

BBS

EXPLORATION

56

Drill Specifications



Fast Retract
Lever
↓



The BBS 56 is a deep capacity drill. The above drill is shown with an air cooled TCD 914 Turbo Deutz Engine, Allison AT 545 automatic transmission, 12HH swivelhead, hydraulic chuck, side-mounted wireline hoist and single hydraulic pump.

FEATURES

- The Industry's widest range of spindle torques and speeds through a unique selection of bevel gears and sprocket ratio options.
- Low profile for ease of movement and drill stability.
- Choice of options to meet individual customer requirements.
- Drill may be readily broken down into modules for ease of transportation.
- All components are easily accessible for service.
- Controls are grouped for operator convenience and safety.

In the interest of product improvement BBS Exploration reserves the right to change design, specifications and price without notice.

Nominal Depth Rating			Drilling Speeds / Torques – High Gear			
Single Line Rating 7900 kg (17400 lbs)			Sprocket Ratio	Rpm	Nm	ft lbf
Rod Size	(m)	(ft)				
A*	1730	5600	1.31:1	975	1215	896
B*	1340	4400	1.52:1 (Std)	841	1409	1039
N*	1050	3450				
H*	680	2200				

* Refers to "O", "Q", "T", or other similar wireline systems.

**SPECIFICATIONS****Depth Rating - Single Line**

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H*	680	2200

*Refers to "O", "Q", "T", or other similar wireline systems.

Diesel Power Unit

Model:	Deutz Turbo Diesel TCD 914
Horsepower:	174.9 Hp at 2300 rpm
Max Torque:	461 lb-ft at 1600 rpm
Fuel Consumption:	228 g/kWhr at 2300 rpm 0.374 lb/hph
Certifications:	U.S. EPA Non-road Tier 3

Other Diesel engines available on request.
Diesel engine data based on manufacturers specifications

Power Train

Transmission:	Allison AT 545 automatic
Ratios:	1st 3.45:1, 2nd 2.25:1, 3rd 1.41:1, 4th 1.00:1, Reverse -5.03:1
Drive Line:	Heavy duty Universal joints
Front End Drive:	Weldment
Chain:	Quintuplex 16mm (5/8") pitch
Sprockets:	Optional Ratios available as kits

Hydraulic System

Single Pump (psi compensated)	151 L/min (40gpm US)
Tank Volume	132 L (35 gal US)
Swivelhead circuit (Max Pressure)	6890 kPa (1000 psi)
Hydraulic Chuck circuit	6890 kPa (1000 psi)
Wireline Hoist Circuit (Max Pressure)	10340 kPa (2200 psi)

Fuel Tank

With Single hydraulic pump	75 litres (20 gal US)
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Main Hoist

Single line hoist rating:	7900kg (17400 lbs)
Hoist type:	Planetary with brake bands
Drum capacity:	48 m of 16 mm dia. Cable (160 ft of 5/8 in)
Drum diameter:	275 mm (10 3/4 in)
Drum length	230 mm (9 in)
Brake/clutch levers:	Double fulcrum action, over centre lock, swiveling type
Clutch brake drum:	420 mm dia. x 64 mm (16 1/2 in x 2 1/2 in)
Hoist brake drum:	610 mm dia. X 89 mm (24 in x 3 1/2 in)

Wireline Hoist

Rated capacity:	
- With Levelwind	2370 m (7785 ft) of 5 mm (3/16 in) cable
- Without Levelwind	2130 m (7000 ft) of 5 mm (3/16 in) cable
Maximum line speed:	
bare:	84 m/min (276 ft/min)
full:	283 m/min (928 ft/min)
Maximum line pull:	
bare:	930 daN (2046 lbf)
full:	276 daN (608 lbf)

Hydraulic Swivelhead - 12HH

Drive tube I.D:	92 mm (3 5/8 in)
Swivel head rotation:	360 degrees
Bevel gear ratios:	
standard:	1.8:1
optional:	1.48:1
Hydraulic pressures:	6890 kPa (1000 psi)
Maximum thrust:	9978 daN (21600 lbf)
Maximum lift:	11383 daN(25100lbf)
Piston rod O.D.:	38 mm (1 1/2 in)
Cylinder I.D.:	102 mm (4 in)
Stroke:	
optional:	610 mm (24 in)
optional:	760 mm (30 in)
optional: Piston Rod O.D.	2.5 in - 24 in or 30 in stroke
see options page for more information	

Hydraulic Chuck - 12HH

Chuck holding capacity:	10900 kg (24000 lbs)
Number of jaws:	9
Jaw type:	Replaceable carbide insert
Chuck action:	Spring closed, hydraulic release



DRILL PERFORMANCE

Specifications based on BBS 56 Drill equipped with Deutz TCD914 & Allison AT-545 Automatic Transmission

Front End sprocket ratios	Trans/Ratios gear/ range	12HH Swivelhead 1.8:1 Ratio			12HH Swivelhead 1.48:1 Ratio			Hoist			
		1.8:1 gear ratios	spindle	torque	1.48:1 gear ratios	spindle	torque	hoist	pull	hoist	speed
		rpm	ft/lbs	nm	rpm	ft/lbs	nm	lbf	daN	fpm	m/min
1.31:1 *	4 (1:1)	975	937	1270	1186	771	1045	8189	3643	389	119
	3 (1.41:1)	690	1324	1795	841	1087	1474	11546	5137	276	84
	2 (2.25:1)	433	2111	2862	527	1734	2351	18425	8197	173	53
	1 (3.45:1)	282	3240	4393	344	2657	3602	28252	12568	113	34
1.52:1 **	4 (1:1)	841	1087	1474	1022	894	1212	9501	4226	335	102
	3 (1.41:1)	596	1533	2078	725	1260	1708	13396	5958	238	72
	2 (2.25:1)	374	2443	3312	454	2013	2729	21377	9508	149	45
	1 (3.45:1)	243	3761	5099	296	3087	4185	32778	14580	97	30

Specifications based on BBS 56 Drill equipped with Deutz TCD914 & T-18 Standard Transmission

Front End sprocket ratios	Trans/Ratios gear/ range	12HH Swivelhead 1.8:1 Ratio			12HH Swivelhead 1.48:1 Ratio			Hoist			
		1.8:1 gear ratios	spindle	torque	1.48:1 gear ratios	spindle	torque	hoist	pull	hoist	speed
		rpm	ft/lbs	nm	rpm	ft/lbs	nm	lbf	daN	fpm	m/min
1.31:1 *	4 (1:1)	975	937	1270	1186	771	1045	8189	3643	389	119
	3 (1.69:1)	577	1584	2148	702	1302	1765	13839	6156	230	70
	2 (3.09:1)	316	2892	3921	384	2380	3227	25303	11255	126	38
	1 (6.32:1)	154	5934	8045	188	4861	6591	51753	23021	62	19
1.52:1 **	4 (1:1)	841	1087	1474	1022	894	1212	9501	4226	335	102
	3 (1.69:1)	497	1839	2493	605	1510	2047	16057	7143	198	60
	2 (3.09:1)	272	3360	4556	331	2761	3743	29359	13060	109	33
	1 (6.32:1)	133	6871	9316	162	5641	7648	60049	26711	53	16

- * Optional sprocket ratio (Tailshaft 29-tooth - Mainshaft 38-tooth)
- ** Standard sprocket ratio (Tailshaft 25-tooth - Mainshaft 38-tooth)

Spindle rpm, spindle torque, and hoist speed are calculated at 2300 rpm with TCD914 Deutz engine (standard) and 100% gearing efficiency.

Hoist pulls shown are calculated at maximum engine torque at 1600 rpm and 100%gearing efficiency.

Chart gives single line hoist pulls in all transmission ranges. **The operator must exercise caution that the rated hoist single line pull of 7740 daN (17400 lbs) must not be exceeded when using full torque in lower gears or damage may result.**

Standard and Optional Equipment

Standard Equipment

- Deutz TCD914 Diesel Engine - 174.9HP@2300 RPM - other engines available on request
- Engine lifting cradle
- Hoist Guard
- Chuck Guard
- Swivel head guard
- Fast retract valve - now mounted at the control panel
- Bit weight indicator gauge
- 8 Bank PVG Valve
- single pump (belt driven) - water pump controlled off of 8 bank valve on its own circuit
- Heavy duty battery - with battery disconnect
- Side mounted wireline hoist, hydraulically powered
- Levelwind for even wireline spooling
- Swivel ring mast with base
6.1 m (20 ft) pull - 8165 kg (18000 lbs) working load
- Hydraulic hose protection
- Improved safety guards and decals
- Emergency shutoff switch
- Aluminum tower basket, rod rack, and rod slide
- Tower support legs (Aluminum)

Optional Equipment

Transmissions:

- Allison - AT545 automatic transmission (4 spd) - with transmission brake
- Heavy duty T-18 standard transmission (4 spd)

12HH - Hydraulic Swivelhead options: (See Drill performance chart for additional information)

- 610 mm (24 in) stroke, available with either 1.5" O.D. cylinder rods or 2.5" O.D. Heavy Duty cylinder rods
- 762 mm (30 in) stroke, available with either 1.5" O.D. cylinder rods or 2.5" O.D. Heavy Duty cylinder rods
- 1016 mm (40 in) stroke, only available with 2.5" O.D. Heavy Duty cylinder rods
- Swivelhead ratio 1.48:1
- Swivelhead ratio 1.8:1
- BBS Rod Break system

35PH - Hydraulic Swivelhead options: (See 35PH equipped Drill performance chart for additional information)

- 610 mm (24 in) stroke, only available with 2.5" O.D. Heavy Duty cylinder rods
- 762 mm (30 in) stroke, only available with 2.5" O.D. Heavy Duty cylinder rods
- Swivelhead ratio 2.03:1

Front End (A-Frame) available ratios:

- 1.31:1 Ratio (tailshaft 29T/mainshaft 38T) - see Drill performance chart for additional information
- 1.52:1 Ratio (tailshaft 25T/mainshaft 38T) - see Drill performance chart for additional information

Hydraulic System:

- 7 Bank PVG Valve with Tandem pump group (belt driven) (rear pump dedicated to water pump function with externally mounted control valve)

Swivel ring mast with base:

- 9.1 m (30 ft) pull - 8165 kg (18000 lbs) working load

DRILL PERFORMANCE - 35PH Swivelhead

Specifications based on BBS 56 Drill equipped with Deutz TCD914 & Allison AT-545 Automatic Transmission

Front End sprocket ratios	Trans/Ratios AT 545 gear/ range	35PH Swivelhead 2.03:1 Ratio			Hoist			
		2.03:1 gear ratios rpm	spindle ft/lbs	torque nm	hoist lbf	pull daN	hoist fpm	speed m/min
1.31:1 *	4 (1:1)	864	1057	1433	8189	3643	389	119
	3 (1.41:1)	613	1490	2020	11546	5137	276	84
	2 (2.25:1)	384	2379	3225	18425	8197	173	53
	1 (3.45:1)	250	3655	4955	28252	12568	113	34
1.52:1 **	4 (1:1)	745	1226	1662	9501	4226	335	102
	3 (1.41:1)	528	1730	2345	13396	5958	238	72
	2 (2.25:1)	331	2760	3742	21377	9508	149	45
	1 (3.45:1)	216	4230	5735	32778	14580	97	30

Specifications based on BBS 56 Drill equipped with Deutz TCD914 & T-18 Standard Transmission

Front End sprocket ratios	Trans/Ratios T-18 gear/ range	35PH Swivelhead 2.03:1 Ratio			Hoist			
		2.03:1 gear ratios rpm	spindle ft/lbs	torque nm	hoist lbf	pull daN	hoist fpm	speed m/min
1.31:1 *	4 (1:1)	864	1057	1433	8189	3643	389	119
	3 (1.69:1)	511	1788	2424	13839	6156	230	70
	2 (3.09:1)	280	3263	4424	25303	11255	126	38
	1 (6.32:1)	136	6719	9109	51753	23021	62	19
1.52:1 **	4 (1:1)	745	1226	1662	9501	4226	335	102
	3 (1.69:1)	441	2072	2809	16057	7143	198	60
	2 (3.09:1)	241	3792	5141	29359	13060	109	33
	1 (6.32:1)	118	7744	10499	60049	26711	53	16

- * Optional sprocket ratio (Tailshaft 29-tooth - Mainshaft 38-tooth)
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Spindle rpm, spindle torque, and hoist speed are calculated at 2300 rpm with TCD914 Deutz engine (standard) and 100% gearing efficiency.

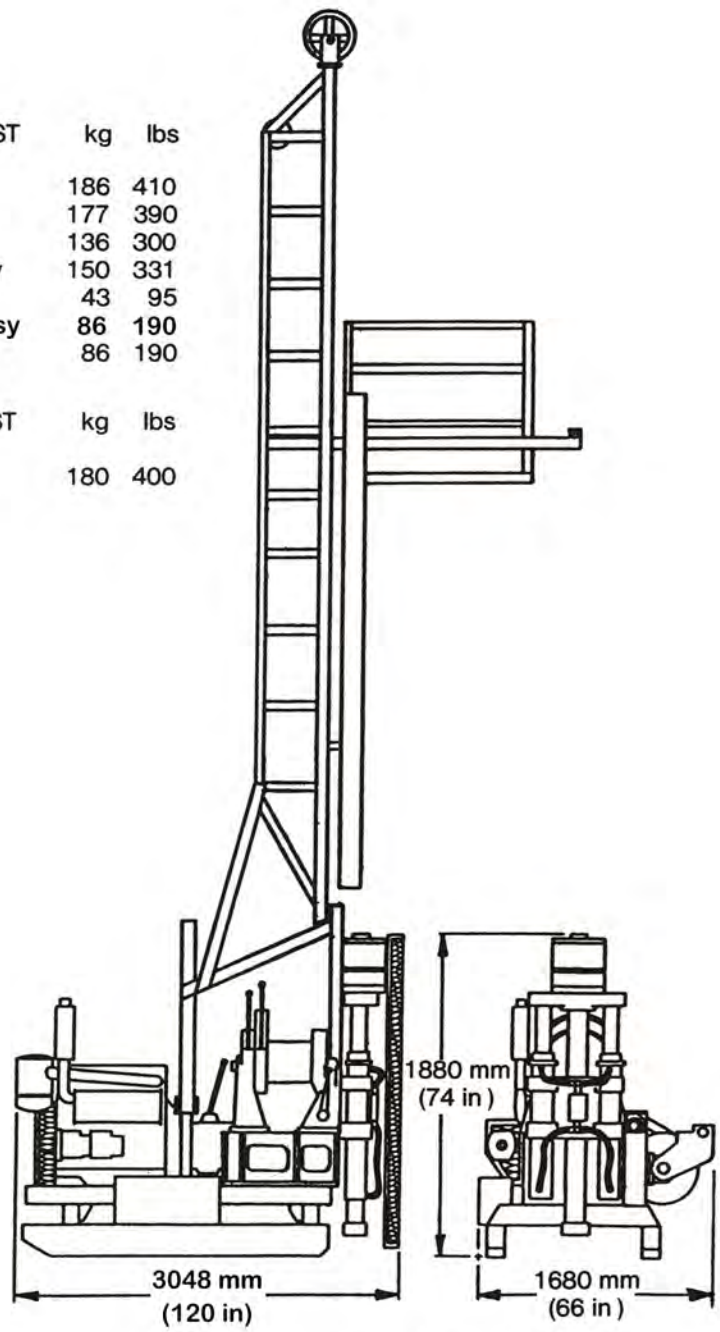
Hoist pulls shown are calculated at maximum engine torque at 1600 rpm and 100%gearing efficiency.

Chart gives single line hoist pulls in all transmission ranges. **The operator must exercise caution that the rated hoist single line pull of 7740 daN (17400 lbs) must not be exceeded when using full torque in lower gears or damage may result.**

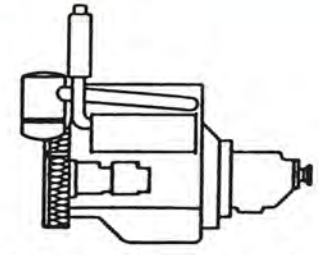
WEIGHTS AND DIMENSIONS

20 FT PULL MAST	kg	lbs
Upper Section	186	410
Lower Section	177	390
Mast Base	136	300
Basket Assembly	150	331
Backstay Legs	43	95
Crown Block Assy	86	190
Raise Cylinders	86	190

30 FT PULL MAST	kg	lbs
Insert Section	180	400

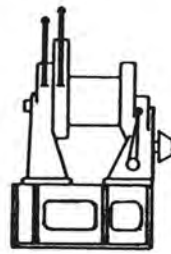


	kg	lbs
Complete Drill Assy	3032	6685



POWER UNIT	kg	lbs
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Automatic trans	182	400
Deutz TCD914	510	1125
Transmission T-18	84	185

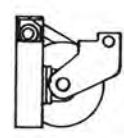


HOIST & FRONT END ASSY	kg	lbs
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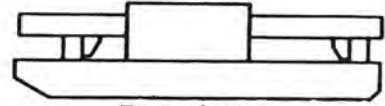
Hoist Assy and "A" Bracket	363	800
Front End Assy	181	400
Sub Base	76	168



12 HH Swivelhead	kg	lbs
Complete	345	760
Chuck Only	113	250



	kg	lbs
W/L Hoist Assy Complete	227	500
LEVELWIND Only	54	120



Frame Assy	kg	lbs
Complete	500	1100
Fuel & Hyd Tanks Only	75	165

**** Dimensions and weights are approximate only. When more accurate values are required, contact factory. ****

