



**TRICONES AND ACCESSORIES**



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## SPECIFICATIONS OF ACCESSORIES

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## COMPANY

Founded in 2022, PileCrittter is a swiftly growing company in the European drilling market. Our team, though small, is rich in diversity and expertise, encompassing a range of roles from strategic leadership to market-specific business development. Fluent in multiple languages, our team is well-equipped to cater to various European markets. Together, our mission is rooted in delivering value through reliable, high-performance tools essential for construction and civil engineering.

At PileCrittter, we're driven by a relentless dedication to our customers, aiming to be the cornerstone of Europe's drilling industry. Our vision encompasses not just supplying tools but fostering growth and progress in every project we touch. We're focused on enhancing our services by developing rapid response teams, further decreasing dispatch times, and expanding our product catalogue. Join us in redefining drilling industry standards with solutions that speak of quality, efficiency, and innovation!

## EU HUB

Focusing on local stock within Europe, PileCrittter has significantly reduced delivery times and improved service dependability for our European clients. This strategic move underscores our dedication to addressing the unique requirements of the European market and strengthening our position in the region.

## BESPOKE SERVICE

We are eager to take on special requests, ensuring clients receive precisely what they need for their projects. We specialize in understanding unique requirements and leveraging an extensive product range to fulfill even the most specific demands. With a focus on customization and adaptability, our team is committed to turning special requests into reality, offering solutions that are not just satisfactory, but perfectly aligned with each client's unique business needs.



## **TRICONES AND TYPES OF ACCESSORIES**

# TRICONES AND TYPES OF ACCESSORIES



TYPE		THE MAIN PARTS	MATERIAL AND HARDNESS	PRODUCT CODE
Tricone Bit		Cone	20CrNiMo SN2025 EX30 HRC58-63	Product number = I + II + III + IV + V I - Bit size II - Company code (TD) III - Bearing code IV - IADC code(①+②+③) V - Additional code Example: 8-1/2TDHA537X
		Cone Leg	20CrNiMo SN2025 EX30 HRC58-63	
		Cutter	WCCo HRA85-90	
HDD Roller Cone Reamer		Cone	20CrNiMo SN2025 EX30 HRC58-63	Product number = I + II + III + IV + V + VI I - HDD roller cones reamer size II - Company code (TD) III - Number of roller cones IV - Type of roller cones V - IADC Code of roller cones VI - Additional code Example: 20TD081537C
		Cone Leg	20CrNiMo SN2025 EX30 HRC58-63	
		Cutter	WCCO HRA85-90	
		Rod	AISI4145H 35CrMo HRC28-36	
PDC Bit	<p style="text-align: center;">Steel body    Matrix body</p>	Cutter	WC-Co-C (diamond) HV8500-9000	Product number = I + II + III + IV + V + VI I - Bit size II - Company code (TD) III - Number of blades IV - Cutter size V - Crown material VI - IADC code(①+②+③) VII - Additional code Example: 8-1/2TD0416M223D
		Gauge insert	WCCo HRA85-90	
		Nozzle	WCCo HRA85-90	
		Crown Material	Matrix body: WC HRC58-63	
			Steel body: 35CrMo Ni60 WC HRC58-63	
Rod	35CrMo HRC28-36			

# TRICONES AND TYPES OF ACCESSORIES



TYPE		THE MAIN PARTS	MATERIAL AND HARDNESS	PRODUCT CODE
PDC Reamer		Cutter	WC-Co-C(diamond) HV8500-9000	Product number = I + II + III + IV + V + VI I - PDC Reamer size II - Company code (TD) III - Number of blades IV - PDC reamer material (S) V - PDC cutter size VI - Additional code Example: 15TD05S16C
		Gauge insert	WCCo HRA85-90	
		Nozzle	WCCo HRA85-90	
		Blade	35CrMo HRC28-36	
		Rod	35CrMo HRC28-36	
Drag Bit		Cutter	WC-Co-C(diamond) HV 8500-9000	Product number = I + II + III + IV + V + VI I - Drag bit size II - Company code (TD) III - Number of blades IV - Type of rcutter V - Drag bit cutter size VI - Additional code Example: 8-1/2TD04P16W
		Gauge insert	WCCo HRA85-90	
		Blade	35CrMo HRC28-36	
		Rod	35CrMo HRC28-36	
Single Roller Cone		Cone	20CrNiMo SN2025 EX30 HRC58-63	Product number = I + II + III + IV + V I - Company code (TD) II - Tungsten carbide tooth height III - Cones cutter code IV - IADC code V - Structural code Example: TD162-537R
		Cone Leg	20CrNiMo SN2025 EX30 HRC58-63	
		Cutter	WCCO HRA85-90	
		Cone Leg Troughs	35CrMo HRC28-36	

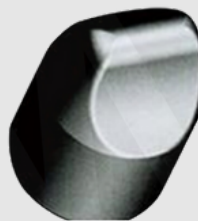
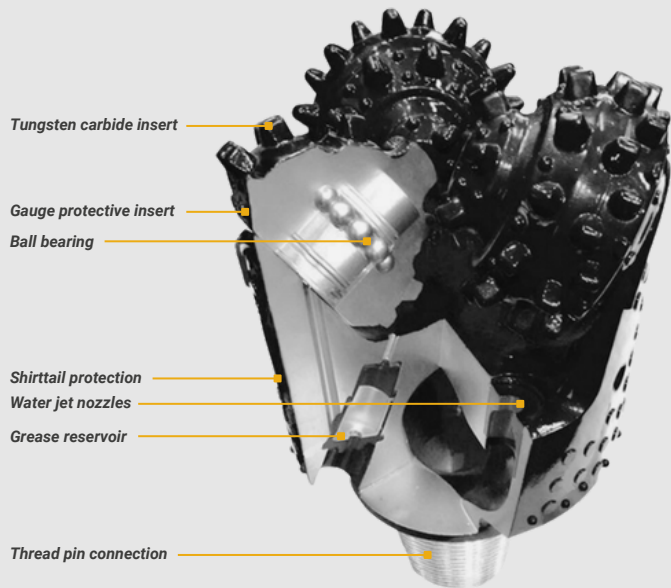


**TRICONE BITS**

# TRICONE BITS



SPECIFICATION			
BIT SIZE		THREAD	TORQUE
Inch	Millimeter	Inch	KN*M
3 3/4	95.3	2 3/8	4.1~4.7
3 7/8	98.4	2 3/8	4.1~4.7
4 1/8	104.8	2 3/8	4.1~4.7
4 1/4	108.0	2 3/8	4.1~4.7
4 1/2	114.3	2 3/8	4.1~4.7
4 5/8	117.5	2 7/8	6.1~7.5
4 3/4	120.7	2 7/8	6.1~7.5
4 7/8	123.8	2 7/8	6.1~7.5
5 1/2	139.7	3 1/2	9.5~12.2
5 5/8	142.9	3 1/2	9.5~12.2
5 2/3	143.9	3 1/2	9.5~12.2
5 3/4	146.1	3 1/2	9.5~12.2
5 7/8	149.2	3 1/2	9.5~12.2
6	152.4	3 1/2	9.5~12.2
6 1/8	155.6	3 1/2	9.5~12.2
6 1/4	158.8	3 1/2	9.5~12.2
6 1/2	165.1	3 1/2	9.5~12.2
6 5/8	168.3	3 1/2	9.5~12.2
6 3/4	171.5	3 1/2	9.5~12.2
7 1/2	190.5	4 1/2	16.3~21.7
7 5/8	193.7	4 1/2	16.3~21.7
7 7/8	200.0	4 1/2	16.3~21.7
8 3/8	212.7	4 1/2	16.3~21.7
8 1/2	215.9	4 1/2	16.3~21.7
8 5/8	219.1	4 1/2	16.3~21.7
8 3/4	222.3	4 1/2	16.3~21.7
9 1/2	241.3	6 5/8	38~43.4
9 5/8	244.5	6 5/8	38~43.4
9 7/8	250.8	6 5/8	38~43.4
10 1/2	266.7	6 5/8	38~43.4
10 5/8	269.9	6 5/8	38~43.4
11	279.4	6 5/8	38~43.4
11 5/8	295.3	6 5/8	38~43.4
12	304.8	6 5/8	38~43.4
12 1/4	311.2	6 5/8	38~43.4
12 5/16	312.7	6 5/8	38~43.4
12 3/8	314.3	6 5/8	38~43.4
12 7/16	315.9	6 5/8	38~43.4
12 5/8	320.7	6 5/8	38~43.4
13 1/8	333.4	6 5/8	38~43.4
13 1/2	342.9	6 5/8	38~43.4
13 5/8	346.1	6 5/8	38~43.4
13 3/4	349.3	6 5/8	38~43.4
14 1/2	368.3	7 5/8	46.1~54.2
14 3/4	374.7	7 5/8	46.1~54.2
15 1/2	393.7	7 5/8	46.1~54.2
16	406.4	7 5/8	46.1~54.2
17 1/2	444.5	7 5/8	46.1~54.2
18 7/8	479.4	7 5/8	46.1~54.2
20	508.0	7 5/8	46.1~54.2
22	558.8	7 5/8	46.1~54.2
24	609.6	7 5/8	46.1~54.2
26	660.4	7 5/8	46.1~54.2



### K Hard plastic formation cutting structure

Unique designing parameters and wider insert crest enlarge rock-breaking volume on bottom hole and increase bottom hole coverage. At the same time, shear sliding distance of inserts at bottom hole is made larger and ROP of the bit in hard plastic formation is increased.



### X Convex crested wedge compact

Convex crested wedge compact is with the features of high effectively cutting ability and strong anti-breaking ability, which can increase ROP and improve service life of bit effectively. It's suitable for formations from medium soft to medium hard.



### Y Conical spherical compact

Main cutters of bit are conical spherical compacts, which are suitable for drilling in hard brittle formations.

## MAIN FEATURE OF RUBBER SEALED BEARING BIT

- 1 Journal bearing. Hardfaced head bearing surface. Inner hole of cone is silver-plated. The load capacity and seizure resistance of the bearing is greatly improved.
- 2 O ring seal is made of the more wear resistant and high saturated buna-N with the increased seal section and precisely designed scalina flange in the cone sealina area has increased the reliability of the seal.
- 3 All rubber compensator is used which can limit pressure differential and prevent drilling fluid from entering the lubrication system and this provides the bearing system with good assurance of lubrication.
- 4 High wear resistance and excellent cutting ability of the insert bit are given full play by using carbide compacts of high strength and high toughness in combination with optimized compact numbers and rows, the exposure height and special shaped compacts. For steel tooth bit the tooth surface is hard faced with new type of wear resistant material and thus has extended working life of the cutting structure while still maintaining high ROP.

## RECOMMENDED DRILLING PARAMETERS

IADC	WOB (KN/mm) (BIT DIA)	RPM (r/min)	APPLICABLE FORMATIONS
116 117	0.35~0.8	150~80	Very soft formations with low compressive strength and high drillability, such as clay, mudstone, chalk etc.
126 127	0.35~0.9	150~70	Soft formations with low compressive strength and high drillability, such as mudstone gypsum, salt, soft shale, soft limestone, etc.
136 137	0.35~1.0	120~60	Soft to medium soft formations with low compressive strength and high drillability, such as medium soft shale, hard gypsum, medium soft limestone, medium soft sandstone soft formation with harder interbeds, etc.
216 217	0.4~1.0	100~60	Medium formations with high compressive strength, such as medium soft shale, hard gypsum, medium soft limestone medium soft sandstone, soft formation with harder interbeds, etc.
246 247	0.4~1.0	80~50	Medium hard formations with high compressive strength, such as abrasive shale, limestone sandstone, dolomite, hard gypsum, marble, etc.
417 437	0.35~0.9	150~70	Very soft formations with low compressive strength and high drillability, such as clay, mudstone, chalk gypsum, salt, soft shale soft limestone, etc.
517 527	0.35~1.0	140~60	Soft formations with low compressive strength and high drillability such as mudstone, gypsum, salt, soft shale soft limestone, etc.
537 547	0.45~1.0	120~50	Soft to medium formations with low compressive strength, such as medium soft shale, medium soft limestone, medium soft sandstone, medium formation with harder and abrasive interbeds, etc.
617 627	0.45~1.1	90~50	Medium hard formations with high compressive strength, such as hard shale, limestone, sandstone dolomite, etc.
637	0.5~1.2	80~40	Hard formations with high compressive strength, such as sandstone, limestone, dolomite, hard gypsum, marble, etc.

## MAIN FEATURE OF METAL SEALED BEARING BIT

Metal face seal journal bearing. New processes of head bearing hardfacing and cone bearing silver plating are used to improve the load capacity, anti-galling ability and stability of the bearing. Various shapes of inserts can be equipped on this series of bits, including scoop inserts, wedge inserts, conical spherical inserts and double spherical inserts, etc. Drilling process & formation and bit are efficiently integrated by scientific insert shape selection to realize safety and high efficient drilling.

IADC	WOB (KN/mm) (BIT DIA)	RPM (r/min)	APPLICABLE FORMATIONS
117	0.35-0.8	240-80	Very soft formations with low compressive strength and high drillability, such as clay, mudstone, chalk, etc.
127	0.35-0.9	240-70	Soft formations with low compressive strength and high drillability, such as mudstone, gypsum, salt, soft shale, soft limestone, etc.
217	0.35-0.9	240-70	Soft to medium soft formations with low compressive strength and high drillability, such as medium soft shale, hard gypsum, medium soft limestone, medium soft sandstone, soft formation with harder interbeds, etc.
417	0.35-0.9	240-70	Medium formations with high compressive strength, such as medium soft shale, hard gypsum, medium soft limestone, medium soft sandstone, soft formation with harder interbeds, etc.
437 447	0.35-0.9	240-70	Medium hard formations with high compressive strength, such as abrasive shale, limestone, sandstone, dolomite, hard gypsum, marble, etc.
517 527	0.35-1.0	220-60	Very soft formations with low compressive strength and high drillability, such as clay, mudstone, chalk, gypsum, salt, soft shale, soft limestone, etc.
537	0.45-1.0	220-50	Soft formations with low compressive strength and high drillability, such as mudstone, gypsum, salt, soft shale, soft limestone, etc.
617 627	0.45-1.1	200-50	Soft to medium formations with low compressive strength, such as medium soft shale, medium soft limestone, medium soft sandstone, medium formation with harder and abrasive interbeds, etc.
637	0.5-1.1	180-40	Medium hard formations with high compressive strength, such as hard shale, limestone, sandstone, dolomite, etc.
737	0.5-1.1	150-40	Hard formations with high compressive strength, such as sandstone, limestone, dolomite, hard gypsum, marble, etc.



**Tungsten carbide insert (TCI)**



**Steel Tooth**





# TRICONE BITS



## MINING TRICONE BIT



IADC4xxx  
Applied to rock grade  
f2.5-13 2.500-9.000Psi



IADC6xxx  
Applied to rock grade  
f6-f10 29.000-42.000Psi











IADC7xxx  
Applied to rock grade  
f6-f15 43.000-56.000Psi



BIT SIZE		IADC
inch	mm	
6 3/4	171.5	412, 532, 542, 632, 645, 732, 735, 845
7 7/8	100	412, 532, 542, 632, 645, 732, 735, 845
9	228.6	412, 532, 542, 632, 645, 732, 735, 845
9 7/8	250.8	412, 532, 542, 632, 645, 732, 735, 845
10 5/8	269.9	412, 532, 542, 632, 645, 732, 735, 845
11	279.4	412, 532, 542, 632, 645, 732, 735, 845
12 1/4	311.2	412, 532, 542, 632, 645, 732, 735, 845

# TRICONE BITS



BIT SIZE (INCH)	API PIN SIZE (INCH)	IADC CODE		FORMATION APPLIABLE
11	6-5/8REG	111, 114, 115, 116 117, 121, 124, 125 126, 127, 131, 134 135, 136, 137, 216 211, 214, 215, 216 217, 316, 317		1. soft formations with low compressive strength and high drillability 2. Medium to medium hard formations with high compressive strength 3. Hard semi-abrasive or abrasive formation
11-5/8	6-5/8REG			
11-5/8	6-5/8REG			
11-5/8	6-5/8REG	415, 417, 427, 435 437, 445, 447, 515 517, 527, 535, 537 545, 547, 615, 617 625, 627, 635, 637		1. Soft to medium hard formations with low compressive strength 2. Medium hard formations with high compressive strength 3. Hard semi-abrasive or abrasive formation 4. Extremely abrasive formations
11-5/8	6-5/8REG			
11-5/8	6-5/8REG			
12	6-5/8REG	111, 114, 115, 116 117, 121, 124, 125 126, 127, 131, 134 135, 136, 137, 216 211, 214, 215, 216 217, 316, 317		1. soft formations with low compressive strength and high drillability 2. Medium to medium hard formations with high compressive strength 3. Hard semi-abrasive or abrasive formation
12-1/4	6-5/8REG			
12-5/8	6-5/8REG			
12-5/8	6-5/8REG	415, 417, 427, 435 437, 445, 447, 515 517, 527, 535, 537 545, 547, 615, 617 625, 627, 635, 637		1. Soft to medium hard formations with low compressive strength 2. Medium hard formations with high compressive strength 3. Hard semi-abrasive or abrasive formation 4. Extremely abrasive formations
12-5/8	6-5/8REG			
12-5/8	6-5/8REG			
13-1/8	6-5/8REG	111, 114, 115, 116 117, 121, 124, 125 126, 127, 131, 134 135, 136, 137, 216 211, 214, 215, 216 217, 316, 317		1. Soft formations with low compressive strength and high drillability 2. Medium to medium hard formations with high compressive strength 3. Hard semi-abrasive or abrasive formation
13-1/2	6-5/8REG			
13-5/8	6-5/8REG			
13-3/4	6-5/8REG	415, 417, 427, 435 437, 445, 447, 515 517, 527, 535, 537 545, 547, 615, 617 625, 627, 635, 637		1. Soft to medium hard formations with low compressive strength 2. Medium hard formations with high compressive strength 3. Hard semi-abrasive or abrasive formation 4. Extremely abrasive formations
13-3/4	6-5/8REG			
13-3/4	6-5/8REG			
14-1/2	7-5/8REG	111, 114, 115, 116 117, 121, 124, 125 126, 127, 131, 134 135, 136, 137, 216 211, 214, 215, 216 217, 316, 317		1. Soft formations with low compressive strength and high drillability 2. Medium to medium hard formations with high compressive strength 3. Hard semi-abrasive or abrasive formation
14-3/4	7-5/8REG			
14-3/4	7-5/8REG			
14-3/4	7-5/8REG	415, 417, 427, 435 437, 445, 447, 515 517, 527, 535, 537 545, 547, 615, 617 625, 627, 635, 637		1. Soft to medium hard formations with low compressive strength 2. Medium hard formations with high compressive strength 3. Hard semi-abrasive or abrasive formation 4. Extremely abrasive formations
14-3/4	7-5/8REG			
14-3/4	7-5/8REG			

# TRICONE BITS



BIT SIZE (INCH)	API PIN SIZE (INCH)	IADC CODE		FORMATION APPLIABLE
15-1/2	7-5/8REG	111, 114, 115, 116 117, 121, 124, 125 126, 127, 131, 134 135, 136, 137, 216 211, 214, 215, 216 217, 316, 317		1. soft formations with low compressive strength and high drillability 2. Medium to medium hard formations with high compressive strength 3. Hard semi-abrasive or abrasive formation
15-1/2	7-5/8REG			
15-1/2	7-5/8REG			
15-1/2	7-5/8REG	415, 417, 427, 435 437, 445, 447, 515 517, 527, 535, 537 545, 547, 615, 617 625, 627, 635, 637		1. Soft to medium hard formations with low compressive strength 2. Medium hard formations with high compressive strength 3. Hard semi-abrasive or abrasive formation 4. Extremely abrasive formations
15-1/2	7-5/8REG			
15-1/2	7-5/8REG			
16	7-5/8REG	111, 114, 115, 116 117, 121, 124, 125 126, 127, 131, 134 135, 136, 137, 216 211, 214, 215, 216 217, 316, 317		1. Soft formations with low compressive strength and high drillability 2. Medium to medium hard formations with high compressive strength 3. Hard semi-abrasive or abrasive formation
16	7-5/8REG			
16	7-5/8REG			
16	7-5/8REG	415, 417, 427, 435 437, 445, 447, 515 517, 527, 535, 537 545, 547, 615, 617 625, 627, 635, 637		1. Soft to medium hard formations with low compressive strength 2. Medium hard formations with high compressive strength 3. Hard semi-abrasive or abrasive formation 4. Extremely abrasive formations
16	7-5/8REG			
16	7-5/8REG			
17-1/2	7-5/8REG	111, 114, 115, 116 117, 121, 124, 125 126, 127, 131, 134 135, 136, 137, 216 211, 214, 215, 216 217, 316, 317		1. Soft formations with low compressive strength and high drillability 2. Medium to medium hard formations with high compressive strength 3. Hard semi-abrasive or abrasive formation
17-1/2	7-5/8REG			
17-1/2	7-5/8REG			
17-1/2	7-5/8REG	415, 417, 427, 435 437, 445, 447, 515 517, 527, 535, 537 545, 547, 615, 617 625, 627, 635, 637		1. Soft to medium hard formations with low compressive strength 2. Medium hard formations with high compressive strength 3. Hard semi-abrasive or abrasive formation 4. Extremely abrasive formations
17-1/2	7-5/8REG			
17-1/2	7-5/8REG			
20	7-5/8REG	111, 114, 115, 116 117, 121, 124, 125 126, 127, 131, 134 135, 136, 137, 216 211, 214, 215, 216 217, 316, 317		1. Soft formations with low compressive strength and high drillability 2. Medium to medium hard formations with high compressive strength 3. Hard semi-abrasive or abrasive formation
20	7-5/8REG			
20	7-5/8REG			
20	7-5/8REG	415, 417, 427, 435 437, 445, 447, 515 517, 527, 535, 537 545, 547, 615, 617 625, 627, 635, 637		1. Soft to medium hard formations with low compressive strength 2. Medium hard formations with high compressive strength 3. Hard semi-abrasive or abrasive formation 4. Extremely abrasive formations
20	7-5/8REG			
20	7-5/8REG			

# TRICONE BITS



BIT SIZE (INCH)	API PIN SIZE (INCH)	IADC CODE		FORMATION APPLIABLE
22	7-5/8REG	111, 114, 115, 116 117, 121, 124, 125 126, 127, 131, 134 135, 136, 137, 216 211, 214, 215, 216 217, 316, 317		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
22	7-5/8REG			
22	7-5/8REG			
22	7-5/8REG	415, 417, 427, 435 437, 445, 447, 515 517, 527, 535, 537 545, 547, 615, 617 625, 627, 635, 637		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation 4.Extremely abrasive formations
22	7-5/8REG			
22	7-5/8REG			
24	7-5/8REG	111, 114, 115, 116 117, 121, 124, 125 126, 127, 131, 134 135, 136, 137, 216 211, 214, 215, 216 217, 316, 317		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
24	7-5/8REG			
24	7-5/8REG			
24	7-5/8REG	415, 417, 427, 435 437, 445, 447, 515 517, 527, 535, 537 545, 547, 615, 617 625, 627, 635, 637		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation 4.Extremely abrasive formations
24	7-5/8REG			
24	7-5/8REG			
26	7-5/8REG	111, 114, 115, 116 117, 121, 124, 125 126, 127, 131, 134 135, 136, 137, 216 211, 214, 215, 216 217, 316, 317		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
26	7-5/8REG			
26	7-5/8REG			
26	7-5/8REG	415, 417, 427, 435 437, 445, 447, 515 517, 527, 535, 537 545, 547, 615, 617 625, 627, 635, 637		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation 4.Extremely abrasive formations
26	7-5/8REG			
26	7-5/8REG			

### PRODUCT NOTES

1. CONES CUTTER CODE	2. FORMATION HARDNESS CLASS CODE	3. ROLLER CONES STRUCTURAL CODE
1–Steel tooth 2–Steel tooth 3–Steel tooth 4–Tungsten carbide tooth 5–Tungsten carbide tooth 6–Tungsten carbide tooth 7–Tungsten carbide tooth 8–Tungsten carbide tooth	1–Soft ground 2–Middle hard formation 3–Hard formation 4–Evey hard formation	1–Non-sealed bearing 2–Air cleaning,cooling,bearing 3–Rolling,paul Trail 4–Rolling sealed bearings 5–Rolling sealed bearings,gage 6–Slide,sealed bearings 7–Slide,dealed bearings,gage

III- Bearing code: A-Rubber seal; J-Metal seal; G-Rolling bearing; H-sliding bearing  
V -Addionas code: A–Air cooling; B–Scoop tipped tooth; C–Centre nozzle; E– Extended nozzle; G–Leg back protection; R–Standard milling tooth; X–Wedge tipped tooth; Y–Conical tipped tooth; S–Spherical tipped tooth






## **SPECIFICATIONS OF ACCESSORIES**



## **HDD ROLLER CONE REAMERS**

# HDD ROLLER CONE REAMERS


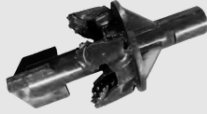

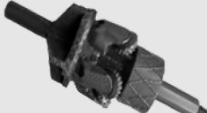






<b>BIT SIZE (INCH)</b>	<b>API PIN SIZE (INCH)</b>	<b>IADC CODE</b>		<b>FORMATION APPLIABLE</b>
10	4-1/2REG 6-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
11	4-1/2REG 6-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
12	4-1/2REG 6-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
13	4-1/2REG 6-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
14	4-1/2REG 6-5/8REG 7-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
15	4-1/2REG 6-5/8REG 7-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
16	4-1/2REG 6-5/8REG 7-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
17	4-1/2REG 6-5/8REG 7-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
18	4-1/2REG 6-5/8REG 7-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
19	4-1/2REG 6-5/8REG 7-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations



# HDD ROLLER CONE REAMERS



<b>BIT SIZE (INCH)</b>	<b>API PIN SIZE (INCH)</b>	<b>IADC CODE</b>		<b>FORMATION APPLIABLE</b>
20	4-1/2REG 6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
21	4-1/2REG 6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
22	4-1/2REG 6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
23	4-1/2REG 6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
24	4-1/2REG 6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
25	4-1/2REG 6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
26	4-1/2REG 6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
27	4-1/2REG 6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
28	4-1/2REG 6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations



# HDD ROLLER CONE REAMERS



<b>BIT SIZE (INCH)</b>	<b>API PIN SIZE (INCH)</b>	<b>IADC CODE</b>		<b>FORMATION APPLIABLE</b>
29	4-1/2REG 6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
30	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
31	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
32	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
33	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
34	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
35	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
36	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
37	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations

# HDD ROLLER CONE REAMERS



<b>BIT SIZE (INCH)</b>	<b>API PIN SIZE (INCH)</b>	<b>IADC CODE</b>		<b>FORMATION APPLIABLE</b>
38	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
39	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
40	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
14	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
42	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
43	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
44	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
45	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
46	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations

# HDD ROLLER CONE REAMERS



<b>BIT SIZE (INCH)</b>	<b>API PIN SIZE (INCH)</b>	<b>IADC CODE</b>		<b>FORMATION APPLIABLE</b>
47	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
48	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
49	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
50	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
52	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
54	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
56	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
58	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
60	6-5/8REG 7-5/8REG	127, 137, 217, 415 417, 427, 437, 517 527, 537, 537, 547 617, 627, 637, 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations

# HDD ROLLER CONE REAMERS



<b>BIT SIZE (INCH)</b>	<b>API PIN SIZE (INCH)</b>	<b>IADC CODE</b>		<b>FORMATION APPLIABLE</b>
62	6-5/8REG 7-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
64	6-5/8REG 7-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
66	6-5/8REG 7-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
68	6-5/8REG 7-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
70	6-5/8REG 7-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
72	6-5/8REG 7-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
74	6-5/8REG 7-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
76	6-5/8REG 7-5/8REG	127、137、217、415 417、 427、437、517 527、537、 537、547 617、627、637、 737		1.Soft formations with low compressive strength and high drillability 2.Soft to medium hard formations 3.Medium to medium hard formations 4.Higher hardness formations
<b>PRODUCT NOTES</b>				
<b>III - NUMBER OF ROLLER CONES</b>		<b>IV - TYPE OF ROLLER CONES</b>		<b>V- IADC CODE OF ROLLER CONES</b>
3/4/5/6/7/8/9/10 11/12/13/14/15/16 And more		I— carbide tooth M— steel tooth		127、137、217、415、417、427、437、517 527、 537、537、547、617、627、637、737 and more reference Tricone bit IADC code
VI- Additional code: B—with rectangular blade; C—with tricone bit in the center; S—with barrel stabilizers; R—with rugged pilot guide				



## PDC BITS

# PDC BITS



BIT SIZE (INCH)	API PIN SIZE (INCH)	IADC CODE		FORMATION APPLIABLE
4-1/2	2-7/8REG	S222, S223, S224 S322, S323, S324 S422, S423, S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
4-5/8	2-7/8REG			
4-3/4	2-7/8REG			
4-7/8	2-7/8REG	M222, M223, M224 M322, M323, M324 M422, M423, M424		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation 4.Extremely abrasive formations
4-7/8	2-7/8REG			
4-7/8	2-7/8REG			
5-1/2	3-1/2REG	S222, S223, S224 S322, S323, S324 S422, S423, S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
5-5/8	3-1/2REG			
5-3/4	3-1/2REG			
5-7/8	3-1/2REG	M222, M223, M224 M322, M323, M324 M422, M423, M424		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation 4.Extremely abrasive formations
5-7/8	3-1/2REG			
5-7/8	3-1/2REG			
6	3-1/2REG	S222, S223, S224 S322, S323, S324 S422, S423, S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
6-1/2	3-1/2REG			
6-5/8	3-1/2REG			
6-3/4	3-1/2REG	M222, M223, M224 M322, M323, M324 M422, M423, M424		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation 4.Extremely abrasive formations
6-3/4	3-1/2REG			
6-3/4	3-1/2REG			
7-1/2	4-1/2REG	S222, S223, S224 S322, S323, S324 S422, S423, S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
7-5/8	4-1/2REG			
7-7/8	4-1/2REG			
7-7/8	4-1/2REG	M222, M223, M224 M322, M323, M324 M422, M423, M424		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation 4.Extremely abrasive formations
7-7/8	4-1/2REG			
7-7/8	4-1/2REG			
8-1/2	4-1/2REG	S222, S223, S224 S322, S323, S324 S422, S423, S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
8-5/8	4-1/2REG			
8-3/4	4-1/2REG			

# PDC BITS



BIT SIZE (INCH)	API PIN SIZE (INCH)	IADC CODE		FORMATION APPLIABLE
8-3/4	4-1/2REG	M222, M223, M224 M322, M323, M324 M422, M423, M424		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation 4.Extremely abrasive formations
8-3/4	4-1/2REG			
8-3/4	4-1/2REG			
9-1/2	6-5/8REG	S222, S223, S224 S322, S323, S324 S422, S423, S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
9-5/8	6-5/8REG			
9-7/8	6-5/8REG			
9-7/8	6-5/8REG	M222, M223, M224 M322, M323, M324 M422, M423, M424		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation 4.Extremely abrasive formations
9-7/8	6-5/8REG			
9-7/8	6-5/8REG			
10-1/2	6-5/8REG	S222, S223, S224 S322, S323, S324 S422, S423, S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
10-5/8	6-5/8REG			
10-5/8	6-5/8REG			
10-5/8	6-5/8REG	M222, M223, M224 M322, M323, M324 M422, M423, M424		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation 4.Extremely abrasive formations
10-5/8	6-5/8REG			
10-5/8	6-5/8REG			
11	6-5/8REG	S222, S223, S224 S322, S323, S324 S422, S423, S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
11-5/8	6-5/8REG			
11-5/8	6-5/8REG			
11-5/8	6-5/8REG	M222, M223, M224 M322, M323, M324 M422, M423, M424		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation 4.Extremely abrasive formations
11-5/8	6-5/8REG			
11-5/8	6-5/8REG			
12	6-5/8REG	S222, S223, S224 S322, S323, S324 S422, S423, S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
12-1/4	6-5/8REG			
12-1/4	6-5/8REG			
12-1/4	6-5/8REG	M222, M223, M224 M322, M323, M324 M422, M423, M424		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation 4.Extremely abrasive formations
12-1/4	6-5/8REG			
12-1/4	6-5/8REG			



# PDC BITS



BIT SIZE (INCH)	API PIN SIZE (INCH)	IADC CODE		FORMATION APPLIABLE
13-1/2	6-5/8REG	S222, S223, S224 S322, S323, S324 S422, S423, S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
13-5/8	6-5/8REG			
13-3/4	6-5/8REG			
13-3/4	6-5/8REG	M222, M223, M224 M322, M323, M324 M422, M423, M424		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation 4.Extremely abrasive formations
13-3/4	6-5/8REG			
13-3/4	6-5/8REG			
14-1/2	7-5/8REG	S222, S223, S224 S322, S323, S324 S422, S423, S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
14-3/4	7-5/8REG			
14-3/4	7-5/8REG			
14-3/4	7-5/8REG	M222, M223, M224 M322, M323, M324 M422, M423, M424		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation 4.Extremely abrasive formations
14-3/4	7-5/8REG			
14-3/4	7-5/8REG			
15-1/2	7-5/8REG	S222, S223, S224 S322, S323, S324 S422, S423, S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
15-1/2	7-5/8REG			
15-1/2	7-5/8REG			
15-1/2	7-5/8REG	M222, M223, M224 M322, M323, M324 M422, M423, M424		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation 4.Extremely abrasive formations
15-1/2	7-5/8REG			
15-1/2	7-5/8REG			
16	7-5/8REG	S222, S223, S224 S322, S323, S324 S422, S423, S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
16	7-5/8REG			
16	7-5/8REG			
16	7-5/8REG	M222, M223, M224 M322, M323, M324 M422, M423, M424		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation 4.Extremely abrasive formations
16	7-5/8REG			
16	7-5/8REG			
17-1/2	7-5/8REG	S222, S223, S224 S322, S323, S324 S422, S423, S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
17-1/2	7-5/8REG			
17-1/2	7-5/8REG			



# PDC BITS






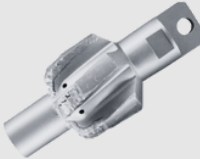




BIT SIZE (INCH)	API PIN SIZE (INCH)	IADC CODE		FORMATION APPLIABLE
17-1/2	7-5/8REG	M222、 M223、 M224 M322、 M323、 M324 M422、 M423、 M424		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation 4.Extremely abrasive formations
17-1/2	7-5/8REG			
17-1/2	7-5/8REG			
18	7-5/8REG	S222、 S223、 S224 S322、 S323、 S324 S422、 S423、 S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
18-7/8	7-5/8REG			
18-7/8	7-5/8REG			
20	7-5/8REG	S222、 S223、 S224 S322、 S323、 S324 S422、 S423、 S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
20	7-5/8REG			
20	7-5/8REG			
22	7-5/8REG	S222、 S223、 S224 S322、 S323、 S324 S422、 S423、 S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
22	7-5/8REG			
22	7-5/8REG			
24	7-5/8REG	S222、 S223、 S224 S322、 S323、 S324 S422、 S423、 S424		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
24	7-5/8REG			
24	7-5/8REG			
8-1/2	4-1/8	1.matrix body 2.steel body		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
8-1/2	4-1/8	1.matrix body 2.steel body		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
PRODUCT NOTES				
IV - PDC CUTTER SIZE		V - CROWN MATERIAL		VI - IADC CODE
13mm*04mm; 13mm*08mm; 13mm*10mm; 13mm*13mm; 16mm*08mm; 16mm*10mm; 16mm*13mm; 19mm*08mm; 19mm*10mm; 19mm*13mm; 19mm*16mm		M - maritx body S - steel body		①cutter density: 1- Less than 30ea; 2- Between 30ea and 40ea; 3- Between 40ea and 50ea; 4- More than 50ea ②cutter size code: 1- More than 24mm; 2- Between 14mm and 24mm; 3-less than 14mm ③Parabolic crown: 1- Short- Fish tail crown; 2- Short crown; 3- Middle crown; 4- long crown
VI- Additionas code: M-Mixed cutters; I-Importer cutters; R-Shock-absorbing cutters; S-Spiral gauge; D-Double row cutters; G-Special gaug				



## **PDC REAMERS**

# PDC REAMERS



<b>BIT SIZE (INCH)</b>	<b>API PIN SIZE (INCH)</b>	<b>IADC CODE</b>		<b>FORMATION APPLIABLE</b>
10	4-1/2REG 6-5/8REG	3S13, 4S13, 5S13 3S16, 4S16, 5S16 3S19, 4S19, 5S19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
12	4-1/2REG 6-5/8REG	3S13, 4S13, 5S13 3S16, 4S16, 5S16 3S19, 4S19, 5S19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
14	4-1/2REG 6-5/8REG 7-5/8REG	3S13, 4S13, 5S13 3S16, 4S16, 5S16 3S19, 4S19, 5S19 6S13, 6S16, 6S19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
16	4-1/2REG 6-5/8REG 7-5/8REG	3S13, 4S13, 5S13 3S16, 4S16, 5S16 3S19, 4S19, 5S19 6S13, 6S16, 6S19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
18	4-1/2REG 6-5/8REG 7-5/8REG	3S13, 4S13, 5S13 3S16, 4S16, 5S16 3S19, 4S19, 5S19 6S13, 6S16, 6S19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
20	4-1/2REG 6-5/8REG 7-5/8REG	3S13, 4S13, 5S13 3S16, 4S16, 5S16 3S19, 4S19, 5S19 6S13, 6S16, 6S19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
22	4-1/2REG 6-5/8REG 7-5/8REG	3S13, 4S13, 5S13 3S16, 4S16, 5S16 3S19, 4S19, 5S19 6S13, 6S16, 6S19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
24	4-1/2REG 6-5/8REG 7-5/8REG	3S13, 4S13, 5S13 3S16, 4S16, 5S16 3S19, 4S19, 5S19 6S13, 6S16, 6S19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation

# PDC REAMERS



<b>BIT SIZE (INCH)</b>	<b>API PIN SIZE (INCH)</b>	<b>IADC CODE</b>		<b>FORMATION APPLIABLE</b>
26	6-5/8REG	3S13, 4S13, 5S13 3S16, 4S16, 5S16 3S19, 4S19, 5S19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
	7-5/8REG	6S13, 6S16, 6S19		
28	6-5/8REG	3S13, 4S13, 5S13 3S16, 4S16, 5S16 3S19, 4S19, 5S19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
	7-5/8REG	6S13, 6S16, 6S19		
30	6-5/8REG	3S13, 4S13, 5S13 3S16, 4S16, 5S16 3S19, 4S19, 5S19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
	7-5/8REG	6S13, 6S16, 6S19		
32	6-5/8REG	3S13, 4S13, 5S13 3S16, 4S16, 5S16 3S19, 4S19, 5S19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
	7-5/8REG	6S13, 7S13, 8S13 6S16, 7S16, 8S16 6S19, 7S19, 8S19		
34	6-5/8REG	3S13, 4S13, 5S13 3S16, 4S16, 5S16 3S19, 4S19, 5S19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
	7-5/8REG	6S13, 7S13, 8S13 6S16, 7S16, 8S16 6S19, 7S19, 8S19		
36	6-5/8REG	3S13, 4S13, 5S13 3S16, 4S16, 5S16 3S19, 4S19, 5S19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
	7-5/8REG	6S13, 7S13, 8S13 6S16, 7S16, 8S16 6S19, 7S19, 8S19		
<b>PRODUCT NOTES</b>				
<b>III - NUMBER OF BLADES</b>		<b>IV - PDC REAMER MATERIAL</b>		<b>V - PDC CUTTER SIZE</b>
3 blades; 4 blades; 5 blades; 6 blades; 7 blades; 8 blades; and more		S - steel body		13mm*04mm;13mm*08mm; 13mm*10mm 13mm*13mm;16mm*08mm;16mm*10mm 16mm*13mm;19mm*08mm;19mm*10mm 19mm*13mm;19mm*16mm
VI - Additionas code: B—with rectangular blade; C—with bit in the center; S—with barrel stabilizers; R—with rugged pilot guide				



**SET TYPE DRAG BITS**

# SET TYPE DRAG BITS



BIT SIZE (INCH)	API PIN SIZE (INCH)	IADC CODE		FORMATION APPLIABLE
4-1/2	2-7/8REG	3P13、3P16、3P19 4P13、4P16、4P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
4-5/8				
4-3/4				
5-1/2	3-1/2REG	3P13、3P16、3P19 4P13、4P16、4P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
5-5/8				
5-3/4				
6-1/2	3-1/2REG	3P13、3P16、3P19 4P13、4P16、4P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
6-5/8				
6-3/4				
7-1/2	4-1/2REG	3P13、3P16、3P19 4P13、4P16、4P19 5P13、5P16、5P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
7-5/8				
7-3/4				
8-1/2	4-1/2REG 6-5/8REG	3P13、3P16、3P19 4P13、4P16、4P19 5P13、5P16、5P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
8-5/8				
8-3/4				
9-1/2	4-1/2REG 6-5/8REG	3P13、3P16、3P19 4P13、4P16、4P19 5P13、5P16、5P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
9-5/8				
9-7/8				
10-1/2	4-1/2REG 6-5/8REG	3P13、3P16、3P19 4P13、4P16、4P19 5P13、5P16、5P19 6P13、6P16、6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
10-5/8				
10-3/4				




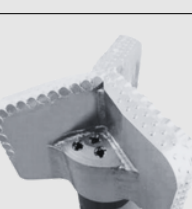

# SET TYPE DRAG BITS



BIT SIZE (INCH)	API PIN SIZE (INCH)	IADC CODE		FORMATION APPLIABLE
11	4-1/2REG 6-5/8REG	3P13、3P16、3P19 4P13、4P16、4P19 5P13、5P16、5P19 6P13、6P16、6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
11-1/2				
11-5/8				
12	4-1/2REG 6-5/8REG	3P13、3P16、3P19 4P13、4P16、4P19 5P13、5P16、5P19 6P13、6P16、6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
12-1/4				
12-5/8				
13	4-1/2REG 6-5/8REG	3P13、3P16、3P19 4P13、4P16、4P19 5P13、5P16、5P19 6P13、6P16、6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
13-1/2				
13-5/8				
14	4-1/2REG 6-5/8REG 7-5/8REG	3P13、3P16、3P19 4P13、4P16、4P19 5P13、5P16、5P19 6P13、6P16、6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
14-1/2				
14-3/4				
15	4-1/2REG 6-5/8REG 7-5/8REG	3P13、3P16、3P19 4P13、4P16、4P19 5P13、5P16、5P19 6P13、6P16、6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
15-1/2				
15-3/4				
16	4-1/2REG 6-5/8REG 7-5/8REG	3P13、3P16、3P19 4P13、4P16、4P19 5P13、5P16、5P19 6P13、6P16、6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
16-1/2				
16-1/2				
17	4-1/2REG 6-5/8REG 7-5/8REG	3P13、3P16、3P19 4P13、4P16、4P19 5P13、5P16、5P19 6P13、6P16、6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
17-1/2				
17-1/2				

# SET TYPE DRAG BITS



<b>BIT SIZE (INCH)</b>	<b>API PIN SIZE (INCH)</b>	<b>IADC CODE</b>		<b>FORMATION APPLIABLE</b>
18	4-1/2REG 6-5/8REG 7-5/8REG	3P13、3P16、3P19 4P13、4P16、4P19 5P13、5P16、5P19 6P13、6P16、6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
18-1/2				
18-1/2				
19	4-1/2REG 6-5/8REG 7-5/8REG	3P13、3P16、3P19 4P13、4P16、4P19 5P13、5P16、5P19 6P13、6P16、6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
19-1/2				
19-1/2				
20	4-1/2REG 6-5/8REG 7-5/8REG	3P13、3P16、3P19 4P13、4P16、4P19 5P13、5P16、5P19 6P13、6P16、6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
20-1/2				
20-1/2				
21	4-1/2REG 6-5/8REG 7-5/8REG	3P13、3P16、3P19 4P13、4P16、4P19 5P13、5P16、5P19 6P13、6P16、6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
21-1/2				
21-1/2				
22	4-1/2REG 6-5/8REG 7-5/8REG	3P13、3P16、3P19 4P13、4P16、4P19 5P13、5P16、5P19 6P13、6P16、6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
22-1/2				
22-1/2				
23	4-1/2REG 6-5/8REG 7-5/8REG	3P13、3P16、3P19 4P13、4P16、4P19 5P13、5P16、5P19 6P13、6P16、6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
23-1/2				
23-1/2				



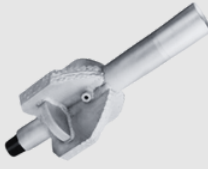
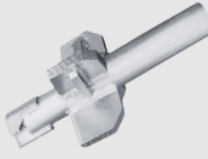


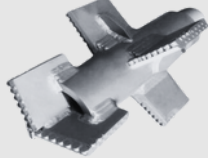





## **DRAG REAMERS**

# DRAG REAMERS



<b>BIT SIZE (INCH)</b>	<b>API PIN SIZE (INCH)</b>	<b>IADC CODE</b>		<b>FORMATION APPLIABLE</b>
24 24-1/2	4-1/2REG 6-5/8REG 7-5/8REG	3P13, 3P16, 3P19 4P13, 4P16, 4P19 5P13, 5P16, 5P19 6P13, 6P16, 6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
25 25-1/2	4-1/2REG 6-5/8REG 7-5/8REG	3P13, 3P16, 3P19 4P13, 4P16, 4P19 5P13, 5P16, 5P19 6P13, 6P16, 6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
26 26-1/2	4-1/2REG 6-5/8REG 7-5/8REG	3P13, 3P16, 3P19 4P13, 4P16, 4P19 5P13, 5P16, 5P19 6P13, 6P16, 6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
27 27-1/2	4-1/2REG 6-5/8REG 7-5/8REG	3P13, 3P16, 3P19 4P13, 4P16, 4P19 5P13, 5P16, 5P19 6P13, 6P16, 6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
24 24-1/2	4-1/2REG 6-5/8REG 7-5/8REG	3P13, 3P16, 3P19 4P13, 4P16, 4P19 5P13, 5P16, 5P19 6P13, 6P16, 6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
25 25-1/2	4-1/2REG 6-5/8REG 7-5/8REG	3P13, 3P16, 3P19 4P13, 4P16, 4P19 5P13, 5P16, 5P19 6P13, 6P16, 6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
26 26-1/2	4-1/2REG 6-5/8REG 7-5/8REG	3P13, 3P16, 3P19 4P13, 4P16, 4P19 5P13, 5P16, 5P19 6P13, 6P16, 6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
27 27-1/2	4-1/2REG 6-5/8REG 7-5/8REG	3P13, 3P16, 3P19 4P13, 4P16, 4P19 5P13, 5P16, 5P19 6P13, 6P16, 6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength

# DRAG REAMERS






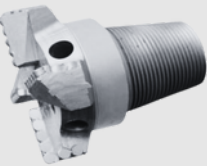
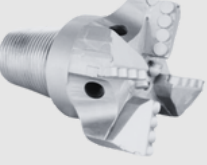
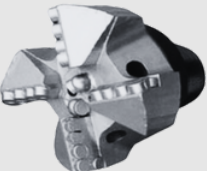
<b>BIT SIZE (INCH)</b>	<b>API PIN SIZE (INCH)</b>	<b>IADC CODE</b>		<b>FORMATION APPLIABLE</b>
28 28-1/2	4-1/2REG 6-5/8REG 7-5/8REG	3P13, 3P16, 3P19 4P13, 4P16, 4P19 5P13, 5P16, 5P19 6P13, 6P16, 6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
29 29-1/2	4-1/2REG 6-5/8REG 7-5/8REG	3P13, 3P16, 3P19 4P13, 4P16, 4P19 5P13, 5P16, 5P19 6P13, 6P16, 6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
30 30-1/2	4-1/2REG 6-5/8REG 7-5/8REG	3P13, 3P16, 3P19 4P13, 4P16, 4P19 5P13, 5P16, 5P19 6P13, 6P16, 6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
31 31-1/2	4-1/2REG 6-5/8REG 7-5/8REG	3P13, 3P16, 3P19 4P13, 4P16, 4P19 5P13, 5P16, 5P19 6P13, 6P16, 6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
32 32-1/2	4-1/2REG 6-5/8REG 7-5/8REG	3P13, 3P16, 3P19 4P13, 4P16, 4P19 5P13, 5P16, 5P19 6P13, 6P16, 6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
33 33-1/2	4-1/2REG 6-5/8REG 7-5/8REG	3P13, 3P16, 3P19 4P13, 4P16, 4P19 5P13, 5P16, 5P19 6P13, 6P16, 6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
34 34-1/2	4-1/2REG 6-5/8REG 7-5/8REG	3P13, 3P16, 3P19 4P13, 4P16, 4P19 5P13, 5P16, 5P19 6P13, 6P16, 6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
35 35-1/2	4-1/2REG 6-5/8REG 7-5/8REG	3P13, 3P16, 3P19 4P13, 4P16, 4P19 5P13, 5P16, 5P19 6P13, 6P16, 6P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength

A dark, high-contrast photograph of a large, textured object, possibly a piece of machinery or a large animal, with a person's hand visible on the left side. The image is mostly black with some highlights showing the texture of the object.

## **INTEGRAL TYPE DRAG BITS**





# INTEGRAL TYPE DRAG BITS



BIT SIZE (INCH)	API PIN SIZE (INCH)	IADC CODE		FORMATION APPLIABLE
4-1/2	2-7/8REG	3P13、3P16、3P19 4P13、4P16、4P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
4-3/4				
4-7/8				
5-1/2	3-1/2REG	3P13、3P16、3P19 4P13、4P16、4P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
5-3/4				
5-7/8				
6	3-1/2REG	3P13、3P16、3P19 4P13、4P16、4P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
6-1/2				
6-3/4				
4-1/2	2-7/8REG	3P13、3P16、3P19 4P13、4P16、4P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
4-3/4				
4-7/8				
5-1/2	3-1/2REG	3P13、3P16、3P19 4P13、4P16、4P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
5-3/4				
5-7/8				
6	3-1/2REG	3P13、3P16、3P19 4P13、4P16、4P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
6-1/2				
6-3/4				

# INTEGRAL TYPE DRAG BITS





BIT SIZE (INCH)	API PIN SIZE (INCH)	IADC CODE		FORMATION APPLIABLE
4-1/2	2-7/8REG	3P13、3P16、3P19 4P13、4P16、4P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
4-3/4				
4-7/8				
5-1/2	3-1/2REG	3P13、3P16、3P19 4P13、4P16、4P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
5-3/4				
5-7/8				
6	3-1/2REG	3P13、3P16、3P19 4P13、4P16、4P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
6-1/2				
6-3/4				
7-1/2	4-1/2REG	3P13、3P16、3P19 4P13、4P16、4P19		1.Soft formations with low compressive strength and high drillability 2.Medium to medium hard formations with high compressive strength
7-5/8				
7-7/8				
<b>PRODUCT NOTES</b>				
	<b>IV - TYPE OF CUTTER</b>	<b>V - DRAG BIT CUTTER SIZE</b>		<b>VI - ADDITIONAL CODE</b>
Drag Bit	W-Tungsten carbide tooth P-PDC cutter	PDC cutter: 13mm*04mm;13mm*08mm; 13mm*10mm; 13mm*13mm 16mm*08mm;16mm*10mm; 16mm*13mm;19mm*08mm 19mm*10mm;19mm*13mm;19mm*16mm  Tungsten carbide tooth: 8.25mm*9.0mm;9.6mm*12.7mm;10.25mm*13mm 11.3mm*17.8mm;12.25mm*17mm;14.4mm*18.3mm 15.25mm*22mm;15.9mm*22mm;16.07mm*23mm 16.25mm*26mm;18.25mm*26mm;19.1mm*30.2mm		P-Parabola blade M-Multilayer blade L-Ladder blade R-Rectangles blade W-Wedged blade



## **SINGLE ROLLER CONES**

# SINGLE ROLLER CONES



BIT SIZE (INCH)	API PIN SIZE (INCH)	IADC CODE		FORMATION APPLIABLE
6	111, 115, 117 121, 126, 127 131, 135, 137 211, 215, 217 315, 316, 317 415, 417, 427 425, 435, 437 515, 535, 537 517, 527, 547 617, 627, 637	Intact Single roller cone		1.Soft to medium hard formations with low compressive strength 2.Medium hard formations with high compressive strength 3.Hard semi-abrasive or abrasive formation
6-1/2				
7-1/2				
7-5/8				
8-1/2		Replaceable single roller cone		Product notes  II -Tungsten carbide tooth height: 8.25mm*9.0mm;9.6mm*12.7mm;10.25mm*13mm 11.3m*17.8mm;12.25mm*17mm;14.4mm*18.3mm 15.25mm*22mm;15.9mm*22mm;16.07mm*23mm 16.25mm*26mm;18.25mm*26mm;19.1mm*30.2mm  III-Cones cutter code: X- steel tooth 1-- Scoop tipped tooth 2-- Wedge tipped tooth 3-- Conical tipped tooth 4-- Spherical tipped tooth
8-3/4				
9-1/2				
9-5/8				
10-1/2		Split single roller cone		IV - IADC code : Same IADC code as tricone bit V - Structural code : S-Intact single roller cone R-Replaceable single roller cone D-Split single roller cone
10-5/8				
11-5/8				
12-1/4				





## **BIT BREAKERS**

# BIT BREAKERS



BIT BREAKER CATEGORIES	IMAGE EXAMPLE			
	TRICONE BIT		PDC BIT BREAKER	
Tricone Bit Breaker				
PDC Bit Breaker				

### DRILLING TOOL SIZE LIST

DRILLING TOOL	DRILLING TOOL SIZE													
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
Tricone bit	4-5/8	117.5	4-3/4	120.7	5-1/2	139.7	5-5/8	142.9	5-3/4	146.1	5-7/8	149.2	6	152.4
	6-1/4	158.8	6-1/2	165.1	6-3/4	171.5	7-1/2	190.5	7-5/8	193.7	7-7/8	200	8-1/2	215.9
	8-3/4	222.2	9-1/2	241.3	9-5/8	244.5	9-7/8	250.8	10-5/8	266.7	11-5/8	295.3	12-1/4	311.2
	13-5/8	346.1	14-3/4	349.3	15-1/2	393.7	16	406.4	17-1/2	444.5	26	660.4		
PDC bit	4-5/8	117.5	4-3/4	120.7	5-1/2	139.7	5-5/8	142.9	5-3/4	146.1	5-7/8	149.2	6	152.4
	6-1/4	158.8	6-1/2	165.1	6-3/4	171.5	7-1/2	190.5	7-5/8	193.7	7-7/8	200	8-1/2	215.9
	8-3/4	222.2	9-1/2	241.3	9-5/8	244.5	9-7/8	250.8	10-5/8	266.7	11-5/8	295.3	12-1/4	311.2
	13-5/8	346.1	14-3/4	349.3	15-1/2	393.7	16	406.4	17-1/2	444.5	26	660.4		



## **DRILL STABILIZERS**

# DRILL STABILIZERS



DRILL STABILIZER CATEGORIES		IMAGE EXAMPLE											
		SPIRAL INTEGRAL BLADE STABILIZER						STRAIGHT INTEGRAL BLADE STABILIZER					
Spiral Integral Blade Stabilizer													
Straight Integral Blade Stabilizer													
BIT SIZE (inch)	DRILL STABILIZER SIZE LIST												
	DIAMETER (mm)										LENGTH (mm)		API PIN (REG)
8-1/2	197	200	203	206	209	212	215				Short	Long	4-1/2
											1450	1500	
9 1/2	219	222	225	228	231	234	237	240			Short	Long	6 5/8
											1500	1550	
11-5/8	257	260	263	266	269	272	275	278	281	284	Short	Long	6-5/8
	287	290	293								1650	1700	
12-1/4	257	260	263	266	269	272	275	278	281	284	Short	Long	6-5/8
	287	290	293	296	299	302	305	308	311		1650	1700	
15-1/2	339	344	349	354	359	364	369	374	379	384	Short	Long	7-5/8
	389										1950	2000	
17-1/2	339	344	349	354	359	364	369	374	379	384	Short	Long	7-5/8
	389	394	399	404	409	414	419	424	429	434			
	439	444									1950	2000	
26	450	455	460	465	470	475	480	485	490	495	Short	Long	7-5/8
	500	505	510	515	520	525	530	535	540	545			
	550	555	560	565	570	575	580	585	590	595			
	600	605	610	615	620	625	630	635	640	645	2450	2500	
	650	655	660										

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