



EKOSCAN

HIGH TEMPERATURE PHASED ARRAY WEDGES

For EK10, EK11, EK12 and EK PIPE

WL 0° / WS 55° / WL 60°



EKOSCAN
INDUSTRIAL ULTRASOUND

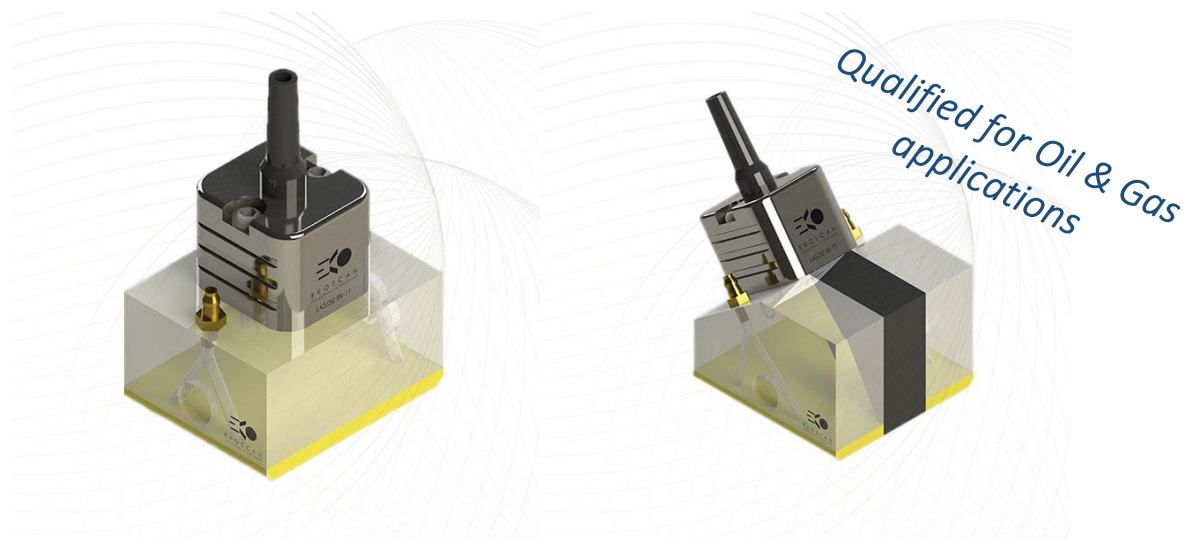
New EKOSCAN Phased Array high temperature wedges

EKOSCAN proudly presents its new High Temperature Wedge range. Phased Array inspection on high temperature components is essential in many industries.

On the one hand this can be in production: metal or cast iron bar inspection before full cooling, extruded plastic tubes or pipes, etc. On the other hand this can be maintenance inspection such as: inspection without shutdown of pipes, heat-exchangers, reactors, tanks, weld inspection without a cooling period.

High temperature inspection enable to avoid expensive shut-downs or make inspection of components without a cooling period which save time.

After R&D and qualification process, EKOSCAN finalized the development of an innovative High Temperature Phased Array wedge technology that enable controls up to 150°C.



Challenge of High Temperature ultrasounds

There is many reason why developing a high temperature wedge is challenging. If the wedge face on which the probe is applied exceed 80°C, the piezo-composite elements and its electronic connection would suffer irreversible damage. Heat propagation inside the wedge must be controlled.

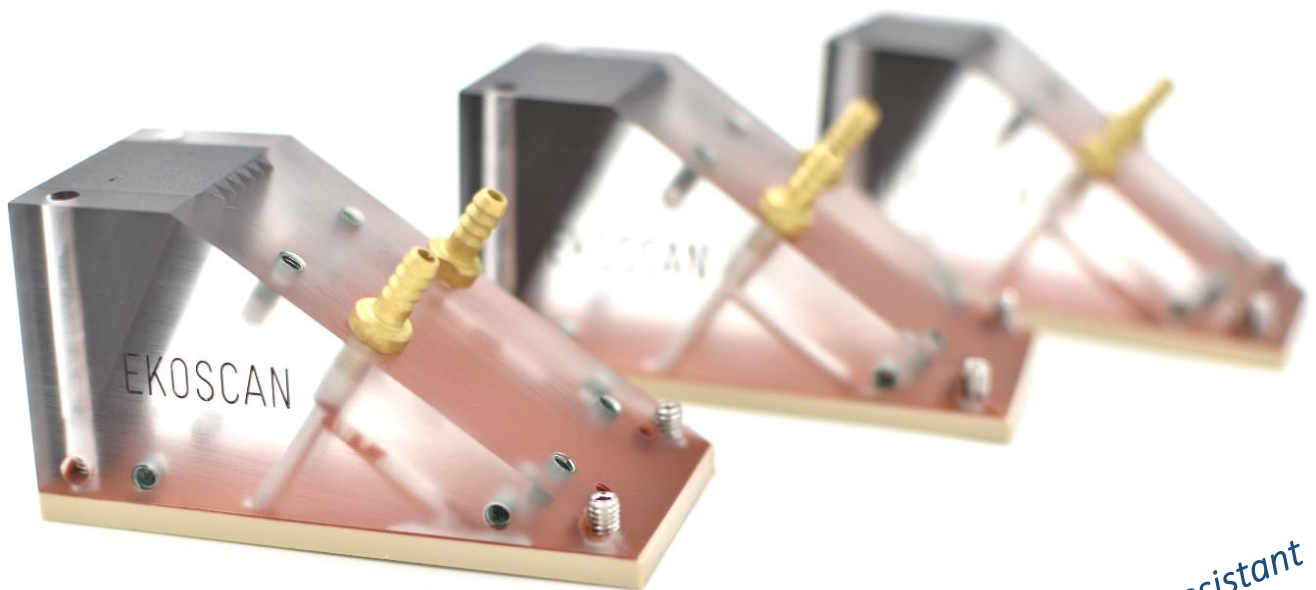
Wedge and inspected part temperature have a big impact on ultrasonic wave speed and propagation in it. This will impact focal laws and eventual indication positioning.

EKOSCAN R&D process consisted in developing a robust thermal insulator to protect the wedge from heat. It also has to be appropriate to ultrasonic wave propagation which means: no ultrasonic attenuation, no frequency shift, no signal filtering.



EKOSCAN High Temperature Wedges

- ✓ Maximum temperature of use : **150°C**
- ✓ Maximum frequency recommendation : **7.5MHz**
- ✓ Maximum duration for a continuous inspection at 150°C : **12 minutes**
- ✓ Frequency shift **5MHz → 4 MHz**
- ✓ Signal attenuation compared to a standard wedge : **- 3dB**
- ✓ **4 times** more resistant than a Rexolite® wedge



*4 time more wear resistant
than a standard wedge*

Conclusion

EKOSCAN High Temperature Wedges are a simple and reliable for your Phased Array high temperature inspection. High Temperature Wedges are available for every EKOSCAN probe. Specific High Temperature Wedges can also be designed upon request.