



# COPROD drill strings

Drill strings for SmartROC C50 and SmartROC CL



# COPROD drill strings – the best of both worlds

COPROD is a unique rock drilling system combining the greater penetration rate and lower fuel consumption of topammer equipment with the hole quality and straightness of DTH drilling.

COPROD combines a threaded drill tube with an unthreaded drill rod. The drill tube transmits rotation, while the impact rod, fit in floating suspension inside the tube, transmits impact energy and feed force.

The flushing air passes between the tube and the rod, through the bit rod, to the front of the drill bit.

When the COPROD sections are joined, the impact rods stand on top of each other inside the drill tube.

This means that the impact energy is directly transmitted to the rock mass without passing a single thread. The result is superior energy transmission, reduced fuel consumption and minimized wear on the drill string.

## ⊕ Main benefits

**Outstanding** hole straightness

**Less fuel** per meter drilled

**Delivers a lower** total cost of ownership



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The COPROD product range consists of two surface drill rigs

### SmartROC C50

SmartROC C50 is the smaller of the two drill rigs. For this drill rig, three drill strings are available: COPROD 76 mm, 89 mm and 102 mm giving blast holes ranging between 90-140 mm in diameter.

### SmartROC CL

The larger drill rig, SmartROC CL can be equipped with COPROD 102 mm, 127 mm or 140 mm drill strings. This means SmartROC CL can drill 115 mm-216 mm blast holes.



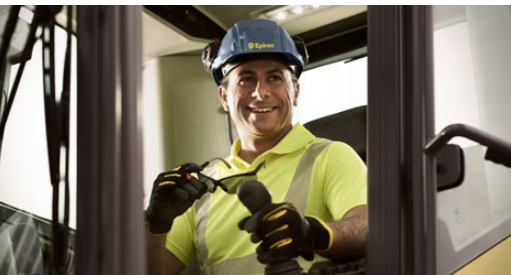
# Superior hole quality. Enhanced productivity.

COPROD is particularly well suited for demanding drilling operations in broken rock. It offers excellent hole straightness. But, most importantly, it's possible to regulate air flow so that you don't flush out more rock than necessary.



## + Sustainability

Delivering the power of the drill down to the bit with virtually no loss of energy improves resistance and reliability, raising productivity with less wear, better fuel efficiency and sustainable drilling.



## + Operator in focus

An extremely efficient drilling system minimizes wear on the drill string, providing a safer working environment and less downtime needed for bit and rod changes.



## + Improved performance

Operators achieve the same efficiencies and hole straightness as a DTH drill, but with lower fuel consumption and a significantly greater penetration rate and scope to drill larger hole sizes.



## A comprehensive service offering

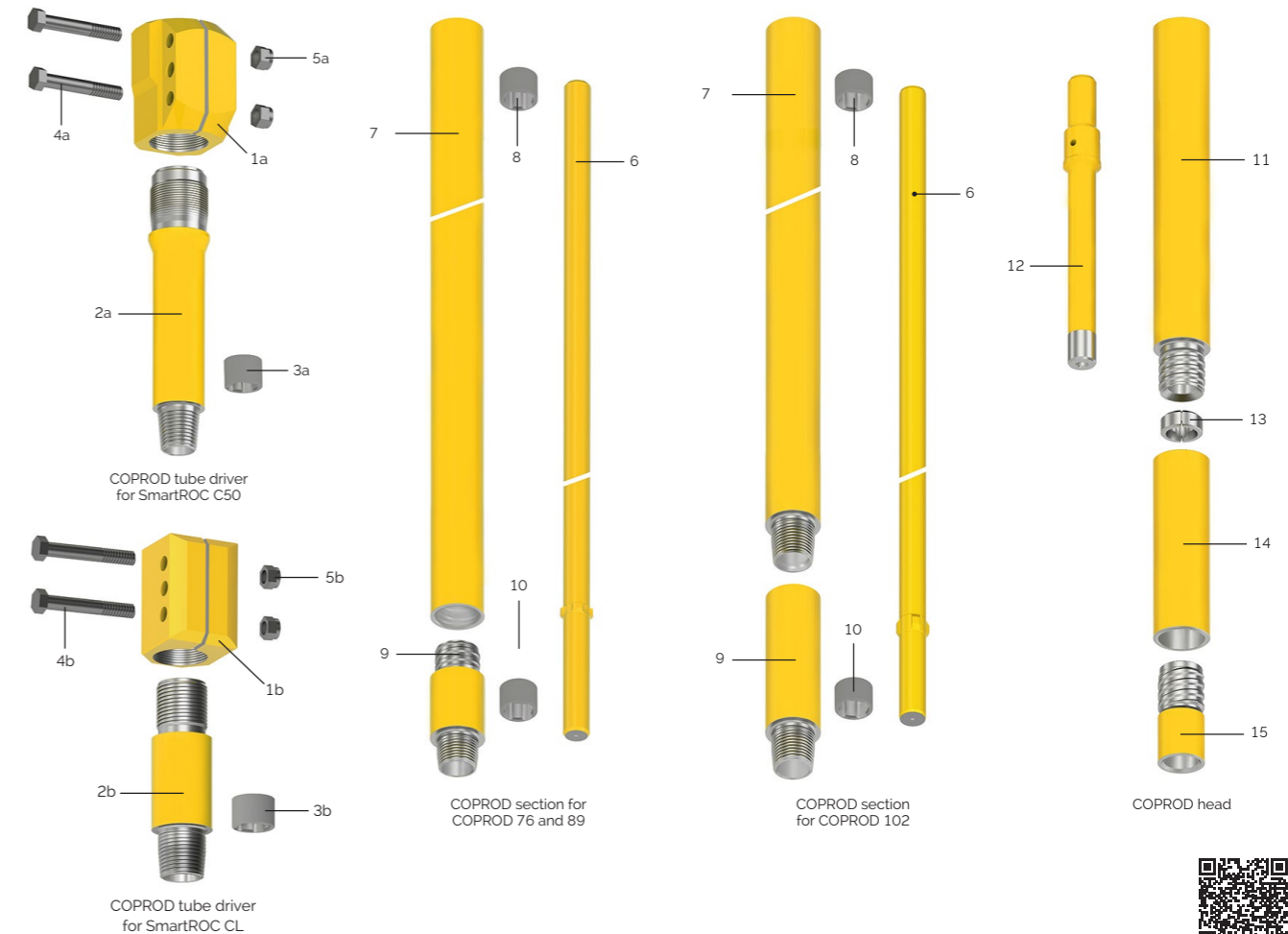
Even the best equipment needs to be serviced regularly to make sure it sustains peak performance. An Epiroc service solution offers peace of mind, maximizing availability and performance throughout the lifetime of your equipment. We focus on safety, productivity and reliability.

By combining genuine parts and an Epiroc service from our certified technicians, we safeguard your productivity – wherever you are.

## COPROD drill strings – Technical specifications

### Epiroc COPROD 76, 89, 102, 127, 140 mm drill strings

For SmartROC C50 equipped with COP 3060CR rock drill and CL equipped with COP 5060CR rock drill



Discover more about Epiroc COPROD drill string family

### COPROD drill strings for SmartROC C50 with COP 3060CR

Part description	COPROD 76			COPROD 89			COPROD 102		
	Product No.	Product code	Weight*	Product No.	Product code	Weight*	Product No.	Product code	Weight*
<b>COPROD tube driver</b>									
1a. Coupling	90029136	7970-0226-80	18.8	90029136	7970-0226-80	18.8	90029136	7970-0226-80	18.8
2a. Tube adapter	90029442	7970-7627-80	12.3	90029133	7970-8927-80	13.8	90029132	7970-0227-80	17.7
3a. Rod guide	94800215	7970-8912-00	0.1	94800121	7970-8902-00	0.1	94800087	7970-0202-00	0.1
4a. Bolt (2 pcs) M24 x 150"	-	-	-	-	-	-	-	-	-
5a. Nut (2 pcs) M24"	-	-	-	-	-	-	-	-	-
<b>COPROD section 4,5 m (15')</b>									
6. Rod 4500 mm (15')	90029471	7970-7616-00	55	90029384	7970-8916-00	56	90029386	7970-0216-00	70
7. Tube 4500 mm (15')	90029472	7970-7617-80	64	90029383	7970-8917-81	83	90029387	7970-0217-81	71
8. Rod guide	94800215	7970-8912-00	0.1	94800121	7970-8902-00	0.1	94800087	7970-0202-00	0.1
9. End piece	94800316	7970-7693-80	4.1	94800329	7970-8993-80	6.1	94800086	7970-0253-80	11.7
10. Rod guide	94800215	7970-8912-00	0.1	94800121	7970-8902-00	0.1	94800087	7970-0202-00	0.1
<b>COPROD head</b>									
11. Bit tube	94800317	7970-7682-80	22	94800310	7970-8982-80	32	94800324	7970-0282-80	47
12. Bit rod	94800318	7970-7681-00	12.3	94800311	7970-8981-00	18.2	94800323	7970-0281-00	26.1
13. Stop ring	94800365	7970-7685-00	4.4	94800366	7970-8985-00	5.6	94800367	7970-0285-00	10.4
14. Bit chuck	94800235	7970-7604-00	0.2	94800128	7970-8904-00	0.4	94800096	7970-0204-00	0.5
15. Bit driver	94800320	7970-7683-00	3.8	94800298	7970-8983-00	5.8	94800325	7970-0273-00	7.5
	94800227	7970-7684-00	1.8	94800272	7970-8984-00	2.8	94800082	7970-0274-00	2.9

\*Weight approx. kg \*\* Included in coupling.

# COPROD drill strings – Technical specifications

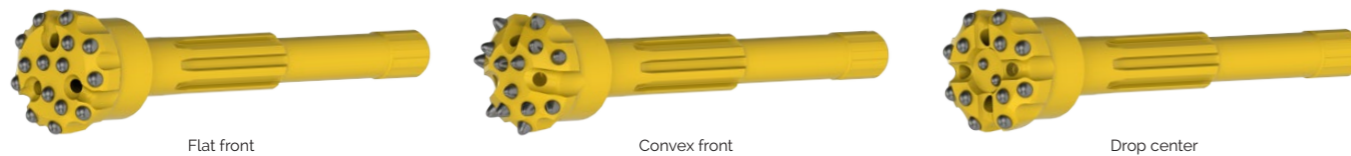
## COPROD drill strings for SmartROC CL with COP 5060CR

Part description	COPROD 102			COPROD 127			COPROD 140		
	Product No.	Product code	Weight*	Product No.	Product code	Weight*	Product No.	Product code	Weight*
<b>COPROD tube driver</b>									
1b. Coupling	90003587	7970-2732-80	17.9	90003587	7970-2732-80	17.9	90003587	7970-2732-80	17.9
2b. Tube adapter, L = 253 mm (10')	94800243	7970-0235-80	9.5	94800245	7970-2735-80	16.9	94800245	7970-2735-80	16.9
2b. Tube adapter, L = 714 mm (2'4¼')	94800244	7970-0233-80	30.4	94800246	7970-2733-80	54.2	94800246	7970-2733-80	54.2
3b. Rod guide	94800087	7970-0202-00	0.1	94800087	7970-0202-00	0.1	94800087	7970-0202-00	0.1
4b. Bolt (2 pcs) M24 x 160**	-	-	-	-	-	-	-	-	-
5b. Nut (2 pcs) M24**	-	-	-	-	-	-	-	-	-
<b>COPROD section 6.1 m (20')</b>	94800453	7970-0250-81	199	94800455	7970-2750-81	241	90029475	7970-4050-81	300
6. Rod 6100 mm (20')	94800084	7970-0251-00	94	94800295	7970-2751-00	94	94800295	7970-2751-00	94
7. Tube 6100 mm (20')	94800452	7970-0252-81	93	94800454	7970-2752-81	130	90029476	7970-4052-81	184
9. End piece	94800086	7970-0253-80	11.7	94800134	7970-2753-80	15.0	94800377	7970-4053-80	21.7
10. Rod guide	94800087	7970-0202-00	0.1	94800087	7970-0202-00	0.1	94800087	7970-0202-00	0.1
<b>COPROD head</b>									
11. Bit tube	94800323	7970-0281-00	26.1	94800363	7970-2781-00	45	94800370	7970-4081-00	58
12. Bit rod	94800367	7970-0285-00	10.4	94800364	7970-2785-00	16.5	94800373	7970-4085-00	19.6
13. Stop ring	94800096	7970-0204-00	0.5	94800139	7970-2704-00	0.8	94800374	7970-4004-00	0.9
14. Bit chuck	94800325	7970-0273-00	7.5	94800331	7970-2773-00	11.2	94800371	7970-4083-00	14.4
15. Bit driver	94800082	7970-0274-00	2.9	94800141	7970-2774-00	5.0	94800372	7970-4084-00	5.5

\*Weight approx. kg \*\* Included in coupling.

## Epiroc drill bits for COPROD 76, 89, 102, 127, 140 mm

For SmartROC C50 equipped with COP 3060CR rock drill and SmartROC CL equipped with COP 5060CR rock drill



## COPROD drill bits

COPROD system	Diameter		Product No.	Product code	Buttons x button diameter (mm)			Gauge buttons angle		Flushing holes No. x size (mm)	Weight approx. kg
	mm	inch			Gauge outer	Gauge inner	Center	Outer	Inner		
COPROD 76	<b>Flat front, HD, spherical buttons</b>										
	90	3½"	94800332	7976-1090-40.10-20	9x11	-	7x11	35°	-	3x8	5.8
	95	3¾"	94800333	7976-1095-40.10-20	9x12.7	-	7x11	35°	-	3x8	6.0
	105	4½"	94800334	7976-1105-40.10-20	9x12.7	-	7x12.7	35°	-	3x10	6.4
	<b>Convex front, ballistic buttons</b>										
	90	3½"	94800335	7976-2090-66.10-20	7x12.7	4x12.7	2x12.7	40°	20°	2x10	5.6
	95	3¾"	94800336	7976-2095-66.10-20	7x12.7	3x12.7	2x12.7	45°	30°	3x8	5.6
	105	4½"	94800337	7976-2105-66.10-20	9x12.7	3x12.7	4x12.7	45°	30°	3x10	6.2
	<b>Drop center front, spherical buttons</b>										
	105	4½"	94800340	7976-3105-40.10-20	8x12.7	4x12.7	2x11	35°	-	4x10	6.2
COPROD 89	<b>Flat front, HD, spherical buttons</b>										
	105	4½"	94800341	7989-1105-40.10-20	9x12.7	-	7x12.7	35°	-	3x13	9.1
	110	4¾"	94800342	7989-1110-40.10-20	9x14.5	-	6x14.5	35°	-	3x13	9.5
	110	4¾"	90029468	7989-1110-40.10-12	9x14.5	-	6x14.5	35°	-	3x13	9.5
	115	4½"	94800343	7989-1115-40.10-20	9x14.5	-	6x14.5	35°	-	3x13	9.7
	127	5"	94800344	7989-1127-40.10-20	9x14.5	-	7x14.5	35°	-	3x13	10.6

# COPROD drill strings – Technical specifications

## COPROD drill bits

COPROD system	Diameter		Product No.	Product code	Buttons x button diameter (mm)			Gauge buttons angle		Flushing holes No. x size (mm)	Weight approx. kg
	mm	inch			Gauge outer	Gauge inner	Center	Outer	Inner		
COPROD 89	<b>Convex front, ballistic buttons</b>										
	105	4½"	94800345	7989-2105-66.10-20	9x12.7	3x12.7	4x12.7	45°	30°	3x13	8.8
	110	4¾"	94800346	7989-2110-66.10-20	9x12.7	6x12.7	4x12.7	45°	30°	3x13	9.2
	115	4½"	94800347	7989-2115-66.10-20	7x14.5	4x14.5	3x14.5	45°	30°	3x13	9.2
	127	5"	94800348	7989-2127-66.10-20	9x14.5	6x14.5	4x14.5	45°	30°	3x13	10.1
	127	5"	90029962	7989-2127-66.10-12	9x14.5	6x14.5	4x14.5	45°	30°	3x13	10.1
	140	5½"	90003707	7989-2140-66.10-20	9x14.5	6x14.5	5x14.5	45°	30°	3x13	10.7
	<b>Drop center front, spherical buttons</b>										
	105	4½"	94800349	7989-3105-40.10-20	8x12.7	4x12.7	2x11	35°	-	4x13	8.9
	115	4½"	94800351	7989-3115-40.10-20	8x14.5	4x14.5	2x11	35°	-	4x13	9.5
127	5"	94800352	7989-3127-40.10-20	8x14.5	4x14.5	4x11	35°	-	4x13	10.3	
COPROD 102	<b>Drop center front, ballistic buttons</b>										
	105	4½"	94800443	7989-3105-66.10-20	8x12.7	4x12.7	2x11	40°	-	4x13	8.8
	<b>Drop center front, Trubbnos buttons</b>										
	127	5"	5697000112	7902-6127-21.10-20	8x15.8	4x15.8	5x11	35°	-	4x13	12.9
	<b>Flat front, HD, spherical buttons</b>										
	115	4½"	94800353	7902-1115-40.10-20	9x14.5	-	6x14.5	35°	-	3x13	12.6
	127	5"	94800354	7902-1127-40.10-20	9x14.5	-	7x14.5	35°	-	3x13	13.2
	140	5½"	94800355	7902-1140-40.10-20	9x15.8	-	9x15.8	35°	-	3x13	14.5
	<b>Convex front, ballistic buttons</b>										
	115	4½"	94800356	7902-2115-66.10-20	7x14.5	4x14.5	3x14.5	45°	30°	3x13	12.2
127	5"	94800357	7902-2127-66.10-20	9x14.5	6x14.5	4x14.5	45°	30°	3x13	12.8	
140	5½"	94800358	7902-2140-66.10-20	9x14.5	6x14.5	5x14.5	45°	30°	3x13	13.8	
COPROD 127	<b>Drop center front, spherical buttons</b>										
	127	5"	94800360	7902-2127-40.10-20	9x14.5	6x14.5	4x14.5	35°	-	4x13	12.9
	140	5½"	94800361	7902-3140-40.10-20	9x15.8	6x15.8	4x12.7	35°	-	3x13	14.5
	<b>Drop center front, ballistic buttons</b>										
	127	5"	90029832	7902-3127-66.10-20	8x14.5	4x14.5	4x11	40°	-	4x13	12.9
	<b>Flat front, HD, spherical buttons</b>										
	152	6"	94800417	7927-1152-40.10-20	9x15.8	-	9x15.8	35°	-	3x16	22.9
	165	6½"	94800384	7927-1165-40.10-20	10x15.8	-	10x15.8	35°	-	3x15	23.9
	<b>Convex front, ballistic buttons</b>										
	165	6½"	94800385	7927-2165-66.10-20	9x15.8	6x15.8	6x15.8	45°	30°	3x15	23.1
165	6½"	5697000563	7927-2165-67.10-20	9x19.1	6x19.1	4x19.1	35°	20°	3x15	23.1	
203	8"	90029203	7927-2210-66.08-20	9x15.8	6x15.8	7x15.8	45°	25°	3x16	26.5	
<b>Drop center front, spherical buttons</b>											
165	6½"	94800378	7927-3165-40.10-20	10x15.8	6x15.8	5x15.8	35°	-	2x18	23.8	
<b>Drop center front, ballistic buttons</b>											
140	5½"	94800368	7927-3140-66.10-20	9x15.8	6x15.8	4x12.7	35°	-	3x16	20.2	
COPROD 140	<b>Convex front, ballistic buttons</b>										
	165	6½"	94800379	7940-2165-66.08-20	9x15.8	6x15.8	7x15.8	45°	25°	3x16	30.1
	180	7½"	94800381	7940-2180-66.08-20	9x15.8	6x15.8	7x15.8	45°	25°	3x16	31.2
	<b>Convex front, Trubbnos buttons</b>										
203	8"	90029721	7940-2203-70.08-23	10x15.8	7x15.8	16x15.8	35°	15°	3x16	34.8	
210	8¼"	90029722	7940-2210-70.08-23	10x15.8	7x15.8	16x15.8	35°	15°	3x16	35.5	
216	8½"	90029723	7940-2216-70.08-23	10x15.8	7x15.8	16x15.8	35°	15°	3x16	36.0	

# COPROD conversion kits – Technical specifications

## COPROD conversion kits

Part description	Product No.	Product code
<b>Conversion kit for COPROD 76 to COPROD 89</b>		
9. End piece	94800425	7970-7693-89-80
10. Rod guide	94800215	7970-8912-00
COPROD head	Use standard COPROD 89	
<b>Conversion kit for COPROD 89 to COPROD 102</b>		
9. End piece	94800423	7970-8993-02-80
10. Rod guide	94800121	7970-8902-00
COPROD head	Use standard COPROD 102 except for bitrod	
12. Bitrod	94800424	7970-0285-89-00
<b>Conversion kit for COPROD 102 to COPROD 127</b>		
9. End piece	94800426	7970-0253-27-80
10. Rod guide	94800087	7970-0202-00
COPROD head	Use standard COPROD 127	
<b>Conversion kit for COPROD 127 to COPROD 140*</b>		
COPROD head	Use standard COPROD 140	

\*COPROD 127 and COPROD 140 use the same thread connection.



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