



金剛啄木鳥®

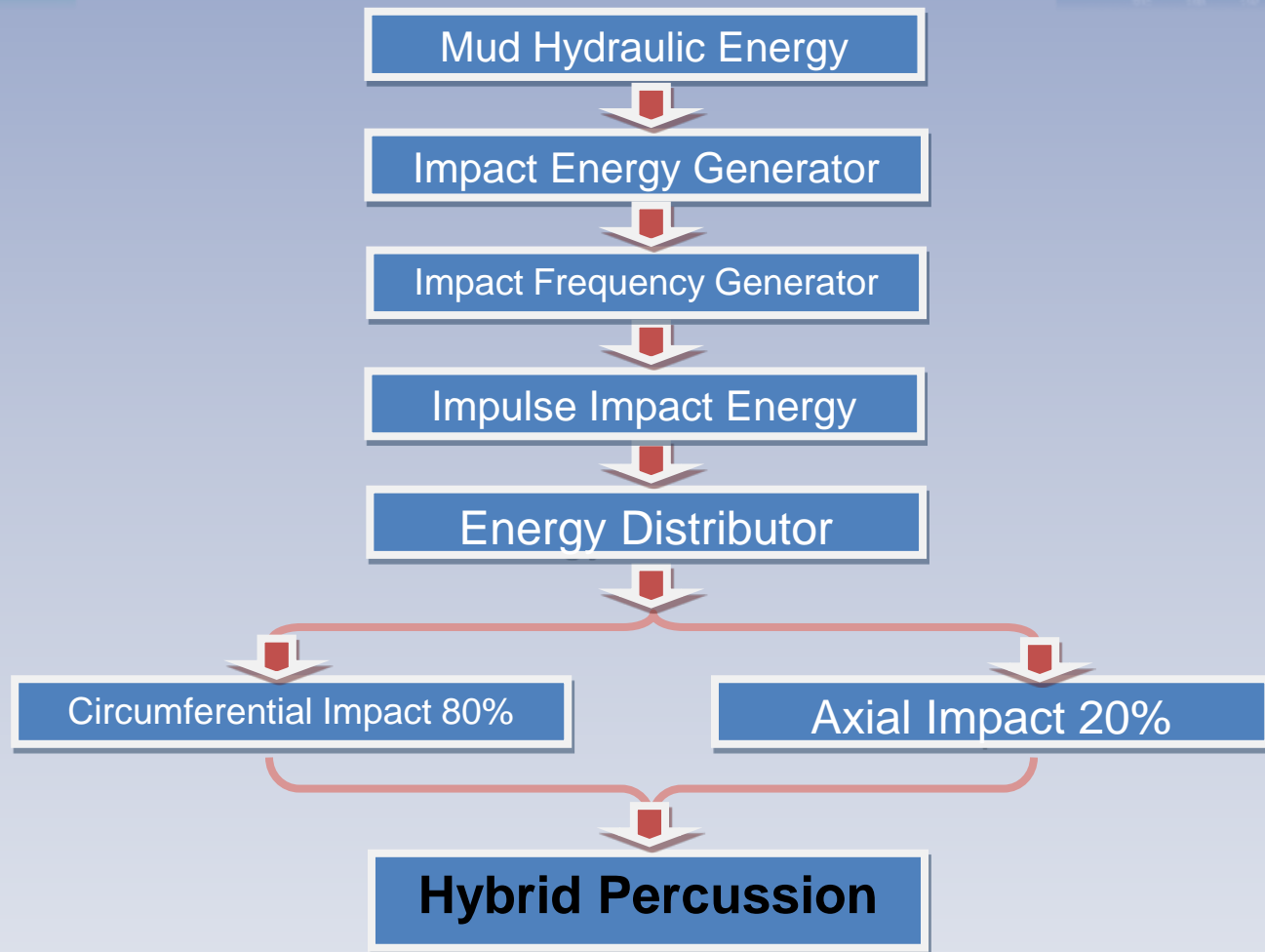
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- DynaPecker® is the English trade-mark of HPG owned by Sheenstone while “金剛啄木鳥” is the Chinese trade-mark of HPG.
- HPG (Hybrid Percussion Generator) is a dedicated drilling boosting tool independently researched and developed by Sheenstone, which not only have the features and advances that a traditional torque impact tool has, but also it innovatively integrates axial impact function and hence, it's a kind of hybrid percussion drilling boosting tool.
- **HPG Dedicated Bit** is a specifically developed and new generation of PDC bit dedicated in working with HPG tools. Being uniquely designed, the assembly of this type of PDC bit and HPG could dramatically improve bit penetration rate in extreme hard and abrasive formations and hence significantly improve ROP, prolong bit life which in return, will dramatically reduce drilling costs.

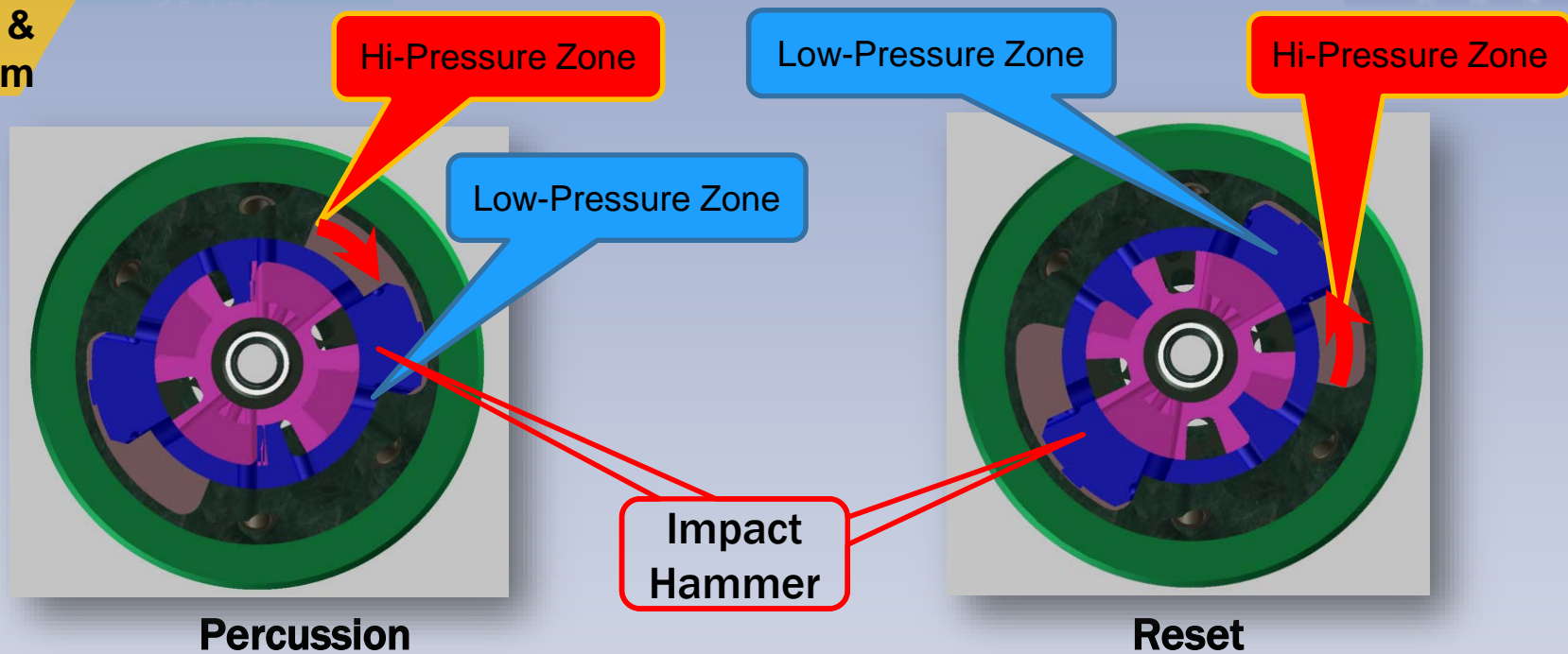


HPG Working Mechanism





Structure & Mechanism



- Tool internal structure is purely consisted of metal parts without electronics and/or rubber seals.
- By means of direction-exchange gear, mud hydraulic power transferred to high frequent and stable circumstantial and axial impacts energy.
- Able to provide 17 - 23Hz of impact frequency. Total power: Impact Energy 700~1000J; Impact Force 700~1000kg



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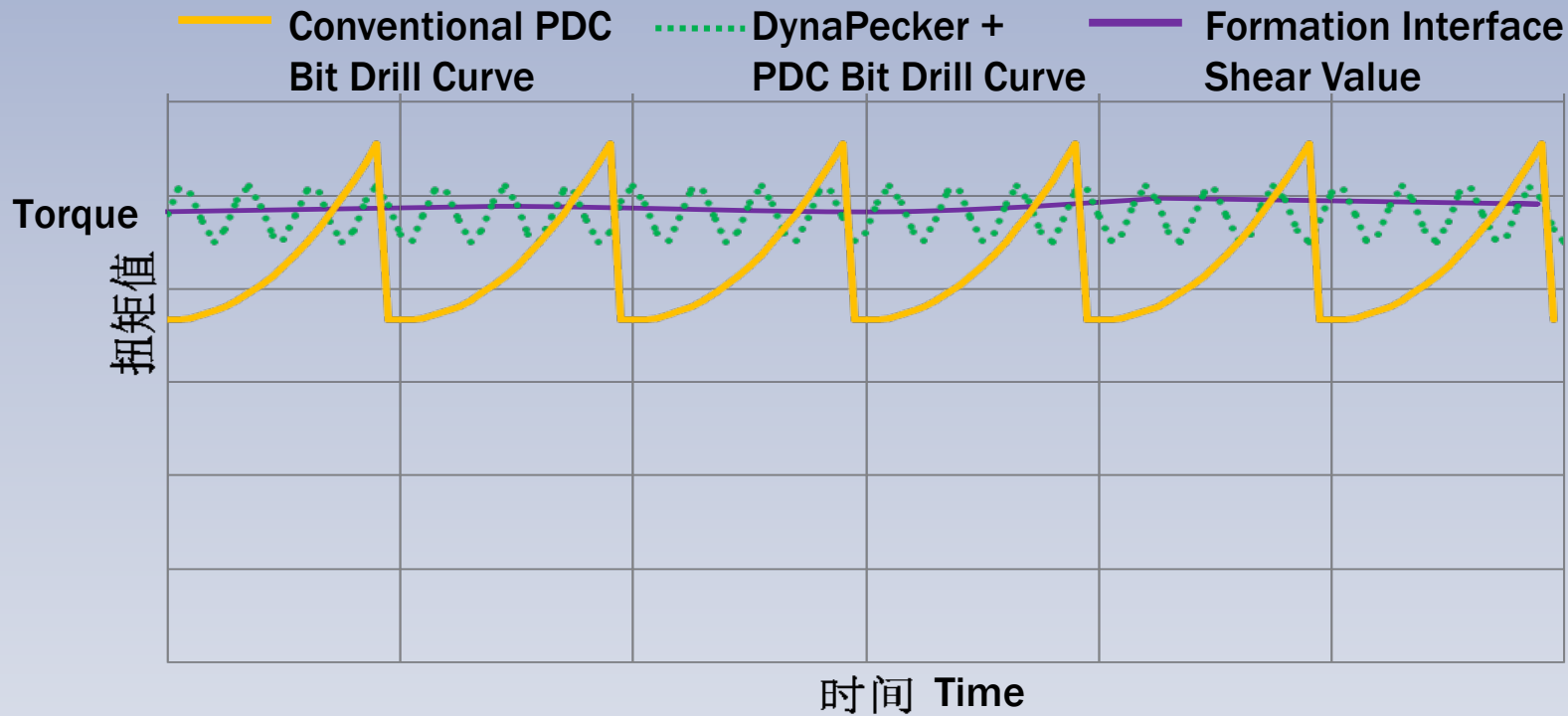
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Torque Features





Axial Impact Function

Base on torsional impact function, DynaPecker® also integrates axial impact function, strengthens penetration efficiency in hard formation.

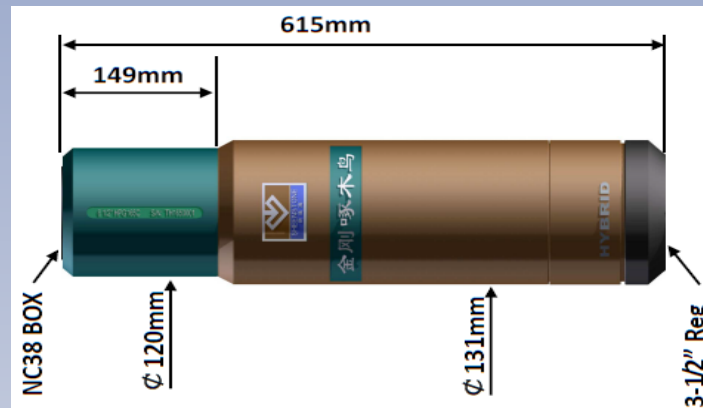
- Axial impact increases bit eat-in ability while the special and unique conical cutters with the support of torque force, may dramatically improve its drillability in extreme hard and abrasive formation.
- Partly solve the slack-off phenomenon; reduce torque and drag and improve the transmission of weight on bit.
- Improve bit jumping conditions; eliminate WOB peak value and hence maintain WOB stability.



Design Specs & Operational Parameters

4-3/4" HPG131B

(Applicable to 5-7/8" ~ 6-7/8" Hole)



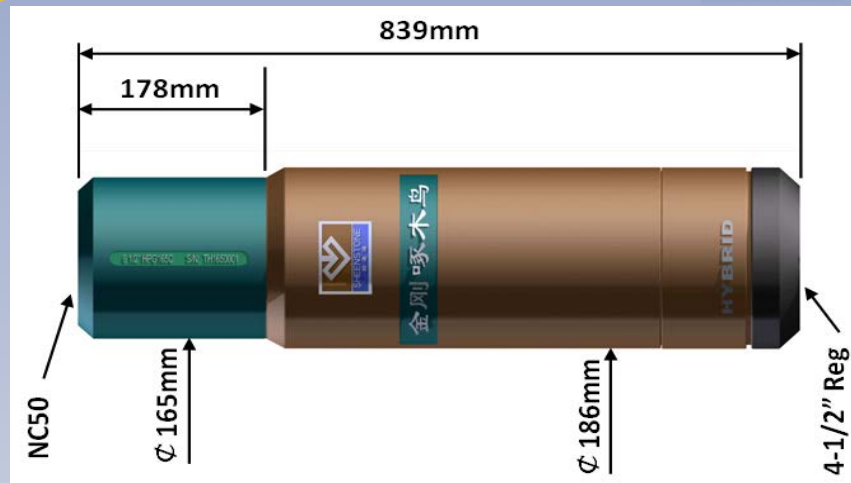
Model	Nominal OD/mm	Total Length /mm	Fishing OD /mm	Fishing Length/mm	Top Connection	Bottom Connection
4-3/4" HPG131B	131	615	120	149	NC38.Box	3-1/2 " Reg. Box
Displacement/ (l/s)	Pressure Drop /MPa	Make-up Torque/KN.M	Max Ops Temp./°C	Max WOB/KN	Extreme Pull /KN	Displacement/ (l/s)
15~28	2.0~2.5	16~20	270	120	200	17~23



Design Specs & Operational Parameters

6-1/2" HPG186B

(Applicable to 8-3/8" ~ 9-3/8" Hole)



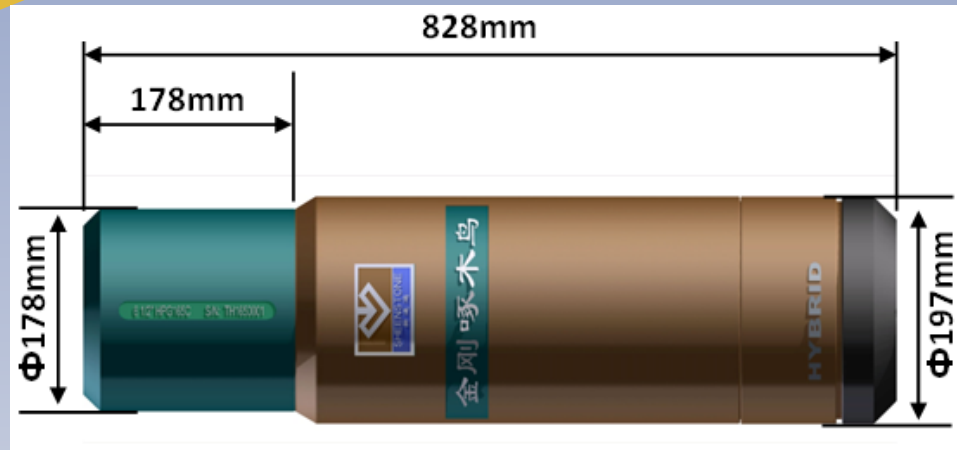
Model	Nominal OD/mm	Total Length /mm	Fishing OD /mm	Fishing Length/mm	Top Connection	Bottom Connection
6-1/2" HPG186B	186	839	165	178	NC50.Box	4-1/2 " Reg. Box
Displacement/ (l/s)	Pressure Drop /MPa	Make-up Torque/KN.M	Max Ops Temp./°C	Max WOB/KN	Extreme Pull /KN	Pulse Freq. /Hz
25~40	2.0~2.5	16~20	270	140	200	17~23



Design Specs & Operational Parameters

7" HPG197B

(Applicable to 9-1/2" ~ 11" Hole)



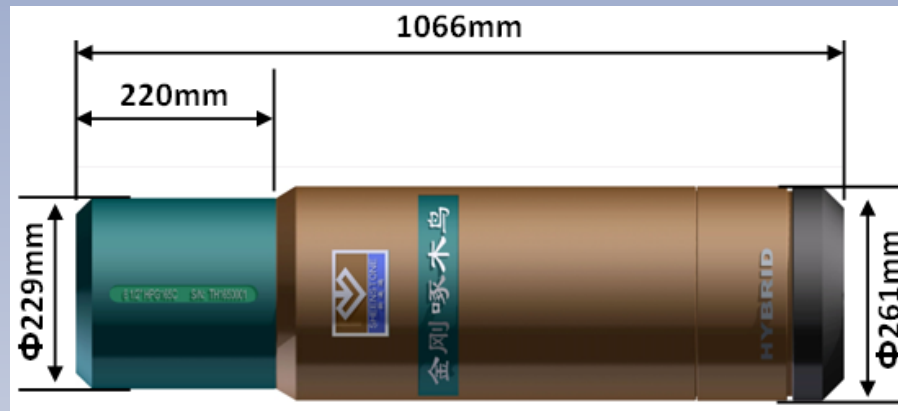
Model	Nominal OD/mm	Total Length /mm	Fishing OD /mm	Fishing Length/mm	Top Connection	Bottom Connection
7 " HPG178B	197	828	178	178	NC50. Box	6-5/8 " Reg. Box
Displacement/ (l/s)	Pressure Drop /MPa	Make-up Torque/KN.M	Max Ops Temp./°C	Max WOB/KN	Extreme Pull /KN	Pulse Freq. /Hz
25~50	2.0~2.5	16~20	270	160	230	17~23



Design Specs & Operational Parameters

9" HPG261B

(Applicable to 12-1/4" ~ 13-1/8" Hole)



Model	Nominal OD/mm	Total Length /mm	Fishing OD /mm	Fishing Length/mm	Top Connection	Bottom Connection
9 " HPG261B	261	1066	229	220	NC61. Box	6-5/8 " Reg. Box
Displacement/ (l/s)	Pressure Drop /MPa	Make-up Torque/KN.M	Max Ops Temp./°C	Max WOB/KN	Extreme Pull /KN	Pulse Freq. /Hz
37~75	2.0~3.0	33~43	270	180	280	17~23



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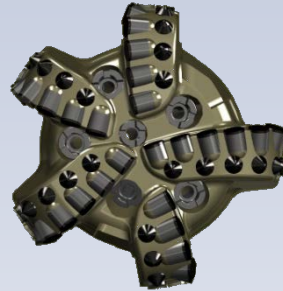
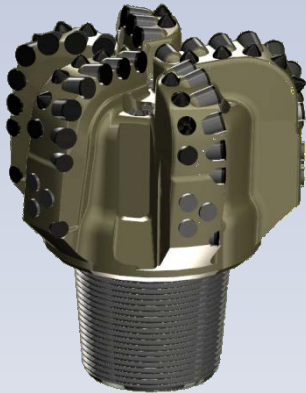
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Dedicated Bit to HPG

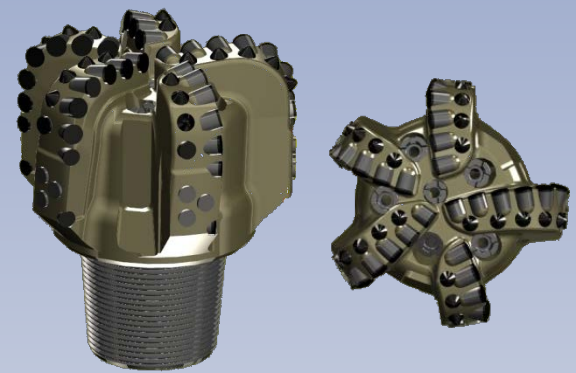
- HP series of bits are designed and dedicated to our HPG tools, which are new types of bits adopted with Sheenstone's patent design and specifically applied with our HPG tools. The assembly of this type of PDC bit and HPG could dramatically improve bit penetration rate in extreme hard and abrasive formations and hence significantly improve ROP, prolong bit life and in return, it will dramatically reduce drilling costs.





Dedicated Bit to HPG

- Shallow inner cone and short taper design, easy for HPG applies circumstantial and axial impact forces and thus, dramatically improve bit shearing efficiency.
- Beneficial to the protection of HPG, the bit could be designed very aggressively.
- Conical cutters with stronger impact resistance are designed back to back with the first row cutters, the latter could be effectively protected.
- Applicable to extreme hard and abrasive formations assembled with HPG, could significantly improve drilling efficiency.



HP615S3

Steel Body Bit

Matrix Body Bit



HP616M3



HP615M3

