



DOWN THE HOLE ROCK DRILLING TOOLS

2016



PUTTING YOUR SAFETY FIRST

The mining industry continues to demand even higher levels of safety and productivity. In order to meet these requirements, we work continuously to develop even safer products, and to produce comprehensive manuals enabling for safer and effective use of our products.

IT'S ALL ABOUT EVERYONE'S HEALTH

Helping you to ensure a safer workplace and healthier workforce is of the utmost importance to us. The well-being of any person coming into contact with our equipment is paramount. Therefore, we strive to identify and assess potential risk factors that could threaten the health of you and your employees.

All of the products in this catalogue are designed to meet safety requirements.

BE AWARE OF ALL SAFETY PROCEDURES

We ask that you start by obeying all instructions given. Never work under an unsupported roof or close to potential pinch point locations. Beware of the potential hazards of a loose roof and ribs, and scale down roof and ribs prior to bolting. It is important to bolt early in the mining process – as soon as is safely and practically possible.

Safe work procedures should incorporate inspection before the machine operates, and also through regular monitoring based upon mining conditions, safety and hazard management systems. Workers should be provided with safety information, instruction and training on transportation, installation, operational care and disposal of drilling tools.

DRESS RIGHT FROM HEAD TO TOE

You must wear appropriate personal protective equipment (PPE) at all times. This is what we strongly recommend, to help avoid injury:

- Safety helmet
- Hearing protection
- Safety glasses
- Protective high visibility clothing
- Respiratory protection
- Safety boots
- Any site-specific PPE as required

MAKE A RISK ANALYSIS BEFORE YOU START

Pay attention to safety when planning all of your work. Before you start, always take your time to go through all operations. Identify any potential risks and take appropriate measures to avoid them. If necessary, seek expert advice on how to help minimize risks. Finally, make sure that you have the right resources to perform all tasks in the safest manner possible.

"TAKE FIVE" TO IDENTIFY HAZARDS

A great safety tool to use before you start working is our app: "Sandvik Mining Take Five". The app consists of a simple, step-by-step checklist with five questions that you should ask yourself to identify potential hazards. The app is free to download for smartphones and tablets, both on the App Store and Google Play.







HOW TO WORK WITH SAFETY IN MIND

OPERATING THE HAMMER

- Only operate the controls while the engine is running. Proper PPE must be worn when you are operating the drill rig and the hammer.
- Before you move the drill rig with the hammer, ensure that no one will be endangered.
- Do not go close to the edge of a cliff, an excavation or an overhang.
- Maintain control of the drill rig while you operate the hammer. Operating the equipment beyond its design limits can cause damage to people or equipment.
- Know the maximum operating dimensions of your drill rig when the hammer is installed.
- Ensure that there is adequate clearance between the drill rig and any stationary objects when you are maneuvering the machine.
- Know the appropriate work site hand signals, and the personnel who are authorized to give these hand signals.

PROHIBITED USE OF MACHINERY

The hammer must never be operated by anyone who is intoxicated, tired or feeling unwell in any way. Only operated by trained professional.

Use of the hammer in an explosive atmosphere (gasoline fumes, coal dust, etc.) is strictly prohibited. The bit that is in contact with the material that is to be broken can create sparks, which could ignite an explosive atmosphere.

HAMMER MAINTENANCE

It is important to read through the safety procedures in the operator's manual before assembling or disassembling the hammer. During disassembly, heavy parts may fall out of the hammer. Always keep the hammer in the correct position to avoid this. Use a proper assembly stand to avoid the falling-over or rolling-over of either the hammer or its parts. Always use tongs with jaws that place a uniform load on the outside diameter of the hammer. Never grip the hammer with pipe wrenches or wrenches that can deform and damage it. Always place tongs on the body of the bit, not on the carbides. Do not apply heat of any kind to the piston case in order to remove the driver sub or the top sub.



STORING

Never allow a hammer and bit to remain overnight in a hole that contains water or mud. The corrosive action caused by these conditions can seriously damage the hammer. Observe the following points when storing the hammer. They will help its components stay protected from rust, and ensure that it is always ready to be used, whenever necessary.

- Disassemble the hammer completely.
- Thoroughly clean and repair all of its components.
- Reassemble the hammer immediately, keeping joints loose.
- Coat the entire inside diameter of the hammer with a light film of rock drill oil. Coat all of the threads with thread grease. Install thread protectors.
- Seal each end of the hammer to keep it free from dirt and dust.

- Always store the hammer in a suitable protective container, in a dry location.
- Grease the bit shank.
- Place a protective cover on top of the bit to prevent foot valve breakage.
- Always store the bit in a dry location.
- Before storing the hammer overnight or over a weekend, clean it by blowing lubricated air through the system, and insert rock drill oil into the top sub. Push the check valve dart open with a rounded-end drift pin, to ensure the inlet of oil to the hammer.

Read more about our health and safety information on page 82.



Sandvik was founded in 1862 by Göran Fredrik Göransson, who was the first in the world to succeed in using the Bessemer method for steel production on an industrial scale.

TOGETHER WE WILL TAKE YOUR BUSINESS FURTHER

For more than 150 years we have been committed to providing the highest-quality products and solutions to the mining industry. Our spirit and business ethics have remained unchanged, and developments within society and the industry have contributed to our innovative solutions.

"Today, the hallmark of great work is innovation and technology. Being second best is not an option for us."

Today, we continue to conduct business in close cooperation with you and other customers all over the world, with the promise of being a proactive and innovative partner.

We believe that we can make a difference to the successful running of your business. You need to get the best out of your equipment - with no compromise on quality, delivery time or service. With us as partners, we will create solutions that make your operation run as effectively as possible.

One thing is certain: our products and solutions will continue to meet the ever-growing needs of the mining industry, and your business.

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AT YOUR SERVICE, AROUND THE WORLD

THE SANDVIK GROUP

Sandvik was established in 1862: today, it is a global industrial group with advanced products and world-leading positions in selected areas. In 2013, we had about 47,000 employees and sales of just over 87 billion SEK in more than 130 countries. Our operations are based on unique expertise in materials technology, and significant insight into customer processes. This combination has provided us with a world-leading position in three primary areas:

- Tools for metal cutting in cemented carbide and high-speed steel, as well as components in cemented carbide and other hard materials.
- Rock tools and equipment for the mining and construction industries.
- Products in advanced stainless materials, special alloys, metallic and ceramic resistance materials and process systems.

“We are a leading global supplier of rock tools and equipment, service and technical solutions for the mining industry. Our offering covers rock drilling, rock cutting, rock crushing, loading and hauling, and handling of materials.”

Our goal is to actively contribute to improving your productivity and, consequently, your profitability. Our products and services provide maximum value to you in terms of performance, quality, speed, safety, flexibility and total economy. Successful development is a result of our goal-oriented investment in research, development

and quality assurance. We invest over 3 billion SEK annually and have more than 2,700 employees working in these areas. Many of them are specialists with advanced educational backgrounds and skills.

Our long-term and consistent strategy is based on the interaction between a number of strength factors. This includes advanced and customer focused research and development activities, highly value-added products, integrated manufacturing, direct sales to customers, effective logistics systems, financial strength and a strong corporate culture. Additionally, the significance of Sandvik as an advanced knowledge company is becoming increasingly apparent. Information technology is concentrated upon areas that enhance customer benefits, improve productivity and strengthen profitability.

SANDVIK MINING

We are a leading global supplier of rock tools and equipment, service, and technical solutions for the mining industry. Our offering covers rock drilling, rock cutting, rock crushing, loading and hauling and handling of materials. Additionally, we offer a complete assortment of rock drilling tools with in-house cemented carbide research, development and production facilities.

OUR ORGANIZATION

Every product is preceded by extensive research and development, and backed with application expertise; a worldwide service network, offering on-site service, training and round-the-clock support. We have a tradition of localization and a conviction that there can be no substitute for direct service and direct contact with you. Our service-oriented, global organization is well developed and contains more than 3,500 service technicians located strategically around the world.



Our worldwide business activities are conducted via representation in more than 130 countries.



WHICH INVENTION CAN SOLVE YOUR NEEDS?

We invest over 3 billion SEK each year in research and development: more than 2,700 of our employees are employed in this area. We have 8,000 active patents.

Through close customer collaboration, we develop products that are genuinely needed. We also study trends to ascertain what customer needs will be in the future. We are continuously working on unique solutions that help our customers to improve their productivity and safety.

A spirit of innovation and high involvement runs through every product. It is preceded by our extensive research and development. This is supported by a worldwide service network offering on-site service, training and round-the-clock support. We have technical service specialists strategically located around the world to provide help quickly – whenever you need it.

“The spirit of innovation and involvement runs through every product.”

Our focus and continuous development gives you the latest technical solutions for the most demanding rock conditions, and for the most powerful rock tools. Our products undergo extensive laboratory studies and are mercilessly tested in the field. Finally, they are all evaluated and refined to provide the highest grade of tools quality - something that characterizes all our products.

PRODUCTS FOR YOUR TOUGH CHALLENGES

We are proud to have full control of each process, and the development of proprietary production processes that further enhance our technical capabilities. This extensive work all leads to tools that allow you successfully master even the toughest of challenges.

With in-house production, research and development for the essential key materials for manufacturing rock drilling tools, we continue to develop products and cemented carbide grades that enhance your operations through superior performance and reduced costs.

One of our research projects has resulted in a new generation of carbide grades and larger, stronger, and more stable and efficient tools. We used our own innovative process technique, and completely new raw materials, to produce the latest generation of carbide grades. Thanks to a significantly stronger carbide matrix and a perfect grain size configuration, we are able to deliver superior toughness and high wear temperature resistance to meet the needs of a great number of customer operations.

HAMMERS

With the RH-series of DTH hammers, we offer one of the world's most complete down-the-hole drilling solutions. The offering covers hammer sizes from 3 to 8 inches, drill bits, drill pipes and accessories with different characteristics and functions.

The RH510 range is characterized by high performance and high penetration rates – or, in other words, high productivity.

RH460 is a high-performance family of DTH hammers, based on reliable technology. The series is easy to service and offers a good balance between cost and performance. The RH460 design is exceptionally well-suited for all surface and underground mining applications. It can be used in almost all ground conditions.

BITS

Our DTH button bit designs are well known and extensively used around the world. They are continuously updated to bring added value to customers. Bit selection is a critical factor in the performance of a drilling operation.

- Correct bit selection is essential for optimal performance.
- The correct bit design for a specific rock formation will give an optimal penetration rate with a good product life, resulting in the lowest cost per drilled meter.

All the bits have an optimized head length, and the bit head has been designed to maximize the support for cemented carbide buttons. The bit face has deep face grooves that offer excellent flushing along with an aggressive cutting structure. We use our unique in-house manufacturing facilities to produce the carbide and bits, coupled with a new state-of-the-art DTH laboratory. We have the resources to meet the most varied needs, and can offer the drilling solution that suits you best.

PIPES

We offer a complete range of drill pipes, with compatibility between rigs and tools always in mind.

Cold drawn seamless tubing material is used to ensure straightness, thickness and high strength. This gives a smoother drilling process and, consequently, a longer service life. This material also provides a smooth, fine surface that eliminates the risk of hammer failures caused by scaling. The tool joints are made of micro alloy steel and are case hardened for superior thread life.



GREAT EFFICIENCY THANKS TO IMPROVED FATIGUE RESISTANCE

CARBURIZATION

Case hardening in a furnace with carbon rich gas. Increased carbon content in the outer layer hardens the material.

SHOT PEENING

The shot peening process induces a work-hardened surface layer. The process involves small steel balls impacting at high speed on the surface to create dimples. This stretches the surface while, at the same time, compressing the layer beneath. It results in improved fatigue resistance.

FRICTION WELDING

The drill pipes are friction-welded, which gives a high-strength, 100% metal-to-metal joint with parent metal properties. This low-temperature process also gives a small HAZ (Heat Affected Zone) that reduces the risk of failure.

ASK US ANYTHING ABOUT CARBIDE

We continue to develop new hard material alloys to meet today's demanding environments. The demand on tool performance, especially pertaining to cemented carbide tip material and its resistance to wear and fracturing, becomes more critical as we progress into harder rock and mineral formations.

Cemented carbide is a compressed powder metallurgical material, which - for rock drilling - is built on two ingredients: grains of very wear-resistant tungsten, and cobalt, which is used as a binder metal. The two materials are mixed, pressed and sintered to create the final product: a cemented carbide insert for rock drilling. Dual Property (DP) cemented carbide is one of our patented grades, where the properties have been tailored to suit drilling conditions causing exceptional load or cemented carbide wear.

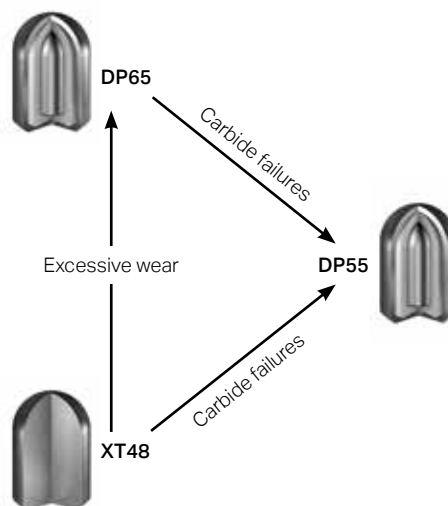
The specific properties are designed in a special sintering process, where the toughness and wear resistance of the cemented carbide will be altered. The basic and classic shape of the insert is a spherical design. This is the most obvious shape to optimize the toughness/wear resist-



ance ratio of cemented carbide, and still be aggressive enough to break most kinds of rock. Since the shape allows for maximum wear resistance properties of cemented carbide, it is recommended for bits used in highly abrasive formations. An insert with ballistic shape is sharper and more aggressive. If this shape can be utilized, it facilitates considerably faster penetration rates.

The ballistic shape is therefore most suitable for drilling in soft to medium-hard rock with moderate abrasion.

HOW TO SELECT THE RIGHT CEMENTED CARBIDE GRADE



XT48

is our basic cemented carbide grade used for most drilling conditions. As a result, this should be your first choice, especially for drilling in rock which has unknown properties. A spherical insert made of XT48 grade has a toughness/wear resistance ratio optimized to withstand both high load and high wear.

DP55

is a grade that has a wear resistance similar to XT48 but which offers better toughness. It is specially suited for ballistic inserts to accommodate the higher loads that they may be exposed to.

DP65

has similar levels of toughness as XT48, but considerably higher wear resistance. This grade is used for tools with large, spherical inserts and should be the immediate choice for drilling in very abrasive rock.



RECYCLING THAT PAYS OFF FOR YOU

Environmental considerations are crucial in all of our operations, and never more so than when it comes to the recycling of cemented carbide.

The global shortage of raw material has inspired us to create an extensive scrap-recycling program. We recognize today's increasing environmental concerns, and we are the only mining company that recycles both steel and cemented carbide.

In fact, we have been collecting and recycling both scrap and discarded drilling consumables for conversion back into basic raw materials for almost 10 years. A large number of customers have joined our recycling program during this period. One major reason for this is that we make it easy for them to recycle, by collecting scrap from their own premises.

All of our customer service centres are now set up to receive used cemented carbide-enhanced products. Our recycling plant in Chiplun, India complies with the most stringent environmental standards, and is certified to the ISO 14001 and OHSAS 18001 (ISO 45001) international standard.

WHAT WE OFFER:

- Recycling of cemented carbide available worldwide
- Sustainable recycling process with low environmental impact
- Cost recovery and reduced waste disposal for you
- Money received for worn tools can purchase new inserts or finance new tooling projects
- Consumables and tools from all manufacturers are accepted
- A win-win situation for all

Adopting sustainable business practices and handling them in the right way is a foundation that contributes across the entire business value chain.

The whole supply chain will be improved by incorporating recycling into the business process. For instance, our recycling process significantly reduces energy consumption and carbon dioxide emissions, thereby reducing environmental impact.



PROPER CARE MEANS MAXIMIZED UPTIME

LUBRICATION

It is extremely important that you provide the DTH Hammer with a constant supply of good quality rock drill oil. This provides an air seal to reduce friction and prevent galling, when one hammer part is moving relative to another. Galling is a phenomenon that occurs when two pieces of metal rub against each other in the absence of a lubricant film between them. The excessive friction between these rubbing parts generates heat, which changes the properties of the metal, and which will consequently cause cracks in and breakage of the parts. This, therefore, leads to the loss of valuable production time.

Always make sure that you use the right rock drill oil for the climate and operating conditions at the work site.

CORROSION

Corrosion can, in a simplified way, be defined as the destructive attack on metal through interaction with its environment.

Most environments encountered while drilling are considered to be corrosive, to a greater or lesser degree, to the metal parts of hammers and bits. For example, the fatigue strength of a steel part could be reduced by 100 times in the presence of ordinary tap water. The most devastating type of corrosion encountered in hammers and bits is corrosion pitting, where an extremely localized chemical attack results in holes in the metal. Pitting acts as a stress-raiser, which initiates cracking. Many cracks emanating from these stress sites eventually join together to form a single crack front, which ultimately results in failure of the component through corrosion fatigue.

You can prevent corrosion failures by having a protective barrier between the bit and hammer components, and the environment. This is achieved through proper and diligent use of readily available protective materials, such as rock drill oils and thread lubricants.



LOW AIR FLOW SAVES MONEY

Rising fuel prices have a large economic impact on DTH drilling operations. Lower air consumption in a DTH hammer is key to curbing these costs. The air cycle of the RH460 hammer has been designed to optimize expansion and compression rates. This results in more power, with less air.

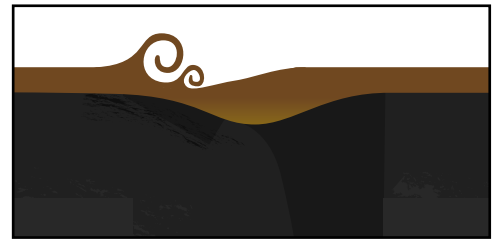
THE RH460 LINE:

MORE POWER, LOWER COSTS

Sandvik RH460 is a high performance family of hammers based on reliable technology. The design of the RH460 hammer makes it easy to service, and offers a good balance between cost and performance.

The internal V-lock system ensures reliability and the piston design is optimized with oil grooves in the bearing guide surfaces. Constant pressure drives the piston forward, ensuring that the hammer will start up under any condition. RH460 is a high performance and cost effective hammer for use in almost all ground conditions. These were our main considerations during the design and development process:

- Decrease air consumption, to reduce fuel costs.
- Increase the power level, for higher productivity.
- Optimize lubrication capabilities, to increase piston and hammer life.
- Improve the piston-bearing design, to reduce failures due to galling.

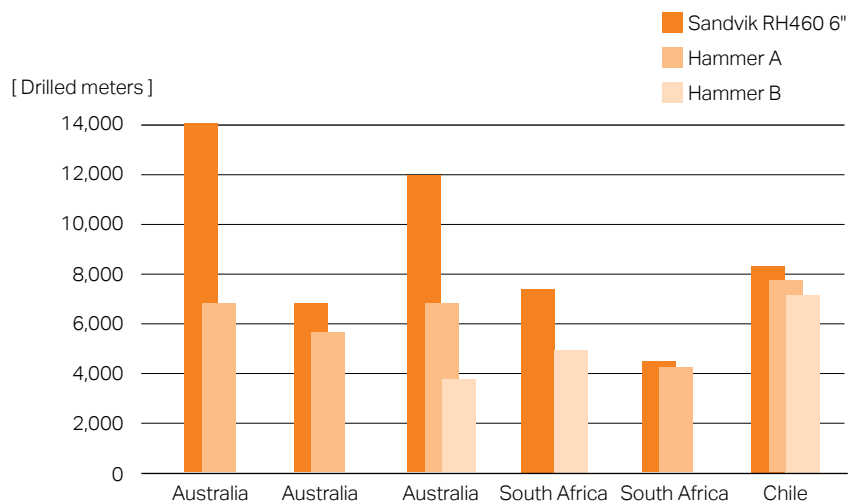


LUBRICATION REDUCES WEAR

Lubrication plays a crucial role in the hammer service life. The oil film creates an air seal between components in the hammer and reduces friction wear as well as heat generation between moving parts. This results in reduced failures due to galling.

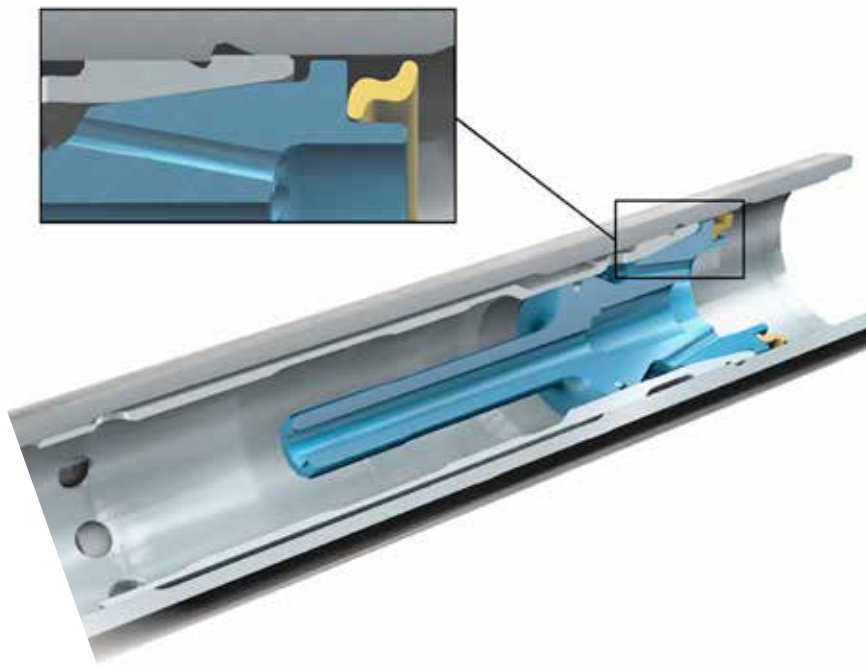
A VERY DEFINING FIELD TEST

In conclusion, the field test showed a very reliable design with no premature failures on critical components like the piston, the air distributor, the inner cylinder or any other vital parts. The RH460 penetration rate was on par with, or better than, the competition. Six hammers have been drilled, with tests ranging from very soft formations to very hard and abrasive formations, and the average life was 9,010 meters (excluding hammers lost).



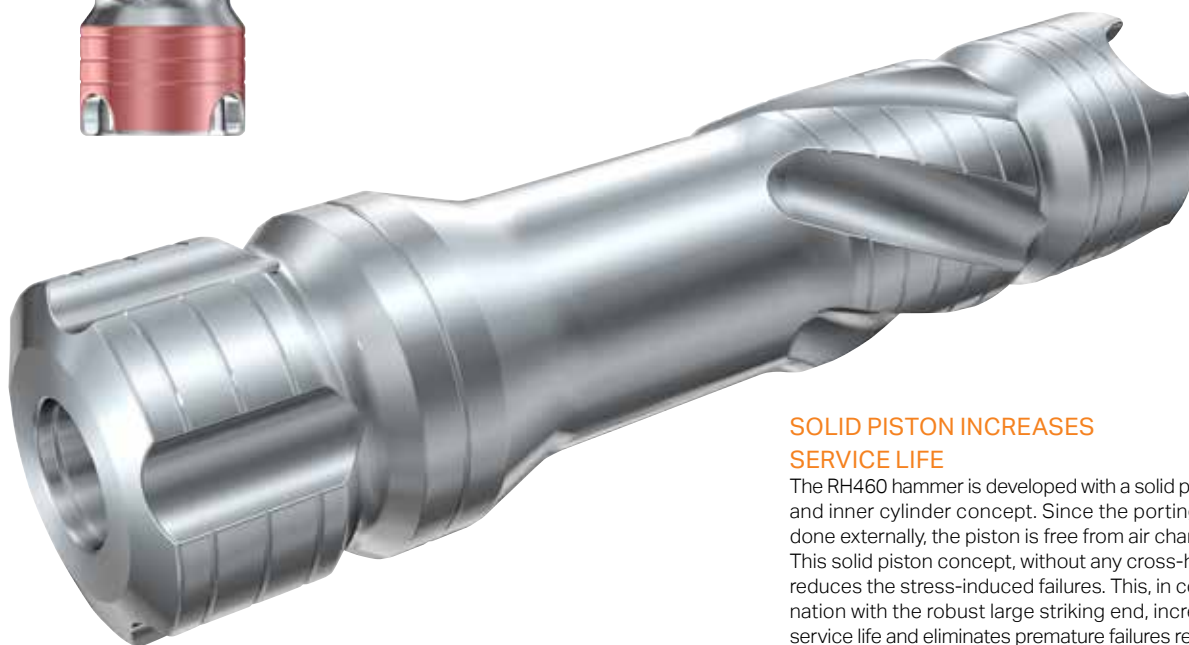
V-LOCK IMPROVES PRODUCTIVITY

Our patented V-lock system used in the RH460 hammer is designed to prevent the movement of the inner cylinder and air distributor. This simple design means that you do not need any additional special tools for assembly or disassembly. By preventing movement of the components, it reduces galling-related failures. The steel make up ring creates a constant make up force, independent of temperature and time, compared to other elastic material often used for the same purpose.



RELIABLE PISTON BEARING FOR INCREASED UPTIME

The piston bearing surface design and location optimizes bearing capabilities and eliminates bending vibrations. Bending vibrations in the piston will cause heavy pressure contact between the internal parts during the striking mode. This will cause galling and, subsequently, failure. The RH460 piston design eliminates this issue and provides reliability and longer service life.



SOLID PISTON INCREASES SERVICE LIFE

The RH460 hammer is developed with a solid piston and inner cylinder concept. Since the porting is done externally, the piston is free from air channels. This solid piston concept, without any cross-holes, reduces the stress-induced failures. This, in combination with the robust large striking end, increases service life and eliminates premature failures related to fatigue stress.



PANTERA™ – STRONG, SAFE DRILLS FOR YOUR FUTURE NEEDS

Pantera™ drills have been designed from the ground up, specifically for the future needs of the mining industry: ensuring that they are stronger, more stable, more reliable and deliver higher availability, while also complying with all vital safety standards.

Pantera™ is available in three configurations – Silver, Gold and Platinum – to best meet the requirements of your mining operation.

Pantera Silver is designed to fulfil all of the needs of today's mining industry in relation to drilling, regulations and safety. Single-hole automation is included in this specification.

Pantera Gold is for applications that require a high level of automation and communication. GPS, data transmission and various automation functions are parts of this configuration level, along with tele-remote readiness.

You get precision rig navigation, feed alignment and drilling; automated cycle phases; automated transfer of drill data and plans between drill rig and mine office; access to drill rig health; and production data.

Pantera Platinum is designed to meet the highest safety requirements when drilling in critical areas in the mine. The tele-remote function ensures that your operator can fully utilize the drill from a safe distance. It integrates all Pantera Gold features with the addition of the Sandvik AutoMine Drilling platform. It delivers the highest levels of operator and site safety, while ensuring maximum ore resource utilization.

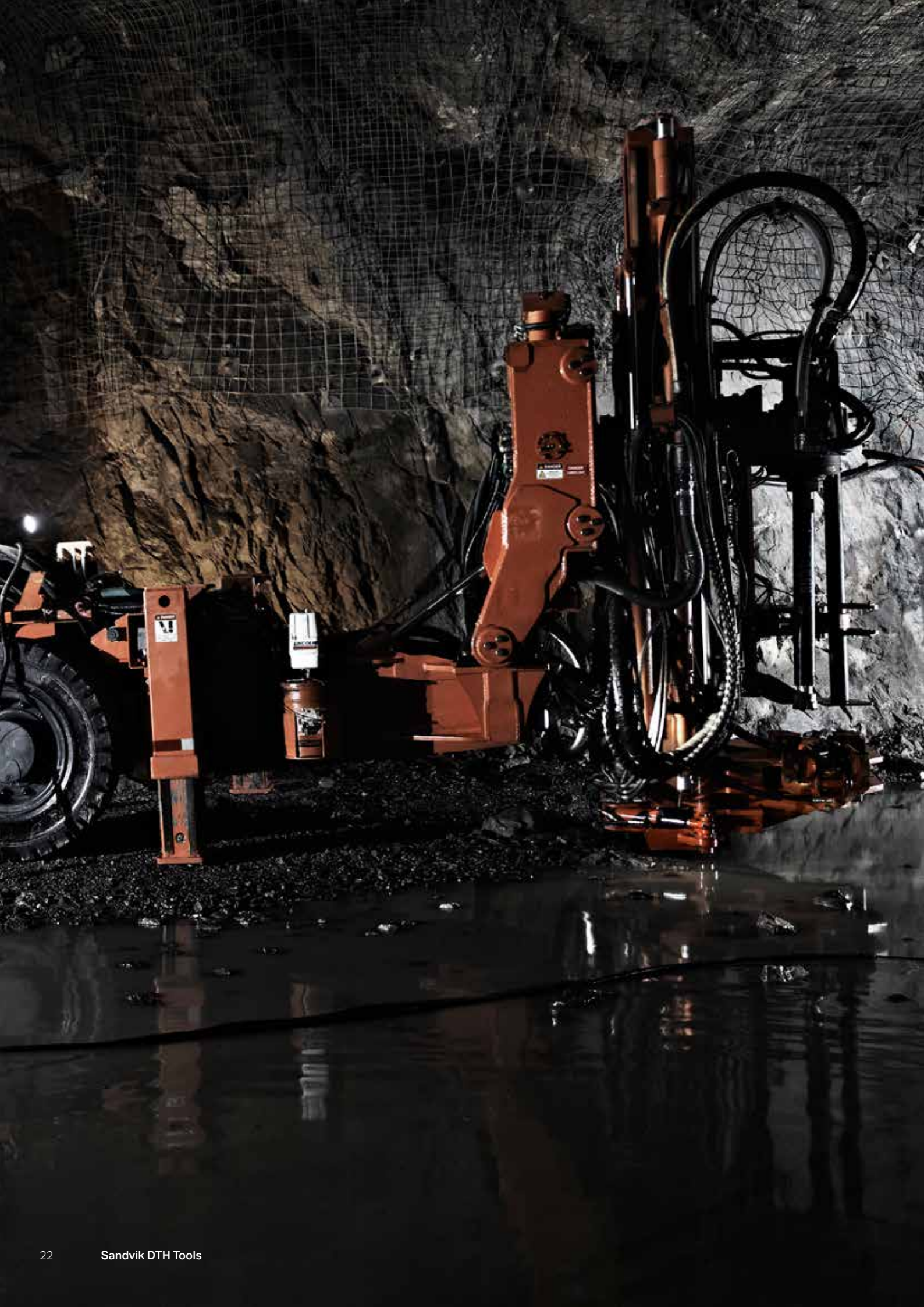
SANDVIK RIGS AND HAMMERS – A PERFECT FIT

RIG	Max pressure [bar]	Max flow [m³/min]	4" hammer	5" hammer	6" hammer	8" hammer	RH460 4" HP *	RH460 5" HP *
SANDVIK D25KS	24	25.5/28.3	●	●	⦿●	○	○	○
SANDVIK D45KS	24	28.3	●	●	●	○	○	○
SANDVIK D55SP	24	38.2	●	●	●	●	○	○
SANDVIK D75KS	24	38.2	●	●	●	●	○	○
SANDVIK DR460	24	41.0	●	●	●	●	○	○
SANDVIK DR540	24	29.7	●	●	⦿	○	●*1	○*1
SANDVIK DR560	24	38.2	●	●	●	⦿	●*2	●*2
SANDVIK DR580	24	44.6	●	●	●	●	●*3	●*3
SANDVIK DI550	24	24.4	●	●	⦿	○	○	○
SANDVIK DI6400	35	28	●	●	●	○	●	⦿

INLET CONDITIONS
 Temperature 35°C
 Altitude 200 m
 Humidity 35%

● = excellent with rig
 ⦿ = works with rig
 ○ = not recommended

* 35 bar hammers:
 *1 34.5 bar | 25.5 m³/min
 *2 34.5 bar | 32.6 m³/min
 *3 34.5 bar | 38.2 m³/min



CUSTOMIZED UNDERGROUND RIGS FOR GREAT BLAST HOLES

The Sandvik DU411 is our compact In-The-Hole (ITH) centre-articulated drill with an on-board booster. The booster is known for its industry-leading pressure delivery, robust build and easy access to serviceable parts. It is designed with electric motors, which leads to low emissions and noise levels.

THIS IS WHAT YOU GET:

- High-accuracy drilling delivers enhanced mine profitability, with the lowest cost per ton.
- Comes equipped with a heavy-duty mast.
- Very flexible and highly capable drill, which can be customized to meet almost any mine requirement.
- Robust and reliable, a self-contained unit which is easy to service and operate.

SANDVIK RIGS AND HAMMERS – A PERFECT FIT

BOOSTER	Max pressure [bar]	Max flow [m ³ /min]	4" hammer	5" hammer	6" hammer	8" hammer
KR551	24	19	●	◐	○	○
KR1101	24	38	●	●	●	●
KS921	28	19	●	◐	○	○
KS1121	28	27	○	●	●	◐
KS1501	28	34	○	○	●	●

- = excellent with booster
- ◐ = works with booster
- = not recommended with booster

NOTE: Available air may vary depending on rig configuration and inlet conditions. Check rig specifications for available onboard or auxiliary boosters.



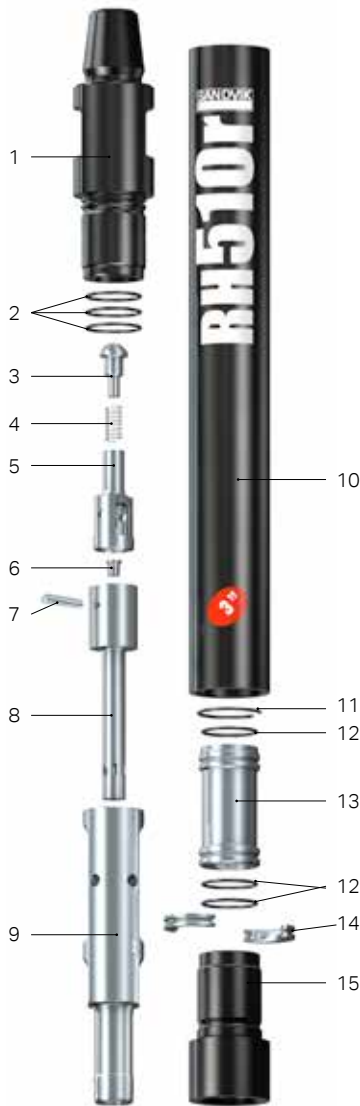
TAKES DTH DRILLING TO NEW HEIGHTS

The Sandvik RH510 series of hammers will deliver high performance and added value to most drilling applications.

This is achieved through a proprietary interface between the piston and drill bit, which optimizes impact energy transmission to boost penetration rates, and deliver long piston life and excellent economy through high productivity.

The Sandvik RH460 hammer takes DTH drilling to new heights. It has been developed for superior productivity in variable ground conditions. Higher impact energy is achieved with lower air consumption, maximizing productivity and reducing costs.

3" RH510 HAMMER	26
4" RH510 HAMMER	27
5" RH510 HAMMERS	28
6" RH510 HAMMERS	31
8" RH510 HAMMERS	35
3.5" RH460 HAMMERS	38
4" RH460 HAMMERS	39
5" RH460 HAMMERS	42
6" RH460 HAMMERS	45
8" RH460 HAMMERS	48



REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top subs			
2 3/8" API reg. pin	5	11	33-3A001/16A
#21 Cubex. pin	5	11	33-3A001/63A
2. O-ring top sub (3) ID and OD			
In seal kit			
3. Check valve dart with spring	0.3	0.7	25-99006A
4. Check valve dart spring	0.02	0.01	22-99071
5. Check valve guide	0.23	0.5	39-3A001
6. Choke set, blank 1/8", 3/16", & 1/4"	0.1	0.2	29-48017A
7. Feed tube retainer pin	0.03	0.1	12-99021
8. Feed tube with retainer pin & blank choke	0.45	1	37-3A001A
9. Piston	3.86	8.5	BG00468603
10. Piston case with retainer ring	10.9	24	BG00468599
11. Piston retainer ring	0.05	0.1	23-99027
12. O-rings - guide sleeve, bit retainer (3)			
In seal kit			
13. Guide sleeve with 2 O-rings (#12)	1	2.2	26-3A010A
14. Bit retainer ring with O-ring (#12)	0.09	0.2	27-3A006A
15. Driver sub	2.18	4.8	34-3A006

Seal Kit

3 piece of #2 & 3 of #12	0.25	0.5	38-3A056
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Rebuild Kit

1 piece of #1, 1 of #10, 1 of #15 & seal kit			
2 3/8" API reg. pin	18.1	40	BG00478477
#21 Cubex. pin	18.1	40	BG00478480

Complete hammer

2 3/8" API reg. pin top sub			32-5130-RMA-16S
#21 Cubex. pin top sub			32-5130-RMA-63S

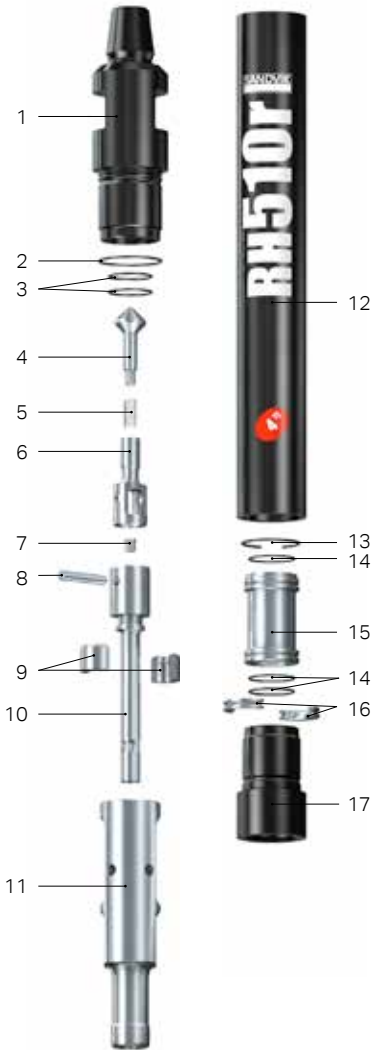
Bit shank

M30



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
						Bit closed		Bit extended	
kg	lb	mm	inch	mm	inch	mm	inch	mm	inch
25	55	81.3	3.2	823	32.4	875	34.4	911	35.9

AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN		
150 psi	250 psi	350 psi	10 bar	18 bar	24 bar
172	304	436	4.87	8.61	12.34



REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top subs with 3 O-rings			
2 3/8" API reg. pin	10	22	33-48001-1/16A
2 7/8" API reg. pin	10	22	33-48001-1/11A
#24 Cubex. pin	10	22	33-48001-1/77A
2. O-ring top sub OD (1)			
			In seal kit
3. O-ring top sub ID (2)			
			In seal kit
4. Check valve dart (with spring)	0.3	0.66	25-99001A
5. Check valve spring	0.02	0.04	22-99071
6. Check valve guide	0.2	0.44	39-48001-1
7. Choke set, blank 1/8", 3/16", & 1/4"	0.1	0.22	29-48017A
8. Feed tube retainer pin	0.03	0.07	12-99014
9. Tuning ring for low volume (optional)	0.23	0.51	56-48552
10. Feed tube with retainer pin and blank choke	0.7	1.54	37-48001-1A
11. Piston	7	15.4	BG00387202
12. Piston case with retainer ring	15	33	BG00387230
13. Piston retainer ring	0.05	0.11	23-99029
14. O-rings guide sleeve & bit ret. (3)			
			In seal kit
15. Guide sleeve with 2 O-rings (#14)	1.8	3.96	26-48J10A
16. Bit retainer ring with O-ring (#14)	0.23	0.51	27-48006A
17. Driver sub	3.2	7.04	34-48006
Seal Kit			
1 piece of #2, 2 of #3 & 3 of #14	0.25	0.5	38-48056-1
Rebuild Kit			
1 piece of #1, 1 of #12, 1 of #17 & seal kit			
2 3/8" API reg. pin	28	62	BG00475620
2 7/8" API reg. pin	28	62	BG00475753
#24 Cubex. pin	28	62	BG00475755
Complete Hammer			
2 3/8" API reg. pin top sub			32-5140-RMA-16S
2 7/8" API reg. pin top sub			32-5140-RMA-11S
#24 Cubex. pin top sub			32-5140-RMA-77S

Bit shank

M40



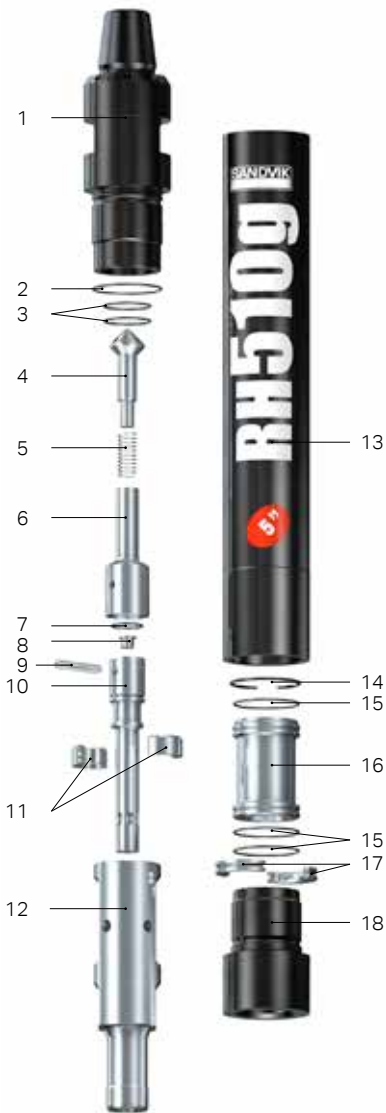
WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
kg	lb	mm	inch	mm	inch	Bit closed		Bit extended	
						mm	inch	mm	inch
38	83	98	3.56	914	36	989	38.9	1029	40.5
		AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN				
		150 psi	250 psi	350 psi	10 bar	18 bar	24 bar		
		180	370	560	5.1	10.5	15.9		
Low Volume Option		151	315	466	4.3	8.9	13.2		



REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top subs with 3 O-rings			
3 1/2" API reg. pin	10	22	33-58D01/04A
2 7/8" API reg. pin	10	22	33-58D01/11A
2. O-ring top sub OD (1)			In seal kit
3. O-ring top sub ID (2)			In seal kit
4. Check valve dart (with spring)	0.3	0.66	25-99002A
5. Check valve spring	0.02	0.04	22-99072
6. Check valve guide	0.3	0.66	39-58S01
7. O-Ring feed tube (1)			In seal kit
8. Choke set, blank 1/8", 3/16", & 1/4"	0.12	0.26	29-68017A
9. Feed tube retainer pin	0.09	0.2	12-99018
10. Feed tube with retainer pin and blank choke	1	2.2	37-58001A
11. Tuning ring for low volume (optional)	0.03	0.07	56-58552
12. Piston	12	26.4	BG00387748
13. Piston case with retainer ring	27	59.4	BG00473260
14. Piston retainer ring	0.05	0.11	23-99032
15. O-rings guide sleeve & bit ret. (3)			In seal kit
16. Guide sleeve with 2 O-rings (#14)	3	6.6	26-58J10A
17. Bit retainer ring with O-ring (#14)	0.5	1.1	27-58006A
18. Driver sub	6	13.2	34-58D69
Seal Kit			
1 piece of #2, 2 of #3, 1 of #7 & 3 of #15	0.45	0.99	38-58D56
Rebuild Kit			
1 piece of #1, 1 of #13, 1 of #18 & seal kit			
3 1/2" API reg. pin	43	94.6	BG00475763
2 7/8" API reg. pin	43	94.6	BG00475764
Complete Hammer			
3 1/2" API reg. pin top sub			32-5150-SMA-04S
2 7/8" API reg. pin top sub			32-5150-SMA-11S
Bit shank			
M50			



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
kg	lb	mm	inch	mm	inch	Bit closed		Bit extended	
						mm	inch	mm	inch
68	145	120	4.72	987	38.86	1082	42.6	1122	44.2
		AIR CONSUMPTION, CFM				AIR CONSUMPTION, M ³ /MIN			
		150 psi	250 psi	350 psi		10 bar	18 bar	24 bar	
		305	580	855		8.64	16.42	24.21	
Low Volume Option		285	540	790		8.07	15.25	22.37	



REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top subs with 3 O-rings			
3 1/2" API reg. pin	18	39.6	33-58D02/04CA
#24 Cubex. pin	18	39.6	33-58D02/77CA
2. O-ring top sub OD (1)			In seal kit
3. O-ring top sub ID (2)			In seal kit
4. Check valve dart (with spring)	0.3	0.66	25-99002A
5. Check valve spring	0.02	0.04	22-99072
6. Check valve guide	0.3	0.66	39-58S01
7. Choke set, blank 1/8", 3/16", & 1/4"	0.12	0.26	29-68017A
8. O-ring feed tube (1)			In seal kit
9. Feed tube retainer pin	0.09	0.2	12-99018
10. Feed tube with retainer pin and blank choke	1	2.2	37-58001A
11. Tuning ring for low volume (optional)	0.03	0.07	56-58552
12. Piston	12	26.4	BG00387748
13. Piston case with retainer ring	29	63.8	BG00470986
14. Piston retainer ring	0.05	0.11	23-99032
15. O-rings guide sleeve & bit ret. (3)			In seal kit
16. Guide sleeve with 2 O-rings (#14)	3	6.6	26-58J10A
17. Bit retainer ring with O-ring (#14)	0.5	1.1	27-58006A
18. Driver sub	7	15.4	34-58D70

Seal Kit			
1 piece of #2, 2 of #3, 1 of #8 & 3 of #15	0.45	0.99	38-58D56

Rebuild Kit			
1 piece of #1, 1 of #13, 1 of #18 & seal kit			
3 1/2" API reg. pin	54	118.8	BG00475761
#24 Cubex. pin	54	118.8	BG00475762

Complete Hammer			
3 1/2" API reg. pin top sub			32-5155-GMA-04C
#24 Cubex. pin top sub			32-5155-GMA-77C

Bit shank

M50



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
kg	lb	mm	inch	mm	inch	Bit closed		Bit extended	
						mm	inch	mm	inch
73	160	126	4.96	987	38.86	1082	42.6	1122	44.2

	AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN		
	150 psi	250 psi	350 psi	10 bar	18 bar	24 bar
	305	580	855	8.64	16.42	24.21
Low Volume Option	285	540	790	8.07	15.25	22.37

DTH HAMMERS

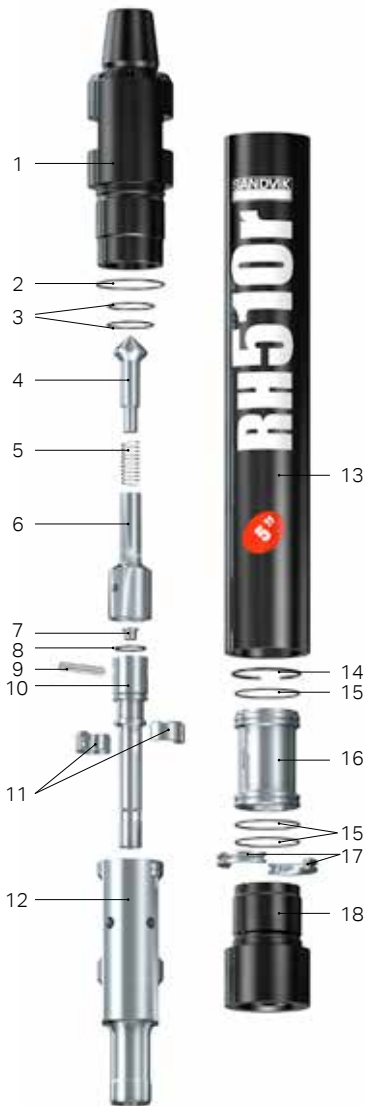
DTH BITS

DRILL PIPES

ACCESSORIES

GRINDING EQUIPMENT

PART NUMBER KEYS



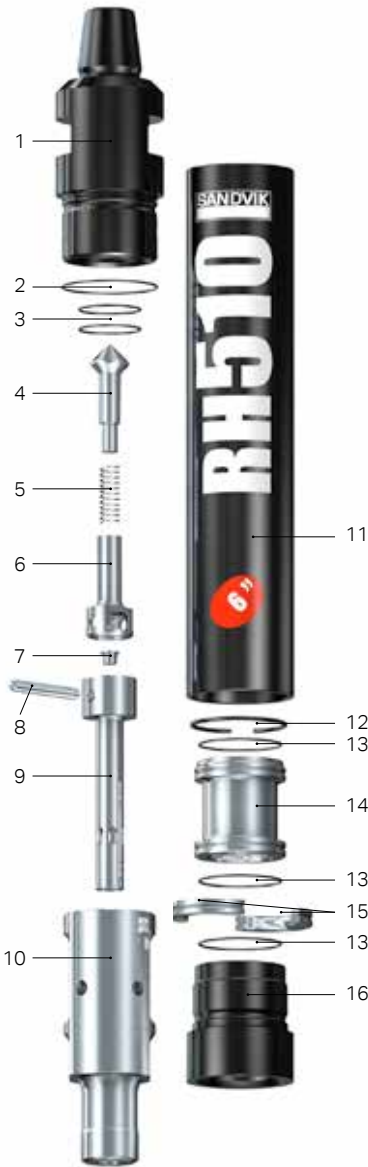
REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top subs with 3 O-rings			
3 1/2" API reg. pin	18	39.6	33-58S02/04CA
2 7/8" API reg. pin	18	39.6	33-58S02/11CA
#24 Cubex. pin	18	39.6	33-58S02/77CA
2. O-Ring top sub OD (1)			In seal kit
3. O-Ring top sub ID (2)			In seal kit
4. Check valve dart (with spring)	0.3	0.66	25-99002A
5. Check valve spring	0.02	0.04	22-99072
6. Check valve guide	0.3	0.66	39-58S01
7. Choke set, blank 1/8", 3/16", & 1/4"	0.12	0.26	29-68017A
8. O-ring feed tube (1)			In seal kit
9. Feed tube retainer pin	0.09	0.2	12-99018
10. Feed tube with retainer pin and blank choke	1	2.2	37-58001A
11. Tuning ring for low volume (optional)	0.03	0.07	56-58552
12. Piston	12	26.4	BG00387748
13. Piston case with retainer ring	29	63.8	BG00409895
14. Piston retainer ring	0.05	0.11	23-99032
15. O-rings guide sleeve & bit ret. (3)			In seal kit
16. Guide sleeve with 2 O-rings (#14)	3	6.6	26-58J10A
17. Bit retainer ring with O-ring (#14)	0.5	1.1	27-58006A
18. Driver sub	7	15.4	34-58070
Seal Kit			
1 piece of #2, 2 of #3, 1 of #8 & 3 of #15	0.45	0.99	38-58D56
Rebuild Kit			
1 piece of #1, 1 of #13, 1 of #18 & seal kit			
3 1/2" API reg. pin	54	118.8	BG00475756
2 7/8" API reg. pin	54	118.8	BG00475759
#24 Cubex. pin	54	118.8	BG00475760
Complete Hammer			
3 1/2" API reg. pin top sub			32-5155-RMA-04C
2 7/8" API reg. pin top sub			32-5155-RMA-11C
#24 Cubex. pin top sub			32-5155-RMA-77C

Bit shank

M50



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
kg	lb	mm	inch	mm	inch	Bit closed		Bit extended	
						mm	inch	mm	inch
73	160	126	4.96	987	38.86	1082	42.6	1122	44.2
		Air consumption, cfm				Air consumption, m ³ /min			
		150 psi	250 psi	350 psi		10 bar	18 bar	24 bar	
		305	580	855		8.64	16.42	24.21	
Low Volume Option		285	540	790		8.07	15.25	22.37	



REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top sub with 3 O-rings			
3 1/2" API reg. pin	20	44	33-68D08/04A
2. O-ring top sub OD (1)			In seal kit
3. O-ring top sub ID (2)			In seal kit
4. Check valve dart with spring	0.3	0.66	BG00348123
5. Check valve dart spring	0.02	0.044	22-99072
6. Check valve guide	0.3	0.66	39-68001
7. Choke set, blank 1/8", 3/16", & 1/4"	0.12	0.264	29-68017A
8. Feed tube retainer pin	0.2	0.44	12-99013
9. Feed tube with retainer pin and blank choke	1	2.2	37-68601A
10. Piston	18	39.6	BG00210384
11. Piston case with retainer ring	33	72.6	BG00214914
12. Piston retainer ring	0.1	0.22	23-99028
13. O-rings - guide sleeve, bit retainer (3)			In seal kit
14. Guide sleeve with 2 O-rings (#13)	4	8.8	26-68J10A
15. Bit retainer ring with O-ring (#13)	1	2.2	27-68006A
16. Driver sub	6	13.2	34-68D69

Seal Kit			
1 piece of #2, 2 of #3 & 3 of #13	0.25	0.55	38-68656

Rebuild Kit			
1 piece of #1, 1 of #11, 1 of #16 & seal kit			
3 1/2" API reg. pin	20	44	BG00474856

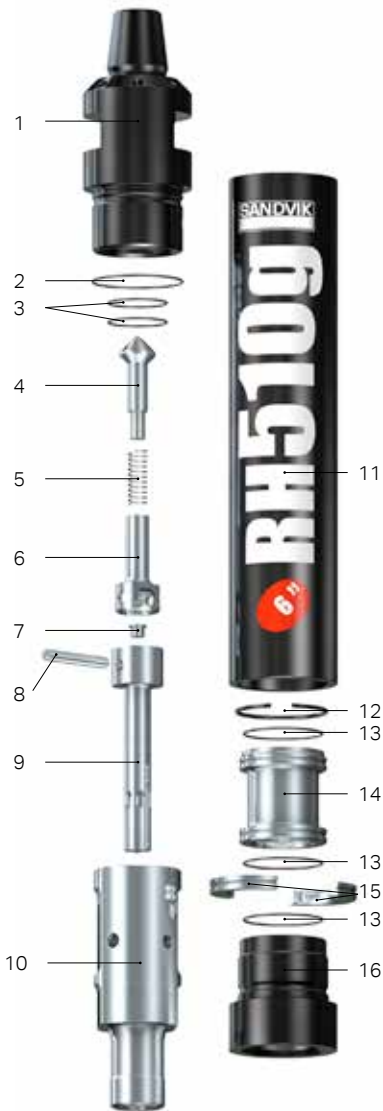
Complete hammer			
3 1/2" API reg. pin top sub			32-5160-SMA-04S

Bit shank			
M60			



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT				
kg	lb	mm	inch	mm	inch	Bit closed		Bit extended		
						mm	inch	mm	inch	
72	158	142	5.6	922	36.3	1008	39.7	1046	41.2	
Air consumption, cfm				Air consumption, m ³ /min						
150 psi		250 psi		350 psi		10 bar		18 bar		24 bar
343		659		972		9.8		18.7		27.5

DTH HAMMERS
DTH BITS
DRILL PIPES
ACCESSORIES
GRINDING EQUIPMENT
PART NUMBER KEYS



REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top sub with 3 O-rings			
3 1/2" API reg. pin	22	48.4	33-6L009/04CA
#28 Cubex. pin	22	48.4	33-6L009/56CA
2. O-ring top sub OD (1)			In seal kit
3. O-ring top sub ID (2)			In seal kit
4. Check valve dart with spring	0.3	0.66	BG00348123
5. Check valve dart spring	0.02	0.044	22-99072
6. Check valve guide	0.3	0.66	39-68001
7. Choke set, blank 1/8", 3/16", & 1/4"	0.12	0.264	29-68017A
8. Feed tube retainer pin	0.2	0.44	12-99013
9. Feed tube with retainer pin and blank choke	1	2.2	37-68601A
10. Piston	18	39.6	BG00210384
11. Piston case with retainer ring	33	72.6	BG00465129
12. Piston retainer ring	0.1	0.22	23-99028
13. O-rings - guide sleeve, bit retainer (3)			In seal kit
14. Guide sleeve with 2 O-rings (#13)	4	8.8	26-68J10A
15. Bit retainer ring with O-ring (#13)	1	2.2	27-68006A
16. Driver sub	6	13.2	34-6LD70

Seal Kit

1 pieces of #2, 2 of #3 & 3 of #13	0.25	0.5	38-68656
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Rebuild Kit

1 piece of #1, 1 of #11, 1 of #16 & seal kit			
3 1/2" API reg. pin	62	136.4	BG00474803
#28 Cubex. pin	62	136.4	BG00474819

Complete hammer

3 1/2" API reg. pin top sub			32-5165-GMA-04C
#28 Cubex. pin top sub			32-5165-GMA-56C

Bit shank

M60



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
kg	lb	mm	inch	mm	inch	Bit closed		Bit extended	
						mm	inch	mm	inch
82	180	150	5.9	922	36.3	1008	39.7	1046	41.2

AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN		
150 psi	250 psi	350 psi	10 bar	18 bar	24 bar
343	659	972	9.8	18.7	27.5



REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top sub with 3 O-rings			
3 1/2" API reg. pin	22	48.4	33-68602/04CA
#28 Cubex. pin	22	48.4	33-68602/56CA
3 1/2" BECO. pin	22	48.4	33-68602/55CA
2. O-ring top sub OD (1)			In seal kit
3. O-ring top sub ID (2)			In seal kit
4. Check valve dart with spring	0.3	0.66	BG00348123
5. Check valve dart spring	0.02	0.044	22-99072
6. Check valve guide	0.3	0.66	39-68001
7. Choke set, blank 1/8", 3/16", & 1/4"	0.12	0.264	29-68017A
8. Feed tube retainer pin	0.2	0.44	12-99013
9. Feed tube with retainer pin and blank choke	1	2.2	37-68601A
10. Piston	18	39.6	BG00210384
11. Piston case with retainer ring	33	72.6	BG00143988
12. Piston retainer ring	0.1	0.22	23-99028
13. O-rings - guide sleeve, bit retainer (3)			In seal kit
14. Guide sleeve with 2 O-rings (#13)	4	8.8	26-68J10A
15. Bit retainer ring with O-ring (#13)	1	2.2	27-68006A
16. Driver sub	6	13.2	34-68670

Seal Kit

1 pieces of #2, 2 of #3 & 3 of #13	0.25	0.5	38-68656
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Rebuild Kit

1 piece of #1, 1 of #11, 1 of #16 & seal kit			
3 1/2" API reg. pin	62	136.4	BG00195819
#28 Cubex. pin	62	136.4	BG00474776
3 1/2" BECO. pin	62	136.4	BG00474787

Complete hammer

3 1/2" API reg. pin top sub			32-5165-RMA-04C
#28 Cubex. pin top sub			32-5165-RMA-56C
3 1/2" BECO. pin top sub			32-5165-RMA-55C

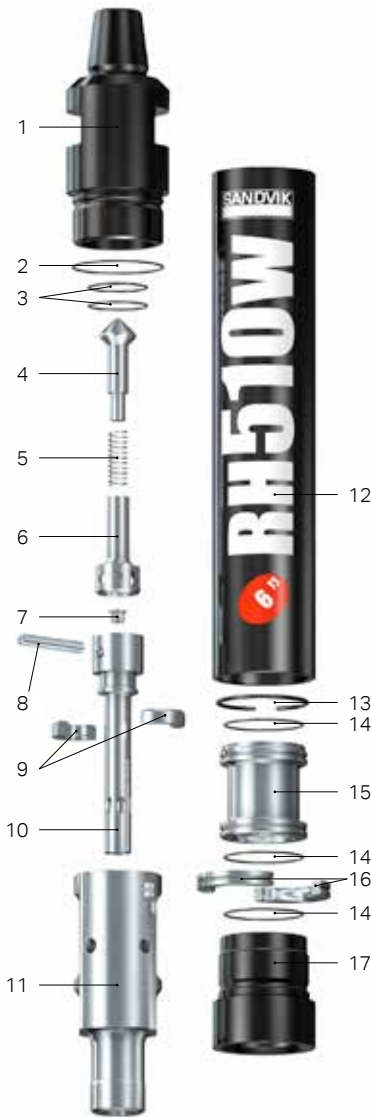
Bit shank

M60



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
						Bit closed		Bit extended	
kg	lb	mm	inch	mm	inch	mm	inch	mm	inch
82	180	150	5.9	922	36.3	1008	39.7	1046	41.2

AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN		
150 psi	250 psi	350 psi	10 bar	18 bar	24 bar
343	659	972	9.8	18.7	27.5



REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top sub with 3 O-rings			
3 1/2" API reg. pin	20	44	33-68N08/04A
2. O-ring top sub OD (1)			In seal kit
3. O-ring top sub ID (2)			In seal kit
4. Check valve dart with spring	0.3	0.66	BG00348123
5. Check valve dart spring	0.02	0.044	22-99072
6. Check valve guide	0.3	0.66	39-68001
7. Choke set, blank 1/8", 3/16", & 1/4"	0.12	0.264	29-68017A
8. Feed tube retainer pin	0.2	0.44	12-99013
9. Tuning ring (optional)	0.4	0.9	56-68552
10. Feed tube with retainer pin and blank choke	1	2.2	37-68301A
11. Piston	18	39.6	BG00210384
12. Piston case with retainer ring	33	72.6	BG00214914
13. Piston retainer ring	0.1	0.22	23-99028
14. O-rings - guide sleeve, bit retainer (3 req.)			In seal kit
15. Guide sleeve with 2 O-rings (#13)	4	8.8	26-68J10A
16. Bit retainer ring with O-ring (#13)	1	2.2	27-68006A
17. Driver sub	6	13.2	34-68D69

Seal Kit

1 pieces of #2, 2 of #3 & 3 of #14	0.25	0.5	38-68656
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Rebuild Kit

1 piece of #1, 1 of #12, 1 of #17 & seal kit			
3 1/2" API reg. pin	20	44	BG00474824

Complete hammer

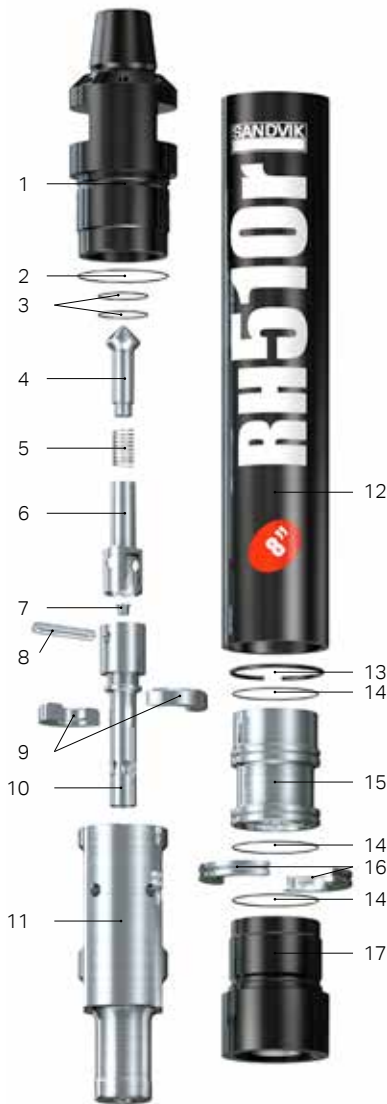
3 1/2" API reg. pin			32-5160-WMA-04S
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Bit shank

M60



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
kg	lb	mm	inch	mm	inch	Bit closed		Bit extended	
						mm	inch	mm	inch
72	158	142	5.6	922	36.3	1008	39.7	1046	41.2
		AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN				
		150 psi	250 psi	350 psi	10 bar	18 bar	24 bar		
		395	759	1120	11.2	21.5	31.7		
Low Volume Option		345	680	1000	9.8	19.3	28.3		



REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top sub with 3 O-rings			
4 1/2" API reg. pin	42	92.4	33-88002/19CA
2. O-ring top sub OD (1)			In seal kit
3. O-ring top sub ID (2)			In seal kit
4. Check valve dart (with spring)	0.5	1.1	38-11663A
5. Check valve spring	0.1	0.22	38-1/1235-073
6. Check valve guide	0.7	1.54	39-88001
7. Choke set, blank 1/8", 3/16", & 1/4"	0.12	0.264	29-68017A
8. Feed tube retainer pin	0.2	0.44	12-99016
9. Tuning ring for low volume (optional)	0.8	1.76	56-88552
10. Feed tube with retainer pin and blank choke	2.2	4.84	37-88001A
11. Piston	42	92.4	BG00473429
12. Piston case with retainer ring	56	123.2	BG00473546
13. Piston retainer ring	0.2	0.44	23-99030
14. O-rings guide sleeve & bit ret. (3)			In seal kit
15. Guide sleeve with 2 O-rings (#14)	11	24.2	26-88J10A
16. Bit retainer ring with O-ring (#14)	1.9	4.18	27-88006A
17. Driver sub	17	37.4	34-88007

Seal Kit			
1 piece of #2, 2 of #3 & 3 of #14	0.25	0.55	38-88056

Rebuild Kit			
1 piece of #1, 1 of #12, 1 of #17 & seal kit			
4 1/2" API reg. pin	115	253	BG00478483

Complete Hammer			
4 1/2" API reg. pin top sub			32-5185-RMA-19C

Bit shank			
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M80



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
kg	lb	mm	inch	mm	inch	Bit closed		Bit extended	
						mm	inch	mm	inch
173	380	181	7.12	1219	48	1310	51.6	1354	53.3

	AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN		
	150 psi	250 psi	350 psi	10 bar	18 bar	24 bar
	460	850	1240	13	23.8	35.1
Low Volume Option	300	560	830	08.05	15.9	23.5

SANDVIK

RH460





REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top sub with 3 O-rings			
4 1/2" API reg. pin	42	92.4	33-88302/19A
2. O-ring top sub OD (1)			In seal kit
3. O-ring top sub ID (2)			In seal kit
4. Check valve dart (with spring)	0.5	1.1	38-11663A
5. Check valve spring	0.1	0.22	38-1/1235-073
6. Check valve guide	0.7	1.54	39-88001
7. Choke set, blank 1/8", 3/16", & 1/4"	0.12	0.26	29-68017A
8. Feed tube retainer pin	0.2	0.44	12-99016
9. Feed tube with retainer pin and blank choke	2.2	4.84	37-88301A
10. Piston	42	92.4	BG00473429
11. Piston case with retainer ring	56	123.2	BG00473706
12. Piston retainer ring	0.2	0.44	23-99030
13. O-rings guide sleeve & bit ret. (3)			In seal kit
14. Guide sleeve with 2 O-rings (#14)	11	24.2	26-88J10A
15. Bit retainer ring with O-ring (#14)	1.9	4.18	27-88006A
16. Driver sub	17	37.4	34-88007

Seal Kit

1 piece of #2, 2 of #3 & 3 of #13	0.25	0.55	38-88056
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Rebuild Kit

1 piece of #1, 1 of #11, 1 of #16 & seal kit			
4 1/2" API reg. pin	115	253	BG00478484

Complete Hammer

4 1/2" API reg. pin top sub			32-5185-WMA-19S
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Bit shank

M80



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
kg	lb	mm	inch	mm	inch	Bit closed		Bit extended	
						mm	inch	mm	inch
173	380	181	7.12	1270	50	1361	53.6	1405	55.3

AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN		
150 psi	250 psi	350 psi	10 bar	18 bar	24 bar
525	975	1540	14.9	27.6	43.6



REPLACEMENT PARTS	ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1.	Top Sub			
	2 3/8" API Reg Pin	5,80	12,8	BG00014759
	#21 Cubex Pin	5,80	12,8	BG00568016
2.	Check Valve Dart no Choke	0,25	0,6	BG00320005
3.	Check Valve Spring	0,02	0,04	BG00118911
4.	Make Up Ring	0,10	0,2	BG00014763
5.	Air Distributor with O-Ring	1,90	4,2	BG00100316
6.	O-Ring Air Distributor			In Seal Kit
7.	Inner Cylinder	1,90	4,2	BG00100315
8.	Piston	4,50	9,9	BG00100318
9.	Piston Case with Retainer Ring	9,20	20,3	BG00100312
10.	Piston Retainer Ring	0,05	0,1	BG00014773
11.	Bit Retainer Ring with O-Ring	0,30	0,7	BG00232818
12.	O-Ring Bit Retainer Ring			In Seal Kit
13.	Driver Sub	2,10	4,6	BG00368000

Optional

	Air Screen	0,07	0,2	BG00014743
	Air Screen Circlip	0,01	0,02	BG00014740
	Choke Set, Blank, 3mm, 4.5mm and 6mm	0,02	0,04	BG00015430
	Check Valve Dart with Choke Hole	0,24	0,5	BG00119068
	Driver Sub Hard Faced			

Seal Kit

	1 Piece of 6, 12	0,02	0,04	BG00566365
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Rebuild Kit

	1 piece of 1,9,13 & Seal Kit			
	2 3/8" API Reg Pin	17,0	37,5	BG00566394
	#21 Cubex Pin	17,0	37,5	BG00568045

Complete Hammer

	2 3/8" API Reg Pin	25,5	56,2	32-4635-SDA-16S
	#21 Cubex Pin	25,5	56,2	32-4635-SDA-63S

Bit shank

DHD3.5HD



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
						Bit closed		Bit extended	
kg	lb	mm	inch	mm	inch	mm	inch	mm	inch
25,5	56,2	85	3,35	846	33	911	36	939	37

AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN, DIN 1343			POWER OUTPUT (kW)	
150 psi	250 psi	350 psi	10 bar	18 bar	24 bar	24 bar	
169	324	445	4.8	9.2	12.6	18	



REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top sub			
2 3/8" API reg pin	8.2	18	BG00014822
#24 Cubex pin	7.9	17.4	BG00242018
2. Check valve dart no choke	0.24	0.53	BG00320005
3. Check valve spring	0.02	0.04	BG00118911
4. Make up ring	0.1	0.22	BG00014825
5. Air distributor with O-ring	2	4.4	BG00056811
6. O-ring air distributor			In seal kit
7. Inner cylinder	2.1	4.62	BG00110688
8. Piston DHD340	7.8	17.2	BG00243036
9. Piston case with retainer ring	15.4	33.9	BG00050403
10. Piston retainer ring	0.1	0.22	BG00014819
11. Bit retainer ring with O-ring DHD340	0.17	0.37	BG00014818
12. O-ring bit retainer ring			In seal kit
13. Driver sub	3.5	7.7	BG00059100

Optional

Air screen	0.05	0.11	BG00014743
Air screen circlip	0.01	0.02	BG00014740
Choke set, blank, 3 mm, 4.5 mm and 6 mm	0.02	0.04	BG00015430
Check valve dart with choke hole	0.24	0.53	BG00119068
Driver sub hard faced DHD340	3.5	7.7	BG00241988

Seal Kit

1 piece of #6, #12	0.02	0.04	BG00014848
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Rebuild Kit

1 piece of #1, #9, #13 & seal kit			
2 3/8" API reg pin	27	59.4	BG00081841
#24 Cubex pin	26.8	59	BG00242283

Complete Hammer

2 3/8" API reg pin	40	88	32-4640-SDA-16S
#24 Cubex pin	40	88	32-4640-SDA-77S

Bit shank

DHD340



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
						Bit closed		Bit extended	
kg	lb	mm	inch	mm	inch	mm	inch	mm	inch
40	88	97.5	3.84	985	38.78	1075	42.16	1109	43.66

AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN, DIN 1343			POWER OUTPUT (kW)	
150 psi	250 psi	350 psi	10 bar	18 bar	24 bar	24 bar	
190	395	565	5.4	11.2	16	25	



REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top sub			
2 3/8" API reg pin	8.2	18.	BG00014822
#24 Cubex pin	7.9	17.4	BG00242018
2. Check valve dart no choke	0.24	0.53	BG00320005
3. Check valve spring	0.02	0.04	BG00118911
4. Make up ring	0.1	0.22	BG00014825
5. Air distributor with O-ring	2	4.4	BG00056811
6. O-ring air distributor			In seal kit
7. Inner cylinder	2.1	4.62	BG00110688
8. Piston QLX40	7.7	16.9	BG00242889
9. Piston case with retainer ring	15.4	33.9	BG00050403
10. Piston retainer ring	0.1	0.22	BG00014819
11. Bit retainer ring with O-ring QLX40	0.2	0.44	BG00059039
12. O-ring bit retainer ring			In seal kit
13. Driver sub	2.8	6.16	BG00058997

Optional

Air screen	0.05	0.11	BG00014743
Air screen circlip	0.01	0.02	BG00014740
Choke set, blank, 3 mm, 4.5 mm and 6 mm	0.02	0.04	BG00015430
Check valve dart with choke hole	0.24	0.53	BG00119068
Driver sub hard faced QLX40	2.8	6.16	BG00242001

Seal Kit

1 piece of #6, #12	0.02	0.04	BG00014848
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Rebuild Kit

1 piece of #1, #9, #13 & seal kit			
2 3/8" API reg pin	27	59.4	BG00242267
#24 Cubex pin	26.8	59	BG00242295

Complete Hammer

2 3/8" API reg pin	40	88	32-4640-STA-16S
#24 Cubex pin	40	88	32-4640-STA-77S

Bit shank

QLX40



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
kg	lb	mm	inch	mm	inch	Bit closed		Bit extended	
						mm	inch	mm	inch
40	88	97.5	3.84	985	38.78	1075	42.16	1109	43.66

AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN, DIN 1343			POWER OUTPUT (kW)	
150 psi	250 psi	350 psi	10 bar	18 bar	24 bar	24 bar	
190	395	565	5.4	11.2	16	25	



REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top sub			
2 3/8" API reg pin	8.2	18	BG00014822
2. Check valve dart no choke	0.24	0.53	BG00320005
3. Check valve spring	0.02	0.04	BG00118911
4. Make up ring	0.1	0.22	BG00014825
5. Air distributor with O-ring	2	4.4	BG00175586
6. O-ring air distributor			In seal kit
7. Inner cylinder	2.1	4.62	BG00110688
8. Piston QLX40	7.7	16.9	BG00242889
9. Piston case with retainer ring	15.4	33.9	BG00050403
10. Piston retainer ring	0.1	0.22	BG00014819
11. Bit retainer ring with O-ring QLX40	0.2	0.44	BG00059039
12. O-ring bit retainer ring			In seal kit
13. Driver sub hard faced QLX40	2.8	6.16	BG00242001

Optional

Air screen	0.05	0.11	BG00014743
Air screen circlip	0.01	0.02	BG00014740
Choke set, blank, 3 mm, 4.5 mm and 6 mm	0.02	0.04	BG00015430
Check valve dart with choke hole	0.24	0.53	BG00119068

Seal Kit

1 piece of #6, #12	0.02	0.04	BG00014848
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Rebuild Kit

1 piece of #1, #9, #13 & seal kit			
2 3/8" API reg pin	26.5	58.3	BG00242285

Complete Hammer

2 3/8" API reg pin	41	90	32-4640-ETB-16S
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Bit shank

QLX40



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
kg	lb	mm	inch	mm	inch	Bit closed		Bit extended	
kg	lb	mm	inch	mm	inch	mm	inch	mm	inch
41	90	97.5	3.84	985	38.78	1075	42.16	1109	43.66

AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN, DIN 1343			POWER OUTPUT (kW)	
250 psi	350 psi	500 psi	18 bar	24 bar	35 bar	35 bar	
364	519	805	10.3	14.7	22.8	32	



REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top sub			
3 1/2" API reg pin	14.8	32.56	BG00014995
2. Check valve dart no choke	0.45	0.99	BG00319921
3. Check valve spring	0.03	0.07	BG00014972
4. Make up ring	0.20	0.44	BG00014994
5. Air distributor with O-ring	3.60	7.92	BG00014996
6. O-ring air distributor			In seal kit
7. Inner cylinder	4.2	9.24	BG00025161
8. Piston	14.3	31.46	BG00062889
9. Piston case with retainer ring	22	48.4	BG00014999
10. Piston retainer ring	0.10	0.22	BG00014998
11. O-ring guide sleeve			In seal kit
12. Guide sleeve with O-ring	1	2.2	BG00014988
13. Bit retainer ring with O-ring	0.4	0.88	BG00014989
14. O-ring bit retainer ring			In seal kit
15. Driver sub	5	11	BG00014993

Optional

Air screen	0.14	0.31	BG00014867
Air screen circlip	0.01	0.02	BG00014862
Choke set, blank, 3 mm, 4.5 mm and 6 mm	0.01	0.02	BG00015430
Check valve dart with choke hole	0.4	0.88	BG00014985
Driver sub hard faced	5	11	BG00162923

Seal Kit

1 piece of #6, #14 & 2 of #11	0.01	0.02	BG00015014
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Rebuild Kit

1 piece of #1, #9, #15 & seal kit			
3 1/2" API reg pin	41.5	91.3	BG00081790

Complete Hammer

3 1/2" API reg pin	66	145	32-4650-SQA-04S
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Bit shank

QL50



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
kg	lb	mm	inch	mm	inch	Bit closed		Bit extended	
						mm	inch	mm	inch
66	145	120	4.72	1067	42.01	1156	45.51	1185	46.65

AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN, DIN 1343			POWER OUTPUT (kW)	
150 psi	250 psi	350 psi	10 bar	18 bar	24 bar	24 bar	
275	544	756	7.8	15.4	21.4	32.3	




REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top sub			
3 1/2" API reg pin	15.5	34.1	BG00068455
#24 Cubex pin	13.5	29.7	BG00166404
2. Check valve dart no choke			
2. Check valve spring	0.45	0.99	BG00319921
3. Check valve spring			
4. Make up ring	0.03	0.07	BG00014972
4. Make up ring			
5. Air distributor with O-ring	0.20	0.44	BG00014994
5. Air distributor with O-ring			
6. O-ring air distributor	3.60	7.92	BG00014996
6. O-ring air distributor			
7. Inner cylinder			In seal kit
7. Inner cylinder			
8. Piston	4.20	9.24	BG00025161
8. Piston			
9. Piston case with retainer ring	14.3	31.5	BG00062889
9. Piston case with retainer ring			
10. Piston retainer ring	30.0	66.0	BG00068439
10. Piston retainer ring			
11. O-ring guide sleeve	0.10	0.22	BG00014998
11. O-ring guide sleeve			
12. Guide sleeve with O-ring			In seal kit
12. Guide sleeve with O-ring			
13. Bit retainer ring with O-ring	1.00	2.20	BG00014988
13. Bit retainer ring with O-ring			
14. O-ring bit retainer ring	0.40	0.88	BG00014989
14. O-ring bit retainer ring			
15. Driver sub hard faced			In seal kit
15. Driver sub hard faced			

Optional			
Air screen	5.50	12.1	BG00068435
Air screen			
Air screen circlip	0.14	0.31	BG00014867
Air screen circlip			
Choke set, blank, 3 mm, 4.5 mm and 6 mm	0.01	0.02	BG00015430
Choke set, blank, 3 mm, 4.5 mm and 6 mm			
Check valve dart with choke hole	0.40	0.88	BG00014985
Check valve dart with choke hole			

Seal Kit			
1 piece of #6, #14 & 2 of #11	0.01	0.02	BG00015014
1 piece of #6, #14 & 2 of #11			

Rebuild Kit			
1 piece of #1, #9, #15 & seal kit			
1 piece of #1, #9, #15 & seal kit			
3 1/2" API reg pin	51.0	112	BG00081817
3 1/2" API reg pin			
#24 Cubex pin	49.0	108	BG00166783
#24 Cubex pin			

Complete Hammer			
3 1/2" API reg pin	76.0	167	32-4655-GQA-04C
3 1/2" API reg pin			
#24 Cubex pin	74.0	163	32-4655-GQA-77C
#24 Cubex pin			

Bit shank	
QL50	

WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
						Bit closed		Bit extended	
kg	lb	mm	inch	mm	inch	mm	inch	mm	inch
76	167	126	4.96	1067	42.01	1156	45.51	1185	46.65

AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN, DIN 1343			POWER OUTPUT (kW)	
150 psi	250 psi	350 psi	10 bar	18 bar	24 bar	24 bar	
275	544	756	7.8	15.4	21.4	32.3	



REPLACEMENT PARTS	ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1.	Top sub			
3	1/2" API reg pin	15.5	34.1	BG00068455
2.	Check valve dart no choke	0.45	0.99	BG00319921
3.	Check valve spring	0.03	0.07	BG00014972
4.	Make up ring	0.2	0.44	BG00014994
5.	Air distributor with O-ring	3.6	7.92	BG00093776
6.	O-ring air distributor			In seal kit
7.	Inner cylinder	4.2	9.24	BG00025161
8.	Piston	14.3	31.5	BG00062889
9.	Piston case with retainer ring	30	66	BG00068439
10.	Piston retainer ring	0.1	0.22	BG00014998
11.	O-ring guide sleeve			In seal kit
12.	Guide sleeve with O-ring	1	2.2	BG00014988
13.	Bit retainer ring with O-ring	0.4	0.88	BG00014989
14.	O-ring bit retainer ring			In seal kit
15.	Driver sub hard faced	5.5	12.1	BG00068435

Optional

	Air screen	0.14	0.31	BG00014867
	Air screen circlip	0.01	0.02	BG00014862
	Choke set, blank, 3 mm, 4.5 mm and 6 mm	0.01	0.02	BG00015430
	Check valve dart with choke hole	0.4	0.88	BG00014985

Seal Kit

	1 piece of #6, #14 & 2 of #11	0.01	0.02	BG00015014
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Rebuild Kit

	1 piece of #1, #9, #15 & seal kit			
	3 1/2" API reg pin	51	112	BG00081817

Complete Hammer

	3 1/2" API reg pin	76	168	32-4655-EQB-04C
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Bit shank

QL50



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
kg	lb	mm	inch	mm	inch	Bit closed		Bit extended	
						mm	inch	mm	inch
76	168	126	4.96	1067	42.01	1156	45.51	1185	46.65

AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN, DIN 1343			POWER OUTPUT (kW)	
250 psi	350 psi	500 psi	18 bar	24 bar	35 bar	35 bar	
501	692	1102	14.2	19.6	31.2	41.6	



REPLACEMENT PARTS	ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1.	Top sub			
	3 1/2" API reg pin	24	52.8	BG00014888
2.	O-ring top sub			In seal kit
3.	Check valve dart no choke	0.7	1.54	BG00321398
4.	Check valve spring	0.1	0.22	BG00014864
5.	Make up ring	0.4	0.88	BG00014865
6.	Air distributor with O-ring	6.2	13.6	BG00054361
7.	O-ring air distributor			In seal kit
8.	Inner cylinder	6.4	14.1	BG00123002
9.	Piston	21.4	47.1	BG00243084
10.	Piston case with retainer ring	32.4	71.3	BG00054318
11.	Piston retainer ring	0.1	0.22	BG00055711
12.	O-ring guide sleeve			In seal kit
13.	Guide sleeve with O-ring	2.3	5.06	BG00055719
14.	Bit retainer ring with O-ring	0.6	1.32	BG00014871
15.	O-ring bit retainer ring			In seal kit
16.	Driver sub	6.5	14.3	BG00014887

Optional

	Air screen	0.1	0.22	BG00014867
	Air screen circlip	0.01	0.02	BG00014862
	Choke set, blank, 3 mm, 4.5 mm and 6 mm	0.01	0.02	BG00081800
	Check valve dart with choke hole	0.7	1.54	BG00014869
	Driver sub hard faced	6.50	14.3	BG00242302

Seal Kit

	1 Piece of #2, #7, #15 & 2 of #12	0.01	0.02	BG00014894
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Rebuild Kit

	1 piece of #1, #10, #16 & seal kit			
	3 1/2" API reg pin	63.0	139	BG00240392

Complete Hammer

	3 1/2" API reg pin	100	220	32-4660-SQA-04S
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Bit shank

QL60



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
						Bit closed		Bit extended	
kg	lb	mm	inch	mm	inch	mm	inch	mm	inch
100	220	142	5.59	1155	45.47	1263	49.72	1304	51.34

AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN, DIN 1343			POWER OUTPUT (kW)	
150 psi	250 psi	350 psi	10 bar	18 bar	24 bar	24 bar	
307	625	879	8.7	17.7	25	42.4	

DTH HAMMERS
DTH BITS
DRILL PIPES
ACCESSORIES
GRINDING EQUIPMENT
PART NUMBER KEYS



REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top sub			
3 1/2" API reg pin	25.4	55.9	BG00224812
#28 Cubex pin	26	57.2	BG00237751
2. O-ring top sub			
In seal kit			
3. Check valve dart no choke	0.7	1.54	BG00321398
4. Check valve spring	0.03	0.07	BG00014864
5. Make up ring	0.4	0.88	BG00014865
6. Air distributor with O-ring	6.2	13.6	BG00054361
7. O-ring air distributor			
In seal kit			
8. Inner cylinder	6.4	14.1	BG00123002
9. Piston	21.4	47.1	BG00243084
10. Piston case with retainer ring	46.4	102	BG00224808
11. Piston retainer ring	0.1	0.22	BG00055711
12. O-ring guide sleeve			
In seal kit			
13. Guide sleeve with O-ring	2.3	5.06	BG00055719
14. Bit retainer ring with O-ring	0.6	1.32	BG00014871
15. O-ring bit retainer ring			
In seal kit			
16. Driver sub	7.2	15.8	BG00224798
Optional			
Air screen	0.1	0.22	BG00014867
Air screen circlip	0.01	0.02	BG00014862
Choke set, blank, 3 mm, 4.5 mm and 6 mm	0.01	0.02	BG00081800
Check valve dart with choke hole	0.7	1.54	BG00014869
Seal Kit			
1 Piece of #2, #7, #15 & 2 of #12	0.01	0.02	BG00014894
Rebuild Kit			
1 piece of #1, #10, #16 & seal kit			
3 1/2" API reg pin	79	174	BG00240400
#28 Cubex pin	80	176	BG00240135
Complete Hammer			
3 1/2" API reg pin	117	257	32-4665-GQA-04C
#28 Cubex pin	117	257	32-4665-GQA-56C

Bit shank

QL60



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
kg	lb	mm	inch	mm	inch	Bit closed		Bit extended	
						mm	inch	mm	inch
117	257	150	5.91	1155	45.47	1263	49.72	1304	51.34
AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN, DIN 1343			POWER OUTPUT (kW)			
150 psi	250 psi	350 psi	10 bar	18 bar	24 bar	24 bar			
307	625	879	8.7	17.7	25	42.4			



REPLACEMENT PARTS	ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1.	Top Sub			
	3 1/2" API Reg Pin	25,4	55,9	BG00224812
2.	O-ring Top Sub			In Seal Kit
3.	Check Valve Dart no Choke	0,70	1,54	BG00321398
4.	Check Valve Spring	0,03	0,07	BG00014864
5.	Make Up Ring	0,40	0,88	BG00014865
6.	Air Distributor with O-Ring	6,20	13,6	BG00419123
7.	O-Ring Air Distributor			In Seal Kit
8.	Inner Cylinder	6,40	14,1	BG00419144
9.	Piston	21,4	47,1	BG00243084
10.	Piston Case with Retainer Ring	46,4	102	BG00224808
11.	Piston Retainer Ring	0,10	0,22	BG00055711
12.	O-Ring Guide Sleeve			In Seal Kit
13.	Guide Sleeve with O-Ring	2,30	5,06	BG00055719
14.	Bit Retainer Ring with O-Ring	0,60	1,32	BG00014871
15.	O-Ring Bit Retainer Ring			In Seal Kit
16.	Driver Sub	7,20	15,8	BG00224798

Optional

	Air Screen	0,10	0,22	BG00014867
	Air Screen Circlip	0,01	0,02	BG00014862
	Choke Set, Blank, 3mm, 4.5mm and 6mm	0,01	0,02	BG00081800
	Check Valve Dart with Choke Hole	0,70	1,54	BG00014869
	Driver sub hard faced	6.50	14.3	BG00242302

Seal Kit

	1 Piece of 2, 7, 15 & 2 of 12	0,01	0,02	BG00014894
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Rebuild Kit

	1 piece of 1,10,16 & Seal Kit			
	3 1/2" API Reg Pin	79,0	174	BG00240400

Complete Hammer

	3 1/2" API Reg Pin	117	257	32-4665-EQB-04C
--	--------------------	-----	-----	-----------------

Bit shank

QL60



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
						Bit closed		Bit extended	
kg	lb	mm	inch	mm	inch	mm	inch	mm	inch
117	257	150	5,91	1155	45,47	1263	49,72	1304	51,34

AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN, DIN 1343			POWER OUTPUT (kW)	
250 psi	350 psi	500 psi	18 bar	24 bar	35 bar	35 bar	
508	713	1085	14,4	20,2	30,7	47,3	



REPLACEMENT PARTS ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1. Top sub			
4 1/2" API reg pin	55	121	BG00096730
2. Check valve dart no choke	0.80	1.76	BG00321984
3. Check valve spring	0.04	0.09	BG00015376
4. Make up ring	0.4	0.88	BG00015380
5. Air distributor with O-ring	9.4	20.7	BG00078615
6. O-ring air distributor			In seal kit
7. Inner cylinder	10.5	23.1	BG00057803
8. Piston	50	110	BG00277131
9. Piston case with retainer ring	64	141	BG00057909
10. Piston retainer ring	0.2	0.44	BG00096748
11. O-ring guide sleeve			In seal kit
12. Guide sleeve with O-ring	3	6.6	BG00096749
13. Bit retainer ring with O-ring	1.4	3.08	BG00096752
14. O-ring bit retainer ring			In seal kit
15. Driver sub	13.6	29.9	BG00096753

Optional

Air screen	0.2	0.44	BG00303642
Air screen circlip	0.01	0.02	BG00303733
Choke set, blank, 3mm, 4.5mm and 6mm	0.01	0.02	BG00081800
Check valve dart with choke hole	0.8	1.76	BG00015375
Driver sub hard faced	13.6	29.9	BG00367978

Seal Kit

1 piece of #6, #11 & #14	0.01	0.02	BG00303706
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Rebuild Kit

1 piece of #1, #9, #15 & seal kit			
4 1/2" API reg pin	134	295	BG00305733

Complete Hammer

4 1/2" API reg pin	213	469	32-4680-SQA-19S
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Bit shank

QL80



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
kg	lb	mm	inch	mm	inch	Bit closed		Bit extended	
						mm	inch	mm	inch
213	469	183	7.20	1426	56.14	1566	61.65	1608	63.31

AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN, DIN 1343			POWER OUTPUT (kW)	
150 psi	250 psi	350 psi	10 bar	18 bar	24 bar	24 bar	
424	953	1448	12	27	41	50	



REPLACEMENT PARTS	ITEM DESCRIPTION	Weight, kg	Weight, lb	Part No.
1.	Top sub			
	4 1/2" API reg pin	57.0	125	BG00365764
	4 1/2" BECO pin	57.0	125	BG00278298
2.	Check valve dart no choke	0.80	1.76	BG00321984
3.	Check valve spring	0.04	0.09	BG00015376
4.	Make up ring	0.40	0.88	BG00015380
5.	Air distributor with O-ring	9.40	20.7	BG00078615
6.	O-ring air distributor			In seal kit
7.	Inner cylinder	10.5	23.1	BG00057803
8.	Piston	50.0	110	BG00277131
9.	Piston case with retainer ring	94.2	207	BG00278268
10.	Piston retainer ring	0.20	0.44	BG00096748
11.	O-ring guide Sleeve			In seal kit
12.	Guide sleeve with O-ring	3.00	6.60	BG00096749
13.	Bit retainer ring with O-ring	1.40	3.08	BG00096752
14.	O-ring bit retainer ring			In seal kit
15.	Driver sub hard faced	15.9	35.0	BG00303677

Optional

	Air screen	0.20	0.44	BG00303642
	Air screen circlip	0.01	0.02	BG00303733
	Choke set, blank, 3mm, 4.5mm and 6mm	0.01	0.02	BG00081800
	Check valve dart with choke hole	0.80	1.76	BG00015375

Seal Kit

	1 piece of #6, #11 & #14	0.01	0.02	BG00303706
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Rebuild Kit

	1 piece of #1, #9, #15 & seal kit			
	4 1/2" API reg pin	168	370	BG00367721
	4 1/2" BECO pin	167	367	BG00305742

Complete Hammer

	4 1/2" API reg pin	244	537	32-4685-GQA-19C
	4 1/2" BECO pin	244	537	32-4685-GQA-72C

Bit shank

QL80



WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
						Bit closed		Bit extended	
kg	lb	mm	inch	mm	inch	mm	inch	mm	inch
244	537	194	7.64	1426	56.14	1566	61.65	1608	63.31

AIR CONSUMPTION, CFM			AIR CONSUMPTION, M ³ /MIN, DIN 1343			POWER OUTPUT (kW)	
150 psi	250 psi	350 psi	10 bar	18 bar	24 bar	24 bar	
424	953	1448	12	27	41	50	



INVEST IN LONG-TERM DRILLING CAPACITY

All drill bits are fitted with our cemented carbide inserts, which provide you with superior life and drilling productivity.

Drill bit bodies make use of precision hardened Nickel Molybdenum steel and compound curve body designs to maximize cutting efficiency and cuttings removal. Each bit is uniquely designed to maximize penetration and increase flushing. The Sandvik DTH button bit designs are well known and extensively used around the world. The bits in our new range have an optimized bit head length, with maximized steel support for the cemented Carbide buttons, deep face grooves for excellent flushing and an aggressive cutting structure.

OPTIMIZED HEAD DESIGN

Long wear life, and optimal balance between wear and energy transmission.

BALLISTIC OR SPHERICAL BUTTONS IN DIFFERENT CARBIDE GRADES







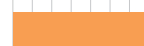




































Allows you to make the best choice for different rock conditions.

OPTIMIZED CUTTING STRUCTURE

Gives good penetration and bit life in all rock formations.

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BIT SELECTION GUIDE

FACES	CARBIDES	ROCK HARDNESS		ROCK STRUCTURE		ROCK ABRASIVENESS	
Concave	Ballistic	Very hard	Soft	Fissured	Homogeneous	Very abrasive	Non abrasive
							
							
Concave	Spherical	Very hard	Soft	Fissured	Homogeneous	Very abrasive	Non abrasive
							
							
Convex	Ballistic	Very hard	Soft	Fissured	Homogeneous	Very abrasive	Non abrasive
							
							
Convex	Spherical /Ballistic	Very hard	Soft	Fissured	Homogeneous	Very abrasive	Non abrasive
 	 						
Flat	Spherical	Very hard	Soft	Fissured	Homogeneous	Very abrasive	Non abrasive
							
							

Cemented carbides types specifications

This bit selection guide will help you select the right bit for the type of rock you are drilling,

Note: Cemented carbide grades DP55 and DP65 are available on several bits.

 Convex face with spherical gauge buttons and ballistic front buttons.

BIT SHANK IDENTIFICATION CHART

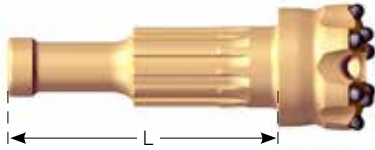
M30 • 3", L = 224 MM, 8 SPLINES



DHD3.5HD • 3.5", L = 240 MM, 8 SPLINES



M40 • 4", L = 228 MM, 12 SPLINES



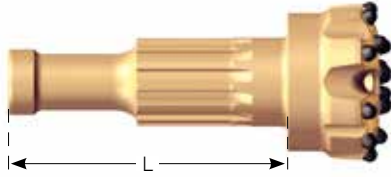
DHD340 • 4", L = 209 MM, 8 SPLINES



QLX40 • 4", L = 209 MM, 12 SPLINES



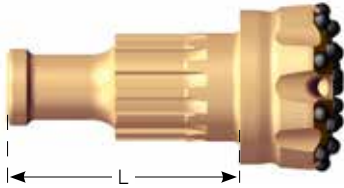
M50 • 5", L = 287 MM, 12 SPLINES



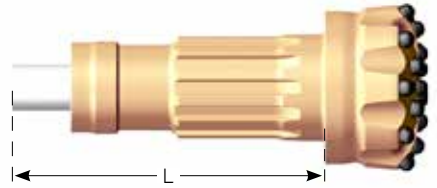
QL50 • 5", L = 240 MM, 12 SPLINES



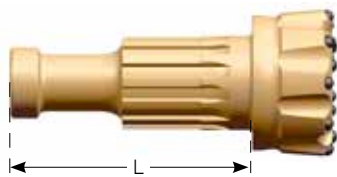
M60 • 6", L = 230 MM, 12 SPLINES



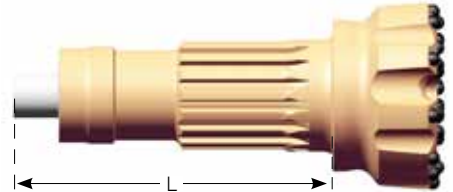
QL60 • 6", L = 253 MM, 12 SPLINES



M80 • 8", L = 329 MM, 12 SPLINES



QL80 • 8", L = 332 MM, 16 SPLINES



DTH HAMMERS

DTH BITS








DRILL PIPES

ACCESSORIES






GRINDING EQUIPMENT

PART NUMBER KEYS

DTH BITS / M SHANKS

SANDVIK RH510	Diameter		Air holes	Gauge buttons	Button dia. mm		Weight		Part No.	Shank
	mm	inch			gauge	front	kg	lb		
M30										
Convex face / Ballistic button										
	90	3 1/2	2	8	12	12	4.7	10	42-3A51090-R48	
	95	3 3/4	2	8	12	12	4.7	10	42-3A51095-R48	
	100	3 7/8	2	8	13	13	5.3	12	42-3A54100-R48	
	105	4 1/8	2	8	14	14	5.3	12	42-3A5B105-R48	
Flat face / Spherical button										
	90	3 1/2	2	8	11	11	4.7	10	42-3AF0090-S48	
	95	3 3/4	2	8	12	12	4.7	10	42-3AF1095-S48	
	100	3 7/8	2	8	13	13	5.3	12	42-3AF4100-S48	
	105	4 1/8	2	8	14	14	5.3	12	42-3AFB105-S48	
M40										
Concave face / Ballistic button										
	115	4 1/2	2	8	14	14	8.4	18	42-481B115-R48	
	115	4 1/2	2	8	14	14	8.4	18	42-481B115-R55	
	127	5	2	8	14	14	12	26	42-481B127-R48	
Concave face / Spherical button										
	115	4 1/2	2	8	14	14	8.4	18	42-481B115-S48	
	115	4 1/2	2	8	14	14	8.4	18	42-481B115-S65	
	121	4 3/4	2	8	14	14	11	24	42-481B121-S48	
	121	4 3/4	2	8	14	14	11	24	42-481B121-S65	
	127	5	2	8	14	14	12	26	42-481B127-S48	
	130	5 1/8	2	8	16	13	14	31	42-481B130-S48	
Convex face / Ballistic button										
	115	4 1/2	2	8	14	14	8.4	18	42-485B115-R48	
	115	4 1/2	2	8	14	14	8.4	18	42-485B115-R55	
	127	5	2	8	14	14	12	26	42-485B127-R48	
	127	5	2	8	14	14	12	26	42-485B127-R55	
	130	5 1/8	3	9	16	14	14	31	42-48L9130-R48	
Flat face / Spherical button										
	115	4 1/2	2	8	14	14	8.4	18	42-48FB115-S48	
	127	5	2	8	14	14	12	26	42-48FB127-S48	
	130	5 1/8	2	8	16	14	14	31	42-48F9130-S48	

DTH BITS / M SHANKS

SANDVIK RH510	Diameter		Air holes	Gauge buttons	Button dia. mm		Weight		Part No.	Shank
	mm	inch			gauge	front	kg	lb		
M50										
Concave face / Ballistic button										M50
	140	5 1/2	2	8	16	14	15	33	42-5819140-R48	
	140	5 1/2	2	8	16	14	15	33	42-5819140-R55	
Concave face / Spherical button										
	140	5 1/2	2	8	16	14	15	33	42-5819140-S48	
	140	5 1/2	2	8	16	14	15	33	42-5819140-S65	
	146	5 3/4	2	8	16	14	16	35	42-5819146-S48	
	146	5 3/4	2	8	16	14	16	35	42-5819146-S65	
	152	6	2	8	18	16	17.1	38	42-581D152-S48	
	165	6 1/2	2	8	18	16	18	40	42-581D165-S48	
Convex face / Ballistic button										
	140	5 1/2	3	9	16	16	15	33	42-58LC140-R48	
	140	5 1/2	3	9	16	16	15	33	42-58LC140-R55	
	146	5 3/4	3	9	16	16	16	35	42-58LC146-R48	
	146	5 3/4	3	9	16	16	16	35	42-58LC146-R55	
Flat face / Spherical button										
	140	5 1/2	3	9	16	14	15	33	42-5829140-S48	
	140	5 1/2	3	9	16	14	15	33	42-5829140-S65	
	146	5 3/4	3	9	16	14	16	35	42-5829146-S48	
	152	6	3	9	18	16	17.1	38	42-582D152-S48	

DTH HAMMERS

DTH BITS

DRILL PIPES

ACCESSORIES

GRINDING EQUIPMENT

PART NUMBER KEYS

DTH BITS / M SHANKS

SANDVIK RH510	Diameter		Air holes	Gauge buttons	Button dia. mm		Weight		Part No.	Shank
	mm	inch			gauge	front	kg	lb		
M60										
Concave face / Spherical button										M60
	152	6	2	8	18	18	21.8	48	42-681E152-S48	
	155	6 1/8	2	8	18	18	22.2	49	42-681E155-S48	
	155	6 1/8	2	8	18	18	22.2	49	42-681E155-S65	
	165	6 1/2	3	9	18	18	23.5	52	42-68DE165-S48	
	165	6 1/2	3	9	18	18	23.5	52	42-68DE165-S65	
	172	6 3/4	3	9	18	18	25	55	42-68DE172-S48	
	172	6 3/4	3	9	18	18	25	55	42-68DE172-S65	
203	8	3	9	18	18	29.1	64	42-68DE203-S48		
Convex face / Ballistic button										
	155	6 1/8	3	9	18	18	22.2	49	42-68LE155-R48	
	155	6 1/8	3	9	18	18	22.2	49	42-68LE155-R55	
	165	6 1/2	3	9	18	18	23.5	52	42-68GE165-R48	
	165	6 1/2	3	9	18	18	23.5	52	42-68GE165-R55	
	172	6 3/4	3	9	18	18	25	55	42-68GE172-R48	
	172	6 3/4	3	9	18	18	25	55	42-68GE172-R55	
Flat face / Spherical button										
	165	6 1/2	3	9	18	18	23.5	52	42-682E165-S48	
	165	6 1/2	3	9	18	18	23.5	52	42-682E165-S65	
	172	6 3/4	3	9	18	18	25	55	42-682E172-S48	
	172	6 3/4	3	9	18	18	25	55	42-682E172-S65	
	178	7	3	9	18	18	26	57	42-682E178-S48	
	203	8	3	9	18	18	29.1	64	42-682E203-S48	
M80										
Concave face / Spherical button										M80
	203	8	3	9	18	18	41	90	42-88PE203-S48	
	216	8 1/2	3	9	18	18	42	92	42-88PE216-S48	
	219	8 5/8	3	9	18	18	42	92	42-88PE219-S48	
	222	8 3/4	3	12	18	18	49	108	42-888E222-S48	
	229	9	3	12	18	18	53	117	42-888E229-S48	
	254	10	3	12	18	18	57	125	42-888E254-S48	
	270	10 5/8	3	12	18	18	61	134	42-888E270-S48	

DTH BITS / DHD3.5/DHD340 SHANKS

SANDVIK RH460	Diameter		Air holes	Gauge buttons	Button dia. mm		Weight		Part No.	Shank	
	mm	inch			gauge	front	kg	lb			
DHD3.5 HD											
Flat Face / Spherical Button										DHD3.5 HD	
	90	3 1/2	2	8	11	11	6,3	13,9	42-3HF0090-S48		
	95	3 3/4	2	8	12	12	6,4	14,1	42-3HF1095-S48		
	100	3 7/8	2	8	13	13	6,7	14,8	42-3HF4100-S48		
	105	4 1/8	2	8	14	14	6,8	15,0	42-3HFB105-S48		
Convex Face / Ballistic Button											
	90	3 1/2	2	8	12	12	6,2	13,7	42-3H51090-R48		
	95	3 3/4	2	8	12	12	6,4	14,1	42-3H51095-R48		
	95	3 3/4	2	8	12	12	6,4	14,1	42-3H51095-R55		
	100	3 7/8	2	8	13	13	6,5	14,3	42-3H54100-R48		
	105	4 1/8	2	8	14	14	6,7	14,8	42-3H5B105-R48		
	105	4 1/8	2	8	14	14	6,7	14,8	42-3H5B105-R55		
Foot valve											
							0,5	1	47-3H017		
DHD340											
Concave face / Ballistic button										DHD340	
	115	4 1/2	2	8	14	13	8,4	18	42-361A115-R48		
	115	4 1/2	2	8	14	13	8,4	18	42-361A115-R55		
	127	5	2	8	14	13	12	26	42-361A127-R48		
	127	5	2	8	14	13	12	26	42-361A127-R55		
Concave face / Spherical button											
	115	4 1/2	2	8	14	13	8,4	18	42-361A115-S48		
	115	4 1/2	2	8	14	13	8,4	18	42-361A115-S65		
	121	4 3/4	2	8	14	13	11	24	42-361A121-S48		
	121	4 3/4	2	8	14	13	11	24	42-361A121-S65		
	127	5	2	8	14	13	12	26	42-361A127-S48		
	127	5	2	8	14	13	12	26	42-361A127-S65		
	130	5 1/8	2	8	16	13	14	31	42-3618130-S48		
	Convex face / Ballistic button										
	115	4 1/2	2	8	14	13	8,4	18	42-365A115-R48		
	115	4 1/2	2	8	14	13	8,4	18	42-365A115-R55		
	127	5	2	8	14	13	12	26	42-365A127-R48		
	127	5	2	8	14	13	12	26	42-365A127-R55		
	130	5 1/8	3	9	16	13	14	31	42-36L8130-R48		
Flat face / Spherical button											
	115	4 1/2	2	8	14	13	8,4	18	42-36FA115-S48		
	115	4 1/2	2	8	14	13	8,4	18	42-36FA115-S65		
	115	4 1/2	2	8	16	13	8,4	18	42-36F8115-S65		
	127	5	2	8	14	13	12	26	42-36FA127-S48		
	127	5	2	8	14	13	12	26	42-36FA127-S65		
	130	5 1/8	2	8	16	13	14	31	42-36F8130-S48		
	Foot valve										
							0,5	1	47-36017		

DTH HAMMERS

DTH BITS







DRILL PIPES

ACCESSORIES







GRINDING EQUIPMENT

PART NUMBER KEYS

DTH BITS / QLX40 SHANKS

SANDVIK RH460	Diameter		Air holes	Gauge buttons	Button dia. mm		Weight		Part No.	Shank	
	mm	inch			gauge	front	kg	lb			
QLX 40											
Concave Face / Ballistic Button										QLX 40	
	115	4 1/2	2	8	14	13	8.4	18	42-4G1A115-R48		
	115	4 1/2	2	8	14	13	8.4	18	42-4G1A115-R55		
	127	5	2	8	14	13	12	26	42-4G1A127-R48		
	127	5	2	8	14	13	12	26	42-4G1A127-R55		
Concave Face / Spherical Button											
	115	4 1/2	2	8	14	13	8.4	18	42-4G1A115-S48		
	115	4 1/2	2	8	14	13	8.4	18	42-4G1A115-S65		
	127	5	2	8	14	13	12	26	42-4G1A127-S48		
	130	5 1/8	2	8	16	13	14	31	42-4G18130-S48		
Convex Face / Ballistic Button											
	115	4 1/2	2	8	14	13	8.4	18	42-4G5A115-R48		
	115	4 1/2	2	8	14	13	8.4	18	42-4G5A115-R55		
	127	5	2	8	14	13	12	26	42-4G5A127-R48		
	130	5 1/8	3	9	16	13	14	31	42-4GL8130-R48		
Flat Face / Spherical Button											
	115	4 1/2	2	8	14	13	8.4	18	42-4GFA115-S48		
	115	4 1/2	2	8	14	13	8.4	18	42-4GFA115-S65		
	115	4 1/2	2	8	16	13	8.4	18	42-4GF8115-S65		
	127	5	2	8	14	13	12	26	42-4GFA127-S48		
	127	5	2	8	14	13	12	26	42-4GFA127-S65		
	130	5 1/8	2	8	16	13	14	31	42-4GF8130-S48		
Foot valve											
							0.5	1	47-4G017		

DTH BITS / QL50 SHANKS

SANDVIK RH460	Diameter		Air holes	Gauge buttons	Button dia. mm		Weight		Part No.	Shank
	mm	inch			gauge	front	kg	lb		
QL50										
Concave face / Ballistic button										QL50
	140	5 1/2	2	8	16	14	15	33	42-5019140-R48	
	140	5 1/2	2	8	16	14	15	33	42-5019140-R55	
Concave face / Spherical button										
	140	5 1/2	2	8	16	14	15	33	42-5019140-S48	
	140	5 1/2	2	8	16	14	15	33	42-5019140-S65	
	146	5 3/4	2	8	16	14	16	35	42-5019146-S48	
	146	5 3/4	2	8	16	14	16	35	42-5019146-S65	
	152	6	2	8	18	16	17.1	38	42-501D152-S48	
Convex face / Ballistic button										
	140	5 1/2	3	9	16	16	15	33	42-50LC140-R48	
	140	5 1/2	3	9	16	16	15	33	42-50LC140-R55	
	146	5 3/4	3	9	16	16	16	35	42-50LC146-R48	
	146	5 3/4	3	9	16	16	16	35	42-50LC146-R55	
	152	6	3	9	18	16	17.1	38	42-50LD152-R48	
Flat face / Spherical button										
	140	5 1/2	3	9	16	14	15	33	42-5029140-S48	
	140	5 1/2	3	9	16	14	15	33	42-5029140-S65	
	146	5 3/4	3	9	16	14	16	35	42-5029146-S48	
	146	5 3/4	3	9	16	14	16	35	42-5029146-S65	
	152	6	3	9	18	16	17.1	38	42-502D152-S48	
Foot valve										
							0.5	1.2	47-50017	

DTH HAMMERS

DTH BITS






DRILL PIPES

ACCESSORIES




GRINDING EQUIPMENT

PART NUMBER KEYS

DTH BITS / QL60 SHANKS

SANDVIK RH460	Diameter		Air holes	Gauge buttons	Button dia. mm		Weight		Part No.	Shank
	mm	inch			gauge	front	kg	lb		
QL60										
Concave face / Spherical button										QL60
	152	6	2	8	18	18	25.8	57	42-761E152-S48	
	155	6 1/8	2	8	18	18	26.2	58	42-761E155-S48	
	155	6 1/8	2	8	18	18	26.2	58	42-761E155-S65	
	165	6 1/2	3	9	18	18	27.5	61	42-76DE165-S48	
	165	6 1/2	3	9	18	18	27.5	61	42-76DE165-S65	
	172	6 3/4	3	9	18	18	29	64	42-76DE172-S48	
	172	6 3/4	3	9	18	18	29	64	42-76DE172-S65	
	203	8	3	9	18	18	33.1	73	42-76DE203-S48	
Convex face / Ballistic button										
	155	6 1/8	3	9	18	18	26.2	58	42-76LE155-R48	
	155	6 1/8	3	9	18	18	26.2	58	42-76LE155-R55	
	165	6 1/2	3	9	18	18	27.5	61	42-76GE165-R48	
	165	6 1/2	3	9	18	18	27.5	61	42-76GE165-R55	
	172	6 3/4	3	9	18	18	29	64	42-76GE172-R48	
	172	6 3/4	3	9	18	18	29	64	42-76GE172-R55	
Flat face / Spherical button										
	165	6 1/2	3	9	18	18	27.5	61	42-762E165-S48	
	165	6 1/2	3	9	18	18	27.5	61	42-762E165-S65	
	172	6 3/4	3	9	18	18	29	64	42-762E172-S48	
	172	6 3/4	3	9	18	18	29	64	42-762E172-S65	
	178	7	3	9	18	18	30	66	42-762E178-S48	
203	8	3	9	18	18	33.1	73	42-762E203-S48		
Foot valve										
							0.5	1.2	47-76017	

DTH BITS / QL80 SHANKS

SANDVIK RH460	Diameter		Air holes	Gauge buttons	Button dia. mm		Weight		Part No.	Shank
	mm	inch			gauge	front	kg	lb		
QL80										
Concave face / Spherical button										QL80
	203	8	3	9	18	18	50.4	111	42-83PE203-S48	
	216	8 1/2	3	9	18	18	52.7	116	42-83PE216-S48	
	219	8 5/8	3	9	18	18	53.4	117	42-83PE219-S48	
	222	8 3/4	3	12	18	18	54.4	120	42-838E222-S48	
	229	9	3	12	18	18	55.2	121	42-838E229-S48	
	229	9	3	12	18	18	55.2	121	42-838E229-S65	
	254	10	3	12	18	18	64	141	42-838E254-S48	
	270	10 5/8	3	12	18	18	71.8	158	42-838E270-S48	
Foot valve							0.5	1.2	47-83017	
										

HOLE OPENERS



For further information, please contact your nearest Sandvik Mining representative for a quote and delivery time.



HIGH-TECH DRILL PIPES FOR SMOOTH DRILLING

We offer a line of drill pipes which provides you with a great degree of compatibility between rigs and tools.

Cold-drawn seamless tubing material, N80, is used to ensure straightness, thickness and high strength. This gives a smoother drilling process and, consequently, a longer service life. The material also provides a smooth, fine surface that eliminates the risk of hammer failures caused by scaling. Furthermore, the tool joints are made out of micro alloy steel and are case-hardened for superior thread life.

COLD-DRAWN SEAMLESS TUBING MATERIAL

- Superior straightness
- High strength
- Uniform pipe wall thickness
- Less weight

FRICTION-WELDED END PIECES

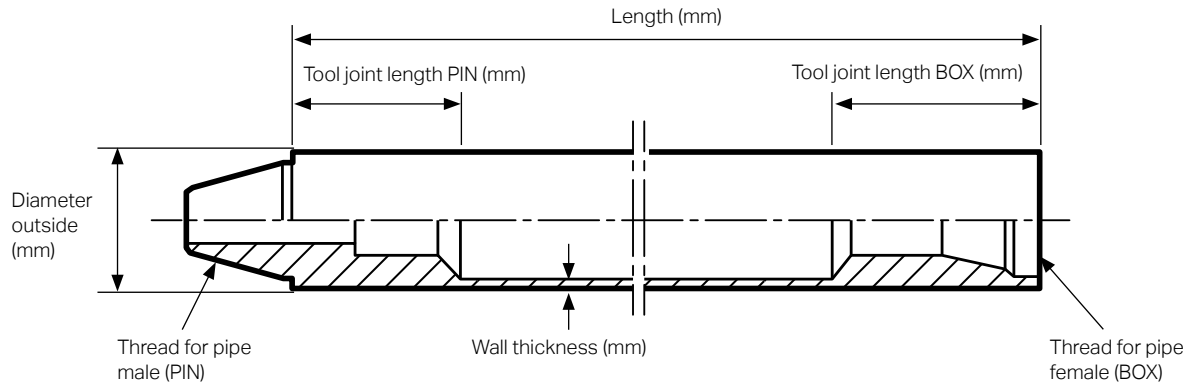
- High-strength, 100 % metal-to-metal joint with parent metal properties
- Low-temperature process, gives a small HAZ (heat affected zone) that reduces the risk of failure

HEAVY-DUTY TOOL JOINTS

- Made of micro alloy steel
- Case-hardened for extra strength
- Offer superior thread life

SANDVIK DRILL PIPES	64
SANDVIK ROTATION UNIT ADAPTERS	65
SANDVIK SUBS	67

SANDVIK DRILL PIPES



Diameter outside	Wall thickness	Length	Thread for pipe male	Thread for pipe female	Spanner Flat	Internal Spline	Tool joint length Pin	Tool joint length Box	Weight	Part no.	
mm	mm	mm	Pin	Box			mm	mm	kg	lb	
76	4.0	3000	API 2 3/8" Reg	API 2 3/8" Reg	Y	N	107	165	24	53	52-076-101018
76	4.0	3000	API 2 3/8" Reg	API 2 3/8" Reg	N	N	190	190	31	68	52-076-10688900
76	6.3	3048	API 2 3/8" Reg	API 2 3/8" Reg	Y	N	190	260	39	86	52-076-102801
76	6.3	4000	API 2 3/8" Reg	API 2 3/8" Reg	N	N	190	190	46	101	52-076-10686408
76	6.3	5000	API 2 3/8" Reg	API 2 3/8" Reg	N	N	350	350	65	143	52-076-10508618
76	6.3	5000	API 2 3/8" Reg	API 2 3/8" Reg	N	N	190	190	58	128	52-076-10686990
79	6.3	1524	CUBEX #21	CUBEX #21	Y	Y	110	190	21	46	52-20340-111
79	6.3	1829	CUBEX #21	CUBEX #21	Y	Y	110	190	26	56	52-20340-109
89	4.0	1800	API 2 3/8" Reg	API 2 3/8" Reg	Y	N	107	158	20	44	52-089-101048
89	4.0	3000	API 2 3/8" Reg	API 2 3/8" Reg	Y	N	107	158	30	66	52-089-101051
89	4.0	4000	API 2 3/8" Reg	API 2 3/8" Reg	N	N	190	190	46	101	52-089-10686310
89	4.0	4500	API 2 3/8" Reg	API 2 3/8" Reg	Y	N	107	158	45	99	52-089-103231
89	6.3	1500	API 2 3/8" Reg	API 2 3/8" Reg	Y	N	107	158	24	53	52-089-101077
89	6.3	1800	API 2 3/8" Reg	API 2 3/8" Reg	N	N	300	300	31	68	52-089-102653
89	6.3	1829	CUBEX #21	CUBEX #21	Y	Y	110	200	28	62	52-20340-103
89	6.3	1829	CUBEX #24	CUBEX #24	Y	Y	110	200	29	64	52-20340-105
89	6.3	3000	API 2 3/8" Reg	API 2 3/8" Reg	Y	N	107	158	43	95	52-089-101079
89	6.3	5000	API 2 3/8" Reg	API 2 3/8" Reg	N	N	190	190	76	166	52-089-10686409
89	6.3	5000	API 2 3/8" Reg	API 2 3/8" Reg	N	N	350	350	82	181	52-089-10508619
89	6.3	6000	API 2 3/8" Reg	API 2 3/8" Reg	N	N	350	350	95	209	52-089-10505952
89	6.3	7500	API 2 3/8" Reg	API 2 3/8" Reg	N	N	350	350	114	251	52-089-103691
89	8.8	5000	API 2 3/8" Reg	API 2 3/8" Reg	N	N	350	350	90	198	52-089-102955
89	8.8	6000	API 2 3/8" Reg	API 2 3/8" Reg	N	N	350	350	112	247	52-089-10671706
89	8.8	6000	API 2 3/8" Reg	API 2 3/8" Reg	N	N	270	270	112	247	52-089-101833
89	12	6096	CUBEX #24	CUBEX #24	N	N	280	280	150	331	52-CP001500



SANDVIK DRILL PIPES

Diameter outside	Wall thickness	Length	Thread for pipe male	Thread for pipe female	Spanner Flat	Internal Spline	Tool joint length Pin	Tool joint length Box	Weight	Part no.	
mm	mm	mm	Pin	Box			mm	mm	kg	lb	
→											
102	6.3	1524	CUBEX #24	CUBEX #24	Y	Y	150	220	32	69	52-20830-132
102	6.3	1828	CUBEX #24	CUBEX #24	Y	Y	150	220	41	90	52-102-101393
102	6.3	4000	API 2 7/8" Reg	API 2 7/8" Reg	N	N	270	270	74	163	52-102-102778
102	6.3	5000	API 2 7/8" Reg	API 2 7/8" Reg	N	N	270	270	89	196	52-102-101266
102	6.3	5000	API 2 7/8" Reg	API 2 7/8" Reg	N	N	350	350	98	216	52-102-10508620
102	6.3	5000	API 2 7/8" Reg	API 2 7/8" Reg	N	N	270	270	85	187	52-102-10502702
102	6.3	6000	API 2 7/8" Reg	API 2 7/8" Reg	N	N	270	270	94	207	52-102-101618
102	6.3	6000	API 2 7/8" Reg	API 2 7/8" Reg	N	N	350	350	112	247	52-102-10506339
102	6.3	7500	API 2 7/8" Reg	API 2 7/8" Reg	N	N	350	350	136	300	52-102-103692
102	8.8	6100	3 1/8" DIBH	3 1/8" DIBH	Y	Y	150	220	132	291	52-102-102935
102	8.8	9144	API 2 7/8" Reg	API 2 7/8" Reg	Y	N	340	315	200	441	52-102-101914
102	12	6096	CUBEX #24	CUBEX #24	N	N	280	280	180	397	52-CP000458
114	6.3	1196	CUBEX #28	CUBEX #28	Y	Y	130	220	30	67	52-114-102298
114	6.3	3000	API 3 1/2" Reg	API 3 1/2" Reg	Y	N	140	185	60	132	52-114-101139
114	6.3	5000	API 3 1/2" Reg	API 3 1/2" Reg	N	N	350	350	115	254	52-114-10508621
114	6.3	5000	API 3 1/2" Reg	API 3 1/2" Reg	N	N	190	260	93	205	52-114-10504087
114	6.3	6000	API 3 1/2" Reg	API 3 1/2" Reg	N	N	350	350	132	291	52-114-10505147
114	6.3	6000	API 3 1/2" Reg	API 3 1/2" Reg	N	N	270	260	120	265	52-114-101238
114	6.3	7500	API 3 1/2" Reg	API 3 1/2" Reg	N	N	350	350	156	344	52-114-103693
114	8.8	6000	API 3 1/2" Reg	API 3 1/2" Reg	N	N	270	260	156	344	52-114-102072
114	8.8	7500	API 3 1/2" Reg	API 3 1/2" Reg	N	N	350	350	201	443	52-114-103719
114	8.8	7620	API 3 1/2" Reg	API 3 1/2" Reg	Y	N	310	300	187	412	52-114-101228
114	8.8	9144	API 3 1/2" Reg	API 3 1/2" Reg	Y	N	490	225	230	507	52-114-101597
114	8.8	9144	API 3 1/2" Reg	API 3 1/2" Reg	Y	N	310	300	222	489	52-114-101841
114	12	1219	API 3 1/2" Reg	API 3 1/2" Reg	Y	N	490	350	58	128	52-114-102738
114	12	2400	API 3 1/2" Reg	API 3 1/2" Reg	Y	N	490	350	95	209	52-114-102740
114	12	3000	API 3 1/2" Reg	API 3 1/2" Reg	Y	N	490	362	116	256	52-114-102520
114	12	9144	API 3 1/2" Reg	API 3 1/2" Reg	Y	N	490	225	305	672	52-114-101808
114	12	9144	API 3 1/2" Reg	API 3 1/2" Reg	Y	N	490	362	310	683	52-114-102521
114	12	9144	BECO 3"	BECO 3"	Y	N	490	225	308	678	52-114-102919
114	12	9144	BECO 3"	BECO 3"	Y	N	310	300	303	668	52-114-103183
114	12.5	7620	API 3 1/2" Reg	API 3 1/2" Reg	Y	N	490	225	231	509	52-114-101494
127	6.3	1524	CUBEX #28	CUBEX #28	Y	Y	170	260	47	104	52-20830-101
127	6.3	6000	API 3 1/2" Reg	API 3 1/2" Reg	N	N	350	350	154	340	52-127-10505190
127	6.3	7500	API 3 1/2" Reg	API 3 1/2" Reg	N	N	350	350	181	399	52-127-103694
127	8.8	1829	CUBEX #28	CUBEX #28	Y	Y	130	220	65	143	52-20830-117
127	8.8	6096	CUBEX #28	CUBEX #28	N	N	280	280	183	403	52-127-103201
127	8.8	7500	API 3 1/2" Reg	API 3 1/2" Reg	N	N	350	350	228	503	52-127-103720
127	10.0	1524	CUBEX #28	CUBEX #28	Y	Y	170	260	62	137	52-20830-101H
127	12	6096	API 3 1/2" Reg	API 3 1/2" Reg	N	N	280	280	239	527	52-127-102990
127	12	6096	BECO 3 1/2"	BECO 3 1/2"	N	N	280	280	239	527	52-CP002185
127	12	8077	API 3 1/2" Reg	API 3 1/2" Reg	Y	N	315	315	310	683	52-127-102394
127	12	9144	API 3 1/2" Reg	API 3 1/2" Reg	Y	N	315	315	353	778	52-127-102327
140	8.8	7500	API 4 1/2" Reg	API 4 1/2" Reg	N	N	350	350	257	567	52-140-103695

DTH HAMMERS

DTH BITS

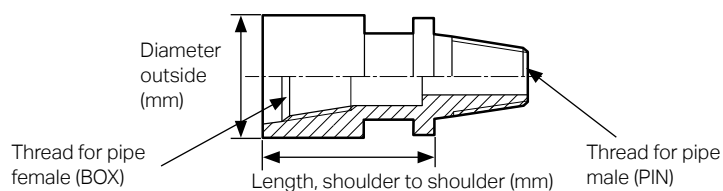
DRILL PIPES

ACCESSORIES

GRINDING EQUIPMENT

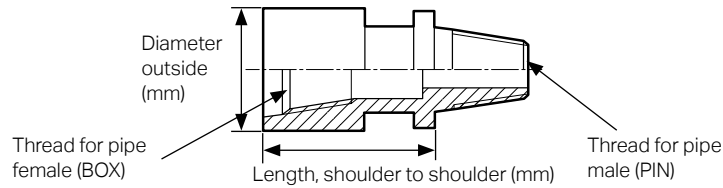
PART NUMBER KEYS

SANDVIK ROTATION UNIT ADAPTERS



Diameter outside	Length shoulder to shoulder	Thread for male connection	Thread for female connection	Thread for male connection	Spanner Flats	Internal Splines	Weight		Part no.
		Pin	Box	Pin			kg	lb	
76	215	M62×2	2 3/8 Reg		Y	N	7	14	52-076-11687703
76	131	M62×2	2 3/8 Reg		Y	N	5	10	52-076-11516950
89	215	M62×2	2 3/8 Reg		Y	N	9	20	52-089-11512674
89	300	M80×3	2 3/8 Reg		Y	N	13	28	52-089-11516555
89	89	M62×2		2 3/8 Reg	Y	N	6	13	52-089-11687217
102	300	M80×3	2 7/8 Reg		Y	N	17	37	52-102-11517523
102	215	M62×2	2 7/8 Reg		Y	N	13	28	52-102-11502994
114	300	M80×3	3 1/2 Reg		Y	N	19	42	52-114-11505151
114	215	M62×2	3 1/2 Reg		Y	N	13	29	52-114-11503612
114	307	3 1/2 Reg	2 3/8 Reg		Y	N	14	30	52-114-11518907
114	307	3 1/2 Reg	3 1/2 Reg		Y	N	21	47	52-114-11518332
114	307	3 1/2 Reg		3 1/2 Reg	Y	N	26	56	52-114-11518871
127	307	3 1/2 Reg	3 1/2 Reg		Y	N	27	60	52-127-11518872
127	300	M80×3	3 1/2 Reg		Y	N	24	53	52-127-11516261

SANDVIK SUBS



Diameter outside	Thread for male connection	Thread for female connection	Length shoulder to shoulder	Spanner Flats	Internal Splines	Weight		Part no.
						kg	lb	
mm	Pin	Box	mm					
89	API 2 3/8" Reg	API 2 3/8" Reg	305	N	N	13	29	52-089-111202
102	CUBEX #24	API 2 3/8" Reg	140	N	N	9	20	52-102-112648
102	API 2 7/8" Reg	API 2 3/8" Reg	130	Y	N	7	15	52-102-111029
114	CUBEX #24	API 3 1/2" Reg	160	Y	N	10	22	52-114-112649
114	CUBEX #24	API 3 1/2" Reg	160	Y	Y	9	20	52-114-112269
114	CUBEX #28	API 3 1/2" Reg	160	Y	Y	11	24	52-114-111059
114	API 2 3/8" Reg	API 3 1/2" Reg	160	Y	N	9	19	52-114-111053
114	API 2 7/8" Reg	API 3 1/2" Reg	160	Y	N	9	20	52-114-111056
114	API 3 1/2" Reg	API 2 3/8" Reg	120	Y	N	9	20	52-114-111031
114	API 3 1/2" Reg	API 2 3/8" Reg	223	Y	N	10	22	52-114-11518177
114	API 3 1/2" Reg	API 2 7/8" Reg	150	Y	N	11	24	52-114-111039
114	API 3 1/2" Reg	API 3 1/2" Reg	160	Y	N	11	23	52-114-111061
114	API 3 1/2" Reg	API 3 1/2" Reg	228	Y	N	15	33	52-114-111352
114	API 3 1/2" Reg	API 3 1/2" Reg	230	Y	N	14	32	52-114-112668
114	API 3 1/2" Reg	API 3 1/2" Reg	305	N	N	21	46	52-114-111578
114	API 3 1/2" Reg	API 3 1/2" Reg	500	Y	N	32	70	52-114-112537
114	DIBH 3 1/8"	API 3 1/2" Reg	260	Y	N	17	36	52-114-112700
114	BECO 3"	API 3 1/2" Reg	160	Y	N	10	22	52-114-112637
127	CUBEX #28	API 3 1/2" Reg	132	Y	Y	11	23	52-127-111060
127	BECO 3 1/2"	API 3 1/2" Reg	228	Y	N	20	44	52-127-111897
127	BECO 3 1/2"	API 3 1/2" Reg	228	Y	N	20	44	52-127-111943
127	BECO 3 1/2"	API 3 1/2" Reg	410	Y	N	36	79	52-127-112572
127	BECO 3 1/2"	API 3 1/2" Reg	609	Y	N	55	121	52-127-111524
127	API 3 1/2" Reg	BECO 3"	228	Y	N	19	41	52-127-112543
127	DIBH 3 1/8"	API 3 1/2" Reg	260	Y	N	21	46	52-127-11-2675
127	DIBH 3 1/8"	DIBH 3 1/8"	260	Y	N	15	32	52-127-112674
140	BECO 3 1/2"	API 4 1/2" Reg	228	Y	N	21	46	52-140-111948
146	API 4 1/2" Reg	API 3 1/2" Reg	132	Y	N	17	36	52-146-111067
150	API 4" IF	API 3 1/2" Reg	280	N	N	37	82	52-150-112621
164	API 3 1/2" Reg	BECO 3 1/2"	311	Y	N	33	73	52-164-112616
164	API 4 1/2" Reg	CUBEX #24	310	Y	N	24	53	52-164-112592
164	API 4 1/2" Reg	CUBEX #28	310	Y	N	26	57	52-164-112667
171	API 5 1/2" Reg	API 3 1/2" Reg	406	Y	N	42	93	52-171-112396
171	API 5 1/2" Reg	API 3 1/2" Reg	406	Y	N	43	95	52-171-112065
171	API 5 1/2" Reg	API 3 1/2" Reg	406	Y	N	45	99	52-171-112402



PRODUCTS AND TOOLS FOR MORE EFFICIENT, SAFE WORK

Sandvik has recently developed and manufactured a comprehensive range of accessories to further increase safety.

In order to best facilitate service and enable you to work efficient and safely, we supply many products and tools which work perfectly with our hammers. These accessories include Hammer lifting bails, foot valve assembly and

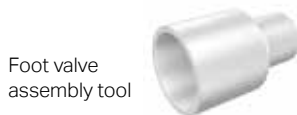
disassembly tools, and a comprehensive hammer service kit. Our range of accessories optimises your safety and productivity, and also reduces down-time, giving you better reliability.



Hammer lifting bail



Hammer service kit



Foot valve assembly tool



Foot valve disassembly tool

Description	Weight		Part no.
	kg	lb	
Hammer lifting bail			
2-3/8" Reg box 3600 kg	5.1	11.2	BG00016425
2-7/8" Reg box 3600 kg	8	17.6	BG00016426
3-1/2" Reg box 3600 kg	14	30.8	BG00016427
3-1/2" IF box 3600 kg	10	22	BG00016428
4-1/2" Reg box 3600 kg	19	41.8	BG00016429
CUBEX #24 box 3600 kg	13	28.6	BG00294441
CUBEX #21 box 3600 kg	13	28.6	BG00294442
CUBEX #28 box 3600 kg	13	28.6	BG00294450
4 1/2" BECO box 3600 kg	25	55	BG00294443

Hammer service kit			
4"	2	4.4	BG00303552
5"	4.5	9.9	BG00274811
6"	5.4	11.9	BG00275989
8"	11.5	25.3	BG00324800

Foot valve assembly tool			
QLX40	0.3	0.7	62-4G017A
DHD3.5	0.2	0.4	62-24017A
DHD340	0.3	0.7	62-36017A
QL50	0.4	0.8	62-50017A
QL60	0.4	0.8	62-76017A
QL80	0.6	1.3	62-83017A

Foot valve disassembly tool			
DHD3.5 / DHD340	1.8	3.9	63-010KTA
QLX4 / QL5 / DHD350	2.5	5.5	63-020KTA
QL6 / DHD 360	3.2	7	63-030KTA
QL8 / DHD380	4.9	10.9	63-040KTA



LET US MAKE YOUR GRINDING MORE PROFITABLE

We offer a wide range of high quality grinding machines, grinding wheels and cups. Every product is specifically designed to increase safety, productivity and – not least – revenue. They all work perfectly with the TH, DTH, integral steels and cross and X-bits. We know that every customer has their own specific challenges that require

different solutions. This is why we offer products which are suitable for all conceivable situations – from grinding directly at the drill rigs, to grinding in workshops for high levels of production. We also offer spare parts, as well as all the support you need to create a safe and successful mining business.

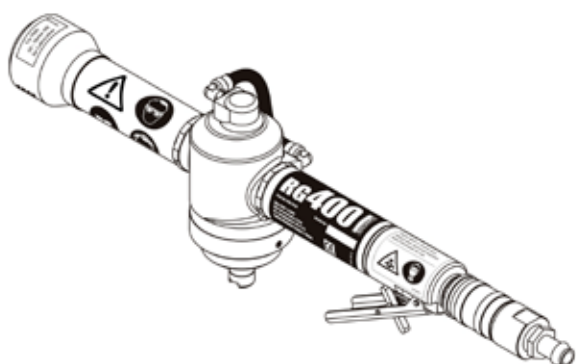
BUTTON BIT GRINDER RG400	72
BUTTON BIT GRINDER RG410	73
BUTTON BIT GRINDER RG420E	74
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BUTTON BIT GRINDER RG460	76
BUTTON BIT GRINDER RG470	77
GRINDING CUPS	78
GRINDING ACCESSORIES	79

BUTTON BIT GRINDER

RG400

GRINDING APPLICATIONS

Handheld, lightweight, lower-powered pneumatic grinder intended for all kinds of button bits with max button size of 10 mm.



TECHNICAL DATA

Air Supply pressure	Max 8 bar/min 6 bar
Air consumption	16 – 17 l/sec
Spindle speed	14000 r.p.m.
Flushing air pressure	Max. 6 bar
Flushing water pressure	Max. 6 bar
Water consumption	5 – 6 l/min
Hose connections:	
Air, air hose	12.5 mm (1/2")
Water, water hose	6.3 mm (1.4")
Dimensions: H x W x D	156 x 533 x 84 mm
Weight	2.9 kg

PART. NO FOR MACHINES

Complete grinder 796-5116

ACCESSORIES (INCLUDED IN MACHINE DELIVERY)

O-ring 797-5888-24
Hose, 6/4 mm 797-5957-06
Connector, 6-1/4" 797-5899-13
Nylon packing, 1/4" 797-5934-13
House Nipple, 1/4" – R1/4" 797-5777-13
Plug 6, R9 6 mm 797-5769-06
Screw (to remove damper) 797-5463-31
Shock Absorber 797-5273-01

ACCESSORIES (OPTIONAL)

Tools for O-ring replacement 797-5452
In line oiler 797-5747-50
Cooling/tank unit, complete 797-5488-85
Grinding gauge for button up Ø 16 mm 795-1396
Grinding cups see page 76

RECOMMENDED LUBRICANTS

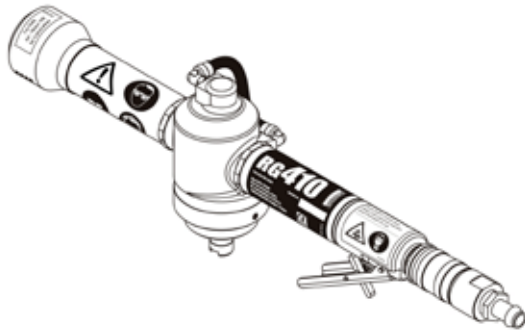
Air tool oil, 1 litre 797-5870-90

BUTTON BIT GRINDER

RG410

GRINDING APPLICATIONS

Handheld, lightweight, higher-powered pneumatic grinder intended for all kinds of button bits.



TECHNICAL DATA

Air Supply pressure	Max 8 bar/min 6 bar
Air consumption	40 – 55 l/sec
Spindle speed	19000 r.p.m.
Flushing air pressure	Max. 6 bar
Flushing water pressure	Max. 6 bar
Water consumption	5 – 6 l/min
Hose connections:	
Air, air hose	12.5 mm (1/2")
Water, water hose	6.3 mm (1.4")
Dimensions: H x W x D	156 x 533 x 84 mm
Weight	2.9 kg

PART. NO FOR MACHINES

Complete grinder 796-5100

ACCESSORIES (INCLUDED IN MACHINE DELIVERY)

O-ring 797-5888-24
Hose, 6/4 mm 797-5957-06
Connector, 6-1/4" 797-5899-13
Nylon packing, 1/4" 797-5934-13
House Nipple, 1/4"-R1/4" 797-5777-13
Plug 6, R9 6 mm 797-5769-06
Screw (to remove damper) 797-5463-31
Shock Absorber 797-5273-01

ACCESSORIES (OPTIONAL)

Tools for O-ring replacement 797-5452
In line oiler 797-5747-50
Cooling/tank unit, complete 797-5488-85
Grinding gauge for button up Ø 16 mm 795-1396
Grinding cups see page 76

RECOMMENDED LUBRICANTS

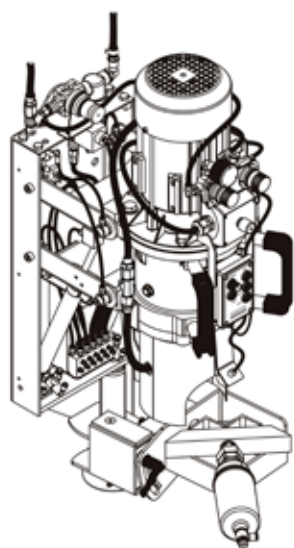
Air tool oil, 1 litre 797-5870-90

BUTTON BIT GRINDER

RG420E

GRINDING APPLICATIONS

Stationary electrical grinder for workshops, or to be mounted onto drill rigs. Intended for all kinds of button bits. Bit holder suitable for diameters of up to Ø 122 mm: Top hammer (TH) button bits (normal skirt) up to Ø 152 mm, TH button bits (retrac skirt) up to Ø 127 mm and down the hole button bits up to Ø 220 mm (max. shank Ø 110 mm and max. head length 110 mm).



TECHNICAL DATA

Air Supply pressure	Max 10 bar/min 6 bar
Air consumption	0.5 – 3 l/sec
Water Supply pressure	Max 8 bar/min 3.5 bar
Water consumption (cooling tank)	2 – 4 l/min
Water consumption (pump)	0.2 – 1 l/min
Coolant/flushing medium	Water
Rated power (motor)	1.5 kW
Air connection, air hose	9.5 mm (3/8")
Water connection, water hose	9.5 mm (3/8")
Dimensions: H x W x D	730 x 390 x 390 mm
Weight	45 kg

PART. NO FOR MACHINES

Grinder	796-6210-XX*
Grinder with pump	796-6260-XX*
Grinder with cover	796-6215-XX*
Grinder with pump and cover	796-6265-XX*

*For two last digits, see table below, under "Code"

VOLTAGE/PHASE ALT.

Voltage	Phases	Hz	Code
220 – 240 V	1	50/60 Hz	50
380 – 420 V	3	50/60 Hz	52
220 – 240 V	3	50/60 Hz	59
440 V	3	60 Hz	63

ACCESSORIES (INCLUDED IN MACHINE DELIVERY)

Bit insert	797-5502-26
O-ring for Grinding cup	797-5888-24
Assembly tools for O-ring replacement	797-5452
Lock plate	797-5502-39
Spindle tool 9 mm	797-5464-07
Grease gun	797-5870-20

ACCESSORIES (OPTIONAL)

Grinding cups	see page 76
Bit Mandrels	797-5348-XX**
**23 = R23, 25 = R25, 28 = R28, 32 = R32, 33 = R33, 35 = R35, 38 = R28/T38, 45 = T45, 51 = T51, 58 = ST58, 60 = GT60, 68 = ST68	
Example: Bit mandrel R32 = 797-5348-32	

Grinding gauge for button up to Ø 16 mm	795-1396
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SPARE PART KITS

Complete Grinding head (13000 r.p.m, including flushing head)	797-5130/1
All bearings, seals and screws for grinding head	797-5463-05
Outer Spindle (for Flushing head)	797-5464-02
Small kit for flushing head	797-5464-44
Big kit for flushing head	797-5464-59

RECOMMENDED LUBRICANTS

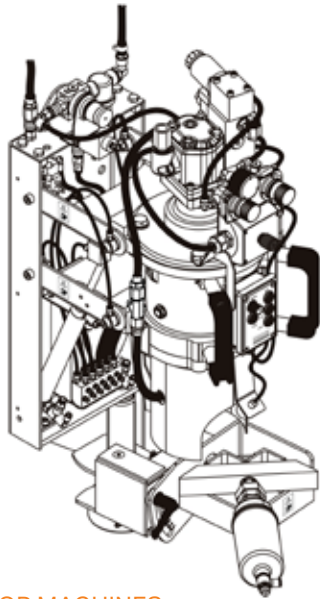
Gear oil, 1 litre	797-5870-15
Air tool oil, 1 litre	797-5870-90
Grease, 0.42 kg cartridge	797-5773-22

BUTTON BIT GRINDER

RG420H

GRINDING APPLICATIONS

Stationary hydraulic grinder for workshops, or to be mounted onto drill rigs. Intended for all kinds of button bits. Bit holder holds diameters up to Ø 122 mm: Top hammer (TH) button bits (normal skirt) up to Ø 152 mm, TH button bits (retrac skirt) up to Ø 127 mm and down the hole button bits up to Ø 220 mm (max. shank Ø 110 mm and max. head length 110 mm).



PART. NO FOR MACHINES

Grinder	796-6230
Grinder with pump	796-6280
Grinder with cover	796-6235
Grinder with pump and cover	796-6285
Grinder with tank	796-6231
Grinder with tank and cover	796-6236

ACCESSORIES (INCLUDED IN MACHINE DELIVERY)

Bit insert	797-5502-26
O-ring for Grinding cup	797-5888-24
Assembly tools for O-ring replacement	797-5452
Lock plate	797-5502-39
Spindle tool 9 mm	797-5464-07
Grease gun	797-5870-20

ACCESSORIES (OPTIONAL)

Grinding cups	see page 76
Bit Mandrels	797-5348-XX**
**23 = R23, 25 = R25, 28 = R28, 32 = R32, 33 = R33,	
35 = R35, 38 = R28/T38, 45 = T45, 51 = T51,	
58 = ST58, 60 = GT60, 68 = ST68	
Example: Bit mandrel R32 = 797-5348-32	

Grinding gauge for button up to Ø 16 mm	795-1396
-----------------------------------------	----------

TECHNICAL DATA

Air Supply pressure	Max 10 bar/min 6 bar
Air consumption	0.5 – 3 l/sec
Water Supply pressure	Max 8 bar/min 3.5 bar
Water consumption (cooling tank)	2 – 4 l/min
Water consumption (pump)	0.2 – 1 l/min
Coolant/flushing medium	Water
Rated power (motor)	2.8 – 4 kW
Air connection, air hose	9.5 mm (3/8")
Water connection, water hose	9.5 mm (3/8")
Hydraulic connection, hydraulic hose	R3/8" female thread
Dimensions: H × W × D	730 × 390 × 390 mm
Weight	40 kg
Electricity supply	24V DC, 5A
Hydraulic Supply pressure	Max 200 bar/Min 140 bar
Hydraulic-oil flow	12 l/min

SPARE PART KITS

Complete Grinding head (13000 r.p.m, including flushing head)	797-5130/1
All bearings, seals and screws for grinding head	797-5463-05
Outer Spindle (for Flushing head)	797-5464-02
Small kit for flushing head	797-5464-44
Big kit for flushing head	797-5464-59

RECOMMENDED LUBRICANTS

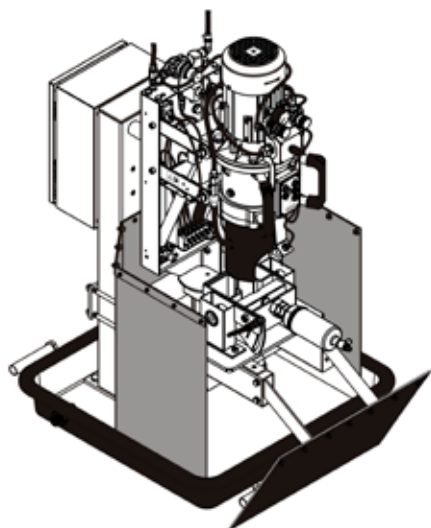
Gear oil, 1 litre	797-5870-15
Air tool oil, 1 litre	797-5870-90
Grease, 0.42 kg cartridge	797-5773-22

BUTTON BIT GRINDER

RG460

GRINDING APPLICATIONS

Stationary electrical grinder for workshops. Intended for all down the hole (DTH) button bits. Bit holder suitable for diameters up to Ø 92 mm: DTH button bits up to Ø 200 mm (max. shank Ø 92 mm and max. head length 105 mm).



TECHNICAL DATA

Air Supply pressure	Max 10 bar/min 6 bar
Air consumption	0.5 – 3 l/sec
Water Supply pressure	Max 8 bar/min 3 bar
Water consumption	0.2 – 1 l/min
Coolant/flushing medium	Water
Rated power (motor)	1.5 kW
Air connection, air hose	9.5 mm (3/8")
Water connection, water hose	9.5 mm (3/8")
Dimensions: H × W × D	990 × 670 × 795 mm
Weight	95 kg

PART. NO FOR MACHINES

Grinder	796-6100-XX*
Grinder with pump	796-6150-XX*
Grinder with cover	796-6105-XX*
Grinder with pump and cover	796-6155-XX*

*For two last digits, see table below, under "Code"

VOLTAGE/PHASE ALT.

Voltage	Phases	Hz	Code
220 – 240 V	1	50/60 Hz	50
380 – 420 V	3	50/60 Hz	52
220 – 240 V	3	50/60 Hz	59
440 V	3	60 Hz	63

ACCESSORIES (INCLUDED IN MACHINE DELIVERY)

T38/R38 Bit Mandrel	797-5348-38
O-ring for Grinding cup	797-5888-24
Assembly tools for O-ring replacement	797-5452
Lock plate	797-5502-39
Spindle tool 9 mm	797-5464-07
Grease gun	797-5870-20
Insert plate DTH, 3"	797-5503-73
Insert plate DTH, 4"	797-5503-74
Insert plate DTH, 5"	797-5503-75
Insert plate DTH, 6"	797-5503-76

ACCESSORIES (OPTIONAL)

Grinding cups	see page 76
Grinding gauge for button up to Ø 16 mm	795-1396

SPARE PART KITS

Complete Grinding head (8000 r.p.m. including flushing head non-lubrication)	797-5140/1
All bearings, seals and screws for grinding head	797-5463-05
Outer Spindle (for flushing head)	797-5464-02
Small kit for flushing head	797-5464-44 ¹
	797-5464-45 ²
Big kit for flushing head	797-5464-59 ¹
	797-5464-60 ²

1 = Non lubrication
2 = Lubrication

RECOMMENDED LUBRICANTS

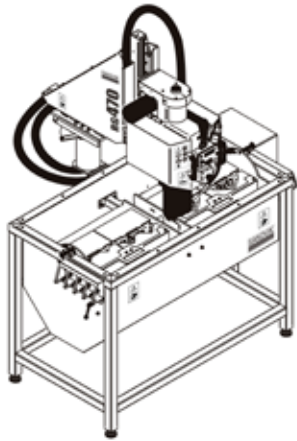
Gear oil, 1 litre	797-5870-15
Air tool oil, 1 litre	797-5870-90
Grease, 0.42 kg cartridge	797-5773-22

BUTTON BIT GRINDER

RG470

GRINDING APPLICATIONS

Highly efficient stationary electrical grinder for workshops. Intended for all button bits. Top Hammer (TH) bits Ø 28 mm (bit length > 65 mm) up to Ø 152 mm, and down the hole (DTH) bits Ø 90 mm up to Ø 270 mm.



TECHNICAL DATA

Air Supply pressure	Max 10 bar/min 6 bar
Air consumption	0.5 – 2 l/sec
Water Supply pressure	Max 8 bar/min 3.5 bar
Water consumption	1 l/min
Coolant/flushing medium	Water
Rated power (grinding motor)	3 kW
Air connection, air hose	9.5 mm (3/8")
Water connection, water hose	9.5 mm (3/8")
Dimensions: H x W x D	2000 x 1600 x 1100 mm
Weight	320 kg

PART. NO FOR MACHINES

Grinder 796-6700-XX*

*For two last digits, see table below, under "Code".
Note! Drill Bit support is not included in grinder.
Parts must be ordered separately.

VOLTAGE/PHASE ALT.

Voltage	Phases	Hz	Code
380 – 420 V	3	50/60 Hz	52
220 – 240 V	3	50/60 Hz	59

ACCESSORIES (INCLUDED IN MACHINE DELIVERY)

O-ring for Grinding cup	797-5888-24
Assembly tools for O-ring replacement	797-5452
Spindle tool 9 mm	797-5464-17
Grease gun	797-5870-07

ACCESSORIES (NOT INCLUDED, TO BE ORDERED SEPARATELY)

Drill Bit support, appr. skirt Ø = 30 – 75 mm	797-5552-19*
Drill Bit support, appr. skirt Ø = 75 – 120 mm	797-5552-14**
Drill Bit support, appr. skirt Ø = 120 – 150 mm	797-5552-25***

ACCESSORIES (OPTIONAL)

Grinding cups	see page 76
Grinding gauge for button up to Ø 16 mm	795-1396

SPARE PART KITS

Outer Spindle (for flushing head)	797-5464-02
Small kit for flushing head	797-5464-44 ¹
	797-5464-45 ²
Big kit for flushing head	797-5464-59 ¹
	797-5464-60 ²

1 = Non lubrication
2 = Lubrication

RECOMMENDED LUBRICANTS

Air tool oil, 1 litre	797-5870-90
Grease, 0.42 kg cartridge	797-5773-22

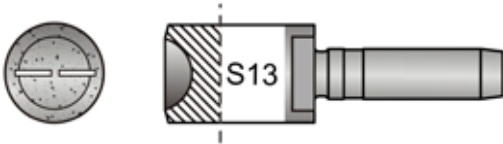


GRINDING CUPS

GRINDING CUPS FOR RG400, RG410, RG420, RG440, RG460 AND RG470 GRINDERS

SANCUP SUPER (S)

Grinding cups for redressing spherical (and super-spherical) buttons. Shank \varnothing 9 mm.



* = straight water flushing slots



** = three water flushing slots

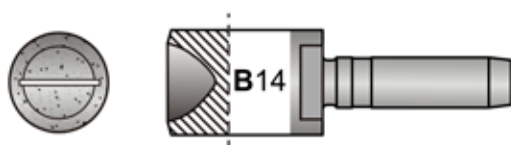
FOR BUTTON SIZE

PART. NO

7 mm	797-5120-07*
8 mm	797-5120-08*
9 mm	797-5120-09*
10 mm	797-5120-10*
11 mm	797-5120-11*
12 mm	797-5120-12**
13 mm	797-5120-13**
14 mm	797-5120-14**
16 mm	797-5120-16**
18 mm	797-5120-18**

SANCUP SUPER (B)

Grinding cups for redressing ballistic (and semi-ballistic and Robust-ballistic) buttons. Shank \varnothing 9 mm.



* = straight water flushing slots



** = three water flushing slots

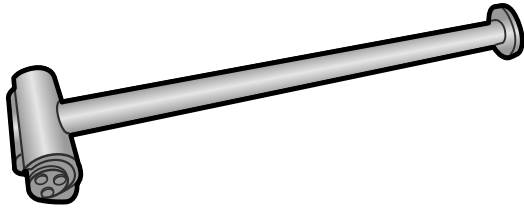
FOR BUTTON SIZE

PART. NO

7 mm	797-5121-07*
8 mm	797-5121-08*
9 mm	797-5121-09*
10 mm	797-5121-10*
11 mm	797-5121-11**
12 mm	797-5121-12**
13 mm	797-5121-13**
14 mm	797-5121-14**
16 mm	797-5121-16**
18 mm	797-5121-18**

GRINDING ACCESSORIES

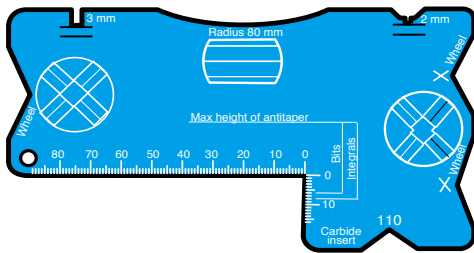
WHEEL DRESSER



¹⁾ Included in a complete unit.

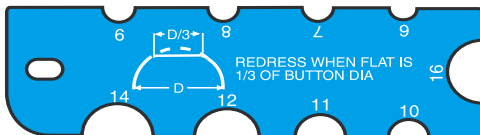
DESCRIPTION	PART. NO
Wheel dresser, complete	796-1858
Shaft (1 pcs) ¹⁾	796-1862
Bearing bushing (2 pcs) ¹⁾	796-1863
Screw (6 pcs) ¹⁾	796-1865
Cover (2 pcs) ¹⁾	796-1866
1 set of dresser rollers ¹⁾	796-1867

GRINDING TEMPLATES



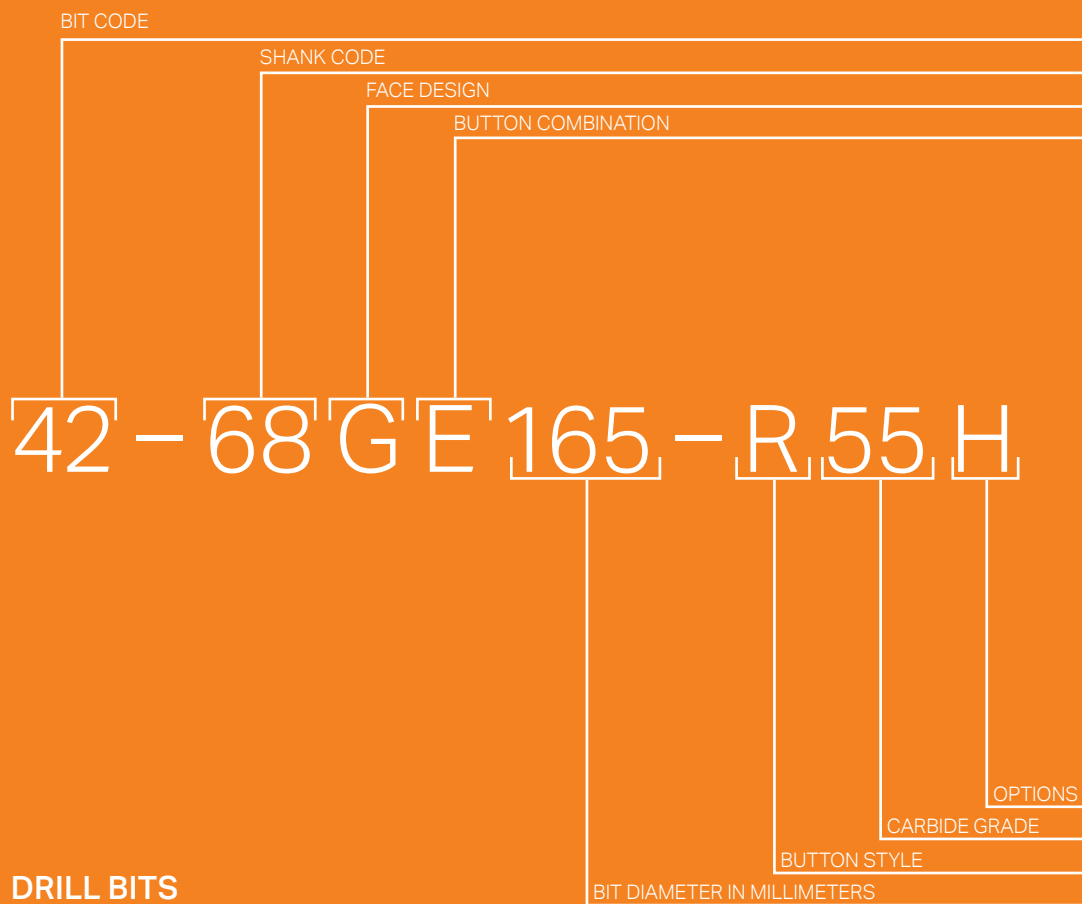
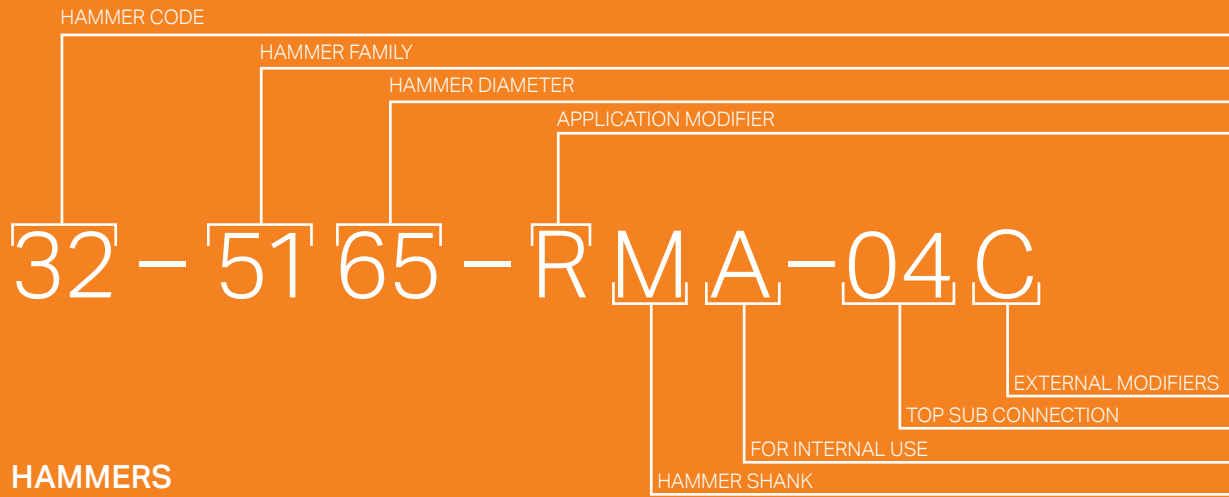
For integrals with cross bit/For cross and X-bits with diameter up to 115 mm/For integrals with chisel bit and motor drill steels.

DESCRIPTION	PART. NO
Grinding template	795-1343



For buttons up to 16 mm.

DESCRIPTION	PART. NO
Grinding template	795-1396



PART NO. KEYS

HAMMER CODE

APPLICATION MODIFIER	HAMMER DIAMETER		HAMMER FAMILY
R Reversible	30 = 3"	70 = 7" HD	51 = RH510
G HD (Large OD)	35 = 3.5"	80 = 8"	46 = RH460
W Deep hole	40 = 4"	85 = 8" HD	35 = RH350
H Horizontal	50 = 5"	10 = 10"	
S Standard	55 = 5" HD	12 = 12"	
E expanded pressure range	60 = 6"	15 = 15"	
	65 = 6" HD	18 = 18"	

HAMMER SHANK	FOR INTERNAL USE	TOP SUB CONNECTION	EXTERNAL MODIFIERS
M Mission		04 = 3 1/2 API REG PIN	S Standard
Q QL		11 = 2 7/8 API REG PIN	C Retract carbides in top sub
D DHD		16 = 2 3/8 API REG PIN	
T QLX		19 = 4 1/2 API REG PIN	
		39 = 6 5/8 API REG PIN	
		25 = 3 1/2 API REG BOX	
		74 = 3 1/2 API IF PIN	
		55 = 3 1/2 BECO PIN	
		72 = 4 1/2 BECO PIN	
		77 = #24 CUBEX PIN	
		63 = #21 CUBEX PIN	
		56 = #28 CUBEX PIN	
		84 = 5 1/4" BECO PIN	

BUTTON COMBINATION	FACE DESIGN			SHANK CODE	
	Face code	Flushing holes	Gauge buttons		
0 = 11 / 11 9 = 16 / 14	Concave face			3A = M 30	36 = DHD 340
1 = 12 / 12 A = 14 / 13	1	2	8	3H = DHD 3.5 HD	69 = DHD 350
2 = 13 / 11 B = 14 / 14	D	3	9	4G = QLX40	73 = DHD 360
3 = 13 / 12 C = 16 / 16	T	2	10	48 = M 40	87 = DHD 380
4 = 13 / 13 D = 18 / 16	8	3	12	58 = M 50	50 = QL 50
5 = 14 / 11 E = 18 / 18	P, J	3	varies	68 = M 60	76 = QL 60
6 = 14 / 12 F = 18 / 14	Flat face			88 = M 80	83 = QL 80
7 = 16 / 12 G = 12 / 11	A	2	10	24 = DHD 3.5	
8 = 16 / 13	F	2	8		
	2	3	9		
	K	3	12		
	Convex face				
	3	2	7		
	5	2	8		
	6	2	10		
	C	3	12		
	L	3	9		
	G	3	9		

BIT DIAMETER IN MM	BUTTON STYLE	CARBIDE GRADE	OPTIONS
	Shape	48 = XT48	H = Extra hard body
	Std	55 = DP55	F = Rope fishing thread
	With wear protection	65 = DP65	
	Spherical	D2 = Diamond	
	Ballistic		
	Spherical gauge		
	Ballistical face		

IMPORTANT HEALTH AND SAFETY INFORMATION

MATERIAL COMPOSITION

Most hardmetal products contain tungsten carbide and cobalt.

ROUTES OF EXPOSURE

Grinding or heating hardmetal blanks or hardmetal products will produce dust or fumes with dangerous ingredients that can be inhaled or swallowed, or which might come in contact with the skin or eyes.

ACUTE TOXICITY

The dust is toxic by inhalation. Inhalation may cause irritation and inflammation in the airways. Skin contact can cause irritation and rash. Sensitized people may experience an allergic reaction.

CHRONIC TOXICITY

Repeated inhalation of aerosols containing cobalt may cause obstruction in the airways. Prolonged inhalation of increased concentrations may cause lung fibrosis or lung cancer.

Cobalt is a potent skin sensitizer. Repeated or prolonged contact can cause sensitization.

CLASSIFICATION

- Following hazard classification according to GHS/CLP applies to the hardmetal powder (3 % ≤ Co < 10 %):
- Acute Inhalation 3, H331: Toxic if inhaled.
- Carcinogenicity 1B, H350i, May cause cancer by inhalation.
- Repr. 2, H361f; Suspected of damaging fertility.
- STOT RE 1, H372: Causes damage to lungs through prolonged or repeated exposure through inhalation.
- Resp. Sens. 1B, H334 : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin Sens.1, H317: May cause an allergic skin reaction.
- Aquatic Acute 1, H400: Very toxic to aquatic life.
- Aquatic Chronic 2, H411: Toxic to aquatic life, with long lasting effects.

PRECAUTIONARY STATEMENTS

- Do not breathe the dust.
- Wear protective gloves/protective clothing/eye protection.
- In case of inadequate ventilation, wear respiratory protection.
- Avoid release into the environment.

IF INHALED: If breathing is difficult, remove the victim to fresh air and keep them at rest in a position comfortable for breathing. If they are experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

