

# iSeries family of rotary drills

Choosing the right rig for the job







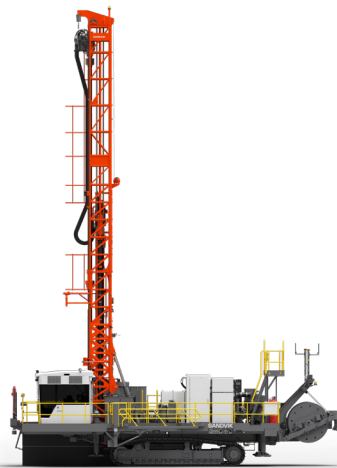
# Powering tomorrow. Today.

The iSeries family of rotary blasthole drill rigs represents the next generation of surface drilling technology. Designed for what lies ahead, these automation capable drills are equipped to meet your needs today and in the future, with diesel and electric versions available for all models.

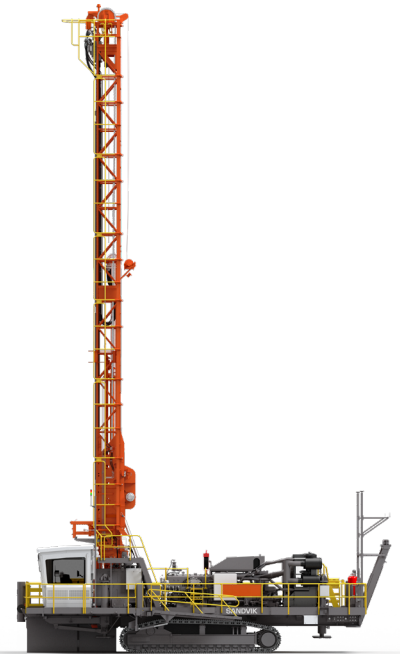
iSeries drill rigs simplify operations using automated functions while an intuitive user interface delivers a consistent operator experience across the iSeries range. The comprehensive Sandvik Intelligent Control System Architecture (SICA), a key component of our iSeries family, provides the operator with real-time feedback regarding the machine's performance and health, along with tools for drill planning, reporting and analysis ensuring quality and consistency hole-to-hole.

## Go electric. Go Sandvik.

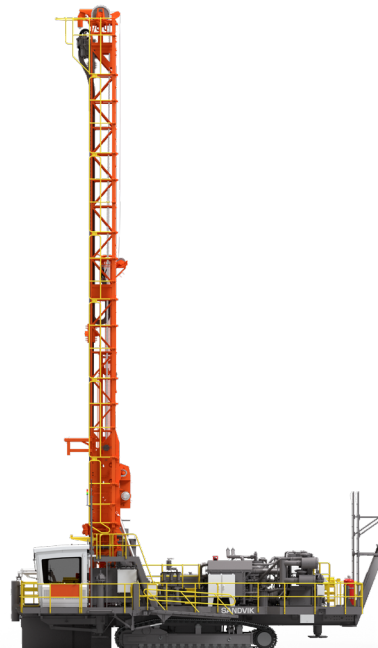
Sandvik is at the forefront of the electrification revolution in mining, with our iSeries rotary drills leading the charge towards a more sustainable future. With over 600 units of electric equipment delivered, Sandvik boasts the largest installed base in the industry. Sandvik ensures state-of-the-art solutions that not only eliminate diesel emissions but also significantly reduce heat, noise, and vibration levels, ultimately achieving zero CO2 emissions, and aligning with mines' sustainability targets.



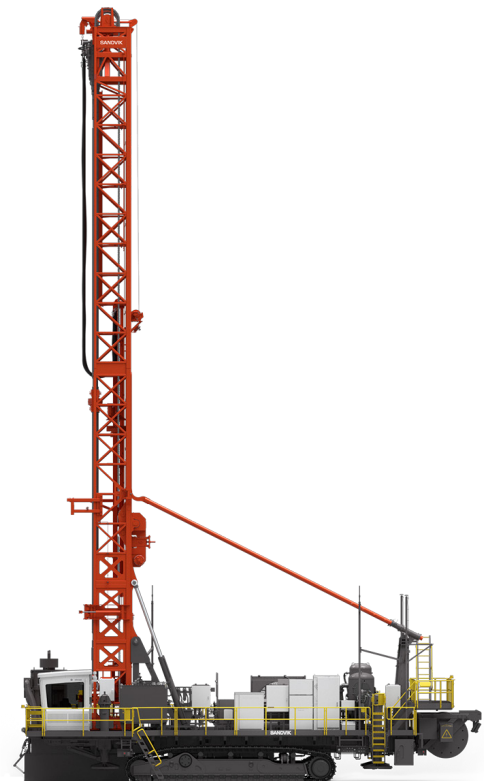
DR410i / DR410iE



DR412i / DR412iE



DR413i / DR413iE

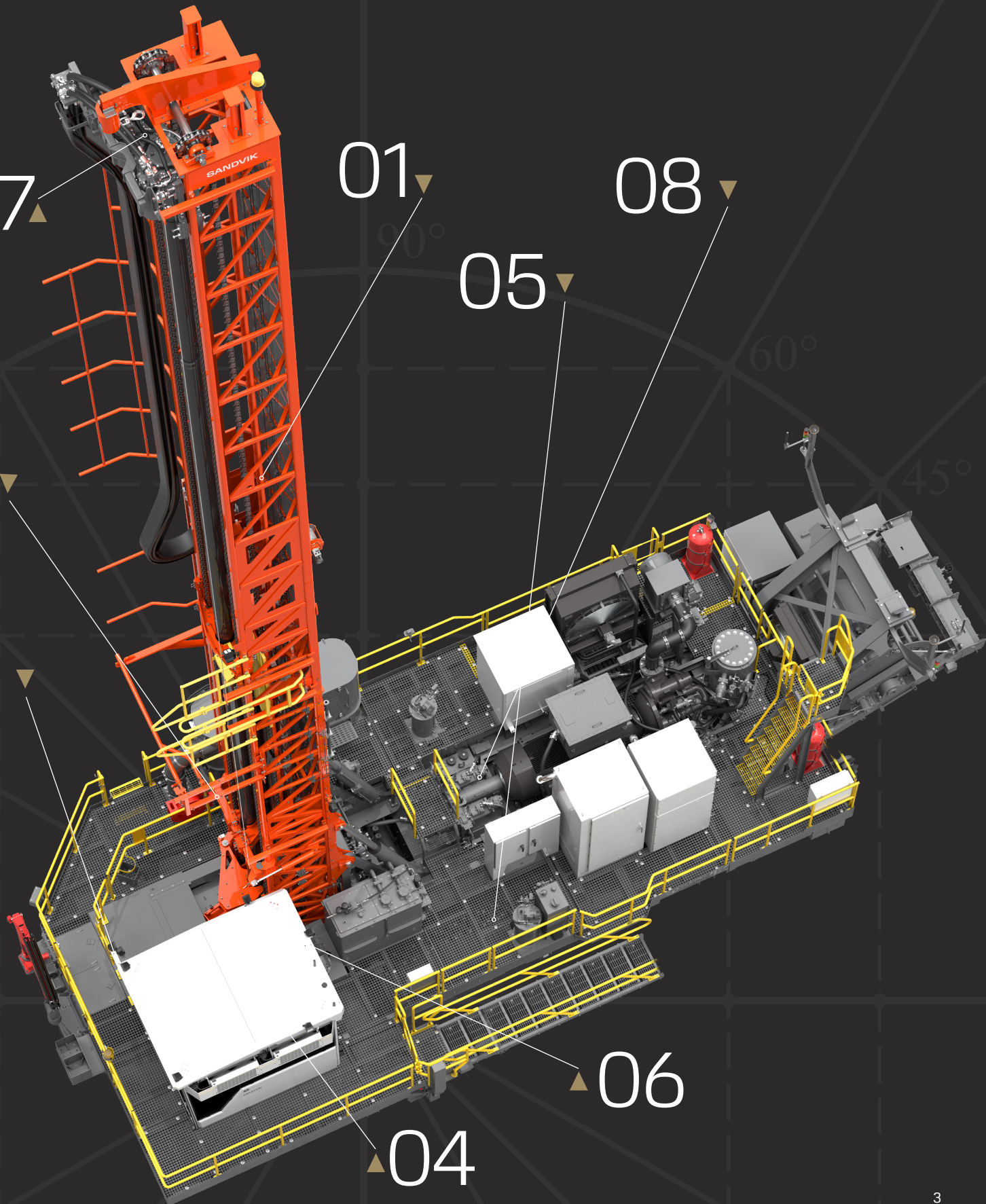


DR416i / DR416iE

# SANDVIK



# iSeries





# 01 Mast

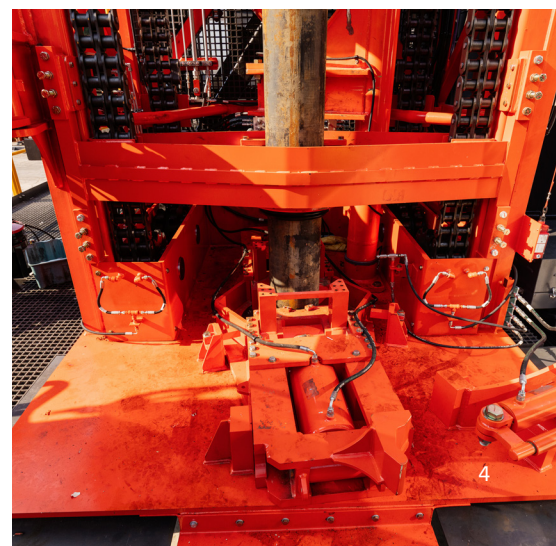
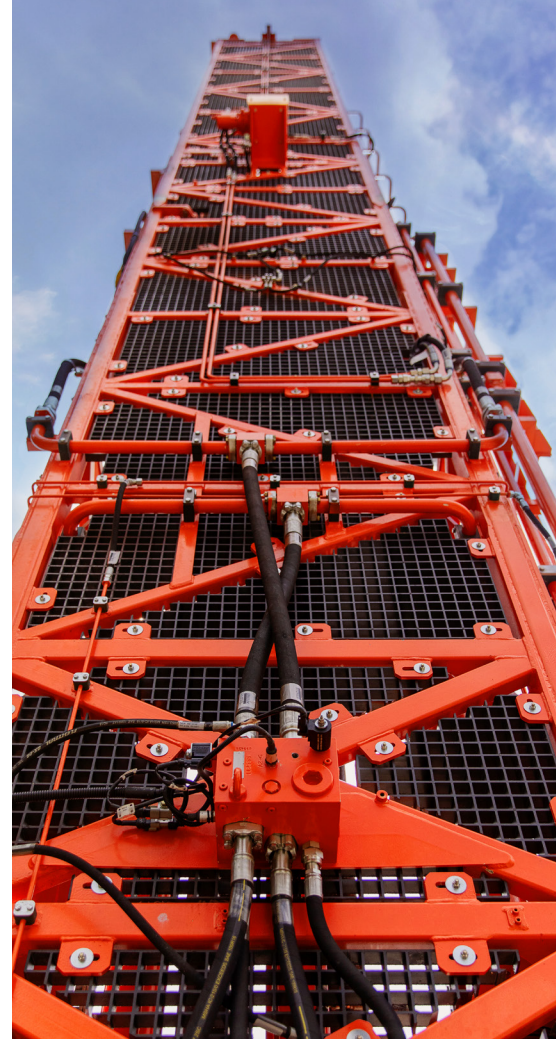
The iSeries mast design offers increased strength, durability and productivity. The chain feed system delivers cleaner holes which improve blast quality at a lower cost

It's no wonder that our state-of-the-art mast design is one of the top reasons our iSeries rigs are unmatched by competitors.

## Key features

Feature	Benefit
Chain feed system	Improves hole quality which reduces operating costs and improves blast quality, lowering maintenance costs
Auto chain tensioning	Supports extended chain life while increasing productivity via reduced scheduled downtime
Mast access*	Dedicated mast access with enhanced safety enables thorough mast inspections helping reduce downtime
Traveling centralizer*	Helps in constant bit loading, straight holes, and reduced pipe wobbling

\*Optional





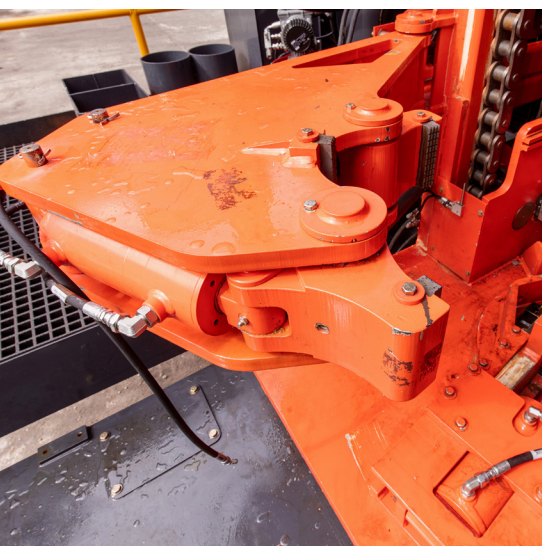


## 02 Pipe and tool handling

All iSeries drill rigs are equipped with labor saving pipe and tool handling features which extend tool life, improve productivity and reduce total cost of ownership.

### Key features

Feature	Benefit
Breakout system	The Sandvik-designed system reduces injury potential and offers safer bit changes
Deck crane*	Allows for one man operation for bit change without manual lifting
Auto thread in/out	Increases tool joint life leading to reduced operating costs
Pipe centralizer	Improves accuracy and quality of drilling vertical and angle holes



\*Optional



# 03 Automation and technology

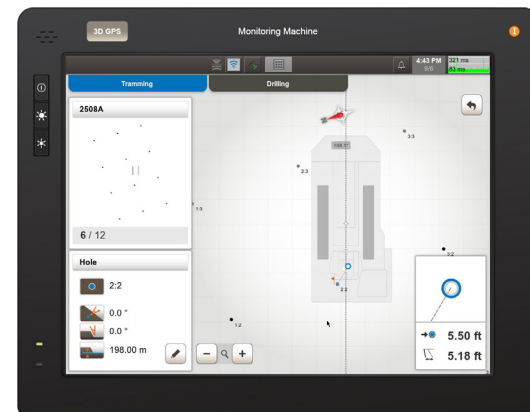
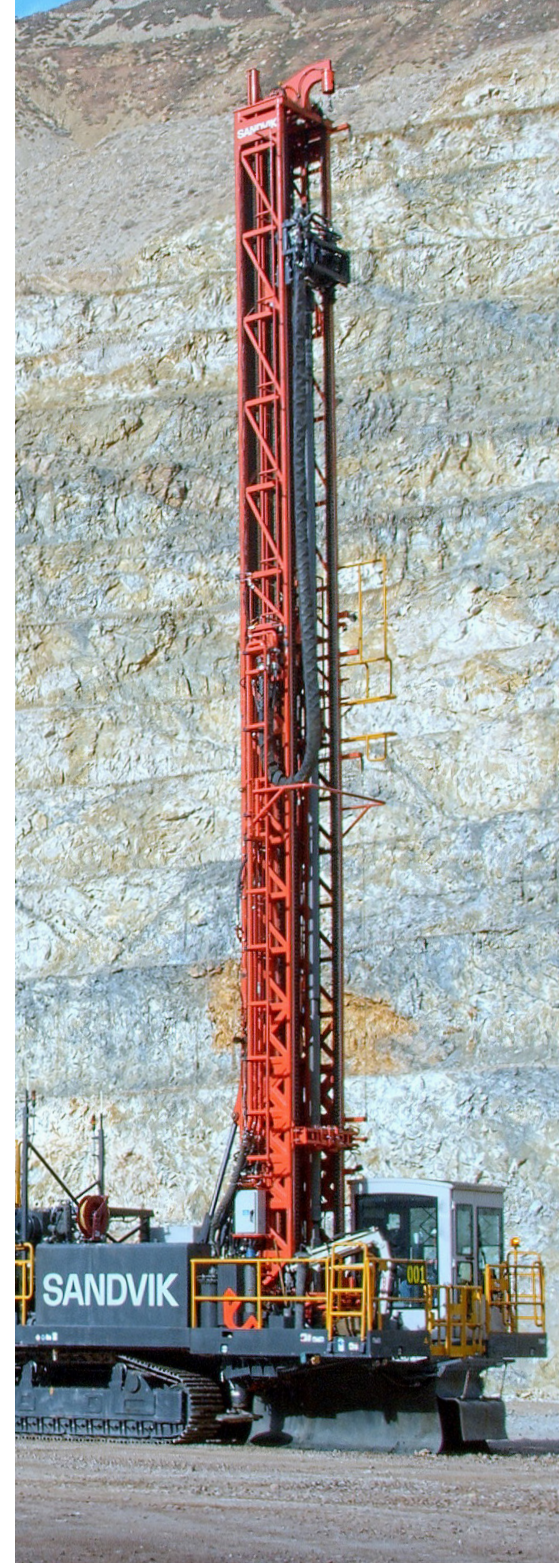
The scalable iDrill™ automation platform provides automation options and digital services designed to speed up your production process and support your mine operations. You can use as much or as little technology as you need, knowing more is available when you need it.

Performance iDrill and Navigation iDrill work together to produce accurately placed, consistently clean, precision-drilled holes delivering improved fragmentation, downstream throughput, productivity and asset utilization.

## Key features

Feature	Benefit
High-precision navigation	Improves blast quality/fragmentation, reduced drilling time and increased productivity and throughput
Auto mast	Angle drilling accuracy can improve fragmentation while reducing stress on the mast structure
Auto level	Precision leveling improves productivity and reduces structural stress
Adaptive auto drill*	Allows faster, more precise drilling through dynamic improvements to the automated drilling algorithm (including exception handling) to deliver improved fragmentation and maximum productivity
Auto pipe handling*	Increases tool life and provides pipe change consistency, saving on operating costs for maintenance and component replacements
iLink™ data connectivity*	Seamlessly connect third-party solutions for navigation, telematics data, health alarms, and equipment signals etc.
Automine® capable*	Allows faster implementation of automated solutions with scalable options, so you can add functionality as needed

\*Optional







## 04 Intelligent features

iSeries rigs are loaded with intelligent features, helping operators take the guesswork out of daily activities. Features like independent cooler control, on-board diagnostics, system health, wireless remote control, SICA control system and electronic depth counter help maintain operator awareness. This provides operators the ability to identify and rectify potential issues as (or before) they arise, ensuring production while limiting down-time and cost.

### Key features

Feature	Benefit
Independent cooler control	Precision control over cooler temperature helps improve component life and reduces fuel burn, system load and noise
On-board diagnostics	Reduces troubleshooting time to increase productivity
Remote factory diagnostics	Allows factory experts to assist with increasing availability via remote troubleshooting assistance
Wireless remote tramming*	Enhances safety by removing operators from dangerous environments
SICA control system	Sandvik Intelligent Control System Architecture (SICA) –facilitates the accelerated development and seamless dissemination of cutting-edge machine functions across Sandvik's comprehensive mining product range, encompassing both underground and surface equipment.
DRI	Based on the Sandvik Intelligent Control System Architecture (SICA) platform the DRI control system provides a consistent operating experience and enhanced control of rig functions across all iSeries surface rotary drills.

\*Optional



# 05 Maintenance

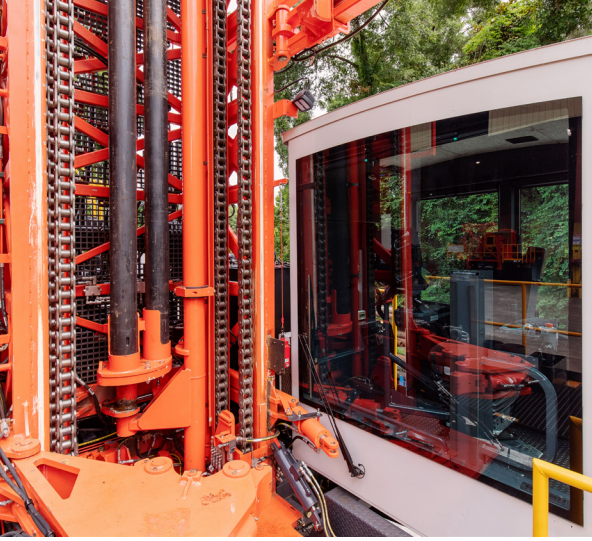
The iSeries family of drill rigs was designed to be maintenance friendly, reducing the time needed for scheduled and unscheduled tasks. By minimizing the need for maintenance personnel contact with the drill, you greatly improve your return on investment.

## Key features

Feature	Benefit
Accessibility	Allows easy access to frequently maintained components with walkways and service platforms
Centralized fluid service center	Reduces time for fluid fills, improving utilization and reducing the chance for fluid spills and negative environmental impact
Off-board diagnostic connection	Reduces time to remedy system errors with a direct connection to factory experts
Centralized filter station	Scheduled tasks (filter changes) completed quickly improving utilization reduced potential negative environmental impact from fluid spills
Sandvik support	Tailor options to fit your requirements with specialized OEM trained technicians
Centralized lubrication system	Extends component life reducing maintenance costs and increasing uptime
Live sampling	Live SOS sampling helps to increase the component life and uptime







## 06 Ergonomics and safety

Safety remains our #1 priority. Sandvik iSeries drills utilize key safety features to help reduce risks to mine personnel operating in dangerous environments. We've also implemented special ergonomic features to enhance the operators interface with the machine, leading to improved operator ease, comfort and production.

### Key features

Feature	Benefit
Quiet cabin	Provides more comfortable environment for operators
In-seat controls, GUI	Ergonomic for operators' comfort with instant access to drill information and diagnostics
Protective features throughout	Helps reduce chances of operator error, improving safety and reducing downtime
Dual point air hose whip socks	Improves safety and compliance
Bit change above deck & bit/hammer storage	Hands free bit changing improves safety and accessibility
Safari roof	Provides better climate control, creating a more comfortable environment for operators
Oversized drillers window	Improved visibility reduces error potential and machine damage





# 07 Rotary head

The rotary head stands as a pivotal element within the rotary drill rig, guaranteeing unmatched availability and reliability.

Our latest mining rotary head **MRH** is the epitome of resilience, boasting a rugged design tailored for heavy-duty operations. Engineered to endure high loads, its gearbox performs reliably across demanding mining environments.

By integrating a dual-stage gear reduction system, we've surpassed the constraints of traditional planetary gearbox setups, extending the rotary head's lifespan.

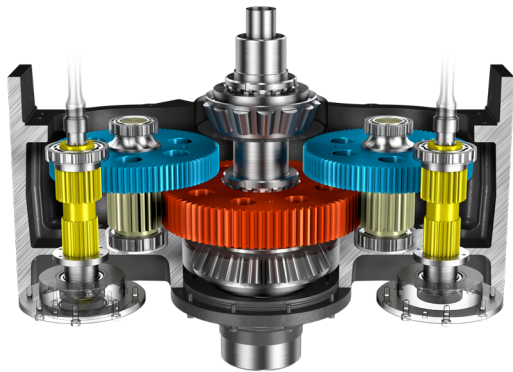
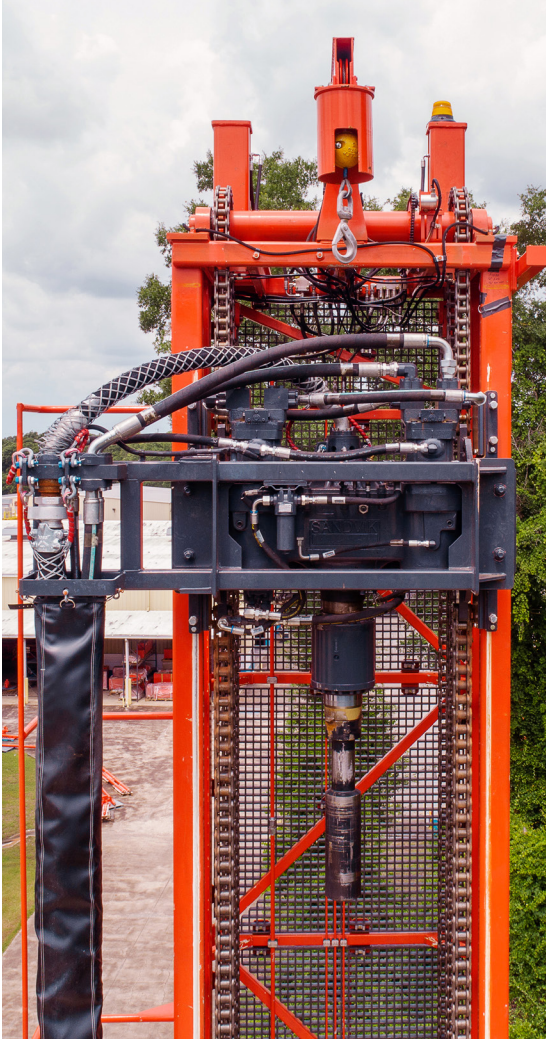
The forced lubrication system, powered by a hydraulic pump, ensures comprehensive lubrication to all bearings. Coupled with oil filtration, this system significantly enhances gearbox durability.

The quick-change rotary head design revolutionizes maintenance protocols by eliminating the need to dismantle feed chains. This innovative approach facilitates swift head replacement during scheduled maintenance, effectively minimizing downtime.

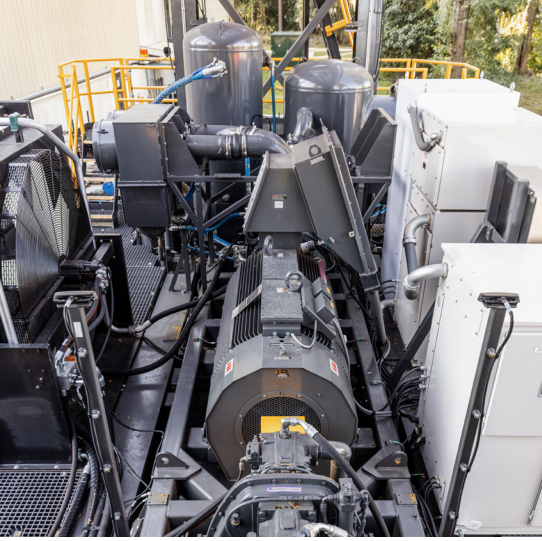
Rotary head	Machine model	Power
MRH 10	DR410i	112 kW (150 hp)
MRH 12	DR412i & DR413i	194 kW (260 hp)
MRH 16	DR416i	239 kW (320 hp)

## Key features

Feature	Benefit
Dual stage gear reduction	Eliminates the need of external planetary gear box and increases the rotary head life
Quick change rotary head	Provides faster and safer replacements
Forced lubrication system	Guarantees lubrication to every bearing for optimal performance
Filtration system	Promotes extended component lifespans and reduces maintenance frequency

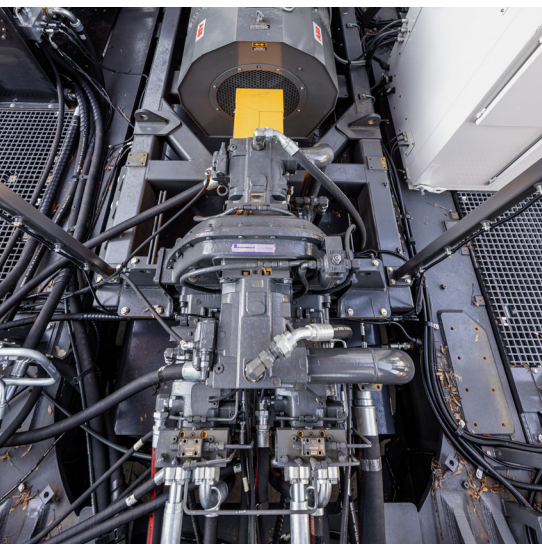






## 08 Electric motor

Multi-voltage, multi-frequency power pack with soft starter (4160-7200 V) and 50/60Hz rated to cover the global power supply needs. Onboard soft starter is standard to reduce impact on mine power grid and affect the work on other machines.





## 09 Sustainability

Sandvik makes sustainability a priority, and our iSeries family is no exception. With intelligent system load management, our iSeries drills help reduce carbon emissions while extending component life. Not only can you feel good about reducing your environmental footprint, reduced fueling events and system load can all lead to lower operating costs—making it a win-win.

Electrification is rapidly becoming one of the biggest technology shifts the mining industry has seen. Sandvik has manufactured cable-electric mining equipment for decades. We are committed to providing our customers with sustainable solutions that reduce their environmental footprint while also increasing efficiency and productivity.

Our digital mining technologies help customers increase productivity and reliability while reducing total cost of ownership. Solutions include our AutoMine® automation family, MySandvik Onsite and Productivity suite of digital solutions for analyzing and optimizing mining production and processes.



- We shift climate
- We build circularity
- We play fair
- We champion people

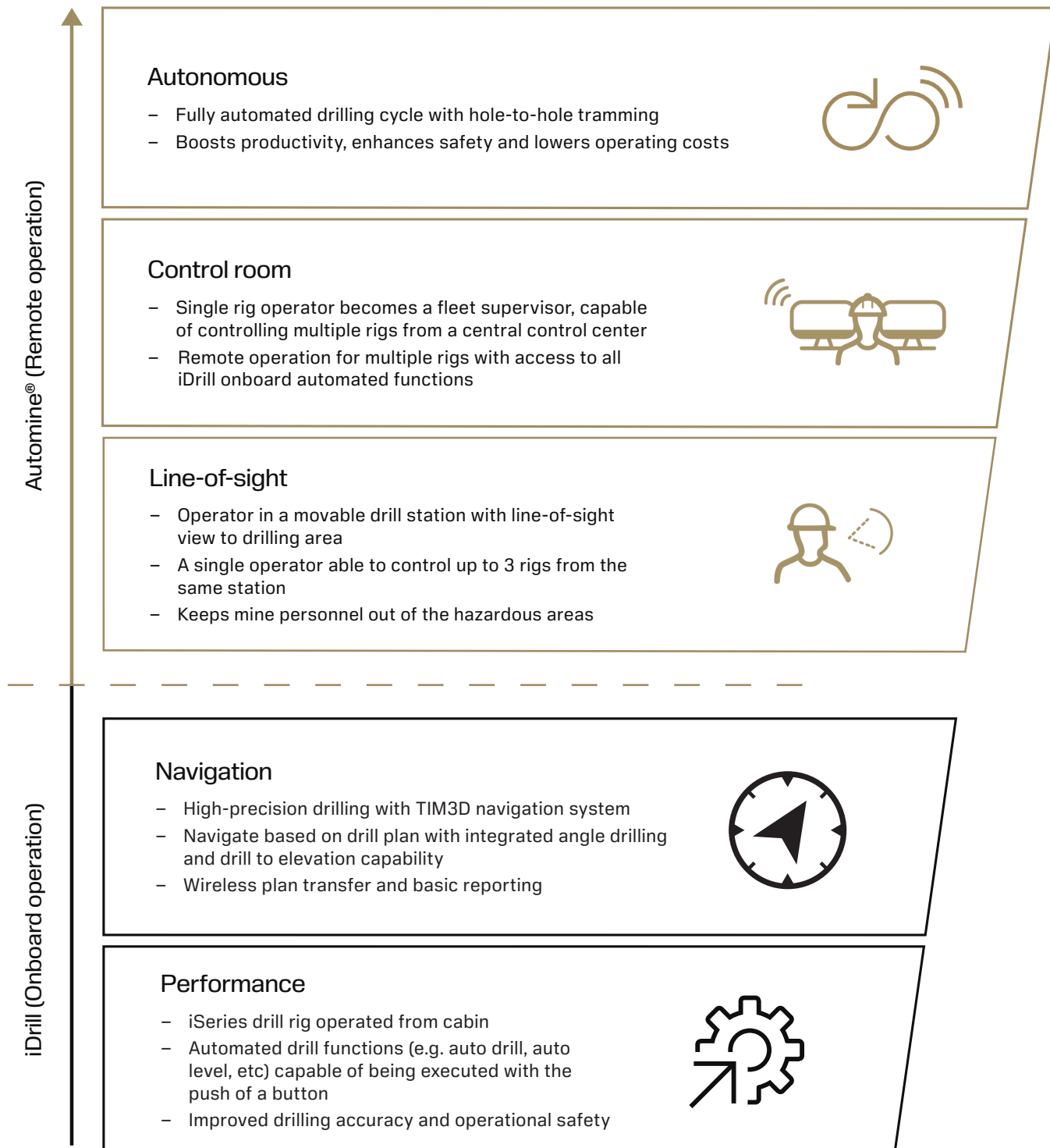






# iDrill scalable automation platform

The scalable iDrill on-board automation platform provides automation options and digital services designed to speed up your production process and support your mine operations. You can use as much or as little technology as you need, knowing more is available when you need it.





# Digital solutions

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Onboard

## iLink™ Drill interface

Connect 3rd party FMS & navigation systems to Sandvik drills.

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Cloud

## My Sandvik insight & productivity

Fleet telematics for productivity & maintenance planning.



Equipment

## Remote monitoring service

We offer analysis & monitoring insights of the data as a service where you get recommendations to reduce unplanned downtime.

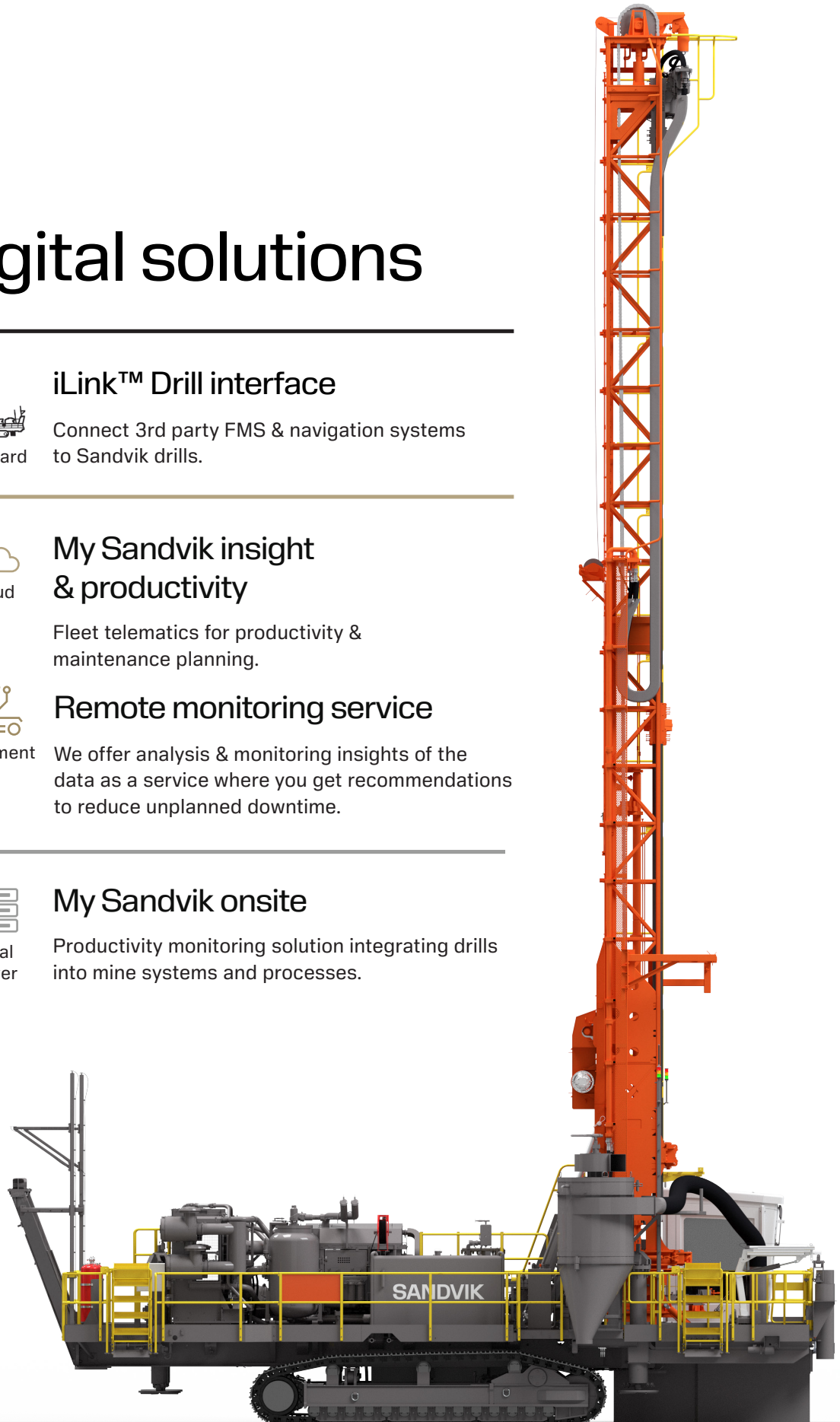
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Local server

## My Sandvik onsite

Productivity monitoring solution integrating drills into mine systems and processes.





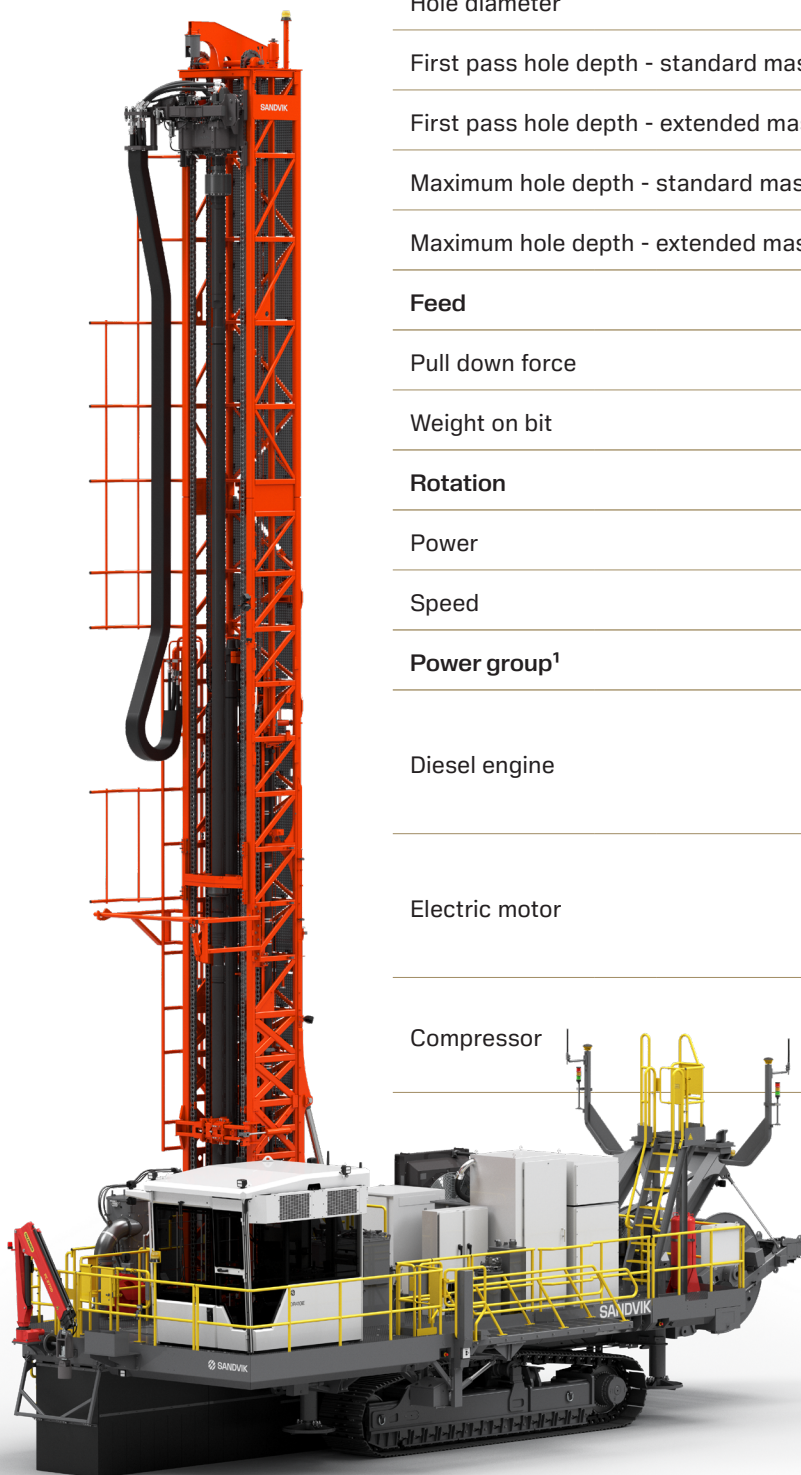
# DR410i / DR410iE

Productivity unmatched.



## Master specifications

	Metric	Imperial
Hole diameter	152-251 mm	6 - 9.875 in
First pass hole depth - standard mast	10 m	33 ft
First pass hole depth - extended mast	14 m	46 ft
Maximum hole depth - standard mast	46.6 m	153 ft
Maximum hole depth - extended mast	32.3 m	106 ft
Feed		
Pull down force	222 kN	50,000 lbf
Weight on bit	26,308 kg	58,000 lbs
Rotation		
Power	112 kW	150 hp
Speed	0-150 rpm	
Power group <sup>1</sup>		
Diesel engine	CAT C18 Non tier 4 – 521 kW / 700 hp CAT C18 Tier 4 – 563 kW / 755 hp CAT C27 Tier 4 – 652 kW / 875 hp Cummins QSK 19 Non Tier 4 – 563 kW / 755 hp	
Electric motor	ABB / WEG 634 kW / 850 hp 4160V, 6600V, 7200V 50/60 Hz Soft starter standard	
Compressor	Rotary – 45.3 m³/min @ 6.9 bar / 1,600 CFM @ 100 psi DTH – 41 m³/min @ 24.1 bar / 1,450 CFM @ 350 psi	

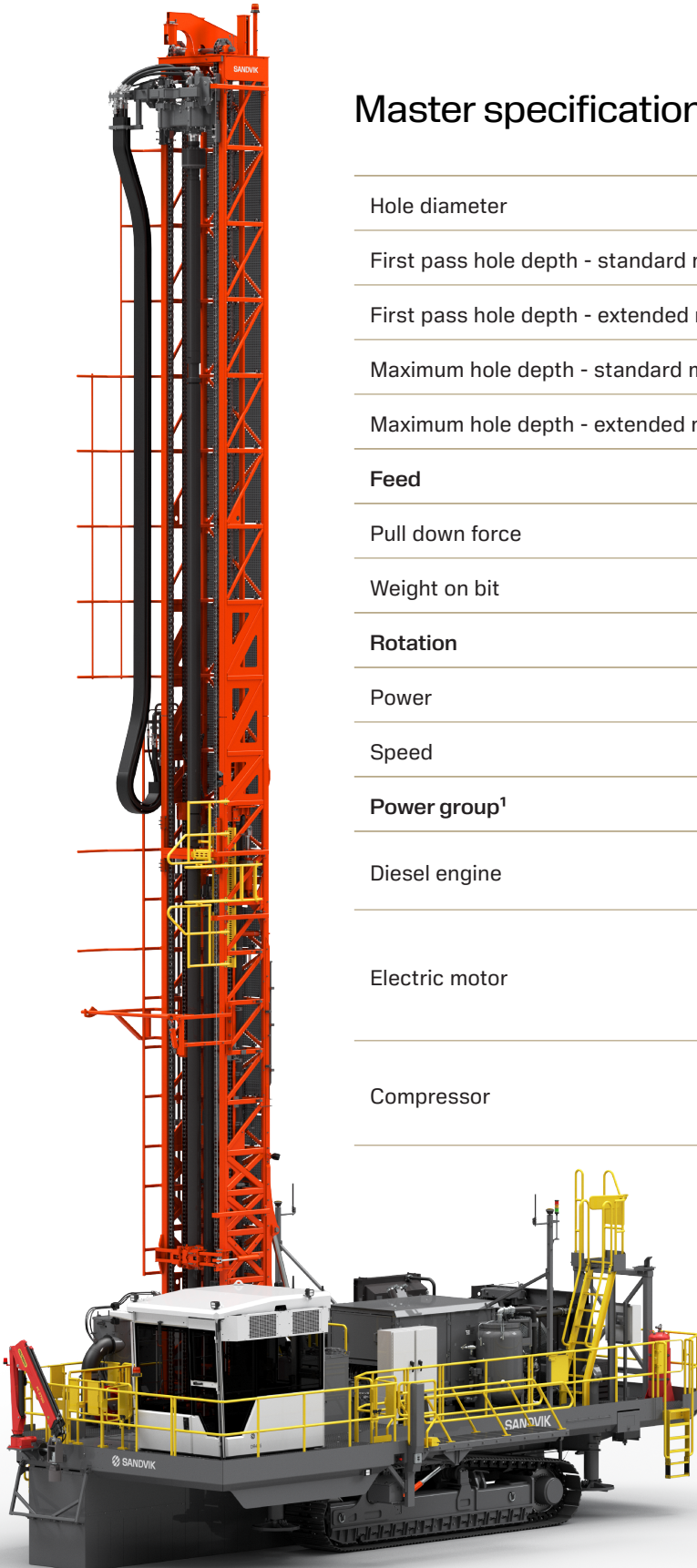


<sup>1</sup> Consult factory for options and alternate power group arrangements.

<sup>2</sup> Compressor output varies based on the frequency.

# DR411i / DR411iE

Compact design. Maximum power.



## Master specifications

	Metric	Imperial
Hole diameter	171-270 mm	6.75-10.625 in
First pass hole depth - standard mast	12.2 m	40 ft
First pass hole depth - extended mast	16.8 m	55 ft
Maximum hole depth - standard mast	65.5 m	215 ft
Maximum hole depth - extended mast	24.2 m	80 ft
Feed		
Pull down force	311 kN	70,000 lbf
Weight on bit	26,308 kg	58,000 lb
Rotation		
Power	149 kW	200 hp
Speed	0-150 rpm	
Power group <sup>1</sup>		
Diesel engine	CAT C27 (Tier 4 / Non tier 4) 652 kW / 875 hp Cummins QSK 23 (Tier 4 / Non Tier 4) 708 kW / 950 hp	
Electric motor	ABB/WEG 634 kW 850 hp 4160V, 6600V, 7200V 50/60 Hz Soft starter standard	
Compressor	Rotary – 56.6 m³/min. at 8.6 bar / 2,000 CFM @ 125 psi DTH – 41 m³/min. at 24.1 bar / 1,450 CFM @ 350 psi 38.2 m³/min. at 34.5 bar / 1,350 CFM @ 500 psi	

<sup>1</sup> Consult factory for options and alternate power group arrangements.

<sup>2</sup> Compressor output varies based on the frequency.



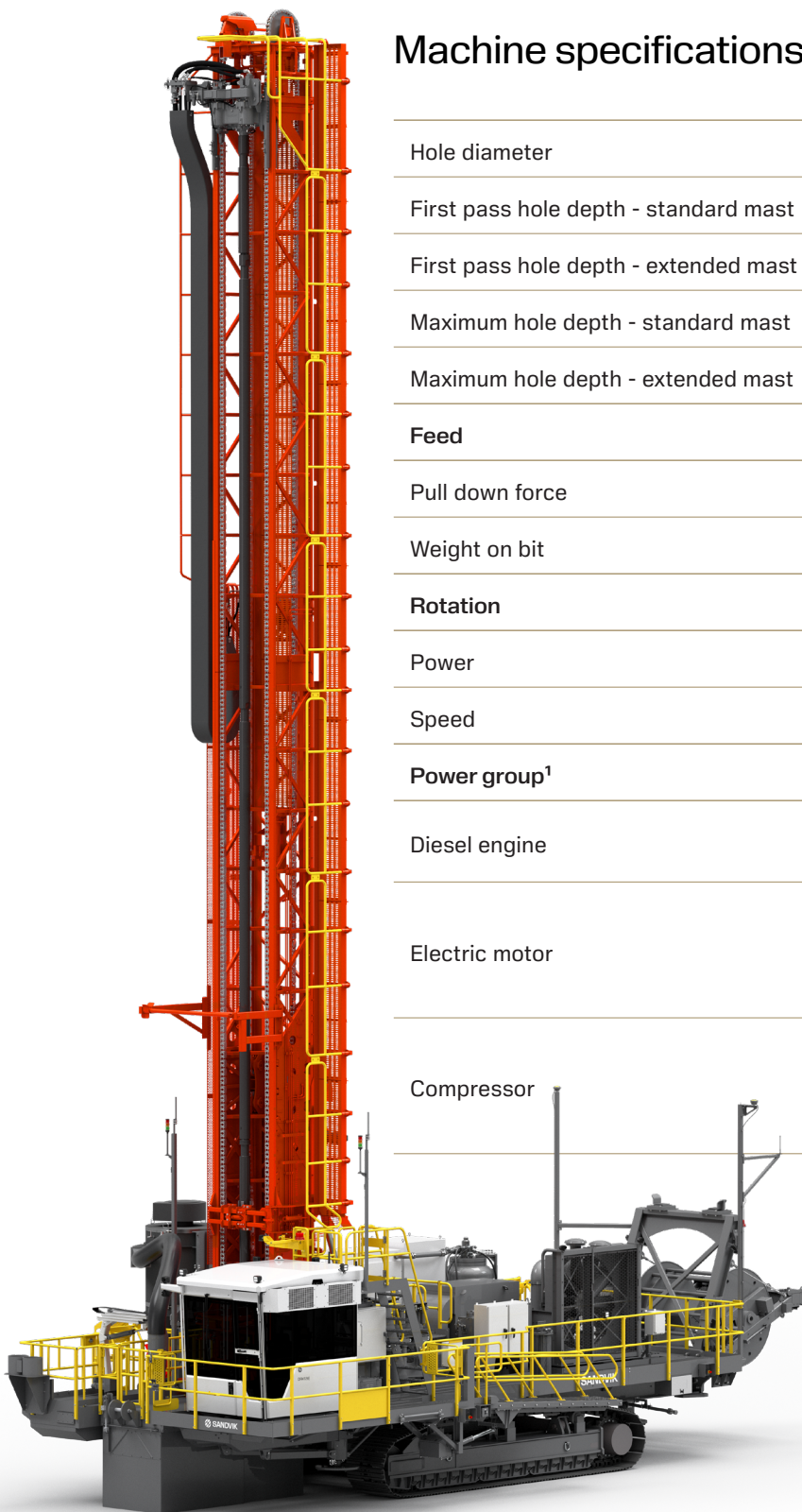
# DR412i / DR412iE

Dependability defined.



## Machine specifications

	Metric	Imperial
Hole diameter	171-270 mm	6.75-10.625 in
First pass hole depth - standard mast	12.2 m	40 ft
First pass hole depth - extended mast	16.8 m	55 ft
Maximum hole depth - standard mast	65.5 m	215 ft
Maximum hole depth - extended mast	24.2 m	80 ft
Feed		
Pull down force	311 kN	70,000 lbf
Weight on bit	26,308 kg	58,000 lb
Rotation		
Power	149 kW	200 hp
Speed	0-150 rpm	
Power group <sup>1</sup>		
Diesel engine	CAT C27 Non tier 4 – 708 kW / 950 hp Cummins QSK 19 Non tier 4 – 783 kW / 1,050 hp	
Electric motor	ABB 746 kW 1,000 hp 4,160V, 6,600V, 7,200V 50/60 Hz Soft starter standard	
Compressor	Rotary – 56.6 m³/min. at 6.9 bar / 2,000 CFM @ 100 psi 73.6 m³/min. at 5.5 bar / 2,600 CFM @ 80 psi DTH – 41 m³/min. at 24.1 bar / 1,450 CFM @ 350 psi 42.5 m³/min. at 34.5 bar / 1,500 CFM @ 500 psi	



<sup>1</sup> Consult factory for options and alternate power group arrangements.

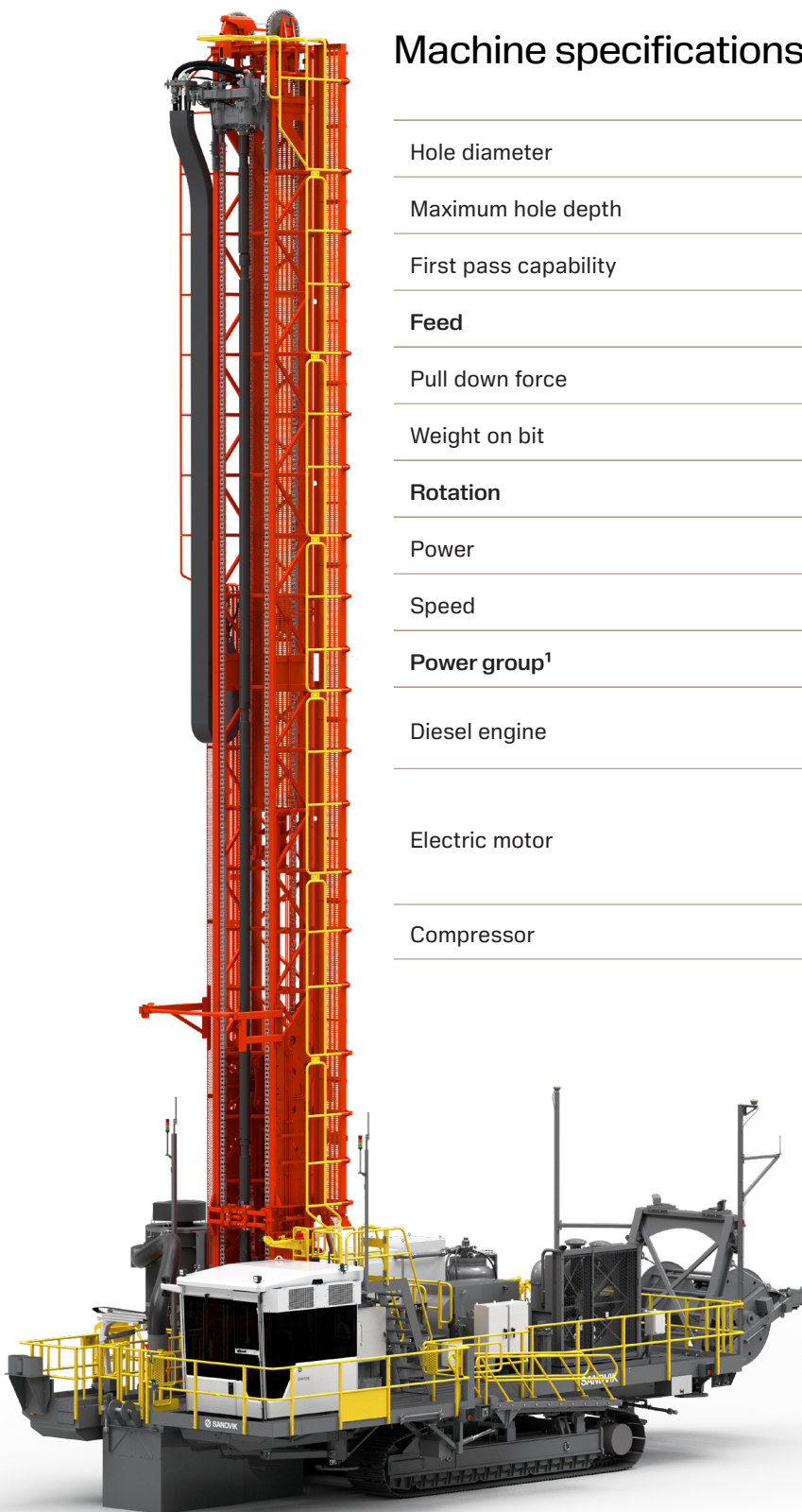
# DR413i / DR413iE

Powerful. Productive. Precise.



## Machine specifications

	Metric	Imperial
Hole diameter	249-349 mm	9.88-13.75 in
Maximum hole depth	24.6 m	80.7 ft
First pass capability	17 m	55.7 ft
Feed		
Pull down force	444 kN	100,000 lbf
Weight on bit	52,100 kg	115,000 lb
Rotation		
Power	193 kW	260 hp
Speed	0-150 rpm	
Power group <sup>1</sup>		
Diesel engine	CAT C32 (Tier 4 / Non tier 4) – 839 kW / 1,125 hp Cummins QST30 (Tier 4 / Non tier 4) – 783 kW / 1,050 hp	
Electric motor	ABB 746 kW 1,000 hp 4160 V, 6600V, 7200V 50/60 Hz Soft starter standard	
Compressor	Rotary – 73.6 m³/min. at 5.5 bar / 2,600 CFM @ 80 psi	

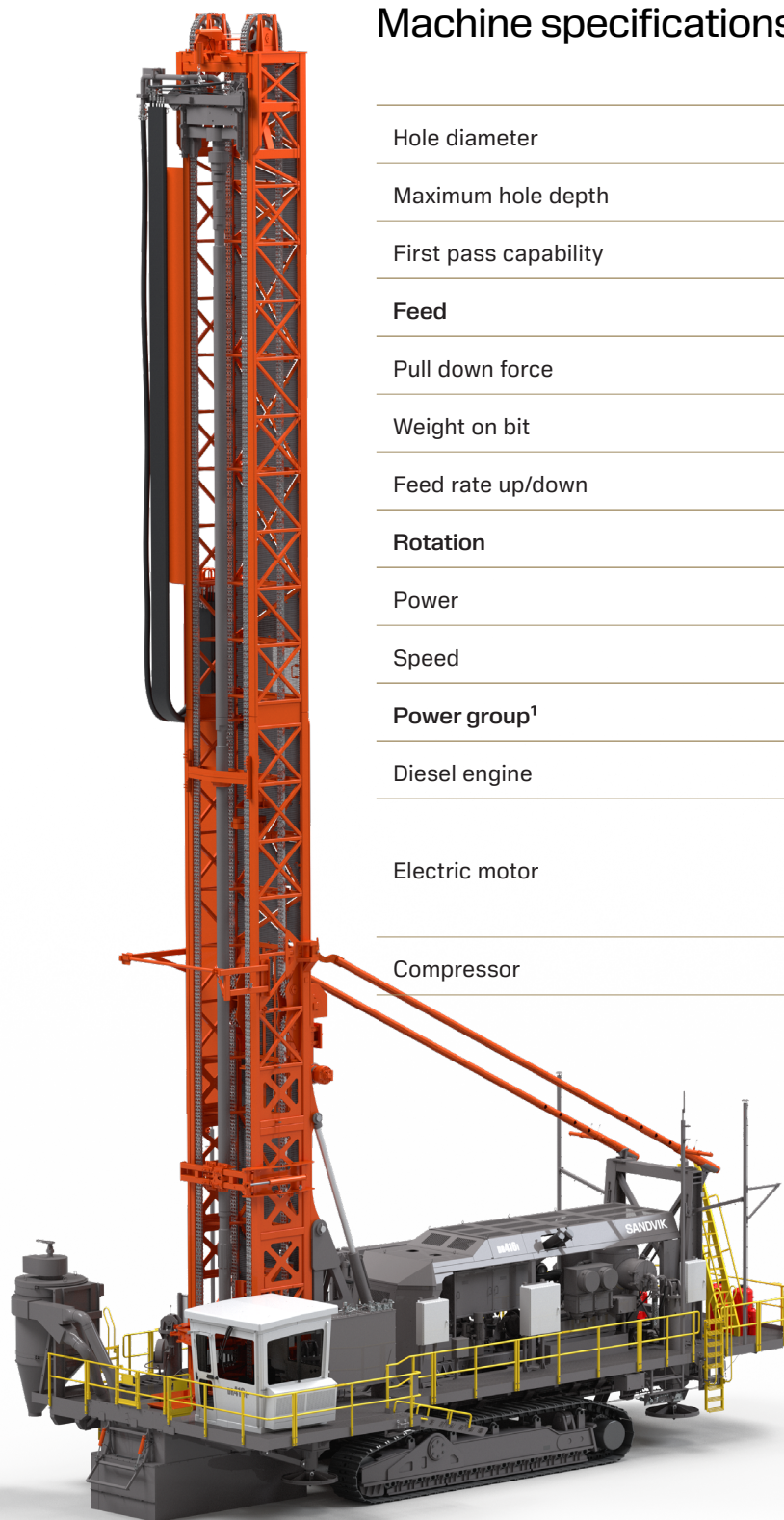


<sup>1</sup> Consult factory for options and alternate power group arrangements.



# DR416i / DR416iE

Bigger. Smarter. Stronger.



## Machine specifications

	Metric	Imperial
Hole diameter	270-406 mm	10.63-16 in
Maximum hole depth	42.4 m	139 ft
First pass capability	21 m	69 ft
Feed		
Pull down force	534 kN	120,000 lbf
Weight on bit	65,770 kg	145,000 lbs
Feed rate up/down	0 - 41 m/min	0 - 135 fpm
Rotation		
Power	238 kW	320 hp
Speed	0-150 RPM	
Power group <sup>1</sup>		
Diesel engine	Cummins QSK50 (Tier 4 / Non tier 4) – 1,044kW / 1,400 hp	
Electric motor	ABB 746 kW 1000 hp 4160V, 6600V, 7200V 50/60 Hz Soft starter standard	
Compressor	Rotary – 109 m³/min. @ 5.9 bar / 3850 CFM @ 85 psi	

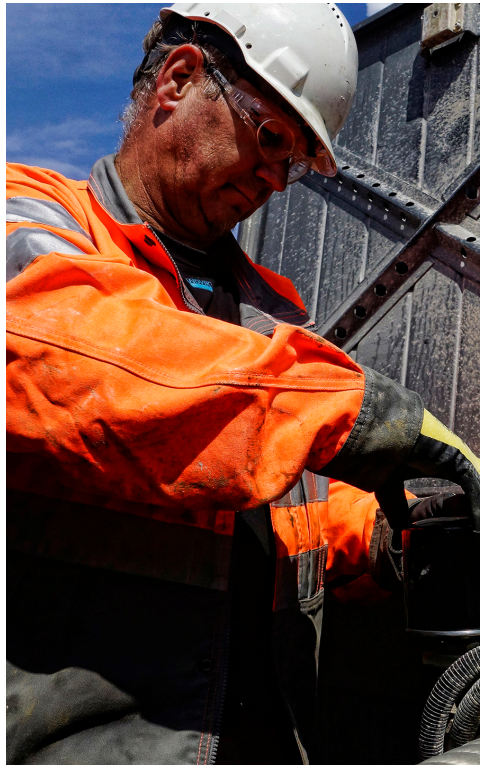
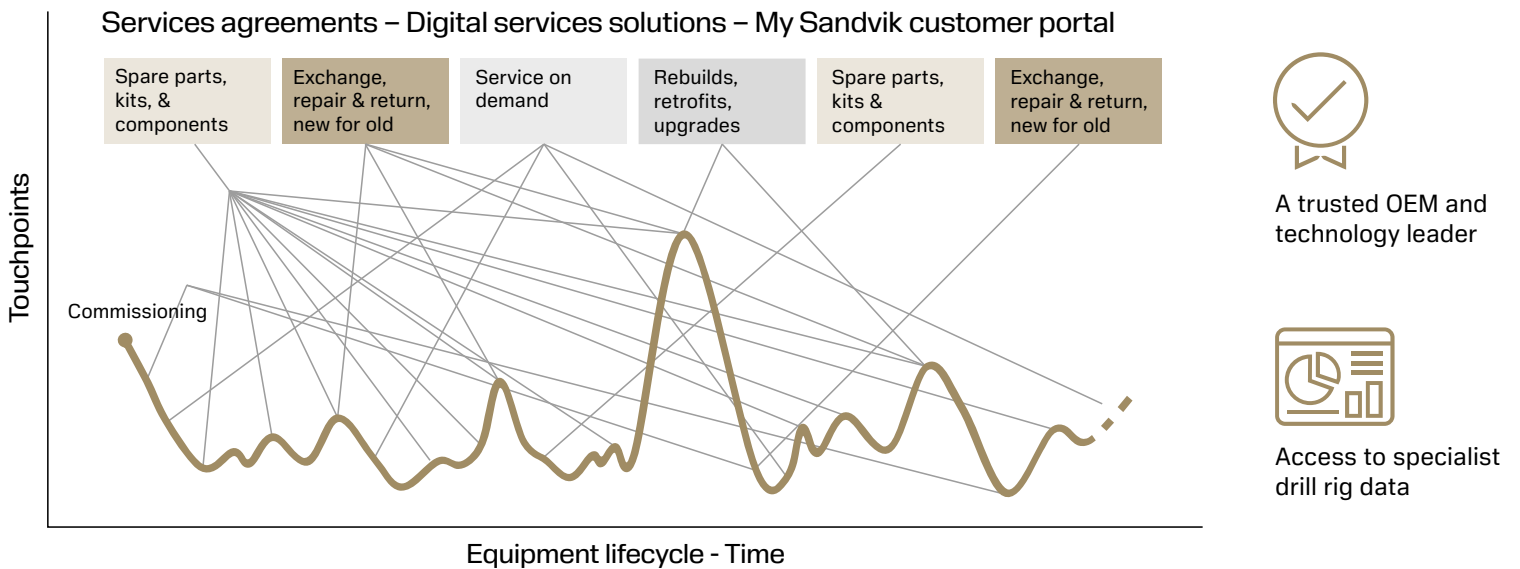
<sup>1</sup> Consult factory for options and alternate power group arrangements.



# Parts and services

What makes working with Sandvik an unbeatable experience is the blend of lifetime support we can provide through our broad offering of services and digital solutions. Enjoy the benefits of using original parts, components and OEM repair services to preserve your equipment's performance throughout its lifetime.

## Tailored offerings supporting you throughout the equipment lifecycle







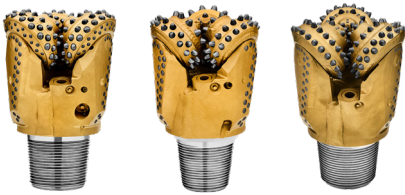
# Rotary drilling tools

## A complete portfolio of innovative rotary drilling tools

Sandvik offers a full range of market-leading and high-performing rotary blast hole drilling tools, whether you need a single drill bit, shock absorber, or a complete drill string. Tailored options for different rock types and PowerCarbide® aim to improve safety, maximize productivity, lower the total drilling costs, and increase sustainability.

## Premium down the hole drilling tools

For efficient DTH drilling, Sandvik offers high-performance drilling tools to increase your productivity, reduce emissions, and lower your total operation cost. The premium hammer range and PowerCarbide® drill bits ensure high speed, low air consumption, and trouble-free drilling.



### Rotary drill bits

Rotary drill bits are manufactured using advanced materials technology, leading to longer bit life and reduced costs. Innovative bearing technology and improved geometry, materials and innovative machining methods all improve performance.

### Rotary drill adapters

Choose from a full range of rotary subs and adapters for a variety of drilling needs. Subs provide various functions such as changing from one thread form to another (cross-over subs) or reducing wear to component threads (thread-saver subs).

### Rotary drill stabilizers

There are two different types of stabilizers - the welded and the rotating roller stabilizer. Welded blade stabilizers are used to stabilize and control hole deviation. Roller stabilizers provide more reaming and cutting action and are typically used in hard rock environments.



### Rotary drill deck bushings

Sandvik drill deck bushings centralize the drill pipe over the hole, preventing misalignment of the bit and drill string while extending the tool's life.

There are two types of bushing: static and rotating.

### Rotary drill pipes

Rotary drill pipes are manufactured using advanced materials technology, leading to longer bit life and reduced costs. Innovative bearing technology and improved geometry, materials and innovative machining methods all improve performance.

### Rotary drill shock absorbers

Shock absorbers are available for both rotary and down-the-hole (DTH) drilling. Reducing shock and vibration provides a more fluid drilling operation and enhances performance. It also prolongs the service life of the drill rig's rotary head, drill string components and bits.



# Down-the-hole drilling tools

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## Down-the-hole hammers

Sandvik DTH hammers combine intensive impact power with low energy loss and reduced fuel consumption. They offer good rock breakage, high penetration rates, long service life and optimized productivity.



## Down-the-hole bits

DTH drill bits are designed to make operations easier by drilling further, whatever the conditions. They have optimized head length with maximized steel support for the cemented carbide buttons, deep face grooves for excellent flushing and an aggressive cutting structure.



