

# DeltaBase 540

## Technical Data Sheet



Release Date: May 10th, 2008

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### PRODUCT OVERVIEW

The DeltaBase 540 is a powerful and versatile Multipurpose drill rig. With the ability to perform coring, DTH drilling, rotary flush, auger drilling as well as perform Standard Penetration Testing makes the DB540 a key part of any rig fleet.

#### Features:

- Single and Dual head drilling options up to 800 rpm and 16 kNm (12.4k ft-lb) of torque
- Hydraulic Make and break clamps up to 406 mm (16")
- Independent hydraulic leveling jacks
- Steel tracked carrier with radio remote driving control for excellent performance in difficult terrain
- Rig mounted automatic SPT
- High flow and high pressure water pump options
- Standard safety features including interlocked safety cage



### STANDARD DRILLING SYSTEMS

	METRIC SYSTEM	US CUSTOMARY SYSTEM
<b>CORE DRILLING (CORE BARREL)</b>		
NQ / NQ2" / NV / NV2"	1600 m	5250 ft
HQ / HV	800 m	2625 ft
PQ / PV	550 m	1805 ft
<b>ROTARY DRILLING (TRICONE)</b>		
Hole diameter - 216 mm (8.5 in)	280 m	920 ft
<b>AUGER DRILLING</b>		
Maximum Hollow Stem ID	209 mm	8 1/4 in
<b>DOWN-THE-HOLE HAMMER DRILLING</b>		
Depth 5" DTH, Ø88.9mm	220 m	720 ft
Hammer diameter	up to 203 mm	up to 8 in

NOTE: Air compressor must be selected according to hammer used. In-line oiler and shock absorber are required for DTH drilling

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### TECHNICAL SPECIFICATIONS

	METRIC SYSTEM	US CUSTOMARY SYSTEM
<b>PRIME MOVER</b>		
Standard Unit	Deutz TCD2012L062V liquid cooled engine, com III	
Fuel	Diesel	
No. of Cylinders	6	
Swept Volume	7146 ccm	436 cubic in
Power	147 kW @ 2300 rpm	197 hp @ 2300 rpm
Torque	702 Nm	500 lbf-ft
Fuel Tank Capacity	200 l	53 g
Specific fuel consumption	200 g/kWh	
Battery Voltage	24 V	
<b>ROTARY HEAD DD54</b>		
Hydraulic Motor		
1 <sup>st</sup> gear 80 - 400 rpm	10120 - 2025 Nm	7468 - 1494 lb-ft
2 <sup>nd</sup> gear 110 - 550 rpm	4330 - 860 Nm	3195 - 634 lb-ft
Rotation Motor	Rexroth hydraulic motor -variable / reversible with pressure remote	
Mechanical Transmission	2 speed	
Gear Ratio - 1 <sup>st</sup>	10.18:1	
- 2 <sup>nd</sup>	4.36:1	
Bore I.D.	100 mm	4 in
Floating Spindle I.D.	42 mm	1.65 in
Floating Spindle - Stroke	125 mm	5 in
Drive Flange	2 3/8" API or 2 7/8" API	
Head carriage with hydraulic side shift		
Optional rod handling assist system available		
<b>ROTARY HEAD HY77</b>		
	Max. Torque	
1 <sup>st</sup> gear 0 - 50 rpm	10000 Nm	7375 lbf
2 <sup>nd</sup> gear 0 - 120 rpm	5600 Nm	4130 lbf
3 <sup>rd</sup> gear 0 - 800 rpm	745 Nm	550 lbf
Rotation Motor	Danfoss Variable motors	
Gear Ratio	5.19:1	
Bore I.D.	100 mm	4 in
Top Drive Flange	2 7/8" API reg Box	
Head Carriage with hydraulic Side Shift and front tip out		
Head includes BREAK-O-MATIC system for additional torque when breaking rods		

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	METRIC SYSTEM	US CUSTOMARY SYSTEM
<b>DOUBLE ROTARY HEAD DH1700</b>		
<b>Casing Head RH1400 Head - 3 speed - type 30</b>		
	Max. Torque	
<b>1<sup>st</sup> gear 29 rpm</b>	16,8 kNm	12400 ft-lbf
<b>2<sup>nd</sup> gear 43 rpm</b>	11,2 kNm	8260 ft-lbf
<b>3<sup>rd</sup> gear 86 rpm</b>	5,6 kNm	413 ft-lbf
<b>Inner Rod Head RH900 Head - 2 speed - type 97</b>		
	Max. Torque	
<b>1<sup>st</sup> gear 55 rpm</b>	8,7 kNm	6420 ft-lbf
<b>2<sup>nd</sup> gear 110 rpm</b>	4,4 kNm	3210 ft-lbf
<b>Electrically controlled shifting for each gear</b>		
<b>Double head carriage with hydraulic side shift</b>		
<b>All additional head tooling available (Flushing head, shock absorber, adapter flanges, etc)</b>		
<b>HYDRAULIC SYSTEM</b>		
<b>Primary Pump A10VO60</b>	Rexroth bent axis, variable displacement	
<b>Maximum Flow</b>	120 lpm @ 2200 rpm	31.7 gpm @ 2200 rpm
<b>Maximum Pressure</b>	20 MPa	2900 psi
<b>Secondary Pump A11VO75</b>		
	Rexroth bent axis, variable displacement	
<b>Maximum Flow (1<sup>st</sup>)</b>	150 lpm @ 2200 rpm	38.1 gpm @ 2200 rpm
<b>Maximum Flow (2<sup>nd</sup>)</b>	150 lpm @ 2200 rpm	38.1 gpm @ 2200 rpm
<b>Maximum Pressure (1<sup>st</sup>)</b>	25 MPa	3625 psi
<b>Maximum Pressure (2<sup>nd</sup>)</b>	25 MPa	3625 psi
<b>Oil Tank Capacity</b>	600 l	158 gal
<b>DRILL MAST AND FEED SYSTEM WITH FEED CYLINDER</b>		
<b>Total Length</b>	7,25 m	24 ft
<b>Feed Stroke</b>	4,0 m	13.2 ft
<b>Feed Speed</b>	normal / fast	
<b>Up</b>	7 / 22 m/min	23 / 72 ft/min
<b>Down</b>	11 / 32 m/min	36 / 104 ft/min
<b>Pull Down</b>	100 kN	22480 lbf
<b>Pull back</b>	150 kN	33700 lbf
<b>Mast Dump</b>	1000 mm	3.3 ft
<b>Drilling Inclination</b>	45° off horizontal to 90° vertical down	

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### TECHNICAL SPECIFICATIONS

	METRIC SYSTEM	US CUSTOMARY SYSTEM
<b>UNDERCARRIAGE</b>		
Type	Crawler mounted with steel tracks	
Max. Driving Speed	1,7 km/hr	1.1 mph
Axis Distance	2530 mm	100 in
Max. Ground Pressure	0,066 MPa	0.96 psi
Width of Track Shoe	500 mm	19.7 in
Climbing Capacity	60% (approx. 30°)	
<b>ADDITIONAL INCLUDED EQUIPMENT</b>		
Hydraulic Leveling Jacks	4 pcs	
Night Lights	5 pcs	
Towing Hook	Rear of rig	
Fixed Rod Storage Rack		
Hydraulic Mast Raising Cylinders		
Safety Guarding and Emergency Stop Switches		
<b>OPTIONAL EQUIPMENT</b>		
<b>ROD CLAMP 305 MM (12")</b>		
Maximum Clamping Diameter	305 mm	12 in
Maximum Clamping Force	330 kN	75000 lbf
Maximum Breaking Torque	30 kNm	22140 lbf-ft
<b>ROD CLAMP 406 MM (16")</b>		
Maximum Clamping Diameter	406 mm	16 in
Maximum Clamping Force	400 kN	90000 lbf
Maximum Breaking Torque	44 kNm	31200 lbf-ft
<b>MAIN HOIST S45V</b>		
Line Pull	57 kN	12800 lbf
Rope Speed @ 50 lpm	50 m/min	164 ft/min
For Cable Ø18 mm (0.7 in)	50 m	164 ft
<b>SUPPORT PL5 HOIST</b>		
Line Pull	19 kN	4271 lbf
Rope Speed @ 59 lpm	35 m/min	115 ft/min
Cable Ø12mm (0.47 in)	38 m	125 ft

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	METRIC SYSTEM	US CUSTOMARY SYSTEM
<b>SUPPORT PL2 HOIST</b>		
Line Pull	9 kN	2023 lbf
Rope Speed @ 50 lpm	30 m/min	98 ft/min
Cable Ø8mm (0.32 in)	40 m	131 ft
<b>WIRELINE HOIST WL54</b>		
Line Pull	6,5 kN	1461 lbf
Line Speed @ 50 lpm	100 m/min	328 ft/min
Cable Ø6mm (0.24 in)	350 m	1150 ft
<b>WIRELINE HOIST WL100</b>		
Line Pull - Bare Drum	933 kg	2190 lbf
Line Pull - Full Drum	288 kg	502 lbf
Line Speed - Bare Drum	145 m/min	475 ft/min
Line Speed - Full Drum	433 m/min	1422 ft/min
Cable Ø4.8mm (0.19 in)	1000 m	3280 ft
<b>MUD PUMP TYPE FMC W1122BCD</b>		
Working Pressure	50 bar	725 psi
Continuous Delivery	72 l/min	19.0 gal/min
Maximum Delivery	130 l/min	34.3 gal/min
<b>MUD PUMP GARDNER DENVER FG-FGX</b>		
Working Pressure	21 bar	305 psi
Maximum Flow	600 l/min	158 gal/min
<b>COMBI BLOCK MUD PUMP GROUP CB80-250</b>		
Working Pressure	10 bar	145 psi
Maximum Flow	2500 l/min	660 gal/min
<b>MUD PUMP DELTAPUMP 200</b>		
Working Pressure	30 bar	435 psi
Maximum Flow	200 l/min	53 gal/min

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### TECHNICAL SPECIFICATIONS

	METRIC SYSTEM	US CUSTOMARY SYSTEM
<b>OIL LINE LUBRICATOR FOR DTH-DRILLING</b>		
Oil Tank Capacity	20 l	5.3 gal
Operating Pressure	25 bar	363 psi
<b>HIGH PRESSURE MIST WASHDOWN PUMP - HPW 200/30</b>		
Flow	30 l/min	8 gal/min
Operating Pressure	200 bar	2900 psi
<b>RADIO REMOTE CONTROL FOR DRIVING</b>		
<b>ODEX DUST DEFLECTOR - MOUNTS UNDER DRILL MAST</b>		
Diameter	305 mm	12 in
<b>TOOLBOX</b>		
Includes all basic tools for rig maintenance and lubrication		
<b>WELDING GENERATOR WITH AUXILLARY POWER</b>		
Power Output (Nominal)	6 kVa	
Voltage	400 / 230 V	
North American Voltage Available		
<b>COMPRESSOR FOR PNEUMATIC TOOLS - HK400</b>		
Flow	400 l/min	14 cfm
Pressure	8 bar	116 psi
<b>SPT (STANDARD PENETRATION TEST) AUTO HAMMER WITH AUTOMATIC BLOW COUNTER</b>		
Impact Rate	1 - 30 bpm	
Length of Travel	762 mm	30 in
Hammer Weigth	63,5 kg	140 lb
Total Weigth	180 kg	397 lb

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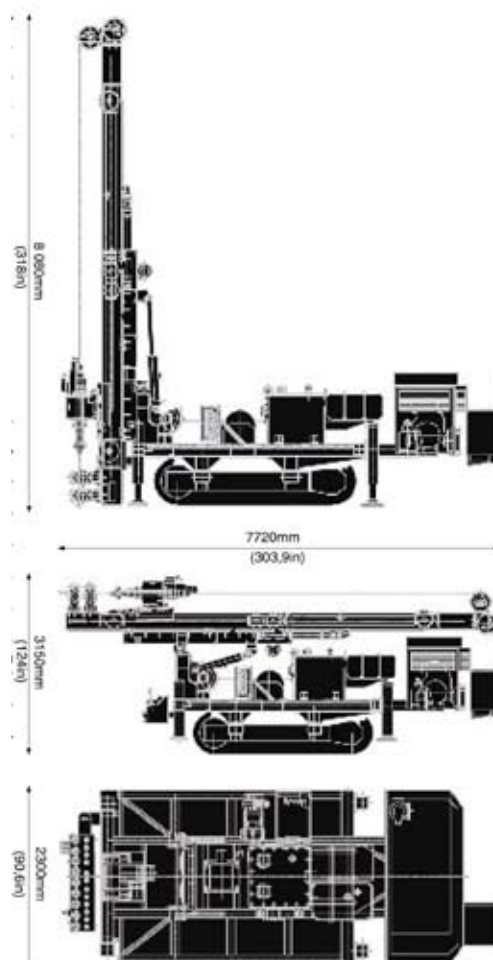
### DIMENSIONS AND WEIGHTS\*

#### WEIGHT

Operational Weight = 16500 kg (36376 lb)

Consisting of:  
Diesel Power Unit Group DEUTZ TCD2012, 7.15 litre, 6 cylinder  
Hydraulic Module  
Main Hoist c/w Cable 545V  
Hydraulic Mast Raising (Independent)  
Lower Mast Assembly  
Rotation Unit Group DD54  
Crawler Frame  
Battery  
Levelling Jacks (Hydraulic)  
Operator Controls  
Foot Clamp and Breaking Clamp

#### MEASUREMENTS



\* Dimensions and weights may vary depending on options and should be checked before starting an operation.