



**DYNATECH**

**DYNATECH INDUSTRIES PVT LTD**

**MD – SERIES**

**Heavy Duty Multipurpose Drill**

**MODEL – MD350**

**TECHNICAL SPECIFICATIONS**

# Dynatech Industries Pvt Ltd

## Multipurpose Drill - MD-350

## Technical Specifications

### Product Introduction

**Dynatech Industries Multipurpose Drill-MD350** 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

N-Size - 3200 Meters (10495ft)  
H-Size - 2250 Meters (7382 ft)  
P-Size - 1350 Meters (4429 ft)

**Reverse Circulation – Down Hole Hammer**

Depth

4 1/2" rod - 700 meters (2296ft)

**Rotary - Down Hole hammer**

3-1/2"rod - 1000 meters (3280ft)

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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### Prime Mover

Engine	Cummins.
Model	NTA855
Power	298 Kw / 400 HP
Speed	2100Rpm
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	372.65 KN (83775 lb)
Pull down force	186.3 KN (41888lb)
Pull up speed	22.0 meters/min (72.17 ft/min)
Pull down speed	16.0meters/min (52.5 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	72mm
Lubrication	Forced lubrication
Mounting	Hydraulic Slide – Sideways
Features	
Cooler- lubrication	Air to oil
Speed control	Steeple 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	85– 213	16020 - 6675	(11816 - 4923)	
High Speed Gear	425 – 1050	3204 - 1335	(2363 - 985)	

**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	274.58 KN (61729 lbs) (Bare drum)
Hoisting speed	20 meters/min (65.6 ft/min)
Cable diameter	30mm
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	24.0 KN (5409 lb) (Bare drum)
Line speed	140 meters/min (460 ft/min) (Bare drum)
Line sped	410 meters/min (1344.8 ft/min) (Full drum)
Cable diameter	8mm
Cable length	3000 meters (9842ft)
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

# **Dynatech Industries Pvt Ltd**

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### Power Break out

<b>Force</b>	<b>26200Nm (19324 ft-lbf)</b>
<b>Type</b>	<b>Cylinder actuated ,Mounted on lower side of mast</b>
<b>Size of spanner</b>	<b>89mm(31/2"inch) to 203mm (8'inch)</b>
<b>Tool</b>	<b>With optional spanner wrap around spanner (optional)</b>

### Hydraulics

#### Main pump

<b>Type</b>	<b>Variable displacement</b>
<b>Controller</b>	<b>Load sensing</b>
<b>Working pressure</b>	<b>280 Bar</b>
<b>Make</b>	<b>SauerDanfoss</b>

#### Auxiliary pump (water)

<b>Type</b>	<b>Variable displacement</b>
<b>Controller</b>	<b>Load sensing</b>
<b>Working pressure</b>	<b>280 Bar</b>
<b>Make</b>	<b>SauerDanfoss</b>

#### Auxiliary pump (auto feed & Cooler)

<b>Type</b>	<b>Variable displacement</b>
<b>Working pressure</b>	<b>210 Bar</b>

### 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

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

### Hydraulic/Gear oil cooler

<b>Type</b>	Air to Oil
<b>Heat Rejection</b>	80KW
<b>Drive</b>	Hydraulic
<b>Construction</b>	Aluminum

### Additional safety features

<b>Emergency</b>	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)

<b>Location</b>	For Rotation Head Cage Round the rotation head, manual opening.
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### Rig Lighting

<b>Tower mounted flood lights</b>	2nos
<b>Control panel</b>	1no

### Mud Gauge

<b>F - Type Mud Gauge</b>	Rotary dial with steady pointer.
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### Fuel Filter

<b>High capacity Water separator cum fuel Filter</b>	fitted in engine fuel system.
<b>Make</b>	Racor

### Lubricator

<b>Type</b>	Venture
<b>Tank</b>	Pressurized by air
<b>Capacity</b>	1200CFM@350PSI

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### 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	25000Kgs
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	30mm X 35meters long
Wire line	6mm X 3000 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	400HP(298KW)@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-350** **Technical Specifications**

### **Reverse circulation Package**

<b>Swivel</b>	<b>Dual Swivel OR Inlet Swivel Discharge Swivel</b>
<b>Discharge Kit</b>	<b>Blow down/Blow back assembly Deflector box assembly Discharge Hose 20 meter long Discharge hose socks Hose tail clamps Knout nuts</b>
<b>Cyclone</b>	<b>In volute cyclone For wet and dry condition</b>
<b>Interval Box</b>	<b>Pneumatically operated 60liters capacity Slide door opening.</b>
<b>Splitter</b>	<b>Cone type splitter for dry sampling Fixed type / Adjustable. Riffle type splitter for wet and dry sampling</b>
<b>Rods</b>	<b>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</b>
<b>Subs</b>	<b>Saver Subs Dig out Subs Blank subs</b>

**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.**

# **Dynatech Industries Pvt Ltd**

## **Multipurpose Drill - MD-350** **Technical Specifications**

Carrier

Truck

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

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.



**Dynatech Industries Pvt Ltd**

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