

# Raised Face Flange Inspection



Series 1500 off shore field inspection brief:

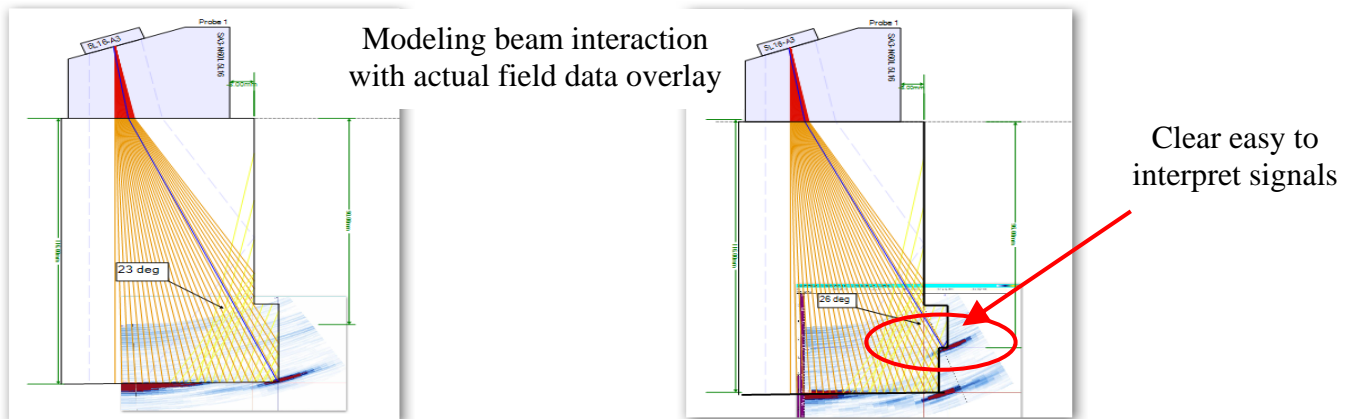


## General description

This Standard Practice describes the method used to determine the presence of deterioration on raised face (RF) flange seal faces. The extent of corrosion/erosion ingress of the flange seal face will be quantified. Currently RF flanges are visually inspected requiring the system to be purged, isolated and disassembled. This costly practice can be eliminated by using modern phased array ultrasonic inspection while the system remains assembled and in many cases while on-line.

## Inspection summary

Phased array sectorial scanning, also termed an S-scan or azimuthal scan, generates an easy to interpret display. For a quick review of flange condition the operator can move through the scan data upon completion of the scan. The data is digitally stored enabling periodic monitoring, and also provides options for post-analysis or remote analysis. The scan fixture provides repeatable results and holds the transducer at an optimum position on the flange generating an encoded full circumferential scan.



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## Inspection instrument & fixture detail

Flange diameters: 3inch (80NB), 4inch (100NB), 6inch (150NB)  
(other alternative sizes/series can be inspected – call for detail)

Flange outer diameter must be sanded/buffed clean to provide a smooth surface to ensure good coupling of the transducer (free of paint, rust or debris)

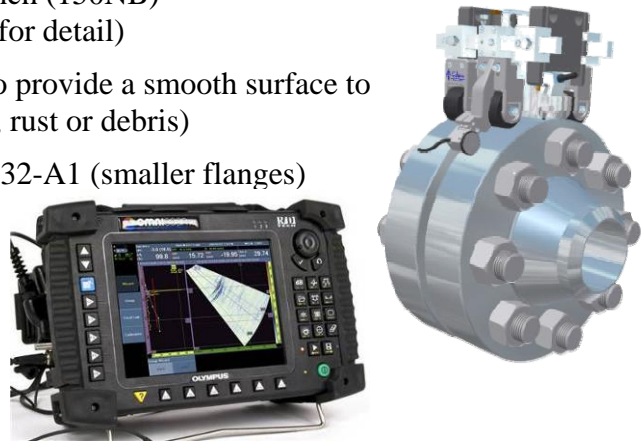
Phased array transducer: 5L16-A3 (standard), or 10L32-A1 (smaller flanges)

Eclipse Flange Scanner: WEMFSCAN

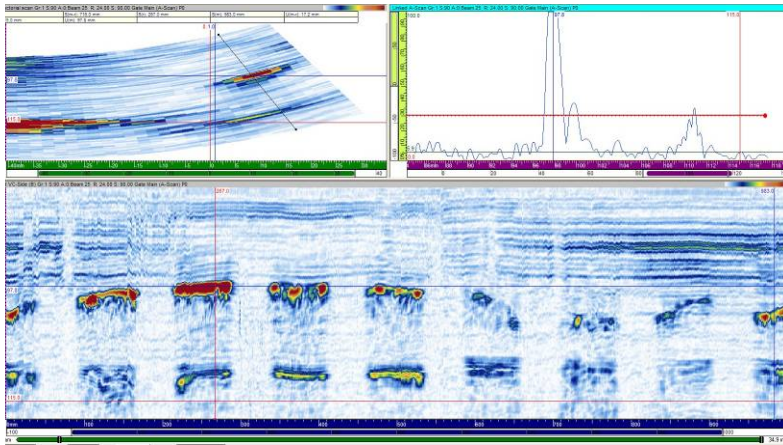
Encoder: Olympus Mini encoder

OmniScan MX 16/64; 16/128, 32/128

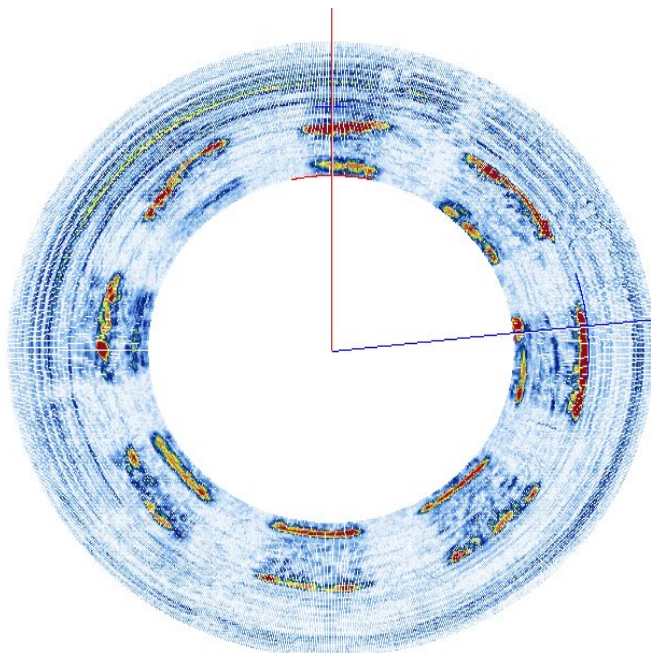
Inquire about training and field support.



## Defect detection and presentation:



TomoView S-,A-,&C-scan display showing erosion on raised face & actual inspected flange image



### Polar Plot

View left shows one seal face PA-UT data set in a display for easy interpretation and correlation.

### Display and analysis options:

Operators can perform analysis using TomoView or the OmniScan. Using TomoView enables the use of numerous pre-defined display layouts.

Analysis can be performed viewing both raised face data sets simultaneously as polar plots (left) or as shown above as individual C- B- or D-scan layouts.

OmniScan evaluate collected data can be performed prior to moving off flange.