

Technical & Commercial Proposal

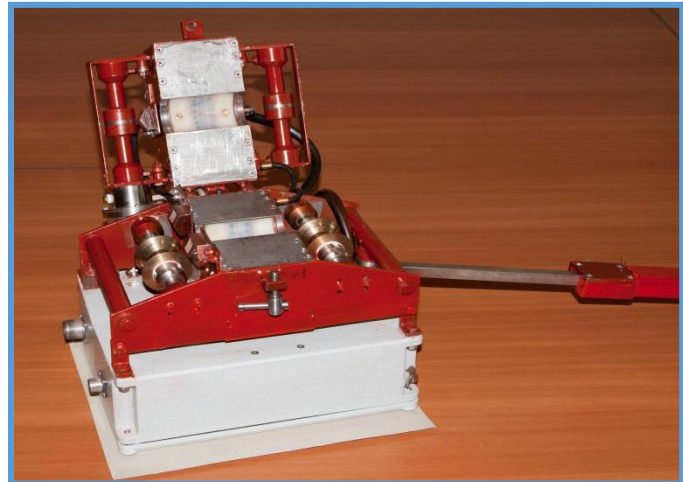
DCT

Defect-Scope Coil-Tubing Solutions



Table of Content

1	Introduction.....	3
2	DCT- Defectoscope Coiled Tubing -Technical Proposal	3
2.1	DEFECTOSCOPE-COILED-TUBING allows	3
2.2	Basic advantages	4
2.3	Specifications	7
3	DCT- Defectoscope Coiled Tubing -Financial Proposal	7



1 Introduction

Ginnovo is an emerging electromagnetic solutions provider currently operating in the MENA & ASIA PAC regions. Ginnovo's main objective is to tailor solutions in order to help the Oil & Gas Operators to fill the gaps with our technologies.

Ginnovo is proposing **DCT** as the latest and innovative technology to evaluate condition of CTU integrity.



2 DCT- Defect Scope Coiled Tubing -Technical Proposal

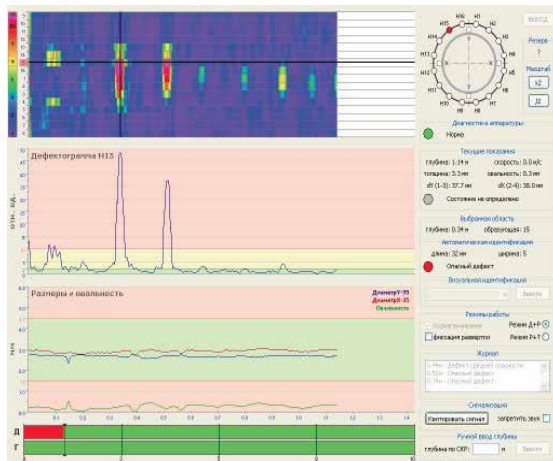
DCT is used for inspection of coiled tubing (CT) reels; it allows indicating dangerous changes of coiled tubing profiles in time and decrease the risk of crashes.

2.1 DEFECTOSCOPE-COILED-TUBING allows

- displaying internal and external defects of CT in real-time;
- measuring and displaying diameter, out-of-roundness and average thickness of CT;
- informing an operator about critical defects and exceeding the permissible deviations of the measured parameters;
- supplying a report according to results of CT inspection;
- accumulating results and displaying integral characteristics of CT.

2.2 Basic advantages

- folding design of sensor unit allows fixing and removing it without necessity of CT lifting and dismantling of injector;
- high acceptable speed of CT motion (up to 0,8 m/s) allows providing inspection not affecting on technological operations;
- high resolution of measurement (2mm) allows detecting defects at the early stage of their development;
- usage non-contact method of measurement allows to reduce the number of wearing parts and prolong the life of the system;
- low power consumption (~120W) allows you to power the system from an on-bort electrical power outlet of CT unit;
- interface with measuring instrument of immersion depth of CT allows organizing integrated relation of measurement results to depth;
- technological software allows displaying data of measurement in real-time on screen of laptop, changing operating modes of system and input commentaries according to estimation of defects;
- opportunity of system adaptation to CT made from various alloys, can improve the accuracy of the measurements;
- usage of vibration resistant laptop with extended temperature range allows placing it in operator's cab;
- self-testing and automatic control of fixing integrity allows giving signal to operator in case of operation disturbance of system.



Defectoscope-coiled tubing. Check with R sample

Control

- Power supply
- Defectoscope
- Caliper
- Sizes

Gaps

- P1
- P2
- P3
- P4

tss

Check was not conducted

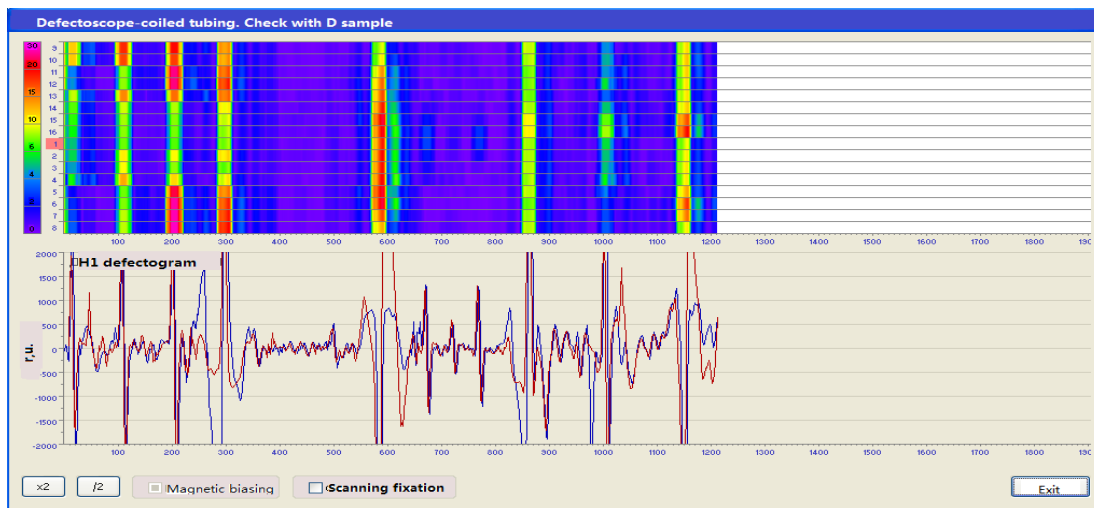
2471

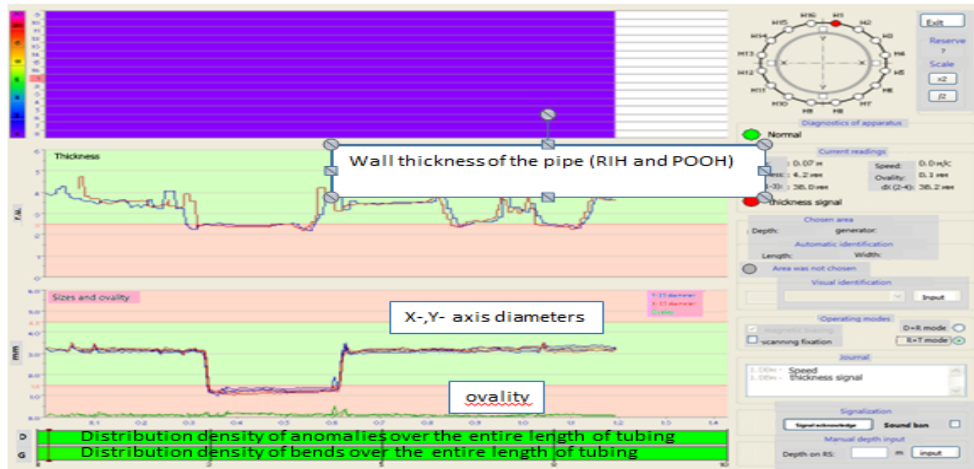
Measurements

Y diameter (1-3): 38.0 mm
X diameter (2-4): 38.0 mm
Ovality: 0.0 mm
Thickness: 2.5 mm

[Help](#)

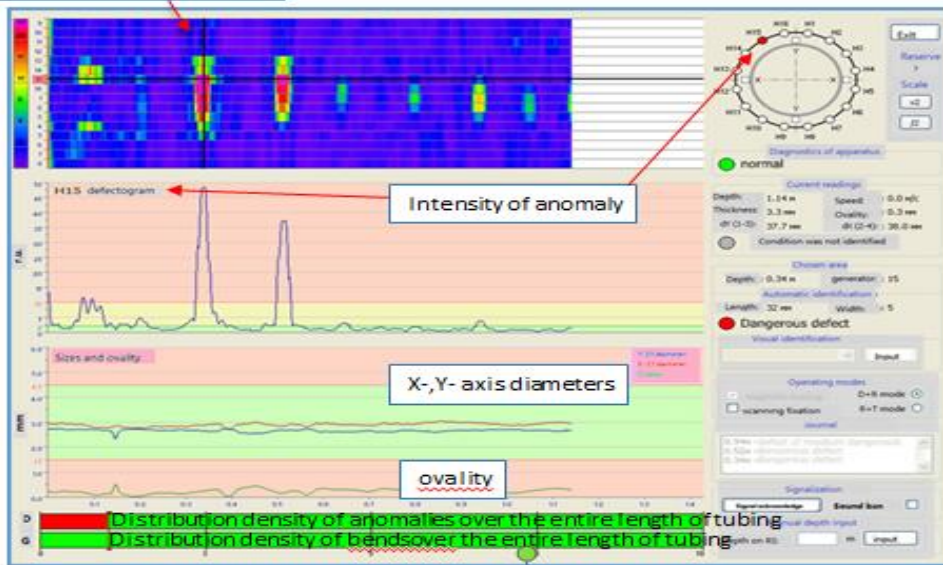
TSS was not checked





Mode «Thickness+ovality»

Amplitudes of signals from 16 defect-Scope differential sensors are shown in color



Mode «Defecto-Scop+Ovality»

Specifications

Coiled tubing defect scope has following set of sensors:

- 1) 16 defect scope sensors with/without magnetic biasing for inner/ outer defects distinguish;
- 2) 1 thickness measuring sensor
- 3) 4 Ovality/diameter contactless induction

Sensors (X-, Y-axis diameters)

design of sensor box:	folding
principle of measurement:	electromagnetic (contactless)
outer diameter of coiled tubing, mm:	from 30 to 45 (one sensor box for one diameter)
maximum thickness of coiled tubing, mm:	up to 5
running speed of CT, m/s:	up to 0,8
acceptable steel grade of coiled tubing:	ferromagnetic
measurement interval, mm:	~2
number of sensors (defectoscopy):	16
number of sensors of outer diameter measurement:	4
detectable defects:	internal, external buckles and cavities; cross and inclined cracks with opening displacement 0.1 mm, length from 10 mm; flaws with diameter from 1 mm.