



## VDD 500 Triple Rig - Integrated Drawworks - Automated Catwalk System

General	
Type Description	Fast Moving Triple Rig
Max. Hoisting Capacity	500 short tons (454 metric tonnes)
Max. Drilling Depth	24,600 ft (7,500 m)
Operating Tubulars	Range II - Triple
Overall Rig Height	180.4 ft (55.0 m)
Transportation	Street Legal Loads And Weights
Overall Horsepower Rating	2,000 hp (1,492 kW)
Design Temperature	-4°F to 104°F (-20°C to +40°C)

Mast with Components	
Mast	
Type Description	STREICHER U-Shaped Mast
Max. Hoisting Capacity	500 short tons (454 metric tonnes)
Mast Height	147.6 ft (45.0 m)
Free Working Height	98.4 ft (30.0 m)
Mast Base	21.3 ft (6.5 m) x 24.6 ft (7.5 m)
Erection System	Self Erecting Bootstrap-System

Auxiliary Winch	
Max. Hoisting Capacity	11,000 lbs. (5,000 kg)
Max. Hook Speed	54.2 ft/m (16.5 m/min)

Substructure and Drillfloor Equipment	
Substructure	
Type Description	STREICHER Modular Box-On-Box System
Substructure Footprint	39.4 ft x 32.8 ft (12 m x 10 m)
Substructure Height	39.4 ft (12.0 m)
Substructure Clear Inner Width	13.1 ft (4.0 m)
Clearance underneath Rotary Beams	34.4 ft (10.5 m)
Max. Setback Capacity	to be discussed

Cathead	
Line Pull	31,500 lbs. (140,000 N)
Max. Torque with 4 ft. Rig Tong	125,000 ft-lbs. (170,000 Nm)
Max. Torque with 5 ft. Rig Tong	154,900 ft-lbs. (210,000 Nm)
Stroke of Wire	6.5 ft (2,000 mm)
Weight	1,962 lbs. (890 kg)



## VDD 500 Triple Rig - Integrated Drawworks - Automated Catwalk System

Deadman	
Type Description	STREICHER Deadman
Max. Retention Force	31,500 lbs. (140,000 N)
Lug Pull Force	31,500 lbs. (140,000 N)
Weight	1,100 lbs. (500 kg)

Driller's Cabin	
Type Description	STREICHER Driller's Cabin
Drilling Monitor Display	Standard
CCTV Station	Standard
Data Acquisition System	Standard
Remote Diagnostic & Service	Standard

Standpipe Manifold	
Max. Operating Pressure	5,000 psi (345 bar)
Standpipe Nominal Diameter	5"

BOP Handling System	
Type Description	Pneumatic Monorail Air Hoist
No. of Hoisting Units	2
Max. Carrying Capacity	2 x 44,000 lbs (2 x 20,000 kg)
Lifting Speed at Full Load	2.3 ft/min (0.7 m/min)
Lifting Speed without Load	4.6 ft/min (1.4 m/min)
Travelling Speed at Full Load	39.4 ft/min (12.0 m/min)
Travelling Speed without Load	44.3 ft/min (13.5 m/min)

Rotary Table	
Rotary Table (Assisting)	
Type Description	STREICHER AC Driven Rotary Table
Max. Rotary Load	500 short tons (454 metric tonnes)
Rated Power	2 x 60 hp (2 x 45 kW)
Max. Rotation Speed	10 rpm
Max. Operating Torque	33,200 ft-lbs. (45,000 Nm)
Max. Opening	37 1/2" (952.5 mm)

Slip Lifter	
Type Description	STREICHER Slip Lifter
Rotary Size	37 1/2" (952.5 mm)
Pipe Size Range	3 1/2" to 6 5/8" (88.9 mm to 168.3 mm)
Load Rating	500 short tons (454 metric tonnes)
Additional Bushing Sizes	Optional
Weight	550 lbs. (250 kg)



## VDD 500 Triple Rig - Integrated Drawworks - Automated Catwalk System

Drawworks	
Type of Drive	AC Motor
Rated Power	2,000 hp (1,492 kW)
Max. Hoisting Capacity	518 short tons (471 metric tonnes)
Max. No. of Lines	12
Drilling Line Diameter	1 3/8" (35.0 mm)
Weight	59,400 lbs (27,000 kg)

Top Drive Unit	
Top Drive	
Type of Drive	AC Motor
Rated Power	1,150 hp (858 kW)
Rated Capacity	500 short tons (454 metric tonnes)
Operating Length (108" Links)	240" (6,100 mm)
Max. Continuous Drill Torque	51,400 ft-lbs. (69,700 Nm)
Intermittent Torque	71,500 ft-lbs. (96,900 Nm)
Max. Speed	256 rpm
Max. Circulating Pressure	5,000 psi (345 bar)
Weight	29,000 lbs. (13,200 kg)

Elevator	
Operation Mode	Hydraulic Remote Controlled
Rated Capacity	500 short tons (454 metric tonnes)
Size O.D. Range	4" - 6 5/8"
Suitable for Link Size	500 to 750 short tons
Weight	1,399 lbs. (636 kg)

Elevator Links	
Link size	3 1/2" x 108" (88.9 mm x 2,743 mm)
Rated Capacity	500 short tons (454 metric tonnes)
Weight	870 lbs. (394,6 kg)

Tubular Handling Equipment	
Tubular Handling Equipment	
Type Description	STREICHER Automated Catwalk System
Drill Pipe Range	2 3/8" - 6 5/8"
Drill Collar Range	3 1/8" - 11"
Tubular/ Casing Range	4 1/2" - 24"
Max. Hoisting Capacity	11,000 lbs. (5,000 kg)
Max. Length Of Tubulars	48.0 ft (14.6 m)
Modifications For Diameter Change	Not Necessary



## VDD 500 Triple Rig - Integrated Drawworks - Automated Catwalk System

Description/ Type	STREICHER Automated Pipe Feeding System
Max. Capacity (Drill Pipes 5 1/2")	12
Tubular Range	2 3/8" - 24"
Kind of Replenishment	Forklift
Kind of Pipe Transportation	Chain Conveyer
Weight	17,600 lbs. (8,000 kg)

Automated Racking Board	
Max. Lift Capacity	23,000 lbs. (7,000 kg)
Tubular Range	3 1/2" - 11"
Weight	15,000 lbs. (4,750 kg)

Roughneck System	
Tubular Connection OD Range	3 1/2" - 9 3/4"
Max. Spin Speed	60 rpm (nominal on 5" DP)
Max. Spin Torque	3,000 ft-lbs. (4,070 Nm)
Max. Make-Up Torque	100,000 ft-lbs. (135,582 Nm)
Max. Break-Out Torque	120,000 ft-lbs. (162,698 Nm)
Horizontal Travel	60" (1,524 mm)
Connection Height	30" to 66" (762 mm to 1,676 mm)
Casing Ready	No
Overall Weight	10,500 lbs (4,763 kg)

Power Generation	
Generator Unit	
Type Description	STREICHER Generator Set
No. of Generator Sets	4
Day Tank Capacity	264 gallons (1,000 liters)
Rated Power	1,770 hp (1,320 kW)
Rated Speed	1,500 rpm
Effective Power	1,610 hp (1,200 kW)
Generator Rating	1,750 kVA
Voltage/Frequency	690 V / 50 Hz

AC Drive & Monitoring System	
Type Description	STREICHER AC Drive & Monitoring System
Installations	AC System, Inverters, MCC, PLC
External Cable Connections	Plug Board and Plug Panels
Cooling System	Air Cooled



## VDD 500 Triple Rig - Integrated Drawworks - Automated Catwalk System

System Voltage Frequency	
Voltage/ Frequency	690 V/ 50 Hz
Voltage/ Frequency	400 V/ 50 Hz
Voltage/ Frequency	230 V/ 50 Hz

Mud Pumps	
Mud Pump Module	
Type Description	STREICHER Mud Pump Module
Model	Triple Single Acting Piston Pump
Transmission Mode	V-Belt Drive
No. of Mud Pump Modules	3
Max. Liner Diameter	7" (177.8 mm)
Max. Stroke	12" (305 mm)
Rated Stroke	120 spm
Rated Power	1,600 hp (1,194 kW)
Max. Discharge Capacity	720 gpm (2,730 l/min)
Discharge Pulsation Dampener	19.8 gallons (75 liters) Standard
Max. Working Pressure	5,000 psi (345 bar)
Weight	88,000 lbs. (40,000 kg)
Type of Drive	AC Motor
Max. Continuous Power	1,600 hp (1,194 kW)
Max. Continuous Torque	8,750 ft-lbs. (11,860 Nm)
Max. Speed	3,000 rpm
Weight	8,500 lbs. (3,900 kg)
Type Description	Centrifugal Pump
Inlet Diameter	8" (203.2 mm)
Outlet Diameter	6" (152.4 mm)
Impeller Diameter	12" (304.8 mm)
Rated Power	73.7 hp (55 kW)

Tank System	
Sand Trap Module	
Type Description	STREICHER Sand Trap Module
Dry Weight	18,920 lbs. (8,600 kg)
Tank Capacity	177 bbls. (28 m3)
Max. Specific Gravity of Fluids	7.3 kg/gallon (2.2 kg /liter)



## VDD 500 Triple Rig - Integrated Drawworks - Automated Catwalk System

Suction Tank Module	
Type Description	STREICHER Suction Tank Module
Dry Weight	52,800 lbs. (24,000 kg)
Suction Tank Capacity	190 bbls. (30 m3)
Mix Tank Capacity	95 bbls. (15 m3)
Pill Tank Capacity	31.7 bbls. (5 m3)
Suction Line Diameter	8" (203,2 mm)
Pressure Line Diameter	6" (152,4 mm)
Max. Specific Gravity of Fluids	7.3 kg/gallon (2.2 kg /liter)
No. of Agitator Units	3
Rated Power	10 hp (7,5 kW)
Max. Motor Speed	1,440 rpm
Max. Agitator Speed	64 rpm
Weight	678 lbs. (308 kg)
Type Description	Centrifugal Pump
No. of Centrifugal Pumps	2
Inlet Diameter	6" (152.4 mm)
Outlet Diameter	5" (127 mm)
Impeller Diameter	14" (355.6 mm)
Rated Power	73.7 hp (55 kW)
Type Description	Low Pressure Hopper
No. of Hopper Units	1
Hopper Size	6" (152.4 mm)
Max. Working Pressure	60 psi (4.1 bar)
Max. Volume Mud	1,650 gpm (6,250 l/min)
Choke Nipple Bore	2" (50.8 mm)
Weight	236 lbs. (107 kg)

Intermediate Tank Module	
Type Description	STREICHER Intermediate Tank Module
Dry Weight	52,800 lbs. (24,000 kg)
Tank Capacity	506 bbls. (80 m3)
No. of Compartments	2 (190 bbls. each)
Suction Line Diameter	8" (203,2 mm)
Pressure Line Diameter	6" (152,4 mm)
Max. Specific Gravity of Fluids	7.3 kg/gallon (2.2 kg /liter)



## VDD 500 Triple Rig - Integrated Drawworks - Automated Catwalk System

Type Description	Agitator Unit
No. of Agitator Units	2
Rated Power	10 hp (7,5 kW)
Max. Motor Speed	1,440 rpm
Max. Agitator Speed	64 rpm
Weight	678 lbs. (308 kg)

**Trip Tank Module**

Type Description	STREICHER Trip Tank Module
Dry Weight	18,600 lbs. (7,100 kg)
Wet Weight	39,800 lbs. (18,100 kg)
Tank Capacity	31.6 bbls. (5.0 m <sup>3</sup> )
Flow-Line Diameter	14" (356 mm)
Max. Specific Gravity Of Fluids	7.3 kg/gallon (2.2 kg /liter)

Type Description	Centrifugal Pump
Inlet Diameter	3" (76.2 mm)
Outlet Diameter	2" (50.8 mm)
Impeller Diameter	13" (330.2 mm)
Motor Power	37.5 hp (28 kW)

**Mud Treatment****Shale Shaker Module**

Type Description	STREICHER Shale Shaker Module
No. of Shale Shaker Modules	3
Screen Mounting	Quick Release System
Max. Capacity	900 gpm (3,411 l/min)
Produced G Forces	7.3 G
Deck Angle Adjustment	-1° to +8°
Weight	9,100 lbs. (4,140 kg)

**Mud Cleaner Module**

Type Description	STREICHER Mud Cleaner Module
No. of Mud Cleaner Modules	1
Max. Capacity	1,600 gpm (6,064 l/min)
Produced G Forces	7.3 G
No. of Desanders Cones	max. 3 x 10"
No. of Desilters Cones	max. 20 x 4"
Weight	13,200 lbs. (6,000 kg)



## VDD 500 Triple Rig - Integrated Drawworks - Automated Catwalk System

Mud/Gas-Separator	
Type Description	STREICHER Mud/ Gas- Separator
Liquid Capacity	1,500 gpm (5,678 l/min)
Working Pressure	125 psi (8.6 bar)
Gas Capacity	17.5 MMscf/d (495.5 m3/d)
Ventline Diameter	6" (152.4 mm)
Weight	12,100 lbs. (5,500 kg)

Mud Lab Module	
Type Description	STREICHER Mud Lab Module
Equiped with	Mud Workplace & Control Station
Weight	11,000 lbs. (5,000 kg)

Auxiliary Equipment	
Fuel Tank	
Tank Capacity	126 bbls. (20 m3)
No. of Fuel Tanks	1
Layout	Double Walled
Autom. Generator Refill	Yes
Weight	10,600 lbs. (4,820 kg)

Compressed Air System	
Rated Power	40 hp (30 kW)
Max. Capacity	24.6 bbls/min (3.9 m3/min)
Max. Operating Pressure	190 psi (13 bar)
Air Receiver	530 gallons (2,000 liter)
Air Dryer	Standard

Hydraulic Power Unit	
Type Description	STREICHER Hydraulic Power Unit
Rated Power	2 x 134 hp (2 x 100 kW)
Layout	Redundant
Max. Working Pressure	3,000 psi (207 bar)
Max. Volume	115 gpm (590 l/min)
Tank Capacity	3.2 bbls (0.5 m <sup>3</sup> )

Additional Options	
Power Slip	
Rotary Size	37 1/2" (952.5 mm)
Pipe Size Range	2 3/8" to 14" (60.3 mm to 355.6 mm)
Load Rating	500 short tons (454 metric tonnes)
Operarting Pressure	2,500 psi (175 bar)
Flow Rate	10 gpm (37.9 l/min)





## VDD 500 Triple Rig - Integrated Drawworks - Automated Catwalk System

Manual Tong	
Type Description	Manual Drill Pipe Tong
Size Range lever	3 1/2" to 21 1/2"
Length of Lever Arm	46" (1,170 mm)

Driller's Cabin	
Redundant Drilling Operation Chairs	Optional
BOP and C/K Panel	Optional
Fire and Gas Display Panels	Optional
Satelite Communication	Optional

Drillfloor Crane	
Max. Lifting Moment	132,840 ft-lbs. (180,000 Nm)
Max. Lifting Capacity	17,600 lbs. (8,000 kg)
Max. Outreach	61.7 ft (18.0 m)
Slewing Angle	400 degrees
Slewing Torque	17,000 ft-lbs. (23,000 Nm)
Work Basket	Optional
Weight	9,240 lbs. (4,200 kg)

Well Control Equipment (Exemplary)	
Type Description	T3 7082 Annular BOP
Bore Size	13 5/8" (346 mm)
Operating Pressure	5,000 psi (345 bar)
Hydraulic Operating Pressure	1,500 psi (105 bar)
Volume - Closing Chamber	23.5 gallons (89 liters)
Volume - Opening Chamber	17.4 gallons (65.8 liters)
Weight	13,500 lbs. (6,120 kg)

Type Description	T3 6012 Double Ram BOP
Bore Size	13 5/8" (346 mm)
Operating Pressure	10,000 psi (690 bar)
Gallons to Open (One Set)	10.5 gallons (39.8 liters)
Gallons to Close (One Set)	10.9 gallons (41.3 liters)
Weight	27,720 lbs. (12,600 kg)

Type Description	T3 Single Ram BOP With Tandem Shear Boosters
Bore Size	13 5/8" (346 mm)
Operating Pressure	10,000 psi (690 bar)
Gallons to Open (One Set)	10.5 gallons (39.8 liters)
Gallons to Close (One Set)	17.9 gallons (67.8 liters)
Weight	13,640 lbs. (6,200 kg)



## VDD 500 Triple Rig - Integrated Drawworks - Automated Catwalk System

Type Description	T3 BOP Control System (Accumulator Unit)
Bottle Capacity	240 gallons (910 liters)
Operating Pressure	3,000 psi (207 bar)
No. of Remote Controls	2
Weight	34,100 lbs. (15,500 kg)
Type Description	T3 Choke- & Kill- Manifold
Max. Operating Pressure	10,000 psi (690 bar)
Choke Line Nominal Diameter	3"

Suction Tank Module	
Additional Hopper	Optional

Solids Control	
Centrifuges	Optional
Mud Pre-Separator	Optional
Vacuum Degasser	Optional
Triple-Deck Shale Shakers	Optional
Flocculation System	Optional
Barite Silos	Optional
Water Silos	Optional
Additional Intermediate Tanks	Optional
Additional Mud Pumps	Optional

System Voltage - Frequency	
Different Type of Voltage/Frequency	Optional

Miscellaneous	
Autoamted Catwalk System	Optional
Side-Lighting	Optional
Winterisation Package	Optional
BOP-Trolley	Optional
Casing Running- /Casing Drilling	Optional
Soft Torque and Soft Pump	Optional
Different Type of Roughneck	Optional
Different Type of Top Drive	Optional
Sound Proofing for Generator Package	Optional
Forklift	Optional
Piperacks	Optional
Drillpipe and Downholeequipment	Optional
Storagecontainer	Optional



## VDD 500 Triple Rig - Integrated Drawworks - Automated Catwalk System

Applied Standards & Regulations
European Machinery Directive 2006/42/EC (CE-Declaration of Conformity)
European Pressure Equipment Directive 97/23/EC
Explosion Proof Equipment Directive 94/9/EC
Low Voltage Equipment 2006/95/EC
Electromagnetic Compatibility 2004/108/EC
API Spec. 4F (Specification for Drilling and Well Servicing Structures)
API Spec. 8C (Specification for Drilling and Production Hoisting Equipment)