

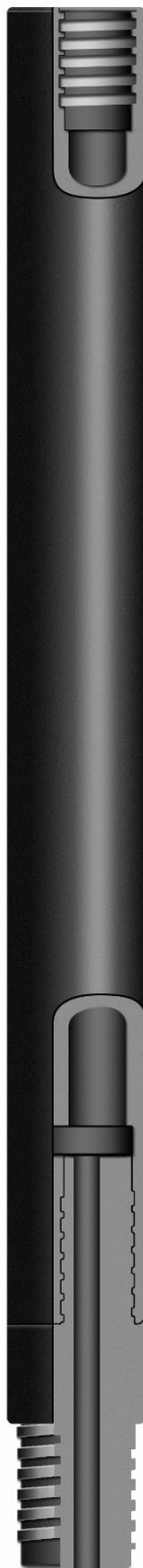
Drilling Tools





CME Drilling Tools

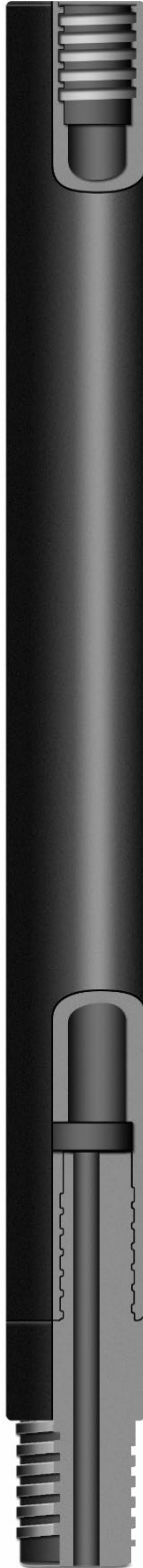
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DRILL ROD (DCDMA) W SERIES - COUPLED					
AW			NW		
	Part No.	Weight		Part No.	Weight
1 Ft.	30009	5.4 lb / 2.4 kg	1 Ft.	30025	11.4 lb / 5.2 kg
2 Ft.	30010	9.4 lb / 4.3 kg	2 Ft.	30026	18.7 lb / 8.5 kg
5 Ft.	30011	21.6 lb / 9.8 kg	5 Ft.	30027	32.2 lb / 14.6 kg
10 Ft.	30012	41.9 lb / 19 kg	10 Ft.	30028	80.3 lb / 36.4 kg

DRILL ROD COUPLING			
AW		NW	
Part No.	Weight	Part No.	Weight
30031	2 lb / .9 kg	30035	5.5 lb / 2.5 kg

W SERIES SPECIFICATIONS			
AW			
OD Tube	Tube Wall Thickness	ID Coupling	Threads Per Inch
1.75" / 44.5 mm	.250" / 6.35 mm	.625" / 15.9 mm	3
NW			
OD Tube	Tube Wall Thickness	ID Coupling	Threads Per Inch
2.625" / 66.7 mm	.313" / 7.95 mm	1.375" / 34.9 mm	3
* NOTE: All AW & NW Drill Rods are parallel walls.			



DRILL ROD (DCDMA)				
W SERIES - SPECIFICATIONS				
EW				
OD Of Drill Rod	Tube Wall Thickness	ID Of Drill Rod	Threads Per Inch	Weight of Drill Rod / per ft.
1.375" / 34.9 mm	.218" / 5.5 mm	.9375" / 23.8 mm	3	2.8 lb / 4.2 kg
ID Of Coupling		Weight Of Coupling		
.4375" / 11.1 mm		1 lb. / .45 kg		
AW				
OD Of Drill Rod	Tube Wall Thickness	ID Of Drill Rod	Threads Per Inch	Weight of Drill Rod / per ft.
1.75" / 44.5 mm	.250" / 6.3 mm	1.25" / 31.8 mm	3	4.3 lb / 6.4 kg
ID Of Coupling		Weight Of Coupling		
.625" / 15.8 mm		2 lb. / .90 kg		
BW				
OD Of Drill Rod	Tube Wall Thickness	ID Of Drill Rod	Threads Per Inch	Weight of Drill Rod / per ft.
2.125" / 53.9 mm	.187" / 4.7 mm	1.75" / 44.4 mm	3	4.3 lb / 6.4 kg
ID Of Coupling		Weight Of Coupling		
.75" / 19 mm		3.5 lb. / 1.6 kg		
NW				
OD Of Drill Rod	Tube Wall Thickness	ID Of Drill Rod	Threads Per Inch	Weight of Drill Rod / per ft.
2.625" / 66.6 mm	.187" / 4.7 mm	2.25" / 57.1 mm	3	5.5 lb / 8.2 kg
ID Of Coupling		Weight Of Coupling		
1.375" / 34.9 mm		5.5 lb. / 2.5 kg		
HW				
OD Of Drill Rod	Tube Wall Thickness	ID Of Drill Rod	Threads Per Inch	Weight of Drill Rod / per ft.
3.5" / 88.9 mm	.218" / 5.5 mm	3.062" / 77.8 mm	3	8.8 lb / 13.1 kg
ID Of Coupling		Weight Of Coupling		
2.375" / 60.3 mm		7.6 lb. / 3.4 kg		



DRILL ROD (DCDMA) WJ SERIES - JOINTED					
AWJ			NWJ		
	Part No.	Weight		Part No.	Weight
1 Ft.	30036	4.6 lb / 2.1 kg	1 Ft.	30727	9.7 lb / 4.4 kg
2 Ft.	30037	8.8 lb / 4.0 kg	2 Ft.	30728	14.5 lb / 6.5 kg
3 Ft.	30048	15 lb / 6.8 kg	3 Ft.	30049	19 lb / 8.6 kg
4 Ft.	30758	18.4 lb / 8.3 kg	4 Ft.	37398	38.8 lb / 17.6 kg
5 Ft.	30038	21.1 lb / 9.6 kg	5 Ft.	30729	30 lb / 13.6 kg
10 Ft.	30039	41 lb / 18.6 kg	10 Ft.	30730	51.5 lb / 23.4 kg

WJ SERIES SPECIFICATIONS			
AWJ			
OD Tube	Tube Wall Thickness	ID Pin	Threads Per Inch
1.75" / 44.5 mm	.250" / 6.35 mm	.625" / 15.9 mm	5
NWJ			
OD Tube	Tube Wall Thickness	ID Pin	Threads Per Inch
2.625" / 66.7 mm	.188" / 4.78 mm	1.125" / 28.6 mm	4



DRILL ROD – HEAVY DUTY (3.5" OD)


	Part No.	Weight		Part No.	Weight
1 Ft.	-	-	5 Ft.	37229	61.7 lb / 28.0 kg
2 Ft.	37230	26.4 lb / 12.0 kg	10 Ft.	37228	114.5 lb / 52.0 kg

HEAVY DUTY DRILL ROD SPECIFICATIONS


Rod Size	OD Tube	Tube Wall Thickness	ID Pin	Threads	Flats on Both Ends
3.5"	3.5" 88.9 mm	.337" 8.56 mm	1.75" 44.5 mm	2.375" API IF	2"x2.75 51x69.85 mm

SUBS – 2.375 API IF

BOX to PIN

	Part No.	Description
	37231	NW Box – 2.375 API IF Pin 6"
	37232	NW Box – 2.375 API IF Pin
	37233	NWJ Box – 2.375 API IF Pin

BOX to BOX

	Part No.	Description
	37234	2.375 Reg. Box – 2.375 API IF Box
	37235	2.875 Reg. Box – 2.375 API IF Box
	37236	3.5 Reg. Box – 2.375 API IF Box
	37237	4.5 Reg. Box – 2.375 API IF Box



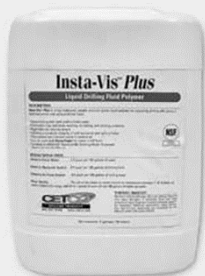
CASING					
W SERIES – FLUSH JOINT					
BW			NW		
	Part No.	Weight		Part No.	Weight
1 Ft.	30072	7.0 lb / 3.1 kg	1 Ft.	30076	9.0 lb / 4.1 kg
2 Ft.	30073	14.0 lb / 6.3 kg	2 Ft.	30077	17.0 lb / 7.7 kg
			3 Ft.	30106	27 lb / 12.3 kg
5 Ft.	30074	35.0 lb / 15.9 kg	5 Ft.	30078	43.0 lb / 19.5 kg
10 Ft.	30075	70.0 lb / 31.8 kg	10 Ft.	30079	86.0 lb / 39.1 kg
HW			HWT		
	Part No.	Weight		Part No.	Weight
1 Ft.	30080	12.0 lb / 5.4 kg	1 Ft.	30084	12.0 lb / 5.4 kg
2 Ft.	30081	23.0 lb / 10.4 kg	2 Ft.	30085	23.0 lb / 10.4 kg
3 Ft.	30110	36 lb / 16.3 kg	3 Ft.	30052	36 lb / 16.3 kg
5 Ft.	30082	58.0 lb / 26.3 kg	5 Ft.	30086	58.0 lb / 26.3 kg
10 Ft.	30083	117.0 lb / 53.1 kg	10 Ft.	30087	117.0 lb / 53.1 kg
PW			PWT		
	Part No.	Weight		Part No.	Weight
1 Ft.	30000	15.0 lb / 6.8 kg	1 Ft.	30105	15.0 lb / 6.8 kg
2 Ft.	30001	29.0 lb / 13.1 kg	2 Ft.	30104	29.0 lb / 13.1 kg
3 Ft.	30004	45 lb / 20.4 kg			
5 Ft.	30002	70.0 lb / 31.8 kg	5 Ft.	30103	70.0 lb / 31.8 kg
10 Ft.	30003	144.0 lb / 65.4 kg	10 Ft.	30102	144.0 lb / 65.4 kg
SW			SWT		
	Part No.	Weight		Part No.	Weight
1 Ft.	30088	20.0 lb / 9.1 kg	1 Ft.	31203	20.0 lb / 9.1 kg
2 Ft.	30089	40.0 lb / 18.1 kg	2 Ft.	31202	40.0 lb / 18.1 kg
3 Ft.	30051	60 lb / 27.2 kg			
5 Ft.	30090	100.0 lb / 45.4 kg	5 Ft.	31201	100.0 lb / 45.4 kg
10 Ft.	30091	200.0 lb / 90.9 kg	10 Ft.	31200	200.0 lb / 90.9 kg
UW			ZW		
	Part No.	Weight		Part No.	Weight
1 Ft.	30092	23.0 lb / 10.4 kg	1 Ft.	30096	24.0 lb / 10.9 kg
2 Ft.	30093	46.0 lb / 20.9 kg	2 Ft.	30097	48.0 lb / 21.8 kg
5 Ft.	30094	117.0 lb / 53.1 kg	5 Ft.	30098	119.0 lb / 54.0 kg
10 Ft.	30095	234.0 lb / 106.3 kg	10 Ft.	30099	238.0 lb / 108.1 kg



CASING			
W SERIES - SPECIFICATIONS			
BW			
OD Of Casing	Tube Wall Thickness	ID Of Casing	Threads Per Inch
2.875" / 73.0 mm	.250" / 1.27 mm	2.375" / 60.33 mm	4
NW			
OD Of Casing	Tube Wall Thickness	ID Of Casing	Threads Per Inch
3.5" / 88.9 mm	.250 / 12.7 mm	3.0" / 76.2 mm	4
HW/HWT			
OD Of Casing	Tube Wall Thickness	ID Of Casing	Threads Per Inch
4.5" / 114.3 mm	.250 / 12.7 mm	4.0" / 101.6 mm	HW-4/HWT-2.5
PW/PWT			
OD Of Casing	Tube Wall Thickness	ID Of Casing	Threads Per Inch
5.5" / 139.7 mm	.250 / 12.7 mm	5.0" / 127.0 mm	PW-3/PWT-2.5
SW/SWT			
OD Of Casing	Tube Wall Thickness	ID Of Casing	Threads Per Inch
6.625" / 168.3 mm	.312" / 15.9 mm	6.0" / 152.4 mm	SW - 3 / SWT-2.5
UW			
OD Of Casing	Tube Wall Thickness	ID Of Casing	Threads Per Inch
7.625" / 193.7 mm	.312" / 15.9 mm	7.0" / 177.8 mm	2
ZW			
OD Of Casing	Tube Wall Thickness	ID Of Casing	Threads Per Inch
8.625" / 219.1 mm	.312" / 15.9 mm	8.0" / 203.2 mm	2

THREAD LUBRICANTS

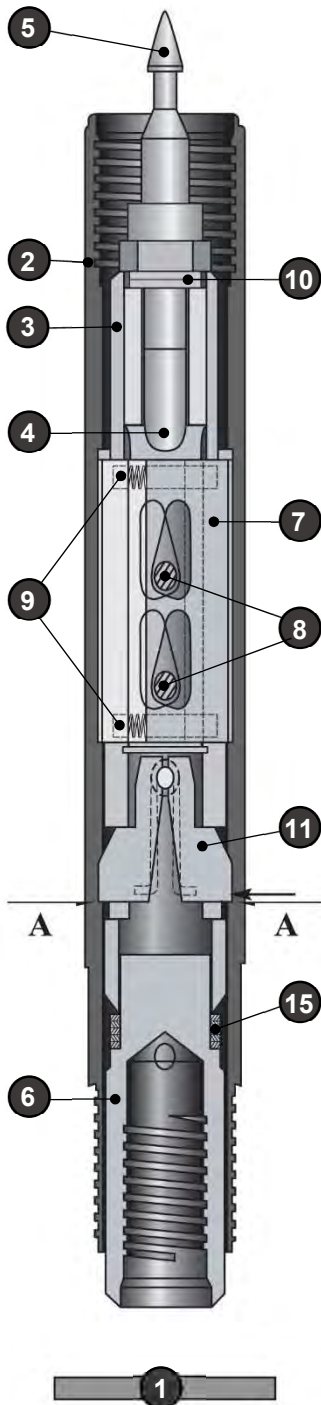
Part No.	Description	Size
212291	KOPR-KOTE (Heavy Duty Drill Pipe Compound)	1 gal. pail
212292	KOPR-KOTE (Heavy Duty Drill Pipe Compound)	2 gal. pail
214112	Eco-Safe Thread Lube	2 gal. pail
212297	Dope Brush	1.125" x 16"



INSTA-VIS PLUS

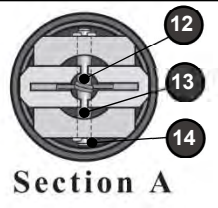
Part No.	Description	Size
214025	Liquid drilling fluid polymer	5 gal. pail

Note: Also available by the pallet (32 pails per pallet).

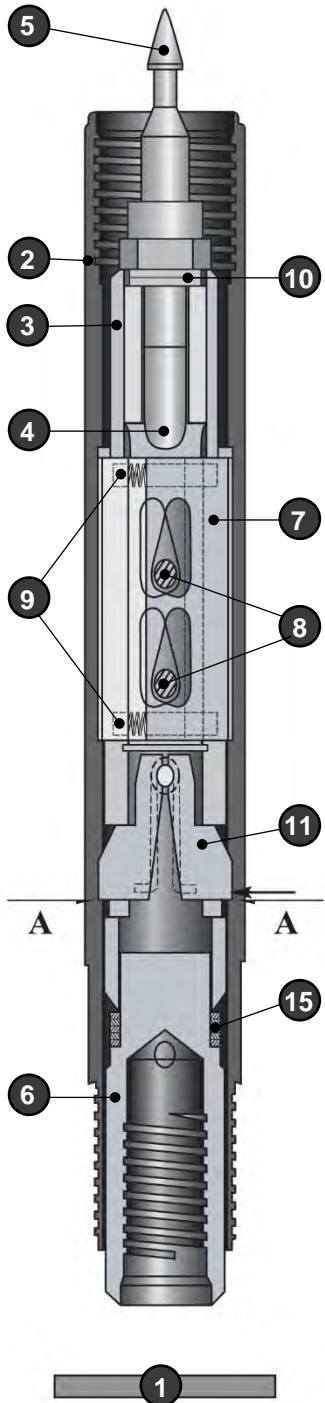


NW CASING / H W/L ROD ADVANCER

Ref. No.	Part No.	Description
1	37100	Assembly NW Casing Advancer
1	37152	Assembly H W/L Rod Advancer
2	37151	Driver H W/L Rod Advancer
2	37101	Driver NW Casing Advancer
3	37102	Latch Body NW Casing Advancer
4	37103	Release Shaft NW Casing Advancer
5	37104	Spear Head NW Casing Advancer
6	37105	Bit Sub NW Casing Advancer
7	37106	Latch Shoe Set NW Casing Advancer
8	37107	Locating Pin NW Casing Advancer (2 req'd.)
9	37108	Spring NW Casing Advancer (2 req'd.)
10	37109	Disk Loc Washer NW Casing Advancer
11	37110	Stop Latch Set NW Casing Advancer
12	37111	Stop Latch Spring NW Casing Advancer
13	37112	Stop Latch Pin NW Casing Advancer
14	37113	Split Cotter NW Casing Advancer (2 req'd.)
15	37114	Spacer Set NW Casing Advancer
3-15	37132	Inner Assembly NW Casing Advancer
	37115	Loading Sleeve NW Casing Advancer (included in assembly)
	37136	Loading Sleeve H W/L Rod Advancer (included in assembly)



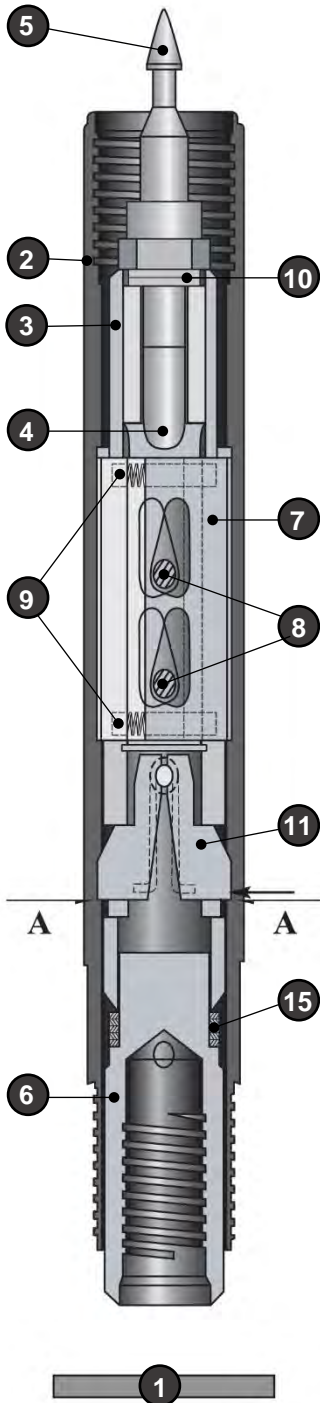
* NOTE: Casing Shoes and Rock Bits found on pages 5.11 and 5.12.



HW/HWT CASING ADVANCER		
Ref. No.	Part No.	Description
1	37117	Assembly HW Casing Advancer
1	37128	Assembly HWT Casing Advancer
2	37118	Driver HW Casing Advancer
2	37129	Driver HWT Casing Advancer
3	37119	Latch Body HW Casing Advancer
4	37103	Release Shaft HW Casing Advancer
5	37104	Spear Head HW Casing Advancer
6	37120	Bit Sub HW Casing Advancer
7	37121	Latch Shoe Set HW Casing Advancer
8	37107	Locating Pin HW Casing Advancer (2 req'd.)
9	37108	Spring HW Casing Advancer (2 req'd.)
10	37109	Disk Loc Washer HW Casing Advancer
11	37122	Stop Latch Set HW Casing Advancer
12	37111	Stop Latch Spring HW Casing Advancer
13	37123	Stop Latch Pin HW Casing Advancer
14	37113	Split Cotter HW Casing Advancer (2 req'd.)
15	37124	Spacer Set HW Casing Advancer
3-15	37133	Inner Assembly HW/HWT
	37125	Loading Sleeve HW Casing Advancer (included in assembly)
	37130	Loading Sleeve HWT Casing Advancer (included in assembly)

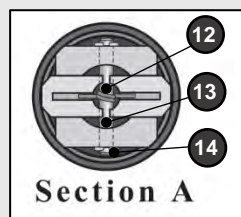
Section A

*** NOTE:** Casing Shoes and Rock Bits found on pages 5.11 and 5.12.



PW/PWT CASING ADVANCER

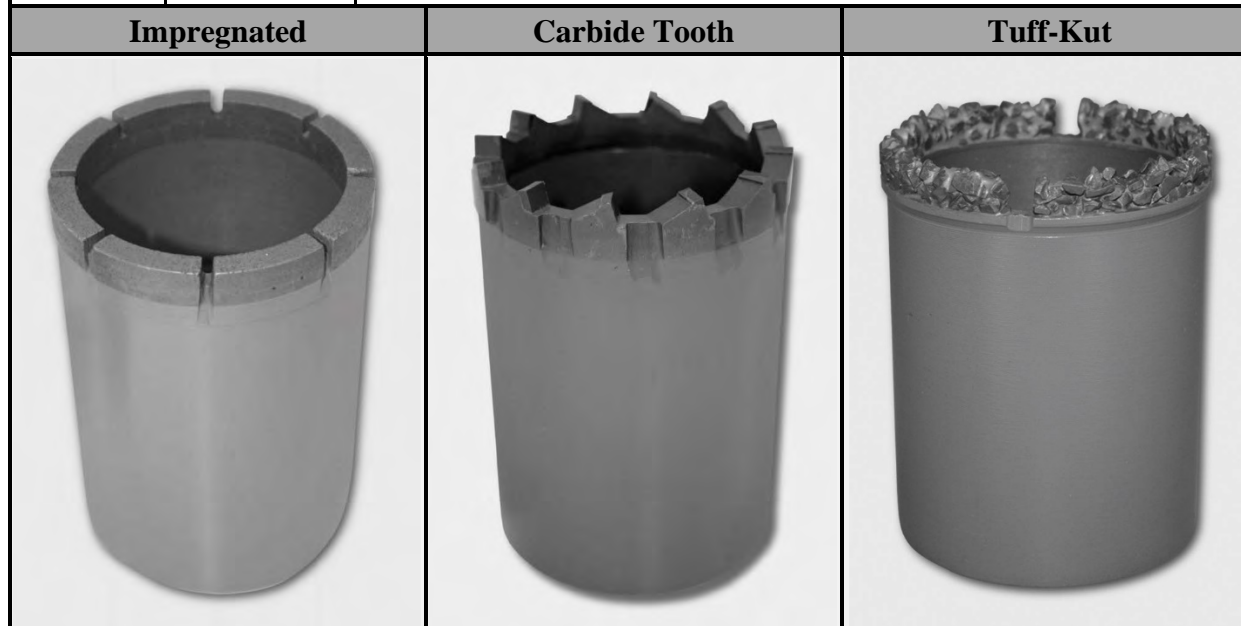
Ref. No.	Part No.	Description
1	37139	Assembly PW Casing Advancer
1	37147	Assembly PWT Casing Advancer
2	37138	Driver PW Casing Advancer
2	37148	Driver PWT Casing Advancer
3	37140	Latch Body PW Casing Advancer
4	37103	Release Shaft PW Casing Advancer
5	37104	Spear Head PW Casing Advancer
6	37141	Bit Sub PW Casing Advancer
7	37142	Latch Shoe Set PW Casing Advancer
8	37107	Locating Pin PW Casing Advancer (2 req'd.)
9	37108	Spring PW Casing Advancer (2 req'd.)
10	37109	Disk Loc Washer PW Casing Advancer
11	37143	Stop Latch Set PW Casing Advancer
12	37111	Stop Latch Spring PW Casing Advancer
13	37144	Stop Latch Pin PW Casing Advancer
14	37113	Split Cotter PW Casing Advancer (2 req'd.)
15	37145	Spacer Set PW Casing Advancer
3-15	37149	Inner Assembly PW/PWT
	37146	Loading Sleeve PW Casing Advancer (included in assembly)
	37150	Loading Sleeve PWT Casing Advancer (included in assembly)



* NOTE: Casing Shoes and Rock Bits found on pages 5.11 and 5.12.

CASING AND ROD ADVANCER SHOES

Size	Part No.	Description
NW	C36646	Shoe, diamond impregnated HD 3.75" OD
NW	C36764	Shoe, diamond impregnated #6 3.75" OD
NW	220569	Shoe, surface set diamond 15-25 spc 3.75" OD
NW	C36682	Shoe, TC Tuff-Kut 3.75" OD
H W/L	C36676	Shoe, diamond impregnated HD 3.75" OD
H W/L	C36660	Shoe, TC Tuff-Kut 3.75" OD
HW	C36647	Shoe, diamond impregnated HD 4.75" OD
HW	220685	Shoe, TC Tuff-Kut 4.75" OD
HW	220578	Shoe, TC Sawtooth 4.75" OD
HWT	C36648	Shoe, diamond impregnated HD 4.75" OD
HWT	C36659	Shoe, TC Tuff-Kut 4.75" OD
HWT	220535	Shoe, TC Sawtooth 4.75" OD
PW	C36734	Shoe, diamond impregnated HD 5.75" OD
PW	C36675	Shoe, TC Tuff-Kut 5.75" OD
PWT	C36735	Shoe, diamond impregnated HD 5.75" OD
PWT	220760	Shoe, TC Tuff-Kut 5.75" OD





ROLLER ROCK BITS FOR CASING AND ROD ADVANCERS

Size	Part No.	Description
NW	32060	2-15/16" roller rock bit milltooth
NW	32471	2-15/16" roller rock bit tungsten carbide insert (TCI)
H W/L	32060	2-15/16" roller rock bit milltooth
H W/L	32471	2-15/16" roller rock bit tungsten carbide insert (TCI)
HW	32103	3-7/8" roller rock bit milltooth
HW	32473	3-7/8" roller rock bit tungsten carbide insert (TCI)
HWT	32103	3-7/8" roller rock bit milltooth
HWT	32473	3-7/8" roller rock bit tungsten carbide insert (TCI)
PW	32123	4-3/4" roller rock bit milltooth
PW	32531	4-3/4" roller rock bit tungsten carbide insert (TCI)
PWT	32123	4-3/4" roller rock bit milltooth
PWT	32531	4-3/4" roller rock bit tungsten carbide insert (TCI)

Milltooth



TCI



CASING – DRIVE SHOES

	BW	N W/L	NW	H W/L	HW	HWT	PW	PWT	SW	SWT
Part No.	30124	30130	30125	30129	30126	30127	30120	30119	30121	31205



WATER TEES – FLUSH JOINT CASING

	BW	NW	H W/L	HW	HWT	PW	PWT	SW	SWT
Part No.	29995	29996	29993	29997	29994	220032	29991	29992	31206





SUBS – FLUSH JOINT CASING

BOX to PIN



Part No.	Description
30274	AW Rod – NW Casing
30299	AWJ Rod – NW Casing
30377	NW Rod – NW Casing
30407	NWJ Rod – NW Casing
30430	N W/L Rod – NW Casing
37239	H W/L Rod – NW Casing
37240	NW Casing – H W/L Rod
30568	2.375 API IF – NW Casing
30378	NW Rod – HW Casing
30408	NWJ Rod – HW Casing
30275	AW Rod – HW Casing
30737	AWJ Rod – HW Casing
30591	2.375 API IF – HW Casing
37295	HW Casing – HWT Casing
37292	HWT Casing – HW Casing
30379	NW Rod – HWT Casing
30380	NWJ Rod – HWT Casing
30307	AWJ Rod – HWT Casing
30433	N W/L Rod – HWT Casing
30593	2.375 API IF – HWT Casing
30310	AWJ Rod – PW Casing
37342	NW Rod – PW Casing
30306	NWJ Rod – PW Casing
37366	2.375 API IF – PW Casing
30331	NW Rod – PWT Casing
37334	NWJ Rod – PWT Casing
37402	2.375 API IF – PWT Casing
30351	N-3 Rod – SW Casing
30409	NWJ Rod – SW Casing
37410	NWJ Rod – SWT Casing
30417	NWJ Rod – ZW Casing

Note: HWT rod/casing is used as the Drill Rod for the P W/L Core Barrel.

SUBS – ADAPTERS

BOX to PIN



Part No.	Description	Part No.	Description
30772	A - 1.25-7 UNC	37200	AWJ - H W/L
30252	A - AW	30307	AWJ - HWT
30253	A - AWJ	30305	AWJ - N W/L
30254	A - BW	30295	AWJ - N3
30255	A - BWJ	30294	AWJ - N4
30250	A - EW	30296	AWJ - NW
30257	A - N3	30297	AWJ - NWJ
30256	A - N4	30303	AWJ - NXB
30258	A - NW	30311	AWJ - 1-1/8 HEX
30259	A - NWJ	30312	AWJ - 1-5/8 HEX
30741	AW - H W/L	30748	BW - 2-3/8 MHJR
30755	AW - 1.25-7 UNC	30314	BW - A
37343	AW - 2.375 API IF	30978	BW - BW
30265	AW - A	30319	BW - N3
30574	AW - AW	30318	BW - N4
30266	AW - AWJ	30320	BW - NW
30279	AW - B W/L	30321	BW - NWJ
30267	AW - BW	30315	BW- AW
30268	AW - BWJ	30316	BW- AWJ
30280	AW - N W/L	30327	BWJ - A
30270	AW - N3	30328	BWJ - AW
30269	AW - N4	30325	BWJ - AWJ
30271	AW - NW	30326	BWJ - H W/L
30272	AW - NWJ	30317	BWJ - NWJ
30278	AW - NXB	30352	N3 - A
30286	AW - 1-1/8 HEX	30353	N3 - AW
30287	AW - 1-5/8 HEX	30354	N3 - AWJ
30725	AWJ - 1.25-7 UNC	30355	N3 - BW
37345	AWJ - 2.375 API IF	30738	N3 - H W/L
30786	AWJ - 2-3/8 MHJR	30644	N3 - N W/L
30290	AWJ - A	30357	N3 - N4
30291	AWJ - AW	30358	N3 - NW
37357	AWJ - AWJ 4"	30359	N3 - NWJ
30764	AWJ - AWJ 6"	30339	N4 - A
30292	AWJ - BW	30340	N4 - AW

See next page for more Box to Pin Subs.



SUBS – ADAPTERS

BOX to PIN



Part No.	Description	Part No.	Description
30341	N4 - AWJ	30797	NWJ - 1.25-7 UNC
30342	N4 - BW	30422	NWJ - 1-1/8 HEX
30343	N4 - H W/L	30423	NWJ - 1-5/8 HEX
30646	N4 - N W/L	37233	NWJ - 2.375 API IF
30344	N4 - N3	30736	NWJ - 2.875 API IF
30345	N4 - NW	37340	NWJ - 2-3/8 MHJR
30346	N4 - NWJ	30403	NWJ - 2-3/8 REG
30349	N4 - 1/1/8 HEX	30404	NWJ - 2-7/8 REG
30350	N4 - 1-5/8 HEX	30405	NWJ - 3-1/2 REG
37346	NW - 1.25-7 UNC	30406	NWJ - 4-1/2 REG
30392	NW - 1-1/8 HEX	30395	NWJ - A
30393	NW - 1-5/8 HEX	30396	NWJ - AW
37232	NW - 2.375 API IF	30397	NWJ - AWJ
37231	NW - 2.375 API IF 6"	30418	NWJ - B W/L
30643	NW - 2-3/8 MHJR 6"	30398	NWJ - BW
30373	NW - 2-3/8 REG	37389	NWJ - BWJ
30374	NW - 2-7/8 REG	37363	NWJ - EW
30375	NW - 3-1/2 REG	30775	NWJ - H W/L
30376	NW - 4-1/2 REG	30380	NWJ - HWT
30365	NW - A 6"	30413	NWJ - HXB
30620	NW - AW	30415	NWJ - N W/L
30366	NW - AW 6"	30399	NWJ - N W/L 6"
30777	NW - AWJ	30401	NWJ - N3
30606	NW - AWJ 6"	30400	NWJ - N4
30368	NW - BW	30402	NWJ - NW
37339	NW - BWJ 6"	30621	NWJ - NWJ
34414	NW - H W/L	30768	NWJ - NWJ 6"
37201	NW - H W/L 6"	30412	NWJ - NXB
30379	NW - HWT	37258	HXB - H W/L
30384	NW - HXB 6"	30434	N W/L - AW
30794	NW - N W/L	30437	N W/L - AWJ
30385	NW - N W/L 6"	30432	N W/L - BW
30371	NW - N3 6"	30435	N W/L - H W/L
30370	NW - N4 6"	30428	N W/L - N W/L
30586	NW - NW 6"	37336	N W/L - N W/L 6"
30369	NW - NWJ	30429	N W/L - NW
30372	NW - NWJ 6"	30431	N W/L - NWJ
30382	NW - NXB 6"	30386	N W/L - NXB

See next page for more Box to Pin Subs.

SUBS – ADAPTERS

BOX to PIN



Part No.	Description	Part No.	Description
37331	1-5/8 HEX - 2-3/8 REG	37327	2.875 API IF - 2-3/8 MHJR
37275	1-5/8 HEX - 2-7/8 REG	37325	2.875 API IF - H W/L
37297	1-5/8 HEX - 3-1/2 REG	37326	2.875 API IF - HWT
37387	2.375 API IF - 2.375 API IF 6"	37324	2.875 API IF - N W/L
30669	2.375 API IF - 2.875 API IF	37344	2-3/8 MHJR - 2.375 API IF
30747	2.375 API IF - 2-3/8 MHJR	37253	2-3/8 MHJR - AW
37268	2.375 API IF - 2-3/8 REG	30787	2-3/8 MHJR - AWJ
37257	2.375 API IF - 3-1/2 REG	37320	2-3/8 MHJR - H W/L
30613	2.375 API IF - AW	37319	2-3/8 MHJR - HWT
30614	2.375 API IF - AWJ	37248	2-3/8 MHJR - N W/L
30625	2.375 API IF - BW	37400	2-3/8 MHJR - N3
30677	2.375 API IF - BW	30674	2-3/8 MHJR - NWJ
30779	2.375 API IF - H W/L	37283	2-3/8 REG - 2.375 API IF 6"
30592	2.375 API IF - H W/L 4"	37384	2-3/8 REG - 2-3/8 MHJR
30593	2.375 API IF - HWT	37341	2-3/8 REG - 2-3/8 REG 6"
30356	2.375 API IF - N W/L	37314	2-3/8 REG - NW
30611	2.375 API IF - N3	37383	2-3/8 REG - NWJ
30612	2.375 API IF - N4	37353	2-7/8 REG - H W/L
30609	2.375 API IF - NW	37302	2-7/8 REG - HWT
30608	2.375 API IF - NWJ	37250	3-1/2 REG - 2-3/8 REG
30715	2.375 API IF - NXB	37361	4-1/2 REG - 2.375 API IF



CME 3.5 KELLY SUBS – 2.375 API IF

BOX to PIN



Part No.	Description
30356	2.375 API IF Box – N W/L Pin
30779	2.375 API IF Box – H W/L Pin
30608	2.375 API IF Box – NWJ Pin
30609	2.375 API IF Box – NW Pin
30611	2.375 API IF Box – N3 Pin
30612	2.375 API IF Box – N4 Pin
30613	2.375 API IF Box – AW Pin
30614	2.375 API IF Box – AWJ Pin
30568	2.375 API IF Box – NW Casing Pin
30593	2.375 API IF Box – HWT Casing Pin
30591	2.375 API IF Box – HW Casing Pin

SUBS – ADAPTERS

PIN to PIN



Part No.	Description	Part No.	Description
30547	1.25-7 - 1.25-7	30489	BWJ - NW
30469	EW - AW	30034	N3 - N3
30445	EW - NW	30503	N3 - NWJ
30030	A - A	30505	N3 - 1-1/8 HEX
30446	A - AW	30506	N3 - 1-5/8 HEX
30447	A - AWJ	30470	N4 - AWJ
30448	A - BW	30501	N4 - H W/L
30451	A - N3	30495	N4 - N3
30450	A - N4	30033	N4 - N4
30452	A - NW	30496	N4 - NW
30453	A - NWJ	30497	N4 - NWJ
30454	A - 1-1/8 HEX	30499	N4 - 1-1/8 HEX
30455	A - 1-5/8 HEX	30500	N4 - 1-5/8 HEX
30031	AW - AW	30512	NW - 2-3/8 MHJR
30457	AW - AWJ	37202	NW - H W/L
30458	AW - BW	30509	NW - HW CAS
37242	AW - H W/L	30525	NW - HWT
30459	AW - N W/L	30513	NW - N W/L
30461	AW - N3	30035	NW - NW
30460	AW - N4	30502	NW - N3
30468	AW - NW CAS	30507	NW - NW CAS
30462	AW - NW	30508	NW - NWJ
30463	AW - NWJ	30510	NW - NXB
30465	AW - 1-1/8 HEX	30511	NW - PW CAS
30466	AW - 1-5/8 HEX	30515	NW - 1-1/8 HEX
30652	AWJ - AWJ	30516	NW - 1-5/8 HEX
30472	AWJ - NW	30523	NWJ - NWJ
30473	AWJ - NWJ	30519	NWJ - 1-1/8 HEX
30475	AWJ - 1-1/8 HEX	30520	NWJ - 1-5/8 HEX
30476	AWJ - 1-5/8 HEX	30746	2.375 API IF - AWJ
30032	BW - BW	30673	2.375 API IF - N W/L
30480	BW - N3	37251	2.875 API IF - 2.375 API IF
30479	BW - N4	37306	2.875 API IF - HW CAS
30481	BW - NW	37408	2-7/8 REG - NWJ
30482	BW - NWJ		
30484	BW - 1-1/8 HEX		
30485	BW - 1-5/8 HEX		



SUBS – ADAPTERS

BOX to BOX

Part No.	Description	Part No.	Description
30131	A - A	30179	BW - NWJ
30132	A - AW	30176	BW - N4
30133	A - AWJ	30180	BW - 1-1/8 HEX
30134	A - BW	30181	BW - 1 5/8 HEX
30137	A - N3	34415	N W/L - 2-3/8 REG
30136	A - N4	34416	N W/L - 2-7/8 REG
30139	A - NWJ	37259	N W/L - 3-1/2 REG
30140	A - 1-1/8 HEX	30210	N3 - 2-3/8 REG
30141	A - 1-5/8 HEX	30211	N3 - 2-7/8 REG
30151	AW - 2-3/8 REG	30212	N3 - 3-1/2 REG
30152	AW - 2-7/8 REG	30207	N3 - N3
30143	AW - AW	30208	N3 - NW
30144	AW - AWJ	30209	N3 - NWJ
30145	AW - BW	30192	N3- N4
30147	AW - N4	30215	N3 - 1-1/8 HEX
30149	AW - NW	30216	N3 - 1-5/8 HEX
30150	AW - NWJ	30195	N4 - 2-3/8 REG
30148	AW -N3	30196	N4 - 2-7/8 REG
30151	AW - 1-1/8 HEX	30616	N4 - 3-1/2 REG
30157	AW - 1/5/8 HEX	30197	N4 - 3-1/2 REG
30163	AWJ - 1.25-7 UNC	30201	N4 - N W/L
30166	AWJ - 2-3/8 REG	30191	N4 - N4
30167	AWJ - 2-7/8 REG	30193	N4 - NW
30168	AWJ - 3-1/2 REG	30194	N4 - NWJ
30159	AWJ - AWJ	30199	N4 - NXB
30169	AWJ - EW	30204	N4 - 1-1/8 HEX
30161	AWJ - N3	30205	N4 - 1-5/8 HEX
30162	AWJ - N4	37241	NW - 2.375 API IF
30164	AWJ - NW 6"	30220	NW - 2-3/8 REG
30165	AWJ - NWJ	30221	NW -2-7/8 REG
30171	AWJ - 1-1/8 HEX	30222	NW - 3-1/2 REG
30172	AWJ - 1-5/8 HEX	30223	NW - 4-1/2 REG
30778	BW - 2-3/8 REG	30218	NW - NW
30174	BW - BW	30219	NW - NWJ
30177	BW - N3	30226	NW - 1-1/8 HEX
30178	BW - NW 6"	30227	NW - 1/5/8 HEX



See next page for more Box to Box Subs.

SUBS – ADAPTERS

BOX to BOX



Part No.	Description	Part No.	Description
30229	NWJ - NWJ	37234	2.375 API IF - 2-3/8 REG
30236	NWJ - 1-1/8 HEX	37235	2.375 API IF - 2-7/8 REG
30237	NWJ - 1-5/8 HEX	37236	2.375 API IF - 3-1/2 REG
30230	NWJ - 2-3/8 REG	37237	2.375 API IF - 4-1/2 REG
30231	NWJ - 2-7/8 REG	37307	2-3/8 MHJR - 1-5/8 HEX
30232	NWJ - 3-1/2 REG	37373	2-3/8 MHJR - 6-5/8 REG
30233	NWJ - 4-1/2 REG	37274	2-3/8 REG - 1-5/8 HEX
30234	NWJ - 6-5/8 REG	37254	NW CAS - 2-3/8 REG
37243	H W/L - 2-3/8 REG	37285	NW CAS - 2-7/8 REG
37244	H W/L - 2-7/8 REG	37309	HW CAS - 3-1/2 REG
37245	H W/L - 3-1/2 REG	30242	HWT - 2-7/8 REG
37246	H W/L - 4-1/2 REG	37262	HWT - 3-1/2 REG
37278	2.375 API IF - 1-5/8 HEX	37333	HWT - 4-1/2 REG
37330	2.375 API IF - 2.375 API IF	37332	3-1/2 REG - 3-1/2 REG



ROLLER/Drag BIT – SUBS

BOX to BOX

	Part No.	Description
		30147
30162		AWJ – N4
30193		N4 – NW
30194		N4 – NWJ
30199		N4 – NXWL
30201		N4 – NW/L
30151		AW – 2.375 Reg
30166		AWJ – 2.375 Reg
30152		AW – 2.875 Reg
30167		AWJ – 2.875 Reg
30220		NW – 2.375 Reg
30221		NW – 2.875 Reg
30222		NW – 3.500 Reg
30230		NWJ – 2.375 Reg
30231		NWJ – 2.875 Reg
30232		NWJ – 3.500 Reg
34415		NW/L – 2.375 Reg
34416		NW/L – 2.875 Reg
37234		2.375 Reg – 2.375 API IF
37235		2.875 Reg – 2.375 API IF
37236	3.5 Reg – 2.375 API IF	
37237	4.5 Reg – 2.375 API IF	

ROLLER ROCK BITS – MILLTOOTH FOR MEDIUM HARD FORMATIONS

Part No.	Size	Type	Connection
32011	1-7/8"	2 Cone	AW Pin
32018	2 1/8"	2 Cone	AW Box
32019	2 1/8"	2 Cone	AW Pin
32021	2 1/4"	2 Cone	A Pin
32023	2 1/4"	2 Cone	AW Pin
32025	2 3/8"	2 Cone	A Pin
32060	2 15/16"	3 Cone	N4 Pin
32069	3 1/8"	3 Cone	N4 Pin
32078	3 1/4"	3 Cone	N4 Pin
32553	3-1/4"	3 Cone	2.375 Reg
32087	3 1/2"	3 Cone	N4 Pin
32548	3 5/8"	3 Cone	N4 Pin
32095	3 5/8"	3 Cone	2.375 Reg
32543	3 7/8"	3 Cone	N4 Pin
32103	3 7/8"	3 Cone	2.375 Reg
32111	4 1/8"	3 Cone	2.375 Reg
32119	4 1/2"	3 Cone	2.375 Reg
32123	4 3/4"	3 Cone	2.875 Reg
32538	4 7/8"	3 Cone	2.375 Reg
32124	4 7/8"	3 Cone	2.875 Reg
32127	5"	3 Cone	2.875 Reg
32131	5 1/8"	3 Cone	2.875 Reg
32551	5 1/4"	3 Cone	2.875 Reg
32491	5 1/2"	3 Cone	2.875 Reg
32516	5 1/2"	3 Cone	3.5 Reg
32135	5 5/8"	3 Cone	3.5 Reg
32139	5 7/8"	3 Cone	3.5 Reg
32140	6"	3 Cone	3.5 Reg
32143	6 1/8"	3 Cone	3.5 Reg
32517	6 1/2"	3 Cone	3.5 Reg
32505	6 5/8"	3 Cone	3.5 Reg
32147	6 3/4"	3 Cone	3.5 Reg
32532	7 1/2"	3 Cone	4.5 Reg
32155	7 7/8"	3 Cone	4.5 Reg



Note: See page 5.23 for Bit Subs.
Other sizes available.



ROLLER ROCK BITS – MILLTOOTH FOR HARD FORMATIONS

Part No.	Size	Type	Connection
32063	2 15/16"	3 Cone	N4 Pin
32072	3 1/8"	3 Cone	N4 Pin
32081	3 1/4"	3 Cone	N4 Pin
32090	3 1/2"	3 Cone	N4 Pin
32096	3 5/8"	3 Cone	2.375 Reg
32100	3 3/4"	3 Cone	2.375 Reg
32104	3 7/8"	3 Cone	2.375 Reg
32108	4"	3 Cone	2.375 Reg
32112	4 1/8"	3 Cone	2.375 Reg
32116	4 1/4"	3 Cone	2.375 Reg
32120	4 1/2"	3 Cone	2.375 Reg
32132	5 1/8"	3 Cone	2.875 Reg
32136	5 5/8"	3 Cone	3.5 Reg
32144	6 1/8"	3 Cone	3.5 Reg
32148	6 3/4"	3 Cone	3.5 Reg
32152	7 3/8"	3 Cone	3.5 Reg
32156	7 7/8"	3 Cone	4.5 Reg



Note: See page 5.23 for Bit Subs.
Other sizes available.

ROLLER ROCK BITS – TUNGSTEN CARBIDE INSERTS (TCI) FOR MOST MEDIUM HARD ROCK FORMATIONS

Part No.	Size	Type	Connection
32542	2 1/2"	3 Cone	AW Pin
32439	2 15/16"	3 Cone	NW Pin
32471	2 15/16"	3 Cone	N4 Pin
32481	3 1/8"	3 Cone	N4 Pin
32483	3 1/4"	3 Cone	N4 Pin
32438	3 5/8"	3 Cone	2.375 Reg
32473	3 7/8"	3 Cone	2.375 Reg
32495	4 1/8"	3 Cone	2.375 Reg
32500	4 1/2"	3 Cone	2.375 Reg
32531	4 3/4"	3 Cone	2.875 Reg
32501	4 7/8"	3 Cone	2.375 Reg
32522	4 7/8"	3 Cone	2.875 Reg
32383	5"	3 Cone	2.875 Reg
32552	5 1/4"	3 Cone	2.875 Reg
32525	5 1/2"	3 Cone	2.875 Reg
32434	5 5/8"	3 Cone	3.5 Reg
32499	5 3/4"	3 Cone	3.5 Reg
32437	5 7/8"	3 Cone	3.5 Reg
32435	6 1/4"	3 Cone	3.5 Reg
32488	6 1/2"	3 Cone	3.5 Reg
32549	6 3/4"	3 Cone	3.5 Reg



Note: See page 5.23 for Bit Subs.
Other bit types for special formations available upon request.
Other sizes available.



CARBIDE INSERT DRAG BIT - CHEVRON

Part No.	Size	Type	Connection
32165	2"	3 Wing	A Pin
32167	2"	3 Wing	AW Pin
32171	2 1/8"	3 Wing	AW Pin
32173	2 1/4"	3 Wing	A Pin
32175	2 1/4"	3 Wing	AW Pin
32177	2 1/2"	3 Wing	A Pin
32179	2 1/2"	3 Wing	AW Pin
32191	2 15/16"	3 Wing	N4 Pin
32189	3"	3 Wing	N4 Pin
32195	3 1/8"	3 Wing	N4 Pin
32201	3 1/4"	3 Wing	N4 Pin
32207	3 1/2"	3 Wing	N4 Pin
32544	3 1/2"	3 Wing	2.375 Reg
32213	3 5/8"	3 Wing	N4 Pin
32224	3 3/4"	3 Wing	NW Pin
32225	3 7/8"	3 Wing	2.375 Reg
32228	4"	3 Wing	2.375 Reg
32231	4 1/8"	3 Wing	2.375 Reg
32237	4 1/2"	3 Wing	2.375 Reg
32480	4 1/2"	3 Wing	2.375 Reg
32240	4 3/4"	3 Wing	2.375 Reg
32384	4 3/4"	3 Wing	2.875 Reg
32243	4 7/8"	3 Wing	2.375 Reg
32385	4 7/8"	3 Wing	2.875 Reg
32252	5 1/4"	3 Wing	2.375 Reg
32256	5 5/8"	3 Wing	3.5 Reg
32479	5 3/4"	3 Wing	3.5 Reg
32258	6"	3 Wing	3.5 Reg
32261	6 1/2"	3 Wing	3.5 Reg
32263	7"	3 Wing	3.5 Reg
32266	7 3/4"	3 Wing	3.5 Reg
32267	7 7/8"	3 Wing	3.5 Reg



Note: See page 5.23 for Bit Subs.
Other sizes available.

CARBIDE INSERT DRAG BIT – STEP TYPE

Part No.	Size	Type	Connection
32539	2 15/16"	3 Wing	N4 Pin
32511	3 1/8"	3 Wing	N4 Pin
32380	3 1/4"	3 Wing	N4 Pin
32377	3 1/2"	3 Wing	N4 Pin
32547	3 1/2"	3 Wing	NWJ Box
32227	3 7/8"	3 Wing	2.375 Reg
32523	3 7/8"	3 Wing	N4 Pin
32540	3 7/8"	3 Wing	NWJ Box
32233	4 1/8"	3 Wing	2.375 Reg
32239	4 1/2"	3 Wing	2.375 Reg
32242	4 3/4"	3 Wing	2.375 Reg
32253	5 1/4"	3 Wing	2.375 Reg
32515	5 1/2"	3 Wing	3.5 Reg
32257	5 5/8"	3 Wing	3.5 Reg
32486	5 7/8"	3 Wing	3.5 Reg
32521	6"	3 Wing	3.5 Reg
32378	6 1/2"	3 Wing	2.375 Reg
32436	6 1/2"	3 Wing	2.375 Reg
32520	7"	3 Wing	3.5 Reg
32482	7 7/8"	3 Wing	3.5 Reg
32508	8"	3 Wing	3.5 Reg
32512	8 3/4"	3 Wing	3.5 Reg
32504	9"	3 Wing	4.5 Reg
32535	9 7/8"	3 Wing	4.5 Reg
32541	10"	3 Wing	3.5 Reg
32519	12"	3 Wing	3.5 Reg



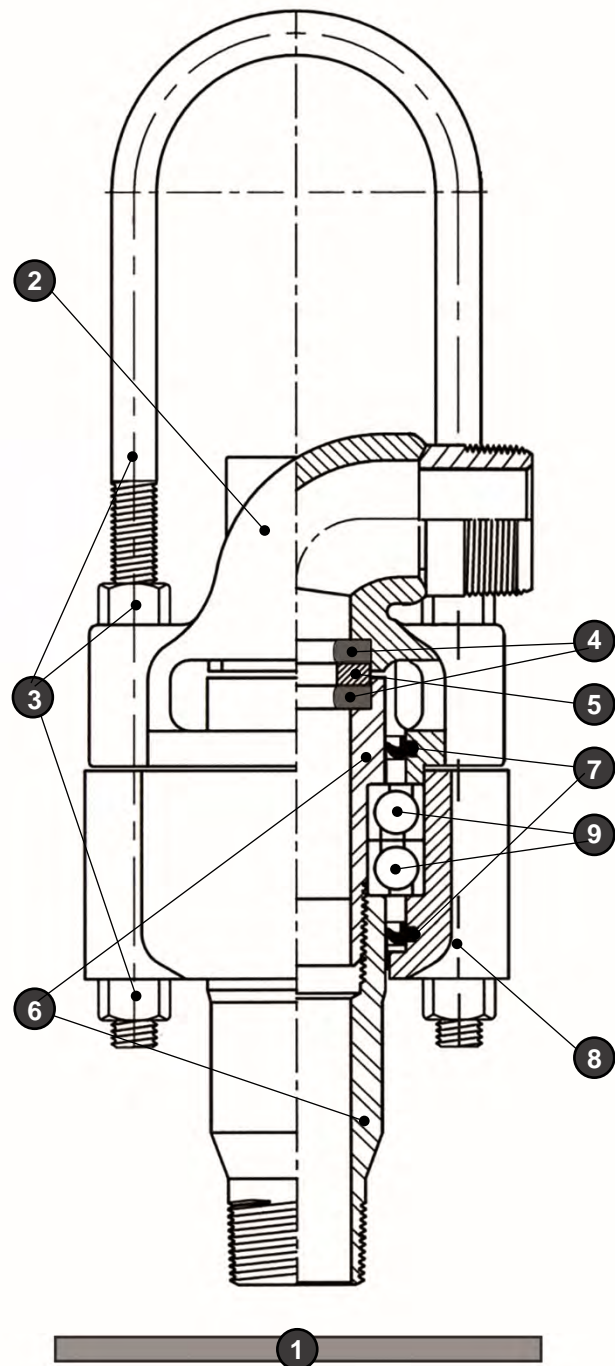
**Note: See page 5.23 for Bit Subs.
Other sizes available.**



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WATER SWIVEL

1J

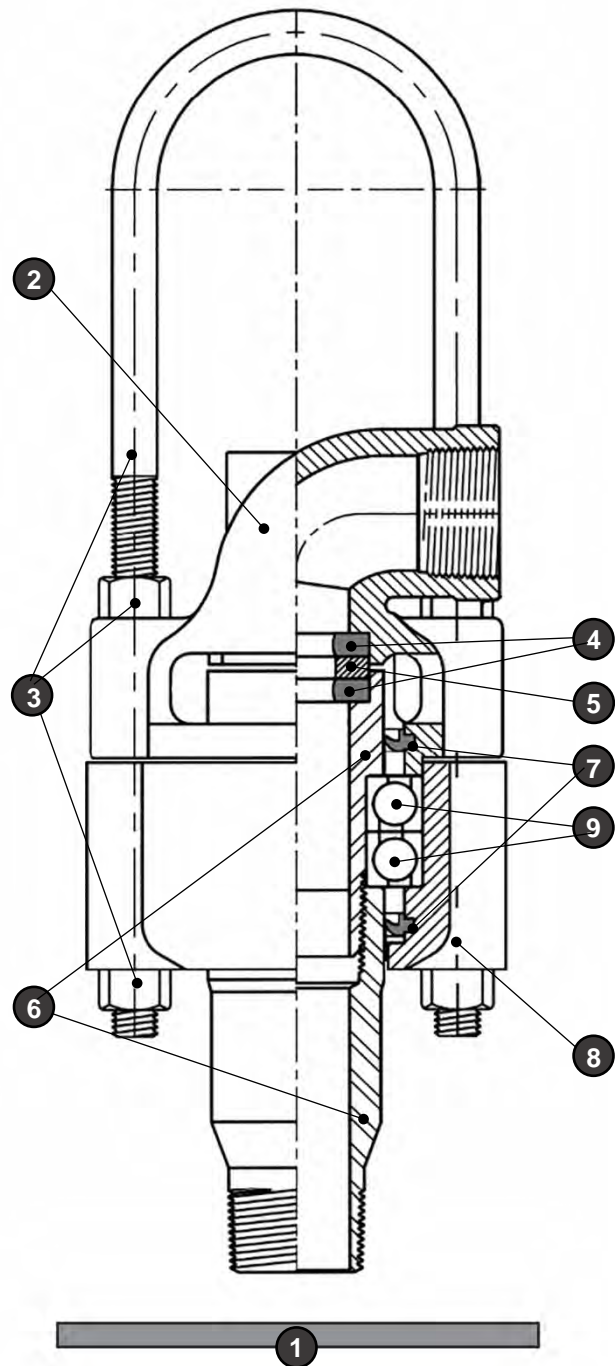




WATER SWIVEL		
1J		
Ref. No.	Part No.	Description
1	30860	Swivel, Iron, 1.25" male NPT hose connection with 1.25" NPT LH pin lower connection
1	31133	Swivel, Iron, 1.25" male NPT hose connection with CMK LH pin lower connection
2	30861	Gooseneck, 1.25" male NPT
3	30862	Bail with nuts
4	30863	Packing (2 req'd.) – Black
4	31086	Packing, 90 Duro (2 req'd.) Air - Red
4	31137	Packing, Viton (2 req'd.)
5	30864	Wear Bushing
6	31134	Bearing Spindle Shaft 1J with 1.25" NPT LH pin lower connection (Mated set)
6	31135	Bearing Spindle Shaft 1J with CMK LH pin lower connection (Mated set)
7	30867	Housing Seals (2 req'd.)
8	30868	Bearing Housing
9	30869	Bearings (2 req'd.)

WATER SWIVEL

2J



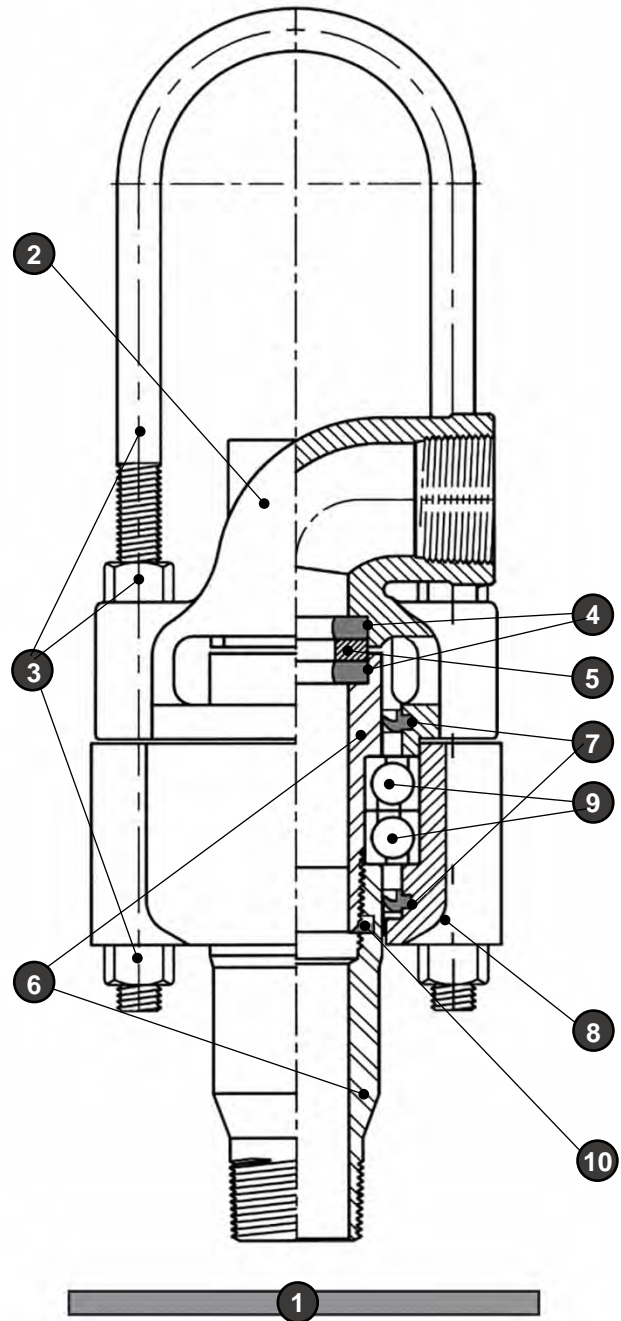


WATER SWIVEL		
2J		
Ref. No.	Part No.	Description
1	30870	Swivel, Iron, 1.5" female NPT hose connection with 1.5" NPT LH pin lower connection
1	31125	Swivel, Iron, 1.5" female NPT hose connection with CMK LH pin lower connection
2	30871	Gooseneck, 1.5" female NPT
3	30872	Bail with nuts
4	30873	Packing (2 req'd.) – Black
	30873-Kit	Packing Kit - Black, includes 12-30873 packings and 3-30874 wear bushings
4	31075	Packing, 90 Duro (2 req'd.) Air – Red
	31075-Kit	Packing Kit - Air - Red, includes 12-31075 packings and 3-30874 wear bushings
4	31138	Packing, Viton (2 req'd.)
5	30874	Wear Bushing
6	31126	Bearing Spindle Shaft 2J with 1.5" NPT LH pin lower connection (Mated set)
6	31127	Bearing Spindle Shaft 2J with CMK LH pin lower connection (Mated set)
7	30877	Housing Seals (2 req'd.)
8	30878	Bearing Housing
9	30879	Bearings (2 req'd.)
	30873-kit	Packing Kit (includes 12 ea – 30873 Packing and 3 ea – 30874 Wear Bushing)

NOTE: 1-1/2" water course

WATER SWIVEL

3J

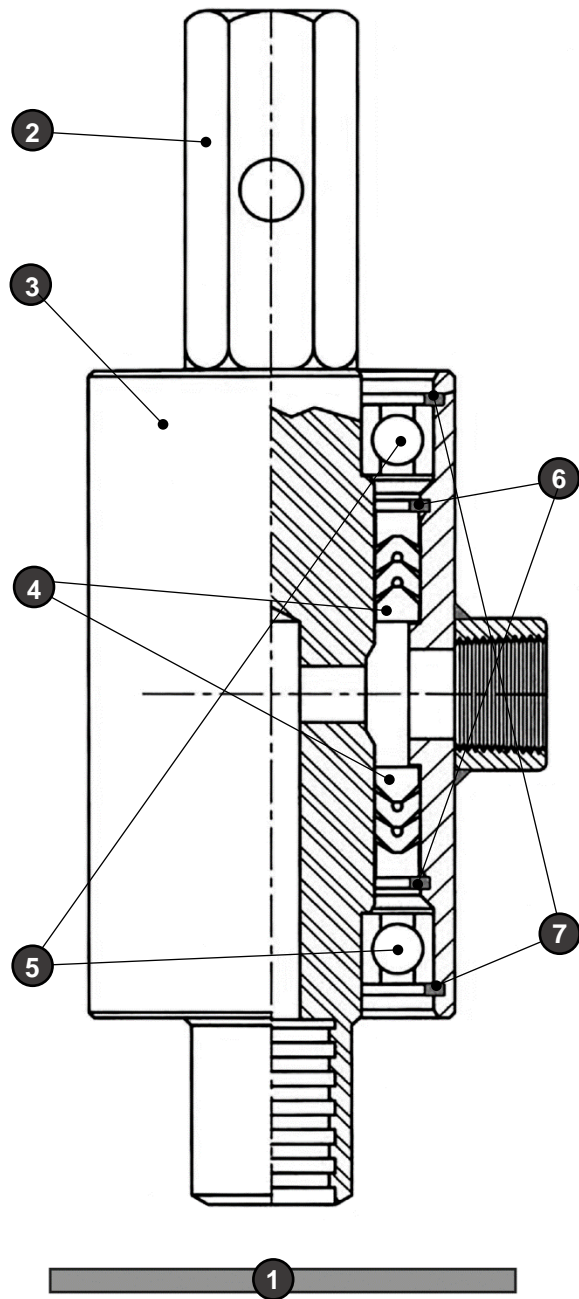




WATER SWIVEL		
3J		
Ref. No.	Part No.	Description
1	31069	Swivel, Iron, 2" female NPT hose connection with 2" NPT LH pin lower connection
1	31064	Swivel, Iron, 2" female NPT hose connection with CMK 6V LH pin lower connection
2	31037	Gooseneck, 2" female NPT
3	31038	Bail with nuts
4	30904	Packing (2 req'd.) – Black
4	31035	Packing, 90 Duro (2 req'd.) Air – Red
4	31139	Packing, Viton (2 req'd.)
5	30905	Wear Bushing
6	31129	Bearing Spindle Shaft 3J with 2" NPT LH pin lower connection (Mated set)
6	31128	Bearing Spindle Shaft 3J with CMK 6V LH pin lower connection (Mated set)
7	30908	Housing Seals (2 req'd.)
8	30909	Bearing Housing
9	30910	Bearings (2 req'd.)
10	30912	Spindle Thread Seal

SIDE FEED SWIVEL

AW





SIDE FEED SWIVEL

AW

Ref. No.	Part No.	Description
1	31102	Side Feed Swivel, 1.125" hex x AW box, 1" NPT female hose connection
1	31103	Side Feed Swivel, 1.625" hex x AW box, 1" NPT female hose connection
2	31106	Stem, 1.25" hex x AW box, RH
2	31107	Stem, 1.625" hex x AW box, RH
3	31110	Packoff housing, 1" NPT hose connection
4	31111	Packing set (2 req'd.)
5	31112	Bearings (2 req'd.)
6	31113	Packing retainer (2 req'd.)
7	31114	Bearing retainer (2 req'd.)

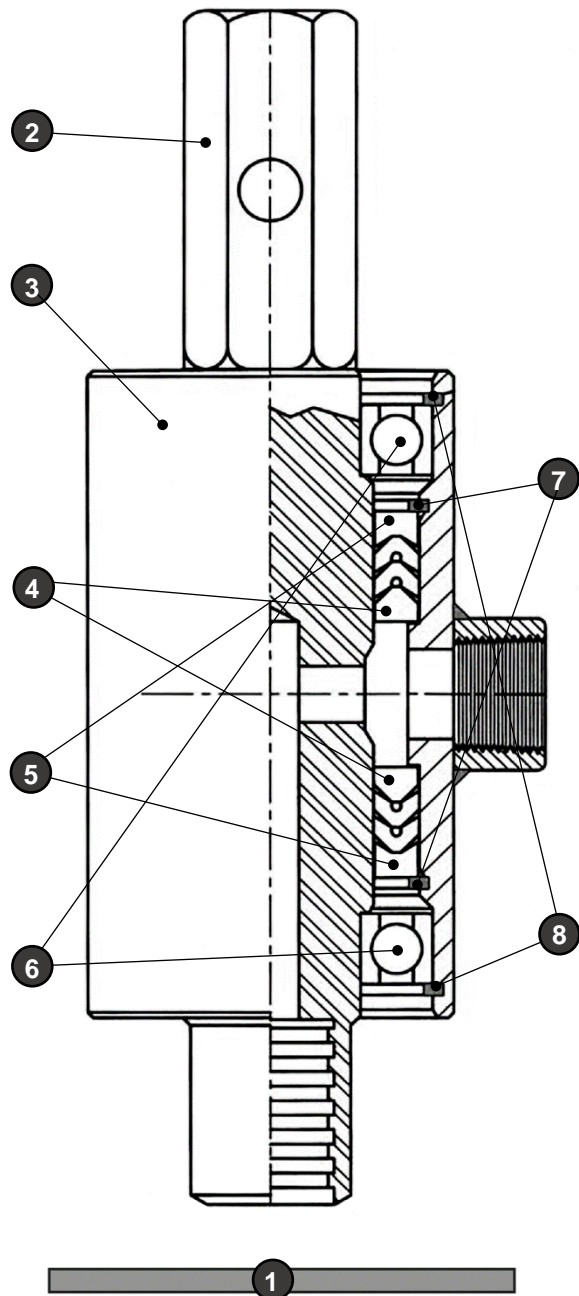
AW SIDE FEED SWIVEL

PIN TO PIN SUBS

Part No.	Description
30031	AW - AW
30457	AW - AWJ
30458	AW - BW
37242	AW - H W/L
30459	AW - N W/L
30461	AW - N3
30460	AW - N4
30468	AW - NW CAS
30462	AW - NW
30463	AW - NWJ

SIDE FEED SWIVEL

NW





SIDE FEED SWIVEL

NW

Ref. No.	Part No.	Description
1	31104	Side Feed Swivel, 1.625" hex x NW box, 1.25" NPT female hose connection
1	31105	Side Feed Swivel, 2" hex x NW box, 1.25" NPT female hose connection
2	31108	Stem, 1.625" hex x NW box, RH
2	31109	Stem, 2" hex x NW box, RH
3	31115	Packoff housing, 1.25" NPT hose connection
4	31116	Packing set (2 req'd.)
5	31120	Packing seat ring (2 req'd.)
6	31117	Bearings (2 req'd.)
7	31118	Packing retainer (2 req'd.)
8	31119	Bearing retainer (2 req'd.)

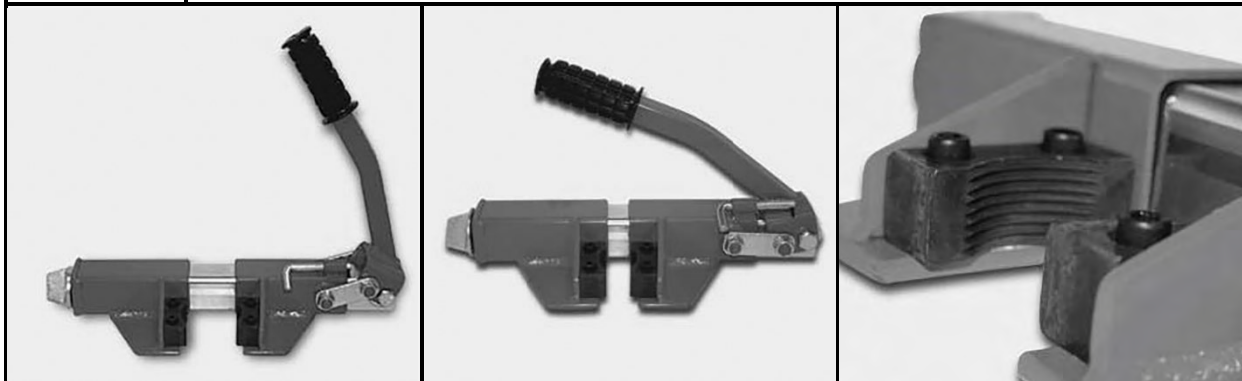
NW SIDE FEED SWIVEL

PIN TO PIN SUBS

Part No.	Description
30452	NW - A
30462	NW - AW
30472	NW - AWJ
30481	NW - BW
37202	NW - H W/L
30509	NW - HW CAS
30525	NW - HWT
30513	NW - N W/L
30035	NW - NW
30502	NW - N3
30496	NW - N4
30507	NW - NW CAS
30508	NW - NWJ
30510	NW - NXB
30511	NW - PW CAS
30512	NW - 2-3/8 MHJR

KWIK KLAMP

Part No.	Description
32459	Kwik Klamp (1.25" to 2.625" – 3,500 lbs. capacity)
32460	Jaw w/screws (2 Req'd)





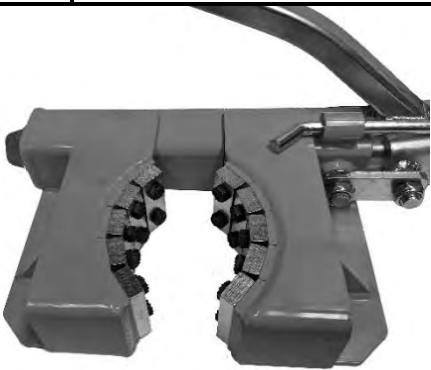
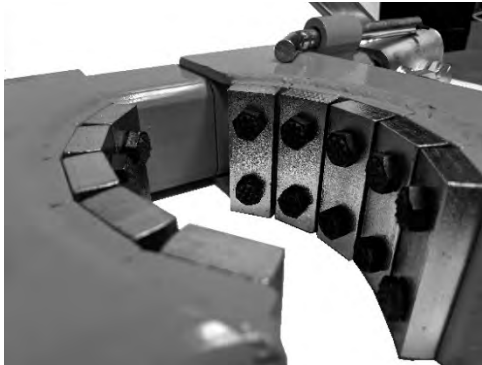
KWIK KLAMP 2

Part No.	Description
32461	Kwik Klamp 2 (2.5" to 4.5" – 7,000 lbs. capacity)
32464	Gripper Carbide Tipped (16 Req'd)





KWIK KLAMP 3

Part No.	Description
32441	Kwik Klamp 3 for 6" pipe (more than 7,000 lbs. capacity)
	
32442	Kwik Klamp 3 for 5" pipe conversion kit (10 jaw pads and 20 3/8-16 x 1 carbide gripper bolts)
	
	Conversion kit for 5" PVC (10 jaw pads and 20 3/8-16 x 1 carbide gripper bolts)

PORTABLE JACK PADS WITH HANDLE

Part No.	Description
220400	Portable Jack Pad 18" x 1"
220377	Portable Jack Pad 24" x 1"
221300	Portable Jack Pad 24" x 2"
221256	Portable Jack Pad 36" x 2"

Note: Other sizes available upon request.





SLIP RINGS

OPEN			
A	AW	N	NW
32287	32288	32290	32291
CLOSED			
A	AW	N	NW
32292	32293	32295	32296



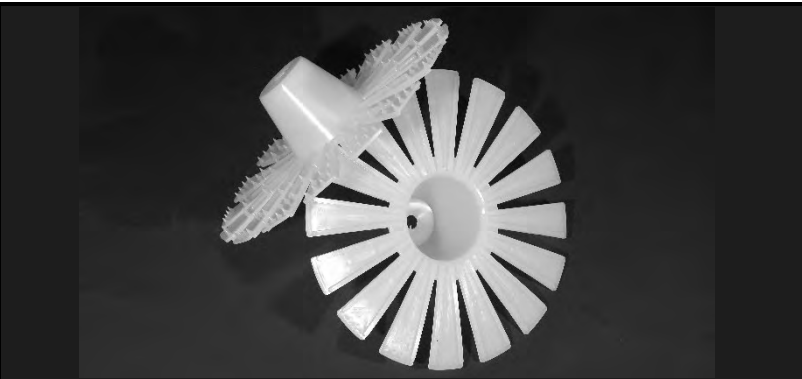
HOLDING IRONS

OPEN			
A	AW	N	NW
32297	32298	32300	32301
CLOSED			
A	AW	N	NW
32302	32303	32305	32306





CME FLEX-HOLE PLUGS

Part No.	Description
37381	8" Flex-hole Plug – 4-1/2" – 6" Bore Holes
37238	13" Flex-hole Plug – 6" – 8" Bore Holes



HOISTING SWIVEL – H.D. – BALL BEARING TYPE

	A	AW	AWJ	N4	N3	NW	NWJ	2.375 IF	3.50 IF
Part No.	32268	32269	32270	32272	32273	32274	32275	36324	32431
									

DRILL ROD RECOVERY TAPS *

INSIDE TAP			OUTSIDE TAP		
Part No.	Connection	Rod Size	Part No.	Connection	Rod Size
32307	AW	A / AW	32310	AW	A
			32311	AW	AW
32308	BW	BW	32312	BW	BW
32309	NW	N / NW	32313	NW	N / NW

Note: *Right-hand rod thread – Right-hand tap thread






DRILL ROD WIPERS

Part No.	Size	O.D.
32366	A-Rod	9"
32367	AW-Rod	9"
32369	N-Rod	9"
32370	NW-Rod	9"
32371	NW Casing - H W/L-Rod	9"
32372	NW-Rod	12"
32373	N W/L-Rod	12"
32374	3.5"-Rod	12"
32375	4.5"-Rod	12"
32365	No Hole	9"



DRILL ROD CLEAN-OUT TAPS

A	AW	BW
32279	32280	32282
N4	N3	NW
32283	32284	32285

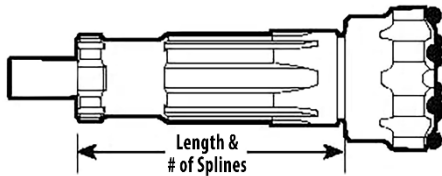


DOWN-THE-HOLE-HAMMERS & BITS

Hammers available in 3" to 12" diameters.
 Hammer Bits available in
 3-1/2" to 12-1/4" diameters.



Shank Identification



Bit Face Design Options



CONCAVE

- Effective in broken ground
- Excellent all around bit
- Soft to medium hard formations
- Straighter holes

CONVEX

- Hard, abrasive formations
- Excellent penetration

FLAT FACE

- Effective in broken ground
- Medium hard to hard formations



DOME

- Hard, abrasive rock
- Deep hole drilling
- Suitable for all applications
- Longer life

BALLISTIC

- Produces large cuttings
- Less abrasive formations
- Fast penetration
- Not for broken formations

PARABOLIC

- More speed than Dome
- More life than Ballistic
- Not for broken formations

CONICAL

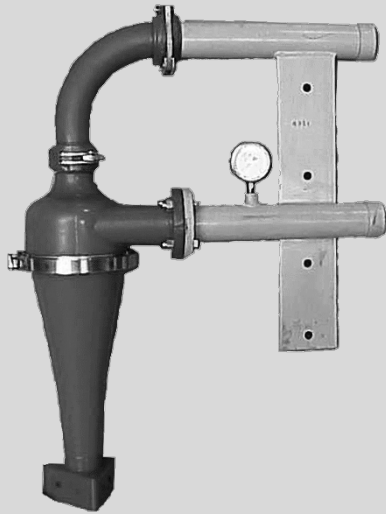
- Sedimentary formations
- Broken formations
- Fast penetration but shorter life



MINI-DESANDER

Part No.	Description
220449	Mini-Desander 5" Assembly

Note: Assembly includes a 5" single cone, elbow, victaulic couplings, and pressure gauge.



Cone Size	GPM
3" Cone	50 GPM
4" Cone	65 GPM
5" Cone	100 GPM
10" Cone	500 GPM

This Mini-Desander is a single cone desander system designed to remove drilled solids from a drilling fluid system. Circulating rates from 30 to 80 gpm can be processed efficiently. The Mini-Desander is ideally suited for use in rotary and mineral exploration drilling and can prevent solids build-up in the drilling fluid as the fluid weight increases.

This leads to a reduction in excessive wear on a pump and its parts, reduces fuel costs and bit balling, minimizes possible lost circulation, and increases penetration rates.