	Low speed	0~24rpm
Spindle Torque	High speed	7.05kN·m
	Low speed	14.1kN·m
Feeding Stroke	1700mm	
Feed rate	Up	0~4m/min
	Down	0~8m/min
Drill rig sliding stroke	800mm	
Feed and lift force	Up	100kN
	Down	70kN
Inclination of drilling hole	0~90°	
Winch capacity	1000kg	
Rotary angle of frame	360°	
Motor	45+18.5 KW	
Crawler speed	2.2Km/h	
Climbing angle	20°	
Transportation size (L× W×H)	5400x2550x2850mm	
Working size(L× W×H)	5600x2550x7500mm (Incl. auxiliary column)	
Weight	12000kg	

DGZ-150B skid type multi-pipes jet grouting drilling rig

DGZ-150C/DGZ-150SD crawler type multi-pipes jet grouting drilling rig

Applicable construction projects:

water proof curtain, foundation reinforcement, jet grouting, building rectification, grouting bottom sealing, roadbed reinforcement, shaft support, pipe shed support, foundation reinforcement, soil remediation.



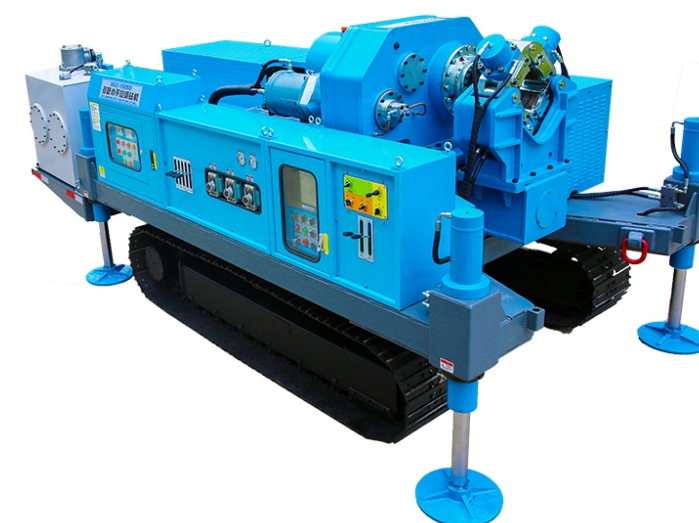
Specification sheet:

Model	DGZ-150B		DGZ-150C/DGZ-150SD
Column type	Vertical fixed type		Vertical fixed type
Spindle bore Diameter	150 mm		150mm
Spindle Speed	High speed	0~48rpm	0~48rpm
	Low speed	0~24rpm	0~24rpm
Spindle Torque	High speed	7.05kN·m	7.05kN·m
	Low speed	12.1kN·m	12.1kN·m
Feeding Stroke	1000mm		1000mm
Feed rate	Up	0~4m/min	0~4m/min
	Down	0~8m/min	0~8m/min
Motor	45+11 KW		45+11 KW
Feed and lift force	Up	100kN	100kN
	Down	70kN	70kN
Winch capacity	1000kg		1100kg
Transportation size (L×W×H)	3336x2172x2815mm		4016x2194x2850mm
Working size(L×W×H)	3336x2172x7315mm (Incl. auxiliary column)		4440x2194x3526mm
Weight	9000kg		11000kg

DGZ-150C



DGZ-150SD



RJP-65 Crawler Type Jet Grouting Drilling Rig

Application:

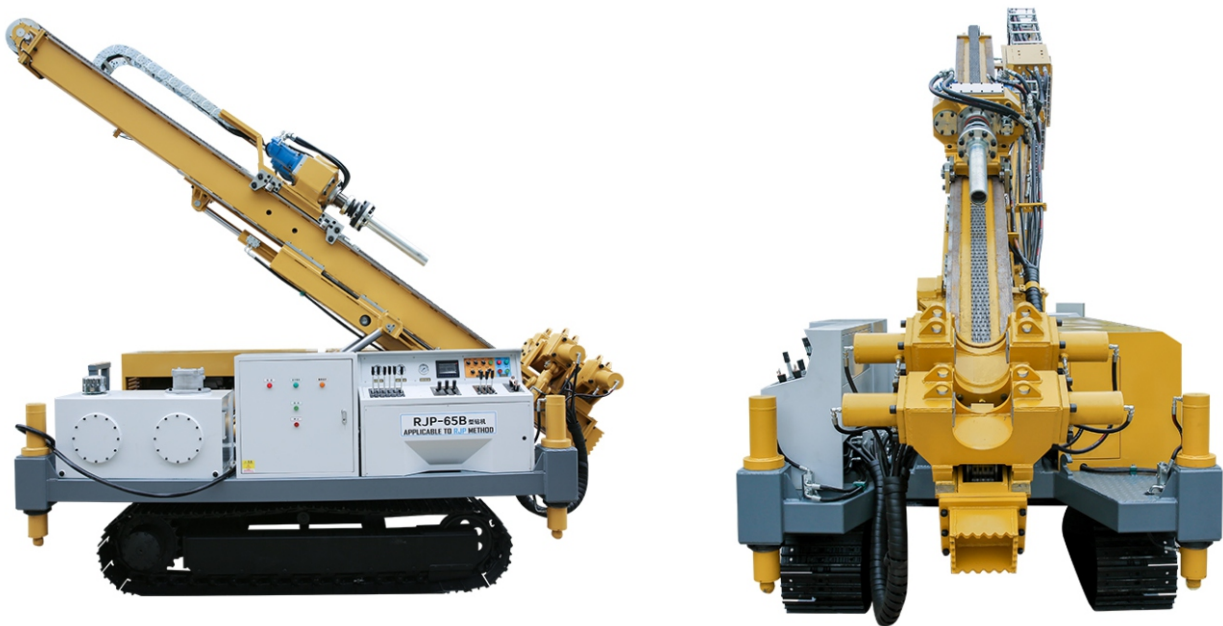
It can be used for the foundation consolidation of railway, highway, abutment, and dam foundation; tunnel pipe-shed support, foundation pit support, slope protection, anchor rod hole drilling, leaking stoppage, soft foundation treatment, geological disaster government, could be used for common jet drilling and swing jetting and fix jetting.

Feature:

- 1. It adopts full hydraulic power head transmission, stepless speed change, high drilling efficiency and low labor intensity.
- 2. The main components of the hydraulic system of the drilling rig adopt imported brands, the system is stable, reliable and has a long service life.
- 3. Using advanced direct-acting load feedback fine-tuning variable hydraulic system.
- 4. Equipped with accurate display for rig perpendicularity, power head rotation speed and lifting speed, it could complete various jet grouting constructions.
- 5. The stand column could front and rear stretch out and draw back, and up and down lifting, it meets anchor rod construction needs.
- 6. For complex geology formations, it can be equipped with down-the-hole hammer and pipe drilling tools to complete pipe drilling.
- 7. The drilling rig has a crawler self-propelled function, and the equipment is moved conveniently and quickly.

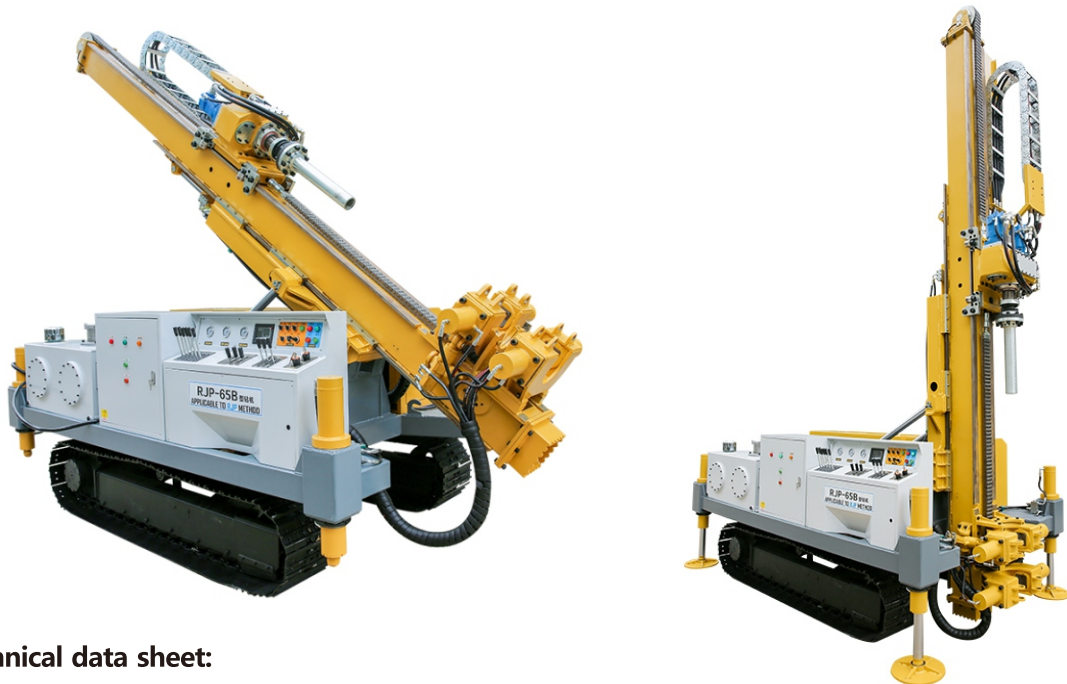
Relative devices:

GO series high pressure jet grout pump, GMA series container type high speed grout mixer unit, fluid director, drilling rod, drill bit etc.



Applicable construction projects:

Anchor rod, anchor cable, water proof curtain, foundation reinforcement, jet grouting, building rectification, grouting bottom sealing, anti-floating anchor rod, roadbed reinforcement, dam reinforcement.



Technical data sheet:

Model	RJP-65
Max torque	6500N.m
Rotation speed of top-drive head	(high) 0-140r/min; (low) 0-70r/min
Stroke of top-drive head	3500mm
Rated pull force of top-drive head	100KN
Rated thrust force of top-drive head	50KN
Rod dia.	Φ50mm; Φ73mm; Φ89mm
Drilling angle	0~90°
Fast lifting and thrust speed of top-drive head	(jetting) 0.-2.5m/min
Lifting and dropping speed of top-drive head	0-16/0-28m/min
Power unit	55kw
Overall dimension	Working: 3500x2401x5260mm; Transportation: 5400x2401x2270mm
Weight	7500kg
Main pump pressure	20MPa
Auxiliary pump 1 pressure	18MPa
Auxiliary pump 2 pressure	18MPa
Column slipping stroke	1000mm
Climbing capacity	20°
Moving speed	1.5km/h

SRJP-145 Crawler Type Jet Grouting Drilling Rig

Application:

It mainly used for double high pressure jet grouting technology, could meet the requirements of large diameter column construction. Also could be used for common jet drilling and swing jetting and fixing jetting. Usually be used for the foundation consolidation of railway, highway, abutment, and dam foundation; tunnel pipe-shed support, foundation pit support, slope protection, anchor rod hole drilling, leaking stoppage, soft foundation treatment, geological disaster control.

Feature:

- 1. With gap lift, swing jetting, fixing jetting etc. functions
- 2. It adopts full hydraulic through-hole power head transmission and two-point variable motor, which can be realized stepless speed change at high and low speeds. Can hold many specifications of drilling tools, easy to disassemble the drill pipe, high labor efficiency.
- 3. The main components of the hydraulic system are imported brands, the system is stable, reliable and has a long service life.
- 4. Equipped with a slewing bearing, the chassis can be rotated 360°, and it is easy to move in a narrow field. When needs, the hole position can be transferred to the side of the track for jet grouting work.
- 5. The use of swinging oil cylinder outriggers has a wider support range and increases the stability of the drilling rig during construction.
- 6. Equipped with LCD screen, information visualization interface, attitude adjustment can be made according to construction parameters, Adjust the power head rotation/lifting speed in real time, and display the parameter dynamics in real time.
- 7. Optional auxiliary column, the length of drilling tool can be used 3~9 meters at a time.

Relative devices:

GO series high pressure jet grout pump, GMA series container type high speed grout mixer unit, fluid director, drilling rod, drill bit etc.



Applicable construction projects:

Anchor rod, anchor cable, water proof curtain, foundation reinforcement, jet grouting, building rectification, grouting bottom sealing, anti-floating anchor rod, roadbed reinforcement, dam reinforcement.



Technical data sheet:

Model	SRJP-145
Max torque	8500N.m
Rotation speed of top-drive headS	(high) 0-56r/min; (low) 0-28r/min
troke of top-drive head	3500mm
Rated pull force of top-drive head	100KN
Rated thrust force of top-drive head	70KN
Rod dia.	Φ89mm-Φ142mm
Drilling angle	0~90°
Fast lifting and thrust speed of top-drive head	(jetting) 0.-2.5m/min
Lifting and dropping speed of top-drive head	0-10.6/0-15.8m/min
Power unit	45kw
Overall dimension	Working: 4890x3200x12030mm (with column); Transportation: 5190x2320x2900mm
Weight	11000kg
Winch capacity	2.0ton
Main pump pressure	28MPa
Auxiliary pump 1 pressure	20MPa
Auxiliary pump 2 pressure	20MPa
Column slipping stroke	1000mm
Climbing capacity	20°
Moving speed	1.6km/h

XPS-15 Tunnel Horizontal Jet Grouting Drilling Rig

Application:

XPS-15 Tunnel horizontal jet grouting drilling rig is a special equipment for advance pre-support in tunnel construction when encountering wind accumulation sand etc. weak substrates. Through the jet grouting method, the formation of closed soilcrete column curtain before the tunnel excavation, waterproof and sand fixing. The drilling rig can also be equipped with different drilling tools for slope disaster management, anchor grouting etc. application.

Features:

1. Power system: double power. 183KW diesel engine and 110KW electric motor.
2. Walking system: steel crawler, width 2800mm, chain board width 600mm, walking speed 1-1.4 Km/h.
Walking is driven by hydraulic motor to suitable for complex ground construction.
3. Hydraulic system: Adopting hydraulic components of REXROTH, brevini, EATON and other world famous brands, adopting load-sensitive control system, electro-hydraulic proportional control etc. advanced technologies, making the operation simple, efficient and reliable.
4. Electrical control system: PLC centralized control, with fault alarm etc.functions, safe and reliable.
5. Operating system: equipped with wireless remote control operator, which can realize remote control from a distance, the main operating console is equipped with a monitor, which can display drilling depth, mast angle, rotation speed, feed and drag speed, system pressure, etc; parameters.
6. Structural components: frame rotary mechanism, double arm support mechanism and mast integration, compact structure; the double-arm support mechanism is two-stage lifting, and the support is stable to avoid drifting in deep hole operation. The first stage has a rotary mechanism, which can realize $\pm 120^\circ$ rotation, and can realize more grouting and drilling work in the same working plane, which improves the work efficiency. The mast is composed of three sections, and both ends can be folded to facilitate transportation; power head has four speed, wide speed range, large torque. (Optional hydraulic impact head).
7. The stroke of the power head is 14m, and the length of the drill pipe is 15m, which can be drilled once and jetted into piles. Use a hoist for feeding and back hauling; the clamping device adds drill pipe and release button to reduce labor intensity. The front end of the rear clamping device is equipped with a tractor return cylinder. The stroke of the tractor return cylinder is 600 mm and the drag force is 15.7 tons. When stuck drill, you can cooperate with the hoist back strong drag.
8. Equipped with foldable arm type work cart, convenient for manned operation of the hole.
9. With centralizer, the drill rod swing is reduced during drilling, which makes the drilling smooth and reliable.
10. Equipped with different drilling tools, it can perform anchor, down hole, rock drilling and other operations.

Relative Devices:

GO series high pressure jet grouting pump,
jet drilling tools: $\varphi 76$ single drilling rod, $\varphi 89$ double drilling rod etc.
high pressure grout mixer etc.
air compressor etc.



Technical data sheet:

Mode	XPS-15			
Rotation Speed of Power Head	1st gear	2nd gear	3rd gear	4th gear
	0 ~ 30r/min	30 ~ 65r/min	65 ~ 138r/min	138 ~ 269r/min
Mast Pitch Angle	15°			
Mast Swing Angle	-5 ~ 5°			
Upper Arm Rotation Angle	-120° ~ 120°			
Stroke	14m			
Torque	Max 17000Nm (power head)			
Max. Winch Feed Force	75KN			
Max. Winch Drag Force	75KN			
Working Height	Max8.8m			
Rotation Radius	Max 4.7m/Min 2.7m			
Motor	110KW electric motors, 183Kw DEUTZ diesel engine			
Size	13500×2800×3430mm			
Weight	50T			

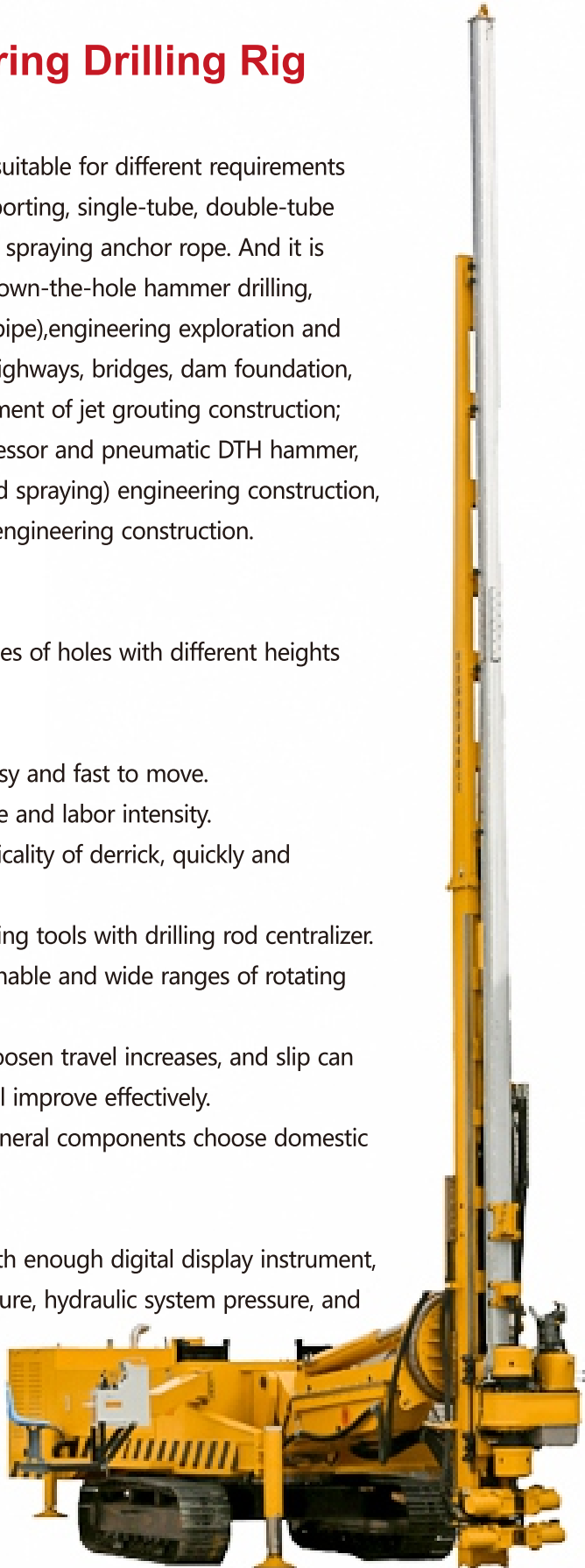
XL-3 Hydraulic Multifunctional Engineering Drilling Rig

Application:

XL-3 Crawler-type Full Hydraulic Multifunctional Jet Grouting Drilling Rig is suitable for different requirements such as high-pressure jet grouting, jet grouting anchor cable, rock bolt supporting, single-tube, double-tube and triple-tube spraying (swing spraying, fixed spraying, intermittent lifting), spraying anchor rope. And it is also applied to cemented carbide rotary drilling, screw drilling, pneumatic down-the-hole hammer drilling, pneumatic (DTH) hammer drilling with simultaneous casing tool (following pipe), engineering exploration and other drilling techniques. Applicable to different construction the railways, highways, bridges, dam foundation, and various industrial and civil building foundation treatment and reinforcement of jet grouting construction; Anchorage engineering of foundation pit support; Matching with air compressor and pneumatic DTH hammer, it can be used for pipe drilling, general rotary spraying (swing spraying, fixed spraying) engineering construction, but also for shallow hole drilling and engineering survey drilling and other engineering construction.

Features:

1. With multi-directional change-range mechanism, convenient to drill a series of holes with different heights and angles at the same position.
2. High rotary torque and longer stroke, high drilling efficiency.
3. With track self-propelled feature and chassis 360 degree swivel device, easy and fast to move.
4. With hydraulic rod clamp and twist device, reduce auxiliary operation time and labor intensity.
5. With display unit for rotating speed of top-drive head, lift speed and verticality of derrick, quickly and accurately to fix position.
6. The mast is 12m, the vertical root is 16m, convenient to lift and drop drilling tools with drilling rod centralizer.
7. Power head speed-regulating adopt hydraulic motor and gearbox, reasonable and wide ranges of rotating speed, strong applicability to earth type and rig process.
8. Upper and lower hydraulic chuck use butterfly spring, clamping tensely, loosen travel increases, and slip can compensate automatically when worn, thus the life of springs and slip will improve effectively.
9. Main components of Hydraulic system adopt imported famous brand, general components choose domestic well-known brand, stable system, and long life to use.
10. Variable hydraulic system with load feedback, low energy consumption.
11. Reasonable layout of control handle, convenient to handle, equipped with enough digital display instrument, able to control the engine rotating speed timely, oil and water temperature, hydraulic system pressure, and so on, convenient to regulate drilling process.



Relative Devices:

GO series high pressure jet grouting pump,
jet drilling tools: $\varnothing 76$ single drilling rod, $\varnothing 89$ double drilling rod etc.
high pressure grout mixer etc.
air compressor etc.



Technical data sheet:

Model	XL-3 Crawler Full Hydraulic Jet Drilling Rig	
Feed stroke	4m	
Feed speed	Fast-low, variable speed regulating	
Feed thrust force	60kN	
Lift force	120kN	
Drilling angle	0-90°	
The vertical rod length	16m	
Mast/column height	12m	
Diesel engine	Cummins brand, Turbocharged after cooled diesel engine	
Model	4BTA3.9-C125	
Power	93kw	
Rotating speed	2200rpm	
Hydraulic system Main pump	95L/min	28MPa
Vice pump	20/5L/min	20/16MPa
Power head	Max. Inside Nominal Diameter	94mm
Chuck Type	spring clamping, hydraulic opening	
Clamping force	238kN	
Column	Column swing angle	-90°~90°
Column slip stroke	1500mm	
Main pendulum mechanism	Swing angle	-18°~18°
Slip stroke	800mm	
Chassis Moving speed	1km/h	
Climbing ability	15°	
Overall dimension	8600*2800*3160mm	

XL-50 popular portable jet drilling rig

Application:

XL-50 portable jet drilling rig suitable for railway, highway, bridge, dam foundation and various industrial and civil building foundation treatment and reinforcement of jet grouting work; Anchoring engineering of foundation pit support; With air compressor and pneumatic submersible hammer matching for casing pipe drilling, with extra configuration can be used for swing jet, fixed jet etc. engineering construction, but also can be used for shallow hole drilling and engineering investigation drilling engineering construction.

Features:

1. adopt full hydraulic control, operate more easy and flexible, crawler chassis make walking, moving in place is convenient and fast, power head column is long, reduce auxiliary time.
2. direct action load feedback fine-tuning variable hydraulic system, power changes with the load, high efficiency, low energy consumption.
3. rotary using friction positioning of the special valve, its characteristics fully meet the requirements of the rotary spray process.
4. wide speed range of power head, which can meet the requirements of various formations and different drilling technologies.
5. equipped with slewing bearing, the hole can be transferred to the side of the track when necessary.
6. compact structure, centralized operation, convenient and safe.
7. equipped with vertical drilling tower, power head rotation and lifting speed display device.



Relative Devices:

ZJB/BP series high pressure jet grouting pump, jet drilling tools, high pressure grout mixer etc., air compressor etc.

Applicable construction projects:

Anchor rod, anchor cable, water proof curtain, foundation reinforcement, jet grouting, building rectification, grouting bottom sealing, anti-floating anchor rod, roadbed reinforcement, shaft support, pipe shed support, foundation reinforcement, anchoring grouting, environmental control, collapse prevention, collapse prevention rescue, dam reinforcement, tailings treatment, goaf grouting.



Technical data sheet:

Model	XL-50
Drilling depth	50m
Rod dia.	Φ42mm; Φ50mm; Φ73mm
Drilling angle	Left and right ± 3° forward 10° backward 90°
Max torque	3000N.m
Moving speed	1.5km/h
Climbing capacity	30°
Rotation speed of top-drive head	(high)0-148r/min; (low)0-48r/min
Stroke of top-drive head	3500mm
Rated pull force of top-drive head	30KN
Rated thrust force of top-drive head	12KN
Fast lifting and thrust speed of top-drive head	0.06-0.9/1.8m/min (jetting)
Lifting and dropping speed of top-drive head	0-22/0-28m/min
Main pump pressure	20MPa
Auxiliary pump pressure	20MPa
Power unit	22KW
Overall dimensions(L*W*H) Working	2600x1800x4600 (mm)
Overall dimensions(L*W*H) Moving	4600x1800x1780 (mm)
Weight	2500kg

XL-50L lengthen column jet grouting rig

Application:

XL-50L portable jet drilling rig suitable for railway, highway, bridge, dam foundation and various industrial and civil building foundation treatment and reinforcement of jet grouting work; Anchoring engineering of foundation pit support; With air compressor and pneumatic submersible hammer matching for casing pipe drilling, with extra configuration can be used for swing jet, fixed jet etc. engineering construction, but also can be used for shallow hole drilling and engineering investigation drilling engineering construction.

Features:

1. adopt full hydraulic control, operate more easy and flexible, crawler chassis make walking, moving in place is convenient and fast, power head column is long, reduce auxiliary time.
2. direct action load feedback fine-tuning variable hydraulic system, power changes with the load, high efficiency, low energy consumption.
3. rotary using friction positioning of the special valve, its characteristics fully meet the requirements of the rotary spray process.
4. wide speed range of power head, which can meet the requirements of various formations and different drilling technologies.
5. equipped with slewing bearing, the hole can be transferred to the side of the track when necessary.
6. compact structure, centralized operation, convenient and safe.
7. equipped with vertical drilling tower, power head rotation and lifting speed display device.
8. lengthen column, could connect 6.5m drilling rod one time, prolong the service life of drilling tools, reduce support personnel and auxiliary time.



Applicable construction projects:

Anchor rod, anchor cable, water proof curtain, foundation reinforcement, jet grouting, building rectification, grouting bottom sealing, anti-floating anchor rod, roadbed reinforcement, shaft support, pipe shed support, foundation reinforcement, anchoring grouting.

Relative Devices:

ZJB/BP series high pressure jet grouting pump, jet drilling tools, high pressure grout mixer etc., air compressor etc.



Technical data sheet:

Model	XL-50
Drilling depth	50m
Rod dia.	Φ42mm; Φ50mm, Φ73mm
Drilling angle	Left and right ± 3° forward 10° backward 90°
Max torque	3000N.m
Moving speed	1.5km/h
Climbing capacity	30°
Rotation speed of top-drive head	(high)0-148r/min; (low)0-48r/min
Stroke of top-drive head	6500mm
Rated pull force of top-drive head	30KN
Rated thrust force of top-drive head	12KN
Fast lifting and thrust speed of top-drive head	0.06-0.9/1.8m/min (jetting)
Lifting and dropping speed of top-drive head	0-22/0-28m/min
Main pump pressure	20MPa
Auxiliary pump pressure	20MPa
Power unit	22KW
Overall dimensions(L*W*H) Working	2880x1800x8145 (mm)
Overall dimensions(L*W*H) Moving	5770x1800x2352 (mm)
Weight	5750kg

GM-5B crawler full hydraulic anchor engineering drilling machine

Application:

GM-5B crawler full hydraulic anchor engineering drilling machine suitable for Anchoring engineering, jet grouting work in railway, highway, bridge, dam foundation and various industrial and civil building foundation treatment and reinforcement, Waterproof plugging engineering, soft foundation treatment and geological disaster management.

With common alloy drill bits and other drilling tools can be use for rotary drilling; In the rock layer, with ball tooth bit is used for impact rotary drilling and high speed hole formation.

In pebble layer etc. unstable formation, with casing pipe etc. drilling tool can be used to drill holes with casing. Also could be used for micropiles.

Features:

1. It adopts full hydraulic power head drive, stepless speed change, high drilling efficiency and low labor intensity.
2. The hydraulic system of the drilling rig stable, reliable, with long service life.
3. The power head adopts hydraulic speed change mode and has high and low gears, which can meet the requirements of various layers and different drilling technology.
4. The drilling rig has the function of self-propelled crawler, convenient and fast to move.
5. Large-diameter slewing bearing is used for the rotation of the frame, and the hole position can be easily transferred to the side of the crawler manually when needed.
6. Compact structure, centralized operation, convenient and safe.
7. The column can be retracted back and forth, which can meet the needs of bolt construction.
8. Optional: single-hole gripper, equipped with special shackle tool, is more convenient to disassemble the drill pipe, and can also be equipped with double grippers, vice winch etc. which reduces the labor intensity and operation time of drill pipe loading and unloading.

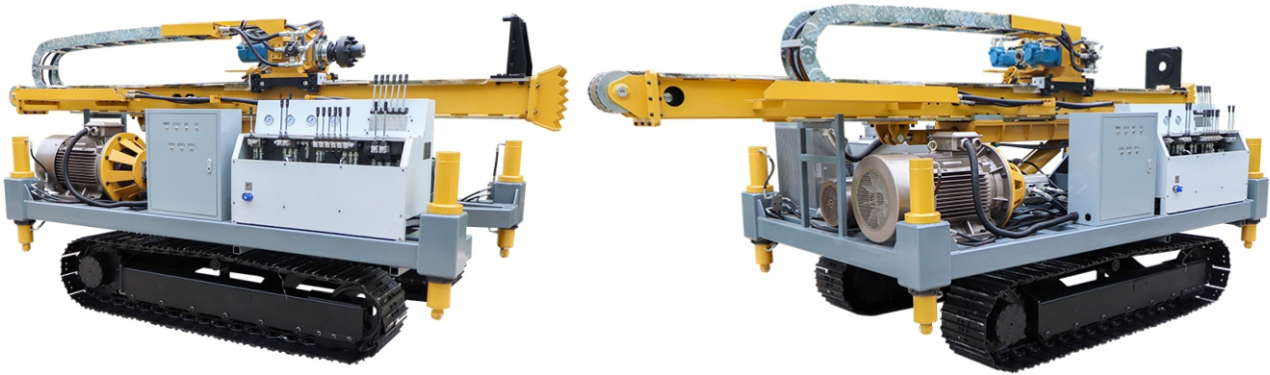


Relative Devices:

ZJB/BP series high pressure jet grouting pump, jet drilling tools, high pressure grout mixer etc., air compressor etc.

Applicable construction projects:

Anchor rod, anchor cable, water proof curtain, foundation reinforcement, jet grouting, building rectification, grouting bottom sealing, anti-floating anchor rod, roadbed reinforcement, shaft support, pipe shed support, foundation reinforcement, anchoring grouting, environmental control, collapse prevention, collapse prevention rescue, dam reinforcement, tailings treatment, goaf grouting.



Technical data sheet:

Model	GM-5B
Max torque	8000N.m
Rotation speed of top-drive head	0~140r/min
Stroke of top-drive head	3400mm
Rated pull force of top-drive head	65KN
Rated thrust force of top-drive head	35KN
Rod dia.	50mm;73mm;89mm
Fast lifting and thrust speed of top-drive head	(jetting) 0-0.75/1.5m/min
Lifting and dropping speed of top-drive head	0-13.3/0-26.2m/min
Drilling angle	0°~90°
Power unit	55+11kW
Overall dimension	Working(mm): 3260*2200*5500 Transportation(mm): 5000*2200*2100
Weight	6500kg
Main pump pressure	20MPa
Auxiliary pump pressure	20MPa
Column slipping stroke	900mm
Climbing capacity	20°
Moving speed	1.5km/h

GM-5S crawler full hydraulic anchor engineering drilling machine

Application:

GM-5S is one with horizontal lifting function crawler full hydraulic anchor engineering drilling machine. Mainly suitable for Deep foundation pit slope support, jet grouting work. With common alloy drill bits and other drilling tools can be use for rotary drilling; In the rock layer, with ball tooth bit is used for impact rotary drilling and high speed hole formation. In pebble layer etc. unstable formation, with casing pipe etc. drilling tool can be used to drill holes with casing. Also could be used for micropiles.

Features:

1. The system has simple structure, convenient maintenance and low cost.
2. The height of the horizontal lifting is up to 3.3 meters and the lowest is 1.8 meters, and double-row anchor cables can be constructed at one time.
3. Selective power ratio can effectively reduce power consumption and waste.
4. The overall structure is simpler, the layout is more reasonable, and the operation is easy to understand and humanized.
5. The drilling rig is equipped with winch, which can effectively reduce the labor intensity of workers and reduce labor costs.
6. The frame rotation adopts large-diameter slewing bearing, and the hole position can be easily transferred to the side of the crawler manually when needed.
7. Optional: single-hole gripper, equipped with special shackle tool, is more convenient to disassemble the drill pipe, and can also be equipped with double grippers, vice winch etc. which reduces the labor intensity and operation time of drill pipe loading and unloading.

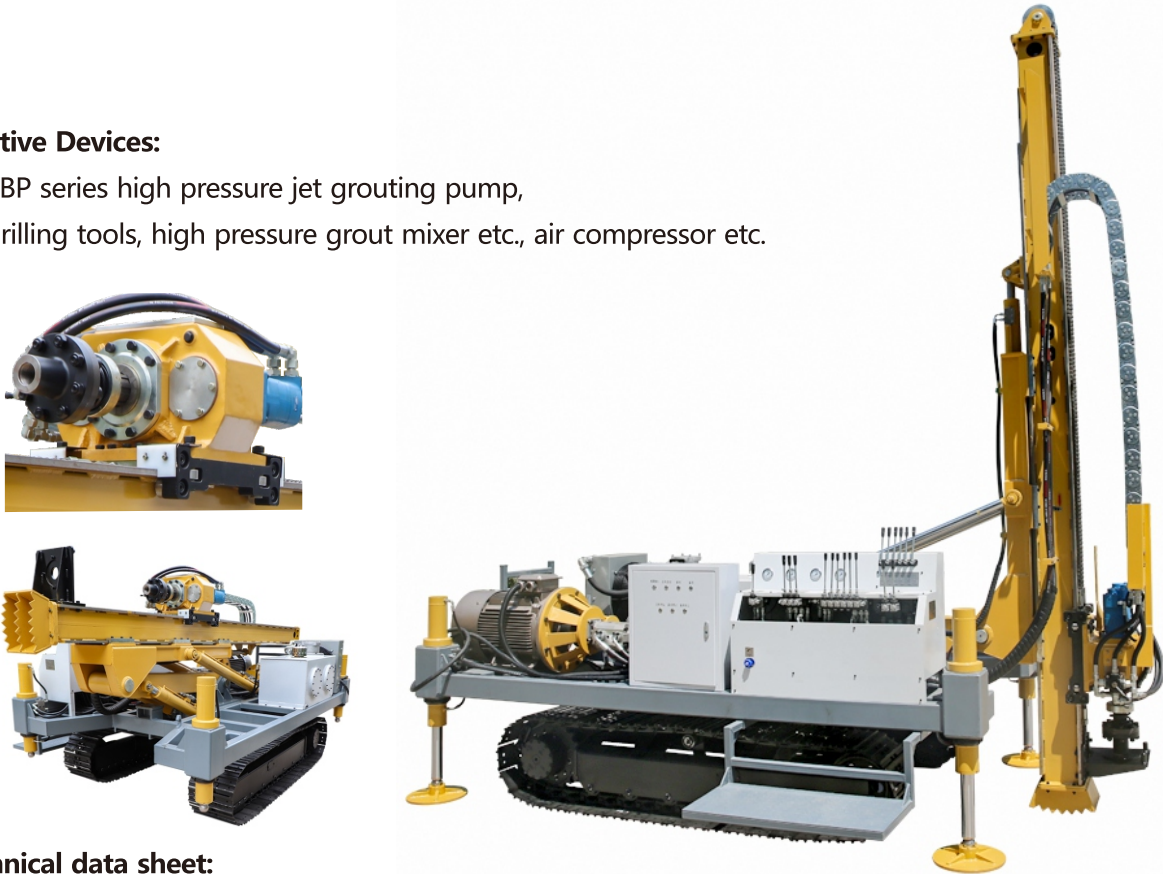
Applicable construction projects:

Anchor rod, anchor cable, water proof curtain, foundation reinforcement, jet grouting, building rectification, grouting bottom sealing, anti-floating anchor rod, roadbed reinforcement, shaft support, pipe shed support, foundation reinforcement, anchoring grouting, environmental control, collapse prevention, collapse prevention rescue, dam reinforcement, tailings treatment, goaf grouting.



Relative Devices:

ZJB/BP series high pressure jet grouting pump, jet drilling tools, high pressure grout mixer etc., air compressor etc.



Technical data sheet:

Model	GM-5S
Max torque	8000N.m
Rotation speed of top-drive head	High speed 0~140r/min Low speed 0~10r/min
Stroke of top-drive head	3400mm
Rated pull force of top-drive head	65KN
Rated thrust force of top-drive head	30KN
Rod dia.	50mm; 73mm; 89mm
Fast lifting and thrust speed of top-drive head	(jetting) 0-0.75/1.5m/min
Lifting and dropping speed of top-drive head	0-13.3/0-26.2m/min
Drilling angle	90°~10°
horizontal lifting height	Max. 3.3m, Min.1.8m
Power unit	55+11kW
Overall dimension	Working(mm): 3750*2450*5450 Transportation(mm): 5450*2300*2250
Weight	6500kg
Main pump pressure	20MPa
Auxiliary pump pressure	20MPa
Column slipping stroke	900mm
Climbing capacity	20°
Moving speed	1.5km/h

GY-60/80 Crawler full hydraulic anchor engineering drilling machine

Application:

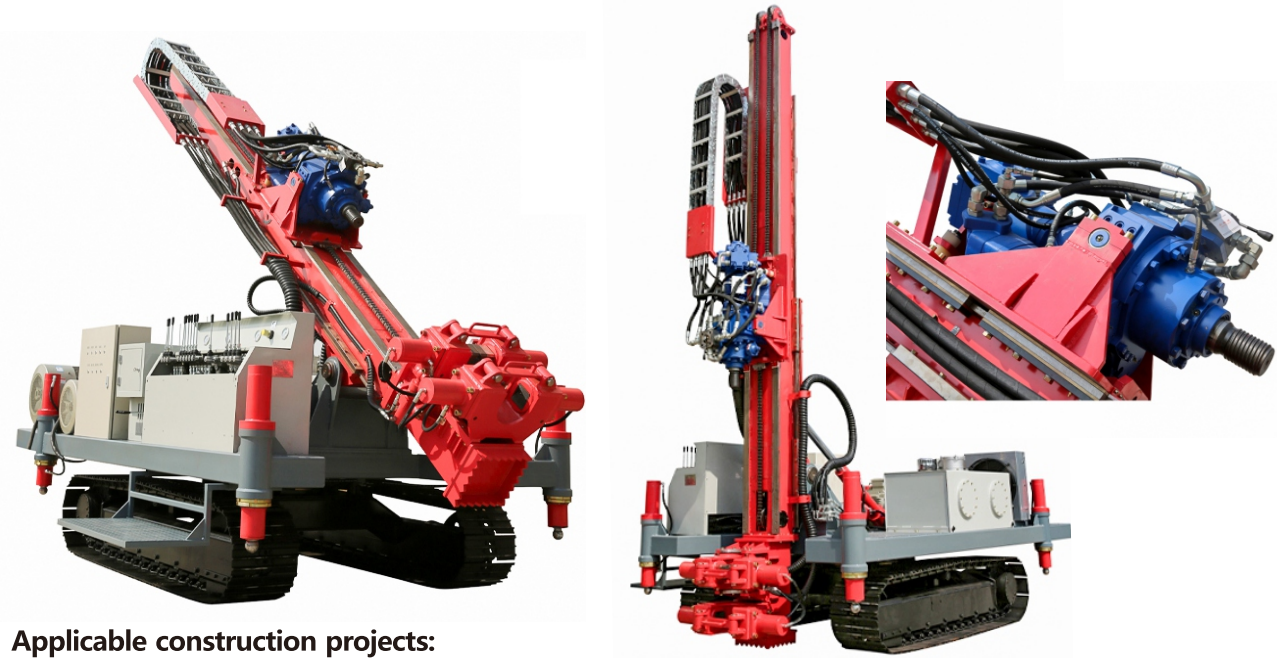
GY-60/80 crawler full hydraulic anchor engineering drilling machine suitable for Anchoring engineering, jet grouting work in railway, highway, bridge, dam foundation and various industrial and civil building foundation treatment and reinforcement, Waterproof plugging engineering, soft foundation treatment and geological disaster management. With common alloy drill bits and other drilling tools can be use for rotary drilling; In the rock layer, with ball tooth bit is used for impact rotary drilling and high speed hole formation. In pebble layer etc. unstable formation, with casing pipe etc. drilling tool can be used to drill holes with casing. Also could be used for micropiles. With hydraulic impact hammer can meet the construction requirements of rock-breaking and hole-forming operations, liquid discharge, underground micro-pile, anchor bolt and cable, geological exploration, geothermal hole-forming, foundation reinforcement, slope support and other infrastructure construction requirements. It also could for advanced pipe shed support and geological advance exploration construction in the tunnel.

Features:

1. Anchorage can be suitable for drill pipe drilling, casing drilling, and drill pipe-casing compound drilling. Jet grouting suitable for jet-1, jet-2, jet-3 etc.
2. It adopts full hydraulic power head drive, stepless speed change, high drilling efficiency and low labor intensity.
3. The power head adopts hydraulic speed change mode and has high and low gears, which can meet the requirements of various strata and different drilling processes, increase the hydraulic rear top hammer impact function, and realize the integration of impact and rotation structure. In this way, the number of accessories is greatly reduced, the quality is reliable, and the maintenance is easy. At the same time, it not only enables the drilling rig to quickly drill into the general rock formation, but also realizes the rapid drilling of the gravel layer and the cobblestone layer.
- 4 Anti-strike device: When the drilling rig is stuck in the process of drilling, the drill pipe can be quickly taken out by hitting the drill pipe through the anti-strike device.
- 5 Frequency adjustment: There is a manual frequency adjustment device on the cylinder body of the hydraulic impact drill, which can be adjusted according to different geological conditions.
6. Direct-acting load feedback fine-tuning variable hydraulic system, power changes with load, high efficiency and low energy consumption.
7. The main components of the hydraulic system of the drilling rig adopt well-known brands, the system is stable, reliable and has a long service life.

Relative Devices:

ZJB/BP series high pressure jet grouting pump, jet drilling tools, high pressure grout mixer etc., air compressor etc.



Applicable construction projects:

Anchor rod, anchor cable, water proof curtain, foundation reinforcement, jet grouting, building rectification, grouting bottom sealing, anti-floating anchor rod, roadbed reinforcement, shaft support, pipe shed support, foundation reinforcement, anchoring grouting, environmental control, collapse prevention, collapse prevention rescue, dam reinforcement, tailings treatment, goaf grouting.

Technical data sheet:

Type	GY-60	GY-80
Max torque	11500N.m	16680
Rotation speed of top-drive head	0~92r/min	0~64r/min
Impact frequency	1500bmp	2500bmp
Single impact force	800Nm	1100Nm
Stroke of top-drive head	3400mm	
Rated pull force of top-drive head	50KN	
Rated thrust force of top-drive head	20KN	
Rod dia.	42mm,50mm;73mm;89mm	
Fast lifting and thrust speed of top-drive head	(jetting) 0-1.5m/min	
Lifting and dropping speed of top-drive head	0-45m/min	
Drilling angle	0°~90°	
Power unit	55+30kW	
Overall dimension	Working(mm): 3750*2450*5450 Transportation(mm): 5450*2300*2250	
Weight	7900kg	
Main pump pressure	20MPa	
Auxiliary pump pressure	20MPa	
Column slipping stroke	900mm	
Climbing capacity	20°	
Moving speed	1.5km/h	

GL-6000S crawler full hydraulic engineering drilling machine

Application:

GL-6000S crawler full hydraulic multifunctional engineering drilling machine can be used for hard alloy rotary drilling, auger drilling, pneumatic down-the-hole hammer drilling, pneumatic down-the-hole hammer drilling with casing tube, jet grouting and drilling (swing jetting and fix jetting) etc. drilling methods in tunnel pipe-shed support, rock and soil anchor, balsting holes, roadbed dam reinforcement, ground source heat pump holes, hydrological wells, foundation pile construction and geological disaster control and other engineering fields.

Features:

1. Multi-directional luffing mechanism, the drilling rig can realize multi-row and multi-angle drilling in one position. Improve work efficiency.
2. The rotary torque is large and the feeding stroke long, which can effectively improve the drilling efficiency.
3. The crawler has self-propelled function and is equipped with a frame slewing device. The equipment can be moved easily and quickly, and the hole alignment is accurate.
4. Equipped with hydraulic gripper and shackle device to shorten the up and down drilling rods time and reduce labor intensity.
5. The main components of the hydraulic system are imported brands, the system is stable, reliable and has a long service life.
6. The power head adopts hydraulic speed change mode, which can realize speed change stepless within a certain range, and is equipped with high and low gears.
7. Using direct-acting load feedback fine-tuning variable hydraulic system, power varies with load, high efficiency and low energy consumption.
8. Equipped with power head rotation speed, lifting speed and vertical column display device, the hole positioning is fast and accurate.

Applicable construction projects:

Anchor rod, anchor cable, water proof curtain, foundation reinforcement, jet grouting, building rectification, grouting bottom sealing, anti-floating anchor rod, roadbed reinforcement, shaft support, pipe shed support, foundation reinforcement, anchoring grouting, advanced forecasting, geological exploration, soil sampling, soil remediation.

Relative Devices:

ZJB/BP series high pressure jet grouting pump,
jet drilling tools, high pressure grout mixer etc., air compressor etc.



Technical data sheet:

Model	GL-6000S	
Drilling depth	50-200m	
Hole diameter	Φ75-Φ300mm	
Rod dia. length	Φ60/Φ89x2500mm	
Top-drive head speed	Low: 8-50.6r/min	High: 16-101r/min
Torque of top-drive headS	6000N.m~3000N.m	
Stroke of top-drive head	3000mm	
Feed thrust force of top-drive head	58KN	
Pull force of top-drive head	110KN	
Column slipping stroke	1200mm	
Column pitch angle	120°	
Column swing angle	0~90°	
Drill arm pitch angle	Elevation angle: 35°	Depression angle: 16°
Height of horizontal hole	High: 3450mm	Low: 338mm
Hydraulic system rated flow	Main pump: 100L/min	auxiliary pump: 30L/min
Hydraulic system rated pressure	Main pump: 21MPa	auxiliary pump: 18MPa
Moving speed	High speed: 5.06km/h	Low speed: 2.6km/h
Climbing capacity	20°	
Power	Electric motor: 55kw	Diesel motor: 56kw
Dimension(L*W*H)	5.6mx2mx2.93m	
Weight	7900kg	

GM-6A Crawler full hydraulic engineering drilling machine

Application:

GL-6A crawler full hydraulic multifunctional engineering drilling machine can be used for hard alloy rotary drilling, auger drilling, pneumatic down-the-hole hammer drilling, pneumatic down-the-hole hammer drilling with casing tube, jet grouting and drilling (swing jetting and fix jetting) etc. drilling methods in tunnel pipe-shed support, rock and soil anchor, balsting holes, roadbed dam reinforcement, ground source heat pump holes, hydrological wells, foundation pile construction and geological disaster control and other engineering fields.

Features:

1. Multi-directional luffing mechanism, the drilling rig can realize multi-row and multi-angle drilling in one position. Improve work efficiency.
2. The rotary torque is large and the feeding stroke long, which can effectively improve the drilling efficiency.
3. The crawler has self-propelled function and is equipped with a frame slewing device. The equipment can be moved easily and quickly, and the hole alignment is accurate.
4. Equipped with hydraulic gripper and shackle device to shorten the up and down drilling rods time and reduce labor intensity.
5. The main components of the hydraulic system are imported brands, the system is stable, reliable and has a long service life.
6. The power head adopts hydraulic speed change mode, which can realize speed change stepless within a certain range, and is equipped with high and low gears.
7. The operate control unit can swing and rotate, and the distance from the orifice can be adjusted to facilitate the observation of the orifice.
8. The sliding mode of the power head adopts the roller mode, the drilling angle is stable, and the maintenance cost is low.
9. Modular design, the whole machine reserves the position of the spare hydraulic system, which is convenient for later upgrade and modification of the top drive power head to realize the top drive construction technology.

Applicable construction projects:

Anchor rod, anchor cable, water proof curtain, foundation reinforcement, jet grouting, building rectification, grouting bottom sealing, anti-floating anchor rod, roadbed reinforcement, shaft support, pipe shed support, foundation reinforcement, anchoring grouting, advanced forecasting, geological exploration, soil sampling , soil remediation.

Relative Devices:

ZJB/BP series high pressure jet grouting pump,
jet drilling tools, high pressure grout mixer etc., air compressor etc.



Technical data sheet:

Model	GM-6A	
Drilling depth	50-200m	
Hole diameter	Φ50-Φ200mm	
Rod dia. length	Φ50/Φ89 x3000mm	
Top-drive head speed	Low: 0-60r/min	High: 0-120r/min
Torque of top-drive head	8000N.m~4000N.m	
Stroke of top-drive head	3400mm	
Feed thrust force of top-drive head	38KN	
Pull force of top-drive head	65KN	
Column slipping stroke	900mm	
Column pitch angle	90°~-10°	
Column swing angle	±25 °	
Height of horizontal hole	High: 3100mm	Low: 2100mm
Hydraulic system rated flow	Main pump: 100L/min	auxiliary pump: 30L/min
Hydraulic system rated pressure	Main pump: 21MPa	auxiliary pump: 18MPa
Moving speed	High speed: 5.06km/h	Low speed: 2.6km/h
Climbing capacity	20°	
Power	Electric motor: 55kw+5.5kw	
Dimension(L*W*H)	5.6mx2.2mx2.3m	
Weight	7500kg	

ZJB/BP Series High-pressure Grouting Pump with Frequency-conversion

Application:

According to pressure and flow difference, there are several different models for option. It can be applied on ground treatment and stabilization of railway, highway, bridge, dam , industrial and civil buildings, also used in geological disaster control.

Features:

1. Using intelligent control technology, instantaneous flow, pressure and cumulative flow can be displayed and printed in real time.
2. The hydraulic end uses a plunger lubrication structure, prolongs the seal service life, the wearing parts are replaced convenient and quick, the alloy valve seat is durable and wear-resistant, and the frequency of downtime replacement is reduced.
3. The frequency converter is used for speed regulation, no mechanical gearboxes, clutches and other multi-fault transmission components. It in smaller size, compact structure, and more reliable; it starts and runs smoothly, saves energy, and has no impact on the power grid.
4. The electrical control loop is simple and reliable. Through the simple operation panel, it can realize "dumb" operation and display the basic operating parameters; various operating parameters of the equipment can be set and displayed.
5. It has a complete protection function, which can comprehensively protect and control when have power loss, phase loss, overvoltage, undervoltage, overcurrent, torque, pump pressure, etc. situation.
6. It can meet the technical requirements of single-tube, double-tube and three-tube jet grouting pile construction and ultra-high pressure jet grouting technology such as MJS and RJP.

Applicable construction projects:

Anchor rod, anchor cable, water proof curtain, foundation reinforcement, jet grouting, building rectification, grouting bottom sealing, anti-floating anchor rod, roadbed reinforcement, shaft support, pipe shed support, foundation reinforcement, anchoring grouting, advanced forecasting, geological exploration, soil sampling , soil remediation.

Relative Devices:

Jet grouting drilling rig, high shear grout mixer etc.



Technical Parameters:

Model Name	ZJB/BP-55	ZJB/BP-55A	ZJB/BP-90	ZJB/BP-90A	ZJB/BP-132
Plunger diameter	45mm	55mm	45mm	55mm	60mm
Plunger stroke	120mm	120mm	120mm	120mm	100mm
Maximum grouting flow	114L/min	160L/min	114L/min	160L/min	150L/min
Maximum pressure	30MPa	20MPa	50MPa	30MPa	50MPa
Motor power	55Kw	55Kw	90Kw	90Kw	132Kw
Inlet diameter	50mm	50mm	50mm	50mm	50mm
Outlet diameter	25mm	25 mm	25mm	25mm	25 mm
Total weight	1450Kg	1450Kg	2200Kg	3300Kg	2900Kg
Dimensions(mm)	2348*1056*826	2348*1056*826	2490*1196*915	2490*1196*915	2673*1546*1100

GP Series container type high pressure jet grout pump

Application:

GP Series High-pressure jet grouting pump is widely used for ground treatment and stabilization, foundation anti-seepage curtain, slope soil retaining cofferdam anchorage, mine stoppage and the wellbore wall construction projects. It is also widely used in highway, railway, mine, national defense and other fields.

Features:

- **dvanced artificial intelligence control:** Instantaneous flow display and cumulative function, it can achieve pressure digital display and control;
- **Long working time:** The hydraulic end uses a new plunger lubrication structure. The new seal greatly extend the service life, easy to replace;
- **Inverter speed:** Without mechanical gearbox, clutch and other multi-fault transmission parts, this makes the pump size smaller, light weight. Compact structure and has high reliability;
- **Simple and “stupid” with display screen:** Electrical control circuit is simple and reliable. Simple operation panel ensure all workers can easily operate. With a powerful built-in operation display screen, it can set and display the operating parameters;
- **A complete protection function:** A comprehensive protection control for lose power, lack of phase, overvoltage, under-voltage, overcurrent, torque, pump pressure and other comprehensive protection control;
- **Container type protection system:** Easy to transport and move;



Relative Devices:

Jet grouting drilling rig, high shear grout mixer.

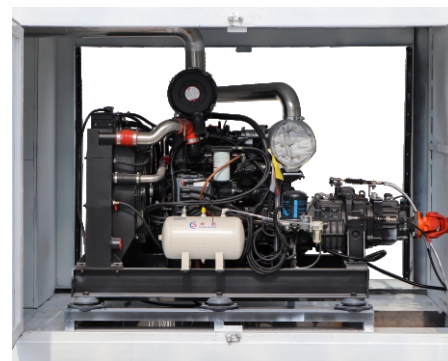
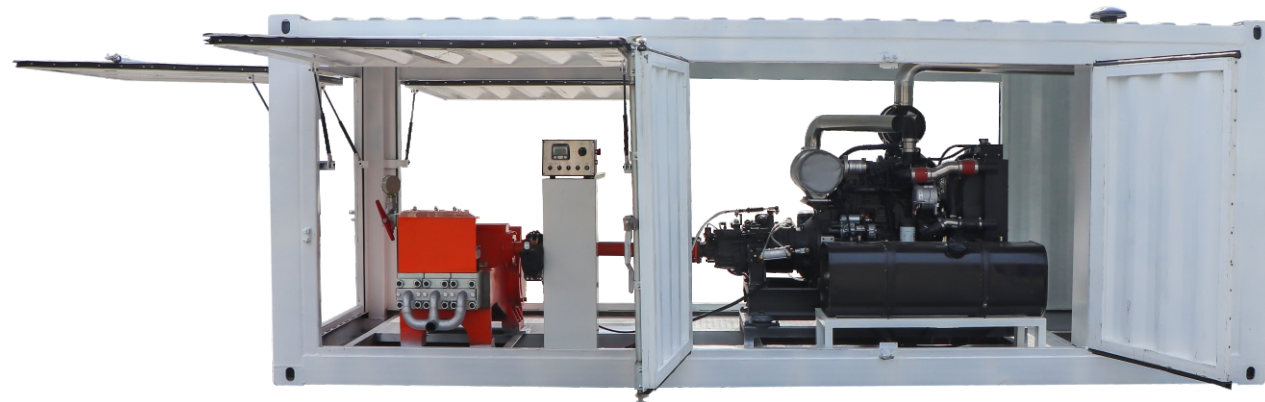
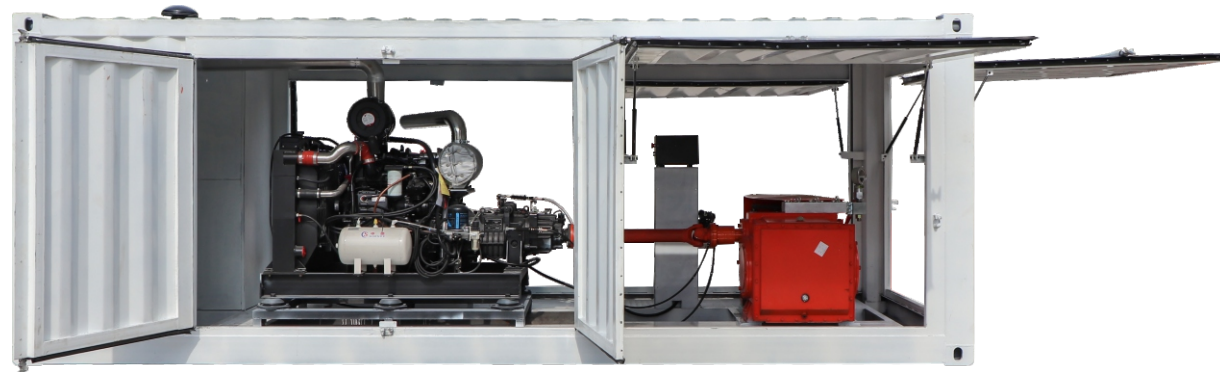


Technical Parameters:

Model Name	GP114/500PL-90E	GP160/300PL-90E	GP150/500PL-132E
Plunger diameter	45mm	55mm	60mm
Plunger stroke	120mm	120mm	100mm
Maximum grouting flow	114L/min	160L/min	150L/min
Maximum pressure	500Bar	300Bar	500Bar
Motor power	90Kw	90Kw	132Kw
Inlet diameter	50mm	50mm	50mm
Outlet diameter	25mm	25mm	25mm
Total weight	3250Kg	3250Kg	4600Kg
Dimension(mm)	2700*1800*1600	2700*1800*1600	3350*2226*1600

Model Name	GP160/450PL-160E	GP250/450PL-200E	GP280/450PL-250E
Plunger diameter	70mm	85mm	90mm
Plunger stroke	135mm	152mm	152mm
Maximum grouting flow	160L/min	250L/min	280L/min
Maximum pressure	450Bar	450Bar	450Bar
Motor power	160kw	200kw	250kw
Inlet diameter	50mm	50mm	65mm
Outlet diameter	25mm	25mm	32mm
Total weight	5950kg	7200kg	8000kgs
Dimension(mm)	3425*2300*1800	3726*2400*2100	3350x2500x1800mm

GP Series container diesel type high pressure jet grout pump



GMA20 and GMA30 Container Type Grout Mixer Station

Product description:

GMA20 and GMA30 Turbo Mixer/Agitator both are a combination consist of a steel sheet cylindrical mixer tank heavy-duty slurry pump and agitator tank, set-up in one 20ft container. This product is equipped with an automatic control system that can automatically control the operation of the equipment. The slurry is mixed through a high speed vortex produced by a special pump which, after sucking the material from the bottom of the mixer tank, sends it back tangentially into the same tank in order to get highest possible efficiency. By this process it is possible to obtain homogeneous colloidal and high quality mixtures within a very short period of time.

After mixing, this mixtures are pumped into the agitator tank with slow speed mixing paddles by the above same pump.

When all the mixture in the mixing tank is pumped out, will start the next cycle of mixing.

Relative devices:

Jet grouting drilling rig, high pressure grout pump.



GMA20 and GMA30 Container Type Grout Mixer Station

Features:

- Automatic control, simple operation, saving labor, great reliability ;
- High speed mixing and high efficiency to achieve continuous mixing;
- Simple structure, easy assemble;
- Less spare parts, low maintenance;
- Container type, easy to move and transport.



Technical Parameter:

Model	GMA20	GMA30
Output	20m ³ /h	30m ³ /h
Mixer Volume	1000L	1500L
Motor Power	15kw, 3phase, 380v, 50hz	15kw, 3phase, 380v, 50hz
Agitator Volume	1100L	3000L
Motor Power	2.2kw, 3phase, 380v, 50hz	3 Kw 3phase, 380v, 50hz
Air compressor capacity	300L/min	330L/min
power	1.5kw 3phase, 380v, 50hz	2.2kw 3phase, 380v, 50hz
Water pump capacity	453L/min	100m ³ /h
Power	1.5kw 3phase, 380v, 50hz	3kw 3phase, 380v, 50hz
Dimension	5860*2000*2090mm	6058*2438*2591mm
We reserve the right to change technical specifications without prior notice.		

