

**OPTIMIZED
DRILLING FOR INDIA.
THIS WAY!**

**SANDVIK MINING
160D ROTARY BLAST HOLE DRILL**

SANDVIK



RELIABLE DRILLING TECHNOLOGY FOR INDIA.

India has one of the largest reserves of natural resources in the world. Globally, India is the third largest producer of coal, the fourth largest producer of iron ore and among the top 10 producers of various minerals such as chromite, zinc and magnesite. As its population steadily climbs toward 1.3 billion people and global demand for resources grows, India will continue to invest in the technology needed to mine its valuable reserves.

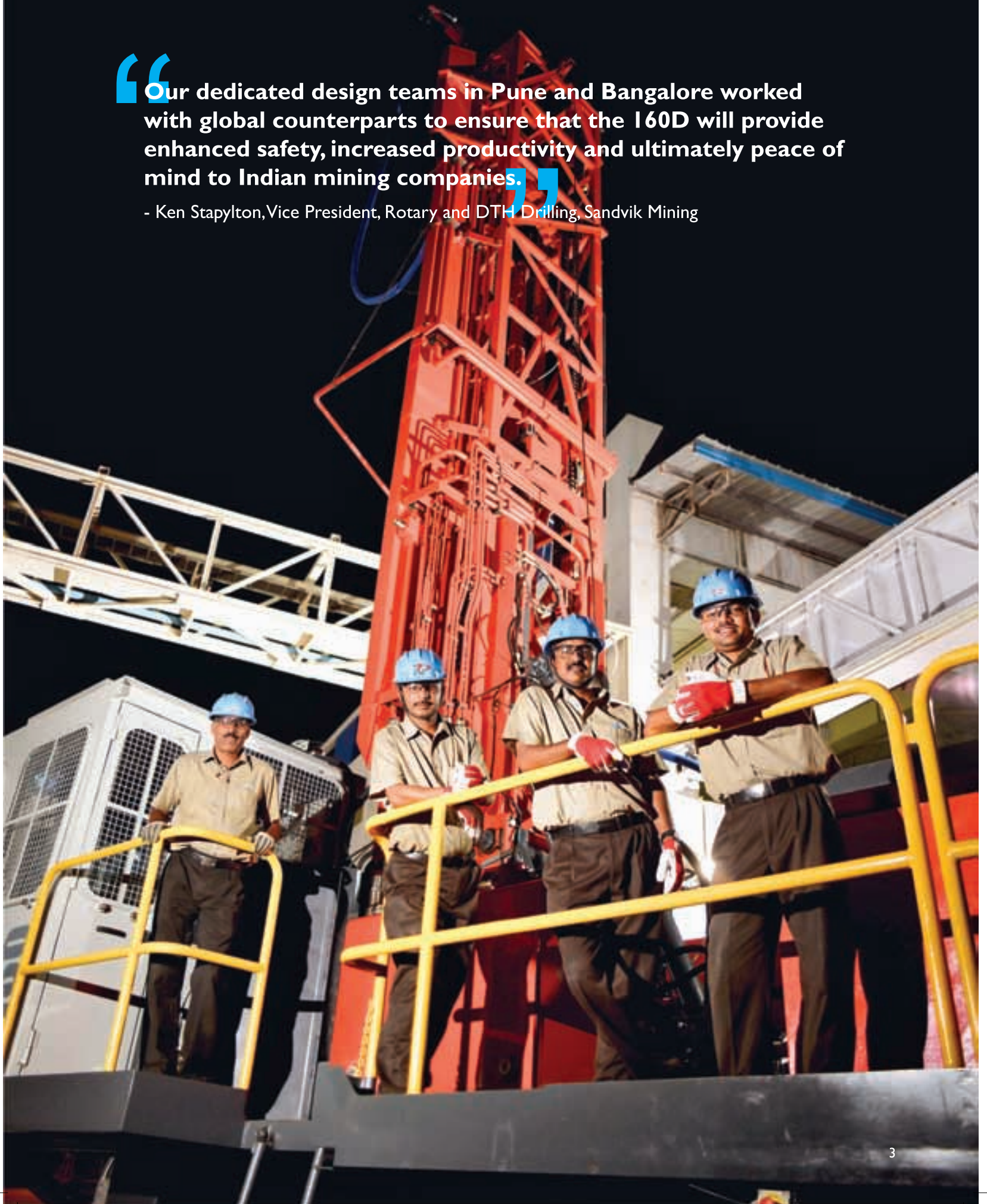
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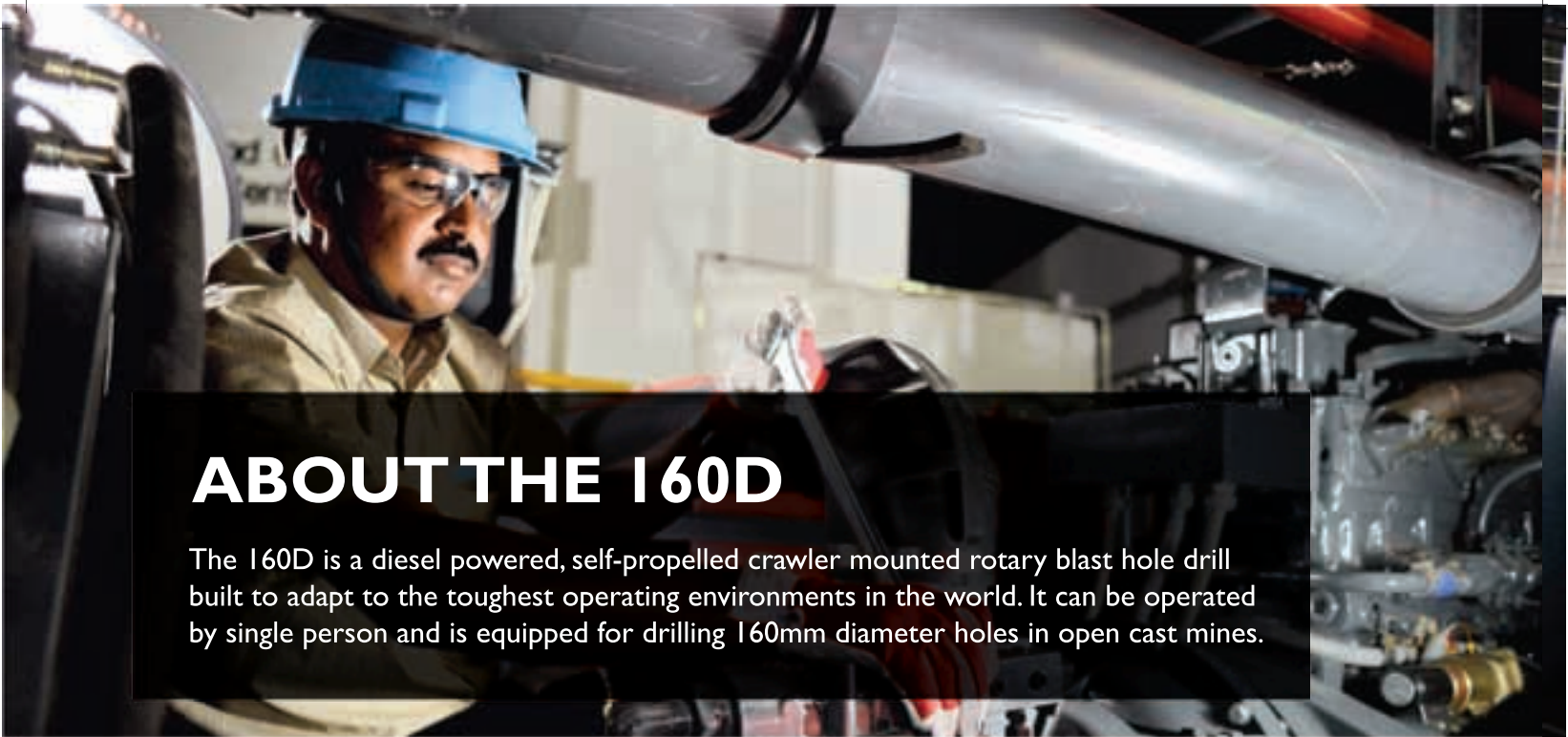
The Sandvik 160D rotary blast hole drill is engineered, sourced and manufactured in India for India. The rig is backed by Sandvik's 150-year-old legacy in safety, with local solutions to support you when you need it.



“Our dedicated design teams in Pune and Bangalore worked with global counterparts to ensure that the I60D will provide enhanced safety, increased productivity and ultimately peace of mind to Indian mining companies.”

- Ken Stapylton, Vice President, Rotary and DTH Drilling, Sandvik Mining





ABOUT THE I60D

The I60D is a diesel powered, self-propelled crawler mounted rotary blast hole drill built to adapt to the toughest operating environments in the world. It can be operated by single person and is equipped for drilling 160mm diameter holes in open cast mines.

DIMENSIONS,WEIGHTS AND PERFORMANCE DETAILS

Working Range	
Hole size range	5" to 6¾" (127 mm to 171 mm)
Drilling depth, single pass	Not less than 7.62 m
Total drilling depth	3 rods

Performance	
Pull-down capacity	13,600 kg (Minimum)
Bit load at peak power	14,500 kg at approx. 2500 Psi
Feed rate at peak power	20.8 m/min.
Hoisting capacity	6,650 kg
Hoisting speed`	44.8 m/min.
Bailing velocity	2,384 m/min. (7820 fpm)
Maximum propel speed	2.7 KMPH
Gradeability (mast raised)	21%
Gradeability (mast lowered)	30%

Basic Dimensions (approximations)	
Weight	32,000 kg
Length (mast raised)	9,050 mm
Length (mast lowered)	12,000 mm
Width	4,800 mm
Height (mast raised)	11,600 mm
Height (mast lowered)	5,900 mm
Mast length	10,400 mm

Engine	
Manufacturer & Model	Cummins NTA-855-c Big Cam/Any reputed make
Number Cylinders	6
Bore	140 mm
Stroke	152 mm
Displacement	14 liters
Net power at 1800 rpm	295 HP
Maximum Torque	1350 lbs/ft @ 1400 rpm



TECHNICAL SPECIFICATIONS

Rated Capacity	Operator's Cab
127-171 mm dia holes Single Pass Capacity is 7.62 m standard mast	A lockable fully insulated, safety glass sound suppressed with conveniently located all controls, gauges and meters for safe and convenient operation from the operator's seat.
Rotary Drive System	Rod Handling
Hydraulic top drive 0-90 rpm @ 5,000 Nm Torque	Automatic rod changer with Indexing to carry maximum 4 rods.
Air Compressor	Drill Rod
Rotary screw compressor FAD 17m3/min @ 7 kg/cm2	127 mm OD X 7.62 m long with BECO threads.
Power System	Mast
Cummins Diesel Engine Model NTA-855C Big Cam	Heavy-duty tubular steel mast raised and lowered by two hydraulic cylinders. Mast provided with safety locking system in the vertical drilling position.
Hydraulic System	Pull Down
Axial piston pumps, variable displacement and compensator controlled for rotation, feed, fan circuit and crawler propel.	Through hydraulic cylinders and chain system minimum 13,600 kg at feed rate of 20.8 m/min.
Levelling System	Crawler Propel
Two rear jacks and one front jack of 1219 mm stroke with lift up capacity of 22,700 kg each.	Powered by axial piston, variable displacement pumps. Propel speed 2.7 km/h.
Dust Control	Automatic Lubrication System
Equipped with low maintenance, compact wet type dust collection system.	Centralized automatic lubrication system to service all lubrication points on the machine.
Control Console	Other Standard Fitment
All drilling functions are monitored and controlled from a control panel, logically arranged in functional groups. Valve bank is placed outside the cabin for easy maintenance.	Fire extinguisher, Hydraulic breakout wrench, bit breaker, night lighting, auxiliary hydraulic winch, table bushing and standard tools etc.
Fire Detection and Suppression System	Optional
DGMS approved automatic fire detection and suppression system with a provision of actuating it manually.	Tall mast, Angle hole drilling higher capacity rod handling system, etc.

*Manufacturers reserve the right to amend/modify the specifications and/or design at any time without notice. Dimensions may vary within +/- 5%.

OPTIMIZED POWER DELIVERY

- Powered by a direct injection, 4-stroke diesel engine of not less than 200kW net power measured between 1700 and 2000 rpm.
- Provided with 24V electric starting, dry type 2-stage air cleaner with manual/automatic dust evacuator & dust level indicator and 2-stage fuel filter with water separator.
- Features a water jacket cooling system, thermostatically controlled, using an engine driven water pump, with the cooling water re-circulated through a heavy-duty radiator. The system will be capable of providing sufficient cooling to allow the drill to continuously operate at the full rated output at the maximum ambient temperature.
- Moving parts of engine will be lubricated by an engine driven oil pump, with full flow oil filtration and cooling. Suitable over speed governing system will be provided on engine.

EFFICIENT HYDRAULICS

- Powered through the diesel engine for operating (where applicable) propel, feed, rotation, leveling jacks, mast articulation, utility hoists, breakout wrench, etc.
- Hydraulic pumps, motor and cylinder are field proven and have suitable ratings with in-built protection from surge, cavitation, loss of oil due to hose leakage, burst, etc.
- As far as practicable reputed single make pumps, motors, cylinders and valves will be used in the machine. All pumps shall be installed below the lowest oil level of hydraulic tank to minimize oil starvation.
- A suitable system will be provided for effective cooling of the hydraulic oil to improve the life of the hydraulic components.

PRODUCTIVE OPERATOR’S ENVIRONMENT

- Lockable, fully insulated for heat resistant, sound suppressed air conditioned operator’s cab with a cooling fan and safety glass.
- Controls are positioned for safe and convenient operation from the operator’s seat. All controls, gauges and meters will be clearly and permanently marked with easily recognizable symbols.
- Operator’s seat will be a fully adjustable bucket type with foam rubber cushion and best quality upholstery.
- Space inside the cabin will sufficient enough to operator the machine with ease and comfort.

POWERFUL DRILLING MAST

- Rugged structural steel constructed with a suitable guide for the rotary head.
- Raising and lowering of the entire mast will be accomplished hydraulically with safety check valve/s to prevent falling of mast in the event of power or hose failure; will be possible with the specified number of drill rods stored in the rack.
- Mechanical lock will be provided for holding the mast securely in vertical drilling position.
- Mast hinge and hydraulic cylinder mounting points will have adequate lubrication to ensure easy movement of the mast.

EFFECTIVE DUST CONTROL SYSTEM

- Drill shall be provided with a suitably designed high-efficiency suction type electronic timer controlled Non Visible Emission (N.V.E.) dust control system to eliminate dust hazards to the operator and equipment.
- Approved by DGMS.

ADDITIONAL SAFETY FEATURES

- Each moving part of the machinery shall be guarded/ fenced and also ensure its effectiveness all the time
- Propel interlock (an electric interlock between drilling and propel operation)
- Fire resistant hydraulic hoses and wiring near and inside the hot zone
- Turbocharger guard
- High air discharge switch
- Low lube oil pressure switch
- Oil stop valve (electric solenoid valve in compressor lubrication line)
- Non bump circuit
- Tower lock and lock check valve
- Propel joy stick-spring loaded type to return to neutral (Dead man safety)
- Disc brake and brake valve and its testing parameters
- Lock check valve for preventing creeping in drill
- Seat belt



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.



Sandvik Asia Pvt. Ltd.
Sandvik Mining

Mumbai - Pune Road, Dapodi, Pune - 411 012. India.
Tel.: 020 - 27104800 Fax: 020 - 271031133 E-mail: info.miningindia@sandvik.com
www.mining.sandvik.com

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