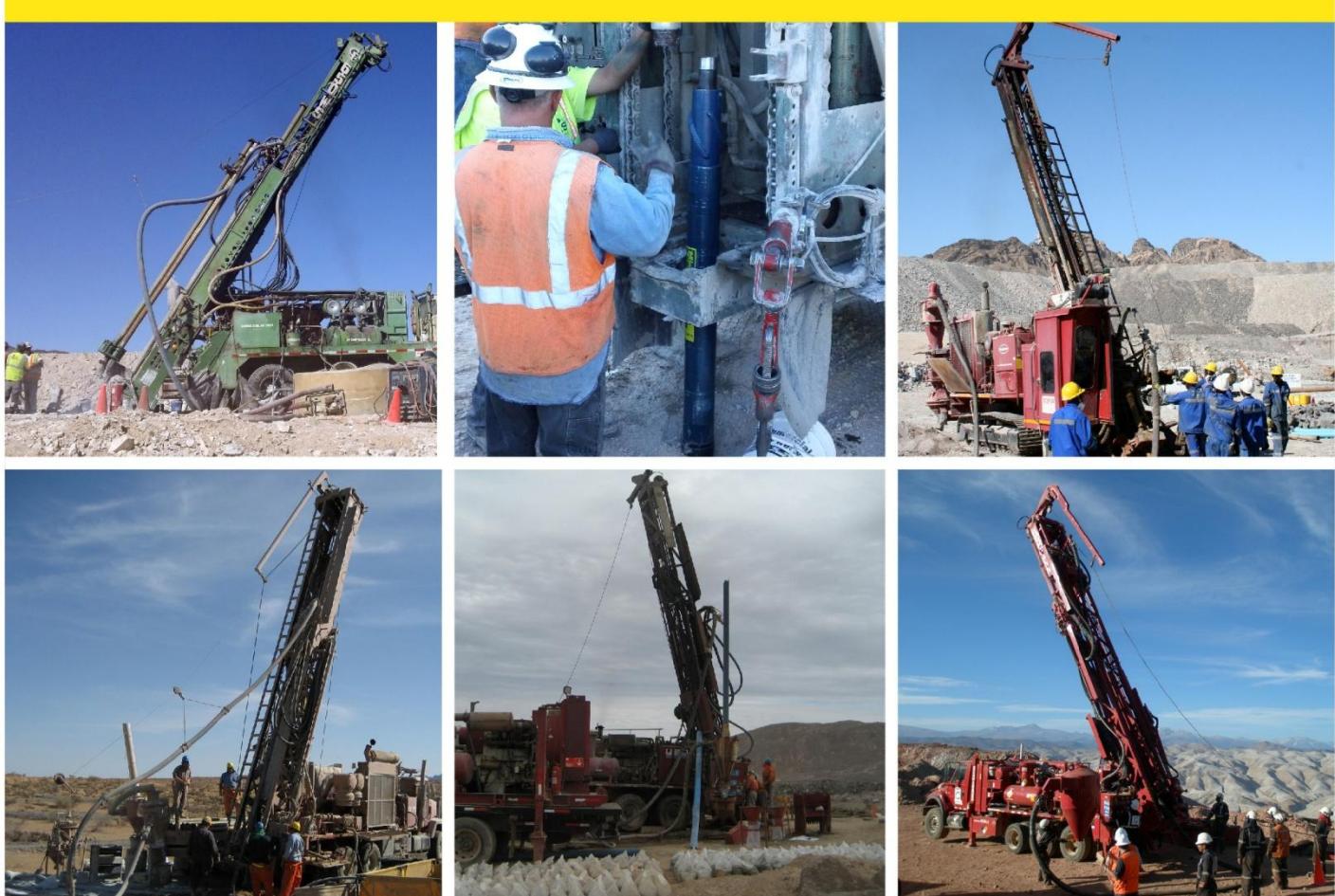


# Mincon RC Tools

## Product Catalogue







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## 1. Introduction

Mincon has been a significant contributor to the drilling industry since its inception in 1977. As a "values" built company our customers and our people are at the forefront of everything we do. The communities that we interact with are important to us and we continually make all efforts to foster close and sustained relationships.

For nearly 40 years Mincon has been producing quality drilling tools and has garnished a strong, reliable reputation along the way. When choosing your exploration drilling tools, there are a multitude of considerations to ensure you have the best combination of hammer and drill bit. In addition to that, you must protect your investment by ensuring you have the best lubrication program available for your RC drilling tools. Whether your task is remote junior exploration, mature confirmatory exploration or grade control operations, Mincon is with you to ensure the work is completed safely, economically and without problem.

Mincon has been involved with the Reverse Circulation drilling industry since its inception as a viable drilling technology, and has been at the fore front of product development. Today's exploration contractor demands drilling tools that are reliable, productive, economical and available. Mincon excels at all these metrics and offers the contractor peace of mind for their drilling operations.

It is the intention of this catalogue to offer Mincon's customers a comprehensive look at everything we have to offer in the reverse circulation drilling category.





## 2. Mincon RC Hammers

### 2.1 Choosing the Right RC Hammer

Mincon has a comprehensive range of Reverse Circulation hammers that are capable of drilling exploration and grade control holes from 102mm (4") up to 146mm (5 3/4").

Generally the correct hammer to use is determined by the sample weight per meter drilled that the mine or geologist is looking to achieve. The set-up of the hammer to achieve the most efficient penetration rate and sample quality is very important and will vary depending on a number of different factors. The factors to consider and the variation in set up are as follows.

#### Air Package

The size of the compressor being used will decide whether or not to use the standard hammer set up or the low air set up. Alternatively it may be prudent to opt for the next size down of RC hammer where there is usually some cross over in drill bit sizes between each of the RC hammers.

The low air term used in the RC range is not to suggest that the hammer can only be used on lower volume compressors. The design is most beneficial when there is no booster available and drilling being done with only the compressor on the drill rig. The other benefit from this design is when drilling at higher elevations the engine and compressor performance will be hindered due to the effect of altitude on compressed air. The low air variants of the Mincon RC hammers are only available on the MR132, MR120 and MR116.

#### Retention

The retention head design on drill bits is available when drilling deep holes where there is an increased risk of shanking the head of the drill bit. The threaded head retention system will retain the bit head if it shanks off at the end of the splines and the head can be returned to the surface and not left down the bore hole.

#### Sample Tube

The MR132, MR120, MR116 and MR109 hammers have two different sample tube bore sizes that can be utilized. The MX5456, MX5053 and MX4550 have also got two different sample tube bore sizes. All hammers are assembled with the larger bore size sample tubes unless the customer requests the smaller bore size at time of order.

The larger bore sizes are a more versatile option in different drilling conditions. In a deep hole drilling application the larger bore size will allow the hammer to drill deeper under a head of water, as this design deals with the effects of back pressure better.

Grade control applications are generally where the smaller sample tube bore size helps and where the bit size is not excessive. The greater wall thickness of the tube can give better tube life in high abrasion applications.

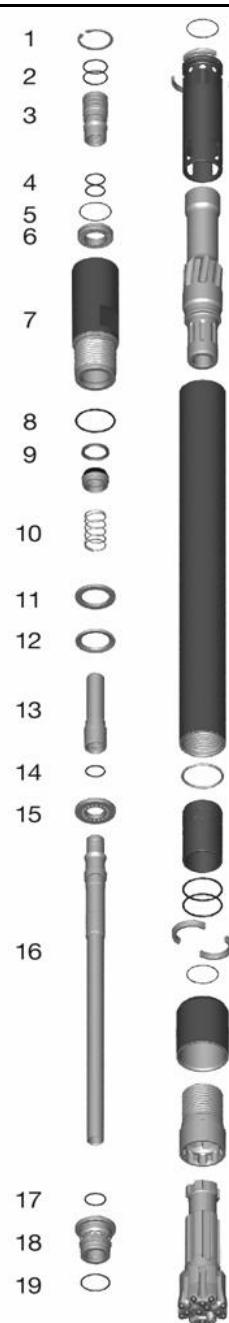
There are further alterations that can be made to the set-up of the Mincon RC hammers and drill bits. For further information please contact your local Mincon representative.





## 2.2 MR Range

### 2.2.1 Mincon MR92 (3 1/2" Remet) RC Hammer



Item #	Part Number	Description
1	MR92AS01	Mincon MR92 (3 1/2" Remet)
2	D1300-0700	Internal Circlip
3	BS 132	O Ring x 2
4	MX4044AT01	Adaptor Tube 3 1/2" Remet
5	BS 126	O Ring x 2
6	BS 036	O Ring
7	MX4044SC01	Air Screen
8	MX4044BH01	Backhead 3 1/2" Remet
9	BS 233	O Ring
10	8405-137	Check Valve Seal
11	MX4044CV01	Check Valve Plunger
12	MX4044SP01	Check Valve Spring
13	MX4044SM01	Steel Make Up Ring
14	MX4044LR01	Lock Ring
15	MX4044TT01	Top Tube
16	BS 126	O Ring
17	MX4044SS01	Spacer
18	MX4044ST01	Sample Tube
19	BS 128	O Ring
20	MX4044DR01	Sample Tube Mount
21	BS 138	O Ring
22	BS 036	O Ring
23	MX4044SR01	Seating Ring
24	MX4044IC01	Inner Cylinder
25	MX4044PN01	Piston
26	MR92WS01	Wear Sleeve
27	MX4044PR01	Piston Retaining Ring
28	MR92BB01	Aligner Bearing Bush
29	BS 232	O Ring x 2
30	MR92BR01	Bit Retaining Rings
31	BS 139	O Ring x 1
32	MR92CSxxx	Chuck Sleeve
	MR92CK01	Chuck
	MR92OKIT	MR92 O Ring Kit
	MR92MK01	MR92 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	92mm	3.62"
Hammer Length (Less Drill Bit)	1146mm	45.1"
Backhead Spanner Flat Size	76mm	3"
Drill Bit Shank Type	MR92	
Backhead Thread	3.5 "	Remet
Drill Bit Size Range	102mm - 115mm	4" – 4.5"
Hammer Weight (Less Bit)	47 Kgs	103 Lbs
Maximum Drill Bit Weight	11 Kgs	24.4 Lbs
Piston Weight	12 Kgs	26.4 Lbs
Make up Torque	3687-4921 NM	2720-3630 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.2 Mincon MR109 (4" Remet) RC Hammer

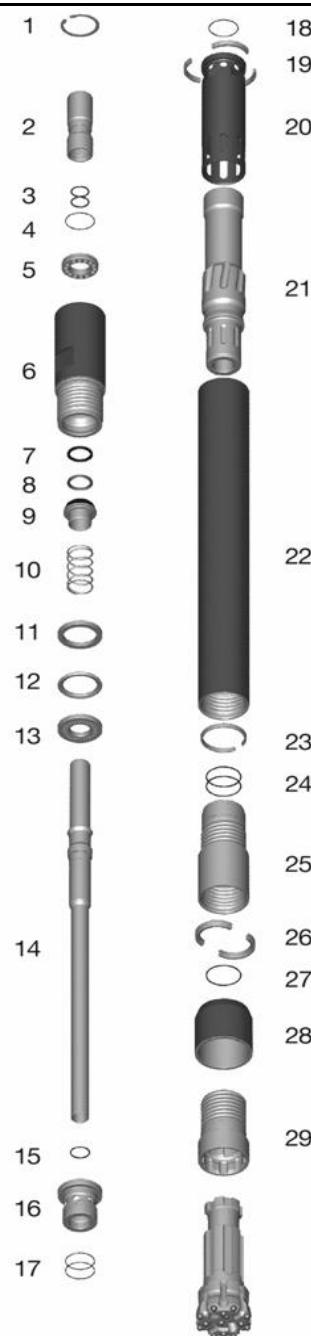
1	MR109AS01	Mincon MR109 (4" Remet)
2	1300-0780	Internal Circlip
3	BS 226	O Ring x 2
4	MX5053AT01	Adaptor Tube 4" Remet
5	BS 224	O Ring x 2
6	BS 040	O Ring
7	MX5053SC01	Air Screen
8	MX4550BH01	Backhead 4" Remet
9	BS 238	O Ring
10	8406-175	Check Valve Seal
11	MX5053SCV01	Check Valve Plunger
12	MX5053SP04	Check Valve Spring
13	MX4550SM01	Steel Make Up Ring
14	MX4550LR01	Lock Ring
15	MX4550SS01	Spacer
16	MX4550ST01	Sample Tube - Large Bore
17	MX4550ST03	Sample Tube - Small Bore
18	BS 225	O Ring
19	MX4550DR01	Sample Tube Mount
20	BS 231	O Ring x 2
21	BS 040	O Ring
22	MX4550SR01	Seating Ring
23	MX4550IC01	Inner Cylinder
24	MX4550PN01	Piston
25	MR109WS01	Wear Sleeve
26	MX4550PR01	Piston Retaining Ring
27	BS 152	O Ring x 2
28	MR109BB01	Aligner Bearing Bush
29	MR109CSxxxL	Chuck Sleeve
30	MR109BR01	MR109 Bit Ret Rings
	BS 152	O Ring
	MR109CK01	MR109 Chuck
	MR109OKIT	MR109 O Ring Kit
	MR109MK01	MR109 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	109mm	4.29"
Hammer Length (Less Drill Bit)	1250mm	49.2"
Backhead Spanner Flat Size	94mm	3.7"
Drill Bit Shank Type	MR109	
Backhead Thread	4" Remet	
Drill Bit Size Range	114mm - 121mm	4.5" - 4.75"
Hammer Weight (Less Bit)	65 Kgs	143 Lbs
Maximum Drill Bit Weight	13 Kgs	28.6 Lbs
Piston Weight	12 Kgs	26.4 Lbs
Make up Torque	4373-5830 NM	3225-4300 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.3 Mincon MR109 (4" Metzke) RC Hammer



Item #	Part Number	Description
1	MR109AS02	Mincon MR109 (4" Metzke)
18	1300-0780	Internal Circlip
19	MX5053AT11	Adaptor Tube 4" Metzke
20	BS 224	O Ring x 2
21	BS 040	O Ring
22	MX5053SC01	Air Screen
23	MX4550BH11	Backhead 4" Metzke
24	BS 238	O Ring
25	8406-175	Check Valve Seal
26	MX5053SCV01	Check Valve Plunger
27	MX5053SP04	Check Valve Spring
28	MX4550SM01	Steel Make Up Ring
29	MX4550LR01	Lock Ring
1	MX4550SS01	Spacer
2	MX4550ST01	Sample Tube - Large Bore
3	MX4550ST03	Sample Tube - Small Bore
4	BS 225	O Ring
5	MX4550DR01	Sample Tube Mount
6	BS 231	O Ring x 2
7	BS 040	O Ring
8	MX4550SR01	Seating Ring
9	MX4550IC01	Inner Cylinder
10	MX4550PN01	Piston
11	MR109WS01	Wear Sleeve
12	MX4550PR01	Piston Retaining Ring
13	BS 152	O Ring x 2
14	MR109BB01	Aligner Bearing Bush
15	MR109CSxxxL	Chuck Sleeve
16	MR109BR01	MR109 Bit Ret Rings
17	BS 152	O Ring
18	MR109CK01	MR109 Chuck
19	MR109OKIT	MR109 O Ring Kit
20	MR109MK01	MR109 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	109mm	4.29"
Hammer Length (Less Drill Bit)	1250mm	49.2"
Backhead Spanner Flat Size	94mm	3.7"
Drill Bit Shank Type	MR109	
Backhead Thread	4" Metzke	
Drill Bit Size Range	114mm - 121mm	4.5" - 4.75"
Hammer Weight (Less Bit)	65 Kgs	143 Lbs
Maximum Drill Bit Weight	13 Kgs	28.6 Lbs
Piston Weight	12 Kgs	26.4 Lbs
Make up Torque	4373-5830 NM	3225-4300 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



#### 2.2.4 Mincon MR116 (4" Remet) RC Hammer

1	MR116AS01	MR116 Hammer 4 " Remet
2	1300-0780	Internal Circlip
3	BS 226	O Ring x 2
4	MX5053AT01	Adaptor Tube 4 Remet
5	BS 224	O Ring x 2
6	BS 040	O Ring
7	MX5053SC01	Air Screen
8	MR116BH01	Back Head 4 Remet
9	BS 241	O Ring
10	8406-175	Check Valve Seal
11	MX5053SCV01	Check Valve Plunger
12	MX5053SP04	Check Valve Spring
13	MX4550SS01	Spacer
14	MX4550LR01	Lock Ring
15	MR116ST01	Sample Tube - Large Bore
16	MR116ST03	Sample Tube - Small Bore
17	BS 139	O Ring
18	MR116DR01	Sample Tube Mount
19	BS 135	O Ring
20	BS 233	O Ring x 2
21	BS 040	O Ring
22	MR116SR01	Seating Ring
23	MR116IC01	Inner Cylinder
24	MR116PN01	Piston
25	MR116WS01	Wear Sleeve
26	MR116PR01	Piston Retaining Ring
27	MR116BB01	Aligner Bearing Bush
28	N7 88 X 4	O Ring x 2
29	BS 236	O Ring
30	BS 152	O Ring
31	MR116CSxxxL	Chuck Sleeve
	MR116CK01	Chuck
	MR116OKIT	MR116 O Ring Kit
	MR116MK01	MR116 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	116mm	4.57"
Hammer Length (Less Drill Bit)	1143mm	45.0"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type		MR116
Backhead Thread		4 " Remet
Drill Bit Size Range	121mm - 127mm	4.75" - 5"
Hammer Weight (Less Bit)	65 Kgs	143 Lbs
Maximum Drill Bit Weight	14 Kgs	30.9 Lbs
Piston Weight	14 Kgs	30.9 Lbs
Make up Torque	4650-6237 NM	3430-4600 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.5 Mincon MR116 (4" Remet) Low Air RC Hammer

Item #	Part Number	Description
1	MR116AL01	MR116 Hammer 4 " Remet - Low Air
2	1300-0780	Internal Circlip
3	BS 226	O Ring x 2
4	MX5053AT01	Adaptor Tube 4 Remet
5	BS 224	O Ring x 2
6	BS 040	O Ring
7	MX5053SC01	Air Screen
8	MR116BH01	Back Head 4 Remet
9	BS 241	O Ring
10	8406-175	Check Valve Seal
11	MX5053SCV01	Check Valve Plunger
12	MX5053SP04	Check Valve Spring
13	MX4550SS01	Spacer
14	MX4550LR01	Lock Ring
15	MR116ST01	Sample tube - Large Bore
16	MR116ST03	Sample Tube - Small Bore
17	BS 139	O Ring
18	MR116DR02	Sample Tube Mount - Low Air
19	BS 233	O Ring
20	BS 040	O Ring
21	MR116SR01	Seating Ring
22	MR116IC01	Inner Cylinder
23	MR116PN01	Piston
24	MR116WS01	Wear Sleeve
25	MR116PR01	Piston Retaining Ring
26	MR116BB01	Aligner Bearing Bush
27	N7 88 X 4	O Ring x 2
28	BS 236	O Ring
29	BS 236	O Ring
30	MR116BR01	Bit Ring
31	BS 152	O Ring
32	MR116CSxxxL	Chuck Sleeve
33	MR116CK01	Chuck
34	MR116OKIT	MR116 O Ring Kit
35	MR116MK01	MR116 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	116mm	4.57"
Hammer Length (Less Drill Bit)	1143mm	45.0"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR116	
Backhead Thread	4 "	Remet
Drill Bit Size Range	121mm - 127mm	4.75" - 5"
Hammer Weight (Less Bit)	65 Kgs	143 Lbs
Maximum Drill Bit Weight	14 Kgs	30.9 Lbs
Piston Weight	14 Kgs	30.9 Lbs
Make up Torque	4650-6237 NM	3430-4600 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.6 Mincon MR116 (4" Metzke) RC Hammer

Item #	Part Number	Description
1	MR116AS02	MR116 Hammer 4 " Metzke
2	1300-0780	Internal Circlip
3	MX5053AT11	Adaptor Tube 4 Metzke
4	BS 224	O Ring x 2
5	BS 040	O Ring
6	MX5053SC01	Air Screen
7	MR116BH11	Back Head 4 Metzke
8	BS 241	O Ring
9	8406-175	Check Valve Seal
10	MX5053SCV01	Check Valve Plunger
11	MX5053SP04	Check Valve Spring
12	MX4550SS01	Spacer
13	MX4550LR01	Lock Ring
14	MR116ST01	Sample Tube - Large Bore
15	MR116ST03	Sample Tube - Small Bore
16	BS 139	O Ring
17	MR116DR01	Sample Tube Mount
18	BS 135	O Ring
19	BS 233	O Ring x 2
20	BS 040	O Ring
21	MR116SR01	Seating Ring
22	MR116IC01	Inner Cylinder
23	MR116PN01	Piston
24	MR116WS01	Wear Sleeve
25	MR116PR01	Piston Retaining Ring
26	MR116BB01	Aligner Bearing Bush
27	N7 88 X 4	O Ring x 2
28	BS 236	O Ring
29	BS 152	O Ring
30	MR116BR01	Bit Ring
	BS 152	O Ring
	MR116CSxxxL	Chuck Sleeve
	MR116CK01	Chuck
	MR116OKIT	MR116 O Ring Kit
	MR116MK01	MR116 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	116mm	4.57"
Hammer Length (Less Drill Bit)	1143mm	45.0"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR116	
Backhead Thread	4"	Metzke
Drill Bit Size Range	121mm - 127mm	4.75" - 5"
Hammer Weight (Less Bit)	65 Kgs	143 Lbs
Maximum Drill Bit Weight	14 Kgs	30.9 Lbs
Piston Weight	14 Kgs	30.9 Lbs
Make up Torque	4650-6237 NM	3430-4600 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.7 Mincon MR116 (4" Metzke) Low Air RC Hammer

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26	MR116OKIT	MR116 O Ring Kit
27	MR116MK01	MR116 Make Up Service Kit
28		
29		

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	116mm	4.57"
Hammer Length (Less Drill Bit)	1143mm	45.0"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR116	
Backhead Thread	4" Metzke	
Drill Bit Size Range	121mm - 127mm	4.75" - 5"
Hammer Weight (Less Bit)	65 Kgs	143 Lbs
Maximum Drill Bit Weight	14 Kgs	30.9 Lbs
Piston Weight	14 Kgs	30.9 Lbs
Make up Torque	4650-6237 NM	3430-4600 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.8 Mincon MR116 (4 1/2" Remet) RC Hammer

Item #	Part Number	Description
1	MR116AS03	MR116 Hammer 4 1/2" "Remet
2	1300-0780	Internal Circlip
3	BS 228 (BS 226)	O Ring x 2 (4" Drill strings)
4	MX5053AT21	Adaptor Tube 4 1/2" Remet
5	BS 224	O Ring x 2
6	BS 040	O Ring
7	MX5053SC01	Air Screen
8	MR116BH21	Back Head 4 1/2" Remet
9	BS 241	O Ring
10	8406-175	Check Valve Seal
11	MX5053SCV01	Check Valve Plunger
12	MX5053SP04	Check Valve Spring
13	MX4550SS01	Spacer
14	MX4550LR01	Lock Ring
15	MR116ST01	Sample Tube – Large Bore
16	MR116ST03	Sample Tube – Small Bore
17	BS 139	O Ring
18	MR116DR01	Sample Tube Mount
19	BS 135	O Ring
20	BS 233	O Ring x 2
21	BS 040	O Ring
22	MR116SR01	Seating Ring
23	MR116IC01	Inner Cylinder
24	MR116PN01	Piston
25	MR116WS01	Wear Sleeve
26	MR116PR01	Piston Retaining Ring
27	MR116BB01	Aligner Bearing Bush
28	N7 88 X 4	O Ring x 2
29	BS 236	O Ring
30	BS 152	Bit Ring
31	MR116CSxxxL	Chuck Sleeve
	MR116CK01	Chuck
	MR116OKIT	MR116 O Ring Kit
	MR116MK01	MR116 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	116mm	4.57"
Hammer Length (Less Drill Bit)	1143mm	45.0"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR116	
Backhead Thread	4 1/2" Remet	
Drill Bit Size Range	121mm - 127mm	4.75" - 5"
Hammer Weight (Less Bit)	65 Kgs	143 Lbs
Maximum Drill Bit Weight	14 Kgs	30.9 Lbs
Piston Weight	14 Kgs	30.9 Lbs
Make up Torque	4650-6237 NM	3430-4600 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.9 Mincon MR116 (4 1/2" Remet) Low Air RC Hammer

Item #	Part Number	Description
1	MR116AL03	MR116 Hammer 4 1/2" " Remet - Low Air
2	1300-0780	Internal Circlip
3	BS 228	O Ring x 2
4	MX5053AT21	Adaptor Tube 4 1/2" Remet
5	BS 224	O Ring x 2
6	BS 040	O Ring
7	MX5053SC01	Air Screen
8	MR116BH21	Back Head 4 1/2" Remet
9	BS 241	O Ring
10	8406-175	Check Valve Seal
11	MX5053SCV01	Check Valve Plunger
12	MX5053SP04	Check Valve Spring
13	MX4550SS01	Spacer
14	MX4550LR01	Lock Ring
15	MR116ST01	Sample tube - Large Bore
16	MR116ST03	Sample Tube - Small Bore
17	BS 139	O Ring
18	MR116DR02	Sample Tube Mount - Low Air
19	BS 233	O Ring
20	BS 040	O Ring
21	MR116SR01	Seating Ring
22	MR116IC01	Inner Cylinder
23	MR116PN01	Piston
24	MR116WS01	Wear Sleeve
25	MR116PR01	Piston Retaining Ring
26	MR116BB01	Aligner Bearing Bush
27	N7 88 X 4	O Ring x 2
28	BS 236	O Ring
29	BS 236	O Ring
30	MR116BR01	Bit Ring
31	BS 152	O Ring
32	MR116CSxxxL	Chuck Sleeve
33	MR116CK01	Chuck
34	MR116OKIT	MR116 O Ring Kit
35	MR116MK01	MR116 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	116mm	4.57"
Hammer Length (Less Drill Bit)	1143mm	45.0"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR116	
Backhead Thread	4 1/2" Remet	
Drill Bit Size Range	121mm - 127mm	4.75" - 5"
Hammer Weight (Less Bit)	65 Kgs	143 Lbs
Maximum Drill Bit Weight	14 Kgs	30.9 Lbs
Piston Weight	14 Kgs	30.9 Lbs
Make up Torque	4650-6237 NM	3430-4600 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.10 Mincon MR116 (4 1/2" Metzke) RC Hammer

1	MR116AS04	MR116 Hammer 4 1/2" " Metzke
2	1300-0780	Internal Circlip
3	MX5053AT31	Adaptor Tube 4 1/2" Metzke
4	BS 224	O Ring x 2
5	BS 040	O Ring
6	MX5053SC01	Air Screen
7	MR116BH31	Back Head 4 1/2" Metzke
8	BS 241	O Ring
9	8406-175	Check Valve Seal
10	MX5053SCV01	Check Valve Plunger
11	MX5053SP04	Check Valve Spring
12	MX4550SS01	Spacer
13	MX4550LR01	Lock Ring
14	MR116ST01	Sample Tube – Large Bore
15	MR116ST03	Sample Tube – Small Bore
16	BS 139	O Ring
17	MR116DR01	Sample Tube Mount
18	BS 135	O Ring
19	BS 233	O Ring x 2
20	BS 040	O Ring
21	MR116SR01	Seating Ring
22	MR116IC01	Inner Cylinder
23	MR116PN01	Piston
24	MR116WS01	Wear Sleeve
25	MR116PR01	Piston Retaining Ring
26	MR116BB01	Aligner Bearing Bush
27	N7 88 X 4	O Ring x 2
28	BS 236	O Ring
29	BS 152	O Ring
30	MR116BR01	Bit Ring
	BS 152	O Ring
	MR116CSxxxL	Chuck Sleeve
	MR116CK01	Chuck
	MR116OKIT	MR116 O Ring Kit
	MR116MK01	MR116 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	116mm	4.57"
Hammer Length (Less Drill Bit)	1143mm	45.0"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR116	
Backhead Thread	4 1/2" Metzke	
Drill Bit Size Range	121mm - 127mm	4.75" - 5"
Hammer Weight (Less Bit)	65 Kgs	143 Lbs
Maximum Drill Bit Weight	14 Kgs	30.9 Lbs
Piston Weight	14 Kgs	30.9 Lbs
Make up Torque	4650-6237 NM	3430-4600 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.11 Mincon MR116 (4 1/2" Metzke) Low Air RC Hammer

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17	MR116AL04	Mincon MR116-LA (4 1/2" " Metzke)
18	1300-0780	Internal Circlip
19	MX5053AT31	Adaptor Tube (4 1/2 Metzke)
	BS 224	O Ring x 2
	BS 040	O Ring
	MX5053SC01	Air Screen
	MR116BH31	Backhead (4 1/2 Metzke)
	BS 241	O Ring
	8406-175	Check Valve Seal
	MX5053SCV01	Check Valve Plunger
	MX5053SP04	Check Valve Spring
	MX4550SS01	Spacer
	MX4550LR01	Lock Ring
	MR116ST01	Sample Tube – Large Bore
	MR116ST03	Sample Tube – Small Bore
	BS 139	O Ring
	MR116DR02	Sample Tube Mount - Low Air
	BS 233	O Ring
	BS 040	O Ring
	MR116SR01	Seating Ring
	MR116IC01	Inner Cylinder
	MR116PN01	Piston
	MR116WS01	Wear Sleeve
	MR116PR01	Piston Retaining Ring
	MR116BB01	Aligner Bearing Bush
	N7 88 X 4	O Ring x 2
	BS 236	O Ring
	MR116BR01	Bit Ring
	BS 152	O Ring
	MR116CSxxxL	Chuck Sleeve
	MR116CK01	Chuck
	MR116OKIT	MR116 O Ring Kit
	MR116MK01	MR116 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	116mm	4.57"
Hammer Length (Less Drill Bit)	1143mm	45.0"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR116	
Backhead Thread	4 1/2" Metzke	
Drill Bit Size Range	121mm - 127mm	4.75" - 5"
Hammer Weight (Less Bit)	65 Kgs	143 Lbs
Maximum Drill Bit Weight	14 Kgs	30.9 Lbs
Piston Weight	14 Kgs	30.9 Lbs
Make up Torque	4650-6237 NM	3430-4600 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.12 Mincon MR120 (4" Remet) RC Hammer

1	MR120AS01	MR120 Hammer 4" Remet
2	1300-0780	Internal Circlip
3	BS 226	O Ring x 2
4	MX5053AT01	Adaptor Tube 4 Remet
5	BS-224	O Ring x 2
6	BS-040	O Ring
7	MX5053SC01	Air Screen
8	MR120BH01	Back Head 4" Remet
9	BS-241	O Ring
10	8406-175	Check Valve Seal - Nitrile U
11	MX5053SCV01	Check Valve Plunger
12	MX5053SP04	Check Valve Spring
13	MX4550SS01	Spacer
14	MX4550LR01	Lock Ring
15	MR120ST01	Sample Tube - Large Bore
16	MR120ST03	Sample Tube - Small bore
17	BS 228	O Ring
18	MR120DR01	Sample Tube Mount
19	BS226	O Ring
20	BS 234	O Ring x 2
21	BS 040	O Ring
22	MX5053SR01	Seating Ring
23	MR120IC01	Inner Cylinder
24	MR120PN01	Piston
25	MR120WS01	Wear Sleeve
26	MX5053PR01	Piston Retaining Ring
27	MR120BB01	Aligner Bearing Bush
28	N7-92x4	O Ring x 2
29	BS 237	O Ring
30	MR120BR01	Bit Ring
31	BS 152	O Ring
	MR120CK01	Chuck
	MR120CSxxxL	Chuck Sleeve
	MR120OKIT	MR120 O Ring Kit
	MR120MK01	MR120 Make Up Service Kit
	NB: For Chuck Sleeve part number "xxx" indicates head size in mm.	
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Specifications	Metric	Imperial
Hammer Outside Diameter	120mm	4.75"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR120	
Backhead Thread	4" Remet	
Drill Bit Size Range	127mm - 143mm	5" - 5.625"
Hammer Weight (Less Bit)	70 Kgs	154 Lbs
Maximum Drill Bit Weight	14.5 Kgs	32 Lbs
Piston Weight	16 Kgs	35.3 Lbs
Make up Torque	4826-6440 NM	3560-4750 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.13 Mincon MR120 (4" Remet) Low Air RC Hammer

1	MR120AL01	MR120 Hammer 4" Remet - Low Air
2	1300-0780	Internal Circlip
3	BS 226	O Ring x 2
4	MX5053AT01	Adaptor Tube 4 Remet
5	BS-224	O Ring x 2
6	BS-040	O Ring
7	MX5053SC01	Air Screen
8	MR120BH01	Back Head 4" Remet
9	BS-241	O Ring
10	8406-175	Check Valve Seal - Nitrile U
11	MX5053SCV01	Check Valve Plunger
12	MX5053SP04	Check Valve Spring
13	MX4550SS01	Spacer
14	MX4550LR01	Lock Ring
15	MR120ST01	Sample Tube - Large Bore
16	MR120ST03	Sample Tube - Small bore
17	BS 228	O Ring
18	MR120DR02	Sample Tube Mount
19	BS 234	O Ring
20	BS 040	O Ring
21	MX5053SR01	Seating Ring
22	MR120IC01	Inner Cylinder
23	MR120PN01	Piston
24	MR120WS01	Wear Sleeve
25	MX5053PR01	Piston Retaining Ring
26	MR120BB01	Aligner Bearing Bush
27	N7-92x4	O Ring x 2
28	BS 237	O Ring
29	MR120BR01	Bit Ring
30	BS 152	O Ring
	MR120CK01	Chuck
	MR120CSxxxL	Chuck Sleeve
	MR120OKIT	MR120 O Ring Kit
	MR120MK01	MR120 Make Up Service Kit
	NB: For Chuck Sleeve part number "xxx" indicates head size in mm.	
15		
16		
17		

Specifications	Metric	Imperial
Hammer Outside Diameter	120mm	4.75"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR120	
Backhead Thread	4" Remet	
Drill Bit Size Range	127mm - 143mm	5" - 5.625"
Hammer Weight (Less Bit)	70 Kgs	154 Lbs
Maximum Drill Bit Weight	14.5 Kgs	32 Lbs
Piston Weight	16 Kgs	35.3 Lbs
Make up Torque	4826-6440 NM	3560-4750 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



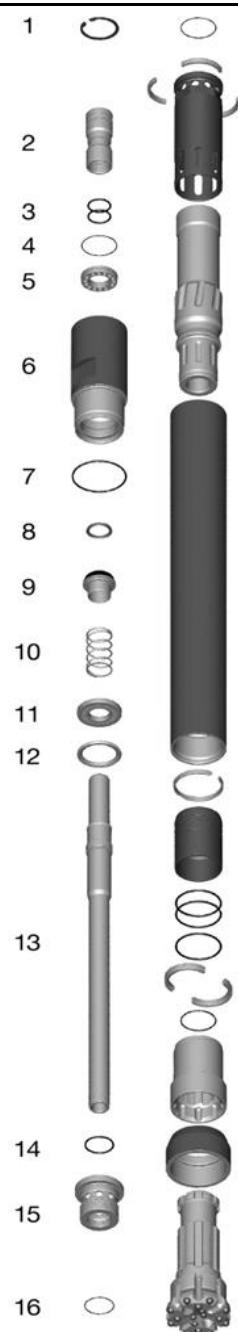
### 2.2.14 Mincon MR120 (4" Metzke) RC Hammer

1	MR120AS02	MR120 Hammer 4" Metzke
2	1300-0780	Internal Circlip
3	MX5053AT11	Adaptor Tube 4 Metzke
4	BS-224	O Ring x 2
5	BS-040	O Ring
6	MX5053SC01	Air Screen
7	MR120BH11	Back Head 4" Metzke
8	BS-241	O Ring
9	8406-175	Check Valve Seal - Nitrile U
10	MX5053SCV01	Check Valve Plunger
11	MX5053SP04	Check Valve Spring
12	MX4550SS01	Spacer
13	MX4550LR01	Lock Ring
14	MR120ST01	Sample Tube - Large Bore
15	MR120ST03	Sample Tube - Small bore
16	BS 228	O Ring
17	MR120DR01	Sample Tube Mount
18	BS 226	O Ring
19	BS 234	O Ring x 2
20	BS 040	O Ring
21	MX5053SR01	Seating Ring
22	MR120IC01	Inner Cylinder
23	MR120PN01	Piston
24	MR120WS01	Wear Sleeve
25	MX5053PR01	Piston Retaining Ring
26	MR120BB01	Aligner Bearing Bush
27	N7-92x4	O Ring x 2
28	25	O Ring
29	BS 237	O Ring
30	MR120BR01	Bit Ring
31	BS 152	O Ring
32	MR120CK01	Chuck
33	MR120CSxxxL	Chuck Sleeve
	MR120OKIT	MR120 O Ring Kit
	MR120MK01	MR120 Make Up Service Kit
	NB: For Chuck Sleeve part number "xxx" indicates head size in mm.	
14	30	
15		
16		
17		

Specifications	Metric	Imperial
Hammer Outside Diameter	120mm	4.75"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR120	
Backhead Thread	4" Metzke	
Drill Bit Size Range	127mm - 143mm	5" - 5.625"
Hammer Weight (Less Bit)	70 Kgs	154 Lbs
Maximum Drill Bit Weight	14.5 Kgs	32 Lbs
Piston Weight	16 Kgs	35.3 Lbs
Make up Torque	4826-6440 NM	3560-4750 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.15 Mincon MR120 (4" Metzke) Low Air RC Hammer



Item #	Part Number	Description
1	MR120AL02	MR120 Hammer 4" Metzke - Low Air
2	1300-0780	Internal Circlip
3	MX5053AT11	Adaptor Tube 4 Metzke
4	BS-224	O Ring x 2
5	BS-040	O Ring
6	MX5053SC01	Air Screen
7	MR120BH11	Back Head 4" Metzke
8	BS-241	O Ring
9	8406-175	Check Valve Seal - Nitrile U
10	MX5053SCV01	Check Valve Plunger
11	MX5053SP04	Check Valve Spring
12	MX4550SS01	Spacer
13	MX4550LR01	Lock Ring
14	MR120ST01	Sample Tube - Large Bore
15	MR120ST03	Sample Tube - Small bore
16	BS 228	O Ring
17	MR120DR02	Sample Tube Mount
18	BS 234	O Ring
19	BS 040	O Ring
20	MX5053SR01	Seating Ring
21	MR120IC01	Inner Cylinder
22	MR120PN01	Piston
23	MR120WS01	Wear Sleeve
24	MX5053PR01	Piston Retaining Ring
25	MR120BB01	Aligner Bearing Bush
26	N7-92x4	O Ring x 2
27	BS 237	O Ring
28	MR120BR01	Bit Ring
29	BS 152	O Ring
30	MR120CK01	Chuck
31	MR120CSxxxL	Chuck Sleeve
32	MR120OKIT	MR120 O Ring Kit
33	MR120MK01	MR120 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	120mm	4.75"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR120	
Backhead Thread	4" Metzke	
Drill Bit Size Range	127mm - 143mm	5" - 5.625"
Hammer Weight (Less Bit)	70 Kgs	154 Lbs
Maximum Drill Bit Weight	14.5 Kgs	32 Lbs
Piston Weight	16 Kgs	35.3 Lbs
Make up Torque	4826-6440 NM	3560-4750 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.16 Mincon MR120 (4 1/2" Remet) RC Hammer

1		19	Item #	Part Number	Description
2		20		MR120AS03	MR120 Hammer 4 1/2" Remet
3		21	1	1300-0780	Internal Circlip
4			2	BS 228	O Ring x 2
5			3	MX5053AT21	Adaptor Tube 4 1/2" Remet
6		22	4	BS-224	O Ring x 2
7			5	BS-040	O Ring
8			6	MX5053SC01	Air Screen
9			7	MR120BH21	Back Head 4 1/2" Remet
10		23	8	BS-241	O Ring
11			9	8406-175	Check Valve Seal - Nitrile U
12			10	MX5053SCV01	Check Valve Plunger
13			11	MX5053SP04	Check Valve Spring
14			12	MX4550SS01	Spacer
15			13	MX4550LR01	Lock Ring
16			14	MR120ST01	Sample Tube - Large Bore
17			15	MR120ST03	Sample Tube - Small bore
18			16	BS 228	O Ring
19			17	MR120DR01	Sample Tube Mount
20			18	BS 226	O Ring
21			19	BS 234	O Ring x 2
22			20	BS 040	O Ring
23			21	MX5053SR01	Seating Ring
24			22	MR120IC01	Inner Cylinder
25			23	MR120PN01	Piston
26			24	MR120WS01	Wear Sleeve
27			25	MX5053PR01	Piston Retaining Ring
28			26	MR120BB01	Aligner Bearing Bush
29			27	N7-92x4	O Ring x 2
30			28	BS 237	O Ring
31			29	MR120BR01	Bit Ring
			30	BS 152	O Ring
			31	MR120CK01	Chuck
				MR120CSxxxL	Chuck Sleeve
			29	MR120OKIT	MR120 O Ring Kit
			30	MR120MK01	MR120 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	120mm	4.75"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type		MR120
Backhead Thread		4" Remet
Drill Bit Size Range	127mm - 143mm	5" - 5.625"
Hammer Weight (Less Bit)	70 Kgs	154 Lbs
Maximum Drill Bit Weight	14.5 Kgs	32 Lbs
Piston Weight	16 Kgs	35.3 Lbs
Make up Torque	4826-6440 NM	3560-4750 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.17 Mincon MR120 (4 1/2" Remet) Low Air RC Hammer

1	MR120AL03	MR120 Hammer 4 1/2" Remet - Low Air
2	1300-0780	Internal Circlip
3	BS 228	O Ring x 2
4	MX5053AT21	Adaptor Tube 4 1/2" Remet
5	BS-224	O Ring x 2
6	BS-040	O Ring
7	MX5053SC01	Air Screen
8	MR120BH21	Back Head 4 1/2" Remet
9	BS-241	O Ring
10	8406-175	Check Valve Seal - Nitrile U
11	MX5053SCV01	Check Valve Plunger
12	MX5053SP04	Check Valve Spring
13	MX4550SS01	Spacer
14	MX4550LR01	Lock Ring
15	MR120ST01	Sample Tube - Large Bore
16	MR120ST03	Sample Tube - Small bore
17	BS 228	O Ring
18	MR120DR02	Sample Tube Mount
19	BS 234	O Ring
20	BS 040	O Ring
21	MX5053SR01	Seating Ring
22	MR120IC01	Inner Cylinder
23	MR120PN01	Piston
24	MR120WS01	Wear Sleeve
25	MX5053PR01	Piston Retaining Ring
26	MR120BB01	Aligner Bearing Bush
27	N7-92x4	O Ring x 2
28	BS 237	O Ring
29	MR120BR01	Bit Ring
30	BS 152	O Ring
	MR120CK01	Chuck
	MR120CSxxxL	Chuck Sleeve
	MR120OKIT	MR120 O Ring Kit
	MR120MK01	MR120 Make Up Service Kit
	NB: For Chuck Sleeve part number "xxx" indicates head size in mm.	
15		
16		
17		

Specifications	Metric	Imperial
Hammer Outside Diameter	120mm	4.75"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR120	
Backhead Thread	4" Remet	
Drill Bit Size Range	127mm - 143mm	5" - 5.625"
Hammer Weight (Less Bit)	70 Kgs	154 Lbs
Maximum Drill Bit Weight	14.5 Kgs	32 Lbs
Piston Weight	16 Kgs	35.3 Lbs
Make up Torque	4826-6440 NM	3560-4750 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.18 Mincon MR120 (4 1/2" Metzke) RC Hammer

1	MR120AS04	MR120 Hammer 4 1/2" Metzke
2	1300-0780	Internal Circlip
3	MX5053AT31	Adaptor Tube 4 1/2 Metzke
4	BS-224	O Ring x 2
5	BS-040	O Ring
6	MX5053SC01	Air Screen
7	MR120BH31	Back Head 4 1/2" Metzke
8	BS-241	O Ring
9	8406-175	Check Valve Seal - Nitrile U
10	MX5053SCV01	Check Valve Plunger
11	MX5053SP04	Check Valve Spring
12	MX4550SS01	Spacer
13	MX4550LR01	Lock Ring
14	MR120ST01	Sample Tube - Large Bore
15	MR120ST03	Sample Tube - Small bore
16	BS 228	O Ring
17	MR120DR01	Sample Tube Mount
18	BS 226	O Ring
19	BS 234	O Ring x 2
20	BS 040	O Ring
21	MX5053SR01	Seating Ring
22	MR120IC01	Inner Cylinder
23	MR120PN01	Piston
24	MR120WS01	Wear Sleeve
25	MX5053PR01	Piston Retaining Ring
26	MR120BB01	Aligner Bearing Bush
27	N7-92x4	O Ring x 2
28	25	O Ring
29	BS 237	O Ring
30	MR120BR01	Bit Ring
31	BS 152	O Ring
32	MR120CK01	Chuck
33	MR120CSxxxL	Chuck Sleeve
	MR120OKIT	MR120 O Ring Kit
	MR120MK01	MR120 Make Up Service Kit
	NB: For Chuck Sleeve part number "xxx" indicates head size in mm.	
14	30	
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Specifications	Metric	Imperial
Hammer Outside Diameter	120mm	4.75"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR120	
Backhead Thread	4" Metzke	
Drill Bit Size Range	127mm - 143mm	5" - 5.625"
Hammer Weight (Less Bit)	70 Kgs	154 Lbs
Maximum Drill Bit Weight	14.5 Kgs	32 Lbs
Piston Weight	16 Kgs	35.3 Lbs
Make up Torque	4826-6440 NM	3560-4750 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



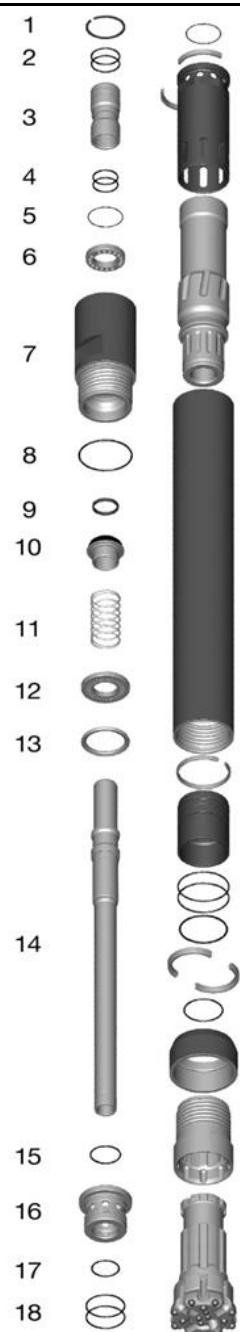
### 2.2.19 Mincon MR120 (4 1/2" Metzke) Low Air RC Hammer

Item #	Part Number	Description
1	MR120AL04	MR120 Hammer 4 1/2" Metzke - Low Air
17	1300-0780	Internal Circlip
18	MX5053AT31	Adaptor Tube 4 1/2 Metzke
19	BS-224	O Ring x 2
2	BS-040	O Ring
19	MX5053SC01	Air Screen
3	MR120BH31	Back Head 4 1/2" Metzke
4	BS-241	O Ring
5	8406-175	Check Valve Seal - Nitrile U
20	MX5053SCV01	Check Valve Plunger
6	MX5053SP04	Check Valve Spring
11	MX4550SS01	Spacer
12	MX4550LR01	Lock Ring
13	MR120ST01	Sample Tube - Large Bore
14	MR120ST03	Sample Tube - Small bore
7	BS 228	O Ring
15	MR120DR02	Sample Tube Mount
8	BS 234	O Ring
9	BS 040	O Ring
10	MX5053SR01	Seating Ring
11	MR120IC01	Inner Cylinder
12	MR120PN01	Piston
13	MR120WS01	Wear Sleeve
14	MX5053PR01	Piston Retaining Ring
15	MR120BB01	Aligner Bearing Bush
16	N7-92x4	O Ring x 2
17	BS 237	O Ring
18	MR120BR01	Bit Ring
19	BS 152	O Ring
20	MR120CK01	Chuck
21	MR120CSxxxL	Chuck Sleeve
22	MR120OKIT	MR120 O Ring Kit
23	MR120MK01	MR120 Make Up Service Kit
24	NB: For Chuck Sleeve part number "xxx" indicates head size in mm.	
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Specifications	Metric	Imperial
Hammer Outside Diameter	120mm	4.75"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR120	
Backhead Thread	4" Metzke	
Drill Bit Size Range	127mm - 143mm	5" - 5.625"
Hammer Weight (Less Bit)	70 Kgs	154 Lbs
Maximum Drill Bit Weight	14.5 Kgs	32 Lbs
Piston Weight	16 Kgs	35.3 Lbs
Make up Torque	4826-6440 NM	3560-4750 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.20 Mincon MR132 (4 1/2" Remet) RC Hammer



Item #	Part Number	Description
1	MR132AS01	MR132 Hammer 4 1/2" Remet
2	1300-0850	Internal Circlip
3	BS 228	O Ring x 2
4	MX5456AT01	Adaptor Tube 4 1/2" Remet Pin
5	BS 226	O Ring x 2
6	BS 040	O Ring
7	MX5456SC01	Air Screen
8	MR132BH01	Back Head 4 1/2" Remet
9	BS 244	O Ring
10	8406-0200-N8	Check Valve Seal
11	MX5456CV01	Check Valve Plunger
12	MX5456SP01	Check Valve Spring
13	MR132SS01	Spacer
14	MR132LR01	Lock Ring
15	MR132ST01	Sample tube - Large Bore
16	MR132ST03	Sample Tube - Small Bore
17	BS230	O Ring
18	MR132DR01	Sample Tube Mount
19	BS228	O Ring
20	BS237	O Ring x 2
21	BS042	O Ring
22	MX5456SR01	Seating Ring
23	MR132IC01	Inner Cylinder
24	MR132PN01	Piston
25	MR132WS01	Wear Sleeve
26	MX5456PR01	Piston Retaining Ring
27	MR132BB01	Aligner Bearing Bush
28	N7-102-4	O Ring x 2
29	BS 241	O Ring
30	MR132BR01	Bit Ring
31	BS 152	O Ring
32	MR132CSxxxL	Chuck Sleeve
33	MR132CK01	Chuck
34	MR132OKIT	MR132 O Ring Kit
35	MR132MK01	MR132 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	132mm	5.2"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR132	
Backhead Thread	4 1/2" Remet	
Drill Bit Size Range	137mm - 146mm	5.4" - 5.75"
Hammer Weight (Less Bit)	77 Kgs	170 Lbs
Maximum Drill Bit Weight	18 Kgs	39.7 Lbs
Piston Weight	19 Kgs	41.9 Lb
Make up Torque	5288-7050 NM	3900-5200 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.21 Mincon MR132 (4 1/2" Remet) Low Air RC Hammer

1	MR132AL01	MR132 Hammer 4 1/2" Remet - Low Air
2	1300-0850	Internal Circlip
3	BS 228	O Ring x 2
4	MX5456AT01	Adaptor Tube 4 1/2" Remet Pin
5	BS 226	O Ring x 2
6	BS 040	O Ring
7	MX5456SC01	Air Screen
8	MR132BH01	Back Head 4 1/2" Remet
9	BS 244	O Ring
10	8406-0200-N8	Check Valve Seal
11	MX5456CV01	Check Valve Plunger
12	MX5456SP01	Check Valve Spring
13	MR132SS01	Spacer
14	MR132LR01	Lock Ring
15	MR132ST01	Sample tube - Large Bore
16	MR132ST03	Sample Tube - Small Bore
17	BS230	O Ring
18	MR132DR02	Sample Tube Mount - Low Air
19	BS237	O Ring
20	BS042	O Ring
21	MX5456SR01	Seating Ring
22	MR132IC01	Inner Cylinder
23	MR132PN01	Piston
24	MR132WS01	Wear Sleeve
25	MX5456PR01	Piston Retaining Ring
26	MR132BB01	Aligner Bearing Bush
27	N7-102-4	O Ring x 2
28	BS 241	O Ring
29	BS 152	O Ring
30	MR132BR01	Bit Ring
	MR132CSxxxL	Chuck Sleeve (Retention)
	MR132CK01	Chuck
	MR132OKIT	MR132 O Ring Kit
	MR132MK01	MR132 Make Up Service Kit
	NB: For Chuck Sleeve part number "xxx" indicates head size in mm.	
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Specifications	Metric	Imperial
Hammer Outside Diameter	132mm	5.2"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR132	
Backhead Thread	4 1/2" Remet	
Drill Bit Size Range	137mm - 146mm	5.4" - 5.75"
Hammer Weight (Less Bit)	77 Kgs	170 Lbs
Maximum Drill Bit Weight	18 Kgs	39.7 Lbs
Piston Weight	19 Kgs	41.9 Lb
Make up Torque	5288-7050 NM	3900-5200 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.22 Mincon MR132 (4 1/2" Metzke) RC Hammer

Item #	Part Number	Description
1	MR132AS02	MR132 Hammer 4 1/2" Metzke
2	1300-0850	Internal Circlip
3	MX5456AT11	Adaptor Tube 4 1/2" Metzke Pin
4	BS 226	O Ring x 2
5	BS 040	O Ring
6	MX5456SC01	Air Screen
7	MR132BH11	Back Head 4 1/2" Metzke
8	BS 244	O Ring
9	8406-0200-N8	Check Valve Seal
10	MX5456CV01	Check Valve Plunger
11	MX5456SP01	Check Valve Spring
12	MR132SS01	Spacer
13	MR132LR01	Lock Ring
14	MR132ST01	Sample tube - Large Bore
15	MR132ST03	Sample Tube - Small Bore
16	BS230	O Ring
17	MR132DR01	Sample Tube Mount
18	BS228	O Ring
19	BS237	O Ring x 2
20	BS042	O Ring
21	MX5456SR01	Seating Ring
22	MR132IC01	Inner Cylinder
23	MR132PN01	Piston
24	MR132WS01	Wear Sleeve
25	MX5456PR01	Piston Retaining Ring
26	MR132BB01	Aligner Bearing Bush
27	N7-102-4	O Ring x 2
28	BS 241	O Ring
29	MR132BR01	Bit Ring
30	BS 152	O Ring
	MR132CSxxxL	Chuck Sleeve
	MR132CK01	Chuck
	MR132OKIT	MR132 O Ring Kit
	MR132MK01	MR132 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	132mm	5.2"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR132	
Backhead Thread	4 1/2" Metzke	
Drill Bit Size Range	137mm - 146mm	5.4" - 5.75"
Hammer Weight (Less Bit)	77 Kgs	170 Lbs
Maximum Drill Bit Weight	18 Kgs	39.7 Lbs
Piston Weight	19 Kgs	41.9 Lb
Make up Torque	5288-7050 NM	3900-5200 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.2.23 Mincon MR132 (4 1/2" Metzke) Low Air RC Hammer

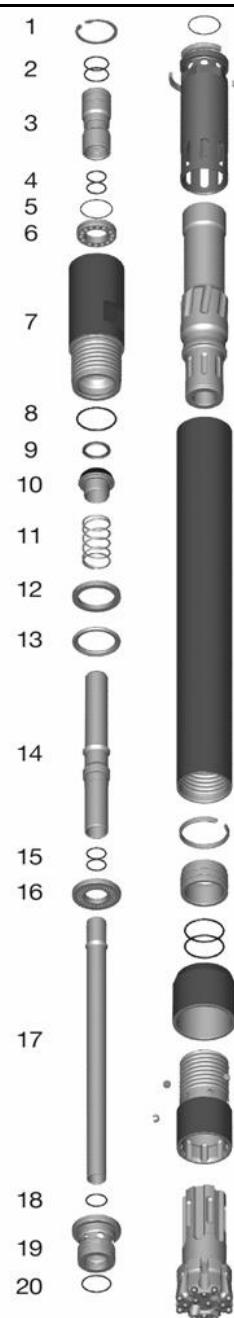
Item #	Part Number	Description
1	MR132AL02	MR132 Hammer 4 1/2" Metzke - Low Air
2	1300-0850	Internal Circlip
3	MX5456AT11	Adaptor Tube 4 1/2" Metzke Pin
4	BS 226	O Ring x 2
5	BS 040	O Ring
6	MX5456SC01	Air Screen
7	MR132BH11	Back Head 4 1/2" Metzke
8	BS 244	O Ring
9	8406-0200-N8	Check Valve Seal
10	MX5456CV01	Check Valve Plunger
11	MX5456SP01	Check Valve Spring
12	MR132SS01	Spacer
13	MR132LR01	Lock Ring
14	MR132ST01	Sample tube - Large Bore
15	MR132ST03	Sample Tube - Small Bore
16	BS230	O Ring
17	MR132DR02	Sample Tube Mount
18	BS237	O Ring
19	BS042	O Ring
20	MX5456SR01	Seating Ring
21	MR132IC01	Inner Cylinder
22	MR132PN01	Piston
23	MR132WS01	Wear Sleeve
24	MX5456PR01	Piston Retaining Ring
25	MR132BB01	Aligner Bearing Bush
26	N7-102-4	O Ring x 2
27	BS 241	O Ring
28	MR132BR01	Bit Ring
29	BS 152	O Ring
30	LMR132CSxxxL	Chuck Sleeve
31	MR132CK01	Chuck
32	MR132OKIT	MR132 O Ring Kit
33	MR132MK01	MR132 Make Up Service Kit
NB: For Chuck Sleeve part number "xxx" indicates head size in mm.		
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Specifications	Metric	Imperial
Hammer Outside Diameter	132mm	5.2"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	94mm	4"
Drill Bit Shank Type	MR132	
Backhead Thread	4 1/2" Metzke	
Drill Bit Size Range	137mm - 146mm	5.4" - 5.75"
Hammer Weight (Less Bit)	77 Kgs	170 Lbs
Maximum Drill Bit Weight	18 Kgs	39.7 Lbs
Piston Weight	19 Kgs	41.9 Lb
Make up Torque	5288-7050 NM	3900-5200 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



## 2.3 MX Range

### 2.3.1 Mincon MX4044 (3 1/2" Remet) RC Hammer



Item #	Part Number	Description
1	MX4044AA01	MX4044 Hammer - 3 1/2" Remet
2	D1300-0780	Internal Circlip
3	BS 132	O Ring x 2
4	MX4044AT01	Adaptor Tube 3 1/2" Remet
5	BS 126	O Ring x 2
6	BS 036	O Ring
7	MX4044SC01	Air Screen
8	MX4044BH01	Backhead 3 1/2" Remet
9	BS 233	O Ring
10	8405-137	Check Valve Seal
11	MX4044CV01	Check Valve Plunger
12	MX4044SP01	Check Valve Spring
13	MX4044SM01	Steel Make Up Ring
14	MX4044LR01	Lock Ring
15	MX4044TT01	Top Tube
16	BS 126	O Ring x 2
17	MX4044SS01	Spacer
18	MX4044ST01	Sample Tube
19	BS 128	O Ring
20	MX4044DR01	Sample Tube Mount
21	BS 138	O Ring
22	BS 036	O Ring
23	MX4044SR01	Seating Ring
24	MX4044IC01	Inner Cylinder
25	MX4044PN01	Piston
26	MX4044WS01	Wear Sleeve
27	MX4044PR01	Piston Retaining Ring
28	MX4044BB01	Aligner Bearing Bush
29	BS 232	O Ring x 2
30	MX4044CSxxxL	Chuck Sleeve
31	MX4044BR01	Bit Retaining Pins x 6 (set)
	MX4044CK01	Chuck
	MX4044OKIT	MX4044 O Ring Kit
	MX4044MK01	MX4044 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	92mm	3.622"
Hammer Length (Less Drill Bit)	1166mm	45.9"
Backhead Spanner Flat Size	76mm	3"
Drill Bit Shank Type		MX4044
Backhead Thread		3 1/2" Remet
Drill Bit Size Range	102mm - 114mm	4.0" - 4.5"
Hammer Weight (Less Bit)	46 Kgs	101 Lbs
Maximum Drill Bit Weight	11 Kgs	24.4 Lbs
Piston Weight	12 Kgs	26.4 Lbs
Make up Torque	3687-4921 NM	2720-3630 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.3.2 Mincon MX4550 (4" Remet) RC Hammer

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	MX4550AA01	MX4550 Hammer - 4" Remet
1	1300-0780	Internal Circlip
2	BS 226	O Ring x 2
3	MX5053AT01	Adaptor Tube 4" Remet
4	BS 224	O Ring x 2
5	BS 040	O Ring
6	MX5053SC01	Air Screen
7	MX4550BH01	Backhead 4" Remet
8	BS 238	O Ring
9	8406-175	Check Valve Seal
10	MX5053SCV01	Check Valve Plunger
11	MX5053SP04	Check Valve Spring
12	MX4550SM01	Steel Make Up Ring
13	MX4550LR01	Lock Ring
14	MX4550SS01	Spacer
15	MX4550ST01	Sample Tube - Large bore
	MX4550ST03	Sample Tube - Small bore
16	BS 225	O Ring
17	MX4550DR01	Sample Tube Mount
18	BS 231	O Ring x 2
19	BS 040	O Ring
20	MX4550SR01	Seating Ring
22	MX4550IC01	Inner Cylinder
23	MX4550PN01	Piston
24	MX4550WS01	Wear Sleeve
25	MX4550PR01	Piston Retaining Ring
26	MX4550BB01	Aligner Bearing Bush
27	BS 152	O Ring x 2
28	MX4550CSxxxL	Chuck Sleeve
29	5053PIN	Bit Ret Pins x 6
30	MX4550CK01	Chuck
	MX4550OKIT	MX4550 O Ring Kit
	MX4550MK01	MX4550 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	109mm	4.29"
Hammer Length (Less Drill Bit)	1250mm	49.2"
Backhead Spanner Flat Size	94mm	3.7"
Drill Bit Shank Type	MX4550	
Backhead Thread	4" Remet	
Drill Bit Size Range	114mm - 127mm	4.5" - 5.0"
Hammer Weight (Less Bit)	56 Kgs	123 Lbs
Maximum Drill Bit Weight	13 Kgs	28.6 Lbs
Piston Weight	12 Kgs	26.4 Lbs
Make up Torque	4373-5830 NM	3225-4300 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.3.3 Mincon MX4550 (4" Metzke) RC Hammer

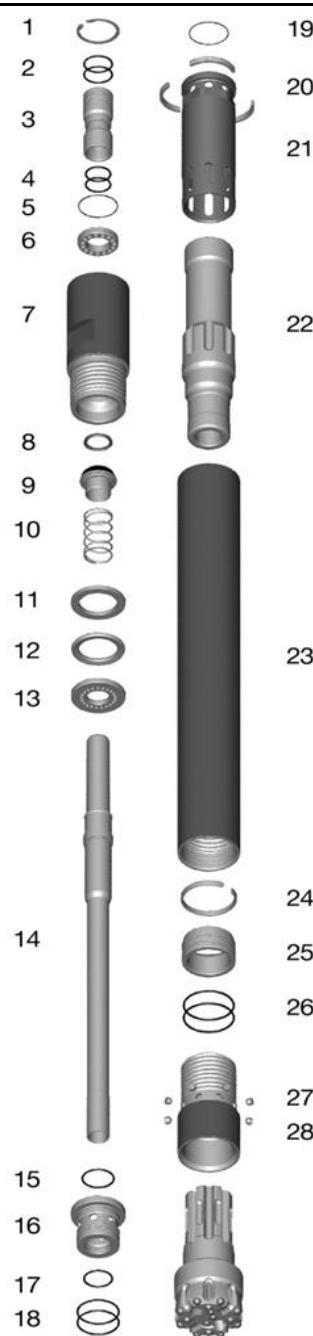
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	MX4550AA11	MX4550 Hammer 4" Metzke
1	1300-0780	Internal Circlip
2	MX5053AT11	Adaptor Tube 4" Metzke
3	BS 224	O Ring x 2
4	BS 040	O Ring
5	MX5053SC01	Air Screen
6	MX4550BH11	Backhead 4" Metzke
7	BS 238	O Ring
8	8406-175	Check Valve Seal
9	MX5053SCV01	Check Valve Plunger
10	MX5053SP04	Check Valve Spring
11	MX4550SM01	Steel Make Up Ring
12	MX4550LR01	Lock Ring
13	MX4550SS01	Spacer
14	MX4550ST01	Sample Tube - Large bore
	MX4550ST03	Sample Tube - Small bore
15	BS 225	O Ring
16	MX4550DR01	Sample Tube Mount
17	BS 231	O Ring x 2
18	BS 040	O Ring
19	MX4550SR01	Seating Ring
20	MX4550IC01	Inner Cylinder
21	MX4550PN01	Piston
22	MX4550WS01	Wear Sleeve
23	MX4550PR01	Piston Retaining Ring
24	MX4550BB01	Aligner Bearing Bush
25	BS 152	O Ring x 2
26	MX4550CSxxxL	Chuck Sleeve
27	5053PIN	Bit Ret Pins x 6
28	MX4550CK01	Chuck
	MX4550OKIT	MX4550 O Ring Kit
	MX4550MK01	MX4550 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	109mm	4.29"
Hammer Length (Less Drill Bit)	1250mm	49.2"
Backhead Spanner Flat Size	94mm	3.7"
Drill Bit Shank Type		MX4550
Backhead Thread		4" Metzke
Drill Bit Size Range	114mm - 127mm	4.5" - 5.0"
Hammer Weight (Less Bit)	56 Kgs	123 Lbs
Maximum Drill Bit Weight	13 Kgs	28.6 Lbs
Piston Weight	12 Kgs	26.4 Lbs
Make up Torque	4373-5830 NM	3225-4300 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.3.4 Mincon MX5053 (4" Remet) RC Hammer



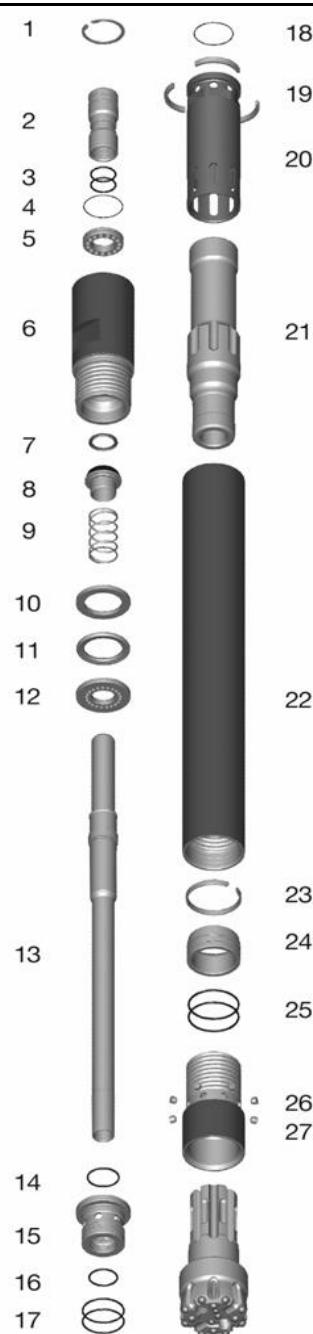
Item #	Part Number	Description
1	MX5053AS01	MX5053 Hammer 4" Remet
2	1300-0780	Internal Circlip
3	BS 226	O Ring x 2
4	MX5053AT01	Adaptor Tube 4" Remet
5	BS 224	O Ring x 2
6	BS 040	O Ring
7	MX5053SC01	Air Screen
8	MX5053BH01	Back Head 4" Remet
9	8406-175	Check Valve Seal
10	MX5053SCV01	Check Valve Plunger
11	MX5053SP04	Check Valve Spring
12	MX5053SM01	Steel Make Up Ring
13	MX5053LR01	Lock Ring
14	MX5053SS01	Spacer
15	MX5053ST01	Sample Tube - Large bore
16	MX5053ST03	Sample tube - Small bore
17	BS 228	O Ring
18	MX5053DR01	Sample Tube Mount
19	BS 226	O Ring
20	BS 234	O Ring x 2
21	BS 040	O Ring
22	MX5053SR01	Seating Ring
23	MX5053IC01	Inner Cylinder
24	MX5053PN01	Piston
25	MX5053WS01	Wear Sleeve
26	MX5053PR01	Piston Retaining Ring
27	MX5053BB01	Aligner Bearing Bush
28	N7-92x4	O Ring x 2
	5053PIN	Bit Retaining Pins x 8
	MX5053CK01	Chuck
	MX5053OKIT	MX5053 O Ring Kit
	MX5053MK01	MX5053 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	120mm	4.75"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	100mm	4"
Drill Bit Shank Type	MX5053	
Backhead Thread	4" Remet	
Drill Bit Size Range	127mm - 143mm	5" - 5.625"
Hammer Weight (Less Bit)	70 Kgs	154 Lbs
Maximum Drill Bit Weight	14.5 Kgs	32 Lbs
Piston Weight	16 Kgs	35.3 Lbs
Make up Torque	4826-6440 NM	3560-4750 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.3.5 Mincon MX5053 (4" Metzke) RC Hammer



Item #	Part Number	Description
1	MX5053AS02	MX5053 Hammer 4" Metzke
2	1300-0780	Internal Circlip
3	MX5053AT11	Adaptor Tube 4 Metzke
4	BS 224	O Ring x 2
5	BS 040	O Ring
6	MX5053SC01	Air Screen
7	MX5053BH11	Back Head 4 Metzke
8	8406-175	Check Valve Seal
9	MX5053SCV01	Check Valve Plunger
10	MX5053SP04	Check Valve Spring
11	MX5053SM01	Steel Make Up Ring
12	MX5053LR01	Lock Ring
13	MX5053SS01	Spacer
14	MX5053ST01	Sample Tube - Large bore
15	MX5053ST03	Sample tube - Small bore
16	BS 228	O Ring
17	MX5053DR01	Sample Tube Mount
18	BS 226	O Ring
19	BS 234	O Ring x 2
20	BS 040	O Ring
21	MX5053SR01	Seating Ring
22	MX5053IC01	Inner Cylinder
23	MX5053PN01	Piston
24	MX5053WS01	Wear Sleeve
25	MX5053PR01	Piston Retaining Ring
26	MX5053BB01	Aligner Bearing Bush
27	N7-92x4	O Ring x 2
	5053PIN	Bit Retaining Pins x 8
	MX5053CK01	Chuck

MX5053OKIT MX5053 O Ring Kit

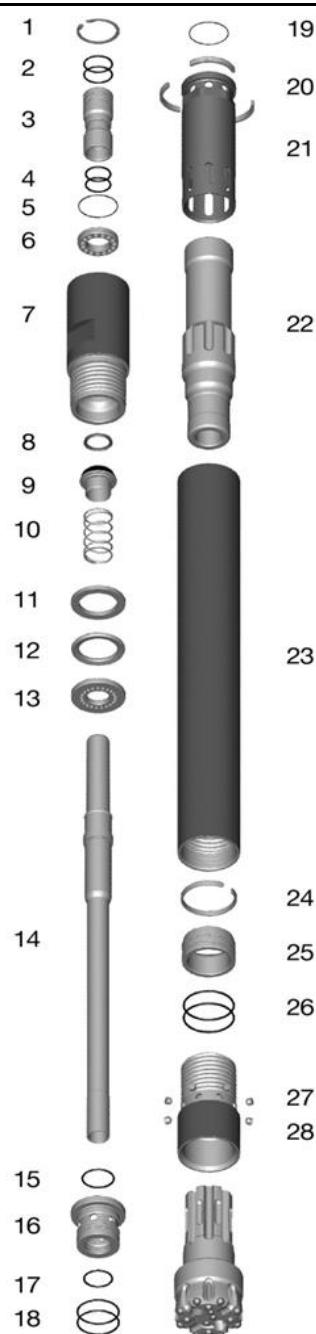
MX5053MK01 MX5053 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	120mm	4.75"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	100mm	4"
Drill Bit Shank Type	MX5053	
Backhead Thread	4" Metzke	
Drill Bit Size Range	127mm - 143mm	5" - 5.625"
Hammer Weight (Less Bit)	70 Kgs	154 Lbs
Maximum Drill Bit Weight	14.5 Kgs	32 Lbs
Piston Weight	16 Kgs	35.3 Lbs
Make up Torque	4826-6440 NM	3560-4750 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.3.6 Mincon MX5053 (4 1/2" Remet) RC Hammer



Item #	Part Number	Description
1	MX5053AS03	MX5053 Hammer 4 1/2" Remet
2	1300-0780	Internal Circlip
3	BS 228	O Ring x 2
4	MX5053AT21	Adaptor Tube 4 1/2" Remet
5	BS 224	O Ring x 2
6	BS 040	O Ring
7	MX5053SC01	Air Screen
8	MX5053BH21	Back Head 4 1/2" Remet
9	8406-175	Check Valve Seal
10	MX5053SCV01	Check Valve Plunger
11	MX5053SP04	Check Valve Spring
12	MX5053SM01	Steel Make Up Ring
13	MX5053LR01	Lock Ring
14	MX5053SS01	Spacer
15	MX5053ST01	Sample Tube - Large bore
16	MX5053ST03	Sample tube - Small bore
17	BS 228	O Ring
18	BS 226	O Ring x 2
19	BS 040	O Ring
20	MX5053DR01	Sample Tube Mount
21	MX5053SR01	Seating Ring
22	MX5053IC01	Inner Cylinder
23	MX5053PN01	Piston
24	MX5053WS01	Wear Sleeve
25	MX5053PR01	Piston Retaining Ring
26	MX5053BB01	Aligner Bearing Bush
27	N7-92x4	O Ring x 2
28	5053PIN	Bit Retaining Pins x 8
29	MX5053CK01	Chuck
30	MX5053OKIT	MX5053 O Ring Kit
31	MX5053MK01	MX5053 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	120mm	4.75"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	100mm	4"
Drill Bit Shank Type	MX5053	
Backhead Thread	4 1/2" Remet	
Drill Bit Size Range	127mm - 143mm	5" - 5.625"
Hammer Weight (Less Bit)	70 Kgs	154 Lbs
Maximum Drill Bit Weight	14.5 Kgs	32 Lbs
Piston Weight	16 Kgs	35.3 Lbs
Make up Torque	4826-6440 NM	3560-4750 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



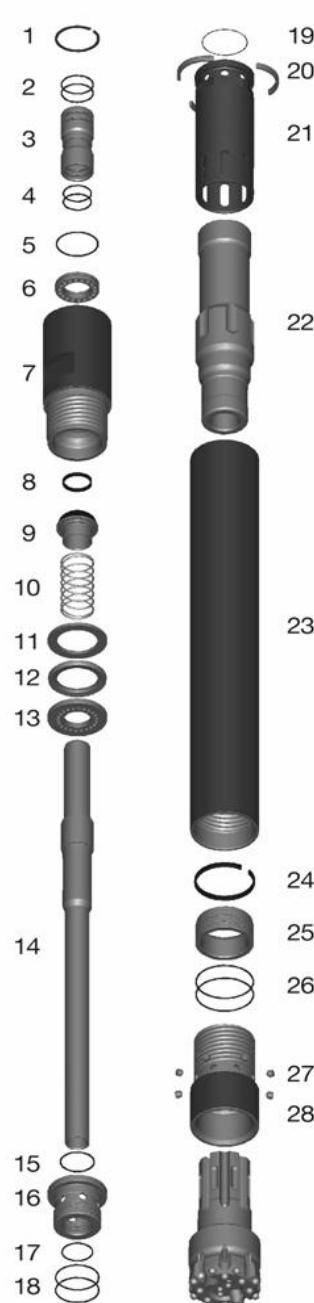
### 2.3.7 Mincon MX5053 (4 1/2" Metzke) RC Hammer

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	MX5053AS04	MX5053 Hammer 4 1/2" Metzke
1	1300-0780	Internal Circlip
2	MX5053AT31	Adaptor Tube 4 1/2 Metzke
3	BS 224	O Ring x 2
4	BS 040	O Ring
5	MX5053SC01	Air Screen
6	MX5053BH31	Back Head 4 1/2 Metzke
7	8406-175	Check Valve Seal
8	MX5053SCV01	Check Valve Plunger
9	MX5053SP04	Check Valve Spring
10	MX5053SM01	Steel Make Up Ring
11	MX5053LR01	Lock Ring
12	MX5053SS01	Spacer
13	MX5053ST01	Sample Tube - Large bore
	MX5053ST03	Sample tube - Small bore
14	BS 228	O Ring
15	MX5053DR01	Sample Tube Mount
16	BS 226	O Ring
17	BS 234	O Ring x 2
18	BS 040	O Ring
19	MX5053SR01	Seating Ring
20	MX5053IC01	Inner Cylinder
21	MX5053PN01	Piston
22	MX5053WS01	Wear Sleeve
23	MX5053PR01	Piston Retaining Ring
24	MX5053BB01	Aligner Bearing Bush
25	N7-92x4	O Ring x 2
26	5053PIN	Bit Retaining Pins x 8
27	MX5053CK01	Chuck
	MX5053OKIT	MX5053 O Ring Kit
	MX5053MK01	MX5053 Make Up Service Kit
	NB: For Chuck Sleeve part number "xxx" indicates head size in mm.	

Specifications	Metric	Imperial
Hammer Outside Diameter	120mm	4.75"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	100mm	4"
Drill Bit Shank Type		MX5053
Backhead Thread		4 1/2" Metzke
Drill Bit Size Range	127mm - 143mm	5" - 5.625"
Hammer Weight (Less Bit)	70 Kgs	154 Lbs
Maximum Drill Bit Weight	14.5 Kgs	32 Lbs
Piston Weight	16 Kgs	35.3 Lbs
Make up Torque	4826-6440 NM	3560-4750 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.3.8 Mincon MX5456 (4 1/2" Remet) RC Hammer



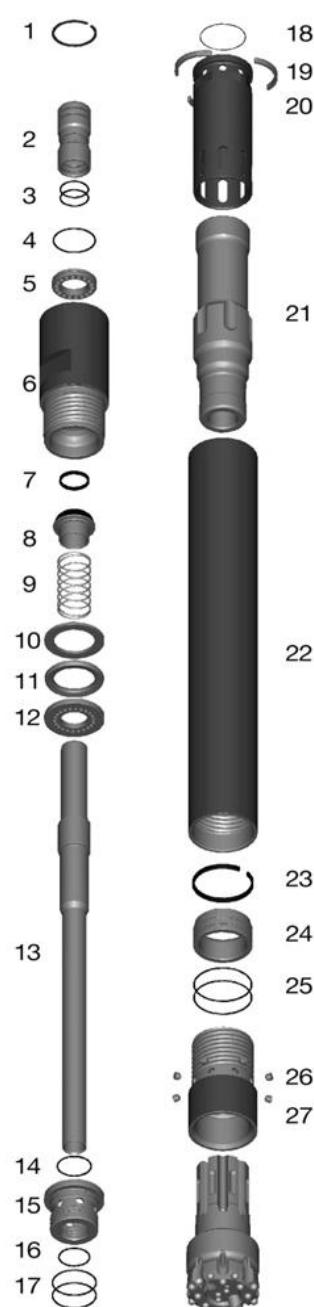
Item #	Part Number	Description
1	MX5456AS01	MX5456 Hammer 4 1/2" Remet
2	1300-0850	Internal Circlip
2	BS 228	O Ring (x 2)
3	MX5456AT01	Adaptor Tube 4 1/2" Remet Pin
4	BS 228	O Ring (x 2)
5	BS 040	O Ring
6	MX5456SC01	Air Screen
7	MX5456BH01	Back Head 4 1/2" Remet
8	8406-0200-N8	Check Valve Seal
9	MX5456CV01	Check Valve Plunger
10	MX5456SP01	Check Valve Spring
11	MX5456SM01	Steel Make Up Ring
12	MX5456LR01	Lock Ring
13	MX5456SS01	Spacer
14	MX5456ST01	Sample Tube
	MX5456ST03	Sample Tube
15	BS230	O Ring
16	MX5456DR01	Sample Tube Mount
17	BS228	O Ring
18	BS237	O Ring (x 2)
19	BS042	O Ring
20	MX5456SR01	Seating Ring
21	MX5456IC01	Inner Cylinder
22	MX5456PN01	Piston
23	MX5456WS01	Wear Sleeve
24	MX5456PR01	Piston Retaining Ring
25	MX5456BB01	Aligner Bearing Bush
26	N7-102-4	O Ring (x 2)
27	5456PIN	Bit Retaining Pins x 8 (Set)
28	MX5456CK11	Chuck
	MX5053OKIT	MX5053 O Ring Kit
	MX5053MK01	MX5053 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	132mm	5.2"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	100mm	4"
Drill Bit Shank Type	MX5456	
Backhead Thread	4 1/2" Remet	
Drill Bit Size Range	137mm - 146mm	5.4" - 5.75"
Hammer Weight (Less Bit)	77 Kgs	170 Lbs
Maximum Drill Bit Weight	18.7 Kgs	41.2 Lbs
Piston Weight	19 Kgs	41.9 Lb
Make up Torque	5288-7050 NM	3900-5200 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 2.3.9 Mincon MX5456 (4 1/2" Metzke) RC Hammer



Item #	Part Number	Description
1	MX5456AS02	MX5456 Hammer 4 1/2" Metzke
18	1300-0850	Internal Circlip
19	MX5456AT11	Adaptor Tube 4.5 Metzke Pin
20	BS 040	O Ring
21	MX5456SC01	Air Screen
22	MX5456BH11	Back Head 4 1/2 Metzke
6	8406-0200-N8	Check Valve Seal
7	MX5456CV01	Check Valve Plunger
8	MX5456SP01	Check Valve Spring
9	MX5456SM01	Steel Make Up Ring
10	MX5456LR01	Lock Ring
11	MX5456SS01	Spacer
12	MX5456ST01	Sample Tube
	MX5456ST03	Sample Tube
13	BS230	O Ring
14	MX5456DR01	Sample Tube Mount
15	BS228	O Ring
16	BS237	O Ring (x 2)
17	BS042	O Ring
18	MX5456SR01	Seating Ring
19	MX5456IC01	Inner Cylinder
20	MX5456PN01	Piston
21	MX5456WS01	Wear Sleeve
22	MX5456PR01	Piston Retaining Ring
23	MX5456BB01	Aligner Bearing Bush
24	N7-102-4	O Ring (x 2)
25	5456PIN	Bit Retaining Pins x 8 (Set)
26	MX5456CK11	Chuck
	MX5053OKIT	MX5053 O Ring Kit
	MX5053MK01	MX5053 Make Up Service Kit

NB: For Chuck Sleeve part number "xxx" indicates head size in mm.

Specifications	Metric	Imperial
Hammer Outside Diameter	132mm	5.2"
Hammer Length (Less Drill Bit)	1165mm	45.9"
Backhead Spanner Flat Size	100mm	4"
Drill Bit Shank Type	MX5456	
Backhead Thread	4 1/2" Metzke	
Drill Bit Size Range	137mm - 146mm	5.4" - 5.75"
Hammer Weight (Less Bit)	77 Kgs	170 Lbs
Maximum Drill Bit Weight	18.7 Kgs	41.2 Lbs
Piston Weight	19 Kgs	41.9 Lb
Make up Torque	5288-7050 NM	3900-5200 FT Lbs
Backhead Stand Off	0.75mm	0.030"
Recommended Minimum Air Package	25.5m3/min @ 24.1Bar	900cfm @ 350psi



### 3. Mincon RC Drill Bits

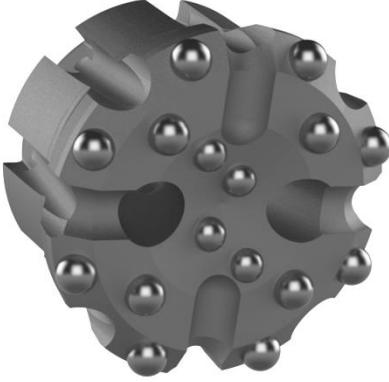
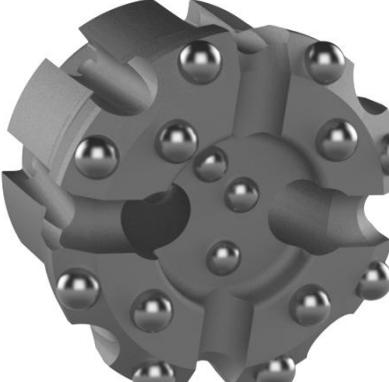
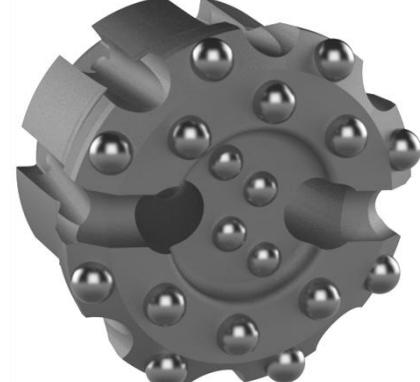
#### 3.1 Choosing the Right Drill Bit

The drill bit is at the business end of the drilling process and ensuring you choose the right drill bit for the job is vital to complete the work at the lowest cost per meter possible. Mincon Technical Sales Representatives can aid in this process by evaluating your drilling conditions, hole size and depth, equipment, and environmental conditions such as altitude, temperature and relative humidity.

Where appropriate, Mincon Engineers can specifically tailor a drill bit design to suit the particular conditions you encounter. Enlarged or reduced sample hole sizes along with an optimized matrix design for the conditions you encounter on a regular basis may be more appropriate than more standard configuration drill bits.

The following shows the three face designs provided within the industry and describes their main attributes. Within each design there can be a number of options to suit your particular needs.

#### Face Designs

Concave	Drop Center	Hard Formation
		

**Concave**  
The concave bit design is a good all-around bit, suitable for soft and medium hard formations. It has good benefits when used in a grade control application where hole depths are not too deep.

**Drop Center**  
The Drop Center bit design is a very good all-around bit and is also suitable for soft and medium hard and broken formations. The drop center of the drill bit provides more room and better cross flow for efficient sampling. The Drop Center bit is also very good for drilling a straight hole.

**Hard Formation**  
Used for hard formation drilling. Two airway channels have been removed to accommodate additional carbide in the matrix.



## 3.2 MR Range

### 3.2.1 MR92 Shank

#### Sampling Bits

Diameter	Face Type	Part Number	No. x Button Dia (inch)			Sample holes	Weight Approx.		
mm	inch		Outer	Inner	Front		Kgs.	Lbs.	
102	4	Drop Centre	5092102D1	8 * 1/2	4 * 1/2	2 * 1/2	2	7.8	17.2
102	4	Hard Formation	5092102H1	8 * 1/2	4 * 1/2	2 * 1/2	2	7.8	17.2
105	4 1/8	Drop Centre	5092105D1	8 * 1/2	4 * 1/2	2 * 1/2	2	8	17.6
108	4 1/4	Drop Centre	5092108D1	8 * 1/2	4 * 1/2	2 * 1/2	2	8.2	18.1
114	4 1/2	Drop Centre	5092114D1	8 * 9/16	4 * 9/16	2 * 1/2	2	8.6	19.0
117	4 5/8	Drop Centre	5092117D1	8 * 9/16	4 * 9/16	2 * 1/2	2	9	19.8

### 3.2.2 MR109 Shank

#### Sampling Bits

Diameter	Face Type	Part Number	No. x Button Dia (inch)			Sample holes	Weight Approx.		
mm	inch		Outer	Inner	Front		Kgs.	Lbs.	
115	4 1/2	Drop Centre	5109115D1	8 * 9/16	4 * 1/2	2 * 1/2	2	11.8	26
118	4 5/8	Drop Centre	5109118D1	8 * 9/16	4 * 1/2	2 * 1/2	2	11.8	26
121	4 3/4	Drop Centre	5109121D1	8 * 9/16	4 * 9/16	2 * 1/2	2	11.8	26
124	4 7/8	Hard Formation	5109124H1	8 * 9/16	6 * 9/16	2 * 1/2	2	11.8	26
127	5	Hard Formation	5109127H1	8 * 9/16	6 * 9/16	2 * 1/2	2	11.8	26
152	6	Drop Centre	5109152C1	8 * 5/8	4 * 9/16	2 * 1/2	2	16	35.3
115	4 1/2	Drop Centre	5109115D1	8 * 9/16	4 * 1/2	2 * 1/2	2	11.8	11.8
118	4 5/8	Drop Centre	5109118D1	8 * 9/16	4 * 1/2	2 * 1/2	2	11.8	11.8

#### Collaring Bits

Diameter	Face Type	Part Number	No. x Button Dia (inch)			Sample holes	Weight Approx.		
mm	inch		Outer	Inner	Front		Kgs.	Lbs.	
121	4 3/4	Drop Centre	5109121D1	8 * 9/16	4 * 9/16	2 * 1/2	2	11.8	11.8



### 3.2.3 MR116 Shank

#### Sampling Bits

Diameter	Face Type	Part Number	No. x Button Dia (inch)			Sample holes	Weight Approx.		
mm	inch		Outer	Inner	Front		Kgs.	Lbs.	
121	4 3/4	Concave	5116121C1	8 x 5/8	6 x 9/16	4 x 1/2	2	14	30.9
121	4 3/4	Drop Centre	5116121D2	8 x 5/8	4 x 9/16	2 x 9/16	2	14	30.9
121	4 3/4	Hard Formation	5116121H1	8 x 5/8	6 x 9/16	3 x 1/2	2	14	30.9
124	4 7/8	Concave	5116124C1	8 x 5/8	6 x 9/16	4 x 1/2	2	14	30.9
124	4 7/8	Drop Centre	5116124D2	8 x 5/8	4 x 9/16	2 x 9/16	2	14	30.9
124	4 7/8	Hard Formation	5116124H1	8 x 5/8	6 x 9/16	3 x 1/2	2	14	30.9
127	5	Drop Centre	5116127D2	8 x 5/8	4 x 9/16	2 x 9/16	2	14	30.9
127	5	Hard Formation	5116127H1	8 x 5/8	6 x 9/16	3 x 1/2	2	14	30.9
130	5 1/8	Drop Centre	5116130D2	8 x 5/8	4 x 9/16	2 x 9/16	2	14	30.9
130	5 1/8	Hard Formation	5116130H1	8 x 5/8	6 x 9/16	3 x 1/2	2	14	30.9
133	5 1/4	Drop Centre	5116133D2	8 x 5/8	4 x 5/8	2 x 9/16	2	14	30.9
133	5 1/4	Hard Formation	5116133H1	8 x 5/8	6 x 5/8	3 x 1/2	2	14	30.9

#### Collaring Bits

Diameter	Face Type	Part Number	No. x Button Dia (inch)			Sample holes	Weight Approx.		
mm	inch		Outer	Inner	Front		Kgs.	Lbs.	
165	6 1/2	Drop Centre	5116165C1	8 x 5/8	8 x 5/8	4 x 9/16	2	17	37.5
190	7 1/2	Drop Centre	5116190C1	8 x 5/8	12 x 5/8	4 x 9/16	2	19	41.9



### 3.2.4 MR120 Shank

#### Sampling Bits

Diameter	Face Type	Part Number	No. x Button Dia (inch)			Sample holes	Weight Approx.		
mm	inch		Outer	Inner	Front		Kgs.	Lbs.	
127	5	Drop Centre	5120127D1	8 x 5/8	4 x 9/16	3 x 1/2	2	15	33.1
127	5	Hard Formation	5120127H1	8 x 5/8	6 x 9/16	3 x 1/2	2	15	33.1
130	5 1/8	Concave	5120130C1	8 x 5/8	4 x 9/16	4 x 1/2	2	15	33.1
130	5 1/8	Drop Centre	5120130D2	8 x 5/8	4 x 9/16	3 x 1/2	2	15	33.1
130	5 1/8	Hard Formation	5120130H1	8 x 5/8	6 x 9/16	3 x 1/2	2	15	33.1
133	5 1/4	Concave	5120133C1	8 x 5/8	4 x 5/8	4 x 1/2	2	15	33.1
133	5 1/4	Drop Centre	5120133D2	8 x 5/8	4 x 9/16	3 x 1/2	2	15	33.1
133	5 1/4	Hard Formation	5120133H1	8 x 5/8	6 x 9/16	4 x 1/2	2	15	33.1
137	5 3/8	Concave	5120137C1	8 x 5/8	4 x 5/8	4 x 1/2	2	15	33.1
137	5 3/8	Drop Centre	5120137D2	8 x 5/8	4 x 5/8	3 x 1/2	2	15	33.1
137	5 3/8	Hard Formation	5120137H1	8 x 5/8	6 x 5/8	3 x 1/2	2	15	33.1
140	5 1/2	Concave	5120140C1	8 x 5/8	4 x 5/8	4 x 1/2	2	15	33.1
140	5 1/2	Drop Centre	5120140D2	8 x 5/8	4 x 5/8	3 x 1/2	2	15	33.1
140	5 1/2	Hard Formation	5120140H1	8 x 5/8	6 x 5/8	4 x 1/2	2	15	33.1
143	5 5/8	Drop Centre	5120143D2	8 x 5/8	4 x 5/8	3 x 1/2	2	15	33.1
143	5 5/8	Hard Formation	5120143H1	8 x 5/8	6 x 5/8	4 x 1/2	2	15	33.1

#### Collaring Bits

Diameter	Face Type	Part Number	No. x Button Dia (inch)			Sample holes	Weight Approx.		
mm	inch		Outer	Inner	Front		Kgs.	Lbs.	
152	6	Drop Centre	5120152C1	8 x 5/8	6 x 9/16	4 x 1/2	2	16	35.3
165	6 1/2	Drop Centre	5120165C1	8 x 5/8	8 x 9/16	4 x 9/16	2	18	39.7
190	7 1/2	Drop Centre	5120190C1	8 x 5/8	12 x 5/8	4 x 6/16	2	21	46.3



### 3.2.5 MR132 Shank

#### Sampling Bits

Diameter	Face Type	Part Number	No. x Button Dia (inch)			Sample holes	Weight Approx.		
mm	inch		Outer	Inner	Front		Kgs.	Lbs.	
137	5 3/8	Concave	5132137C1	8 x 5/8	4 x 9/16	4 x 9/16	2	17	37.5
137	5 3/8	Drop Centre	5132137D1	8 x 5/8	4 x 5/8	4 x 1/2	2	17	37.5
137	5 3/8	Hard Formation	5132137H1	8 x 5/8	6 x 5/8	4 x 9/16	2	17	37.5
140	5 1/2	Concave	5132140C1	8 x 5/8	4 x 5/8	4 x 9/16	2	17	37.5
140	5 1/2	Drop Centre	5132140D2	8 x 5/8	4 x 5/8	3 x 1/2	2	17	37.5
140	5 1/2	Hard Formation	5132140H1	8 x 5/8	6 x 5/8	4 x 1/2	2	17	37.5
143	5 5/8	Drop Centre	5132143D1	8 x 5/8	4 x 5/8	4 x 1/2	2	17	37.5
143	5 5/8	Hard Formation	5132143H1	8 x 5/8	6 x 5/8	4 x 1/2	2	17	37.5
146	5 3/4	Concave	5132146C1	8 x 5/8	4 x 5/8	4 x 9/16	2	17	37.5
146	5 3/4	Drop Centre	5132146D1	8 x 5/8	4 x 5/8	4 x 1/2	2	17	37.5
146	5 3/4	Hard Formation	5132146H1	8 x 5/8	6 x 5/8	4 x 1/2	2	17	37.5

#### Collaring Bits

Diameter	Face Type	Part Number	No. x Button Dia (inch)			Sample holes	Weight Approx.		
mm	inch		Outer	Inner	Front		Kgs.	Lbs.	
152	6	Drop Centre	5132152C1	8 x 5/8	6 x 9/16	4 x 1/2	2	18	39.7
165	6 1/2	Drop Centre	5132165C1	8 x 5/8	8 x 5/8	4 x 9/16	2	19	41.9
190	7 1/2	Drop Centre	5132190C1	8 x 5/8	12 x 5/8	4 x 9/16	2	21	46.3



### 3.3 MX Range

#### 3.3.1 MX4044 Shank

##### **Sampling Bits**

Diameter	Face Type	Part Number	No. x Button Dia (inch)			Sample holes	Weight Approx.		
mm	inch		Outer	Inner	Front		Kgs.	Lbs.	
102	4	Drop Centre	4044EF102D1	8 x 1/2	4 x 1/2	2 x 1/2	2	6.8	15.1
105	4 1/8	Drop Centre	4044EF105D1	8 x 1/2	4 x 1/2	2 x 1/2	2	6.9	15.3
108	4 1/4	Drop Centre	4044EF108D1	8 x 1/2	4 x 1/2	2 x 1/2	2	7.0	15.5
114	4 1/2	Drop Centre	4044EF114D1	8 x 9/16	4 x 9/16	2 x 1/2	2	7.2	15.9
117	4 5/8	Drop Centre	4044EF117D1	8 x 9/16	4 x 9/16	2 x 1/2	2	7.3	16.1

#### 3.3.2 MX4550 Shank

##### **Sampling Bits**

Diameter	Face Type	Part Number	No. x Button Dia (inch)			Sample holes	Weight Approx.		
mm	inch		Outer	Inner	Front		Kgs.	Lbs.	
115	4 1/2	Drop Centre	4550EF115D1	8 x 9/16	4 x 1/2	2 x 1/2	2	10.6	23.4
118	4 5/8	Drop Centre	4550EF118D1	8 x 9/16	4 x 1/2	2 x 1/2	2	10.8	23.8
121	4 3/4	Drop Centre	4550EF121D1	8 x 9/16	4 x 9/16	2 x 1/2	2	11.0	24.1
124	4 7/8	Drop Centre	4550EF124D1	8 x 9/16	4 x 9/16	2 x 1/2	2	11.0	24.3
127	5	Drop Centre	4550EF127D1	8 x 5/8	4 x 9/16	2 x 1/2	2	11.2	24.7
127	5	Hard Formation	4550EF127H1	8 x 5/8	6 x 9/16	3 x 1/2	2	11.3	25.0

##### **Collaring Bits**

Diameter	Face Type	Part Number	No. x Button Dia (inch)			Sample holes	Weight Approx.		
mm	inch		Outer	Inner	Front		Kgs.	Lbs.	
152	6	Concave	4550EF152C1	8 x 5/8	6 x 9/16	4 x 1/2	2	14.7	32.5



### 3.3.3 MX5053 Shank

#### **Sampling Bits**

Diameter	Face Type	Part Number	No. x Button Dia (inch)			Sample holes	Weight Approx.		
mm	inch		Outer	Inner	Front		Kgs.	Lbs.	
127	5	Concave	5053127C00	8 x 5/8	4 x 9/16	4 x 1/2	2	16	35.3
127	5	Drop Centre	5053127D00	8 x 9/16	4 x 9/16	4 x 1/2	2	16	35.3
127	5	Hard Formation	5053127H01	8 x 9/16	6 x 9/16	4 x 1/2	2	16	35.3
130	5 1/8	Concave	5053130C00	8 x 5/8	4 x 5/8	3 x 1/2	2	16	35.3
130	5 1/8	Drop Centre	5053130D00	8 x 5/8	4 x 5/8	3 x 1/2	2	16	35.3
130	5 1/8	Hard Formation	5053130H00	8 x 5/8	6 x 5/8	3 x 1/2	2	16	35.3
133	5 1/4	Concave	5053133C01	8 x 5/8	4 x 5/8	4 x 9/16	2	16	35.3
133	5 1/4	Drop Centre	5053133D00	8 x 5/8	4 x 5/8	3 x 1/2	2	16	35.3
133	5 1/4	Hard Formation	5053133H01	8 x 5/8	6 x 5/8	3 x 1/2	2	16	35.3
137	5 3/8	Concave	5053137C00	8 x 5/8	4 x 5/8	4 x 9/16	2	16	35.3
137	5 3/8	Drop Centre	5053137D01	8 x 5/8	4 x 5/8	3 x 1/2	2	16	35.3
137	5 3/8	Hard Formation	5053137H01	8 x 5/8	6 x 5/8	3 x 1/2	2	16	35.3
140	5 1/2	Concave	5053140C00	8 x 5/8	4 x 5/8	4 x 9/16	2	16	35.3
140	5 1/2	Drop Centre	5053140D00	8 x 5/8	4 x 5/8	4 x 1/2	2	16	35.3
140	5 1/2	Hard Formation	5053140H00	8 x 5/8	6 x 5/8	4 x 1/2	2	16	35.3

#### **Collaring Bits**

Diameter	Face Type	Part Number	No. x Button Dia (inch)			Sample holes	Weight Approx.		
mm	inch		Outer	Inner	Front		Kgs.	Lbs.	
165	6 1/2	Drop Centre	5053165C00	8 x 5/8	14 x 9/16	4 x 1/2	2	17.5	38.6
190	7 1/2	Drop Centre	5053190C00	16 x 5/8	4 x 5/8	4 x 9/16	2	19	41.9



### 3.3.4 MX5456 Shank

#### Sampling Bits

Diameter	Face Type	Part Number	No. x Button Dia (inch)			Sample holes	Weight Approx.		
mm	inch		Outer	Inner	Front		Kgs.	Lbs.	
137	5 3/8	Concave	5456137C10	8 x 5/8	4 x 5/8	4 x 9/16	2	17	37.5
137	5 3/8	Hard Formation	5456137H10	8 x 5/8	6 x 5/8	4 x 1/2	2	17	37.5
140	5 1/2	Concave	5456140C10	8 x 5/8	4 x 5/8	4 x 9/16	2	17	37.5
140	5 1/2	Drop Centre	5456140D10	8 x 5/8	4 x 5/8	4 x 9/16	2	17	37.5
140	5 1/2	Hard Formation	5456140H10	8 x 5/8	6 x 5/8	4 x 1/2	2	17	37.5
143	5 5/8	Drop Centre	5456143D10	8 x 5/8	4 x 5/8	4 x 1/2	2	17	37.5
143	5 5/8	Hard Formation	5456143H10	8 x 5/8	6 x 5/8	4 x 1/2	2	17	37.5
146	5 3/4	Concave	5456146C10	8 x 5/8	4 x 5/8	4 x 9/16	2	17	37.5
146	5 3/4	Drop Centre	5456146D10	8 x 5/8	4 x 5/8	4 x 1/2	2	17	37.5
146	5 3/4	Hard Formation	5456146H10	8 x 5/8	6 x 5/8	4 x 1/2	2	17	37.5
152	6	Hard Formation	5456152H10	8 x 5/8	6 x 5/8	4 x 1/2	2	18	39.7

#### Collaring Bits

Diameter	Face Type	Part Number	No. x Button Dia (inch)			Sample holes	Weight Approx.		
mm	inch		Outer	Inner	Front		Kgs.	Lbs.	
165	6 1/2	Drop Centre	5456165C01	8 x 5/8	4 x 9/16	4 x 1/2	2	18	39.7
190	7 1/2	Drop Centre	5456190C10	16 x 5/8	4 x 5/8	4 x 1/2	2	20	44.1
200	8	Drop Centre	5456200C10	16 x 5/8	4 x 5/8	4 x 1/2	2	20	44.1



## 4. Drill String

Mincon Group offers a complete range of world class drill string components for exploration and grade control. We also offer related equipment such as drill collars, wrenches, fishing tools and sub adaptors to provide a full service concept.

With world class features that bring real value, Mincon tubular products are the choice of today's drilling professional. Unique features to the industry include:

### Cold drawn seamless pipe

- Straighter drill pipes mean smoother drilling with less stress on the drill rig.
- Higher strength pipe allows for thinner wall thickness and less weight.
- Smooth inner bore prevents scale from entering tooling.



### Case hardened threads:

- Case hardening ensures that Mincon pipe threads last at least 50% longer than industry standard threads.

### Less weight:

- Less weight in your drill string allows for drilling deeper holes with existing pull back capacity or lower pull back capacity needs when investing for the same hole depth.

### Energy efficient internal design:

- Mincon drill pipes are designed and manufactured to minimize and optimize energy consumption.
- Mincon utilize the DR threaded RC pipes which have among the lowest pressure drop in the industry.

### Friction welded pipe:

- Friction welded pipe eliminates the need for shrink fitting ensuring less weight.
- 100% metal to metal joint with parent metal properties and low temperature process generates small HAZ (Heat Affected Zone) ensuring high strength with a low risk of failure.



### Long life and low energy consumption:

- Combining all the features above means Drillers save money with less annual consumption and lower fuel costs.

## APPLICATIONS

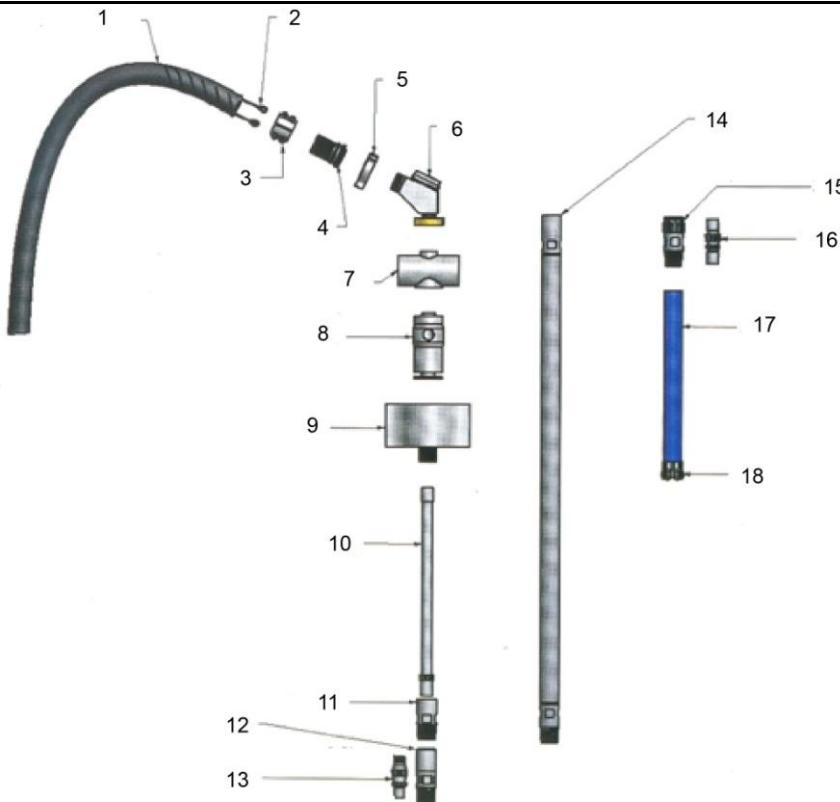
- EXPLORATION
- GRADE CONTROL





## 4.1 RC Drill String

The RC drill string can comprise many different components depending on the application. Below are the components that Mincon offer to complete your drill string. Mincon also offer multiple thread types for you RC drill string to fit your drilling needs.



Item	Component
1	Sample Hose
2	Safety Stocking
3	Boss Clamp
4	Hose Tail
5	Hose Tail Nut
6	Deflector Box
7	Blow Back Blow Down
8	Combo Swivel
9	RC Head
10	Head Wear Tube
11	Head Sub
12	Saver Sub
13	Saver Sub Inner Tube
14	RC Pipe
15	Dig Out Sub
16	Dig Out Sub Inner Tube
17	RC Hammer
18	RC Bit

## 4.2 Drill String Types

Mincon RC drill pipe can be manufactured with the following thread types:

- Remet
- Metzke
- Driconeq DR
- Drillstar
- Matrix
- Faber

## 4.3 Drill Pipe Technical Specifications

### 4.3.1 Tubing

Cold Drawn, seamless tube, grade N-80

- Yield Strength, min. 552 N/mm<sup>2</sup> (80,000psi)
- Tensile Strength, min. 689 N/mm<sup>2</sup> (100,000psi)
- Elongation, min 15%

### 4.3.2 Tool Joints

Micro alloy steel which is case hardened

- Surface hardness 58-62 HRC
- Case Depth 0.1 – 0.2 mm (0.040" – 0.080")
- Core Hardness 32-36 HRC
- The hardness of the thread gives a longer life time (at least 50% longer)



## 5. Drilling Fluids

### 5.1 Mincon Envirosafe Rock Drill Oil

Mincon Envirosafe RDO is a high performance, environmentally safe rock drill oil. It is a unique lubricant developed for all sizes of DTH hammers, to reduce wear and improve performance. Mincon Envirosafe RDO can be used in all in-line lubricators and has proprietary lubricating compounds that are resistant to being washed off in acidic water, salt water, and foam environments, thus reducing rust on the internal and external parts of the hammer even after the equipment is not in use. It creates a lubricant film on the internal parts that prevents piston scuffing and heat build-up. Wear of internal hammer parts is reduced dramatically increasing the life of your hammer and rate of penetration which increases your profitability.

Mincon Envirosafe RDO reduces the potential of surface or groundwater environmental concerns during mining production, mineral exploration, horizontal directional drilling, quarrying, and water well drilling. It has a viscosity that allows the lubricant to flow freely to areas requiring lubrication and also removes the requirement to switch between heavy and light oil as the seasons change. Lubrication can be better controlled and consumption reduced when using Mincon Envirosafe RDO. Mincon Envirosafe RDO is an environmentally safe, biodegradable product that lubricates more efficiently than conventional Rock Drill Oils while reducing contamination of surface and groundwater. Particularly suited for drilling uncontaminated water wells and monitor wells in sensitive areas such as adjacent to streams and lakes, or where groundwater protection is important. Mincon RDO is available in 5 Gallon pails (18L), 55 Gallon drums (205L), 1000L and 1200L IBC Totes.

#### Specification

Viscosity @ 100°C	8.42 Cst.
Viscosity @ 40°C	46.0 Cst.
Specific Gravity @ 25°C	0.907
Pour Point	-36°C
VI	214
Flash Point	292°C
Heavy Metals	None
Active Ingredients	5 - 10 %
LC50	10,000 ppm+





## 5.2 Mincon Envirosafe Foamer ES

Mincon Envirosafe Foamer ES is an environmentally acceptable foaming agent to be used in mineral exploration, oil and gas exploration and water well drilling operations. It has also been used as a drilling aid for monitoring wells. Mincon Envirosafe Foamer ES has an excellent half-life comparable to the leading foams on the market. It develops immediate tight foam (compact bubbles) with good lifting characteristics. Mincon Envirosafe Foamer ES can be enhanced by the addition of Mincon Hole Control to create significantly stiffer foam if required. The suggested dosage under normal drilling conditions is 0.5% – 1.0% by volume and 2.0% – 3.0% by volume when there is excessive water influx. Dosages will depend on chemical make-up of the drilling water, volume of water used, and the depth of the hole.





## 6. Service and Support

Mincon is committed to providing world class service and support to ensure our customers receive the full benefit from their Mincon products. Mincon continues to grow its global business substantially by ensuring that Mincon drilling tools consistently compete at the highest end of the market for performance, reliability and longevity. Mincon has strategically located sales and service centers staffed with high calibre employees with a strong knowledge of local market needs and requirements.

Mincon are very aware of the need to work closely with our customers to ensure their success. It is only through our customers' success that Mincon is successful and this is at the heart of Mincon's philosophy of making the customer the focal point of everything we do.

Today the major focus is towards significantly reducing the cost of operations. When Mincon engages with a new customer we focus our **A.I.M.** on their operations. We **Assess, Implement and Monitor**.

We **Assess** the current operations by performing a complete review of the drilling operations to understand their needs and take their unique circumstances into account. We evaluate their existing drill machines, analyze the environment (altitude, temperature, relative humidity) they operate in and study the current tooling wear patterns. Once completed together with the customer we decide on the best course of action.

With a plan in hand we **Implement**. We use Mincon RC drilling products that have proven themselves all over the world with both large and small exploration companies. We offer the appropriate training where needed and employ industry best practices to maximize productivity, tool life and ensure a safe working environment.

Once set up with our products performing at maximum efficiency we **Monitor** with world class service and support and ensure we are there for all our Customer's needs. We will periodically perform reviews of the drilling operations to make sure that they are still operating at maximum efficiency.

Mincon would like to extend an invitation to A.I.M. our focus on your operations and demonstrate the benefits of a strategic partnership with Mincon and together we can maximize your success.





## NOTES

"The Driller's Choice Worldwide"







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