

Schlumberger



PowerCutter
Precision Tubular Cutter

FEATURES AND BENEFITS

- Saves rig time by eliminating the need for a string shot or cleanout shot
- Reduces wellhead equipment because of shorter rig-up length
- Cuts tubulars in all fluid environments, including dry gas
- Cuts tubing without overpull on the pipe, making it ideal for tailpipe cutting
- Reduces risk of getting stuck by eliminating moving parts
- Cuts through corroded, scaled, and plastic-coated pipe
- Operates at higher temperatures than chemical cutters

Clean-cutting simplicity and efficiency

With no moving parts or chemicals, the PowerCutter* precision tubular cutter cleanly cuts tubing or drillpipe.

The PowerCutter tool, which can be run in all types of fluid environments, including dry gas, is used to sever tubing or casing to allow recovery of the upper tubular sections in a wellbore. Applications include retrieving casing before abandoning a well or cutting tubing when it cannot be pulled out of downhole hardware in older wells.

This revolutionary cutter is also ideal for tailpipe cutting because it cuts tubing without the need for overpull on the pipe. The PowerCutter precision cutter can cut through corroded, scaled, and plastic-coated pipe; therefore, no string shots or cleanout shots are required prior to pipe-cutting operations. This feature saves rig time and reduces operation costs.

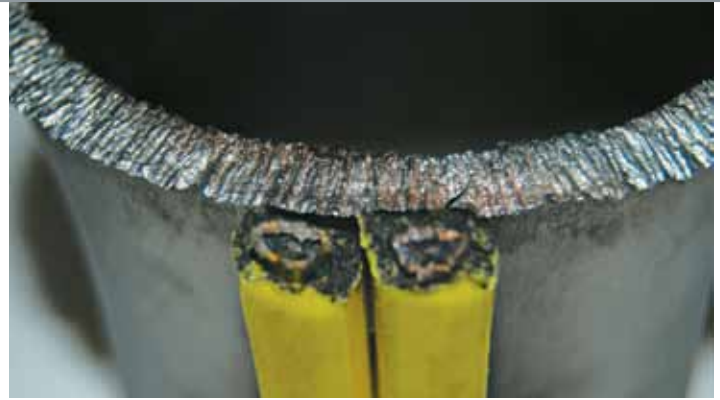
Applying the same principle as a shaped charge for perforating, this innovative cutter uses an explosive charge that sends out a 360° radial explosive jet. The PowerCutter precision tool provides the simple, efficient operation of an explosive jet cutter and a clean, smooth cut, with minimal swelling, that is comparable to the best cuts made by chemical cutters.

This innovative tool eliminates the HSE risks associated with handling chemicals after a chemical cutter is returned to the surface. PowerCutter operation risks are similar to those associated with an ordinary perforating job, and because anchoring is not required, the possibility of sticking in tubing is greatly reduced.

Additionally, the PowerCutter tool is rated to 204 degC [400 degF], whereas chemical cutters suffer reliability problems at temperatures greater than 126 degC [258 degF].



The PowerCutter explosive charge (shown in cutout section) produces a 360° radial explosive jet.



Because the PowerCutter tool produces a clean cut (left), the pipe remaining downhole is much easier to retrieve than pipe having the characteristic “open-flower” cut resulting from conventional explosive cutters. Both tubing and control lines are cleanly cut (right).

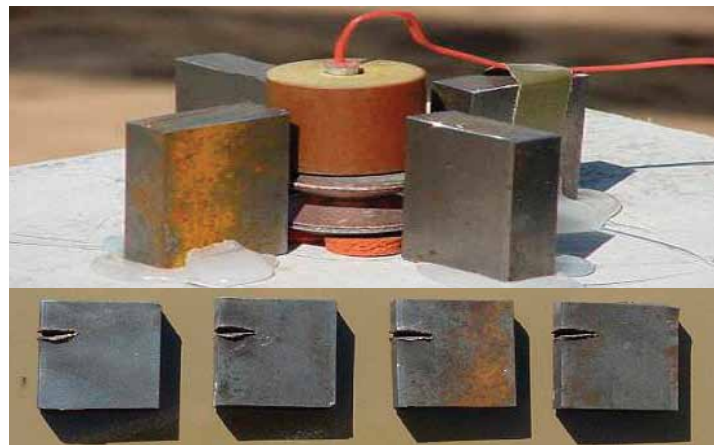
PowerCutter Specifications

PowerCutter Size, in	Net Explosive Content, g	Explosive Class	Temperature Rating, degF [degC]	Hazard Class	Pressure Rating, psi [MPa]	Tubing OD, in	Tubing Weight, lbm/ft	Pipe Thickness, in
1.680	12	HMX	400 [204]	1.4S	18,000 [124]	2 $\frac{3}{8}$	4.0–5.95	0.17–0.254
1.813	12	HMX	400 [204]	1.4S	18,000 [124]	2 $\frac{3}{8}$	4.0–4.7	0.17–0.254
1.900	20	HMX	400 [204]	1.4S	22,000 [152]	2 $\frac{7}{8}$	6.4–7.9	0.22–0.276
2.063	17	HMX	400 [204]	1.4S	18,000 [124]	2 $\frac{7}{8}$	6.4–7.9	0.22–0.276
2.125	17	HMX	400 [204]	1.4S	18,000 [124]	2 $\frac{7}{8}$	6.4–7.9	0.22–0.276
2.250	23	HMX	400 [204]	1.4S	18,000 [124]	2 $\frac{7}{8}$	6.4–7.9	0.22–0.276
2.500	28	HMX	400 [204]	1.4D	18,000 [124]	3 $\frac{1}{2}$	7.7–9.2	0.21–0.25
2.750	38	HMX	400 [204]	1.4D	18,000 [124]	3 $\frac{1}{2}$	6.4–7.7	0.17–0.22
3.475 [†]	59	HMX	400 [204]	1.1D	18,000 [124]	4 $\frac{1}{2}$	13.5–18.9	0.29–0.43
3.475 [†]	59	HMX	400 [204]	1.4D	18,000 [124]	5 $\frac{1}{2}$	17.0–23.0	0.30–0.42
3.650	38	HMX	400 [204]	1.4D	18,000 [124]	4 $\frac{1}{2}$	11.6–13.5	0.25–0.29
4.150 [†]	109	HMX	400 [204]	1.1D	18,000 [124]	5 $\frac{1}{2}$	17.0–26.8	0.30–0.50
4.150 [†]	76	HMX	400 [204]	1.4D	18,000 [124]	5 $\frac{1}{2}$	20.0–23.0	0.36–0.42

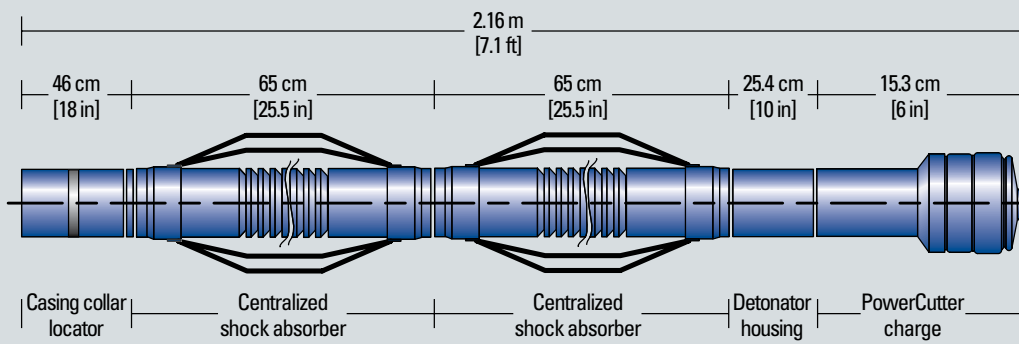
[†] The 3.475- and 4.15-in PowerCutter tools have a larger cutting range. Contact your Schlumberger representative, who can consult a live Pipe Recovery Database to assist with job planning.



The high-quality cut of this 5 $\frac{1}{2}$ -in 26-lbm/ft 25% chrome tailpipe was obtained with the 4.15-in PowerCutter tool, which can pass through a 4.25-in subsea safety valve.



Test shows the controlled explosive energy generated by a PowerCutter tool.



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This typical PowerCutter toolstring can cut up to 4½-in tubing and is compatible with the Secure* detonator, which does not require shutting down radio communication or other essential rig equipment during operations.



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