CORE DRILLING RIG

TSM

CDR MACHINES

Tunnel Saz Machine Company (TSM), with over two decades of expertise in designing and manufacturing mechanized excavation machinery, has taken significant strides to address the needs of the mining industry. To support the country's demand for advanced drilling technology, TSM has designed and manufactured fully hydraulic mechanized vertical drilling machines with core recovery capabilities (Core Drilling Rigs), capable of reaching depths of up to 1500 meters. The primary objective of this initiative is not only to satisfy a substantial portion of domestic demand but also to expand into international markets by exporting to neighboring countries. The commercialization of this product marks a significant step in TSM's mission to provide world-class solutions for the mining industry.TSM offers a range of core drilling rigs, branded as **CDR1000, CDR1500, and CDR2750**, specifically designed for drilling and core recovery at **depths of 1000, 1500, and 2750 meters**, respectively. Backed by an experienced design and technical team, TSM ensures the optimal performance of these machines in diverse geological conditions.

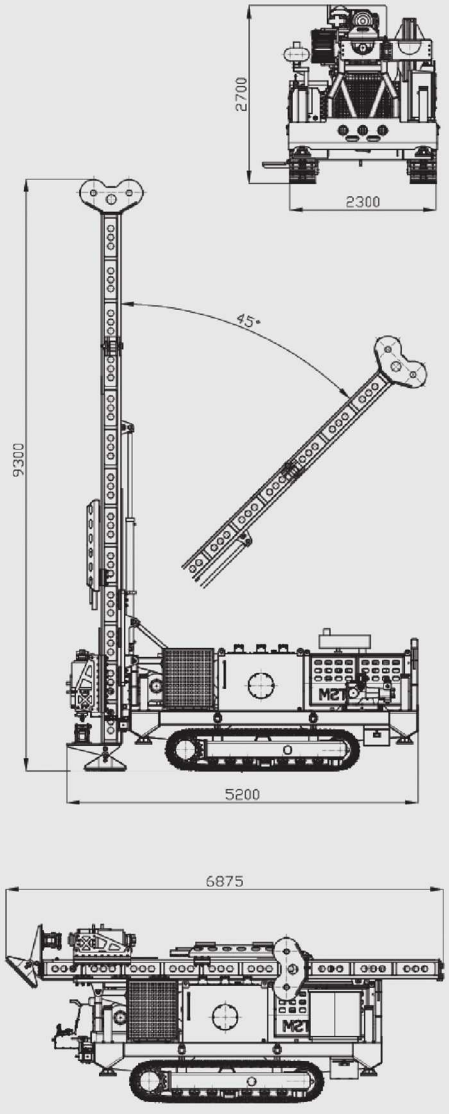
Objectives and Advantages of TSM's CDR Machines:

- **High Precision and Versatility:** Designed for deep drilling with exceptional accuracy, capable of performing in a variety of geological environments.
- **Multiple Borehole Sizes:** Supports drilling boreholes in BQ, NQ, HQ, and PQ sizes, with drilling angles ranging from 45 to 90 degrees, even on sloping surfaces of up to 30 degrees.
- **Mobility in Challenging Terrain:** Equipped with crawler-based undercarriage systems, allowing the machines to efficiently traverse hard-to-reach areas.
- **Easy Maintenance and Customization:** Simple repair and maintenance processes, with the option to add auxiliary equipment based on the client's specific needs.
- **High Production Capacity:** TSM is capable of manufacturing up to 40 units annually, ensuring timely availability of machines.
- **Fast Delivery:** Machines are designed and manufactured in the shortest possible time to meet client demands.
- **Competitive Edge:** TSM's CDR machines are comparable in quality to European models while offering more competitive pricing than Chinese alternatives.
- **Comprehensive Support:** TSM provides 24/7 after-sales services, training, and logistical support through its professional technical team.

| Technical Specification for

CDR1000

CDR-100A DIMENTIONS

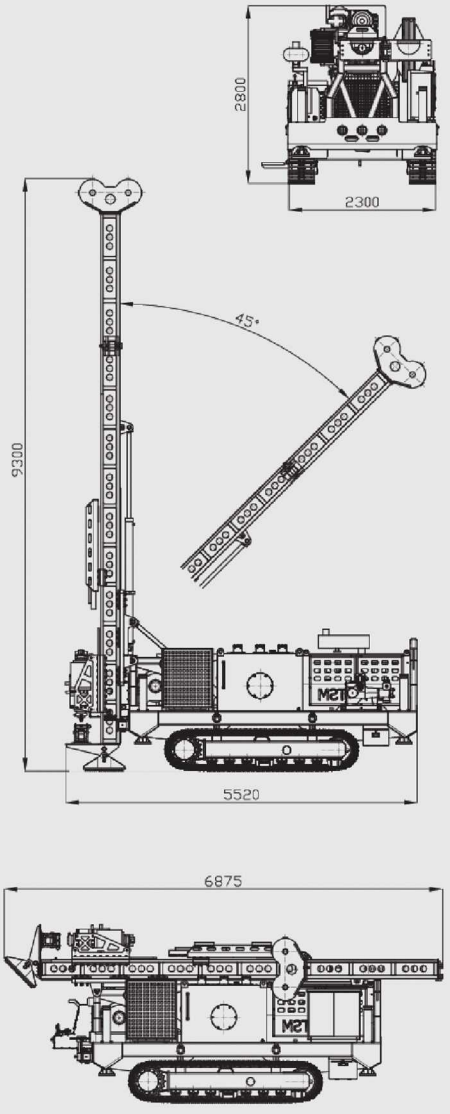


Drilling Depth Guidelines				
Drill Rod Diameter	BWL	NWL	HWL	PWL
Final Hole Diameter (mm)	60	75.7	96	122.6
Depth (mm)	1000	800	550	350
Prime Mover				
Max. Power kW @ RPM	110 kW @ 2300 RPM			
Torque & RPM Ratings				
	Speed (No Load) RPM		Torque (Stall) N.m	
1st Gear	122 ~ 199		3878 ~ 2377	
2nd Gear	246 ~ 400		1929 ~ 1186	
3rd Gear	439 ~ 714		1084 ~ 666	
4th Gear	769 ~ 1250		619 ~ 381	
Hydraulic System				
Primary Pump	Axial piston, variable displacement load sensing, pressure compensated with low pressure standby.			
Type	Rexroth A11VLO 95			
Max. Flow (LPM)	218.5			
Max. Pressure (bar)	250			
Secondary Pump	Axial piston, variable displacement load sensing, pressure compensated with low pressure standby.			
Type	Rexroth A11VLO 45			
Max. Flow (LPM)	103.5			
Max. Pressure (bar)	200			
Auxiliary Pump	Axial piston, variable displacement pressure compensated with low pressure standby.			
Type	Rexroth A10VG 28			
Max. Flow (LPM)	64.4			
Max. Pressure (bar)	200			
Drill Head				
Hydraulic Motor	Rexroth Hydraulic Motor - variable / reversible A6VM 107			
Mechanical Transmission	4-speed			
Gear	1st	2nd	3rd	4th
Ratio (4-speed Gear)	6.27	3.12	1.75	1.00
Final Drive	2:1 Gear Unit			
Hydraulic PQ Chuck	Hydraulically opened, nitrogen gas spring closed Axial holding capacity of 222,400 N Max. inside diameter = 119 mm			
Lubrication	Force fed bearings, oil bath for gears			
Lubrication Oil Filtration	25-micron suction oil filter - independent constant flow			
Drill Mast and Feed System				
Feed Stroke	1.8 m			
Feed / Retract Force	56 / 90 kN			
Rod Pull Length	3 or 6 m			
Draw Works				
Main Line Hoist	Single Speed Motor			
1/1 Hook Load (Bare Drum)	53.4 kN			
1/1 Hook Speed (Bare Drum)	45.0 m/min			
Wire Dia. / Length	16.0 mm / 20.0 m			
Wire Line Hoist	Bare Drum		Full Drum	
Hook Load (Bare Drum)	9.7		2.2	
Hook Speed (Bare Drum)	100.0		433.0	
Wire Dia. / Length	6.0 mm / 1250.0 m			
Other				
• Crawler system • Hydraulic leveling jacks • Hydraulic mast raising and dumping		• Telescopic Mast assembly • Mud Pump and Mud Mixer • Hydraulic / Fuel Tank		
Weight	9 ton			

Technical Specification for

CDR1500

CDR-150A DIMENTIONS

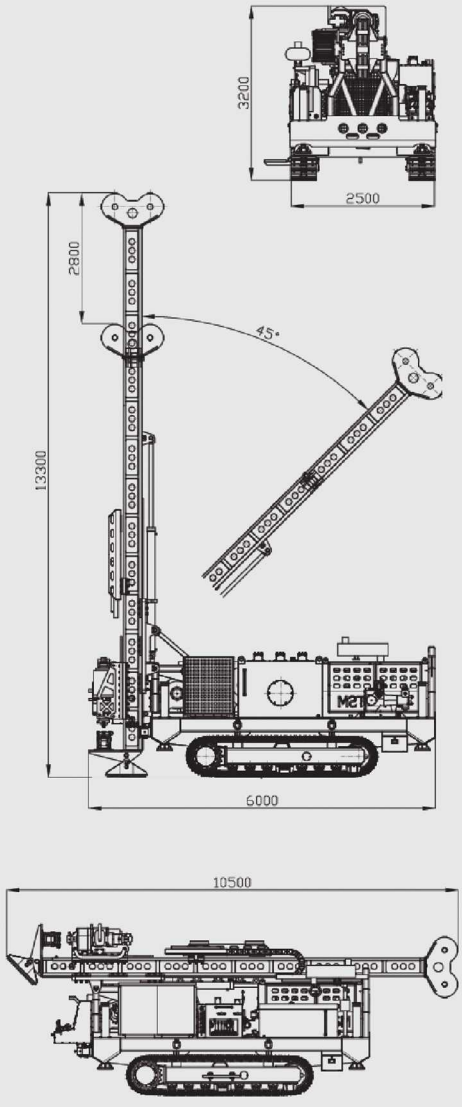


Drilling Depth Guidelines				
Drill Rod Diameter	BWL	NWL	HWL	PWL
Final Hole Diameter (mm)	60	75.7	96	122.6
Depth (mm)	1500	1200	800	500
Prime Mover				
Max. Power kW @ RPM	194 kW @ 2200 RPM			
Torque & RPM Ratings				
	Speed (No Load) RPM		Torque (Stall) N.m	
1st Gear	122 ~ 199		5322 ~ 3254	
2nd Gear	246 ~ 400		2648 ~ 1620	
3rd Gear	439 ~ 714		1486 ~ 908	
4th Gear	769 ~ 1250		849 ~ 519	
Hydraulic System				
Primary Pump	Axial piston, variable displacement load sensing, pressure compensated with low pressure standby.			
Type	Rexroth A11VLO 130			
Max. Flow (LPM)	280			
Max. Pressure (bar)	320			
Secondary Pump	Axial piston, variable displacement load sensing, pressure compensated with low pressure standby.			
Type	Rexroth A11VLO 95			
Max. Flow (LPM)	200			
Max. Pressure (bar)	320			
Auxiliary Pump	Axial piston, variable displacement pressure compensated with low pressure standby.			
Type	Rexroth A10VG 28			
Max. Flow (LPM)	60			
Max. Pressure (bar)	280			
Drill Head				
Hydraulic Motor	Rexroth Hydraulic Motor - variable / reversible A6VM 107			
Mechanical Transmission	4-speed			
Gear	1st	2nd	3rd	4th
Ratio (4-speed Gear)	6.27	3.12	1.75	1.00
Final Drive	2:1 Gear Unit			
Hydraulic PQ Chuck	Hydraulically opened, nitrogen gas spring closed Axial holding capacity of 222,400 N Max. inside diameter = 119 mm			
Lubrication	Force fed bearings, oil bath for gears			
Lubrication Oil Filtration	25-micron suction oil filter - independent constant flow			
Drill Mast and Feed System				
Feed Stroke	3.5 m			
Feed / Retract Force	75 / 150 kN			
Rod Pull Length	6.5 m			
Draw Works				
Main Line Hoist	Single Speed Motor			
1/1 Hook Load (Bare Drum)	89 kN			
1/1 Hook Speed (Bare Drum)	40.0 m/min			
Wire Dia. / Length	20.0 mm / 30.0 m			
Wire Line Hoist	Bare Drum		Full Drum	
Hook Load (Bare Drum)	13.0		4.0	
Hook Speed (Bare Drum)	130.0		420.0	
Wire Dia. / Length	6.0 mm / 1800.0 m			
Other				
• Crawler system • Hydraulic leveling jacks • Hydraulic mast raising and dumping			• Telescopic Mast assembly • Mud Pump and Mud Mixer • Hydraulic / Fuel Tank	
Weight	11 ton			

Technical Specification for

CDR2750

CDR-275A DIMENTIONS



Drilling Depth Guidelines				
Drill Rod Diameter	BWL	NWL	HWL	PWL
Final Hole Diameter (mm)	60	75.7	96	122.6
Depth - Dry Hole (mm)	2750	2400	1550	1050
Prime Mover				
Max. Power kW @ RPM	283 kW @ 2100 RPM			
Torque & RPM Ratings				
	Speed (No Load) RPM		Torque (Stall) N.m	
1st Gear	122 ~ 199		6533 ~ 4005	
2nd Gear	246 ~ 400		3251 ~ 1999	
3rd Gear	439 ~ 714		1824 ~ 1121	
4th Gear	769 ~ 1250		1042 ~ 641	
Hydraulic System				
Primary Pump	Axial piston, variable displacement load sensing, pressure compensated with low pressure standby.			
Type	Rexroth A11VLO 145			
Max. Flow (LPM)	304.5			
Max. Pressure (bar)	310			
Secondary Pump	Axial piston, variable displacement load sensing, pressure compensated with low pressure standby.			
Type	Rexroth A11VLO 95			
Max. Flow (LPM)	199.5			
Max. Pressure (bar)	250			
Auxiliary Pump	Axial piston, variable displacement pressure compensated with low pressure standby.			
Type	Rexroth A10VG 28			
Max. Flow (LPM)	58.8			
Max. Pressure (bar)	220			
Drill Head				
Hydraulic Motor	Rexroth Hydraulic Motor - variable / reversible A6VM 160			
Mechanical Transmission	4-speed			
Gear	1st	2nd	3rd	4th
Ratio (4-speed Gear)	6.27	3.12	1.75	1.00
Final Drive	2:1 Gear Unit			
Hydraulic PQ Chuck	Hydraulically opened, nitrogen gas spring closed Axial holding capacity of 222,400 N Max. inside diameter = 119 mm			
Lubrication	Force fed bearings, oil bath for gears			
Lubrication Oil Filtration	25-micron suction oil filter			
Drill Mast and Feed System				
Feed Stroke	Telescopic Type - 3.5 m			
Feed / Retract Force	126 / 228 kN			
Rod Pull Length	6.5 m			
Draw Works				
Main Line Hoist	Single Speed Motor			
1/1 Hook Load (Bare Drum)	178.0 kN			
1/1 Hook Speed (Bare Drum)	35.0 m/min			
Wire Dia. / Length	25.0 mm / 35.0 m			
Wire Line Hoist	Bare Drum		Full Drum	
Hook Load (Bare Drum)	18.6		4.2	
Hook Speed (Bare Drum)	80.0		355.0	
Wire Dia. / Length	6.0 mm / 3000.0 m			
Other				
• Crawler system • Hydraulic leveling jacks • Hydraulic mast raising and dumping			• Telescopic Mast assembly • Mud Pump and Mud Mixer • Hydraulic / Fuel Tank	
Weight	13 ton			

TUNNEL SAZ MACHINE

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برای دریافت نسخه الکترونیک
لطفا کد را اسکن نمایید.