

Internal Cutting of Multi-string Conductors

The Internal Multi-String Cutting Tool (IMCT) is based on NCA's powerful Abrasive Water Jet Cutting (AWJC) system and consistently cuts up to five (5) layers of casings from the inside of a well, in one run. The AWJC method uses a high-energy jet of water-borne abrasive particles with enough kinetic energy to cut even the hardest steel alloys quickly and safely. The IMCT produces a clean and even cut, which makes conductor recovery easy. The cut conductor segments are safe to handle as they are returned to shore.

The system is modular and is easy to rig up and operate on site. Each system has a pump, abrasive mixing unit, umbilical reel, Internal Multi-String Cutting Tool (IMCT), air compressor and control cabin. The hose length between the mixing unit and the cutting nozzle is not restricted which allows the mixing unit and pump to be placed in any location suitable to the operation thus giving a flexible deck layout. The surface equipment can also be located on a separate vessel.

Applications

- Cutting of multi-string conductors on platform wells from the inside below mud line
- Cutting of multi-string conductors on sub sea wells below mud line

Features and Benefits

- Proven from inside 7" through five (5) layers to a 36" outer conductor in one run
- Can be operated from a vessel and does not require drill pipe or work string
- Produces a clean and even cut for easier and safer recovery and handling of conductor – ideal for installation of Conductor Whipstocks
- Eliminates hazardous handling of drill pipe and use of explosive charges
- System is not, in any way, affected by compressive forces
- Capable of cutting conductors with or without annuli cement, centric or eccentric
- Superior cutting speed – typically two (2) hours efficient cutting time or six (6) to ten (10) hours skid to skid
- Stand alone, rigless surface package is available
- Computer based control and monitoring system



Specifications

Cutting medium	Water (salt or fresh water) and environmentally friendly abrasives
Pressure	500-2,000 bar / 7,000-30,000 psi
Water flow rate	30-120 lpm / 8-32 gpm
Utility requirements from vessel/platform (typ.)	Sea water (120 lpm / 32 gpm @ 3 bar / 45 psi) Fresh water for cleaning Crane (15T capacity) and rigging assistance for handling of equipment Electric power (110 V and 220 V) Work air
Deck space requirement	Approximately 100 sqm / 1,000 sqf

Available Versions

Equipment	Inner csg dim.	Dimensions (OD-H)	Eqt. weight
IMCT 700	7" and 7 5/8"	0.15/1.97 m 5.8/77.6 in	150 kg 330 lbs
IMCT 958	9 5/8" to 20"	0.21/2.01 m 8.3/79.1 in	210 kg 462 lbs

Other versions are available on request

Typical Equipment List

Equipment	Quant.	Eqt. weight	Dimensions (LBH)
High pressure water pumps	1*	6,800 kg 15,000 lbs	4.3 x 2.0 x 2.5 m 171 x 77 x 99 in
Abrasive Mixer Units (AMU) (item is split during transport)	1*	13,000 kg 28,660 lbs	1.9 x 1.9 x 5.1 m 76 x 76 x 200 in
Internal Multi-string Cutting Tools	2	750 kg 1,650 lbs	2.2 x 0.8 x 0.7 m 85 x 32 x 27 in
Deployment skid with winches	1	7,800 kg 17,000 lbs	3.6 x 2.4 x 1.8 m 144 x 96 x 96 in
Hydraulic Power Unit	1	1,500 kg 4,100 lbs	2.6 x 1.2 x 1.6 m 100 x 45 x 62 in
Air compressor	1	5,900 kg 13,000 lbs	4.2 x 2.2 x 2.0 m 168 x 88 x 79 in
Control and / workshop container	1	4,500 kg 10,000 lbs	4.9 x 2.4 x 2.6 m 192 x 96 x 102 in
Transport basket accommodates two IMCT's	1	1,818 kg 4,000 lbs	5.8 x 1.6 x 1.3 m 228 x 65 x 53 in

*Backup recommended

The system is patented



Typical Equipment Layout



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