



Wireline Core Barrels

- Premium Series -

MICON  **DRILLING**
Drilling Equipment Made in Germany

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Company Profile

The MICON-Drilling GmbH is a worldwide operating service company, specialized in sales and rental of drilling equipment. Decades of experience, high quality standards and focused customer orientation are our unique selling points.

We are a member of the MICON Group, established in Nienhagen/Germany, in 1994. The privately owned company specializes in design, production, inspection and repair of drill string components, drill bits, sophisticated directional drilling systems and additional equipment. Our main focus lies on the technical service for drilling applications in the mining, oil & gas, tunneling and geothermal industries.

An innovative engineering department ensures continuous optimization of all MICON products. Additionally, we are in close contact with a network of several German universities to foster research and development activities.

The MICON Group manufactures drilling equipment in two independent facilities on state-of-the-art CNC milling, turning and welding machines. Latest technology and implementation of German engineering guarantee the highest degree of efficiency and quality.



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MICON Buildings "Im Nordfeld", Nienhagen/Germany



MICON Buildings "Breite Horst", Nienhagen/Germany

Quality Policy

MICON stands for high quality products Made in Germany. This high quality standard builds the basis for our success and is an integral part of the company policy. This is reflected by long-term and trustful cooperation with our customers.

In order to achieve our high quality objectives the MICON Group manufacturing companies have implemented quality management systems certified according to international standards. The actual certification status of the Group companies is as follows:

MICON Downhole-Tools GmbH:

- ISO 9001:2015 - 0019058
- API Spec. Q1 (No. Q1-4689)
- API Spec. 7-1 (Monogram License 7-1-1271)

MICON GmbH & Co.KG:

- ISO 9001:2015 - 00007159
- ISO3834-2:2006 (D-ZE-16083-01-00-ISO3834-2019.0013.002)

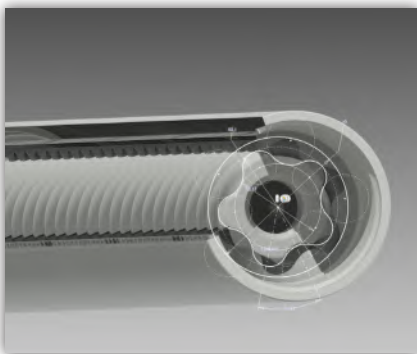
Our global quality objectives lead to specific targets, which are defined by the top management in cooperation with the quality manager. The fulfilment of these specific quality targets is evaluated at least every 12 months in the management review. Our ambition is product reliability and quality that meets the customer requirements as well as your high quality standards. The MICON product cycle includes different process steps. Rigorous acceptance criteria at every process step ensure a consistent high quality level of each product.



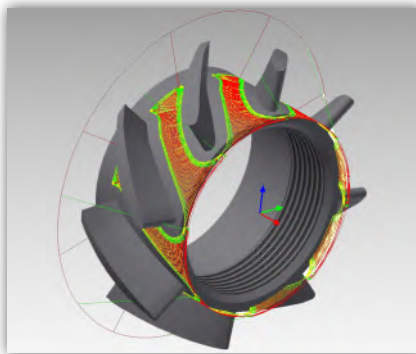
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Q1-4689



CAD based product development



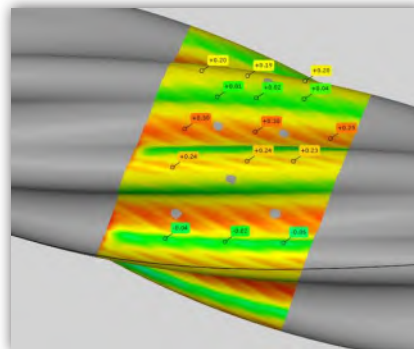
CAD – CAM manufacturing



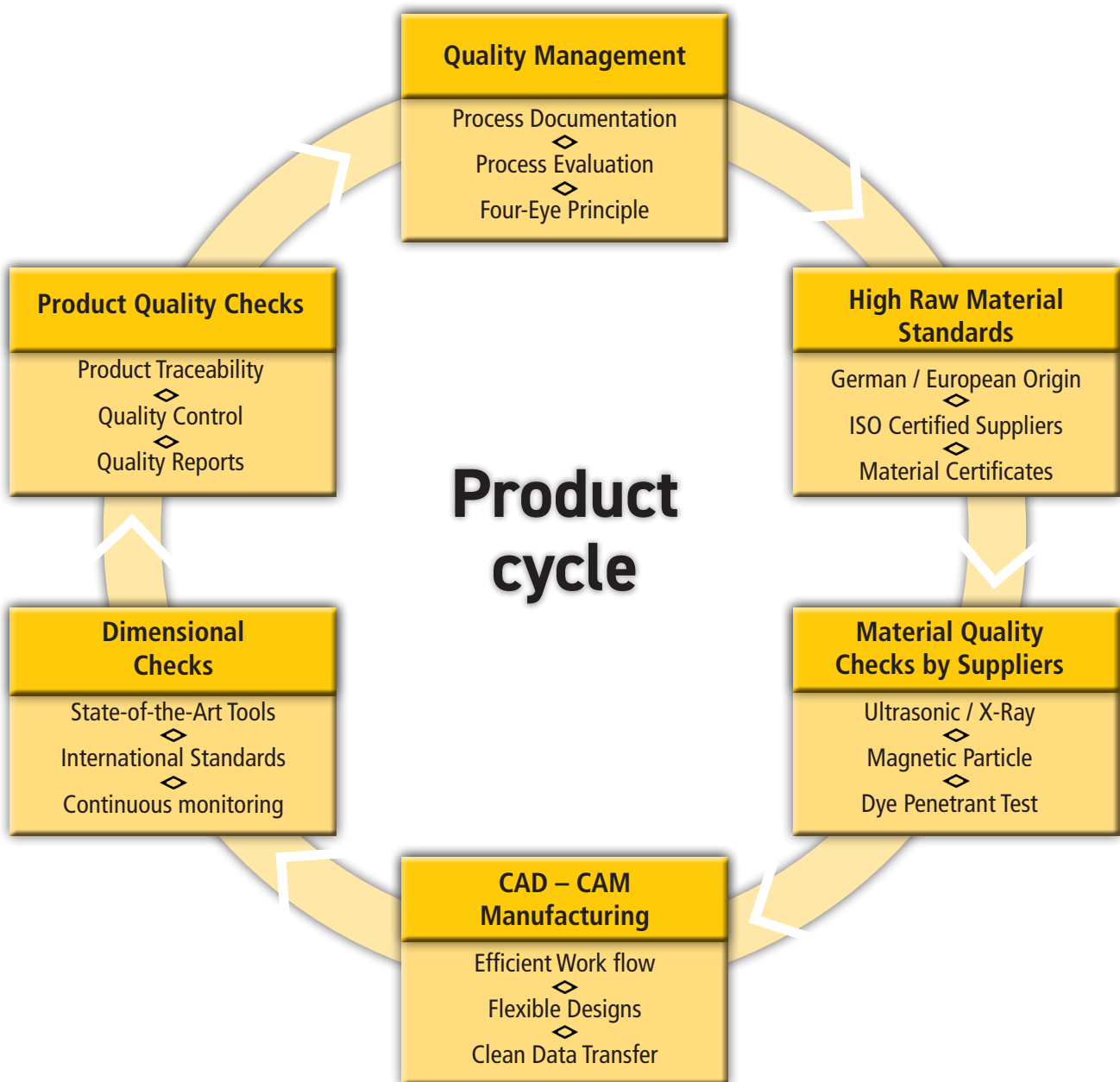
Permanent quality checks



High resolution 3-D scanning



3-D scan evaluation



Christensen Wireline Coring Systems

Christensen wireline core barrels are manufactured in Nienhagen/Germany by the MICON Mining and Construction Products GmbH & Co. KG. The development of these systems has been an evolutionary process, combining field experience with practical engineering. The resulting designs give Christensen wireline core barrels a maximal reliability and make them the driller's first choice. Our systems have been proven in thousands of applications worldwide.



- C-Series:** The C Series (CA, CB, CN, CH) guarantees reliable performance and dimensional compatibility with established international systems.
- XB and CP-Series:** The XB and CP Series offer more wall thickness and thread robustness as any other system of the same size, thus ensuring highest durability.
- CSK-Series:** The CSK Series core barrels are highly dependable large diameter coring systems, built to last under roughest conditions.
- SK-Series:** The SK wireline core barrels are heavy duty systems for deep coring applications under roughest conditions.

System	Borehole Diameter*	Core Diameter	Outer Barrel OD	Depth Range**
CA	52.0 mm	27.0 mm	44.5 mm	2,100 m
CB	64.0 mm	36.5 mm	57.2 mm	2,100 m
CN	75.7 mm	47.6 mm	70.0 mm	2,000 m
CH	96.3 mm	63.5 mm	92.1 mm	2,000 m
CP	122.6 mm	85.0 mm	117.5 mm	2,000 m
BXB II	65.1 mm	36.4 mm	58.3 mm	2,070 m
NXB II	75.7 mm	47.6 mm	73.0 mm	2,100 m
HXB II	92.8 mm	61.2 mm	90.0 mm	2,300 m
CSK 146	146.0 mm	102.0 mm	140.0 mm	2,200 m
CSK 176	176.0 mm	132.0 mm	171.0 mm	1,800 m
SK 4 ¼" B	120.6 mm	69.0 mm	110.0 mm	2,500 m
SK 4 ½" B	123.8 mm	78.0 mm	114.3 mm	2,300 m
SK 5 ¾"	157.0 mm	88.9 mm	146.0 mm	4,500 m
SK 5 ½" B	161.9 mm	101.4 mm	152.4 mm	3,000 m

*Borehole diameter adjustable with core bit.

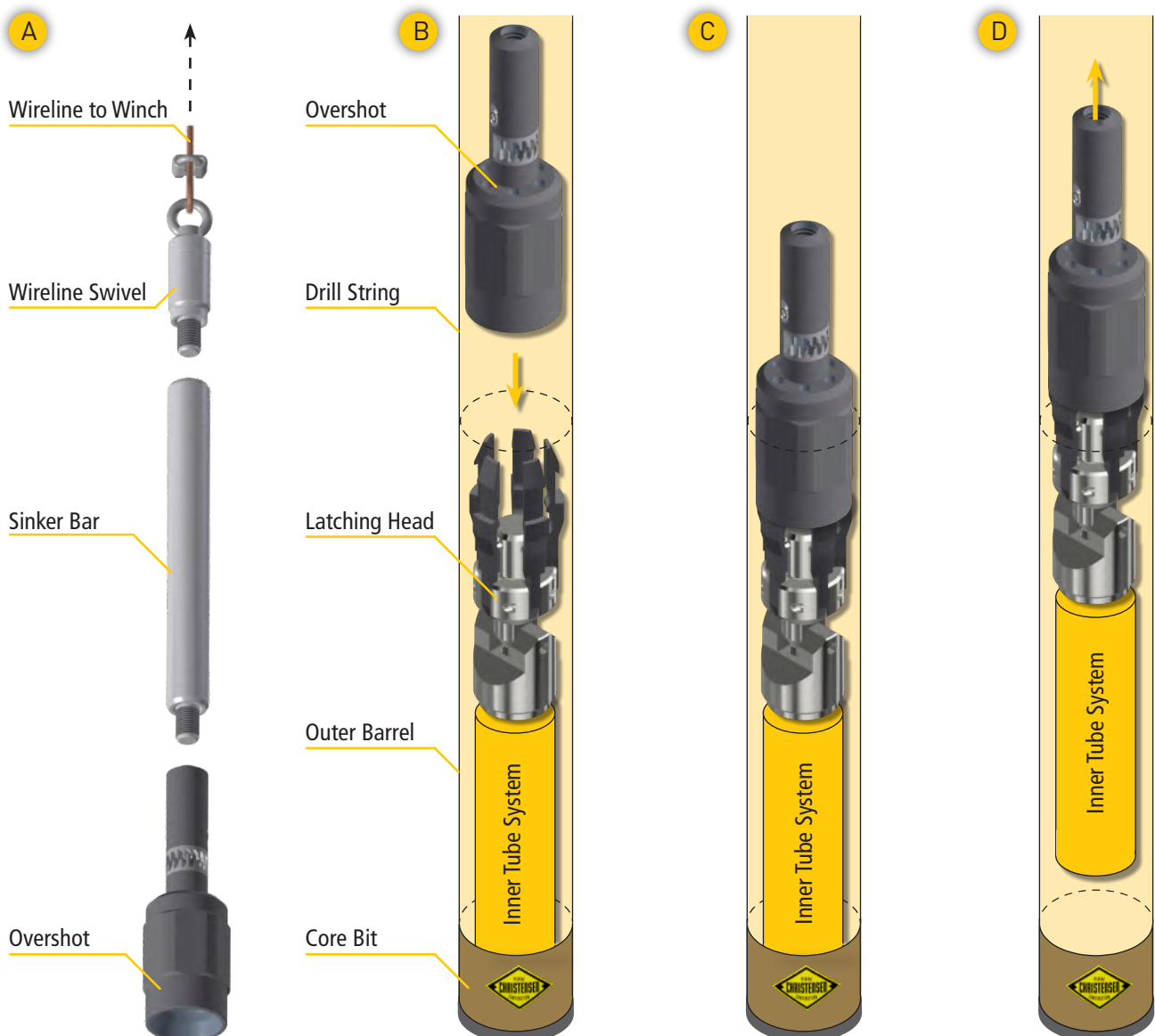
**Values calculated for original Christensen drill rods suspended in air with safety factor 2.

Wireline Core Barrels

Wireline core barrels (double/triple tube core barrels with wireline connection) are designed for reliable, complete recovery of the core without pulling out the drill string. This technique speeds up core retrieval, reduces time consuming drill rod handling and helps to maximize coring efficiency.

Core Recovery

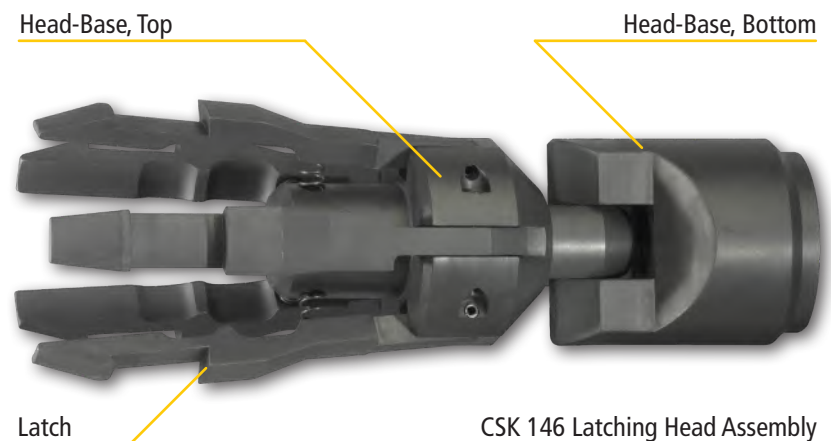
The catching assembly (A) is attached to a wireline winch system and lowered into the wireline drill string (B). The overshoot securely interlocks with the latching head (C). Subsequently, the core filled inner tube system can be hoisted out (D) through the wireline drill string.



Latching Head

All Christensen wireline core barrels are equipped with the unique Christensen latching head, providing more latching surface than any other wireline system. The robust Christensen latching system minimizes the number of moving parts to achieve a new level of dependable performance and long service life. The Christensen design ensures reliable latching for trouble free operation while coring and during core retrieval.

- ◇ Multi-latch design for enhanced security
- ◇ Positive latching at any hole angle
- ◇ Open type latch design will not sand up or rust
- ◇ Free passage of lost circulation material

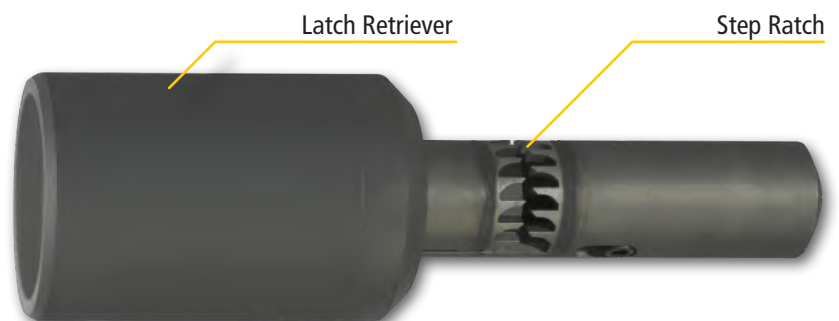


Overshot

Complementing the reliable operation of the core barrel, the Christensen overshoot works without external triggering hardware. Using a step ratch spring release mechanism, the overshoot is activated by repeated short raising and lowering of the wireline cable. After a predetermined number of steps the latching head is unblocked. This safety design prevents premature release of the inner tube.

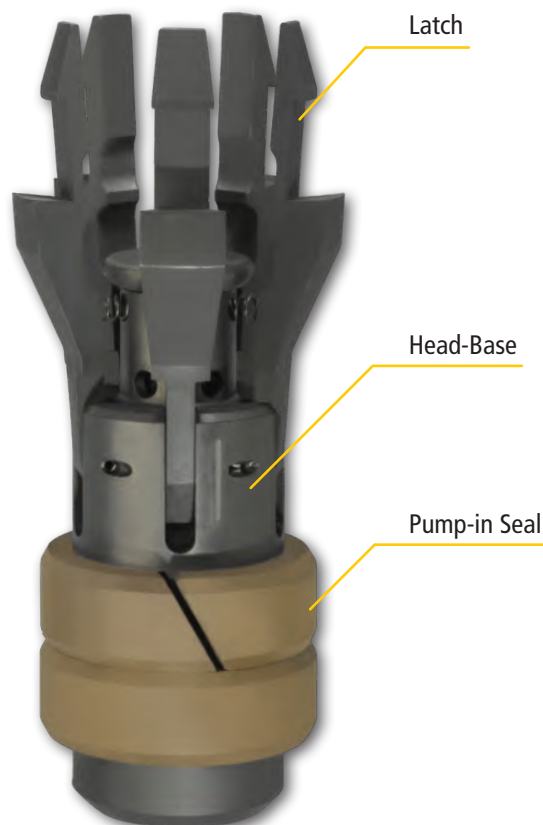
Inner tube retrieval is simply handled by presetting the step ratch spring before the overshoot is lowered to pick-up the inner tube.

- ◇ Unique step ratch mechanism permits superior overshoot safety
- ◇ Extremely reliable for safe lowering or inner tube retrieval

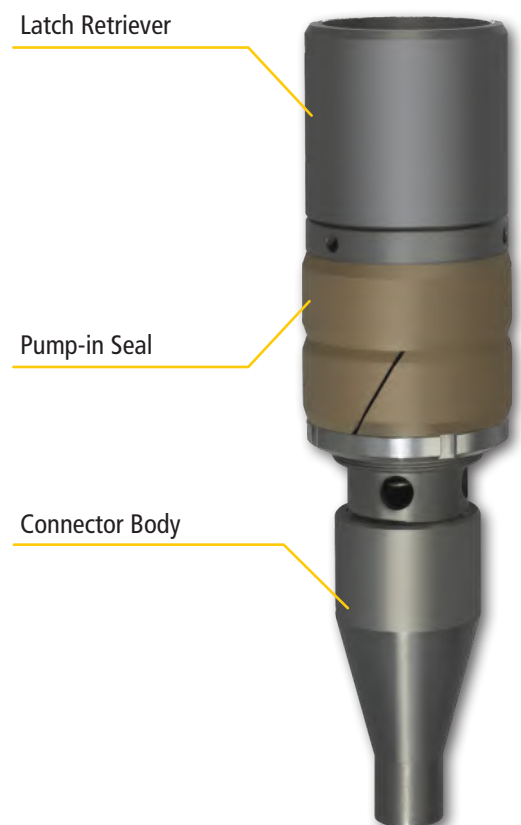


Pump-In Systems

Christensen wireline systems are available in pump-in configurations, which are designed to be used for low angle, horizontal or up-hole drilling applications. A sealing made of extremely wear resistant and self-lubricating teflon-bronze material permits to pump the latching head and overshoot into place at any angle.



CSK 176 Pump-In Latching Head Assembly



CSK 146 Pump-In Overshoot Assembly

Multidrill Systems

Christensen wireline systems can be equipped with a full hole drilling inner tube system. This multi-drill system provides to drill ahead in those areas, where a core sample is not required. Like all other Christensen inner tube systems, it can be lowered without pulling out the wireline drill string.



CSK 146 Multidrill Inner Tube System

Core Lifting Systems

Christensen provides a broad variety of different core lifter types. They are available with fine and coarse toothed profiles for less abrasive rocks. For hard, compact and abrasive rocks, Christensen core lifters can be equipped with a tungsten carbide grit. Additional short / long springs improve the core recovery rate in fractured or soft formations. Generally, all core lifters with additional springs are equipped with a profiled inner surface to ensure maximal reliability even in inter-bedded formations of loose and solid rocks. For homogeneous, loose formations, we also supply closed spring cage core lifters without profile. Additionally, special type core lifters like rubber traps or double core lifters are available.

Core Lifter Selection Chart		Additional Springs				
		No Springs	Short Springs	Long Springs	Open Spring Cage	Closed Spring Cage*
Core Lifter Profile Type	Toothed Profile, Coarse					
	Toothed Profile, Fine					
	Tungsten Carbide Grit					

The diagram illustrates the relationship between rock properties and core lifter selection. A vertical arrow labeled 'Abrasive' points downwards from 'Solid Rock' to 'Loose Rock'. A horizontal arrow labeled 'Fragmentation Degree' points from 'Solid Rock' to 'Loose Rock'.

*Special versions with flat core lifter profile available.



CSK 146 Core Lifter
Toothed Profile



CSK 146 Core Lifter
Tungsten Carbide Grit



CSK 146 Core Lifter
Rubber Trap



CSK 146 Core Lifter
Toothed Profile, Long Springs



CSK 146 Core Lifter
Toothed Profile, Long Springs,
Closed Spring Cage



CSK 146 Core Lifter
Flat Profile, Long Springs,
Closed Spring Cage

Wireline Coring Systems - Parts List

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C-Series Wireline Core Barrels

Leading with Innovation

The C-Series (CA, CB, CN, CH) core barrels guarantee dimensional compatibility with established international systems. Accurate machining and high-grade materials define a premium class of wireline core barrels in this segment. Equipped with the unique Christensen latching system a reliable and effective coring performance is guaranteed at any time.

Technical Data of Core Barrel		CA	CB	CN	CH
Borehole*	[mm]	52.0	64.0	75.7	96.3
Core	[mm]	27.0	36.5	47.6	63.5
	With Liner [mm]				
Outer Barrel	OD [mm]	44.5	57.2	70.0	92.1
	ID [mm]	34.9	46.0	60.3	77.8
Inner Barrel	OD [mm]	32.5	42.8	55.5	73.0
	ID [mm]	28.6	38.2	49.9	66.7
Technical Data of Drill Rods					
Drill Rods	OD [mm]	44.5	55.6	70.0	88.9
	ID [mm]	34.9	46.0	60.3	77.8
Tension to Yield	max. [kN]	200	249	315	455
Depth	max. [m]	2,100	2,100	2,000	2,000
Weight	[kg/m]	4.7	5.9	7.8	11.4
Torque to Yield	max. [Nm]	1,110	2,203	2,830	5,150
Make-up Torque	max. [Nm]	630	1,101	1,600	2,920

* Diameter of standard borehole can be adjusted by customized core bits

Wireline Core Barrel CA

Technical Data	
Hole Size	52.0 mm
Core Diameter	27.0 mm
Outer Tube	
Outside Diameter	44.5 mm
Inside Diameter	34.9 mm
Inner Tube	
Outside Diameter	32.5 mm
Inside Diameter	28.6 mm
Drill Pipe	
Outside Diameter	44.5 mm
Inside Diameter	34.9 mm
Weight	4.7 kg/m
Operational Limits	
Torque to Yield	1 110 Nm
Tension to Yield	200 kN
Make-up Torque (New Tool Joints)	630 Nm
Depth Range (Safety Factor 2)	2 100 m



(similar to illustration)

Wireline Core Barrel CB

Technical Data	
Hole Size	64.0 mm
Core Diameter	36.5 mm
Outer Tube	
Outside Diameter	57.2 mm
Inside Diameter	46.0 mm
Inner Tube	
Outside Diameter	42.8 mm
Inside Diameter	38.2 mm
Drill Pipe	
Outside Diameter	55.6 mm
Inside Diameter	46.0 mm
Weight	5.9 kg/m
Operational Limits	
Torque to Yield	2 203 Nm
Tension to Yield	249 kN
Make-up Torque (New Tool Joints)	1 101 Nm
Depth Range (Safety Factor 2)	2 100 m



Wireline Core Barrel CN

Technical Data	
Hole Size	75.7 mm
Core Diameter	47.6 mm
Outer Tube	
Outside Diameter	70.0 mm
Inside Diameter	63.3 mm
Inner Tube	
Outside Diameter	55.5 mm
Inside Diameter	49.9 mm
Drill Pipe	
Outside Diameter	70.0 mm
Inside Diameter	60.3 mm
Weight	7.8 kg/m
Operational Limits	
Torque to Yield	2 830 Nm
Tension to Yield	315 kN
Make-up Torque (New Tool Joints)	1.6 kNm
Depth Range (Safety Factor 2)	2 000 m



Wireline Core Barrel CH

Technical Data	
Hole Size	96.3 mm
Core Diameter	63.5 mm
Outer Tube	
Outside Diameter	92.1 mm
Inside Diameter	77.8 mm
Inner Tube	
Outside Diameter	73.0 mm
Inside Diameter	66.7 mm
Drill Pipe	
Outside Diameter	88.9 mm
Inside Diameter	77.8 mm
Weight	11.4 kg/m
Operational Limits	
Torque to Yield	5 150 Nm
Tension to Yield	455 kN
Make-up Torque (New Tool Joints)	2 920 Nm
Depth Range (Safety Factor 2)	2 000 m



XB-Series Wireline Core Barrels

Leading with Innovation

Christensen's wireline core barrels are designed for superior performance in all core drilling applications. Even when coring soft, friable or hard-broken formations, the XB-Series wireline core barrels perform with outstanding recovery and reliability. We manufacture these core barrels with specialized XB-Series rod connections in hole sizes B, N and H. The unique operating simplicity of the XB-systems is typified by positive latching at any hole angle. These systems have been proven in thousands of operations to be a simple and reliable tool. Innovations and improvements incorporated in its unique design ensure a trouble-free performance at any time.

Technical Data of Core Barrel		BXB II	NXB II	HXB II
Borehole*	[mm]	65.1	75.7	92.8
Core	[mm]	36.4	47.6	61.2
Outer Barrel	OD [mm]	58.3	73.0	90.0
	ID [mm]	46.0	60.7	76.0
Inner Barrel	OD [mm]	42.8	56.0	72.0
	ID [mm]	38.2	50.0	65.0
Technical Data of Drill Rods				
Drill Rods	OD [mm]	58.3	73.0	90.0
	ID [mm]	46.0	60.7	76.0
Tension to Yield	max. [kN]	283	441	610
Depth	max. [m]	1,800	2,100	2,300
Weight	[kg/m]	7.9	10.2	14.3
Torque to Yield	max. [Nm]	2,100	3,800	6,300
Make-up Torque	max. [Nm]	1,050	1,900	4,300

* Diameter of standard borehole can be adjusted by customized core bits

Wireline Core Barrel BXB II

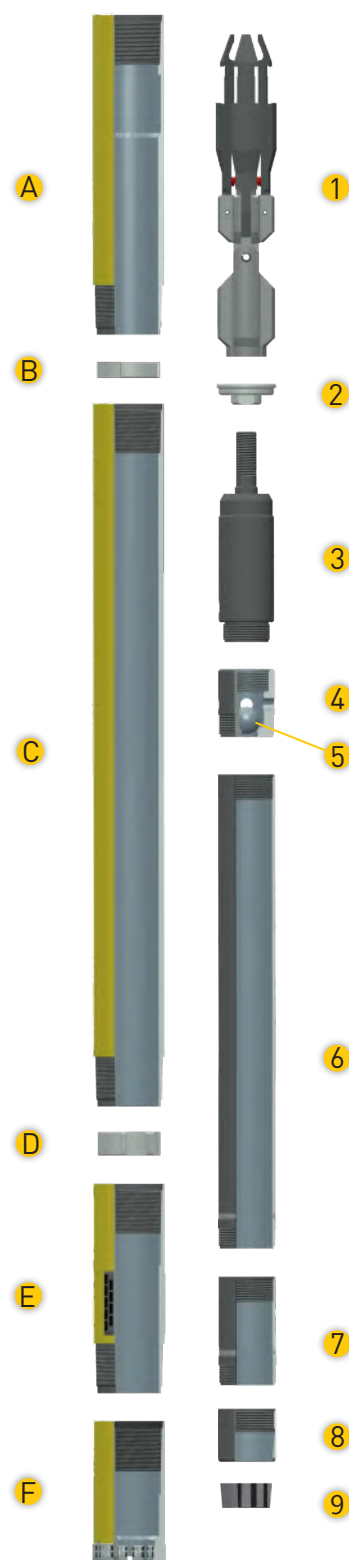
Technical Data	
Hole Size	65.1 mm
Core Diameter	36.4 mm
Outer Tube	
Outside Diameter	58.3 mm
Inside Diameter	46.0 mm
Inner Tube	
Outside Diameter	42.8 mm
Inside Diameter	38.2 mm
Drill Pipe	
Outside Diameter	58.3 mm
Inside Diameter	46.0 mm
Weight	7.9 kg/m
Operational Limits	
Torque to Yield	2.1 kNm
Tension to Yield	283 kN
Make-up Torque (New Tool Joints)	1.05 kNm
Depth Range (Safety Factor 2)	1,800 m



Wireline Core Barrel BXB II (Standard)

Item	Description	Qty.	Order-No.
	Core Barrel cpl. 1.5 m / 5 ft.	1	60-00000000
	Core Barrel cpl. 3.0 m / 10 ft.	1	60-00013550
	Overshot Assembly	1	60-00012603
A	Locking Coupling	1	60-00013551
B	Landing Ring	1	60-00013553
C	Outer Tube 1.5 m / 5 ft.	1	60-00000000
C	Outer Tube 3.0 m / 5 ft.	1	60-00013552
D	Inner Tube Stabilizer	1	60-00013554
E	Reamer	1	Equipment
F	Core Bit	1	Equipment
1	Latching Head Assembly	1	60-00237215
2	Landing Nut	1	60-00013087
3	Bearing Assembly	1	60-00013097
4	Bypass Adapter	1	60-00013085
5	Valve Ball	1	60-00012723
6	Inner Tube 1.5 m / 5 ft.	1	60-00000000
6	Inner Tube 3.0 m / 10 ft.	1	60-00016030
7	Inner Tube Extension	1	60-00013502
8	Core Lifter Case	1	60-00013074
9	Core Lifter, toothed profile	1	60-00013076

Equipment		
Description	Qty.	Order-No.
Drill Rods		
BXB II Drill Rod 1.0 m	1	46-00014799
BXB II Drill Rod 2.0 m	1	46-00014798
BXB II Drill Rod 3.0 m / 10 ft.	1	46-00014797
BXB II Drill String Stabilizer T2A, OD 64.9 mm	1	58-00079310
Components for Pump-in Version		
BXB II Latching Head Assembly, Pump-in	1	60-00013222
BXB II Overshot cpl., Pump-in	1	60-00013026
Wireline Stuffing Box AW Pin, cpl.	1	60-00012405
Crossover AW-Box × BXB II Pin	1	on Request



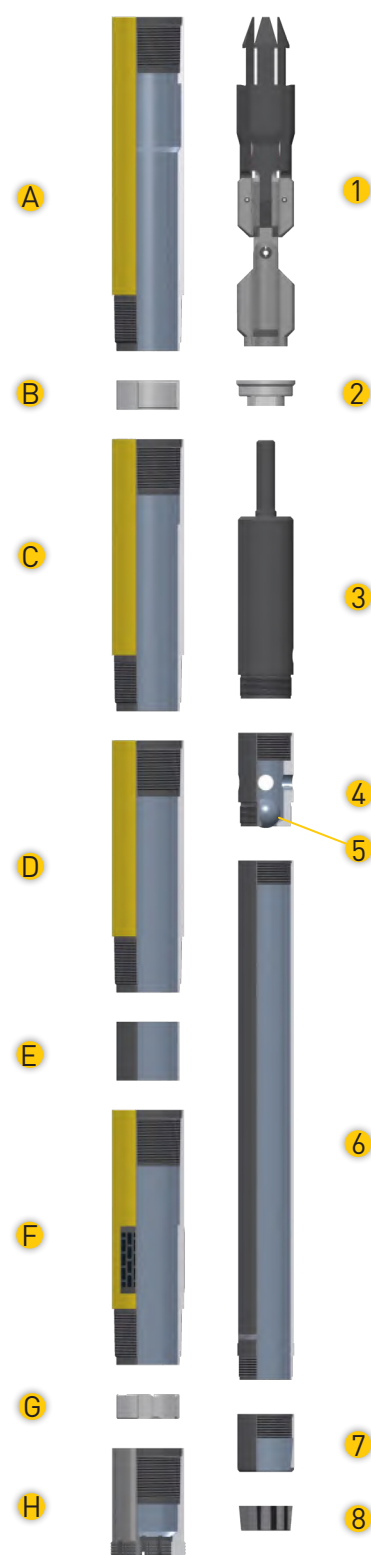
Wireline Core Barrel NXB II

Technical Data	
Hole Size	75.7 mm
Core Diameter	47.6 mm
Outer Tube	
Outside Diameter	73.0 mm
Inside Diameter	60.7 mm
Inner Tube	
Outside Diameter	56.0 mm
Inside Diameter	50.0 mm
Drill Pipe	
Outside Diameter	73.0 mm
Inside Diameter	60.7 mm
Weight	10.2 kg/m
Operational Limits	
Torque to Yield	3.8 kNm
Tension to Yield	441 kN
Make-up Torque (New Tool Joints)	1.9 kNm
Depth Range (Safety Factor 2)	2100 m



Wireline Core Barrel NXB II (Standard)

Item	Description	Qty.	Order-No.
	Core Barrel cpl. 1.5 m / 5 ft.	1	60-00078259
	Core Barrel cpl. 3.0 m / 10 ft.	1	60-00078260
	Overshot Assembly	1	60-00012703
A	Locking Coupling	1	60-00078201
B	Landing Ring	1	60-00078203
C	Adaptor Coupling	1	60-00078202
D	Outer Tube 1.5 m / 5 ft.	1	60-00078212
D	Outer Tube 3.0 m / 5 ft.	1	60-00078213
E	Inner Tube Sleeve	1	60-00078208
F	Reamer	1	Equipment
G	Inner Tube Stabilizer	1	60-00078205
H	Core Bit	1	Equipment
1	Latching Head Assembly	1	60-00237124
2	Landing Nut	1	60-00078204
3	Bearing Assembly	1	60-00012795
4	Bypass Adapter	1	60-00012722
5	Valve Ball	1	60-00012723
6	Inner Tube 1.5 m / 5 ft.	1	60-00078190
6	Inner Tube 3.0 m / 10 ft.	1	60-00078191
7	Core Lifter Case	1	60-00078206
8	Core Lifter, TC-Grit	1	60-00012270



Equipment		
Description	Qty.	Order-No.
Drill Rods		
NXB II Drill Rod 1.5 m / 5 ft.	1	46-00014676
NXB II Drill Rod 3.0 m / 10 ft.	1	46-00014689
NXB II Drill String Stabilizer T2A	1	58-00079010
Components for Pump-in Version		
NXB II Latching Head Assembly, Pump-in	1	60-00013101
NXB II Overshot cpl., Pump-in	1	60-00013125
Wireline Stuffing Box AW Pin, cpl.	1	60-00012405
Crossover AW-Box × NXB II Pin	1	55-00078509

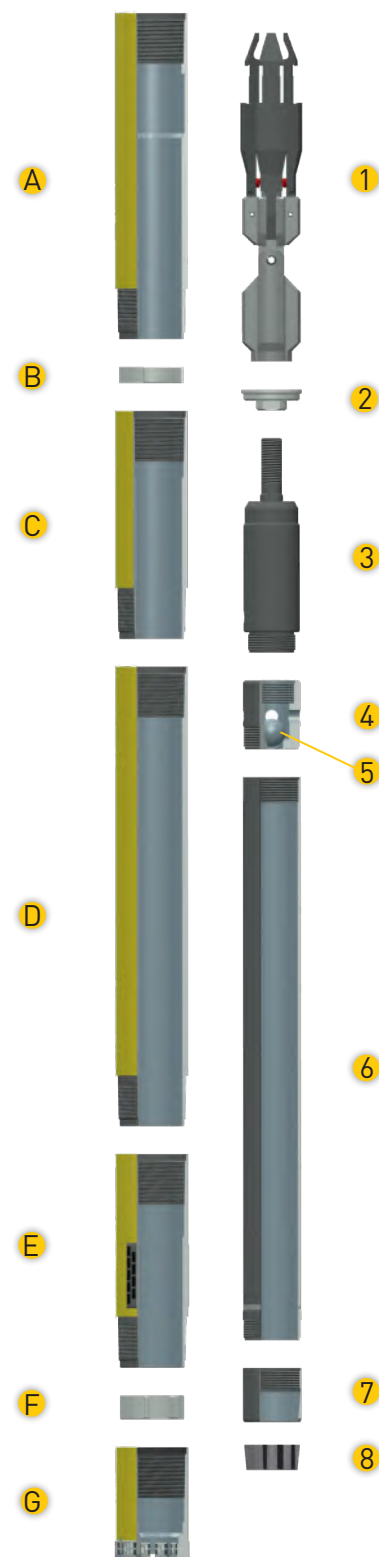
Wireline Core Barrel HXB II

Technical Data	
Hole Size	92.8 mm
Core Diameter	61.2 mm
Outer Tube	
Outside Diameter	90.0 mm
Inside Diameter	76.0 mm
Inner Tube	
Outside Diameter	72.0 mm
Inside Diameter	65.0 mm
Drill Pipe	
Outside Diameter	90.0 mm
Inside Diameter	76.0 mm
Weight	14.3 kg/m
Operational Limits	
Torque to Yield	6.3 kNm
Tension to Yield	610 kN
Make-up Torque (New Tool Joints)	4.0 kNm
Depth Range (Safety Factor 2)	2300 m



Wireline Core Barrel HXB II (Standard)

Item	Description	Qty.	Order-No.
	Core Barrel cpl. 5 ft	1	60-00012109
	Core Barrel cpl. 10 ft	1	60-00078391
	Overshot Assembly	1	60-00012803
A	Locking Coupling	1	60-00078301
B	Landing Ring	1	60-00078303
C	Adaptor Coupling	1	60-00078302
D	Outer Tube 5 ft	1	60-00078312
	Outer Tube 10 ft	1	60-00078313
E	Reamer	1	Equipment
F	Inner Tube Stabilizer	1	60-00078382
G	Core Bit	1	Equipment
1	Latching Head Assembly	1	60-00078387
2	Landing Nut	1	60-00078304
3	Bearing Assembly	1	60-00012895
4	Bypass Adapter	1	60-00012822
5	Valve Ball	1	60-00012823
6	Inner Tube 5 ft	1	60-00012360
	Inner Tube 10 ft	1	60-00012362
7	Core Lifter Case	1	60-00012394
8	Core Lifter, TC-Grit	1	60-00012370



Equipment

Description	Qty.	Order-No.
Drill Rods		
HXB II Drill Rod 1.5 m / 5 ft.	1	46-00014773
HXB II Drill Rod 3.0 m / 10 ft.	1	46-00014778
HXB II Drill String Stabilizer T2A	1	58-00078617
Components for Pump-in Version		
HXB II Latching Head Assembly, Pump-in	1	60-00013410
HXB II Overshot cpl., Pump-in	1	60-00013225
Wireline Stuffing Box AW Pin, cpl.	1	60-00012405
Crossover AW-Box × HXB II Pin	1	55-00078517

CP-Series Wireline Core Barrel

Leading with Innovation

Coupling the speed of wireline coring with dependable simplicity, Christensen delivers an unique large diameter coring system. Even when coring soft, friable or hard-broken formations, the CP wireline core barrel performs with outstanding recovery and reliability. By minimizing the number of moving parts, Christensen has achieved a new level of reliability through simplicity. As a result, the CP offers large diameter core capacity with easy field maintenance, dependable operation and long service life.

Technical Data of Core Barrel		CP
Borehole*	[mm]	122.6
Core	[mm]	85.0
	With Liner [mm]	78.0
Outer Barrel	OD [mm]	117.5
	ID [mm]	103.2
Inner Barrel	OD [mm]	95.2
	ID [mm]	88.9
Technical Data of Drill Rods		
Drill Rods	OD [mm]	117.5
	ID [mm]	103.5
Tension to Yield	max. [kN]	781
Depth	max. [m]	2,000
Weight	[kg/m]	19.1
Torque to Yield	max. [Nm]	12,225
Make-up Torque	max. [Nm]	6,112

* Diameter of standard borehole can be adjusted by customized core bits

Wireline Core Barrel CP

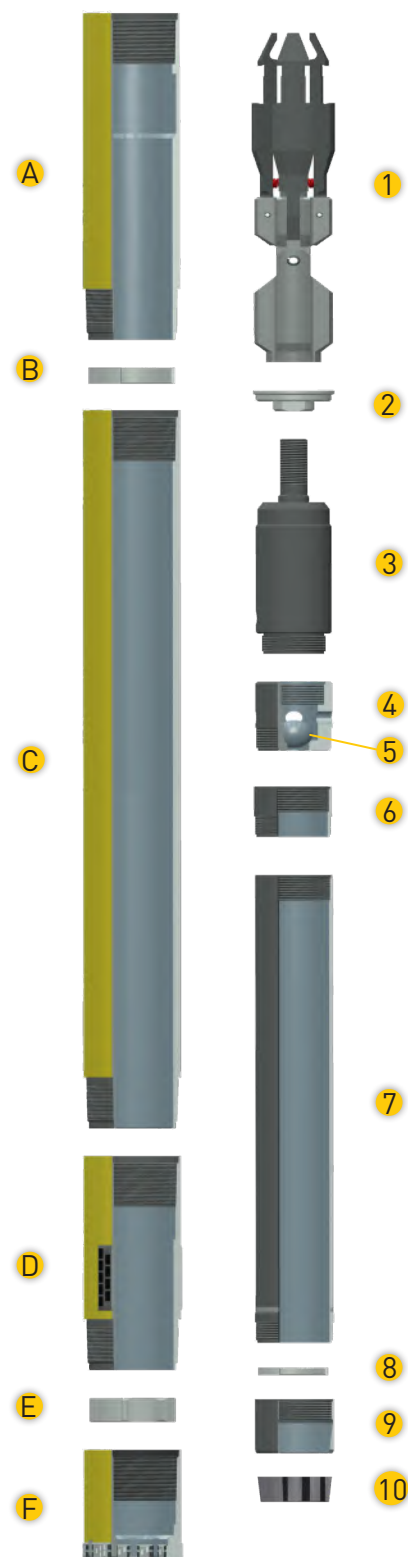
Technical Data	
Hole Size	122.6 mm
Core Diameter	85.0 mm
Core Diameter with Liner	78.0 mm
Outer Tube	
Outside Diameter	117.5 mm
Inside Diameter	103.2 mm
Inner Tube	
Outside Diameter	95.2 mm
Inside Diameter	88.9 mm
Drill Pipe	
Outside Diameter	117.5 mm
Inside Diameter	103.5 mm
Weight	19.1 kg/m
Operational Limits	
Torque to Yield	12 225 Nm
Tension to Yield	781 kN
Make-up Torque (New Tool Joints)	6.112 kNm
Depth Range (Safety Factor 2)	2 000 m



Wireline Core Barrel CP (Standard)

Item	Description	Qty.	Order-No.
	Core Barrel cpl. 5 ft / ~ 1.5 m	1	60-00013012
	Core Barrel cpl. 10 ft / ~ 3.0 m	1	60-00013020
	Overshot cpl.	1	60-00270026
A	Locking Coupling	1	60-00304025
B	Landing Ring	1	60-00900012
C	Outer Tube 5 ft	1	60-00305014
	Outer Tube 10 ft	1	60-00305022
D	Reamer	1	Equipment
E	Inner Tube Stabilizer (Brass)	1	60-00900013
F	Core Bit	1	Equipment
1	Latching Head Assembly	1	60-00237116
2	Landing Nut	1	60-00290040
3	Bearing Assembly	1	60-00012895
4	Bypass Adapter	1	60-00012822
5	Valve Ball	1	60-00012823
6	Inner Tube Connector	1	60-00237028
7	Inner Tube 5 ft	1	60-00306012
	Inner Tube 10 ft	1	60-00306019
8	Stop Ring	1	60-00900043
9	Core Lifter Case	1	60-00900022
10	Core Lifter, Toothed Profile	1	60-00078102
	Core Lifter, TC-Grit	1	60-00078101

Equipment		
Description	Qty.	Order-No.
Drill Rods		
CPWL Drill Rod 1.5 m / 5 ft.	1	46-00320045
CPWL Drill Rod 3.0 m / 10 ft.	1	46-00320051
CPWL Drill Rod 6.0 m / 20 ft.	1	46-00320060
Components for Pump-in Version		
CP Latching Head Assembly, Pump-in	1	60-00392010
CP Overshot cpl., Pump-in	1	60-00304040
CP Wireline Stuffing Box AW Pin, cpl.	1	60-00012405
Crossover AW-Box × CP Pin	1	55-00079054
Others		
CP String Stabilizer T2A 122.4 mm	1	58-00078410
CP Dia-Reamer Spiral-Type 122.6 mm	1	42-00203807



CSK-Series Wireline Core Barrels

Leading with Innovation

The original Christensen CSK wireline core barrels are typified by their unique robustness and operation simplicity. The development of these systems has been an evolutionary process, combining field experience with practical engineering. The resulting design gives the CSK wireline core barrels many advantages like positive latching at any hole angle or reliable operation while coring under roughest conditions.

Even when coring soft, friable or hard-broken formations, the CSK wireline core barrels perform with outstanding recovery and reliability. By minimizing the number of moving parts, Christensen has achieved a new level of reliability through simplicity. As a result, the CSK systems offer large diameter core capacity with easy field maintenance, dependable operation and long service life.

Technical Data of Core Barrel		CSK 146	CSK 176
Borehole*	[mm]	146.0	176.0
Core	[mm]	102.0	132.0
Outer Barrel	OD [mm]	140.0	171.0
	ID [mm]	124.0	153.4
Inner Barrel	OD [mm]	117.0	143.0
	ID [mm]	111.0	133.0
Technical Data of Drill Rods			
Drill Rods	OD [mm]	140.0	171.0
	ID [mm]	124.0	153.4
Tool Joints	OD [mm]		172.0
	ID [mm]		151.0
Tension to Yield	max. [kN]	1,120	1,420
Depth	max. [m]	2,200	1,800
Weight	[kg/m]	26.0	40.0
Torque to Yield	max. [Nm]	15,940	21,300
Make-up Torque	max. [Nm]	9,000	10,600

* Diameter of standard borehole can be adjusted by customized core bits

Wireline Core Barrel CSK 146

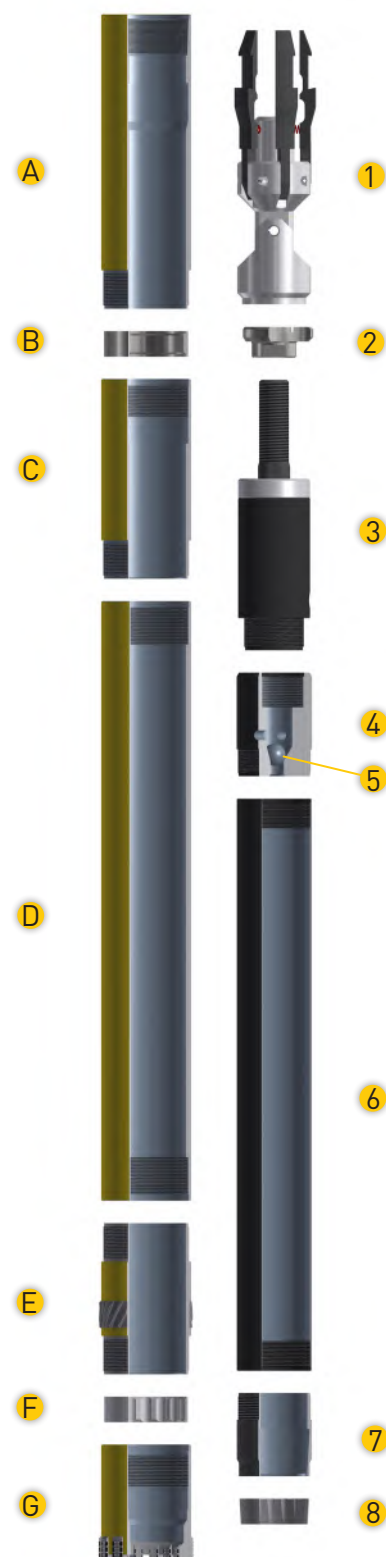
Technical Data	
Hole Size	146.0 mm
Core Diameter	102.0 mm
Outer Tube	
Outside Diameter	140.0 mm
Inside Diameter	124.0 mm
Inner Tube	
Outside Diameter	117.0 mm
Inside Diameter	111.0 mm
Drill Pipe	
Outside Diameter	140.0 mm
Inside Diameter	124.0 mm
Weight	26 kg/m
Operational Limits	
Torque to Yield	15.9 kNm
Tension to Yield	1,120 kN
Make-up Torque (New Tool Joints)	9.0 kNm
Depth Range (Safety Factor 2)	2,200 m



Wireline Core Barrel CSK 146 (Standard)

Item	Description	Qty.	Order-No.
	Core Barrel cpl., 1.5 m / 5 ft.	1	60-00386755
	Core Barrel cpl., 3.0 m / 10 ft.	1	60-00386752
	Overshot Assembly	1	60-00386727
A	Locking Coupling	1	60-00386711
B	Landing Ring	1	60-00386714
C	Adaptor Coupling	1	60-00386712
D	Outer Tube, 1.5 m	1	60-00386701
D	Outer Tube, 3.0 m	1	60-00386718
E	Reamer	1	Equipment
F	Inner Tube Stabilizer (Brass)	1	60-00386715
G	Core Bit	1	Equipment
1	Latching Head Assembly	1	60-00386770
2	Landing Nut	1	60-00386717
3	Bearing Assembly	1	60-00386799
4	Bypass Adapter	1	60-00386716
5	Valve Ball	1	60-00012823
6	Inner Tube, 1.5 m / 5 ft.	1	60-00386702
6	Inner Tube, 3.0 m / 10 ft.	1	60-00386719
7	Core Lifter Case	1	60-00386706
8	Core Lifter, Toothed Profile	1	60-00386703

Equipment		
Description	Qty.	Order-No.
Drill Rods		
CSK 146 Drill Rod 1.5 m / 5 ft.	1	46-00007036
CSK 146 Drill Rod 3.0 m / 10 ft.	1	46-00007037
CSK 146 Drill Rod 6.0 m / 20 ft.	1	46-00007038
Components for Pump-in Version		
CSK 146 Latching Head Assembly, Pump-in	1	60-00386801
CSK 146 Overshot cpl., Pump-in	1	60-00386557
CSK 146 Wireline Stuffing Box AW Pin, cpl.	1	60-00012405
Crossover AW-Box × CSK 146 Pin	1	55-00078905
Others		
CSK 146 String Stabilizer T2A 145.8 mm	1	58-00079008
CSK 146 Dia-Reamer 146.0 mm	1	42-00381805



Wireline Core Barrel CSK 176

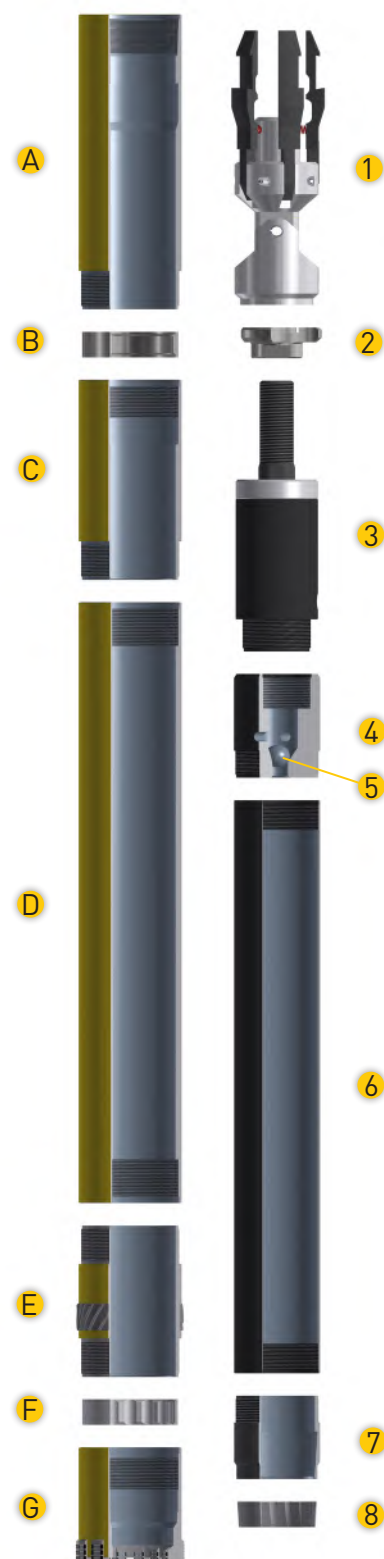
Technical Data	
Hole Size	176.0 mm
Core Diameter	132.0 mm
Outer Tube	
Outside Diameter	171.0 mm
Inside Diameter	153.4 mm
Inner Tube	
Outside Diameter	143.0 mm
Inside Diameter	133.0 mm
Drill Pipe	
Outside Diameter	172.0 mm
Inside Diameter	151.0 mm
Weight	40 kg/m
Operational Limits	
Torque to Yield	21.3 kNm
Tension to Yield	1420 kN
Make-up Torque (New Tool Joints)	10.6 kNm
Depth Range (Safety Factor 2)	1800 m



Wireline Core Barrel CSK 176 (Standard)

Item	Description	Qty.	Order-No.
	Core Barrel cpl., 1.5 m / 5 ft.	1	60-00390047
	Core Barrel cpl., 3.0 m / 10 ft.	1	60-00390000
	Overshot Assembly	1	60-00390001
A	Locking Coupling	1	60-00390011
B	Landing Ring	1	60-00390006
C	Adaptor Coupling	1	60-00390010
D	Outer Tube, 1.5 m	1	60-00390033
D	Outer Tube, 3.0 m	1	60-00390062
E	Reamer	1	Equipment
F	Inner Tube Stabilizer (Brass)	1	60-00390008
G	Core Bit	1	Equipment
1	Latching Head Assembly	1	60-00390016
2	Landing Nut	1	60-00390004
3	Bearing Assembly	1	60-00386799
4	Bypass Adapter	1	60-00390003
5	Valve Ball	1	60-00012823
6	Inner Tube, 1.5 m / 5 ft.	1	60-00050853
6	Inner Tube, 3.0 m / 10 ft.	1	60-00390064
7	Core Lifter Case	1	60-00390005
8	Core Lifter, Toothed Profile	1	60-00390014

Equipment		
Description	Qty.	Order-No.
Drill Rods		
CSK 176 Drill Rod 3.0 m / 10 ft.	1	46-00007170
CSK 176 Drill Rod 6.0 m / 20 ft.	1	46-00007069
Components for Pump-in Version		
CSK 176 Latching Head Assembly, Pump-in	1	60-00390039
CSK 176 Overshot cpl., Pump-in	1	60-00390040
CSK 176 Wireline Stuffing Box AW Pin, cpl.	1	60-00012405
Crossover AW-Box × CSK 176 Pin	1	55-00079272
Others		
CSK 176 String Stabilizer T2A 175.8 mm	1	58-00079046
CSK 176 Dia-Reamer 176.0 mm	1	42-00372101



SK-Series Wireline Core Barrels

Leading with Innovation

The Christensen SK wireline core barrels are heavy duty systems, made for deep coring applications under roughest conditions. The systems work highly reliable in every type of formation. Even when coring difficult rocks like kimberlite or sticky sediments, the SK wireline core barrels perform with outstanding reliability and efficiency. For deep coring projects the SK systems can be ordered as 9 m version to reduce the number of trips significantly. Equipped with the unique Christensen latching system a reliable and effective coring performance is guaranteed at any time.

The SK wireline core barrels are delivered with extremely durable drill rods. These are equipped with friction welded high grade tool joints. Hardfacing on the pin tool joint ensures a high abrasion resistance.

Technical Data of Core Barrel		SK 4 ¼" B	SK 4 ½" B	SK 5 ¾"	SK 5 ½" B
Borehole*	[mm]	120.6	123.8	157.0	161.9
Core	[mm]	69.0	78.0	88.9	101.4
	With Liner [mm]	63.0	on Request	on Request	95.0
Outer Barrel	OD [mm]	110.0	114.3	146.0	152.4
	ID [mm]	86.5	96.0	110.0	124.0
Inner Barrel	OD [mm]	80.0	89.0	102.0	115.0
	ID [mm]	72.0	81.0	92.0	107.0
Technical Data of Drill Rods					
Drill Rods	OD [mm]	103.5	114.3	139.7	141.0
	ID [mm]	86.5	96.0	123.5	124.0
Tool Joints	OD [mm]	110.0	118.0	146.0	152.4
	ID [mm]	86.5	95.0	110.0	124.0
Tension to Yield	max. [kN]	525	1,000	2,200	2,200
Depth	max. [m]	2,500	2,300	4,500	3,000
Weight	[kg/m]	21.0	24.2	28.2	29.0
Torque to Yield	max. [Nm]	5,500	11,000	25,000	18,400
Make-up Torque	max. [Nm]	5,000	5,500	12,000	11,000

* Diameter of standard borehole can be adjusted by customized core bits

Wireline Core Barrel SK 4 1/4" B

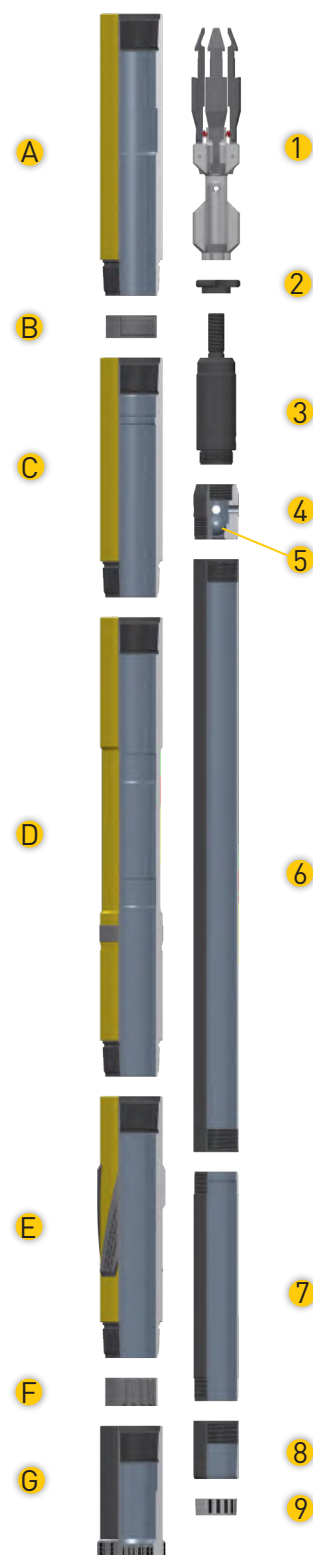
Technical Data	
Hole Size	120.6 mm
Core Diameter w/o Liner	69.0 mm
Core Diameter with Liner	63.0 mm
Outer Tube	
Outside Diameter	110.0 mm
Inside Diameter	86.5 mm
Inner Tube	
Outside Diameter	80.0 mm
Inside Diameter	72.0 mm
Drill Pipe	
Outside Diameter	103.5 mm
Inside Diameter	86.5 mm
Outside Diameter Tool Joint	110.0 mm
Weight	21 kg/m
Operational Limits	
Torque to Yield	5.5 kNm
Tension to Yield	525 kN
Make-up Torque (New Tool Joints)	5.0 kNm
Depth Range (Safety Factor 2)	2500 m



Wireline Core Barrel SK 4 1/4" B (Standard)

Item	Description	Qty.	Order-No.
	Core Barrel cpl., 6.0 m / 20 ft.	1	60-00009468
	Core Barrel cpl., 9.0 m / 30 ft.	1	60-00000000
	Overshot Assembly	1	60-00009473
A	Locking Coupling	1	60-00019001
B	Landing Ring	1	60-00019005
C	Adaptor Coupling	1	60-00019002
D	Outer Tube, 6.0 m / 20 ft.	1	46-00007253
D	Outer Tube Assembly, 9.0 m	1	60-00019038
E	SK 4 1/4" B Stabilizer	1	Equipment
F	Inner Tube Stabilizer (Brass)	1	60-00019008
G	Core Bit	1	Equipment
1	Latching Head Assembly	1	60-00019031
2	Landing Nut	1	60-00019006
3	Bearing Assembly	1	60-00019029
4	By Pass Adapter, Valve Body	1	60-00019012
5	Valve Ball	1	60-00012823
6	Inner Tube, 6.0 m / 20 ft.	1	60-00019007
	Auxiliary Inner Tube for 9.0 m Version	1	60-00019039
7	Inner Tube Extension	1	60-00019004
8	Core Lifter Case	1	60-00019015
9	Core Lifter, TC-Grit	1	60-00008557

Equipment		
Description	Qty.	Order-No.
Drill Rods		
SK 4 1/4" B Drill Rod 6.0 m / 20 ft.	1	46-00007253
SK 4 1/4" B Drill Rod 9.0 m / 30 ft.	1	46-00007254
Others		
SK 4 1/4" B String Stabilizer T2A 120.4 mm	1	58-00079211



Wireline Core Barrel SK 4 ½" B

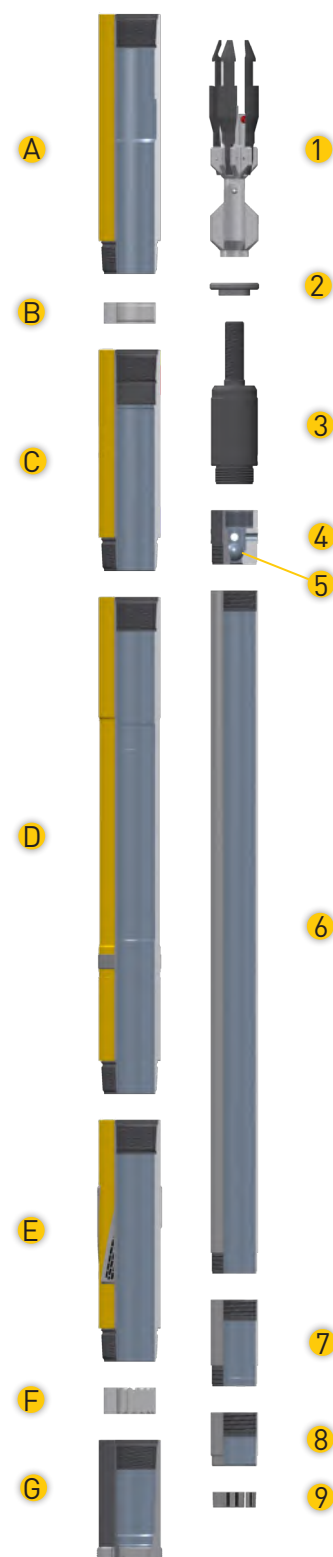
Technical Data	
Hole Size	123.8 mm
Core Diameter	78.0 mm
Outer Tube	
Outside Diameter	114.3 mm
Inside Diameter	96.0 mm
Inner Tube	
Outside Diameter	89.0 mm
Inside Diameter	81.0 mm
Drill Pipe	
Outside Diameter	114.3 mm
Inside Diameter	96.0 mm
Outside Diameter Tool Joint	118.0 mm
Weight	24.2 kg/m
Operational Limits	
Torque to Yield	11.0 kNm
Tension to Yield	1000 kN
Make-up Torque (New Tool Joints)	5.5 kNm
Depth Range (Safety Factor 2)	2300 m



Wireline Core Barrel SK 4 ½" B (Standard)

Item	Description	Qty.	Order-No.
	Core Barrel cpl., 3.0 m / 10 ft.	1	60-00009236
	Core Barrel cpl., 6.0 m / 20 ft.	1	60-00000000
	Overshot Assembly	1	60-00009240
A	Locking Coupling	1	60-00009224
B	Landing Ring	1	60-00009225
C	Adaptor Coupling	1	60-00009226
D	Outer Tube, 3.0 m	1	46-00007280
	Outer Tube, 6.0 m	1	46-00000000
E	SK 4 ½" B Stabilizer	1	Equipment
F	Inner Tube Stabilizer (Brass)	1	60-00009227
G	Core Bit	1	Equipment
1	Latching Head Assembly	1	60-00009211
2	Landing Nut	1	60-00009218
3	Bearing Assembly	1	60-00009214
4	By Pass Adapter, Valve Body	1	60-00009228
5	Valve Ball	1	60-00012823
6	Inner Tube, 3.0 m / 10 ft.	1	60-00009220
6	Inner Tube, 6.0 m / 20 ft.	1	60-00009208
7	Inner Tube Extension	1	60-00009221
8	Core Lifter Case	1	60-00009222
9	Core Lifter, TC-Grit	1	60-00009223

Equipment		
Description	Qty.	Order-No.
Drill Rods		
SK 4 ½" B Drill Rod 2.6 m / 8.5 ft.	1	46-00007280
SK 4 ½" B Drill Rod 6.0 m / 20 ft.	1	46-00007277
Others		
SK 4 ½" B String Stabilizer T2A 123.6 mm	1	58-00079256



Wireline Core Barrel SK 5 ½" B

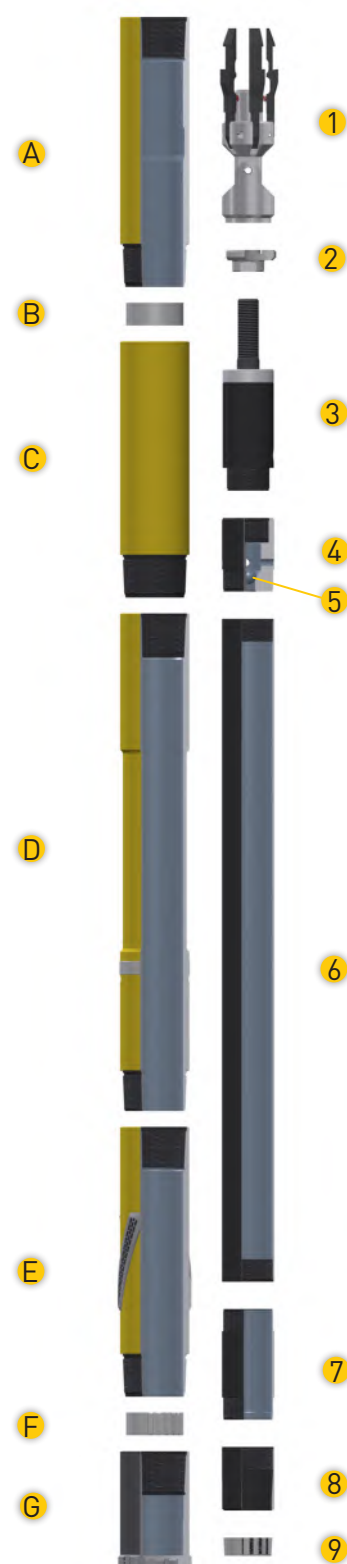
Technical Data	
Hole Size	161.9 mm
Core Diameter w/o Liner	101.4 mm
Core Diameter with Liner	95.0 mm
Outer Tube	
Outside Diameter	152.4 mm
Inside Diameter	124.0 mm
Inner Tube	
Outside Diameter	115.0 mm
Inside Diameter	107.0 mm
Drill Pipe	
Outside Diameter	141.0 mm
Inside Diameter	124.0 mm
Outside Diameter Tool Joint	152.4 mm
Weight	29 kg/m
Operational Limits	
Torque to Yield	18.4 kNm
Tension to Yield	2200 kN
Make-up Torque (New Tool Joints)	11.0 kNm
Depth Range (Safety Factor 2)	3000 m



Wireline Core Barrel SK 5 ½" B (Standard)

Item	Description	Qty.	Order-No.
	Core Barrel cpl., 6.0 m / 20 ft.	1	60-00388083
	Core Barrel cpl., 9.0 m / 30 ft.	1	60-00000000
	Overshot Assembly	1	60-00386727
A	Locking Coupling	1	60-00388100
B	Landing Ring	1	60-00388107
C	Adaptor Coupling	1	60-00388101
D	Outer Tube, 6.0 m	1	46-00007252
D	Outer Tube Assembly, 9.0 m	1	60-00388170
E	SK 5 ½" B Stabilizer	1	Equipment
F	Inner Tube Stabilizer (Brass)	1	60-00009009
G	Core Bit	1	Equipment
1	Latching Head Assembly	1	60-00386770
2	Landing Nut	1	60-00388102
3	Bearing Assembly	1	60-00386799
4	Bypass Adapter	1	60-00388103
5	Valve Ball	1	60-00012823
6	Inner Tube, 6.0 m / 20 ft.	1	60-00388115
6	Auxiliary Inner Tube, for 9.0 m Version	1	60-00388171
7	Inner Tube Extension	1	60-00388104
8	Core Lifter Case	1	60-00388116
9	Core Lifter, TC-Grit	1	60-00256011

Equipment		
Description	Qty.	Order-No.
Drill Rods		
SK 5 ½" B Drill Rod 6.0 m / 20 ft.	1	46-00007252
SK 5 ½" B Drill Rod 9.0 m / 30 ft.	1	46-00007255
Components for Pump-in Version		
SK 5 ½" B Latching Head Assembly, Pump-in	1	60-00386801
SK 5 ½" B Overshot cpl., Pump-in	1	60-00386557
SK 5 ½" B Wireline Stuffing Box AW Pin, cpl.	1	60-00012405
Crossover AW-Box × SK 5 ½" B Pin	1	55-00000000
Others		
SK 5 ½" B String Stabilizer T2A 161.7 mm	1	58-00079184



Notes





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