

your global drilling partner

**HALCO**  
HALCO GROUP



DTH PRODUCT RANGE - March 2004

The Halco Group of Companies, comprises Halco Drilling International Ltd, Halco America Inc., Halco Drilling Ireland, Halco Australia and Halco Directional Drilling Products Ltd.

Up to the year 1950 Halco Drilling Int.Ltd.formally Known as Halifax Tool Company Ltd. manufactured a range of carbide tools, which formed the basis of the Halco name and is, in fact, the longest established manufacturer of Down-the-Hole products in the world.

In 1951 Halco introduced drill rigs and down the hole hammers to the UK quarrying industry and pioneered the development of the down the hole system, sold under the trade name,“Halco”. Halco is the leading UK manufacturer of a complete line of down the hole hammers and drill bits, a feature welcomed by many of our customers who are able to source all their DTH drilling tools and back up service from one manufacturer.

### **HALCO'S LOCATION**

Halco's offices and production facilities are located in Southowram, Halifax, West Yorkshire, midway between Manchester and Leeds in the North of England. Halco America Inc is based in Illinois USA and produces DTH bits, principally for the North American market. Halco Drilling Ireland is based in Dublin and Halco Australia is based in Malaga.

### **HALCO'S PRODUCTION FACILITIES**

The manufacture of our product range is based in purpose built factories, with over 50,000 M2 of production area, using the latest designs of computer controlled (CNC) machinery.

We have our own in-house heat treatment plant equipped with a high technology sealed quench furnace which is fully computer controlled and incorporates an in-line tempering furnace and degreasing facility.

Additional furnaces are employed for carburising and tempering. Large air circulating furnaces are installed for annealing and stress relieving.

These in-house facilities allow us to control the quality of our range of DTH hammers and button bits throughout the entire manufacturing process, which is supplemented by Lloyds Register Quality Assurance scheme to quality standard ISO9001:2000.

### **HALCO'S INSPECTION FACILITIES**

We have an independent inspection team who carry out continuous inspection of hammer components and drill bits throughout the manufacturing process to final inspection after completion of manufacture.

### **HALCO'S HAMMER TEST FACILITIES**

Halco down the hole hammers after assembly are test drilled on our in-house test rig. After satisfactory testing, each hammer is stripped down, cleaned and re-assembled, ready for despatch to the client.

### **HALCO'S RESEARCH AND DEVELOPMENT FACILITIES**

We have a continuous research and development programme committed not only to the development and improvement of existing products but to development and rigorous field testing of new products prior to their release on the world market.

We are one of only a few manufacturers world-wide who design and develop our own design of DTH hammers, providing Halco with total control over design improvements to meet specific market requirements.

### **HALCO'S METALLURGICAL CONTROL FACILITIES**

Halco's Research and Development Dept. is supported by a Metallurgy Dept. staffed by a team of fully qualified metallurgists. This department is equipped with a complete range of test equipment including metallographic preparation, optical microscopy and fractography, complemented by mechanical testing and spectrographic analysis facilities, to enable us to meet the stringent requirements of Lloyds Register Quality Assurance ISO9001.

### **HALCO'S MARKETS**

Our main product range, Halco DTH hammers and drill bits are exported to over 100 countries world-wide through our extensive network of dealers and subsidiary companies. Our range of hammers and bits is sold successfully, in large quantities, in particular in North America, the home base of two of our leading competitors. This achievement demonstrates the quality, reliability, performance and competitive nature of our main product range.

### **SUMMARY**

Our manufacturing methods have enabled Halco to produce some of the best quality hammers and drill bits on the world market. Our heat treatment and carburising methods produce a high wear resistant quality product. Few other drill bit manufacturers carburise their product to increase the expected service life.

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## SIM-CAS

TOP DRIVE  
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MADE TO ORDER HAMMER RANGE  
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# 2" DRILLING TOOL RANGE

## DOMINATOR 100

- The Dominator 100 is designed for small diameter drilling operations and its superior drilling performance makes it at least 50% faster than its nearest competitor
- Suitable for operation at air pressures of 7-17 Bar (100-250psi)
- Drilling diameters from 55mm - 64mm
- The valveless design of the Dominator 100 provides high performance at both low and high pressures
- Strong robust design withstands heavy duty applications
- A non return valve is fitted into the Dominator 100 improving its performance where ground water is present.

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER
HALCO			
DOMINATOR 100	40 MM RIGHT HAND DIN 405 6 TPI box	7	600251

## MACH 20

- Suitable for operation at air pressures of 7-17 Bar (100-250psi)
- The valved design of the Mach 20 provides high performance at low pressures
- Strong robust design withstands heavy duty applications
- Drilling diameters from 70mm to 76mm
- All steel valve provides reliable operation and avoids the possibility of heat distortion
- Three levels of air volume with a variety of chokes available

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER
HALCO			
MACH 20	50MM DIN 405 6TPI BOX	13	600169



2" DRILLING TOOL RANGE

Please see the **MADE TO ORDER** section at the back of the book

# SPECIFICATIONS

## AIR CONSUMPTION

DOMINATOR 100			
AIR PRESSURE		AIR CONSUMPTION	
PSI	BAR	CFM	M3 / MIN
100	7	60	1.6
150	10.5	93	2.6
200	14	126	3.5
250	17	159	4.5

	MACH 20							
	7 BAR (100PSI)		10.5 BAR (150PSI)		14 BAR (200PSI)		17BAR (250 PSI)	
	M3 / MIN	CFM	M3 / MIN	CFM	M3 / MIN	CFM	M3 / MIN	CFM
SOLID PLUG	2	70	3.8	135	5.8	205	7.6	270
3MM PLUG	2.4	85	4.5	160	6.7	235	8.8	310
NO PLUG	2.8	100	5.1	180	8.3	295	9.8	345

## LENGTHS, WEIGHTS AND THRUSTS

	Make up Length withoutbit	OutsideDiameter	Recommended maximum thrust
DOMINATOR 100	772mm (30.3/8")	47mm (1.7/8")	120Kg (264 lbs)
MACH 20	840mm (33")	62mm (2.7/16")	150 Kg (330 lbs)

## SERVICE AND REPAIR KITS

DOM 100	SK KIT	RK KIT
ITEM	QTY	QTY
2	2	2
3		1
4	2	2
5		1
6	2	2
8	2	2
9	2	2
12	2	2
13		1
14	1	1
15		1

MACH 20	SK KIT	RK KIT
ITEM	QTY	QTY
3	2	2
4		1
5	2	2
7	1	1
8	1	1
9	1	1
10		1
15		1
16		1
17	2	2
18		1

NOTE - Repair kit (RK) also includes 2 - Foot Valves

2" DRILLING TOOL RANGE



HAMMER TYPE		DOM 100
MODEL NUMBER		600251
ITEM	DESCRIPTION	PART NUMBER
1	Thread protector	200005
2	Snap Ring	783041
3	Non return valve seat	603448
4	O Ring	768174
5	Non return valve	603447
6	Non return valve spring	760100
7	Top Adaptor / Air Distributor	603413
8	O Ring	768168
9	O Ring	768175
10	Cylinder	603410
11	Piston	603450
12	Snap Ring	783037
13	Bit retaining rings	603449
14	Chuck spacer	603412
15	Chuck	603411
16	Protective cap	741047
	Foot Valve	603208
	F/V tool - Body	603233
	F/V tool - Pusher	603232
SK	Service Kit	SK31
RK	Repair Kit	RK54

### STRIPPING EQUIPMENT

DESCRIPTION	PART NUMBER
Top Adaptor Spanner	603485
Cylinder Clamping Block Assy	603486
Bit Spanner for 650017bit	603487
Bit Spanner for 650032bit	603488



HAMMER TYPE		MACH 20
MODEL NUMBER		600169
ITEM	DESCRIPTION	PART NUMBER
1	Thread protector	200002
2	Top adaptor	602715
3	Wear spacer (Optional)	602726
4	Non return valve	602727
5	Non return valve spring	760111
6	Non return valve housing	602720
7	Valve Centraliser	602724
8	Valve	602725
	Solid bleed plug (Standard)	732025
9	3mm bleed plug (Optional)	602736
10	Air Distributor	602719
11	Liner	602717
12	Cylinder	602714
13	Piston	602718
14	Piston Guide bush	602723
15	Bottom spacer	602722
16	Bit retaining rings	602721
17	Chuck lock ring	602729
18	Chuck	602716
19	Protective cap	741013
SK	Service Kit	SK18
RK	Repair Kit	RK30

### STRIPPING EQUIPMENT

DESCRIPTION	PART NUMBER
Top Adaptor Spanner	602758
Chuck Spanner - 51mm A/F	602759

# CARBURISED

DOMINATOR 100						
PART NUMBER	DIAMETER		FACE DESIGN	BUTTON		WEIGHT (KG)
	MM	INCH		TYPE	QTY / DIA	
HALCO SHANK						
650017	55	2.1/6	FLAT	DOMED	6 X 11mm / 2 X 9mm	1.16
650032	64	2.1/2	FLAT	DOMED	6 X 11mm / 3 X 9mm	1.37
653001	64	2.1/2	FLAT	SEMI BAL / BALLISTIC	6 X 11mm SB / 3X9mm B	1.37

MACH 20						
PART NUMBER	DIAMETER		FACE DESIGN	BUTTON		WEIGHT (KG)
	MM	INCH		TYPE	QTY / DIA	
HALCO SHANK						
650952	70	2.3/4	FLAT	DOMED	4 X 9mm / 6 X 11mm	2.4
650953	76	3	FLAT	DOMED	5 X 9mm / 6 X 11mm	2.5
650954	76	3	FLAT	SEMI-BALLISTIC	5 X 9mm / 6 X 11mm	2.5

Please see the MADE TO ORDER section at the back of the book

# 3" DRILLING TOOL RANGE

**DART 350** hammer gives up to 25% increase in performance compared to conventional 3" hammers. Particularly suitable for low pressure operation although capable of working between 7-24 bar (100-350psi). Drilling diameters 90mm - 104mm (3.1/2" - 4.3/32").

**DOMINATOR 350** hammer is a high performance hammer for medium to hard rock conditions. Operates at an optimum air pressure between 14-24 bar (200-350 psi).

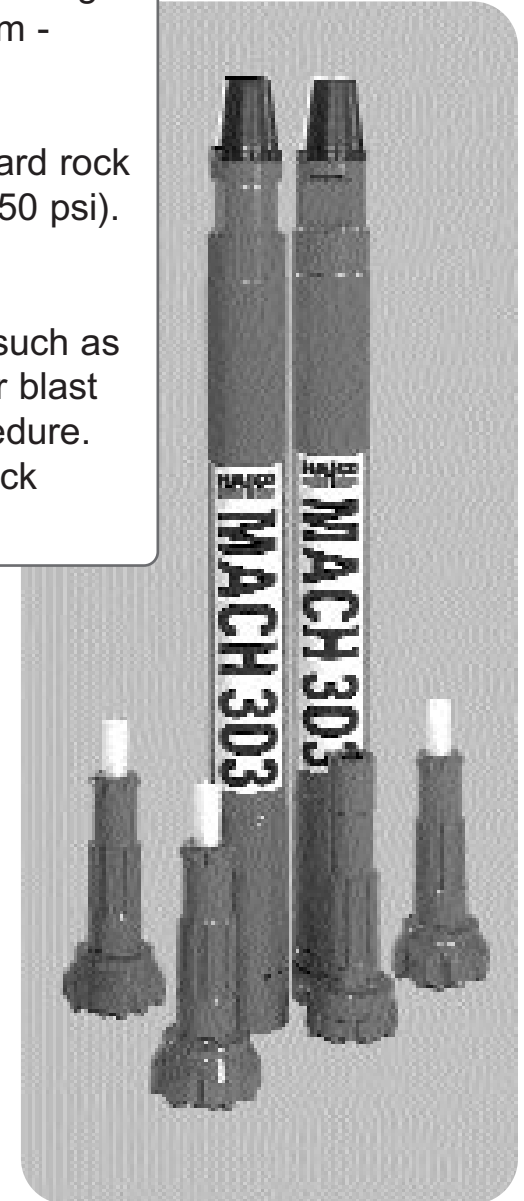
**MACH 303** General purpose hammer for small hole drilling. In applications such as seismic and geological survey, micro-piling, floor, wall and roof bolting or for blast holes where environmental considerations limit hole size and blasting procedure. Suitable for drilling at a wide range of air pressures in both soft and hard rock conditions.

## DOMINATOR 350 / DART 350

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER
INGERSOLL RAND (IR 3.5)			
DART 350	2.3/8 API REG PIN	23	600198
DOMINATOR 350	2.3/8 API REG PIN	23	600199

## MACH 303

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER
HALCO			
MACH 303	2.3/8 API REG PIN	20	600080



Please see the **MADE TO ORDER** section at the back of the book

# SPECIFICATIONS

## AIR CONSUMPTION

OUTPUT PRESSURE		DART 350		DOMINATOR 350		MACH 303	
BAR	PSI	M3/MIN	CFM	M3/MIN	CFM	M3/MIN	CFM
7	100	2.5	87	2.3	82	2.8	99
10.5	150	4.7	167	4.4	155	4.4	156
12	170	5.6	199	5.2	184	5.0	177
14	200	7.0	247	6.5	228	5.9	207
17	250	9.3	327	8.5	301	7.3	257
24	350	13.8	487	12.6	446	10.0	353

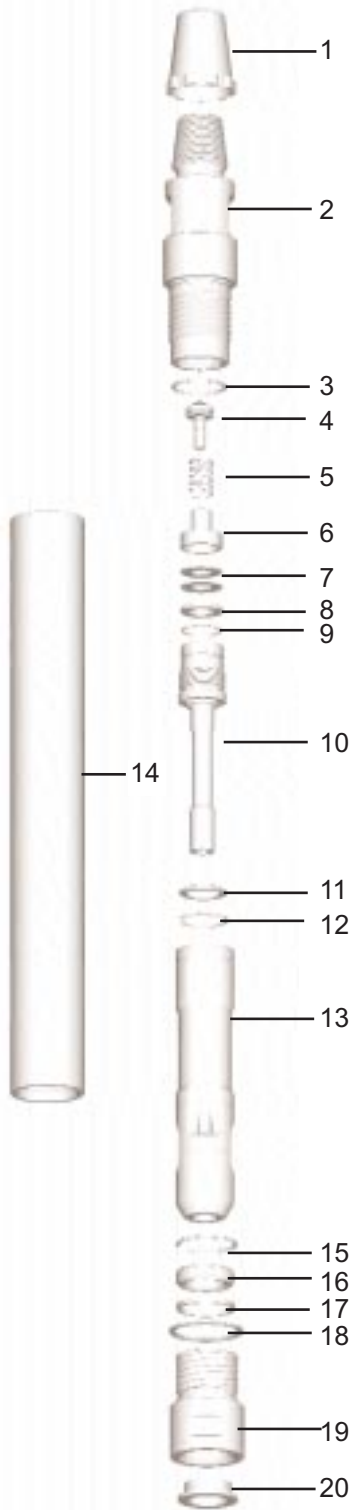
## LENGTHS, WEIGHTS AND THRUSTS

	Make up Length without bit	Outside Diameter	Recommended minimum thrust	Recommended maximum thrust
DART 350	832mm (32.3/4")	81mm (3.3/16")	150Kg (330 lbs)	300 Kg (660 lbs)
DOMINATOR 350	832mm (32.3/4")	81mm (3.3/16")	150Kg (330 lbs)	300 Kg (660 lbs)
MACH 303	822mm (32.1/3")	77mm (3.1/32")	150Kg (330 lbs)	300 Kg (660 lbs)

## SERVICE AND REPAIR KITS

ITEM	SK KIT	RK KIT
	QTY	QTY
3	2	2
4		1
5	2	2
7	2	2
8		1
9	2	2
10		1
12	2	2
15	2	2
16		1
17	2	2
18	2	2
19		1
DISTRIBUTOR REMOVAL TOOL		1

NOTE - Repair kit (RK) also includes 2 - Foot Valves



		Mach 303	Dart 350	Dominator 35
		Halco	IR3.5	IR3.5
MODEL		600080	600198	600199
ITEM	DESCRIPTION	PART NUMBER		
1	Thread Protector	200111	200111	200111
2	Top Adaptor	602403	602980	602980
3	O Ring	768098	768098	768098
4	NRV	602328	602328	602328
5	NRV Spring	760100	760100	760100
6	NRV Housing	602327	602971	602971
7	Disk Springs	760094	760094	760094
8	Thrust Washer	601920	602972	602972
9	O Ring	768033	768033	768033
10	Air Distributor	601975	602973	603108
11	Washer	-	602979	602979
12	Snap Ring	777039	783035	783035
13	Piston	602542	603019	603107
14	Cylinder	601890	602974	602974
15	Snap Ring	783016	783036	783036
16	Bit Retaining Rings	601995	602976	602976
17	Chuck Lock Ring	602304	-	-
18	Chuck Spacer	601760	602977	602977
19	Chuck	601892	602978	602978
20	End Cap	741012	741045	741045

FOOT VALVE	601921	602922	602922
BODY	601922	603061	603061
PUSHER	601659	601659	601659

RK	REPAIR KIT	RK01	RK44	RK47
SK	SERVICE KIT	SK01	SK27	SK27

### STRIPPING EQUIPMENT

DESCRIPTION	PART NUMBER
Top Adaptor Spanner	603010
Chuck Spanner	603011
Distributor Assembly Tool	603007
Snap Ring Removal Tool - Hook Type	601574

# CARBURISED

PART NUMBER	DIAMETER		FACE DESIGN	BUTTON		WEIGHT (KG)
	M M	INCH		TYPE	QTY / DIA	
<b>HALCO SHANK - MACH 303</b>						
650567	85	3.11/32	CONVEX	DOMED	11 X 11mm	3.6
650569	90	3.1/2	CONVEX	DOMED	11 X 11mm	3.7
650860	90	3.1/2	CONVEX	SEMI-BALLISTIC	13 X 11mm	3.7
650926	90	3.1/2	CONVEX	BALLISTIC	13 X 11mm	3.7
650731	100	3.15/16	FLAT	DOMED	16 X 11mm	4.5
<b>IR 3.5 SHANK - DOMINATOR / DART 350</b>						
650622	90	3.1/2	CONVEX	SEMI-BALLISTIC	13 X 11mm	3.8
650623	90	3.1/2	CONVEX	DOMED	13 X 11mm	3.8
650609	95	3.3/4	CONVEX	SEMI-BALLISTIC	15 X 11mm	4.0
650610	100	3.15/16	CONVEX	BALLISTIC	15 X 11mm	4.5
650621	100	3.15/16	CONVEX	DOMED	15 X 11mm	4.5
650624	104	4.3/32	CONVEX	DOMED	8 X 13mm/ 8 X 11mm	4.9

Please see the **MADE TO ORDER**  
section at the back of the book

# 4" DRILLING TOOL RANGE

The **SUPER DOMINATOR 400** is designed for maximum performance at higher pressures, up to and including 350 PSI (24 Bar).

The Super Dominator is a **heavy duty** hammer with thicker 98mm diameter outer components to provide an extended service life in abrasive conditions and is also suitable for water well drilling.

The **Mach 44** is a general purpose hammer used at pressures up to and including 350 PSI (24 Bar).

## SUPER DOMINATOR 400/ MACH 44

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER
<b>HALCO</b>			
MACH 44	2.3/8 API REG PIN	35.3	600070
SUPER DOMINATOR 400 - SP	2.3/8 API REG PIN	38.0	600224
SUPER DOMINATOR 400	2.7/8 API REG PIN	38.0	600250
<b>SANDVIK MISSION (A34-15/SD4)</b>			
SUPER DOMINATOR 400-M	2.3/8 API REG PIN	38.0	600226
<b>INGERSOLL RAND (DHD340A/ ATLAS COPCO COP44)</b>			
SUPER DOMINATOR-IR-SP	2.3/8 API REG PIN	38.0	600258



4" DRILLING TOOL RANGE

Please see the **MADE TO ORDER** section at the back of the book

# SPECIFICATIONS

## AIR CONSUMPTION

OUTPUT PRESSURE		SUPER DOMINATOR 400		DART 400		MACH 44	
BAR	PSI	M3/MIN	CFM	M3/MIN	CFM	M3/MIN	CFM
7	100	5.2	185	6.7	235	4.8	170
10.5	150	7.5	265	9.2	326	7.0	245
12	170	8.5	300	10.3	362	8.0	280
14	200	9.9	350	11.8	417	9.5	335
17	250	12.2	430	14.4	507	12.0	425
24	350	17	600	19.5	689	17.2	605

## LENGTHS, WEIGHTS AND THRUSTS

	Make up Length without bit	Outside Diameter	Recommended minimum thrust	Recommended maximum thrust
SUPER DOMINATOR 400	1042mm (41")	98mm (3.7/8")	250 Kg (550 lbs)	500 Kg (1100 lbs)
DART 400	1042mm (41")	96mm (3.3/4")	250 Kg (550 lbs)	500 Kg (1100 lbs)
MACH 44	1000mm (39.3/8")	95mm (3.3/4")	250 Kg (550 lbs)	500 Kg (1100 lbs)

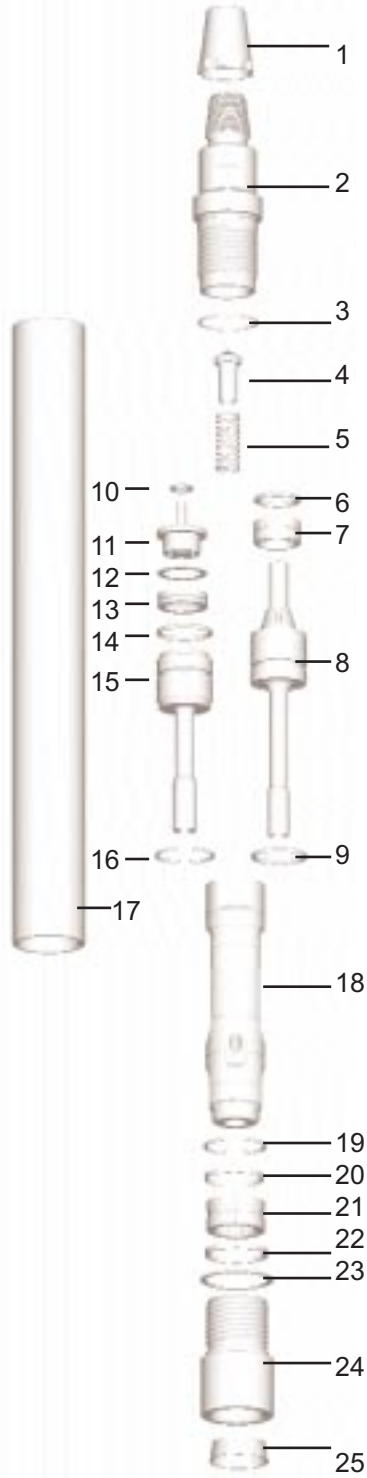
## STRIPPING EQUIPMENT

MACH 44/ SUPER DOMINATOR 400	
DESCRIPTION	PART NUMBER
Top Adaptor Spanner	201227
Snap Ring Removal Tool - Lever Type	601642
Snap Ring Removal Tool - Hook Type	601574
Air Distributor Extractor (MACH 44 ONLY)	601639
Bit Spanner for 650931 Bit (SUPER DOM/DART 400 ONLY)	602960
Bit Spanner for 650930 bit	602708
Bit Spanner for 650580, 650715 and 650798 bit	601444
Bit Spanner for 650740 and 650526 bit	601443
Bit Spanner for 650466 bit	601504
Bit Spanner for 650444 bit	601505
Bit Spanner for 650445 bit	601506
Bit Spanner for 650788, and 650903 bit	601814
Bit Spanner for 650879	601447
Top Spacer Ring for Dry Drilling (MACH 44 ONLY)	601638
Heavy Duty Foot Valve - Halco shank	601968
Heavy Duty Foot Valve - Halco made DHD340A For Super Dominator 400 only	603387

## SERVICE AND REPAIR KITS

ITEM	SKKIT	RK KIT
	QTY	QTY
3	2	2
4		1
5	2	2
6		3
7		1
9	2	2
10		1
12		6
14	2	2
16	1	1
19	1	1
20	2	2
21		1
22	2	2
23	1	1
24		1
0.5KG TIN MAKE UP GREASE		1

NOTE - Repair kit (RK) also includes 2 - Foot Valves



		Mach 44	Super Dominator 400			
		Halco	Halco	Halco-SP	A34-15 /	DHD340A /
MODEL		600070	600250	600224	SD4	COP44
ITEM	DESCRIPTION	PART NUMBER				
1	Thread Protector	200111	200111	200111	200111	200111
2	Top Adaptor	601632	602845	603215	603215	603215
3	O Ring	768040	768040	768040	768040	768040
4	NRV	602330	602633	602633	602633	602633
5	NRV Spring	760084	760108	760108	760108	760108
6	Shim - 4.9mm	-	602634	602634	602634	602634
6	Shim - 5.3mm	-	602635	602635	602635	602635
6	Shim - 5.7mm	-	602636	602636	602636	602636
7	Compression Spring	-	760107	760107	760107	760107
8	Air Distributor	-	603266	603266	603266	603266
9	O Ring	-	768050	768050	768050	768050
10	NRV Seat	601778	-	-	-	-
11	NRV Finger	601717	-	-	-	-
12	Shim - 0.5mm	601640	-	-	-	-
12	Shim - 1.0mm	601720	-	-	-	-
12	Shim - 1.5mm	601721	-	-	-	-
13	Compression Ring	601635	-	-	-	-
14	O Ring	768050	-	-	-	-
15	Air Distributor	601868	-	-	-	-
16	Snap Ring	783014	-	-	-	-
17	Cylinder	601865	603598	603390	603390	603384
18	Piston	602456	603396	603396	603441	603383
19	Snap Ring	783014	783029	783029	783029	783029
20	Bit Retaining Ring Band	792037	792037	792037	792037	-
21	Bit Retaining Ring	601945	603389	603389	603439	603586
22	Chuck Lock Ring	-	602733	602733	602733	602733
23	Chuck Spacer	601431	603217	-	-	-
24	Chuck	601439	603615	603273	603274	603218
25	End Cap	741019	741019	741019	741046	741046
	Foot Valve	601641	601641	601641	601842	601773
	F/V tool - body	601643	601643	601643	601848	601643
	F/V tool - pushert	601644	601644	601644	601644	601644
RK	Repair Kit	RK02	RK52	RK52	RK53	RK83
SK	Service Kit	SK02	SK30	SK30	SK30	SK45

# CARBURISED

# HYTUFF

PART NUMBER	DIAMETER		FACE DESIGN	BUTTON		Heavy Duty Hammer	OVER-SIZE	WEIGHT (KG)	PART NUMBER	DIAMETER		FACE DESIGN	BUTTON		WEIGHT (KG)
	MM	INCH		TYPE	QTY					MM	INCH		TYPE	QTY / DIA	

HALCO								
650930	105	4.1/8	CONVEX	DOMED	15 X 13mm			9.1
650580	108	4.1/4	CONCAVE	BALLISTIC	14 X 13mm			9.5
650788	108	4.1/4	CONVEX	DOMED	13 X 13mm			9.5
650987	108	4.1/4	CONVEX	SEMI-BALLISTIC	15 X 13mm			9.1
650931	110	4.5/16	CONVEX	DOMED	15 X 13mm	Y		9.6
650932	115	4.1/2	CONVEX	DOMED	8 X 14mm / 8 X 13mm	Y		9.7
650936	115	4.1/2	CONVEX	BALLISTIC	16 X 13mm	Y		9.7
650969	115	4.1/2	CONVEX	SEMI-BALLISTIC	16 X 13mm	Y		9.6
650933	120	4.3/4	CONVEX	DOMED	8 X 14mm / 8 X 13mm	Y		10.0
650466	127	5	CONVEX	DOMED	16 X 13mm	Y	Y	11.0
650925	127	5	CONVEX	SEMI-BALLISTIC	16 X 13mm	Y	Y	10.7
650073	130	5.1/8	CONVEX	BALLISTIC	16 X 13mm	Y	Y	10.9
650444	140	5.1/2	CONVEX	DOMED	17 X 13mm	Y	Y	12.5
650445	150	5.7/8	CONVEX	DOMED	17 X 13mm	Y	Y	13.5

SANDVIK MISSION SHANK - A34-15/SD4								
650798	108	4.1/4	CONVEX	DOMED	15 X 13mm			9.1
650740	115	4.1/2	CONCAVE	DOMED	14 X 13mm	Y		9.2
650885	119	4.3/4	FLAT	DOMED	16 X 13mm	Y		10.0

INGERSOLL RAND DHD340A SHANK / ATLAS COPCO COP44								
650950	108	4.1/4	CONVEX	DOMED	15 X 13mm			8.0
650968	108	4.1/4	CONVEX	SEMI-BALLISTIC	15 X 13mm			10.0
650949	110	4.5/16	CONVEX	DOMED	15 X 13mm	Y		8.1
650961	110	4.5/16	CONVEX	SEMI-BALLISTIC	15 X 13mm	Y		8.1
653091	110	4.5/16	CONVEX	SEMI-BALLISTIC	14X 14mm	Y		8.5
650526	115	4.1/2	CONVEX	DOMED	16 X 13mm	Y		8.2
650625	115	4.1/2	CONCAVE	DOMED/SEMI BALLISTIC	8 X 14mm D/6 X 13mm S/B	Y		8.2
650955	115	4.1/2	FLAT	DOMED	8 X 14mm / 10 X 13mm	Y		8.3
650967	115	4.1/2	CONVEX	SEMI-BALLISTIC	16 X 13mm	Y		8.5
650680	120	4.3/4	CONCAVE	DOMED/SEMI BALLISTIC	8 X 13 mm / 8 X 13 mm	Y		10.0
650612	121	4.3/4	CONVEX	SEMI-BALLISTIC	14 X 13mm	Y		9.5
650611	127	5	CONCAVE	DOMED	16 X 13mm	Y	Y	9.5
650966	127	5	CONCAVE	SEMI-BALLISTIC	16 X 13mm	Y	Y	9.6
650013	127	5	CONVEX	DOMED	16 X 13 mm	Y	Y	10.6
650659	130	5.1/8	CONCAVE	SEMI-BALLISTIC	16 X 13mm	Y	Y	9.6
650614	130	5.1/8	CONCAVE	DOMED/SEMI BALLISTIC	8 X 14mm D/8 X 13mm S/B	Y	Y	10.1
650675	130	5.1/8	CONVEX	SEMI-BALLISTIC	16 X 13mm	Y	Y	9.2
653094	140	5.1/2	CONCAVE	DOMED	9 X 16mm / 9 X 14mm	Y	Y	11.8

GROUT MASTER SHANK								
650058	115	4.1/2	CONCAVE	DOMED	16 X 13 mm			9.7

SANDVIK MISSION SHANK (A34-15/SD4)								
670000	105	4.1/8	CONCAVE	DOMED	15 X 1/2"			9.0
670001	108	4.1/4	CONCAVE	DOMED	7 X 1/2" / 8 X 9/16"			9.5
670003	115	4.1/2	CONCAVE	DOMED	7 X 1/2" / 8 X 9/16"			9.6
670006	120	4.3/4	CONCAVE	DOMED	7 X 1/2" / 8 X 9/16"			10.0

Please see the MADE TO ORDER section at the back of the book

4" DRILLING TOOL RANGE - DRILL BITS

# 5" DRILLING TOOL RANGE

**MACH 50** is a general purpose hammer suitable for all rock conditions at a wide range of air pressures - 100-350 psi (7-24 bar).

**DOMINATOR 500** high performance hammer for medium to hard rock conditions at a wide range of air pressures - 100-350 psi (7-24 bar).

**SUPER DOMINATOR 500** a class leader in performance, is suitable for drilling at a wide range of air pressures, excelling at high working pressures. For waterwell and shallow gas and oil applications with a top supported piston and a recommended minimum bit size of 135mm.

**DOMINATOR 550HD** offers similar operating characteristics to the standard Dominator 500, but with thicker outer components to provide extended service life in abrasive rock conditions. A minimum drill bit diameter of 140mm is recommended with this hammer.

**SUPER DOMINATOR 550HD** Combines the raw power of the Super Dominator 500 with extended hammer life in abrasive conditions.

## MACH 50

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER
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### HALCO

MACH50	3.1/2" API REG PIN	54	600046
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## SUPER DOMINATOR 500 / DOMINATOR 500

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER
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### HALCO

DOMINATOR 500	3.1/2" API REG PIN	58	600120
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### SANDVIK MISSION (A43-15/SD5)

DOMINATOR 500-M	3.1/2" API REG PIN	58	600135
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### INGERSOLL RAND (DHD350R)

DOMINATOR 500	3.1/2" API REG PIN	58	600132
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SUPER DOMINATOR 500	3.1/2" API REG PIN	58	600267
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### INGERSOLL RAND (QL50)

SUPER DOMINATOR 500	3.1/2" API REG PIN	55.5	600265
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## SUPER DOMINATOR 550HD / DOMINATOR 550HD

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER
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### HALCO

DOMINATOR 550HD	3.1/2" API REG PIN	67	600185
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### INGERSOLL RAND (DHD350R)

SUPER DOMINATOR 550HD	3.1/2" API REG PIN	67	600293
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DOMINATOR 550HD	3.1/2" API REG PIN	67	600187
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Please see the **MADE TO ORDER** section at the back of the book

# SPECIFICATIONS

## AIR CONSUMPTION

OUTPUT PRESSURE		MACH 50		DOMINATOR 500		SUPER DOMINATOR 500	
BAR	PSI	M <sup>3</sup> /MIN	CFM	M <sup>3</sup> /MIN	CFM	M <sup>3</sup> /MIN	CFM
7	100	5.7	220	6.5	230	6.5	230
10.5	150	7.2	255	8.5	300	8.5	300
12	170	8.2	290	9.9	350	9.9	350
14	200	11	390	12	425	12	425
17	250	14.9	525	15.6	550	15.6	550
24	350	-	-	22.65	800	22.65	800

OUTPUT PRESSURE		DOMINATOR 550 HD		SUPER DOMINATOR 550 HD	
BAR	PSI	M <sup>3</sup> /MIN	CFM	M <sup>3</sup> /MIN	CFM
7	100	6.5	230	6.5	230
10.5	150	8.5	300	8.5	300
12	170	9.9	350	9.9	350
14	200	12	425	12	425
17	250	15.6	550	15.6	550
24	350	22.65	800	22.65	800

## LENGTHS, WEIGHTS AND THRUSTS

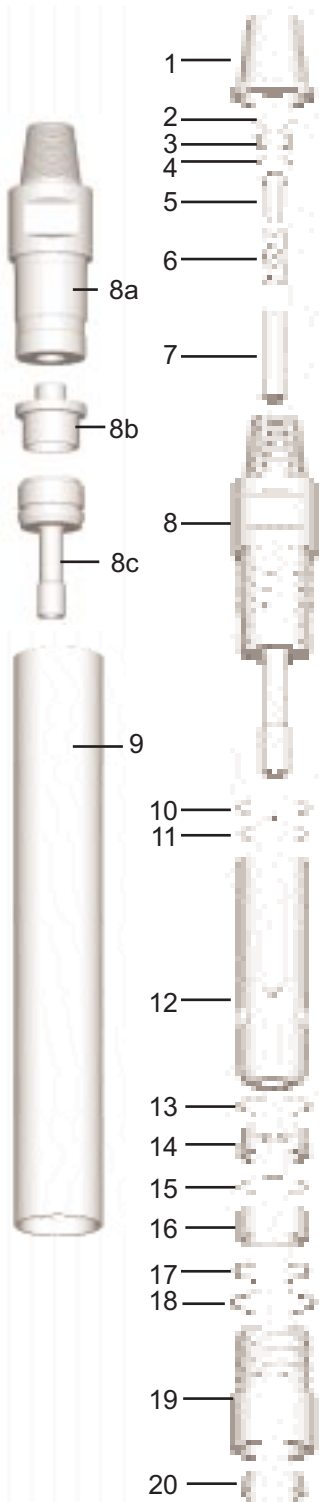
	Make up Length without bit	Outside Diameter	Recommended minimum thrust	Recommended maximum thrust
MACH 50	1012mm (40")	114mm (4.7/16")	400Kg (880 lbs)	900Kg (1980 lbs)
DOMINATOR 500	980mm (38.60")	118mm (4.65")	400Kg (900 lbs)	900Kg (1980 lbs)
SUPER DOMINATOR 500	975mm (38.4")	118mm (4.65")	400Kg (900 lbs)	900Kg (1980 lbs)
DOMINATOR 550 HD	980mm (38.60")	124.5mm (4.85")	400Kg (900 lbs)	900Kg (1980 lbs)
SUPER DOMINATOR 550 HD	975mm (38.4")	124.5mm (4.85")	400Kg (900 lbs)	900Kg (1980 lbs)

## SERVICE AND REPAIR KITS

ITEM	SKKIT QTY	RK KIT QTY
2	2	2
3		1
4	2	2
5		1
6	2	2
7	1	1
10	2	2
11	2	2

ITEM	SKKIT QTY	RK KIT QTY
13	2	2
14		1
15	2	2
16		1
17	1	1
18	1	1
19		1
20		1

NOTE - Repair kit  
(RK) also includes  
2 - Foot Valves



		MACH 50	Dominator 500			Super Dom 500		Dominator 550 HD		Super Dom 550 HD
MODEL		Halco	Halco	A43-15 / SD5	DHD350	DHD350 R IR-SP	QL50	Halco	DHD350 R	DHD350R-SP
		600046	600120	600135	600132	600267	600265	600185	600187	600293
ITEM	DESCRIPTION	PART NUMBER								
1	Thread Protector	201701	201701	201701	201701	201701	201701	201701	201701	201701
2	Snap Ring	-	783028	783028	783028	783028	783028	783028	783028	783028
3	NRV Seat	-	602703	602703	602703	603510	603510	602703	602703	603510
4	O Ring	-	768144	768144	768144	768144	768144	768144	768144	768144
5	NRV	602285	602330	602330	602330	603554	603554	602330	602330	603554
6	NRV Spring	760084	760084	760084	760084	760135	760135	760084	760084	760135
7	NRV Shield	-	-	-	-	603652	603652	-	-	603652
8	Top Adaptor	-	602704	602704	602704	603513	603513	602860	602860	603661
8a	Top Adaptor	601698	-	-	-	-	-	-	-	-
8b	NRV Finger	601702	-	-	-	-	-	-	-	-
8c	Fixed Valve	601699	-	-	-	-	-	-	-	-
9	Cylinder	601694	602457	602457	602457	603368	603368	602862	602862	603370
10	O Ring	-	768091	768091	768091	768091	768091	768091	768091	768091
11	O Ring	768043	768043	768043	768043	768043	768043	768043	768043	768043
12	Piston	601695	602459	602459	602547	603369	603524	602459	602547	603369
13	Snap Ring	783013	783025	783025	783025	783025	783025	783025	783025	783025
14	Bit Guide Bush	-	-	-	-	-	603520	-	-	-
15	O Ring	-	-	-	-	-	768043	-	-	-
16	Bit Retaining Ring	602117	602430	602562	602706	602706	603522	602430	602706	602706
17	Chuck Lock Ring	-	-	-	-	603104	603104	-	-	603104
18	Chuck Spacer	601603	602433	602433	602433	602433	-	602863	602863	602863
19	Chuck	601602	602458	602561	602549	602549	603521	602864	602866	602866
20	End Cap	741020	741020	741020	741020	741020	741020	741020	741020	741020

Foot Valve	601843	601843	601843	601902	601902	603252	601843	601902	601902
F/V tool - body	601847	601847	601847	601877	601877	603254	601847	601877	601877
F/V tool - pusher	601708	601708	601708	601708	601708	603253	601708	601708	601708

### STRIPPING EQUIPMENT

DOMINATOR 500/ 550 HD	
DESCRIPTION	PART NUMBER
Top Adaptor Spanner	601618
Air Distributor Extractor	601639
Snap Ring Removal Tool - Lever Type	601642
Snap Ring Removal Tool - Hook Type	601574
Bit Spanner for 650461 and 650838 bit	601614
Bit Spanner for 650717 and 650599 bit	601976
Bit Spanner for 650771, 650778, 650772 and 650355 bit	601977
Bit Spanner for 650758 bit	601900
Bit Spanner for 650463 bit	601506
Bit Spanner for 650464 bit	601629
Bit Spanner for 650350 bit	602399

# CARBURISED

5" DRILLING TOOL RANGE - DRILL BITS

PART NUMBER	DIAMETER		FACE DESIGN	BUTTON		Heavy Duty Hammer	OVER-SIZE*	WEIGHT (KG)
	MM	INCH		TYPE	QTY / DIA			
<b>HALCO SHANK</b>								
650461	127	5	CONVEX	DOMED	13 X 16mm			15.0
650717	127	5	CONCAVE	BALLISTIC	8 X 16mm / 8 X 13mm			15.0
650838	127	5	CONVEX	BALLISTIC	18 X 11mm			15.0
650654	130	5.1/8	CONVEX	DOMED	13 X 16mm			15.0
650707	130	5.1/8	CONVEX	SEMI-BALLISTIC	15 X 13mm			14.9
650758	135	5.5/16	CONVEX	DOMED	14 X 16mm			15.5
650913	135	5.5/16	FLAT	SEMI-BALLISTIC	9 X 16mm / 9 X 13mm			16.0
650578	140	5.1/2	CONVEX	DOMED	14 X 16mm	Y		15.5
650989	140	5.1/2	CONCAVE	DOMED	9 X 16mm / 9 X 14mm	Y		17.0
650990	146	5.3/4	CONCAVE	DOMED	8 X 18mm / 7 X 16mm	Y		17.8
650463	150	5.7/8	CONVEX	DOMED	14 X 16mm	Y	Y	18.0
650464	165	6.1/2	CONVEX	DOMED	16 X 16mm	Y	Y	18.5
<b>INGERSOLL RAND SHANK - DHD350R / ATLAS COPCO COP 54</b>								
650355	140	5.1/2	FLAT	DOMED	15 X 16mm	Y		16.2
650772	140	5.1/2	CONCAVE	DOMED	15 X 16mm	Y		16.0
650677	140	5.1/2	CONCAVE	Domed/Semi-Ballistic	8 X 16mmD / 7 X 16mmSB	Y		16.4
650627	140	5.1/2	CONCAVE	DOMED	8 X 18mm / 7 X 16mm	Y		16.6
650676	150	5.7/8	CONCAVE	Domed/Semi-Ballistic	9X16mmD / 10X16mmSB	Y	Y	17.8
650711	152	6	CONVEX	DOMED	20 X 16mm	Y	Y	17.8
653099	160	6.1/4	CONCAVE	DOMED	10 X 16mm / 8 X 20mm	Y	Y	21.4
653092	165	6.1/2	CONCAVE	DOMED	10 X 16mm / 8 X 20mm	Y	Y	21.4
<b>INGERSOLL RAND QL50 SHANK</b>								
650667	140	5.1/2	FLAT	DOMED	15 X 16mm	Y		15.0
<b>SANDVIK MISSION SHANK (A43-15/SD5)</b>								
653095	152	6	CONCAVE	DOMED	16 X 16mm			17.7
653096	165	6.1/2	CONCAVE	DOMED	10 X 16mm / 8 X 20mm			19.3

# HYTUFF

PART NUMBER	DIAMETER		FACE DESIGN	BUTTON		HEAVY DUTY	OVER-SIZE*	WEIGHT (KG)
	MM	INCH		TYPE	QTY / DIA			
<b>SANDVIK MISSION SHANK (A34-15/SD5)</b>								
670012	127	5	FLAT	DOMED	8 X 5/8" / 7 X 1/2"			13.5
670013	127	5	CONCAVE	DOMED	8 X 5/8" / 7 X 1/2"			13.4
670016	130	5.1/8	CONCAVE	DOMED	8 X 5/8" / 7 X 1/2"			14.4
670019	133	5.1/4	CONCAVE	DOMED	8 X 5/8" / 7 X 1/2"			15.0
670020	140	5.1/2	FLAT	DOMED	15 X 5/8"			15.7
670021	140	5.1/2	CONCAVE	DOMED	15 X 5/8"			15.5
670025	146	5.3/4	FLAT	DOMED	15 X 5/8"			16.9
670026	146	5.3/4	CONCAVE	DOMED	15 X 5/8"			16.8
<b>INGERSOLL RAND SHANK (DHD350R)</b>								
670030	127	5	CONCAVE	DOMED	8 X 5/8" / 7 X 1/2"			14.0
670032	130	5.1/8	CONCAVE	DOMED	8 X 5/8" / 7 X 1/2"			14.9
670034	133	5.1/4	CONCAVE	DOMED	8 X 5/8" / 7 X 1/2"			15.5
670036	140	5.1/2	FLAT	DOMED	15 X 5/8"			16.2
670037	140	5.1/2	CONCAVE	DOMED	15 X 5/8"			16.0
670041	140	5.1/2	CONCAVE	DOMED	15 X 9/16"			16.0
670042	140	5.1/2	CONCAVE	BALLISTIC	15 X 5/8"			16.0
670039	146	5.3/4	FLAT	DOMED	15 X 5/8"			17.4
670040	146	5.3/4	CONCAVE	DOMED	15 X 5/8"			17.3

Please see the **MADE TO ORDER** section at the back of the book

# 6" DRILLING TOOL RANGE

Class leading performance throughout the 6" hammer and drill bit range with unrivalled reliability ensures maximum production rates. With 4 different models in the range you can be sure to find the right hammer for your drilling conditions:

- **Super Dominator 600:** The fastest 6" hammer specifically designed for high production drilling in blast hole applications. The Super Dominator 600 lean-SP, is a reduced weight hammer with water well drilling capabilities.
- **Super Dominator 650HD:** Combines the raw power of the Super Dominator 600 with extended hammer life in abrasive conditions. Features a reversible cylinder. With a recommended minimum bit size of 6.3/4".
- **Dominator 600:** A class leader in performance is suitable for drilling at a wide range of air pressures, excelling at higher working pressures. With water well drilling capabilities and a recommended minimum bit size of 6".
- **Dominator 600 Deep Well:** Designed for deep hole drilling with a high air volume capability.

## MACH 60

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER
HALCO			
MACH 60	3.1/2" API REG PIN	89	600035

## SUPER DOMINATOR 600 / DOMINATOR 600

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER
HALCO			
DOMINATOR 600 - SP	3.1/2" API REG PIN	94	600151
SANDVIK MISSION (A53-15 / SD6)			
DOMINATOR 600 - SP	3.1/2" API REG PIN	107	600152
INGERSOLL RAND (QL60)			
SUPER DOMINATOR 600 - LEAN	3.1/2" API REG PIN	86	600268
SUPER DOMINATOR 600 - DEEP WELL	3.1/2" API REG PIN	86	600285
INGERSOLL RAND (DHD360)			
DOMINATOR 600	3.1/2" API REG PIN	107	600094
SUPER DOMINATOR 600	3.1/2" API REG PIN	100	600272

## SUPER DOMINATOR 650 HD / DOMINATOR 650 HD

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER
HALCO			
SUPER DOMINATOR 650 HD-SP	3.1/2" API REG PIN	104	600307
SANDVIK MISSION (A53-15 / SD6)			
SUPER DOMINATOR 650 HD	3.1/2" API REG PIN	104	600233
INGERSOLL RAND (QL60)			
SUPER DOMINATOR 650 HD - LEAN	3.1/2" API REG PIN	104	600316
SUPER DOM 650 HD - DEEP WELL	3.1/2" API REG PIN	104	600317
INGERSOLL RAND (DHD360)			
SUPER DOMINATOR 650 HD	3.1/2" API REG PIN	104	600213
DOMINATOR 650 HD	3.1/2" API REG PIN	117	600190



Please see the **MADE TO ORDER** section at the back of the book

# SPECIFICATIONS AIR CONSUMPTION

OUTPUT PRESSURE		DOMINATOR 600 / 650 HD		SUPER DOMINATOR 600 / 650 HD		MACH 60	
BAR	PSI	M <sup>3</sup> /MIN	CFM	M <sup>3</sup> /MIN	CFM	M <sup>3</sup> /MIN	CFM
10.5	150	9.5	335	9.5	335	7.9	280
12	170	12	425	12	425	9.1	320
14	200	14.1	500	14.1	500	12.5	440
17	250	19.5	690	19.5	690	16.4	580
24	350	30	1060	30	1060	25.5	900

OUTPUT PRESSURE		SUPER DOMINATOR 600 - LEAN		SUPER DOM 600 - DEEP WELL	
BAR	PSI	M <sup>3</sup> /MIN	CFM	M <sup>3</sup> /MIN	CFM
10.5	150	9.8	346	10.7	378
12	170	11.3	399	12.4	438
14	200	13.6	478	14.9	526
17	250	17.3	611	19	670
24	350	24.9	876	27.3	964

## LENGTHS, WEIGHTS AND THRUSTS

	Make up Length without bit	Outside Diameter	Recommended minimum thrust	Recommended maximum thrust
DOMINATOR 600	1208 mm (47.5")	139mm (5.1/2")	500 Kg (1100 lbs)	1500 Kg (3300 lbs)
DOMINATOR 650 HD	1208mm (47.5")	146mm (5.3/4")	500 Kg (1100 lbs)	1500 Kg (3300 lbs)
SUPER DOMINATOR 650 HD	1139mm (44.8")	146mm (5.3/4")	500 Kg (1100 lbs)	1500 Kg (3300 lbs)
SUPER DOMINATOR 600	1139mm (44.8")	140mm (5.1/2")	500 Kg (1100 lbs)	1500 Kg (3300 lbs)
SUPER DOMINATOR 600 - LEAN	1043mm (41")	140mm (5.1/2")	500 Kg (1100 lbs)	1500 Kg (3300 lbs)
SUPER DOMINATOR 600 - DEEP WELL	1043mm (41")	140mm (5.1/2")	500 Kg (1100 lbs)	1500 Kg (3300 lbs)

## STRIPPING EQUIPMENT

DOMINATOR/SUPER DOMINATOR 650HD	
DESCRIPTION	PART NUMBER
Top Adaptor Spanner	602878
Air Distributor Extractor	601572
Snap Ring Removal Tool - Lever Type	601642
Snap Ring Removal Tool - Hook Type	601574
Bit Spanner for 650457 Bit	601520
Bit Spanner for 650458 Bit	601521
Bit Spanner for 650335 Bit	602661
Bit Spanner for 650939 & 650940 Bit	602738
Bit Spanner for 650440, 650163 Bit	601494
Bit Spanner for 650441 Bit ( 650 HD ONLY)	601495
Bit Spanner for 650794, 650795, 650381, 650349 Bit	602041
Bit Spanner for 650160 Bit ( 650 HD ONLY)	601508
Bit Spanner for 650540 Bit ( 650 HD ONLY)	601775
Bit Spanner for 650474 Bit	601616
Heavy Duty Foot Valve - Halco Shank	602243
Heavy Duty Foot Valve - Mission Shank	602243
Heavy Duty Foot Valve - IR Shank	602334

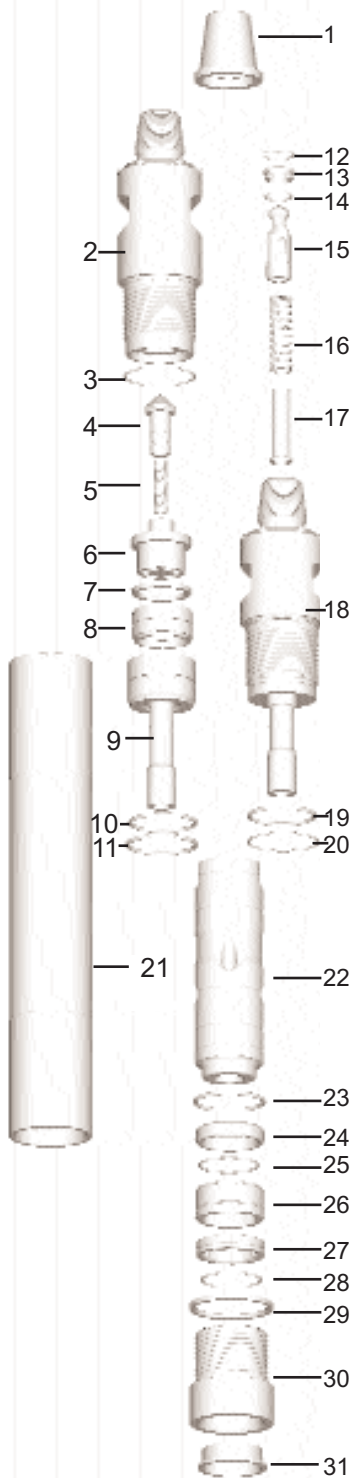
Note - When assembling a drill bit into the hammer, the bit guide bush, item 16, should be above the bit ret. rings on the IR hammer model and below the bit. Ret. Rings on the Miss

## SERVICE AND REPAIR KITS

ITEM	SK KIT	RK KIT
	QTY	QTY
3	2	2
4	-	1
5	2	2
6	-	1
7	-	4
8	-	1
10	2	2
11	2	2
12	2	2
13	-	1
14	2	2
15	0	1
16	2	2
17	0	1
19	2	2
20	2	2
23	2	2
24	-	1
25	2	2
26	-	1
27	-	1
28	2	2
29	1	1
30	-	1

NOTE - Repair kit (RK) also includes 2 - Foot Valves

6" DRILLING TOOL RANGE



MODEL		Mach 60				Dominator 600				Super Dominator 600				Dom 650 HD		Super Dominator 650 HD											
		Halco		Halco - SP		A53-15 / SD6 - SP		DHD360		DHD360		QL60 - Lean		QL60 - DEEP WELL		DHD 360		Halco - SP		A53-15 / SD6		DHD360		QL60 - Lean		QL60 - DEEP WELL	
		600035	600151	600152	600094	600272	600268	600285	600190	600307	600233	600213	600316	600317													
ITEM	DESCRIPTION	PART NUMBER																									
1	Thread protector	201701	201701	201701	201701	201701	201701	201701	201701	201701	201701	201701	201701	201701	201701	201701	201701	201701	201701	201701	201701	201701	201701	201701	201701	201701	
2	Top adaptor	601555	601935	602240	602240	-	-	-	602078	-	-	-	602078	-	-	-	-	-	-	-	-	-	-	-	-	-	
3	O'ring	768130	768140	768140	768140	-	-	-	768140	-	-	-	768140	-	768140	-	-	-	-	-	-	-	-	-	-	-	
4	NR valve	601560	601560	601560	601560	-	-	-	601560	-	-	-	601560	-	-	-	-	-	-	-	-	-	-	-	-	-	
5	NRV spring	760079	760079	760079	760079	-	-	-	760079	-	-	-	760079	-	-	-	-	-	-	-	-	-	-	-	-	-	
6	NRV housing	601558	601940	601940	601940	-	-	-	601940	-	-	-	601940	-	-	-	-	-	-	-	-	-	-	-	-	-	
7	Shim - 4MM	-	601946	601946	601946	-	-	-	601946	-	-	-	601946	-	-	-	-	-	-	-	-	-	-	-	-	-	
7	Shim - 5MM	-	601947	601947	601947	-	-	-	601947	-	-	-	601947	-	-	-	-	-	-	-	-	-	-	-	-	-	
7	Shim - 6MM	-	601948	601948	601948	-	-	-	601948	-	-	-	601948	-	-	-	-	-	-	-	-	-	-	-	-	-	
7	Shim - 7MM	-	601949	601949	601949	-	-	-	601949	-	-	-	601949	-	-	-	-	-	-	-	-	-	-	-	-	-	
8	Make up ring	601562	760096	760096	760096	-	-	-	760096	-	-	-	760096	-	-	-	-	-	-	-	-	-	-	-	-	-	
9	Air distributor	601557	601979	601979	601979	-	-	-	601979	-	-	-	601979	-	-	-	-	-	-	-	-	-	-	-	-	-	
10	O'ring	-	768055	768055	768055	-	-	-	768055	-	-	-	768055	-	768055	-	-	-	-	-	-	-	-	-	-	-	
11	Snap ring	783012	783017	783017	783017	-	-	-	783017	-	-	-	783017	-	-	-	-	-	-	-	-	-	-	-	-	-	
12	Snap Ring	-	-	-	-	783050	783050	783050	-	783050	783050	783050	-	783050	783050	783050	783050	783050	783050	783050	783050	783050	783050	783050	783050	783050	
13	NRV Seat	-	-	-	-	603872	603872	603872	-	603872	603872	603872	-	603872	603872	603872	603872	603872	603872	603872	603872	603872	603872	603872	603872	603872	
14	O Ring	-	-	-	-	768112	768112	768112	-	768112	768112	768112	-	768112	768112	768112	768112	768112	768112	768112	768112	768112	768112	768112	768112	768112	
15	NR Shuttle Valve	-	-	-	-	603554	603554	603554	-	603554	603554	603554	-	603554	603554	603554	603554	603554	603554	603554	603554	603554	603554	603554	603554	603554	
16	NRV Spring	-	-	-	-	760135	760135	760135	-	760135	760135	760135	-	760135	760135	760135	760135	760135	760135	760135	760135	760135	760135	760135	760135	760135	
17	NRV Spring Shield	-	-	-	-	603652	603652	603652	-	603652	603652	603652	-	603652	603652	603652	603652	603652	603652	603652	603652	603652	603652	603652	603652	603652	
18	Integral Top Adaptor	-	-	-	-	603506	603544	603625	-	603643	603643	603643	-	603643	603643	603643	603643	603643	603643	603643	603643	603643	603643	603643	603643	603643	
19	O Ring	-	-	-	-	768055	747105	747105	-	747105	-	768055	747105	-	747105	-	768055	747105	747105	747105	747105	747105	747105	747105	747105	747105	
20	O Ring	-	-	-	-	768140	768140	768140	-	768140	-	768140	-	768140	-	768140	-	768140	-	768140	-	768140	-	768140	-	768140	
21	Cylinder	601553	601937	601937	601937	603584	603539	603791	602014	603151	603151	603151	603801	603808	-	-	-	-	-	-	-	-	-	-	-	-	
22	Piston	601554	602600	602600	602891	602891	603538	603538	602891	602600	602620	602891	603538	603538	-	-	-	-	-	-	-	-	-	-	-	-	
23	Snap ring	783012	783017	783017	783017	783017	783017	783017	783017	783017	783017	783017	783017	783017	783017	783017	783017	783017	783017	783017	783017	783017	783017	783017	783017	783017	
24	Bottom spacer	601571	601943	601943	-	-	-	-	-	601943	601943	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25	O'ring	-	-	-	-	-	747105	747105	747105	-	-	-	747105	-	-	-	-	-	-	-	-	-	-	-	-	-	
26	Bit guide bush	-	-	601992	602239	602239	603537	603537	602239	-	601992	602239	603537	603537	602239	-	601992	602239	603537	603537	602239	603537	603537	603537	603537	603537	
27	Bit retaining ring	601573	601941	601994	602504	603749	603536	603536	602504	601941	601994	603749	603536	603536	-	-	-	-	-	-	-	-	-	-	-	-	
28	O'ring	747105	747105	747105	747105	747105	603230	603230	747105	747105	747105	747105	603230	603230	-	-	-	-	-	-	-	-	-	-	-	-	
29	Chuck spacer	601563	601942	601942	601942	601942	-	-	601928	601928	601928	601928	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
30	Chuck	601556	601936	602004	602495	602495	603535	603535	602595	602016	602017	602595	603802	603802	-	-	-	-	-	-	-	-	-	-	-	-	
31	Cap	741009	741009	741009	741009	741009	741042	741042	741009	741009	741009	741009	741042	741042	-	-	-	-	-	-	-	-	-	-	-	-	
	Foot valve	601570	601570	601570	601595	601595	601595	602852	601595	601570	601570	601595	601852	602852	-	-	-	-	-	-	-	-	-	-	-	-	
	F/V tool - body	601568	601568	601568	601878	601878	601878	603547	601878	601568	601568	601878	603547	603547	-	-	-	-	-	-	-	-	-	-	-	-	
	F/V tool - pusher	601569	601569	601569	601569	601569	601569	601569	601569	601569	601569	601569	601569	601569	-	-	-	-	-	-	-	-	-	-	-	-	
SK	Service Kit	SK07	SK05	SK06	SK21	SK37	SK43	SK43	SK22	SK28	SK44	SK28	SK43	SK43	-	-	-	-	-	-	-	-	-	-	-	-	
RK	Repair Kit	RK10	RK07	RK08	RK09	RK65	RK70	RK70	RK36	RK80	RK71	RK48	RK81	RK81	-	-	-	-	-	-	-	-	-	-	-	-	

6" DRILLING TOOL RANGE - SPARE PARTS

# CARBURISED

# HYTUFF

6" DRILLING TOOL RANGE - DRILL BITS

PART NUMBER	DIAMETER		FACE DESIGN	BUTTON		Heavy Duty Hammer	OVER-SIZE*	WEIGHT (KG)
	MM	INCH		TYPE	QTY			
<b>HALCO SHANK</b>								
650585	152	6	CONVEX	DOMED	16 X 16mm			23.5
650939	165	6.1/2	CONVEX	DOMED	19 X 16mm			26.0
650996	165	6.1/2	CONVEX	SEMI-BALLISTIC	19 X 16mm			26.0
650927	170	6.3/4	FLAT	DOMED	19 X 16mm			26.0
650474	178	7	CONVEX	DOMED	18 X 16mm		Y	30.0
650354	191	7.1/2	CONVEX	DOMED	21 X 16mm		Y	32.5
650440	200	7.7/8	CONVEX	DOMED	20 X 16mm		Y	34.0
650681	203	8	CONCAVE	DOMED	31 X 16mm		Y	35.0
650441	225	8.7/8	CONVEX	DOMED	26 X 16mm		Y	42.0
650457	245	9.5/8	CONVEX	DOMED	27 X 16mm		Y	49.0
<b>SANDVIK MISSION A53-15 / SD6</b>								
650062	151	6	FLAT	DOMED	18 X 16mm			26.0
650550	151	6	CONCAVE	DOMED	16 X 16mm			26.0
650910	154	6.1/16	CONVEX	DOMED	16 X 16mm			26.0
650792	156	6.1/8	CONVEX	DOMED	17 X 16mm			26.0
650790	165	6.1/2	CONCAVE	DOMED	18 X 16mm	Y		27.5
650940	165	6.1/2	CONVEX	DOMED	19 X 16mm	Y		27.5
650701	171	6.3/4	CONCAVE	DOMED	24 X 16mm	Y		26.2
650695	178	7	FLAT	DOMED	20 X 16mm	Y	Y	29.0
650007	178	7	CONCAVE	DOMED	20 X 16mm	Y	Y	29.0
650008	191	7.1/2	CONCAVE	DOMED	24 X 16mm	Y	Y	30.0
650336	203	8	CONVEX	DOMED	20 X 16mm	Y	Y	36.0
650709	215	8.1/2	CONVEX	DOMED	21 X 16mm	Y	Y	36.0
650065	216	8.1/2	CONCAVE	DOMED	22 X 20mm	Y	Y	36.0
650697	241	9.1/2	FLAT	DOMED	18 X 16mm / 10 X 20mm	Y	Y	51.8
<b>INGERSOLL RAND (QL60)</b>								
650094	156	6.1/8	CONCAVE	DOMED	16 X 16mm			23.2
653139	165	6.1/2	CONCAVE	DOMED	18 X 18mm	Y		23.8
653118	171	6.3/4	CONCAVE	DOMED	18 X 16mm	Y		26.2
653128	178	7	CONCAVE	DOMED	8X 20MM / 11 X 16MM	Y	Y	26.2
653142	203	8	CONCAVE	DOMED	31 X 16mm	Y	Y	36.0
<b>INGERSOLL RAND (DHD360) / ATLAS COPCO COP64</b>								
650783	152	6	CONVEX	DOMED	20 X 16mm			25.0
650793	152	6	CONCAVE	DOMED	17 X 16mm			25.0
650061	152	6	FLAT	DOMED	18 X 16mm			25.0
650640	154	6.1/16	FLAT	DOMED	16 X 16mm	Y		24.0
650652	165	6.1/2	FLAT	DOMED	19 X 16mm	Y		25.0
650789	165	6.1/2	CONCAVE	DOMED	18 X 16mm	Y		25.5
650795	165	6.1/2	CONVEX	DOMED	20 X 16mm	Y		26.0
650897	165	6.1/2	FLAT	DOMED	8 X 20mm / 9 X 16mm	Y		26.5
650982	170	6.3/4	CONVEX	DOMED	6 X 16mm / 13 X 18mm	Y		26.5
653038	170	6.3/4	CONCAVE	DOMED	18 X 16mm	Y		26.5
650694	178	7	FLAT	DOMED	20 X 16mm	Y	Y	27.3
653097	180	7	CONCAVE	DOMED	18 X 16mm	Y	Y	27.3
653098	190	7.1/2	CONCAVE	DOMED	24 X 16mm	Y	Y	30.0
650335	203	8	CONVEX	DOMED	20 X 16mm	Y	Y	35.0
650684	220	8.5/8	CONCAVE	DOMED	22 X 20mm	Y	Y	40.0
650696	241	9.1/2	FLAT	DOMED	18 X 16mm / 10 X 20mm	Y	Y	50.0

PART NUMBER	DIAMETER		FACE DESIGN	BUTTON		OVER-SIZE*	WEIGHT (KG)
	MM	INCH		TYPE	QTY / DIA		
<b>SANDVIK MISSION SHANK (A35-15/SD6)</b>							
670044	150	5.7/8	CONCAVE	DOMED	15 X 5/8"		25.7
670045	152	6	FLAT	DOMED	16 X 5/8"		26.0
670046	152	6	CONCAVE	DOMED	16 X 5/8"		26.0
670048	156	6.1/8	FLAT	DOMED	16 X 5/8"		26.6
670049	156	6.1/8	CONCAVE	DOMED	16 X 5/8"		26.6
670117	156	6.1/8	CONCAVE	BALLISTIC	16 X 5/8"		26.6
670053	159	6.1/4	CONCAVE	DOMED	16 X 5/8"		26.8
670116	159	6.1/4	CONCAVE	BALLISTIC	16 X 5/8"		26.8
670054	165	6.1/2	FLAT	DOMED	16 X 5/8"		27.5
670055	165	6.1/2	CONCAVE	DOMED	16 X 5/8"		27.5
670068	165	6.1/2	CONCAVE	DOMED	8 X 3/4" / 8 X 5/8"		27.5
670059	171	6.3/4	CONCAVE	DOMED	16 X 5/8"	Y	29.5
670062	190	7.1/2	CONCAVE	DOMED	17 X 5/8"	Y	34.5
670064	200	7.7/8	CONCAVE	DOMED	23 X 5/8"	Y	35.8
670065	203	8	CONCAVE	DOMED	23 X 5/8"	Y	36.0
670066	216	8.1/2	CONCAVE	DOMED	23 X 5/8"	Y	39.0
670067	219	8.5/8	CONCAVE	DOMED	23 X 5/8"	Y	39.5
<b>INGERSOLL RAND SHANK (DHD360R)</b>							
670074	150	5.7/8	CONCAVE	DOMED	15 X 5/8"		24.5
670075	152	6	FLAT	DOMED	16 X 5/8"		24.7
670076	152	6	CONCAVE	DOMED	16 X 5/8"		24.6
670080	156	6.1/8	FLAT	DOMED	16 X 5/8"		25.2
670081	156	6.1/8	CONCAVE	DOMED	16 X 5/8"		25.1
670043	156	6.1/8	CONCAVE	BALLISTIC	16 X 5/8"		25.1
670085	159	6.1/4	FLAT	DOMED	16 X 5/8"		25.4
670086	159	6.1/4	CONCAVE	DOMED	16 X 5/8"		25.3
670112	159	6.1/4	CONCAVE	BALLISTIC	16 X 5/8"		25.3
670087	165	6.1/2	FLAT	DOMED	16 X 5/8"		26.0
670088	165	6.1/2	CONCAVE	DOMED	16 X 5/8"		26.5
670104	165	6.1/2	CONCAVE	DOMED	8 X 3/4" / 8 X 5/8"		26.6
670092	171	6.3/4	FLAT	DOMED	16 X 5/8"	Y	28.5
670093	171	6.3/4	CONCAVE	DOMED	16 X 5/8"	Y	28.4
670106	171	6.3/4	CONCAVE	DOMED	8 X 3/4" / 8 X 5/8"	Y	28.5
670098	190	7.1/2	CONCAVE	DOMED	17 X 5/8"	Y	34.1
670100	200	7.7/8	CONCAVE	DOMED	23 X 5/8"	Y	34.8
670101	203	8	CONCAVE	DOMED	23 X 5/8"	Y	35.0
670102	216	8.1/2	CONCAVE	DOMED	23 X 5/8"	Y	37.6
670103	219	8.5/8	CONCAVE	DOMED	23 X 5/8"	Y	38.0

Please see the **MADE TO ORDER** section at the back of the book

# 7" DRILLING TOOL RANGE

**DOMINATOR 750 high performance hammer** is suitable for a wide range of air pressures, 100 - 350psi (7-24 Bar).

Drilling hole diameters of from 192mm to 254mm (7.5/8" to 10"), the Dominator 750 is up to 50% faster than competing models. The mining quarrying and waterwell industries will all benefit from high reliability offered by a one piece top adaptor/ air distributor.

A reversible cylinder is also fitted to the Dominator 750 to prolong hammer life and reduce costs.

## DOMINATOR 750

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER
HALCO			
DOMINATOR 750M - SP	4.1/2" API REG PIN	165	600243



7" DRILLING TOOL RANGE

Please see the **MADE TO ORDER** section at the back of the book

# SPECIFICATIONS

## AIR CONSUMPTION

OUTPUT PRESSURE		DOMINATOR 750M	
BAR	PSI	M <sup>3</sup> /MIN	CFM
7	100	9.9	349
10.5	150	15.7	553
12	170	18	634
14	200	21.5	756
17	250	27.3	960
24	350	38.5	1368

## LENGTHS, WEIGHTS AND THRUSTS

	Make up Length without bit	Outside Diameter	Recommended minimum thrust	Recommended maximum thrust
DOMINATOR 750M	1232mm (48.1/2")	172mm (6.3/4")	800 Kg (1760 lbs)	2000 Kg (4400 lbs)

## DRILL BITS

## CARBURISED

Please see the **MADE TO ORDER** section at the back of the book

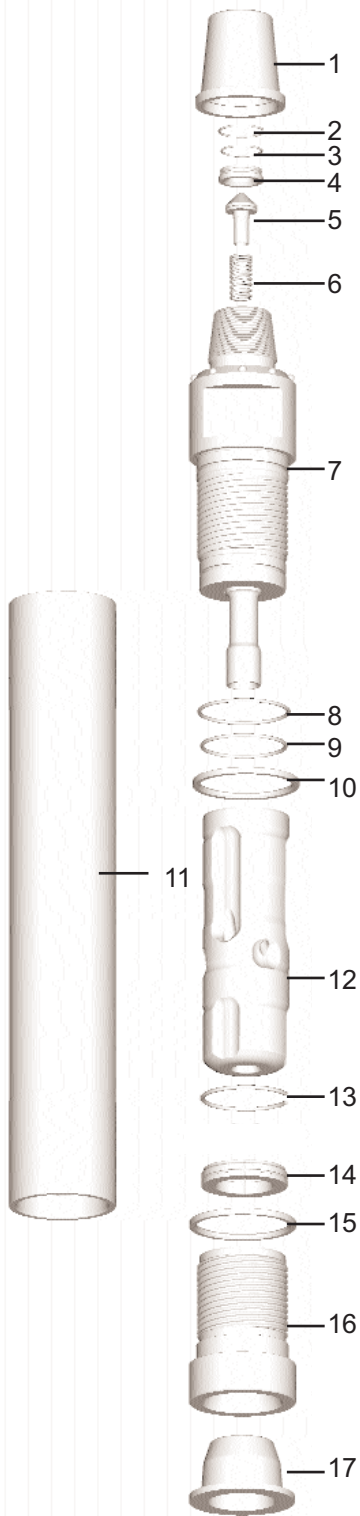
PART NUMBER	DIAMETER		FACE DESIGN	BUTTON		WEIGHT (KG)
	MM	INCH		TYPE	QTY	

SANDVIK MISSION A63-15/SD8 SHANK						
650591	192	7.5/8	CONCAVE	DOMED	20 X 16mm	41.0
650959	200	7.7/8	CONCAVE	DOMED	12 X 16mm / 9 X 20mm	43.0
650985	200	7.7/8	CONCAVE	DOMED	31 X 16mm	42.5
650375	203	8	CONCAVE	DOMED	10 X 20mm / 14 X 16mm	43.5
650922	203	8	CONCAVE	Domed/Semi Ballistic	10X20mmD/14X16mmSB	43
650870	216	8.1/2	CONCAVE	DOMED	18 X 20mm	44.5
650837	219	8.5/8	CONCAVE	DOMED	18 X 20mm	46.0
650912	222	8.3/4	CONCAVE	DOMED	19 X 20mm	46.5
650357	241	9.1/2	CONCAVE	DOMED	18 X 20mm	52.5
650606	254	10	CONCAVE	DOMED	11X16mm / 18 X 20mm	56.5
650826	254	10	CONVEX	DOMED	21 X 20mm	57.0

## SERVICE AND REPAIR KITS

ITEM	SK KIT	RK KIT
	QTY	QTY
2	2	2
3	2	2
4	-	1
5	-	1
6	2	2
8	2	2
9	2	2
13	2	2
14	-	1
15	2	2
16	-	1

NOTE - Repair kit (RK) also includes 2 - Foot Valves



		DOMINATOR
		750-SP
MODEL NUMBER		600243
ITEM	DESCRIPTION	PART NUMBER
1	Thread protector	207295
2	Snap ring	783034
3	'O'ring	768150
4	NRV seat	602887
5	NR valve	602285
6	NRV spring	760117
7	Adaptor assy	602882
8	'O'ring(Upper)	768151
9	'O'ring(Lower)	768152
10	Spacer	602885
11	Cylinder	602880
12	Piston	603382
13	Snap ring	783033
14	Bit retaining ring (inc 768149 'O'ring)	602886
15	Chuck spacer	602885
16	Chuck	602881
17	Cap	741044
	Foot valve	601828
	F/V tool - body	601829
	F/V tool - pusher	601569
SK	Service Kit	SK23
RK	Repair Kit	RK37

## STRIPPING EQUIPMENT

DESCRIPTION	PART NUMBER
Top Adaptor Spanner - "J type"	602734
Snap Ring Removal Tool - Level Type	601642
Snap Ring Removal Tool - Hook Type	601574
Spanner for 650357 Bit	602475
Spanner for 650837 Bit	602480

# 8" DRILLING TOOL RANGE

The **Dominator 800** a general purpose hammer suitable for a wide range of air pressures, 100-350 psi (7-24 Bar). The **Dominator 880** is a well drilling hammer with a mid-range air volume.

The **Dominator 880 Deep Well** is suitable for drilling deep holes in ground water. Please see air consumption figures overleaf.

The **Dominator 850** has been designed for high performance drilling in hard to medium rock formations, particularly mining applications. Its class leading performance has been achieved with a larger / heavier piston and a valveless air cycle providing a 50% increase in stroke. As well as a reversible cylinder for prolonged hammer life the Dominator 850 benefits from a QL80 shank design. "Captive" bit retaining rings and an improved 2 start thread design ensures that the

## DOMINATOR 800

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER
<b>HALCO</b>			
DOMINATOR 800-SP	4.1/2" API REG PIN	175	600310
<b>SANDVIK MISSION (A63-15/SD8)</b>			
DOMINATOR 800-SP	4.1/2" API REG PIN	180	600308
<b>INGERSOLL RAND (DHD380)</b>			
DOMINATOR 800-SP	4.1/2" API REG PIN	181	600309

## DOMINATOR 850 / 880

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER
<b>INGERSOLL RAND (OL80)</b>			
DOMINATOR 850	4.1/2" API REG PIN	210	600245
<b>INGERSOLL RAND (DHD380)</b>			
DOMINATOR 880-SP	4.1/2" API REG PIN	177	600312
DOMINATOR 880 DEEPWELL	4.1/2" API REG PIN	177	600261



8" DRILLING TOOL RANGE

Please see the **MADE TO ORDER** section at the back of the book

# SPECIFICATIONS

## AIR CONSUMPTION

OUTPUT PRESSURE		DOMINATOR 800		DOMINATOR 880	
BAR	PSI	M <sup>3</sup> /MIN	CFM	M <sup>3</sup> /MIN	CFM
7	100	6.5	230	10.9	384
10.5	150	10.8	380	16.6	586
12	170	13.9	490	18.9	667
14	200	15.1	535	22.4	788
17	250	19.3	680	28.1	990
24	350	27.9	985	39.6	1394

OUTPUT PRESSURE		DOMINATOR 850		DOMINATOR 880 DW	
BAR	PSI	M <sup>3</sup> /MIN	CFM	M <sup>3</sup> /MIN	CFM
7	100	11	390	14.6	513
10.5	150	16.8	591	23.5	829
12	170	19	671	27.1	955
14	200	22.5	791	32.5	1144
17	250	28.2	992	41.5	1460
24	350	39.6	1393	59.4	2092

## LENGTHS, WEIGHTS AND THRUSTS

	Make up Length withoutbit	Outside Diameter	Recommended minimum thrust	Recommended maximum thrust
DOMINATOR 800	1180 mm (46.1/2")	182mm (7.5/32")	800 Kg (1760 lbs)	2000 Kg (4400 lbs)
DOMINATOR 850	1281mm (50.2/5")	192mm (7.5/8")	800 Kg (1760 lbs)	2000 Kg (4400 lbs)
DOMINATOR 880	1263mm (49.7")	182mm (7.5/32")	800 Kg (1760 lbs)	2000 Kg (4400 lbs)

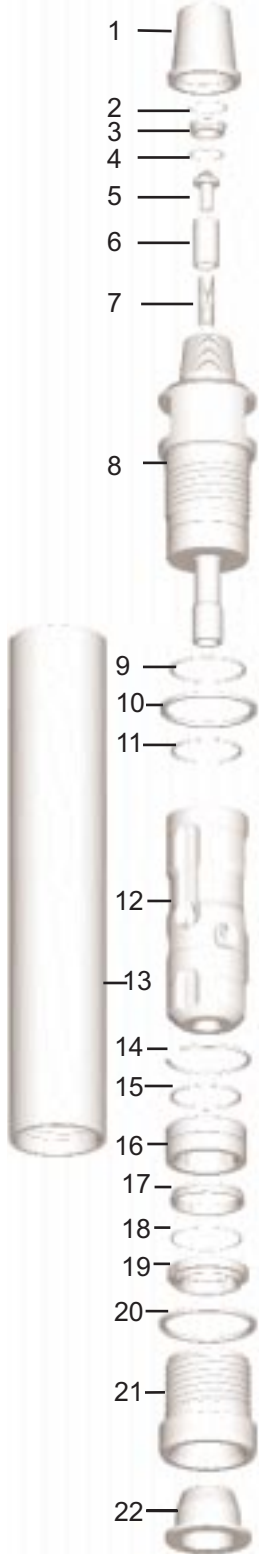
## STRIPPING EQUIPMENT

DOMINATOR 800 / 880		DOMINATOR 850	
DESCRIPTION	PART NUMBER	DESCRIPTION	PART NUMBER
Top Adaptor Spanner - "J" type	602888	Top Adaptor Spanner - "J" type	603492
Snap Ring Removal Tool - Level Type	601642	Snap Ring Removal Tool - Level Type	601642
Snap Ring Removal Tool - Hook Type	601574	Snap Ring Removal Tool - Hook Type	601574
Spanner for 650846 Bit	602324		
Spanner for 650571 Bit	601495		
Spanner for 650746 Bit	602322		
Spanner for 650479 Bit	601521		
Spanner for 650850 Bit	601833		
Spanner for 650365 Bit	602368		
Spanner for 650357 Bit	602475		
Spanner for 650908 Bit	602369		
Spanner for 650837 Bit	602480		
Heavy duty foot valve - IR DHD380 shank	602749		

## SERVICE AND REPAIR KITS

ITEM	SKKIT	RK KIT
	QTY	QTY
2	2	2
3	-	1
4	2	2
5	-	1
6	-	1
7	2	2
9	2	2
11	2	2
14	2	2
17	-	1
18	2	2
19	-	1
20	2	2
21	-	1

NOTE - Repair kit (RK) also includes 2 - Foot Valves



		DOMINATOR 800			DOMINATOR 880	DOMINATOR 880 DW	DOMINATOR 850
MODEL		A63-15 / SD8	DHD 380	Halco	DHD380	DHD380	QL80
		600308	600309	600310	600312	600261	600245
ITEM	DESCRIPTION						
1	Thread Protector	207295	207295	207295	207295	207295	207295
2	Snap Ring	783034	783034	783034	783034	783034	783034
3	NRV Seat	602887	602887	602887	602887	602887	602887
4	O Ring	768150	768150	768150	768150	768150	768150
5	NRV	602285	602285	602285	602285	602285	602285
6	NRV Cover	603696	603696	603696	603696	603696	603696
7	NRV Spring	760108	760108	760108	760108	760108	760108
8	Top Adaptor	603607	603607	603607	603607	603498	603353
9	O Ring (upper)	768103	768103	768103	768103	768103	-
10	Spacer	603576	603576	603576	603576	603576	603358
11	O Ring (lower)	768145	768145	768145	768145	768145	768169
12	Piston	603747	603755	603754	602654	602743	603349
13	Cylinder	603687	603687	603687	603691	603496	603347
14	Snap Ring	783015	783015	783015	783015	783015	783039
15	O Ring	-	-	-	-	-	768169
16	Bit Guide Bush	-	-	-	-	-	603360
17	Spacer	-	602840	-	602840	602840	-
18	Containment Band	768102	603549	603549	603549	603549	-
19	Bit Ring	601839	603043	601677	603043	603043	603359
20	Chuck Spacer	603576	603576	603576	603576	603576	603358
21	Chuck	603686	603495	603685	603495	603495	603357
22	End Cap	741034	741034	741034	741034	741027	741027

Foot Valve	601828	601819	601675	601819	601819	603334
Body	601829	601820	601820	601820	601820	603342
Pusher	601569	601569	601569	601569	601569	603341

RK	Repair Kit	RK79	RK64	RK78	RK64	RK64	RK55
SK	Service Kit	SK51	SK25	SK25	SK25	SK25	SK32

# CARBURISED

## 8" DRILLING TOOL RANGE - DRILL BITS

PART NUMBER	DIAMETER		FACE DESIGN	BUTTON		HEAVY DUTY	OVER-SIZE	WEIGHT (KG)
	MM	INCH		TYPE	QTY			
<b>HALCO SHANK</b>								
650980	203	8	CONVEX	DOMED	21 X 20mm			51.5
650938	216	8.1/2	CONVEX	DOMED	21 X 20mm			53.0
650571	225	8.7/8	CONVEX	DOMED	26 X 16mm			55.5
650746	254	10	CONVEX	DOMED	21 X 20mm			65.0
650479	300	11.7/8	CONVEX	DOMED	36 X 16mm		Y	82.0
650365	311	12.1/4	CONVEX	DOMED	29 X 20mm		Y	83.0
650908	375	14.3/4	FLAT	DOMED	40 X 20mm		Y	121.0
<b>SANDVIK MISSION A63-15/SD8 SHANK</b>								
650959	200	7.7/8	CONCAVE	DOMED	12X16mm / 9X20mm / 6X13mm			43.0
650375	203	8	CONCAVE	DOMED	10X20mm / 14X16mm			43.5
650922	203	8	CONCAVE	DOMED/SEMI BALLISTIC	10x20mmD/14X16mmSB			43.0
650693	216	8.1/2	FLAT	DOMED	14X16mm / 10 X 20mm			45.0
650870	216	8.1/2	CONCAVE	DOMED	18 X 20mm			44.5
650837	219	8.5/8	CONCAVE	DOMED	18 X 20mm			46.0
650705	222	8.3/4	CONCAVE	DOMED	24 X 20mm			46.5
650357	241	9.1/2	CONCAVE	DOMED	18 X 20mm			52.5
650606	254	10	CONCAVE	DOMED	11X16mm / 18 X 20mm			56.5
650826	254	10	CONVEX	DOMED	21 X 20mm			57.0
650039	300	11.7/8	FLAT	DOMED	29 X 20mm		Y	84.5
<b>INGERSOLL RAND SHANK - DHD380</b>								
650035	198	7.7/8	CONCAVE	DOMED	31 X 16mm			51.0
650642	200	7.7/8	CONCAVE	DOMED	31 X 16mm			51.0
650368	200	7.7/8	FLAT	DOMED	10 X 20mm/14 X 16mm			51.0
650643	203	8	CONCAVE	DOMED	31 X 16mm			52.0
650369	203	8	FLAT	DOMED	10 X 20mm / 14 X 16mm			52.0
650373	203	8	CONCAVE	DOMED	10 X 20mm / 14 X 16mm			51.5
650074	216	8.1/2	CONCAVE	DOMED/ WEAR	22 X 20mm D / 10 X 13mm W			52.5
650022	241	9.1/2	CONCAVE	DOMED	10 X 16 / 18 X 20mm			56.9
650986	254	10	CONCAVE	DOMED	22 X 20 / 15 X 16 mm			64.5
650389	254	10	CONCAVE	DOMED	18 x 20mm / 10X16mm			64.5
650898	300	11.7/8	CONVEX	DOMED	34 X 20mm		Y	84.5
653041	311	12.1/4	CONCAVE	DOMED	42 X 20mm		Y	84.1
<b>INGERSOLL RAND SHANK - QL80</b>								
650076	222	8.3/4	CONCAVE	DOMED	10 X 20 mm / 14 X 18 mm			46.5
653062	222	8.3/4	CONCAVE	DOMED	14 X 18mm / 10 X 18mm			56.8
650077	225	8.7/8	CONCAVE	DOMED	10 X 20 mm / 14 X 18 mm			58.5
650002	227	9	CONCAVE	DOMED	10 X 20 mm / 14 X 18 mm			56
650069	254	10	FLAT	DOMED	12 X 16 mm / 30 X 20 mm Side Wear			68
653087	254	10	CONVEX	DOMED	12 X 16W / 32 X 20 / 12 X 13mm			74.5

Please see the  
MADE TO ORDER  
section at the back of  
the book

# 10" DRILLING TOOL RANGE

The **Dominator 1000** is suitable for a wide range of air pressures. Its optimum performance is reached at air pressures of 200psi (14 bar) and above.

The Dominator 1000 has a body diameter of 230mm and piston weight of 87.6kg, one of the heaviest in its class providing excellent performance. A reversible cylinder is fitted to the hammer to prolong its life and reduce cost.

"Captive" bit retaining rings and an improved 2 start thread design ensures that the Dominator 1000 is simple to service with a few tools.

## DOMINATOR 1000

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER
HALCO / SANDVIK MISSION SD10			
DOMINATOR 1000	6.5/8" API REG PIN	367	600248



10" DRILLING TOOL RANGE

Please see the **MADE TO ORDER** section at the back of the book

# SPECIFICATIONS

## AIR CONSUMPTION

DOMINATOR 1000			
AIR PRESSURE		AIR CONSUMPTION	
PSI	BAR	CFM	M <sup>3</sup> /MIN
100	7	550	15.6
150	10.5	850	24
200	14	1130	32
250	17	1425	40.3
300	21	1710	48.5
350	24	2000	56.6

## LENGTHS, WEIGHTS AND THRUSTS

	Make up Length without bit	Outside Diameter	Recommended minimum thrust	Recommended maximum thrust
DOMINATOR 1000	1390 mm (54.3/4")	230mm (9.1/16")	1500 Kg (3400 lbs)	3500 Kg (7700 lbs)

## DRILL BITS CARBURISED

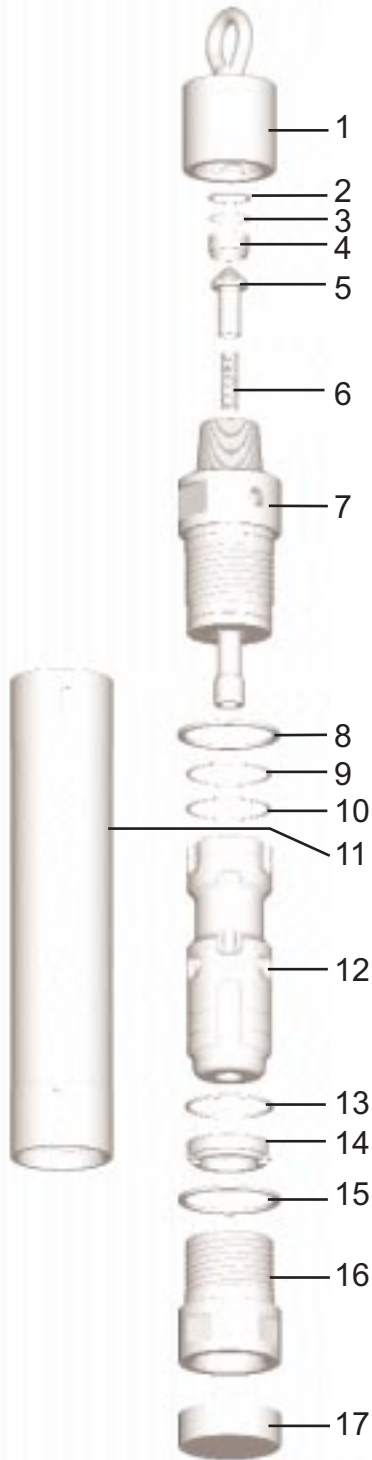
PART NUMBER	DIAMETER		FACE DESIGN	BUTTON		Over-size*	WEIGHT (KG)
	MM	INCH		TYPE	QTY		

SANDVIK MISSION SD10 SHANK							
650648	254	10	CONCAVE	DOMED	11 X 16mm / 18 X 20mm		84.7
650644	280	11	CONCAVE	DOMED	34 X 18mm		97.0
650649	286	11.1/4	CONCAVE	DOMED	34 X 18mm		95.0
650650	305	12	CONCAVE	DOMED	34 X 20mm	Y	96.4
650071	311	12.1/4	CONCAVE	DOMED	46 X 20mm	Y	107.0
650072	381	15	CONCAVE	DOMED	65 X 20mm	Y	146.0

## SERVICE AND REPAIR KITS

ITEM	SK KIT	RK KIT
	QTY	QTY
2	2	2
3	2	2
4		1
5		1
6	2	2
8	1	1
9	2	2
10	2	2
13	2	2
14		1
15	1	1
16		1

NOTE - Repair kit (RK) also includes 2 - Foot Valves



		DOMINATOR 1000
MODEL NUMBER		600248
ITEM DESCRIPTION	PART NUMBER	
1	Liftingcap	602354
2	Circlip	777001
3	'O'ring	768133
4	NRV seat	602286
5	NR valve	602288
6	NRV spring	760055
7	Adaptor assy	603429
8	Top adaptor spacer	603432
9	"O" Ring	768172
10	"O" Ring	768172
11	Cylinder	603434
12	Piston	603433
13	Snapring	783040
14	Bitretainingring	603435
15	Chuck spacer	603432
16	Chuck	603436
17	Cap	741049

Foot valve	603186
F/V tool - body	603188
F/V tool - pusher	603187

SK	ServiceKit	SK29
RK	RepairKit	RK50

### STRIPPING EQUIPMENT

DESCRIPTION	Part Number
Top Adaptor Spanner - "J"	603490
Top Adaptor Ring Spanner (alternative)	603187
Pins for Spanner	602337
Chuck Spanner - "J"	603489
Snap Ring Removal Lever	601642
Snap Ring Removal Hook	601574

# 12" DRILLING TOOL RANGE

ALL MODELS are suitable for operation at air pressures up to 24 bar (350 psi), a feature exclusive to Halco.

**Mach 120** has a working pressure range of 170-350 psi (12-24 bar) whilst its optimum performance is reached at air pressures of 200psi (14 bar) and above.

The **Dominator 1200-12** and **Mach 122** drills most efficiently at air pressures between 100 psi (7 bar) and 170 psi (12 bar), and due to its higher air consumption, provides increased uphole velocity, particularly when using oversize diameter drill bits.

The Mach 132 and 142 both have a pin drive arrangement to prevent spline to spline contact thereby minimising spline wear and damage which can result in bit shank failure.

**Mach132** hammer accepts IR DHD112 shank bits. The Mach132 hammer, although capable of high pressure drilling is particularly suitable at pressures between 7-14 bar (100-200 psi).

**Mach 142** hammer is equipped with an oversize chuck to drill larger diameters at air pressures between 7-24 bar (100-350 psi).

## MACH 120 / 122 / DOMINATOR 1200-12

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER
<b>HALCO / SANDVIK MISSION A100-15 /SD12</b>			
MACH120	6.5/8" API REG PIN	614	600108
MACH122	6.5/8" API REG PIN	614	600110
<b>QL120</b>			
DOM 1200-12	6.5/8" API REG PIN	614	600271

## MACH 132 / 142

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER
<b>INGERSOLL RAND IR DHD 112-112S</b>			
MACH 132	6.5/8" API REG PIN	614	600142
MACH 142	6.5/8" API REG PIN	688	600143



Please see the MADE TO ORDER section at the back of the book

# LENGTHS, WEIGHTS AND THRUSTS

	Make up Length withoutbit	OutsideDiameter	Recommended minimum thrust	Recommended maximum thrust
MACH 120	1667 mm (65.5/8")	273mm (10.3/4")	1600 Kg (3520 lbs)	3500 Kg (7700 lbs)
MACH 122	1667 mm (65.5/8")	273mm (10.3/4")	1600 Kg (3520 lbs)	3500 Kg (7700 lbs)
DOMINATOR 1200-12	1684mm (66.1/3")	284mm (11.18")	1600 Kg (3520 lbs)	3500 Kg (7700 lbs)
MACH 132	1684mm (66.1/3")	273mm (10.3/4")	1600 Kg (3520 lbs)	3500 Kg (7700 lbs)
MACH 142	1819mm (71.5/8")	273mm (10.3/4")	1600 Kg (3520 lbs)	3500 Kg (7700 lbs)

## AIR CONSUMPTION

OUTPUT PRESSURE		MACH 120		MACH 122/ DOM 1200-12		MACH 132/ 142	
BAR	PSI	M <sup>3</sup> /MIN	CFM	M <sup>3</sup> /MIN	CFM	M <sup>3</sup> /MIN	CFM
7	100	-	-	19.8	700	19.8	700
10.5	150	-	-	29.45	1040	29.5	1040
12	170	24.35	860	33.4	1180	33.4	1180
14	200	28.3	1000	39.05	1380	39.05	1380
17	250	35.4	1250	48.1	1700	48.1	1700
21	300	41.9	1480	59.5	2100	59.5	2100
24	350	48.1	1700	70.8	2500	70.8	2500

## DRILL BITS

## CARBURISED

PART NUMBER	DIAMETER		FACE DESIGN	BUTTON		OVER- SIZE*	WEIGHT (KG)
	M M	INCH		TYPE	QTY		

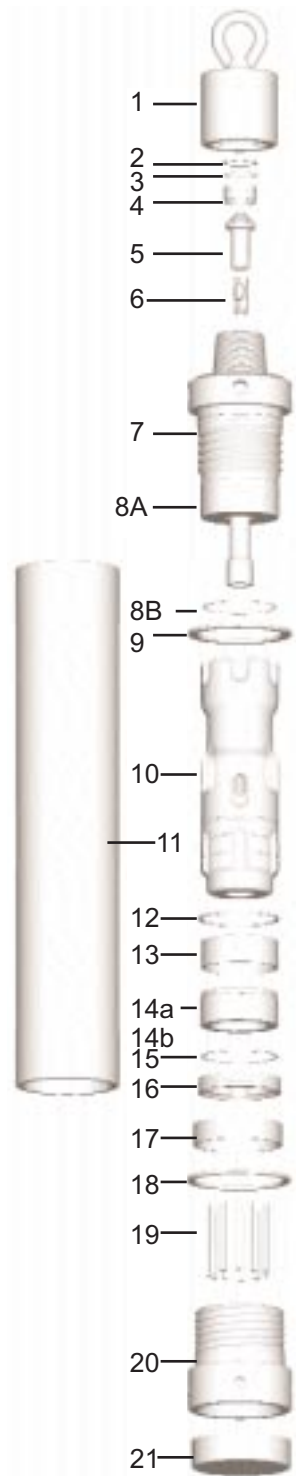
HALCO/ SANDVIK MISSION A100-15 / SD12 SHANK							
650874	300	11.7/8	CONVEX	DOMED	29 X 20mm		138
650383	311	12.1/4	CONCAVE	DOMED	31 X 20mm		133.5
650626	314	12.3/8	CONCAVE	DOMED	34 X 20mm		140
650010	337	13.1/4	CONCAVE	DOMED	32 X 20mm		144
650988	381	15	CONCAVE	DOMED	65 X 20mm Face / 18 X 16mm Side Wear		208
650376	445	17.1/2	CONCAVE	DOMED	79 X 20mm	Y	245
650360	508	20	CONVEX	DOMED	83 X 20mm	Y	325
650348	610	24	CONVEX	DOMED	107 X 20mm	Y	415
QL120 SHANK							
653034	311	12.1/4	CONCAVE	DOMED	31 X 20mm		168
653089	314	12.3/8	CONCAVE	DOMED	32 X 20mm		168
653035	445	17.1/2	CONCAVE	DOMED	82X20mm / 30X16mm wear	Y	271
MACH 132 / DHD 112 SHANK							
650946	381	15	CONCAVE	DOMED	62 X 20mm Face / 30 X 16mm Wear		217
650942	444	17.1/2	CONCAVE	DOMED	82 X 20mm Face / 30 X 16mm Wear	Y	271
650646	489	19.1/4	CONCAVE	DOMED	82 X 20mm Face / 30 X 16mm Wear	Y	300
MACH 142 / DHD112S SHANK							
650018	438	17.1/4	CONCAVE	DOMED	82 X 20mm Face / 18 X 16mm Wear	Y	354
650964	508	20	CONCAVE	DOMED/ WEAR	91 X 20mm D / 36 X 16mm Wear	Y	470
650907	610	24	CONCAVE	DOMED	123 X 20mm Face / 66 X 16mm Wear	Y	512

Please see the **MADE TO ORDER** section at the back of the book

## SERVICE AND REPAIR KITS

ITEM	SK KIT	RK KIT
	QTY	QTY
2	2	2
3	2	2
4		1
5		1
6	2	2
8	2	2
12	2	2
13		1
14a		1
14b	2	2
15	4	4
16		1
17	1	1
18	2	2
19	3	6
20		1

NOTE - Repair kit (RK) also includes 2 - Foot Valves



		Mach120	Mach122	Mach132	Super Dominator 1200	Mach 142
MODEL		A100-15 / SD12		DHD112-112S	QL120	DHD112-112
		600108	600110	600142	600271	600143

ITEM	DESCRIPTION	PART NUMBER				
1	LIFTING CAP	602354	602354	602354	602354	602354
2	CIRCLIP	777001	777001	777001	777001	777001
3	O RING	768133	768133	768133	768133	768133
4	NRV SEAT	602286	602286	602286	602286	602286
5	NR VALVE	602288	602288	602288	602288	602288
6	NRV SPRING	760055	760055	760055	760055	760055
7	TOP ADAPTOR	602639	602639	602639	603574	602639
8A	O RING	768115	768115	768115	768115	768115
8B	O RING	-	-	768115	-	-
9	TOP ADAPTOR SPACER	602366	602366	602366	603575	602366
10	PISTON	602047	602047	602532	603572	602532
11	CYLINDER	602013	602425	602563	603565	602563
12	SNAP RING	783021	783022	783021	-	783021
13	INNER BEARING RING	-	-	-	603566	-
14a	BEARING BUSH	-	-	602531	-	602531
14b	O RING	-	-	768184	-	768184
15	CONTAINMENT BAND	768105	768105	768184	-	603819
16	BIT RETAINING RING	602102	602102	602530	603567	602530
17	CHUCK BEARING	-	-	-	603563	-
18	CHUCK SPACER	602366	602366	602366	603568	602985
19	DRIVE PINS	-	-	602533	600595	602534
20	CHUCK	602052	602053	602528	603562	602529
21	END CAP	741035	741035	741035	741050	741037

FOOT VALVE	601811	601811	602522	603561	602522
F/V TOOL - BODY	601812	601812	602523	603582	602523
F/V TOOL - PUSHER	601813	601813	601813	603583	601813

SK	SERVICEKIT	SK12	SK12	SK14	SK47	SK15
RK	REPAIR KIT	RK19	RK19	RK23	RK76	RK24

### STRIPPING EQUIPMENT

MACH 120/ 122/ SUPER DOM 1200	
DESCRIPTION	PART NUMBER
StrippingSpanner (2required)	602313
Pins for Spanner (4 requiredper spanner)	602337
Snap Ring Removal Tool - Lever Type	601642
Snap Ring Removal Tool - Hook Type	601574
MACH 132/ 142	
Spanner - Top Adaptor (All models)	602313
Spanner - Chuck (Mach 132)	602313
Pins for either of above (arequiredper spanner)	602337
Chuck Spanner (Mach 142 only)	602566
Pins for Mach 142 Chuck Spanner (4 required)	602567
Snap Ring Removal Tool - Lever Type	601642
Snap Ring Removal Tool - Hook Type	601574

# SIM-CAS RANGE

The SIM-CAS continuous casing system was designed to overcome the problems of drilling in soft and loose ground conditions where a closed hole was required. There are two types of SIM-CAS system that enables the DTH drill string and casing to be lowered simultaneously.

**Top Drive:** The casing is rotated while following the bit. This provides a greater exhaust area, increasing drilling speeds and bit life. Good for mixed drilling formations such as clay and pebbles.

**Shoe Drive:** The casing is hammered into the ground by a shoulder on the driver hitting the shoulder on the casing shoe.

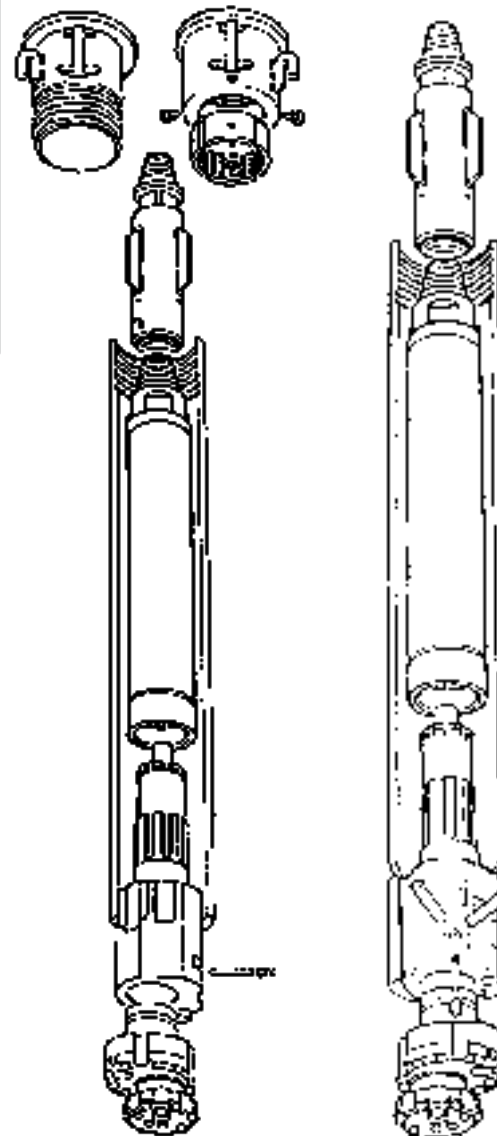
The specifications listed below apply to our standard SIM-CAS drill strings. Certain non-standard elements such as smaller diameter drill tubes may be used but care should be taken that adjacent API threads are compatible.

## TOP DRIVE

TOP DRIVE					
IMPERIAL	SIM-CAS 3	SIM-CAS 4	SIM-CAS 5	SIM-CAS 6	SIM-CAS SUPER 6
<b>Eccentric Bit</b>					
Reamer Dia. Extended	5.31"	6.30"	7.48"	8.66"	9.69"
Reamer Dia. Retracted	3.86"	4.72"	5.75"	6.77"	7.64"
<b>Casing</b>					
Recommended O.D.	4.5"	5.6"	6.7"	7.7"	8.6"
Minimum I.D.	4.0"	4.87"	5.60"	7.31"	7.81"
Min. Wall Thickness	.2"	.2"	.22"	.22"	.22"
METRIC	SIM-CAS 3	SIM-CAS 4	SIM-CAS 5	SIM-CAS 6	SIM-CAS SUPER 6
<b>Eccentric Bit</b>					
Reamer Dia. Extended	135 MM	160 MM	190 MM	220 MM	246 MM
Reamer Dia. Retracted	98 MM	120 MM	146 MM	172 MM	194 MM
<b>Casing</b>					
Recommended O.D.	114 MM	142 MM	171 MM	195 MM	219 MM
Minimum I.D.	101.60MM	123.80MM	149.80MM	175.80MM	198.40MM
Min. Wall Thickness	5 MM	5 MM	5.6 MM	5.6 MM	5.6 MM

## TOP DRIVE

## SHOE DRIVE



	PART NUMBER
--	----------------

SIM-CAS 3	
Bayonet Drive Coupling - 2 3/8" API Reg Pin/Box	749010
Casing Drive Head (Knuckle Threaded Casing Only)	749011
Casing Drive Head (Welded Casing Only)	749012
Eccentric Bit	651003
Driver	650747
Foot Valve	601921
Breakout Spaner for Driver	204297
Stabiliser - 2 3/8" API Reg Pin/Box	206361

SPARE PARTS FOR DRIVER	
Retaining Pin - Scroll Type (Standard)	787041
Retaining Pin - Solid Type (Optional)	602392
Steel Plug	602391
Circlip	777010

SIM-CAS 4	
Bayonet Drive Coupling - 2 3/8" API Reg Pin/Box	749013
Casing Drive Head (Knuckle Threaded Casing Only)	749014
Casing Drive Head (Welded Casing Only)	749015
Eccentric Bit	651002
Driver	650749
Foot Valve	601641
Breakout Spaner for Driver	204256
Stabiliser - 2 3/8" API Reg Pin/Box	206351

SPARE PARTS FOR DRIVER	
Retaining Pin - Scroll Type (Standard)	787042
Retaining Pin - Solid Type (Optional)	602308
Steel Plug	602380
Circlip	777011

SIM-CAS 5	
Bayonet Drive Coupling - 2 3/8" API Reg Pin/Box	749016
Casing Drive Head (Knuckle Threaded Casing Only)	749017
Casing Drive Head (Welded Casing Only)	749018
Eccentric Bit	651001
Driver	650751
Foot Valve	601843
Breakout Spaner for Driver	204257
Stabiliser - 2 3/8" API Reg Pin/Box	206354

SPARE PARTS FOR DRIVER	
Retaining Pin - Scroll Type (Standard)	787043
Retaining Pin - Solid Type (Optional)	602427
Steel Plug	602395
Circlip	777012

	PART NUMBER
--	----------------

SIM-CAS 6	
Bayonet Drive Coupling - 3 1/2" API Reg Pin/Box	749019
Casing Drive Head (Knuckle Threaded Casing Only)	749020
Casing Drive Head (Welded Casing Only)	749021
Eccentric Bit	651004
Driver	650753
Foot Valve	601570
Break-out Spanner for Driver	205049
Stabiliser - 3 1/2" API Reg Pin/Box	206355

SPARE PARTS FOR DRIVER	
Retaining Pin - Scroll Type (Standard)	787045
Retaining Pin - Scroll Type (Optional)	602383
Steel Plug	602395
Circlip	777012

SIM-CAS SUPER 6	
Bayonet Drive Coupling - 3 1/2" API Reg Pin/Box	749022
Casing Drive Head (Welded Casing Only)	749024
Casing Drive Head (Knuckle Threaded Casing Only)	749023
Eccentric Bit	651005
Driver	650755
Foot Valve	601570
Break-out Spanner for Driver	206556
Stabiliser - 3 1/2" API Reg Pin / Box	206357

SPARE PARTS FOR DRIVER	
Retaining Pin - Scroll Type (Standard)	787045
Retaining Pin - Scroll Type (Optional)	602383
Steel Plug	732146
Circlip	777012

# SHOE DRIVE SIM-CAS

SHOE DRIVE							
IMPERIAL	SIM-CAS 33	SIM-CAS 44	SIM-CAS 55	SIM-CAS 66	SIM-CAS SUPER 66	SIM-CAS 88	SIM-CAS SUPER 88
EccentricBit							
Reamer Dia. Extended	5.04"	6.10"	7.48"	8.62"	9.57"	11.10"	12.13"
Reamer Dia. Retracted	3.58"	4.53"	5.51"	6.5"	7.52"	8.62"	9.25"
Casing							
Recommended O.D.	4.5"	5.6"	6.7"	7.7"	8.6"	10.1"	10.7"
Minimum I.D.	4.0"	5.0"	6.0"	7.0"	7.8"	9.4"	10"
Min. Wall Thickness	.2"	.2"	.22"	.22"	.22"	.24"	0.36"
Shoe Min I.D.	3.62"	4.57"	5.55"	6.62"	7.56"	8.62"	9.33"

METRIC	SIM-CAS 3	SIM-CAS 4	SIM-CAS 5	SIM-CAS 6	SIM-CAS SUPER 6	SIM-CAS 88	SIM-CAS SUPER 88
EccentricBit							
Reamer Dia. Extended	128 MM	155 MM	190 MM	219 MM	243 MM	282 MM	308 MM
Reamer Dia. Retracted	91 MM	115 MM	140 MM	165 MM	191 MM	218 MM	235 MM
Casing							
Recommended O.D.	114 MM	142 MM	171 MM	195 MM	219 MM	257 MM	273 MM
Minimum I.D.	101.60MM	126 MM	152 MM	179 MM	194.4 MM	241 MM	254.5 MM
Min. Wall Thickness	5 MM	5 MM	5.6 MM	5.6 MM	5.6 MM	6.3 MM	9.2 MM
Shoe Min I.D.	92 MM	116 MM	141 MM	168 MM	192 MM	219 MM	237 MM

# SHOE DRIVE SIM-CAS - SPARE PARTS

PART NUMBER	
SIM-CAS 33	
EccentricBit	651011
Driver (HALCO MACH 33)	650344
Driver (IRDHD 3.5)	650096
Foot Valve	601921
Drive shoe - Spigot Type	207193
Drive shoe - Face butting type	207199
Breakout Spanner for Driver	207169
Stabiliser - 2 3/8" API Reg Pin/Box	206361

SPARE PARTS FOR DRIVER (3 Pin Retention)	
Short Cross Pin	602650
Long Cross Pin	602642
Spirolpin	787052
Rubber Plug	792039

SIM-CAS 44	
EccentricBit	651009
Driver (HALCO MACH 40/400)	650899
Driver (IRDHD340)	650088
Foot Valve	601641
Drive shoe - Spigot Type	207194
Drive shoe - Face butting type	207200
Breakout Spanner for Driver	204321
Stabiliser - 2 3/8" API Reg Pin/Box	206351

SPARE PARTS FOR DRIVER (3 Pin Retention)	
Short Cross Pin	602641
Long Cross Pin	602640
Spirolpin	787052
Rubber Plug	792039

SIM-CAS 55	
EccentricBit	651012
Driver (HALCO MACH 50/500)	650345
Driver (IRDHD 350)	650086
Foot Valve	601843
Drive shoe - Spigot Type	207195
Drive shoe - Face butting type	207201
Breakout Spanner for Driver	203249
Stabiliser - 2 3/8" API Reg Pin/Box	206354

SPARE PARTS FOR DRIVER (3 Pin Retention)	
Short Cross Pin	602627
Long Cross Pin	602626
Spirolpin	787013
Rubber Plug	792038

PART NUMBER	
SIM-CAS 66	
EccentricBit	651013
Driver (HALCO MACH 60/ 66)	650346
Driver (IRDHD360)	650085
Foot Valve	601570
Drive Shoe - Spigot type	207196
Drive Shoe - Face butting type	207202
Breakout Spanner for Driver	207170
Stabiliser - 3 1/2" API Reg Pin/Box	206355

SPARE PARTS FOR DRIVER (3 Pin Retention)	
Short Cross Pin	602625
Long Cross Pin	602624
Spirolpin	787013
Rubber Plug	792038

SIM-CAS SUPER 66	
EccentricBit	651010
Driver (HALCO MACH 60/ 66)	650340
Foot Valve	601570
Drive Shoe - Spigot type	207197
Drive Shoe - Face butting type	207203
Breakout Spanner for Driver	207171
Stabiliser - 3 1/2" API Reg Pin/Box	206357

SPARE PARTS FOR DRIVER (3 Pin Retention)	
Short Cross Pin	602656
Long Cross Pin	602655
Spirolpin	787013
Rubber Plug	792038

SIM-CAS 88	
EccentricBit	651006
Driver (HALCO MACH 80)	650895
Driver (IRDHD380)	650087
Foot Valve	601675
Drive Shoe - Spigot type	207198
Drive Shoe - Face butting type	207204
Breakout Spanner for Driver	207172
Stabiliser - 3.5" Reg Pin/ 4.5" Reg Box	206363

SPARE PARTS FOR DRIVER (3 Pin Retention)	
Short Cross Pin	602623
Long Cross Pin	602622
Spirolpin	787053
Rubber Plug	792038

PART NUMBER	
SIM-CAS SUPER 88	
EccentricBit	651014
Driver (HALCO MACH 80)	653019
Driver (IRDHD380)	653018
Driver (IRQL80)	653020
Foot Valve	601819
Drive shoe - Spigot Type	207206
Stabiliser - 3.5" Reg Pin/ 4.5" Reg Box	206363

SPARE PARTS FOR DRIVER (3 Pin Retention)	
Short Cross Pin	602623
Long Cross Pin	602622
Spirolpin	787053

# THREADED CASING RANGE

## PART NUMBER

### TOP DRIVE - RIGHT HAND THREADED CASING

SIM-CAS 3 - 114.3MM OD X 101.60 MM ID	
3M Length right hand Odex threaded casing	M114RH3M
2M Length right hand Odex threaded casing	M114RH2M
1M Length right hand Odex threaded casing	M114RH1M

SIM-CAS 4 - 139.7MM OD X 123.82MM ID	
3M Length right hand Odex threaded casing	M139RH3M
2M Length right hand Odex threaded casing	M139RH2M
1M Length right hand Odex threaded casing	M139RH1M

SIMA-CAS 5 - 166.68MM OD X 149.22MM ID	
3M Length right hand Odex threaded casing	M168RH3M
2M Length right hand Odex threaded casing	M168RH2M
1M Length right hand Odex threaded casing	M168RH1M

SIM-CAS 6 - 193.67 MM OD X 174.62 MM ID	
3M Length right hand Odex threaded casing	M193RH3M
2M Length right hand Odex threaded casing	M193RH2M
1M Length right hand Odex threaded casing	M193RH1M

SIM-CAS SUPER 6 - 219.07MM OD X 200.02 MM ID	
3M Length right hand Odex threaded casing	M219RH3M
2M Length right hand Odex threaded casing	M219RH2M

## PART NUMBER

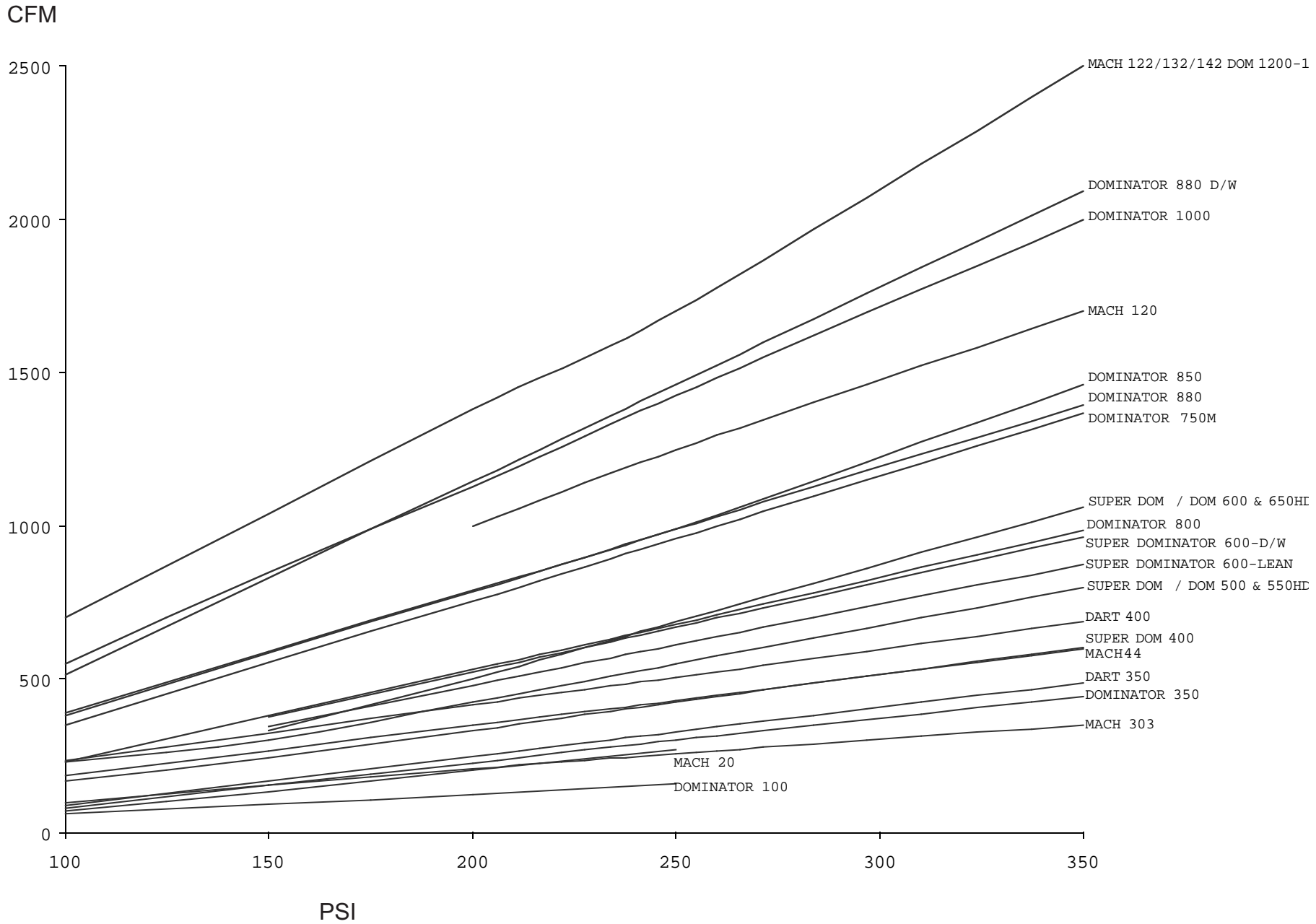
### SHOE DRIVE - THREADED CASING

SIM-CAS 33 - 114.3 MM OD X 101.6 MM ID	
3M Length left hand Odex threaded casing	M114LH3M
2M Length left hand Odex threaded casing	M114LH2M
1M Length left hand Odex threaded casing	M114LH1M

SIM-CAS 44 - 139.7MM OD X 127.MM ID	
3M Length left hand Odex threaded casing	M139LH3M
2M Length left hand Odex threaded casing	M139LH2M
1M Length left hand Odex threaded casing	M139LH1M

SIM-CAS SUPER 66 - 219.07MM OD X 200.02MM ID	
3M Length left hand Odex threaded casing	M219LH3M
2M Length left hand Odex threaded casing	M219LH2M
1M Length left hand Odex threaded casing	M219LH1M

# HALCO HAMMERS AIR CONSUMPTION



FACTOR		EXAMPLE	
<b>Air Volume</b>			
1 cc	= .001 Litre	1000 cc	= 1 Litre
1 Litre	= .001 M <sup>3</sup>	1000 Litres	= 1 M <sup>3</sup>
<b>Air Flow</b>			
1 CFM	= 0.0283 M <sup>3</sup> /Min	100 CFM	= 2.83 M <sup>3</sup> /Min
1 CFM	= 0.4719 Litre/Sec	100 CFM	= 47.19 Litre/Sec
1 M <sup>3</sup> /Min	= 35.315 CFM	10 M <sup>3</sup> /Min	= 353.15 CFM
1 M <sup>3</sup> /Min	= 16.667 Litre/Sec	10 M <sup>3</sup> /Min	= 166.67 Litre/Sec
1 Litre/Sec	= 2.1189 CFM	100 Litre/Sec	= 211.89 CFM
1 Litre/Sec	= 0.0600 M <sup>3</sup> /Min	100 Litre/Sec	= 6.00 M <sup>3</sup> /Min
<b>Air Pressure</b>			
1 PSI	= 0.0689 Bar	100 PSI	= 6.89 Bar
1 PSI	= 0.0703 Kg/CM <sup>2</sup>	100 PSI	= 7.03 Kg/CM <sup>2</sup>
1 PSI	= 0.0680 ATM (Atmosphere)	100 PSI	= 6.80 ATM
1 Bar	= 14.504 PSI	10 Bar	= 145.04 PSI
1 Bar	= 1.0197 Kg/CM <sup>2</sup>	10 Bar	= 10.197 Kg/CM <sup>2</sup>
1 Bar	= 0.9869 ATM	10 Bar	= 9.869 ATM
1 ATM	= 14.696 PSI	10 ATM	= 146.96 PSI
1 ATM	= 1.0132 Bar	10 ATM	= 10.132 Bar
1 ATM	= 1.0332 Kg/CM <sup>2</sup>	10 ATM	= 10.332 Kg/CM <sup>2</sup>
<b>Velocity</b>			
1 M/Min	= 3.2808 Ft/Min	1000 M/Min	= 3280.80 Ft/Min
1 M/Min	= 0.0167 M/Sec	1000 M/Min	= 16.70 M/Sec
1 Ft/Min	= 0.3048 M/Min	1000 Ft/Min	= 304.80 M/Min
1 Ft/Min	= 0.0051 M/Sec	1000 Ft/Min	= 5.10 M/Sec
1 M/Sec	= 60.00 M/Min	10 M/Sec	= 600 M/Min
1 M/Sec	= 196.85 Ft/Min	10 M/Sec	= 1968.50 F
<b>Torque</b>			
1 lbft	= 0.1383 KGM	1000 lbft	= 138.30 KGM
1 lbft	= 1.3558 Nm	1000 lbft	= 1355.80 Nm
1 lbft	= 12.00 lbin	1000 lbft	= 12000 lbin
1 KGM	= 7.233 lbft	100 KGM	= 723.30 lbft
1 KGM	= 9.8067 Nm	100 KGM	= 980.67 Nm
1 KGM	= 86.796 lbin	100 KGM	= 8679.60 lbin
1 lbin	= 0.0833 lbft	1000 lbin	= 83.30 lbft
1 lbin	= 0.0115 KGM	1000 lbin	= 11.50 KGM
1 lbin	= 0.1130 Nm	1000 lbin	= 113 Nm

# THREAD IDENTIFICATION API STANDARDS

Tool Joint Designation	Outside Dia. of Pin and Box, $-1/32$ D	Inside Dia. of Pin and Box $+1/6$ - $1/32$ d	Pitch Dia. of Thread at Gauge Point C	Treads Per Inch	Taper Inches Per Foot on Dia.	Thread form	Large Dia. of pin D <sub>L</sub>	Small Dia. of Pin D <sub>s</sub>	Length of Pin $+0 - 1/8$ LPC	Depth (I) of Box. $+3/8 - 0$ Lac	Box Counter bore $+0.03 - 0.016$ Qc
<b>REGULAR (REG.) STYLE</b>											
2 3/8 REG	3 1/8	1	2.36537	5	3	V-0.040	2.625	1.875	3	3 5/8	2 11/16
2 7/8 REG	3 3/4	1 1/4	2.74037	5	3	V-0.040	3	2.125	3 1/2	4 1/8	3 1/16
3 1/2 REG	4 1/4	1 1/2	3.23987	5	3	V-0.040	3.5	2.562	3 3/4	4 3/8	3 9/16
4 1/2 REG	5 1/2	2 1/4	4.36487	4	3	V-0.040	4.625	3.562	4 1/4	4 7/8	4 11/16
5 1/2 REG	6 3/4	2 3/4	5.23402	4	3	V-0.050	5.52	4.333	4 3/4	5 3/8	5 37/64
6 5/8 REG	7 3/4	3 1/2	5.5758	4	2	V-0.050	5.992	5.159	5	5 5/8	6 1/16
7 5/8 REG	8 7/8	4	6.71453	4	3	V-0.050	7	5.688	5 1/4	5 7/8	7 3/32
8 5/8 REG	10	4 3/4	7.66658	4	3	V-0.050	7.952	6.608	5 3/8	6	8 3/64
<b>FULL-HOLE (FH) STYLE</b>											
3 1/2 FH	4 5/8	2 7/16	3.734	5	3	V-0.040	3.994	3.056	3 3/4	4 3/8	4 3/64
4 FH	5 1/4	2 13/16	4.072	4	2	V-0.065	4.28	3.53	4 1/2	5 1/8	4 11/32
4 1/2 FH	5 3/4	3 3/32	4.532	5	3	V-0.040	4.792	3.792	4	4 5/8	4 7/8
5 1/2 FH	7	4	5.591	4	2	V-0.050	5.825	4.992	5	5 5/8	5 29/32
6 5/8 FH	8	5	6.5196	4	2	V-0.050	6.573	5.92	5	5 5/8	6 31/32
<b>INTERNAL-FLUSH (IF) STYLE</b>											
2 3/8 IF	3 3/8	1 3/4	2.668	4	2	V-0.065	2.876	2.376	3	3 5/8	2 15/16
2 7/8 IF	4 1/8	2 1/8	3.183	4	2	V-0.065	3.391	2.808	3 1/2	4 1/8	3 29/64
3 1/2 IF	4 3/4	2 11/16	3.808	4	2	V-0.065	4.016	3.349	4	4 5/8	4 5/64
4 IF	5 3/4	3 1/4	4.626	4	2	V-0.065	4.834	4.084	4 1/2	5 1/8	4 29/32
4 1/2 IF	6 1/8	3 3/4	5.0417	4	2	V-0.065	5.25	4.5	4 1/2	5 1/8	5 5/16
5 1/2 IF	7 3/8	4 13/16	6.189	4	2	V-0.065	6.397	5.564	5	5 5/8	6 29/64
<b>NUMBER (NC) STYLE</b>											
NC26	3 3/8	1 3/4	2.668	4	2	V-0.038R	2.876	2.376	3	3 5/8	2 15/16
NC31	4 1/8	2 1/8	3.183	4	2	V-0.038R	3.391	2.808	3 1/2	4 1/8	3 29/64
NC35	4 3/4	2 11/16	3.531	4	2	V-0.038R	3.739	3.114	3 3/4	4 3/8	3 13/16
NC38	4 3/4	2 11/16	3.808	4	2	V-0.038R	4.016	3.349	4	4 5/8	4 5/64
NC40	5 1/4	2 13/16	4.072	4	2	V-0.038R	4.28	3.53	4 1/2	5 1/8	4 11/32
NC44	6	6 1/4	4.417	4	2	V-0.038R	4.625	3.875	4 1/2	5 1/8	4 11/16
NC46	6	3 1/4	4.626	4	2	V-0.038R	4.834	4.084	4 1/2	5 1/8	4 29/32
NC50	6 1/8	3 3/4	5.0147	4	2	V-0.038R	5.25	4.5	4 1/2	5 1/8	5 5/16
NC56	7	3 3/4	5.616	4	3	V-0.038R	5.876	4.626	5	5 5/8	5 15/16
NC61	8 1/4	3	6.178	4	3	V-0.038R	6.438	5.063	5 1/2	6 1/4	6 1/2
NC70	9 1/2	3	7.053	4	3	V-0.038R	7.313	5.813	6	6 5/8	7 3/8

(I) The length of perfect threads in box shall not be less than minimum pin length (L<sub>pc</sub>), plus 1/8"

# MADE TO ORDER HAMMERS

\*Please contact your Halco distributor for a detailed parts list for the below hammers.

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER	SERVICE KIT	REPAIR KIT
<b>2 " HAMMERS</b>					
HALCO					
MACH 20	40MM DIN 405 6TPI BOX	20	600209	SK01	RK01
<b>3 " HAMMERS</b>					
HALCO					
MACH 303-BOX	din 45 BOX	20	600146	SK01	RK01
DART 350	H57 LH BOX	23	600246	SK27	RK58
DART 350 - NO NRV	2.3/8" API REG PIN	23	600303	SK45	RK74
<b>4 " HAMMERS</b>					
HALCO					
DOMINATOR 400	2.3/8 API REG PIN	38	600164	SK17	RK28
DART 400	2.3/8 API REG PIN	38	600184	SK17	RK28
SANVIK MISSION					
MACH 44-M	2.3/8 API REG PIN	35.3	600087	SK02	RK03
INGERSOLL RAND					
DART 400 IR	2.3/8 API REG PIN	38	600193	SK17	RK29
GM 400 IR	2.3/8 API REG PIN	38	600284	SK35	RK56
<b>5 " HAMMERS</b>					
HALCO					
DOMINATOR 500 HALCO (SP)	3.1/2" API REG PIN	58	600159	SK16	RK25
INGERSOLL RAND (QL50)					
SUPER DOMINATOR 550HD	3.1/2" API REG PIN	65	600294	SK40	RK77

MADE TO ORDER (MTO) HAMMER RANGE

\*Please contact your Halco distributor for a detailed parts list for the below hammers.

MODEL	TOP THREAD	WEIGHT (KG)	PART NUMBER	SERVICE KIT	REPAIR KIT
<b>6 " HAMMERS</b>					
HALCO					
DOMINATOR 600-L. TOP ADPT	3.1/2" API REG PIN	94	600238	SK05	RK07
SANVIK MISSION					
MACH 60 MISS	3.1/2" API REG PIN	89	600048	SK08	RK11
INGERSOLL RAND					
MACH 60 IR	3.1/2" API REG PIN	89	600050	SK08	RK12
SUPERDOM650 IR (3.5 BECO PIN)	3.1/2" BECO PIN	104	600244	SK28	RK48
<b>8 " HAMMERS</b>					
SANDVIK MISSION					
MACH 88 M - STABILISED	4.1/2" API REG PIN	220	600280	SK41	RK68
DOMINATOR 800-ESP	4.1/2" API REG PIN	220	600319	SK25	RK79
INGERSOLL RAND					
MACH 88 IR - STABILISED	4.1/2" API REG PIN	220	600279	SK41	RK67
DOMINATOR 800-ESP	4.1/2" API REG PIN	220	600320	SK25	RK78
QL80					
DOMINATOR 850 DEEPWELL	4.1/2" API REG PIN	220	600314	SK32	RK55
HALCO					
DOMINATOR 800-ESP	4.1/2" API REG PIN	220	600318	SK25	RK64
<b>12 " HAMMERS</b>					
MACH122 MISS (SP) LONG TOP ADAPTOR	6.5/8" API REG PIN	614	600239	SK12	RK19

MADE TO ORDER (MTO) HAMMER RANGE

# MADE TO ORDER BITS

PART NUMBER	DIAMETER		FACE DESIGN	BUTTON		OVER-SIZE*	WEIGHT (KG)
	MM	INCH		TYPE	QTY		
<b>DOMINATOR 100 BITS</b>							
HALCO SHANK							
650084	57	2.1/4	FLAT	SHORT DOMED / BALLISTIC	3 X 9 mm / 6 X 11mm		1.2
<b>3" BITS</b>							
HALCO SHANK - DG/DH325							
650379	85	3.11/32	FLAT	BALLISTIC	13 X 9 mm		3.6
650662	90	3.1/2	CONVEX	DOMED	11 X 11 mm		3.8
HALCO SHANK - M303							
650998	90	3.1/2	CONVEX	DOMED / BALLISTIC	6 X 11mmD / 7 X 11mmB		3.8
HALCO SHANK DOMINATOR / DART 350 (IR 3.5)							
650055	90	3.1/2	CONVEX	DOMED / SEMI-BALLISTIC	6 X 11mmD / 7 X 11mmSB		3.8
650026	90	3.1/2	CONVEX	DOMED	15 X 11mm		3.8
650661	92	3.1/2	CONVEX	SEMI-BALLISTIC	13 X 11mm		4.3
650660	92	3.1/2	CONVEX	DOMED	13 X 11mm		4.3
650620	95	3.3/4	CONVEX	DOMED	15 X 11mm		4
650628	100	3.15/16	CONVEX	SEMI-BALLISTIC	12 X 13mm		4.6
650672	100	3.15/16	CONVEX	DOMED/SEMI BALLISTIC	7 X 13mmD / 5X13mmSB		4.6
BULROC BR33 SHANK							
650053	90	3.1/2	CONVEX	DOMED	6 X 13 mm / 6 X 11 mm		3.8
650054	90	3.1/2	CONVEX	BALLISTIC	6 X 13 mm / 6 X 11 mm		3.8
BULROC DH90 SHANK							
650041	85	3.11/32	CONVEX	BALLISTIC	11 X 11 mm		3.6
650042	85	3.11/32	CONVEX	DOMED	11 X 11 mm		3.6
ATLAS COPCO COP 32 SHANK							
650040	85	3.11/32	CONVEX	BALLISTIC	6 X 11mm / 5 X 11mm		3.6
650861	90	3.1/2	FLAT	SEMI-BALLISTIC	13 X 11mm		4.0
650914	90	3.1/2	FLAT	DOMED	13 X 11mm		4.0

MADE TO ORDER (MTO) DRILL BIT RANGE

PART NUMBER	DIAMETER		FACE DESIGN	BUTTON		OVER-SIZE*	WEIGHT (KG)
	MM	INCH		TYPE	QTY		
<b>4" BITS</b>							
HALCO SHANK							
650715	108	4.1/4	CONCAVE	DOMED	14 X 13mm		9.3
650903	108	4.1/4	CONVEX	DBALLISTIC	13 x 13mm		8.8
650879	108	4.1/4	CONVEX	SEMI-BALLISIC	18 X 11mm		8.9
653106	110	4.5/16	CONVEX	SEMI-BALLISTIC	18 X 11mm		9.0
653117	110	4.5/16	FLAT	BALISTIC	16 X 13mm		9.6
650437	110	4.5/16	CONVEX	DOMED	15 X 13mm		
650678	115	4.1/2	CONCAVE	DOMED	6 X 13mm / 8 X 14mm		10.2
650841	120	4.3/4	CONVEX	BALISTIC	16 X 13mm		9.8
650687	127	5	CONCAVE	DOMED	16 X 13mm	y	10.8
650352	130	5.1/8	FLAT	D. BALLISTIC / BALLISTIC	12 X 13mmDB / 5 X 13mmB	y	10.1
650384	130	5.1/8	FLAT	DOMED	8X13mm / 8X16mm	Y	11.7
650688	140	5.1/2	CONCAVE	DOMED	9 X 16mm / 9 X 14mm	Y	12.9
650639	152	6	FLAT	DOMED	10 X 14mmGD / 19 X 13mm	y	17.8
650645	152	6	FLAT	DOMED	10 X 14mmGD / 19 X 13mm	y	17.8
INGERSOLL RAND DHD340A SHANK / ATLAS COPCO COP44							
653107	110	4.5/16	CONVEX	SEMI-BALLSTIC	18 X 11mm		7.9
650965	130	5.1/8	FLAT	DOMED	10 X 13mm / 8 X 14mm	Y	10.0
INGERSOLL RAND QL40 SHANK							
650617	115	4.1/2	FLAT	DOMED	10 X 13mm / 8 X 14mm		9.7
GROUT MASTER SHANK							
650635	120	4.3/4	CONCAVE	DOMED	16 X 13mm		10.0
SANDVIK MISSION SHANK - A34-15/SD4							
650934	105	4.1/8	FLAT	DOMED	15 X 13mm		8.9
<b>5" BITS</b>							
HALCO SHANK							
650048	135	5.5/16	FLAT	DOMED / D. BALLISTIC	9 X 16mm D / 9 X 13mm DB		15.5
650599	127	5	CONCAVE	DOMED	8 X 16mm / 8 X 13mm		15.0
650839	127	5	FLAT	CONE	11 X 18mm		15.0
650597	140	5.1/2	CONCAVE	DOMED	15 X 16mm		16.0
SANDVIK MISSION SHANK (A43-15/SD5)							
650778	140	5.1/2	FLAT	DOMED	15 X 16mm		16.6
650771	140	5.1/2	CONCAVE	DOMED	15 X 16mm		15.8
INGERSOLL RAND SHANK - DHD350							
653061	127	5	CONCAVE	DOMED	8 X 16mm / 8 X 13mm		16.0
653070	140	5.1/2	CONV	SEMI-BALLISTIC	8 X 16mmSB / 8 X 16mmSBL		15.9
653108	146	5.3/4	CONCAVE	DOMED	9 X 16mm / 3 X 13mm / 9 X 14mm		17.2
INGERSOLL RAND QL50 SHANK							
653064	130		CONVEX	DOMED	13 X 16mm		14.3
653031	135	5.5/16	FLAT	DOMED	15 X 16mm		15.0
653032	150	5.7/8	FLAT	DOMED	16 X 16mm	Y	16.6

PART NUMBER	DIAMETER		FACE DESIGN	BUTTON		OVER-SIZE*	WEIGHT (KG)
	MM	INCH		TYPE	QTY		

**6" BITS****HALCO SHANK**

650381	165	6.1/2	CONVEX	SEMI-BALLISTIC	21 X 16 mm		26.0
650698	178	7	FLAT	DOMED	20 X 16mm	Y	27.4
650689	178	7	CONCAVE	DOMED	18 X 16mm	Y	27.4
650363	215	8.1/2	FLAT	DOMED	24 X 16mm	Y	39.5
650685	220	8.7/10	CONCAVE	DOMED	22 X 20mm	Y	40.4
650458	300	11.7/8	CONVEX	DOMED	36 X 16mm	Y	72.0

**SANDVIK MISSION A53-15 / SD6**

650583	152	6	FLAT	DOMED	16 X 16mm		26.0
653027	154	6.1/16	CONVEX	BALLISTIC	16 X 16mm		26.0
650524	159	6.1/4	CONVEX	DOMED	20 X 16mm		26.5
653115	165	6.1/2	FLAT	DOMED	12 X 16MM D / 8 X 16 LD		28.1
653016	165	6.1/2	CONCAVE	DOMED	9 X 18mm / 9 X 18MM PX39		29.6
650905	171	6.3/4	CONCAVE	DOMED	18 X 16mm	Y	26.2
653069	178	7	CONCAVE	DOMED	24 X 16mm	Y	29.2

**INGERSOLL RAND (DHD360) / ATLAS COPCO COP64**

650095	151	6	CONCAVE	DOMED	16 X 16mm		25.0
650510	158	6.1/4	FLAT	DOMED	20 X 16mm		25.0
650016	165	6.1/2	FLAT	DOMED / WEAR	20 X 16mm D / 8 X 13 W		26.0
650605	165	6.1/2	FLAT	DOMED / L. DOMED	12 X 16MM D / 8 X 16 LD		25.8
650391	165	6.1/2	CONCAVE	DOMED	8 X 20mm / 10 X 16mm		26.0
650904	167	6.1/16	FLAT	DOMED	20 X 16mm		26.5
650066	172	6.3/4	CONCAVE	DOMED	18 X 16mm	Y	35.0
650673	203	8	CONCAVE	DOMED	31 X 16mm	Y	35.2

**INGERSOLL RAND QL 60**

650094	156	6.1/8	CONCAVE	DOMED	16 X 16mm		26.6
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**8" BITS****HALCO SHANK**

650690	220	8.5/8	CONCAVE	DOMED	22 X 20mm		55.2
650047	225	8.7/8	CONCAVE	DOMED	19 X 20mm		54.5
650451	254	10	CONVEX	DOMED	27 X 16mm		63.0
650038	254	10	FLAT	DOMED	28 X 20mm		63.0
650850	279	11	FLAT	DOMED	24 X 20mm		71.0
653040	300	11.7/8	FLAT	DOMED	38 X 20mm	Y	83.3
650514	331	13	FLAT	DOMED	38 X 16mm	Y	93.8
650700	360	14.3/16	FLAT	DOMED	39 X 20mm	Y	100.0
650909	444	17.1/2	FLAT	DOMED	58 X 20mm	Y	195.0

**SANDVIK MISSION A63-15/SD8 SHANK**

650374	200	7.7/8	CONCAVE	DOMED	10 X 20mm/14 X 16mm		43.0
650979	200	7.7/8	CONVEX	DOMED/SEMI BALLISTIC	6 X 13mm/6 X 16mm/SB/15 X 18 mm		42.5
650985	200	7.7/8	CONCAVE	DOMED	31 X 16mm		43.7
650979	200	7.7/8	CONVEX	DOMED/SEMI BALLISTIC	6 X 13mm/6 X 16mm/15 X 18 mm		42.5
650981	203	8	FLAT	DOMED	14 X 16mm / 10 X 20mm		43.5
650983	203	8	CONCAVE	DOMED	31 X 16mm		44.5

PART NUMBER	DIAMETER		FACE DESIGN	BUTTON		OVER-SIZE*	WEIGHT (KG)
	MM	INCH		TYPE	QTY		
<b>8"BITS(cont.)</b>							
SANDVIK MISSION A63-15/SD8 SHANK							
650374	200	7.7/8	CONCAVE	DOMED	10 X 20mm/14 X 16mm		43.0
650979	200	7.7/8	CONVEX	DOMED/SEMI BALLISTIC	6 X 13mm/6 X 16mmSB/15 X 1.8mm		42.5
650985	200	7.7/8	CONCAVE	DOMED	31 X 16mm		43.7
650979	200	7.7/8	CONVEX	DOMED/SEMI BALLISTIC	6 X 13mm/6 X 16mm/15 X 1.8mm		42.5
650981	203	8	FLAT	DOMED	14 X 16mm / 10 X 20mm		43.5
650983	203	8	CONCAVE	DOMED	31 X 16mm		44.5
650692	216	8.1/2	FLAT	DOMED	14X16mm / 10 X 20mm		47.4
650704	216	8.1/2	CONCAVE	DOMED	14 X 16mm / 10 X 20mm		45
650692	216	8.1/2	FLAT	DOMED	14 X 16mm / 10 X 20mm		47.4
650704	216	8.1/2	CONCAVE	DOMED	14 X 16mm / 10 X 20mm		45.0
650912	222	8.5/8	CONCAVE	DOMED	19 X 20mm		46.5
650658	254	10	CONCAVE	Domed/Ballistic	11X16mmD/18X20mm SB		53.6
650037	254	10	FLAT	DOMED	28 X 20mm		57.0
650630	304	12	CONCAVE	DOMED	34 X 20mm	Y	96.4
	444	17.1/2	FLAT	DOMED	58 X 20mm	Y	195.0
INGERSOLL RAND SHANK - DHD380							
650977	200	7.7/8	CONCAVE	DOMED	31 X 16mm		51.5
653014	203	8	CONCAVE	DOMED	11 X 18mm / 9 X 18mm		51.5
650022	241	9.1/2	CONCAVE	DOMED	18 X 20mm / 10 X 16mm		52.5
650710	311	12.1/4	CONVEX	DOMED	42 X 20mm	Y	84.1
653044	300	11.7/8	CONCAVE	DOMED	42 X 20mm	Y	81.2
<b>12" BITS</b>							
HALCO/ SANDVIK MISSION A 100-15 / SD12 SHANK							
650059	431	17	CONCAVE	DOMED	82 X 20mm		260.0
650706	438	17.1/4	CONCAVE	DOMED / WEAR	82 X 20mm D / 30 X 16mm W	Y	264.0
650613	483	19	CONCAVE	DOMED	82 X 20mm	Y	296.0
650699	550	21.2/3	CONCAVE	DOMED	112 X 20mm	Y	355.0
MACH 132 / DHD 112 SHANK							
650395	311	12.1/4	CONCAVE	DOMED	31 X 20mm		174.0
650396	381	15	CONCAVE	DOMED	62 X 20mm		205.0
650943	476	18.3/4	CONCAVE	DOMED / WEAR	82 X 20mm D / 30 X 16mm W	Y	291.0
MACH 142 / DHD 112S SHANK							
650900	559	22	CONCAVE	DOMED	112 X 20mm	Y	461.0
650025	610	24	FLAT	DOMED	144 X 20mm	Y	512.0
INGERSOLL RAND OL120 SHANK							
653034	311	12.1/4	CONCAVE	DOMED	31 X 20mm		168.0
653035	445	17.1/2	CONCAVE	DOMED / WEAR	30 X 16 WEAR / 82 X 20mmD	Y	271.0
653089	314	12.3/8	CONCAVE	DOMED	32 X 20mm		168.0

Please note that all made to order items may have an extended lead time. Please contact Halco for your specific requests.

\*There is no warranty against shank breakage for oversize diameters

1. GENERAL We shall provide quotations, offers, acceptances and contracts of sale made by us or on our behalf are subject to the following terms and conditions which shall apply so far as the same are not varied by any special terms or conditions agreed in writing between the parties. Subject as aforesaid these terms and conditions shall apply to the exclusion of all other terms and conditions and in particular it is expressly agreed by the Buyer that the contractual conditions (if any) of the Buyer are excluded in their entirety. Quotations are valid for a period of 28 days and for the goods in the quantities specified therein. Quotations are not offers and any order given in respect of a quotation is not binding on us until accepted on our order acceptance forms. All prior correspondence or oral communications shall be regarded as superseded and not forming part of the contract. Prices quoted are subject to revision for errors and omissions at any time. No statement, description, information, condition or recommendation, contained in any catalogue advertisement or communication or made verbally by any of our employees or agents shall or shall be construed to enlarge vary or override in any way of these conditions.

2. SPECIFICATIONS All specifications, drawings, and particulars of weights and dimensions submitted with our tender are approximate only, and the descriptions and illustrations contained in our catalogues, price lists and other advertisement matter are intended merely to present a general idea of the goods described therein, and none of these shall form part of the contract. We reserve the right to change any specification for the Products without notice in writing to the Buyer.

3. BUYER'S DRAWING We accept no responsibility for the accuracy of patterns, drawing particulars or specifications supplied by the Buyer. To the extent that specifications supplied by the Buyer are inadequate goods will be supplied to our standard specifications.

4. PRICES will be those ruling at the date of despatch unless otherwise agreed. Where the goods or materials have to be imported in order to fulfil the contract, any increased costs consequent on any change in exchange rates or duties will be invoiced to the Buyer. All prices are exclusive of VAT and any other tax. Any increase in costs or expenses arising from any act or omission or any special requirements of the Buyer or any modifications made at the Buyer's request may, at our option, be charged to the Buyer.

5. TERMS OF PAYMENT The Buyer shall pay the price of the goods net at our registered office 30 days from the date of our invoice. If the Buyer fails to make any payment on the due date we shall be entitled to charge interest on all amounts unpaid at the rate of two per cent per month on the outstanding balance. Notwithstanding the foregoing provisions we shall without prejudice to our other rights have the right by notice in writing to the Buyer to demand immediate payment of all monies due from the Buyer to us for any goods delivered at any time.

6. OVERDUE PAYMENTS We reserve the right to refuse to execute any order if the arrangements for payment or the Buyer's credit are not satisfactory to us, and to suspend or discontinue delivery of any goods or materials to any Buyer whose account is overdue for payment. Where any payment from a Buyer is overdue, all amounts owing to us from that Buyer, whether under this contract of sale or otherwise shall become immediately due and payable notwithstanding any other provision to the contrary wherever contained. When goods are ready for delivery but the buyer cannot or will not accept delivery, the payment period will be deemed to have started when the goods are so ready. We reserve the right to require security for payment by the Buyer before delivering any goods.

7. DELIVERY shall take place ex-works on our premises in Southwram. The date(s) for delivery is (are) given in good faith but we accept no liability in the event of it (their ) being exceeded. We accept no responsibility or liability for delay in delivery or nondelivery in whole or part caused by lockouts, strikes, fires, tempest, accidents to machinery or war or by any statute or statutory rule, order or regulation, or requisition of any government department or body or other authority or by any other cause whatsoever beyond our control or of any unexpected or exceptional nature. If any contract becomes impossible of performance or otherwise frustrated by the Buyer he shall be liable to pay to us a minimum of 15% of the contract price representing all costs, expenses, overheads and measure of profit which we, our suppliers, or sub contractors, have incurred or for which we or they are or may become liable in connection with the contract at the time of frustration impossibility of perform provided that we shall not require payment for any standard parts or material which we may be able to use at the time in any other contract then current. Any pre-payments which may have been made to us under the contract shall be applied towards satisfaction of such sum as may become due to us under the foregoing provisions, and the excess (if any) prepayment will be refunded by us. The Buyer shall be deemed to have accepted all goods upon their delivery by us. If the Buyer fails to take delivery of the goods or to give us adequate delivery instructions at the time stated for delivery then, without prejudice to any other right or remedy available to us, we may store the goods at the Buyer's risk and shall be entitled to make appropriate charges. Goods can be delivered in part quantities. In cases where a number of items are ordered and which are either made specially to order or are not normally held in stock, then we reserve the right to supply up to 10% over or below the number stated on the order.

8. LOSS OR DAMAGE IN TRANSIT We do not accept responsibility for damage, shortage or non delivery of any goods not insured by us nor where they are insured by us unless: (a) Damage or shortage is notified in writing to both us and the carriers within three days of receipt of goods; (b) Nondelivery is notified both to us and the carriers, in writing, within ten days of the date of despatch (or, in the case of export sales, within 10 days of their scheduled arrival of at port of destination).

9. PACKING Carriage and packing charges are extra unless stated in our quotation. Packing materials will be charged. We are not liable to protect goods in a defined way, but will take whatever measures we consider necessary to protect goods and will charge accordingly.

10. PASSING OF PROPERTY The risk in the goods shall pass to the Buyer on delivery but the property in the goods shall remain our sole and absolute property until such time as the Buyer shall have paid to us cash or cleared funds the agreed price together with the full price of any other goods the subject of any other contract with us for which payment is due. The Buyer acknowledges that until such a time as the Buyer becomes the owner of the goods the Buyer is in possession of the goods solely as our fiduciary agent and bailee and the Buyer will store, protect and insure them from the point of delivery and on his premises separately from the Buyer's own goods or those of any other person and in a manner which makes them readily identifiable as our goods. The Buyer may, as our agent, sell or deal in the ordinary course of business with any such goods and with any object in which any such goods may be incorporated and with our interest in any such goods or objects and may, for the purpose of any such sale or dealing, part with possession thereof. Until such time as the Buyer becomes owner of the goods we shall be entitled to require the Buyer to deliver up the goods to us and, if the Buyer fails to do so forthwith, to enter upon the premises of the Buyer or any third party where the goods are stored and repossess the goods. Notwithstanding that property in the goods has not passed to the Buyer we shall be entitled to maintain an action for the price under Section 49 of the Sale of Goods Act 1979.

11. EXCLUSIONS OF LIABILITY Every effort is made to ensure sound construction and good workmanship, but all terms, statements, conditions, warranties and representations whether relating to the nature, quality or condition of the goods or to their merchantable quality or fitness for purpose for which they may be required or otherwise whatsoever used, whether expressed or implied, statutory or otherwise and whether contained in or collateral to the contract of sale are hereby excluded. Our liability under these Conditions shall be limited to the price of the goods which are the subject of the contract. We shall be under no liability under these Conditions if the Buyer has not paid in full for the goods or the Buyer has executed or attempted to execute repairs or alterations to the goods which are not authorised by us or has failed in any other respect to adhere strictly to the terms hereof or we have not been notified of any defect in the goods (whether apparent on reasonable inspection or not) within one month of the defect becoming apparent. Our liability does not extend to any other loss or damage of any nature whether or not on account of the negligence of us, our employees or agents, including (without limitation) loss of profit, cost of replacement elsewhere, loss or production damage to plant, personal injury whether caused or not through failure to wear the correct protective clothing or any consequential or special loss or damage valid and effective.

12. WARRANTY Any warranty, which must be confirmed in writing by Halco in order to be valid, is limited to faulty materials or workmanship and not as a consequence of fair wear and tear which is excluded in its entirety and only then to that proportion of the useful life expectancy as decided by Halco at its sole discretion. In the absence of anything in writing to the contrary claims must be notified to us in writing within 12 months of despatch ex works factory. Halco reserve the right to refuse claims of any nature, arising from any item which has not been operated or maintained strictly in accordance the standard recommendations published in Halco's operating manuals, in particular but not limited to any product which -

- \* has been subjected to excessive thrust (feed force), rotational torque or rotation speed.
- \* has been operated outside its designated air pressure working range.
- \* has been rendered inoperable or broken by voluntary or involuntary admission of foreign elements into the air line or drill string.
- \* has suffered insufficient or incorrect lubrication or routine maintenance.
- \* has been fitted with any parts, not of Halco manufacture.
- \* has been abused, neglected or subjected to wanton damage, in particular but not limited to the application of heat, weld or direct impact to DTH hammer components.
- \* has not, where Halco has so requested, been returned for inspection in its entirety.
- \* With particular respect to Halco DTH button bits, any button bit which -
- \* has not been reground at necessary intervals commensurate with the nature of the rock being drilled.
- \* in the case of oversize drill bit diameters as defined in Halco's catalogues, have been used in conditions unsuited to their use and/or where shank failure has occurred.
- \* has suffered breakage of only one single button.

Credit against warranty claims will be granted, if proved valid, and will be paid on the basis of the ex warehouse price of the goods as sold. Such credit will exclude items considered as consequential loss, in particular but not limited to packing, carriage charges, import duties, sales tax, retail profit etc. Halco however retains the right to supply replacement goods instead at its sole discretion. The above only covers goods of Halco's manufacture, whether supplied as separate units or incorporated in manufactured equipment. In the case of goods not of Halco manufacture, the Buyer shall be entitled only to the benefit of any supplier warranty given to us in respect of the goods.

13. RETURNED GOODS Goods ordered in error may ONLY be returned for credit providing Halco has given written approval to do so. No goods will be accepted or credit granted on returned goods where our prior approval has not been obtained. The return of rubber based or other perishable goods is prohibited. All goods received by Halco without authorisation will be returned to the customer at his cost. Goods returned, with Halco's agreement, will be accepted providing that after inspection they are found to be new and unused and that they have been returned within 6 months of date of despatch from our works. A deduction will be made against the value of credit granted, to cover any costs of any nature incurred by Halco, against returned goods.

14. INDEMNITY The Buyer shall indemnify us against any claims whatsoever for damage and costs and against all liability in respect of any infringement of patent rights resulting from compliance with the Buyer's instructions expressed or implied. Copyright in all drawings made by or for us remain our intellectual property and transmission to a third party is not permitted. Failure to respect Halco copyright will be prosecuted under the law relating to intellectual property rights.

15. SEVERANCE If any condition herein shall be deemed void for any reason whatsoever, but would be valid if part of its wording were deleted any such conditions shall apply with such modification as may be necessary to make it valid and effective.

16. DEALS AS A CONSUMER Nothing in these Conditions shall affect the statutory rights of a customer who in relation to us "deals as a consumer" as defined in section 12 of the Unfair Contract Terms Act 1977 or any amendment or modification thereof.

17. GOVERNING LAW The Contract shall in all respects be construed in accordance with English Law and the parties submit to the nonexclusive jurisdiction of the Courts of England.

18. These Conditions of Sale supersede any other which pre-date them.

