



# CleverScan

A smart field service measurement tool  
for smarter pipe welding



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A Smart, Accurate  
Service for pipe fit-up

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A key focus for pipeline integrity is ensuring that we achieve compliant welding parameters and productivity. Imperfections in pipe manufacture can lead to a poor fit, can compromise the integrity of the weld and create an increased risk of failure. For 100% confidence during project onsite execution, the answer is CleverScan; a smart field service measurement tool for smarter pipe welding.

CleverScan offers a solution in three phases: analysis and reporting, pipe end fit-up and pipe sorting. CleverScan enables reliable and long-lasting welds and results in maximised performance, minimised risks and on-time project delivery, even for CRA pipes synonymous with even higher welding specification parameters.



720 measurements  
per rotation



## Analysis & reporting

CleverScan measures the dimensions of each pipe-end, providing a detailed numeric profile, with internal and external diameters and thickness. A full analysis report is provided to the customer.

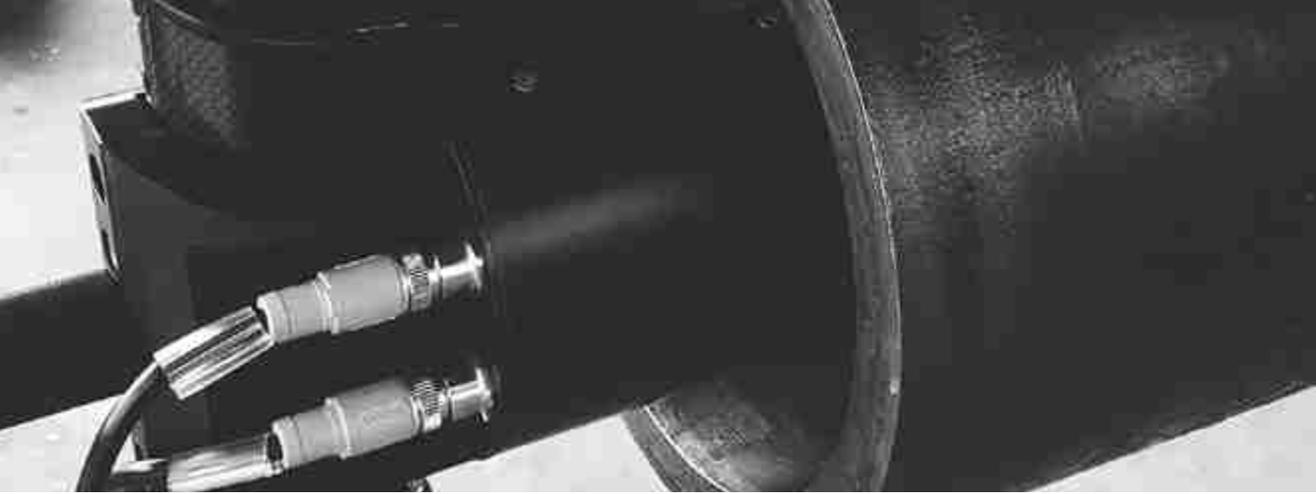


## Pipe sorting

CleverScan's pipe sorting solution uses the dimension analysis and pipe fit-up data to calculate the best sequence to achieve optimal rotation among an entire batch of pipes.

## Pipe-end fit-up

If the analysis shows that the pipes are not compliant or within specification tolerance levels, CleverScan's pipe end fit-up technology will find the best rotational position so that misalignment at fit-up is minimised and the project HILO specification is achieved.



# Why CleverScan?

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## A 100% Serimax Technology

“For CRA pipes, our experience shows that CleverScan is a must.”

CleverScan is the key to increased productivity. Pipeline welding is a repetitive process, and when pipes have geometrical defects or fit poorly together, delays in production schedules, risk of pipe fatigue and the need for costly repairs can occur.

Fully developed by the Serimax R&D team, CleverScan provides a customised solution for selecting the most appropriate pipe to ensure the best possible fit. Using CleverScan reduces fit-up time, optimises pipe sorting, and minimises downtime.

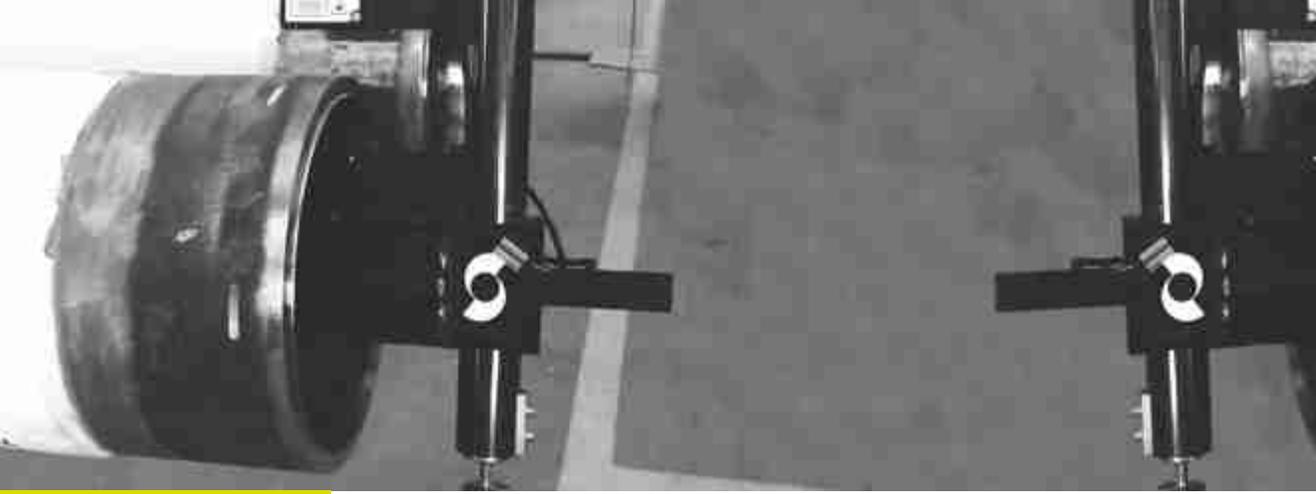
CleverScan offers flexible and adapted solutions; it gets it right first time.

# A must when welding CRA pipes

Corrosive Resistant Alloy (CRA) pipes, used more frequently in today's oil and gas production, requires high quality welding with no root / hot pass defects and acceptable HILO.

The use of CleverScan's measurement and fit-up solutions are recommended to minimize risk and enhance productivity. CleverScan ensures the integrity of the weld and the longevity of the pipeline.





# A smart technology in 6-Steps

## 1 Calibration



CLEVERSCAN LASER PRECISION WITH FIXED DATA POINT

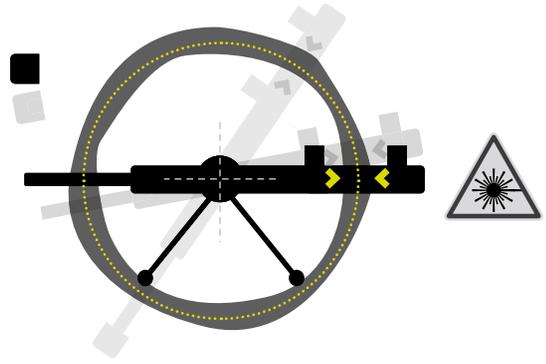


LESS RELIABLE METHODS, SUCH AS A TRADITIONAL CALIPER, HAVE NO FIXED DATA POINT



The measurement instrument is calibrated with a ring inside the pipe to create a central fixed point, ensuring total reliability of measurement.

## 2 Measurement



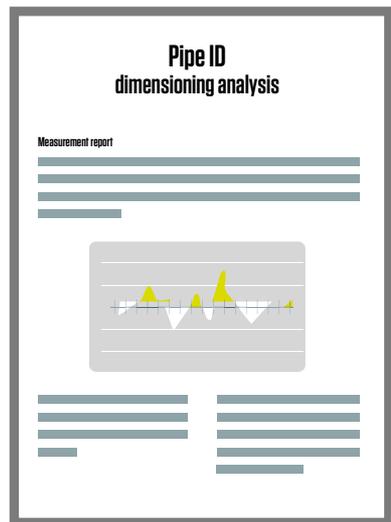
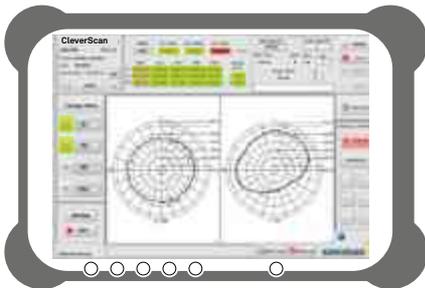
720 measurements

Laser precision measurement checked at 720 points produces an accurate report of each pipe profile, both internal and external. The tool's calibration is repeatedly verified to guarantee 100% reliability.



### 3 Daily analysis report

### 4 Measurement analysis report



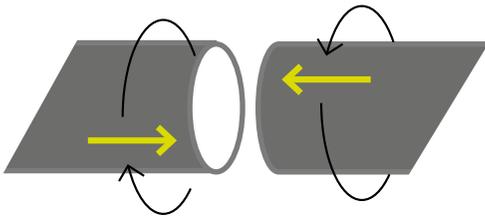
	Nom	Avg	Max	Min	OoR
ID	158.32	158.50	158.73	158.31	0.41
OD	219.07	219.48	220.15	218.90	1.25
WT	30.37	30.49	31.08	29.64	1.44

The CloverScan software analyses the results. A daily report is available to the customer containing the data of measured pipes. Up to 200 pipe ends may be measured in a 12 hour shift.

A full report revealing the condition of all the pipes is provided. The reports allows data and trend analysis which will supply precise information that provides accurate data management of the pipe geometry.



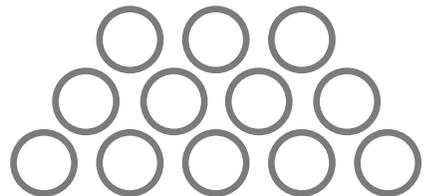
## 5 Pipe end fit-up



### GETTING THE BEST ROTATION

Using the software data the operator marks the best rotational position on each pipe end. In the welding station, these marks are aligned to achieve the best rotational position and misalignment is minimised.

## 6 Pipe sorting



### FINDING THE BEST SEQUENCE

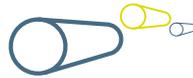
CleverScan's pipe sorting service uses both the measurement analysis, plus the pipe end fit-up phase and calculates the best sequence to fulfill the required HILO for a given batch of pipes.

# CleverScan benefits

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Reduces  
fit-up time



Optimises  
pipe sorting



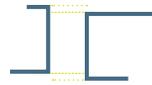
Minimises  
downtime



Increases  
productivity



Improves  
weld quality



Fulfils HiLo  
requirements



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