



TCT® The Cutter

Cutting downhole pipes with explosives or chemicals is associated with excessive health, safety and environmental risks, and high permit, transportation, storage and operation costs.

To address this problem, YTA has developed an intelligent, fully automated mechanical **TCT® The Cutter**, that is safe, reliable, easy to deploy, and leaves a very clean cut at the precise depth without damaging adjacent tubulars. It does not involve chemicals or explosives, and is economical and environmentally friendly.

► Description

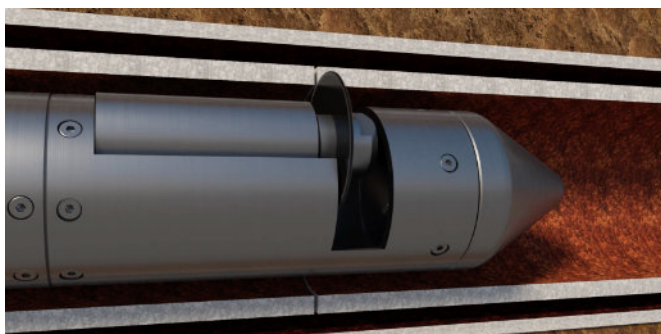
This intelligent, patented TCT® cuts downhole tubulars with a very clean and complete finish, removes the need for subsequent milling operation and eliminates non-productive time.

During deployment, the cutter is sent downhole on e-line cable, correlated to the target depth, then two sets of anchors are activated and secure the tool in position. Next, the cutting head unit rotates and the cutting blade is swiveled outwards from the blade chamber, engages the pipe wall and starts rotational cutting. After completion of the cut, the blade and the anchors will retrieve respectively and the tool can return to the surface. The top section of the tubular above the cut point can be pulled out of the wellbore, and the section below the cut point can be easily fished out with standard techniques.

TCT® is driven by several electrical motors and can be deployed on industry standard mono-conductor e-line. The depth measurement is achieved through an integrated analogue CCL. The surface system includes a control panel and software. The control panel regulates power supply up to 600V to the cutter, and the software installed onto a laptop enables a full autonomous cutting operation, thus significantly reduces human error and prevents the cutting blade being pinched. The well site operator can continuously monitor the cutting process in real time.

TCT® does not use chemicals, explosives, or batteries, and does not require any special permit to store, transport and deploy. It is intelligent, safe, clean, and easy to use.

TCT® saves lives, saves money and saves the environment.



TCT® in action



TCT® horizontal cutting result

► Features

- Electrically powered via industry standard mono-conductor, resistance up to 220 Ohm
- Requires no special permit to transport or store: no hazardous substances
- Can cut pipes in tension, neutral or compression
- Can cut various downhole tubular materials
- Leaves a very clean cut, making subsequent fishing operation easy and inexpensive
- Can cut vertically to 100% horizontally
- Can perform multiple cuts in one trip
- Flexibility and modularity: main tool can be adapted on site to cut different pipe sizes

► Tool Sizes

- TCT® current version cut 2-7/8" to 3-1/2" pipes
- Cutting 4-1/2" is under testing

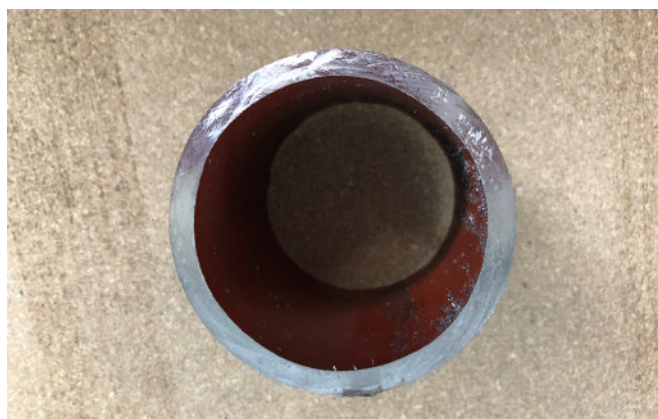


YTA team testing TCT®

Specification	Cutting 2-7/8" Tubing		Cutting 3-1/2" Tubing	
Tool Main Body OD	54mm	2-1/8"	54mm	2-1/8"
Adaptor OD	N/A		66mm	2.60"
Max Tubing ID to Anchor	67mm	2.64"	79mm	3.11"
Max Cutting OD	94mm	3.7"	100mm	3.94"
Max Cut Thickness	11mm	0.43"	16mm	0.63"
Tool length excl. CCL & Cable Head	6.84m	22.4 ft	6.84m	22.4 ft
Tool length incl. CCL & Cable Head	7.74m	25.4 ft	7.74m	25.4 ft
Temperature Rating	150°C	302°F	150°C	302°F
Pressure Rating	60MPa	8700psi	60MPa	8700psi
Number of Cuts Per Run	Multiple		Multiple	



TCT® software



TCT® smooth cut result

+31 (0)76 531 7967
info@ytabv.com
www.ytabv.com

YTA B.V.
Smederijstraat 2
4814DB Breda
The Netherlands



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safer & cleaner