

**FORWARD GROUP**

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# **FORWARD**

## **HDD catalogue**



**HDD Rigs  
Drill Tools  
HDD Tools**



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forwarddrill.com



<https://www.facebook.com/ForwardGroupCo/>



## **WHY IS FORWARD HDD THE MOST POPULAR DRILLING RIG**

FORWARD Group takes care of its clients and offers the best combination of price and quality.

As an international manufacturer, we joined the efforts of Russian, German and Chinese engineers to produce Forward Horizontal Directional Drilling Rigs.

Precise engineering analysis and long-term experience on real construction sites enable us to produce high quality and reliable product. Now FORWARD HDD rigs are proven to work under various climatic conditions in Europe, Asia and Africa.

## **IF YOU USE FORWARD HDD RIGS YOU ARE GUARANTEED TO HAVE:**

- High quality of production
- Attractive design
- Strengthened track crawler with rubber inserts
- Conformity with technical parameters of European and American manufacturers'
- Convenient access to each main component for easier service and routine maintenance
- Available with operator cabin with air conditioning and heating system (from Rx22x80 onwards)

The Head office of FORWARD Group Kazan, Russian Federation

Produced in the PRC.

## **FORWARD HDD RIGS TRULY MEET CLIENTS REQUIREMENTS**



### MAIN TECHNICAL CHARACTERISTICS OF FORWARD RX11x44

Diesel engine	Model		CUMMINS	CUMMINS
	Power		59 KW	80 Hp
Rotation	Gears		2	2
	Low speed	Rotation speed	0-90 rpm	0-90 rpm
		Maximum spindle torque	4 400 Nm	3245,27 lb/ft
	High speed	Rotation speed	0-180 rpm	0-180 rpm
		Maximum spindle torque	2200 Nm	1622,6 lb/ft
	Thrust and pullback	Move speed		2
Low speed		Thrust force	110 kN	110 kN
		Pullback force	110 kN	110 kN
		Speed	0-23 m/min	0-75,5 ft/min
High speed		Thrust force	60 kN	60 kN
		Pullback force	60 kN	60 kN
		Speed	0-46 m/min	0 -151 ft/min
Drilling angle		8-16°	8-16°	
Clamping system	Jaws clamping spindle torque	4 000 Nm	2953,6 lb/ft	
	Jaws reducing spindle torque	10 000 Nm	7383,9 lb/ft	
Mud pump	Maximum capacity	160 L/min	40 gpm	
	Maximum pressure	7 MPa	1015,3 psi	
Motion	Motion speed	0-3 km/h	0-1,9 mph	
	Maximum elevation angle	25°	25°	
Drill rod	Lenght	2 000 mm	78,7 in	
	Rod lock	Ø 54 mm	Ø 2,1 in	
	Rod body	Ø 50 mm	Ø 2,0 in	
	Max banding	5 %	5 %	
	Weight	16 kg	35,2 lb	
	Loading capacity of drill rods holder	52 pc	52 pc	
HDD rig weight (main machine)		5 500 kg	12125,4 lb	
Dimensions (L×W ×H)		4,7×1,9×2,0 m	15,4×6,2×6,6 ft	
Rod feeding systems		+	+	
Hydraulic system preheating		+	+	
Fuel tank capacity		126 L	33,3 gal	
Hydraulic tank capacity		217 L	57,3 gal	



## FORWARD HDD Rigs



### MAIN TECHNICAL CHARACTERISTICS OF FORWARD RX22×80

Diesel engine	Model	Weichai- DEUTZ	
	Power	129 KW	175 Hp
	Gears	2	2
Rotation	Low speed	Rotation speed	0-90 rpm
		Maximum spindle torque	6084 lb/ft
	High speed	Rotation speed	0-180 rpm
		Maximum spindle torque	3042 lb/ft
	Move speed	3	3
Thrust and pullback	Low speed	Thrust force	220 kN
		Pullback force	220 kN
		Speed	0-9,5 m/min
	High speed	Thrust force	110 kN
		Pullback force	110 kN
		Speed	0-19 m/min
	Carriage speed	Thrust force	110 kN
		Pullback force	110 kN
		Speed	0-42 m/min
Drilling angle		10-18°	10-18°
Clamping system	Jaws clamping spindle torque	10 500 Nm	7744,4 lb/ft
	Jaws reducing spindle torque	21 000 Nm	15488,8 lb/ft
Mud pump	Maximum capacity	320 L/min	84,5gpm
	Maximum pressure	10 MPa	1450 psi
Motion	Motion speed	0-3 km/h	0-1,9 mph
	Maximum elevation angle	25°	25°
Drill rod	Lenght	3 000 mm	118,1 in
	Rod lock	Ø 82 mm	Ø 3,2 in
	Rod body	Ø 73 mm	Ø 2,87 in
	Max banding	6 %	6 %
	Weight	45 kg	99,21 lb
Loading capacity of drill rods holder		40 pc	40 pc
HDD rig weight (main machine)		9 000 kg	19842 lb
Dimensions (L×W ×H)		6,4×2,2×2,52 m	21×7,2×8,3 ft
Rod feeding systems		+	+
Hydraulic system preheating		+	+
Fuel tank capacity		247 L	65,3 gal
Hydraulic tank capacity		365 L	96,4 gal



### MAIN TECHNICAL CHARACTERISTICS OF FORWARD RX33x120 PLUS

Diesel engine	Model	Weichai- DEUTZ	
	Power	176 KW	239 Hp
	Gears	2	2
Rotation	Low speed	Rotation speed	0-90 rpm
		Maximum spindle torque	15 000 Nm
	High speed	Rotation speed	0-180 rpm
		Maximum spindle torque	7000 Nm
Thrust and pullback	Move speed		3
	Low speed	Thrust force	330 kN
		Pullback force	330 kN
		Speed	0-9,5 m/min
	High speed	Thrust force	165 kN
		Pullback force	165 kN
		Speed	0-42 m/min
	Drilling angle		10-18°
Clamping system	Jaws clamping spindle torque		10 500 Nm
	Jaws reducing spindle torque		21 000 Nm
Mud pump	Maximum capacity		450 L/min
	Maximum pressure		10 MPa
Motion	Motion speed		0-3 km/h
	Maximum elevation angle		25°
	Lenght		3 000 mm
Drill rod	Rod lock		Ø 89 mm
	Rod body		Ø 76 mm
	Max banding		6 %
	Weight		58 kg
Loading capacity of drill rods holder		40 pc	40 pc
HDD rig weight (main machine)		11 000 kg	24250 lb
Dimensions (L×W ×H)		6,8×2,2×2,33 m	21×7,2×7,6 ft
Rod feeding systems		+	+
Hydraulic system preheating		+	+
Fuel tank capacity		247 L	65,3 gal
Hydraulic tank capacity		311 L	96,4 gal

## FORWARD HDD Rigs



### MAIN TECHNICAL CHARACTERISTICS OF FORWARD RX40×160

Diesel engine	Model		Weichai- DEUTZ	Weichai- DEUTZ
	Power		176 KW	239 Hp
Rotation	Gears		2	2
	Low speed	Rotation speed	0-80 rpm	0-80 rpm
		Maximum spindle torque	16 000 Nm	11800,9 lb/ft
	High speed	Rotation speed	0-160 rpm	0-160 rpm
		Maximum spindle torque	8000 Nm	5900,4 lb/ft
	Thrust and pullback	Move speed		2
Low speed		Thrust force	410 kN	410 kN
		Pullback force	410 kN	410 kN
		Speed	0-10 m/min	0-32,8 ft/min
High speed		Thrust force	205 kN	205 kN
		Pullback force	205 kN	205 kN
		Speed	0-20 m/min	0 -65,5 ft/min
Drilling angle		10-18°	10-18°	
Clamping system	Jaws clamping spindle torque	15 000 Nm	11063,44 lb/ft	
	Jaws reducing spindle torque	30 000 Nm	22126,8 lb/ft	
Mud pump	Maximum capacity	600 L/min	158,5 gpm	
	Maximum pressure	10 MPa	1740,45 psi	
Motion	Motion speed	0-3 km/h	0-1,9 mph	
	Maximum elevation angle	25°	25°	
Drill rod	Lenght	3 000 mm	118,1 in	
	Rod lock	Ø 92 mm	Ø 3,6 in	
	Rod body	Ø 83 mm	Ø 3,2 in	
	Max banding	5 %	5 %	
	Weight	81 kg	180,7 lb	
Loading capacity of drill rods holder		30 pc	30 pc	
HDD rig weight (main machine)		13 600 kg	29983 lb	
Dimensions (L×W ×H)		7,00×2,28×2,30 m	22,9×7,48×7,54 ft	
Rod feeding systems		+	+	
Hydraulic system preheating		+	+	
Fuel tank capacity		+	+	
Hydraulic tank capacity		+	+	





### MAIN TECHNICAL CHARACTERISTICS OF FORWARD RX44x160

Diesel engine	Model		Weichai- STEYER	Weichai- STEYER
	Power		243 KW	330 Hp
Rotation	Gears		2	2
	Low speed	Rotation speed	0-80 rpm	0-80 rpm
		Maximum spindle torque	19 000 Nm	14013,6 lb/ft
	High speed	Rotation speed	0-160 rpm	0-160 rpm
		Maximum spindle torque	9000 Nm	6638 lb/ft
	Thrust and pullback	Move speed		2
Low speed		Thrust force	450 kN	450 kN
		Pullback force	450 kN	450 kN
		Speed	0-12 m/min	0-39,4 ft/min
High speed		Thrust force	225 kN	225 kN
		Pullback force	225 kN	225 kN
		Speed	0-24 m/min	0 -78,7 ft/min
Carriage acceleration		+	+	
Drilling angle		7,5-16°	7,5-16°	
Clamping system	Jaws clamping spindle torque	25 000 Nm	18439 lb/ft	
	Jaws reducing spindle torque	50 000 Nm	36878 lb/ft	
Mud pump	Maximum capacity	600 L/min	158,5 gpm	
	Maximum pressure	12 MPa	1740,4 psi	
Motion	Motion speed	0-3 km/h	0-1,9 mph	
	Maximum elevation angle	25°	25°	
Drill rod	Lenght	4 500 mm	177,2 in	
	Rod lock	Ø 105 mm	Ø 4,13 in	
	Rod body	Ø 89 mm	Ø 3,5 in	
	Max banding	5 %	5 %	
	Weight	105 kg	231,5 lb	
Loading capacity of drill rods holder		10 pc	10 pc	
HDD rig weight (main machine)		21 000 kg	46297 lb	
Dimensions (L×W ×H)		9,2×2,5×3,08 m	30,2×8,2×10,1 ft	
Rod feeding systems		+	+	
Hydraulic system preheating		+	+	
Fuel tank capacity		420 L	110,9 gal	
Hydraulic tank capacity		526 L	138,6 gal	



## FORWARD HDD Rigs



### MAIN TECHNICAL CHARACTERISTICS OF FORWARD RX66x350

Diesel engine	Model		Weichai- STEYER	Weichai- STEYER
	Power		243 KW	330 Hp
Rotation	Gears		2	2
	Low speed	Rotation speed	0-60 rpm	0-60 rpm
		Maximum spindle torque	35 000 Nm	25814,7 lb/ft
	High speed	Rotation speed	0-120 rpm	0-120 rpm
		Maximum spindle torque	15 500 Nm	11432,2 lb/ft
	Thrust and pullback	Move speed		2
Low speed		Thrust force	680 kN	680 kN
		Pullback force	680 kN	680 kN
		Speed	20-35 m/min	65-114 ft/min
High speed		Thrust force	340 kN	340 kN
		Pullback force	340 kN	340 kN
		Speed	10-20 m/min	32 -65 ft/min
Drilling angle		8-16°	8-16°	
Clamping system	Jaws clamping spindle torque	35 000 Nm	25814,7 lb/ft	
	Jaws reducing spindle torque	70 000 Nm	51629,4 lb/ft	
Mud pump	Maximum capacity		600 L/min	131.9 gpm
	Maximum pressure		10 MPa	1450,4 psi
Motion	Motion speed		0-2,5 km/h	1,55 mph
	Maximum elevation angle		25°	25°
Drill rod	Lenght		4 500 mm	236,2 in
	Rod body		Ø 102 mm	6,6 in
Crane lifting capacity			2 500 kg	5511,6 lb
HDD rig weight			18 000 kg	39683,2 lb
Dimensions (L×W ×H)			9,00×2,25×2,80 m	30×7,4×9,2 ft
Hydraulic system preheating			+	+
Crane			+	+
Mast heating			+	+
Fuel tank capacity			500 L	121 gal
Hydraulic tank capacity			580 L	127,6 gal



### MAIN TECHNICAL CHARACTERISTICS OF FORWARD RX100x500

Diesil engine	Model		Weichai- STEYER	Weichai- STEYER
	Power		353 KW	480 Hp
	Gears		2	2
Rotation	Low speed	Rotation speed	0-60 rpm	0-60 rpm
		Maximum spindle torque	45 000 Nm	33190,3 lb/ft
	High speed	Rotation speed	0-120 rpm	0-120 rpm
		Maximum spindle torque	22 500 Nm	16595,1 lb/ft
	Move speed		2	2
Thrust and pullback	Low speed	Thrust force	1150 kN	1150 kN
		Pullback force	1150 kN	1150 kN
		Speed	0-9 m/min	
	High speed	Thrust force	500 kN	500 kN
		Pullback force	500 kN	500 kN
		Speed	0-35 m/min	29.5 ft/min
Drilling angle		8-16°	8-16°	
Clamping system	Jaws clamping spindle torque	70 000 Nm	51629,4 lb/ft	
	Jaws reducing spindle torque	140 000 Nm	103258,7 lb/ft	
Mud pump	Maximum capacity	2*600 L/min	264 gpm	
	Maximum pressure	10 MPa	1450,4 psi	
Motion	Motion speed	0-3 km/h	1,86 mph	
	Maximum elevation angle	25°	25°	
Drill rod	Lenght	6 000 mm	236,2 in	
	Rod body	Ø 127 mm	5 in	
Crane lifting capacity		3 500 kg	7716,2 lb	
HDD rig weight		21 000 kg	46297,1 lb	
Dimensions (L×W ×H)		10,30×2,50×3,25 m	33.8×8.2×10.7	
Hydraulic system preheating		+	+	
Diesel engine preheating		+	+	
Crane		+	+	
Mast heating		+	+	
Fuel tank capacity		800 L	176 gal	
Hydraulic tank capacity		550 L	121 gal	

## FORWARD HDD Rigs



### MAIN TECHNICAL CHARACTERISTICS OF FORWARD RX150x700

Diesel engine	Model	Weichai- STEYER		Weichai- STEYER
	Power	390 KW		523 Hp
	Gears	2		2
Rotation	Low speed	Rotation speed	0-45 rpm	0-45 rpm
		Maximum spindle torque	70 000 Nm	51629,3 lb/ft
	High speed	Rotation speed	0-90 rpm	0-90 rpm
		Maximum spindle torque	35 000 Nm	25814,6 lb/ft
Thrust and pullback	Move speed		2	2
	Low speed	Thrust force	1650 kN	1650 kN
		Pullback force	1650 kN	1650 kN
		Speed	0-8 m/min	0-26,3 ft/min
	High speed	Thrust force	800 kN	800 kN
		Pullback force	800 kN	800 kN
		Speed	0-24 m/min	0-78,8 ft/min
Drilling angle		8-16°	8-16°	
Clamping system	Jaws clamping spindle torque	70 000 Nm	51629,3 lb/ft	
	Jaws reducing spindle torque	140 000 Nm	103258,7 lb/ft	
Mud pump	Maximum capacity	1 500 L/min	396,3gpm	
	Maximum pressure	20 Mpa	2900,8 psi	
Motion	Motion speed	0-3 km/h	0-1,9 mph	
	Maximum elevation angle	25°	25°	
Drill rod	Lenght	6000 mm	236,2 in	
	Rod lock	Ø 168 mm	6,6 in	
	Rod body	Ø 127 mm	5 in	
	Max bending	5%	5%	
	Weight	198 kg	436,5 lb	
Crane lifting capacity		3 200 kg	7054,8 lb	
HDD rig weight		28 000 kg	61 729,4 lb	
Dimensions (L×W ×H)		12,512,50×2,50×3,25 m	41*8,2*10,6	
Hydraulic system preheating		+	+	
Crane		+	+	
Remote motion control device		+	+	
Fuel tank capacity		480 L	126,8 gal	
Hydraulic tank capacity		580 L	153,2 gal	





### MAIN TECHNICAL CHARACTERISTICS OF FORWARD RX250×900

Diesel engine	Model		Weichai- STEYER	Weichai- STEYER
	Power		2×245 KW	667 Hp
Rotation	Gears		2	2
	Low speed	Rotation speed	0-60 rpm	0-60 rpm
		Maximum spindle torque	90 000 Nm	66380,6 lb/ft
	High speed	Rotation speed	0-120 rpm	0-120 rpm
		Maximum spindle torque	45 000 Nm	33190,3 lb/ft
	Thrust and pullback	Move speed		2
Low speed		Thrust force	2550 kN	2550 kN
		Pullback force	2550 kN	2550 kN
		Speed	0-8 m/min	26.2 ft/min
High speed		Thrust force	840 kN	840 kN
		Pullback force	840 kN	840 kN
		Speed	0-27 m/min	88.6 ft/min
Drilling angle			8-16°	8-16°
Clamping system	Jaws clamping spindle torque	98 000 Nm	72281.1 lb/ft	
	Jaws reducing spindle torque	196 000 Nm	144562.2 lb/ft	
Mud pump	Maximum capacity		2400 L/min	528 gpm
	Maximum pressure		35 MPa	5076,32 psi
Motion	Motion speed		0-3 km/h	1,86 mph
	Maximum elevation angle		25°	25°
Drill rod	Lenght		9 600 mm	377,9 in
	Rod body		Ø 152,4 mm	6 in
Crane lifting capacity			3 500 kg	7716,2 lb
HDD rig weight			26 000 kg	57320,2 lb
Dimensions (L×W ×H)			16,00×2,50×3,20 m	52.5×8.2×10,5
Hydraulic system preheating			+	+
Diesel engine preheating			+	+
Crane			+	+
Mast heating			+	+
Fuel tank capacity			1000 L	220 gal
Hydraulic tank capacity			1000 L	220 gal



**FORWARD SPARE PARTS AND CONSUMABLES**

FORWARD GROUP offers different spare parts, necessary components and consumables for HDD machines. Plenty workshops are based in different countries.



Shaft of Water Swivel



Hydraulic pressure gauges  
of different power



Consumables of mud pump  
(seals, pistons, cylinders)



Connectors



Mud mixing system



Set of Jaws



Different types of seals



Parts of chain



Hydraulic cylinders  
and other devices



## ***FORWARD COPPER-GRAPHITE GREASE***

Field of application:

It is used for protection and sealing drill rods thread joint on HDD rig with spindle torque up to 50 kNm.

The advantages of using our copper-graphite greases

- OWN PRODUCTION SITE - our workshop use only new technologies, has private laboratory. We control each part of production line.
- LOW PRICES - the best grease with good price. Buy more – pay less.
- HIGH QUALITY – The product has certificate of quality.
- COMFORTABLE PACKAGING – we pack grease in 1 Gallon PE bucket and 10 kg metal bucket.
- WIDE RANGE OF WORKING TEMPERATURE CONDITIONS – from -35°C to 35°C.
- RELIABLE PROTECTION OF DRILL ROD THREAD JOINT.

FORWARD COPPER-GRAPHITE GREASE is used in different climatic conditions in Russia, Turkey, and Kazakhstan. It is suitable for any kind of HDD equipment.



**FORWARD RX33x120**



Olympic projects in Sochi city

**FORWARD RX33x120**



Universiade facility in Kazan

**FORWARD RX33x120**



Laying of water inlet pipe for Antalya Aquarium in Turkey

**FORWARD RX22x80**



Laying of pipeline in New Delhi, India

**FORWARD RX33x120**



Construction of water supply and sewerage systems

**FORWARD RX44x160**



Construction of water supply system

**FORWARD RX44x160**



Crossing under Dnipro river

**FORWARD RX11x44**



Telecommunication sites



## ***FORWARD HDD Rigs***

**FORWARD RX44x160**



Crossing under Kama river

**FORWARD RX33x120**



Construction of gas pipeline near Istanbul, Turkey

**FORWARD RX33x120**



Laying of fiber-optic cable in Netherlands

**FORWARD RX33x120**



Drilling in Antalya, Turkey

**FORWARD RX77x400**



First drilling in Indonesia

**FORWARD RX33x120**



Construction of water pipeline in St. Petersburg

**FORWARD RX250x900**



Drilling for high-viscosity oil extraction

**FORWARD RX33x120**



Construction sites for Olympic Games



**MAXIMUM DIAMETER AND LENGTH OF DRILLING FOR  
FORWARD HDD RIGS*****For PE Pipes***

<b>HDD equipment</b>	<b>Max.Length</b>	<b>Max.Diameter</b>
FORWARD RX11x44	300 m	315 mm
FORWARD RX22x80	400 m	600 mm
FORWARD RX33x120 Plus	500 m	1 000 mm
FORWARD RX40x160	600 m	1 000 mm
FORWARD RX44x160	1000 m	1 200 mm
FORWARD RX66x350	1200 m	1 200 mm
FORWARD RX100x500	1500 m	1 400 mm
FORWARD RX150x700	1800 m	1 500 mm

***For Steel Pipes***

<b>HDD equipment</b>	<b>Max.Length</b>	<b>Max.Diameter</b>
FORWARD RX11x44	210 m	315 mm
FORWARD RX22x80	280 m	600 mm
FORWARD RX33x120 Plus	350 m	1 000 mm
FORWARD RX40x160	420 m	1 000 mm
FORWARD RX44x160	700 m	1 200 mm
FORWARD RX66x350	840 m	1 200 mm
FORWARD RX100x500	1050 m	1 400 mm
FORWARD RX150x700	1280 m	1 500 mm

**FORWARD HT-115 HYDRAULIC TONG**

Diameter of tubes	50-117 mm
Pressure	30 mpa
Cylinder stroke	255 mm
Max. torque	40 000 Nm
Length of hydraulic hose	2,5 m
Max. unwinding angle for one movement	34
Working dimensions	0,70*0,35*0,70 m
Total weight	70 kg
Weight of one lever	20 kg

**FORWARD HT-171 HYDRAULIC TONG**

Diameter of tubes	120-177 mm
Pressure	40 mpa
Cylinder stroke	255 mm
Max. torque	43 000n.m.
Length of hydraulic hose	2,5 m
Max. unwinding angle for one movement	34
Working dimensions	0,85*0,40*0,85 m
Total weight	120 kg
Weight of one lever	50 kg

**FORWARD 50x85 PIPE WRENCH**

Model	FORWARD 50x85
Diameters of tubes	50-85 mm
Weight	10,5 kg

## FORWARD Drill Tools

### TYPES OF SOIL CONDITIONS

#### LIGHT SOIL

- top soil
- peat
- light loam soil (wet)

#### MEDIUM SOIL

- clay
- sandy loam
- clay loam

#### HARD SOIL

- sand
- gravel
- crushed stone
- pebble
- hard shale
- limestone
- schist
- sandstone
- mica-schist
- quartz schist

#### ASSEMBLY OF TRANSMITTER HOUSING (STANDARD)

Designed for pilot bore drilling

Part number	FORWARD HDD rig	Sonde DIGITRACK	Diameter
03-01-011-21-0200	RX11×44	31.8 × 381 mm	66 mm
03-01-022-21-0200	RX22×80/RX33×120	31.8 × 381 mm	89 mm
03-01-044-21-0200	RX44×160	31.8 x 381 mm and 31.8 x 482.6 mm with cable and battery	110 mm



#### ASSEMBLY OF TRANSMITTER HOUSING (FOR OCTAGONAL COUPLING)

Designed for pilot bore drilling

Part number	FORWARD HDD rig	Sonde DIGITRACK	Diameter
03-01-011-21-0210	RX11×44	31.8 × 381 mm	66 mm
03-01-022-21-0210	RX22×80/RX33×120	31.8 × 381 mm	89 mm
03-01-044-21-0210	RX44×160	31.8 x 381 mm and 31.8 x 482.6 mm with cable and battery	110 mm



#### DRILL BIT (STANDARD)

Mounts on transmitter housing for drilling in medium soil

Part number	FORWARD HDD rig	Size (Width x Length)
03-01-011-21-0201	RX11×44	75 mm x 317 mm
03-01-022-21-0201	RX22×80/RX33×120/Rx40x160	100 mm x 395 mm
03-01-044-21-0201	RX44×160	100 mm x 385 mm



#### DRILL BIT (WIDE)

Mounts on transmitter housing for drilling in light soil

Part number	FORWARD HDD rig	Size (Width x Length)
03-01-011-21-0206	RX11×44	80 mm x 317 mm
03-01-022-21-0206	RX22×80/RX33×120/Rx40x160	130 mm x 420 mm
03-01-044-21-0206	RX44×160	160 mm x 385 mm



### DRILL BITS WITH TUNGSTEN-CARBIDE BRAZING

#### A-TYPE DRILL BIT

Mounts on transmitter housing for drilling in hard soil

Part number	FORWARD HDD rig	Size (Width x Length)
03-01-011-21-0212	RX11x44	90mm x 320mm
03-01-022-21-0212	RX22x80	135mm x 400mm
	RX33x120Plus	
03-01-033-21-0212	RX40x160	120mm x 380mm
03-01-044-21-0212	RX44x160 RX66x350	160mm x 385mm
03-01-100-21-0212	RX100x500	240mm x 670mm

#### B-TYPE DRILL BIT

Mounts on transmitter housing for drilling in hard soil

Part number	FORWARD HDD rig	Size (Width x Length)
03-01-011-21-0208	RX11x44	97mm x 320mm
03-01-022-21-0207	RX22x80	150mm x 400mm
	RX33x120Plus	
03-01-033-21-0208	RX40x160	150mm x 380mm
03-01-044-21-0208	RX44x160 RX66x350	240mm x 385mm

#### QUICK CONNECT

Part number	FORWARD HDD rig	Size
03-01-011-21-0702	RX11x44	54mm
03-01-022-21-0701	Rx22x80 / RX33x120	82mm
	RX44x160	105mm
03-01-033-21-0208	RX11x44	with hexagonal coupling
03-01-044-21-0208	Rx22x80 / RX33x120	with hexagonal coupling

#### STARTER ROD

Designed to make a connection with assembly of transmitter housing and facilitate the pilot bore drilling

Part number	FORWARD HDD rig	Diameter
03-01-011-21-0711	RX11x44	54mm
03-01-022-21-0711	Rx22x80 / RX33x120	82mm
03-01-040-21-0711	RX40x160	95mm
03-01-044-21-0711	RX44x160	114 mm

#### HEXAGONAL COUPLING

Hexagonal coupling fixes the reamer connector and prevents overly tighten the threaded connection of connector and reamer

Part number	FORWARD HDD rig	Diameter
03-01-011-21-0711	RX11x44	69mm
03-01-044-21-0702	RX44x160	113 mm





**FORWARD Drill Tools****OCTAGONAL COUPLING**

Octagonal coupling fixes starter rod and transmitter housing and prevents over tightening of the threaded connection

Part number	FORWARD HDD rig	Size
03-01-011-21-0712	RX11x44	72 mm
03-01-022-21-0712	RX22x80 / RX33x120	92 mm
03-01-040-21-0712	RX40x160	95 mm

**LEFT-HAND NUT**

Designed for attaching octagonal coupling

Part number	FORWARD HDD rig	Diameter
03-01-011-21-0713	RX11x44	72 mm
03-01-022-21-0713	RX22x80 / RX33x120	92 mm

**SWIVEL**

Designed to maintain stability of pipe during pull-back

Part number	FORWARD HDD rig	Capacity
03-01-011-21-0300	RX11x44	15 ton
03-01-022-21-0300	RX22x80	20 ton
	RX33x120Plus	
03-01-040-21-0300	RX40x160	50 ton
03-01-044-21-0300	RX44x160	60 ton
03-01-066-21-0300	RX66x350	85 ton
03-01-100-21-0300	RX100x500	150 ton
03-01-150-21-0300	RX150x700	220 ton

**PIN PULLING EYES**

Designed for expanding the hold and pipe laying

Part number	FORWARD HDD rig	Capacity
03-01-011-21-0800	RX11x44	15 ton
03-01-022-21-0800	RX22x80	20 ton
	RX33x120Plus	
03-01-040-21-0800	RX40x160	50 ton
03-01-044-21-0800	RX44x160	60 ton
03-01-066-21-0800	RX66x350	85 ton
03-01-100-21-0800	RX100x500	150 ton

**BOX PULLING EYES**

Designed for expanding the hold and pipe laying

Part number	FORWARD HDD rig	Capacity
03-01-011-21-0900	RX11x44	15 ton
03-01-022-21-0900	RX22x80	20 ton
	RX33x120Plus	
03-01-040-21-0900	RX40x160	50 ton
03-01-044-21-0900	RX44x160	60 ton
03-01-066-21-0900	RX66x350	85 ton
03-01-100-21-0900	RX100x500	150 ton



### THREE WING REAMER

Reamer with flat cutter – tungsten-carbide brazing. Designed for drilling in medium soil

Part number	FORWARD HDD rig	Diameter
03-01-011-21-0602	RX11×44	200 mm
03-01-011-21-0603	RX11×44	300 mm
03-01-011-21-0604	RX11×44	400 mm
03-01-011-21-0605	RX11×44	500 mm
03-01-022-21-0602	RX22×80/RX33×120	200 mm
03-01-022-21-0603	RX22×80/RX33×120	300 mm
03-01-022-21-0604	RX22×80/RX33×120	400 mm
03-01-022-21-0605	RX22×80/RX33×120	500 mm
03-01-022-21-0606	RX22×80/RX33×120	600 mm
03-01-022-21-0607	RX22×80/RX33×120	700 mm
03-01-040-21-0601	Rx40x160	300 mm
03-01-040-21-0602	Rx40x160	400 mm
03-01-040-21-0603	Rx40x160	500 mm
03-01-040-21-0604	Rx40x160	600 mm
03-01-040-21-0605	Rx40x160	700 mm
03-01-040-21-0606	Rx40x160	800 mm
03-01-044-21-0601	RX44×160	300 mm
03-01-044-21-0602	RX44×160	400 mm
03-01-044-21-0603	RX44×160	500 mm
03-01-044-21-0604	RX44×160	600 mm
03-01-044-21-0605	RX44×160	700 mm
03-01-044-21-0606	RX44×160	800 mm
03-01-044-21-0607	RX44×160	900 mm



### BARREL REAMER (WITHOUT SWIVEL INSIDE)

Designed for cutting and tightening in medium and hard soil. This is tubular, lightweight in design and easy for transportation. There are a huge variety of different diameters. It is possible to put 3 kinds of cutters with optional: flat, round welded, round removable cutting teeth.

Part number	FORWARD HDD rig	Diameter
03-01-011-21-0621	RX11×44	200 mm
03-01-011-21-0622	RX11×44	300 mm
03-01-011-21-0623	RX11×44	400 mm
03-01-011-21-0624	RX11×44	500 mm
03-01-022-21-0621	RX22x80	200 mm
03-01-011-21-0622	RX22×80/RX33×120	300 mm
03-01-011-21-0623	RX22×80/RX33×120	400 mm
03-01-022-21-0624	RX22×80/RX33×120	500 mm
03-01-011-21-0625	RX22×80/RX33×120	600 mm
03-01-011-21-0626	RX22×80/RX33×120	700 mm



## FORWARD HDD Tools

### BARREL REAMER (WITHOUT SWIVEL INSIDE)

Part number	FORWARD HDD rig	Diameter
03-01-040-21-0621	RX40x160	300 mm
03-01-040-21-0622	RX40x160	400 mm
03-01-040-21-0623	RX40x160	500 mm
03-01-040-21-0624	RX40x160	600 mm
03-01-040-21-0625	RX40x160	700 mm
03-01-040-21-0626	RX40x160	800 mm
03-01-044-21-0621	RX44x160	300 mm
03-01-044-21-0622	RX44x160	400 mm
03-01-044-21-0626	RX44x160	450 mm
03-01-044-21-0623	RX44x160	500 mm
03-01-044-21-0624	RX44x160	600 mm
03-01-044-21-0625	RX44x160	700 mm
03-01-044-21-0627	RX44x160	750 mm
03-01-044-21-0628	RX44x160	900 mm
03-01-044-21-0629	RX44x160	1150 mm
03-01-077-21-0601	Rx77x400	400 mm
03-01-077-21-0602	Rx77x400	500 mm
03-01-077-21-0603	Rx77x400	600 mm
03-01-077-21-0604	Rx77x400	700 mm
03-01-077-21-0605	Rx77x400	800 mm
03-01-077-21-0606	Rx77x400	900 mm
03-01-077-21-0601	Rx77x400	1000 mm
03-01-077-21-0608	Rx77x400	1100 mm
03-01-077-21-0609	Rx77x400	1200 mm



### BARREL REAMER (WITH SWIVEL INSIDE)

Designed for cutting and tightening in medium and hard soil. This reamer is tabular, in design lightweight and easy for transportation. There are a huge variety of different diameters. It is possible to put 3 kinds of cutters with optional: flat, round welded, round removable cutting teeth.

Part number	FORWARD HDD rig	Diameter
03-01-011-21-0632	RX11x44	300 mm
03-01-011-21-0633	RX11x44	400 mm
03-01-022-21-0632	RX22x80/RX33x120	400 mm
03-01-022-21-0633	RX22x80/RX33x120	450 mm
03-01-022-21-0634	RX22x80/RX33x120	500 mm
03-01-022-21-0635	RX22x80/RX33x120	550 mm
03-01-033-21-0631	RX33x120	600 mm
03-01-033-21-0632	RX33x120	700 mm
03-01-040-21-0631	RX40x160	400 mm
03-01-040-21-0632	RX40x160	450 mm
03-01-040-21-0633	RX40x160	500 mm
03-01-040-21-0634	RX40x160	550 mm
03-01-040-21-0635	RX40x160	600 mm
03-01-044-21-0632	RX44x160	400 mm
03-01-044-21-0623	RX44x160	500 mm
03-01-044-21-0624	RX44x160	600 mm
03-01-044-21-0625	RX44x160	700 mm
03-01-044-21-0626	RX44x160	800 mm
03-01-044-21-0627	RX44x160	900 mm



### COMBINED REAMER

Consists of two parts: cutting reamer and reamer shell. Designed for drilling in medium soil

Part number	FORWARD HDD rig	Diameter
03-01-022-21-0642	RX22×80/ RX33×120	300 mm
03-01-022-21-0643	RX22×80/RX33×120	400 mm
03-01-022-21-0673	RX22×80/RX33×120	500 mm
03-01-022-21-0674	RX22×80/RX33×120	650 mm
03-01-040-21-0641	Rx40x160	300 mm
03-01-040-21-0642	Rx40x160	400 mm
03-01-040-21-0643	Rx40x160	500 mm
03-01-040-21-0644	Rx40x160	650 mm
03-01-044-21-0641	RX44×160	350 mm
03-01-044-21-0642	RX44×160	500 mm
03-01-044-21-0643	RX44×160	650 mm
03-01-044-21-0644	RX44×160	800 mm
03-01-044-21-0645	RX44×160	950 mm



### KODIAK REAMERS (WITHOUT SWIVEL INSIDE)

Designed for drilling in hard soil

Part number	FORWARD HDD rig	Diameter
03-01-011-21-0612	RX11×44	200 mm
03-01-011-21-0613	RX11×44	300 mm
03-01-011-21-0614	RX11×44	400 mm
03-01-022-21-0612	RX22×80/RX33×120	300 mm
03-01-022-21-0613	RX22×80/RX33×120	400 mm
03-01-022-21-0614	RX22×80/RX33×120	500 mm
03-01-033-21-0615	RX33×120	600 mm
03-01-033-21-0616	RX33×120	700 mm
03-01-040-21-0612	Rx40x160	300 mm
03-01-040-21-0613	Rx40x160	400 mm
03-01-040-21-0614	Rx40x160	500 mm
03-01-040-21-0615	Rx40x160	600 mm
03-01-040-21-0616	Rx40x160	700 mm
03-01-044-21-0611	RX44×160	300 mm
03-01-044-21-0612	RX44×160	400 mm
03-01-044-21-0613	RX44×160	500 mm
03-01-044-21-0614	RX44×160	600 mm
03-01-044-21-0615	RX44×160	700 mm
03-01-060-21-0616	Rx44x160	800 mm
03-01-077-21-0611	Rx77x400	300 mm
03-01-077-21-0612	Rx77x400	450 mm
03-01-077-21-0613	Rx77x400	600 mm
03-01-077-21-0614	Rx77x400	750 mm
03-01-077-21-0615	Rx77x400	900 mm
03-01-077-21-0616	Rx77x400	1050 mm
03-01-077-21-0617	Rx77x400	1300 mm

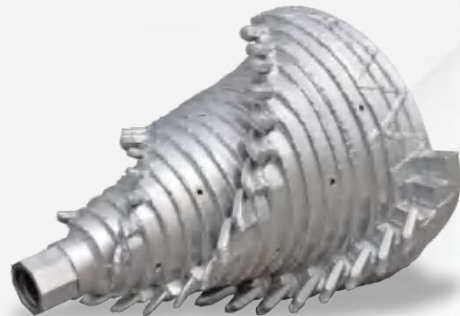




**FORWARD HDD Tools****KODIAK REAMERS (WITH SWIVEL INSIDE)**

Designed for drilling in hard soil

Part number	FORWARD HDD rig	Diameter
03-01-011-21-0653	RX11x44	300 mm
03-01-011-21-0654	RX11x44	400 mm
03-01-022-21-0653	Rx22x80 / RX33x120	400 mm
03-01-022-21-0654	Rx22x80 / RX33x120	500 mm
03-01-033-21-0652	RX33x120	600 mm
03-01-040-21-0651	RX40x160	400 mm
03-01-040-21-0652	RX40x160	500 mm
03-01-040-21-0653	RX40x160	600 mm
03-01-040-21-0654	RX40x160	700 mm
03-01-040-21-0655	RX40x160	800 mm
03-01-044-21-0652	RX44x160	400 mm
03-01-044-21-0653	RX44x160	500 mm
03-01-044-21-0654	RX44x160	600 mm
03-01-044-21-0655	RX44x160	700 mm

**TRIHAWK**

Designed for drilling in hard soil

Part number	FORWARD HDD rig	Diameter of cutting part
03-01-011-21-0700	RX11x44	73 mm
03-01-022-21-0700	RX22x80	102 mm
03-01-033-21-0700	RX33x120Plus	102 mm
03-01-040-21-0700	RX40x160	114 mm
03-01-044-21-0700	RX44x160	127 mm
03-01-066-21-0700	RX66x350	140 mm
03-01-100-21-0700	RX100x500	168 mm



**CUTTERS**

Mounted on barrel reamer to work in various soil conditions

**ROUND REMOVABLE CUTTER**

Ensure quick detachment +attachment to reamer

Part number	FORWARD HDD rig	Diameter
03-01-022-21-0617	RX11×44/RX22×80/RX33×120/ RX40×160/RX44×160/ RX77×400	30 mm

**ROUND WELDED CUTTER**

Mounted on barrel and kodiak reamers

Part number	FORWARD HDD rig	Diameter
03-01-011-21-0610	RX11×44/RX22×80/RX33×120/ RX40×160/RX44×160/ RX77×400	30 mm



Round removable cutter



Round welded cutter

**FLAT CUTTER**

Mounted on three wing reamers

Part number	FORWARD HDD rig	Diameter
03-01-011-21-0606	RX11×44/RX22×80/RX33×120/ RX40×160/RX44×160/ RX77×400	50 mm
03-01-011-21-0607	RX11×44/RX22×80/RX33×120/ RX40×160/RX44×160/ RX77×400	87 mm



Flat cutter DT50



Flat cutter DT87



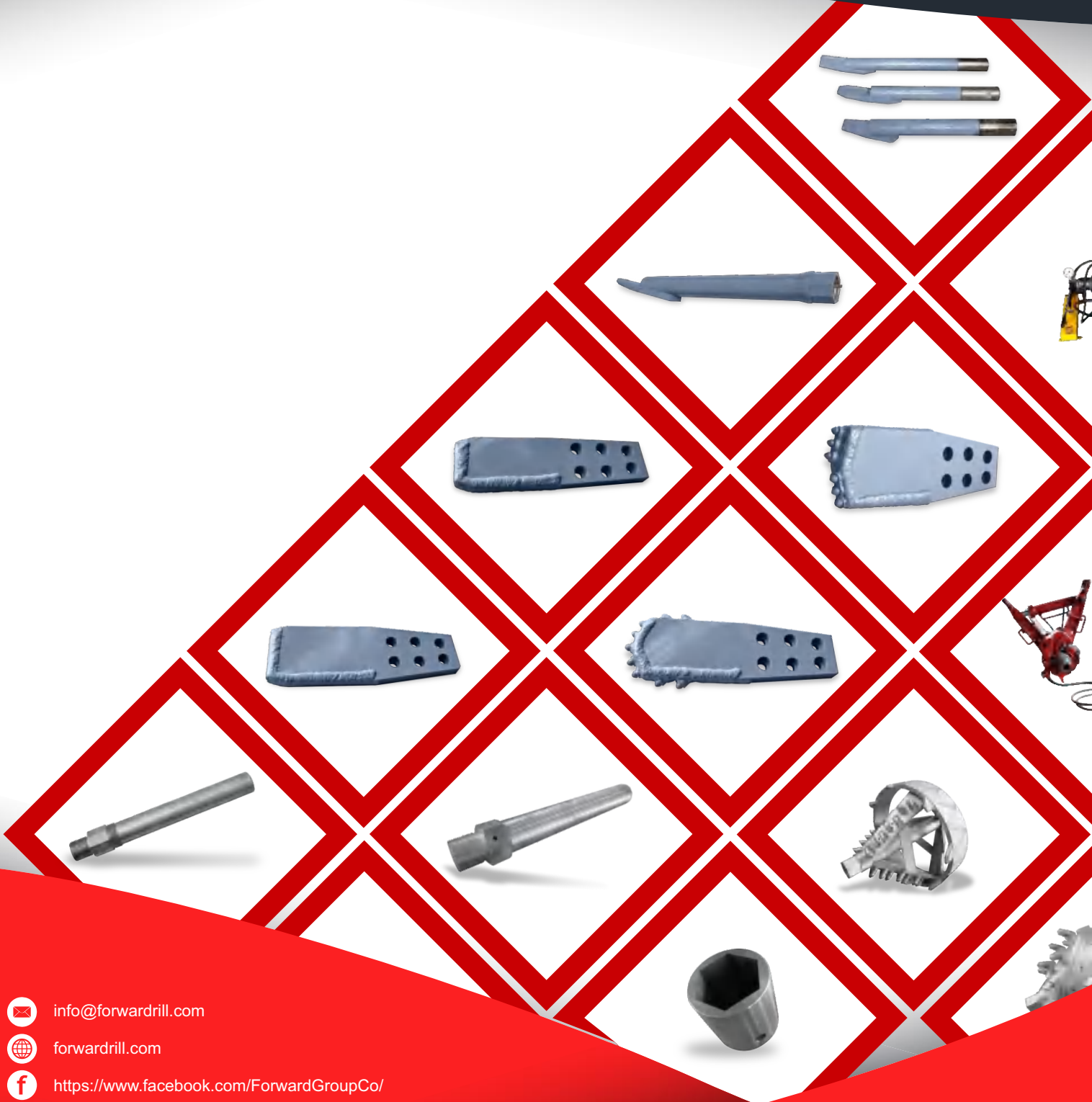


# **FORWARD**

## **HDD catalogue**

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