



SAI DEEPA
ROCK DRILLING TOOLS
— JUST DRILL! —



DOWN THE HOLE ROCK DRILLING TOOLS

Product Catalogue



SAI DEEPA

ROCK DRILLING TOOLS

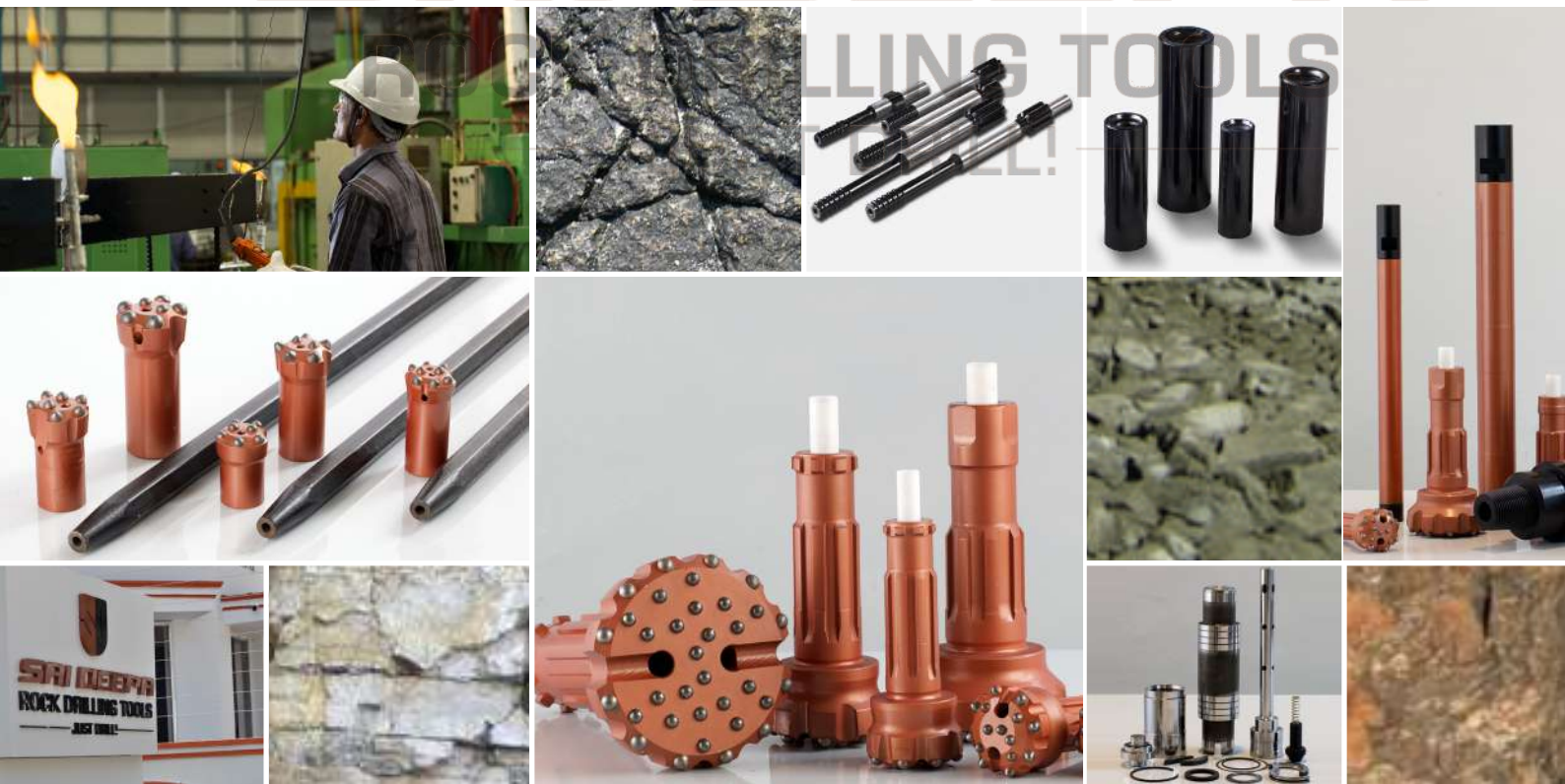
— JUST DRILL! —

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SAI DEEPA



ABOUT SAIDEEPA

Sai Deepa Rock Drills Pvt.Ltd. is one of the leading manufacturers of rock drilling tools and Mining Equipment in India. The product range includes DTH Hammers, DTH Button Bits, Drifter Bits and related products used in water well drilling, Mining, Tunneling, Quarrying and Construction Industries.

The company products are acceptable globally in more than 50 countries. The company has set up a state of the art production facilities for manufacturing of Rock Drilling Tools and Mining equipment's which includes excellent CNC equipped Machine shop, Heat Treatment with Seal Quenching Furnaces, Metallurgical laboratory, Quality Control Department and Surface Treatment plant.

Stringent Quality Systems are adopted to produce world class products at most competitive prices. The company has a dedicated Research and Development unit where the skilled engineers are continuously involved in upbrining durable product designs to give products a total reliability, high productivity and complete customer satisfaction.

STANDARDS

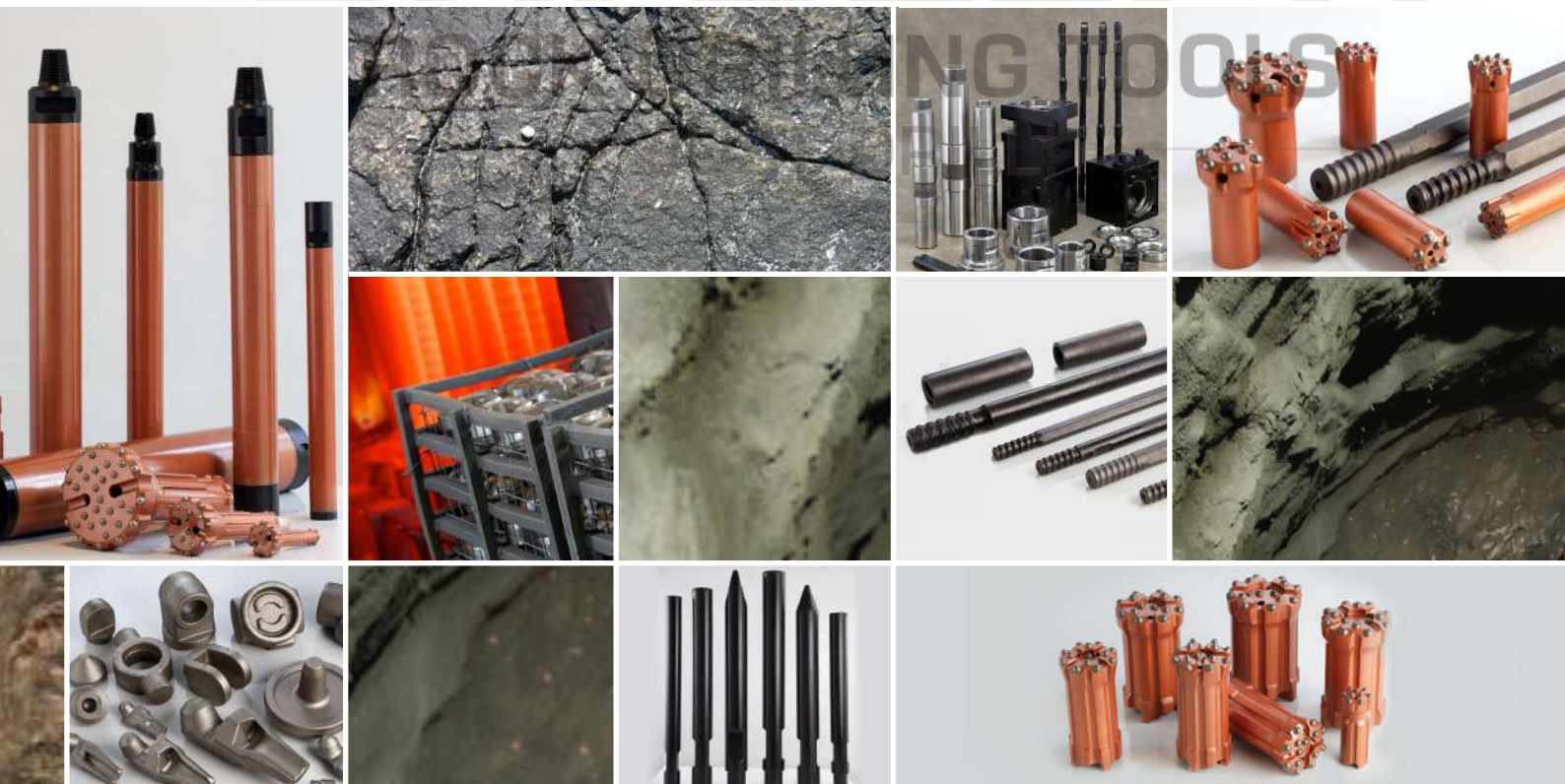
Saideepa has established and applied quality management system ISO 9001:2015, Environment management system ISO 14001:2015, Occupational health and Safety management system ISO 45001:2018 and Information security management system ISO 27001:2013 for design, manufacturing and supplying of DTH hammers and button bits. Our Integrated management system are inspected by DNV.GL from Norway and United Kingdom Accreditation Service (UKAS) from UK awarded us above all certificates.

CORE VALUES

• Safety • Customer Success • Team Play • Environmental Protection • Information Security

RAW MATERIAL

SDRD recognizes that it is possible to produce quality products only from the best raw materials. All the SDRD products are made from the alloy steels having very high quality levels. The steels are procured from the best alloy steel manufactures available both in India and abroad. The composition of the steel is selected very precisely to give the best final properties to the product.



BIT FACE STYLES



Concave

This is the common face style used in market. Cone shaped depression in the face has centering effect for straighter holes. It gives excellent penetration in soft to medium hard rock formation.



Convex

This face has been utilized in medium hard to hard drilling formation. Face design allows for increased body support for gauge carbide. There are two gauges and the inner gauge row helps to protect the outer row from excessive wear. The convex style tends to keep the drilling face intact longer by drilling with the two rows of the buttons on the convex face. This face style gives good hole penetration in medium to hard rock formations.



Flat

This bit is very aggressive in drilling application and is suited best for hard to very hard rock and broken formation. Face slots help eliminate bit plugging in softer zones. More carbide to surface contact for better rock fracture. It is a simple and robust design well suited for hard to very hard rock formation.

BUTTON SHAPES & GRADES



Spherical (Dome)

This button is the most common shape utilized in DTH bits. This type of shape is the strongest and most resistant to breakage. The domed shape provides excellent penetration in medium rock, hard rock, and hard rock broken formations, in all types of drilling.



Ballistic

Normally this button is used in less hard consolidated drilling formations. This type of button is very aggressive and drills faster than domed. However, because the ballistic tip protrudes out farther than domed, the ballistic is prone to breakage if used in the wrong formations. Care should be taken when drilling with this type of button. Ballistic buttons yield high penetration rates and efficient rock breakage.



Parabolic

Suitable for all soft and medium rock conditions including fractured and fissured rocks.

DTH SHANKS & DTH HAMMERS

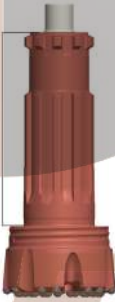
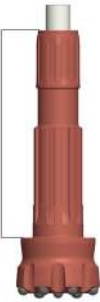
- SDRD manufactures good quality DTH Shanks and DTH hammers which are suited to each other.
- Our products are suited for any type of drilling like Water well, mining, construction, blasting and quarry.
- Our products are the preferred bits for drilling engineers in many countries because of our precision design and efficient drilling during usage.
- We manufacture different types of hammers with suitable bit for different applications. The bit ranges varies from 3" to 18" (diameter) with different face styles like Concave, Convex and Flat. The hammer range varies from 2.5" to 12".

FEATURES & BENEFITS

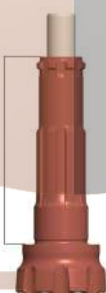
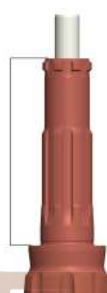
- SDRD products are designed, engineered and manufactured, for superior penetration while maintaining maximum cleaning action at the face of the bit, thus extending the working of the product.
- Products are field tested to stringent quality requirements to provide consistent performance results in the field.
- Bits are conditioned by a special manufacturing procedure which establishes a protective cushion on the bits, thus reducing chances of cracking which often occur in hi-impact drilling products.
- Products are heat treated applying most advanced heat treatment technology that extends the product life for maximum wear and performance in the toughest of drilling conditions. Relevant quality checks are applied in various stages of manufacture.
- Bits and Hammers are manufactured right from raw material to final products, all in house, using advance technology and manufacturing practice.
- The combination of premium steel, quality carbide and state of the art design and manufacturing, yields a superior product capable of performing in the toughest of drilling conditions.



BIT SHANK IDENTIFICATION CHART

BR2		BR3		BR33	
165 mm		165 mm		165 mm	
6 SPLINES		6 SPLINES		7 SPLINES	
DHD 3.5		DHD 340		DHD 350	
181 mm		208.5 mm		260 mm	
8 SPLINES		8 SPLINES		8 SPLINES	
DHD 360		DHD 380		SD4	
308 mm		350 mm		260 mm	
8 SPLINES		10 SPLINES		8 SPLINES	
SD5		SD6		SD8	
260 mm		324 mm		320.5 mm	
8 SPLINES		8 SPLINES		8 SPLINES	
SD10		SD12		QL40	
356 mm		470 mm		279 mm	
8 SPLINES		8 SPLINES		10 SPLINES	

BIT SHANK IDENTIFICATION CHART

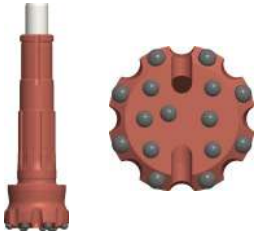
QL50	 240 mm 12 SPLINES	QL60	 253.5 mm 12 SPLINES	QL80	 332.5 mm 16 SPLINES		
CHEETHA	 131.8 mm 6 SPLINES	PANTHER	 192 mm 6 SPLINES	DHD 17	 275 mm 8 SPLINES		
MACH303	 170 mm 8 SPLINES	MACH44	 243.7 mm 8 SPLINES	MX40	 243.7 mm 8 SPLINES		
MACH50C	 265 mm 8 SPLINES	RK1	 322 mm 8 SPLINES	RK3	 324 mm 10 SPLINES		
NUMA	 490.5 mm 12 SPLINES	PUMA	 279 mm 10 SPLINES	QLX40	 209 mm 12 SPLINES	TD40	 208.9 mm 12 SPLINES

SD Shanks



SD SHANKS

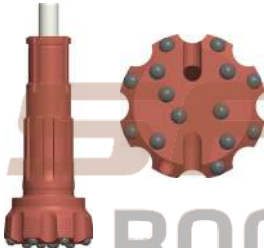
SD4

FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	105	4 1/8	2	14X8	12X6	8	17.63	36-41967105S
	110	4 1/3	2	14X8	12X6	8.5	18.73	36-41967110S
	115	4 1/2	2	14X8	12X6	9	19.83	36-41967115S
	121	4 3/4	2	14X8	12X7	9.3	20.49	36-41977121S
	127	5	2	14X8	14X8	9.5	20.93	36-41989127S
	130	5 1/8	2	14X8	14X8	10	22.04	36-41989130S
	165	6 1/2	2	16X8	14X10	26	57.32	36-4190C165S

CONCAVE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	105	4 1/8	2	14X8	12X6	7.8	17.19	36-41767105S
	110	4 1/3	2	14X8	12X6	8.3	18.29	36-41767110S
	115	4 1/2	2	14X8	12X6	8.7	19.17	36-41767115S
	127	5	2	14X8	14X7	9.2	20.27	36-41779127S
	130	5 1/8	2	14X8	14X7	9.7	21.37	36-41779130S

CONVEX	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	105	4 1/8	2	14X8	12X6	8	17.63	36-41867105S
	110	4 1/3	2	14X8	12X6	8.5	18.73	36-41867110S
	115	4 1/2	2	14X8	12X7	9	19.83	36-41877115S
	127	5	2	14X8	14X8	9.5	20.93	36-41889127S
	130	5 1/8	2	14X8	14X8	10	22.04	36-41889130S

SD5

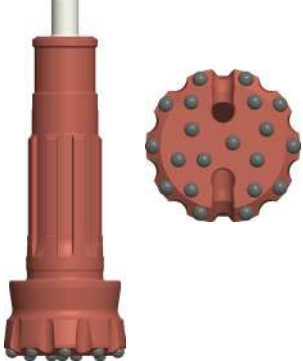
FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	125	4 15/16	2	14X8	14X7	15	33.06	36-51979125S
	127	5	2	14X8	14X7	15.5	34.16	36-51979127S
	140	5 1/2	2	16X8	16X8	16	35.26	36-5198D140S
	146	5 3/4	2	16X8	16X8	16.5	36.36	36-5198D146S
	152	6	2	16X8	16X10	17	37.46	36-5190D152S
	165	6 1/2	2	16X8	16X10	17.5	38.57	36-5190D165S

CONCAVE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	125	4 15/16	2	14X8	14X7	15	33.06	36-51779125S
	127	5	2	14X8	14X7	15.5	34.16	36-51779127S
	140	5 1/2	2	16X8	16X8	16	35.26	36-5178D140S
	146	5 3/4	2	16X8	16X7	16.5	36.36	36-5177D146S
	152	6	2	16X8	16X10	17	37.46	36-5170D152S
	165	6 1/2	2	16X8	16X10	17.5	38.57	36-5170D165S

CONVEX	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	127	5	2	14X8	14X7	15	33.06	36-51879127S
	140	5 1/2	2	16X8	14X8	15.5	34.16	36-5188C140S
	146	5 3/4	2	16X8	16X8	16	35.26	36-5188D146S

SD SHANKS

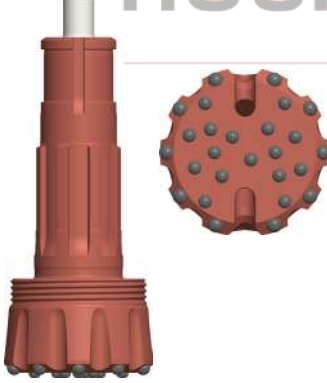
SD6

FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	152	6	2	16X8	16X10	24	52.89	36-6190D152S
	156	6 1/8	2	16X8	16X10	26	57.30	36-6190D156S
	165	6 1/2	3	16X9	16X10	26.5	58.40	36-61P0D165S
	172	6 3/4	3	16X9	16X10	27	59.50	36-61P0D172S
	178	7	2	16X10	16X13	28	61.71	36-61KED178S
	190	7 1/2	2	16X10	16X14	30	66.12	36-61KFD190S
	200	7 7/8	2	16X10	16X14	30.5	67.24	36-61KFD200S
	203	8	2	19X10	16X16	32	70.52	36-61KHI203S
	216	8 1/2	2	19X10	16X16	33	72.75	36-61KHI216S
	216	8 1/2	2	18X10	16X16	33	72.75	36-61KHE216S
	254	10	2	19X10	16X20	40	88.18	36-61KII254S

CONCAVE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	152	6	2	16X8	16X10	24	52.89	36-6170D152S
	165	6 1/2	2	16X10	16X10	26.5	58.40	36-61I0D165S
	172	6 3/4	2	16X10	16X11	27	59.50	36-61I1D172S
	178	7	2	16X10	16X13	28	61.71	36-61IED178S
	190	7 1/2	2	16X10	16X14	30	66.12	36-61IFD190S
	203	8	2	19X10	16X16	32	70.52	36-61IHI203S
	216	8 1/2	2	19X10	16X16	33	72.75	36-61IHI216S
	219	8 5/8	2	19X10	16X16	36	79.34	36-61IHI219S
	219	8 5/8	2	19X10	16X17	36	79.34	36-61III219S

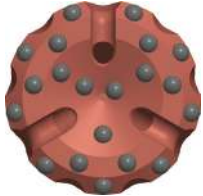
CONVEX	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	165	6 1/2	2	16X10	16X10	24	52.89	36-61J0D165S
	152	6	2	16X8	16X10	26	57.32	36-6180D152S
	172	6 3/4	3	16X12	16X10	26	57.30	36-61R0D172S

SD8

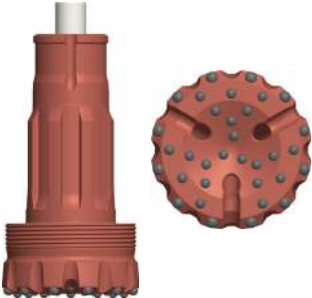
FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	200	7 7/8	2	19X10	16X15	40	88.18	36-81KGI200S
	203	8	2	19X10	16X16	41	90.36	36-81KHI203S
	203	8	3	19X9	19X6	41	90.36	36-81NGI203S
	216	8 1/2	2	19X10	16X16	42	92.56	36-81KHI216S
	219	8 5/8	2	19X10	16X16	44.5	98.07	36-81KHI219S
	222	8 3/4	2	19X10	16X18	45	99.18	36-81KII222S
	225	8 7/8	2	19X10	16X20	47	103.58	36-81KII225S
	240	9 4/9	2	19X10	16X20	48	105.82	36-81KII240S
	241	9 1/2	2	19X10	16X20	50	110.2	36-81KII241S
	250	9 5/6	2	19X10	16X20	51	112.43	36-81KII250S
	254	10	2	19X10	16X20	54.5	120.11	36-81KII254S
	292	11 1/2	3	19X12	16X30	55	121.25	36-81SJI292S
	300	11 4/5	3	19X12	16X27	59	129.8	36-81SJI300S

SD SHANKS

SD8

CONCAVE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	200	7 7/8	2	19X10	16X15	40.5	89.26	36-81IGI200S
	203	8	2	19X9	19X6	41	90.2	36-81IHI203S
	216	8 1/2	2	19X10	16X16	42	92.56	36-81IHI216S
	216	8 1/2	3	19X12	19X6	42	92.56	36-81QHI216S
					16X10			
	222	8 3/4	2	19X10	16X16	45	99.18	36-81IHI222S
	241	9 1/2	2	19X10	16X19	50	110.2	36-81III241S
	251	9 7/8	2	19X10	16X20	51	112.43	36-81III251S
	254	10	2	19X10	16X20	54.5	120.11	36-81III254S
	270	10 5/8	3	19X12	16X25	68	149.87	36-81QII270S
	280	11	3	19X12	16X30	71	156.48	36-81QJI280S
	305	12	3	19x18	19X15	75	165.3	36-81UJI305S
					16X13			
	311	12 1/4	3	19X12	19X21	76	167.55	36-81QJI311S
					16X9			

SD10

CONCAVE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	254	10	2	19X12	16X24	105	231.42	36-S1LII254S
	270	10 5/8	3	19X12	16X25	110	242.44	36-S1QII270S
	280	11	3	19X12	16X27	115	253.46	36-S1QJI280S
	292	11 1/2	3	19X21	16X23	120	264.48	36-S1UII292S
	305	12	3	19X18	19X15	125	275.5	36-S1UJI305S
					16X13			
	330	13	3	19X18	19X18	135	297.54	36-S1UJI330S
					16X13			

SD12

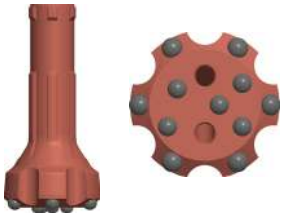
FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	305	12	3	19x12	16x27	120.73	266.16	36-S2SJI305S

Panther Shanks

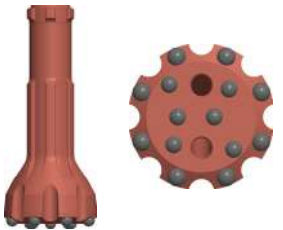


PANTHER SHANKS

CHEETHA

FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	83	3 1/4	2	12x6	10x4	3	6.61	36-37341083S
	90	3 1/2	2	12x6	10x5	3.2	7.05	36-37351090S

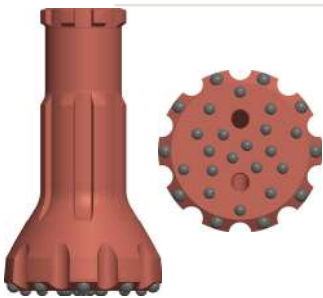
PANTHER

FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	110	4 1/3	2	14X8	12X6	7.5	16.53	36-47967110S
	115	4 1/2	2	14X8	13X6	8	17.63	36-47968115S
	121	4 3/4	2	14X8	13X9	8.5	18.73	36-47998121S
	127	5	2	14X8	13X8	9.2	20.49	36-47988127S
	140	5 1/2	2	14X8	14X8	12	26.44	36-47989140S
	152	6	2	14X8	13X10	14	30.85	36-47908152S
	165	6 1/2	2	14X8	13X11	15	33.06	36-47918165S
	172	6 3/4	2	14X8	13X12	17.5	38.57	36-47928172S

CONCAVE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	140	5 1/2	2	16X8	14x4	12	26.4	36-4778Q140S
					13X4			

CONVEX	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	115	4 1/2	2	14x8	12x7	8	17.6	36-47877115B
	127	5	2	14x8	14x6	9.2	20.24	36-47807127P
					12X4			
	133	4 1/4	2	14x8	14x8	10	22	36-47807127

D17

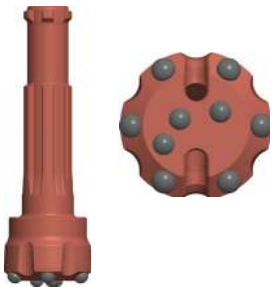
FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	203	8	2	18X10	16X16	42.5	93.69	36-87KHE203S
	216	8 1/2	2	18X10	16X18	44.2	97.44	36-87KIE216S
	228	9	2	18x10	16X20	46	101.4	36-87KIE228S
	241	9 1/2	2	18x10	16x24	49	108.0	36-87KIE241S
	254	10	3	19X12	16X30	61.9	136.4	36-87SJI254S
	267	10 1/2	3	18x12	16x30	63	138.8	36-87SJE267S
	280	11	3	18x12	16X30	66.2	145.9	36-87SJE280S
	305	12	3	19X12	16X27	69.7	153.6	36-87SJI305S
	330	13	3	18X14	16X36	71	156.5	36-87TJE330S
	337	13 1/4	3	18X14	16X36	72	158.7	36-87TJE337S
	343	13 1/2	3	19X12	16X36	90	198.0	36-87SJI343S
	356	14	3	19X14	16X36	105.5	232.5	36-87TJI356S

BR Shanks



BR SHANKS

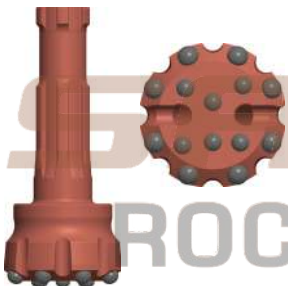
BR2

FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	76	3	2	12x6	11x4	2.5	5.511	36-22342076P
	76	3	2	11X6	11X4	2.5	5.511	36-2234Z076P
	76	3	2	12X6	10X4	2.5	5.511	36-22341076S
	80	3 1/7	2	12X6	11X4	2.8	6.172	36-22342080S
	89	3 1/2	2	12X7	11X6	2.8	6.172	36-22662089S
	95	3 3/4	2	12X6	10X6	3.5	7.716	36-22361095S

CONCAVE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	70	2 3/4	2	11X6	10X4	2.2	4.84	36-2215R070S
					9X1			
	76	3	2	12X6	10X6	2.5	5.5	36-22161076S
	85	3 1/3	2	12X6	10X6	3	6.613	36-22161085S
	90	3 1/2	2	12X7	11X5	3.5	7.716	36-22452090S

CONVEX	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	70	2 3/4	2	10X6	10X5	2.2	4.84	36-2225P070B
	76	3	2	11X6	11X5	2.5	5.5	36-2225Z076B
	76	3	2	11X6	11X5	2.5	5.5	36-2225Z076P
	86	3 2/5	2	11X7	11X6	3	6.613	36-2256Z086B
	95	3 3/4	2	12X7	12X6	3.5	7.716	36-22563095S

BR3

FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	90	3 1/2	2	13X7	12X4	5	11.02	36-32655090S
	90	3 1/2	2	12X7	12X5	5	11.02	36-32653090B
	90	3 1/2	2	13X6	12X5	5	11.02	36-32355090S
	95	3 3/4	2	13X7	13X5	5.3	11.68	36-32656095S
	95	3 3/4	2	12X8	12X6	5.3	11.68	36-32963095S
	95	3 3/4	2	13X7	13X5	5.3	11.68	36-32656095P
	100	3 15/16	2	12X8	12X6	5.8	12.78	36-32963100S
	102	4	2	14X8	12X6	5.9	12.98	36-32967102S
	105	4 1/8	2	14X8	12X6	6	13.22	36-32967105S
	130	5 1/8	2	16X8	14X8	9.7	21.34	36-3298C130S

CONCAVE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	90	3 1/2	2	12X7	12X5	5	11.02	36-32453090B
	90	3 1/2	2	12X7	12X5	5	11.02	36-32453090S
	95	3 3/4	2	12X7	12X6	5.3	11.68	36-32463095S
	95	3 3/4	2	12X7	12X6	5.3	11.68	36-32463095B
	100	3 15/16	2	12X8	12X6	5.8	12.78	36-32763100S
	100	3 15/16	2	12X8	12X6	5.8	12.78	36-32763100B
	105	4 1/8	2	14X8	12X6	6	13.22	36-32767105S

CONVEX	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	90	3 1/2	2	12X7	12X4	5	11.02	36-32543090B
	95	3 3/4	2	12X7	12X7	5.3	11.68	36-32573095B
	100	3 7/8	2	14X8	12X6	5.5	12.12	36-32867100P
	102	4	2	14X8	12X6	5.8	12.78	36-32867102P
	105	4 1/8	2	14X8	12X6	6	13.22	36-32867105B

BR SHANKS

BR33

FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	90	3 1/2	2	12X7	11X5	5	11.02	36-42652090S
	95	3 3/4	2	12X7	12X6	5.3	11.68	36-42663095S
	100	3 15/16	2	14X8	12X6	5.8	12.78	36-42967100S
	102	4	2	14X8	12X6	5.9	12.98	36-42967102S
	105	4 1/8	2	14X8	12X6	6	13.22	36-42967105S

CONCAVE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	90	3 1/2	2	12X7	11X5	5	11.02	36-42452090S
	95	3 3/4	2	12X7	12X6	5.3	11.68	36-42463095B
	100	3 15/16	2	14X8	12X6	5.5	12.12	36-42767100S
	102	4	2	14X8	12X6	5.8	12.78	36-42767102S
	102	4	2	13X8	12X6	5.8	12.78	36-42765102B
	105	4 1/8	2	14X8	12X6	6	13.22	36-42767105S

CONVEX	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	90	3 1/2	2	12X7	12X5	5	11.02	36-42553090S
	95	3 3/4	2	12X7	12X6	5.3	11.68	36-42563095B
	100	3 15/16	2	14X8	12X6	5.8	12.78	36-42867100S
	100	3 15/16	2	14X8	12X6	5.8	12.78	36-42867100B
	102	4	2	14X8	12X6	6	13.22	36-42867102S

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Mach Shanks



MACH SHANKS

MACH303

FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	90	3 1/2	2	12X6	12X6	3.7	8.15	36-34363090S



MACH44

FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	140	5 1/2	2	16X8	14X8	15	33.06	36-4498C140S



CONCAVE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	108	4 1/4	2	14X8	12X6	6.2	13.64	36-44767108S
	127	5	2	14X8	14X7	11.6	25.56	36-44779127S
	133	5 1/4	2	14X8	14X7	14.7	32.39	36-44779133S
	140	5 1/2	2	14X8	14X8	15	33.0	36-44789140S
	150	6	2	16X8	14X10	15.5	34.17	36-4470C150S



CONVEX	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	120	4 5/7	2	14X8	13X7	13.5	29.76	36-44878120S
	140	5	2	14X8	14X8	14.7	32.39	36-44889140S
	150	6	2	16X8	16X10	16.3	35.93	36-4480D150S



MACH50

FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	165	6 1/2	2	16X8	16X10	17	37.47	36-5490D165S



CONCAVE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	140	5 1/2	3	16X9	14X9	15.6	34.32	36-54N9C140S
	146	5 3/4	2	16X8	14X10	15.8	34.83	36-5470C146S
	150	6	2	16X8	16X8	16.3	35.93	36-5478D150S



CONVEX	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	135	5 1/3	2	16X8	16X4	15.5	34.17	36-5487C135S
					14X3			
	140	5 1/2	2	16X8	16X7	15.7	34.61	36-5487D140S
	146	5 3/4	3	16X9	16X10	15.8	34.76	36-5400D146S
	150	6	2	16X8	16X10	16.1	35.42	36-5480D150S



MACH SHANKS

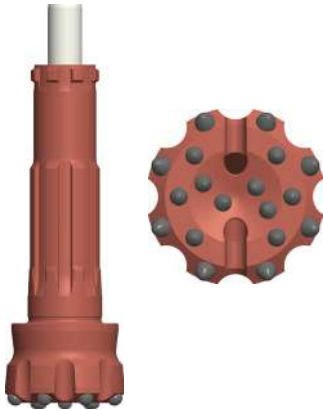
MX40

FLAT FACE



Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
MM	Inch		Outer	Front	KG	LBS	
105	4 1/8	2	14X8	12X6	8.5	18.73	36-X4967105S
110	4 1/3	2	14X8	12X6	9	19.83	36-X4967110S
115	4 1/2	2	14X8	13X6	9.5	20.93	36-X4968115S
121	4 3/4	2	14X8	13X7	10.3	22.70	36-X4978121S
127	5	2	16X8	13X7	11	24.24	36-X497B127S
130	5 1/8	2	14X8	14X8	11.5	25.34	36-X4989130S
140	5 1/2	2	16X8	16X8	15	33.06	36-X498D140S
152	6	2	16X8	14X9	15.5	34.17	36-X499C152S
178	7	2	16X10	16X13	17.8	39.16	36-X4KED178S

CONCAVE



Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
MM	Inch		Outer	Front	KG	LBS	
105	4 1/8	2	14X8	12X6	8.8	19.39	36-X4767105S
105	4 1/8	2	14X8	12X6	8.8	19.39	36-X4767105P
107	4 1/5	2	14X8	13X6	8.9	19.58	36-X4768107S
107	4 1/5	2	14X8	12X6	8.9	19.58	36-X4767107P
107	4 1/5	2	14X8	12X6	8.9	19.58	36-X4767107B
115	4 1/2	2	14X8	12X6	10.8	23.80	36-X4767115S
115	4 1/2	2	14X8	12X6	10.8	23.80	36-X4767115B
115	4 1/2	2	14X8	12X6	10.8	23.80	36-X4767115C
115	4 1/2	2	14X8	13X8	10.8	23.80	36-X4788115S
120	4 5/7	2	16X8	13X9	11	24.20	36-X479B120S
121	4 3/4	2	14X8	13X7	10.8	23.80	36-X4778121S
127	5	2	14X8	14X6	11.6	25.56	36-X4768127S
127	5	2	14X8	14X6	11.6	25.26	36-X4768127P
127	5	2	14X8	14X7	11.6	25.26	36-X4779127B
127	5	2	14X8	14X6	11.6	25.26	36-X4798127D
130	5 1/8	2	14X8	14X7	14.7	32.39	36-X4779130S
133	5 1/4	2	14X8	14X6	14.7	32.39	36-X4768133S
133	5 1/4	2	14X8	14X6	14.7	32.39	36-X4768133P
140	5 1/2	2	16X8	14X10	15	33.0	36-X470C140S
140	5 1/2	2	16X8	14X10	15	33.0	36-X470C140D
146	5 3/4	2	16X8	14X10	15.5	34.17	36-X470C146S
150	6	2	16X8	14X10	15.7	34.54	36-X470C150S
165	6 1/2	2	16X8	14X10	16.5	36.37	36-X470C165S
165	6 1/2	2	16X8	16X10	16.5	36.37	36-X470D165P

CONVEX



Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
MM	Inch		Outer	Front	KG	LBS	
105	4 1/8	2	14X8	12X6	8.3	18.29	36-X4867105S
108	4 1/4	2	14X8	13X6	8.4	18.48	36-X4868108P
115	4 1/2	2	14X8	14X7	9.3	20.49	36-X4879115S
115	4 1/2	2	14X8	13X7	9.3	20.49	36-X4878115S
121	4 3/4	2	14X8	13X8	10	22.04	36-X4888121P
127	5	2	14X8	14X8	10.5	23.14	36-X4889127S
127	5	2	14X8	14X8	10.5	23.14	36-X4889127P
127	5	2	14X8	14X8	10.5	23.14	36-X4889127D
130	5 1/8	3	14X9	13X11	11	24.25	36-X4018130P
133	5 1/4	2	14X8	14X9	11.6	25.56	36-X4899133S
133	5 1/4	2	14X8	14X9	11.6	25.56	36-X4899133P
133	5 1/4	2	14X8	14X9	11.6	25.56	36-X4899133D
140	5 1/2	2	16X8	14X10	14.7	32.39	36-X480C140S
140	5 1/2	2	16X8	14X10	14.7	32.39	36-X480C140P
140	5 1/2	2	16X8	14X10	14.7	32.39	36-X480C140D
146	5 3/4	2	16X8	16X10	15.1	33.22	36-X480D146S
150	6	2	16X10	16X8	15.2	33.51	36-X480D150S
191	7 1/2	3	16X9	16X12	18	39.6	36-X402D191D

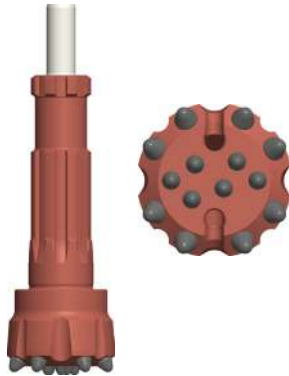
DHD Shanks



DHD SHANKS

DHD3.5

FLAT FACE



Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
MM	Inch		Outer	Front	KG	LBS	
90	3 1/2	2	12X7	12X5	5	11.02	36-33653090B
90	3 1/2	2	13X7	12X5	5	11.02	36-33655090S
90	3 1/2	2	13X6	13X6	5	11.02	36-33366090P
95	3.3/4	2	14X8	11X6	5.3	11.68	36-3396K095S
95	3 3/4	2	12X7	12X6	5.3	11.68	36-33663095B
95	3 3/4	2	13X7	13X6	5.3	11.68	36-33666095P
95	3 3/4	2	13X7	12X6	5.3	11.68	36-33665095B
100	3 15/16	2	14X8	12X6	5.8	12.78	36-33967100S
100	3 15/16	2	14X8	12X6	5.8	12.78	36-33967100P
100	3 15/16	2	14X8	12X6	5.8	12.78	36-33967100B
102	4	2	12X8	12X6	5.9	12.98	36-33967102B
102	4	2	14X8	12X6	5.9	13.00	36-33967102S
102	4	2	14X8	11X7	5.9	12.98	36-3397K102B
105	4 1/7	2	14X8	12X6	6	13.2	36-33967105S
115	4 1/2	2	14X8	13X6	6.1	13.42	36-33968115P
115	4 1/2	2	14X8	13X6	6.1	13.42	36-33968115S

CONCAVE



	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	90	3 1/2	2	12X7	12X5	5	11.02	36-33453090S
	90	3 1/2	2	12X7	12X5	5	11	36-33453090B
	95	3 3/4	2	12X7	12X6	5.3	11.68	36-33463095B
	95	3 3/4	2	14X6	13X4	5.3	11.66	36-33148095B
	100	3 15/16	2	14X8	12X6	5.8	12.78	36-33767100S
	102	4	2	14X8	12X6	5.9	12.98	36-33767102S
	105	4 1/7	2	14X8	12X7	6	13.2	36-33777105S
	105	4 1/7	2	14X8	12X7	6	13.2	36-33777105C

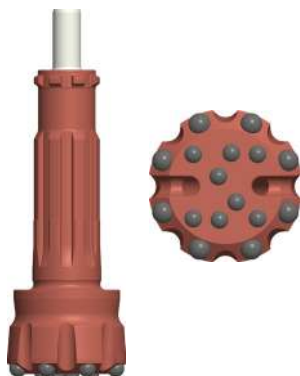
CONVEX



Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
MM	Inch		Outer	Front	KG	LBS	
90	3 1/2	2	12X8	12X6	5	11.02	36-33863090B
90	3 1/2	2	13X7	12X6	5	11.02	36-33565090P
90	3 1/2	2	13X7	12X6	5	11.02	36-33565090S
92	3 5/8	2	11X7	11X6	5.1	11.24	36-3356Z092C
95	3 3/4	2	13X7	12X6	5.3	11.66	36-33565095C
98	3 6/7	2	12X10	12X7	5.4	11.88	36-33J73098B
100	3 15/16	2	14X8	12X6	5.8	12.78	36-33867100P
102	4	2	14X8	12X6	5.9	12.98	36-33867102B
105	4 1/7	2	14X8	13X6	6	13.2	36-33868105S
115	4 1/2	2	14X8	13X7	6.1	13.42	36-33878115S

DHD340

FLAT FACE



Diameter		Flush Hole	Buttons Dia	Qty	Weight		Product No
MM	Inch				Outer	Front	
105	4 1/8	2	14X8	12X6	8	17.63	36-43967105S
108	4 1/4	2	14X8	12X6	8.1	17.82	36-43967108S
110	4 1/3	2	14X8	12X6	8.5	18.73	36-43967110P
115	4 1/2	2	14X8	13X6	9	19.83	36-43968115S
115	4 1/2	2	14X8	13X7	9	19.83	36-43978115P
116	4 4/7	2	16X8	13X6	9	19.8	36-4396B116S
120	4 5/7	2	14X8	12X8	9.5	20.94	36-43987120S
127	5	2	14X8	14X8	10	22	36-43989127S
127	5	2	14X8	14X8	10	22	36-43989127P
130	5 1/8	2	16X8	14X8	10.5	23.1	36-4398C130S
135	5 1/3	2	14X8	14X8	11	24.25	36-43989135S
140	5 1/2	2	16X8	14X10	14	30.8	36-4390C140S
146	5 3/4	2	16X8	14X10	14.4	31.68	36-4390C146S
150	6	2	16X8	16X10	14.8	32.56	36-4390D150P
152	6 1/8	2	16X8	14X10	15	33	36-4390C152P
178	7	2	16X8	14X10	18	39.68	36-4390C178S

DHD SHANKS

DHD340

CONCAVE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	105	4 1/8	2	14X8	12X7	8	17.6	36-43777105S
	108	4 1/4	2	14X8	12X6	8.2	18.07	36-43767108S
	110	4 1/3	2	14X8	12X6	8.5	18.73	36-43767110S
	115	4 1/2	2	14X8	12X6	9	19.83	36-43767115P
	115	4 1/2	2	14X8	13X6	9	19.8	36-43768115S
	115	4 1/2	2	14X8	12X6	9	19.83	36-43767115B
	120	4 5/7	2	16X8	14X7	9.4	20.68	36-4377C120S
	121	4 3/4	2	14X8	13X8	9.5	20.9	36-43788121P
	127	5	2	16X8	14X7	10	22	36-4377C127S
	127	5	2	14X8	14X7	10	22	36-43779127B
	130	5 1/8	2	16X8	14X6	10.5	23.1	36-4376C130S
	140	5 1/2	2	16X8	14X8	13	28.66	36-4378C140S
	146	5 3/4	2	16X8	14X8	14	30.85	36-4378C146S
	152	6	2	16X8	16X10	14.5	31.9	36-4370D152S
	159	5 1/2	2	16X8	14X10	14.8	32.62	36-4370C159S

CONVEX	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	105	4 1/8	2	13X7	12X7	8	17.6	36-43575105S
	115	4 1/2	2	14X8	13X7	9	19.8	36-43878115S
	115	4 1/2	2	14X8	12X7	9	19.83	36-43877115B
	120	4 5/7	2	14X8	12X7	9.5	20.94	36-43877120B
	121	4 3/4	2	14X8	13X7	9.5	20.94	36-43878121S
	127	5	2	14X8	14X6	10	22.04	36-43869127S
	127	5	2	14X8	12X10	10	22.04	36-43807127C
	130	5 1/8	3	14X9	13X11	10.5	23.1	36-43018130P
	133	5 1/4	2	14X8	14X8	10.8	22.09	36-43889133S
	135	5 1/3	2	14X8	14X8	11	24.25	36-43889135S
	140	5 1/2	2	16X8	16X7	14	30.8	36-4387D140S
	140	5 1/2	2	16X8	14X10	14	30.85	36-4380C140C
	152	6	2	16X8	14X10	14.5	31.96	36-4380C152S

DHD350

FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	125	4 15/16	2	14X8	14X7	14	30.85	36-53979125S
	127	5	2	14X8	14X7	14.8	32.61	36-53979127S
	130	5 1/8	2	14X8	14X8	14.9	32.84	36-53989130S
	140	5 1/2	2	16X8	16X8	15	33.06	36-5398D140S
	140	5 1/2	2	16X8	14X10	15	33.06	36-5390C140S
	146	5 3/4	2	16X8	14X10	16	35.2	36-5390C140S
	150	6	2	18X8	16X10	16.3	35.86	36-5390E150S
	152	6	2	16X8	16X10	16.5	36.36	36-5390D152S
	165	6 1/2	2	16X8	16X10	17.5	38.57	36-5390D165S
	203	8	2	18X10	16X16	36.3	79.86	36-53KHE203S

CONCAVE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	125	4 15/16	2	14X8	14X7	14	30.85	36-53779125S
	127	5	2	14X8	14X7	14.5	31.95	36-53779127S
	140	5 1/2	2	16X8	14X10	15	33	36-5370C140S
	146	5 3/4	2	16X8	14X10	16	35.2	36-5370C146S
	150	6	2	16X8	16X10	16.3	35.86	36-5370D150S
	152	6	2	16X8	16X10	16.3	35.86	36-5370D152S
	165	6 1/2	2	16X8	16X10	17.5	38.57	36-5370D165S
	190	7 1/2	2	16X10	16X14	24.3	53.46	36-53IFD190S
	200	8	2	16X10	16X14	25	55	36-53IFD200S

DHD SHANKS

CONVEX



Diameter	MM	Inch	Flush Hole	Buttons Dia x Qty		Weight		Product No
				Outer	Front	KG	LBS	
127	5		2	14X8	14X7	14.5	31.95	36-53879127S
140	5 1/2		2	16X8	14X8	15	33.06	36-5388C140S
140	5 1/2		2	16X8	16X7	15	33	36-5387D140S
146	5 3/4		2	16X8	16X8	16	35.26	36-5388D146S
150	6		2	16X8	16X10	16.3	35.86	36-5380D150S

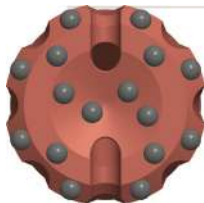
DHD360

FLAT FACE



Diameter	MM	Inch	Flush Hole	Buttons Dia x Qty		Weight		Product No
				Outer	Front	KG	LBS	
152	6		2	16X8	16X10	26	57.30	36-6390D152S
156	6 1/8		2	16X8	16X10	27	59.50	36-6390D156S
165	6 1/2		3	16X9	16X10	30	66.12	36-63P0D165S
165	6 1/2		2	16X8	16X10	30	66	36-6390D165S
172	6 3/4		2	16X10	16X12	31	68.32	36-63K2D172S
178	7		2	18X10	16X12	32	70.52	36-63K2E178S
180	7 1/8		2	16X10	16X13	33	72.6	36-63KED180S
185	7 2/7		2	16X10	16X13	33.5	73.7	36-63KED185S
190	7 1/2		2	18X10	16X13	34	74.93	36-63KEE190S
200	7 7/8		2	16X10	16X14	35	77.16	36-63KFD200S
203	8		2	18X10	16X16	36	79.2	36-63KHE203S
203	8		2	16X10	16X16	36	79.2	36-63KHD203S
216	8 1/2		2	19X10	16X16	37	81.57	36-63KHI216S
216	8 1/2		3	19X9	16X18	37	81.4	36-63PII216S
220	8 5/8		2	19X10	16X16	40	82.18	36-63KHI220S
220	8 2/3		2	19X10	16X18	40	88	36-63KII220S
225	8 6/7		2	19X10	16X18	41	90.2	36-63KII225S
250	9 5/6		3	19X12	16X22	43.5	95.7	36-63SII250S
254	10		3	18X12	16X24	43.5	95.7	36-63SIE254S
300	11 4/5		2	18X12	16X27	45	99	36-63MJE300S

CONCAVE



Diameter	MM	Inch	Flush Hole	Buttons Dia x Qty		Weight		Product No
				Outer	Front	KG	LBS	
152	6		2	16X8	16X10	26	57.2	36-6370D152S
154	6		2	16X8	16X10	26.5	58.3	36-6370D154S
165	6 1/2		2	16X10	16X10	30	66.12	36-63I0D165P
165	6 1/2		2	16X10	16X10	30	66.12	36-63I0D165S
165	6 1/2		3	18X9	16X10	30	66.12	36-63N0E165S
170	6 2/3		2	19X8	16X11	31	68.2	36-6371I170S
171	6 3/4		2	16X10	16X13	31	68.2	36-63IED171S
172	6 7/9		2	16X10	16X14	31.5	69.3	36-63IFD172S
180	7		2	16X10	16X12	33	72.6	36-63IHD180S
185	7 2/7		2	16X10	16X12	33.5	73.7	36-63IHD185S
178	7		2	16X10	16X12	32	70.52	36-63I2D178S
178	7		2	16X8	16X10	32	70.52	36-6370D178S
190	7 1/2		2	16X10	16X16	34.5	75.9	36-63IHD190S
192	7 5/9		2	18X10	16X14	35	77	36-63IFE192S
200	7 7/8		2	16X10	16X16	35	77.16	36-63IHD200S
203	8		2	19X10	16X16	36	79.2	36-63IHI203S
203	8		3	18X9	16X15	36	79.34	36-63NGE203S
216	8 1/2		2	19X10	16X16	37	81.4	36-63IHI216S
220	8 5/8		2	19X10	16X16	40	88.18	36-63IHI220S
240	9 4/9		3	19X12	16X24	43	94.76	36-63QII240S
254	10		3	18X12	16X20	44	96.8	36-63QIE254S

DHD SHANKS

CONVEX



Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
MM	Inch		Outer	Front	KG	LBS	
165	6 1/2	3	18X9	16X12	30	66	36-63O2E165B
172	6 7/9	3	16X12	16x10	27	59.50	36-63R0D172S
203	8	3	16X9	16X16	36	79.2	36-63OHD203S
216	8 1/2	3	19X9	16X18	37	81.4	36-63OII216S
250	9 5/6	3	19X12	19X18	44	96.8	36-63RIJ250S

DHD380

FLAT FACE



Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
MM	Inch		Outer	Front	KG	LBS	
203	8	2	19X10	16X15	45	99.18	36-83KGI203S
203	8	2	19X12	16X15	45	99.18	36-83MGI203S
216	8 1/2	2	19X10	16X16	46	101.38	36-83KHI216S
219	8 5/8	2	19X10	16X16	46.5	102.48	36-83KHI219S
220	8 5/8	2	19X12	16X16	46	101.41	36-83MHI220S
222	8 3/4	2	19X10	16X16	47	103.58	36-83KHI222S
225	8 7/8	2	19X10	16X14	47	103.58	36-83KFI225S
240	9 4/9	2	19X10	16X20	48	105.82	36-83KII240S
241	9 1/2	2	19X10	16X19	51	112.40	36-83KII241S
250	9 5/6	2	19X10	16X20	54	119.04	36-83KII250S
254	10	2	19x12	16x24	56.5	124.52	36-83MII254S
292	11 1/2	3	19X12	16X30	57	125.66	36-83SJ292S
300	11 4/5	3	19X12	16X27	68	149.6	36-83SJ300S
305	12	3	19X12	16X27	73	160.6	36-83SJ305S
311	12 1/4	3	19X12	16X30	58	127.86	36-83SJ311S

CONCAVE



Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
MM	Inch		Outer	Front	KG	LBS	
198	7 4/5	2	16X12	16X19	35	77	36-83LID198S
200	7 7/8	2	16X12	16X19	44	96.97	36-83LID200S
203	8	2	19X10	16X16	45	99.18	36-83IHI203S
216	8 1/2	2	19X10	16X16	46	101.38	36-83IHI216S
219	8 5/8	2	19X10	16X16	46.5	102.48	36-83IHI219S
229	9	2	16X10	16X18	47	103.61	36-83IID229S
241	9 1/2	2	19X10	16X19	51	112.40	36-83III241S
254	10	2	19x10	16x20	56.5	124.52	36-83III254S
267	10 1/2	3	19X12	16X25	57.5	126.76	36-83QII267S
280	11	3	19X12	16X30	67	147.66	36-83QJI280S
281	11	3	19X12	16X26	67	147.66	36-83QJI281S
300	11 4/5	3	19X18	16X24	68	149.91	36-83UII300S
305	12	3	19x18	19X15	73	160.89	36-83UJI305S
				16X13			

CONVEX



Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
MM	Inch		Outer	Front	KG	LBS	
300	11 4/5	3	19x12	19X9	68	149.91	36-83RJ300S
				16X21			

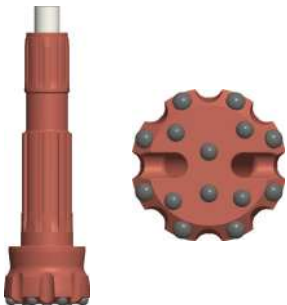
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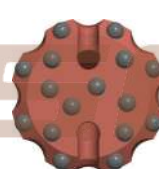
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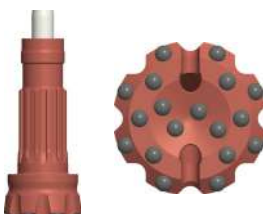
FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	105	4 1/8	2	14X8	12X6	8	17.63	36-45967105S
	110	4 1/3	2	14X8	12X6	8.5	18.73	36-45967110S
	115	4 1/2	2	14X8	12X6	9	19.83	36-45967115S
	115	4 1/2	2	16X7	12X7	9	19.83	36-4567A115S
	121	4 3/4	2	14X8	12X7	9.3	20.49	36-45977121S
	127	5	2	16X8	13X7	9.5	20.93	36-4597B127S
	127	5	2	19X7	13X7	9.5	20.93	36-4567G127S
	130	5 1/8	2	14X8	14X8	10	22.04	36-45989130S
	140	5 1/2	2	14X8	14X8	14	30.85	36-45989140S
	152	6	2	16X8	14X9	15.5	34.17	36-4599C152S

CONCAVE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	105	4 1/8	2	14X8	12X6	7.8	17.19	36-45767105S
	110	4 1/3	2	14X8	12X6	8.3	18.29	36-45767110S
	115	4 1/2	2	14X8	12X6	8.7	19.17	36-45767115S
	121	4 3/4	2	14X8	12X6	9	19.83	36-45767121S
	127	5	2	14X8	14X7	9.2	20.27	36-45779127S
	130	5 1/8	2	14X8	14X7	9.7	21.37	36-45779130S
	140	5 1/2	2	14X8	14X8	14	30.85	36-45789140S

CONVEX	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	105	4 1/8	2	14X8	12X6	8	17.63	36-45867105S
	110	4 1/3	2	14X7	12X6	8.5	18.73	36-45567110S
	115	4 1/2	2	14X8	14X7	9	19.83	36-45879115S
	121	4 3/4	2	14X8	14X6	9.3	20.49	36-45869121S
	127	5	2	14X8	14X8	9.5	20.93	36-45889127S
	130	5 1/8	2	14X8	14X8	10	22.04	36-45889130S
	140	5 1/2	2	14X8	14X8	14	30.85	36-45889140S

QL50

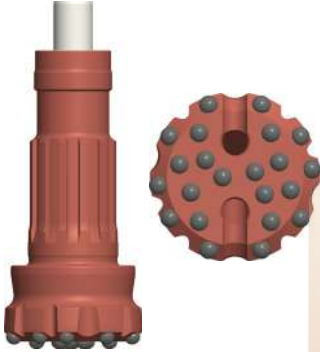
FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	125	5	2	14X8	14X7	14	30.85	36-55979125S
	127	5	2	14X8	14X7	14.5	31.95	36-55979127S
	130	5 1/8	3	14X9	14X9	15	33.06	36-55P99130B
	140	5 1/2	2	16X8	16X8	15.5	34.16	36-5598D140S
	146	5 3/4	2	16X8	16X8	16	35.26	36-5598D146S
	152	6	2	16X8	16X10	16.5	36.36	36-5590D152S
	165	6 1/2	2	16X8	16X10	17	37.46	36-5590D165S

CONCAVE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	125	5	2	14X8	14X7	14	30.85	36-55779125S
	127	5	2	14X8	14X7	14.5	31.95	36-55779127S
	130	5 1/8	3	16X9	14X9	15	33.06	36-55N9C130C
	140	5 1/2	2	16X8	14X8	15.5	34.16	36-5578C140S
	146	5 3/4	2	16X8	16X8	16	35.26	36-5578D140S
	152	6	2	16X8	16X10	16.5	36.36	36-5570D152S
	165	6 1/2	2	16X8	16X10	17	37.46	36-5570D165S
	165	6 1/2	2	16X10	16X13	17	37.4	36-55IED165S

CONVEX	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	127	5	2	14X8	14X7	14.5	31.95	36-55879127S
	130	5 1/8	3	14X9	14X10	15	33.06	36-55O09130P
	134	5 2/7	3	14X9	14X10	15.2	33.51	36-55O09134P
	140	5 1/2	2	16X8	16X8	15.5	34.16	36-5588D140S
	140	5 1/2	3	16X9	14X10	15.5	34.1	36-55O0C140D
	146	5 3/4	2	16X8	16X8	16	35.26	36-5588D146S

QL SHANKS

QL60

FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	152	6	2	16X8	16X9	25	55.1	36-6599D152S
	156	6 1/8	2	16X8	16X10	26	57.30	36-6590D156S
	159	6 1/4	2	19X8	16X10	26.2	57.76	36-6590I159S
	165	6 1/2	3	16X9	16X10	28	61.71	36-65P0D165S
	165	6 1/2	2	19X8	16X10	28	61.71	36-6590I165S
	165	6 1/2	2	16X10	16X10	28	61.71	36-65K0D165S
	172	6 3/4	2	19X10	16X10	28	61.71	36-65K0I172S
	178	7	2	16X10	16X12	29	63.91	36-65K2D178S
	178	7	3	19X9	16X12	29	63.8	36-65P2I178S
	190	7 1/2	2	16X10	16X14	30	66.12	36-65KFD190S
	203	8	2	16X10	16X14	32	70.52	36-65KFD203S
	216	8 1/2	2	19X10	16X16	33	72.75	36-65KHI216S
	219	8 5/8	2	19X10	16X16	33.2	73.19	36-65KHI219S
	220	8 2/3	2	19X10	16X16	33.5	73.85	36-65KHI220C

CONCAVE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	152	6	2	19X8	16X10	25	55.1	36-6570I152S
	156	6 1/8	2	19X8	16X10	26	57.30	36-6570I156S
	156	6 1/8	2	19X8	16X10	26	57.30	36-6570DI56S
	165	6 1/2	2	16X8	16X10	28	61.71	36-6570I165S
	172	6 3/4	2	19X10	16X11	28	61.71	36-65I1I172S
	172	6 3/4	2	19X8	16X11	28	61.71	36-6571I172S
	178	7	2	16X10	16X12	29	63.91	36-65I2D178P
	190	7 1/2	2	16X10	16X14	30	66.12	36-65IFD190S
	203	8	2	19X10	16X16	32	70.52	36-65IHI203S
	216	8 1/2	3	18X9	16X16	33	72.6	36-65NHE216S
	220	8 2/3	2	16X10	16X16	35	77.16	36-65IHD220P

CONVEX	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	165	6 1/2	2	16X10	16X10	28	61.72	36-63J0D165S
	165	6 1/2	3	18X9	16X12	28	61.6	36-65O2E165B
	172	6 3/4	2	16X10	16X10	28.5	62.83	36-63J0D172S

QL80

FLAT FACE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	203	8	2	19X10	16X13	48	105.7	36-85KEI203S
	216	8 1/2	2	19X10	16X16	50	110	36-85KHI216S
	240	9 4/9	2	19X10	16X20	52	114.6	36-85KII240S
	254	10	2	19x12	16x24	59	130.0	36-85MII254S

CONCAVE	Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
	MM	Inch		Outer	Front	KG	LBS	
	203	8	3	19X9	16X15	48	105.7	36-85NGI203S
	216	8 1/2	2	19X10	16X16	52.5	115.7	36-85IHI216S
	225	8 7/8	2	19x10	16x14	53	116.8	36-85IFI225S
	227	8 7/16	3	16X18	16X17	53.5	117.9	36-85UID227S
	228	9	3	16X18	16X17	53.5	117.9	36-85UID228S
	254	10	2	19X12	19X10	56	123.4	36-85LII254S
					16X14			
	270	10 5/8	3	19x12	16x25	60	132.2	36-85QII270S
	305	12	3	19X18	16X29	65	143	36-85UJI305S

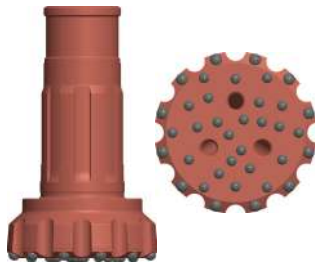
RK Shanks



RK SHANKS

RK1

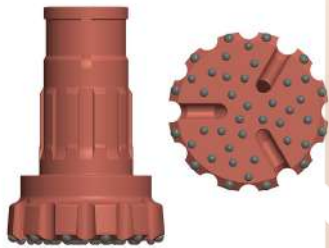
FLAT FACE



Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
MM	Inch		Outer	Front	KG	LBS	
254	10	3	19X12	16X30	58.8	129.6	36-R1SJ1254S
267	10	3	19X12	16X25	59	130.0	36-R1SJ1267S
280	11	3	18X14	16X32	60	132.2	36-R1TJE280S
292	11 1/2	3	18X21	16X22	61	134.4	36-R1XIE292S
305	12	3	19X12	16X30	75.7	166.8	36-R1SJ1305S
305	12	3	18X12	16X27	75.7	166.8	36-R1SJE305S
317.5	12 4/8	3	19X12	16X30	76.2	167.9	36-R1SJ1317.5S
330	13	3	18X14	16X30	78	171.9	36-R1TJE330S
406	16	3	19X15	16X38	109.5	241.4	36-R1XJI406S
457	18	3	19X12	16X45	111	244.7	36-R1SKI457S

RK3

FLAT FACE



Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
MM	Inch		Outer	Front	KG	LBS	
305	12	3	19X12	16X30	96.6	212.9	36-R3SJ1304S
356	14	3	19X14	16X36	100	220.4	36-R3TJI356S
406	16	3	19X15	16X38	109.5	241.4	36-R3XJI406S
457	18	3	19X12	16X45	173.9	383.3	36-R3SKI457S

OTHER SHANKS SERIES

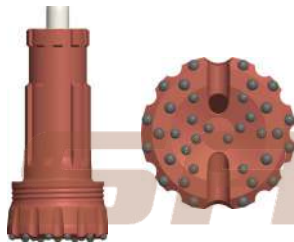
PUMA

CONCAVE

Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
MM	Inch		Outer	Front	KG	LBS	
200	7 7/8	3	19X12	16X15	28.4	62.6	36-P8QGI200S

NUMA

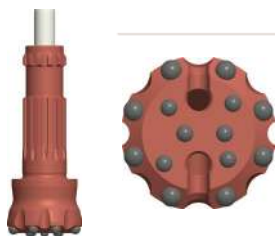
CONCAVE



Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
MM	Inch		Outer	Front	KG	LBS	
254	10	2	19X12	16X24	100	220.4	36-N1LI1254S
270	10 5/8	3	19X12	16X25	105	231.4	36-N1QI1270S
280	11	3	19X12	16X27	108	238.0	36-N1QJ1280S
292	11 1/2	3	19X21	16X23	108	238	36-N1UI1292S
305	12	3	19X18	19X15	110	242.4	36-N1UJ1305S
330	13	3	19X18	16X13	115	253.4	36-N1UJ1330S
				16X13			

QLX40

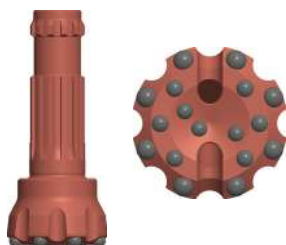
FLATFACE



Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
MM	Inch		Outer	Front	KG	LBS	
115	4 4/8	2	16X8	13X6	8.7	9.2	36-Q496B115S
115	4 4/8	2	16X8	13X6	8.7	9.2	36-Q496B115P
115	4 4/8	2	16X8	13X6	8.7	9.2	36-Q496B115B

TD40

CONCAVE



Diameter		Flush Hole	Buttons Dia x Qty		Weight		Product No
MM	Inch		Outer	Front	KG	LBS	
115	4 4/8	2	14 X 8	13 X 8	8.7	19.2	36-T478B115S
115	4 4/8	2	16 X 8	13 X 6	8.7	19.2	36-T476B115S
127	5	2	16 X 8	14 X 6	9.5	20.9	36-T479Q127S
				13 X 3			

DTH SHANKS MAINTENANCE

BUTTON BIT GRINDING

When the button bit was first introduced, it was widely assumed that sharpening was unnecessary. Such an understanding was not unfortunate since the button bit is also subjected to wear and tear even if it may give, when compared to the conventional bits; a 300% increase in footage before sharpening becomes necessary. If re-sharpening is imperfect or if not done at the correct intervals, the button bit is likely to lose penetration speed and thereafter be subject to failure.

While it was granted that in softer formations, an unsharpened button bit may continue to serve without carbide failure long after it ought to have been withdrawn from service it must also be appreciated that a similarly abused bit in a massive crystalline formation will very quickly fail. It is essential to remember that in hard rock, button bits are susceptible to failure from over drilling in the same way as any other bit. It is more economical to regrind too soon than to run the risk of damage by regrinding too late.

EQUIPMENT REQUIRED

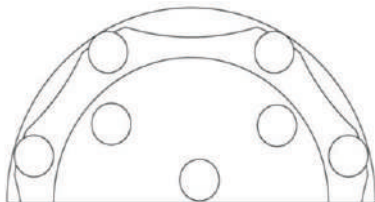
- A reliable pencil type air grinder capable of approximately 25000rpm.
- Spindle mounted grind stones, 1" (or 1.5") x 1" (or 0.75") x 0.25" spindle, and suitable for high speeds.
- One unused new bit similar to the one being grounded (this may be dispensed by experience), or a button gauge.
- Safety glasses and protective clothing.

Pencil type air grinders consume very little air, and it is best if bit regrinding is done while drilling is in progress. Ringing a button bit does not require brute strength; rather it is an art and the lighter the touch, the better. With proper care the button bit will greatly reduce drilling costs.

WHEN TO REGRIND

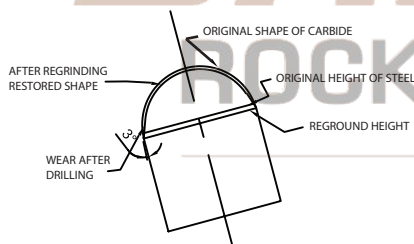
If a new bit is likely to fail due to material or manufacturing defects, it will normally do so in the initial half regrind life. The nature of such defects is dealt with later, but it is wise to withdraw and check any new bit early in life. Sometimes the gauge buttons may show slightly uneven wear or removal, i.e. while most show normal wear patterns the odd button may show excessive wear. This may be attributed to the slightly variation in setting of the gauge buttons. In such a case, one or two buttons may be over ground while majority still requires no grinding. Prolonged initial drilling may thus lead to individual inset failure.

GAUGE BUTTONS



When the bit is withdrawn from the bore, it will be noticed that the gauge buttons are worn in such a way that the outermost wear faces are equidistant from the bit center. When regrinding the gauge buttons it is essential to maintain the equidistance. This is best achieved by grinding in such a way as to leave a very tiny unground portion on the extreme outer edge of each button. A perfect circle of the buttons can thus be maintained.

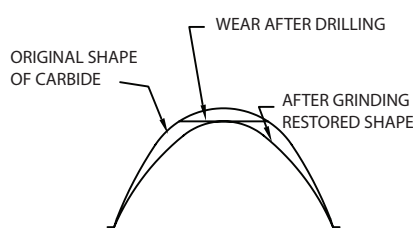
BUTTON GRINDING



The object of grinding is to return the carbides to their original shape. This, in effect, means the removing of an equal depth of carbide from unworn areas of each insert. For the gauge buttons this means that most of the material must be ground from the inner side of the button hemisphere gradually extending around until only the slight unground outer portion is left as mentioned earlier.

For the inner buttons the grinding must be done around the base of the hemisphere where it emerges from the steel bit body, since the wear generally occurs at the crown.

STEEL GRINDING



It will be noticed that after the button grinding is complete, there may remain an excess of steel between the buttons. This must be removed. More significantly, the chip-ways around the periphery of the bit must be restored to approximately to the original depth to facilitate free scavenging of cuttings from the bit face. In bits with central flushing, special attention must be paid to see that the free flow of exhaust air from the hammer is not in any way impeded by metal expansion around the flushing hole. Such an obstruction can seriously affect the efficiency of the hammer, and must be removed while grinding.

ANTI TAPER

Only the slightest anti-taper is required at the periphery of a well-designed button bit. It is essential to remember that the gauge buttons are inserted at an angle to the face buttons. As a consequence, if the anti-taper is excessive, the gauge button may fallout during work. It is rarely necessary to grind much from the periphery as the natural wear of the steel in work automatically reduces the bit body diameter.

FINISHING

During the above mentioned operation, it is wise (until experience makes it necessary) to check the reground bit carefully against a new unused bit of same type, or by using a suitable gauge. This helps in seeing that the contours and gradients confirm as nearly as possible to the original.

CHECK LIST

- See that the face buttons are so ground that they are equal in height and in same horizontal plane.
- See that the gauge buttons, with respect to their outer periphery, are in the same radius. Each button should show at its outer edge a very slightly unground portion.
- Check the buttons individually to see that they are roughly hemispherical in shape and not lob sided.
- See that all chip ways are clear and adequate both on cutting face and ground the bit circumference.
- Allow 3 degrees of anti-taper not more
- See that the hammer exhaust passage within the bit is clear.
- See that the reground bit counters confirm to the new unused bit.

GENERAL COMMENTS

In general, a button-insert type of bit, compared to a cross or carset bit, will give two to four times the life between regrinds. It should be ground when the width of the flat developing on the outside edge of the gauge buttons is 0.25-0.33 times the diameter of the button insert itself. In soft ground this can be extended slightly but very hard rock the lesser figure should be taken as a guide. Although a well-grounded button bit will drill slightly faster than a similar cross bit, the main advantage of the button lies in its longer life between regrinds.

LOSS OF BUTTONS

• MANUFACTURING DEFECT

This normally occurs only very early in life, usually before the first regrind.

• BAD BIT GRINDING

In this case the side supportive steel may have been removed when grinding. The hole becomes elongated and the button is lost.

• UNDERFEEDING WHILE DRILLING IS IN PROGRESS

In such a case, there is tendency for the hammer blows to drive the carbide inserts out of the body. It is, therefore important that adequate feed pressures be given at all times.

• WEAR AND TEAR

Frequently the first sign that bit has completed its life the "pop-out" of one or more gauge buttons, which means that they have become loose in the steel bit body. The correct use of rotation speed and feed pressures will, however, go along way towards increasing bit life.

BREAKAGE BUTTONS

• FAULTY CARBIDE

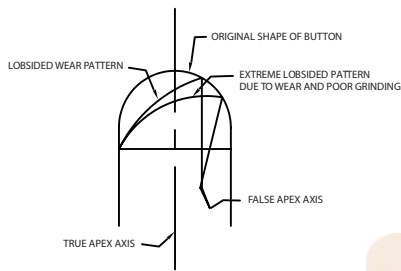
In button bits this is very rare.

• BAD HANDLING

Due to bad handling in transit carbides may chip. It is well to protect carbides at all times when they are not in actual use. A wooden box with compartments for bit storage is recommended.

THE LOB SIDED INSERT

OVER DRILLING / IMPROPER GRINDING



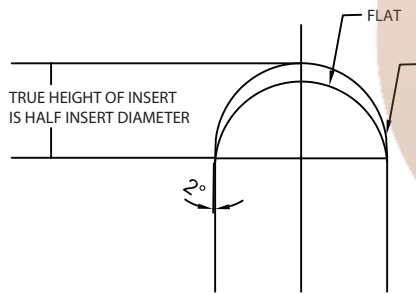
These are the most usual causes of button breakage or buttons coming loose in the steel bit body. Normally it is the gauge buttons that are most seriously affected. Gauge buttons that break will usually be found to have sheared within the body itself. This is indicative of "pinch" action resulting from insufficient or improper grinding.

The diagram clearly indicates why this occurs. As the apex of each gauge-carbide wears, the carbides are subjected to increased side thrust. Instead of hemisphere chipping a clear hole for the bit to follow, the sides of the bit and the sides of the carbide inserts forced into undersize bore. If this is not corrected by regrinding, the stresses finally become so severe that the inserts are either sheared or forced out of the bitbody.

Bad grinding has exactly the same effect. It is essential to maintain the hemispherical shape of the new carbide. Furthermore, the apex of the hemisphere must be true to the axis of the insert. If this is not observed while grinding the "lob-side inset" fault will develop in such a way that the apex of the gauge button insert hemispheres will start to shift towards the center point of the rock bit. The results are same as over drilling and broken or lost inserts will normally be results.

THE FLAT HEMISPHERE

OVER DRILLING / IMPROPER GRINDING



The second type of insert type due to over drilling or bad is illustrated in the diagram.

Here the true axis/apex relationship is retained but instead of a hemisphere the insert is allowed to develop a pronounced sub hemispherical contour.

Due to the flattened nature of the insert hemisphere, the tendency is for the inserts to crush rather than chip the rock. The height of the apex of the insert above the steel bit body should be half the diameter of the insert. Check this point after grinding with a vernier gauge or an insert template.

The results of following the flat hemisphere fault to develop will be put excessive shock loads on the equipment. Apart from a reduced penetration speed, this can result in insert shatter, failure of the steel bit body or hammer component failure. Proper grinding is the only answer.

CARBIDE INSERTS BREAKAGE

Finally, carbide inserts will break quite spectacularly if in contact with steel or other inserts in the bore. After a failure, all carbide and steel must be removed from the bore before drilling is continued.

Buttons bits have a large advantage over the conventional cross insert bit in that the failure of one button does not normally result in the breakage of other buttons and the bit may continue to be used satisfactorily even after inserts have failed. If a button breaks, grind away any projecting carbide, regrind the entire bit, and carry on.

The WDS button bit is a perfect model of skilled craftsmanship. The finest materials and the most meticulous care go into making. At every stage of manufacture, the button bit is checked and rechecked to ensure the final product a maximum of durability, efficiency and profitability. WDS button bits are the products of years of painstaking research and the unending quest for perfection.

DTH HAMMERS

SPEED

QUALITY

SERVICE

SFI DEEP

ROCK DRILLING TOOLS

JUST DRILL

ECONOMICAL

COMPLETE RANGE

WORLDWIDE DISTRIBUTION

UDC SERIES

- UDC35DH (3.5")
- UDC37DH (3.7")
- UDC45S / UDC45TD / UDC45DH (4.5")
- UDC47DI (4.7")
- UDC55QL (5.5")
- UDC65QL / UDC65DI / UDC65DH (6.5")

DESIGN HIGHLIGHTS

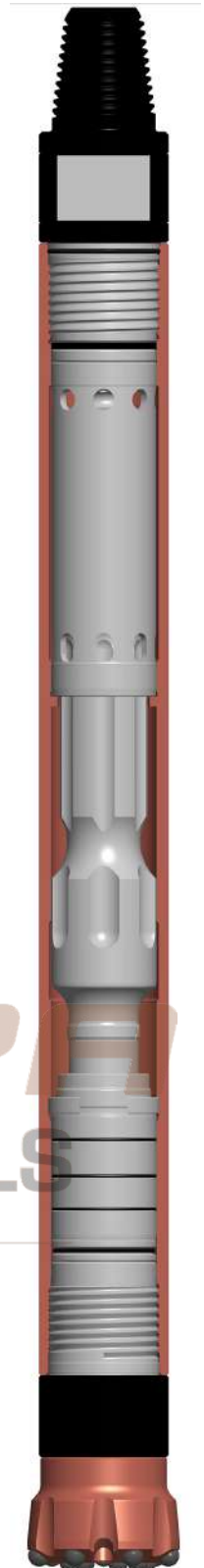
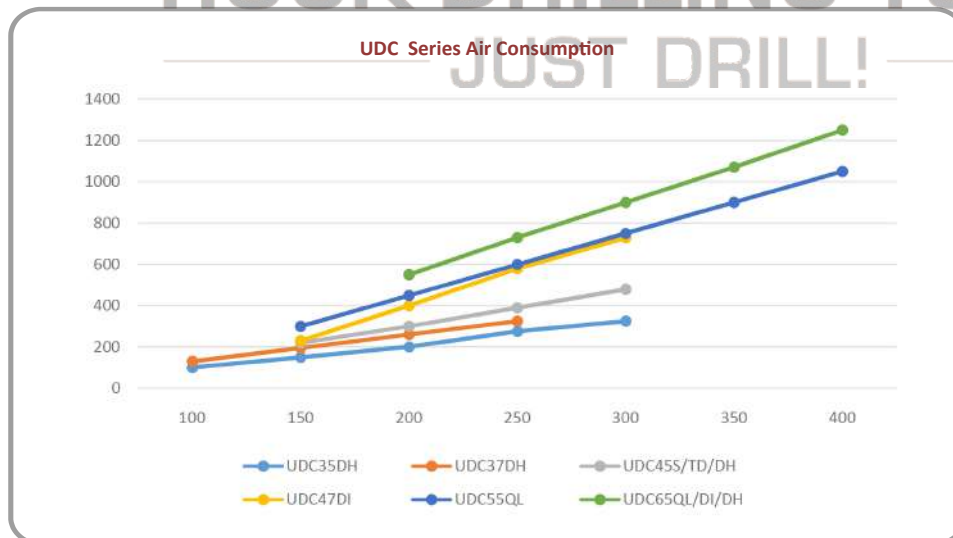
- UDC Series is a valve less type hammers designed for high performance at low operating air pressures.
- Suitable bits has a strong robust design without foot valve to withstand heavy duty application.
- UDC Series Hammers maximizes energy output and reduces service requirements.
- Wear Sleeve is not reversible.
- All critical internal components are heat treated under strict control to maximize tool longevity.

EXCLUSIVE FEATURES

- A built-in choke facility allows the driller to adjust the volume of air through the hammer to optimize cuttings evacuation.
- Unique internal mounting of liner eliminates the need for seating ring.
- Fewer internal components minimize service requirements.
- Multi-start threads on backhead and chuck ensure easy coupling / uncoupling of hammer.
- Excellent for all types of drilling applications typically for water well drilling and geothermal applications.

APPLICATIONS

- Water Well • Mining • Construction • Quarry

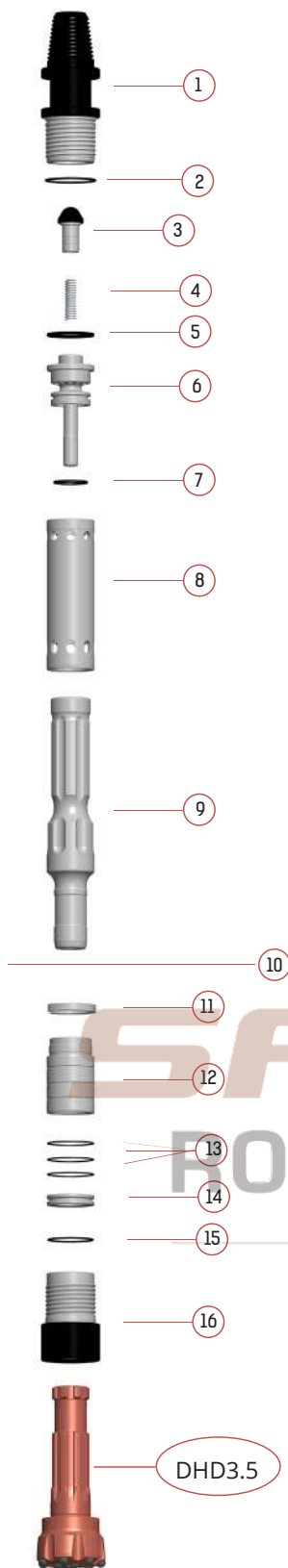


UDC SERIES

UDC35DH HAMMER

A DEDICATED TOOL FOR 3.5" DRILLING

SL.NO	PRODUCT NAME	QTY	PRODUCT NO
1	TOP SUB (2 3/8" API REG PIN)	1 NO	15-3U3500-23ARM
2	"O" RING FOR TOPSUB	1 NO	37-07603H
3	CHECK VALVE	1 NO	19-35259R
4	SPRING	1 NO	17-155512
5	BUFFER RING	2 NO	27-060304
6	AIR DISTRIBUTOR	1 NO	12-3U3500
7	"O"RING FOR AIR DISTRIBUTOR	1 NO	37-030903H
8	INNER CYLINDER	1 NO	42-3U3500
9	PISTON	1 NO	52-3U3500
10	WEAR SLEEVE	1 NO	45-3U3500
11	PISTON RETAINER RING	1 NO	89-060510
12	GUIDE BUSH	1 NO	65-3U3500
13	"O" RING FOR GUIDE BUSH	3 NO	37-06002H
14	BIT RETAINER RING	1 NO	99-04602H
15	"O" RING FOR BIT RETAINER RING	1 NO	37-04602H
16	DRIVER SUB	1 NO	75-3U3500
	SERVICE KIT (S.NO:2,4,5,7,13&15)	1 SET	3C3500UDK
	HAMMER ASSEMBLY	1 NO	34-3U3500DH-23ARMS



HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	817.0
2	HAMMER OUTSIDE DIA	mm	80.0
3	HAMMER DRILL HOLE	mm	90-108
4	HAMMER WEIGHT	kg	25.0
5	CYLINDER BORE	mm	65.0
6	PISTON STROKE	mm	80.0 (approx.)
7	PISTON WEIGHT	kg	4.9
8	HOLE SIZES	mm	90 - 108
9	WRENCH SIZE A/F	mm	A/F56.0 /W 40
10	SUITABLE SHANK	-----	DHD3.5 (W/O Foot Valve)

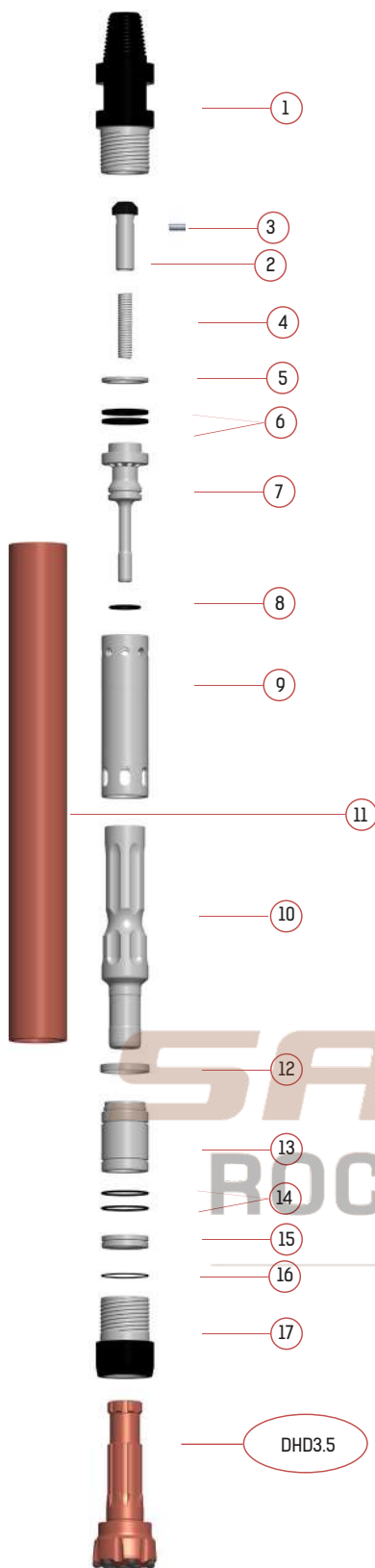
* THREE START THREAD ON TOP SUB & DRIVE SUB

UDC35DH Air Consumption

PSI	100	150	200	250	300
CFM	100	150	200	275	325

UDC SERIES

UDC37DH HAMMER



A DEDICATED TOOL FOR 3 3/4" DRILLING

SL.NO	PRODUCT NAME	QTY	PRODUCT NO
1	TOP SUB (2 3/8 API REG PIN)	1 NO	15-3C3700-23ARM
2	CHECK VALVE	1 NO	19-23101R/A
3	CHOKE (FULL, HALF, QUARTER)	1 NO	47-0125N(A)(C)(D)
4	SPRING	1 NO	17-220925
5	STEEL MAKE UP RING	1 NO	M9-060405/1
6	BUFFER RING	2 NO	27-060405/2
7	AIR DISTRIBUTOR	1 NO	12-3U3700
8	"O" RING FOR AIR DISTRIBUTOR	1 NO	37-03903H
9	INNER CYLINDER	1 NO	42-3U3700
10	PISTON	1 NO	52-3U3700
11	WEAR SLEEVE	1 NO	45-3U3700
12	PISTON RETAINER RING	1 NO	89-060430
13	GUIDE BUSH	1 NO	65-3U3700
14	"O" RING FOR GUIDE BUSH	1 NO	37-05403H
15	BIT RETAINER RING	1 NO	99-060416
16	"O" RING FOR BIT RETAINER RING	1 NO	37-04602H
17	DRIVE SUB	1 NO	75-3U3701
	SERVICE KIT (S.NO:3,4,8,14&16)	1 SET	3C3500MDK
	HAMMER ASSEMBLY	1 NO	34-3C3500DH-23ARMS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	886.50
2	HAMMER OUTSIDE DIA	mm	85.0
3	HAMMER WEIGHT	kg	28.0
4	CYLINDER BORE	mm	68.70
5	PISTON STROKE	mm	80.0 (approx.)
6	PISTON WEIGHT	kg	5.4
7	HOLE SIZES	mm	95 - 115
8	WRENCH SIZE A/F	mm	A/F 63.0 /W 41.5
9	SUITABLE SHANK	-----	DHD3.5 (W/O Foot Valve)

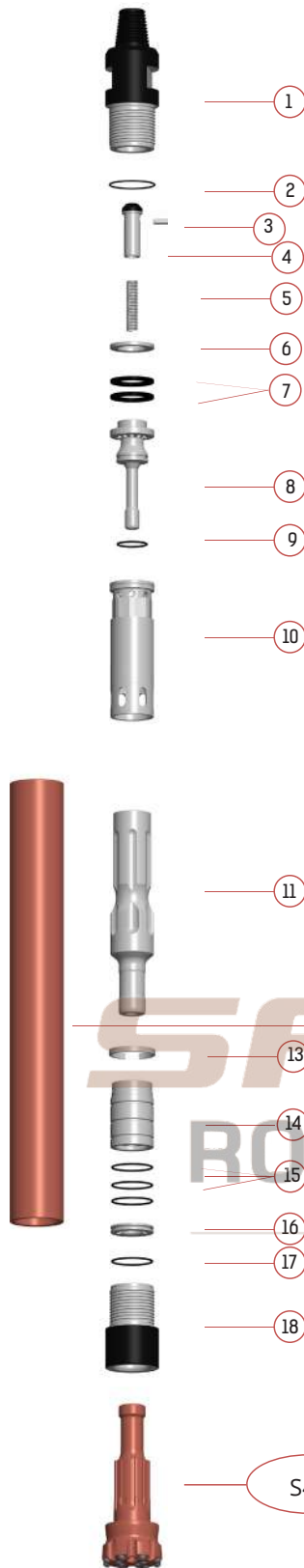
* THREE START THREAD ON TOP SUB & DRIVE SUB

UDC37DH Air Consumption

PSI	100	150	200	250
CFM	130	195	260	325

UDC SERIES

UDC45S/ TD / DH HAMMER



A DEDICATED TOOL FOR 4.5" DRILLING

SL.NO	PRODUCT NAME	QTY	PROUDUCT NO
1	TOP SUB (2 3/8 API REG PIN)	1 NO	15-4J4501-23ARM
2	"O" RING FOR TOP SUB	1 NO	37-07053H
3	CHOKE (FULL/HALF/QUARTER)	1 NO	47-0125N(A)(C)(D)
4	CHECK VALVE	1 NO	19-23101R
5	SPRING	1 NO	17-220925
6	STEEL MAKEUP RING	1 NO	M9-080507/1
7	BUFFER RING	2 NO	27-080506/1
8	AIR DISTRIBUTOR	1 NO	12-4J4501
9	"O" RING FOR AIR DISTRIBUTOR	1 NO	37-05103H
10	INNER CYLINDER	1 NO	42-4J4501
11	PISTON [UDC45S]	1 NO	52-4J4501
	PISTON [UDC45TD / DH]	1 NO	52-4J4502
12	WEAR SLEEVE	1 NO	45-4U4500
13	PISTON RETAINER RING	1 NO	89-080425/1
14	GUDIE BUSH [UDC45S]	1 NO	65-4U4500
	GUDIE BUSH [UDC45TD]	1 NO	65-4J4502
	GUDIE BUSH [UDC45DH]	1 NO	65-4J4503
15	"O" RING FOR GUDIE BUSH	3 NO	37-06803H
16	BIT RETAINER RING [UDC45S]	1 NO	99-080412
	BIT RETAINER RING [UDC45TD]	1 NO	99-080518
	BIT RETAINER RING [UDC45DH]	1 NO	99-080513
17	"O" RING FOR B.R RING	1 NO	37-06803H
18	DRIVE SUB [UDC45S]	1 NO	75-4J4501
	DRIVE SUB [UDC45TD]	1 NO	75-4J4502
	DRIVE SUB [UDC45DH]	1 NO	75-4J4503
	SERVICE KIT (S.NO: 2,3,5,9,12,17,19)	1 SET	4J4501S4K
	HAMMER ASSEMBLY [UDC45S]	1 NO	34-4U4500S4-23ARMS
	HAMMER ASSEMBLY [UDC45TD]	1 NO	34-4U4500TD-23ARMS
	HAMMER ASSEMBLY [UDC45DH]	1 NO	34-4U4500DH-23ARMS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH (45S/TD/DH)	mm	1025/1005/1005 (W/O BIT)
2	HAMMER OUTSIDE DIA	mm	100.2
3	HAMMER WEIGHT	kg	55.4
4	CYLINDER BORE	mm	80.7
5	PISTON STROKE	mm	80.0 (approx.)
6	PISTON WEIGHT	kg	8.6
7	HOLE SIZES	mm	115 - 127
8	WRENCH SIZE A/F	mm	A/F 65.0 / W-40.0
9	SUITABLE SHANK [UDC45S]	----	S4 BIT (W/O Foot Valve)
	SUITABLE SHANK [UDC45TD]	----	TD40 BIT (W/O Foot Valve)
	SUITABLE SHANK [UDC45DH]	----	DHD340 BIT (W/O Foot Valve)

* TWO START THREAD ON TOP SUB & DRIVE SUB

S4

TD40

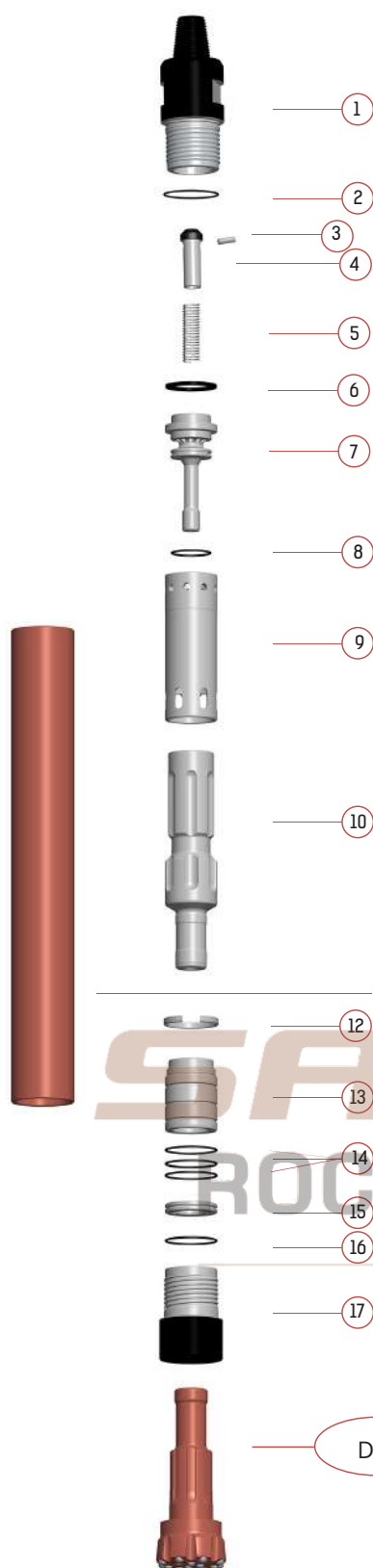
DHD340

UDC45S/TD/DH Air Consumption

PSI	150	200	250	300
CFM	220	300	390	480

UDC SERIES

UDC47DI HAMMER



A DEDICATED TOOL FOR 4 3/4" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (2 3/8 API REG PIN)	1 NO	15-4U4700-23ARM
2	"O" RING FOR TOPSUB	1 NO	37-07503H
3	CHOKE (FULL, HALF, QUARTER)	1 NO	47-012N(A)(C)(D)
4	CHECK VALVE	1 NO	19-23101R
5	SPRING	1 NO	17-220925
6	BUFFER RING	1 NO	27-080606
7	AIR DISTRIBUTOR	1 NO	12-4U4700
8	"O" RING FOR AIR DISTRIBUTOR	1 NO	37-05103H
9	INNER CYLINDER	1 NO	42-4U4700
10	PISTON	1 NO	52-4U4700
11	WEAR SLEEVE	1 NO	45-4U4700
12	PISTON RETAINER RING	1 NO	89-090811
13	GUIDE BUSH	1 NO	65-4U4700
14	"O" RING FOR GUIDE BUSH	3 NO	37-07603H
15	BIT RETAINER RING	1 NO	99-080515
16	"O" RING FOR BIT RETAINER RING	1 NO	37-06203H
17	DRIVE SUB	1 NO	75-4U4700
	SEAL KIT (PRT NO 2,3,4,6,8,14,16)	1 SET	4U4700D4K
	HAMMER ASSEMBLY	1 NO	34-4U4700DI-23ARMS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	999.0
2	HAMMER OUTSIDE DIA	mm	108.0
3	HAMMER WEIGHT	kg	45.0
4	CYLINDER BORE	mm	89.0
5	PISTON STROKE	mm	85.0 (approx.)
6	PISTON WEIGHT	kg	10.0
7	HOLE SIZES	mm	120-140
8	WRENCH SIZE A/F	mm	A/F 85.7 /W-40.0
9	SUITABLE SHANK	-----	D4 (Without Foot Valve)

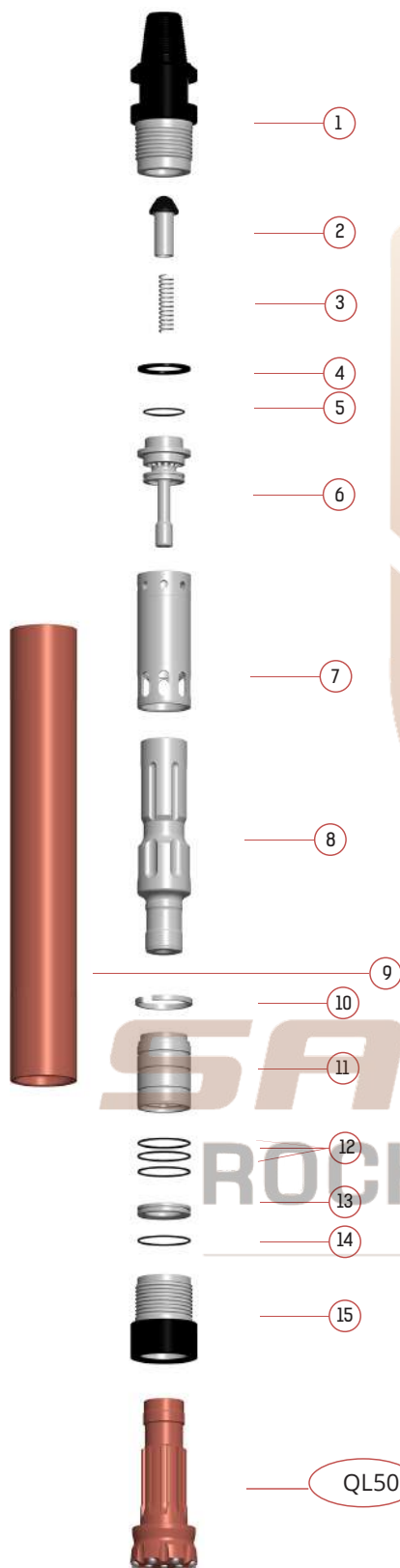
* SINGLE START THREAD ON TOP SUB & DRIVE SUB

UDC47DI Air Consumption

PSI	150	200	250	300
CFM	230	400	580	730

UDC SERIES

UDC55QL HAMMER



A DEDICATED TOOL FOR 5.5" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (3 1/2"API REG PIN)	1 NO	15-5U5500-31ARM
2	CHECK VALVE	1 NO	19-35113R
3	SPRING	1 NO	17-231216
4	BUFFER RING	1 NO	27-987105
5	"O" RING FOR AIR DISTRIBUTOR	1 NO	37-06803H
6	AIR DISTRIBUTOR	1 NO	12-5U5500
7	INNER CYLINDER	1 NO	42-5U5500
8	PISTON	1 NO	52-5U5500
9	WEAR SLEEVE	1 NO	45-5U5500
10	PISTON RET RING	1 NO	89-100910
11	GUIDE BUSH	1 NO	65-5U5500
12	"O" RING FOR GUIDIE BUSH	3 NO	37-09003H
13	BIT RETAINER RING	1 NO	99-100716
14	"O" RING FOR BIT RETAINER RING	1 NO	37-08402H
15	DRIVE SUB	1 NO	75-5U5500
	SERVICE KIT (S.NO:3,4,5,12,14)	1 SET	5U5500QLK
	HAMMER ASSEMBLY	1 NO	34-5U5500QL-31ARMS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	1028.6
2	HAMMER OUTSIDE DIA	mm	124.0
3	HAMMER WEIGHT	kg	70.0(approx.)
4	CYLINDER BORE	mm	99.75
5	PISTON STROKE	mm	85.0 (approx.)
6	PISTON WEIGHT	kg	14.0
7	HOLE SIZES	mm	140-165
8	WRENCH SIZE A/F	mm	A/F 89.0 / W-50.0
9	SUITABLE SHANK	-----	QL50 (Without Foot Valve)

* TWO START THREAD ON TOP SUB & DRIVE SUB

UDC55QL Air Consumption

PSI	150	200	300	350	400
CFM	300	450	750	900	1050

UDC SERIES

UDC65 QL / DI / DH HAMMER

A DEDICATED TOOL FOR 6.5" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (3 ½ API REG PIN)	1 NO	15-6U6500-31ARM
2	"O" RING FOR TOP SUB	1 NO	37-11803H
3	CHECK VALVE	1 NO	19-35113R
4	SPRING	1 NO	17-231216
5	BUFFER RING	1 NO	27-120805
6	AIR DISTRIBUTOR	1 NO	12-6U6000
7	"O" RING FOR AIR DISTRIBUTOR	1 NO	37-090403H
8	INNER CYLINDER	1 NO	42-6U6000
9	WEAR SLEEVE	1 NO	45-6U6501
10	PISTON [UDC65 QL / DH]	1 NO	52-6U6001
	PISTON [UDC65DI]	1 NO	52-6U6000
11	PISTON RETAINER RING	1 NO	89-110535
12	GUIDE BUSH [UDC65QL]	1 NO	65-6U6001
	GUIDE BUSH [UDC65DI]	1 NO	65-6U6000
	GUIDE BUSH [UDC65DH]	1 NO	65-6U6002
13	"O" RING FOR GUIDIE BUSH	2 NO	37-10604H
14	BIT RETAINER RING [UDC65QL]	1 NO	99-120819
	BIT RETAINER RING [UDC65DI]	1 NO	99-120619
	BIT RETAINER RING [UDC65DH]	1 NO	99-120825
15	"O" RING FOR BIT RETAINER RING	1 NO	37-08603H
16	COPPER SHIM	1 NO	77-12141C/A
17	DRIVE SUB [UDC65QL]	1 NO	75-6U6501
	DRIVE SUB [UDC65DI]	1 NO	75-6U6500
	DRIVE SUB [UDC65DH]	1 NO	75-6U6502
	SERVICE KIT (PRT NO 2,4,5,7,13,15&16)	1 SET	6U6000QLK
	HAMMER ASSEMBLY [UDC65QL]	1 NO	34-6U6500QL-31ARMS
	HAMMER ASSEMBLY [UDC65DI]	1 NO	34-6U6500DI-31ARMS
	HAMMER ASSEMBLY [UDC65DH]	1 NO	34-6U6500DH-31ARMS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH (65QL/DI/DH) W/O BIT	mm	1051.0 / 1028.30 / 1105.0
2	HAMMER OUTSIDE DIA	mm	148.0
3	HAMMER WEIGHT	kg	95.0(approx.)
4	CYLINDER BORE	mm	122.0
5	PISTON STROKE	mm	90.0 (approx.)
6	PISTON WEIGHT	kg	22.90
7	HOLE SIZES	mm	156-178
8	WRENCH SIZE A/F	mm	A/F 101.0 /W-50.0
9	SUITABLE SHANK (UDC65QL)	----	QL60 (Without Foot Valve)
	SUITABLE SHANK (UDC65DI)	----	D6 (Without Foot Valve)
	SUITABLE SHANK (UDC65DH)	----	DHD360 (W/O Foot Valve)

* THREE START THREAD ON TOP SUB & DRIVE SUB



QL60



D6



DHD360

UDC65QL/DI/DH
Air Consumption

PSI	200	250	300	350	400
CFM	550	730	900	1070	1250

JDC SERIES

- JDC45TD (4.5")
- JDC55QL / JDC55DH (5.0")
- JDC80QL (8.0")
- JDC10SD (10.0")

DESIGN HIGHLIGHTS

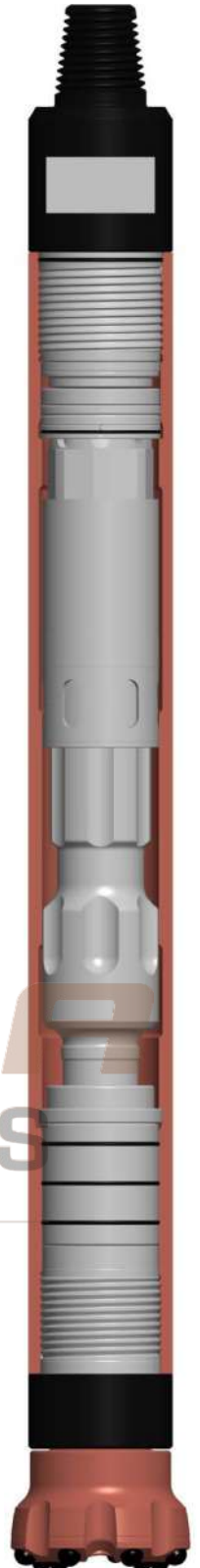
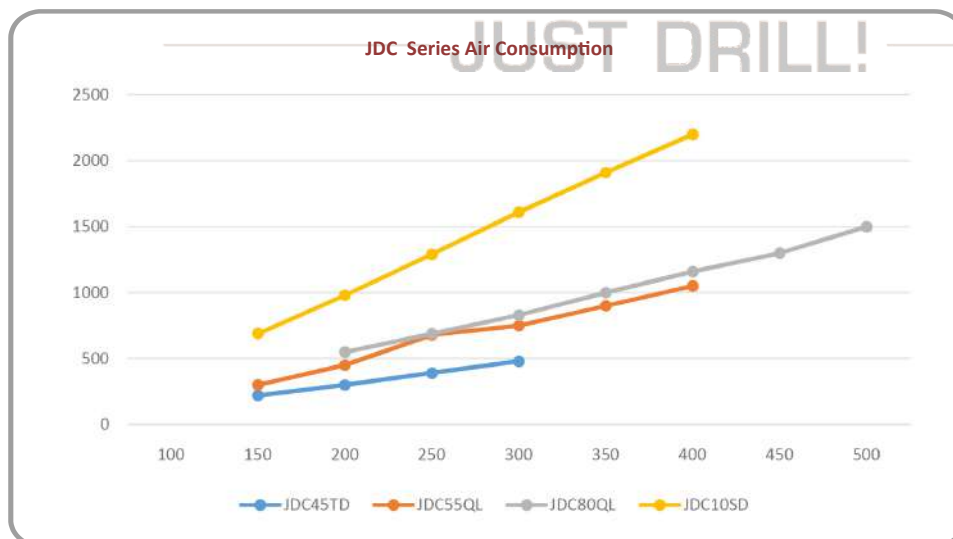
- JDC Series is a valve less type hammers designed for high performance at low operating air pressures.
- Suitable bits has a strong robust design without foot valve to withstand heavy duty application.
- JDC Series Hammers maximizes energy output and reduces service requirements.
- Wear Sleeve is not reversible.
- All critical internal components are heat treated under strict control to maximize tool longevity.

EXCLUSIVE FEATURES

- Hammer is designed with the adjustable Choke which allows you to adjust the volume of air that is used to power the Piston.
- With help of steel make up ring and lock ring it will able to sustain the compressive load generated from drill string.
- Piston breakage is minimum as it guided with inner cylinder where there will be even amount of air flow.
- Air distributor distributes air to cylinder ports and controls air flow.

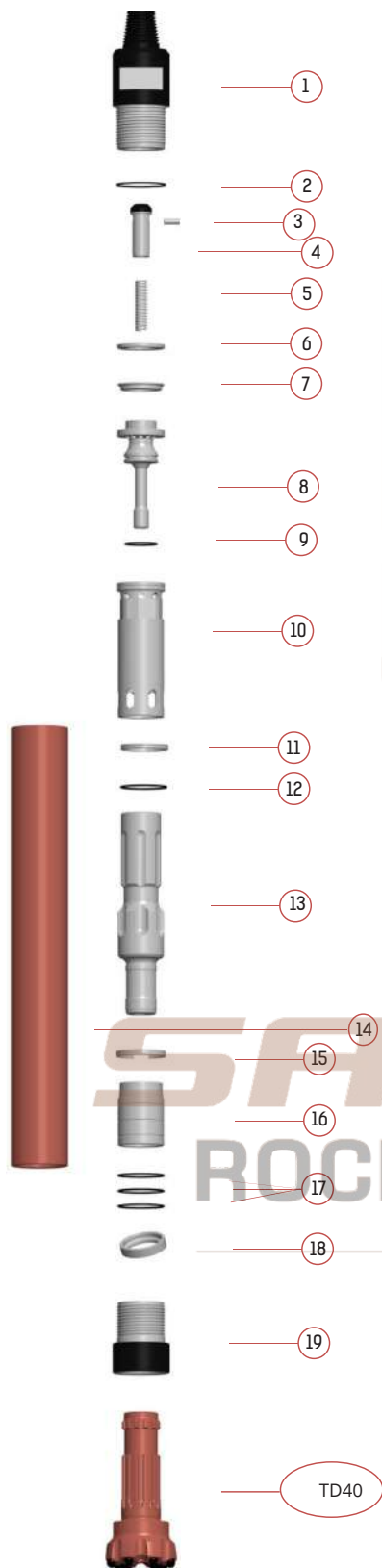
APPLICATIONS

- Water Well • Mining • Construction • Quarry



JDC SERIES

JDC45TD HAMMER



A DEDICATED TOOL FOR 4.5" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (2 3/8 API REG PIN)	1 NO	15-4J4501-23ARM
	TOP SUB (5D K THREAD)	1 NO	15-4J4501-5DKM
	TOP SUB (7D K THREAD)	1 NO	15-4J4501-7DKM
2	"O" RING FOR TOP SUB	1 NO	37-07053H
3	CHOKE (FULL/HALF/QUARTER)	1 NO	47-0125N(A)(C)(D)
4	CHECK VALVE	1 NO	19-23101R
5	SPRING	1 NO	17-220925
6	STEEL MAKEUP RING	1 NO	M9-080507/1
7	LOCK RING	1 NO	29-080512
8	AIR DISTRIBUTOR	1 NO	12-4J4501
9	"O" RING FOR AIR DISTRIBUTOR	1 NO	37-05103H
10	INNER CYLINDER	1 NO	42-4J4501
11	SEATING RING	1 NO	79-080710
12	"O" RING FOR SEATING RING	1 NO	37-04061H
13	PISTON	1 NO	52-4J4502
14	WEAR SLEEVE	1 NO	45-4J4501
15	PISTON RETAINER RING	1 NO	89-080425/1
16	GUIDE BUSH	1 NO	65-4J4502
17	"O" RING FOR GUIDE BUSH	3 NO	37-06002H
18	BIT RETAINER RING	1 NO	99-080518
19	DRIVE SUB	1 NO	75-4J4502
	SERVICE KIT (S.NO:2,3,5,9,12,17)	1 SET	4J4500TDK
	HAMMER ASSEMBLY	1 NO	34-4J4500TD-23ARMS
	HAMMER ASSEMBLY	1 NO	34-4J4500TD-5DKMS
	HAMMER ASSEMBLY	1 NO	34-4J4500TD-7DKMS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	1006.0
2	HAMMER OUTSIDE DIA	mm	100.2
3	HAMMER WEIGHT	kg	54.1
4	CYLINDER BORE	mm	80.7
5	PISTON STROKE	mm	85.0 (approx.)
6	PISTON WEIGHT	kg	8.9
7	HOLE SIZES	mm	115 - 127
8	WRENCH SIZE A/F	mm	A/F 65.0 / W-40.0
9	SUITABLE SHANK	-----	TD40 (With out Foot valve)

* TWO START THREAD ON TOP SUB & DRIVE SUB

JDC45TD
Air Consumption

PSI	150	200	250	300
CFM	220	300	390	480

JDC SERIES

JDC55QL / DH HAMMER

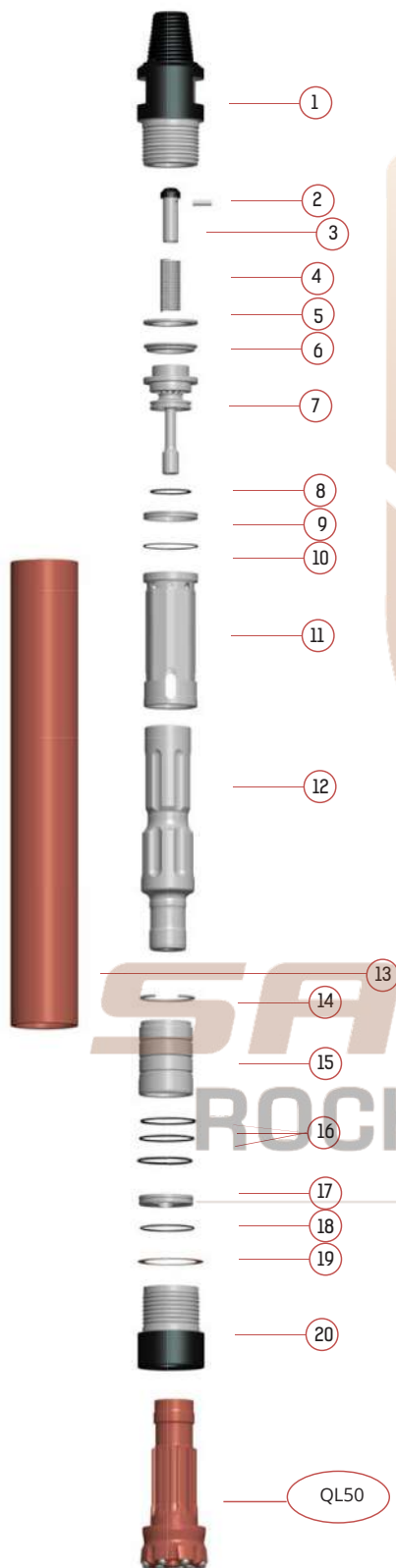
A DEDICATED TOOL FOR 5.5" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (3 1/2"API REG PIN)	1 NO	15-5C5500-31ARM
2	CHOKE (FULL/HALF/QUARTER)	1 NO	47-0127N/(A)(C)(D)
3	CHECK VALVE	1 NO	19-23101R
4	SPRING	1 NO	17-220925
5	STEEL MAKEUP RING	1 NO	M9-100705
6	LOCK RING	1 NO	29-100712
7	AIR DISTRIBUTOR	1 NO	12-5C5500
8	"O" RING FOR AIR DISTRIBUTOR	1 NO	37-06803H
9	SEATING RING	1 NO	79-100910
10	"O" RING FOR SEATING RING	1 NO	37-06002H
11	INNER CYLINDER [JDC55QL]	1 NO	42-5J5501
	INNER CYLINDER [JDC55DH]	1 NO	42-5J5500
12	PISTON [JDC55QL]	1 NO	52-5J5501
	PISTON [JDC55DH]	1 NO	52-5J5500
13	WEAR SLEEVE [JDC55QL]	1 NO	45-5J5501
	WEAR SLEEVE [JDC55DH]	1 NO	45-5J5500
14	PISTON RETAINER RING	1 NO	89-100429
15	GUIDE BUSH [JDC55QL]	1 NO	65-5J5501
	GUIDE BUSH [JDC55DH]	1 NO	65-5J5500
16	"O" RING FOR GUIDE BUSH	3 NO	37-09003H
17	BIT RETAINER RING [JDC55QL]	1 NO	99-100716
	BIT RETAINER RING [JDC55DH]	1 NO	99-090718
18	"O" RING FOR BIT RETAINER RING	1 NO	37-08402H
19	COPPER SHIM	1 NO	77-12101C
20	DRIVE SUB [JDC55QL]	1 NO	75-5C5500
	DRIVE SUB [JDC55DH]	1 NO	75-5J5500
	SERVICE KIT (S.NO:2,4,8,10,16,18)	1 SET	5C5500QLK
	HAMMER ASSEMBLY [JDC55QL]	1 NO	34-5J5501QL-31ARMR
	HAMMER ASSEMBLY [JDC55DH]	1 NO	34-5J5500DH-31ARMS
	HAMMER ASSEMBLY [JDC55DH]	1 NO	34-5J5500DH-31IFMS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH [55QL/55DH]	mm	1056.0 / 1050.0 (W/O BIT)
2	HAMMER OUTSIDE DIA	mm	124.0
3	HAMMER WEIGHT	kg	70.0
4	CYLINDER BORE	mm	99.75
5	PISTON STROKE	mm	80.0 (approx.)
6	PISTON WEIGHT	kg	15.0
7	HOLE SIZES	mm	140-165
8	WRENCH SIZE A/F	mm	A/F 90.0 / W-50.0
9	SUITABLE SHANK [JDC55QL]	-----	QL50 (Without Foot Valve)
	SUITABLE SHANK [JDC55DH]	-----	DHD350 (W/O Foot Valve)

* TWO START THREAD ON TOP SUB & DRIVE SUB

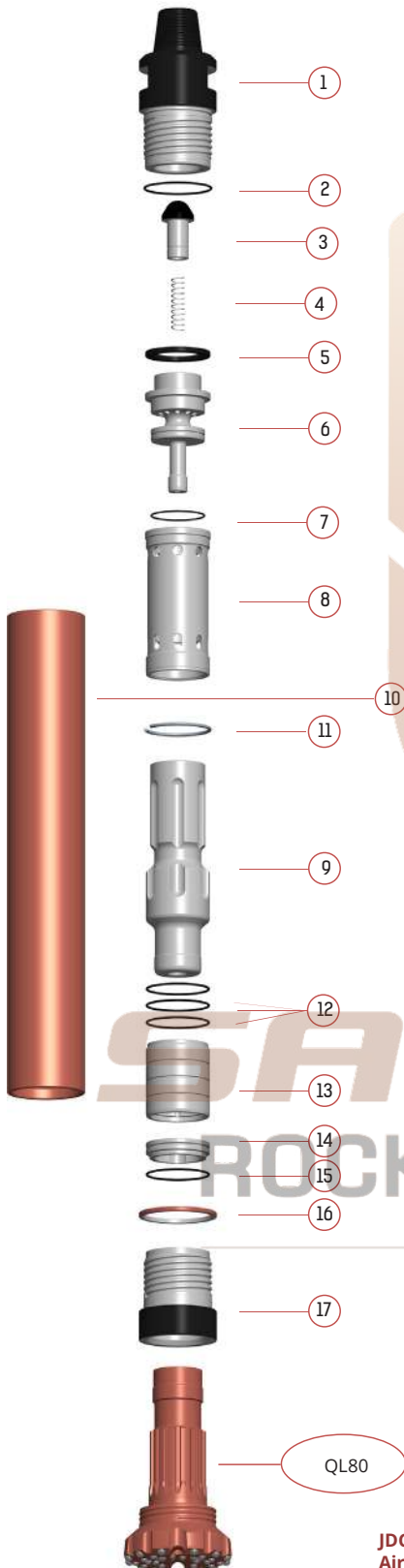


JDC55QL/DH
Air Consumption

PSI	150	200	300	350	400
CFM	300	450	750	900	1050

JDC SERIES

JDC80QL HAMMER



A DEDICATED TOOL FOR 8" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (4 ½ API REG PIN)	1 NO	15-8J8000-41ARM
2	"O" RING FOR TOP SUB	1 NO	37-14005H
3	CHECK VALVE	1 NO	19-37138R
4	SPRING	1 NO	17-331220
5	BUFFER RING	1 NO	27-151111
6	AIR DISTRIBUTOR	1 NO	37-10604H
7	"O" RING FOR AIR DISTRIBUTOR	1 NO	12-8J8000
8	INNER CYLINDER	1 NO	42-8J8000
9	PISTON	1 NO	52-8J8000
10	WEAR SLEEVE	1 NO	45-8J8000
11	PISTON RETAINER RING	1 NO	89-150645
12	"O"RING FOR GUIDE BUSH	3 NO	65-8J8000
13	GUIDE BUSH	1 NO	37-13204H
14	BIT RETAINER RING	1 NO	99-141037
15	"O" RING FOR BIT RETAINER RING	1 NO	37-13204H
16	DRIVE SUB SPACER	1 NO	29-181510/B
17	DRIVE SUB	1 NO	75-8J8000
	SERVICE KI T (S.NO: 2,4,5,7,12 &15)	1 SET	8J8000QLK
	HAMMER ASSEMBLY	1 NO	34-8J8000QL-41ARMS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	1353.60
2	HAMMER OUTSIDE DIA	mm	182.0
3	HAMMER WEIGHT	kg	196.0
4	CYLINDER BORE	mm	149.0
5	PISTON STROKE	mm	80.0 (approx.)
6	PISTON WEIGHT	kg	41.60
7	HOLE SIZES	mm	200 - 305
8	WRENCH SIZE A/F	mm	A/F 140 / W-50
9	SUITABLE SHANK	----	QL80(Without Foot Valve)

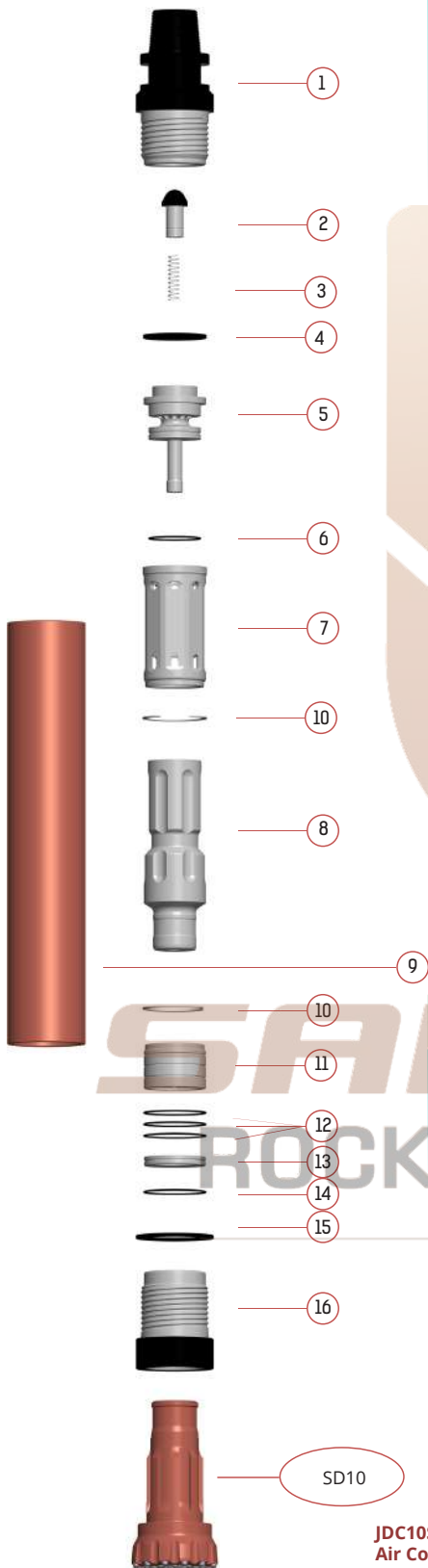
* TWO START THREAD ON TOP SUB & DRIVE SUB

JDC80QL
Air Consumption

PSI	200	250	300	350	400	450	500
CFM	550	690	830	1000	1160	1300	1500

JDC SERIES

JDC10SD HAMMER



A DEDICATED TOOL FOR 10" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (6 5/8 API REG PIN)	1 NO	15-1JX100-65ARM
2	CHECK VALVE	1 NO	19-37138R
3	SPRING	1 NO	17-331220
4	BUFFER RING	1 NO	27-181310
5	AIR DISTRIBUTOR	1 NO	12-1JX100
6	"O" RING FOR AIR DISTRIBUTOR	1 NO	37-13504H
7	INNER CYLINDER	1 NO	42-1JX100
8	PISTON	1 NO	52-1JX100
9	WEAR SLEEVE	1 NO	45-1JX100
10	PISTON RETAINER RING	2 NO	89-191745
11	GUIDE BUSH	1 NO	65-1JX100
12	"O" RING FOR GUIDE BUSH	3 NO	37-16504H
13	BIT RETAINER RING	1 NO	99-171325
14	"O" RING FOR BIT RETAINER RING	1 NO	37-16004H
15	DRIVE SUB SPACER	1 NO	29-221910
16	DRIVE SUB	1 NO	75-1JX100
	SERVICE KIT (S.NO: 3,4,6,12&14)	1 SET	1JX100SDK
	HAMMER ASSEMBLY	1 NO	34-1JX100SD-65ARMS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	1490.0
2	HAMMER OUTSIDE DIA	mm	225.0
3	HAMMER WEIGHT	kg	355.0(approx)
4	CYLINDER BORE	mm	179.0
5	PISTON STROKE	mm	80.0 (approx.)
6	PISTON WEIGHT	kg	68.0
7	HOLE SIZES	mm	254 - 305
8	WRENCH SIZE A/F	mm	A/F 152 / W- 60.0
9	SUITABLE SHANK	----	SD10 (With out Foot Valve)

* TWO START THREAD ON TOP SUB & DRIVE SUB

JDC10SD
Air Consumption

PSI	150	200	250	300	350	400
CFM	690	980	1290	1610	1910	2200

JDM SERIES

- JDM35MD / JDM35DH (3.5")
- JDM45DH (4.5")
- JDM55QL (5.0")
- JDM60QL (6.0")
- JDM80QL (8.0")
- JDM10SD (10.0")

DESIGN HIGHLIGHTS

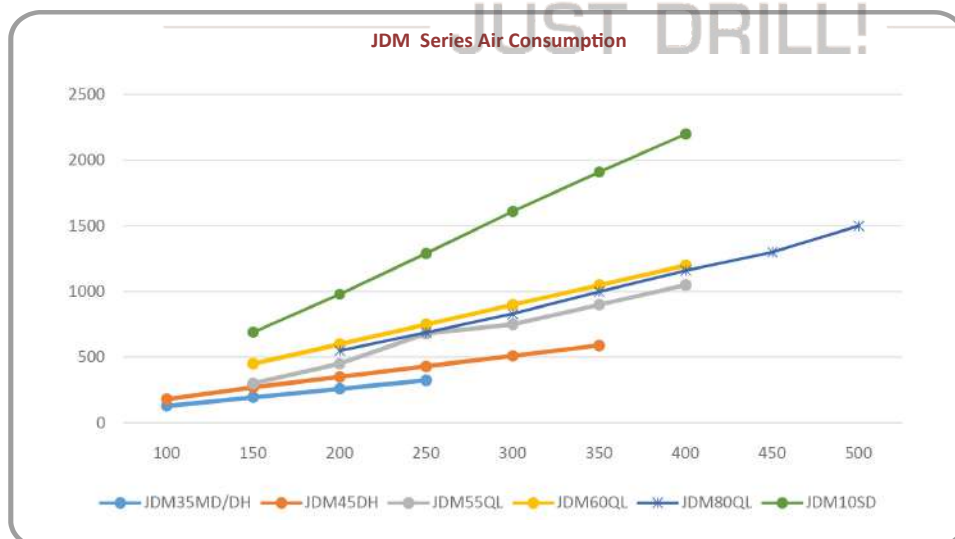
- JDM Series is a valve less type hammers designed for high performance at low operating air pressures.
- Suitable bits has a strong robust design without foot valve to withstand heavy duty application.
- JDM Series Hammers maximizes energy output and reduces service requirements.
- Wear Sleeve is not reversible.
- All critical internal components are heat treated under strict control to maximize tool longevity.

EXCLUSIVE FEATURES

- A built-in choke facility allows the driller to adjust the volume of air through the hammer to optimize cuttings evacuation.
- Robust piston design for optimum strength and performance
- Fitted with a reversible cylinder to maximize operating life.
- Multi-start threads on backhead and chuck ensure easy coupling / uncoupling of hammer.
- Excellent for all types of drilling applications including residential geothermal, production quarry drilling, seismic drilling and small construction drilling.

APPLICATIONS

- Water Well • Mining • Construction • Quarry



JDM35MD / DH HAMMER

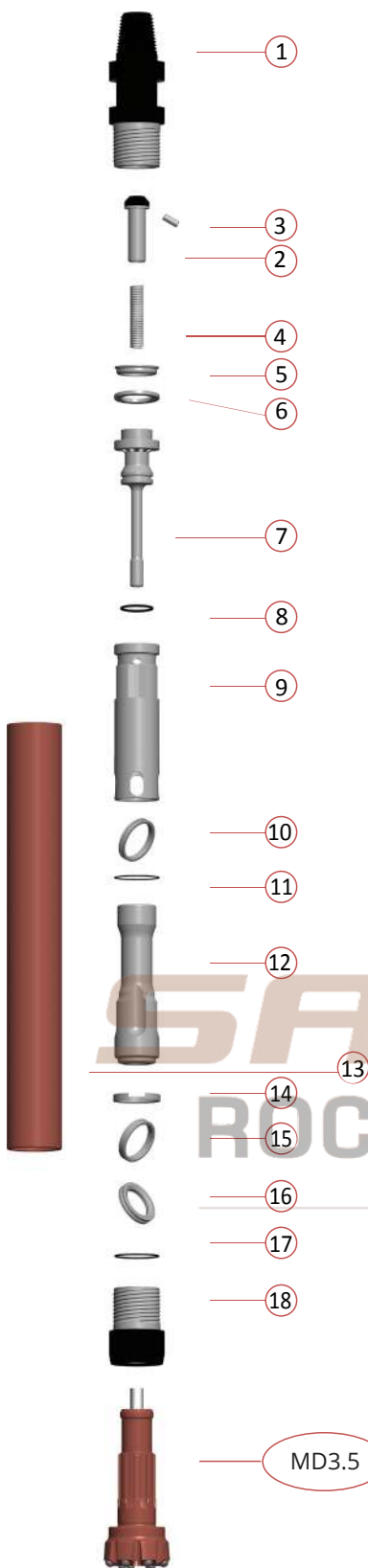
A DEDICATED TOOL FOR 3.5" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (2 3/8 API REG PIN)	1 NO	15-3C3500-23ARM
	TOP SUB (RD50 FEMALE 6TPI)	1 NO	15-3C3500-RD50F
	TOP SUB (RD50 MALE 6TPI 5D)	1 NO	15-3C3500-RD50M
2	CHECK VALVE	1 NO	19-23101R/A
3	CHOKE (FULL, HALF, QUARTER)	1 NO	47-0125N(A)(C)(D)
4	SPRING	1 NO	17-220925
5	LOCK RING	1 NO	29-060412
6	STEEL MAKEUP RING	1 NO	M9-060405
7	AIR DISTRIBUTOR	1 NO	12-3C3500
8	"O" RING FOR AIR DISTRIBUTOR	1 NO	37-03903H
9	INNER CYLINDER	1 NO	42-3C3500
10	SEATING RING	1 NO	79-060510
11	"O" RING FOR SEATING RING	1 NO	37-05901H
12	PISTON	1 NO	55-3C3500
13	WEAR SLEEVE	1 NO	45-3C3500
14	PISTON RETAINER RING	1 NO	89-060430
15	GUIDE BUSH SPACER	1 NO	29-060511
16	BIT RETAINER RING [JDM35MD]	1 NO	99-060411
	BIT RETAINER RING [JDM35DH]	1 NO	99-060411/A
17	"O" RING FOR BIT RETAINER RING	1 NO	37-04602H
18	DRIVE SUB [JDM35MD]	1 NO	75-3C3500
	DRIVE SUB [JDM35DH]	1 NO	75-3C3501
	SERVICE KIT (S.NO:3,4,8,11&17)	1 SET	3C3500MDK
	HAMMER ASSEMBLY [JDM35MD]	1 NO	34-3C3500MD-23ARMS
	HAMMER ASSEMBLY [JDM35MD]	1 NO	34-3C3500MD-RD50FS
	HAMMER ASSEMBLY [JDM35MD]	1 NO	34-3C3500MD-RD50MS
	HAMMER ASSEMBLY [JDM35DH]	1 NO	34-3C3500DH-23ARMS
	HAMMER ASSEMBLY [JDM35DH]	1 NO	34-3C3500DH-RD50FS
	HAMMER ASSEMBLY [JDM35DH]	1 NO	34-3C3500DH-RD50MS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH [35MD/DH]	mm	804.8 / 804.0 (W/O BIT)
2	HAMMER OUTSIDE DIA	mm	85.0
3	HAMMER WEIGHT	kg	21.6
4	CYLINDER BORE	mm	68.70
5	PISTON STROKE	mm	80.0 (approx.)
6	PISTON WEIGHT	kg	3.9
7	HOLE SIZES	mm	95 - 115
8	WRENCH SIZE A/F	mm	A/F 63.0 /W 41.5
9	SUITABLE SHANK [JDM35MD]	-----	MD3.5 (With Foot Valve)
	SUITABLE SHANK [JDM35DH]	-----	DHD3.5 (With Foot Valve)

* THREE START THREAD ON TOP SUB & DRIVE SUB

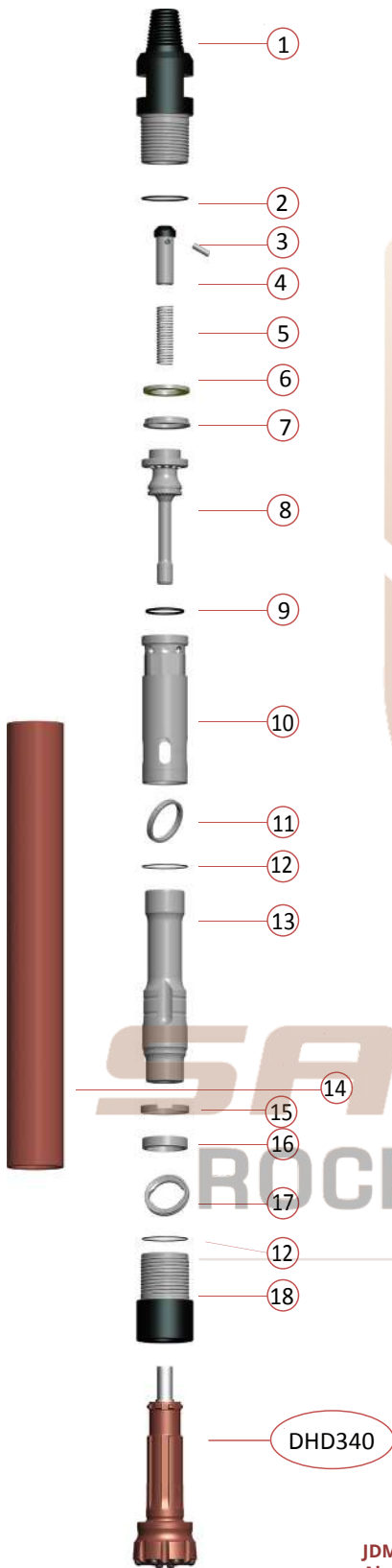


JDM35MD/DH
Air Consumption

PSI	100	150	200	250
CFM	130	195	260	325

JDM SERIES

JDM45DH HAMMER



A DEDICATED TOOL FOR 4.5" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (2 3/8 API REG PIN)	1 NO	15-4C4500-23ARM
2	"O" RING FOR TOP SUB	1 NO	37-07503H
3	CHOKE (FULL, HALF, QUARTER)	1 NO	47-0127N(A)(C)(D)
4	CHECK VALVE	1 NO	19-23101R
5	SPRING	1 NO	17-220925
6	STEEL MAKEUP RING	1 NO	M9-080507
7	LOCK RING	1 NO	29-070512
8	AIR DISTRIBUTOR	1 NO	12-4C4500
9	"O" RING FOR AIR DISTRIBUTOR	1 NO	37-05103H
10	INNER CYLINDER	1 NO	42-4C4500
11	SEATING RING	1 NO	79-070610
12	"O" RING FOR SEATING RING	2 NO	37-04601H
13	PISTON	1 NO	55-4C4500
14	WEAR SLEEVE	1 NO	45-4C4500
15	PISTON RETAINER RING	1 NO	89-070425
16	GUIDE BUSH	1 NO	65-4C4500
17	BIT RETAINER RING	1 NO	99-070509
18	DRIVE SUB	1 NO	75-4C4500
	SEAL KIT (S.NO:2,3,5,9&12)	1 SET	4C4500DHK
	HAMMER ASSEMBLY	1 NO	34-4C4500DH-23ARMS

HAMMER SPECIFICATION

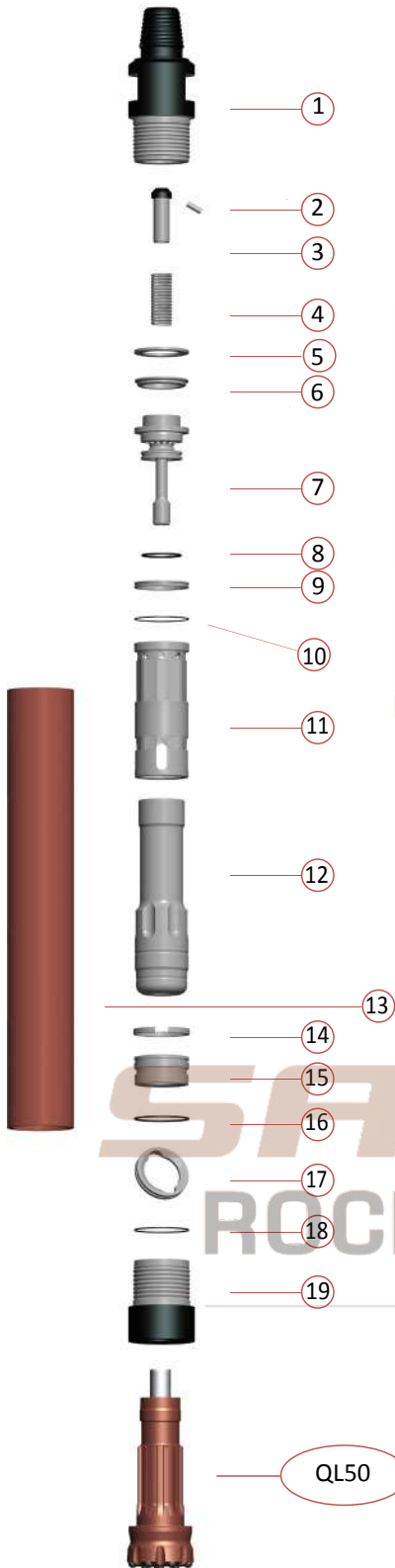
SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	955.7
2	HAMMER OUTSIDE DIA	mm	98.0
3	HAMMER WEIGHT	kg	38.6
4	CYLINDER BORE	mm	78.2
5	PISTON STROKE	mm	80.0 (approx.)
6	PISTON WEIGHT	kg	7.7
7	HOLE SIZES	mm	115-127
8	WRENCH SIZE A/F	mm	A/F 65.0 / W - 40.0
9	SUITABLE SHANK	-----	DHD340 (With Foot Valve)

* THREE START THREAD ON TOP SUB & DRIVE SUB

JDM45DH Air Consumption

PSI	100	150	200	250	300	350
CFM	180	270	350	430	510	590

JDM55QL HAMMER



A DEDICATED TOOL FOR 5.5" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (3 1/2 API REG PIN)	1 NO	15-5C5000-31ARM
	TOP SUB (5D 3 1/2 IF THRD PIN)	1 NO	15-5C5000-31IFM
2	CHOKE (FULL/HALF/QUARTER)	1 NO	47-0127N/(A)(C)(D)
3	CHECK VALVE	1 NO	19-23101R
4	SPRING	1 NO	17-220925
5	STEEL MAKEUP RING	1 NO	M9-100705
6	LOCK RING	1 NO	29-100712
7	AIR DISTRIBUTOR	1 NO	12-5C5500
8	"O" RING FOR AIR DISTRIBUTOR	1 NO	37-06803H
9	SEATING RING	1 NO	79-100910
10	"O" RING FOR SEATING RING	1 NO	37-06002H
11	INNER CYLINDER	1 NO	42-5C5500
12	PISTON	1 NO	55-5C5500
13	WEAR SLEEVE	1 NO	45-5C5500
14	PISTON RETAINER RING	1 NO	89-090324
15	GUIDE BUSH	1 NO	65-5C5000
16	"O" RING FOR GUIDE BUSH	1 NO	37-09003H
17	BIT RETAINER RING	1 NO	99-100716
18	"O" RING FOR BIT RETAINER RING	1 NO	37-08402H
19	DRIVE SUB	1 NO	75-5C5500
	SERVICE KIT (S.NO:2,4,8,10,16,18)	1 SET	5C5500QLK
	HAMMER ASSEMBLY	1 NO	34-5C5500QL-31ARMR
	HAMMER ASSEMBLY	1 NO	34-5C5500QL-31IFMR

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	994.0
2	HAMMER OUTSIDE DIA	mm	124.0
3	HAMMER WEIGHT	kg	70.0
4	CYLINDER BORE	mm	99.80
5	PISTON STROKE	mm	80.0 (opprox.)
6	PISTON WEIGHT	kg	15.0
7	HOLE SIZES	mm	140-165
8	WRENCH SIZE A/F	mm	A/F 90.0 / W-50.0
9	SUITABLE SHANK	-----	QL50 (With Foot Valve)

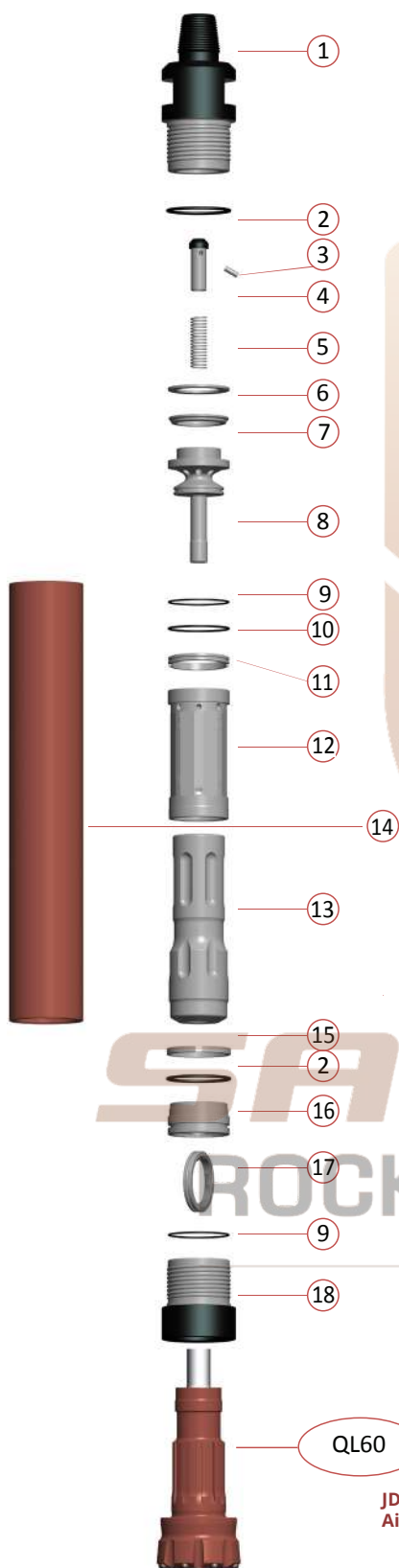
* TWO START THREAD ON TOP SUB & DRIVE SUB

JDM55QL
Air Consumption

PSI	150	200	300	350	400
CFM	300	450	750	900	1050

JDM SERIES

JDM60QL HAMMER



A DEDICATED TOOL FOR 6" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (3 ½ API REG PIN)	1 NO	15-6C6000-31ARM
	TOP SUB (5D 3 ½ IF THRD PIN)	1 NO	15-6C6000-31IFM
2	"O" RING FOR TOP SUB, GUIDE BUSH	2 NO	37-10505H
3	CHOKE (FULL/HALF/QUARTER)	1 NO	47-0127N/(A)(C)(D)
4	CHECK VALVE	1 NO	19-23101R
5	SPRING	1 NO	17-220925
6	STEEL MAKEUP RING	1 NO	M9-110805
7	LOCK RING	1 NO	29-110812
8	AIR DISTRIBUTOR	1 NO	12-6C6000
9	"O" RING FOR AIR DISTRIBUTOR & BRR	2 NO	37-08703H
10	"O" RING FOR SEATING RING	1 NO	37-08101H
11	SEATING RING	1 NO	79-111012
12	INNER CYLINDER	1 NO	42-6C6000
13	PISTON	1 NO	55-6C6000
14	WEAR SLEEVE	1 NO	45-6C6000
15	PISTON RETAINER RING	1 NO	89-110524
16	GUIDE BUSH	1 NO	65-6C6000
17	BIT RETAINER RING	1 NO	99-110815
18	DRIVE SUB	1 NO	75-6C6000
	SERVICE KIT(S.NO:2,3,5,9&10)	1 SET	6C6000QLK
	HAMMER ASSEMBLY	1 NO	34-6C6000QL-31ARMR
	HAMMER ASSEMBLY	1 NO	34-6C6000QL-31IFMR

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	1035.0
2	HAMMER OUTSIDE DIA	mm	144.0
3	HAMMER WEIGHT	kg	100.0
4	CYLINDER BORE	mm	115.8
5	PISTON STROKE	mm	80.0(approx.)
6	PISTON WEIGHT	kg	20.0
7	HOLE SIZES	mm	156-178
8	WRENCH SIZE A/F	mm	A/F 100.0 / W-50.0
9	SUITABLE SHANK	----	QL60 (With Foot Valve)

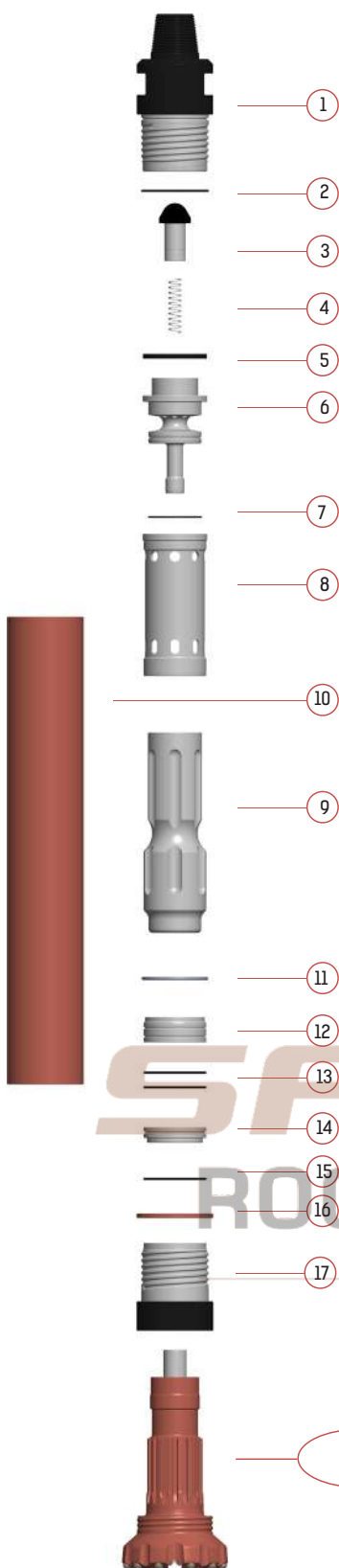
* THREE START THREAD ON TOP SUB & DRIVE SUB

QL60

JDM60QL
Air Consumption

PSI	150	200	250	300	350	400
CFM	450	600	750	900	1050	1200

JDM80QL HAMMER



A DEDICATED TOOL FOR 8" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (4 1/2 API REG PIN)	1 NO	15-8J8000-41ARM
2	"O" RING FOR TOP SUB	1 NO	37-14005H
3	CHECK VALVE	1 NO	19-37138R
4	SPRING	1 NO	17-331220
5	BUFFER RING	1 NO	27-151111
6	AIR DISTRIBUTOR	1 NO	12-8J8000
7	"O" RING FOR AIR DISTRIBUTOR	1 NO	37-10604H
8	INNER CYLINDER	1 NO	42-8J8000
9	PISTON	1 NO	52-8C8000
10	WEAR SLEEVE	1 NO	45-8C8000
11	PISTON RETAINER RING	1 NO	89-150645
12	GUIDE BUSH	1 NO	65-8C8000
13	"O"RING FOR GUIDE BUSH	2 NO	37-13204H
14	BIT RETAINER RING	1 NO	99-141037
15	"O" FOR BIT RETAINER RING	1 NO	37-13204H
16	DRIVE SUB SPACER	1 NO	29-181510/B
17	DRIVE SUB	1 NO	75-8J8000
	SERVICE KIT (S.NO: 2,4,5,7,12 &15)	1 SET	8J8000QLK
	HAMMER ASSEMBLY	1 NO	34-8J8000QL-41ARMS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	1334.0
2	HAMMER OUTSIDE DIA	mm	182.0
3	HAMMER WEIGHT	kg	190.0
4	CYLINDER BORE	mm	149.0
5	PISTON STROKE	mm	80.0 (approx.)
6	PISTON WEIGHT	kg	42.0
7	HOLE SIZES	mm	200 - 305
8	WRENCH SIZE A/F	mm	A/F 140 / W-50
9	SUITABLE SHANK	----	QL80(With Foot Valve)

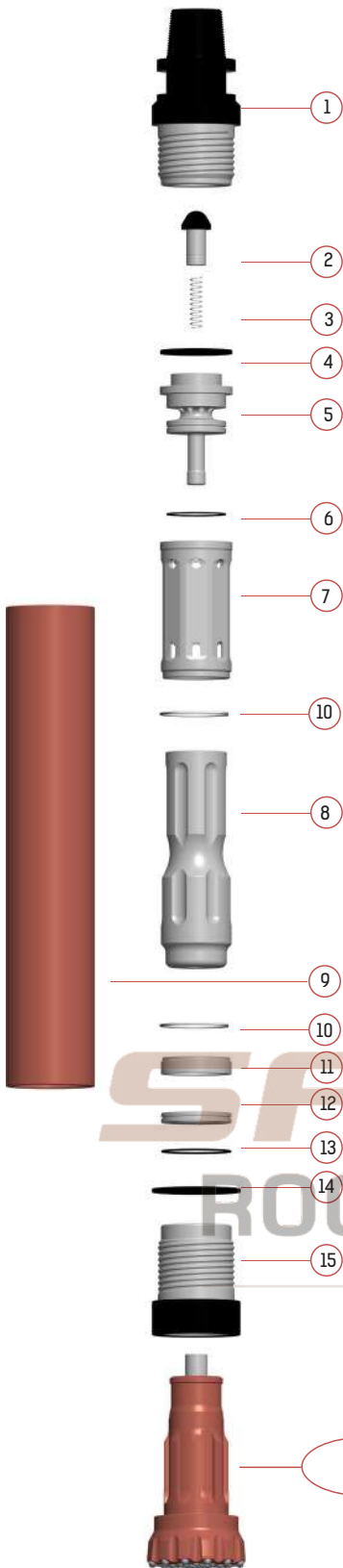
* TWO START THREAD ON TOP SUB & DRIVE SUB

QL80

JDM80QL
Air Consumption

PSI	200	250	300	350	400	450	500
CFM	550	690	830	1000	1160	1300	1500

JDM10SD HAMMER



A DEDICATED TOOL FOR 10" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (6 5/8 API REG PIN)	1 NO	15-1JX100-65ARM
2	CHECK VALVE	1 NO	19-37138R
3	SPRING	1 NO	17-331220
4	BUFFER RING	1 NO	27-181310
5	AIR DISTRIBUTOR	1 NO	12-1JX100
6	"O" RING FOR AIR DISTRIBUTOR	1 NO	37-13504H
7	INNER CYLINDER	1 NO	42-1JX100
8	PISTON	1 NO	52-1CX100
9	WEAR SLEEVE	1 NO	45-1CX100
10	PISTON RETAINER RING	2 NO	89-191745
11	GUIDE BUSH	1 NO	65-1CX101
12	BIT RETAINER RING	1 NO	99-171325
13	"O" RING FOR BIT RETAINER RING	1 NO	37-16004H
14	DRIVE SUB SPACER	1 NO	29-221910
15	DRIVE SUB	1 NO	75-1JX100
	SERVICE KIT (S.NO: 3,4,6,&14)	1 SET	1JX100SDK
	HAMMER ASSEMBLY	1 NO	34-1CX100SD-65ARMS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	1490.0
2	HAMMER OUTSIDE DIA	mm	225.0
3	HAMMER WEIGHT	kg	355.0(approx)
4	CYLINDER BORE	mm	179.0
5	PISTON STROKE	mm	80.0 (approx.)
6	PISTON WEIGHT	kg	68.0
7	HOLE SIZES	mm	254 - 305
8	WRENCH SIZE A/F	mm	A/F 152 / W- 60.0
9	SUITABLE SHANK	----	SD10 (With Foot Valve)

* TWO START THREAD ON TOP SUB & DRIVE SUB

JDM10SD Air Consumption

PSI	150	200	250	300	350	400
CFM	690	980	1290	1610	1910	2200

DMD SERIES

- DMD40DH / DMD40MA / DMD40MX (4.5")
- DMD50DH / DMD50MA (5.0")
- DMD60DH / DMD60SD / DMD60MA (6.0")
- DMD80DH / DMD80QL / DMD80SD (8.0")

DESIGN HIGHLIGHTS

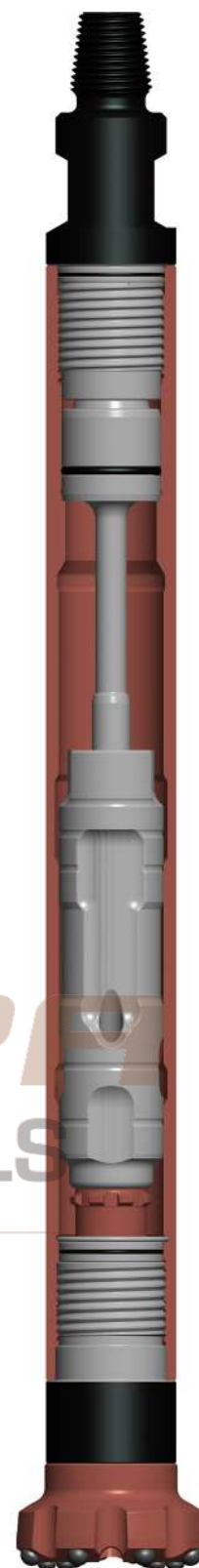
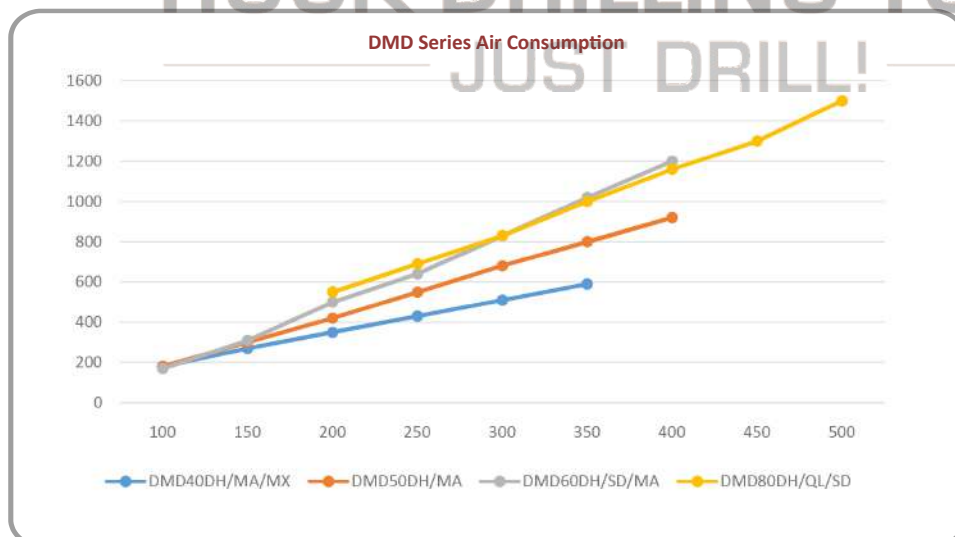
- DMD Series is a valve less type hammers designed for high performance at low operating air pressures.
- Suitable bits has a strong robust design without foot valve to withstand heavy duty application.
- DMD Series Hammers maximizes energy output and reduces service requirements.
- Wear Sleeve is reversible.
- All critical internal components are heat treated under strict control to maximize tool longevity.

EXCLUSIVE FEATURES

- Simplified piston geometry for improved balance and location within cylinder.
- Improved chamber volumes and cycle timing to optimize performance
- Suitable for drilling at a wide range of air pressures, excelling at higher working pressure.
- Fitted with a reversible cylinder to maximize operating life.
- Fewer internal parts minimize service requirements

APPLICATIONS

- Water Well • Mining • Construction • Quarry



DMD SERIES

DMD40DH / MA / MX HAMMER

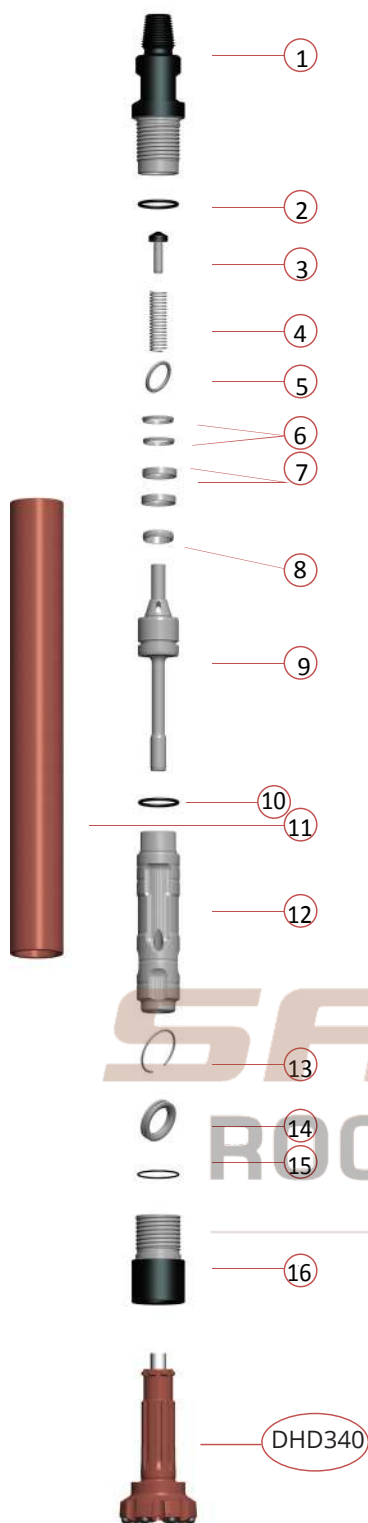
A DEDICATED TOOL FOR 4" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (2 3/8 API REG PIN)	1 NO	15-4H4500-23ARM/1
2	"O" RING FOR TOP SUB	1 NO	37-07403H
3	CHECK VALVE	1 NO	19-13076N
4	SPRING	1 NO	17-321018
5	SHIM	1 NO	77-06055E
6	COMPRESSION SPRINGS 1	2 NO	29-050506
7	COMPRESSION SPRINGS 2	2 NO	29-060512
8	COMPRESSION SPRINGS 3	1 NO	29-050512
9	AIR DISTRIBUTOR	1 NO	12-4H4500
10	"O" RING FOR AIR DISTRIBUTOR	1 NO	37-06405H
11	WEAR SLEEVE [DMD40DH]	1 NO	45-4H4500
	WEAR SLEEVE [DMD40MA/MX]	1 NO	45-4H4501
12	PISTON	1 NO	55-4H4500
13	PISTON RETAINER RING	1 NO	89-080429
14	BIT RETAINER RING [DMD40DH]	1 NO	99-070515
	BIT RETAINER RING [DMD40MA]	1 NO	99-070540
	BIT RETAINER RING [DMD40MX]	1 NO	99-070540/A
15	"O" RING FOR BIT RETAINER RING	1 NO	37-07102H
16	DRIVE SUB [DMD40DH]	1 NO	75-4H4500
	DRIVE SUB [DMD40MA]	1 NO	75-4H4501
	DRIVE SUB [DMD40MX]	1 NO	75-4H4502
	SERVICE KIT (S.NO: 2,4, 10&15)	1 SET	4H4500MAK
	HAMMER ASSEMBLY [DMD40DH]	1 NO	34-4H4500DH-23ARMS/1
	HAMMER ASSEMBLY [DMD40MA]	1 NO	34-4H4500MA-23ARMS/1
	HAMMER ASSEMBLY [DMD40MX]	1 NO	34-4H4500MX-23ARMS/1

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH [40DH/MA/MX]	mm	1030.0 / 1065.0 / 1065.0
2	HAMMER OUTSIDE DIA	mm	98.0
3	HAMMER WEIGHT	kg	38.0
4	CYLINDER BORE	mm	79.0
5	PISTON STROKE	mm	85.0 (approx.)
6	PISTON WEIGHT	kg	9.1
7	HOLE SIZES	mm	108-150
8	WRENCH SIZE A/F	mm	A/F-65.0 / W-56.0
9	SUITABLE SHANK [DMD40DH]	----	DHD340 (With foot valve)
	SUITABLE SHANK [DMD40MA]	----	MACH44 (With foot valve)
	SUITABLE SHANK [DMD40MX]	----	MX40 (With Foot Valve)

* TWO START THREAD ON TOP SUB & DRIVE SUB



DMD40DH/MA/MX
Air Consumption

PSI	100	150	200	250	300	350
CFM	180	270	350	430	510	590

DMD SERIES

DMD50DH / MA HAMMER

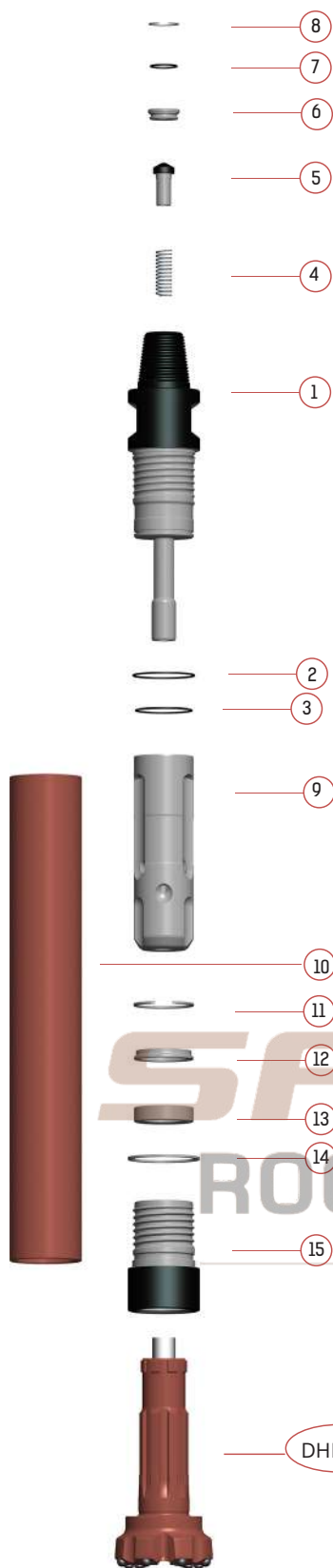
A DEDICATED TOOL FOR 5" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (3 ½ API REG PIN)	1 NO	15-5H5000-31ARM
2	"O" RING FOR TOP SUB BOTTOM SIDE	1 NO	37-09403H
3	"O" RING FOR TOP SUB TOP SIDE	1 NO	37-08903H
4	SPRING	1 NO	17-320713
5	CHECK VALVE	1 NO	19-23070N
6	NON RETURN VALVE SEAT	1 NO	29-050216
7	"O" RING FOR NRV SEAT	1 NO	37-04003H
8	RETAINER RING FOR TOP SUB	1 NO	89-050326
9	PISTON [DMD50DH]	1 NO	55-5H5000
	PISTON [DMD50MA]	1 NO	55-5H5001
10	WEAR SLEEVE	1 NO	45-5H5000
11	PISTON RETAINER RING	1 NO	89-090429
12	GUIDE SPACER	1 NO	29-090814
13	BIT RETAINER RING [DMD50DH]	1 NO	99-090724
	BIT RETAINER RING [DMD50MA]	1 NO	99-090740
14	DRIVE SUB SPACER	1 NO	77-11104E
15	DRIVE SUB [DMD50DH]	1 NO	75-5H5000
	DRIVE SUB [DMD50MA]	1 NO	75-5H5001
	SERVICE KIT (S.NO: 2,3,4,7)	1 SET	5H5000DHK
	HAMMER ASSEMBLY [DMD50DH]	1 NO	34-5H5000DH-31ARMS
	HAMMER ASSEMBLY [DMD50MA]	1 NO	34-5H5000MA-31ARMS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH [50DH/MA] W/O BIT	mm	974.0 / 979.0
2	HAMMER OUTSIDE DIA	mm	118.50
3	HAMMER WEIGHT	kg	58.0
4	CYLINDER BORE	mm	98.00
5	PISTON STROKE	mm	85.0 (approx.)
6	PISTON WEIGHT	kg	14.0
7	HOLE SIZES	mm	127 - 165
8	WRENCH SIZE A/F	mm	A/F 90.00/W-44.00
9	SUITABLE SHANK [DMD50DH]	----	DHD350 (With Foot Valve)
	SUITABLE SHANK [DMD50MA]	----	MACH50 (With Foot Valve)

* TWO START THREAD ON TOP SUB & DRIVE SUB



DMD50DH/MA
Air Consumption

PSI	100	150	200	250	300	350	400
CFM	180	300	420	550	680	800	920

DMD SERIES

DMD60DH / SD / MA HAMMER

A DEDICATED TOOL FOR 6" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (3 1/2 API REG PIN)	1 NO	15-6H6000-31ARM/1
2	"O" RING FOR T/S BOTTOM SIDE	1 NO	37-11203H
3	"O" RING FOR T/S TOP SIDE	1 NO	37-09905H
4	NYLON BUSH	1 NO	47-2312NB
5	SPRING	1 NO	17-331211
6	CHECK VALVE	1 NO	19-34128N
7	CHECK VALVE GUIDE	1 NO	29-040315
8	"O" RING FOR C/V GUIDE	1 NO	37-03702H
9	RETAINER RING FOR TOP SUB	1 NO	89-040218
10	PISTON [DMD60DH]	1 NO	55-6H6000
	PISTON [DMD60SD]	1 NO	55-6H6001
	PISTON [DMD60MA]	1 NO	55-6H6002
11	WEAR SLEEVE	1 NO	45-6H6000
12	PISTON RETAINER RING	1 NO	89-110639
13	GUIDE BUSH [DMD60DH]	1 NO	65-6H6000
	GUIDE SPACER [DMD60SD]	1 NO	29-110924
	GUIDE SPACER [DMD60MA]	1 NO	29-100927
14	"O" RING FOR GUIDE BUSH	2 NO	37-09703H
15	BIT RETAINER RING [DMD60DH]	1 NO	99-110822
	BIT RETAINER RING [DMD60SD]	1 NO	99-110818
	BIT RETAINER RING [DMD60MA]	1 NO	99-110855
16	DRIVE SUB SPACER	1 NO	77-14128E
17	DRIVE SUB [DMD60DH]	1 NO	75-6H6000
	DRIVE SUB [DMD60SD]	1 NO	75-6H6001
	DRIVE SUB [DMD60MA]	1 NO	75-6H6002
	SERVICE KIT (S.NO: 2,3,5,8,14)	1 SET	6H6000DHK
	HAMMER ASSEMBLY [DMD60DH]	1 NO	34-6H6000DH-31ARMR/1
	HAMMER ASSEMBLY [DMD60SD]	1 NO	34-6H6000SD-31ARMR/1
	HAMMER ASSEMBLY [DMD60MA]	1 NO	34-6H6000MA-31ARMR/1

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH [60DH/SD/MA]	mm	1137.0 / 1153.0 / 1150.0
2	HAMMER OUTSIDE DIA	mm	144.0
3	HAMMER WEIGHT	kg	97.2
4	CYLINDER BORE	mm	114.0
5	PISTON STROKE	mm	80.0 (approx.)
6	PISTON WEIGHT	kg	23.2
7	HOLE SIZES	mm	155-178
8	WRENCH SIZE A/F	mm	A/F 100.50 / W-68.5
9	SUITABLE SHANK [DMD60DH]	----	DHD360 (With Foot Valve)
	SUITABLE SHANK [DMD60SD]	----	SD6 (With Foot Valve)
	SUITABLE SHANK [DMD60MA]	----	MACH60 (With Foot Valve)

* THREE START THREAD ON TOP SUB & DRIVE SUB

DHD360

SD6

MACH60

DMD60DH/SD/MA
Air Consumption

PSI	100	150	200	250	300	350	400
CFM	170	310	500	640	830	1020	1200

DMD SERIES

DMD80DH / QL / SD HAMMER

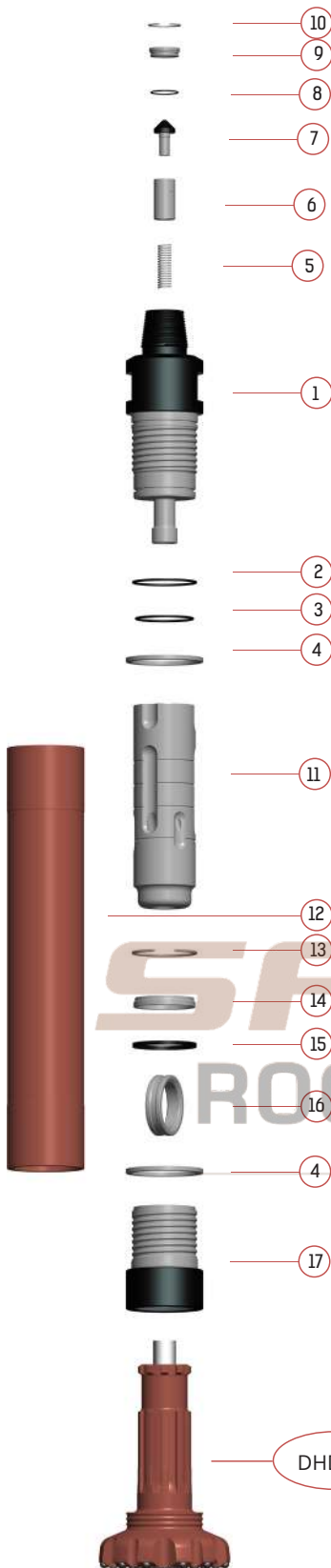
A DEDICATED TOOL FOR 8" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (4 ½ API REG PIN)	1 NO	15-8H8000-41ARM/1
2	"O" RING(FOR T/S BOTTOM SIDE)	1 NO	37-14105H
3	"O" RING(FOR T/S TOP SIDE)	1 NO	37-12705H
4	TOP & DRIVE SUB SPACERS	2 NO	29-181510
5	SPRING	1 NO	17-321018
6	NYLON BUSH	1 NO	47-2595NB
7	CHECK VALVE	1 NO	19-25085N
8	"O" RING FOR NRV SEAT	1 NO	37-06003H
9	NON RETURN VALVE SEAT	1 NO	29-070420
10	RETAINER RING FOR TOP SUB	1 NO	89-070327
11	PISTON [DMD80DH]	1 NO	55-8H8000
	PISTON [DMD80QL]	1 NO	55-8H8001
	PISTON [DMD80SD]	1 NO	55-8H8002
12	WEAR SLEEVE [DMD80DH / SD]	1 NO	45-8H8000
	WEAR SLEEVE [DMD80QL]	1 NO	45-8H8001
13	PISTON RETAINER RING	1 NO	89-140645
14	GUIDE SPACER [DMD80DH / SD]	1 NO	29-141222
	GUIDE BUSH [DMD80QL]	1 NO	65-8H8001
15	"O" RING FOR BIT RETAINER RING	1 NO	37-11602H
16	BIT RETAINER RING [DMD80DH]	1 NO	99-141039
	BIT RETAINER RING [DMD80QL]	1 NO	99-141031
	BIT RETAINER RING [DMD80SD]	1 NO	99-140931
17	DRIVE SUB [DMD80DH]	1 NO	75-8H8000
	DRIVE SUB [DMD80QL]	1 NO	75-8H8001
	DRIVE SUB [DMD80SD]	1 NO	75-8H8002
	SERVICE KIT (S.NO: 2,3,5,8,15)	1 SET	8H8000DHK
	HAMMER ASSEMBLY [DMD80DH]	1 NO	34-8H8000DH-41ARMR/1
	HAMMER ASSEMBLY [DMD80QL]	1 NO	34-8H8000QL-41ARMS/1
	HAMMER ASSEMBLY [DMD80SD]	1 NO	34-8H8000SD-41ARMR/1

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH [80DH/QL/SD]	mm	1251/1234.5/1191(W/OBIT)
2	HAMMER OUTSIDE DIA	mm	182.0
3	HAMMER WEIGHT	kg	181.0
4	CYLINDER BORE	mm	145.0
5	PISTON STROKE	mm	70.0 (approx.)
6	PISTON WEIGHT	kg	50.0
7	HOLE SIZES	mm	200 - 305
8	WRENCH SIZE A/F	mm	A/F 155.50 / W-68.60
9	SUITABLE SHANK [DMD80DH]	----	DHD380 (With Foot Valve)
	SUITABLE SHANK [DMD80QL]	----	QL80 (With Foot Valve)
	SUITABLE SHANK [DMD80SD]	----	SD8 (With Foot Valve)

* TWO START THREAD ON TOP SUB & DRIVE SUB



DMD80DH/QL/SD
Air Consumption

PSI	200	250	300	350	400	450	500
CFM	550	690	830	1000	1160	1300	1500

FDH SERIES

- FDH47DI (4 3/4")
- FDH65DI (6.5")

DESIGN HIGHLIGHTS

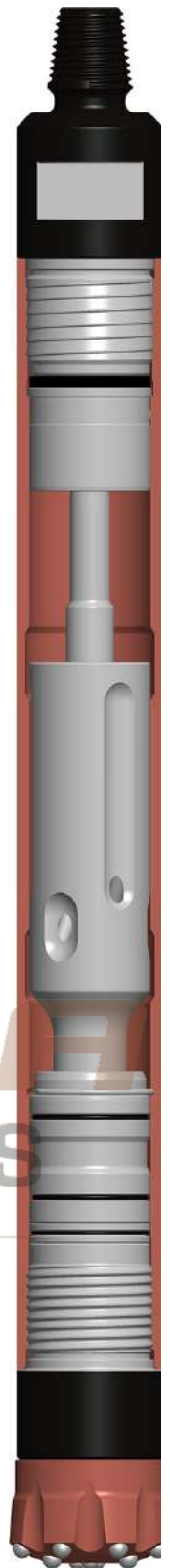
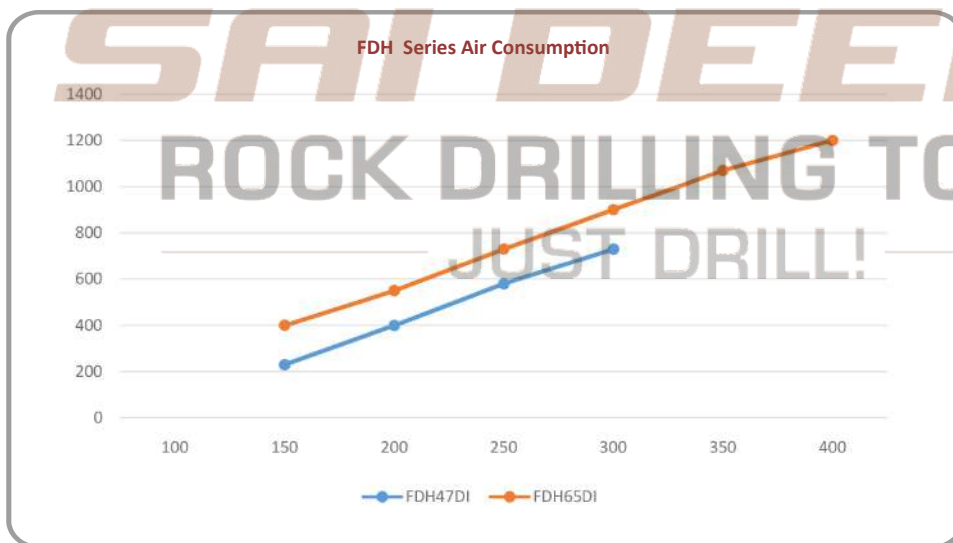
- FDH Series is a valve less type hammers designed for high performance at low operating air pressures.
- Suitable bits has a strong robust design without foot valve to withstand heavy duty application.
- FDH Series Hammers maximizes energy output and reduces service requirements.
- Wear Sleeve is reversible.
- All critical internal components are heat treated under strict control to maximize tool longevity.

EXCLUSIVE FEATURES

- Control tube sub assembly is used for guiding piston which minimizes the service requirements.
- Hammer is inbuilt with buffer ring which will sustain the compressive load generated from drill string.

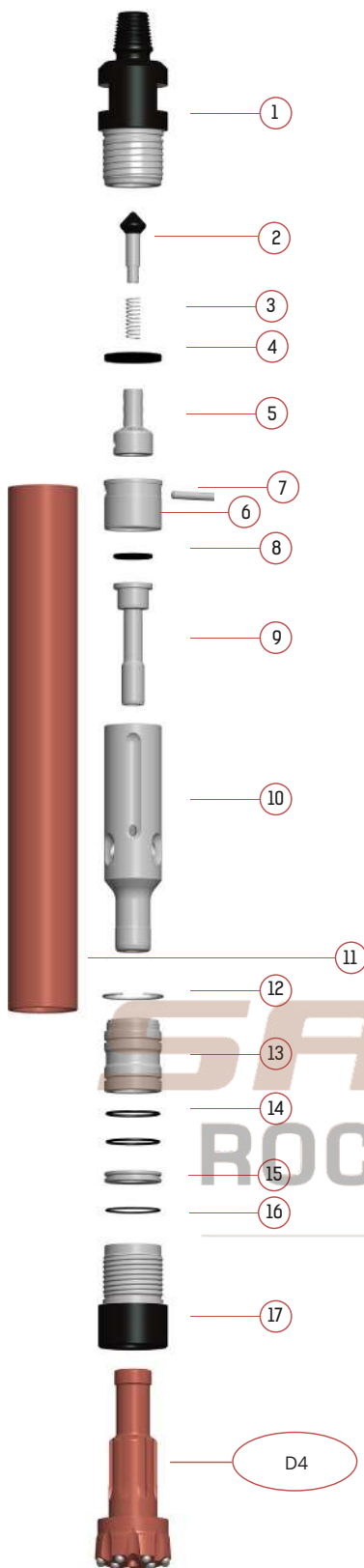
APPLICATIONS

- Water Well • Mining • Construction • Quarry



FDH SERIES

FDH47DI HAMMER



A DEDICATED TOOL FOR 4 3/4" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (2 3/8 API REG PIN)	1 NO	15-4F4700-23ARM
2	CHECK VALVE	1 NO	19-24109R
3	SPRING	1 NO	17-210610
4	BUFFER RING	1 NO	27-080610
5	TOP VALVE	1 NO	25-4F4700
6	CONTROL TUBE HEAD	1 NO	10-4F4700
7	CONTROL TUBE LOCK PIN	1 NO	39-11086A
8	BUFFER RING	1 NO	27-060405/A
9	TUBE	1 NO	11-4F4702
10	PISTON	1 NO	52-4F4701
11	WEAR SLEEVE	1 NO	45-4F4701
12	PISTON RETAINER RING	1 NO	89-080430
13	GUIDE BUSH	1 NO	65-4F4700
14	"O" RING FOR GUIDE BUSH	2 NO	37-06203H
15	BIT RETAINER RING	1 NO	99-080515
16	"O" RING FOR BIT RETAINER RING	1 NO	37-07504H
17	DRIVE SUB	1 NO	75-4F4700
	SERVICE KIT (S.NO: 3,4,8,14&16)	1 SET	4F4700DIK
	HAMMER ASSEMBLY	1 NO	34-4F4700DI-23ARMS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	980.0
2	HAMMER OUTSIDE DIA	mm	107.0
3	HAMMER WEIGHT	kg	47.0
4	CYLINDER BORE	mm	88.0
5	PISTON STROKE	mm	80.0 (approx.)
6	PISTON WEIGHT	kg	10.5
7	HOLE SIZES	mm	120-140
8	WRENCH SIZE A/F	mm	A/F 74.5 /W-40.0
9	SUITABLE SHANK	-----	D4 [With out Foot Valve]

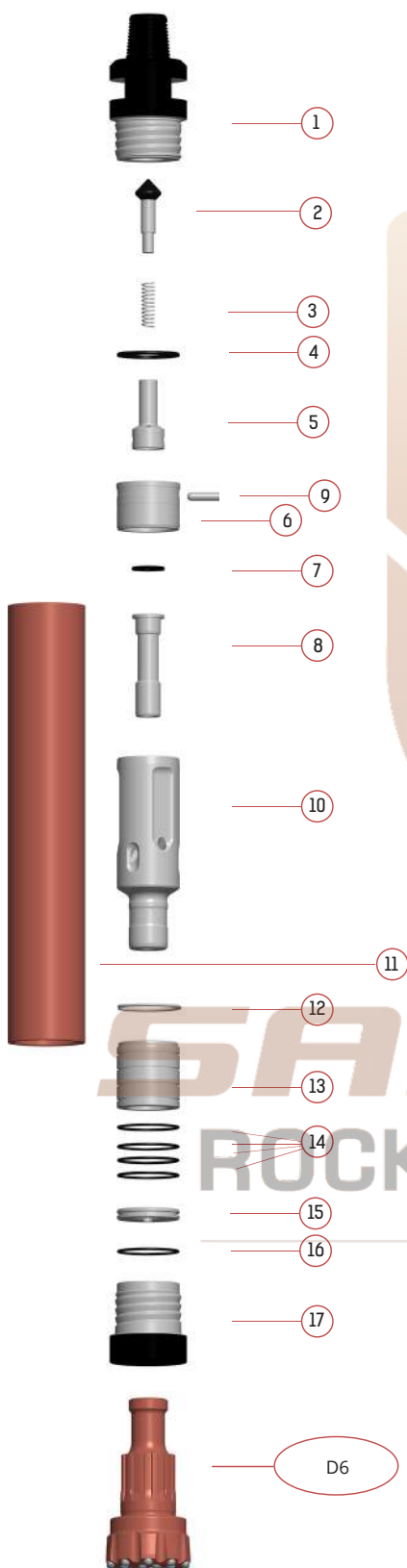
* SINGLE START THREAD ON TOP SUB & THREE START THREAD ON DRIVE SUB

FDH47DI
Air Consumption

PSI	150	200	250	300
CFM	230	400	580	730

FDH SERIES

FDH65DI HAMMER



A DEDICATED TOOL FOR 6.5" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (3 ½ API REG PIN)	1 NO	15-6F6501-27IFM
2	CHECK VALVE	1 NO	19-25142R
3	SPRING	1 NO	17-220812
4	BUFFER RING	1 NO	27-120806
5	TOP VALVE	1 NO	25-6F6501
6	CONTROL TUBE HEAD	1 NO	10-6F6502
7	BUFFER RING	1 NO	27-060405
8	TUBE	1 NO	11-6F6502
9	LOCK PIN	1 NO	39-15115A
10	PISTON	1 NO	52-6F6506
11	WEAR SLEEVE	1 NO	45-6F6503
12	PISTON RETAINER RING	1 NO	89-110645
13	GUIDE BUSH	1 NO	65-6M6500
14	"O" RING FOR GUIDE BUSH	4 NO	37-08804H
15	BIT RETAINER RING	1 NO	99-120619
16	"O" RING FOR BIT RETAINER RING	1 NO	37-08603H
17	DRIVE SUB	1 NO	75-6F6501
	SERVICE KIT (S.NO:3,7,14&16)	1 SET	6F6500D6K
	HAMMER ASSEMBLY	1 NO	34-6F6504DI-27IFMR

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	1017.0
2	HAMMER OUTSIDE DIA	mm	148.0
3	HAMMER WEIGHT	kg	97.0(approx.)
4	CYLINDER BORE	mm	120.5
5	PISTON STROKE	mm	90.0(approx.)
6	PISTON WEIGHT	kg	21.0
7	HOLE SIZES	mm	165-203
8	WRENCH SIZE A/F	mm	A/F 90.0 / W-40.0
9	SUITABLE SHANK	----	D6 [With out Foot Valve]

* SINGLE START THREAD ON TOP SUB & DRIVE SUB

FDH65DI Air Consumption

PSI	150	200	250	300	350	400
CFM	400	550	730	900	1070	1200

WINNER SERIES

- WIN35DH (3.5")
- WIN45DH / WIN45MX (4.5")

DESIGN HIGHLIGHTS

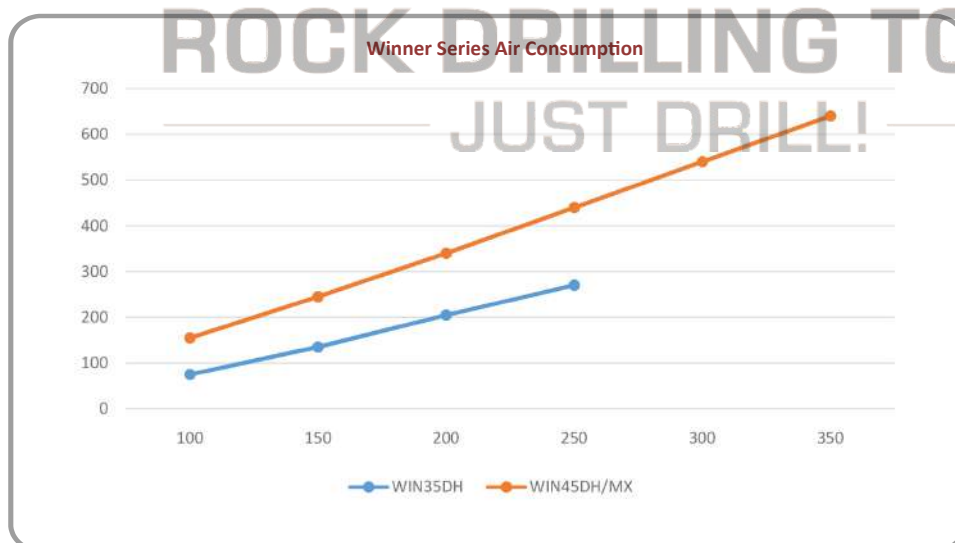
- WINNER Series is a valve type hammers designed for high performance at low operating air pressures.
- Suitable bits has a strong robust design without foot valve to withstand heavy duty application.
- WINNER Series Hammers maximizes energy output and reduces service requirements.
- Wear Sleeve is not reversible.
- All critical internal components are heat treated under strict control to maximize tool longevity.

EXCLUSIVE FEATURES

- Hammer is inbuilt buffer ring which will sustain the compressive load generated from drill string.
- Flapper mechanism helps to adjust inflow air pressure so as to increase the volume of air to be occupied.
- Inner cylinder guides piston and supplies air into piston area where the air flow is controlled.

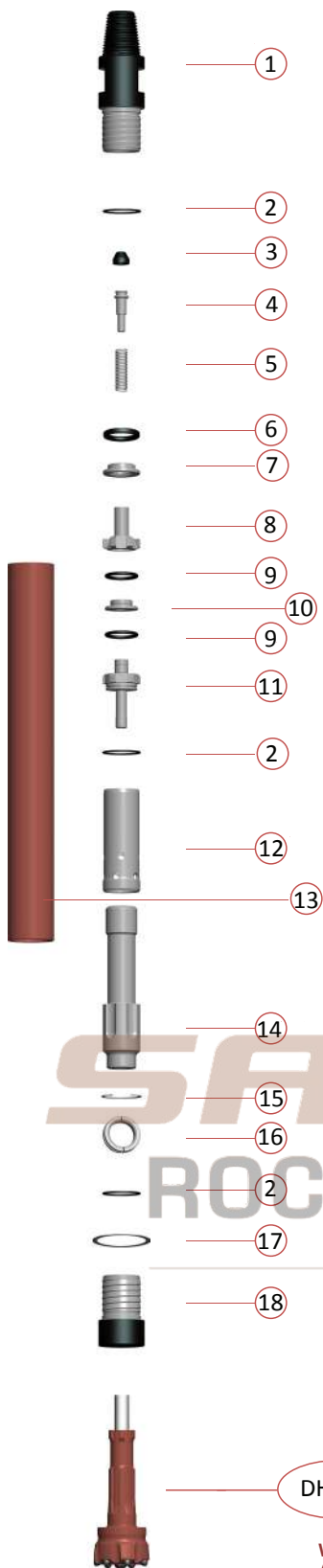
APPLICATIONS

- Water Well • Mining • Construction • Quarry



WINNER SERIES

WIN35DH HAMMER



A DEDICATED TOOL FOR 3.5" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (2 3/8 API REG PIN)	1 NO	15-3W3500-23ARM
	TOP SUB (5D KOREAN THREAD PIN)	1 NO	15-3W3500-5DKM
2	"O" RING FOR (TS,BV,BRR)	3 NO	37-04603H
3	CHECK VALVE CAP	1 NO	57-281820
4	CHECK VALVE	1 NO	19-12069M
5	SPRING	1 NO	17-110610
6	BUFFER RING	1 NO	27-060408
7	TOP SUB SPACER	1 NO	29-060316
8	TOP VALVE	1 NO	22-3W3500
9	"O" RING FOR TV & FV	2 NO	37-02302H
10	FLAPPER VALVE	1 NO	69-562316
11	BOTTOM VALVE	1 NO	32-3W3500
12	INNER CYLINDER	1 NO	42-3W3500
13	WEAR SLEEVE	1 NO	45-3W3500
14	PISTON	1 NO	55-3W3500
15	PISTON RETAINER RING	1 NO	89-060330
16	BIT RETAINER RING	1 NO	99-060415
17	COPPER SHIM	1NO	77-07061C
18	DRIVE SUB	1 NO	75-3W3500
	SERVICE KIT (S.NO:2,3,5,6,9&17)	1 SET	3W3500DHK
	HAMMER ASSEMBLY	1 NO	34-3W3500DH-23ARMS
	HAMMER ASSEMBLY	1 NO	34-3W3500DH-5DKMS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	776.3
2	HAMMER OUTSIDE DIA	mm	78.0
3	HAMMER WEIGHT	kg	21.0
4	CYLINDER BORE	mm	63.0
5	PISTON STROKE	mm	80.0
6	PISTON WEIGHT	kg	4.0
7	HOLE SIZES	mm	90-115
8	WRENCH SIZE A/F	mm	A/F 57.0/W-40.0
9	SUITABLE SHANK	-	DHD 3.5 (With Foot Valve)

* SINGLE START THREAD ON TOP SUB & DRIVE SUB

DHD3.5

WIN35DH
Air Consumption

PSI	100	150	200	250
CFM	75	135	205	270

WINNER SERIES

WIN45DH / MX HAMMER

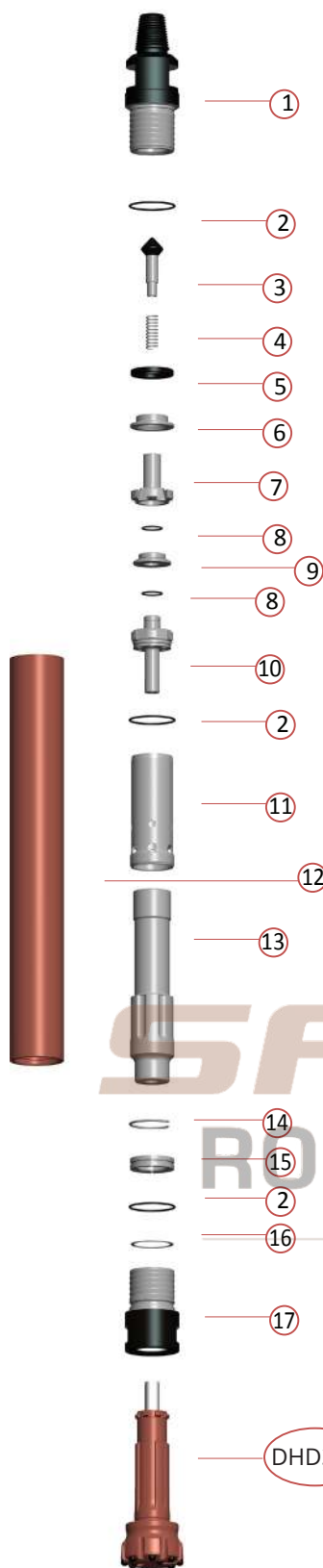
A DEDICATED TOOL FOR 4.5" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (2 3/8 API REG PIN)	1 NO	15-4W4500-23ARM
	TOP SUB (7D 5TPI KOREAN THREAD)	1 NO	15-4W4500-7DKM
2	"O" RING FOR T/S, B/V & BRR	3 NO	37-06203H
3	CHECK VALVE	1 NO	19-24109R
4	SPRING	1 NO	17-220610
5	BUFFER RING	1 NO	27-070510
6	TOP SUB SPACER	1 NO	29-070521
7	TOP VALVE	1 NO	22-4W4500
8	"O" RING FOR T/V & F/V	2 NO	37-02902H
9	FLAPPER VALVE	1 NO	69-692918
10	BOTTOM VALVE	1 NO	32-4W4500
11	INNER CYLINDER	1 NO	42-4W4500
12	WEAR SLEEVE [WIN45DH]	1 NO	45-4W4501
	WEAR SLEEVE [WIN45MX]	1 NO	45-4W4500
13	PISTON [WIN45DH]	1 NO	55-4W4501
	PISTON [WIN45MX]	1 NO	55-4W4500
14	PISTON RETAINER RING	1 NO	89-080446
15	BIT RETAINER RING [WIN45DH]	1 NO	99-070520
	BIT RETAINER RING [WIN45MX]	1 NO	99-070529
16	COPPER SHIM	1 NO	77-09081C
17	DRIVE SUB [WIN45DH]	1 NO	75-4W4501
	DRIVE SUB [WIN45MX]	1 NO	75-4W4500
	SERVICE KIT (S.NO 2,4,5,8&16)	1 SET	4W4500MXK
	HAMMER ASSEMBLY [WIN45DH]	1 NO	34-4W4500DH-23ARMS
	HAMMER ASSEMBLY [WIN45DH]	1 NO	34-4W4500DH-7DKMS
	HAMMER ASSEMBLY [WIN45MX]	1 NO	34-4W4500MX-23ARMS
	HAMMER ASSEMBLY [WIN45MX]	1 NO	34-4W4500MX-7DKMS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH [45DH/MX]	mm	919.6 / 955.0
2	HAMMER OUTSIDE DIA	mm	98.0
3	HAMMER WEIGHT	kg	37.0
4	CYLINDER BORE	mm	80.0
5	PISTON STROKE	mm	80.0 (approx.)
6	PISTON WEIGHT	kg	8.85
7	HOLE SIZES	mm	115-140
8	TOP SUB WRENCH SIZE	mm	A/F 61.5/W 40.0
9	SUITABLE SHANK [WIN45DH]	-	DHD340 (With Foot Valve)
	SUITABLE SHANK [WIN45MX]	-	MX40 (With Foot Valve)

* SINGLE START THREAD ON TOP SUB & DRIVE SUB



DHD340

MX40

WIN45DH/MX
Air Consumption

PSI	100	150	200	250	300	350
CFM	155	245	340	440	540	640

STUNNER SERIES

- ST25BR (3.0")
- ST30BR (3.5")
- ST35BR (3 3/4")
- ST45PA (4.5")

DESIGN HIGHLIGHTS

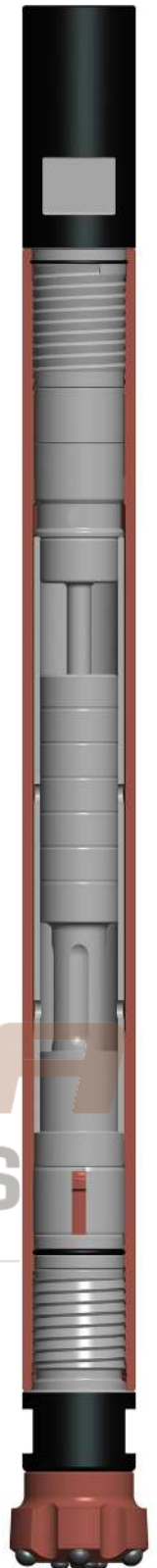
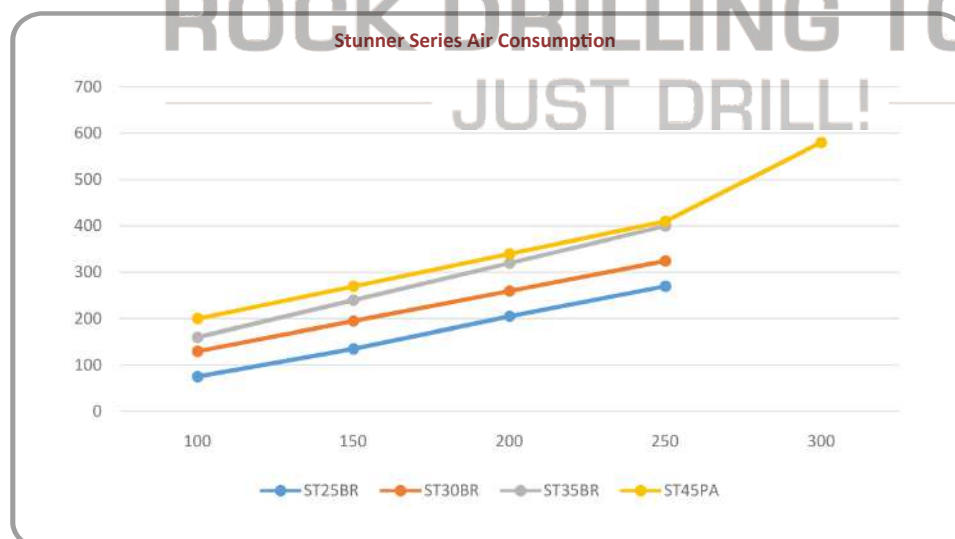
- Stunner Series is a valve type hammers designed for high performance at low operating air pressures.
- Suitable bits has a strong robust design without foot valve to withstand heavy duty application.
- Stunner Series Hammers maximizes energy output and reduces service requirements.
- Wear Sleeve is not reversible.
- All critical internal components are heat treated under strict control to maximize tool longevity.

EXCLUSIVE FEATURES

- Flapper mechanism helps to adjust inflow air pressure and it is guided with valve centralizer for correct positioning/movement of flapper valve.
- Split bush used for guiding the bit and it provided with a groove for easy removal.
- Inner cylinder guides piston and supplies air into piston area where the air flow is controlled.

APPLICATIONS

- Water Well • Mining • Construction • Quarry



STUNNER SERIES

ST25BR HAMMER

A DEDICATED TOOL FOR 3" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (2.5D 4 TPI BOX)	1 NO	15-2B2500-25DF
	TOP SUB (CHEETHA THREAD)	1 NO	15-2B2500-5DF
	TOP SUB (3.5D 4 TPI BOX)	1 NO	15-2B2500-35DF
	TOP SUB(RD50 BOX THREAD)	1 NO	15-2B2500-RD50F
	TOP SUB (CA21 BOX THREAD)	1 NO	15-2B2500-CA21F
	TOP SUB (2 IF 4TPI 5° BOX)	1 NO	15-2B2500-2IFF
2	"O" RING FOR TOP SUB	1 NO	37-04602H
3	CHECK VALVE	1 NO	19-23082N
4	SPRING	1 NO	17-110513
5	TOP VALVE	1 NO	22-2B2500
6	VALVE CENTRALISER	1 NO	59-121523
7	DISC VALVE	1 NO	69-421603
8	BOTTOM VALVE	1 NO	32-2B2500
9	PISTON	1 NO	52-2B2500
10	INNER CYLINDER	1 NO	42-2B2500
11	GUIDE BUSH	1 NO	65-2B2500
12	WEAR SLEEVE	1 NO	45-2B2500
13	SPLIT BUSH	1 NO	B9-050437
14	BIT RETAINER RING	1 NO	99-040319
15	"O" RING FOR BIT RETAINER RING	1 NO	37-03702H
16	DRIVE SUB	1 NO	75-2B2500
	SERVICE KIT (S.NO:2,4&15)	1 SET	2B2500BRK
	HAMMER ASSEMBLY	1 NO	34-2B2500BR-25DFS
	HAMMER ASSEMBLY	1 NO	34-2B2500BR-5DFS
	HAMMER ASSEMBLY	1 NO	34-2B2500BR-35DFS
	HAMMER ASSEMBLY	1 NO	34-2B2500BR-RD50FS
	HAMMER ASSEMBLY	1 NO	34-2B2500BR-CA21FS
	HAMMER ASSEMBLY	1 NO	34-2B2500BR-2IFFS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	810.0
2	HAMMER OUTSIDE DIA	mm	62.0
3	HAMMER WEIGHT	kg	13.0
4	CYLINDER BORE	mm	42.7
5	PISTON STROKE	mm	80.0 (approx.)
6	PISTON WEIGHT	kg	1.75
7	HOLE SIZES	mm	70-80
8	WRENCH SIZE A/F	mm	A/F 48.0 / W-32.0
9	SUITABLE SHANK	---	BR2 (Without Foot Valve)

* TWO START THREAD ON TOP SUB & DRIVE SUB

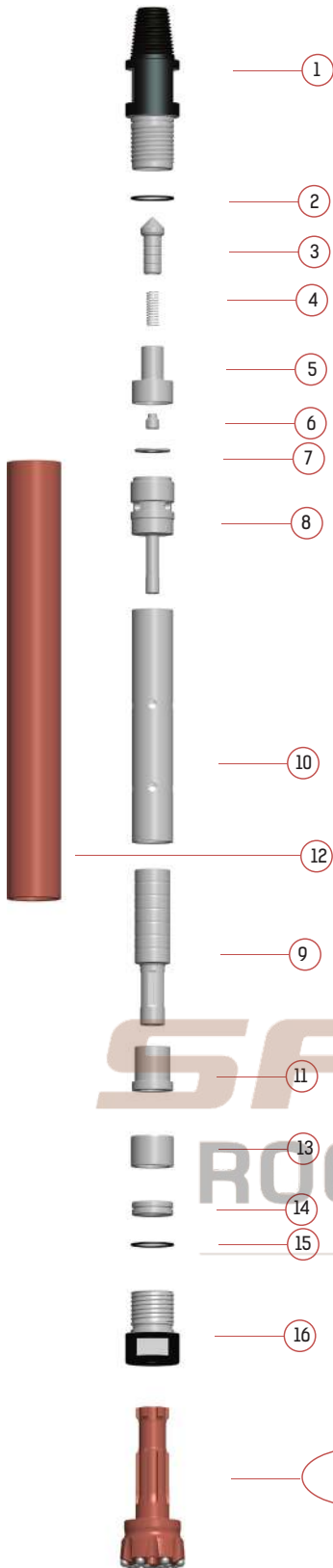
BR2

ST25BR
Air Consumption

PSI	100	150	200	250
CFM	75	135	205	270

STUNNER SERIES

ST30BR HAMMER



A DEDICATED TOOL FOR 3.5" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (2 3/8 API REG PIN)	1 NO	15-3B3000-23ARM
	TOP SUB (2 3/8 API REG BOX)	1 NO	15-3B3000-23ARF
2	"O" RING FOR TOP SUB	1 NO	37-05403H
3	CHECK VALVE	1 NO	19-23082N
4	SPRING	1 NO	17-110511
5	TOP VALVE	1 NO	22-3B3000
6	VALVE CENTRALISER	1 NO	59-121921
7	DISC VALVE	1 NO	69-511902
8	BOTTOM VALVE	1 NO	32-3B3000
9	PISTON	1 NO	52-3B3000
10	INNER CYLINDER	1 NO	42-3B3000
11	GUIDE BUSH	1 NO	65-3B3000
12	WEAR SLEEVE	1 NO	45-3B3000
13	SPLIT BUSH	1 NO	B9-060443
14	BIT RETAINER RING	1 NO	99-050319
15	"O" RING FOR BIT RETAINER RING	1 NO	37-04603H
16	DRIVE SUB	1 NO	75-3B3000
	SERVICE KIT (S.NO:2,4&15)	1 SET	3B3000BRK
	HAMMER ASSEMBLY	1 NO	34-3B3000BR-23ARMS
	HAMMER ASSEMBLY	1 NO	34-3B3000BR-23ARFS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	769.0
2	HAMMER OUTSIDE DIA	mm	78.0
3	HAMMER WEIGHT	kg	24.0
4	CYLINDER BORE	mm	50.8
5	PISTON STROKE	mm	82.0 (approx.)
6	PISTON WEIGHT	kg	2.80
7	HOLE SIZES	mm	85 - 95
8	WRENCH SIZE A/F	mm	A/F 57.0 /W-50.0
9	SUITABLE SHANK	-	BR3 (Without Foot Valve)

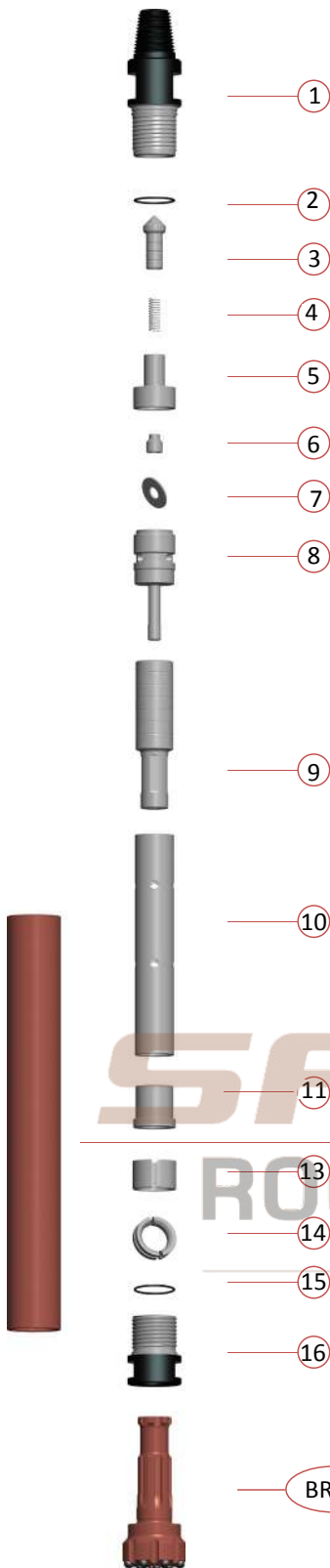
* THREE START THREAD ON TOP SUB & DRIVE SUB

ST30BR
Air Consumption

PSI	100	150	200	250
CFM	130	195	260	325

STUNNER SERIES

ST35BR HAMMER



A DEDICATED TOOL FOR 3 3/4" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (2 3/8 API REG PIN)	1 NO	15-3B3300-23ARM
2	"O" RING FOR TOP SUB	1 NO	37-05403H
3	CHECK VALVE	1 NO	19-23082N
4	SPRING	1 NO	17-110511
5	TOP VALVE	1 NO	22-3B3300
6	VALVE CENTRALISER	1 NO	59-121921
7	DISC VALVE	1 NO	69-511902
8	BOTTOM VALVE	1 NO	32-3B3300
9	PISTON	1 NO	52-3B3300
10	INNER CYLINDER	1 NO	42-3B3300
11	GUIDE BUSH	1 NO	65-3B3300
12	WEAR SLEEVE	1 NO	45-3B3300
13	SPLIT BUSH	1 NO	B9-060546
14	BIT RETAINER RING	1 NO	99-060419
15	"O" RING FOR BIT RETAINER RING	1 NO	37-04603H
16	DRIVE SUB	1 NO	75-3B3300
	SERVICE KIT (S.NO:2,4&15)	1 SET	3B3300BRK
	HAMMER ASSEMBLY	1 NO	34-3B3300BR-23ARMS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	758.4
2	HAMMER OUTSIDE DIA	mm	82.0
3	HAMMER WEIGHT	kg	23.5
4	CYLINDER BORE	mm	57.2
5	PISTON STROKE	mm	82.0 (approx.)
6	PISTON WEIGHT	kg	3.30
7	HOLE SIZES	mm	90-100
8	WRENCH SIZE A/F	mm	A/F 57.0 /W-40.0
9	SUITABLE SHANK	-	BR33 (Without Foot Valve)

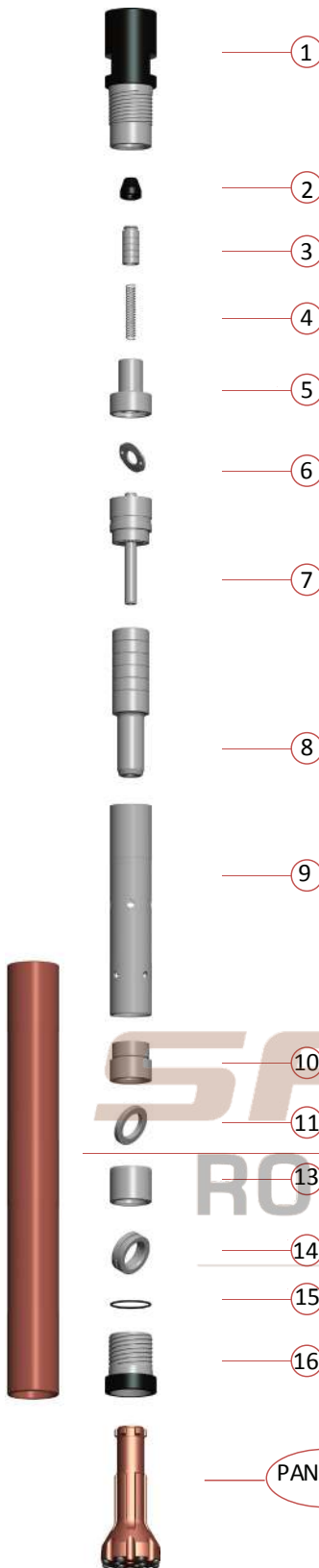
* SINGLE START THREAD ON TOP SUB & TWO START THREAD ON DRIVE SUB

ST35BR
Air Consumption

PSI	100	150	200	250
CFM	160	240	320	400

STUNNER SERIES

ST45PA HAMMER



A DEDICATED TOOL FOR 4.5" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (2 3/8 API REG BOX)	1 NO	15-4P4500-23ARF
2	CHECK VALVE CAP	1 NO	57-332229
3	CHECK VALVE	1 NO	19-23101M
4	SPRING	1 NO	17-221017
5	TOP VALVE	1 NO	22-4P4500
6	ROCKER VALVE	1 NO	69-632801
7	BOTTOM VALVE	1 NO	32-4P4500
8	PISTON	1 NO	52-4P4500
9	INNER CYLINDER	1 NO	42-4P4500
10	GUIDE BUSH	1 NO	65-4P4500
11	SPACER	1 NO	29-070510
12	WEAR SLEEVE	1 NO	45-4P4500
13	SPLIT BUSH	1 NO	B9-070665/A
14	BIT RETAINER RING	1 NO	99-070525/A
15	"O" RING FOR BIT RETAINER RING	1 NO	37-06203H
16	DRIVE SUB	1 NO	75-4P4500
	SERVICE KIT (S.NO:2,4&15)	1 SET	4P4500PAK
	HAMMER ASSEMBLY	1 NO	34-4P4500PA-23ARFS

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	985.0
2	HAMMER OUTSIDE DIA	mm	98.0
3	HAMMER WEIGHT	kg	43.0
4	CYLINDER BORE	mm	69.6
5	PISTON STROKE	mm	110.0 (approx)
6	PISTON WEIGHT	kg	6.0
7	HOLE SIZES	mm	115 - 127
8	WRENCH SIZE A/F	mm	A/F 74.0/W- 36.0
9	SUITABLE SHANK	-	PANTHER (W/O Foot Valve)

* THREE START THREAD ON TOP SUB & DRIVE SUB

ST45PA
Air Consumption

PSI	100	150	200	250	300
CFM	200	270	340	410	580

DRT SERIES

- DRT60SD (6.0")
- DRT80DH (8.0")
- DRT10RK (10.0")

DESIGN HIGHLIGHTS

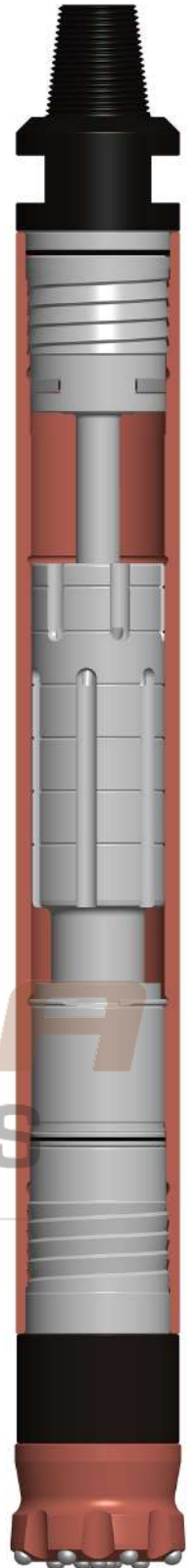
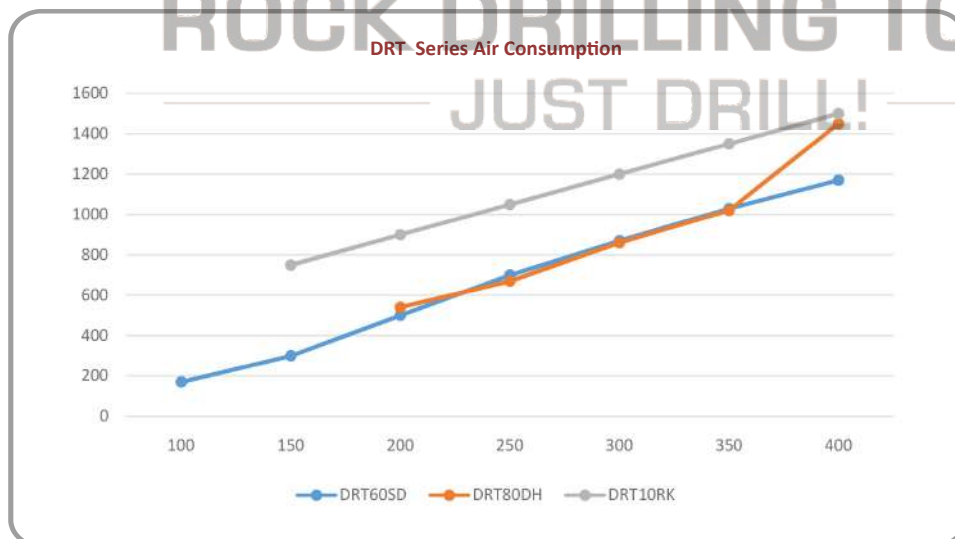
- DRT Series is a valve less type hammers designed for high performance at low operating air pressures.
- Suitable bits has a strong robust design without foot valve to withstand heavy duty application.
- DRT Series Hammers maximizes energy output and reduces service requirements.
- Wear Sleeve is reversible.
- All critical internal components are heat treated under strict control to maximize tool longevity.

EXCLUSIVE FEATURES

- Hammer is inbuilt with buffer ring and metal spacer, to sustain the compressive load generated from drill string.
- Lock plates are used for locking the control tube and drive sub spacer is used for easy coupling / uncoupling of driver sub.
- Hammer is designed with the adjustable Choke which allows you to adjust the volume of air that is used to power the Piston.

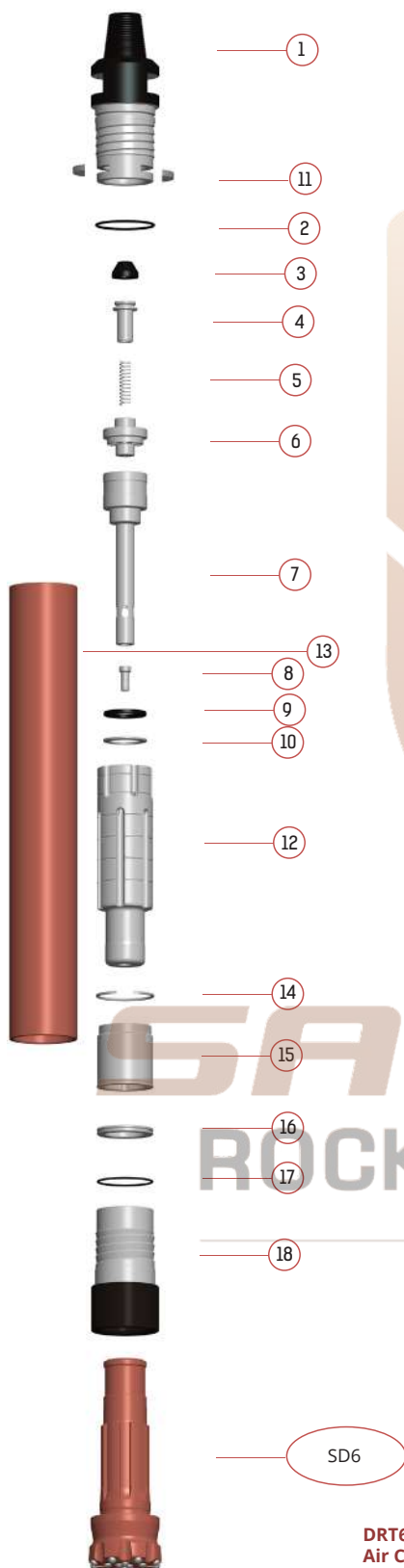
APPLICATIONS

- Water Well • Mining • Construction • Quarry



DRT SERIES

DRT60SD HAMMER



A DEDICATED TOOL FOR 6" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB(3 ½ API REG PIN)	1 NO	15-6Y6000-31ARM
	TOP SUB(2 7/8 API IF PIN)	1 NO	15-6Y6000-27IFM
2	"O" RING FOR TOP SUB	1 NO	37-10805H
3	CHECK VALVE CAP	1 NO	57-543832
4	CHECK VALVE	1 NO	19-34082M
5	SPRING	1 NO	17-221116
6	AIR DISTRIBUTOR	1 NO	12-6Y6000
7	CONTROL TUBE	1 NO	35-6T6000
8	CHOKE	1 NO	47-1240NB
9	BUFFER RING	1 NO	27-080609
10	METAL SPACER	1 NO	77-08066E
11	LOCK PLATE (2 PIECES)	1 SET	49-090513
12	PISTON	1 NO	52-6T6000
13	WEAR SLEEVE	1 NO	45-6Y6000
14	PISTON RETAINER RING	1 NO	89-110535
15	GUIDE BUSH	1 NO	65-6T6000
16	BIT RETAINER RING	1 NO	99-110813/A
17	"O" RING FOR BIT RETAINER RING	1NO	37-10003H
18	DRIVE SUB	1NO	75-6Y6001
	SERVICE KIT (S.NO: 2,3,5,8,9&17)	1 SET	6Y6000DHK
	HAMMER ASSEMBLY	1 NO	34-6T6000SD-31ARMR
	HAMMER ASSEMBLY	1 NO	34-6T6000SD-27IFMR

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	1129.0
2	HAMMER OUTSIDE DIA	mm	137.0
3	HAMMER WEIGHT	kg	91.0
4	CYLINDER BORE	mm	112.3
5	PISTON STROKE	mm	90.0 (Approx.)
6	PISTON WEIGHT	kg	21.3
7	HOLE SIZES	mm	152 – 178
8	WRENCH SIZE A/F	mm	A/F 90.0 W/40.0
9	SUITABLE SHANK	----	SD6 (With out Foot Valve)

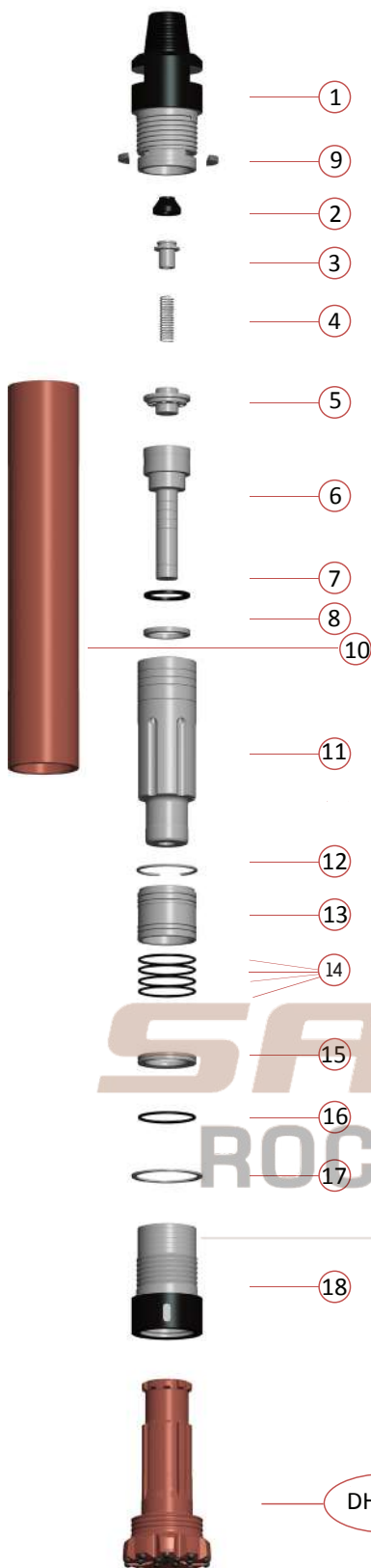
* SINGLE START THREAD ON TOP SUB & DRIVE SUB

DRT60SD
Air Consumption

PSI	100	150	200	250	300	350	400
CFM	170	300	500	700	870	1030	1170

DRT SERIES

DRT80DH HAMMER



A DEDICATED TOOL FOR 8" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOPSUB (4 ½ API REG PIN)	1 NO	15-8T8000-41ARM
2	CHECK VALVE CAP	1 NO	57-704640
3	CHECK VALVE	1 NO	19-46066M
4	SPRING	1 NO	17-221013
5	TOP VALVE	1 NO	12-8T8000
6	CONTROL TUBE	1 NO	35-8T8000
7	BUFFER RING	1 NO	27-110908
8	METAL SPACER	1 NO	29-110913
9	LOCK PLATE (2 PIECES)	1 SET	49-100612
10	WEAR SLEEVE	1 NO	45-8T8000
11	PISTON	1 NO	55-8T8000
12	PISTON RETAINER RING	1 NO	89-140635
13	GUIDE BUSH	1 NO	65-8T8000
14	'O' RING FOR GUIDE BUSH	4 NO	37-13204H
15	BIT RETAINER RING	1 NO	99-141018
16	'O' RING FOR B R RING	1 NO	37-12204H
17	DRIVE SUB SPACER	1NO	77-17155E
18	DRIVE SUB	1NO	75-8T8000
	SEAL KIT (P.NO.2,4,7,14&16)	1 SET	8T8000DHK
	HAMMER ASSEMBLY	1 NO	34-8T8000DH-41ARMR

HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	1360.0
2	HAMMER OUTSIDE DIA	mm	178.0
3	HAMMER WEIGHT	kg	168.0
4	CYLINDER BORE	mm	147.0
5	PISTON STROKE	mm	85.0 (Approx.)
6	PISTON WEIGHT	kg	44.1
7	HOLE SIZES	mm	200 – 254
8	WRENCH SIZE A/F	mm	A/F 115.0 / W/42.0
9	SUITABLE SHANK	-----	DHD380 (W/O Foot Valve)

* TWO START THREAD ON TOP SUB & DRIVE SUB

DHD380

DRT80DH
Air Consumption

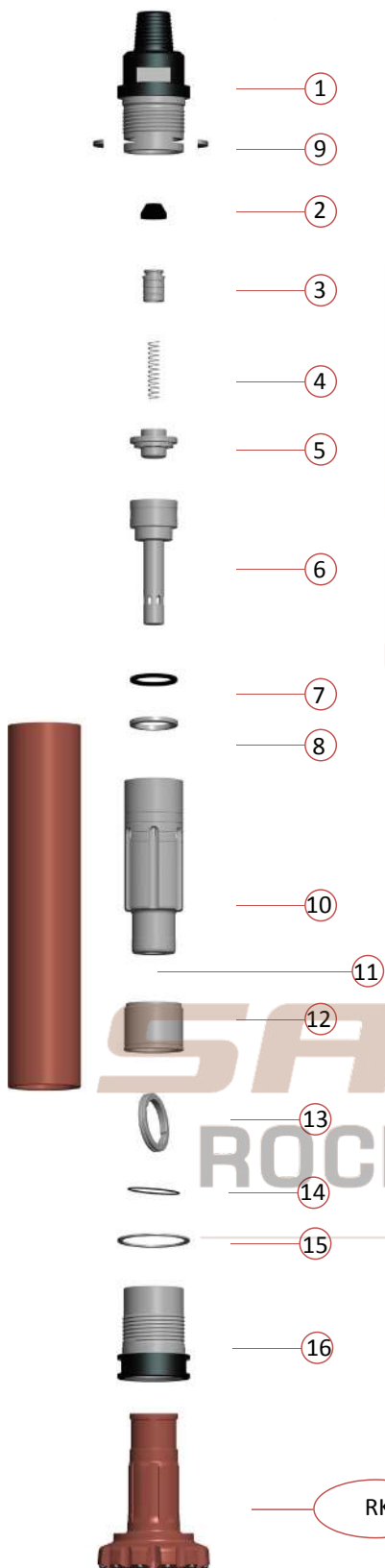
PSI	200	250	300	350	500
CFM	540	670	860	1020	1450

DRT SERIES

DRT10RK HAMMER

A DEDICATED TOOL FOR 10" DRILLING

SL.NO	NAME OF THE ITEM	QTY	PART NO
1	TOP SUB (4 ½ API REG PIN)	1 NO	15-1TX100-41ARM
2	CHECK VALVE CAP	1 NO	57-704539
3	CHECK VALVE	1 NO	19-56085M
4	SPRING	1 NO	17-321513
5	TOP VALVE	1 NO	12-1TX100
6	CONTROL TUBE	1 NO	35-1TX100
7	BUFFER RING	1 NO	27-121009
8	METAL SPACER	1 NO	29-121013
9	LOCK PLATE (2 PIECES)	1 SET	49-110712
10	PISTON	1 NO	52-1TX100
11	WEAR SLEEVE	1 NO	45-1TX100
12	GUIDE BUSH	1 NO	65-1TX100
13	BIT RETAINER RING	1 NO	99-151219
14	"O" RING FOR BRR	1 NO	37-13204H
15	DRIVE SUB SPACER	1 NO	77-19165E
16	DRIVE SUB	1 NO	75-1TX100
	SERVICE KIT (S.NO: 2,4,7,14)	1 SET	1TX100R1K
	HAMMER ASSEMBLY	1 NO	34-ITX100R1-41ARMR



HAMMER SPECIFICATION

SL.NO	DESCRIPTION	UNIT	DIMENSION
1	HAMMER LENGTH W/O BIT	mm	1172.0
2	HAMMER OUTSIDE DIA	mm	195.0
3	HAMMER WEIGHT	kg	200.0
4	CYLINDER BORE	mm	157.3
5	PISTON STROKE	mm	80.0 (approx.)
6	PISTON WEIGHT	kg	52.50
7	HOLE SIZES	mm	227 - 305
8	WRENCH SIZE A/F	mm	A/F 140 / W- 48.0
9	SUITABLE SHANK	-----	RK1 (With out Foot Valve)

* TWO START THREAD ON TOP SUB & DRIVE SUB

RK1

DRT10RK
Air Consumption

PSI	150	200	250	300	350	400
CFM	750	900	1050	1200	1350	1500

DTH HAMMERS MAINTENANCE

GENERAL INSTRUCTIONS

GENERAL CARE

- All rods should be cleaned before use to remove scrap (sometimes found in new rods), rust scales and debris.
- Ensure that the air screen is in place and free from obstruction.
- If hammer oil is only added at each rod change, care should be taken to ensure that an adequate supply of oil is maintained to the hammer at the recommended rate. Therefore, in hard formations, it may be necessary to add oil between rod changes.

RECOMMENDED WEIGHT ON THE BIT / ROTATION SPEEDS

As a guide to the most efficient weight the following procedure should be used.

- Increase down-pressure until air pressure ceases to increase.
- Note hydraulic feed pressure.
- Reduce down the pressure until air pressure starts to decrease and note hydraulic feed pressure.
- Operate between these two settings.
- As a rule of thumb, rotate the bit 2 revolutions per inch (25.4mm) of penetration.
- Rotation too slow or too fast can cause premature bit failure.

SHUT DOWN

Before shutting down at the end of each shift, we recommend the following procedures.

- Flush hammer with air/water for few minutes and then turn off water injection.
- Flush hammer with air/oil for a few minutes. This will coat the hammer parts preventing corrosion/rust.
- Never leave the tool in a wet/muddy hole. Pull back from bottom as far as necessary to prevent the hammer sitting under water.
- It is also good practice to pour at least half litre of oil down the drill at start-up of new shift.
- If the hammer is removed from the drill rig for any reason, it is wise to pour some quantity of oil into it and block both ends. Provided the flushing, as outlined in steps one and two above have been carried out, the hammer should be stripped, cleaned and oiled before being stored.

HAMMER BREAKOUT

- Pipe wrenches with flat jaws are not recommended as break-out tools. A more suitable tool would be a chain wrench, or similar type tool, which encircles the circumferences of cylinder (pipe wrenches with radial jaws approximating the curvature of the cylinder are also acceptable).
- It is not recommended to use heat on any part of the hammer to assist break-out, as this will affect the structure of the steel.
- It is not recommended to subject the hammer to any external impact to assist break-out, as deformation of the cylinder and damage to threads may occur.
- Break-out tool placement should not be over the cylinder thread area as this can lead to distortion and ultimate breakage.
- Break-out tool placement on the bit shank is not recommended as this will damage the lower seal area. This will cause misalignment of the bit in the drive sub

LUBRICATION

It is therefore extremely important that an adequate supply of the correct type of rock drill oil is constantly fed to the hammer whilst it is operating.

Failure to do so will quickly lead to excessive component wear and if the oil supply is cut off for any reason, the piston will quickly seize inside the wearsleeve, resulting in irreparable damage to both components.

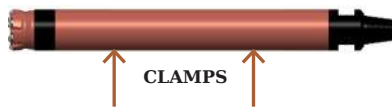
An airline lubrication system should be installed, preferable on the drill rig. The lubricator reservoir should be of sufficient capacity to supply the required volume of rock drill oil for a full shift. With this hammer, this might prove impractical, but the capacity should be sufficient for at least half a shift. This is equally important that the lubricator system must be adjustable and have a visual check to ensure the lubricator does not run out of oil.

The amount of lubricating oil should be increased by 50% when drilling with water or foam. When new drill pipes are added to the drill string, it is recommended that a half pint (quarter of a litre) of rock drill oil is poured into the pipe to provide a good internal coating and helps prevent the hammer from running dry at any time. The grade of rock drill oil will be determined by the ambient temperature at the drilling site. If the ambient temperature is between 0 and 25 degree centigrade, then 30 grade oil should be used. If the ambient temperature is greater than 25 degree centigrade, use 50 grade oil.

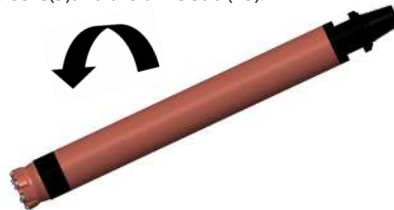
DTH HAMMERS MAINTENANCE

DISASSEMBLY

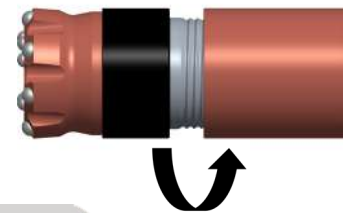
A. When dismantling the hammer it is essential that cylinder are clamped in correct position, away from threads, which can be damaged.



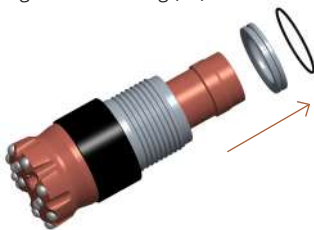
B. Break the tap joint between the wear sleeve(9) and the drive sub (15).



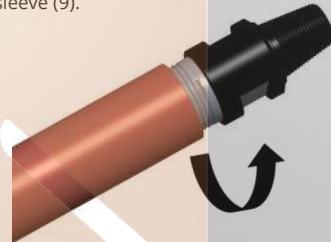
C. Unscrew and remove the drill bit and drive sub (15)



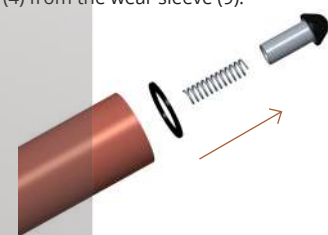
D. Remove the drive sub (15) bit retainer ring (13) along with its "O" ring (14).



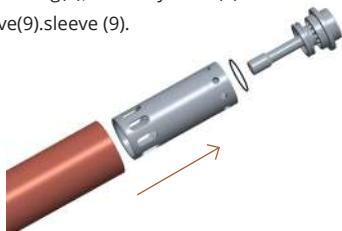
E. Unscrew and remove the top sub (1) from wear sleeve (9).



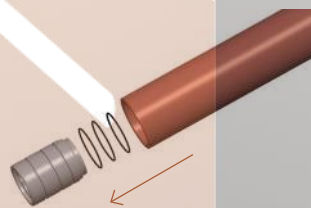
F. Take out the check valve (2), spring (3), buffer ring (4) from the wear sleeve (9).



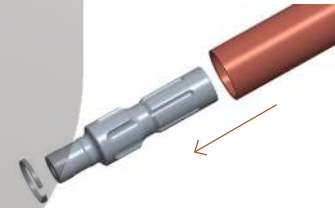
G. Take out the air distributor (6) along with its "O" ring(5), inner cylinder(7) from the wear sleeve(9).sleeve (9).



H. Remove the aligner (11) along with its "O"ring(12) from the wear sleeve(9).



I. Remove the piston retainer ring(10) and piston(8) from the wear sleeve(9).

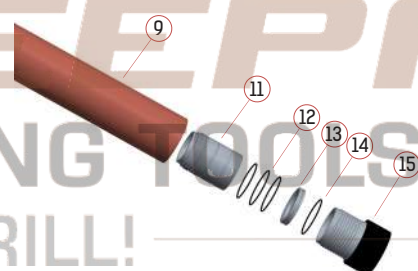


ASSEMBLY

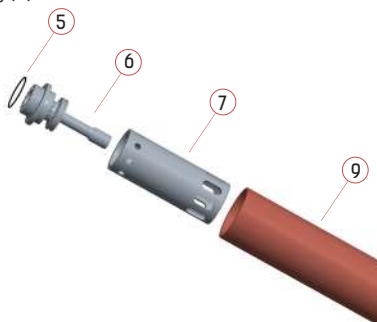
- Inspect all the components free from burrs, dirt. Liberally coat all the parts with good quality of drill oil and threads with grease.
- Place the piston (8) and piston retainer ring (10) in the wear sleeve (9).



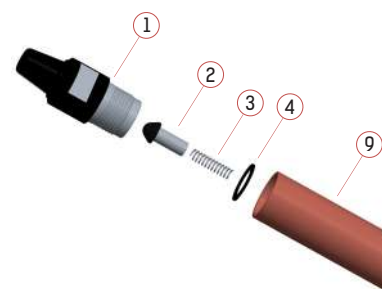
- Place the guide bush (11), along with "O" ring (12) in the wear sleeve (9).
- Place the bit retiner ring (13), along with its "O" ring (14).
- Screw-up the drive sub (15) in the wear sleeve (9).



- Place the inner cylinder(7) and air distributor(6) along with the "o" ring (5) in the wear sleeve.



- Place the buffer ring (4), spring (3) and check valve (2) in the wear sleeve. Screw-up the top sub (1) and the wear sleeve (9)



DTH HAMMERS MAINTENANCE

INSPECTION

PISTON

- There are two main areas to examine on a used piston:-
- Check the body diameter for signs of pick-up and burning (both are signs of poor lubrication). Using a micrometer measure the diameter and refer to the quoted minimum size above.
- Any light 'Pick up' marks can be removed using emery cloth, however if there are signs of overheating and cracking the piston should be replaced and the lubrication system examined.
- Secondly, using a micrometer, measure the diameter of the bore at both ends of the piston and refer to the maximum quoted sizes.
- Examine the striking face. Some degree of distortion is acceptable providing there are no signs of cracking. If distortion has affected the chamfer and possibly distorted the foot valve bore diameter, this needs to be reformed on a lathe and the foot valve bore re-ground to its original diameter. Burrs and dents can be removed with an emery stone.

WEAR SLEEVE

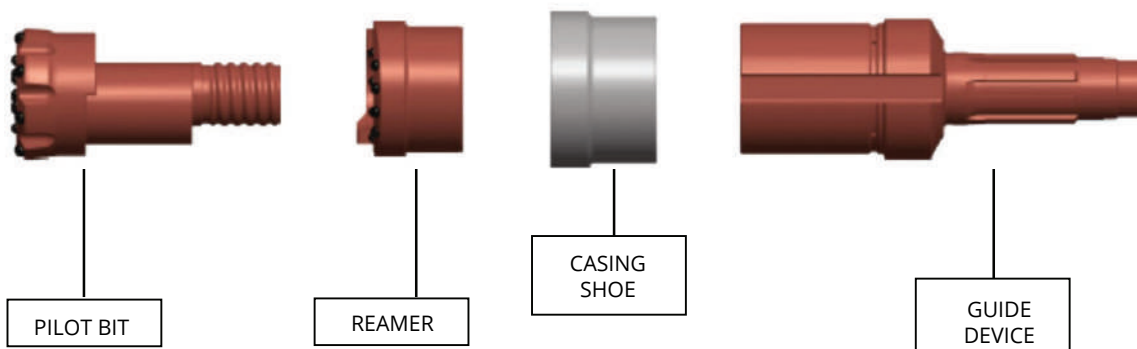
- Either a micrometer or a vernier, measure the outer diameter of the wear sleeve. If it is below the minimum it must be replaced. The wear rate of the wear sleeve can be slowed by replacing the chuck before the wear area reaches the wear sleeve.
- The bore of the wear sleeve should be periodically checked for any signs of 'pick-up'. If a piston has broken within the wear sleeve it is imperative that the bore is honed to remove any burrs or 'pick-up'. Failure to do so will result in 'pick-up' on the replaced piston and will lead to early failure of this component.

AIR DISTRIBUTOR	• Inspect the O.D. for nicks, burrs and scoring. • Remove all minor irregularities with emery cloth. • Replace if necessary.
CHECK VALVE	• The check valve should be smooth and free from abrasions. Replace if necessary.
BACK HEAD	• Check make-up face, removing all nicks and marks. • Remove all burrs on the thread area with a fine file.
O RINGS	• Inspect for damage such as cracks and deformations. • Replace if necessary.
CHUCK	• Check for wear and cracks. • Always try and keep the chuck diameter should not be small than the wear sleeve this extends the service life of the wear sleeve.

SAT DEEPA
ROCK DRILLING TOOLS
— JUST DRILL! —

OTHER DTH PRODUCTS





DEEPEX 90 (DX90DHW)

PART	DESCRIPTION	PRODUCT NUMBER
DX90DHW	DEEPEX ASSEMBLY	26-33090R123AW
GUIDE DEVICE SHANK	DHD3.5 SHANK	G6-33090R123AW
PILOT BIT	90 mm DIA	P6-090R123AW
REAMER BIT	123 mm DIA	R6-090R123AW
CASING SHOE	PIPE 115/102 MM	S6-090AW

DEEPEX 115 (DX115DHW)

PART	DESCRIPTION	PRODUCT NUMBER
DX115DHW	DEEPEX ASSEMBLY	26-43115R152BW
GUIDE DEVICE SHANK	DHD340 SHANK	G6-43115R152BW
PILOT BIT	115 mm DIA	P6-115R152BW
REAMER BIT	152 mm DIA	R6-115R152BW
CASING SHOE	142/128 MM	S6-115BW

DEEPEX 115 (DX115QLW)

PART	DESCRIPTION	PRODUCT NUMBER
DX115QLW	DEEPEX ASSEMBLY	26-45115R152BW
GUIDE DEVICE SHANK	QL40 SHANK	G6-45115R152BW
PILOT BIT	115 mm DIA	P6-115R152BW
REAMER BIT	152 mm DIA	R6-115R152BW
CASING SHOE	142/128 MM	S6-115BW

DEEPEX 115 (DX115MXW)

PART	DESCRIPTION	PRODUCT NUMBER
DX115MXW	DEEPEX ASSEMBLY	26-44115R152BW
GUIDE DEVICE SHANK	MX4 SHANK	G6-44115R152BW
PILOT BIT	115 mm DIA	P6-115R152BW
REAMER BIT	152 mm DIA	R6-115R152BW
CASING SHOE	142/128 MM	S6-115BW

DEEPEX 115 (DX115PAW)

PART	DESCRIPTION	PRODUCT NUMBER
DX115PAW	DEEPEX ASSEMBLY	26-47115R152BW
GUIDE DEVICE SHANK	PANTHER SHANK	G6-47115R152BW
PILOT BIT	115 mm DIA	P6-115R152BW
REAMER BIT	152 mm DIA	R6-115R152BW
CASING SHOE	142/128 MM	S6-115BW

DEEPEX 140 (DX140DHW)

PART	DESCRIPTION	PRODUCT NUMBER
DX140DHW	DEEPEX ASSEMBLY	26-53140R181CW
GUIDE DEVICE SHANK	DHD350 SHANK	G6-53140R181CW
PILOT BIT	140 mm DIA	P6-140R181CW
REAMER BIT	181 mm DIA	R6-140R181CW
CASING SHOE	171/157 MM	S6-140CW

DEEPEX 140 (DX140SDW)

PART	DESCRIPTION	PRODUCT NUMBER
DX140SDW	DEEPEX ASSEMBLY	26-51140R181CW
GUIDE DEVICE SHANK	SD5 SHANK	G6-51140R181CW
PILOT BIT	140 mm DIA	P6-140R181CW
REAMER BIT	181 mm DIA	R6-140R181CW
CASING SHOE	171/157 MM	S6-140CW

DEEPEX 140 (DX140QLW)

PART	DESCRIPTION	PRODUCT NUMBER
DX140QLW	DEEPEX ASSEMBLY	26-55140R181CW
GUIDE DEVICE SHANK	QL50 SHANK	G6-55140R181CW
PILOT BIT	140 mm DIA	P6-140R181CW
REAMER BIT	181 mm DIA	R6-140R181CW
CASING SHOE	171/157 MM	S6-140CW

DEEPEX 165 (DX165DHW)

PART	DESCRIPTION	PRODUCT NUMBER
DX165DHW	DEEPEX ASSEMBLY	26-63165R209DW
GUIDE DEVICE SHANK	DHD360 SHANK	G6-63165R209DW
PILOT BIT	165 mm DIA	P6-165R209DW
REAMER BIT	209 mm DIA	R6-165R209DW
CASING SHOE	196/183 MM	S6-165DW

DEEPEX 165 (DX165SDW)

PART	DESCRIPTION	PRODUCT NUMBER
DX165SDW	DEEPEX ASSEMBLY	26-61165R209DW
GUIDE DEVICE SHANK	SD6 SHANK	G6-61165R209DW
PILOT BIT	165 mm DIA	P6-165R209DW
REAMER BIT	209 mm DIA	R6-165R209DW
CASING SHOE	196/183 MM	S6-165DW

DEEPEX 165 (DX165QLW)

PART	DESCRIPTION	PRODUCT NUMBER
DX165QLW	DEEPEX ASSEMBLY	26-65165R209DW
GUIDE DEVICE SHANK	QL60 SHANK	G6-65165R209DW
PILOT BIT	165 mm DIA	P6-165R209DW
REAMER BIT	209 mm DIA	R6-165R209DW
CASING SHOE	196/183 MM	S6-165DW

DEEPEX 190 (DX190DHW)

PART	DESCRIPTION	PRODUCT NUMBER
DX190DHW	DEEPEX ASSEMBLY	26-63190R237EW
GUIDE DEVICE SHANK	DHD 360 SHANK	G6-63190R237EW
PILOT BIT	190 mm DIA	P6-190R237EW
REAMER BIT	237 mm DIA	R6-190R237EW
CASING SHOE	222/205 MM	S6-190EW

DEEPEX 190 (DX190SDW)

PART	DESCRIPTION	PRODUCT NUMBER
DX190SDW	DEEPEX ASSEMBLY	26-61190R237EW
GUIDE DEVICE SHANK	SD6 SHANK	G6-61190R237EW
PILOT BIT	190 mm DIA	P6-190R237EW
REAMER BIT	237 mm DIA	R6-190R237EW
CASING SHOE	222/205 MM	S6-190EW

DEEPEX 190 (DX190QLW)

PART	DESCRIPTION	PRODUCT NUMBER
DX190QLW	DEEPEX ASSEMBLY	26-65190R237EW
GUIDE DEVICE SHANK	QL60 SHANK	G6-65190R237EW
PILOT BIT	190 mm DIA	P6-190R237EW
REAMER BIT	237 mm DIA	R6-190R237EW
CASING SHOE	222/205 MM	S6-190EW

DEEPEX 240 (DX240DHW)

PART	DESCRIPTION	PRODUCT NUMBER
DX240DHW	DEEPEX ASSEMBLY	26-83240R306FW
GUIDE DEVICE SHANK	DHD380 SHANK	G6-83240R306FW
PILOT BIT	240 mm DIA	P6-240R306FW
REAMER BIT	306 mm DIA	R6-240R306FW
CASING SHOE	273/260 MM	S6-240FW

DEEPEX 240 (DX240QLW)

PART	DESCRIPTION	PRODUCT NUMBER
DX240QLW	DEEPEX ASSEMBLY	26-85240R306FW
GUIDE DEVICE SHANK	QL80SHANK	G6-85240R306FW
PILOT BIT	240 mm DIA	P6-240R306FW
REAMER BIT	306 mm DIA	R6-240R306FW
CASING SHOE	273/260 MM	S6-240FW

DEEPEX 240 (DX240RKW)

PART	DESCRIPTION	PRODUCT NUMBER
DX240QLW	DEEPEX ASSEMBLY	26-R1240R306FW
GUIDE DEVICE SHANK	RK1SHANK	G6-R1240R306FW
PILOT BIT	240 mm DIA	P6-240R306FW
REAMER BIT	306 mm DIA	R6-240R306FW
CASING SHOE	273/260 MM	S6-240FW

ADAPTERS

BOX - BOX



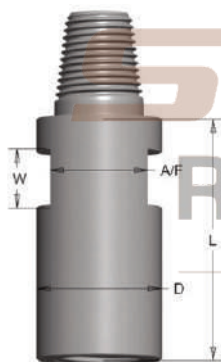
CONNECTION A	CONNECTION B	INNER DIA mm	DIA mm	LENGTH mm	A/F	WRENCH Width	Product No
2 3/8 API REG BOX	2 3/8 API REG BOX	28	89	250	70	40	24-B17B17089250070
2 3/8 API REG BOX	2 7/8 API IF BOX	32	114	280	90	50	24-B17B20114280090
2 3/8 API REG BOX	3 1/2 API REG BOX	32	114	280	70	50	24-B17B21114280070
2 7/8 API IF BOX	2 7/8 API IF BOX	38	114	310	90	50	24-B20B20114310090
2 7/8 API IF BOX	3 1/2 API REG BOX	38	114	310	90	50	24-B18B21114310090
2 3/8 API REG BOX	2 3/8 API IF BOX	30	89	260	70	40	24-B17B18089260070
2 3/8 API IF BOX	3 1/2 API REG BOX	38	114	310	90	50	24-B18B21114310090
2 3/8 API IF BOX	4 1/2 API REG BOX	38	140	330	90	50	24-B18B24140330090
3 1/2 API REG BOX	3 1/2 API IF BOX	36	130	330	90	50	24-B21B23130330090
4 1/2 API REG BOX	3 1/2 API IF BOX	45	140	360	90	50	24-B24B23140360090

PIN - PIN



CONNECTION A	CONNECTION B	INNER DIA mm	DIA mm	LENGTH mm	A/F	WRENCH Width	Product No
2 3/8 API REG PIN	2 7/8 API IF PIN	32	114	280	90	50	24-P17P20114280090
2 7/8 API IF PIN	3 1/2 API REG PIN	38	114	300	90	50	24-P20P21114300090
2 7/8 API IF PIN	2 7/8 API IF PIN	38	114	300	90	50	24-P20P20114300090
2 3/8 API REG PIN	3 1/2 API REG PIN	32	114	280	90	50	24-P17P21114280090
2 3/8 API REG PIN	2 3/8 API REG PIN	28	89	240	70	40	24-P17P17089240070
2 3/8 API REG PIN	2 3/8 API REG PIN	28	76	240	54	40	24-P17P17076240054
2 3/8 API IF PIN	3 1/2 API REG PIN	38	114	280	90	50	24-P18P21114280090
3 1/2 API REG PIN	3 1/2 API REG PIN	38	114	320	90	50	24-P21P21114320090
4 1/2 API REG PIN	3 1/2 API REG PIN	45	140	360	90	50	24-P24P21140360090
4 1/2 API REG PIN	4 1/2 API REG PIN	45	140	400	90	50	24-P24P24140400090

PIN - BOX



CONNECTION A	CONNECTION B	INNER DIA mm	DIA(mm) min max	LENGTH mm	A/F	WRENCH Width	Product No
2 3/8 API REG PIN	2 3/8 API REG BOX	28	89 89	250	70	40	24-P17B17089250070
3 1/2 API IF PIN	6 5/8 API REG BOX	45	160 180	400	115	50	24-P23B27180400115
3 1/2 API IF PIN	4 1/2 API REG BOX	45	120 140	350	90	50	24-P23B24140350090
3 1/2 API REG PIN	6 5/8 API REG BOX	40	160 180	400	115	50	24-P21B27180400115
3 1/2 API REG PIN	D17 BOX	38	114 140	330	90	50	24-P21B30140330090
3 1/2 API REG PIN	3 1/2 API REG BOX	38	114 114	300	90	50	24-P21B21114300090
3 1/2 API REG PIN	2 7/8 API IF BOX	38	114 114	310	90	50	24-P21B20114310090
3 1/2 API REG PIN	2 3/8 API REG BOX	32	114 114	280	90	50	24-P21B17114280090
2 7/8 API IF PIN	D17 BOX	38	114 140	330	90	50	24-P20B30140330090
2 7/8 API IF PIN	4 1/2 API REG BOX	38	114 148	330	90	50	24-P20B24148330090
2 7/8 API IF PIN	3 1/2 API REG BOX	38	114 114	300	90	50	24-P20B21114300090
2 7/8 API IF PIN	2 7/8 API IF BOX	38	114 114	300	90	50	24-P20B20114300090
2 7/8 API IF PIN	2 3/8 API REG BOX	32	114 114	280	90	50	24-P20B17114280090
2 7/8 API REG PIN	3 1/2 API REG BOX	30	89 114	300	70	40	24-P19B21114300070
2 7/8 API REG PIN	2 7/8 API IF BOX	30	89 114	300	70	40	24-P19B20114300070
2 7/8 API REG PIN	2 3/8 API REG BOX	30	89 89	260	70	40	24-P19B17089260070
2 3/8 API IF PIN	2 3/8 API IF BOX	38	89 89	280	65	40	24-P18B18089280065
2 3/8 API REG PIN	3 1/2 API REG BOX	32	114 114	280	90	50	24-P17B21114280090
2 7/8 API IF PIN	6 5/8 API REG BOX	40	160 180	400	115	50	24-P20B27180400115
3 1/2 API IF PIN	D17 BOX	50	140 140	331	115	50	24-P23B30140331115
3 1/2 API REG BOX	3 1/2 API IF PIN	36	130 130	330	90	60	24-B21P23130330090
6 5/8 API REG BOX	4 1/2 API REG PIN	40	150 195	383	115	50	24-B24P27195383115
4 1/2 API REG BOX	4 1/2 API REG PIN	45	114 140	400	90	50	24-B24P24140400090
4 1/2 API REG PIN	3 1/2 API REG BOX	45	140 140	360	90	50	24-P24B21140360090
4 1/2 API REG PIN	D17 BOX	40	140 140	330	100	50	24-P24B30140330100

DRILL PIPES

PIN - BOX

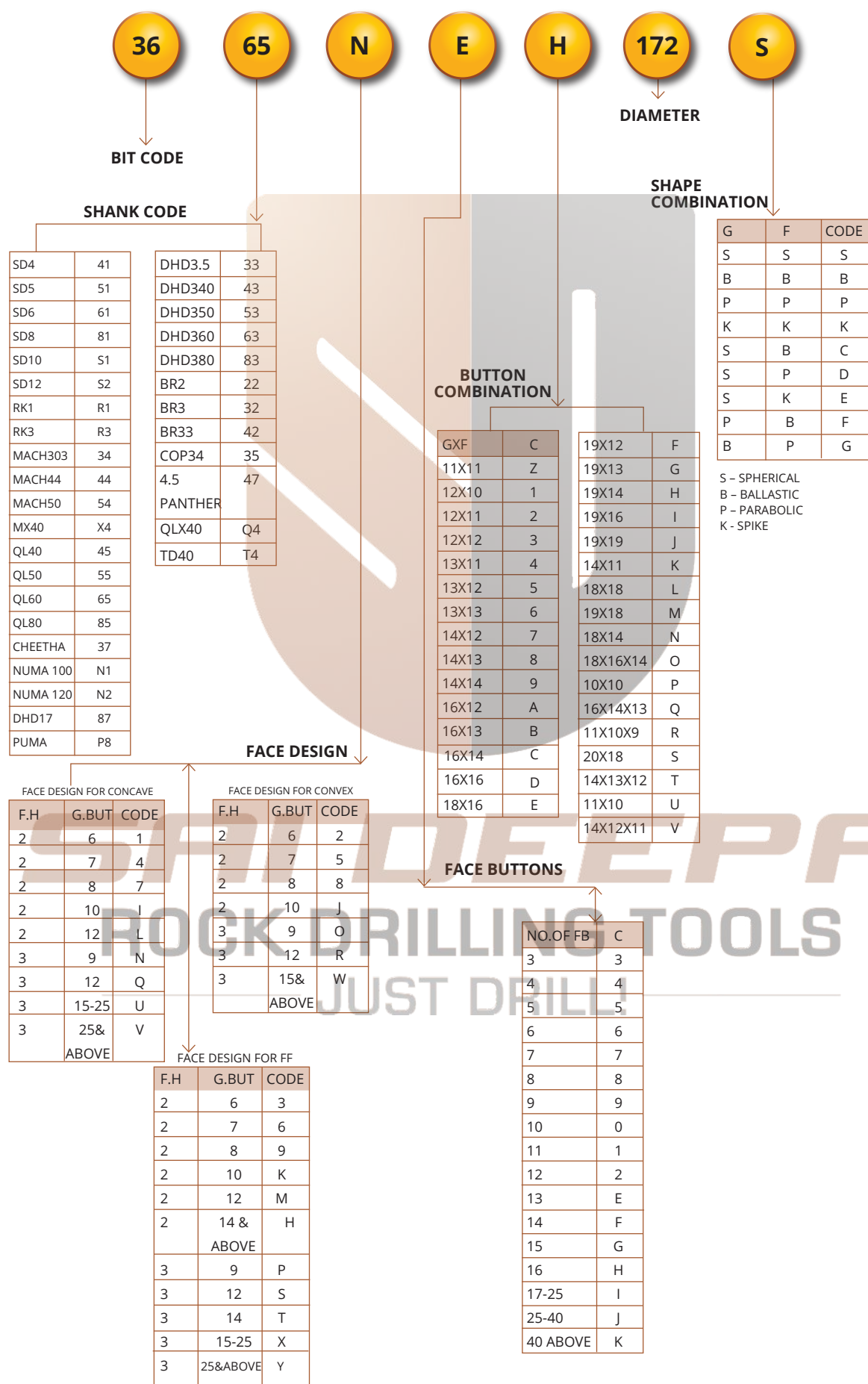


THREAD FOR PIPE MALE (PIN)	THREAD FOR PIPE FEMALE (BOX)	DIA mm	WALL Thickness	LENGTH mm	FLAT mm	PRODUCT NO
2 3/8 API REG	2 3/8 API REG	76	4	3000	63	14-0760430023AR/W
2 3/8 API REG	2 3/8 API REG	89	4	3000	65	14-0890430023AR/W
2 3/8 API REG	2 3/8 API REG	76	6.3	4000	63	14-0760640023AR/W
2 3/8 API REG	2 3/8 API REG	89	6.3	5000	65	14-0890650023AR/W
2 3/8 API IF	2 3/8 API IF	89	4	3000	65	14-0890430023IF/W
2 7/8 API REG	2 7/8 API REG	102	6.3	5000	75	14-1020650027AR/W
2 7/8 API IF	2 7/8 API IF	114	6.3	5000	95	14-1140650031IF/W
3 1/2 API REG	3 1/2 API REG	114	6.3	5000	95	14-1140650031AR/W
2 3/8 API REG	2 3/8 API REG	73	5.16	3000	63	14-0730530023AR/W
5D KOREAN	5D KOREAN	73	5.16	1500	62.5	14-073051505DK/W
5D KOREAN	5D KOREAN	73	5.5	3000	62.5	14-073053005DK/W
7D KOREAN	7D KOREAN	73	5.5	1500	56	14-073051507DK/W
2 3/8 API REG	2 3/8 API REG	73	5.16	2000	63	14-0730520023AR/W
5D KOREAN	5D KOREAN	60.5	5.5	3000	62.5	14-060063005DK/W
7D KOREAN	7D KOREAN	60.5	5.5	1500	56	14-060063007DK/W

SAI DEEPA
ROCK DRILLING TOOLS
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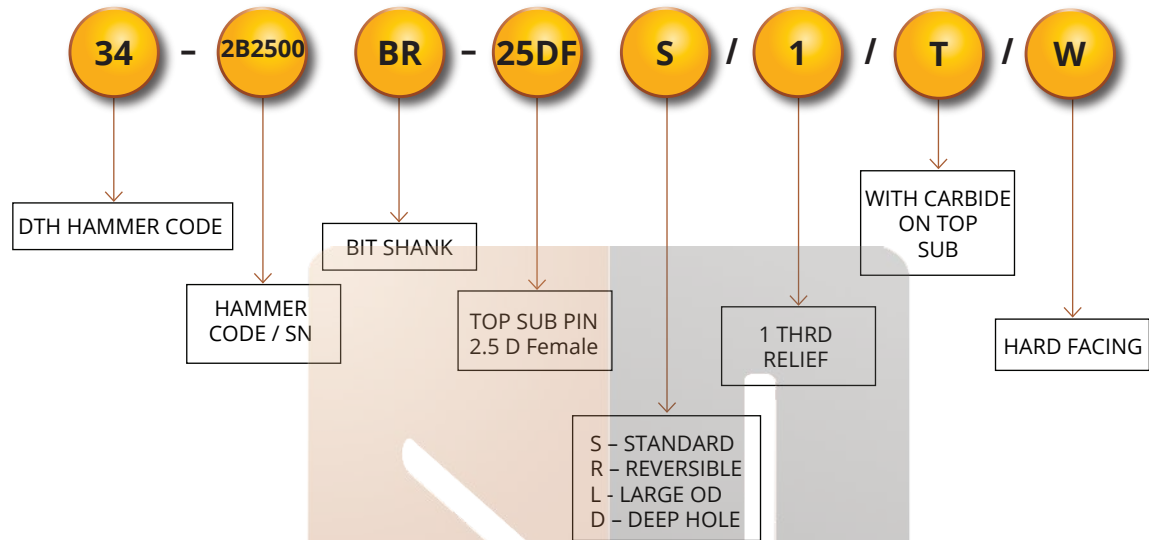
SPECIFICATION CHARTS

BUTTON BIT

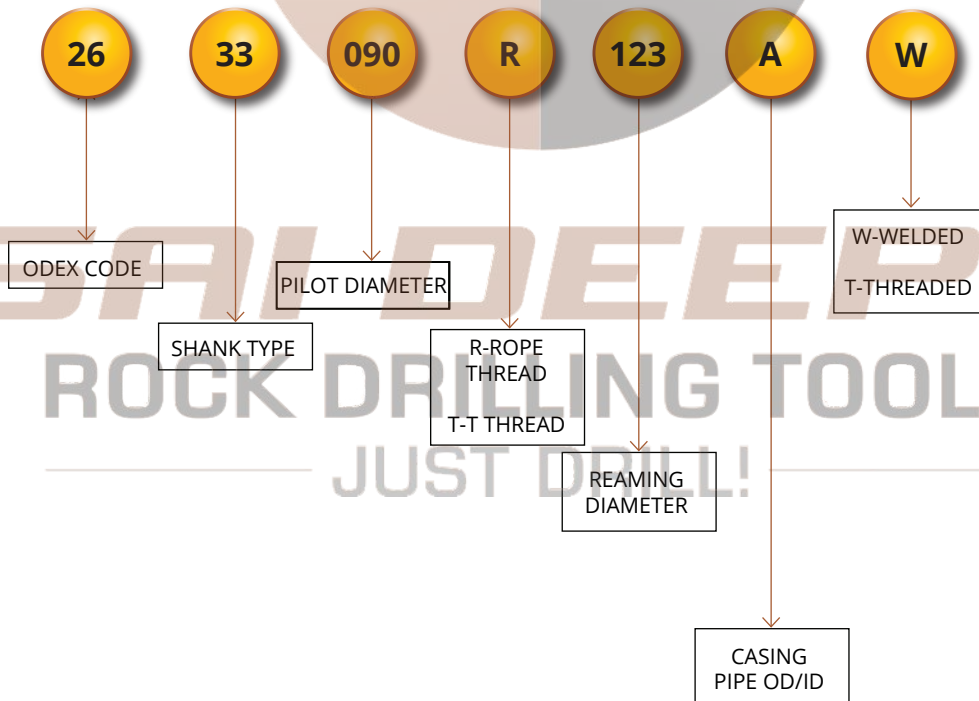


SPECIFICATION CHART

HAMMER ASSEMBLY



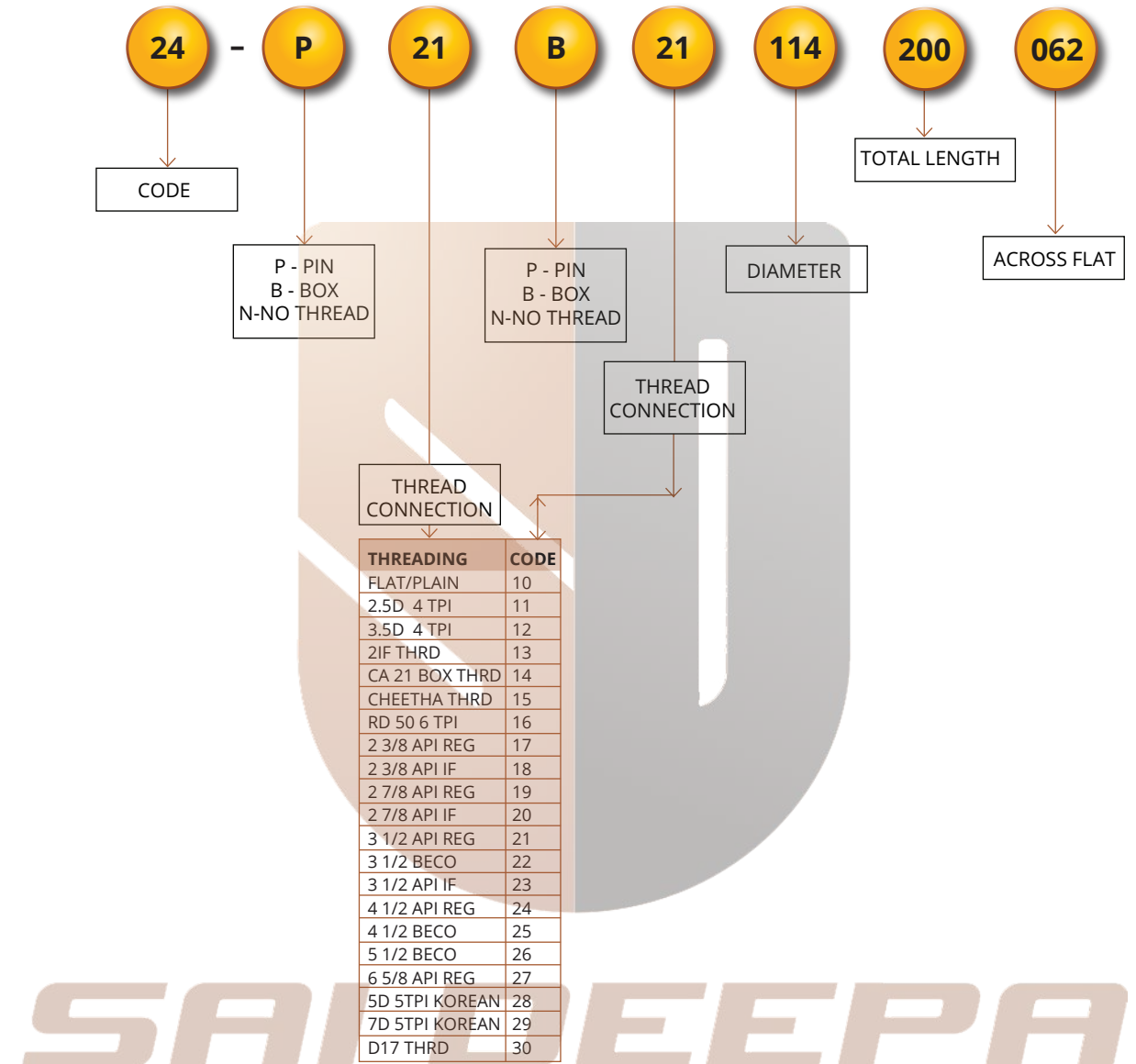
ODEX



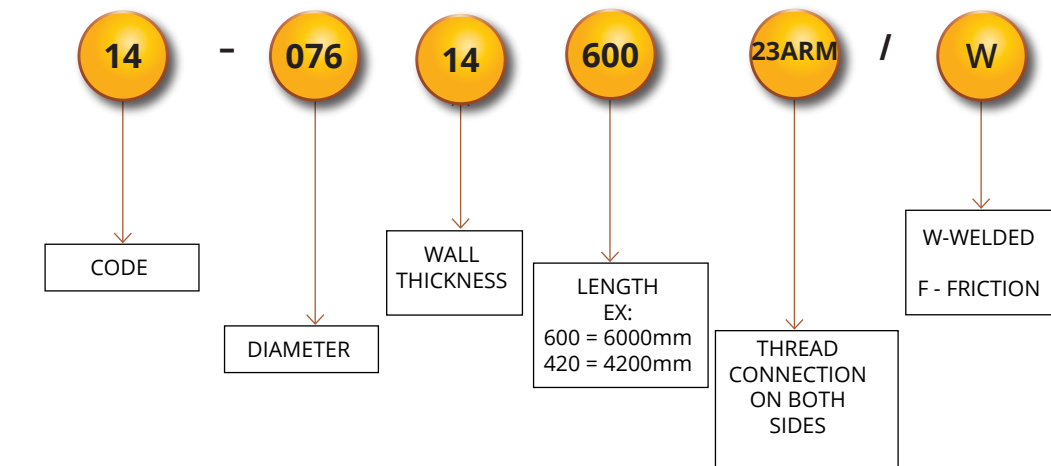
OD/ID	CODE
115/102	A
142/128	B
171/157	C
196/183	D
222/205	E
273/260	F

SPECIFICATION CHART

ADAPTERS



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