

# DE800 series multi-purpose drills







### DE810

The DE810 is a highly capable multi-purpose drill rig with an efficient footprint and it is the most flexible rig for shallow mineral exploration. Its design makes it ideal for the contractor requiring quick transport and setup.

- 6 m (20 ft) rod pull capacity
- Pull down 45 kN (10 000 lbf)
- Pull back 75 kN (16 800 lbf)
- Core drilling depth capacity up to 954 m (3129 ft) with N-size rods
- RC drilling depth capacity up to 170 m (560 ft)

### DE840

The DE840 features a larger footprint to accommodate additional options and maximum flexibility between drilling methods. The DE840 is for operators who prioritize the deep-hole productivity gains that come from pulling rods in 9 m (30 ft) sections.

- 9 m (30 ft) rod pull capacity
- Pull down 113 kN (25 350 lbf)
- Pull back 226 kN (50 700 lbf)
- Core drilling depth capacity up to 2223 m (7291 ft) with N-size rods
- RC drilling depth capacity up to 470 m (1470 ft)

### DE880

The DE880 has an upgraded engine with a heavy-duty main hoist mounted on an extra sturdy platform. It offers the benefits of the lighter versions, but with greater depth capacity when core drilling.

- 9 m (30 ft) rod pull capacity
- Pull down 113 kN (25 350 lbf)
- Pull back 226 kN (50 700 lbf)
- Core drilling depth capacity up to 3174 m (10 411 ft) with N-size rods
- RC drilling depth capacity up to 470 m (1470 ft)

# Exploration drills for deep hole drilling

## UNIQUE FLEXIBILITY

Sandvik has brought together some of the industry’s most outstanding expertise, products, techniques and equipment to provide a unique offering in the area of exploration drilling. The Sandvik multi-purpose DE800 series with its pioneering design, has the ability to perform diamond coring, reverse circulation, rotary air or mud drilling. The DE800 series consists of three powerful drill rigs with the ability to operate efficiently in all forms of exploration drilling, with their extensive range of standard features and options. These drills have proven themselves for years in different kinds of applications and can be found all around the world in mineral exploration, directional drilling, coal bed methane (CBM) drilling and geotechnical drilling.

## DRILLS WITH HIGH PRODUCTIVITY

The three models in the DE800 series have a range of depth capacity from 954 m to 3174 m (3129 ft to 10 411 ft) in diamond drilling with N size rods. When Reverse Circulation hammer drilling the series has a capacity range of 170 m to 470 m (560 to 1470 ft).

With the possibility of using multiple drilling methods, Sandvik’s DE800 series has it all covered. Productivity is the winner with the DE800 series drill rigs in either truck or crawler mounted configurations, backed up by Sandvik’s global technical support organization.





# Designed for greater flexibility and productivity



## DIESEL ENGINES FOR TOP PERFORMANCE

- Peak power rating of 130 kW (174 hp) at 2200 rpm for DE810, 195 kW (260 hp) at 2200 rpm for DE840 and 246 kW (330 hp) at 2100 rpm for DE880
- Low emission output combined with fuel efficiency and performance
- Low weight and high performance engine
- Cooling system designed for operating in ambient temperatures up to 45°C (113°F)
- Hydraulically powered water pump with a capacity of 140 l/min (37 gpm) at pressures up to 7000 kPa (1000 psi)
- Flow rate is controlled and is infinitely variable
- All controls are located on the operator's control panel



## STRONG AND RELIABLE ROTATION UNITS

- A variable displacement hydraulic motor drives the rotation head gearbox
- Pilot adjustable operations speed control for all drilling
- Capable of running at maximum rpm using available power for extended periods
- Controlled by operator from control panel
- High/low manual gear change
- High-precision helical gears
- Stepless speed control
- Speed control can be very precise
- Improved life of drill bit
- Easier to spin
- Air to oil lubrication, oil cooler fitted
- Jet lubricated gears and bearings
- Efficient hydraulics for maximum output torque
- Higher productivity

Core drilling or reverse circulation? Why not both? The DE800 series offers a flexibility that goes beyond other rigs. The series handles the different drilling techniques with equal efficiency and allows you to switch between different drilling techniques without leaving the hole.

Workplace safety is critically important. That is why these drills were designed with the safety of the drilling crew in mind. The DE800 series is equipped with standard features such as rod whip guard, main winch over wind protection, dual hold back ropes, rod handling winch, electronic penetration and emergency stop buttons.



The operator has excellent accessibility for both minor and major maintenance work thanks to the drill's open design. The robust drill mast is designed so the parts at the top can be easily accessed and maintained.

The main winch is placed at the top of the drill mast which helps reduce the total load to the mast, and only the total pull load of the actual rod string is applied to the mast. This means longer life for the hoist rope since a spooling device is eliminated. Since there are no travelling sheaves, chains or links, the operator has a less exposed working environment.



## HIGHLY EFFICIENT HYDRAULICS

- Highest quality axial and radial piston pumps and motors used in three independent open loop circuits
- Full flow 10 micron Beta rated return oil filtration
- Larger than typical hoses and control valve sizes used
- Highest possible circuit efficiency
- Greater flexibility
- Precise control of critical drilling functions
- Proven reliability over thousands of hours



## ROBUST AND RELIABLE MAST

- Flexibility to angle drill between vertical and 45°
- Mast dump stroke is 720 mm (2'4") for DE810 and 1300 mm (4'3") for DE840 and DE880
- Ensures the mast is always able to make contact with the ground, for ease of operation by driller and helpers.
- Enables work at acute angles or uneven drill pads
- Productive design allows you to pull core tubes and casings up to 6 m (20 ft) for DE810 and up to 9 m (30 ft) for DE840 and DE880
- Longer continuous core runs without drilling stoppage



# User-friendly

## efficient rod handling



### EFFICIENT AND SECURE ROD HANDLING

- One rod clamp supplied for B, N, H and P sizes
  - Flexibility in drilling
  - Easy to remove jaws
  - Hydraulically operated and self energizing
- Rod carry rack for 6 m (20 ft) lengths located on the side of drill tray
  - Capacity of 20 x 6 m (20 ft) lengths of 114 mm (4 1/2") rods
- Hydraulic rod boom
  - Fully variable rod handling boom for all angles from vertical to 45°
  - Main boom swivelling to side and fitted with 3,1 kN (697 lbf) winch
- Rod breakout tool with hydraulic chain tong up to 24 200 Nm (18 000 lbf ft) torque for 83 mm (3 1/4") to 210 mm (8 1/4") OD pipe used for DE840 and DE880
- Rod break out tool hydraulic 48" rigid Stillsons up to 7500 Nm (5528 lbf ft) used for DE810
- All models feature spin guards
  - Separate the rotating rods from the operator
  - Hydraulically interlocked, and reduces the rotation speed to 100 rpm when cage is opened
  - Contributes to a safer and more comfortable working environment

### USER-FRIENDLY AND FLEXIBLE

- Flexible for alternative carriers
  - Truck or crawler configuration
- All components mounted on one platform
  - Self-contained drill rig
  - Makes it easier moving from drill site to drill site
- The whole drilling process is managed from one control panel
  - The control panel is placed at the back of the drill rig and allows the operator to have an excellent overview of the drill site
  - The control panel is intuitive and easy to learn and operate
- Open and easily accessible design
  - Ease of maintenance work

DE800 series popular options	Benefits
Choice of truck carrier or crawler tracks	Flexibility for different applications and environments.
Air compressor: 38,2 m3/min at 24,1 bar (1350 cfm at 350 psi) 25,5 m3/min at 34,5 bar (900 cfm at 500 psi)	Allows greater depth without the need for a booster.
DA554 rod handler	Designed for improved reliability, safety and productivity with extreme versatility.
DA512 safety spin	Reduces injury risks resulting from operator fatigue and provides consistent pre-torque joint for every joint in the drill string, increasing drill rod thread life.
Fire suppression system	Effective system to help protect the drill and crew.
Water pump L1118-SC: maximum capacity 246 l/min at 12 400 kPa (65 gpm at 1800 psi)	When high pressure and high flow rate is required.

### BASIC FACTS

	DE810	DE840	DE880
Drill mast	6 m (20 ft) rod pull capacity, 9,2 m (30'2") long. 720 mm (2'4") hydraulic mast dump	9 m (30 ft) rod pull capacity, 12,3 m (40'4") long. 1300 mm (4'3") hydraulic mast dump	9 m (30 ft) rod pull capacity, 12,3 m (40'4") long. 1300 mm (4'3") hydraulic mast dump
Rotation head	Stepless speed control High/low manual gear change 103-376 rpm in low gear 458-1667 rpm in high gear Floating spindle 50 mm (2")	Stepless speed control High/low manual gear change 73-200 rpm in low gear 550-1500 rpm in high gear Floating spindle 50 mm (2")	Stepless speed control High/low manual gear change 73-200 rpm in low gear 550-1500 rpm in high gear Floating spindle 50 mm (2")
Head traverse	6,66 m (22 ft) traverse Max. speed 41,9 m/min (137 ft/min) up and 29 m/min (95 ft/min) down Pull down 45 kN (10 000 lbf) Pull back 75 kN (16 800 lbf) Rod pull 6 m (20 ft)	7,3 m (24 ft) traverse Max. speed of 44,8 m/min (147 ft/min) up and 29,6 m/min (97 ft/min) down Pull down 113 kN (25 350 lbf) Pull back 226 kN (50 700 lbf) Rod pull 9 m (30 ft)	7,3 m (24 ft) traverse Max. speed of 44,8 m/min (147 ft/min) up and 29,6 m/min (97 ft/min) down Pull down 113 kN (25 350 lbf) Pull back 226 kN (50 700 lbf) Rod pull 9 m (30 ft)
Wireline winch	Capacity of 1000 m (3280 ft) of 5 mm (3/16") wire rope Max. pull 3,4 kN (765 lbf) at 243 m/min (797 ft/min) full drum Max. pull 7,8 kN (1750 lbf) at 101 m/min (331 ft/min) bare drum	Capacity of 2000 m (6560 ft) of 8 mm (5/16") or 2500 m (8200 ft) of 8 mm (5/16") wire rope. Max. pull 12,6 kN (2800 lbf) at 430 m/min (1410 ft/min) full drum Max. pull 21,4 kN (4800 lbf) at 255 m/min (835 ft/min) bare drum	Capacity of 2000 m (6560 ft) of 8 mm (5/16") or 2500 m (8200 ft) of 8 mm (5/16") wire rope. Max. pull 12,6 kN (2800 lbf) at 430 m/min (1410 ft/min) full drum Max. pull 21,4 kN (4800 lbf) at 255 m/min (835 ft/min) bare drum
Main hoist	Mast-top mounted Single line pull Max. pull 64,9 kN (14 600 lbf) Max. speed 120 m/min (394 ft/min)	Mast-top mounted Single line pull Max. pull 151,3 kN (34 000 lbf) Max. speed 128 m/min (420 ft/min)	Mast-top mounted Single line pull Max. pull 216 kN (48 500 lbf) Max. speed 137 m/min (450 ft/min)
Water pump	140 l/min (37 gpm) at pressures up to 7000 kPa (1000 psi)	140 l/min (37 gpm) at pressures up to 7000 kPa (1000 psi)	140 l/min (37 gpm) at pressures up to 7000 kPa (1000 psi)
Diesel engine	C6BTA 5.9 engine rated at 130 kW (174 hp) at 2200 rpm	C6CTA 8.3 engine rated at 195 kW (260 hp) at 2200 rpm	CM11-C300 engine rated at 246 kW (330 hp) at 2100 rpm
Rod clamp	One rod clamp supplied for B, N, H and P sizes Hydraulically operated and self energizing Range from 44,5 to 177,8 mm (1 3/4" to 7") 224 mm (8 3/4") rod clamp body opening	One rod clamp supplied for B, N, H and P sizes Hydraulically operated and self energizing Range from 44,5 to 177,8 mm (1 3/4" to 7") 224 mm (8 3/4") rod clamp body opening	One rod clamp supplied for B, N, H and P sizes Hydraulically operated and self energizing Range from 44,5 to 177,8 mm (1 3/4" to 7") 224 mm (8 3/4") rod clamp body opening

### Dimensions and weights

	DE810	DE840	DE880
A	3,5 m (11'6")	3,6 m (11'10")	3,6 m (11'10")
B	9,2 m (30'2")	12 m (39'4")	12 m (39'4")
Width	2,5 m (8'2")	2,5 m (8'2")	2,5 m (8'2")
Weight*	9600 kg (21 200 lb)	18 500 kg (40 800 lb)	20 600 kg (45 400 lb)

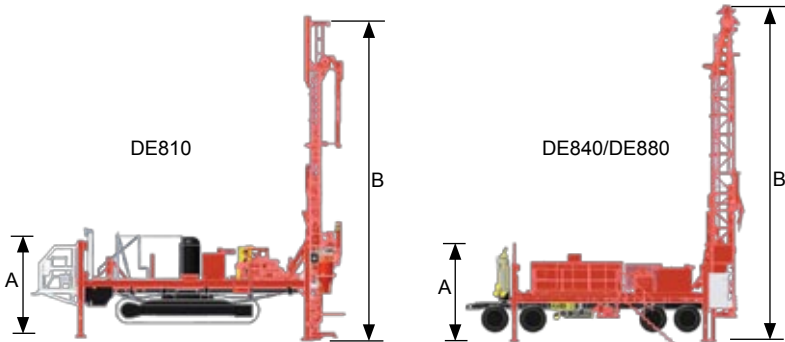
\*Approximately weight on bare drill on hydraulic jack-up tray

### Depth capacity

Model	Drill rod, m (ft)					
	A	B	N	H	P	4 ½"
DE810	N/A	1220 (4002)	954 (3129)	639 (2096)	432 (1417)	170 (560)
DE840	N/A	2844 (9328)	2223 (7291)	1489 (4884)	1006 (3300)	470 (1470)
DE880	N/A	N/A	3174 (10 411)	2125 (6970)	1436 (4710)	470 (1470)

These calculations are based on feedback from field operatives and can be reasonably expected with vertical, water filled holes, by a well-trained drilling crew using high quality drilling tools. Sandvik cannot guarantee that these results will be achieved in all drilling conditions.

All dimensions and weights are approximate. Please see technical specification for more details and options.



Sandvik is a high-technology engineering group with world-leading positions in selected areas – tools for metal working, advanced materials technology, and mining and construction. We are represented in 130 countries.

Sandvik Mining and Construction represents one third of the overall Sandvik Group and serves a broad range of customers in construction, mineral exploration, mining and bulk materials handling. Our construction expertise covers quarrying, tunneling, demolition and recycling, and other civil engineering applications. Our mining products and services support customers on the surface and under ground, in all mineral, coal and metal mining applications from exploration to ore transportation.

