



DYNATECH

DYNATECH INDUSTRIES PVT LTD

MD – SERIES

Heavy Duty Multipurpose Drill

MODEL – MD175

TECHNICAL SPECIFICATIONS

Dynatech Industries Pvt Ltd

Multipurpose Drill - MD-175

Technical Specifications

Product Introduction

Dynatech Industries Multipurpose Drill-MD175 is a heavy duty Hydraulic Multipurpose drill in compact frame size for surface mineral exploration Applications where the sites are located at remote places & hard to access. The drills are built with long experience and knowledge which

Features

The Drills are fitted on crawler tracks powered from rig hydraulics OR Mounted on Heavy Truck which makes it more versatile and Greater maneuverability and easy to relocate between sites.

Drills are built with well market proven components which providing more Durability, easy to service, user friendly, improved power factor with Highly efficient hydraulics.

Slide/Dump mast lowers the working height dramatically which helps to Have more stable working platform

Long stroke mast with powerful feed system with fine control option Improves bit life and production rated at higher depth of drilling. Drills open design makes easy accessibility to Daily checks and for minor And major maintenance works.

Drilling Depth Capacity

Method of drilling **Diamond core (Wire line-Conventional)**

Depth	B-Size	-	2200 Meters	(7218ft)
	N-Size	-	1750 Meters	(5741ft)
	H-Size	-	1200 Meters	(3937ft)
	P-Size	-	900 Meters	(2953ft)

Reverse Circulation – Down Hole Hammer

Depth	4 1/2" rod	-	350 meters	(1148ft)
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Rotary - Down Hole hammer

	3-1/2"rod	-	550 meters	(1804ft)
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Note: Drilling Depth is based on Straight, Vertical, Clean fluids fill holes. / The depth capacities mentioned above are calculated by field experience. Actual drilling capacity depends on conditions, drilling techniques, In-the Hole tools and equipment used.

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Technical Specifications

Prime Mover

Engine	Cummins.
Model	6CTA8.3L
Power	194 Kw / 260 HP
Speed	2200Rpm
Engine type	Diesel Turbo charged
Cooling	water
Emission Norms	Non Certified
Enclosure	Fully covered steel enclosure with Lockable Door

Mast & HEAD TRAVERSE SYSTEM

Box type construction fully welded RHS lattice with cross Bracing
Designed for drilling angles between vertical to 45 Degree
Mast is fitted with safety guards and adjustable roller for rod handling,
Tie rod supports in angle degree drilling.

Type	Hydraulic cylinder over ropes 2:1.
Head travel length	7,5 m (24.6 ft)
Mast length	11,8 m (app), (38.7 ft)
Rod hosting length	9,0 m (29.52 ft)
Retract force	181.5 KN (40700 lb)
Pull down force	94.4 KN (21206lb)
Pull up speed	44.8 meters/min (177 ft/min)
Pull down speed	29.6meters/min (97 ft/min)
Fine feed speed	4.5metres/min

Dump

Stroke	2200 MM
Mechanism	Hydraulic cylinder with locking valves.
Drilling Angle	90 degrees vertical down to 45 degrees Horizontal
Mast raising	Two independent hydraulic cylinders with lock Valves.

ROTATION HEAD

Model	Top Drive
Gear Change	Two speed High/low gear manual change
Drive Motor	Hydraulic -Variable displacement
Spindle bore	60mm
Lubrication	Forced lubrication
Mounting	Hydraulic Slide – Sideways
Features	
Cooler- lubrication	Air to oil
Speed control	Steeple's speed control can be very precise Improves bit life time .Speed and torque Controlled. By operator from control panel.

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TORQUE AND SPEED RATINGS

Hydraulic motor at minimum/maximum, engine at 2100 rpm.

Gear	Speed	Torque	
	Rpm	Nm	(lbft)
Low Speed Gear	100 – 312	8556 - 2952	(6130 - 2177)
High Speed Gear	433 – 1250	2139 - 738	(1577 - 544)

Note: Rotary Head torques and speeds are infinitely variable in each gear range as indicated
Output Speeds & torques are on 100% efficiency, Actual rotation speed is effected by
Engine Rpm and motor displacement settings

Main Winch

Hoisting Capacity	151.3 KN (34013 lb) (Bare drum)
Hoisting speed	40 meters/min (131, 2 ft/min)
Cable diameter	22mm
Cable length	35meters (145 ft)
Drive motor	fixed displacement
Static / Dynamic Braking	Spring applied hydraulic release / Over center valve
Mounting	Deck
Rope winding	spring forced nylon roller

Note: Do not use multiple part lines with the main winch. Use only single line.
Wire cable not supplied with rig to be ordered separately.

Wire Line Winch

Hoisting Capacity	21.4 KN (4811lb) (Bare drum)
Line speed	125 meters/min (410 ft/min) (Bare drum)
Line sped	465 meters/min (1525 ft/min) (Full drum)
Cable diameter	6mm
Cable length	2000 meters (6561ft)
Drive motor	fixed displacement
Breaking	Over center valve
Mounting	Deck
Level winder	Standard (mechanical drive through winch shaft)

Note: Wire cable not supplied with rig to be ordered separately.

ROD CLAMP

Capacity	PQ
Make	DynatechIndustries
Jaw Sizes	PQ/HQ/NQ/BQ
Mode of operation	Hydraulic
Rod clamp Opening	215mm (8 1/2"inch)

Slip Table

Opening	355mm (14" inch)
Spanners	For slotted drill rods
Casing dia	Up to 10"inch

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Power Break out

Force	26200Nm (19324 ft-lbf)
Type	Cylinder actuated ,Mounted on lower side of mast
Size of spanner	89mm(3 1/2"inch) to 203mm (8'inch)
Tool	With optional spanner wrap around spanner (optional)

Hydraulics

Main pump

Type	Variable displacement
Controller	Load sensing
Working pressure	280 Bar
Make	SauerDanfoss

Auxiliary pump (water)

Type	Variable displacement
Controller	Load sensing
Working pressure	280 Bar
Make	SauerDanfoss

Auxiliary pump (auto feed & Cooler)

Type	Variable displacement
Working pressure	210 Bar

Hydraulic Valve Group

Mail control valve

SauerDanfoss / Equivalent
Rotation, Main Winch, Wire line Winch, Feed.

Auxiliary valves

Walvoil / Equivalent
Auxiliaries, Auto feed, Water Pump

Water Pump

Walvoil / Equivalent
Corse control/Fine control

Hydraulic Filters

Return Line filter, lubrication oil filter for Rotation head.
10 Micron absolute. Mechanical Clogging Indicator.
Hydraulic oil fills up filter & hand pump.
Air breather assembly fitted on tank.

MICRO FEED

Separate control valves for Hold Back and Thrust.
Separate valve for regulating Travel Speed of rotary head while drilling.

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Control panel

Gauges	Hold back, pull down, main pressure, water pressure,
Indicator	Lube oil indication in the panel.
Engine speed	lockable control handle for controlling engine RPM.
Stop	Emergency engine stop
Rotation control	manually adjustable control for rotation Speed. Control knob for torque control of Rotation Head.
Load Indication	Load gauges are mounted for hold back, pull down.
Water pump	Fine control valve has been provided on the panel
Pilot controls	Hydraulic operated Joysticks For Rotation/Feed/Main Winch/Wire line Winch.

Hydraulic/Gear oil cooler

Type	Air to Oil
Heat Rejection	60KW
Drive	Hydraulic
Construction	Aluminum

Additional safety features

Emergency	Guards on all couplings ,winches and fans High density plastic Spiral Guard for sliding Hoses. Safety Ladder to access on to the rig base. Emergency stop fitted on two different locations to Switch of the engine.
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Spin guard(Optional)

Location	For Rotation Head Cage Round the rotation head, manual opening.
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Rig Lighting

Tower mounted flood lights	2nos
Control panel	1no

Mud Gauge

F - Type Mud Gauge	Rotary dial with steady pointer.
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Fuel Filter

High capacity Water separator cum fuel Filter	fitted in engine fuel system.
Make	Racor

Lubricator

Type	Venture
Tank	Pressurized by air
Capacity	1200CFM@350PSI

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Technical Specifications

Air / Mud lines

Type	Air/Mud lines
Rating	1500PSI
Valves	Air valve , Air vent
Type of Operation	Hydraulic

Base frame assembly

Length	7meters app (25.58ft)
Width	2.5 meter (8.2ft)
Top Covering	Covered with 4mm chequered sheet.

JACK LEGS

Style	Box type construction Bolted to base frame
Qty	4Nos
Fixing	Welded to Main Base Frame
Locking valves	pilot operated check valves
Stroke	1000mm
Lifting Capacity	245.0 KN (55115.5 lb) Each

Driver Cab

Mounted in front of the Rig with control valves for trimming, Suitable for ROPS complaint. (only for Track version)

Approximate Weight/Dimensions.

Bare Drill Rig without Carrier rested on Jack frame.	
Weight	18000Kgs
Length	12000mm - long Mast In horizontal when rested And Straight.
Width	2400mm.
Height	2500mm. Without Carrier rested on Jack frame

Options

Speed indicator- RH

Rotation Gear box RPM Indicator	
Location	located on control panel
Type	Digital LCD Display, with life time battery

Wire ropes

Main winch	22mm X 35meters long
Wire line	6mm X 2000 meters long

Safety

Extinguisher	Dry type Fire Extinguisher fitted on the machine For easy handling.
FOPS	Falling Objects Protective Structure

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Water Pump

Type	Triplex Piston Pump
Power	Hydraulic operated
Max flow	140 LPM
Max pressure	6.895 MPa (1000 PSI)

Engine

Emission Norms	Tier III certified
Power	260HP(194KW)@2200Rpm

Lighting & Horn

Beacon Flash Light, Drive lights for CAB.
Horn & Reverse Horn

Float Sub

Type	Spline construction
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Tramming Controls

Crawler controls	Wireless Remote Control up to 20 meters Distance Foot operated Dead man switch
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Mud Mixer

Type	Hydraulically operated.
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Rod Winch & Boom

Type	Fully variable hydraulic rod handling boom
Angle	Vertical to 45 degree
Winch	3.43KN (771.6 lb)

Hydraulic and Diesel tanks

Type of construction	Stainless Steel.
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Ladder

Mounted on side of mast with side guard.

DTH Drilling Accessories

Guide for Hammer.
Guide for Drill rod any one size
Break out spanner 1no
Conversion Sub spindle to rods

Swivels

Separate swivel for core drilling
Separate swivel for Air/Mud drilling

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Multipurpose Drill - MD-175 **Technical Specifications**

Reverse circulation Package

Swivel	Dual Swivel OR Inlet Swivel Discharge Swivel
Discharge Kit	Blow down/Blow back assembly Deflector box assembly Discharge Hose 20 meter long Discharge hose socks Hose tail clamps Knout nuts
Cyclone	In volute cyclone For wet and dry condition
Interval Box	Pneumatically operated 60liters capacity Slide door opening.
Splitter	Cone type splitter for dry sampling Fixed type / Adjustable. Riffle type splitter for wet and dry sampling
Rods	Reverse Circulation Drill rods of different size, Length and different thread types available on request. Starter rods of different size and length Available on request
Subs	Saver Subs Dig out Subs Blank subs

Note: the above mentioned list or Reverse Circulation is primary sizes and qty will be varying according to the depth of the machine. For detailed recommended list please contact Sales representative.

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Carrier

Truck

8X4 rigid truck chassis.
Pay load capacity of 32000Kgs.

Track (Crawler) assembly

Grouser construction	Triple Grouser
Total length of track	4250
Total width of track	2500
Greadeability – Degree	25
Travel speed - Kmph	2.5

Specifications are subjected to modify or change ,Which are made time to time by DynatechIndustries Pvt Ltd and their suppliers according to their polices for upgrade their products.
All Dimensions and weights are approximate and are subjected to change without notice.



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