

Terracore core drilling tools – product catalogue

For site investigation



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Terracore

Terracore – a comprehensive range of core drilling tools for reliable site investigation

Epiroc is among the world's leading manufacturers of core drilling equipment. We have supplied our market with high performance products during many generations. Our aim has always been clear – to develop safe and environmentally friendly products with sustainable productivity. The Terracore drilling system is a result from this effort.

The market's most diverse and comprehensive range

Terracore range covers a complete package of in-the-hole equipment. Conventional and wire line core barrels, drill rods and casings, core boxes, additives, adapters and fishing tools, not to mention a wide range of drilling bits to make core drilling reliable and fast.

A multitude of applications

Terracore can be used in a wide range of applications – as long as the ground and depth correspond to the product design.

Here are just a few examples; carrying out site investigation in urban

construction sites, exploration in surface and underground mines, drilling grout holes in tunnels and on hydro-electric power projects.

Core drilling for undisturbed sampling and hole making is often a preferred solution for straight holes and where noise and vibrations are subject to legislation.

Terracore is ideal for traditional exploration in soft and shallow formations (100-150m) and large wireline core drilling applications.

Epiroc solutions

Epiroc offers a totally solution with the rigs and the consumables. Epiroc surface and underground range

rigs can utilize the B, T2, T6 and S-Geobor core drilling systems, for different applications.tube system for straight deep grouting holes.

Get the best from your drilling equipment

Epiroc is a global company with Customer Centers in more than 150 countries. Our dedicated sales engineers are always on hand to discuss and solve your drilling problems. We offer service support, spare parts and consumables packages for sustainable productivity. And with our rigorously field tested products, you can be assured of the market's best geotechnical sampling and drilling equipment.

How to select Terracore products

Introduction

In this catalogue you will mainly find In-The-Hole tools (ITH) and bits suitable for geotechnical core sampling in soft unconsolidated to medium hard consolidated formations.

ITH for mineral exploration in deep hard formations can be found in the separate Exploration catalogue (9866 0067 01).

Detailed parts information can be found in the respective product section. Select core barrel, drill rods, casing and sockets, accessories and diamond products to match the application from respective sub section.

The hole/core diameter chart (see dimension guide on page 8) will allow you to quickly reference what sizes are available in a given system.

Each product section will start with basic application information with technical data and some helpful hints for proper product selection. The last page of each section will provide a summary of the spare part kits and options for the systems.

STEP 1

Systems

Epiroc offers a full range of core barrels for geotechnical core sampling. Your first choice of core barrel depends on whether you use a conventional or wire line core barrel system.

STEP 2

Core barrels

Conventional

Conventional core barrels produce a larger core diameter compared to equivalent wire line size. The rugged construction and design features ensure optimization of productivity in applications where the use of wire line system is not practical or cost effective. Conventional core barrels are typically used in shorter bore holes. The core barrels can drill in all directions.

The T2 double tube conventional core barrel is a thin-wall all round core barrel for most type of homogeneous or somewhat broken formations where water flush can be used.

How to select your system

Determine if the application requires conventional or wireline system.

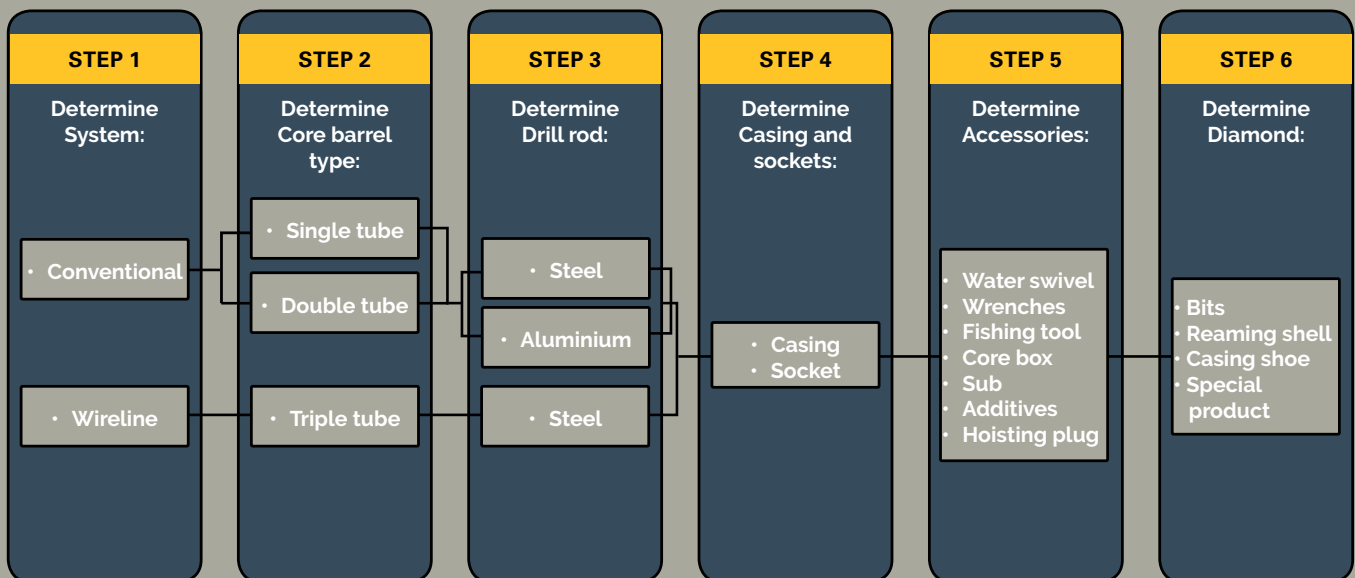
Determine what tube design the application requires. If double tube design is preferred, then choose if thin wall or standard wall is needed.

Determine drill rod based on the preferred core barrel design and connection thread in core barrel head. For wireline only one size of rods suitable for the selected core barrel design can be selected.

Determine suitable casing and socket if required for the drilling operation.

Determine accessories that you require to complement the ITH equipment to perform a trouble free and cost effective drilling operation.

Finally determine your drill bit by guidelines through the Terracore classification chart.



The thin wall design offer features

The T2 double tube conventional core barrel is a thin-wall all round core barrel for most type of homogeneous or somewhat broken formations where water flush can be used. The thin wall design offer features as:

- Faster penetration
- Lower diamond cost
- Larger core

Epiroc's T2 core barrels are available in metric hole sizes 46 to 101 mm.

The T6 double tube conventional system is a standard wall all round core barrel for core sampling in all formations. Despite the relatively thin wall, T6 can very well be used with high viscous mud or in special cases with air flushing. T6 core barrels are manufactured in metric sizes 76 to 146 mm (S-size).

The B single tube conventional system is suitable for drilling straight holes e.g. grouting holes for dam constructions. Typical situations are when core examination is of less importance or when concrete core extraction is required. The B system is based upon the metric casing and can be extended one length or more by adding suitable length of casing rods. B core barrels are manufactured in metric sizes 46 to 146 mm. Wire line rods B, N, H can easily be converted to single tube core barrels. See page 101, "Special bit tools".

Wireline

The S Geobor wire line core drilling system from Epiroc has been specially developed for core drilling and undisturbed sampling in soft formations. The core barrel is of "triple tube design" type consisting of an outer tube and an inner tube with liner.

There is a plastic "liner" in the inner tube which considerably reduces friction between the core and the inner tube. This means that a maximum core recovery is guaranteed. The plastic tube can also be used as a core container when provided with plugs at both ends. Split liners in steel are also available as alternatives to our standard solid round plastic liners – see page 64 for optional 'End caps'.

Geobor core barrels are manufactured in one dimension S (146mm) only.

The core barrel is designed for flushing with water, mud and in special cases with air. Geobor core barrels can easily be adapted to fit all ground and rock conditions with different types of bits and conversion kits.

With the available options, the Geobor core barrel is the most versatile in its field.





STEP 3

Drill rods

Epiroc drill rods and casings are designed to deliver top performance to your equipment and your drill site.

Conventional drill rods

Conventional drill rods are available in light-weight steel or aluminium, providing you an ergonomic flexibility which will improve your handling capabilities under the most strenuous conditions. Steel drill rods are manufactured with friction welded hardened steel coupling. Aluminium drill rods are manufactured with glued, threaded hardened steel couplings. For conventional core barrels the rod OD size is recommended to be as large as possible. However it must not restrict the annulus circulation flow. You also have to consider machine capacity.

Note! If chosen drill rods does not match the corresponding core barrel's connection threads you have to choose cross-over subs.

You have to consider the rod length to fit the overall length that can be handled efficiently. It is recommended to select a few smaller rods to compensate the drill string length even though the main part of selected rods are longer. We recommend conical thread double WJ design for easier jointing and safer sealing.

Wire line drill rods

Wire line drill rods are manufactured from highest available carbon seamless steel tubes for superior yield capacity and ultimate strength. Wire line rods are always flush jointed to

allow inner tube and other tools to pass through. Pin threads are surface treated, for easy jointing and extended life.

In this catalogue we only have two types of wire line rods, PG rods for PG wire line and SG rods for Geobor wire line.

STEP 4

Casing and sockets

Casings are flush jointed and manufactured in standard steel quality. The physical properties are:

- Lower yield point 550 N/mm²
- Tensile strength 690 N/mm²
- Elongation A5 min 15 %

In this catalogue you find metric casing 44-143 mm and imperial casing PW and SGW (SW). For all conventional core barrels up to 131 mm you select casing from the metric casing range.

For S Geobor, you select casing from the imperial casing range. In the casing section you will also find casing sockets to fit corresponding drill rods connections.

Casing shoes are selected from the Terracore bit section Step 6.

STEP 5

Accessories

Details often make the difference in quality of the drilling operation. In this section, we offer products selected for their quality and technical superiority. It is important to use recommended wrenches, to avoid risk of equipment damage.

Note! Wrenches always used in pairs.

Don't forget trouble shooting tools, (recovery taps etc), which might save you some problems.

This sections also include a selection of subs, core boxes, additives and water swivels.

Water swivels should be selected in accordance with type of drill rig used and fluid demands for the application.

STEP 6

Diamond products

Bit selection for impregnated bits is guided by the Terracore classification chart. The rock formation characteristics with corresponding samples of rock types are organized in application rock groups 1-10.

Choose suitable bit based on application number that matches your formation characteristics. Basically the scale indicates a harder formation for a higher number. In application range 1-4, diamond surface set, PDC and TC should be considered as well.



Core barrels type B, T2, T6, S Geobor

Core barrels

Epiroc T2 core barrels are of thin-wall core barrel system for most types of homogenous or somewhat broken formations where water flush can be used.

Core barrel sizes

Size	Hole diameter mm (in)	Core diameter mm (in)	Core barrel connection box	Rec. drill rod	Outer diam. drill rod, mm (in)
T2 Core barrels					
46T2	46,5 (1.82)	31,7 (1.25)	CR42	43/WJ43*	43,0 (1.69)
56T2	56,5 (2.22)	41,7 (1.64)	CR50	53/WJ53*	53,0 (2.09)
66T2	66,5 (2.61)	51,7 (2.04)	CR50	53/WJ53*	53,0 (2.09)
76T2	76,5 (3.00)	61,7 (2.43)	CR50	NWJ	70,0 (2.76)
86T2	86,5 (3.40)	71,7 (2.82)	CR50	NWJ	70,0 (2.76)
101T2	101,5 (3.99)	83,7 (3.30)	NW/2 3/8"	NWJ	70,0 (2.76)
T6 Core barrels					
76 T6	76,3 (3.00)	57,0 (2.24)	CR50	NWJ	70,0 (2.76)
86 T6	86,3 (3.40)	67,0 (2.64)	CR50	NWJ	70,0 (2.76)
101 T6	101,3 (3.99)	79,0 (3.11)	NW/2 3/8"	NWJ	70,0 (2.76)
116 T6	116,3 (4.58)	93,0 (3.66)	NW/2 3/8"	NWJ	70,0 (2.76)
131T6	131,3 (5.17)	108,0 (4.25)	NW/2 3/8"	NWJ	70,0 (2.76)
146T6	146,3 (5.76)	123,0 (4.84)	NW/2 3/8"	NWJ	70,0 (2.76)
B Core barrels					
46 B	46,3 (1.82)	31,7 (1.25)	44,4 (1.75)	43/WJ43*	43,0 (1.69)
56 B	56,3 (2.22)	41,7 (1.64)	54,4 (2.14)	53/WJ53*	53,0 (2.09)
66 B	66,3 (2.61)	51,7 (2.04)	64,4 (2.54)	53/WJ53*	53,0 (2.09)
76 B	76,3 (3.00)	61,7 (2.43)	74,4 (2.93)	NWJ	70,0 (2.76)
86 B	86,3 (3.40)	71,7 (2.82)	84,4 (3.33)	NWJ	70,0 (2.76)
101 B	101,3 (3.99)	86,7 (3.41)	98,2 (3.87)	NWJ	70,0 (2.76)
116 B	116,3 (4.58)	101,7 (4.00)	113,5 (4.47)	NWJ	70,0 (2.76)
131 B	131,5 (5.17)	116,7 (4.56)	128,0 (5.04)	NWJ	70,0 (2.76)
146 B	146,5 (5.76)	131,7 (5.19)	143,0 (5.63)	NWJ	70,0 (2.76)
S Geobor					
Geobor S	146,5 (5.76)	102,0 (4.02)	SG	SG Drill rod	139.7 (5.58)

Conventional double tube core barrel type T2

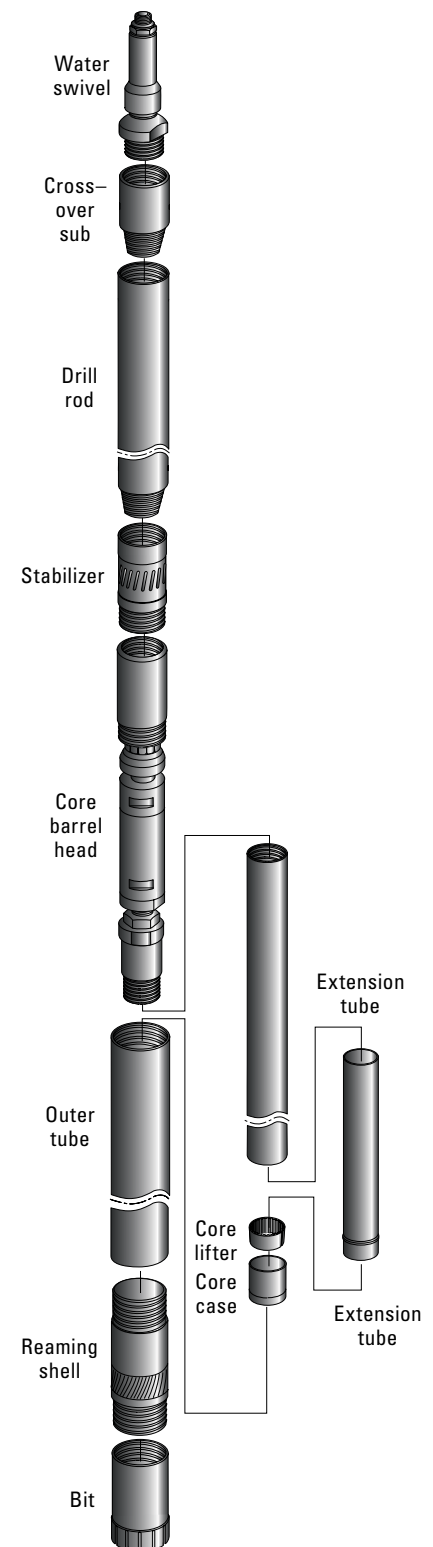
Core barrels

Epiroc T2 core barrels are of thin-wall core barrel system for most types of homogenous or somewhat broken formations where water flush can be used.

Size	Metric system (mm)				
	Hole diameter	Core diameter	Core barrel connection box	Rec. drill rod	Outer diam. drill rod
46 T2	46,5	31,7	cr42	43/AWJ43*	43.0
56 T2	56,5	41,7	cr50	53/BWJ53*	53.0
66 T2	66,5	51,7	cr50	53/BWJ53*	53.0
76 T2	76,5	61,7	cr50	NWJ	70.0
86 T2	86,5	71,7	cr50	NWJ	70.0
101 T2	101,5	83,7	NW/2 3/8"	NWJ	70.0
Imperial system (in)					
46 T2	1.82	1.25	cr42	43/AWJ43*	1.69
56 T2	2.22	1.64	cr50	53/BWJ53*	2.09
66 T2	2.61	2.04	cr50	53/BWJ53*	2.09
76 T2	3.00	2.43	cr50	NWJ	2.76
86 T2	3.40	2.82	cr50	NWJ	2.76
101 T2	3.99	3.30	NW/2 3/8"	NWJ	2.76

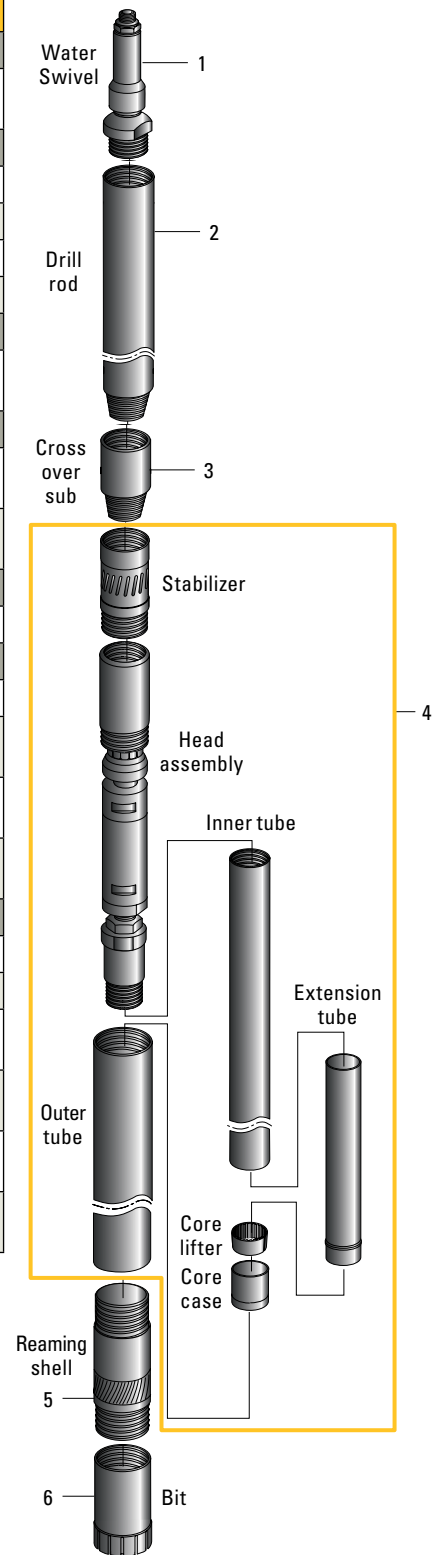
*) Cross over SUB needed

Size	Typical drilling parameters (indicative values)							
	Rotation speed, impregnated bit, rpm		Weight on bit, kN		Water flow, litres/min.		Penetration rate, cm/min,	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
46 T2	1250	2100	9	14	6	9	14	26
56 T2	100	1700	11	17	7	11	11	21
66 T2	850	1450	14	20	9	20	9	20
76 T2	750	1250	16	24	16	25	8	20
86 T2	650	1100	18	27	20	35	7	18
101 T2	550	950	26	38	25	45	7	15



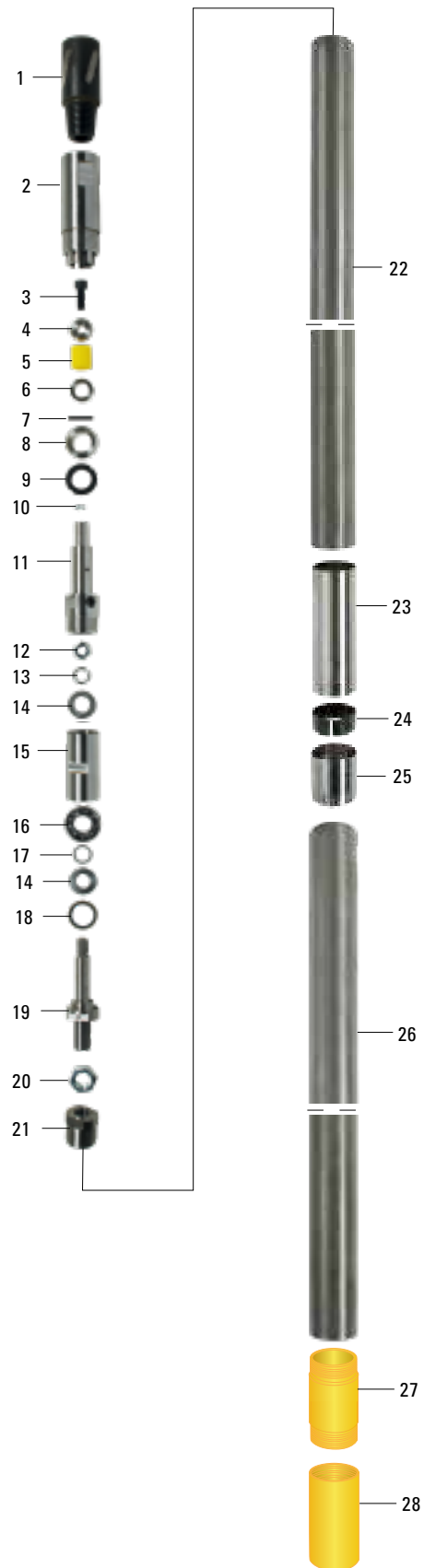
46 T2 drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. CR42 pin (Inner diameter 18 mm, no bail)		8070 0107 42	
Rods			0,5 m	1,5 m	3,0 m
2		43 drill rod	8393 0133 08	8393 0133 16	8393 0133 24
2		Aluminium 43 drill rod	8393 0305 00	8393 0306 09	8393 0307 08
2		AWJ43 drill rod	8393 0810 27	8393 0282 50	8393 0282 60
2		Aluminium AWJ43 drill rod	8393 0812 80	8393 0812 81	8393 0812 82
Crossover (optional)					
3		Optional adapter/stablizer, conn. with AWJ box		8393 0816 16	
Core barrel					
4		1,5 m / 5 ft Core barrel complete, conn. CR42 box		8393 0815 20	
4		3,0 m / 10 ft Core barrel complete, conn. CR42 box		8393 0815 21	
Reaming shell					
5		Rshell Diamond surface set		3702 7128 00	
Bits					
6	CF	Tungsten Carbide inserts (TCI) / Soft		8372 0102 00	
6	CF	Tungsten Carbide chips (CRB) / Soft-medium		8372 0120 08	
6	CF	Surface set 30-50 / S / Semi round / Medium-hard		8370 0679 96	
6	CF	Surface set 20-25 / S / Semi round / Soft-medium		8370 0650 65	
Impregnated bits (Rock group/Height/Formation)					
6	8ECF	10/10/ Extremely hard, Non abrasive		3702 6725 00	
6	8CF	9/10/ Hard-very hard, Slightly abrasive		8370 2300 21	
6	6CF	6-8/10/ Medium hard-hard, Abrasive + mixed		3702 6879 00	
6	6CF	5-6/10/ Medium soft-hard, Abrasive, Fractured		8370 0643 60	
6	6CF	4/10/ Soft, Medium soft, Abrasive, Highly fractured		3702 5997 00	
6	6CF	2/10/ Extremely abrasive, Highly fractured		3702 7201 00	



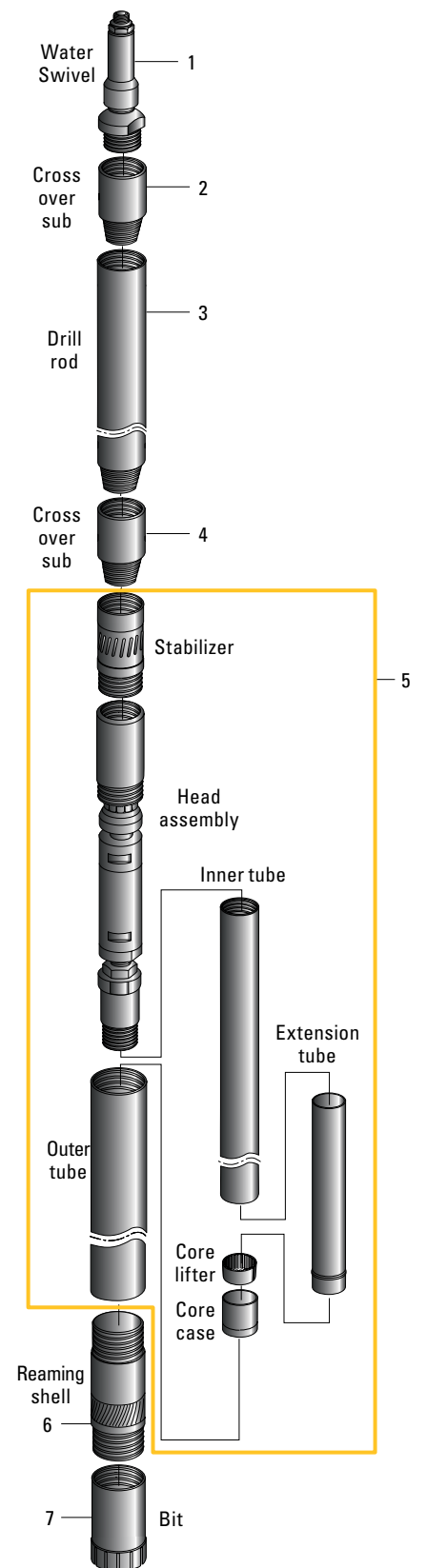
Spare parts list 46T2

Item	Description	Qty	Product No.
1-28	1,5 m / 5 ft Core barrel complete, conn. CR42 box	1	8393 0815 20
1-28	3,0 m / 10 ft Core barrel complete, conn. CR42 box	1	8393 0815 21
2-21	Core barrel head complete, conn. AWJ box excl. adapter stabilizer	1	8393 0815 12
1	Adapter / Stabilizer, conn CR42 box	1	8393 0816 15
1	Option adapter/stablizer, conn. AWJ box	1	8393 0816 16
2	Coupling AWJ box	1	8393 0814 83
3	Cap screw	1	0211 1323 00
4	Washer	1	8393 0811 65
5	Spring plastic	1	8393 0811 63
6	Washer	1	8393 0811 64
7	Spring pin	1	0108 3298 00
8	Washer	1	8393 0810 51
9	Shut-off valve	1	8393 0815 71
10	Lubricating nipple	1	0544 2106 00
11	Guide shaft	1	8393 0810 52
12	Lock nut	1	0291 1112 00
13	Washer	1	8393 0816 03
14	Ball bearing	1	0502 1102 00
15	Housing	1	8393 0810 54
16	Bearing	1	0510 0402 00
17	Spacer	1	0324 1551 17
18	Washer seal	1	8393 0810 60
19	Shaft	1	8393 0810 57
20	Hex. Nut	1	0261 1099 11
21	IT connection	1	8393 0814 86
22	Inner tube 1500	1	3863 1117 00
22	Inner tube 3000	1	3863 1122 00
23	Extension tube	1	3863 1131 00
24	Core lifter	1	3863 1135 00
25	Core lifter case	1	3863 1133 00
26	Outer tube 1500	1	8393 0815 90
26	Outer tube 3000	1	8393 0815 91
27	Sleeve (plastic)	1	3702 0159 00
28	Protector (plastic)	1	3702 0160 00



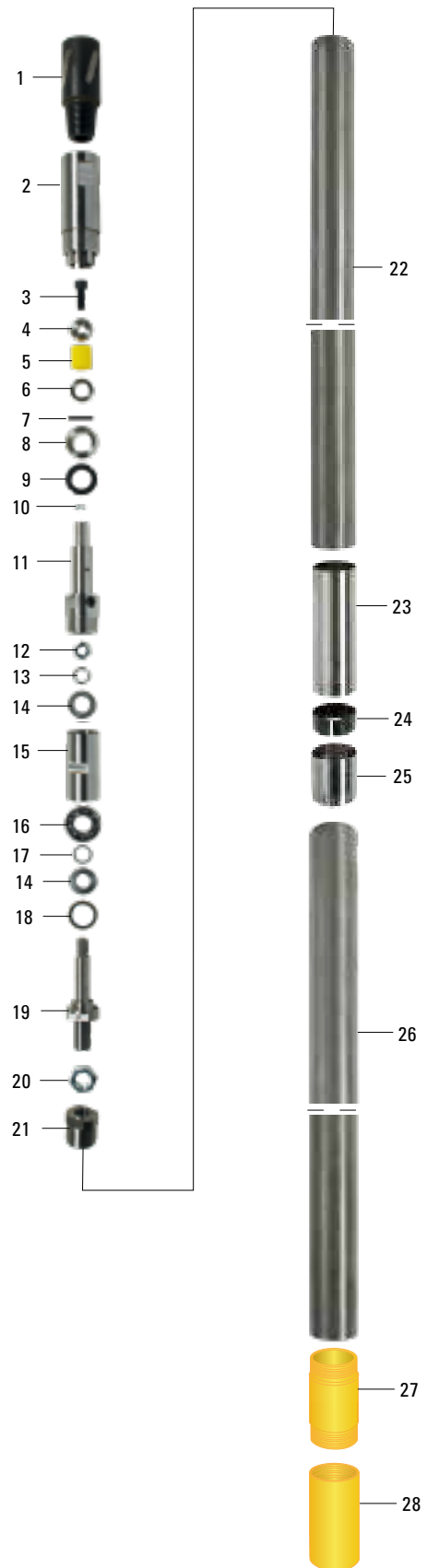
56 T2 drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. CR42 pin (Inner diameter 18 mm, no bail)		8070 0107 42	
Crossover					
2		CR42 Box to CR50 Pin		3862 6019 00	
Rods					
			0,5 m	1,5 m	3,0 m
3		53 drill rod	8393 0134 07	8393 0134 15	8393 0134 23
3		BWJ53 drill rod	8393 0810 30	8393 0810 29	8393 0810 28
Crossover (optional)					
4		Optional adapter/stablizer, conn. With BWJ box		8393 0815 03	
Core barrel					
5		1,5 m / 5 ft Core barrel complete, conn. CR50 box		8393 0815 26	
5		3,0 m / 10 ft Core barrel complete, conn. CR50 box		8393 0815 27	
Reaming shell					
6		Rshell Diamond surface set		3702 7129 00	
Bits					
7	CF	Tungsten Carbide inserts (TCI) / Soft		8372 0103 09	
7	CF	Tungsten Carbide chips (CRB) / Soft-medium		8372 0121 07	
7	CF	Surface set 30-50 / S / Semi round / Medium-hard		8370 0680 02	
7	CF	Surface set 20-25 / S / Semi round / Soft-medium		8370 0650 73	
Impregnated bits (Rock group/Height/Formation)					
7	10 ECF	10/10/ Extremely hard, Non abrasive		3702 6705 00	
7	10 CF	9/10/ Hard-very hard, Slightly abrasive		8370 2300 22	
7	8CF	6-8/10/ Medium hard-hard, Abrasive + mixed		3702 6826 00	
7	8 CFF	5-6/10/ Medium soft-hard, Abrasive, Fractured		3702 7318 00	
7	8CF	4/10/ Soft-medium soft, Abrasive, Highly fractured		3702 6801 00	
7	8CF	2/10/ Extremely abrasive, Highly fractured		3702 7203 00	



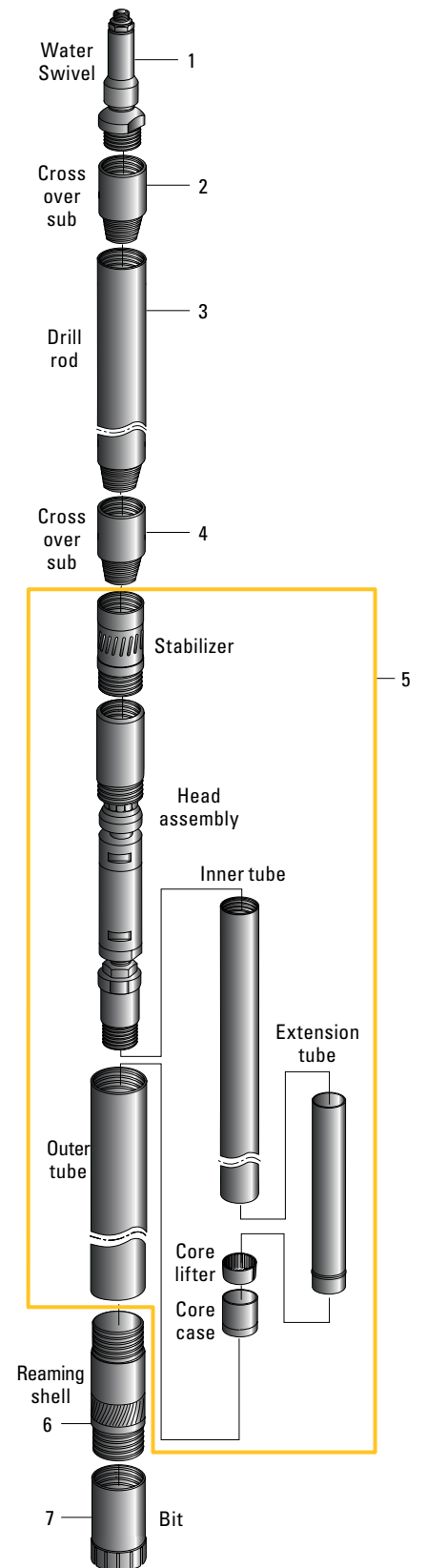
Spare parts list 56T2

Item	Description	Qty	Product No.
1-28	1,5 m / 5 ft Core barrel complete, conn. CR50 box	1	8393 0815 26
1-28	3,0 m / 10 ft Core barrel complete, conn. CR50 box	1	8393 0815 27
2-21	Core barrel head complete, conn. BWJ box excl. adapter stabilizer	1	8393 0814 54
1	Adapter / Stabilizer, conn CR50 box	1	8393 0816 17
1	Option adapter/stablizer, conn. BWJ box	1	8393 0815 03
2	Coupling BWJ box	1	8393 0814 95
3	Cap screw	1	0211 1401 00
4	Washer	1	8393 0814 51
5	Spring plastic	1	8393 0814 52
6	Washer	1	8393 0814 53
7	Spring pin	1	0108 1303 00
8	Washer	1	8393 0814 49
9	Shut-valve	1	8393 0814 50
10	Lubricating nipple	1	0544 2106 00
11	Guide shaft	1	8393 0814 48
12	Lock nut	1	0291 1114 00
13	Washer	1	8393 0816 04
14	Ball bearing	2	0502 1104 00
15	Housing	1	8393 0814 47
16	Bearing	1	0510 0404 00
17	Spacer	1	0324 1551 48
18	Washer seal	1	8393 0814 55
19	Shaft	1	8393 0814 46
20	Hex. nut	1	0261 1099 23
21	IT connection	1	8393 0816 04
22	Inner tube 1500	1	3863 1197 00
22	Inner tube 3000	1	3863 1202 00
23	Extension tube	1	3863 1213 00
24	Core lifter	1	3863 1215 00
25	Core lifter case	1	3863 1211 00
26	Outer tube 1500	1	8393 0815 92
26	Outer tube 3000	1	8393 0815 93
27	Sleeve (plastic)	1	3702 0190 00
28	Protector (plastic)	1	3702 0191 00



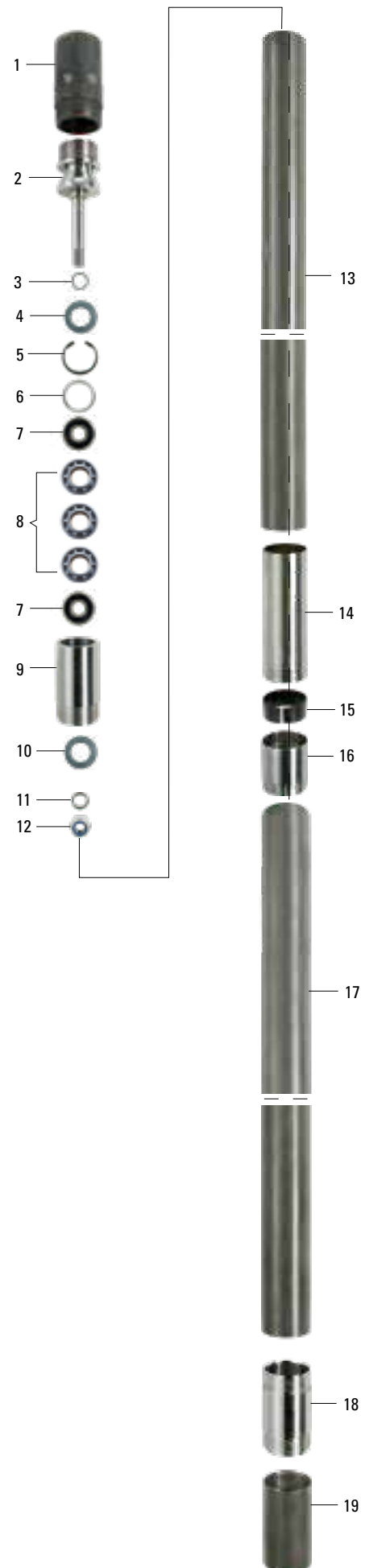
66 T2 drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. CR42 pin (Inner diameter 18 mm, no bail)		8070 0107 42	
Crossover					
2		CR42 Box to CR50 Pin		3862 6019 00	
2		CR42 Box to BWJ Pin		3862 6676 00	
Rods			0,5 m	1,5 m	3,0 m
3		53 drill rod	8393 0134 07	8393 0134 15	8393 0134 23
3		BWJ53 drill rod	8393 0810 30	8393 0810 29	8393 0810 28
Crossover (optional)					
4		BWJ box to CR50 Pin		3862 6696 00	
Core barrel					
5		1,5 m / 5 ft Core barrel complete, conn. CR50 box		8392 0214 01	
5		3,0 m / 10 ft Core barrel complete, conn. CR50 box		8392 0215 00	
Reaming shell					
6		Rshell Diamond surface set		3702 7130 00	
Bits					
7	CF	Tungsten Carbide inserts (TCI) / Soft		8372 0104 08	
7	CF	Tungsten Carbide chips (CRB) / Soft-medium		8372 0122 06	
7	CF	Surface set 30-50 / S / Semi round / Medium-hard		8370 0680 85	
7	CF	Surface set 20-25 / S / Semi round / Soft-medium		8370 0650 81	
Impregnated bits (Rock group/Height/Formation)					
7	12 CF	10/10/ Extremely hard, Non abrasive		3702 7192 00	
7	8CF	9/10/ Hard-very hard, Slightly abrasive		3702 7020 00	
7	8CF	6-8/10/ Medium hard-hard, Abrasive + mixed		3702 7019 00	
7	8CF	5-6/10/ Medium soft-hard, Abrasive, Fractured		3702 7198 00	
7	8CF	4/10/ Soft-medium soft, Abrasive, Highly fractured		3702 7018 00	
7	8CF	2/10/ Extremely abrasive, Highly fractured		3702 7017 00	



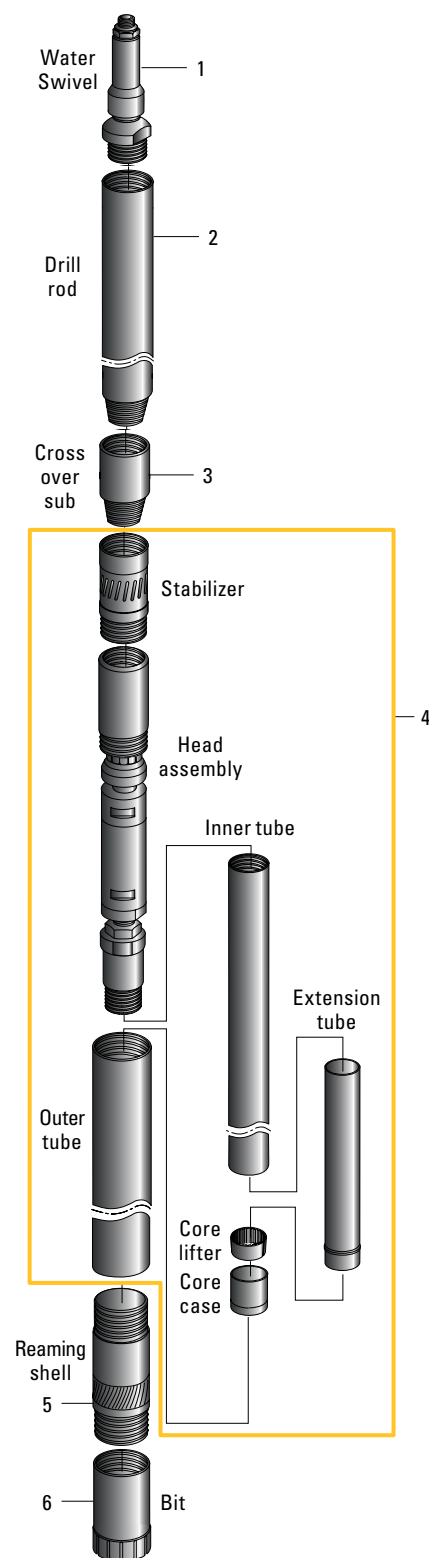
Spare parts list 66T2

Item	Description	Qty	Product No.
1-19	1,5 m / 5 ft Core barrel complete, conn. CR50 box	1	8392 0214 01
1-19	3,0 m / 10 ft Core barrel complete, conn. CR50 box	1	8392 0215 00
1-12	Core barrel head complete, conn. CR50 box excl. adapter stabilizer	1	3863 2298 80
1	Core barrel coupling, conn. CR50 box	1	3863 2298 00
2	Bearing shaft	1	3863 2296 00
3, 4, 5, 6, 7, 8, 10, 11, 12	Core barrel head spare parts kit	1	3863 2298 90
9	Bearing housing	1	3863 2297 00
13	Inner tube 1500 mm	1	3863 1276 00
13	Inner tube 3000 mm	1	3863 1281 00
14	Extension tube	1	3863 1292 00
15	Core lifter	1	3863 1291 00
16	Core lifter case	1	3863 1293 00
17	Outer tube 1500 mm	1	3863 1277 00
17	Outer tube 3000 mm	1	3863 1282 00
18	Reamings shell blank	1	3863 1290 00
19	Protector, steel	1	3863 1294 00



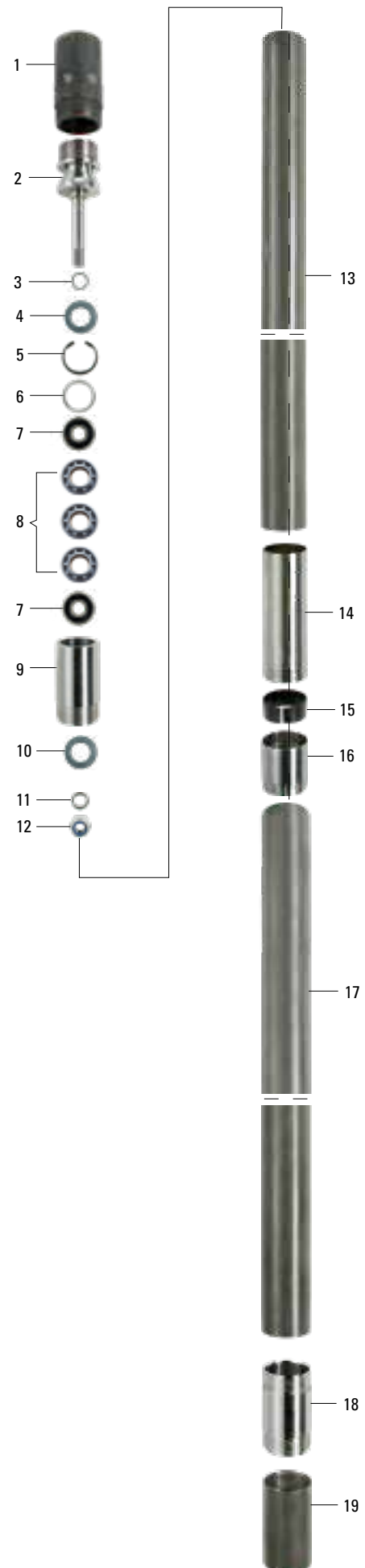
76 T2 drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. NWJ pin (Inner diameter 25 mm, no bail)		8393 0815 82	
Rods			0,5 m	1,5 m	3,0 m
2		NWJ70 drill rod	8393 0810 72	8393 0810 73	8393 0810 74
Crossover					
3		NWJ Box to CR50 Pin		3862 6636 00	
Core barrel					
4		1,5 m / 5 ft Core barrel complete, conn. CR50 box		8392 0220 03	
4		3,0 m / 10 ft Core barrel complete, conn. CR50 box		8392 0221 02	
Reaming shell					
5		Rshell Diamond surface set		3702 7131 00	
Bits					
6	CF	Tungsten Carbide inserts (TCI) / Soft		8372 0105 07	
6	CF	Tungsten Carbide chips (CRB) / Soft-medium		8372 0123 05	
6	CF	Surface set 30-50 / S / Semi round / Medium-hard		8370 0680 93	
6	CF	Surface set 20-25 / S / Semi round / Soft-medium		8370 0650 99	
Impregnated bits (Rock group/Height/Formation)					
6	12ECF	10/10/ Extremely hard, Non abrasive		3702 6715 00	
6	10CF	9/10/ Hard-very hard, Slightly abrasive		3702 6907 00	
6	10CF	6-8/10/ Medium hard-hard, Abrasive + mixed		3702 6900 00	
6	10CF	5-6/10/ Medium soft-hard, Abrasive, Fractured		3702 7197 00	
6	10CF	4/10/ Soft-medium soft, Abrasive, Highly fractured		3702 6772 00	
6	10CF	2/10/ Extremely abrasive, Highly fractured		8370 0620 39	



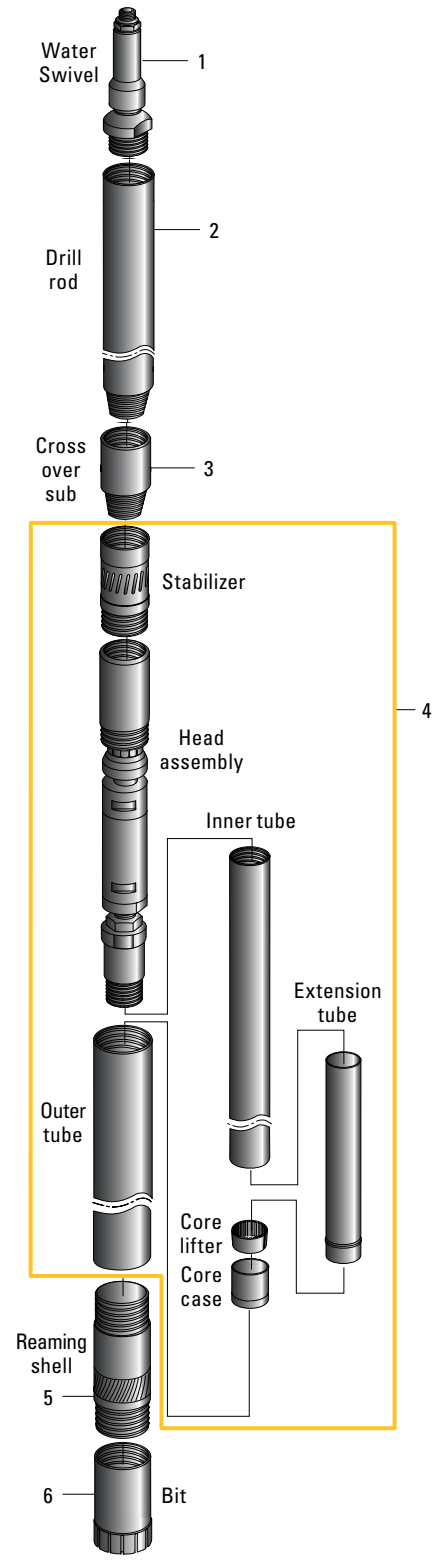
Spare parts list 76T2

Item	Description	Qty	Product No.
1-19	1,5 m / 5 ft Core barrel complete, conn. CR50 box	1	8392 0220 03
1-19	3,0 m / 10 ft Core barrel complete, conn. CR50 box	1	8392 0221 02
1-12	Core barrel head complete, conn. CR50 box excl. adapter stabilizer	1	3863 2317 80
1	Core barrel coupling, conn. CR50 box	1	3863 2317 00
2	Bearing shaft	1	3863 2315 00
3, 4, 5, 6, 7, 8, 10, 11, 12	Core barrel head spare parts kit	1	3863 2317 90
9	Bearing housing	1	3863 2316 00
13	Inner tube 1500 mm	1	3863 1356 00
13	Inner tube 3000 mm	1	3863 1361 00
14	Extension tube	1	3863 1372 00
15	Core lifter	1	3863 1376 00
16	Core lifter case	1	3863 1373 00
17	Outer tube 1500 mm	1	3863 1357 00
17	Outer tube 3000 mm	1	3863 1362 00
18	Reamings shell blank	1	3863 1370 00
19	Protector, steel	1	3863 1374 00



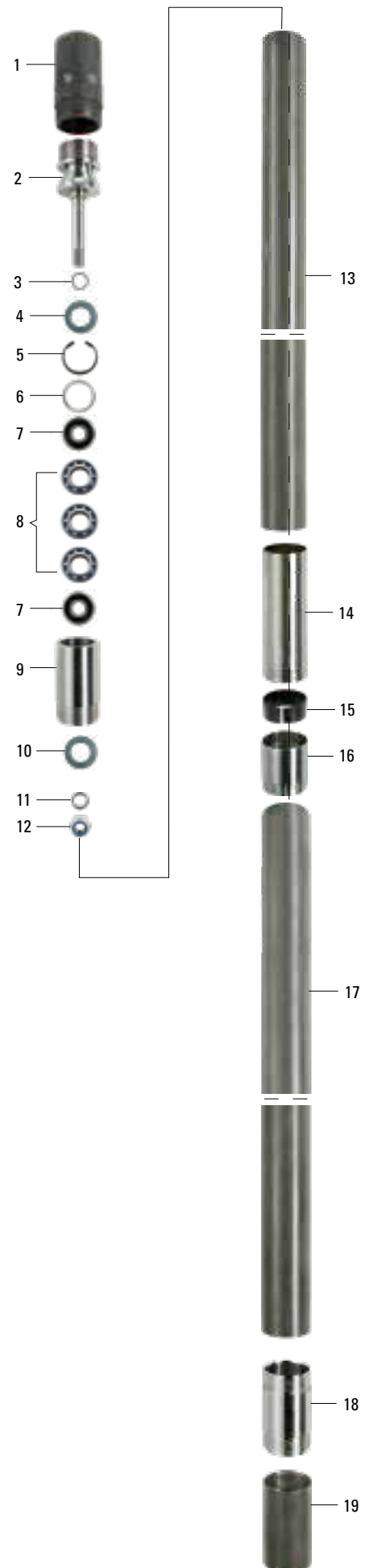
86 T2 drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. NWJ pin (Inner diameter 25 mm, no bail)		8393 0815 82	
Rods			0,5 m	1,5 m	3,0 m
2		NWJ70 drill rod	8393 0810 72	8393 0810 73	8393 0810 74
Crossover					
3		NWJ Box to CR50 Pin		3862 6636 00	
Core barrel					
4		1,5 m / 5 ft Core barrel complete, conn. CR50 box		8392 0226 07	
4		3,0 m / 10 ft Core barrel complete, conn. CR50 box		8392 0227 06	
Reaming shell					
5		Rshell Diamond surface set		3702 7132 00	
Bits					
6	CF	Tungsten Carbide inserts (TCI) / Soft		8372 0106 06	
6	CF	Tungsten Carbide chips (CRB) / Soft-medium		8372 0124 04	
6	CF	Surface set 30-50 / S / Semi round / Medium-hard		8370 0681 01	
6	CF	Surface set 20-25 / S / Semi round / Soft-medium		8370 0651 07	
Impregnated bits (Rock group/Height/Formation)					
6	14ECF	10/6/ Extremely hard, Non abrasive		3702 6698 00	
6	12CF	9/6/ Hard-very hard, Slightly Abrasive		3702 7072 00	
6	12CF	6-8/6/ Medium hard-hard, Abrasive + mixed		3702 7093 00	
6	12CF	5-6/6/ Medium soft-hard, Abrasive, Fractured		3702 7410 00	
6	12CF	4/6/ Soft-medium soft, Abrasive, Highly fractured		3702 6774 00	
6	12CF	2/6/ Extremely abrasive, Highly fractured		8370 0620 47	



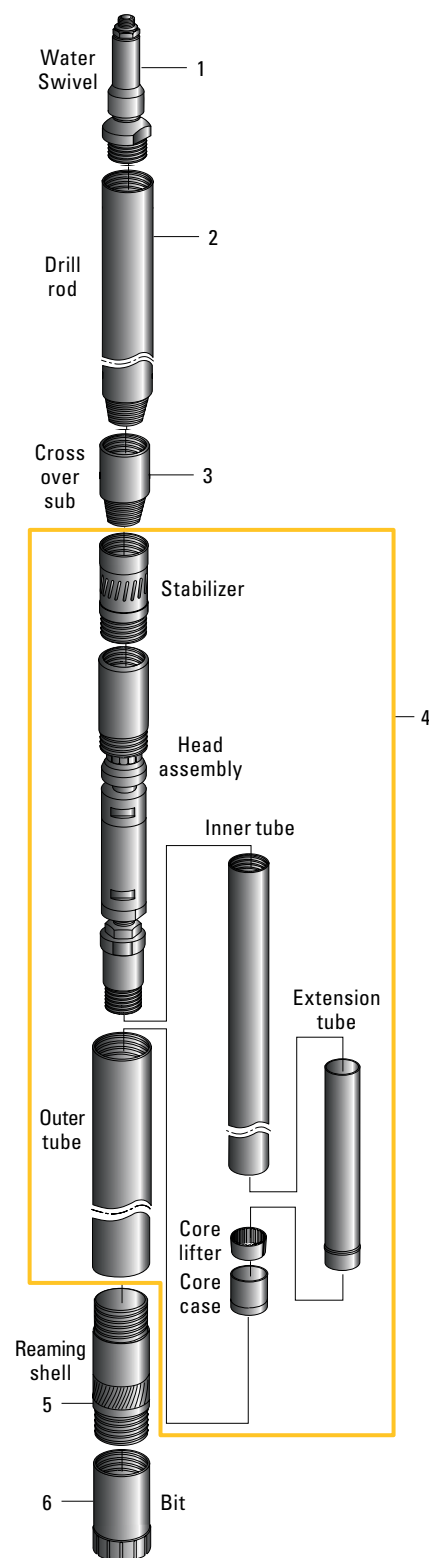
Spare parts list 86T2

Item	Description	Qty	Product No.
1-19	1.5 m / 5 ft Core barrel complete, conn. CR50 box	1	8392 0226 07
1-19	3.0 m / 10 ft Core barrel complete, conn. CR50 box	1	8392 0227 06
1-12	Core barrel head complete, conn. CR50 box excl. adapter stabilizer	1	3863 2179 80
1	Core barrel coupling, conn. CR50 box	1	3863 2179 00
2	Bearing shaft	1	3863 2180 00
3, 4, 5, 6, 7, 8, 10, 11, 12	Core barrel head spare parts kit	1	3863 2179 90
9	Bearing housing	1	3863 2181 00
13	Inner tube 1500 mm	1	3863 1436 00
13	Inner tube 3000 mm	1	3863 1441 00
14	Extension tube	1	3863 1452 00
15	Core lifter	1	3863 1455 00
16	Core lifter case	1	3863 1453 00
17	Outer tube 1500 mm	1	3863 1437 00
17	Outer tube 3000 mm	1	3863 1442 00
18	Reamings shell blank	1	3863 1450 00
19	Protector, steel	1	3863 1454 00



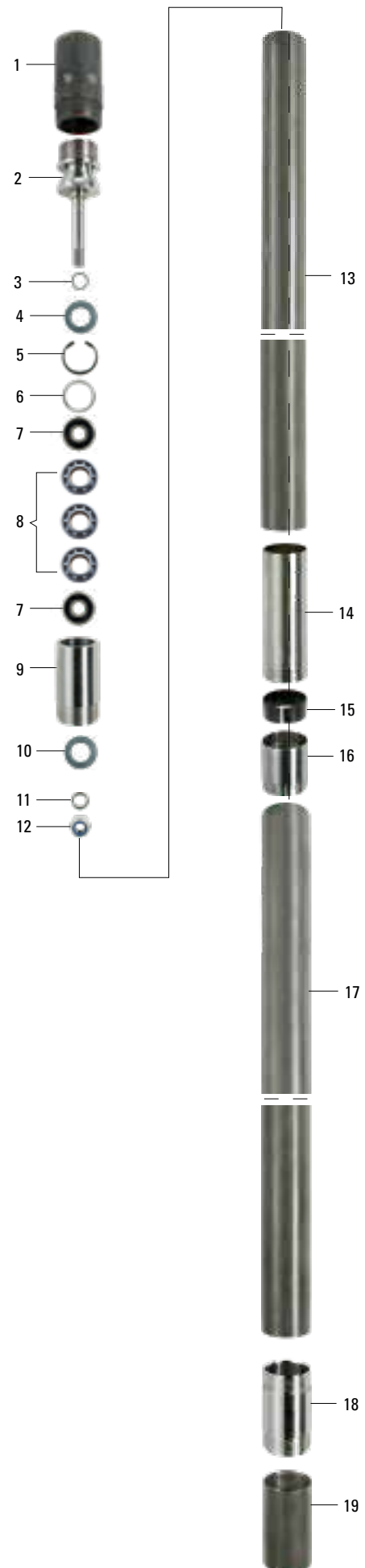
101 T2 drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. NWJ pin (Inner diameter 25 mm, no bail)		8393 0815 82	
Rods			0,5 m	1,5 m	3,0 m
2		NWJ70 drill rod	8393 0810 72	8393 0810 73	8393 0810 74
Crossover					
3		NWJ Box to 2 3/8" API REG Pin		8393 0825 11	
Core barrel					
4		1,5 m / 5 ft Core barrel complete, conn. 2 3/8" API REG box		8393 0825 71	
4		3,0 m / 10 ft Core barrel complete, conn. 2 3/8" API REG box		8393 0825 70	
Reaming shell					
5		Rshell Diamond surface set		3702 7133 00	
Bits					
6	CF	Tungsten Carbide inserts (TCI) / Soft		8372 0107 05	
6	CF	Tungsten Carbide chips (CRB) / Soft-medium		8372 0125 03	
6	CF	Surface set 30-50 / S / Semi round / Medium-hard		8370 0681 19	
6	CF	Surface set 16-30 / S / Semi round / Soft-medium		3761 0014 08	
Impregnated bits (Rock group/Height/Formation)					
6	15ECF	10/6/ Extremely hard, Non abrasive		3702 6827 00	
6	14CF	9/6/ Hard-very hard, Slightly Abrasive		3702 7073 00	
6	14CF	6-8/6/ Medium hard-hard, Abrasive + mixed		3702 7092 00	
6	14CF	5-6/6/ Medium soft-hard, Abrasive, Fractured		3702 7459 00	
6	14CF	4/6/ Soft-medium soft, Abrasive, Highly fractured		3702 6776 00	
6	14CF	2/6/ Extremely abrasive, Highly fractured		8370 0620 54	



Spare parts list 101T2

Item	Description	Qty	Product No.
1-19	1.5 m / 5 ft Core barrel complete, conn. 2 3/8" API REG box	1	8393 0825 71
1-19	3.0 m / 10 ft Core barrel complete, conn. 2 3/8" API REG box	1	8393 0825 70
1-12	Core barrel head complete, conn. 2 3/8" API REG box	1	8393 0825 95
1	Core barrel coupling, conn. 2 3/8" API REG box	1	8393 0825 72
2	Bearing shaft	1	3863 2331 00
3, 4, 5, 6, 7, 8, 10, 11, 12	Core barrel head spare parts kit	1	3863 2341 90
9	Bearing housing	1	3863 2332 00
13	Inner tube 1500 mm	1	3863 1849 00
13	Inner tube 3000 mm	1	3863 1854 00
14	Extension tube	1	3863 1872 00
15	Core lifter	1	3863 1879 00
16	Core lifter case	1	3863 1873 00
17	Outer tube 1500 mm	1	3863 2326 00
17	Outer tube 3000 mm	1	3863 2327 00
18	Reamings shell blank	1	3863 1870 00
19	Protector, steel	1	3863 1874 00



Optional equipment

Optional

Description	46T2	56T2	66T2	76T2	86T2	101T2
Inner tube 350 mm (Starter)*	3863 1112 00	3863 1192 00	3863 1271 00	3863 1351 00	3863 1431 00	3863 1844 00
Outer tube 350 mm (Starter)*	8393 0816 37	8393 0816 39	3863 1272 00	3863 1352 00	3863 1432 00	3863 2325 00
Full grip wrench, inner tube**	8393 0813 89	3869 7087 01	3869 7088 02	3869 7089 00	3869 7090 00	3869 7091 01
Full grip wrench, outer tube**	3869 7087 01	3869 7088 00	3869 7089 00	3869 7090 00	3869 7091 00	3869 7092 00

Spare parts kits core barrel (500 m)

Description	46T2		56T2		66T2		76T2		86T2		101T2	
	Qty	3702053692	Qty	3702103692	Qty	3863129190	Qty	3863137190	Qty	3863145190	Qty	3863187590
Shut off valve	1	•	1	•								
Spring	1	•	1	•								
Lock nut	1	•	1	•	1	•	1	•	1	•	1	•
Ball bearing	2	•	2	•	5	•	5	•	4	•	5	•
Bearing	1	•	1	•								
Spacer	1	•	1	•	1	•	1	•	1	•	1	•
Adjusting washer					5	•	1	•	3	•	3	•
Seal	1	•	1	•	1	•	1	•		•	1	•
Spring pin	1	•	1	•								
Lub. nipple	1	•	1	•								
Circlip					1	•	1	•	1	•	1	•
Core lifter	10	•	10	•	10	•	10	•	10	•	10	•
Core lifter case	4	•	4	•	4	•	4	•	4	•	4	•
Extension tube	4	•	4	•	4	•	4	•	4	•	4	•

• = included in kit

Conventional double tube core barrel type T6

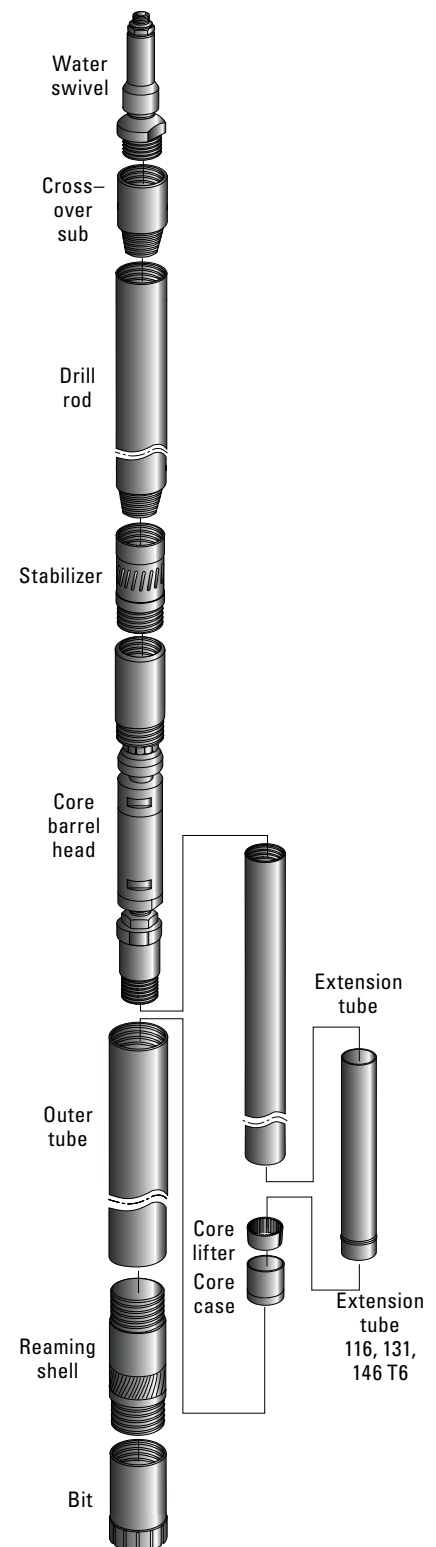
Conventional mud core barrel

The sturdy core barrels type T6 are of allround application for core sampling in all formations, Despite the relatively thin wall, T6 can very well be used with mud or air flushing. For air flushing oversize bits and core barrel couplings are recommended, T6 core barrels are available in metric sizes 76 to 146 mm.

Size	Metric system (mm)				
	Hole diameter	Core diameter	Core barrel connection box	Rec. drill rod	Outer diam. drill rod
76 T6	76,3	57,0	CR50	NWJ	70.0
86 T6	86,3	67,0	CR50	NWJ	70.0
101 T6	101,3	79,0	NW/2 3/8"	NWJ	70.0
116 T6	116,3	93,0	NW/2 3/8"	NWJ	70.0
131 T6	131,3	108,0	NW/2 3/8"	NWJ	70.0/89.0
146 T6	146,3	123,0	NW/2 3/8"	NWJ	70.0/89.0
Imperial system (in)					
76 T6	3.00	2.24	CR50	NWJ	2.76
86 T6	3.40	2.64	CR50	NWJ	2.76
101 T6	3.99	3.11	NW/2 3/8"	NWJ	2.76
116 T6	4.58	3.66	NW/2 3/8"	NWJ	2.76
131 T6	5.17	4.25	NW/2 3/8"	NWJ	2.76/3.50
146 T6	5.76	4.84	NW/2 3/8"	NWJ	2.76/3.50

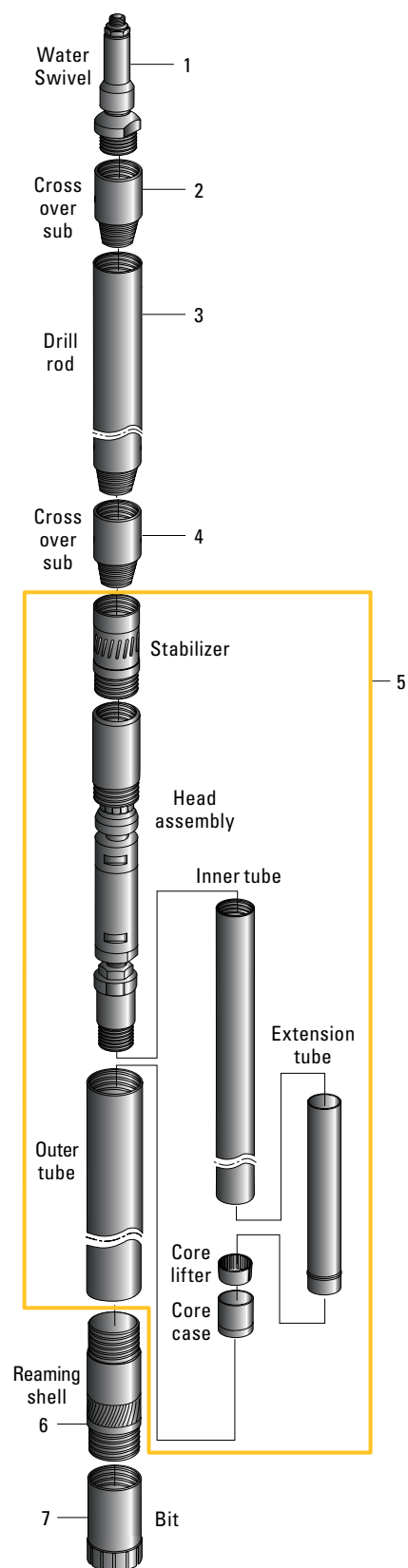
* Cross over SUB needed.

Size	Typical drilling parameters (indicative values)							
	Rotation speed, impregnated bit, rpm		Weight on bit, kN		Water flow, litres/min.		Penetration rate, cm/min,	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
76 T6	750	1250	20	30	16	25	8	16
86 T6	650	1100	23	35	44	70	7	14
101 T6	550	950	25	38	84	118	6	12
116 T6	500	800	31	46	136	190	6	10
131 T6	400	700	35	53	146	205	4	9
146 T6	400	600	34	59	212	297	4	8



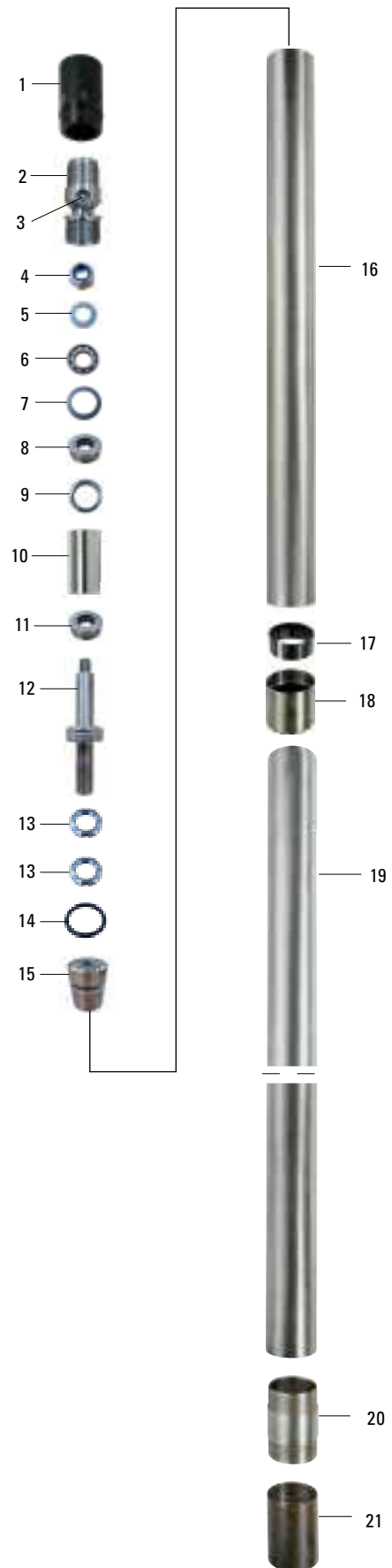
76 T6 drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. CR42 pin (Inner diameter 18 mm, no bail)		8070 0107 42	
Crossover to the rod					
2		CR42/NWJ		3862 6677 00	
Rods			0,5 m	1,5 m	3,0 m
3		NWJ 70	8393 0810 72	8393 0810 73	8393 0810 74
Crossover to the core barrel					
4		NWJ/CR50		3862 6636 00	
Core barrel					
5		1,5 m / 5 ft Core barrel complete, conn. CR 50 box		8392 0268 20	
5		3,0 m / 10 ft Core barrel complete, conn. CR 50 box		8392 0268 10	
Reaming shell					
6		Rshell Diamond surface set		8370 2300 62	
Bits					
7	CF	Tungsten Carbide inserts (TCI) / Soft		8372 0133 03	
7	CF	Tungsten Carbide chips (CRB) / Soft-medium		8372 0133 11	
7	CF	Surface set 30-50 / S / Semi round / Medium-hard		8370 0686 14	
7	CF	Surface set 20-25 / S / Semi round / Soft-medium		8370 0663 45	
Impregnated bits (Rock group/Height/Formation)					
7	8CF	10/6/ Extremely hard, Non abrasive		3702 7411 00	
7	8CF	9/6/ Hard-very hard, Slightly abrasive		3702 7412 00	
7	8CF	6-8/6/ Medium hard-hard, Abrasive + mixed		3702 7228 00	
7	8CF	5-6/6/ Medium soft-hard, Aabrasive, fractured		3702 7413 00	
7	8CF	4/6/ Soft-medium soft, Abrasive, Highly fractured		3702 7229 00	
7	8CF	2/6/ Extremely abrasive, Highly fractured		3702 7414 00	



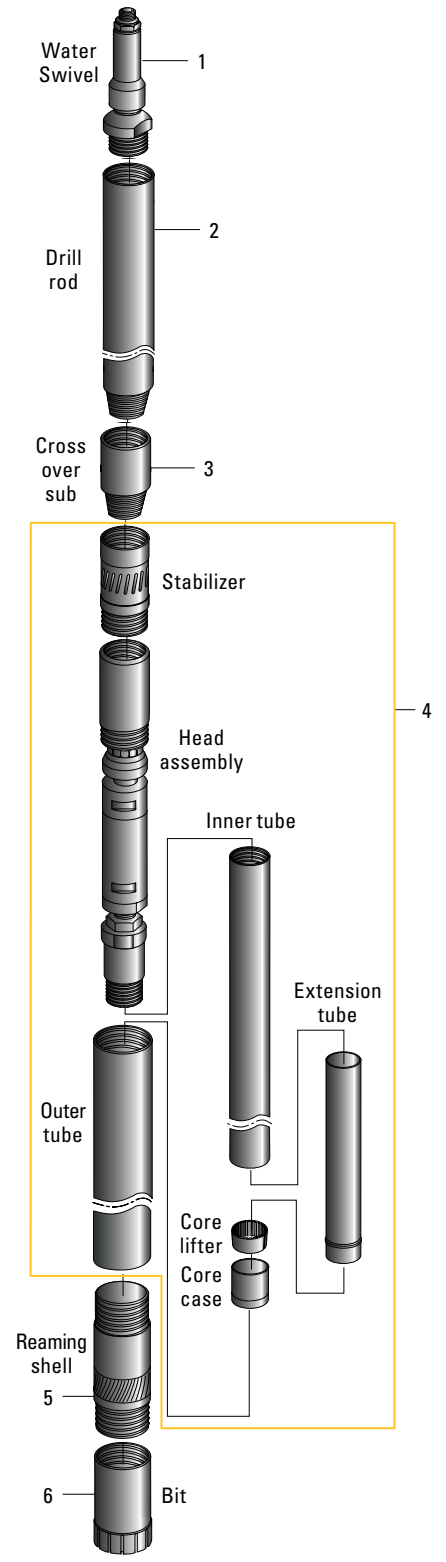
76T6 Spare parts

Item	Description	Qty	Product No.
1-21	1,5 m / 5 ft Core barrel complete, conn. CR 50 box	1	8392 0268 20
1-21	3,0 m / 10 ft Core barrel complete, conn. CR 50 box	1	8392 0268 10
1-15	Core barrel head complete, conn. CR50 box	1	3867 6084 90
1	Core barrel coupling, conn. CR50 box	1	3867 6084 10
2	Head	1	3867 6085 10
3, 4, 5, 7, 9, 13	Core barrel head spare parts kit	1	3867 6084 95
6, 8, 11	Core barrel head bearing kit	1	3867 6084 98
10	Bearing housing	1	3867 4107 10
12	Bearing shaft	1	3867 4109 10
14	O-ring	1	0663 2136 10
15	Adjusting coupling	1	3867 6086 10
16	Inner tube 1500 mm	1	3867 6091 50
16	Inner tube 3000 mm	1	3867 6092 50
17	Core lifter	1	3867 6108 10
18	Core lifter case	1	3867 6095 10
19	Outer tube 1500 mm	1	3867 6088 10
19	Outer tube 3000 mm	1	3867 6089 10
20	Reaming shell blank	1	3867 6094 10
21	Protector, steel	1	3867 6097 10



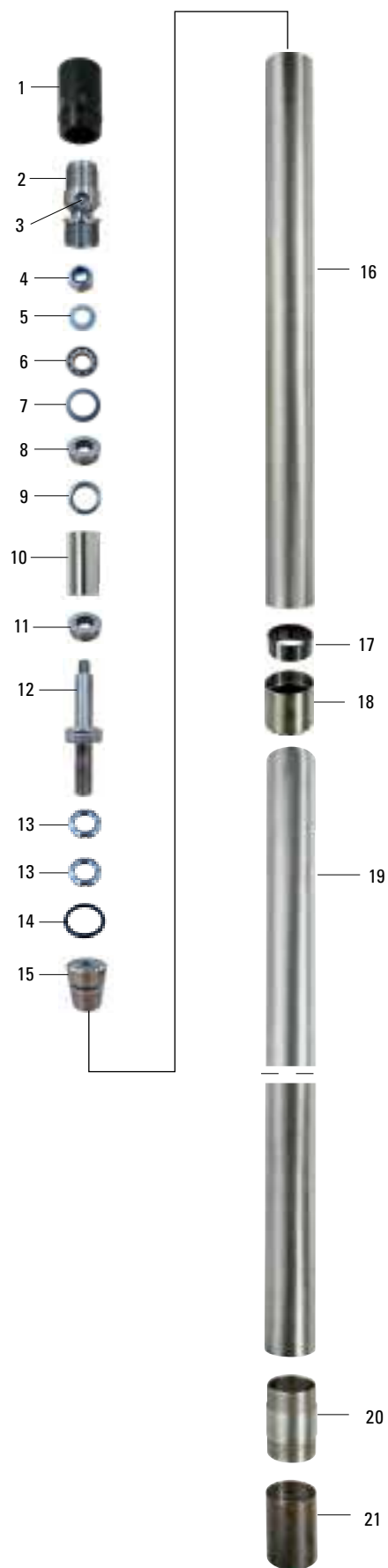
86 T6 drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. NWJ pin (Inner diameter 25 mm, no bail)		8393 0815 82	
Rods			0,5 m	1,5 m	3,0 m
2		NWJ70 drill rod	8393 0810 72	8393 0810 73	8393 0810 74
Crossover to the core barrel					
3		NWJ Box to CR50 Pin		3862 6636 00	
Core barrel					
4		1,5 m / 5 ft Core barrel complete, conn. CR 50 box		8392 0269 20	
4		3,0 m / 10 ft Core barrel complete, conn. CR 50 box		8392 0269 05	
Reaming shell					
5		Diamond surface set		8370 2300 63	
Bits					
6	CF	Tungsten Carbide inserts (TCI) / Soft		8372 0134 02	
6	CF	Tungsten Carbide chips (CRB) / Soft-medium		8372 0134 10	
6	CF	Surface set 30-50 / S / Semi round / Medium-hard		8370 0686 22	
6	CF	Surface set 20-25 / S / Semi round / Soft-medium		8370 0663 52	
Impregnated bits (Rock group/Height/Formation)					
6	9CF	10/6/ Extremely hard, Non abrasive		3702 7415 00	
6	9CF	9/6/ Hard-very hard, Slightly abrasive		3702 7416 00	
6	9CF	6-8/6/ Medium hard-hard, Abrasive + mixed		3702 7230 00	
6	9CF	5-6/6/ Medium soft-hard, Abrasive, Fractured		3702 7417 00	
6	9CF	4/6/ Soft-medium soft, Abrasive, Highly fractured		3702 7231 00	
6	9CF	2/6/ Extremely abrasive, Highly fractured		3702 7189 00	



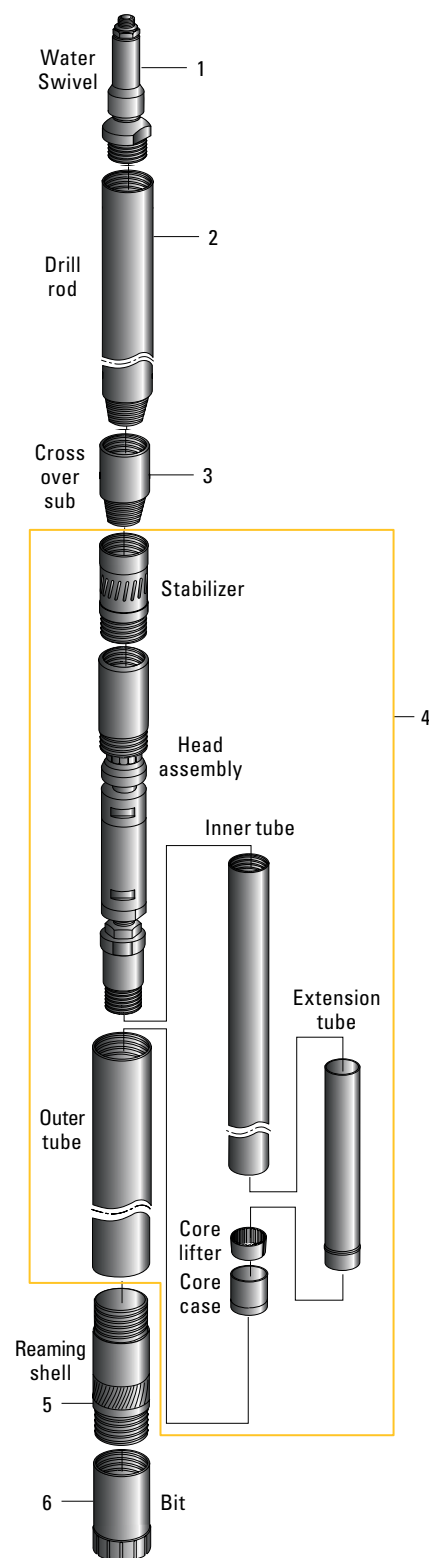
86T6 Spare parts

Item	Description	Qty	Product No.
1-21	1,5 m / 5 ft Core barrel complete, conn. CR 50 box		8392 0269 20
1-21	3,0 m / 10 ft Core barrel complete, conn. CR 50 box		8392 0269 10
1-15	Core barrel head completg, conn. CR50 box	1	3867 6164 90
1	Core barrel coupling, conn. CR50 box	1	3867 6164 10
2	Head	1	3867 6165 10
3, 4, 5, 7, 9, 13	Core barrel head spare parts kit	1	3867 6164 95
6, 8, 11	Core barrel head bearing kit	1	3867 6164 98
10	Bearing housing	1	3867 4207 10
12	Bearing shaft	1	3867 4209 10
14	O-ring	1	0663 2138 10
15	Adjusting coupling	1	3867 6166 10
16	Inner tube 1500 mm	1	3867 6171 50
16	Inner tube 3000 mm	1	3867 6172 50
17	Core lifter	1	3867 6187 10
18	Core lifter case	1	3867 6175 10
19	Outer tube 1500 mm	1	3867 6168 10
19	Outer tube 3000 mm	1	3867 6169 10
20	Reaming shell blank	1	3867 6174 10
21	Protector, steel	1	3867 6177 10



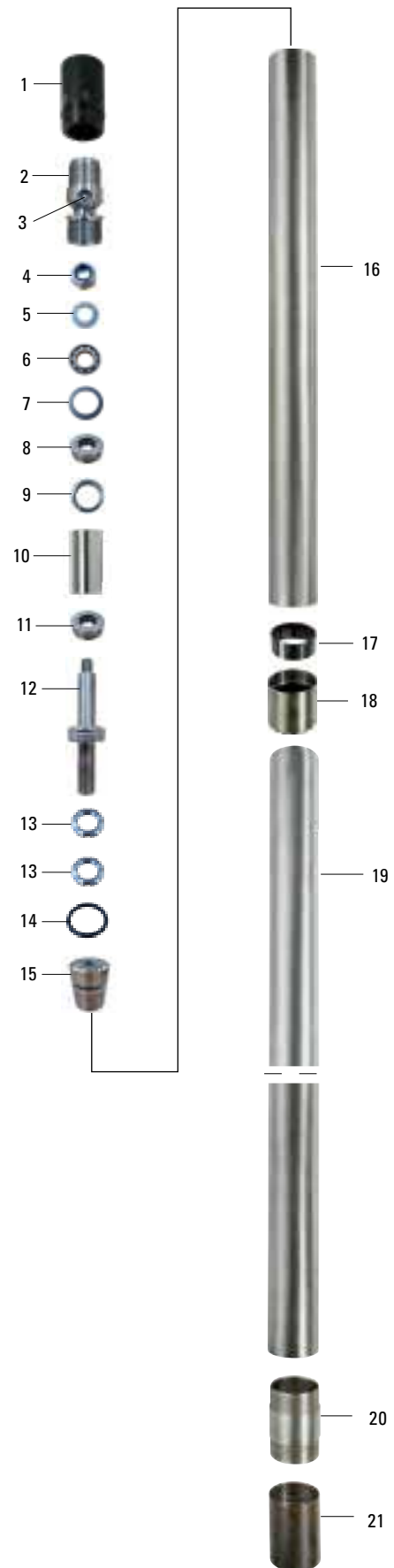
101 T6 drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. NWJ pin (Inner diameter 25 mm, no bail)		8393 0815 82	
Rods			0,5 m	1,5 m	3,0 m
2		NWJ70 drill rod	8393 0810 72	8393 0810 73	8393 0810 74
Crossover to the core barrel					
3		NWJ Box to 2 3/8" API REG Pin			
Core barrel					
4		1,5 m / 5 ft Core barrel complete, conn. 2 3/8" API REG box		8393 0825 04	
4		3,0 m / 10 ft Core barrel complete, conn. 2 3/8" API REG box		8393 0825 03	
Reaming shell					
5		Diamond surface set		8370 2300 64	
Bits					
6	CF	Tungsten Carbide inserts (TCI) / Soft		8372 0135 01	
6	CF	Tungsten Carbide chips (CRB) / Soft-medium		8372 0135 19	
6	CF	Surface set 30-50 / S / Semi round / Medium-hard		8370 0686 30	
6	CF	Surface set 20-25 / S / Semi round / Soft-medium		8370 0663 60	
Impregnated bits (Rock group/Height/Formation)					
6	10ECF	10/6/ Extremely hard, Non abrasive		3702 7418 00	
6	10CF	9/6/ Hard-very hard, Slightly abrasive		3702 6474 00	
6	10CF	6-8/6/ Medium hard-hard, Abrasive + mixed		3702 7191 00	
6	10CF	5-6/6/ Medium soft-hard, Abrasive, Fractured		3702 7419 00	
6	10ECF	4/6/ Soft-medium soft, Abrasive, Highly fractured		3702 6652 00	
6	10CF	2/6/ Extremely abrasive, Highly fractured		3702 6375 00	



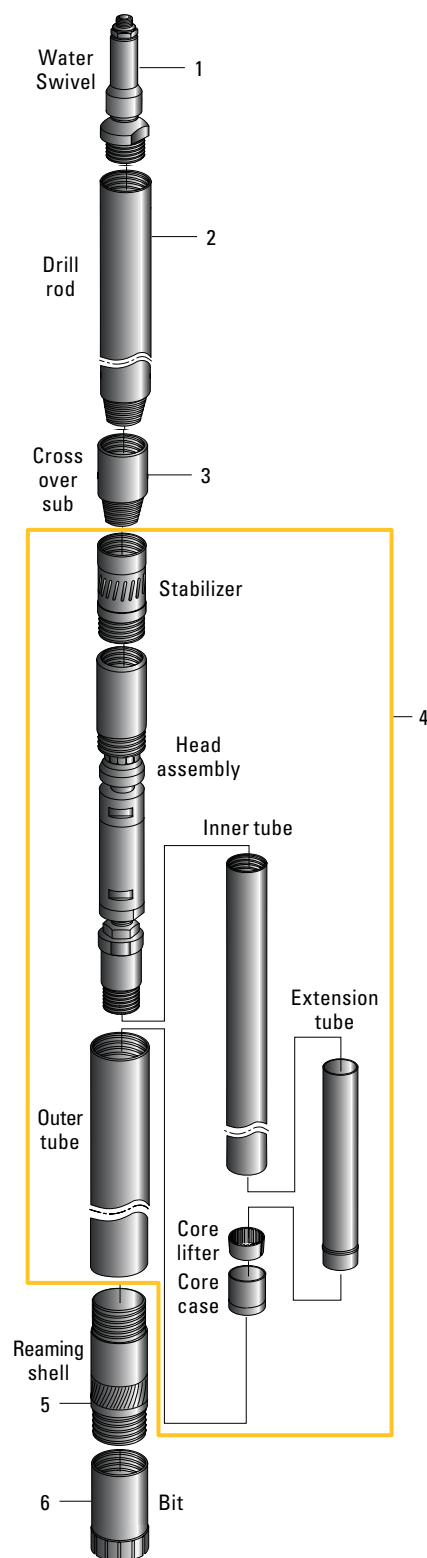
101T6 Spare parts

Item	Description	Qty	Product No.
1-21	1,5 m / 5 ft Core barrel complete, conn. 2 3/8" API REG box	1	8393 0825 04
1-21	3,0 m / 10 ft Core barrel complete, conn. 2 3/8" API REG box	1	8393 0825 03
1-15	Core barrel head complete, conn. 2 3/8" API REG box	1	3867 6244 90
1	Core barrel coupling, conn. 2 3/8" API REG box	1	3867 6244 10
2	Head	1	3867 6245 10
3, 4, 5, 7, 9, 13	Core barrel head spare parts kit	1	3867 6245 95
6, 8, 11	Core barrel head bearing kit	1	3867 6245 98
10	Bearing housing	1	3867 4311 90
12	Bearing shaft	1	3702 3139 10
14	O-ring	1	0663 2140 10
15	Adjusting coupling	1	3702 3140 10
16	Inner tube 1500 mm	1	3867 6251 10
16	Inner tube 3000 mm	1	3867 6252 10
17	Core lifter	1	3867 6264 10
18	Core lifter case	1	3867 6255 10
19	Outer tube 1500 mm	1	3867 6248 10
19	Outer tube 3000 mm	1	3867 6249 10
20	Reaming shell blank	1	3867 6254 10
21	Protector, steel	1	3867 6257 10



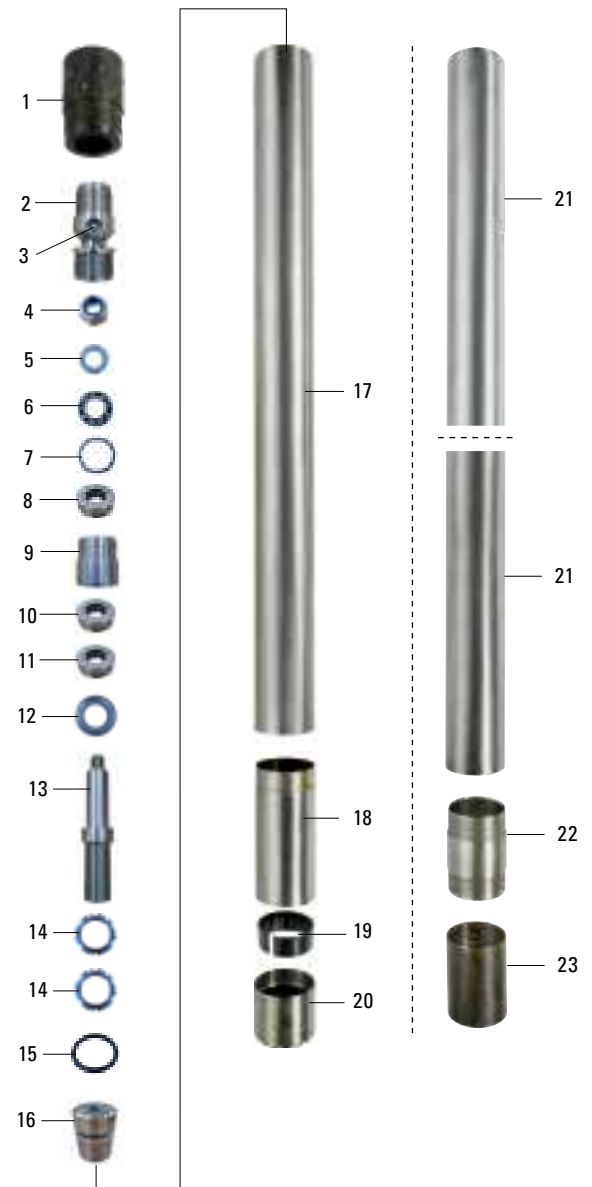
116 T6 drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. NWJ pin (Inner diameter 25 mm, no bail)		8393 0815 82	
Rods			0,5 m	1,5 m	3,0 m
2		NWJ70 drill rod	8393 0810 72	8393 0810 73	8393 0810 74
Crossover to the core barrel					
3		NWJ Box to 2 3/8" API REG Pin			
Core barrel					
4		1,5 m / 5 ft Core barrel complete, conn. 2 3/8" API REG box		8393 0825 77	
4		3,0 m / 10 ft Core barrel complete, conn. 2 3/8" API REG box		8393 0825 76	
Reaming shell					
5		Diamond surface set		8370 2300 65	
Bits					
6	CF	Tungsten Carbide inserts (TCI) / Soft		8372 0136 00	
6	CF	Tungsten Carbide chips (CRB) / Soft-medium		8372 0136 18	
6	CF	Surface set 30-50 / S / Semi round / Medium-hard		8370 0686 48	
6	CF	Surface set 20-25 / S / Semi round / Soft-medium		8370 0663 78	
Impregnated bits (Rock group/Height/Formation)					
6	14ECF	10/6/ Extremely hard, Non abrasive		3702 6868 00	
6	11CF	9/6/ Hard-very hard, Slightly abrasive		3702 6913 00	
6	11CF	6-8/6/ Medium hard-hard, Abrasive + mixed		3702 7219 00	
6	11CF	5-6/6/ Medium soft-hard, Abrasive, Fractured		3702 7420 00	
6	11CF	4/6/ Soft-medium soft, Abrasive, Highly fractured		3702 7232 00	
6	11CF	2/6/ Extremely abrasive, Highly fractured		3702 7188 00	



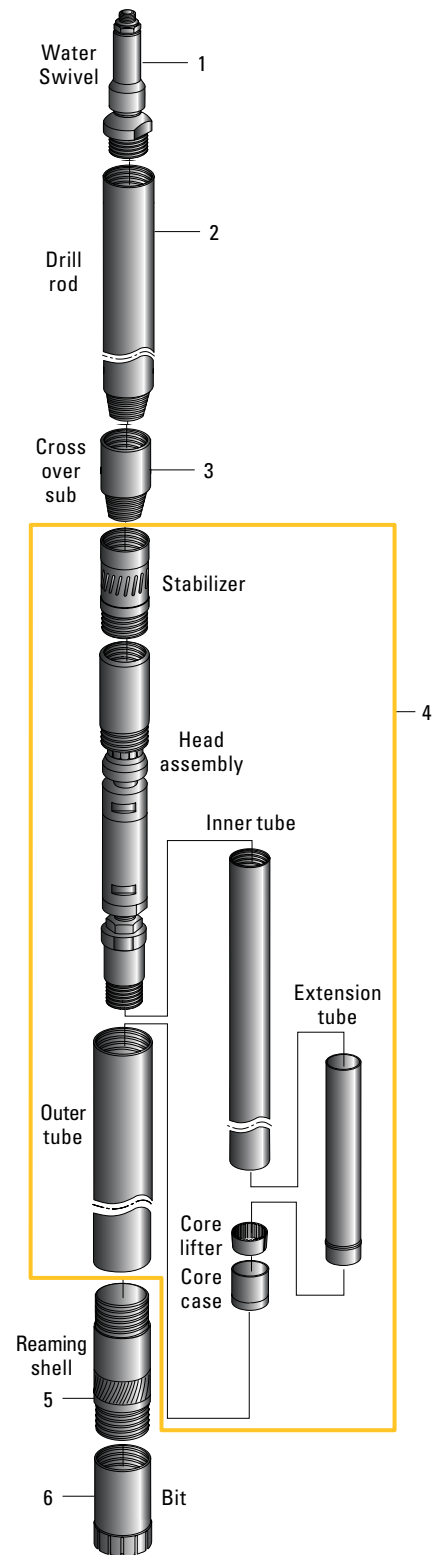
116T6 Spare parts

Item	Description	Qty	Product No.
1-23	1,5 m / 5 ft Core barrel complete, conn. 2 3/8" API REG box	1	8393 0825 07
1-23	3,0 m / 10 ft Core barrel complete, conn. 2 3/8" API REG box	1	8393 0825 06
1-16	Core barrel head complete, conn. 2 3/8" API REG box	1	3867 6404 90
1	Core barrel coupling, conn. 2 3/8" API REG box		3867 6404 10
2	Head	1	3867 6406 10
3, 4, 5, 7, 12, 14	Core barrel head spare parts kit	1	3867 6404 95
6, 8, 10, 11	Core barrel head bearing kit	1	3867 6404 98
9	Bearing housing	1	3867 6407 10
13	Bearing shaft	1	3867 6409 10
15	O-ring	1	0663 2143 10
16	Adjusting coupling	1	3867 6325 10
17	Inner tube 1500 mm	1	3867 6342 10
17	Inner tube 3000 mm	1	3867 6343 10
18	Extension tube	1	3867 6345 10
19	Core lifter	1	3867 6348 10
20	Core lifter case	1	3867 6335 10
21	Outer tube 1500 mm	1	3867 6328 10
21	Outer tube 3000 mm	1	3867 6329 10
22	Reaming shell blank	1	3867 6334 10
23	Protector, steel	1	3867 6337 10



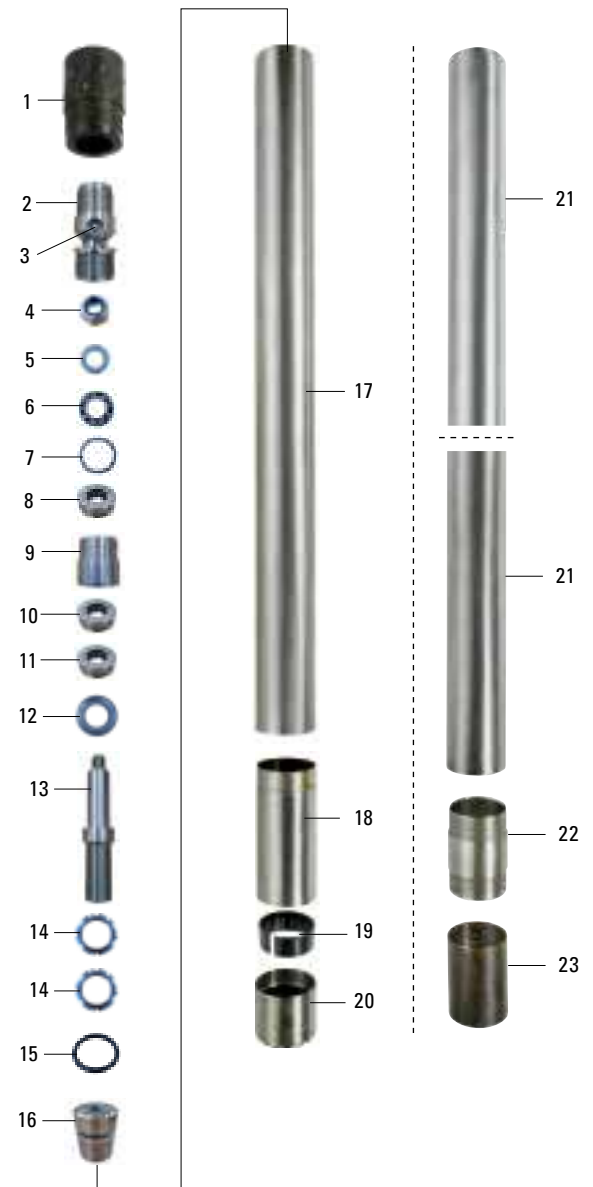
131 T6 drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. NWJ pin (Inner diameter 25 mm, no bail)		8393 0815 82	
Rods			0,5 m	1,5 m	3,0 m
2		NWJ70 drill rod	8393 0810 72	8393 0810 73	8393 0810 74
Crossover to the core barrel					
3		NWJ Box to 2 3/8" API REG Pin		8393 0825 11	
Core barrel					
4		1,5 m / 5 ft Core barrel complete, conn. 2 3/8" API REG box		8393 0825 08	
4		3,0 m / 10 ft Core barrel complete, conn. 2 3/8" API REG box		8393 0825 19	
Reaming shell					
5		Diamond surface set		8370 2300 66	
Bits					
6	CF	Tungsten Carbide inserts (TCI) / Soft		8372 0137 09	
6	CF	Tungsten Carbide chips (CRB) / Soft-medium		8372 0137 17	
6	CF	Surface set 30-50 / S / Semi round / Medium-hard		8370 0686 55	
6	CF	Surface set 20-25 / S / Semi round / Soft-medium		8370 0663 86	
Impregnated bits (Rock group/Height/Formation)					
6	12CF	10/6/ Extremely hard, Non abrasive		3702 7421 00	
6	12CF	9/6/Hard-very hard, Slightly abrasive		3702 7422 00	
6	12CF	6-8/6/ Medium hard-hard, Abrasive + mixed		3702 7221 00	
6	12CF	5-6/6/Medium soft-hard, Abrasive, Fractured		3702 7423 00	
6	12CF	4/6/ Soft-medium soft, Abrasive, Highly fractured		3702 7233 00	
6	12CF	2/6/ Extremely abrasive, Highly fractured		8370 0621 87	



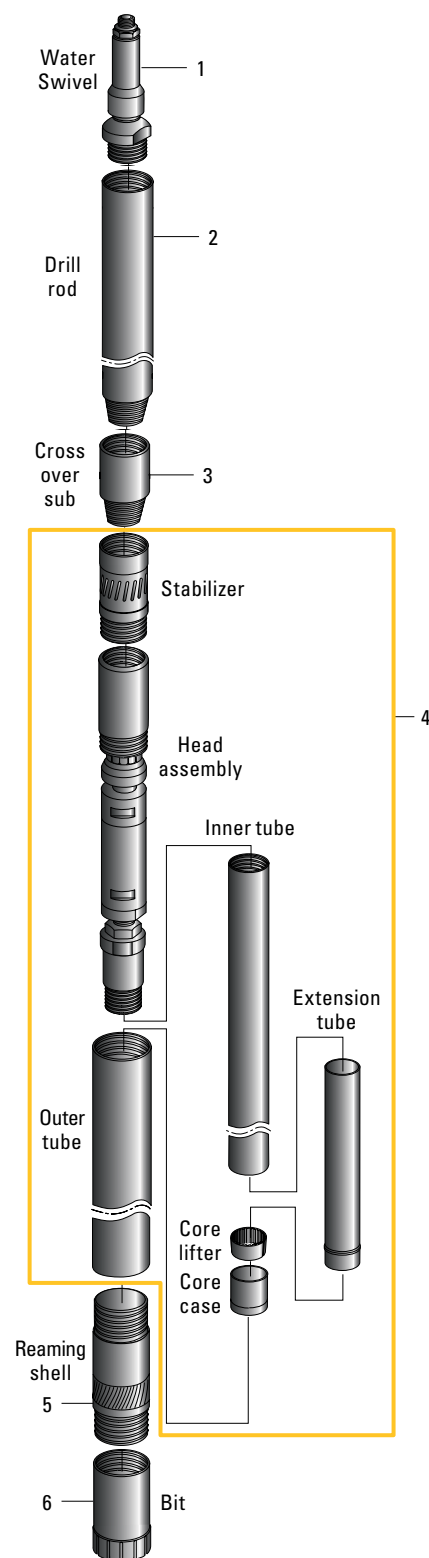
131T6 Spare parts

Item	Description	Qty	Product No.
1-23	1,5 m / 5 ft Core barrel complete, conn. 2 3/8" API REG box	1	8393 0825 08
1-23	3,0 m / 10 ft Core barrel complete, conn. 2 3/8" API REG box	1	8393 0825 19
1-16	Core barrel head complete, conn. 2 3/8" API REG box	1	3867 6424 90
1	Core barrel coupling, conn. 2 3/8" API REG box	1	3867 6424 10
2	Head	1	3867 6406 10
3, 4, 5, 7, 12, 14	Core barrel head spare parts kit	1	3867 6404 95
6, 8, 10, 11	Core barrel head bearing kit	1	3867 6404 98
9	Bearing housing	1	3867 6407 10
13	Bearing shaft	1	3867 6409 10
15	O-ring	1	0663 2146 10
16	Adjusting coupling	1	3867 6410 10
17	Inner tube 1500 mm	1	3867 6427 10
17	Inner tube 3000 mm	1	3867 6428 10
18	Extension tube	1	3867 6430 10
19	Core lifter	1	3867 6424 20
20	Core lifter case	1	3867 6419 10
21	Outer tube 1500 mm	1	3867 6412 10
21	Outer tube 3000 mm	1	3867 6413 10
22	Reaming shell blank	1	3867 6418 10
23	Protector, steel	1	3867 6421 10



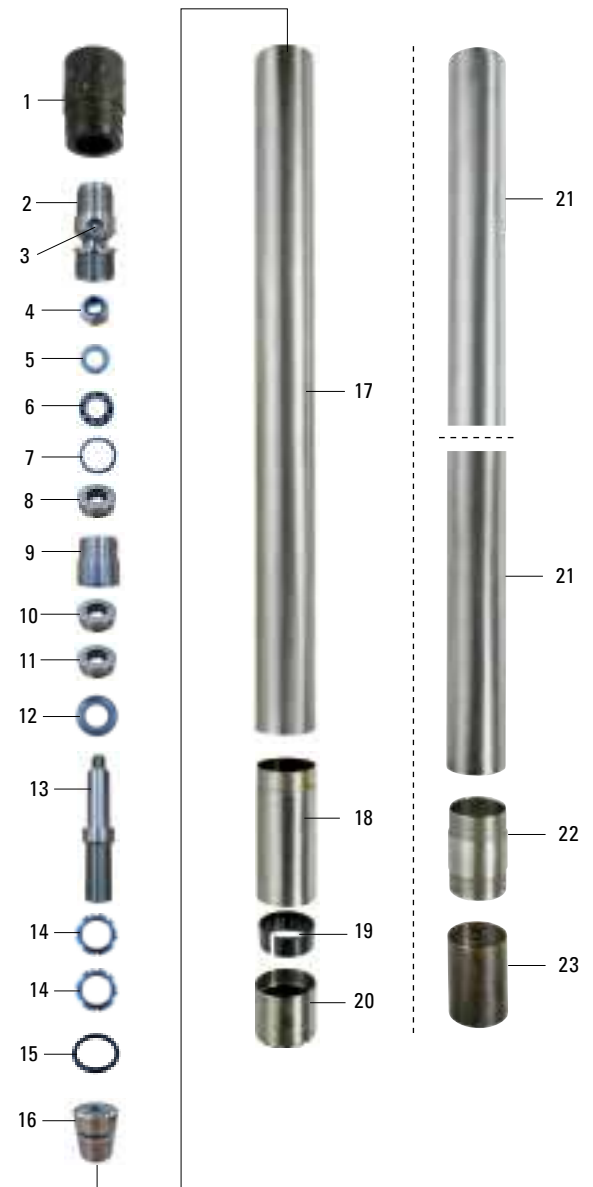
146 T6 drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. NWJ pin (Inner diameter 25 mm, no bail)		8393 0815 82	
Rods			0,5 m	1,5 m	3,0 m
2		NWJ70 drill rod	8393 0810 72	8393 0810 73	8393 0810 74
Crossover to the core barrel					
3		NWJ Box to 2 3/8" API REG Pin		8393 0825 11	
Core barrel					
4		1,5 m / 5 ft Core barrel complete, conn. 2 3/8" API REG box		8393 0825 23	
4		3,0 m / 10 ft Core barrel complete, conn. 2 3/8" API REG box		8393 0825 22	
Reaming shell					
5		Diamond surface set		8370 2300 67	
Bits					
6	CF	Tungsten Carbide inserts (TCI) / Soft		8372 0138 08	
6	CF	Tungsten Carbide chips (CRB) / Soft-medium		8372 0138 16	
6	CF	Surface set 30-50 / S / Semi round / Medium-hard		8370 0686 63	
6	CF	Surface set 16-30 / S / Semi round / Soft-medium		8424 9114 72	
Impregnated bits (Rock group/Height/Formation)					
6	13CF	10/6/ Extremely hard, Non abrasive		3702 7354 00	
6	13CF	9/6/ Hard-very hard, Slightly abrasive		3702 7223 00	
6	13CF	6-8/6/ Medium hard-hard, Abrasive + mixed		3702 7234 00	
6	13CF	5-6/6/ Medium soft-hard, Abrasive, Fractured		3702 7424 00	
6	13CF	4/6/ Soft-medium soft, Abrasive, Highly fractured		3702 6692 00	
6	13CF	2/6/ Extremely abrasive, Highly fractured		3702 7425 00	



146T6 Spare parts

Item	Description	Qty	Product No.
1-23	1,5 m / 5 ft Core barrel complete, conn. 2 3/8" API REG box	1	8393 0825 23
1-23	3,0 m / 10 ft Core barrel complete, conn. 2 3/8" API REG box	1	8393 0825 22
1-16	Core barrel head complete, conn. 2 3/8" API REG box	1	3867 6494 90
1	Core barrel coupling, conn. 2 3/8" API REG box	1	3867 6494 10
2	Head	1	3867 6406 10
3, 4, 5, 7, 12, 14	Core barrel head spare parts kit	1	3867 6404 95
6, 8, 10, 11	Core barrel head bearing kit	1	3867 6404 98
9	Bearing housing	1	3867 6407 10
13	Bearing shaft	1	3867 6409 10
15	O-ring	1	0663 2149 10
16	Adjusting coupling	1	3867 6485 10
17	Inner tube 1500 mm	1	3867 6502 10
17	Inner tube 3000 mm	1	3867 6503 10
18	Extension tube	1	3867 6505 50
19	Core lifter	1	3867 6513 10
20	Core lifter case	1	3867 6495 10
21	Outer tube 1500 mm	1	3867 6488 10
21	Outer tube 3000 mm	1	3867 6489 10
22	Reaming shell blank	1	3867 6494 10
23	Protector, steel	1	3867 6497 10



Optional equipment

Optional

Description	76 T6	86 T6	101 T6	116 T6	131 T6	146 T6
Core lifter, basket type	3867 6099 00	3867 6178 00	3867 6258 00	3867 6338 00	3867 6422 00	3867 6498 00
Full grip wrench, inner tube**	3869 7089 00	3869 7090 00	3869 7091 00	3869 7092 00	3869 7093 00	3869 7094 00
Full grip wrench, outer tube**	3869 7090 00	3869 7091 00	3869 7092 00	3869 7093 00	3869 7094 00	3869 7095 00

*) Non stocked items. **) Should be used in pairs.

Spare parts kits core barrel (500 m)

Description	76 T6		86T6		101 T6		116T6		131 T6		146T6	
	Qty.	3867609695	Qty	3867617695	Qty.	3867625695	Qty	3867633695	Qty.	3867642095	Qty	3867649695
O-ring	1	•	1	•	1	•	1	•	1	•	1	•
Ball bearing	2	•	2	•	2	•	2	•	2	•	2	•
Ball bearing	1	•	1	•	1	•	2	•	2	•	2	•
Ball bearing	1	•	1	•	1	•						
Lock nut	1	•	1	•	1	•	1	•	1	•	1	•
Lock nut	1	•	1	•	2	•	2	•	2	•	2	•
Lock nipple	1	•	1	•	1	•	1	•	1	•	1	•
Seal ring							1	•	1	•	1	•
Extension tube							4	•	4	•	4	•
Core lifter case	4	•	4	•	4	•	4	•	4	•	4	•
Core lifter	10	•	10	•	10	•	10	•	10	•	10	•

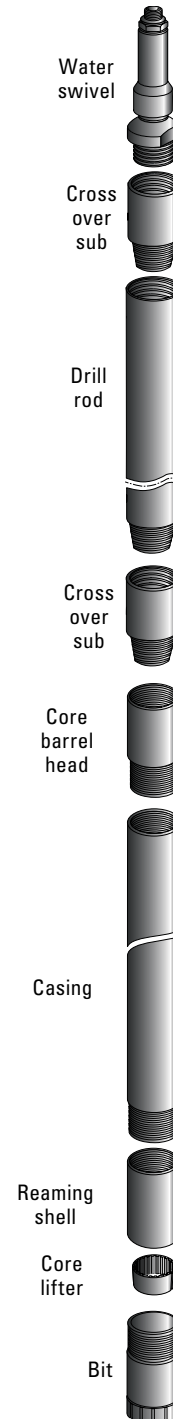
• = included in kit

Conventional single tube core barrel type B

Extendable core barrel

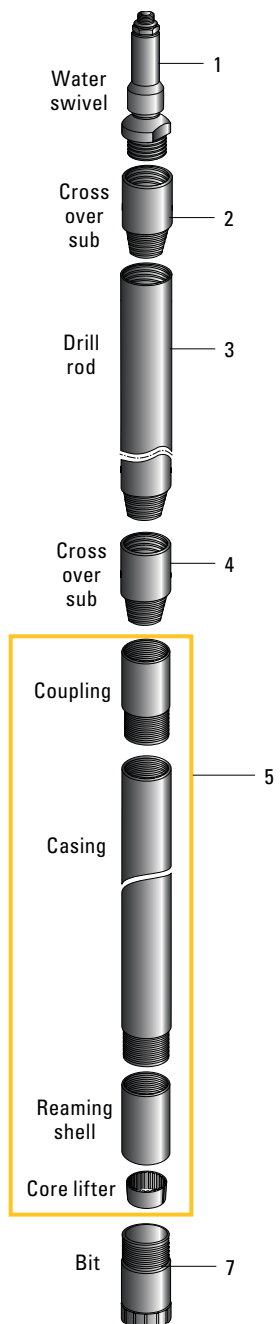
B-single tube is suitable for drilling straight holes e.g. grout hole drilling or for concrete drilling when core examination is of less importance. The system is built upon metric casings and extendable by adding additional casing pipes.

Size	Description			
	Hole diameter mm (in)	Core diameter mm (in)	Core tube outer diameter mm (in)	Core barrel connection box
46 B	46,3 (1.82)	31,7 (1.25)	44,4 (1.75)	CR42
56 B	56,3 (2.22)	41,7 (1.64)	54,4 (2.14)	CR50
66 B	66,3 (2.61)	51,7 (2.04)	64,4 (2.54)	CR50
76 B	76,3 (3.00)	61,7 (2.43)	74,4 (2.93)	NWJ
86 B	86,3 (3.40)	71,7 (2.82)	84,4 (3.33)	NWJ
101 B	101,3 (3.99)	86,7 (3.41)	98,2 (3.87)	NWJ
116 B	116,3 (4.58)	101,7 (4.00)	113,5 (4.47)	NWJ
131 B	131,5 (5.17)	116,7 (4.56)	128,0 (5.04)	NWJ
146 B	146,5 (5.76)	131,7 (5.19)	143,0 (5.63)	NWJ

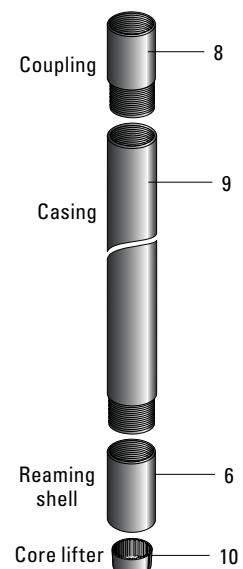


46 B drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. CR42 pin (Inner diameter 18 mm, no bail)		8070 0107 42	
Crossover					
2		CR42 Box to AWJ Pin		3862 6675 00	
Rods			0,5 m	1,5 m	3,0 m
3		43 drill rod	8393 0133 08	8393 0133 16	8393 0133 24
3		Aluminium 43 drill rod	8393 0305 00	8393 0306 09	8393 0307 08
3		AWJ43 drill rod	8393 0810 27	8393 0282 50	8393 0282 60
3		Aluminium AWJ43 drill rod	8393 0812 80	8393 0812 81	8393 0812 82
Crossover					
4		AWJ Box to CR42 Pin		3862 6694 00	
Core barrel					
5		"1,5 m / 5 ft Core barrel complete / Conn. CR 42 box"		8393 0814 29	
5		"3,0 m / 10 ft Core barrel complete / Conn. CR 42 box"		8393 0814 30	
Reaming shell					
6		Diamond surface set ext.		3702 6540 00	
Bits					
7	CF	Tungsten carbide inserts (TCI) Soft		8372 0302 08	
7	CF	Tungsten carbide chips (CRB) Soft-medium		8372 0318 00	
7	CF	Surface set 20-25 / S / Semi round / Soft-medium		8370 0251 27	
Impregnated bits (Rock group/Height/Formation)					
7	6CFF	10/10/ Extremely hard, Non abrasive		3702 7468 00	
7	6CFF	9/10/ Hard-very hard, Slightly abrasive		3702 6683 00	
7	6CFF	6-8/6/ Medium hard-hard, Abrasive + mixed		3702 7445 00	
7	6CFF	5-6/10/ Medium soft-hard, Abrasive, Fractured		3702 7360 00	
7	6CFF	4/6/ Soft-medium soft, Abrasive, Highly fractured		3702 7224 00	
7	6CFF	2/6/ Extremely abrasive, Highly fractured		8370 2300 39	

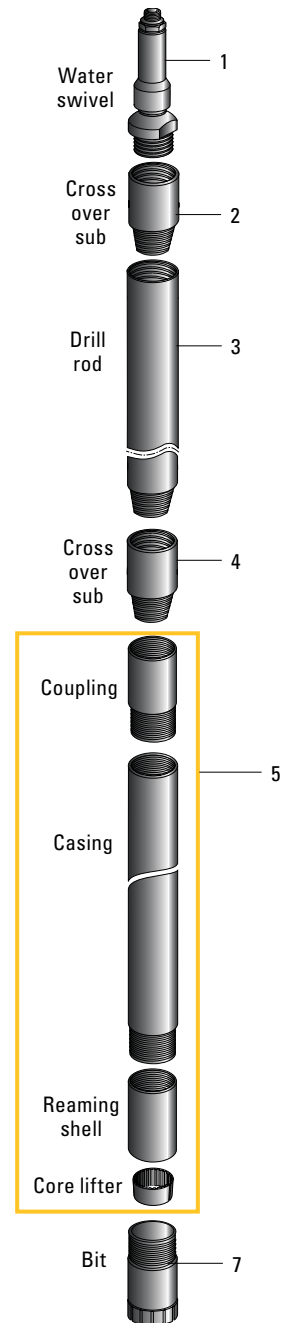


Core barrel spare parts					
8		"Coupling, CR 42 box – 44/37 casing pin"		8393 0814 21	
Casing			0,5 m	1,5 m	3,0 m
9		Casing, 44/37	8393 8101 09	8393 8102 08	8393 8103 07
6		Reaming shell, blank		3702 6273 00	
10		Core lifter		3863 7201 00	

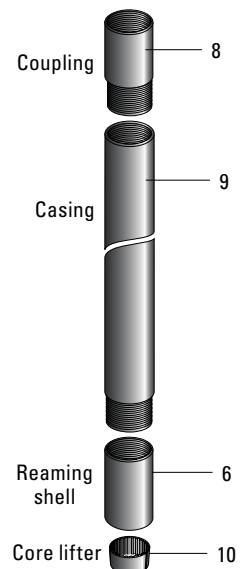


56 B drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. CR42 pin (Inner diameter 18 mm, no bail)		8070 0107 42	
Crossover					
2		CR42 Box to CR50 Pin(Optional)		3862 6019 00	
2		CR42 Box to BWJ Pin(Optional)		3862 6676 00	
Rods			0,5 m	1,5 m	3,0 m
3		53 drill rod	8393 0134 07	8393 0134 15	8393 0134 23
3		BWJ53 drill rod	8393 0810 30	8393 0810 29	8393 0810 28
Crossover					
4		BWJ box to CR50 Pin (Optional)		3862 6695 00	
Core barrel					
5		1,5 m / 5 ft Core barrel complete / Conn. CR 50 box		8393 0814 32	
5		3,0 m / 10 ft Core barrel complete / Conn. CR 50 box		8393 0814 33	
Reaming shell					
6		Diamond surface set ext.		3702 6541 00	
Bits					
7	CF	Tungsten carbide inserts (TCI) Soft		8372 0303 07	
7	CF	Tungsten carbide chips (CRB) Soft-medium		8372 0319 09	
7	CF	Surface set 20–25 / S / Semi round Soft-medium		8370 0251 35	
Impregnated bits (Rock group/Height/Formation)					
7	8CFF	10/10/ Extremely hard, Non abrasive		3760 9551 45	
7	8CFF	9/10/ Hard – Very hard, Slightly abrasive		3702 7350 00	
7	8CFF	6-8/6/Medium hard–Hard, Abrasive+mixed		3702 7447 00	
7	8CFF	5-6/10/ Medium soft–Hard, Abrasive, Fractured		3702 7361 00	
7	8CFF	4/6/Soft–medium soft, Abrasive, Highly fractured		8370 2300 40	
7	8CFF	2/6/Extremely abrasive, Highly fractured		8370 0210 19	



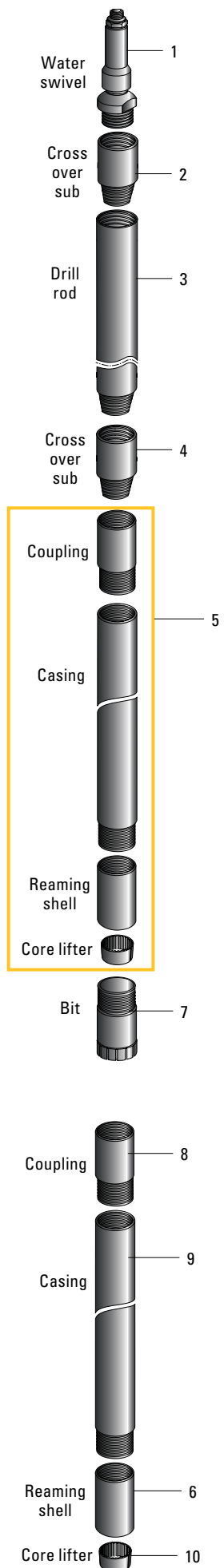
Core barrel spare parts					
8		Coupling, CR 50 box – 54/47 casing pin			
Casing			0,5 m	1,5 m	3,0 m
9		Casing, 54/47	8393 8105 05	8393 8106 04	8393 8107 03
6		Reaming shell, blank		3702 6261 00	
10		Core lifter		3863 7202 00	



66 B drill string

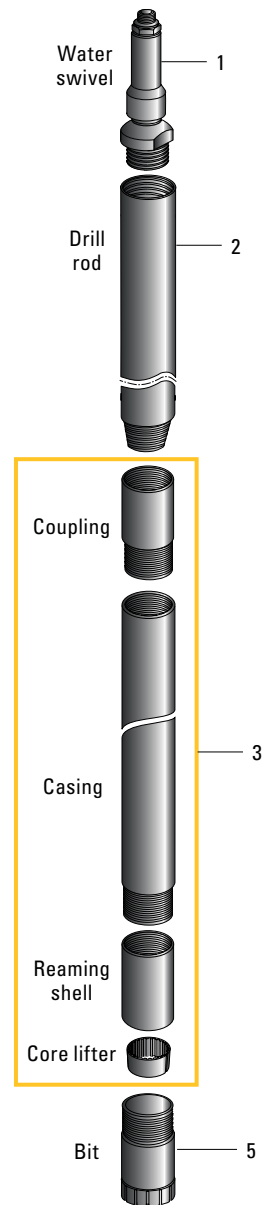
Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. CR42 pin (Inner diameter 18 mm, no bail)		8070 0107 42	
Crossover					
2		CR42 Box to CR50 Pin(Optional)		3862 6019 00	
2		CR42 Box to BWJ Pin(Optional)		3862 6676 00	
Rods			0,5 m	1,5 m	3,0 m
3		53 drill rod	8393 0134 07	8393 0134 15	8393 0134 23
3		BWJ53 drill rod	8393 0810 30	8393 0810 29	8393 0810 28
Crossover					
4		BWJ box to CR50 Pin (Optional)		3862 6695 00	
Core barrel					
5		1,5 m / 5 ft Core barrel complete / Conn. CR 50 box		8393 0814 35	
5		3,0 m / 10 ft Core barrel complete / Conn. CR 50 box		8393 0814 36	
Reaming shell					
6		Diamond surface set ext.		3702 6542 00	
Bits					
7	CF	Tungsten carbide inserts (TCI) Soft		8372 0304 06	
7	CF	Tungsten carbide chips (CRB) Soft-medium		8372 0320 06	
7	CF	Surface set 20-25 / S / Semi round / Soft-medium		8370 0251 43	
Impregnated bits (Rock group/Height/Formation)					
7	10CF	10/6/ Extremely hard, Non abrasive		3760 9551 46	
7	10CF	9/6/ Hard-very hard, Slightly abrasive		8370 0212 58	
7	10CF	6-8/6/ Medium hard-hard, Abrasive + mixed		3702 7448 00	
7	10CF	5-6/6/ Medium soft-hard, Abrasive, Fractured		3702 7449 00	
7	10CF	4/6/ Soft-medium soft, Abrasive, Highly fractured		3702 6783 00	
7	10CF	2/6/ Extremely abrasive, Highly fractured		8370 2300 41	

Core barrel spare parts					
8		Coupling, CR 50 box – 64/57 casing pin		8393 0814 23	
Casing			0,5 m	1,5 m	3,0 m
9		Casing, 64/57	8393 8109 01	8393 8110 08	8393 8111 07
6		Reaming shell, blank		3702 6274 00	
10		Core lifter		3863 7203 00	

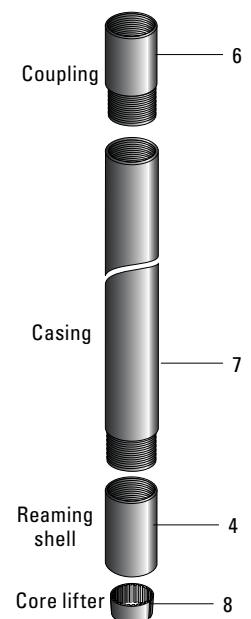


76 B drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. NWJ pin (Inner diameter 25 mm, no bail)		8393 0815 82	
Rods					
2		NWJ70 drill rod	8393 0810 72	8393 0810 73	8393 0810 74
Core barrel			0,5 m	1,5 m	3,0 m
3		1,5 m / 5 ft Core barrel complete / Conn. NWJ box		8393 0814 38	
3		3,0 m / 10 ft Core barrel complete / Conn. NWJ box		8393 0814 39	
Reaming shell					
4		Diamond surface set ext.		3702 6543 00	
Bits					
5	CF	Tungsten carbide inserts (TCI) Soft		8372 0305 05	
5	CF	Tungsten carbide chips (CRB) Soft- medium		8372 0321 05	
5	CF	Surface set 20–25 / S / Semi round Soft- medium		8370 0251 50	
Impregnated bits (Rock group/Height/Formation)					
5	12CF	10/6/ Extremely hard, Non abrasive		3760 9551 47	
5	12CF	9/6/ Hard–Very hard, Slightly abrasive		3702 6684 00	
5	12CF	6-8/6/ Medium hard–Hard, Abrasive+mixed		3702 6986 00	
5	12CF	5-6/6/ Medium soft–Hard, Abrasive, Fractured		3702 7450 00	
5	12CF	4/6/ Soft–medium soft, Abrasive, Highly fractured		3702 6771 00	
5	12CF	2/6/ Extremely abrasive, Highly fractured		8370 0210 35	

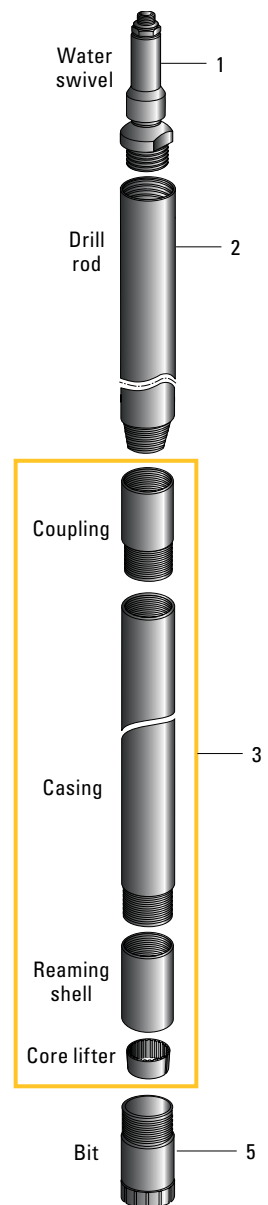


Core barrel spare parts					
6		Coupling, NWJ box – 74/67 casing pin		8393 0814 24	
Casing			0,5 m	1,5 m	3,0 m
7		Casing, 74/67	8393 8113 05	8393 8114 04	8393 8115 03
4		Reaming shell, blank		3702 6262 00	
8		Core lifter		3863 7211 00	

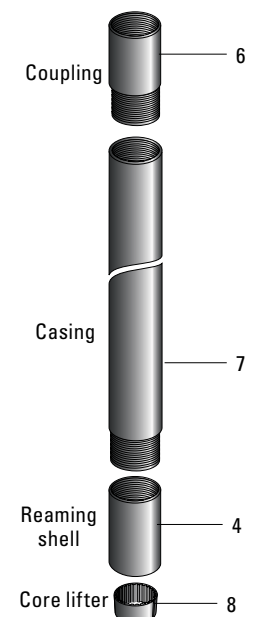


86 B drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. NWJ pin (Inner diameter 25 mm, no bail)		8393 0815 82	
Rods			0,5 m	1,5 m	3,0 m
2		NWJ70 drill rod	8393 0810 72	8393 0810 73	8393 0810 74
Core barrel					
3		1,5 m / 5 ft Core barrel complete / Conn. NWJ box		8393 0814 41	
3		3,0 m / 10 ft Core barrel complete / Conn. NWJ box		8393 0814 42	
Reaming shell					
4		Diamond surface set ext.		3702 6544 00	
Bits					
5	CF	Tungsten carbide inserts (TCI) / Soft		8372 0306 04	
5	CF	Tungsten carbide chips (CRB) / Soft-medium		8372 0322 04	
5	CF	Surface set 20-25 / S / Semi round / Soft-medium		8370 0251 68	
Impregnated bits (Rock group/Height/Formation)					
5	14CF	10/6/ Extremely hard, Non abrasive		3760 9551 49	
5	14CF	9/6/ Hard-very hard, Slightly abrasive		3702 7013 00	
5	14CF	6-8/6/ Medium hard-hard, Abrasive + mixed		3702 7014 00	
5	14CF	5-6/6/ Medium soft-hard, Abrasive, Fractured		3702 7454 00	
5	14CF	4/6/ Soft-medium soft, Abrasive, Highly fractured		3702 6775 00	
5	14CF	2/6/ Extremely abrasive, Highly fractured		8370 0210 50	

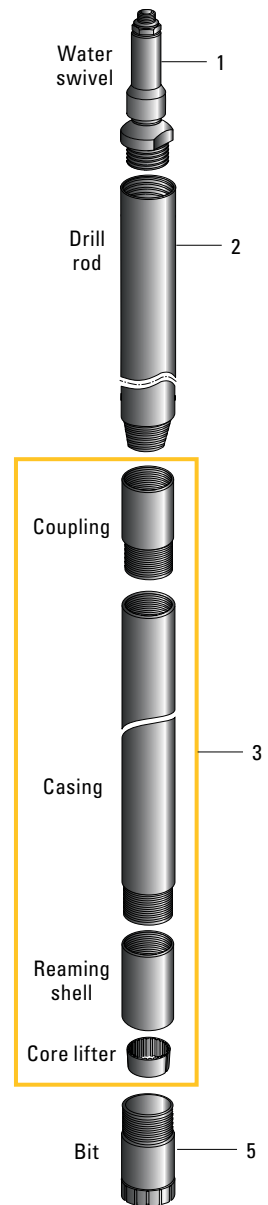


Core barrel spare parts					
6		Coupling, NWJ box – 84/77 casing pin		8393 0814 25	
Casing			0,5 m	1,5 m	3,0 m
7		Casing, 84/77	8393 8117 01	8393 8118 00	8393 8119 09
4		Reaming shell, blank		3702 6275 00	
8		Core lifter		3863 7212 00	

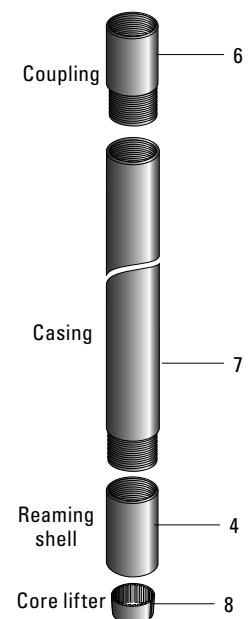


101 B drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. NWJ pin (Inner diameter 25 mm, no bail)		8393 0815 82	
Rods			0,5 m	1,5 m	3,0 m
2		NWJ70 drill rod	8393 0810 72	8393 0810 73	8393 0810 74
Core barrel					
3		1,5 m / 5 ft Core barrel complete / Conn. NWJ box		8393 0814 44	
3		3,0 m / 10 ft Core barrel complete / Conn. NWJ box		8393 0814 45	
Reaming shell					
4		Diamond surface set ext.		3702 6545 00	
Bits					
5	CF	Tungsten carbide inserts (TCI) Soft		8372 0307 03	
5	CF	Tungsten carbide chips (CRB) Soft-medium		8372 0323 03	
5	CF	Surface set 20–25 / S / Semi round Soft-medium		8370 0251 76	
Impregnated bits (Rock group/Height/Formation)					
5	14CF	10/6/ Extremely hard, Non abrasive		3760 9551 49	
5	14CF	9/6/ Hard–Very hard, Slightly abrasive		3702 7013 00	
5	14CF	6-8/6/ Medium hard–Hard, Abrasive+mixed		3702 7014 00	
5	14CF	5-6/6/ Medium soft–Hard, Abrasive, Fractured		3702 7454 00	
5	14CF	4/6/ Soft–medium soft, Abrasive, Highly fractured		3702 6775 00	
5	14CF	2/6/ Extremely abrasive, Highly fractured		8370 0210 50	

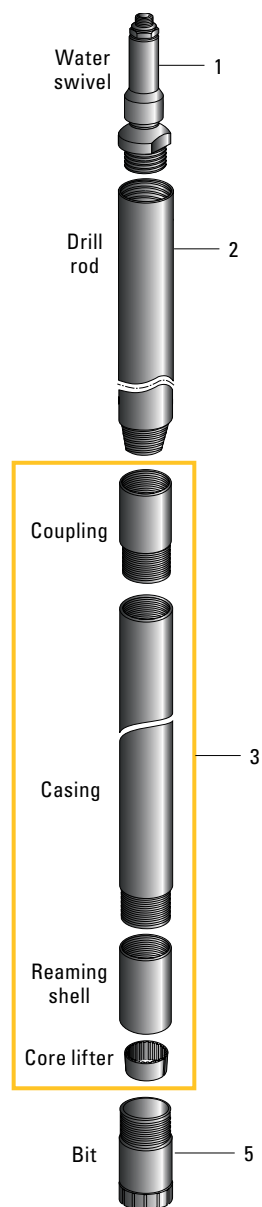


Core barrel spare parts					
6		Coupling, NWJ box – 98/89 casing pin		8393 0814 26	
Casing			0,5 m	1,5 m	3,0 m
7		Casing, 98/89	8393 8121 05	8393 8122 04	8393 8123 03
4		Reaming shell, blank		3702 6276 00	
8		Core lifter		3863 7213 00	

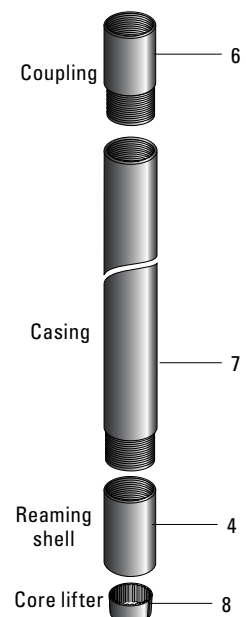


116 B drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. NWJ pin (Inner diameter 25 mm, no bail)		8393 0815 82	
Rods			0,5 m	1,5 m	3,0 m
2		NWJ70 drill rod	8393 0810 72	8393 0810 73	8393 0810 74
Core barrel					
3		1,5 m / 5 ft Core barrel complete / Conn. NWJ box		8393 0823 31	
Reaming shell					
4		Diamond surface set ext.		3702 6744 00	
Bits					
5	CF	Tungsten carbide inserts (TCI) /Soft		8372 0308 02	
5	CF	Tungsten carbide chips (CRB) / Soft-medium		8372 0324 02	
5	CF	Surface set 20–25 / S / Semi round / Soft-medium		8370 0251 84	
Impregnated bits (Rock group/Height/Formation)					
5	16CF	10/6/ Extremely hard, Non abrasive		3760 9551 50	
5	16CF	9/6/ Hard-very hard, Slightly abrasive		8370 0212 90	
5	16CF	6-8/6/ Medium hard-hard, Abrasive + mixed		3702 6881 00	
5	16CF	5-6/6/ Medium soft-hard, Abrasive, Fractured		8370 0220 60	
5	16CF	4/6/ Soft-medium soft, Abrasive, Highly fractured		3702 7225 00	
5	16CF	2/6/ Extremely abrasive, Highly fractured		8370 0210 68	

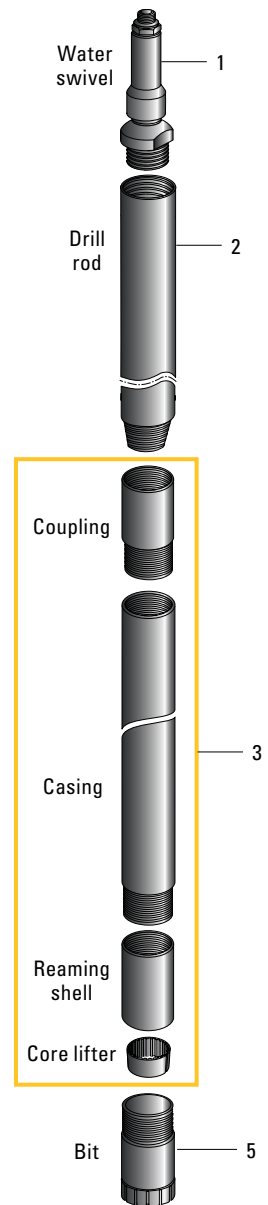


Core barrel spare parts					
6		Coupling, NWJ box – 113/104 casing pin		8393 0823 59	
Casing			0,5 m	1,5 m	3,0 m
7		2 Casing, 113/104	-	8393 8126 00	8393 8127 09
4		Reaming shell, blank		8393 0821 00	
8		Core lifter		3863 7214 00	

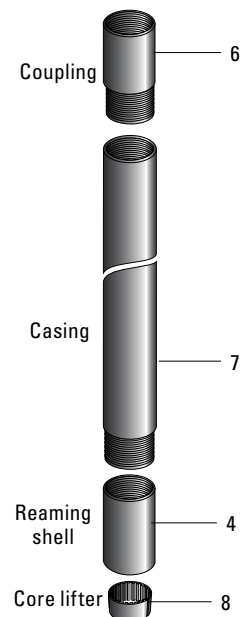


131 B drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. NWJ pin (Inner diameter 25 mm, no bail)		8393 0815 82	
Rods			0,5 m	1,5 m	3,0 m
2		NWJ70 drill rod	8393 0810 72	8393 0810 73	8393 0810 74
Core barrel					
3		1,5 m / 5 ft Core barrel complete / Conn. NWJ box		8393 0823 32	
Reaming shell					
4		Diamond surface set ext.		3702 6821 00	
Bits					
5	CF	Tungsten carbide inserts (TCI) Soft		8372 0309 01	
5	CF	Tungsten carbide chips (CRB) Soft-medium		8372 0325 01	
5	CF	Surface set 20–25 / S / Semi round Soft-medium		8370 0251 92	
Impregnated bits (Rock group/Height/Formation)					
5	16CF	10/6/ Extremely hard, Non abrasive		3760 9551 51	
5	16CF	9/6/ Hard–Very hard, Slightly abrasive		3702 7220 00	
5	16CF	6-8/6/ Medium hard–Hard, Abrasive+mixed		3702 7455 00	
5	16CF	5-6/6/ Medium soft–Hard, Abrasive, Fractured		3702 7456 00	
5	16CF	4/6/ Soft–medium soft, Abrasive, Highly fractured		3702 7226 00	
5	16CF	2/6/ Extremely abrasive, Highly fractured		8370 0210 76	

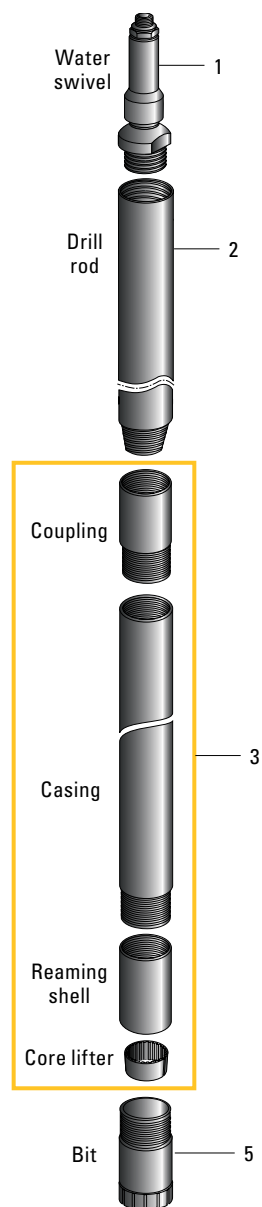


Core barrel spare parts					
6		1 Coupling, NWJ box – 128/119 casing pin		8393 0823 57	
Casing			0,5 m	1,5 m	3,0 m
7		Casing, 128/119	8393 8129 07	8393 8130 04	8393 8131 03
4		Reaming shell, blank		8393 0821 01	
8		Core lifter		3863 7224 00	

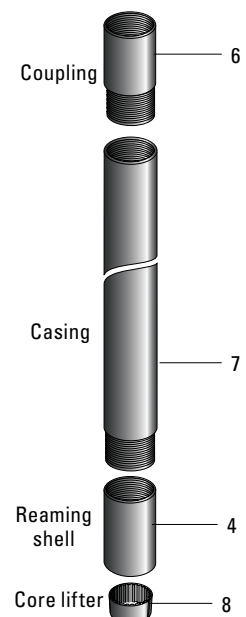


146 B drill string

Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. NWJ pin (Inner diameter 25 mm, no bail)		8393 0815 82	
Rods			0,5 m	1,5 m	3,0 m
2		NWJ70 drill rod	8393 0810 72	8393 0810 73	8393 0810 74
Core barrel					
3		1,5 m / 5 ft Core barrel complete / Conn. NWJ box		8393 0823 33	
Reaming shell					
4		Diamond surface set ext.		3702 6817 00	
Bits					
5	CF	Tungsten carbide inserts (TCI) /Soft		8372 0310 08	
5	CF	Tungsten carbide chips (CRB) / Soft-medium		8372 0326 00	
5	CF	Surface set 20–25 / S / Semi round / Soft-medium			
Impregnated bits (Rock group/Height/Formation)					
5	18CF	10/6/ Extremely hard, Non abrasive		3702 7401 00	
5	18CF	9/6/ Hard-very hard, Slightly abrasive		3702 7222 00	
5	18CF	6-8/6/ Medium hard-hard, Abrasive + mixed		3702 7457 00	
5	18CF	5-6/6/ Medium soft-hard, Abrasive, Fractured		3702 7458 00	
5	18CF	4/6/ Soft-medium soft, Abrasive, Highly fractured		3702 7227 00	
5	18CF	2/6/ Extremely abrasive, Highly fractured		8370 0210 84	



Core barrel spare parts					
6		Coupling, NWJ box – 143/134 casing pin		8393 0823 58	
Casing			0,5 m	1,5 m	3,0 m
7		Casing, 143/134	8393 8133 01	8393 8134 00	8393 8135 09
4		Reaming shell, blank		8393 0822 58	
8		Core lifter		3863 7225 00	



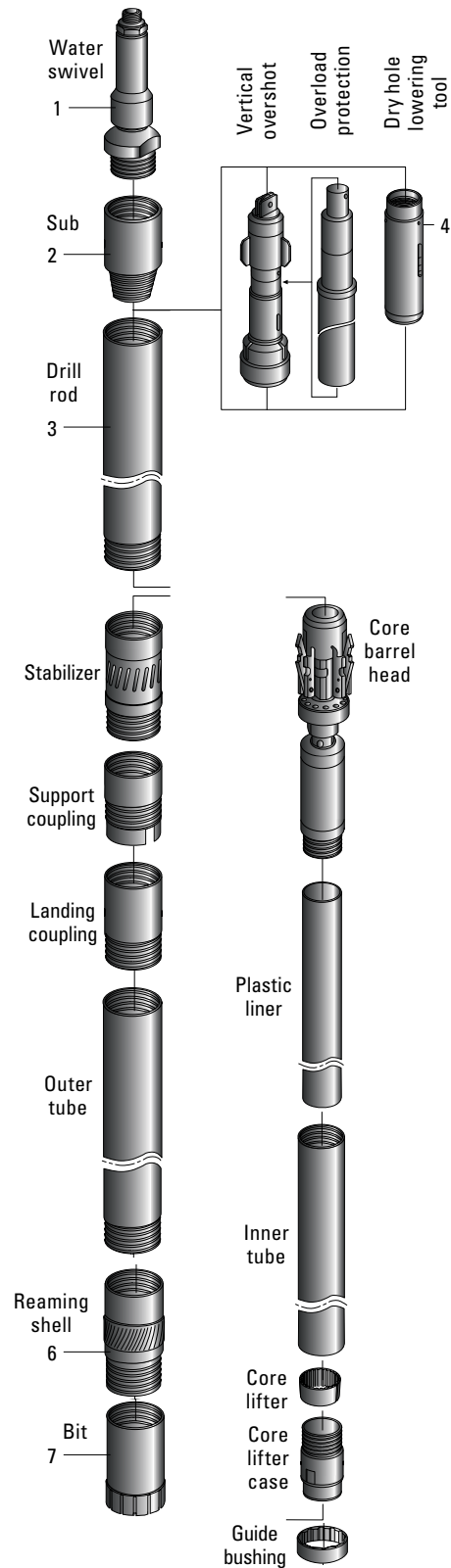
Wireline triple tube core barrel, S Geobor

S Geobore (146–150 mm)

Epiroc S Geobor wireline is a core barrel system intended for core drilling and sampling in soft formations.

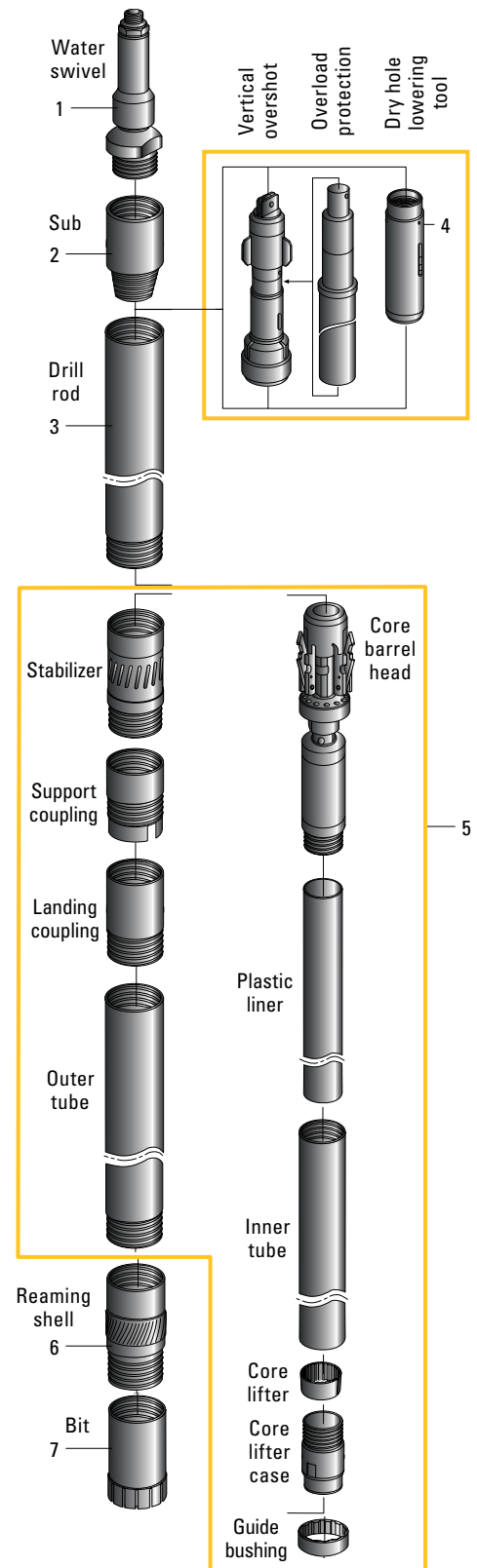
Size	Description			
	Hole diameter method 1,5–6 mm (in)	Hole diameter method 2–3 mm (in)	Core diameter mm (in)	Outer diameter drill rod
Geobor S	146,5 (5.76)	150,0 (5.90)	102,0 (4.02)	139.7 (5.58)

Drilling parameters, see Operators manual (PMI 9866 0236 01)



S Geobor

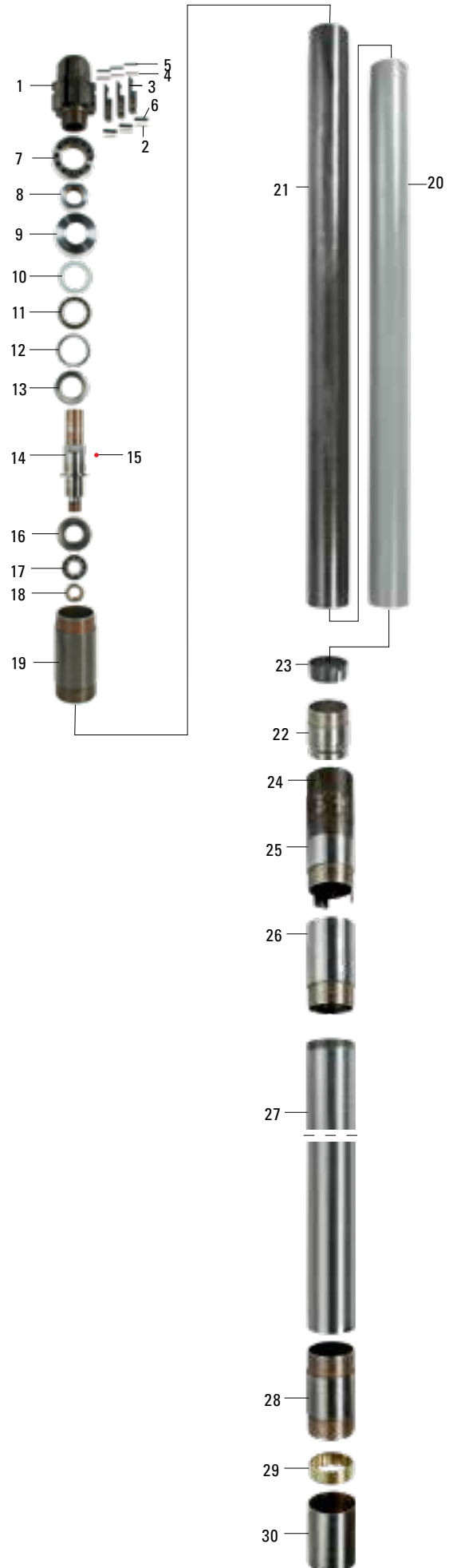
Item	WW	Description	Product No.	Product No.	Product No.
Water Swivel					
1		Water swivel complete, conn. NWJ pin (Inner diameter 25 mm, no bail)		8393 0815 82	
Crossover					
2		NWJ box to SG pin		8393 0820 52	
Rod					
			0,5 m	1,5 m	3,0 m
3		SG Rods	8393 0528 00	8393 0528 20	8393 0528 30
3		SG High pressure rods	8393 0528 40	8393 0528 60	8393 0528 70
Overshot					
4		Overshot complete		3702 1249 80	
4		Dry hole device complete		3702 1220 80	
Core barrel					
5		1,5 m / 5 ft Core barrel complete, basic unit – including release line		8393 0827 49	
5		3,0 m / 10 ft Core barrel complete, basic unit – including release line		8393 0827 50	
Reaming shell					
6		Rshell Diamond surface set		3761 0014 77	
Tungsten carbide bits					
7	FD	Tungsten Carbide inserts (TCI) / Soft		8372 0941 10	
7	FD	Tungsten Carbide chips (CRB) / Soft		8372 0925 05	
7	FD	Tungsten Carbide inserts (TCI) / Very soft		8372 0902 10	
7	FD	Tungsten Carbide inserts (TCI) / Loose		8372 0941 40	
7	FD	Tungsten Carbide inserts (TCI) / Loose		8372 0942 30	
Poly diamond chrystaline (PDC) bits					
7	FD	Tripax 77INS CUB SAW		3702 5066 00	
7	FD	Tripax 96INS Semi round		3702 5085 00	
7	13 SCAL	Diapax 8INS 13 mm Heavy Duty		3702 6391 00	
7	12FD	Diapax 10INS 13 mm		3702 1901 18	
7	12FD	Diapax 12INS 13 mm Heavy Duty		3702 1901 17	
7	12FD	Diapax 15INS 13 mm oversize (152 mm)		3702 1901 19	
Surface set (SS) bits					
7	10FD	20–25 / S / Step/Medium-hard		3702 1901 62	
7	10FD	20–25 / S / Semi round/Soft-medium		3702 1901 67	
Impregnated (IMP) bits (Rock group/Height/Formation)					
7	12CD	10/10/ Extremely hard, Non abrasive		3702 7477 00	
7	12FD	9/10/ Hard-very hard, Slightly abrasive		8370 2300 38	
7	12FD	KX/10/ Medium hard-Hard, Abrasive + mixed		8370 2300 12	
7	12CF	6-8/10/ Medium hard-hard, Abrasive +mixed		3702 6978 00	
7	12 SCAL	5-6/6/ Medium soft-hard, Abrasive, Fractured		3740 4007 63	
7	9FD	4/6/ Soft-medium soft, Abrasive, Highly fractured		3740 4007 61	
7	9FD	2/6/ Extremely abrasive, Highly fractured		3702 7186 00	



S Geobor Spare parts list method 1

Item	Description	Qty	Product No.
1-30	1,5 m / 5 ft Core barrel complete, basic unit - including release line	1	8393 0827 49
1-30	3,0 m / 10 ft Core barrel complete, basic unit - including release line	1	8393 0827 50
24-28, 30	1,5 m / 5 ft Outer core barrel complete	1	3702 1297 80
24-28,30	3,0 m / 10 ft Outer core barrel complete	1	3702 1242 80
1-23	1,5 m / 5 ft Inner core barrel complete	1	8393 0827 51
1-23	3,0 m / 10 ft Inner core barrel complete	1	8393 0827 52
1-19	Core barrel head complete - including release line	1	8393 0827 53
1	Latch housing	1	3702 1291 00
2	Spring	3	3702 0311 00
3	Latch	3	3702 1271 00
4	Spring pin	3	0108 1248 00
5	Spring pin	3	3766 0187 00
6	Spring pin	3	3766 0184 00
7	Landing shoulder	1	3702 1294 00
8	Locking nut	1	3702 1293 00
9	Sleeve	1	3702 1295 00
10	Seal ring	1	3766 0263 00
11	Ball bearing	1	0502 1112 00
12	Support ring	1	0324 1551 69
13	Ball bearing	1	3766 0261 00
14	Shaft	1	3702 1292 00
15	Lubricating nipple	1	0544 2106 00
16	Ball bearing	1	3766 0262 00
17	Ball bearing	1	0502 2107 00
18	Lock nut	2	0295 3108 00
19	Bearing housing including back valves	1	8393 0827 54
20	Lining, 1500 mm	1	3867 2837 00
20	Lining, 3000 mm	1	3702 1299 00
21	Inner tube, 1500 mm	1	3867 2824 00
21	Inner tube, 3000 mm	1	3702 1243 00
22	Core lifter case	1	3867 2826 00
23	Core lifter	1	3867 2827 00
24	Stabilizer	1	3702 1274 00
25	Support coupling	1	3702 1216 00
26	Landing sleeve	1	3702 1217 00
27	Outer tube, 1500 mm	1	3867 2872 00
27	Outer tube, 3000 mm	1	3702 1242 00
28	Reaming shell blank	1	3867 2846 00
29	Guide bushing	1	3744 0013 41
30	Protector	1	3867 2848 00

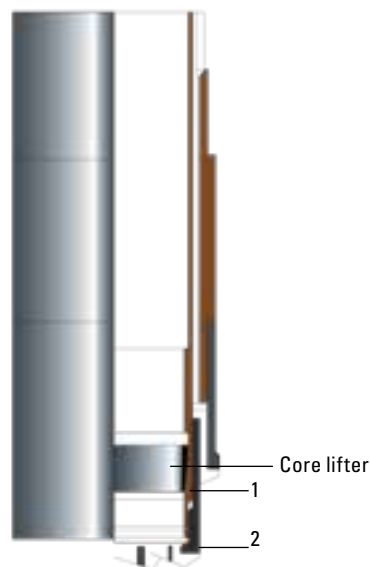
For more optional equipment, see page 53.



S Geobor Spare parts list method 2

(OD 150 mm) Coring in soft to very soft formations

Item	Description	Qty	Product No.
1	Core lifter case	1	3867 2876 00
2	Core bit type, pilot and reamer with TC inserts	1	8372 0902 10

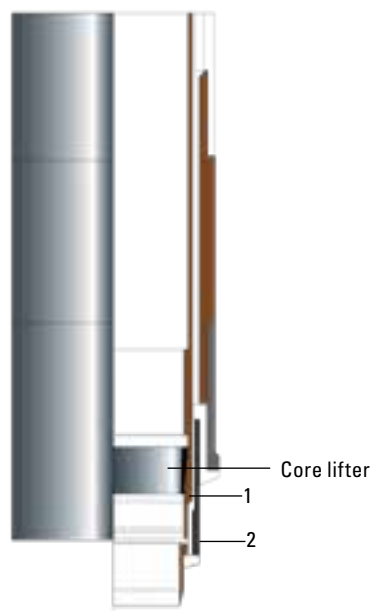


S Geobor Spare parts list method 3

(OD 150 mm) Coring in very soft and loose formations

Item	Description	Qty	Product No.
1	Core lifter case	1	3867 2881 00
2	Core bit type, pilot and reamer with TC inserts	1	8372 0941 40

*Core lifter case protrudes about 25 mm in front of the pilot bit



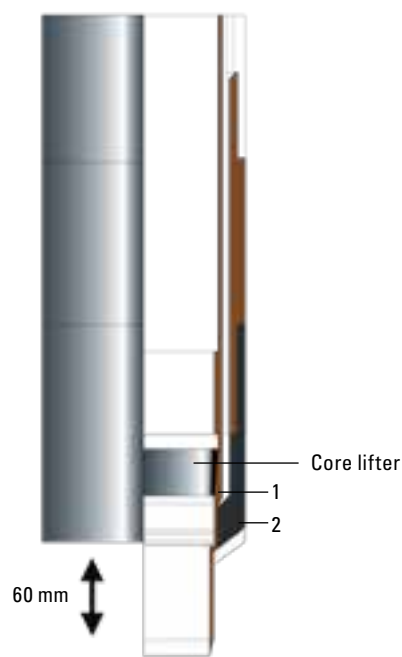
S Geobor Spare parts list method 4

(OD 146 mm) Coring in soft varying formations (Mazier method)

Item	Description	Qty	Product No.
	Conversion kit complete	1	3702 1405 80
	– Coupling	1	3702 1418 00
	– Spring	1	3702 1425 00
	– Shaft	1	3702 1419 00
	– Coupling	1	3702 1420 80
	– Washer	1	0301 2230 00
	– Lock nut	2	0295 3108 00
	– Outer tube extension, 360 mm	1	3702 1424 00
	– Guide bushing	1	3744 0013 41
1	– Core lifter case*	1	3702 1421 00
2	Core bit type, single bit with TC inserts**	1	8372 0942 30

*Core lifter case protrudes about 60 mm in front of the pilot bit

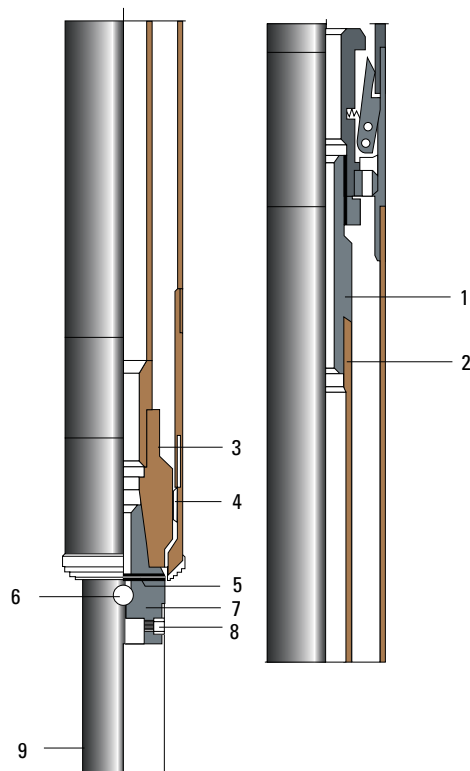
**Not included in the kit



S Geobor Spare parts list method 5

Core barrel with Shelby tube. Push sampling method. Core bit set Ø 146/102 and core: Ø 95 mm, Core length 762 mm

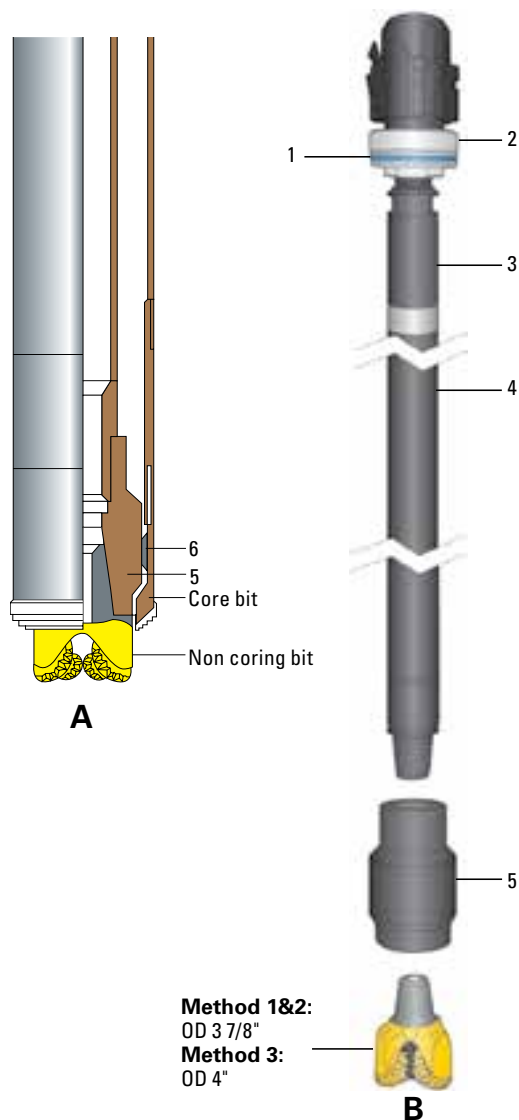
Item	Description	Qty	Product No.
1-9	Conversion kit 762 / 1500 mm (excluding head)	1	3702 1441 80
1-9	Conversion kit 762 / 3000 mm (excluding head)	1	3702 7545 12
1	Adaptor	1	8393 0829 04
2	Steel drill rod (NWJ 70x1500)	1	8393 0810 73
2	Steel drill rod (NWJ 70x3000)	1	8373 0810 74
3	Adaptor - to be used with Method 1	1	8393 0829 05
3	Adaptor - to be used with Method 2 and Method 3	1	8393 0829 08
4	Guide bushing	1	3744 0013 41
5	Spring pin (6x100)	1	3766 0265 00
6	Rubber ball	1	3766 0266 00
7	Adaptor	1	3702 1441 00
8	Screw (MC6S 10x16)	4	0211 1359 00
9	Sampler (L=762 mm)	1	3702 1445 00
9	Optional sampler (L=914 mm)	1	3702 1446 00



Spare parts list method 6

Non coring (OD 146 mm) To be used with OD 3 7/8" non coring bit, conn. 2 3/8" API REG pin.

Item	Description	Qty	Part No.
A	Non-coring assembly complete, 1500 mm (excluding bit)	1	8392 0630 00
A	Non-coring assembly complete, 3000 mm (excluding bit)	1	8392 0630 10
B	Non-coring inner tube assembly complete, 1500mm (excluding bit)	1	3702 1417 80
B	Non-coring inner tube assembly complete, 3000mm (excluding bit)	1	3702 1417 81
1-6	Conversion kit complete, 1500 mm	1	3702 1403 80
1-6	Conversion kit complete, 3000 mm		3702 1403 81
1	Seal ring	1	0665 0999 55
2	Support ring	1	3744 0015 14
3	Adapter	1	8393 0829 04
4	Steel rod, NWJ 70 x 1500	1	8393 0810 73
4	Steel rod, NWJ 70 x 3000	1	8393 0810 74
5	Adapter connection 2 3/8" API REG box – to be used with Method 1	1	8393 0829 05
5	Adapter connection 2 3/8" API REG box – to be used with Method 2 and Method 3	1	8393 0829 08
6	Guide bushing	1	3744 0013 41



Pilot coring with core barrel 101 T6/T2

(Optional Subs for pilot-coring with method 6).

Item	Description	Qty	Part No.
	Sub 2 3/8" API REG pin to NW pin	1	3702 0088 00
	Sub 2 3/8" API REG pin to 2 3/8" API REG pin	1	3702 0070 00

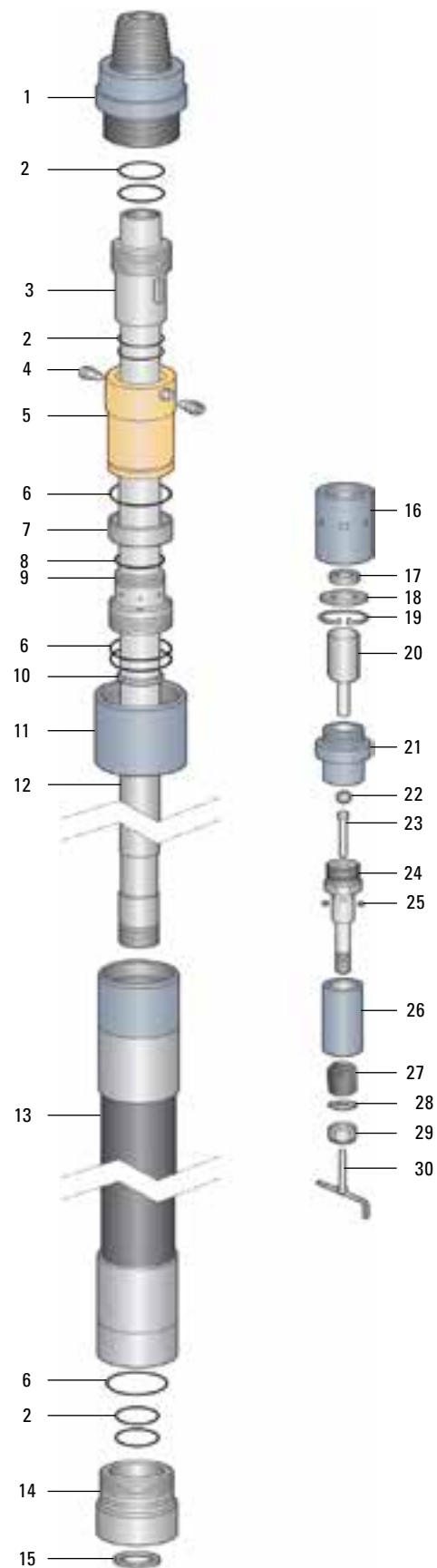
Spare parts list method 7

Method 7 – Packer system (Wirepac) for water loss
 “Lugeon” test and fluid control test. Assembled to non
 coring inner tube complete item B (see page 51).

Item	Description	Qty	Part number
1	Packer 1m complete	1	3716 4054 00
2	O-ring	6	
3	Sliding plunger	1	
4	Pin	2	
5	Body	1	
6	O-ring	4	
7	Check valve membrane	1	
8	O-ring	1	
9	Check-valve body	1	
10	Seal	1	
11	Lining	1	
12	Inner tube	1	
13	Wirepac Inflatable element	1	
14	Sliding end	1	
15	Scraper seal	1	
16	Valve head	1	
17	Seal	1	
18	Washer	1	
19	Spring ring	1	
20	Valve plunger	1	
21	Reducer	1	
22	Ball 16mm dia	6	
23	Stick	1	
24	Valve body	1	
25	Ball 0 6,35 mm	6	
26	Valve lining	1	
27	Spring	1	
28	Washer	1	
29	Nut	1	
30	Resetting tool	1	

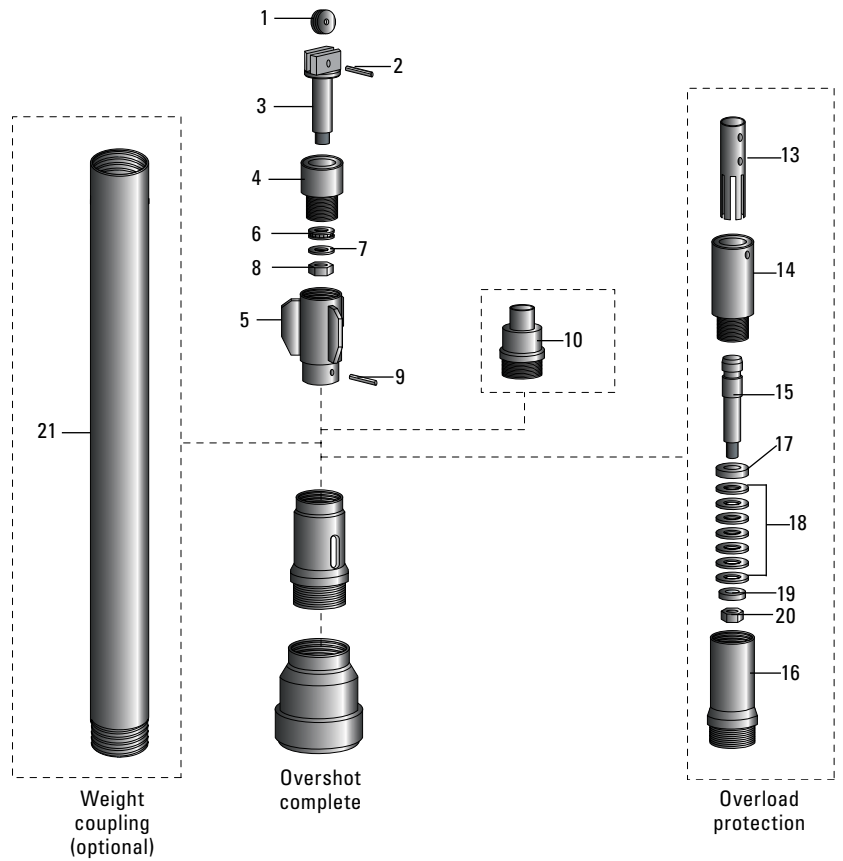
Item	Description	Qty	Part number
Spare Seal kit		1	3716 4054 10
2	O-ring	6	
4	Pin	2	
6	O-ring	4	
7	Check valve membrane	1	
8	O-ring	1	
10	Seal	1	
15	Scraper seal	1	
17	Seal	1	
19	Spring ring	1	
29	Nut	1	
30	Resetting tool	1	

Item	Description	Qty	Part number
13	Inflatable element	1	8393 0829 11



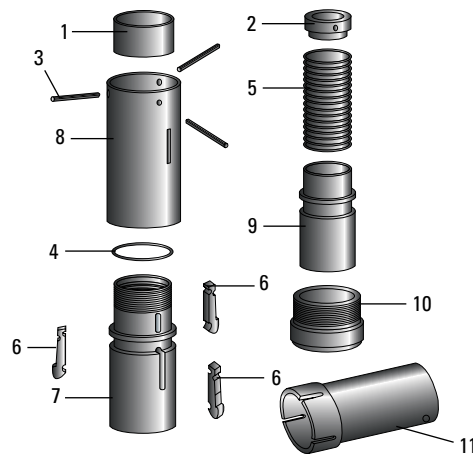
Spare parts list overshot

Item	Description	Qty	Product No.
1-12	Overshot complete	1	3702 1249 80
1	Wire attachment	1	3702 1230 00
2	Spring pin	1	3766 0225 00
3	Shaft	1	3702 1231 00
4	Coupling	1	3702 1232 00
5	Coupling	1	3702 1233 00
6	Ball bearing	1	0510 0105 00
7	Washer	1	0302 1188 00
8	Lock nut	1	0291 1116 00
9	Spring pin	1	3766 0226 00
10	Coupling	1	3702 1247 00
11	Sleeve	1	3702 1248 00
12	Catch sleeve	1	3702 1238 00
Optional equipment			
13-20	Overload protection	1	3702 1250 80
13	Retainer	1	3702 1234 00
14	Retainer sleeve	1	3702 1235 00
15	Plunge	1	3702 1236 00
16	Spring casing	1	3702 1237 00
17	Washer	1	3702 1239 00
18	Disc spring	24	0384 3382 00
19	Washer	1	0302 1274 04
20	Lock nut	1	0291 1114 00
21	Weight coupling, optional	1	3702 1452 00



Spare parts list dry hole device

Item	Description	Qty	Product No.
1-11	Dry hole device complete	1	3702 1220 80
1	Nut	1	3702 1221 00
2	Driving disc	1	3702 1222 00
3	Spring pin	3	0108 1360 00
4	O-ring	1	0663 6142 00
5	Compression spring	1	3702 1223 00
6	Latch	3	3702 1224 00
7	Body	1	3702 1225 00
8	Sleeve	1	3702 1226 00
9	Sleeve	1	3702 1227 00
10	Catch sleeve	1	3702 1228 00
11	Tool	1	3702 1229 00



Optional equipment

Optionals

Description	S Geobor	
	Qty.	3702 1271 90
Dry hole lowering tool complete		3702 1220 80
Overload protection for overshot complete		3702 1250 80
Releasing line		3702 1438 00
Basket core lifter with short springs		3867 2839 00
Basket core lifter with long springs		3867 2841 00
Head locking tool		8393 0829 09
Wrench inner tube, SG**		3869 7093 00
Wrench outer tube, SG**		3869 7095 00
Pumpout kit complete		3702 1404 80
Safety catch device for std overshot		8393 0827 82
Kit for Safety catch device to fit Dry hole device		8393 0827 83
Shut off valve kit complete		3702754505
Lining split steel 1,5m complete		8393082788
Lining split steel 3,0m complete		8393082789
Ring key core lifter case M2,M3		3869700108
Ring key core lifter case M1		3869700107
End caps for plastic lining (100pcs)		3702754509

**) Should be used in pairs.

Spare parts kits core barrel method 1 (500 m)

Description	S Geobor	
	Qty.	3702 1271 90
Parts included		
Spring pin	3	•
Ball bearing	4	•
Lubricating nipple	1	•
Lock nut	2	•
Spring	3	•
Latch	3	•
Pin	6	•
Seal	1	•
Core lifter case	4	•
Core lifter	10	•

• = Included in kit

Spare parts kit overshot

Description	S Geobor	
	Qty.	3702 1249 90
Parts included		
Bearing	1	•
Spring pin	2	•
Lock nut	1	•

• = Included in kit

Spare parts kit dry hole device

Description	S Geobor	
	Qty.	3702 1224 90
Parts included		
O-ring	1	•
Spring pin	3	•
Compression spring	1	•
Latch	3	•
• = Included in kit		

Spare parts for shutoff valve

Description	S Geobor	
	Qty.	Product No.
Shut off valve seal	2	3702 7545 06
Shut off valve spring	1	3702 7545 07
Shut off valve locking pin	1	3702 7545 10

Drill rods

Application information

Epiroc drill rods are manufactured from the highest quality materials and designed to give trouble free performance under the most demanding drilling conditions.

They are available in metric and imperial standard sizes.

Steel drill rods are manufactured with friction welded couplings.

The couplings have a higher material quality than the mid body. The result is a lighter rod with higher depth capacity and wear resistance.

Aluminium drill rods weigh only about half as much as a steel rod of the same dimension but is equal in strength, due to exceptionally high quality of the aluminium.

The couplings are of high tensile strength steel, threaded and glued on the aluminium rods.

The proper selection of drill rods primarily depends on drill rig type, core barrel design and physical space limitations.

Epiroc casings are manufactured of high standard casing steel quality to suit the most demanding of overburden drilling requirements. They are all of flush joint type, i.e. no separate couplings.

Bundle packaging

Epiroc rods and casings are packed in hexagonal bundles with self-supporting end caps in steel in order to improve handling and provide better protection during transport and storage. Each bundle include quantities as shown in the table to the right.

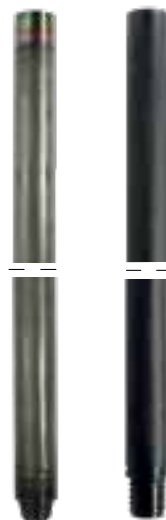


Type of rod/casing	Number of rods per bundle
AWJ, 43	37
BWJ, 53 casing	24
NWJ casing	19
PG casing	10
SG, PW casing	10
SGW casing	4

Specifications Conventional drill rods – steel

Type	Product No.		
	Length: 500 mm	Length: 1500 mm	Length: 3000 mm
43	8393 0133 08	8393 0133 16	8393 0133 24
AWJ 43	8393 0810 27	8393 0282 50	8393 0282 60
NWJ 70	8393 0810 72	8393 0810 73	8393 0810 74

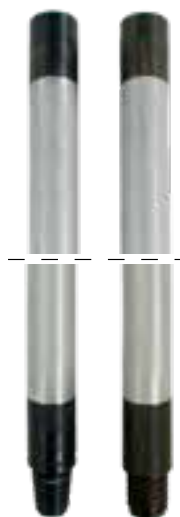
Type	Outer diameter (mm)	Inner diameter (mm)		Weight	Thread conn.	TPI
		Rods	Coupling and welded ends	kg/3m		
43	43.1	36.1	22.0	10.2	CR 42	4
AWJ 43	43.1	36.1	16.0	11.0	AWJ	5
NWJ 70	69.9	60.3	30.0	24.4	NWJ	4



Specifications Conventional drill rods – aluminium

Type	Product No.		
	Length: 500 mm	Length: 1500 mm	Length: 3000 mm
43	8393 0305 00	8393 0306 09	8393 0307 08
AWJ 43	8393 0812 80	8393 0812 81	8393 0812 82

Type	Outer diameter (mm)	Inner diameter (mm)		Weight	Thread conn.	TPI
		Rods	Coupling and welded ends	kg/3m		
43	43.2	30.8	22.0	7.4	CR42	4
AWJ 43	43.2	30.8	16.1	7.4	AWJ	5



Specifications – wireline drill rods – steel

Type	Outer diameter (mm)	Inner diameter (mm)	Weight	Thread conn.	TPI
		Rods	kg/3m		
PG	117.5	103.2	57.9	PO	3
SG	139.7	125.5	69.7	S Geobor	3

Type	Product No.		
	Length: 500 mm	Length: 1500 mm	Length: 3000 mm
PG	8393 0810 11	8393 0810 12	8393 0810 13
SG	8393 0528 00	8393 0528 20	8393 0528 30
SG/HP*	8393 0528 40	8393 0528 60	8393 0528 70

*) High pressure



Casing tubes and sockets

Information

Metric casing tubes are thinner than imperial casing tubes, but offer instead several additional dimensions within the diameter range. Metric casing is named by outer and inner diameter while an imperial casing is named by inner diameter.

Specifications – metric casings and sockets

Type	Outer diameter (mm)	Inner diameter (mm)	Weight kg/3m	Content (L/m)
44x37	44,4	37,4	10,7	3,3
54x37	54,4	47,4	13,2	5,3
64x57	64,5	57,5	15,8	7,8
74x67	74,5	67,5	18,4	10,7
84x77	84,5	77,5	21,0	14,2
98x89	98,2	89,2	31,2	18,7
113x104	113,5	103,6	39,8	25,2
128x119	128,0	118,5	43,3	33,1
143x134	143,0	133,5	48,6	42,0



Product No.

Type	Metric casing			Sockets	
	Length: 500 mm	Length: 1500 mm	Length: 3000 mm	Box/pin	Drill rod box to casing pin
44x37	8393 8101 09	8393 8102 08	8393 8103 07	CR 42 / 44x37	3862 6452 00
54x47	8393 8105 05	8393 8106 04	8393 8107 03	CR 50 / 54x37	3862 6457 00
64x57	8393 8109 01	8393 8110 08	8393 8111 07	CR 50 / 64x57	3862 6458 00
74x67	8393 8113 05	8393 8114 04	8393 8115 03	NWJ / 74x67	8393 0814 24
84x77	8393 8117 01	8393 8118 00	8393 8119 09	NWJ / 84x77	8393 0814 25
98x89	8393 8121 05	8393 8122 04	8393 8123 03	NWJ / 98x89	8393 0814 26
113x104	8393 8125 01	8393 8126 00	8393 8127 09	NWJ / 113x104	8393 0823 59
128x119	8393 8129 07	8393 8130 04	8393 8131 03	NWJ / 128x119	8393 0823 57
143x134	8393 8133 01	8393 8134 00	8393 8135 09	NWJ / 143x134	8393 0823 58

Specifications – Imperial casings and sockets

Type	Outer diameter (mm)	Inner diameter (mm)	Weight kg/3m	Content (L/m)
PW	139,7	125,5	69,7	38,6
SGW	168,3	155,7	75,0	57,1

Product No.

Type	Imperial casing			Sockets	
	Length: 500 mm	Length: 1500 mm	Length: 3000 mm	Box/pin	Drill rod box to casing pin
PW	8393 8276 08	8393 8276 16	8393 8276 24	NWJ / PW	8393 0824 67
SGW	8393 0810 80	8393 0810 81	8393 0810 82	NWJ / SW	8393 0824 68

Accessories

Application information

Accessories play a vital role in drilling and are to be chosen to match the application and to provide a cost efficient and trouble free drilling operation.

The water swivels presented on the following pages, WS 18/0 and WS 25/0 are not equipped with lifting bails and are best suited for automatic rod handling systems, similar to that of the Diamec rigs. If instead using a drilling rig equipped with a rod handling main hoist, you need

to select a water swivel with a bail which can be found in the In-The-Hole core drilling tools product catalogue for Exploration products (9866 0067 01).

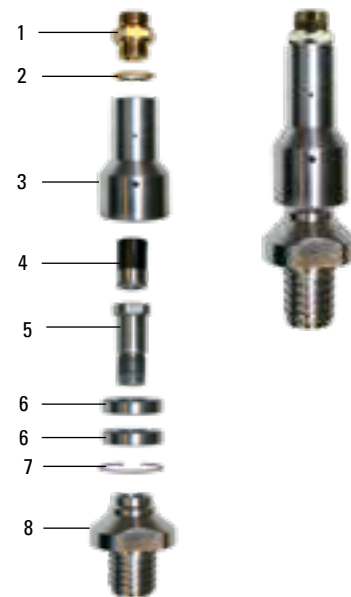
Make sure that subs and sockets for drill rods, core barrels, casings, recovery taps and other threaded connections are selected to properly mate together. Proper handling and use of threaded drilling tools require selection of appropriate wrenches for making and breaking joints.

In this section you will find other accessories to improve quality of core sampling such as additives, thread grease, core boxes, fishing tools etc.



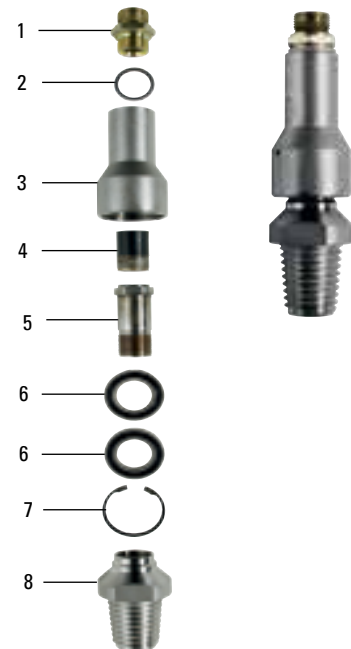
Spare parts list – water swivel WS 18/0

Item	Description	Qty	Product No.
1-8	Water swivel complete, conn. CR42 pin (Inner diameter 18 mm, no bail)	1	8070 0107 42
1	Nipple	1	3715 2545 00
2	Seal ring	1	0661 1038 00
3	Housing	1	3702 0162 00
4	Rotary seal	1	3702 0163 50
5	Rotary sleeve	1	3702 0164 00
6	Ball bearing	2	0502 1221 01
7	Circlip	1	0335 2143 00
8	Coupling CR42 pin	1	3702 0165 00
Spare parts kit			
	Spare parts kit complete	1	3702 0162 90
1	Nipple	1	3715 2545 00
2	Seal ring	1	0661 1038 00
4	Rotary seal	1	3702 0163 00
6	Ball bearing	2	0502 1221 01
7	Circlip	1	0335 2143 00
Service instructions			
The water swivel is fitted with cemented carbide flat seals to ensure longer service life and effective sealing. Adjustment of the seals is not necessary. The ball bearings are sealed and embedded in grease, thus they do not require lubricating.			
Replacement of bearing and seals: 1. Remove the circlip (7) then remove the bearing housing (3) 2. Unthread the rotary sleeve (5) from the coupling (8).		NB: The parts are left-hand threaded 3. The ball bearings (6) can now be removed 4. Remove the nipple (1). The seal (2) can now be removed by pressing it out with a screwdriver.	



Spare parts list – water swivel WS 25/0

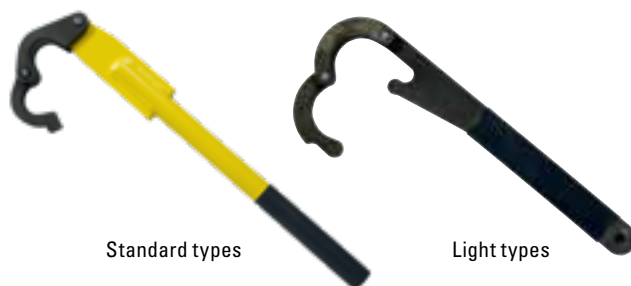
Item	Description	Qty	Product No.
1-8	Water swivel complete, conn. NWJ pin (Inner diameter 25 mm, no bail)	1	8393 0815 82
1	Nipple	1	8393 0815 81
2	Seal ring	1	0661 1049 00
3	Housing	1	8393 0815 79
4	Rotary seal	1	8393 0815 77
5	Rotary sleeve	1	8393 0815 80
6	Ball bearing	2	0502 1226 00
7	Circlip	1	0335 2152 00
8	Coupling NWJ pin	1	8393 0815 83
Spare parts kit			
	Spare parts kit complete	1	8393 0816 51
1	Nipple	1	8393 0815 81
2	Seal ring	1	0661 1049 00
4	Rotary seal	1	8393 0815 77
6	Ball bearing	2	0502 1226 00
7	Circlip	1	0335 2152 00
Service instructions			
The water swivel is fitted with cemented carbide flat seals to ensure longer service life and effective sealing. Adjustment of the seals is not necessary. The ball bearings are sealed and embedded in grease, thus they do not require lubricating.			
Replacement of bearing and seals 1. Remove the circlip (7) then remove the bearing housing (3) 2. Unthread the rotary sleeve (5) from the coupling (8).		NB: The parts are left-hand threaded 3. The ball bearings (6) can now be removed 4. Remove the nipple (1). The seal (2) can now be removed by pressing it out with a screwdriver.	



Rod wrenches

Information

The design of this wrench allows jointing and breaking of thin wall bits, core barrels and casing without risk for damage. The wrenches should be used in pairs.



Standard types

Light types

Full grip wrenches with steel shaft

Tube OD min–max mm	Product No.	For inner tube	For outer tube	For casing tube	
				Metric	Imperial
42.90 – 45.00	3869 7087 00	BO	AGM	44x37	
45.00 – 47.00	3869 7087 01	56T2, BGM	46TT, 46T2, 48TT		
54.50 – 56.00	3869 7088 00	NO	56TT, 56T2	54x47	
56.00 – 57.50	3869 7088 02	66T2	BGM, BO		AW
57.00 – 61.50	3869 7088 01	NGM, 66T2	BGM, BO		
63.70 – 67.20	3869 7089 00	76T2, 76T6, TNW	66T2	64x57	
73.00 – 77.50	3869 7090 00	HO, 86T2, 86T6	NO, NGM, 76T2, 76T6, 76T6S	74x67	BW
84.00 – 87.00	3869 7091 00	101T6	86T2, 86T6, 86T6S	84x77	
87.00 – 90.30	3869 7091 01	101T2	–		NW
92.00 – 95.50	3869 7098 00	PG	HO		
98.00 – 100.00	3869 7092 00	116T6	101T2, 101T6, 101T6S	98x99	
113.00 – 117.50	3869 7093 00	131T6, S–Geobor	PG, 116T6, T6S	113x104	HW
128.00 – 130.00	3869 7094 00	146T6	131T6, 131T6S	128x119	
139.70 – 143.00	3869 7095 00	–	S Geobor, 146T6, 146T6S	143x134	PW
168.00 – 169.00	3869 7097 00	–		SGW	SW

Full grip wrenches, light types

Tube OD min–max mm	Product No.	For inner tube	For outer tube
Standard type			
32.50 – 34.50	3742 0002 18	AGM	–
38.00 – 40.00	8393 0813 89	46TT, 48TT, 46T2	–
42.90 – 46.50	3742 0002 26	BO, BGM	AGM
57.00 – 58.00	3742 0002 29	66T2	–
59.50 – 60.00	3742 0002 22	–	60TT

Universal rod wrenches

Type Number	Product No.	Max pipe O.D. (mm)	Max pipe O.D. (in)
141	3766 0073 00	36	1.38
142	3766 0074 00	52	2.06
143	3766 0075 00	78	3.06
144	3766 0076 00	110	4.31
147	3766 0077 00	160	6.31



Universal rod wrench

Rigid rod wrenches with steel shaft

Type Number	Product No.	Max pipe O.D. (mm)	Max pipe O.D. (in)
18"	3766 0237 00	63	2.5
24"	3766 0239 00	76	3.0
36"	3766 0241 00	127	5.0
48"	3766 0243 00	152	6.0



Rigid rod wrench

Drilling additives

Additives hoisting plug

Thread grease

Description	Product No.
Thread grease 4 kg/Pail	8393 0827 65



Thread grease

Hoisting plug, connection CR50 pin (certified)

Type	Connection	Max load		Weight		Product No.
		kN	lb	Kg	lbs	
HS 50/50	CR50	50	11 000	3.8	8.5	8070 0106 35



Hoisting plug

A wider range of hoisting plugs is presented in the Exploration catalogue (6991 1245 01).

Additives

Description	Pack	Size	Product No.
Claystab Liquid	can	20 kg	8393 0827 93
Supermix Powder	pall	15 kg	8393 0827 92
Supermix Liquid	can	25 kg	8393 0827 91
Superdrill Liquid	can	25 kg	8393 0827 90
Superfoam Liquid	can	25 kg	8393 0827 94
Superfoam Liquid	barrel	200 kg	8393 0829 34





Clay control and anti-swelling

Claystab liquid

Epiroc Claystab is a liquid anionic polymer viscosifier with high molecular weight providing rapid viscosity without the problems associated with mixing, as is the case with most powdered polymers.

Application

Epiroc Claystab can be used in diamond drilling or well drilling:

- Produces rapid viscosity.
- Very cost effective – low concentration required.
- Reduces rod chatter and torque – increases core recovery.
- Inhibits water.

Recommended treatment for water well drilling

Add 1,0–1,5 L/m³ for complete water well drilling fluid.

Recommended treatment for diamond core drilling

Add 0,75–1,25 L/m³ water for complete drilling fluid. Add 0,5–0,75 L/m³ to stop rod vibration and reduce torque.

Advantages

The polymer can be easily and economically broken down for the development of water wells after setting screens.

- Controls sticky clays and inhibits water sensitive, swelling formations.
- Promotes effective settling of drilling solids in surface pits.
- Cost effective and economical to transport.

Several factors will dictate the most appropriate concentration rate. Please contact your nearest Epiroc representative for optimum results.



Epiroc Claystab Liquid

Supermix Powder

Fluid loss control agent

Epiroc Supermix Powder is a new generation highly dispersive high quality polyanionic cellulose polymer used for viscosity and water loss control in most water based drilling fluid systems. Supermix Powder will not fish-eye and has been designed to disperse rapidly into any make up water even under the poorest conditions. The mixing efficiencies of Supermix Powder reduces wastage and promotes lower mud costs and total hole costs.

Application

Epiroc Supermix Powder forms a protective colloid which inhibits the hydration of water sensitive formations; it has applications in most drilling mediums and has the ability to improve core recovery in diamond drilling, can be added to enhance a bentonite base system and is compatible with most polymers and lubricants. Addition rates can be adjusted to suit specific applications, hardness must not exceed 400 mg/l of calcium.

Recommended treatment

Application	kg/1000 l
To reduce torque and improve core recovery	1,0–3,0
To provide encapsulation and stabilise clays and shales	2,0–5,0
To improve filter cake	1,5–2,5
To improve the properties of a bentonite base drilling fluid	0,5–2,5

Epiroc Supermix Powder can be slowly introduced into mechanical agitation, through water discharge or through a mud hopper.

Advantages

- Very economical, 100 percent active.
- Eliminates wastage, "no fish eyes".
- Easily mixed into low shear environments.
- Effective in fresh, hard and saline environments.
- Promotes thin slick robust filter cake.
- Controls fluid loss without significantly increasing fluid viscosity.
- Supports hole stability in reactive clays and shales.
- Compatible with all water based

drilling fluid systems polymers and lubricants.

- Supplements the properties of a bentonite base drilling fluid.
- Improves core recovery and penetration rates.
- Reduces friction and frequency of differential sticking.
- Non-polluting and environmentally friendly.

Physical properties

- Appearance: White free flowing powder.
- pH (0,2 % solution): 8,5–9,5.

Several factors will dictate the most appropriate concentration rate. Please contact your nearest Epiroc representative for optimum results.



Epiroc Supermix Powder



Supermix Liquid

Fluid loss control agent

Epiroc Supermix Liquid is a high quality polyanionic cellulose polymer suspended in a non-toxic ultra clean mineral oil. Epiroc Supermix Liquid is an extremely effective viscosifier and filtration control agent for use in fresh, saline and hard water. The product is an effective borehole stabiliser, providing lubricating qualities to the mud system.

Application

Epiroc Supermix Liquid can be used in any type of water-based drilling fluid and is tolerant to fresh, hard and saturated salt water environments. Epiroc Supermix Liquid can also be added to Bentonite to complement its properties, used as a simple single polymer system and is compatible with all other products. Epiroc Supermix Liquid is an excellent viscosifier, controls fluid loss and helps produce a thin flexible filter cake. When used correctly, Epiroc Supermix Liquid can inhibit the reactive nature of hydro-sensitive clays and shales, it will also improve core recovery and reduce friction drag in most drilling applications.

Recommended treatment

Concentrations will vary depending on the level and type of losses but will typically range between 6–12 lb / barrel (17–34 kg/m³).

Application	l/m ³
To improve properties of a bentonite mud	2,5–5,0
To reduce torques and improve core recovery	5,0–12,5
To improve fluid loss inhibition and encapsulation	5,0–15,0
When used in salt systems	7,5–17,5

Epiroc Supermix Liquid should be slowly introduced into mechanical agitation, through a water discharge jet or through a mud hopper.

Advantages

- Very cost effective.
- Reduces wastage.
- Can be used as a single sack system.
- Easily mixed under low shear.
- Improves hole stability.
- Inhibits water sensitive formations.
- Lowers filtration rates.
- Reduces rod vibration and imparts lubricating qualities.
- Improves penetration rates.
- Effective in fresh, hard and saline waters.
- Compatible with most water-based products.

Physical properties

- Appearance: White viscous slurry.
- pH (1 % solution): 6,5–8,5.
- Specific gravity (water=1): 0,9–1,0.

Several factors will dictate the most appropriate concentration rate. Please contact your nearest Epiroc representative for optimum results.



Epiroc Supermix Liquid

Superdrill Liquid

Friction reducer and cutting oil

Epiroc Superdrill Liquid is a distinctive, next generation, high performance extreme pressure lubricant utilising sophisticated technologies to improve the lubricating qualities of a drilling fluid through advanced adhesion and filming characteristics.

Description

Superdrill is a high performance torque reducer formulated in an aqueous solution specially designed to provide friction reduction through enhanced lubricating characteristics of most water-based drilling fluid systems.

Superdrill is based on environmentally acceptable, safe and proven technology and has proven to be highly effective in reducing rotational torque in a variety of applications including diamond coring, deep directional drilling, vertical and horizontal wells.

Superdrill offers additional benefits like improved production and reduced wear of cutting surfaces, down-hole equipment and wet-ends. It also helps prevent corrosion.

Application

Epiroc Superdrill Liquid is highly concentrated, mixes easily and instantaneously and is not generally affected by adverse water quality such as high salt, high pH and extremely high levels calcium and magnesium.

Superdrill deposits a protective film over metal surfaces, which, in turn, reduces frictional drag in extreme pressure environments including both metal to metal and metal to formation friction points. When used correctly Superdrill reduces the coefficient of friction by reducing the thickness of the filter cake and is effective where there is a high risk of differential sticking, such as in highly deviated sections and sections with high differential pressure.

Superdrill will not cause any appreciable adverse changes in mud properties and is proven to improve drilling productivity through benefits like improved cutting action at the bit face and reamer and through to the



Epiroc Superdrill Liquid

protection of the down-hole equipment. Dosage rates can be increased to improve drilling efficiencies in extremely hard abrasive formations, in deep direction holes or when shale and clays are encountered.

Superdrill utilises a biodegradable vegetable oil base and therefore has minimal impact on the environment, aquatic systems and wildlife, and can be used safely in all drilling operations and environmentally sensitive locations.

Superdrill can be added directly into the rod line or slowly and consistently via a venturi mixer or through high speed agitation. Superdrill is normally added to a system at 0,25–0,5 percent by volume, increased to 0,5–1,0 percent by volume in extremely hard, abrasive or highly deviated deep directional holes.

Typical properties

- Appearance: Clear, golden brown to amber liquid.
- Specific gravity (water-1): 0,9–0,95.
- Solubility: Water miscible.

Advantages

- Rapidly dispersible, highly miscible.
- Compatible with most water based muds.
- Improves penetration (ROP) and depth capacity.
- Enhances the cooling action of the circulating fluid.
- Protects against corrosion.
- Eliminates rod vibration, minimises bit balling.
- Does not contribute to core staining.
- Stable in a range of water types.
- Effective in a wide range of drilling applications.
- Reduces the potential of differential sticking.
- Improves rod, bit and reamer life.
- Environmentally acceptable and non-hazardous.

Several factors will dictate the most appropriate concentration rate. Please contact your nearest Epiroc representative for optimum results.

Recommended usage/dosage rate to a water based drilling fluid

litres/ 1000 l	% by volume	quart/ 100 gallon
2,5–1,0	0,25–1,0	1,0–4,0

Superfoam Liquid

Foaming agent and detergent

Epiroc Superfoam is a biodegradable mixture of anionic surfactants which has been formulated for use in the mineral and water well drilling industries.

Application

Epiroc Superfoam may be used in a variety of air drilling operations, ranging from simple air drilling to stiff foam drilling where the foam is extended by the use of polymers such as Claystab Liquid or Supermix Powder.

Recommended treatment – mist drilling

Epiroc Superfoam should be mixed with water at 0,25–0,5 percent by volume and injected into the air stream. The rate of injection will depend on hole size, compressor output and water flow rate etc.

Recommended treatment – foam drilling

If water flow rates are high and compressor limits are reached, up to 1,0–2,0 by volume of Epiroc Superfoam.

Recommended treatment – air drilling

Epiroc Superfoam can be used as an effective dust suppressant, at 0,1–0,2 percent by volume injection water.

Stiff foam drilling

Stiff foam applications include areas of severe lost circulation, large diameter holes and unconsolidated formations. Stiff foam can be prepared by injecting a base slurry of 35–45 seconds per litre viscosity fluid prepared as follows: mix Epiroc Superfoam at the ratio 10–15 L/m³ and combine with either of Claystab Liquid 1–2 kg/m³ or Supermix Powder 2–4 kg/m³. When injected into the air stream, this slurry will produce stiff foam of shaving cream consistency.

Advantages

- Environmentally friendly and biodegradable.
- Generates instant high foam quality of exceptional stability.

- Economical, produces stable foam at low concentrations.
- Is compatible with all types of make-up water including brackish, salty and hard water.
- Reduces erosion when drilling poorly consolidated formations.
- Reduces air requirements and allows deeper drilling.
- Reduces the tendency of softer clays to stick together.
- Improves hole cleaning and increase penetration rates.
- Effective in suppressing dust.

Physical properties

- Appearance: Thin liquid, fluorescent yellow.
- pH: 7,5–9,5.

Several factors will dictate the most appropriate concentration rate. Please contact your nearest Epiroc representative for optimum results.



Epiroc Superfoam Liquid



Core boxes

Core boxes based on core barrel design

Box	Wireline	Conventional
36	AGM, AOTK, AO, BOTK, BK, BO	46B, 46TT, 46T2, 48TT, 48LTK
48	BGM, NO	56B, 56TT, 56T2, 76T6S, 60LTK
64	NGM, HO, NO-2	66B, 76B, 66T2, 76T2, 76T6, 86T6S, TNW
102	PG, PO, S-Geobor	86B, 101B, 116B, 86T2, 101T2, 86T6, 101T6, 101T6S, 116T6, 116T6S, 131T6S

Box	Product No.	Core range	Core capacity (m)	Weight (kg)	Dimension (cm)
36 (1 3/32")	3742 0001 56	26 to 36	6x1	1,6	107x34x5.1 cm
48 (1 7/8")	3742 0001 55	37 to 48	5x1	1,8	107x34x6.2 cm
64 (2 1/2")	3742 0001 54	49 to 64	4x1	2,0	107x34x7,7 cm
102(4")	3742 0001 53	65 to 102	2x1	2,5	107x27x11,7cm
Lid					
36/64	3742 0001 58		Box 36-64 (1 13/32"-2 1/2")	0,9	107.6x34.6x1.6 cm
102	3742 0001 57		Box 102(4")	1,2	107.7x29.4x2.15 cm

Packing specification (the boxes are supplied in standard packs as follows)

Box	Quantity	Weight (kg)	Dimensions (cm)	Volume (cu.m)
36	25	40	107x34x51	0,19
48	25	45	107x34x65	0,24
64	25	50	107x34x88	0,32
102	20	50	1 07x57.4x51	0,32
Lid				
39/64	25	22.5	107.6x34.6x33	0,12
102	20	24	107.7x29.4x36	0,11



Fishing tools

Recovery taps for steel drill rods and casings

Working range	Product No.		Recommended for	Drill rod box thread
	Right-hand thread	Left-hand thread		
15–22	3862 5866 00		Rod coupling 43 mm, AW, AWJ, 53 mm, BW, BWJ Alu rod coupling 43 mm, AWJ, 53 mm, BWJ	CR 42
30–42	3862 5874 00	3862 5875 00	Drill rods 43 mm, AW, AWJ, AGM Casing tubes 44 mm Core barrels 46 mm Drill rod couplings NW, NW70, NWJ	CR 42
37–52	3862 5880 00	3862 5881 00	Drill rods 53 mm, BW BWJ, BK, BGM Casing tubes 54 mm, AW Core barrels 56 mm, BK Drill rod couplings HWJ	CR 50
49–50	3862 5886 00	3862 5887 00	Casing tubes 64 mm Core barrels 66 mm	CR 50
51–69	3862 5891 00	3862 5892 00	Drill rods NW, NW70, NWJ, NK, NGM Casing tubes 74 mm, BW Core barrels 76 mm, TNW, NK	NW
67–81	3862 5900 00		Drill rods HW, HWJ, HK Casing tubes 84 mm, NW, NWJ Core barrels 86 mm	NW
73–87	3702 0012 00		Drill rods HK, HO Core barrel HK	NW
87–93	3862 5902 00		Casing tubes 98 mm Core barrels 101 mm	NW
100–105	3862 5904 00		Casing tubes 113 mm, HW Wireline drill rod PG Core barrel 116 mm, PG	NW
114–120	3862 5906 00		Casing tubes 128 mm Core barrels 131 mm	NW
125–134	3862 5908 00		Wireline drill rod S-geobor Casing tube 143 mm Core barrel 146 mm	NW



Recovery tap for steel drill rod

Recovery taps for aluminium drill rod blanks

Product No.	Recommended for	Drill rod box thread
3862 5911 00	43 mm, AWJ	CR 42
3862 5913 00	53 mm, BWJ	CR 50



Recovery tap for aluminium drill rod

Recovery taps for coupling pin

Product No.	Recommended for	Drill rod box thread	Drill rod thread
16–26	3862 5874 00	BW/BWJ	CR 42
30–42	3862 5918 00	NW/NWJ	BW



Recovery bell tap

Recovery bell taps for pin coupling welded rods

Working range		Product No.	Outer Ø (mm)	For hole Ø (mm)	Drill rod conn. box
Min. I.D. (mm)	Max. I.D. (mm)				
27	36	3862 5080 00	44	46–66	CR 42
55	45	3862 5081 00	54	56–76	CR 42
40	55	3862 5082 00	64	66–86	CR 50
40	55	3862 5083 00	84	86–101	CR 50
54	69	3862 5084 00	84	86–101	NW
54	69	3862 5085 00	114	116–146	NW

Subs for drill rods

Product No.	Metric rod box to metric rod pin (mm) R.H.
3862 6019-00	CR42/CR50
3862 6099-00	CR50/CR42



Sub box to pin

Product No.	Metric rod box to DCDMA rod pin (mm) R.H.
3862 6141 00	CR42/AW
3862 6675 00	CR42/AWJ
3862 6371 00	CR42/BW
3862 6676 00	CR42/BWJ
3862 6392 00	CR42/NW
3862 6677 00	CR42/NWJ
3862 6362 00	CR50/BW
3862 6678 00	CR50/BWJ
3862 6388 00	CR50/NW
3862 6637 00	CR50/NWJ

Product No.	DCDMA rod box to metric rod pin R.H.
3862 6345 00	AW/CR42
3862 6694 00	AWJ/CR42
38626347 00	AW/CR50
8393 0813 91	AWJ/CR50
3862 6338 00	BW/CR42
3862 6341 00	BW/CR50
3862 6695 00	BWJ/CR42
3862 6696 00	BWJ/CR50
3862 6275 00	NW/CR42
3862 6342 00	NW/CR50
3862 6343 00	NW/CR60
3862 6636 00	NWJ/CR50

Product No.	Metric rod box to WL rod pin R.H.
3862 6217 00	CR42/AO
3862 6218-00	CR42/BO
3862 6640 00	CR42/AGM
3862 6641 00	CR42/BGM
3862 6642 00	CR42/NGM
3862 6393 00	CR42/NO
3862 6711 00	CR42/HO
3862 6219 00	CR50/BO
3862 6220 00	CR50/NO
3862 6254 00	CR50/HO
3862 6643 00	CR50/BGM
3862 6644 00	CR50/NGM
3862 6857 00	CR50/PG (PO)
3862 6212 00	CR50/S Geobor



Sub box to pin

Product No.	WL rod box to WL rod pin R.H.
3862 6662 00	AGM/BO
3862 6663 00	AGM/NO
3862 6664 00	AGM/HO
3862 6665 00	AGM/BGM
3862 6666 00	AGM/NGM
8393 0829 06	PWT/SG



Sub box to pin

Product No.	WL rod box to metric rod pin R.H.
3702 0035 00	AO/CR42
3862 6863 00	AGM/CR42
3702 0019 00	BO/CR50
3744 0400 64	BGM/CR50
3702 0020 00	NO/CR50
3862 6877 00	NGM/CR50
3862 6418 00	HO/CR50
8393 0816 53	NWJ/HO
8393 0820 52	NWJ/SG
8393 0829 10	NWY/SG

Product No.	DCDMA rod box to WL rod pin R.H.
3862 6227 00	AW/AO
8393 0814 13	AWJ/AO
3862 6267 00	AW/BO
3862 6228 00	BW/BO
3862 6265 00	BW/NO
3862 6229 00	NW/NO
3862 6266 00	NW/HO
3862 6858 00	NW/PG (PO)
3862 6230 00	NW/SG
8393 0816 52	NWJ/NO



Sub box to pin

Subs for drill rods

Product No.	WL rod box to DCDMA rod pin R.H.
3862 6279 00	AO/AW
3702 0011 00	BO/BW
3702 0021 00	NO/NW
3702 0022 00	HO/NW
3862 6549 00	HO/HW
8393 0824 04	PG(PO)/NW
8393 0825 38	S Geobor/NW



Sub box to pin

Product No.	DCDMA rod box to DCDMA rod box R.H.
3862 6832 00	AW/AW
3862 6833 00	AW/BW
3862 6834 00	AW/NW
3862 6835 00	BW/BW
3862 6836 00	BW/NW
3862 6837 00	NW/NW
3862 6856 00	N/NW

Product No.	DCDMA rod box to DCDMA rod pin R.H.
8393 0813 07	AW/AWJ
3862 6697 00	AWJ/AW
3862 6223 00	AW/BW
3862 6685 00	AW/NWJ
3862 6687 00	BW/AW
8393 0813 96	BWJ/BW
3862 6224 00	BW/NW
3862 6689 00	BW/NWJ
3862 6691 00	NW/AW
3862 6692 00	NW/NWJ
3862 6693 00	NW/BW
3862 6225 00	NW/HW
3862 6635 00	NWJ/NW
3702 0041 00	HW/NW

Product No.	API REG pin to imperial pin
3744 0402 02	2 3/8"/NO
3862 6591 00	2 3/8"/HO
8393 0816 02	2 3/8"/NWJ
3862 6444 00	2 3/8"/SG
3702 0070 00	2 3/8"/2,3/8"
8393 0826 03	2 3/8"/CR 60
3702 0088 00	2 3/8"/NW
8393 0826 17	2 3/8"/PO
8393 0826 15	2 3/8"/BW
8393 0826 16	2 3/8"/BWJ
8393 0826 19	3 1/2"/PO
8393 0825 18	3 1/2"/NWJ
8393 0826 18	3 1/2"/SG
8393 0827 64	2 3/8"/HW CSG



Sub pin to pin

Sockets for casing

Product No.	DCDMA rod box to DCDMA casing pin R.H.
3862 6481-00	AW/AW
3862 6839-00	AW/BW
3862 6840-00	AW/NW
3862 6482-00	BW/BW
3862 6842-00	BW/NW
3862 6483-00	NW/NW
3862 6485-00	NW/HW
3862 6864-00	NW/PW



Socket box to pin

Product No.	WL drill rod box to casing pin R.H.
8393 0815 01	AGM/AW
3862 6489 00	BO/BW
8393 0816 05	BGM/BW
3702 2871 00	NO/NW
3862 6473 00	HO/HW
8393 0818 01	PG(PO)/PW
8393 0825 53	SG/SW

Product No.	Metric rods box to metric casing pin R.H.
3862 6452 00	CR42/44x37
3862 6453 00	CR42/54x47
3862 6454 00	CR42/64x57
3862 6457 00	CR50/54x47
3862 6458 00	CR50/64x57
3862 6459 00	CR50/74x67
3862 6460 00	CR50/84x77

Product No.	DCDMA rod box to metric casing pin R.H.
3862 6465 00	NW/98x89
3862 6466 00	NW/113x104
38626467 00	NW/128x119
3862 6468 00	NW/143x134

Drilling bits product range

Diamond products

Terracore drilling bits range

Thanks to the Terracore bit range there is always a solution to match the variety of rock conditions encountered. The main focus is on soft to medium hard rock formations – both consolidated and fragmented. There are also tools for drilling in concrete.

Drilling bits and reamings shells

The Terracore bit range offers a wide selection of drilling bits

- Surface set diamond drill bits for soft to medium hard rock
- Poly-crystalline diamond composite (PDC) drill bits for non consolidated medium to hard rock.
- Tungsten carbide (TC) for soft rock formations and overburden drilling.

Special bit tools

- Special bits for non coring drilling, diamond surface set, PDC and Tungsten set drag bits.
- Rod shoes for wireline drill rods.
- Hole opener to ream-up hole to larger to standard hole size.
- Diamond products to convert wireline rods to single tube core barrel.

Casing shoes

- Casing shoe range: diamond impregnated, diamond surface set and tungsten carbide.

Except non coring and PG/PO bits, find all our other bits in the core barrel tables for drill strings on page 8-54.



Terracore application classification system based on rock groups 1–10

- Rock characteristics are organized in rock groups 1–10.
- Each number identify a certain rock group.
- Terracore bits are marked with a number or number combination referring to applicable rock group.



CBT SS CF



CBT DPX



CBT IMP FD



CBT TRX CF



CBT TCI










CBT DPX FD



CBT CRB CF



NCB SS

Rock group	Formation description	Rock type
 1 – 4	Soft to medium hard Very abrasive to slightly abrasive Very fractured to slightly broken	Unmetamorphosed or weakly metamorphosed shales, Sandstone and limestone
 5	Medium hard Abrasive Moderately fractured to slightly broken	Limestone and dolomite. Weathered granite and gneiss. Serpentine and metaperidotite.
 6	Medium hard Moderately abrasive Moderately fractured to slightly broken	Unmetamorphosed or weakly metamorphosed diorite, Gabbro, peridotite and gneiss. Basalt, andesite.
 7	Medium hard – hard Moderately abrasive Slightly fractured to competent	Metabasalt, amphibolite. Metamorphosed diorite and gabbro. Diabase.
 8	Hard Slightly abrasive Competent	Quartz rich skarn. Granite and pegmatite
 9	Very hard Slightly abrasive Very competent	Metamorphosed granitic rock and quartz rich gneiss.
 10	Extremely hard Non-abrasive, fine grained Very competent	Chert and jasperite. Quartzite. Highly metamorphosed volcanic.

Bits and reaming shells

Impregnated (IMP) bits – PO/PG

Size	Design	Rock formation	Rock Group/Height	Waterways	Product No.
P	0/V	Extremely hard, non abrasive	10/10	12ECF	3760 9185 48
P	0/V	Soft–medium	9/8	13ECF	3761 0013 20
P	0/V	Medium hard– hard, abrasive + mixed	6–8/8	13ECF	3761 0013 19
P	0/V	Medium soft–hard, abrasive, fractured	5–6/8	13ECF	3761 0013 18
P	0/V	Soft–medium soft, abrasive, highly fractured	2–4/8	13ECF	3761 0013 17
P	0/V	Extremely abrasive, highly fractured	2/8	13ECF	3761 0013 16

Surface set (SS) bits – PO/PG

Size	Design	Rock formation	Diamond size / Quality / Profile	Waterways	Product No.
P	0/V	Medium–hard	15 / S / 4–step	10CF	3760 9551 52
P	0/V	Soft–medium	20–25 / S / Multi step	CF	8370 2020 10

Tungsten carbide bits – PO/PG

Size	Design	Rock formation	Type	Waterways	Product No.
P	0/V	Soft	Tungsten carbide inserts (TCI)	CF	8372 0931 07
P	0/V	Soft–medium	Tungsten carbide chips (CRB)	CF	8372 0932 06

Reaming shell (RES) – PO/PG

Size	Design	Setting	Type		Product No.
P	0/V	Diamond surface set	Standard (FH)		3702 7000 00

Impregnated (IMP) bits – PO3/PG3

Size	Design	Rock formation	Rock Group/Height	Waterways	Product No.
P	03/V3	Extremely hard, non abrasive	10–8	12CF	3760 9185 69
P	03/V3	Soft–medium	9/8	10CF	3761 0012 39
P	03/V3	Medium hard– hard, abrasive + mixed	6–8/8	10CF	3761 0012 38
P	03/V3	Medium soft–hard, abrasive, fractured	5–6/8	10CF	3761 0013 29
P	03/V3	Soft–medium soft, abrasive, highly fractured	2–4/8	10CF	3761 0013 28
P	03/V3	Extremely abrasive, highly fractured	2/8	10CF	3761 0013 27

Surface set (SS) bits – PO3/PG3

Size	Design	Rock formation	Diamond size / Quality / Profile	Waterways	Product No.
P	03/V3	Medium–hard	30–50 / S /	FD	T.B.A.
P	03/V3	Soft–medium	16–30 / S / 4–step	8FD	8424 9112 38

Tungsten carbide bits – PO3/PG3

Size	Design	Rock formation	Type	Waterways	Product No.
P	03/V3	Soft	Tungsten carbide inserts (TCI)	FD	3740 8003 59
P	03/V3	Soft–medium	Tungsten carbide chips (CRB)	FD	3702 7165 00

Reaming shell (RES) – PO3/PG3

Size	Design	Setting	Type		Product No.
P	03/V3	Diamond surface set	Standard (FH)		3702 7000 00

Tungsten carbide 3-wing drag bits – non coring bit

Diameter		Product No.	Product description	Pin conn.	Weight	
mm	inch				kg	lbs
70	2 3/4"	3751000087	2 3/4" Drag bit step type, 3 wings, AW Pin	Aw	1,100	2.425
76	3"	3751000088	3" Drag bit step type, 3 wings, AW Pin	Aw	1,140	2.513
89	3 1/2"	3751000089	3 1/2" Drag bit step type, 3 wings, 2 3/8" Reg Pin	2 3/8"	3,530	7.782
92	3 5/8"	3751000006	3 5/8" Drag bit step type, 3 wings, 2 3/8" Reg Pin	2 3/8"	3,620	7.981
95	3 3/4"	3751000007	3 3/4" Drag bit step type, 3 wings, 2 3/8" Reg Pin	2 3/8"	3,650	8.047
98	3 7/8"	3751000090	3 7/8" Drag bit step type, 3 wings, 2 3/8" Reg Pin	2 3/8"	3,700	8.157
102	4"	3751000009	4" Drag bit step type, 3 wings, 2 3/8" Reg Pin	2 3/8"	3,800	8.378
105	4 1/8"	3751000091	4 1/8" Drag bit step type, 3 wings, 2 3/8" Reg Pin	2 3/8"	3,850	8.488
108	4 1/4"	3751000092	4 1/4" Drag bit step type, 3 wings, 2 3/8" Reg Pin	2 3/8"	3,950	8.708
111	4 3/8"	3751000093	4 3/8" Drag bit step type, 3 wings, 2 3/8" Reg Pin	2 3/8"	4,000	8.818
114	4 1/2"	3751000094	4 1/2" Drag bit step type, 3 wings, 2 7/8" Reg Pin	2 7/8"	4,900	10.803
117	4 5/8"	3751000095	4 5/8" Drag bit step type, 3 wings, 2 7/8" Reg Pin	2 7/8"	5,000	11.023
121	4 3/4"	3751000096	4 3/4" Drag bit step type, 3 wings, 2 7/8" Reg Pin	2 7/8"	5,100	11.244
124	4 7/8"	3751000097	4 7/8" Drag bit step type, 3 wings, 2 7/8" Reg Pin	2 7/8"	5,200	11.464
127	5"	3751000098	5" Drag bit step type, 3 wings, 2 7/8" Reg Pin	2 7/8"	5,300	11.684
130	5 1/8"	3751000099	5 1/8" Drag bit step type, 3 wings, 2 7/8" Reg Pin	2 7/8"	5,350	11.795
133	5 1/4"	3751000100	5 1/4" Drag bit step type, 3 wings, 2 3/8" Reg Pin	2 7/8"	4,430	9.766
137	5 3/8"	3751000101	5 3/8" Drag bit step type, 3 wings, 2 3/8" Reg Pin	2 7/8"	4,480	9.877
140	5 1/2"	3751000102	5 1/2" Drag bit step type, 3 wings, 2 7/8" Reg Pin	2 7/8"	5,560	12.258
143	5 5/8"	3751000103	5 5/8" Drag bit step type, 3 wings, 2 7/8" Reg Pin	2 7/8"	5,600	12.346
146	5 3/4"	3751000104	5 3/4" Drag bit step type, 3 wings, 2 7/8" Reg Pin	2 7/8"	5,650	12.456
149	5 7/8"	3751000105	5 7/8" Drag bit step type, 3 wings, 2 7/8" Reg Pin	2 7/8"	5,700	12.566
152	6"	3751000027	6" Drag bit step type, 3 wings, 3 1/2" Reg Pin	3 1/2"	9,380	20.679
156	6 1/8"	3751000106	6 1/8" Drag bit step type, 3 wings, 3 1/2" Reg Pin	3 1/2"	9,400	20.723
159	6 1/4"	3751000028	6 1/4" Drag bit step type, 3 wings, 3 1/2" Reg Pin	3 1/2"	9,600	21.164
162	6 3/8"	3751000107	6 3/8" Drag bit step type, 3 wings, 3 1/2" Reg Pin	3 1/2"	9,650	21.275
165	6 1/2"	3751000108	6 1/2" Drag bit step type, 3 wings, 3 1/2" Reg Pin	3 1/2"	9,800	21.605
168	6 5/8"	3751000109	6 5/8" Drag bit step type, 3 wings, 3 1/2" Reg Pin	3 1/2"	10,000	22.046
171	6 3/4"	3751000110	6 3/4" Drag bit step type, 3 wings, 3 1/2" Pin	3 1/2"	10,150	22.377
175	6 7/8"	3751000111	6 7/8" Drag bit step type, 3 wings, 3 1/2" Reg Pin	3 1/2"	10,200	22.487
178	7"	3751000112	7" Drag bit step type, 3 wings, 3 1/2" Reg Pin	3 1/2"	10,250	22.597
187	7 3/8"	3751000113	7 3/8" Drag bit step type, 3 wings, 3 1/2" Reg Pin	3 1/2"	10,400	22.928
191	7 1/2"	3751000114	7 1/2" Drag bit step type, 3 wings, 3 1/2" Reg Pin	3 1/2"	10,600	23.369
200	7 7/8"	3751000115	7 7/8" Drag bit step type, 3 wings, 3 1/2" Reg Pin	3 1/2"	10,920	24.074
203	8"	3751000116	8" Drag bit step type, 3 wings, 4 1/2" Reg Pin	4 1/2"	14,000	30.865
216	8 1/2"	3751000117	8 1/2" Drag bit step type, 3 wings, 4 1/2" Reg Pin	4 1/2"	14,200	31.306
229	9"	3751000118	9" Drag bit step type, 3 wings, 4 1/2" Reg Pin	4 1/2"	14,500	31.967
241	9 1/2"	3751000119	9 1/2" Drag bit step type, 3 wings, 4 1/2" Reg Pin	4 1/2"	15,000	33.069
254	10"	3751000120	10" Drag bit step type, 3 wings, 4 1/2" Reg Pin	4 1/2"	16,400	36.156
311	12 1/4"	3751000121	12 1/4" Drag bit step type, 3 wings, 6 5/8" Reg Pin	6 5/8"	36,600	80.689
375	14 3/4"	3751000122	14 3/4" Drag bit step type, 3 wings, 7 5/8" Reg Pin	7 5/8"	52,000	114.640
445	17 1/2"	3751000123	17 1/2" Drag bit step type, 3 wings, 7 5/8" Reg Pin	7 5/8"	58,000	127.868
610	24"	3751000124	24" Drag bit step type, 3 wings, 7 5/8" Reg Pin	7 5/8"	141,000	310.852



Tungsten carbide
3-wing drag bit

Hole opener

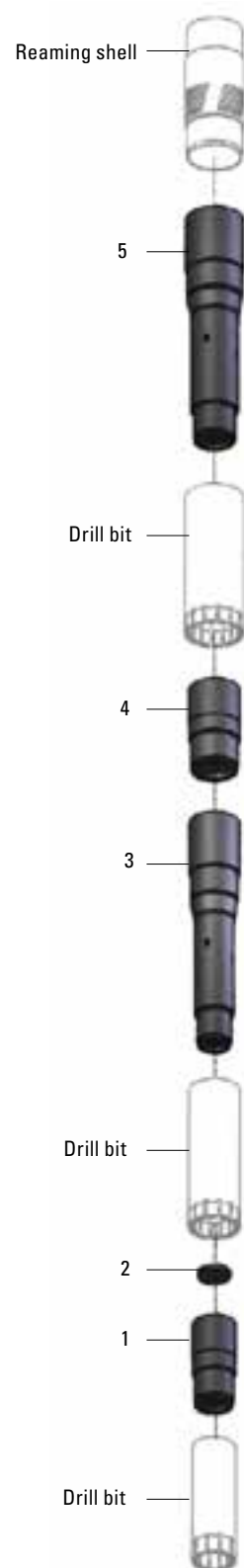
Information

A flexible and economic solution to get a larger hole size with a combination from the catalogue selected standard reaming shells and bits.

Samples of application

1. Not able to reach TD (Total depth) with present hole size, and need to case.
2. Earlier drilled hole needs larger hole size for new investigation.
3. Machine capacity to weak too drill required hole size, reaming a solution.

Opening	Size	Diamond products to be used (ordered separately from bit range in earlier pages)	Adapter kit	
			Position no.	Product No.
A – B		Core bit A0. B0 and reaming shell B0	1. 5	3702 6914 00
B – N		Core bit B0. N0 and reaming shell N0	1. 5	3702 6915 00
N – H		Core bit N0. H0 and reaming shell H0	1. 5	3702 6916 00
46 – 56	(mm)	Core bit 46T2. 56T2 and reaming shell 56T2	1. 5	3702 6889 00
46 – 66	(mm)	Core bit 46T2. 56T2. 66T2 and reaming shell 66T2	1. 3. 4 .5	3702 6890 00
56 – 66	(mm)	Core bit 56T2. 66T2 and reaming shell 66T2	1. 2. 5	3702 6891 00
56 – 76	(mm)	Core bit 56T2. 66T2. 76T2 and reaming shell 76T2	1. 2. 3. 4. 5	3702 6892 00
66 – 76	(mm)	Core bit 66T2. 76T2 and reaming shell 76T2	1. 2. 5	3702 6893 00
66 – 86	(mm)	Core bit 66T2. 76T2. 86T2 and reaming shell 86T2	1. 2. 3. 4. 5	3702 6894 00
76 – 86	(mm)	Core bit 76T2. 86T2 and reaming shell 86T2	1. 2. 5	3702 6895 00
76 – 101	(mm)	Core bit 76T2. 86T2. 101T2 and reaming shell 101T2	1. 2. 3. 4. 5	3702 6896 00
86 – 101	(mm)	Core bit 86T2. 101T2 and reaming shell 101T2	1. 2. 5	3702 6897 00



Convert standard wire line rods to a single tube core barrel

Information

Combine A (special bits) + B (special stab/reaming shells) + C (core lifter) with selected wire line rod (BO, NO or HO).

A. Impregnated (Diaborit) bits for single tube drilling with wireline rods BS, NS, HS

Size	Design	OD (mm)	ID(mm)	Rocke formation	Matrix type/Height	WW	Product No.
B	S	60.0	41.7	Hard – very hard, polishing	9/10	CF	3702 6784 00
B	S	60.0	41.7	Soft – medium soft, abrasive, highly fractured	4–5/10	CF	3702 7299 00
N	S	75.6	51.7	Hard – very hard, polishing	9/10	CF	3702 6785 00
N	S	75.6	51.7	Extremely abrasive, highly fractured	2/10	CF	3702 7185 00
H	S	96.1	71.6	Hard – very hard, slightly abrasive	8–9/10	CF	3702 6912 00

B. Stabilizer/Reaming shell BS. NS. HS

Size	Design	OD (mm)	Rod conn.	Type	Product No.
B	S	60.0	BO/BO	Blank	3702 6557 00
N	S	75.6	NO/NO	Blank	3702 6558 00
N	S	76.0	NO/NO	Diamond surface set	3702 6810 00
H	S	96.1	HO/HO	Diamond surface set	3702 6809 00



C. Core lifter BS. NS. HS

Size	Design	ID (mm)	Product No.
B	S	41.7	3863 7202 00
N	S	51.7	3863 7203 00
H	S	71.6	3863 7212 00

Deep hole “safety” Reaming shell (RES)

Reaming shell with shearer function to recover drill string in case of beeing stuck.

Size	Design	Setting	Type	Product No.
B	O/V	Diamond surface set	Shear	8424 9147 60
N	O/V	Diamond surface set	Shear	8424 9103 70

Casing shoes

Impregnated (IMP) shoe

Size	Casing	Rock formation	Type	WW	Product No.
46	44/37	Hard-Very hard (Heavy Duty recommended for drilling)	HD	4CF	3702 7140 00
56	54/47	Hard-Very hard (Heavy Duty recommended for drilling)	HD	4CF	3702 7142 00
66	64/57	Hard-Very hard (Heavy Duty recommended for drilling)	HD	6CF	3702 7144 00
76	74/67	Hard-Very hard (Heavy Duty recommended for drilling)	HD	6CF	3702 7146 00
86	84/77	Hard-Very hard (Heavy Duty recommended for drilling)	HD	6CF	3702 7148 00
101	98/89	Hard-Very hard (Heavy Duty recommended for drilling)	HD	6CF	3702 7150 00
116	113/104	Hard-Very hard (Heavy Duty recommended for drilling)	HD	8CF	3702 7152 00
131	128/119	Hard-Very hard (Heavy Duty recommended for drilling)	HD	8CF	3702 7154 00
146	143/134	Hard-Very hard (Heavy Duty recommended for drilling)	HD	10CF	3702 7156 00
P	W	Hard-Very hard	HD	15CF	3702 6991 00
S	W,WG	Hard-Very hard (Heavy Duty recommended for drilling)	HD	20CF	8370 1791 97

Surface set (SS) shoe

Size	Casing	Rock formation	Diamond size / Quality	Product No.
76	74/67	Medium-hard	30/50 S	8370 1788 27
86	84/77	Medium-hard	30/50 S	8370 1788 35
101	98/89	Medium-hard	30/50 S	8370 1788 43
116	113/104	Medium-hard	30/50 S	8370 1788 50
N	W	Medium-hard	30/50 S	8370 1789 00
H	W	Medium-hard	30/50 S	8370 1789 18

Tungsten carbide (CRB) shoe

Size	Casing	Rock formation	Type	WW	Product No.
46	44/37	Soft	Corborit	4CF	8372 0820 01
56	54/47	Soft	Corborit	6CF	8372 0822 09
66	64/57	Soft	Corborit	6CF	8372 0824 07
76	74/67	Soft	Corborit	6CF	8372 0826 05
86	84/77	Soft	Corborit	6CF	8372 0828 03
101	98/89	Soft	Corborit	6CF	8372 0830 09
116	113/104	Soft	Corborit	8CF	8372 0832 07
131	128/119	Soft	Corborit	8CF	8372 0834 05
146	143/134	Soft	Corborit	10CF	8372 0836 03
N	W	Soft	Corborit	10CF	8372 0854 00
H	W	Soft	Corborit	12CF	8372 0856 08
P	W	Soft	Corborit	15CF	8372 0858 06

General technical information, dimensional guide

Core barrels and drill rods

Conventional core barrels

Double thin wall core barrel					
Type	Metric (mm)		Imperial (in)		Rod conn.
	Hole diameter	Core diameter	Hole diameter	Core diameter	Box
46T2	46,5	31,7	1.82	1.25	CR42
56T2	56,5	41,7	2.22	1.64	CR50
66T2	66,5	51,7	2.61	2.04	CR50
76T2	76,5	61,7	3.0	2.43	CR50
86T2	86,5	71,7	3.4	2.82	CR50
101T2	101,5	83,7	3.99	3.3	NW/2 3/8"
Double tube standard wall core barrel					
76T6	76,5	57,0	3.0	2.43	CR50
86T6	86,5	67,0	3.4	2.64	CR50
101T6	101,5	79,0	3.99	3.11	NW/2 3/8"
116T6	116,5	93,0	4.58	3.66	NW/2 3/8"
131T6	131,5	108,0	5.17	4.25	NW/2 3/8"
146T6	146,5	123,0	5.76	4.84	NW/2 3/8"
Double split tube standard wall core barrel					
116T6	116,5	93,0	4.58	3.66	NW/2 3/8"
131T6	131,5	108,0	5.17	4.25	NW/2 3/8"
146T6	146,5	123,0	5.76	4.84	NW/2 3/8"

Conventional drill rods

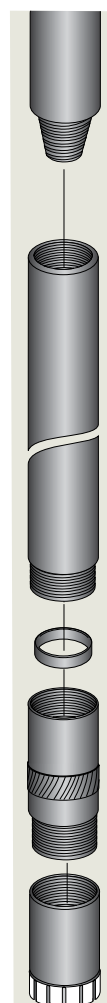
Steel						
Type	Outer Ø mm Rod	Inner Ø mm Rod	Inner Ø mm Coupling	Weight kg/3 m	TPI	Thread conn.
BWJ	55,5	46,0	19,0	18,4	5	BWJ
NW70	69,9	60,3	35,0	24,4	3	NW
NWJ70	69,9	60,3	30,0	24,4	4	NWJ
HW	88,9	77,8	54,0	36,9	3	HW
43	43,1	36,1	22,0	10,2	4	CR42
AW43	43,1	36,1	16,0	11,0	3	AW
AWJ43	43,1	36,1	16,0	11,0	5	AWJ
53	53,0	46,0	22,0	14,1	3	CR50
BW53	53,0	46,0	19,0	15,0	3	BW
Aluminium						
43	43,2	30,8	22,0	7,4	4	CR42
53	53,3	37,5	22,0	12,0	3	CR50
AWJ43	43,2	30,8	16,1	7,4	5	AWJ

Wire line core barrels

Triple tube core barrel					
Size	Metric (mm)		Imperial (in)		Rod conn.
	Hole diameter	Core diameter	Hole diameter	Core diameter	Box
S Geobor	146	102	5.75	4.02	SG
S Geobor	150*)	102	5.91	4.02	SG
*) Method 2 & 3					

Wire line drill rods

Type	Outer Ø mm Rod	Inner Ø mm Rod	Inner Ø mm Coupling	Weight kg/3 m	TPI	Thread conn.
PG	117,5	103,2	–	57,9	3	PO
SG	139,7	125,5	–	69,7	3	S Geobor



Conversion factors

Length

This unit	Times		Equals
mm (millimetres)	x	0.001	= m
cm (centimetres)	x	0.01	= m
dm (decimetres)	x	0.1	= m
km (kilometres)	x	1000	= m
in (inches)	x	25.4	= m
ft (feet)	x	0.305	= m
yd (yard)	x	0.914	= m
miles	x	1609	= m

Power

This unit	Times		Equals
kW (kilowatts)	x	1000	= W
Horsepower, metric	x	735.5	= W
Horsepower, UK	x	745.7	= W
ft.lbf/sec	x	1.36	= W
Btu/h	x	0.29	

Volume

This unit	Times		Equals
l (litres)	x	0.001	= m ³
ml (millilitres)	x	0.001	= l
dm ³ (cubic decimetres)	x	1.0	= l
cm ³ (cubic centimetres)	x	1.0	= ml
mm ³ (cubic millimetres)	x	0.001	= ml
in ³ (cubic inches)	x	16.39	= ml
ft ³ (cubic feet)	x	28.316	= l
Imperial gallon	x	4.546	= l
U.S. gallon	x	3.785	= l
Ounces (Imp. fluid liq)	x	28.41	= ml
Ounces (U.S. fluid liq)	x	29.57	= ml
Pints (U.S. liq)	x	0.4732	= l
Quarts (U.S. liq)	x	0.9463	= l
yd ³ (cubic yards)	x	0.7646	= m ³

Area

This unit	Times		Equals
mm ² (square mm)	x	0.000001	= m ²
cm ² (square cm)	x	0.00001	= m ²
in ² (square inches)	x	645	= mm ²
ft ² (square feet)	x	0.929	= m ²
yd ² (square yards)	x	0.8361	= m ²
Acres	x	4047	= m ²
Square miles	x	2.590	= km ²

Mass (weight)

This unit	Times		Equals
g (grammes)	x	0.001	= kg
t (tonnes, metric)	x	1000	= kg
grains	x	0.0648	= kg
oz (ounce)	x	28.35	= g
lb (pounds)	x	0.4536	= g
tons (long, US)	x	1016	= kg
tons (UK)	x	1016	= kg
tons (short)	x	907	= kg

Speed

This unit	Times		Equals
km/h (kilometres/hour)	x	0.2777	= m/s
m/s	x	3.6	= km/h
mph (miles/hour)	x	0.45	= m/s
ft/s (foot/second)	x	0.3048	= m/s
ft/s (foot/second)	x	18.29	= ft/min
ft/min (foot/minute)	x	0.3048	= m/min

Frequency

This unit	Times		Equals
blows/minute	x	0.017	= Hz
khz (kiloHertz)	x	1000	= Hz
r/min (rev./minute)	x	0.1667	= r/s
degrees/second	x	0.1667	= r/min
radians/second	x	0.1592	= r/s
Pressure	x		

Pressure

This unit	Times		Equals
bar	x	100	= kPa
bar	x	100 000	= Pa
kp/cm ²	x	0.98	= bar
atm (atmosperes)	x	1.01	= bar
psi (pounds/in ²)	x	6.895	= kPa
psi	x	0.06895	= bar

Force

This unit	Times		Equals
kN (kilonewton)	x	1000	N
kp (kilopond)	x	9.81	N
kgf (kilogramme force)	x	4.45	N

Torque

This unit	Times		Equals
kpm (kilopondmetres)	x	9.81	Nm
lbf in (poundforce/inch)	x	0.11	Nm
lbf ft (poundforce/foot)	x	1.36	Nm

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