

## KP AGGRESSOR BI-DIRECTIONAL REAMER

## INTRODUCING "REAM ON CLEAN" TECHNOLOGY

Tough reaming capabilities, enhanced cuttings removal, smooth wellbore trajectory, lower costs.

The patented **KP Aggressor Bi-directional reamer** has been designed to assist with reaming while drilling operations. This reamer introduces the "Ream on Clean" technology.

Other "while drilling" reamers are forced to work on cuttings domes settled on the lower side of the wellbore, as they are not capable to effectively return the cuttings into circulation before the reaming process takes effect.

The **KP Aggressor Bi-Directional reamer** pioneers the "**Ream on Clean**" technology, exposing a clean wellbore to the cutting surfaces. This tools incorporates a distinctive impeller below the downhole cutting structures to carefully place the settled cuttings into circulation before reaming, enhancing the cutting action of the cutting inserts which will subsequently ream on a clean wellbore.

## FEATURES & BENEFITS

- Downhole Impeller with straight extensions: to assist cleaning and to increase the flow velocity before the reaming action takes effect.
- Cutting Blades: Incorporates radially insertable and field replaceable cuttings structures into geometrically optimized cuttings blades.
  - **Two rows of PDC cutters:** Axial and radial placement optimized to ream with minimum torque.
- "S" shaped Integral blades: Provides concentric and tilt support, while helping to reduce the friction during slide drilling.
- Boosting Impeller: Incorporates an helical impeller positioned above of the second cutting blades for boosting the newly incorporated formation cuttings towards surface.



Disruptive technologies, challenging performance.



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Hole Diameter	Drill Pipe Size	Std Connection
<b>6.000 ''</b> 152.4 mm	3 1/2"	3 1/2" API IF
	4 ''	DS-40
	4''	XT-40
<b>6.125</b> " 155.6 mm	3 1/2"	3 1/2" API IF
	4 ''	DS-40
	4 ''	XT-40
<b>6.250 ''</b> 158.8 mm	4"	NC 40
	4"	DS-40
<b>6.750</b> " 171.5 mm	4 1/2"	XT-40
	4 1/2"	DS-40
	4 1/2"	SV-46
<b>7.875</b> '' 200.0 mm	4 1/2"	4 1/2 API XH NC 46
<b>8.500 ''</b> 215.9 mm	5"	4 1/2 API IF NC 50
<b>8.750 ''</b> 222.3 mm	5 "	4 1/2 IF NC 50
<b>12.250</b> " 311.2 mm	5 "	4 1/2 API IF NC 50

## COST REDUCING FEATURES & BENEFITS

- Reduces the micro-tortuosity and high frequency wellbore spiraling.
- Reduces friction factor while drilling.
- Increases WOB transfer to the bit.
- Allows drilling with higher ROPs and lower rotary torque.
- Provides concentric support to the BHA.
- Assists with hole cleaning.
- Reduces risk of stuck pipe or packing off.
- Eliminates the need for a dedicated reamer run.
- Delivers a smooth wellbore and speeds up trip times.



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