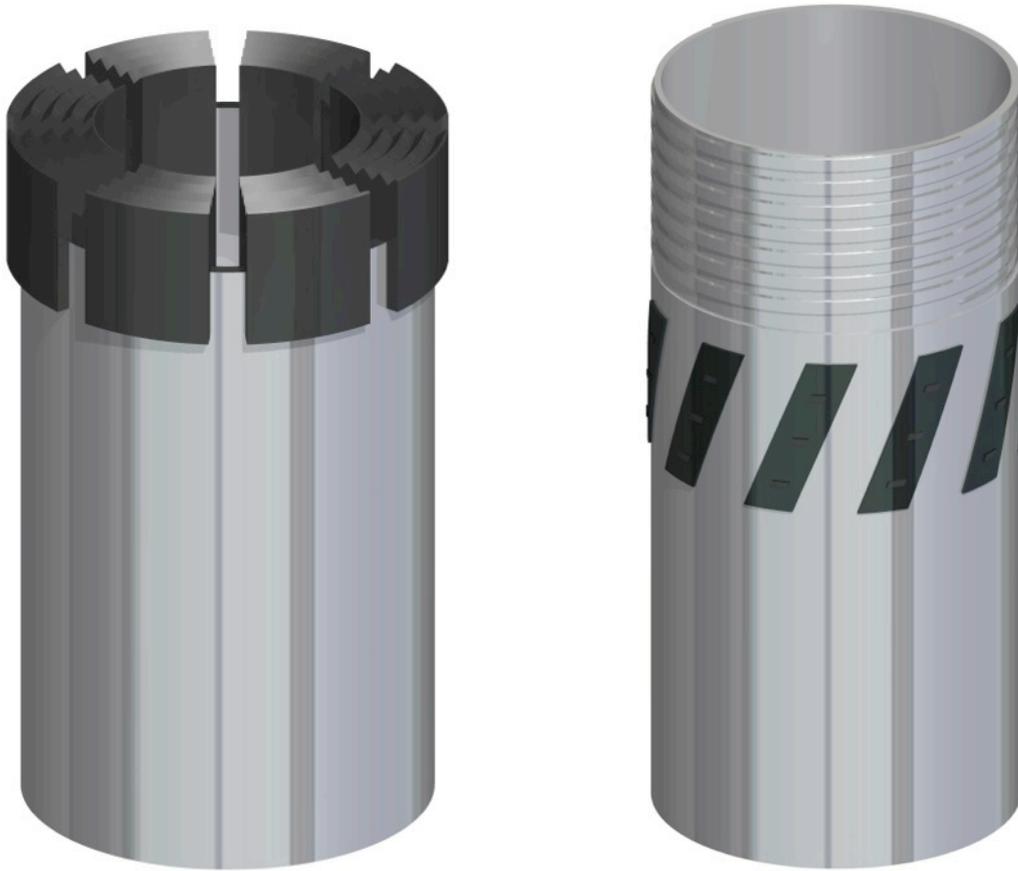


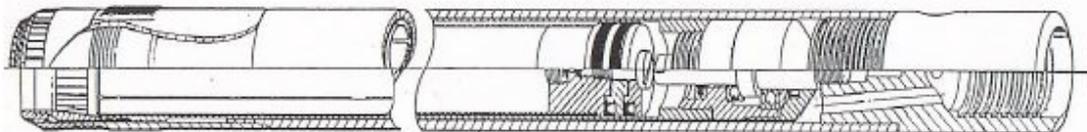
QUARRY MINING

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CORING CATALOGUE



Expertise You Can Depend On

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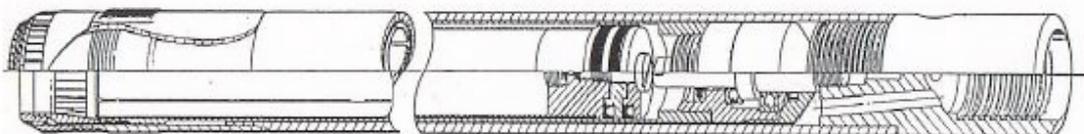
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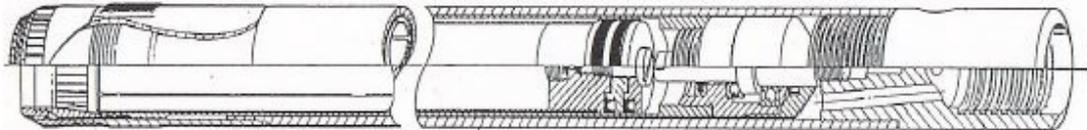
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CORE BARRELS

CORE BARRELS			
THREAD	LENGTH	DRILL BIT OD	DRILL BIT ID (CORE OD)
TT56	1500- 3000mm	56mm	45.3mm
NMLC	1500- 3000mm	75.3mm	52mm



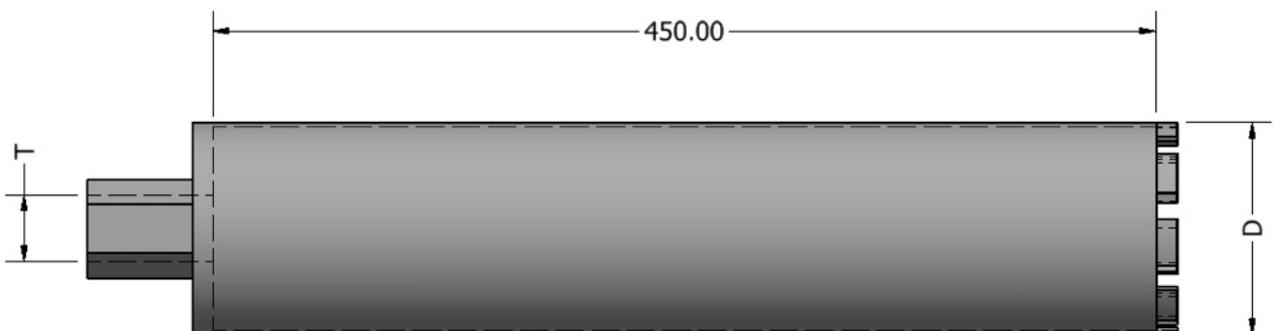
All core barrels are manufactured from high quality raw materials with all tubes being cold drawn from grade SAE1541 steel. Straightness on all barrels is 1:2000 or better.

A full range of spare parts is available for all core barrels and a parts listing can be obtained on request. Operating and service instructions are available for all core barrels upon request

CONCRETE CORE BARRELS

THREAD (T)	LENGTH	CORE BIT OD (D)
1 1/4" UNC	450mm	52mm
1 1/4" UNC	450mm	65mm
1 1/4" UNC	450mm	71mm
1 1/4" UNC	450mm	77mm
1 1/4" UNC	450mm	84mm
1 1/4" UNC	450mm	90mm
1 1/4" UNC	450mm	102mm
1 1/4" UNC	450mm	115mm
1 1/4" UNC	450mm	129mm
1 1/4" UNC	450mm	135mm
1 1/4" UNC	450mm	142mm
1 1/4" UNC	450mm	153mm
1 1/4" UNC	450mm	165mm

* Custom lengths and diameters can be manufactured upon request



CORING DRILL BITS

Coring drill bits come in many different styles, face and matrix configurations to suit the individual strata demands. Using the correct coring bit style, face and matrix configuration will allow for efficient drilling in strata as soft and abrasive as shale and sandstone right through to the very hard non abrasive quartz or ironstone. Some of the main styles of coring drill bits are briefly explained below.

Diamond Impregnated Core Bits

Diamond impregnated core bits use a metal alloy which has been impregnated with many small drill diamond pieces. The main purpose of this design is to allow worn or blunt diamond pieces to be “pulled out” as the surrounding alloy wears. This in turn exposes fresh new diamond pieces maintaining the drilling efficiency of the coring bit over the bit life. Diamond impregnated core bits are generally used for harder strata formations of 40-200MPa however can be used in strata as low 10MPa if core bit flushing can be maintained.



Surface Set Diamond Core Bits

Surface set diamond core bits use a single layer of set drilling diamond in a particular face or crown pattern. The matrix used to bond the drilling diamond to the core bit is designed to be extremely tough to resist wear. This is because unlike an impregnated core bit matrix which wears to expose new drilling diamond throughout the bit life, a surface set diamond core bit's diamond layer remains intact for the life of the core bit. Surface set diamond core bits are generally designed to be used in strata up to 60MPa and due to its high flushing capabilities are more desirable than diamond impregnated core bits when drilling through soft or boggy ground. Surface set diamond core bits also offer higher penetration rates than that of the impregnated core bits due to the larger cutting surface area.



PCD and Tungsten Carbide Core Bits

PCD and tungsten carbide core bits offer a similar coring solution to surface set core bits. These coring bits use a single layer of PCD or tungsten carbide cutters that have been arranged in a particular pattern that remain permanent for the life of the drill bit. Due to the large area of cutting surface these coring bits offer the highest penetration rate when compared to the surface set and impregnated coring bit options. PCD core bits can generally drill in strata up to 40MPa however will have problems in boggy ground. Tungsten carbide core bits would generally only be used up to 10-15MPa in boggy or broken ground.



Diamond/Tungsten Carbide Reaming Shells

Reaming shells are used in coring systems to help maintain a set hole diameter as well as stabilize the drill string over the drill length. These reaming shells come in both diamond set and tungsten carbide reaming shell configurations. Depending on the purpose of the reaming shell they can be used before the core barrel or after and come in standard and long series designs.



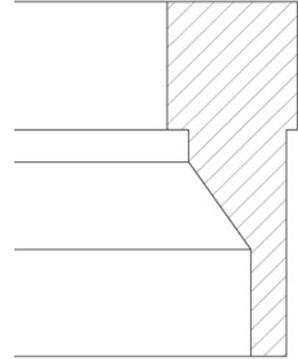
DIAMOND IMPREGNATED CORE BITS

In order to get consistent drilling efficiency the correct coring bit crown selection is critical. Below are the available options of coring bit crowns for TT56 and NMLC threads.

Diamond Impregnated Core Bits Crown Configurations

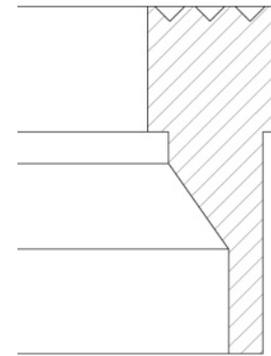
Flat Face

The Flat Face crown design is the commonly used impregnated coring bit crown available for small or thin walled core drill strings. It is the only crown design available for TT56 impregnated core bits. The simple Flat Face design allows the core bit to be more robust and less likely to fail from damage that occurs during the drilling operation and therefore excels in broken strata. This simple design does however reduce the possible penetration rates of the coring bit and would also require a higher rotational speed than the V-Ring crown design to reach the same penetration rate.



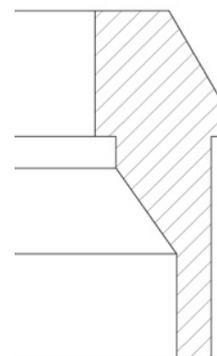
V-Ring

The V-Ring crown design is the most common impregnated coring bit crown available for core drill bits with kerf width over 7mm. The V-Face design requires less thrust on the drill string to achieve good penetration rates when compared to the Flat Face design.



Tapered

The Tapered crown design is a special design used for combating hole deviation that can be experienced in large core diameter and or long core sample drilling. Due to the large contact area of the tapered face these bits often have slower penetration rates than the V-Ring and Flat Face designs. Due to the rather narrow leading edge of the design, the Tapered crown can become more susceptible to damage during drilling especially in broken strata.



BIT CROWN - THREAD CHART

BIT CROWN	FLAT FACE	V-RING	TAPERED
AVAILABLE THREADS	TT56, NMLC	NMLC	NMLC

DRILL RODS

Drill rods of all lengths and thread types are available. Common lengths and thread types are listed below.

Custom lengths and thread types are available on request.

DRILL RODS		
THREAD	OUTSIDE DIAMETER	OVERALL LENGTH
AW	44mm	500mm
		1000mm
		1500mm
		3000mm
AWJ	44mm	500mm
		1000mm
		1500mm
		3000mm
BWJ	55mm	500mm
		1000mm
		1500mm
		3000mm



CORE BARREL SPANNERS

Core barrel spanners are available for all barrels. Commonly stocked sizes include TT56, NMLC and HQ.

