

DTH DRILLING RC DRILLING OVERBURDEN DRILLING

Percussive Products

Sustainable Improvements Beyond Your Expectations





Sustainable Improvements, Beyond Your Expectations!



JSI mainly produces rock drilling tools for mining, construction and taphole drill tools for blast furnances. Since its foundation in 1997, JSI has been striving to provide customers with fast, stable and economical solutions for rock drilling, and effectively helps them reduce rock drilling cost. Now JSI has been a specialized manufacturer of rock drilling tools with integration of R&D, production, related products supply and solution consultancy.

With constant efforts of years, not only does JSI own its own factories and laboratory but also has established strategic partnership with a number of outstanding raw material vendors. We can offer customers the most suitable solution based upon the full understanding of their specific requirements, and a wide range of actual performance tests of our products under the rigorous control on production quality and supplying system.

JSI gains high reputation from customers both at home and abroad by implementing a customer-oriented business philosophy. Now JSI's customers come from more than 70 countries, making JSI the leading exporter of rock drilling tools in China. JSI also pays great attention to quality improvement of products and push the development of Chinese rock drilling industry. JSI has won a lot of rewards from National competent authorities.

JSI people always pursue the principle that everything we do must conform to objective facts, never exaggerate and hide facts, and be honest when facing problems.

JSI will give its commitment to the customers, employees as well as society.



SAFETY- LIVE WITH IT

At JSI we recognise that Safety is a state of mind.

We believe that by embedding Safety as our foundation, and then building a business around it, we've developed a culture that creates ownership of positive behaviours to keep ourselves and our workmates safe. It's bottom up. Top Down. Its throughout our business model We've measured Positive Safety Indicators since inception

QAQC

Technology Identical process technologies to European competitors. Equipment

Advanced CNC lathes and European heat treatment facilities used onsite.

Raw material

Only recognised premium quality raw materials used during manufacturing process.

Testing Lab

Onsite test lab facilities followed up by third party testing

Quality System ISO 9001 Quality management system since 2006.

Staff

Low staff turnover, onsite training. Highly competent tradesmen delivering premium quality tools.



GLOBAL PRESENCE

- \rightarrow Fast growing client base globally.
- \rightarrow Global presence in over 70 countries.
- →Strategic relationships with recognised industry leaders.



FOOTPRINTS IN

- Algeria
- Angola
- Argentina
- Armenia
- Australia
- Austria
- Belgium
- Bolivia Brazil
- Bulgaria
- Cambodia
- Canada
- Chile
- China
- Colombia
- Croatia
- Cyprus
- Denmark
- Ecuador

- Egypt
- Ethiopia
- Finland
- France
- Germany
- Great Britain
- Greece
- Hungary
- Iceland
- India
- Indonesia
- Israel
- Italy
- Japan
- Jordan
- Kazakhstan
- Kenya
- Korea
- Malaysia

- Mali
- Mexico
- Mongolia
- Nepal
- Netherlands
- New Zealand
- Nigeria
- Norway
- Oman
- Pakistan
- Panama
- Peru
- Philippines
- Poland
- Portugal
- Qatar
- Romania
- Russia
- Saudi Arabia

- Singapore
- South Africa
- Spain
- Sudan
- Sweden
- Switzerland Thailand
- Tunisia
- Turkey
- Uganda
- Ukraine
- USA
- Uruguay
- Uzbekistan
- Venezuela
- Vietnam
- Yemen
- Zambia
- Zimbabwe



PRODUCTS

Our materials are fully tested to ensure they outperform the competition and that only the best available steel is used.

- A complete range of tools for all drilling scenarios.
- We deliver on special projects and customised scenarios when required.
- We guarantee to out price our competitors.

Only the best available steel is used.



TEST RESULTS

Premium Quality, Performance, Savings. JSI products deliver exceptional performance while lowering your expenditure.



PERFORMANCE/PRICE

Figures are based on cumulative test results over the last 5 year period.





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DTH OVERVIEW

The high air pressure DTH hammer is designed as DTH rock drilling tool. It differs from other rock drilling tools in the way that this kind of hammer always stays in the bottom of the hole during the operation while the piston punches down directly against the drill bit. Compressed air is led to the DTH hammer through the drill tube. Exhaust air is discharged through hole in drill bit, thus flushing out the cuttings to clean the drill hole. Rotation is delivered from a rotation unit, and feed force from the feed is transferred to the DTH hammer via the drill tube. The DTH hammer comprises a narrow, elongated external cylinder which contains a piston, an internal cylinder, an air distributor and a check valve. The top sub with a spanner slot and coupling thread is fitted to the top side of the external cylinder. The bottom part, the drive sub (also with thread), connects with the drill bit and transfers feed force as well as rotation to the drill bit. A stop ring limits axial movements of the drill bit. The purpose of the check valve is to prevent impurities from getting into the DTH hammer when operating pressure is shut off. During drilling, the drill bit is pushed into the DTH hammer and pressed against the drive chuck. The piston strikes directly against the impact surface of the bit. When the bit loses contact with the bottom of the hole, air is blown down strongly.

SELECTING THE RIGHT HAMMER

Valved DTH hammer

- Valveless air distribution, more reliable than before
- → Because of simple structure, piston has long life
- Highly efficient energy transfer and penetration rate, low air consumption and oil consumption
- hThe DTH hammer has less breakdowns, fewer parts and good heat treatment, and is and easy to maintain because of the simple structure
- Easy to be disassembled as top sub, drive chuck and external cylinder are connected by multi-step thread

Explanation of code

Example: DHD4 DHD - DHD bits shank 4 - 4" hammer

Valveless DTH hammer

- DTH button bits do not need foot valve, and the troubles caused by breakage, thermal expansion and contraction of foot valve can be avoided
- Low impact energy loss, high impact frequency, drilling speed is faster than valved DTH hammer by 15-30%
- Simple structure, reliable parts, long life, cheap and easy repair and maintenance
- Low air consumption and oil consumption. Oil consumption is lower than valved DTH hammer by about 10%

Explanation of code

Example: JSDHD4(W) DHD - DHD bits shank 4 - 4" hammer W - Bit without foot valve







DTH hammer - Valveless

DHBR1(W)

Middle-Low air pressure without foot valve



Weight	(less bit)	Outsid	de Dia.	Length	(less bit)	Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
10.00	22.05	54	2.13	760	29.92	64 - 76	2.52 - 2.99	BR1
Connectio	on thread	Working	pressure	Impact rate	e at 1.4 Mpa	Recommended rotation speed		Air consumption, CFM
		М	ра	ŀ	Ηz	r/r	nins	145PSI - 350PSI
RD BC	40 DX	0.7	- 1.5	2	27	25	- 40	200 - 600



DTH drill bits

1"

Button bits	Part No.	D		Buttons	Flushing	Angle	Weight	Available types
		[mm]	[in]	ر کی کی [No.] [mm][No.] [mm]	[No.]	[°]	[kg]	
	DHB57BR1FF	57	2 1/4	6 × 9 2 × 8	2	38	1.6	cc*, cv* 🗋 🗎 🗋
	DHB64BR1FF	64	2 1/2	6 × 10 3 × 10	2	38	1.8	cc*, cv* □ □ □
	DHB70BR1FF	70	2 3/4	6 × 12 4 × 10	2	38	2.1	cc*, cv* 🗅 🖯 🗋
BR1	DHB76BR1FF	76	3	6 × 12 4 × 10	2	38	2.4	cc⁺, cv⁺ 🗅 🖯 🗋



DTH hammer - Valveless

DHBR2(W)

Middle-Low air pressure without foot valve



Weight	(less bit)	Outsid	de Dia.	Length	(less bit)	Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
14.50	31.97	62	2.44	880	34.65	70 - 90	2.76 - 3.54	BR2
Connectio	on thread	Working	pressure	Impact rate	e at 1.4 Mpa	Recommended rotation speed		Air consumption, CFM
		М	ра	ł	Ηz	r/ı	nins	145PSI - 350PSI
RD BC	50 DX	0.7	- 1.5		25	25	- 40	200 - 600



DTH hammer - Valveless

DHH25(W)

High air pressure without foot valve



Weight	(less bit)	Outsic	le Dia.	Length	(less bit)	Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
16.00	35.27	71	2.80	872	34.33	76 - 90	2.99- 3.54	HD25
Connectio	on thread	Working	pressure	Impact rate	e at 1.7 Mpa	Recommended rotation speed		Air consumption, CFM
		М	ра	ŀ	łz	r/r	nins	145PSI - 350PSI
T42×1	L0×1.5	1.0	- 1.5	2	25	22 - 35		200 - 600



DTH drill bits

2"

Button bits	Part No.		D Buttons		Flushing	Angle	Weight	Available types
		[mm]	[in]	[No.] [mm][No.] [mm] [No.]	[°]	[kg]	
	DHB76BR2FF	76	3	6 × 13 5 × 10	2	38	3.3	сс*, сv* 🗋 🗎 🗋
	DHB80BR2FF	80	3 1/8	6 × 13 4 × 11	2	38	3.4	cc*, cv* 🗋 🗎 🗋
	DHB82BR2FF	82	3 1/4	6 × 13 4 × 11	2	38	3.5	cc⁺, cv⁺ 🗋 🗎 🗋
BR2	DHB90BR2FF	90	3 9/16	6 × 13 5 × 12	2	38	3.7	cc⁺, cv⁺ 🗋 🗎 🗋
	DHB76DHH25FF	76	3	6 × 13 5 × 10	2	38	3.5	cc*, cv* 🗋 🗎 🗋
	DHB80DHH25FF	80	3 1/8	6 × 13 4 × 11	2	38	3.6	cc⁺, cv⁺ 🗋 🗎 🗋
	DHB82DHH25FF	82	3 1/4	6 × 13 4 × 11	2	38	3.7	cc⁺, cv⁺ 🗋 🗎 🗋
HD25	DHB90DHH25FF	90	3 9/16	6 × 13 5 × 12	2	38	3.9	cc*, cv* 🗋 🖯 🗋



DTH hammer - Valved

DHH35

High air pressure with foot valve



Weight	(less bit)	Outsic	de Dia.	Length	(less bit)	Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
25.00	55.12	82	3.23	930	36.61	90 - 110	3.54 - 4.33	DHD3.5
Connectio	on thread	Working	pressure	Impact rate	mpact rate at 1.5 Mpa rota		mended n speed	Air consumption, CFM
		М	ра	F	łz	r/r	nins	145PSI - 350PSI
2 3/8" /	API reg.	1.0	- 2.5	2	28	25	- 40	200 - 600



DTH hammer - Valveless

DHH35(W)

High air pressure without foot valve



Weight ((less bit)	Outsid	de Dia.	Length	(less bit)	Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
25.00	55.12	82	3.23	888	34.96	90 - 115	3.54 - 4.53	IR3.5
Connectio	on thread	Working	pressure	Impact rate	e at 1.5 Mpa	Recommended rotation speed		Air consumption, CFM
		М	ра	ŀ	łz	r/r	nins	145PSI - 350PSI
2 3/8" 4	API reg.	1.0	- 1.5	2	25	25	- 40	200 - 600



DTH drill bits

3"

Button bits	Button bits Part No.		D	Buttons	Flushing	Angle	Weight	Available types
		[mm]	[in]	[No.] [mm][No.] [mm]	[No.]	[°]	[kg]	
	DHB90COP32FF	90	3 9/16	6 × 14 4 × 12	2	38	4.5	cc*, cv* 🗅 🖯 🗋
	DHB92COP32FF	92	3 5/8	6 × 14 4 × 12	2	38	4.5	cc*, cv* 🗅 🖯 🗋
	DHB95COP32FF	95	3 3/4	6 × 14 4 × 13	2	38	4.7	cc*, cv* 🗅 🖯 🗋
	DHB100COP32FF	100	3 15/16	6 × 14 5 × 13	2	38	5.0	cc*, cv* 🗅 🖯 🗋
	DHB105COP32FF	105	4 1/8	6 × 14 5 × 13	2	38	5.3	cc*, cv* 🗅 🖯 🗋
COP32	DHB110COP32FF	110	4 5/16	8 × 14 6 × 13	2	38	5.5	cc*, cv* 🗅 🖯 🗋
	DHB90BR3FF	90	3 9/16	6 × 14 4 × 12	2	38	4.0	cc*, cv* 🗅 🖯 🗋
	DHB92BR3FF	92	3 5/8	6 × 14 4 × 12	2	38	4.0	cc*, cv* 🗅 🖯 🗋
	DHB95BR3FF	95	3 3/4	6 × 14 4 × 13	2	38	4.3	cc*, cv* 🗅 🖯 🗋
	DHB100BR3FF	100	3 15/16	6 × 14 5 × 13	2	38	4.8	cc*, cv* 🗅 🖯 🗋
	DHB105BR3FF	105	4 1/8	6 × 14 5 × 13	2	38	5.2	cc*, cv* 🗅 🖯 🗋
BR3	DHB110BR3FF	110	4 5/16	8 × 14 6 × 13	2	38	5.4	cc*, cv* 🗅 🖯 🗋
	DHB90M30FF	90	3 9/16	6 × 14 4 × 12	2	38	3.8	cc*, cv* 🗅 🖯 🗋
	DHB92M30FF	92	3 5/8	6 × 14 4 × 12	2	38	3.8	cc*, cv* 🗅 🖯 🗋
	DHB95M30FF	95	3 3/4	6 × 14 4 × 13	2	38	4.0	cc*, cv* 🗋 🖯 🗋
	DHB100M30FF	100	3 15/16	6 × 14 5 × 13	2	38	4.5	cc*, cv* 🗅 🖯 🗋
	DHB105M30FF	105	4 1/8	6 × 14 5 × 13	2	38	5.0	cc*, cv* 🗅 🖯 🗋
	DHB105M30FF-DB-H	105	4 1/8	8 × 13 7 × 12	2	38	8.0	cc*, cv* 🗅 🖯 🗋
M30	DHB110M30FF	110	4 5/16	8 × 14 6 × 13	2	38	5.2	cc*, cv* 🗅 🖯 🗋
	DHB90DHH35FF	90	3 9/16	6 × 14 4 × 12	2	38	4.6	cc*, cv* 🗅 🖯 🗋
	DHB92DHH35FF	92	3 5/8	6 × 14 4 × 12	2	38	4.6	cc*, cv* 🗅 🖯 🗋
	DHB95DHH35FF	95	3 3/4	6 × 14 4 × 13	2	38	4.7	cc*, cv* 🗅 🖯 🗋
	DHB100DHH35FF	100	3 15/16	6 × 14 5 × 13	2	38	4.8	cc*, cv* 🗅 🖯 🖯
	DHB105DHH35FF	105	4 1/8	6 × 14 5 × 13	2	38	5.0	cc*, cv* 🗅 🖯 🖯
DHD3.5 / COP34	DHB110DHH35FF	110	4 5/16	8 × 14 6 × 13	2	38	5.5	cc*, cv* 🗅 🖯 🗋
	DHB90QL30FF	90	3 9/16	6 × 14 4 × 12	2	38	5.0	cc*, cv* 🗅 🖯 🖯
	DHB92QL30FF	92	3 5/8	6 × 14 4 × 12	2	38	5.0	cc*, cv* 🗅 🖯 🗋
	DHB95QL30FF	95	3 3/4	6 × 14 4 × 13	2	38	5.2	cc*, cv* 🗅 🖯 🗋
-	DHB100QL30FF	100	3 15/16	6 × 14 5 × 13	2	38	5.3	cc*, cv* 🗅 🖯 🖯
	DHB105QL30FF	105	4 1/8	6 × 14 5 × 13	2	38	5.5	cc*, cv* 🗅 🖯 🖯
QL30	DHB110QL30FF	110	4 5/16	8 × 14 6 × 13	2	38	6.0	cc*, cv* 🗅 🖯 🗋



DTH hammer - Valved

DHH45

High air pressure with foot valve



Weight (less bit)	Outsid	de Dia.	Length	(less bit)	Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
39.00	85.98	99	3.90	1030	40.55	110 - 135	4.33 - 5.31	COP44 DHD340A
Connectio	on thread	Working	pressure	Impact rate	e at 1.7 Mpa	Recom rotatio	mended n speed	Air consumption, CFM
		М	ра	F	łz	r/n	nins	145PSI - 350PSI
2 3/8" 4	API reg.	1.0	- 2.5	2	27	25	- 40	200 - 600



DTH hammer - Valveless

DHH45(W)

High air pressure without foot valve



Weight ((less bit)	Outsic	le Dia.	Length	(less bit)	Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
43.20	95.24	99	3.90	1011	39.80	110 - 135	4.33 - 5.31	COP44 DHD340A
Connectio	on thread	Working	pressure	Impact rate	e at 1.7 Mpa	Recommended rotation speed		Air consumption, CFM
		М	ра	F	łz	r/n	nins	145PSI - 350PSI
2 3/8" /	API reg.	1.0	- 2.5	3	0	22	- 35	200 - 600



DTH hammer - Valveless

DHH45S(W)

High air pressure without foot valve



Weight (less bit)	Outsic	de Dia.	Length	(less bit)	Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
37.00	81.57	92	3.62	986	38.82	105 - 120	4.13 - 4.72	COP44 DHD340A
Connectio	on thread	Working	pressure	Impact rate	e at 1.7 Mpa	Recommended rotation speed		Air consumption, CFM
		М	ра	H	łz	r/n	nins	145PSI - 350PSI
2 3/8" 4	API reg.	1.0	- 2.5	3	30	25	- 40	200 - 600



DTH hammer - Valved

DHQ40

High air pressure with foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
41.00	90.39	99	3.90	1097	43.19	110 - 135	4.33 - 5.31	QL40
Connection thread		Working pressure		Impact rate	Impact rate at 1.7 Mpa		mended n speed	Air consumption, CFM
		Мра		Hz		r/mins		145PSI - 350PSI
2 3/8" API reg.		1.0 - 2.5		27		25 - 40		200 - 600



DTH hammer - Valveless

DHQ40(W)

High air pressure without foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
40.00	88.18	99	3.90	1070	42.13	110 - 135	4.33 - 5.31	QL40
Connection thread		Working M	pressure pa	Impact rate	Impact rate at 1.7 Mpa Hz		mended n speed nins	Air consumption, CFM 145PSI - 350PSI
2 3/8" API reg.		1.0 - 2.5		30		25 - 40		200 - 600



DTH hammer - Valved

DSD4

High air pressure with foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
40.50	89.29	99	3.90	1084	42.68	110 - 135	4.33 - 5.31	SD4
Connection thread		Working pressure		Impact rate	Impact rate at 1.7 Mpa Hz		mended n speed	Air consumption, CFM
2 3/8" API reg.		1.0 - 2.5		27		25 - 40		200 - 600



DTH hammer - Valveless

DHM4(W)

High air pressure without foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
40.00	88.18	99	3.90	1005	39.57	110 - 135	4.33 - 5.31	HM4
Connection thread		Working M	pressure pa	Impact rate	a t 1.7 Mpa	Recomi rotatio r/n	mended n speed nins	Air consumption, CFM 145PSI - 350PSI
2 3/8" API reg.		1.0 - 2.5		30		25 - 40		200 - 600



DTH drill bits

4"

Button bits	Part No.		D	Buttons	Flushing	Angle	Weight	Available types
		[mm]	[in]	[No.] [mm][No.] [mm]] [No.]	[°]	[kg]	
	DHB105M40FF	105	4 1/8	6 × 14 5 × 13	2	38	6.0	cc*, cv* 🗅 🖯 🗋
	DHB110M40FF	110	4 5/16	7 × 14 6 × 13	2	38	6.2	cc*, cv* 🗅 🖯 🗋
	DHB115M40FF	115	4 1/2	8 × 14 7 × 13	2	38	6.6	cc*, cv* 🗅 🖯 🗋
	DHB120M40FF	120	4 3/4	8 × 14 7 × 13	2	38	7.0	cc*, cv* 🗅 🖯 🗋
	DHB125M40FF	125	4 15/16	8 × 14 7 × 13	2	38	7.4	cc*, cv* 🗅 🖯 🗋
M40	DHB130M40FF	130	5 1/8	8 × 16 7 × 14	2	38	8.0	cc*, cv* 🗅 🖯 🗋
	DHB105DHH45FF	105	4 1/8	6 × 14 5 × 13	2	38	7.6	cc*, cv* 🗅 🖯 🗋
	DHB110DHH45FF	110	4 5/16	7 × 14 6 × 13	2	38	7.8	cc*, cv* 🗅 🖯 🗋
	DHB115DHH45FF	115	4 1/2	8 × 14 7 × 13	2	38	8.2	cc*, cv* 🗅 🖯 🗋
	DHB120DHH45FF	120	4 3/4	8 × 14 7 × 13	2	38	8.7	cc*, cv* 🗅 🖯 🗋
	DHB125DHH45FF	125	4 15/16	8 × 14 7 × 13	2	38	8.9	cc*, cv* 🗅 🖯 🗋
DHD340A / COP44	DHB130DHH45FF	130	5 1/8	8 × 16 7 × 14	2	38	9.4	cc*, cv* 🗅 🖯 🗋
	DHB105SD4FF	105	4 1/8	6 × 14 5 × 13	2	38	9.0	cc*, cv* 🗅 🖯 🗋
	DHB110SD4FF	110	4 5/16	7 × 14 6 × 13	2	38	9.5	cc*, cv* 🗅 🖯 🖯
	DHB115SD4FF	115	4 1/2	8 × 14 7 × 13	2	38	9.8	cc*, cv* 🗅 🖯 🖯
	DHB120SD4FF	120	4 3/4	8 × 14 7 × 13	2	38	11.5	cc*, cv* 🗅 🖯 🗋
	DHB125SD4FF	125	4 15/16	8 × 14 7 × 13	2	38	12.3	cc*, cv* 🗅 🖯 🗋
SD4	DHB130SD4FF	130	5 1/8	8 × 16 7 × 14	2	38	12.8	cc*, cv* 🗅 🖯 🗋
	DHB105QL40FF	105	4 1/8	6 × 14 5 × 13	2	38	9.0	cc*, cv* 🗅 🖯 🗋
	DHB110QL40FF	110	4 5/16	7 × 14 6 × 13	2	38	9.2	cc*, cv* 🗅 🖯 🖯
	DHB115QL40FF	115	4 1/2	8 × 14 7 × 13	2	38	9.5	cc*, cv* 🗅 🖯 🗋
N	DHB120QL40FF	120	4 3/4	8 × 14 7 × 13	2	38	10.3	cc*, cv* 🗅 🖯 🗋
	DHB125QL40FF	125	4 15/16	8 × 14 7 × 13	2	38	11.5	cc*, cv* 🗅 🖯 🗋
QL40	DHB130QL40FF	130	5 1/8	8 × 16 7 × 14	2	38	12.0	cc*, cv* 🛱 🛱 🛱



DTH hammer - Valved

DHH55

High air pressure with foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
79.00	174.17	125	4.92	1214	47.80	135 - 155	5.31 - 6.10	COP54 DHD350R
Connection thread		Working pressure		Impact rate at 1.7 Mpa		Recommended rotation speed		Air consumption, CFM
		Мра		Hz		r/mins		145PSI - 350PSI
2 3/8" API reg. 3 1/2" API reg.		1.0 - 2.5		25		20 - 35		600 - 836



DTH hammer - Valveless

DHH55(W)

High air pressure without foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank	
	kg	lb	mm	in	mm	in	mm	in	
69	9.00	152.12	125	4.92	1110	43.70	135 - 155	5.31 - 6.10	COP54 DHD350R
Connection thread		Working pressure		Impact rate at 1.7 Mpa		Recommended rotation speed		Air consumption, CFM	
		Мра		Hz		r/mins		145PSI - 350PSI	
2 3/8" API reg. 3 1/2" API reg.		1.0 - 2.5		28		20 - 35		600 - 836	



DTH hammer - Valveless

DHH55S(W)

High air pressure without foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
56.00	123.46	116	4.57	1110	43.70	127 - 145	5.00 - 5.71	COP54 DHD350R
Connection thread		Working pressure Mpa		Impact rate	Impact rate at 1.7 Mpa		mended n speed	Air consumption, CFM
				Hz		r/mins		145PSI - 350PSI
2 3/8" API reg. 3 1/2" API reg.		1.0 - 2.5		28		20 - 35		600 - 836



DTH hammer - Valved

DSD5

High air pressure with foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
72.50	159.84	125	4.92	1175	46.26	135 - 155	5.31 - 6.10	SD5
Connection thread		Working	pressure pa	Impact rate	e at 1.7 Mpa Iz	Recom rotatio r/n	mended n speed nins	Air consumption, CFM 145PSI - 350PSI
3 1/2" API reg.		1.0 - 2.5		25		20 - 35		600 - 836



DTH hammer - Valveless

DSD5(W)

High air pressure without foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank	
	kg	lb	mm	in	mm	in	mm	in	
	70.00	154.32	125	4.92	1090	42.91	135 - 155	5.31 - 6.10	SD5
	Connection thread		Working pressure		Impact rate at 1.7 Mpa		Recommended rotation speed		Air consumption, CFM
		Мра		Hz		r/mins		145PSI - 350PSI	
	2 3/8" API reg. 3 1/2" API reg.		1.0 - 2.5		28		20 - 35		600 - 836



DTH hammer - Valved

DHQ50

High air pressure with foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
73.00	160.94	125	4.92	1156	45.51	135 - 155	5.31 - 6.10	QL50
Connection thread		Working	pressure pa	Impact rate	at 1.7 Mpa	Recomi rotatio r/n	mended n speed nins	Air consumption, CFM 145PSI - 350PSI
3 1/2" API reg.		1.0 - 2.5		25		20 - 30		600 - 836



DTH hammer - Valveless

DHQ50(W)

High air pressure without foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
67.00	147.71	125	4.92	1090	42.91	135 - 155	5.31 - 6.10	QL50
Connection thread		Working pressure		Impact rate at 1.7 Mpa		Recommended rotation speed		Air consumption, CFM
		Мра		Hz		r/mins		145PSI - 350PSI
2 3/8" API reg. 3 1/2" API reg.		1.0 - 2.5		28		20 - 35		600 - 836



DTH hammer - Valveless

DHM5(W)

High air pressure without foot valve



Hammer specification

Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank	
	kg	lb	mm	in	mm	in	mm	in	
	73.00	160.94	125	4.92	1110	43.70	135 - 155	5.31 - 6.10	HM5
Connection thread		Working pressure Mpa		Impact rate at 1.7 Mpa Hz		Recommended rotation speed r/mins		Air consumption, CFM 145PSI - 350PSI	
2 3/8" API reg.		1.0 - 2.5		28		20 - 35		600 - 836	

3 1/2" API reg.



DTH drill bits

5"

Button bits	Part No.	D		Buttons	Flushing	Angle	Weight	Available types
			र्े र्े					
		[mm]	[in]	[No.] [mm] [No.] [n	nm] [No.]	[°]	[kg]	
	DHB130M50FF	130	5 1/8	8 × 16 8 × 1	14 2	38	12.0	
	DHB135M50FF	135	5 1/4	8 × 16 8 × 1	4 2	38	12.3	cc*, cv 🗖 🗖 🗖
	DHB138M50FF	138	5 1/2	8 × 16 8 × 1	14 2	38	13.0	cc*, cv * 🗆 🖯 🗍
	DHB140M50FF	140	5 1/2	8 × 16 10 × 1	14 2	38	13.5	cc*, cv * 🗖 🖯 🖯
	DHB146M50FF	146	5 3/4	8 × 18 8 × 1	15 2	38	14.0	cc*, cv * 🖬 🖨 🗇
	DHB150M50FF	150	5 7/8	8 × 18 8 × 1	15 2	38	14.2	cc*, cv * 🖯 🖯 🖯
	DHB152M50FF	152	6	8 × 18 8 × 1	15 2	38	14.4	cc*, cv * 🖨 🖨 🛱
M50	DHB156M50FF	156	6 1/8	8 × 18 8 × 1	16 2	38	14.6	cc*, cv * 🗅 🖯 🗋
	DHB130DHH55FF	130	5 1/8	8 × 16 8 × 1	14 2	38	15.0	cc*, cv * 🗋 🗎 🗋
	DHB135DHH55FF	135	5 1/4	8 × 16 8 × 1	4 2	38	15.2	cc*, cv * 🗅 🖯 🗋
	DHB138DHH55FF	138	5 1/2	8 × 16 8 × 1	4 2	38	15.6	cc*, cv * 🖨 🖨 🗇
	DHB140DHH55FF	140	5 1/2	8 × 16 10 × 1	4 2	38	15.8	cc*, cv * 🗋 🗎 🗋
	DHB146DHH55FF	146	5 3/4	8 × 18 8 × 1	15 2	38	16.1	cc*, cv * 🛱 🛱 🛱
	DHB150DHH55FF	150	5 7/8	8 × 18 8 × 1	15 2	38	16.5	cc*, cv * 🗋 🗎 🗋
	DHB152DHH55FF	152	6	8 × 18 8 × 1	15 2	38	17.0	cc*, cv * 🗋 🗎 🗋
DHD350R / COP54	DHB156DHH55FF	156	6 1/8	8 × 18 8 × 1	6 2	38	17.5	cc*, cv * 🛱 🛱 🛱
	DHB130SD5FF	130	5 1/8	8 × 16 8 × 1	4 2	38	15.2	cc*, cv * 🖨 🖨 🖨
	DHB135SD5FF	135	5 1/4	8 × 16 8 × 1	4 2	38	15.4	cc*, cv * 🗋 🗎 🗋
	DHB138SD5FF	138	5 1/2	8 × 16 8 × 1	4 2	38	15.6	cc*, cv * 🛱 🛱 🛱
	DHB140SD5FF	140	5 1/2	8 × 16 10 × 1	14 2	38	16.0	cc*, cv * 🗅 🖯 🗋
	DHB146SD5FF	146	5 3/4	8 × 18 8 × 1	15 2	38	16.5	cc*, cv * 🗋 🗎 🗋
	DHB150SD5FF	150	5 7/8	8 × 18 8 × 1	15 2	38	16.8	cc*, cv * 🛱 🛱 🛱
	DHB152SD5FF	152	6	8 × 18 8 × 1	15 2	38	17.0	cc*, cv * 🗅 🖯 🗋
SD5	DHB156SD5FF	156	6 1/8	8 × 18 8 × 1	16 2	38	17.5	cc*, cv * 🗋 🗎 🗋
	DHB130QL50FF	130	5 1/8	8 × 16 8 × 1	4 2	38	15.2	cc*, cv * 🖯 🖯 🗍
1 Alexandre	DHB135QL50FF	135	5 1/4	8 × 16 8 × 1	4 2	38	15.4	cc*, cv * 🖨 🖨 🛱
	DHB138QL50FF	138	5 1/2	8 × 16 8 × 1	4 2	38	15.6	cc*, cv * 🗅 🖯 🗋
	DHB140QL50FF	140	5 1/2	8 × 16 10 × 1	4 2	38	16.0	cc*, cv * 🗇 🖨 🗇
	DHB146QL50FF	146	5 3/4	8 × 18 8 × 1	15 2	38	16.5	cc*, cv * 🖯 🖯 🖯
	DHB150QL50FF	150	5 7/8	8 × 18 8 × 1	15 2	38	16.8	cc*, cv * 🖨 🖨 🖨
	DHB152QL50FF	152	6	8 × 18 8 × 1	15 2	38	17.0	cc*, cv * 🖨 🖨 🖨
QL50	DHB156QL50FF	156	6 1/8	8 × 18 8 × 1	16 2	38	17.5	cc*, cv * 🖨 🖨 🖨
	DHB140QL50FFS-DB-HI	140	5 1/2	12 × 18 5 × 1	4 2	38	15.0	cc*,cv* 🗋 🗎 🗎

*CC: Concave; CV: Convex; FF: Flat face.



DTH hammer - Valved

DHH65

High air pressure with foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank	
kg	lb	mm	in	mm	in	mm	in		
100.00	220.46	142	5.59	1248	49.13	155 - 190	6.10 - 7.48	COP64 DHD360	
Connection thread		Working pressure		Impact rate at 1.7 Mpa		Recommended rotation speed		Air consumption, CFM	
		Мра		Hz		r/mins		145PSI - 350PSI	
3 1/2" API reg.		1.0 - 2.5		23		20 - 30		600 - 836	


DTH hammer - Valveless

DHH65(W)

High air pressure without foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
99.00	218.26	148	5.83	1238	48.74	155 - 203	6.10 - 7.99	COP64 DHD360
Connection thread		Working	pressure	Impact rate	at 1.7 Mpa	Recom rotatio	mended n speed	Air consumption, CFM
		M	ра	Н	Z	r/n	nins	145PSI - 350PSI
3 1/2" API reg.		1.0 -	- 2.5	25		20 - 30		600 - 836



DTH hammer - Valved

DSD6

High air pressure with foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole	range	Bit shank
kg	lb	mm	in	mm	in	mm	in	
100.00	220.46	142	5.59	1261	49.65	155 - 190	6.10 - 7.48	SD6
Connection thread		Working pressure		Impact rate	Impact rate at 1.7 Mpa		mended n speed	Air consumption, CFM
3 1/2" API reg.		1.0 - 2.5		23		20 - 30		600 - 836



DTH hammer - Valveless

DSD6(W)

High air pressure without foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
94.00	207.23	146	5.75	1182	46.54	155 - 203	6.10 - 7.99	SD6
Connectio	on thread	Working	r king pressure Impact rate at 1.7 Mpa Mpa Hz		at 1.7 Mpa z	Recomi rotatio r/n	mended n speed nins	Air consumption, CFM 145PSI - 350PSI
3 1/2" API reg.		1.0 -	2.5	2	25		- 30	600 - 836



DTH hammer - Valved

DHQ60

High air pressure with foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole	range	Bit shank
kg	lb	mm	in	mm	in	mm	in	
95.00	209.44	148	5.83	1212	47.72	155 - 190	6.10 - 7.48	QL60
Connecti	n thread Working		pressure pa	Impact rate	at 1.7 Mpa	Recom rotatio r/n	mended n speed nins	Air consumption, CFM 145PSI - 350PSI
3 1/2" API reg.		1.0 -	- 2.5	2	3	20	- 30	600 - 836



DTH hammer - Valveless

DHQ60(W)

High air pressure without foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole	range	Bit shank
kg	lb	mm	in	mm	in	mm	in	
96.50	212.75	148	5.83	1183	46.57	155 - 203	6.10 - 7.99	QL60
Connection thread		Working pressure Impact ra		Impact rate	te at 1.7 Mpa rota		mended n speed	Air consumption, CFM
		M	ра	F	z	r/n	nins	145PSI - 350PSI
3 1/2" API reg.		1.0 -	1.0 - 2.5		25		- 30	600 - 836



DTH hammer - Valveless

DHM6(W)

High air pressure without foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
94.00	207.23	146	5.75	1161	45.71	155 - 203	6.10 - 7.99	Mission60A
Connection thread		Working pressure		Impact rate	Impact rate at 2.4 Mpa		mended n speed	Air consumption, CFM
		M	ра	F	lz	r/n	nins	145PSI - 350PSI
3 1/2" API reg.		1.0 - 2.5		25		20 - 30		600 - 836



DTH drill bits

6"

Button bits	Part No. D		D	Buttons	Flushing	Angle	Weight	Available types
		[mm]	[in]	[No.] [mm][No.] [mm]	[No.]	[°]	[kg]	
	DHB152M60FF	152	6	8 × 18 8 × 16	2	38	22.0	cc*, cv* 🗋 🖯 🗋
	DHB154M60FF	154	6	8 × 18 8 × 16	2	38	22.2	cc*, cv* 🗅 🖯 🗋
	DHB156M60FF	156	6 1/4	8 × 18 8 × 16	2	38	22.5	cc*, cv* 🗋 🗎 🗋
	DHB159M60FF	159	6 1/4	8 × 18 8 × 16	2	38	22.7	cc*, cv* 🗋 🖯 🗍
	DHB165M60FF	165	6 1/2	8 × 18 8 × 16	2	38	23.0	cc*, cv* 🗋 🗎 🗋
	DHB171M60FF	171	6 3/4	8 × 18 8 × 16	2	38	23.5	cc*, cv* 🗅 🖯 🗋
	DHB178M60FF	178	7	8 × 18 10 × 16	2	38	24.0	cc*, cv* 🗋 🗎 🗋
	DHB185M60FF	185	7 1/4	9 × 18 10 × 16	2	38	24.5	cc*, cv* 🗋 🗎 🗋
	DHB190M60FF	190	7 1/2	10 × 18 13 × 16	2	38	25.0	cc*, cv* 🗋 🗎 🗋
M60	DHB203M60FF	203	8	10 × 18 14 × 16	2	38	28.0	cc*, cv* 🗅 🖯 🗋
	DHB152DHH65FF	152	6	8 × 18 8 × 16	2	38	23.0	cc*, cv* 🗅 🖯 🗋
	DHB154DHH65FF	154	6	8 × 18 8 × 16	2	38	23.0	cc*, cv* 🗋 🗎 🗋
	DHB156DHH65FF	156	6 1/4	8 × 18 8 × 16	2	38	23.0	cc*, cv* 🗋 🗎 🗋
	DHB159DHH65FF	159	6 1/4	8 × 18 8 × 16	2	38	23.5	cc*, cv* 🗅 🖯 🗋
	DHB165DHH65FF	165	6 1/2	8 × 18 8 × 16	2	38	24.0	cc*, cv* 🗅 🖯 🗋
	DHB171DHH65FF	171	6 3/4	8 × 18 8 × 16	2	38	25.0	cc*, cv* 🗋 🗎 🗋
	DHB178DHH65FF	178	7	8 × 18 10 × 16	2	38	26.0	cc*, cv* 🗅 🖯 🗋
	DHB185DHH65FF	185	7 1/4	9 × 18 10 × 16	2	38	26.8	cc*, cv* 🗋 🗎 🗋
	DHB190DHH65FF	190	7 1/2	10 × 18 13 × 16	2	38	27.5	cc*, cv* 🗅 🖯 🗋
DHD360R / COP64	DHB203DHH65FF	203	8	10 × 18 14 × 16	2	38	31.0	cc*, cv* 🗋 🔒 🗋
	DHB152SD6FF	152	6	8 × 18 8 × 16	2	38	26.0	cc*, cv* 🗅 🖯 🗋
F	DHB154SD6FF	154	6	8 × 18 8 × 16	2	38	26.2	cc*, cv* 🗅 🖯 🗋
	DHB156SD6FF	156	6 1/4	8 × 18 8 × 16	2	38	26.5	cc*, cv* 🗋 🗎 🗎
	DHB159SD6FF	159	6 1/4	8 × 18 8 × 16	2	38	26.7	cc*, cv* 🗋 🗎 🗋
	DHB165SD6FF	165	6 1/2	8 × 18 8 × 16	2	38	27.0	cc*, cv* 🗋 🗎 🗎
	DHB171SD6FF	171	6 3/4	8 × 18 8 × 16	2	38	28.0	cc*, cv* 🗅 🖯 🗋
	DHB178SD6FF	178	7	8 × 18 10 × 16	2	38	29.0	cc*, cv* 🗅 🖯 🗋
	DHB185SD6FF	185	7 1/4	9 × 18 10 × 16	2	38	31.5	cc*, cv* 🗅 🖯 🗋
	DHB190SD6FF	190	7 1/2	10 × 18 13 × 16	2	38	32.0	cc*, cv* 🗋 🗎 🗋
SD6	DHB203SD6FF	203	8	10 × 18 14 × 16	2	38	34.0	cc*, cv* 🗅 🖯 🗋
	DHB152QL60FF	152	6	8 × 18 8 × 16	2	38	24.0	cc*, cv* 🗅 🖯 🗋
	DHB154QL60FF	154	6	8 × 18 8 × 16	2	38	24.2	cc*, cv* 🗅 🖯 🗋
	DHB156QL60FF	156	6 1/4	8 × 18 8 × 16	2	38	24.5	cc*, cv* 🗅 🖯 🗋
	DHB159QL60FF	159	6 1/4	8 × 18 8 × 16	2	38	24.7	cc*, cv* 🗋 🗎 🗋
	DHB165QL60FF	165	6 1/2	8 × 18 8 × 16	2	38	25.0	cc*, cv* 🗋 🗎 🗋
	DHB171QL60FF	171	6 3/4	8 × 18 8 × 16	2	38	26.0	cc*, cv* 🗋 🗎 🗋
	DHB178QL60FF	178	7	8 × 18 10 × 16	2	38	27.0	cc*, cv* 🗅 🖯 🗋
	DHB185QL60FF	185	7 1/4	9 × 18 10 × 16	2	38	28.0	cc*, cv* 🗋 🗎 🗋
	DHB190QL60FF	190	7 1/2	10 × 18 13 × 16	2	38	29.0	cc*, cv* 🗋 🗎 🗋
QL60	DHB203QL60FF	203	8	10 × 18 14 × 16	2	38	33.0	cc*, cv* 🗅 🖯 🗋



DTH hammer - Valveless

DHW7(W)

High air pressure without foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
132.00	291.01	165	6.50	1188	46.77	175 - 216	6.89 - 8.50	HK70A
Connectio	on thread	Working	pressure pa	Impact rate	a t 1.7 Mpa	Recommended rotation speed r/mins		Air consumption, CFM 145PSI - 350PSI
3 1/2" API reg.		1.0 -	- 2.5	25		20 - 30		836 - 1150



DTH hammer - Valved

DHH85

High air pressure with foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole	range	Bit shank
kg	lb	mm	in	mm	in	mm	in	
189.00	416.67	180	7.09	1492	58.74	195 - 254	7.68 - 10.00	COP84 DHD380
Connection thread		Working	pressure	Impact rate	at 1.7 Mpa	Recom rotatio	mended n speed	Air consumption, CFM
	Mpa Hz		r/r	nins	145PSI - 350PSI			
4 1/2" API reg.		1.0 - 2.5		20		20 - 30		836 - 1150



DTH hammer - Valveless

DHH85(W)

High air pressure without foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole	range	Bit shank
kg	lb	mm	in	mm	in	mm	in	
185.00	407.86	185	7.28	1359	53.50	195 - 254	7.68 - 10.00	COP84 DHD380
Connection thread		Working	pressure	Impact rate	at 1.7 Mpa	Recom rotatio	mended n speed	Air consumption, CFM
		Mpa Hz		r/mins		145PSI - 350PSI		
4 1/2" API reg.		1.0 -	- 2.5	22		15 - 25		836 - 1150



DTH hammer - Valveless

DSD8(W)

High air pressure without foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole	range	Bit shank
kg	lb	mm	in	mm	in	mm	in	
174.00	383.60	180	7.09	1330	52.36	195 - 254	7.68 - 10.00	SD8
Connectio	on thread	Working M	pressure pa	Impact rate	at 1.7 Mpa Iz	Recommended rotation speed r/mins		Air consumption, CFM 145PSI - 350PSI
4 1/2" API reg. 1.0 - 2.		- 2.5	2	2	15	- 25	836 - 1150	



DTH hammer - Valved

DHQ80

High air pressure with foot valve



Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
182.00	401.24	185	7.28	1465	57.68	195 - 254	7.68 - 10.00	QL80
Connectio	on thread	Working M	pressure pa	Impact rate	e at 1.7 Mpa	Recommended rotation speed r/mins		Air consumption, CFM 145PSI - 350PSI
4 1/2" API reg. 1.0 -		- 2.5	20		15 - 25		836 - 1150	



DTH hammer - Valved

DHQ80-H

High air pressure with foot valve

	1000				Compo			
	¹ •		10 ●	Re f	Description	Weight, kg	Weight, lb	Part No.
	2			1	Top sub (190mm)	44.00	97.00	DHQ8001
	3			2	O-ring of top sub	0.01	0.02	DHQ8002
	4			3	Breakout ring	0.30	0.66	DHQ8003
5				4	Check valve	1.30	2.87	DHQ8004
	⁵ •		11	5	Spring	0.20	0.44	DHQ8005
	⁶ • •		-	6	Compression buffer	0.46	1.01	DHQ8006
	7		• ¹²	7	Air distributor	13.20	29.10	DHQ8007
23			14 •	8	Internal cylinder	8.40	18.52	DHQ8008
2	8	3.	•	9	Piston	41.50	91.49	DHQ8009
		-		10	External cylinder (190mm)	74.10	163.36	DHQ8010
				11	Guided sleeve	3.70	8.16	DHQ8011
	9•	1		12	"O"ring of stop ring	0.01	0.02	DHQ8012
	•	area a	16 •	13	Stop ring	1.20	2.65	DHQ8013
				14	Breakout ring	0.35	0.77	DHQ8014
				15	Drive chuck (192mm)	13.60	29.98	DHQ8015-C
		Moder		16	Drill bit			DHQ8016

Weight (l	ess bit)) Outside Dia.		Length (l	Length (less bit)		range	Bit shank
kg	lb	mm	in	mm	in	mm	in	
209.00	460.77	190	7.48	1471	57.91	195 - 254	7.68 - 10.00	QL80
Connection thread		Working p Mj	ressure pa	Impact rate a	t 1.7 Mpa Hz	Recomr rotatior r/1	nended n s peed nins	Air consumption, CFM 145PSI - 350PSI
4 1/2" API reg.		1.0 - 2.5		20		20	- 45	300 - 650



DTH hammer - Valved

DHQ80-H-C

High air pressure with foot valve

				Comp	onent parts		
		10 •	Re f	Description	Weight, kg	Weight, lb	Part No.
	2		1	Top sub (192mm)	44.00	97.00	DHQ8001
	3		2	O-ring of top sub	0.01	0.02	DHQ8002
	4		3	Breakout ring	0.30	0.66	DHQ8003
<u>.</u>	•		4	Check valve	1.30	2.87	DHQ8004
	5•	11	5	Spring	0.20	0.44	DHQ8005
	⁶ • •		6	Compression buffer	0.46	1.01	DHQ8006
	7	• ¹²	7	Air distributor	13.20	29.10	DHQ8007
			14 8	Internal cylinder	8.40	18.52	DHQ8008
2	8 7 2		9	Piston	41.50	91.49	DHQ8009
		-	10	External cylinder (192mm)	74.10	163.36	DHQ8010
			11	Guided sleeve	3.70	8.16	DHQ8011
	9	_	12	"O"ring of stop ring	0.01	0.02	DHQ8012
	•	16	13	Stop ring	1.20	2.65	DHQ8013
			14	Breakout ring	0.35	0.77	DHQ8014
	1.0		15	Drive chuck (192mm)	13.60	29.98	DHQ8015-C
		andre	16	Drill bit			DHQ8016

Weight (l	ess bit)	Weight (less bit) Outside Dia.		Length (l	Length (less bit)		range	Bit shank	
kg	lb	mm	in	mm	in	mm	in		
209.00	460.77	190	7.48	1471	57.91	195 - 254	7.68 - 10.00	QL80	
Connection thread		Working p M	ressure pa	Impact rate a	t 1.7 Mpa Hz	Recomr rotatior r/i	nended ns peed nins	Air consumption, CFM 145PSI - 350PSI	
4 1/2" API reg.		Мра 1.0 - 2.5		20		20	- 45	300 - 650	



DTH hammer - Valveless

DHQ80(W)

High air pressure without foot valve

			Component parts							
	¹ •	9	Ref	Description	Weight, kg	Weight, lb	Part No.			
	2		1	Top sub	34.00	74.96	DHQ80W01			
	3		2	O-ring of top sub	0.02	0.03	DHQ80W02			
	4		3	Breakout ring	0.30	0.66	DHQ80W03			
.	•		4	Check valve	1.20	2.65	DHQ80W04			
	⁵ •		5	Spring	0.10	0.22	DHQ80W05			
	• 3	_ ¹⁰	6	Air distributor	6.00	13.23	DHQ80W06			
25	6	•11	7	Internal cylinder	6.50	14.33	DHQ80W07			
22	-		8	Piston	43.00	94.80	DHQ80W08			
2	7		9	External cylinder	60.00	132.28	DHQ80W09			
	•	• ¹⁴	10	Guided sleeve	7.00	15.43	DHQ80W10			
			11	O-ring of stop ring	0.01	0.02	DHQ80W11			
	8		12	Stop ring	1.40	3.09	DHQ80W12			
	•	15	13	Breakout ring	0.30	0.66	DHQ80W13			
			14	Drive sub	14.00	30.86	DHQ80W14			
			15	Drill bit			DHQ80W15			

Weight (less bit)		Outsic	Outside Dia.		Length (less bit)		range	Bit shank	
kg	lb	mm	in	mm	in	mm	in		
174.00	383.60	185	7.28	1330	52.36	195 - 254	7.68 - 10.00	QL80	
Connection thread		Working M	pressure pa	Impact rate	e at 1.7 Mpa Iz	Recom rotatio r/r	mended n speed nins	Air consumption, CFM 145PSI - 350PSI	
4 1/2" API reg.		1.0 -	- 2.5	22		15 - 25		836 - 1150	



DTH hammer - Valveless

DHQ80(W)-H

High air pressure without foot valve

				Co	mponent part	ts	
	¹ •	13 – 13	Ref	Description	Weight, kg	Weight, lb	Part No.
	2		1	Top sub	44.60	98.33	DHQ80WH01
	3		2	O-ring of top sub	0.01	0.02	DHQ80WH02
	•		3	Check valve	1.00	2.20	DHQ80WH03
	4		4	Spring	0.10	0.22	DHQ80WH04
	5		5	Compressioni buffer	0.42	0.93	DHQ80WH05
	6	14	6	C-buffer mount	0.35	0.77	DHQ80WH06
	7	14	7	Air distributor	8.00	17.64	DHQ80WH07
52		16	8	O-ring of distributor	0.01	0.02	DHQ80WH08
	100	17	9	Internal cylinder	6.45	14.22	DHQ80WH09
2	8.	• • 18	10	Retaining ring of I-C	0.10	0.22	DHQ80WH10
	*• •	• ¹⁹	11	O-ring of R-ring	0.01	0.02	DHQ80WH11
	•		12	Piston	46.00	101.41	DHQ80WH12
	10		13	External cylinder	76.40	168.43	DHQ80WH13
111	12		14	Bush retaining ring	0.10	0.22	DHQ80WH14
50		Contraction of the local division of the loc	15	O-ring of bush	0.01	0.02	DHQ80WH15
	•	20	16	Bush	9.10	20.06	DHQ80WH16
			17	O-ring of stop ring	0.01	0.02	DHQ80WH17
		-	18	Stop ring	1.50	3.31	DHQ80WH18
16.0	11		19	Drive chuck	12.40	27.34	DHQ80WH19
		and the second	20	Drill bit			DHQ80WH20

Weight (l	t (less bit) Outside Dia. Le		Length (l	Length (less bit) Hole range		range	Bit shank		
kg	lb	mm	in	mm	in	mm	in		
206 - 230	454 - 507	186 - 194	7.32 - 7.64	1445	56.89	203 - 229	7.99 - 9.02	QL80	
Connection thread		Working p N	oressure Ipa	Impact rate a	t 1.7 Mpa I z	Recom rotatio r/	mended n speed 'mins	Air consumption, CFM 300PSI - 380PSI	
4 1/2" API reg.		1.6 - 1.8		26		30 - 70		950 - 1200	



DTH drill bits

8"

Button bits	Part No.		D	Buttons	Flushing	Angle	Weight	Available types
		[mm]	[in]	[No.] [mm] [No.] [mm] [No.]	[°]	[kg]	
	DHB200M80FF	200	7 7/8	10 × 18 14 × 18	2	38	45.0	cc*, cv * 🗋 🗎 🗋
	DHB203M80FF	203	8	10 × 18 14 × 18	2	38	46.0	cc*, cv * 🖨 🖨 🗇
	DHB216M80FF	216	8 1/2	10 × 18 14 × 18	2	38	54.0	cc*, cv * 🗅 🖯 🗋
	DHB225M80FF	225	8 7/8	10 × 18 15 × 18	2	38	57.0	cc*, cv * 🗅 🖯 🗋
	DHB229M80FF	229	9	10 × 18 15 × 18	2	38	58.0	cc*, cv * 🗅 🖯 🗋
	DHB235M80FF	235	9 1/4	12 × 18 20 × 16	2	38	58.5	cc*, cv * 🗅 🖯 🗋
	DHB240M80FF	240	9 1/2	12 × 18 20 × 16	2	38	59.0	cc*, cv * 🖨 🖨 🗇
	DHB254M80FF	254	10	12 × 18 26 × 16	2	38	62.0	cc*, cv * 🗋 🗎 🗋
	DHB270M80FF	270	10 5/8	12 × 19 28 × 16	2	38	67.0	cc*, cv * 🗋 🗎 🗋
M80	DHB279M80FF	279	11	12 × 19 28 × 16	2	38	72.0	cc*, cv * 🖨 🖨 🗇
	DHB200DHH85FF	200	7 7/8	10 × 18 14 × 18	2	38	46.0	cc*, cv * 🗋 🗎 🗋
	DHB203DHH85FF	203	8	10 × 18 14 × 18	2	38	47.0	cc*, cv * 🛱 🛱 🛱
	DHB216DHH85FF	216	8 1/2	10 × 18 14 × 18	2	38	53.0	cc*, cv * 🖨 🖨 🗇
	DHB225DHH85FF	225	8 7/8	10 × 18 15 × 18	2	38	56.0	cc*, cv * 🗋 🗎 🗋
	DHB229DHH85FF	229	9	10 × 18 15 × 18	2	38	57.0	cc*, cv * 🗅 🖯 🗋
	DHB235DHH85FF	235	9 1/4	12 × 18 20 × 16	2	38	57.5	cc*, cv * 🗅 🖯 🗋
	DHB240DHH85FF	240	9 1/2	12 × 18 20 × 16	2	38	58.0	cc*, cv * 🗅 🗎 🗋
	DHB254DHH85FF	254	10	12 × 18 26 × 16	2	38	61.0	cc*, cv * 🗅 🖯 🗋
	DHB270DHH85FF	270	10 5/8	12 × 19 28 × 16	2	38	66.0	cc*, cv * 🗅 🖯 🗋
DHD380 / COP84	DHB279DHH85FF	279	11	12 × 19 28 × 16	2	38	71.0	cc*, cv * 🗋 🗎 🗋
	DHB200SD8FF	200	7 7/8	10 × 18 14 × 18	2	38	45.0	cc*, cv * 🗅 🖯 🗋
	DHB203SD8FF	203	8	10 × 18 14 × 18	2	38	45.5	cc*, cv * 🗅 🖯 🗋
	DHB216SD8FF	216	8 1/2	10 × 18 14 × 18	2	38	13.0	cc*, cv * 🛱 🛱 🛱
	DHB225SD8FF	225	8 7/8	10 × 18 15 × 18	2	38	56.0	cc*, cv * 🛱 🛱 🛱
	DHB229SD8FF	229	9	10 × 18 15 × 18	2	38	57.5	cc*, cv * 🖨 🖨 🗇
	DHB235SD8FF	235	9 1/4	12 × 18 20 × 16	2	38	59.0	cc*, cv * 🛱 🛱 🛱
	DHB240SD8FF	240	9 1/2	12 × 18 20 × 16	2	38	60.0	cc*, cv * 🛱 🛱 🛱
	DHB254SD8FF	254	10	12 × 18 26 × 16	2	38	61.0	cc*, cv * 🗋 🗎 🗎
	DHB270SD8FF	270	10 5/8	12 × 19 28 × 16	2	38	68.0	cc*, cv * 🖨 🖯 🖯
SD8	DHB279SD8FF	279	11	12 × 19 28 × 16	2	38	74.0	cc*, cv * 🛱 🛱 🛱
	DHB200QL80FF	200	7 7/8	10 × 18 14 × 18	2	38	45.0	cc*, cv * 🖯 🖯 🖒
	DHB203QL80FF	203	8	10 × 18 14 × 18	2	38	46.0	cc*, cv * 🖨 🖨 🗇
	DHB216QL80FF	216	8 1/2	10 × 18 14 × 18	2	38	54.0	cc*, cv * 🖨 🖨 🛱
	DHB225QL80FF	225	8 7/8	10 × 18 15 × 18	2	38	57.0	cc*, cv * 🗋 🗎 🗎
	DHB229QL80FF	229	9	10 × 18 15 × 18	2	38	58.0	cc*, cv * 🖨 🖨 🗇
	DHB235QL80FF	235	9 1/4	12 × 18 20 × 16	2	38	58.5	cc*, cv * 🛱 🛱 🛱
	DHB240QL80FF	240	9 1/2	12 × 18 20 × 16	2	38	59.0	cc*, cv * 🗅 🗎 🗋
	DHB254QL80FF	254	10	12 × 18 26 × 16	2	38	62.0	cc*, cv * 🛱 🛱 🛱
	DHB270QL80FF	270	10 5/8	12 × 19 28 × 16	2	38	67.0	cc*, cv * 🗅 🗎 🗋
QL80	DHB279QL80FF	279	11	12 × 19 28 × 16	2	38	72.0	cc*, cv * 🗅 🖯 🗋
	DHB216QL80FFS-DBH	216	8 1/2	10 × 19 8 × 18	2	38	52.0	cc*, cv * 🛱 🛱 🛱



DTH hammer - Valveless

DHQ95(W)

High air pressure without foot valve

			Component parts							
	¹ •	9	Ref	Description	Weight, kg	Weight, lb	Part No.			
	2		1	Top sub	38.00	83.78	DHQ95W01			
	3		2	O-ring of top sub	0.01	0.02	DHQ95W02			
	4		3	Breakout ring	0.40	0.88	DHQ95W03			
.	•		4	Check valve	1.20	2.65	DHQ95W04			
	5		5	Spring	0.10	0.22	DHQ95W05			
	• 5	• ¹⁰	6	Air distributor	7.00	15.43	DHQ95W06			
25	⁶ •		7	Internal cylinder	7.50	16.53	DHQ95W07			
	-		8	Piston	50.00	110.23	DHQ95W08			
2	7		9	External cylinder	75.00	165.35	DHQ95W09			
	•	•14	10	Guided sleeve	12.00	26.46	DHQ95W10			
			11	O-ring of stop ring	0.01	0.02	DHQ95W11			
	8.		12	Stop ring	2.50	5.51	DHQ95W12			
	•	15	13	Breakout ring	0.40	0.88	DHQ95W13			
			14	Drive sub	21.00	46.30	DHQ95W14			
			15	Drill bit			DHQ95W15			

Weight (Weight (less bit) Outside Dia.		le Dia.	Length	(less bit)	Hole	range	Bit shank	
kg	lb	mm	in	mm	in	mm	in		
215.00	473.99	203	7.99	1340	52.76	216 -254	8.50 - 10.00	QL80	
Connection thread		Working M	pressure pa	Impact rate	e at 1.7 Mpa Iz	Recom rotatio r/r	mended n speed nins	Air consumption, CFM 145PSI - 350PSI	
4 1/2" API reg.		1.0 -	- 2.5	22		15 - 25		836 - 1150	



DTH hammer - Valved

DSD10

High air pressure with foot valve

		Component parts						
¹ •	• ⁹	Ref	Description	Weight, kg	Weight, lb	Part No.		
2		1	Top sub	59.00	130.07	DSD1001		
3		2	O-ring of top sub	0.03	0.07	DSD1002		
4		3	Breakout ring	0.30	0.66	DSD1003		
•		4	Check valve	1.40	3.09	DSD1004		
5.		5	Spring	0.30	0.66	DSD1005		
•		6	Air distributor	11.50	25.35	DSD1006		
6		7	Internal cylinder	11.00	24.25	DSD1007		
	1 3	8	Piston	62.00	136.69	DSD1008		
7.	¹⁴	9	External cylinder	110.00	242.51	DSD1009		
		10	O-ring of stop ring	0.03	0.07	DSD1010		
		11	Stop ring	1.60	3.53	DSD1011		
8.		12	Guided sleeve	4.50	9.92	DSD1012		
•	15	13	Breakout ring	0.30	0.66	DSD1013		
		14	Drive sub	24.00	52.91	DSD1014		
1.00		15	Drill bit			DSD1015		
	C.L.							
			1 2 3 4 5 6 6 5 7 10 6 11 7 13 8 12 7 13 10 11 12 7 13 8 10 11 12 13 14 9 10 11 12 13 14 15	P Ref Description 1 Top sub 2 3 Breakout ring 3 4 Check valve 5 5 Spring 6 11 7 Internal cylinder 12 7 Internal cylinder 13 8 Piston 14 9 External cylinder 10 O-ring of stop ring 11 11 Stop ring 12 14 9 External cylinder 10 O-ring of stop ring 11 11 Stop ring 12 12 Guided sleeve 13 13 Breakout ring 14 14 Drive sub 15 15 Drill bit 15	19RefDescriptionWeight, kg20-ring of top sub0.033Breakout ring0.304Check valve1.405Spring0.304Check valve1.405Spring0.30106Air distributor117Internal cylinder127Internal cylinder138Piston6149710O-ring of stop ring100-ring of stop ring0.0311Stop ring1.6012Guided sleeve4.5013Breakout ring0.3014Drive sub24.0015Drill bit	Note Note <th< td=""></th<>		

Weight	(less bit)	Outsic	le Dia.	Length	(less bit)	Hole	range	Bit shank
kg	lb	mm	in	mm	in	mm	in	
290.00	639.34	225	8.86	1502	59.13	254 - 311	10.00 - 12.24	SD10
Connection thread		Working M	pressure pa	Impact rate	a at 1.7 Mpa Iz	Recom rotatic r/r	mended on speed mins	Air consumption, CFM 145PSI - 350PSI
4 1/2" / 5 1/2" /	API reg. API reg.	1.0	- 2.5	1	18		- 25	836 - 1150



DTH hammer - Valveless

DSD10(W)

High air pressure without foot valve

	100		Component parts						
	¹ •	9	Ref	Description	Weight, kg	Weight, lb	Part No.		
	2		1	Top sub	59.00	130.07	DSD10W01		
	3		2	O-ring of top sub	0.03	0.07	DSD10W02		
	4		3	Breakout ring	0.50	1.10	DSD10W03		
5	•		4	Check valve	1.40	3.09	DSD10W04		
	⁵ • 3		5	Spring	0.30	0.66	DSD10W05		
1	• 🗐	•10	6	Air distributor	10.50	23.15	DSD10W06		
25		•11	7	Internal cylinder	12.50	27.56	DSD10W07		
2	-		8	Piston	77.00	169.76	DSD10W08		
	7		9	External cylinder	110.00	242.51	DSD10W09		
	•	•14	10	Guided sleeve	11.50	25.35	DSD10W10		
			11	O-ring of stop ring	0.01	0.02	DSD10W11		
	8		12	Stop ring	1.50	3.31	DSD10W12		
	•	15	13	Breakout ring	0.50	1.10	DSD10W13		
			14	Drive sub	31.50	69.45	DSD10W14		
			15	Drill bit			DSD10W15		
- 7.9.4	1.0	Cale gar							

Weight ((less bit)	Outsid	le Dia.	Length ((less bit)	Hole	range	Bit shank
kg	lb	mm	in	mm	in	mm	in	
293.00	645.95	226	8.90	1525	60.04	254 - 311	10.00 - 12.24	SD10
Connection thread		Working Mi	pressure pa	Impact rate	a t 2.4 Mpa Z	Recom rotatic r/r	mended on speed mins	Air consumption, CFM 145PSI - 350PSI
6 5/8" 4	\PI reg.	1.0 -	- 2.5	2	0	15	- 25	836 - 1150



DTH hammer - Valved

DHN100

High air pressure with foot valve



Weight	(less bit)	Outsic	le Dia.	Length	(less bit)	Hole	range	Bit shank
kg	lb	mm	in	mm	in	mm	in	
288.00	634.93	226	8.90	1510	59.45	254 - 311	10.00 - 12.24	NUMA100
Connection thread		Working pressure		Impact rate	at 1.7 Mpa	Recom rotatic	mended on speed	Air consumption, CFM
		Мра		Hz		r/mins		145PSI - 350PSI
6 5/8" /	API reg.	1.0 -	- 2.5	1	8	15	- 25	836 - 1150



DTH hammer - Valveless

DHN100(W)

High air pressure without foot valve

			Component parts						
	¹ •	9	Ref	Description	Weight, kg	Weight, lb	Part No.		
	2		1	Top sub	59.00	130.07	DHN100W01		
	3		2	O-ring of top sub	0.03	0.07	DHN100W02		
	4•••		3	Breakout ring	0.50	1.10	DHN100W03		
5.	•		4	Check valve	1.40	3.09	DHN100W04		
	5		5	Spring	0.30	0.66	DHN100W05		
		• ¹⁰	6	Air distributor	10.50	23.15	DHN100W06		
25	6 • ·	•11	7	Internal cylinder	12.50	27.56	DHN100W07		
22	•		8	Piston	77.00	169.76	DHN100W08		
	7		9	External cylinder	110.00	242.51	DHN100W09		
	•	• ¹⁴	10	Guided sleeve	4.50	9.92	DHN100W10		
			11	O-ring of stop ring	0.02	0.04	DHN100W11		
	8.		12	Stop ring	1.90	4.19	DHN100W12		
20	•	15	13	Breakout ring	0.50	1.10	DHN100W13		
			14	Drive sub	25.50	56.22	DHN100W14		
			15	Drill bit			DHN100W15		
		houter							

Weight	(less bit)	Outsic	le Dia.	Length	(less bit)	Hole	range	Bit shank
kg	lb	mm	in	mm	in	mm	in	
305.00	672.41	226	8.90	1545	60.83	254 - 311	10.00 - 12.24	NUMA100
Connection thread		Working pressure		Impact rate	Impact rate at 1.7 Mpa		mended on speed	Air consumption, CFM
		Мра		HZ		r/mins		145851 - 350851
4 1/2" API reg. 5 1/2" API reg.		1.0 - 2.5		20		15 - 25		836 - 1150



DTH drill bits

10"

Button bits	tton bits Part No.		D	Buttons	Flushing	Angle	Weight	Available types
		[mm]	[in]	[No.] [mm] [No.] [mm]	[No.]	[°]	[kg]	
	DHB254SD10FF	254	10	12 × 18 20 × 16	2	38	85.0	cc*, cv* 🗋 🗎 🗋
	DHB270SD10FF	270	10 5/8	12 × 19 28 × 18	2	38	88.0	cc*, cv* 🗋 🔒 🗎
	DHB279SD10FF	279	11	12 × 19 28 × 18	2	38	91.0	cc*, cv* 🗅 🖯 🗋
	DHB295SD10FF	295	11 5/8	12 × 19 29 × 18	2	38	95.0	cc*, cv* 🗅 🖯 🗋
	DHB305SD10FF	305	12	15 × 19 36 × 18	2	38	97.0	cc*, cv* 🗅 🖯 🗋
	DHB311SD10FF	311	12 1/4	15 × 19 36 × 18	2	38	99.0	cc*, cv* 🗋 🔒 🗋
	DHB315SD10FF	315	12 3/8	15 × 19 36 × 18	2	38	102.0	cc*, cv* 🗋 🔒 🗋
SD10	DHB330SD10FF	330	13	15 × 19 36 × 18	2	38	114.0	cc*, cv* 🗅 🖯 🗋
	DHB254N100FF	254	10	12 × 18 20 × 16	2	38	86.0	cc*, cv* 🗅 🖯 🗋
	DHB270N100FF	270	10 5/8	12 × 19 28 × 18	2	38	89.0	cc*, cv* 🗋 🔒 🗋
	DHB279N100FF	279	11	12 × 19 28 × 18	2	38	92.0	cc*, cv* 🗋 🔒 🗋
	DHB295N100FF	295	11 5/8	12 × 19 29 × 18	2	38	96.0	cc*, cv* 🗅 🖯 🗋
	DHB305N100FF	305	12	15 × 19 36 × 18	2	38	98.0	cc*, cv* 🗅 🖯 🗋
	DHB311N100FF	311	12 1/4	15 × 19 36 × 18	2	38	100.0	cc*, cv* 🗅 🖯 🗋
	DHB315N100FF	315	12 3/8	15 × 19 36 × 18	2	38	103.0	cc*, cv* 🗅 🖯 🗋
NUMA100	DHB330N100FF	330	13	15 × 19 36 × 18	2	38	115.0	cc*, cv* 🗋 🖨 🗇



DTH hammer - Valved

DSD12

High air pressure with foot valve

	1000			Com	ponent part	S	
	¹ •	• ⁹	Ref	Description	Weight, kg	Weight, lb	Part No.
	2		1	Top sub	70.00	154.32	DSD1201
	3		2	O-ring of top sub	0.04	0.09	DSD1202
	4•••		3	Breakout ring	0.80	1.76	DSD1203
<u>(</u>	•		4	Check valve	3.00	6.61	DSD1204
	5.		5	Spring	0.10	0.22	DSD1205
=	•		6	Air distributor	20.00	44.09	DSD1206
25	6		7	Internal cylinder	23.00	50.71	DSD1207
25		• ¹³	8	Piston	125.00	275.58	DSD1208
2	7	1 4	9	External cylinder	170.00	374.79	DSD1209
			10	O-ring of stop ring	0.04	0.09	DSD1210
			11	Stop ring	4.80	10.58	DSD1211
4	8		12	Guided sleeve	18.00	39.68	DSD1212
	•	15	13	Breakout ring	0.80	1.76	DSD1213
			14	Drive sub	51.00	112.44	DSD1214
	1.0		15	Drill bit			DSD1215
- 2.4		and the second					

	Weight (less bit)	Outsic	le Dia.	Length ((less bit)	Hole	range	Bit shank
	kg	lb	mm	in	mm	in	mm	in	
5	30.00	1168.45	275	10.83	1880	74.02	305 - 445	12.01 - 17.52	SD12
Connection thread		Working M	pressure pa	Impact rate ⊦	Impact rate at 1.7 Mpa Hz		mended on speed nins	Air consumption, CFM 145PSI - 350PSI	
6 5/8" API reg.		1.0 - 2.5		16		15 - 25		836 - 1150	



DTH hammer - Valveless

DSD12(W)

High air pressure without foot valve

			Component parts						
	¹ •	• ⁹	Ref	Description	Weight, kg	Weight, lb	Part No.		
	2		1	Top sub	110.00	242.51	DSD12W01		
	3		2	O-ring of top sub	0.05	0.11	DSD12W02		
	4		3	Breakout ring	1.00	2.20	DSD12W03		
SCCCCCCCCCCCCC	•		4	Check valve	2.00	4.41	DSD12W04		
	5		5	Spring	0.10	0.22	DSD12W05		
5	• 3	• ¹⁰	6	Air distributor	20.00	44.09	DSD12W06		
25	°••	 ¹¹	7	Internal cylinder	25.00	55.12	DSD12W07		
2	-	12 • 13	8	Piston	115.00	253.53	DSD12W08		
	7.		9	External cylinder	175.00	385.81	DSD12W09		
	•	• ¹⁴	10	Guided sleeve	25.00	55.12	DSD12W10		
			11	O-ring of stop ring	0.01	0.02	DSD12W11		
	8.		12	Stop ring	6.00	13.23	DSD12W12		
	•	15	13	Breakout ring	1.00	2.20	DSD12W13		
			14	Drive sub	50.00	110.23	DSD12W14		
			15	Drill bit			DSD12W15		
-7.4-									

Weight	(less bit)	Outsid	de Dia.	Length	(less bit)	Hole	range	Bit shank
kg	lb	mm	in	mm	in	mm	in	
530.00	1168.45	275	10.83	1860	73.23	305 - 445	12.01 - 17.52	SD12
Connection thread		Working M	pressure pa	Impact rate	at 1.7 Mpa Iz	Recom rotatic r/r	mended on speed mins	Air consumption, CFM 145PSI - 350PSI
6 5/8" API reg.		1.0 - 2.5		20		15 - 25		836 - 1150



DTH hammer - Valveless

DHH120(W)

High air pressure without foot valve

			Component parts						
	¹ •	9	Ref	Description	Weight, kg	Weight, lb	Part No.		
	2		1	Top sub	70.00	154.32	DHH120W01		
	3.		2	O-ring of top sub	0.04	0.09	DHH120W02		
	4		3	Breakout ring	0.80	1.76	DHH120W03		
5	•		4	Check valve	2.00	4.41	DHH120W04		
	⁵ •		5	Spring	0.10	0.22	DHH120W05		
=	• 3	• ¹⁰	6	Air distributor	16.00	35.27	DHH120W06		
25	°•	•11	7	Internal cylinder	25.00	55.12	DHH120W07		
22	-		8	Piston	113.00	249.12	DHH120W08		
2	7.		9	External cylinder	173.00	381.40	DHH120W09		
	•	• ¹⁴	10	Guided sleeve	24.00	52.91	DHH120W10		
			11	O-ring of stop ring	0.01	0.02	DHH120W11		
	8.		12	Stop ring	4.00	8.82	DHH120W12		
	• 70	15	13	Breakout ring	0.80	1.76	DHH120W13		
			14	Drive sub	46.00	101.41	DHH120W14		
		<u> </u>	15	Drill bit			DHH120W15		

Weight	(less bit)	Outsic	le Dia.	Length (Length (less bit)		range	Bit shank
kg	lb	mm	in	mm	in	mm	in	
474.00	1044.99	275	10.83	1880	74.02	305 - 445	12.01 - 17.52	DHD1120
Connectio	on thread	Working M	pressure pa	Impact rate ⊢	a t 1.7 Mpa	Recom rotatic r/r	mended on speed nins	Air consumption, CFM 145PSI - 350PSI
6 5/8" <i>A</i>	/8" API reg. 1.0 - 2.5 20		0	15	- 25	836 - 1150		



DTH hammer - Valveless

DHN125(W)

High air pressure without foot valve

100			S			
¹ •	• ⁹	Ref	Description	Weight, kg	Weight, lb	Part No.
2		1	Top sub	110.00	242.51	DHN125W01
3.		2	O-ring of top sub	0.04	0.09	DHN125W02
4		3	Breakout ring	1.00	2.20	DHN125W03
•		4	Check valve	2.00	4.41	DHN125W04
5.		5	Spring	0.10	0.22	DHN125W05
• 3	• ¹⁰	6	Air distributor	16.00	35.27	DHN125W06
°•	•11	7	Internal cylinder	25.00	55.12	DHN125W07
		8	Piston	115.00	253.53	DHN125W08
7.		9	External cylinder	175.00	385.81	DHN125W09
•	• ¹⁴	10	Guided sleeve	23.00	50.71	DHN125W10
1		11	O-ring of stop ring	0.01	0.02	DHN125W11
8.		12	Stop ring	5.00	11.02	DHN125W12
•	15	13	Breakout ring	1.00	2.20	DHN125W13
		14	Drive sub	45.00	99.21	DHN125W14
		15	Drill bit			DHN125W15
	abouter					
			1 9 Ref 2 3 4 3 5 6 10 6 11 7 12 8 13 9 14 10 11 11 8 13 9 14 10 11 15 13 14 15 13 14	P Ref Description 1 Top sub 2 2 O-ring of top sub 3 3 Breakout ring 4 Check valve 5 Spring 10 6 11 7 10 6 11 7 11 7 11 7 11 7 11 7 11 7 12 8 13 9 External cylinder 14 10 Guided sleeve 11 O-ring of stop ring 12 Stop ring 13 9 External cylinder 14 10 10 Guided sleeve 11 7-ring of stop ring 15 13 14 Drive sub 15 Drill bit	P Ref Description Weight, kg 1 Top sub 110.00 2 O-ring of top sub 0.04 3 Breakout ring 1.00 4 Check valve 2.00 5 Spring 0.10 6 Air distributor 16.00 11 7 Internal cylinder 25.00 12 8 Piston 115.00 13 9 External cylinder 175.00 14 10 Guided sleeve 23.00 15 13 Breakout ring 1.00 14 Drive sub 45.00 15 Drill bit 45.00	P Ref Description Weight, kg Weight, lb 1 Top sub 110.00 242.51 2 O-ring of top sub 0.04 0.09 3 Breakout ring 1.00 2.20 4 Check valve 2.00 4.41 5 Spring 0.10 0.22 4 Check valve 2.00 4.41 5 Spring 0.10 0.22 6 -10 6 Air distributor 16.00 35.27 11 7 Internal cylinder 25.00 55.12 12 8 Piston 115.00 253.53 7 11 7 Internal cylinder 175.00 385.81 14 10 Guided sleeve 23.00 50.71 12 Stop ring 5.00 11.02 12 Stop ring 5.00 11.02 12 Stop ring 1.00 2.20 14 Drive sub 45.

Weight	(less bit)	Outsic	de Dia.	Length (less bit)		Hole	range	Bit shank
kg	lb	mm	in	mm	in	mm	in	
518.00	1141.99	275	10.83	1880	74.02	305 - 445	12.01 - 17.52	NUMA125
Connectio	on thread	Working	pressure	Impact rate	at 1.7 Mpa	Recom rotatic	mended on speed	Air consumption, CFM
		М	ра	F	lz	r/r	nins	145PSI - 350PSI
6 5/8" /	API reg.	1.0	- 2.5	2	0	15	- 25	836 - 1150



DTH drill bits

12"

Button bits	Part No.		D	Buttons	Flushing	Angle	Weight	Available types
		[mm]	[in]	[No.] [mm][No.] [mm]	[No.]	[°]	[kg]	
	DHB305DHH120FF	305	12	15 × 19 36 × 18	3	38	128.0	cc*, cv* 🗅 🖯 🗋
	DHB311DHH120FF	311	12 1/4	15 × 19 36 × 18	3	38	130.0	cc*, cv* 🗅 🖯 🗋
	DHB315DHH120FF	315	12 3/8	15 × 19 42 × 18	3	38	134.0	cc*, cv* 🗅 🖯 🗇
	DHB330DHH120FF	330	13	15 × 19 42 × 18	3	38	138.0	cc*, cv* 🗅 🖯 🗇
	DHB343DHH120FF	343	13 1/2	15 × 19 42 × 18	3	38	143.0	cc⁺, cv⁺ 🗅 🖯 🗋
	DHB350DHH120FF	350	13 3/4	15 × 19 44 × 18	3	38	146.0	cc*, cv* □ □ □
	DHB356DHH120FF	356	14	15 × 19 44 × 18	3	38	148.0	cc*, cv* 🗅 🖯 🗋
	DHB368DHH120FF	368	14 1/2	15 × 19 40 × 19	3	38	154.0	cc*, cv* 🗅 🖯 🗋
	DHB375DHH120FF	375	14 3/4	15 × 19 40 × 19	3	38	158.0	cc*, cv* 🗅 🖯 🗋
DHD1120	DHB381DHH120FF	381	15	15 × 19 40 × 19	3	38	163.0	cc*, cv* 🗋 🖯 🗋
	DHB305SD12FF	305	12	15 × 19 36 × 18	3	38	130.0	cc*, cv* 🗅 🖯 🗋
	DHB311SD12FF	311	12 1/4	15 × 19 36 × 18	3	38	132.0	cc*, cv* 🗅 🖯 🗋
	DHB315SD12FF	315	12 3/8	15 × 19 42 × 18	3	38	136.0	cc*, cv* 🗅 🖯 🗋
	DHB330SD12FF	330	13	15 × 19 42 × 18	3	38	140.0	cc*, cv* 🗅 🖯 🗋
	DHB343SD12FF	343	13 1/2	15 × 19 42 × 18	3	38	145.0	cc*, cv* 🗅 🖯 🗋
	DHB350SD12FF	350	13 3/4	15 × 19 44 × 18	3	38	148.0	cc*, cv* 🗅 🖯 🗋
	DHB356SD12FF	356	14	15 × 19 44 × 18	3	38	150.0	cc*, cv* 🗅 🖯 🗋
	DHB368SD12FF	368	14 1/2	15 × 19 40 × 19	3	38	156.0	cc*, cv* 🗋 🖯 🗍
	DHB375SD12FF	375	14 3/4	15 × 19 40 × 19	3	38	160.0	cc*, cv* 🗅 🖯 🗋
SD12	DHB381SD12FF	381	15	15 × 19 40 × 19	3	38	164.0	cc*, cv* 🗋 🖯 🗋
	DHB305N120FF	305	12	15 × 19 36 × 18	3	38	132.0	cc*, cv* 🗅 🖯 🗋
	DHB311N120FF	311	12 1/4	15 × 19 36 × 18	3	38	134.0	cc*, cv* 🗅 🖯 🗋
	DHB315N120FF	315	12 3/8	15 × 19 42 × 18	3	38	138.0	cc*, cv* 🗋 🖯 🗋
	DHB330N120FF	330	13	15 × 19 42 × 18	3	38	142.0	cc*, cv* 🗅 🗎 🗋
	DHB343N120FF	343	13 1/2	15 × 19 42 × 18	3	38	146.0	cc*, cv* 🗅 🖯 🗋
	DHB350N120FF	350	13 3/4	15 × 19 44 × 18	3	38	150.0	cc*, cv* 🗅 🖯 🗋
	DHB356N120FF	356	14	15 × 19 44 × 18	3	38	152.0	cc*, cv* 🗋 🗎 🗋
	DHB368N120FF	368	14 1/2	15 × 19 40 × 19	3	38	160.0	cc*, cv* 🗅 🖯 🗋
	DHB375N120FF	375	14 3/4	15 × 19 40 × 19	3	38	162.0	cc*, cv* 🗅 🖯 🗋
NUMA120	DHB381N120FF	381	15	15 × 19 40 × 19	3	38	170.0	cc*, cv* 🗅 🖯 🗋
	DHB305N125FF	305	12	15 × 19 36 × 18	3	38	132.0	cc*, cv* 🗅 🖯 🗋
	DHB311N125FF	311	12 1/4	15 × 19 36 × 18	3	38	134.0	cc*, cv* 🗋 🖯 🗋
	DHB315N125FF	315	12 3/8	15 × 19 42 × 18	3	38	138.0	cc*, cv* 🗅 🖯 🗋
	DHB330N125FF	330	13	15 × 19 42 × 18	3	38	142.0	cc*, cv* 🗋 🖯 🗍
	DHB343N125FF	343	13 1/2	15 × 19 42 × 18	3	38	146.0	cc*, cv* 🗅 🖯 🗋
	DHB350N125FF	350	13 3/4	15 × 19 44 × 18	3	38	150.0	cc*, cv* 🗅 🖯 🗋
	DHB356N125FF	356	14	15 × 19 44 × 18	3	38	152.0	cc*, cv* 🗅 🖯 🗋
	DHB368N125FF	368	14 1/2	15 × 19 40 × 19	3	38	160.0	cc*, cv* 🗋 🖯 🗍
	DHB375N125FF	375	14 3/4	15 × 19 40 × 19	3	38	162.0	cc*, cv* 🗅 🖯 🗇
NUMA125	DHB381N125FF	381	15	15 × 19 40 × 19	3	38	170.0	cc*, cv* 🗅 🖯 🗋



DTH drill bits

15", 20", 24"

15"

Button bits	Part No.		D	Buttons {•͡) {⊙}	Flushing	Angle	Weight	Available types
		[mm]	[in]	[No.] [mm] [No.] [mm]	[No.]	[°]	[kg]	
	DHB381DHH150FF	381	15	15 × 19 40 × 19	3	38	237.0	cc*, cv* 🗅 🖯 🗋
	DHB391DHH150FF	391	15 3/8	15 × 19 40 × 19	3	38	244.0	cc*, cv* 🗋 🗎 🗎
	DHB413DHH150FF	413	16 1/4	15 × 19 44 × 19	3	38	232.0	cc*, cv* 🗅 🖯 🗋
	DHB435DHH150FF	435	17 1/8	18 × 19 44 × 19	3	38	282.0	cc*, cv* 🗅 🖯 🗋
	DHB438DHH150FF	438	17 1/4	18 × 19 44 × 19	3	38	282.0	cc*, cv* 🗅 🖯 🗋
	DHB445DHH150FF	445	17 1/2	18 × 19 44 × 19	3	38	282.0	cc*, cv* 🗅 🖯 🗋
	DHB451DHH150FF	451	17 3/4	18 × 19 44 × 19	3	35	289.0	cc*, cv* 🗅 🖯 🗋
	DHB457DHH150FF	457	18	18 × 25 47 × 19	3	35	295.0	cc*, cv* 🗅 🖯 🗋
	DHB464DHH150FF	464	18 1/4	18 × 25 47 × 19	3	35	299.0	cc*, cv* 🗅 🖯 🗋
	DHB483DHH150FF	483	19	20 × 25 57 × 19	3	35	330.0	cc*, cv* 🗅 🖯 🗋
HD330	DHB508DHH150FF	508	20	20 25 61 19	3	35	342.0	cc*, cv* 🗇 🖨 🗇

20"

Button bits	Part No.	Part No. D		Buttons ଽ⊙ੇ ଽ⊙ੇ	Flushing	Angle Weight		Available types
		[mm]	[in]	[No.] [mm][No.] [mm]	[No.]	[°]	[kg]	
	DHB483DHH200FF	483	19	20 × 25 57 × 19	3	35	330.0	cc*, cv* 🗋 🗎 🗋
	DHB508DHH200FF	508	20	20 × 25 61 × 19	3	35	342.0	cc*, cv* 🗋 🗎 🗋
	DHB560DHH200FF	560	22	16 × 25 50 × 25	4	35	523.0	cc*, cv* 🗋 🗎 🗋
	DHB578DHH200FF	578	22 3/4	16 × 25 50 × 25	4	35	505.0	cc*, cv* 🗋 🗎 🗋
	DHB610DHH200FF	610	24	16 × 25 59 × 25	4	35	545.0	cc*, cv* 🗅 🖯 🗋
HD450	DHB660DHH200FF	660	26	24 × 25 69 × 25	6	35	610.0	cc*, cv* 🗅 🖯 🗋

25"

Button bits	Part No.		D	Buttons	Flushing	Angle	Weight	Available types
		[mm]	[in]	[No.] [mm][No.] [mm]	[No.]	[°]	[kg]	
	DHB610DHH250FF	610	24	16 × 25 59 × 25	4	35	545.0	cc*, cv* 🗋 🗎 🗋
	DHB660DHH250FF	660	26	24 × 25 69 × 25	6	35	608.0	cc*, cv* 🗋 🗎 🗋
	DHB724DHH250FF	724	28 1/2	24 × 25 69 × 25	6	35	990.0	cc*, cv* 🗋 🗎 🗋
	DHB737DHH250FF	737	29	24 × 25 69 × 25	6	35	980.0	cc⁺, cv⁺ 🗋 🗎 🗋
	DHB762DHH250FF	762	30	24 × 25 73 × 25	6	35	1020.0	cc*, cv* 🗋 🗎 🗋
	DHB864DHH250FF	864	34	24 × 25 96 × 25	6	35	1200.0	cc⁺, cv⁺ 🗋 🗎 🗋
HD525	DHB914DHH250FF	914	36	24 × 25 108 × 25	6	35	1280.0	cc*, cv* 🗅 🖯 🗋

DTH hammer Operation and Maintenance Guidelines

GENERAL INTRODUCTION

The high air pressure Down The Hole (DTH) hammer is designed as DTH rock drilling tool. It differs from other rock drilling tools in the way that this kind of hammer always stays in the bottom of the hole during the operation while the piston punches down directly against the drill bit. Compressed air is led to the DTH hammer though the drill pipe. Exhaust air is discharged through hole in drill bit and used to flush out the cuttings to clean the drill hole. Rotation is delivered from a rotation unit and feed force from the feed is transferred to the DTH hammer via the drill pipe.

TECHNICAL DESCRIPTION

The DTH hammer comprises a narrow, elongated external cylinder which contains a piston, an internal cylinder, an air distributor and a check valve. The top sub with a spanner slot and coupling thread is fitted to the top side of the external cylinder. The bottom part, the driver sub, also with thread, encloses the drill bit and transfers feed force as well as rotation to the drill bit. A stop ring limits axial movements of the drill bit. The purpose of the check valve is to prevent impurities from getting into the DTH hammer when operation pressure is shut off. During drilling, the drill bit is pushed into the DTH hammer and pressed against the drive sub. The piston strikes directly against the impact surface of the bit. When the bit loses contact with the bottom of the hole, air is blown down strongly.

OPERATION AND MAINTENANCE

- Always disassemble, inspect, repair and clean the DTH hammer routinely. The frequency of periodic maintenance depends upon the drilling conditions and hammer use.
- The drive sub and top sub are threaded into the cylinder with right-hand threads. The hammer must be always operated with right-hand rotation.
- While starting drilling, use the impact and feed force, let the bit work its way slightly into the rock.
- It is important that the feed force is in accordance with the weight of the drill strings. The force from the feed motor needs to be adjusted during drilling, depending on the variable weight of the drill string.
- The normal rotation speed of DTH hammer lies between 15-25 rpm. Faster rotation means faster drilling. However, in highly abrasive rock, rotation speed should be reduced to avoid excessive wear of the drill bit.
- Clogged or cave-in of the hole, can lead to drill stuck. It is important to regularly clean the hole intervals by carrying out strong

TROUBLE SHOOTING

The DTH hammer does not start

- Probable cause Hammer components are broken.
- Hammer is clogged.
- Hammer is filled with thick oil. Blockage before hammer.

Rough or erratic operation

- Probable cause
- +Insufficient or too much
- weight on bit Too slow or too fast RPM.
- →Dull bit.
- Worn critical hammer components.
- Too much water injection.
- Inadequate or too much oil, too high viscosity.

Recommended action

- *Disassemble and check for
- broken components.
- Disassemble and clean.
- Run air through hammer. Check all hoses on rig for kinks or other blockages.
- Recommended action Adjust weight until hammer smoothes out. This is usually accompanied with rpm adjustment.
- Adjust rpm until hammer smoothes out. This is usually accompanied with weight on bit adjustment.
- Re-sharpen or replace bit.
 Check critical diameters / lengths for specification.
 Back off water injection rate.
- Adjust lubrication rate and proper viscosity oil.

air-blowing with the DTH hammer.

- Jointing operation is the work sequence where a DTH hammer is most likely to experience contamination of cuttings and various kinds of impurities. Cover the thread en of the drill pipe and make sure that it is free from cuttings and dirt.
- It is important to keep the DTH hammer lubricated properly. Inadequate lubrication accelerates wear and can lead to the DTH hammer breakdown.
- Always check condition of the impact surface of the piston visually when changing the bit. Replace the piston if necessary.
- Inspect and service a new hammer after 6 hours of operation.
- Service interval is 72 hours, if the hammer is used in hard, abrasive drilling.
- If the hammer is used with water/foam injection in wet holes where mud is encountered, clean the hammer as soon as possible after each use with compressed air blasts and coat with rock drill oil. Inspect and service every 72 hours.

Impact mechanism does not operate, or works with reduced efficiency

Probable cause

- Air way is throttled or blocked.
 Too much clearance between the piston and the internal
- cylinder, or between the piston and the external cylinder, or between the
- piston and the air distributor. The DTH hammer is dogged by impurities.
- Piston failure or foot valve failure.

Lost drill bit and driver sub Probable cause

- Inadequate weight on bit.
- Improper make up torque.
- Soft or broken formation.

- Recommended action Check the air pressure and the air way.
- Disassemble the DTH hammer and inspect the wear, replace worn part if necessary.
- Disassemble the DTH hammer and clear all internal
- components. Disassemble the DTH hammer and replace the fractured piston or sit up a new bit.
- Recommended action
- Adjust feed pressure.
- +Use tong to torque threads
- prior to operation.
- *Use lower air pressure.



WARRANTY CONDITIONS AND PROCEDURES OF CLAIM SETTLEMENT

DTH HAMMER

In order to make customers familiar with our warranty and claim settlement, we indicate the conditions and procedures in details as below:

- > Free replacement: Premature breakage of external cylinder, piston, drive chuck etc.
- No compensation for following situations:

a. Piston breakage when external cylinder replaced already and DTH hammer used more than 5000 meters, or without lubrication.;

b. Piston breakage when working air pressure in excess of 15 bar for 3 inch DTH hammer, 20 bar for 4 inch DTH Hammer, 23 bar for 5 inch DTH hammer, 25 bar for 6 inch DTH hammer, 35 bar for 8 inch DTH hammer.

- Should the same problem occur for initial hammers out of any bulk order when customer starts using the hammers (i.e. first two hammers prematurely damaged in the same way), please contact us or your suppliers immediately and stop using the remaining products, we will provide timely service and settlement (such as replacing the parts). Otherwise, we will not bear the responsibility.
- Procedure: should the above-mentioned situations take place, please send the damaged parts in time to our technical department. Our reply shall be given in one week in compliance with our service commitment and handling standard. Distributor or Agent must offer written quality problem report issued by end-user for return shipment of goods.
- In case other disputes happen, please send the remains of hammers to our company, and we both parties shall solve the issue by friendly negotiation.
- Limitation on Liability. Except as provided for herein, in no event will JSI be liable for any indirect ,incidental, special, consequential, punitive or similar damages including, but not limited to, lost profits, loss of data or business interruption losses. In no event will the total, aggregate liability of JSI under the Contract exceed the value of the Contract under which liability is claimed. The liability limitations shall apply even if JSI has been notified of the possibility or likelihood of such damages occurring and regardless of the form of action, whether in contract, negligence, strict liability, tort, products liability or otherwise. The parties agree that these limits of liability shall survive and continue in full force and effect despite any termination or expiration of any Contract. Any action by Purchaser against JSI must be commenced within one year after the cause of action has accrued. No employee or agent of JSI is authorized to make any warranty other than that which is specifically set forth herein. The provisions in any specification, brochure or chart issued by JSI are descriptive and are not warranties.



WARRANTY CONDITIONS AND PROCEDURES OF CLAIM SETTLEMENT

DTH BIT

In order to make customers familiar with our warranty and claim settlement, we indicate the conditions and procedures in details as below:

- > Full compensation for the following two situations:
 - a. Steel body breakage when lifespan of the bit used is less than 1/3 of its normal;

b. Carbide button breakage or popping-out when the wearing of the button is less than 1/7 of its original height out of the steel body.

- In principle, compensation will not be made for pure fracturing of carbide button as the reasons resulting to fracturing are complicated (such as improper operation, drilling concrete with steel wire rods).
- Generally, compensation will not be made for breaking & cracking of steel body and breaking & dropping-out of carbides under the condition that they have been over worn-out.
- When breakage of body & button, dropping piece or lost button is caused by usage on soft rock (such as limestone, decomposed rock, coal mine and etc) or very hard and abrasive rock (such as iron ore). In principle, there will be no compensation.
- When gauge button is required to be parabolic or ballistic for high-pressure drill bit. Lost & breakage of buttons shall not be compensated.
- Compensation will not be made for special sized drill bit in the following situations: 3 inch shank drill bit with head diameter more than 105mm; 4 inch shank drill bit with head diameter more than 130mm; 5 inch shank drill bit with head diameter more than 165mm; 6 inch shank drill bit with head diameter more than 203mm; 8 inch shank drill bit with head diameter more than 350mm; 10 inch shank drill bit with head diameter more than 350mm.
- Should the same problem occur for initial bits out of any bulk order when customer starts using the bits (i.e. first two bits abnormally damaged or prematurely damaged in the same way), please contact us or your suppliers immediately and stop using the remaining products, we will provide timely service and settlement (such as replacing the bits). Otherwise, we will not bear the responsibility.
- Procedure: should the above-mentioned situations take place, please send the damaged bits (esp. shank should be kept for further reference) in time to our technical department. Our reply shall be given in one week in compliance with our service commitment and handling standard. Distributor or Agent must offer written quality problem report issued by end-user for return shipment of goods.
- In case other disputes happen, please send the remains of the drill bits to our company, and we both parties shall solve the issue by friendly negotiation.
- → There is no compensation for any compensated drill bit.
- Limitation on Liability. Except as provided for herein, in no event will JSI be liable for any indirect ,incidental, special, consequential, punitive or similar damages including, but not limited to, lost profits, loss of data or business interruption losses. In no event will the total, aggregate liability of JSI under the Contract exceed the value of the Contract under which liability is claimed. The liability limitations shall apply even if JSI has been notified of the possibility or likelihood of such damages occurring and regardless of the form of action, whether in contract, negligence, strict liability, tort, products liability or otherwise. The parties agree that these limits of liability shall survive and continue in full force and effect despite any termination or expiration of any Contract. Any action by Purchaser against JSI must be commenced within one year after the cause of action has accrued. No employee or agent of JSI is authorized to make any warranty other than that which is specifically set forth herein. The provisions in any specification, brochure or chart issued by JSI are descriptive and are not warranties.



WARRANTY CONDITIONS AND PROCEDURES OF CLAIM SETTLEMENT

DTH DRILL PIPE

In order to make customers familiar with our warranty and claim settlement, we indicate the conditions and procedures in details as below:

- JSI offer 4 months quality warranty after arrival of goods at port of destination. During this period, JSI offer free repair or free replacement for the quality problems, such as Breakage of drill pipe caused by defects of raw material, thread connection failure of new drill pipe, cracks at the weld seam.
- Free repair or replacement will be provided for below situations if the pipe surface is smoothly worn (excluding scratches), and outer diameter of the pipe has less than 1mm wear on the standard size.
- a. Replacement for breakage of pipe body and top sub;
- b. Repair or replacement for the breakage of top sub thread when there is less than 0.3mm wear on two sides of thread top;
- c. Repair or replacement for breakage at weld joint.
- d. Repair or replacement for appearance of original cracks on pipe top sub and body.
- Proportional compensation will be provided for below situations if the pipe surface is smoothly worn (excluding scratches), and outer diameter of the pipe is 1-2mm smaller than the standard size.
- a. 50% compensation will be provided for the pipe body breakage;
- b. 30% compensation will be provided for the breakage of top sub thread when there is less than 0.3-0.5mm wear on two sides of thread top.
- No compensation will be provided for below situations if the pipe surface is smoothly worn (excluding scratches), and outer diameter of the pipe has more than 2mm wear on the standard size, or the breakage is caused by improper operation or abnormal wear and tear.
- a. Pipe top sub thread gluing caused by improper usage of thread grease.
- b. Breakage at pipe body or top sub when there is one or more laps scratch with thickness above 0.5mm as shape of circle or spiral.
- c. Bump damage at top sub thread or bending deformation of the pipe caused by improper transport.
- d. Early thread wear or damage caused by mix using two or more pipes from different suppliers or of big difference of new and old.
- e. Pipe damage caused by operating at abnormal rock formations such as pebble bed, fractured rock and reinforced concrete.
- f. Fatigue breakdown of the pipe caused by not properly using specified starter rods to connect with the hammer.
- g. Pipe damage caused by improper operation which does not comply with the manual.
- When above situations appear, please keep the damaged pipes and send back to the supplier if necessary. Answers based on above principles will be given in one week after receiving the pipes. Should the same problem occur for initial drill pipe out of any bulk order when customer starts using the drill pipe (i.e. first two pieces of drill pipes prematurely damaged in the same way), please contact us or your suppliers immediately and stop using the remaining products, we will provide timely service and settlement (such as replacing the drilling pipes). Otherwise, we will not bear the responsibility.
- Procedure: should the above-mentioned situations take place, please send the damaged drill pipes in time to our technical department. Our reply shall be given in one week in compliance with our service commitment and handling standard. Distributor or Agent must offer written quality problem report issued by end-user for return shipment of goods.
- → In case other disputes happen, please send the remains of drill pipes to our company, and we both parties shall solve the issue by friendly negotiation.
- Limitation on Liability. Except as provided for herein, in no event will JSI be liable for any indirect ,incidental, special, consequential, punitive or similar damages including, but not limited to, lost profits, loss of data or business interruption losses. In no event will the total, aggregate liability of JSI under the Contract exceed the value of the Contract under which liability is claimed. The liability limitations shall apply even if JSI has been notified of the possibility or likelihood of such damages occurring and regardless of the form of action, whether in contract, negligence, strict liability, tort, products liability or otherwise. The parties agree that these limits of liability shall survive and continue in full force and effect despite any termination or expiration of any Contract. Any action by Purchaser against JSI must be commenced within one year after the cause of action has accrued. No employee or agent of JSI is authorized to make any warranty other than that which is specifically set forth herein. The provisions in any specification, brochure or chart issued by JSI are descriptive and are not warranties.



RC hammers and drill bits





RC HAMMER OVERVIEW

HRC series reverse circulation DTH Hammer is the latest developed product. It is mainly used for in-pit grade control and normal exploration drilling.

SELECTING THE RIGHT HAMMER

- Based on previous experience of ordinary hammers, the RC Hammer, with its features of reverse circulation, optimizes the internal structure and energy transfer, thus ensuring the series of hammers drilling with fast, smooth and continuous sampling.
- The internal structure is very simple with long life and easy maintenance of the hammer.
- The collection tube adopts an integrative design and can be replaced without treatment, it has good abrasive resistance.
- Equipped with bits designed with patent, the hammer can drill holes of different sizes, ensuring that the sample is not contaminated.
- In difficult conditions such as loose soil, hard rock and that with lots of water, sampling can be done well.

Explanation of code

Example: JRC5P40 J - JSI ROCK TOOLS RC - Reverse Circulation DTH hammer 5 - 5" DTH hammer P40 - P40 bit shank



RC hammer

JRC3E531



Com	ponent part	S
n	Weight ka	We

Ref	Description	Weight, kg	Weight, lb	Part No.
1	Top sub	3.76	8.29	JRC3E53101
2	O-ring	0.01	0.02	JRC3E53102
3	Adapter screen	1.85	4.08	JRC3E53103
4	O-ring	0.01	0.02	JRC3E53104
5	Sample tube	1.97	4.34	JRC3E53105
6	Circlip	0.04	0.09	JRC3E53106
7	O-ring	0.01	0.02	JRC3E53107
8	O-ring	0.01	0.02	JRC3E53108
9	Air distributor	0.37	0.82	JRC3E53109
10	Check valve	0.08	0.18	JRC3E53110
11	O-ring	0.01	0.02	JRC3E53111
12	Spring	0.10	0.22	JRC3E53112
13	Mount sample tube	0.49	1.08	JRC3E53113
14	Internal cylinder	3.40	7.50	JRC3E53114
15	Piston	4.69	10.34	JRC3E53115
16	External cylinder	9.20	20.28	JRC3E53116
17	Seal cover	0.02	0.04	JRC3E53117
18	Bush drive sub	1.03	2.27	JRC3E53118
19	Bit retainer ring	0.08	0.18	JRC3E53119
20	O-ring	0.01	0.02	JRC3E53120
21	Shroud	0.45	0.99	JRC3E53121
22	Drive sub	1.60	3.53	JRC3E53122
23	Drill bit	4.20	9.26	JRC3E53123

Hammer specification

Weight (less bit)		Outside Dia.		Length (less bit)		Hole	range	Bit shank
kg	lb	mm	in	mm	in	mm	in	
29.00	63.93	81	3.19	1069	42.09	84 - 100	3.31 - 3.94	RE531
Connection thread		Working	pressure	Impact rate	e at 2.4 Mpa	Recom rotatio	mended n speed	Air consumption, CFM
3" Remet		1.0	1.0		20		- 40	200 - 600
5 Kennet		1.0	5.0	50		25		200 000



3"
JRC4E004



Component parts								
Ref	Description	Weight, kg	Weight, lb	Part No.				
1	Circlip	0.02	0.04	JRC4E00401				
2	O-ring	0.02	0.04	JRC4E00402				
3	Adapter screen	1.06	2.34	JRC4E00403				
4	O-ring	0.02	0.04	JRC4E00404				
5	Top sub	7.79	17.17	JRC4E00405				
6	Check valve	0.51	1.12	JRC4E00406				
7	Y-ring	0.02	0.04	JRC4E00407				
8	Spring	0.06	0.13	JRC4E00408				
9	Sample tube upper	0.74	1.63	JRC4E00409				
10	O-ring	0.02	0.04	JRC4E00410				
11	O-ring	0.02	0.04	JRC4E00411				
12	Sample tube lower	2.38	5.25	JRC4E00412				
13	Spring washers	0.17	0.37	JRC4E00413				
14	Air distributor	1.75	3.86	JRC4E00414				
15	O-ring	0.02	0.04	JRC4E00415				
16	Piston	2.45	5.40	JRC4E00416				
17	Internal cylinder	10.45	23.04	JRC4E00417				
18	External cylinder	17.95	39.57	JRC4E00418				
19	Bush drive sub	1.77	3.90	JRC4E00419				
20	Bit retainer ring	0.29	0.64	JRC4E00420				
21	O-ring	0.02	0.04	JRC4E00421				
22	Shroud	1.05	2.31	JRC4E00422				
23	Drive sub	3.13	6.90	JRC4E00423				
24	Drill bit	11.70	25.79	JRC4E00424				

Hammer specification

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Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
52.00	114.64	107	4.21	1252	49.29	111 - 127	4.37 - 5.00	RE004
Connection thread		Working pressure		Impact rate at 2.4 Mpa		Recommended rotation speed		Air consumption, CFM
		M	ра	F	łz	r/n	nins	145PSI - 350PSI
3.5" - 4" Remet 4" Metzke		1.0 -	- 3.0	3	80	25	- 40	200 - 600



4"

4" **RC HAMMER**

JRC45E542



Ref	Description	Weight, kg	Weight, lb	Part No.
1	Circlip	0.04	0.09	JRC45E54201
2	Adapter screen	2.55	5.62	JRC45E54202
3	O-ring	0.02	0.04	JRC45E54203
4	Top sub	8.52	18.78	JRC45E54204
5	Sample tube	3.50	7.72	JRC45E54205
6	O-ring	0.02	0.04	JRC45E54206
7	Circlip	0.04	0.09	JRC45E54207
8	Air screen	0.02	0.04	JRC45E54208
9	Distributor nozzle	0.56	1.23	JRC45E54209
10	O-ring	0.02	0.04	JRC45E54210
11	Check valve	0.50	1.10	JRC45E54211
12	Y-ring	0.02	0.04	JRC45E54212
13	Spring	0.08	0.18	JRC45E54213
14	Mount sample tube	0.86	1.90	JRC45E54214
15	O-ring	0.02	0.04	JRC45E54215
16	Internal cylinder	7.26	16.01	JRC45E54216
17	O-ring	0.02	0.04	JRC45E54217
18	Piston	11.64	25.66	JRC45E54218
19	External cylinder	19.17	42.26	JRC45E54219
20	Bush drive sub	2.35	5.18	JRC45E54220
21	O-ring	0.02	0.04	JRC45E54221
22	Piston retainer ring	0.05	0.11	JRC45E54222
23	Bit retainer ring	0.26	0.57	JRC45E54223
24	O-ring	0.02	0.04	JRC45E54224
25	Shroud	2.21	4.87	JRC45E54225
26	Drive sub	2.94	6.48	JRC45E54226
27	Drill bit	10.96	24.16	JRC45E54227

Component parts

Hammer specification

Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
51.00	112.44	109.5	4.31	1191	46.89	113 - 130	4.45 - 5.12	RE542
Connection thread		Working	pressure	Impact rate	e at 2.4 Mpa	Recom rotatio	mended n speed	Air consumption, CFM
		IVI	ра	F	1Z	r/n	nins	145951 - 350951
3.5" - 4" Remet 4" Metzke		1.5 -	3.5	3	35	25	- 40	600 - 836



4.5"

4.5" RC HAMMER

JRC45E543



Ref	Description	Weight, kg	Weight, lb	Part No.
1	Circlip	0.04	0.09	JRC45E54301
2	Adapter screen	2.55	5.62	JRC45E54302
3	O-ring	0.02	0.04	JRC45E54303
4	Top sub	8.52	18.78	JRC45E54304
5	Sample tube	3.50	7.72	JRC45E54305
6	O-ring	0.02	0.04	JRC45E54306
7	Circlip	0.04	0.09	JRC45E54307
8	Air screen	0.02	0.04	JRC45E54308
9	Distributor nozzle	0.56	1.23	JRC45E54309
10	O-ring	0.02	0.04	JRC45E54310
11	Check valve	0.50	1.10	JRC45E54311
12	Y-ring	0.02	0.04	JRC45E54312
13	Spring	0.08	0.18	JRC45E54313
14	Mount sample tube	0.86	1.90	JRC45E54314
15	O-ring	0.02	0.04	JRC45E54315
16	Internal cylinder	7.26	16.01	JRC45E54316
17	O-ring	0.02	0.04	JRC45E54317
18	Piston	11.64	25.66	JRC45E54318
19	External cylinder	19.17	42.26	JRC45E54319
20	Bush drive sub	2.35	5.18	JRC45E54320
21	O-ring	0.02	0.04	JRC45E54321
22	Piston retainer ring	0.05	0.11	JRC45E54322
23	Bit retainer ring	0.26	0.57	JRC45E54323
24	O-ring	0.02	0.04	JRC45E54324
25	Shroud	2.21	4.87	JRC45E54325
26	Drive sub	2.94	6.48	JRC45E54326
27	Drill bit	10.96	24.16	JRC45E54327

Component parts

Hammer specification

Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
62.00	136.69	116	4.57	1191	46.89	120 - 135	4.72 - 5.31	RE543
Connection thread		Working	pressure	Impact rate	e at 2.4 Mpa	Recom rotatio	mended n speed	Air consumption, CFM
		М	ра	H	łz	r/n	nins	145PSI - 350PSI
3.5" - 4" Remet 4" Metzke		1.5	- 3.5	3	35	25	- 40	600 - 836



JRC5E545



Component parts								
Ref	Description	Weight, kg	Weight, lb	Part No.				
1	Circlip	0.04	0.09	JRC5E54501				
2	O-ring	0.02	0.04	JRC5E54502				
3	Adapter screen	2.95	6.50	JRC5E54503				
4	O-ring	0.02	0.04	JRC5E54504				
5	Top sub	6.98	15.39	JRC5E54505				
6	Sample tube	4.61	10.16	JRC5E54506				
7	O-ring	0.02	0.04	JRC5E54507				
8	Circlip	0.04	0.09	JRC5E54508				
9	Air screen	0.02	0.04	JRC5E54509				
10	Distributor nozzle	0.48	1.06	JRC5E54510				
11	O-ring	0.02	0.04	JRC5E54511				
12	Check valve	0.53	1.17	JRC5E54512				
13	Y-ring	0.02	0.04	JRC5E54513				
14	Spring	0.12	0.26	JRC5E54514				
15	O-ring	0.02	0.04	JRC5E54515				
16	Internal cylinder	10.20	22.49	JRC5E54516				
17	Piston	15.10	33.29	JRC5E54517				
18	External cylinder	17.20	37.92	JRC5E54518				
19	Bush drive sub	2.95	6.50	JRC5E54519				
20	O-ring	0.02	0.04	JRC5E54520				
21	Piston retainer ring	0.04	0.09	JRC5E54521				
22	Bit retainer ring	0.23	0.51	JRC5E54522				
23	O-ring	0.02	0.04	JRC5E54523				
24	Shroud	1.60	3.53	JRC5E54524				
25	Drive sub	3.41	7.52	JRC5E54525				
26	Drill bit	12.60	27.78	JRC5E54526				

Hammer specification

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Weight (less bit)		Outside Dia.		Length (less bit)		Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
65.00	143.30	117.5	4.63	1261	49.65	122 - 135	4.80 - 5.31	RE545
Connection thread		Working pressure		Impact rate at 2.4 Mpa		Recommended rotation speed		Air consumption, CFM
		M	ра	H	łz	r/n	nins	145PSI - 350PSI
4" - 4.5" Remet 4" - 4.5" Metzke		1.5 -	· 3.5	3	35	25	- 40	600 - 836



5"

JRC5P40



Ref	Description	Weight, kg	Weight, lb	Part No.
1	Circlip	0.04	0.09	JRC5P4001
2	Adapter screen	1.51	3.33	JRC5P4002
3	O-ring	0.02	0.04	JRC5P4003
4	Top sub	5.96	13.14	JRC5P4004
5	Sample tube upper	1.33	2.93	JRC5P4005
6	Top sub	9.81	21.63	JRC5P4006
7	Air screen bottom load	0.27	0.60	JRC5P4007
8	O-ring	0.02	0.04	JRC5P4008
9	Circlip	0.03	0.07	JRC5P4009
10	Check valve	0.63	1.39	JRC5P4010
11	Y-ring	0.02	0.04	JRC5P4011
12	Spring	0.12	0.26	JRC5P4012
13	Make up ring steel	0.09	0.20	JRC5P4013
14	Viton make up ring	0.06	0.13	JRC5P4014
15	O-ring	0.02	0.04	JRC5P4015
16	Air distributor	1.34	2.95	JRC5P4016
17	O-ring	0.02	0.04	JRC5P4017
18	Sample tube lower	4.32	9.52	JRC5P4018
19	O-ring	0.02	0.04	JRC5P4019
20	Mount sample tube	0.97	2.14	JRC5P4020
21	Internal cylinder	7.69	16.95	JRC5P4021
22	Piston	13.63	30.05	JRC5P4022
23	External cylinder	24.14	53.22	JRC5P4023
24	Piston retainer ring	0.15	0.33	JRC5P4024
25	Bush drive sub	1.96	4.32	JRC5P4025
26	O-ring	0.02	0.04	JRC5P4026
27	O-ring	0.02	0.04	JRC5P4027
28	Bit retainer ring	0.31	0.68	JRC5P4028
29	O-ring	0.02	0.04	JRC5P4029
30	Shroud	2.20	4.85	JRC5P4030
31	Drive sub	3.67	8.09	JRC5P4031
32	Drill bit	15.09	33.27	JRC5P4032

Hammer specification

Weight	(less bit)	Outsid	le Dia.	Length ((less bit)	Hole	range	Bit shank
kg	lb	mm	in	mm	in	mm	in	
80.50	177.47	120.5	4.74	1362	53.62	124 - 142	4.88 - 5.59	PR40

Connection thread	Working pressure	Impact rate at 2.4 Mpa	Recommended rotation speed	Air consumption, CFM	
	Мра	Hz	r/mins	145PSI - 350PSI	
3.5" - 4.5" Remet 3.5" - 4.5" Metzke	1.5 - 3.5	35	25 - 40	600 - 836	







5"

JRC55P52



Component parts								
Ref	Description	Weight, kg	Weight, lb	Part No.				
1	O-ring	0.02	0.04	JRC55P5201				
2	Adapter screen	2.19	4.83	JRC55P5202				
3	Circlip	0.04	0.09	JRC55P5203				
4	Adapter top load	0.42	0.93	JRC55P5204				
5	Circlip	0.03	0.07	JRC55P5205				
6	Top sub	8.92	19.67	JRC55P5206				
7	Check valve	0.63	1.39	JRC55P5207				
8	Y-ring	0.03	0.07	JRC55P5208				
9	Spring	0.12	0.26	JRC55P5209				
10	Make up ring steel	0.10	0.22	JRC55P5210				
11	Viton make up ring	0.05	0.11	JRC55P5211				
12	O-ring	0.02	0.04	JRC55P5212				
13	Air distributor	1.31	2.89	JRC55P5213				
14	O-ring	0.02	0.04	JRC55P5214				
15	O-ring	0.02	0.04	JRC55P5215				
16	Sample tube	4.52	9.96	JRC55P5216				
17	O-ring	0.02	0.04	JRC55P5217				
18	Mount sample tube	0.80	1.76	JRC55P5218				
19	Internal cylinder	7.39	16.29	JRC55P5219				
20	Piston	14.63	32.25	JRC55P5220				
21	External cylinder	18.86	41.58	JRC55P5221				
22	Piston retainer ring	0.13	0.29	JRC55P5222				
23	Bush drive sub	1.89	4.17	JRC55P5223				
24	O-ring	0.02	0.04	JRC55P5224				
25	O-ring	0.02	0.04	JRC55P5225				
26	Bit retainer ring	0.31	0.68	JRC55P5226				
27	O-ring	0.02	0.04	JRC55P5227				
28	Shroud	1.86	4.10	JRC55P5228				
29	Drive sub	4.17	9.19	JRC55P5229				
30	Drill bit	11.01	24.27	JRC55P5230				

Hammer specification

	Weight	(less bit)	Outsic	le Dia.	Length	(less bit)	Hole range		Bit shank
	kg	lb	mm	in	mm	in	mm	in	
	68.50	151.02	121	4.76	1227	48.31	126 - 142	4.96 - 5.59	PR52
Connection thread		on thread	Working pressure		Impact rate at 2.4 Mpa		Recommended rotation speed		Air consumption, CFM
		Мра		Hz		r/mins		145PSI - 350PSI	
	4" - 4.5 4" - 4.5"	" Remet Metzke	1.5 -	- 3.5	3	35	25 - 40		600 - 836



JRC55E547



	component parts									
Ref	Description	Weight, kg	Weight, lb	Part No.						
1	Circlip	0.04	0.09	JRC55E54701						
2	O-ring	0.02	0.04	JRC55E54702						
3	Adapter screen	2.95	6.50	JRC55E54703						
4	O-ring	0.02	0.04	JRC55E54704						
5	Top sub	7.38	16.27	JRC55E54705						
6	Sample tube	4.61	10.16	JRC55E54706						
7	O-ring	0.02	0.04	JRC55E54707						
8	Circlip	0.04	0.09	JRC55E54708						
9	Air screen	0.02	0.04	JRC55E54709						
10	Distributor nozzle	0.48	1.06	JRC55E54710						
11	O-ring	0.02	0.04	JRC55E54711						
12	Check valve	0.53	1.17	JRC55E54712						
13	Y-ring	0.02	0.04	JRC55E54713						
14	Spring	0.12	0.26	JRC55E54714						
15	O-ring	0.02	0.04	JRC55E54715						
16	Internal cylinder	10.97	24.18	JRC55E54716						
17	Piston	17.08	37.65	JRC55E54717						
18	External cylinder	18.55	40.90	JRC55E54718						
19	Bush drive sub	3.04	6.70	JRC55E54719						
20	O-ring	0.02	0.04	JRC55E54720						
21	Piston retainer ring	0.04	0.09	JRC55E54721						
22	Bit retainer ring	0.23	0.51	JRC55E54722						
23	O-ring	0.02	0.04	JRC55E54723						
24	Shroud	1.70	3.75	JRC55E54724						
25	Drive sub	3.61	7.96	JRC55E54725						
26	Drill bit	14.30	31.53	JRC55E54726						

Hammer specification

Weight	(less bit)	Outsic	le Dia.	Length	(less bit)	Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
71.00	156.53	124.5	4.90	1270	50.00	130 - 146	5.12 - 5.75	RE547
Connection thread		Working pressure		Impact rate at 2.4 Mpa		Recommended rotation speed		Air consumption, CFM
		Μ	ра	H	łz	r/n	nins	145PSI - 350PSI
4.5" F 4.5" N	Remet Netzke	1.5 -	- 3.5	3	35	25 - 40		600 - 836

Component parts



JRC55P54



Ref	Description	Weight, kg	Weight, lb	Part No.
1	Top sub	11.61	25.60	JRC55P5401
2	O-ring	0.02	0.04	JRC55P5402
3	Adapter screen	2.35	5.18	JRC55P5403
4	Air screen	0.37	0.82	JRC55P5404
5	O-ring	0.02	0.04	JRC55P5405
6	Circlip	0.04	0.09	JRC55P5406
7	Check valve	0.58	1.28	JRC55P5407
8	Y-ring	0.02	0.04	JRC55P5408
9	Spring	0.12	0.26	JRC55P5409
10	Make up ring steel	0.14	0.31	JRC55P5410
11	Viton make up ring	0.06	0.13	JRC55P5411
12	Air distributor	1.54	3.40	JRC55P5412
13	O-ring	0.02	0.04	JRC55P5413
14	O-ring	0.02	0.04	JRC55P5414
15	O-ring	0.02	0.04	JRC55P5415
16	Sample tube	6.47	14.26	JRC55P5416
17	O-ring	0.02	0.04	JRC55P5417
18	Mount sample tube	1.02	2.25	JRC55P5418
19	Internal cylinder	8.54	18.83	JRC55P5419
20	Piston	17.20	37.92	JRC55P5420
21	External cylinder	23.44	51.68	JRC55P5421
22	Piston retainer ring	0.20	0.44	JRC55P5422
23	Bush drive sub	2.53	5.58	JRC55P5423
24	O-ring	0.02	0.04	JRC55P5424
25	O-ring	0.02	0.04	JRC55P5425
26	Bit retainer ring	0.43	0.95	JRC55P5426
27	O-ring	0.02	0.04	JRC55P5427
28	Shroud	2.35	5.18	JRC55P5428
29	Drive sub	4.90	10.80	JRC55P5429
30	Drill bit	18.33	40.41	JRC55P5430

Component parts

Hammer specification

Weight	(less bit)	Outsid	de Dia.	Length	(less bit)	Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
84.50	186.29	130	5.12	1294	50.94	135 - 150	5.31 - 5.91	PR54
Connection thread		Working pressure		Impact rate at 2.4 Mpa		Recommended rotation speed		Air consumption, CFM
		М	ра	H	Ηz	r/n	nins	145PSI - 350PSI
4.5" 4.5"	Remet ⁄Ietzke	1.5	- 3.5	3	35	25	- 40	600 - 836



JRC6A



DRILLING

6"

Component parts

Ref	Description	Weight, kg	Weight, lb	Part No.
1	O-ring	0.03	0.07	JRC6A01
2	Sample tube	12.50	27.56	JRC6A02
3	Circlip	0.04	0.09	JRC6A03
4	Air screen top load	0.65	1.43	JRC6A04
5	Top sub	20.50	45.19	JRC6A05
6	Check valve	1.20	2.65	JRC6A06
7	Y-ring	0.03	0.07	JRC6A07
8	Spring	0.15	0.33	JRC6A08
9	O-ring	0.03	0.07	JRC6A09
10	Air distributor	2.65	5.84	JRC6A10
11	O-ring	0.03	0.07	JRC6A11
12	Internal cylinder	8.34	18.39	JRC6A12
13	Piston	24.15	53.24	JRC6A13
14	External cylinder	36.80	81.13	JRC6A14
15	Piston retainer ring	0.21	0.46	JRC6A15
16	Bush drive sub	3.50	7.72	JRC6A16
17	O-ring	0.03	0.07	JRC6A17
18	Bit retainer ring	0.58	1.28	JRC6A18
19	O-ring	0.03	0.07	JRC6A19
20	Shroud	3.46	7.63	JRC6A20
21	Drive sub	7.95	17.53	JRC6A21
22	Drill bit	20.60	45.42	JRC6A22
23	Anti-drop cover	5.20	11.46	JRC6A23
24	Anti-drop drive sub	7.40	16.31	JRC6A24
25	Anti-drop drill bit	23.20	51.15	JRC6A25

Hammer specification

Weight	(less bit)	Outsic	le Dia.	Length	(less bit)	Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
110.00	242.51	146	5.75	1320	51.97	152 - 190	5.98 - 7.48	RC6A / RC6AR
Connection thread		Working pressure		Impact rate at 2.4 Mpa		Recommended rotation speed		Air consumption, CFM
		М	ра	H	łz	r/n	nins	145PSI - 350PSI
Upon the thread of drill tube		1.5 -	- 3.5	2	28	25	- 40	600 - 836

JRC8A



DRILLING

8"

00

RC HAMMER

Component parts

Ref	Description	Weight, kg	Weight, lb	Part No.
1	O-ring	0.04	0.09	JRC8A01
2	Sample tube	20.50	45.19	JRC8A02
3	Circlip	0.08	0.18	JRC8A03
4	Air screen top load	1.15	2.54	JRC8A04
5	Top sub	32.00	70.55	JRC8A05
6	Check valve	2.25	4.96	JRC8A06
7	Y-ring	0.04	0.09	JRC8A07
8	Spring	0.25	0.55	JRC8A08
9	O-ring	0.04	0.09	JRC8A09
10	Air distributor	4.25	9.37	JRC8A10
11	O-ring	0.04	0.09	JRC8A11
12	Internal cylinder	16.15	35.60	JRC8A12
13	Piston	38.50	84.88	JRC8A13
14	External cylinder	61.30	135.14	JRC8A14
15	Piston retainer ring	0.45	0.99	JRC8A15
16	Bush drive sub	6.95	15.32	JRC8A16
17	O-ring	0.04	0.09	JRC8A17
18	Bit retainer ring	1.20	2.65	JRC8A18
19	O-ring	0.04	0.09	JRC8A19
20	Shroud	6.95	15.32	JRC8A20
21	Drive sub	15.40	33.95	JRC8A21
22	Drill bit	38.60	85.10	JRC8A22
23	Anti-drop cover	9.53	21.01	JRC8A23
24	Anti-drop drive sub	15.20	33.51	JRC8A24
25	Anti-drop drill bit	42.80	94.36	JRC8A25

Hammer specification

Weight	(less bit)	Outsid	de Dia.	Length	(less bit)	Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
185.00	407.86	180	7.09	1395	54.92	190 - 250	7.48 - 9.84	RC8A / RC8AR
Connection thread		Working pressure		Impact rate at 2.4 Mpa		Recommended rotation speed		Air consumption, CFM
		М	ра	H	Ηz	r/n	nins	145PSI - 350PSI
Upon the thread of drill tube		1.5 - 3.5		ź	24 25 - 40		- 40	836 - 1150

JRC10A



10"

Component	parts
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Ref	Description	Weight, kg	Weight, lb	Part No.
1	O-ring	0.05	0.11	JRC10A01
2	Sample tube	49.85	109.90	JRC10A02
3	Circlip	0.12	0.26	JRC10A03
4	Air screen top load	2.25	4.96	JRC10A04
5	Top sub	59.50	131.18	JRC10A05
6	Check valve	3.40	7.50	JRC10A06
7	Y-ring	0.05	0.11	JRC10A07
8	Spring	0.48	1.06	JRC10A08
9	O-ring	0.05	0.11	JRC10A09
10	Air distributor	8.60	18.96	JRC10A10
11	O-ring	0.05	0.11	JRC10A11
12	Internal cylinder	30.90	68.12	JRC10A12
13	Piston	75.60	166.67	JRC10A13
14	External cylinder	105.50	232.59	JRC10A14
15	Piston retainer ring	1.15	2.54	JRC10A15
16	Bush drive sub	11.50	25.35	JRC10A16
17	O-ring	0.05	0.11	JRC10A17
18	Bit retainer ring	2.05	4.52	JRC10A18
19	O-ring	0.05	0.11	JRC10A19
20	Shroud	14.20	31.31	JRC10A20
21	Drive sub	30.45	67.13	JRC10A21
22	Drill bit	82.50	181.88	JRC10A22
23	Anti-drop cover	19.50	42.99	JRC10A23
24	Anti-drop drive sub	29.50	65.04	JRC10A24
25	Anti-drop drill bit	91.40	201.50	JRC10A25

Hammer specification

Weight	(less bit)	Outsic	le Dia.	Length	(less bit)	Hole range		Bit shank
kg	lb	mm	in	mm	in	mm	in	
328.00	723.12	240	9.45	1528	60.16	250 - 370	9.84 - 14.57	RC10A / RC10AR
Connection thread		Working pressure		Impact rate at 2.4 Mpa		Recommended rotation speed		Air consumption, CFM
		М	ра	F	łz	r/mins		145PSI - 350PSI
Upon the thread of drill tube		1.5 - 3.5		20		15 - 20		836 - 1150







OD90



Ref	Item	Description
1	Casing tubo	Maximum O.D: 115mm
T	Casing tube	Minimum O.D: 105mm
		Connection thread: API 2 3/8"
2	Drill pipe	O.D: 76mm
		Wrench flat: 65mm
3	Guide sleeve	Effective length: 225mm
4	DTUUlammar	HD35, COP34, SD3, IR3.5
4	DIN Hammer	MISSION30, QL30
F	Casing shap	L3=80mm, L4=55mm
5	Casing shoe	D3=101.7mm, D4=93mm
6	Cuido dovico	L1=38mm, L2=138mm
0	Guide device	D1=92mm, D2=100mm
7	Doomor	D5=91mm, L5=70mm
/	Rediffer	Reamer has 4×12 buttons
		D6=90mm, L6=59mm
8	Pilot bit	Gauge button: 8×φ12
		Face button: 5×ф10

Component parts

L1 0 В -Ы 0













Lock p	oin
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Spring pin

Casing shoe

Bearing ball

Reamer



OD115









Pilot bit







Lock pin

Spring pin

Bearing ball

Mandrel



OD140



KUEN UKILLING







Pilot bit







Spring pin

Bearing ball

OVERBURDEN DRILLING



OD165



Component parts



Guide device





Pilot bit







Reamer





Spring pin

Casing shoe

Bearing ball

Mandrel



OD190



Component parts



Guide device



Casing shoe



Pilot bit







Reamer



Lock pin

Spring pin

Bearing ball

OVERBURDEN DRILLING



OD240



Guide device





Pilot bit







Lock	pin
	-

Spring pin

Casing shoe

Bearing ball

Reamer



Symmetrix concentric drilling system



Product type	Case OD	Casing wall max	Ring bit ID	Ring bit OD	Pilot bit OD	Hammer
JSOD114	114.3	6/10	91/78	128/124	100/92.5	DHH35
JSOD127	126.7	7	99	140	110.00	DHH35
JSOD140	139.7	7/10	116/94	154/150	124/117.5	DHH45, DHQ40
JSOD165	165.0	10	135	179	122	DHQ50
JSOD168	168.3	8/12.7	142/121	182/178	150/140	DHH55, DHQ50
JSOD178	178.3	10	145	195	156	DHH55, DHQ50
JSOD194	193.7	6/12.7	167/148	212/203	180/167	DHH65, DHQ60
JSOD219	219.1	7/12.7	186/167	234	203/191	DHH65, DHQ60
JSOD273	273.0	8/12.7	232/219	292	255/246	DHH85, DHQ80
JSOD325	323.9	8/12.7	281/270	342/342	306/297	DHH85, DSD8
JSOD406	406.4	12.7	328	419	374.00	DSD10, DHN125
JSOD508	508.0	15	412	526	470.00	DHH475, DSD15
JSOD609	609.6	15	513	637	570.00	DHH525, DSD18









Traditioanl rig application: Various rig applications

Diam	eter	Thread	Wall thic	kness	Len	gth		Wre	ench flats	Weig	ht	
inch	mm	Pin/Box	inch	mm	feet	m	inch	mm	flat location	lbs	kg	Part No.
2 3/8	60	RD 50-6	1/6	4.0	9.8	3.00	2 1/6	55	Both ends	51	23	DP70RD50-30
3	76	RD 50-6	1/6	4.0	4.9	1.50	2 5/9	65	Both ends	35	16	DP76RD50-15
3	76	RD 50-6	1/6	4.0	6.6	2.00	2 5/9	65	Both ends	42	19	DP76RD50-20
3	76	RD 50-6	1/6	4.0	9.8	3.00	2 5/9	65	Both ends	57	26	DP76RD50-30
3	76	RD 50-6	1/6	4.0	3.3	1.00	2 5/9	65	Both ends	24	11	DP76API238-10
3	76	2 3/8 API REG	1/6	4.0	4.9	1.50	2 5/9	65	Both ends	33	15	DP76API238-15
3	76	2 3/8 API REG	1/6	4.0	6.6	2.00	2 5/9	65	Both ends	40	18	DP76API238-20
3	76	2 3/8 API REG	1/6	4.0	9.8	3.00	2 5/9	65	Both ends	55	25	DP76API238-30
3	76	2 3/8 API REG	1/4	6.3	3.3	1.00	2 5/9	65	Both ends	31	14	DP76API238-10
3	76	2 3/8 API REG	1/4	6.3	4.9	1.50	2 5/9	65	Both ends	44	20	DP76API238-15
3	76	2 3/8 API REG	1/4	6.3	6.6	2.00	2 5/9	65	Both ends	55	25	DP76API238-20
3	76	2 3/8 API REG	1/4	6.3	9.8	3.00	2 5/9	65	Both ends	79	36	DP76API238-30
3 1/2	89	2 3/8 API REG	1/6	4.0	3.3	1.00	2 5/9	65	Both ends	31	14	DP89API238-10
3 1/2	89	2 3/8 API REG	1/6	4.0	4.9	1.50	2 5/9	65	Both ends	40	18	DP89API238-15
3 1/2	89	2 3/8 API REG	1/6	4.0	6.6	2.00	2 5/9	65	Both ends	51	23	DP89API238-20
3 1/2	89	2 3/8 API REG	1/6	4.0	9.8	3.00	2 5/9	65	Both ends	68	31	DP89API238-30
3 1/2	89	2 3/8 API REG	1/4	6.3	3.3	1.00	2 5/9	65	Both ends	37	17	DP89API238-10
3 1/2	89	2 3/8 API REG	1/4	6.3	4.9	1.50	2 5/9	65	Both ends	53	24	DP89API238-15
3 1/2	89	2 3/8 API REG	1/4	6.3	6.6	2.00	2 5/9	65	Both ends	66	30	DP89API238-20
3 1/2	89	2 3/8 API REG	1/4	6.3	9.8	3.00	2 5/9	65	Both ends	95	43	DP89API238-30
3 1/2	89	2 7/8 API REG	1/4	6.3	9.8	3.00	2 5/9	65	Both ends	95	43	DP89API278-30
4	102	2 7/8 API REG	1/4	6.3	9.8	3.00	3	75	Both ends	115	52	DP102API278-30
4 1/2	114	3 1/2 API REG	1/6	4.0	9.8	3.00	3 3/4	95	Both ends	101	46	DP114API312-30
4 1/2	114	3 1/2 API REG	1/4	6.3	3.3	1.00	3 3/4	95	Both ends	59	27	DP114API312-10
4 1/2	114	3 1/2 API REG	1/4	6.3	4.9	1.50	3 3/4	95	Both ends	77	35	DP114API312-15
4 1/2	114	3 1/2 API REG	1/4	6.3	6.6	2.00	3 3/4	95	Both ends	97	44	DP114API312-20
4 1/2	114	3 1/2 API REG	1/4	6.3	9.8	3.00	3 3/4	95	Both ends	132	60	DP114API312-30B
4 1/2	114	3 1/2 API REG	1/4	6.3	14.8	4.50	3 3/4	95	Both ends	189	86	DP114API312-45
4 1/2	114	3 1/2 API REG	1/4	6.3	19.7	6.00	3 3/4	95	Both ends	244	111	DP114API312-60
4 1/2	114	3 1/2 API REG	1/3	8.8	3.3	1.00	3 3/4	95	Both ends	65	29	DP114API312-10H
4 1/2	114	3 1/2 API REG	1/3	8.8	6.6	2.00	3 3/4	95	Both ends	119	54	DP114API312-20H
4 1/2	114	3 1/2 API REG	1/3	8.8	9.8	3.00	3 3/4	95	Both ends	170	77	DP114API312-30H
4 1/2	114	3 1/2 API REG	1/3	8.8	19.7	6.00	3 3/4	95	Both ends	295	134	DP114API312-60H
3 1/2	89	2 3/8 IF	1/4	6.3	6.6	2.00	2 5/9	65	Both ends	68	31	DP89IF238-20
3 1/2	89	2 3/8 IF	1/6	4.0	9.8	3.00	2 5/9	65	Both ends	68	31	DP89IF238-30
4 1/2	114	2 7/8 IF	1/4	6.3	19.7	6.00	3 3/4	95	Both ends	247	112	DP114IF278-60
6	152	4 1/2 API REG	1	25.0	30.0	9.14	/	/	Both ends	1609	730	DP152AP1412W25FF-9144
4 1/2	114	3 1/2 API REG	5/9	14.0	29.0	8.84	/	/	Both ends	699	317	DP114API312W14FF-8839
4 1/2	114	3 1/2 API REG	5/9	14.0	16.4	5.00	/	/	Both ends	419	190	DP114API312W14MF-5000
4 1/2	114	3 1/2 API REG	5/9	14.0	19.7	6.00	/	/	Both ends	496	225	DP114API312W14MF-6000

Traditioanl rig application: PV-271 / PV-351

Diam	eter	Thread	Component	Wall thic	kness	Len	gth		Wre	ench flats	He	x	Wei	ght	Dart No.
inch	mm	Pin/Box	Component	inch	mm	feet	m	inch	mm	flat location	inch	mm	lbs	kg	Part NO.
4.50	114	3 1/2 API REG	PIPE	0.337	9	25.00	7.62	3.50	89	Pin only	4.00	102	411.9	187	DP114API312-76
4.50	114	3 1/2 API REG	STARTER PIPE	0.625	16	21.60	6.55	3.50	89	Both ends	No	No	596.9	271	DP114API312-65
5.50	140	4 FH	PIPE	0.415	11	25.00	7.62	4.50	114	Both ends	5.00	127	733.5	333	DP140FH4-76
7.62	194	4 1/2 BECO	PIPE	0.500	13	20.00	6.10	6.00	152	Both ends	6.50	165	922.9	419	DP194BEC412-61
7.62	194	4 1/2 BECO	PIPE	0.500	13	30.00	9.14	6.00	152	Both ends	6.50	165	1297.4	588	DP194BEC412-91
7.62	194	4 1/2 BECO	PIPE	0.500	13	25.00	7.62	6.00	152	Both ends	6.50	165	1110.1	504	DP194BEC412-76
7.62	194	5 1/4 BECO	PIPE	0.750	19	8.00	2.44	6.75	171	Both ends	No	No	625.6	284	DP194BEC514-24
7.62	194	5 1/4 BECO	STARTER PIPE	0.750	19	25.00	7.62	6.75	171	Both ends	No	No	1524.2	691	DP194BEC514-76
7.62	194	5 1/4 BECO	PIPE	2.000	51	35.00	10.67	6.62	168	Both ends	No	No	3830.4	1737	DP194BEC514-106
8.62	219	6 BECO	PIPE	2.000	51	35.00	10.67	7.75	197	Both ends	No	No	4995.6	2266	DP219BEC6-106
10.75	273	8 BECO	PIPE	1.000	25	35.00	10.67	9.25	235	Both ends	No	No	4511.0	2046	DP273BEC8-106
12.75	324	8 BECO	PIPE	1.000	25	35.00	10.67	10.50	267	Both ends	No	No	5026.4	2280	DP324BEC8-106
13.38	340	10 BECO	PIPE	1.000	25	35.00	10.67	11.38	289	Both ends	No	No	5264.3	2388	DP340BEC10-106

DRILL PIPES



Traditioanl rig application: ECM695/760/780

Diam	neter	Thread	Commonweat	Wall th	nickness	Ler	ngth		Wrend	ch flats	H	ex	We	ight	Davt No.
inch	mm	Pin/Box	Component	inch	mm	feet	m	inch	mm	flat location	inch	mm	lbs	kg	Part No.
3.00	76	2 Z	PIPE	0.250	6	13.00	4.00	2.25	57	Both ends	No	No	104	47	DP76Z2-40
3.00	76	2 Z	PIPE	0.500	13	13.00	4.00	2.74	70	Both ends	No	No	176	80	DP76Z2-40H
3.00	76	2 Z	STARTER PIPE	0.250	6	8.80	2.60	2.25	57	Both ends	No	No	73	33	DP76Z2-26
3.00	76	2 Z	STARTER PIPE	0.500	13	8.0	2.44	2.25	57	Both ends	No	No	132	60	DP76Z2-24
3.00	76	2 3/8 API Box	STARTER PIPE	0.500	13	8.0	2.44	2.25	57	Both ends	No	No	132	60	DP76API238-24B
3.00	76	2 3/8 API	PIPE	0.254	6	10.0	3.05	2.25	57	Both ends	No	No	79	36	DP76API238-30
3.50	89	2 1/2 Z	PIPE	0.254	6	13.0	4.00	2.74	70	Both ends	No	No	126	57	DP89Z212-40
3.50	89	2 1/2 Z	STARTER PIPE	0.368	9	8.9	2.70	1.75	44	Pin only	No	No	106	48	DP89Z212-27
3.50	89	2 3/8 API Box	STARTER PIPE	0.368	9	9.0	2.74	2.74	70	Both ends	No	No	110	50	DP89API238-28
3.50	89	2 1/2 Z	STARTER PIPE	0.368	9	9.0	2.74	2.74	70	Both ends	No	No	110	50	DP89Z212-28
4.00	102	3 1/2 API Box	PIPE	0.250	6	13.0	4.00	3.00	76	Both ends	No	No	148	67	DP102API312-40
4.00	102	2 1/2 Z	PIPE	0.250	6	13.0	4.00	3.00	76	Both ends	No	No	148	67	DP102Z212-40
4.00	102	2 1/2 7	STARTER PIPE	0.250	6	8.0	2.44	3.00	76	Both ends	No	No	95	43	DP1027212-24
4 00	102	2 1/2 7	PIPF	0.500	13	13.0	4 00	3.00	76	Both ends	No	No	249	113	DP1027212-40H
4.00	102	3 1/2 API Box	STARTER PIPE	0.500	13	9.0	2 74	3.00	76	Both ends	No	No	88	40	DP1024PI312-28
4.00	102	2 1/2 7		0.500	13	9.0	2.74	3.00	76	Both ends	No	No	88	40	DP1027212-28
5.00	102	3 1/2 API REG		0.500	19	26.6	2.74 8.10	3 50	89	Both ends	No	No	980	445	DP127API312-81
5.00	127	3 1/2 API REG		0.75	10	21.6	6.55	3 50	89	Both ends	No	No	/85	220	DP127API312-65
5.00	127	3 1/2 API REG		0.373	10	21.0	8 00	3.50	80	Both ends	No	No	1086	102	DF127AFI312-03
5.00	127	3 1/2 API REG		0.750	19	29.0	9.60	3.50	80	Both ends	No	No	1150	526	DF127AFI312-09
5.00	127	2 1/2 RECO		0.750	10	20.0	9.00	2.50	80	Doth enus	4.62	117	1007	109	DP127RF1312-30
5.00	127	3 1/2 BECO	DIDE	0.730	13	20.0	9.14	3.50	80	Pin only Din only	4.02	117	1097	251	DP127BEC312-91H
5.00	127	3 1/2 BECO	PIPE	0.500	15	25.0	9.14	3.50	80	Pin only	4.02	117	202	301	DP127BEC312-91
5.00	127	3 1/2 BECO	PIPE	0.500	13	35.0	7.62	3.50	89	Pin only	4.62	117	692	405	DP127BEC312-106
5.00	127	3 1/2 BECO		0.500	13	25.0	7.62	3.50	89	Pin only	4.62	117	654	297	DP127BEC312-76
5.00	127	3 1/2 BECO	STARTER PIPE	0.500	13	26.6	8.10	3.50	89	Pin only	NO	NO	5/3	260	DP127BEC312-81
5.00	127	3 1/2 BECO	STARTER PIPE	0.500	13	21.6	6.55	3.50	89	Pin only	NO E OO	NO 107	551	250	DP127BEC312-65
5.50	140	3 1/2 BECO	PIPE	0.415	11	25.0	7.62	4.50	114	Both ends	5.00	127	/33	332	DP140BEC312-76
5.50	140	3 1/2 BECO	PIPE	0.415	11	30.0	9.14	4.50	114	Both ends	5.00	127	866	393	DP140BEC312-91
5.50	140	3 1/2 BECO	PIPE	0.750	19	30.0	9.14	4.50	114	Both ends	5.00	127	1240	562	DP140BEC312-91H
5.50	140	3 1/2 BECO	PIPE	0.750	19	25.0	7.62	4.50	114	Both ends	5.00	127	1044	4/4	DP140BEC312-76
5.50	140	3 1/2 BECO	PIPE	0.750	19	35.0	10.67	4.50	114	Both ends	5.00	127	1434	650	DP140BEC312-106
5.50	140	3 1/2 BECO	STARTER PIPE	0.415	11	25.8	7.82	4.50	114	Both ends	No	No	685	311	DP140BEC312-78
5.50	140	3 1/2 BECO	STARTER PIPE	0.415	11	20.8	6.30	4.50	114	Both ends	No	No	621	282	DP140BEC312-63
6.25	159	4 BECO	PIPE	0.500	13	25.0	7.62	4.50	114	Both ends	5.00	127	868	394	DP159BEC4-76
6.25	159	4 BECO	PIPE	0.500	13	30.0	9.14	4.50	114	Both ends	5.00	127	1013	459	DP159BEC4-91
6.25	159	4 BECO	PIPE	0.750	19	30.0	9.14	4.50	114	Both ends	5.00	127	1447	656	DP159BEC4-91H
6.25	159	4 BECO	PIPE	0.500	13	35.0	10.67	4.50	114	Both ends	5.00	127	993	450	DP159BEC4-106
6.25	159	4 BECO	PIPE	0.750	19	35.0	10.67	4.50	114	Both ends	5.00	127	1678	761	DP159BEC4-106H
6.25	159	4 BECO	STARTER PIPE	0.500	13	25.8	7.82	4.50	114	Both ends	No	No	899	408	DP159BEC4-78
6.25	159	4 BECO	STARTER PIPE	0.500	13	20.8	6.30	4.50	114	Both ends	No	No	747	339	DP159BEC4-63
7.00	178	4 1/2 BECO	PIPE	0.750	19	25.0	7.62	5.00	127	Pin only	6.00	152	1410	640	DP178BEC412-76
7.00	178	4 1/2 BECO	PIPE	0.750	19	30.0	9.14	5.00	127	Pin only	6.00	152	1672	758	DP178BEC412-91H
7.00	178	4 1/2 BECO	PIPE	0.750	19	35.0	10.67	5.00	127	Pin only	6.00	152	1945	882	DP178BEC412-106
7.00	178	4 1/2 BECO	PIPE	0.500	13	30.0	9.14	5.00	127	Pin only	6.00	152	1174	533	DP178BEC412-91
7.00	178	4 1/2 BECO	PIPE	0.500	13	25.0	7.62	5.00	127	Both ends	6.00	152	1042	473	DP178BEC412-76
7.00	178	4 1/2 BECO	PIPE	0.500	13	30.0	9.14	5.00	127	Both ends	6.00	152	1200	544	DP178BEC412-91B
7.00	178	4 1/2 BECO	PIPE	0.500	13	35.0	10.67	5.00	127	Both ends	6.00	152	1372	622	DP178BEC412-106
7.00	178	4 1/2 BECO	PIPE	0.750	19	30.0	9.14	6.00	152	Both ends	6.50	165	1703	772	DP178BEC412-91H
7.00	178	4 1/2 BECO	PIPE	1.000	25	25.0	7.62	6.00	152	Both ends	6.50	165	1443	655	DP178BEC412-76H
7.00	178	4 1/2 BECO	STARTER PIPE	0.500	13	25.7	7.82	5.00	127	Pin end	No	No	1205	547	DP178BEC412-78
7.62	194	5 1/4 BECO	PIPE	0.750	19	25.0	7.62	6.00	152	Both ends	6.50	165	1571	713	DP194BEC514-76
7.62	194	5 1/4 BECO	PIPE	0.875	22	25.0	7.62	5.00	127	Pin only	6.50	165	1709	775	DP194BEC514-76H
7.62	194	5 1/4 BECO	PIPE	0.750	19	30.0	9.14	6.00	152	Both ends	6.50	165	1857	842	DP194BEC514-91
7.62	194	5 1/4 BECO	PIPE	0.750	19	30.0	9.14	6.75	171	Both ends	No	No	1877	851	DP194BEC514-91B
7.62	194	5 1/4 BECO	PIPE	1.000	25	30.0	9.14	6.00	152	Both ends	6.50	165	2220	1007	DP194BEC514-91H



Traditioanl rig application: T2, T3, TH60/75E/100A

Dian	neter	Thread	Component	Wall th	ickness	Len	gth		Wren	ch flats	He	ex	We	ight	Part No
inch	mm	Pin/Box	Component	inch	mm	feet	m	inch	mm	flat location	inch	mm	lbs	kg	Fart NO.
3.50	89	2 3/8 IF	PIPE	0.368	9	20.00	6.10	2.75	70	Box only	No	No	229	104	DP89IF238-61
4.50	114	2 3/8 IF	PIPE	0.337	9	20.00	6.10	3.50	89	Box only	No	No	344	156	DP114IF278-61
4.50	114	3 1/2 API REG	PIPE	0.337	9	20.00	6.10	3.50	89	Box only	No	No	344	156	DP114API312-61

Traditioanl rig application: DM30/45/50/L, T4W, T4BH, RD20

Diam	neter	Thread	Commonant	Wall th	ickness	Ler	ngth		Wren	ch flats	н	ex	We	ight	Dout No.
inch	mm	Pin/Box	Component	inch	mm	feet	m	inch	mm	flat location	inch	mm	lbs	kg	Part No.
3.50	89	2 3/8 API REG	PIPE	0.500	13	30.00	9.14	3.50	89	Both ends	No	No	491	223	DP89API238-91
3.50	89	2 3/8 API REG	PIPE	0.337	9	25.00	7.62	2.50	64	Both ends	No	No	315	143	DP89API238-76
3.50	89	2 3/8 API REG	STARTER PIPE	0.750	19	21.00	6.40	2.50	64	Both ends	No	No	485	220	DP89API238-64
3.50	89	2 3/8 API REG	STARTER PIPE	0.500	13	26.60	8.10	3.50	89	Both ends	No	No	441	200	DP89API238-81
4.00	102	2 7/8 API REG	PIPE	0.337	9	30.00	9.14	3.50	89	Pin only	3.50	89	489	222	DP102API278-91
4.00	102	2 7/8 API REG	PIPE	0.750	19	30.00	9.14	3.50	89	Pin only	3.50	89	751	341	DP102API278-91H
4.00	102	2 7/8 API REG	PIPE	0.337	9	25.00	7.62	3.50	89	Pin only	3.50	89	421	191	DP102API278-76
4.00	102	2 7/8 API REG	PIPE	0.337	9	25.00	7.62	3.00	76	Both ends	No	No	410	186	DP102API278-76B
4.00	102	2 7/8 API REG	PIPE	0.337	9	25.00	7.62	3.50	89	Both ends	No	No	410	186	DP102API278-76C
4.00	102	2 7/8 API REG	STARTER PIPE	0.750	19	26.60	8.10	3.50	89	Pin only	No	No	520	236	DP102API278-81
4.00	102	2 7/8 API REG	STARTER PIPE	0.337	9	21.00	6.40	3.00	76	Both ends	No	No	313	142	DP102API278-64
4.00	102	2 7/8 API REG	STARTER PIPE	0.337	9	21.00	6.40	3.50	89	Both ends	No	No	313	142	DP102API278-64B
4.00	102	2 7/8 API REG	STARTER PIPE	0.750	19	21.00	6.40	3.50	89	Both ends	No	No	388	176	DP102API278-64H
4.50	114	2 7/8 IF	PIPE	0.337	9	25.00	7.62	3.50	89	Pin only	4.00	102	411	186	DP114IF278-76
4.50	114	2 7/8 IF	STARTER PIPE	0.625	16	21.00	6.40	3.50	89	Both ends	No	No	584	265	DP114IF278-64
4.50	114	2 7/8 IF	PIPE	0.337	9	30.00	9.14	3.50	89	Pin only	4.00	102	489	222	DP114IF278-91
4.50	114	2 7/8 IF	PIPE	0.337	9	20.00	6.10	3.50	89	Box only	No	No	344	156	DP114IF278-61
4.50	114	3 1/2 API REG	PIPE	0.625	16	25.00	7.62	3.50	89	Pin only	4.00	102	833	378	DP114API312-76
4.50	114	3 1/2 API REG	PIPE	0.337	9	30.00	9.14	3.50	89	Pin only	4.00	102	489	222	DP114API312-91
4.50	114	3 1/2 API REG	PIPE	0.750	19	30.00	9.14	3.50	89	Pin only	4.00	102	989	449	DP114API312-91H
4.50	114	3 1/2 API REG	PIPE	0.500	13	30.00	9.14	3.50	89	Pin only	4.00	102	667	303	DP114API312-91B
4.50	114	3 1/2 API REG	PIPE	0.430	11	35.00	10.67	3.50	89	Pin only	4.00	102	760	345	DP114API312-106
4.50	114	3 1/2 API REG	STARTER PIPE	0.750	19	26.60	8.10	3.50	89	Pin only	No	No	855	388	DP114API312-81
4.50	114	3 1/2 IF	PIPE	0.337	9	20.00	6.10	3.50	89	Box only	No	No	344	156	DP114IF312-61
5.00	127	3 1/2 API REG	PIPE	0.375	10	25.00	7.62	3.50	89	Pin only	4.00	102	562	255	DP127API312-76
5.00	127	3 1/2 API REG	PIPE	0.500	13	25.00	7.62	3.50	89	Pin only	4.00	102	630	286	DP127API312-76B
5.00	127	3 1/2 API REG	PIPE	0.750	19	25.00	7.62	3.50	89	Pin only	4.00	102	907	411	DP127API312-76H
5.00	127	3 1/2 API REG	PIPE	0.500	13	30.00	9.14	3.50	89	Pin only	4.00	102	756	343	DP127API312-91B
5.00	127	3 1/2 API REG	PIPE	0.337	9	30.00	9.14	3.50	89	Pin only	4.00	102	837	380	DP127API312-91
5.00	127	3 1/2 API REG	PIPE	0.750	19	30.00	9.14	3.50	89	Pin only	4.00	102	1081	490	DP127API312-91H
5.00	127	3 1/2 API REG	PIPE	0.500	13	35.00	10.67	3.50	89	Pin only	4.00	102	874	396	DP127API312-106
5.00	127	3 1/2 API REG	PIPE	0.750	19	35.00	10.67	3.50	89	Pin only	4.00	102	1264	573	DP127API312-106H



Traditioanl rig application: DM-H, DMM-2/DMM-3

Diam	neter	Thread	Component	Wall th	ickness	Ler	ngth		Wrend	ch flats	н	ex	We	ight	Dort No.
inch	mm	Pin/Box	Component	inch	mm	feet	m	inch	mm	flat location	inch	mm	lbs	kg	Part No.
7.00	178	4 1/2 BECO	PIPE	0.630	16	35.00	10.67	5.75	146	Both ends	No	No	1619	734	DP178BEC412-106
7.00	178	4 1/2 BECO	PIPE	1.000	25	35.00	10.67	5.75	146	Both ends	No	No	2077	942	DP178BEC412-106H
7.00	178	4 1/2 BECO	PIPE	0.750	19	35.00	10.67	5.75	146	Both ends	No	No	1945	882	DP178BEC412-106B
7.00	178	4 1/2 BECO	STARTER PIPE	1.000	25	30.30	9.22	5.75	146	Both ends	No	No	1760	798	DP178BEC412-92
7.00	178	4 1/2 BECO	STARTER PIPE	0.750	19	29.00	8.84	5.75	146	Both ends	No	No	1652	749	DP178BEC412-88
7.00	178	5 1/4 BECO	PIPE	0.630	16	35.00	10.67	6.50	165	Both ends	No	No	1619	734	DP178BEC514-106
7.00	178	5 1/4 BECO	STARTER PIPE	0.630	16	31.90	9.68	6.50	165	Both ends	No	No	1478	670	DP178BEC514-96
7.00	178	5 1/4 BECO	STARTER PIPE	0.630	16	32.90	9.98	6.50	165	Both ends	No	No	1522	690	DP178BEC514-99
7.62	194	5 1/4 BECO	PIPE	1.000	25	45.00	13.72	6.75	171	Both ends	No	No	2921	1325	DP178BEC514-137
7.62	194	5 1/4 BECO	PIPE	0.750	19	45.00	13.72	6.75	171	Both ends	No	No	2740	1243	DP178BEC514-137
7.62	194	5 1/4 BECO	PIPE	1.000	25	35.00	10.67	6.75	171	Both ends	No	No	2223	1008	DP178BEC514-106
7.62	194	5 1/4 BECO	PIPE	0.750	19	35.00	10.67	6.75	171	Both ends	No	No	1963	890	DP178BEC514-106B
7.62	194	5 1/4 BECO	STARTER PIPE	1.000	25	32.90	9.98	6.75	171	Both ends	No	No	2408	1092	DP178BEC514-99
8.62	219	6 BECO	PIPE	0.910	23	50.00	15.24	7.75	197	Both ends	No	No	5410	2454	DP219BEC6-152
8.62	219	6 BECO	STARTER PIPE	1.000	25	32.90	9.98	7.75	197	Both ends	No	No	2879	1306	DP219BEC6-99
10.75	273	8 BECO	PIPE	1.000	25	6.83	2.08	9.25	235	Both ends	No	No	1306	592	DP273BEC8-20
7.00	178	4 1/2 BECO	PIPE	1.000	25	40.00	12.19	5.75	146	Both ends	No	No	2394	1086	DP178BEC412-121
7.62	194	5 1/4 BECO	PIPE	1.000	25	40.00	12.19	6.75	171	Both ends	No	No	3223	1462	DP194BEC514-121
8.62	219	6 BECO	PIPE	1.000	25	40.00	12.19	7.75	197	Both ends	No	No	4595	2084	DP219BEC6-121
10.75	273	8 BECO	PIPE	1.000	25	40.00	12.19	9.25	235	Both ends	No	No	5471	2482	DP273BEC8-121

Traditioanl rig application: Atlas Copco Simba rig

Diameter		Thread	Wall thi	ickness	Ler	igth	Circula	ar grip	Wei	Dout Ma	
inch	mm	Pin/Box	inch	mm	feet	m	inch	mm	lbs	kg	Part No.
3 1/2	89	2 3/8 API REG	1/6	4.0	6.15	1.875	2 3/8	70	57	26	DP89API238-18S
4 1/2	114	3 1/2 API REG	1/4	6.3	6.15	1.875	3 3/4	95	104	47	DP114API312-18S

Traditioanl rig application: Atlas Copco ROC F6/L6/L8

Diam	neter	Thread	Wall th	ickness	Len	gth	Wronch flats	We	ight	Part No.
inch	mm	Pin/Box	inch	mm	feet	m	wrench hats	lbs	kg	Fart NO.
3	76	2 3/8 API REG	1/4	6.3	13.12	4.00	No wrench flats	106	48	DP76API238-40R
3	76	2 3/8 API REG	1/4	6.3	16.40	5.00	No wrench flats	128	58	DP76API238-50R
3 1/2	89	2 3/8 API REG	1/4	6.3	13.12	4.00	No wrench flats	133	60	DP89API238-40R
3 1/2	89	2 3/8 API REG	1/4	6.3	16.40	5.00	No wrench flats	164	74	DP89API238-50R
3 1/2	89	2 3/8 API REG	1/4	6.3	19.69	6.00	No wrench flats	184	83	DP89API238-60R
3 1/2	89	2 3/8 API REG	1/3	8.8	19.69	6.00	No wrench flats	280	127	DP89API238-60HR
4	102	2 7/8 API REG	1/4	6.3	13.12	4.00	No wrench flats	152	69	DP102API278-40R
4	102	2 7/8 API REG	1/4	6.3	16.40	5.00	No wrench flats	197	89	DP102API278-50R
4	102	2 7/8 API REG	1/4	6.3	19.69	6.00	No wrench flats	232	105	DP102API278-60R
4 1/2	114	3 1/2 API REG	1/4	6.3	19.69	6.00	No wrench flats	254	115	DP114API312-60R
4 1/2	114	3 1/2 API REG	1/3	8.8	19.69	6.00	No wrench flats	350	159	DP114API312-60HR
5 1/2	140	4 1/2 API REG	1/3	8.8	19.69	6.00	No wrench flats	442	200	DP140API412-60R



Adapters

Box to Box

Female to Female

Diameter		Length		Configuratioin		Flats		Weight		Part No.
inch	mm	inch	mm	Box	Box	inch	mm	lbs	kg	rait NO.
3.00	76	5.50	140	2 3/8 API REG	RD 50-6	2.56	65	9	4	BB77API238/RD50
3.00	76	7.90	201	2 3/8 API REG	2 3/8 API REG	2.56	65	10	5	BB77API238/API238
3.50	89	7.90	201	2 3/8 API REG	2 3/8 API REG	2.56	65	13	6	BB89API238/API238
3.50	89	20.00	508	2 3/8 API REG	2 3/8 IF	2.75	70	37	17	BB89API238/IF238
4.50	114	7.00	178	RD 70-4	3 1/2 API REG	3.75	95	18	8	BB114RD70/API312
4.50	114	10.00	254	2 7/8 API REG	3 1/2 API REG	4.00	102	22	10	BB114PAI278/API312
4.50	114	8.25	210	2 3/8 API REG	3 1/2 API REG	3.75	95	22	10	BB114API238/API312
4.75	121	12.00	305	3 1/2 API REG	3 1/2 API REG	4.00	102	40	18	BB121API312/API312
5.50	140	12.00	305	4 1/2 API REG	4 1/2 API REG	5.00	127	51	23	BB140API412/API412
5.50	140	24.00	610	4 1/2 API REG	2 7/8 IF	No	No	64	29	BB140API412/IF278



Pin to Pin

Male to Male

Diameter		Length		Configuratioin		Flats		Weight		Dout No.
inch	mm	inch	mm	Pin	Pin	inch	mm	lbs	kg	rait NO.
3.00	76	2.33	59	RD 50-6	2 3/8 API REG	2.63	67	7	3	PP77RD50/API238
3.50	89	2.75	70	RD 70-4	2 3/8 API REG	2.63	67	10	5	PP90RD70/API238
3.50	89	2.75	70	2 3/8 API REG	2 3/8 API REG	2.63	67	10	5	PP90API238/API238
3.69	94	4.00	102	2 3/8 API REG	2 3/8 API REG	2.25	57	11	5	PP94API238/API238
4.75	121	19.50	495	2 3/8 IF	3 1/2 IF	No	No	62	28	PP121IF238/IF312
4.75	121	19.50	495	2 3/8 IF	3 1/2 IF	No	No	81	37	PP121IF278/IF312
5.00	127	38.00	965	4 FH	3 1/2 IF	3.50	89	200	91	PP127FH4/IF312
5.00	127	38.00	965	3 1/2 API REG	3 1/2 API REG	No	No	37	17	DA127API312MM
6.00	152	14.50	368	4 1/2 API REG	4 1/2 API REG	No	No	64	29	DA152412MM



Adapters

Box to Pin

Female to Male

Diameter		Length		Configuratioin		Flats		Weight		Dart No	
	inch	mm	inch	mm	Box	Pin	inch	mm	lbs	kg	Fart NO.
	3.00	76	11.81	300	2 3/8 API REG	2 Z	2.62	67	15	7	BP76API238/Z2
1	3.50	89	5.72	145	2 3/8 API REG	RD 50-6	2.56	65	9	4	BP76API238/RD50
1	3.00	76	5.50	140	2 3/8 API REG	2 3/8 API REG	2.56	65	9	4	BP76API238/API238
1	3.50	89	14.00	356	2 3/8 API REG	3 1/2 IF	2.50	64	46	21	BP89API238/IF312
1	3.50	89	5.50	140	2 3/8 API REG	2 3/8 API REG	2.56	65	13	6	BP89API238/API238
1	3.75	95	5.13	130	2 3/8 API REG	2 7/8 API REG	2.56	65	18	8	BP95API238/API278
1	4.00	102	5.50	140	2 3/8 API REG	2 7/8 API REG	3.00	76	18	8	BP102API238/API278
1	4.00	102	5.13	130	2 3/8 API REG	2 3/8 API REG	3.00	76	17	8	BP102API238/API238
1	4.50	114	4.72	120	2 3/8 API REG	3 1/2 API REG	3.75	95	19	9	BP115API238/API312
1	3 50	89	6.00	152	2 7/8 API REG	2 3/8 API REG	2 56	65	14	6	BP90API278/API238
1	4 00	102	9.00	229	2 7/8 API REG	2 7/8 API REG	3 50	89	24	11	BP102API278/API278
1	4.00	102	14 00	356	2 7/8 API REG	3 1/2 IF	3.00	76	55	25	BP102API278/IE312
ł	5.75	146	19.00	483	2 7/8 API REG	4 IF	3 50	89	73	33	BP1464PI278/IF4
ì	6.00	152	19.00	483	2 7/8 API REG	4 IF	3 50	89	123	56	BP152API278/IF4
1	5.00	102	19.00	183	2 7/8 IE	4 II 4 EH	3.50	80	70	36	BD127IE278/EU/
ì	5.00	140	19.00	2405	2 7/8 IF	4 FH	2.50	80	52	24	
	5.50	140	9.50	241	2 7/0 IF	4 FD	2.00	69 70	24	24	BP140IF276/FFH4
ì	4.00	102	13.38	340	3 1/2 API REG		3.00	76	24	11	BP102API312/2212
	4.00	102	12.00	305	3 1/2 API REG	2 7/8 API REG	3.00	/6	32	15	BP102API312/API278
ł	4.50	114	8.62	219	3 1/2 API REG	2 3/8 API REG	3.75	95	28	- 13	BP114API312/API238
	4.50	114	6.29	160	3 1/2 API REG	2 //8 API REG	3.75	95	16	/	BP114API312/API278
ł	4.50	114	6.29	160	3 1/2 API REG	2 //8 IF	3.75	95	18	8	BP114API312/IF2/8
	4.50	114	6.29	160	3 1/2 API REG	3 1/2 API REG	3.75	95	18	8	BP114API312/API312
ŝ	5.00	127	9.00	229	3 1/2 API REG	3 1/2 API REG	3.50	89	44	20	BP127API312/API312
	5.00	127	9.00	229	3 1/2 API REG	3 1/2 BECO	3.50	89	44	20	BP127API312/BECI312
1	5.00	127	19.00	483	3 1/2 API REG	4 FH	3.50	89	57	26	BP127API312/FH4
	5.50	140	32.00	813	3 1/2 API REG	3 1/2 BECO	4.50	114	189	86	BP140API312/BEC312
1	5.75	146	5.16	131	3 1/2 API REG	4 1/2 API REG	4.71	120	36	16	BP146API312/API412
	6.00	152	19.00	483	3 1/2 API REG	4 IF	3.50	89	112	51	BP152API312/IF4
	5.50	140	19.00	483	3 1/2 BECO	4 FH	4.50	114	73	33	BP140BEC312/FH4
	6.00	152	19.00	483	3 1/2 BECO	4 IF	3.50	89	108	49	BP152BEC312/IF4
	6.00	152	19.00	483	4 BECO	4 IF	4.50	114	121	55	BP152BEC4/IF4
	5.50	140	24.00	610	4 FH	2 7/8 IF	3.50	89	81	37	BP140FH4/IF278
	4.50	114	24.00	610	4 1/2 API REG	3 1/2 API REG	3.50	89	79	36	BP114API412/API312
	5.50	140	9.00	229	4 1/2 API REG	3 1/2 API REG	4.50	114	46	21	BP140API412/API312
	5.50	140	36.00	914	4 1/2 API REG	3 1/2 BECO	4.50	114	216	98	BP140API412/BEC312
	5.75	146	9.25	235	4 1/2 API REG	3 1/2 API REG	3.75	95	42	19	BP146API412/API312
1	6.25	159	32.00	813	4 1/2 API REG	4 BECO	4.50	114	247	112	BP159API412/BEC4
	7.00	178	25.00	635	4 1/2 API REG	4 1/2 BECO	4.50	114	238	108	BP178API412/BEC412
Ĩ	7.62	194	15.00	381	4 1/2 API REG	5 1/4 BECO	6.75	171	172	78	BP194API412/BEC514
	7.62	194	15.00	381	5 1/2 API REG	4 1/2 BECO	6.75	171	165	75	BP194API512/BEC412
1	7.62	194	15.00	381	5 1/2 API REG	5 1/4 BECO	6.75	171	163	74	BP194API512/BEC514
	8.62	219	25.00	635	5 1/2 API REG	6 BECO	7.75	197	366	166	BP219API512/BEC6
1	7.62	194	19.00	483	5 1/4 BECO	6 5/8 API REG	6.75	171	211	96	BP194BEC514/API658
	7.00	178	15.00	381	6 5/8 API REG	4 1/2 BECO	5.75	146	128	58	BP178API658/BEC412
1	7.62	194	27.00	686	6 5/8 API REG	5 1/4 BECO	6.75	171	284	129	BPI94API658/BEC514
1	8.62	219	15.00	381	6 5/8 API REG	6 BECO	7.75	197	205	93	BP219API658/BEC6
1	9.25	235	47.50	1207	6 5/8 API REG	6 BECO	7.75	197	802	364	BP235API658/BEC6
J	10.75	273	15.00	381	6 5/8 API REG	8 BECO	9.25	235	374	170	BP273API658/BEC8
1	8.88	226	24.00	610	7 5/8 API REG	6 5/8 API REG	4.50	114	293	133	BP226API758/API658
7	-					For Roc tubes (no fl	ats)				
-	3.00	76	12.00	305	2 3/8 API REG	2 3/8 API REG	n/a	n/a	20	9	BP77API238/API238
J	3.50	89	12.00	305	2 3/8 API REG	2 3/8 API REG	n/a	n/a	29	13	BP90API238/API238
1	4.00	102	12.00	305	2 7/8 API REG	2 3/8 API REG	n/a	n/a	35	16	BP102API278/API238
J	4,50	114	12.00	305	3 1/2 API REG	3 1/2 API REG	n/a	n/a	46	21	BP115API312/API312
	4.50	114	12.00	305	3 1/2 API REG	2 7/8 API REG	n/a	n/a	46	21	BP115API312/API278
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