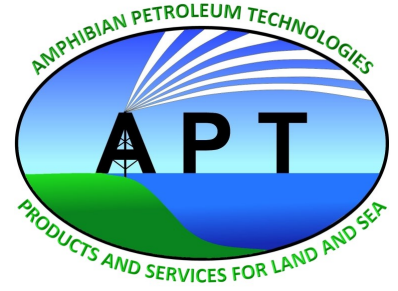


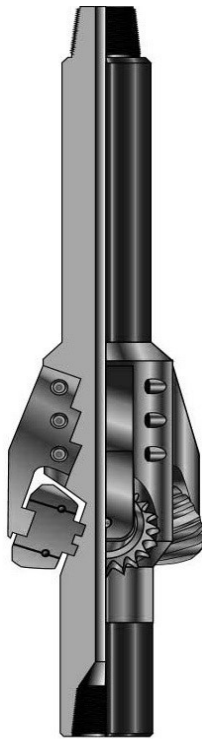
Hole Openers



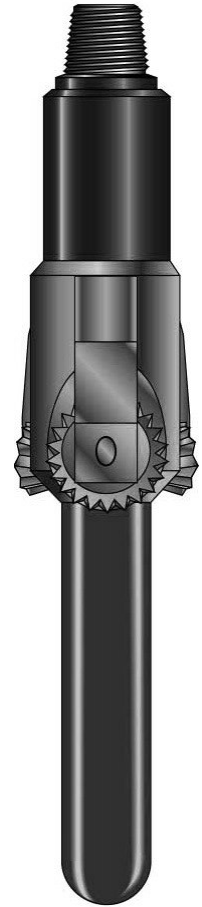
APT provides integral bodies with sealed and non-sealed cutters. We also supply fixed-arm bodies with field changeable, sealed, and non-sealed cutters. The lower body designs include circulating jets and can be supplied with integral bullnoses or box down connections.



Integral Body,
Sealed Bearing



Changeable
Cutter



Bull Nose



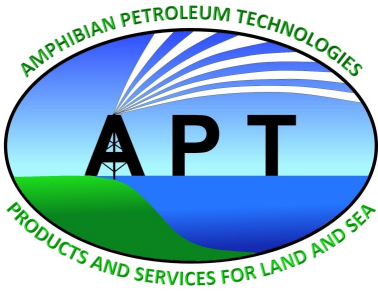
TOOTH TYPE
FOR SOFT
FORMATION



TOOTH TYPE
FOR MEDIUM
FORMATION



BUTTON TYPE
FOR HARD
FORMATION



Hole openers

All APT hole openers are manufactured from 4145H, heat treated steel. The cutters are available with Tungsten or Diamond inserts and carbide Tungsten Carbide milled teeth. Our hole openers are used for enlarging pilot holes and drilling large holes. They are also used for construction projects (river crossing and utility boring).

Hole Size	Minimum Pilot Hole Size	API Tool Joint	
		Pin Up	Box Down
5-3/4 - 6-1/8	3-7/8	3-1/8	2-3/8 - 2-7/8
6-1/4 - 6-1/2	4-1/4	3-1/2	2-3/8 - 2-7/8
6-5/8 - 6-7/8	4-5/8	3-1/2	7-5/8
7-5/8	5-1/8	4-1/2	3-1/2
7-7/8	5-3/8	4-1/2	3-1/2
8-1/8 - 8-1/4	5-5/8	4-1/2	3-1/2
8-3/8 - 8-3/4	5-3/4	4-1/2	3-1/2
9-1/2	6-1/4	6-5/8	3-1/2
9-5/8 - 9-7/8	6-3/8	6-5/8	3-1/2
10-5/8 - 11	7-3/8	6-5/8	4-1/2
12 - 13-3/4	8-1/8	6-5/8	4-1/2 - 6-5/8
14-3/4 - 15-1/2	9-5/8	6-5/8	6-5/8
17 - 18	11-1/2	6-5/8	6-5/8
18-1/2 - 21	11-3/4	6-5/8	6-5/8
22 - 24	13	6-5/8	6-5/8
25 - 26	15-1/4	6-5/8 - 7-5/8	6-5/8 - 7-5/8
28 - 36	17-1/2	6-5/8 - 7-5/8	6-5/8 - 7-5/8