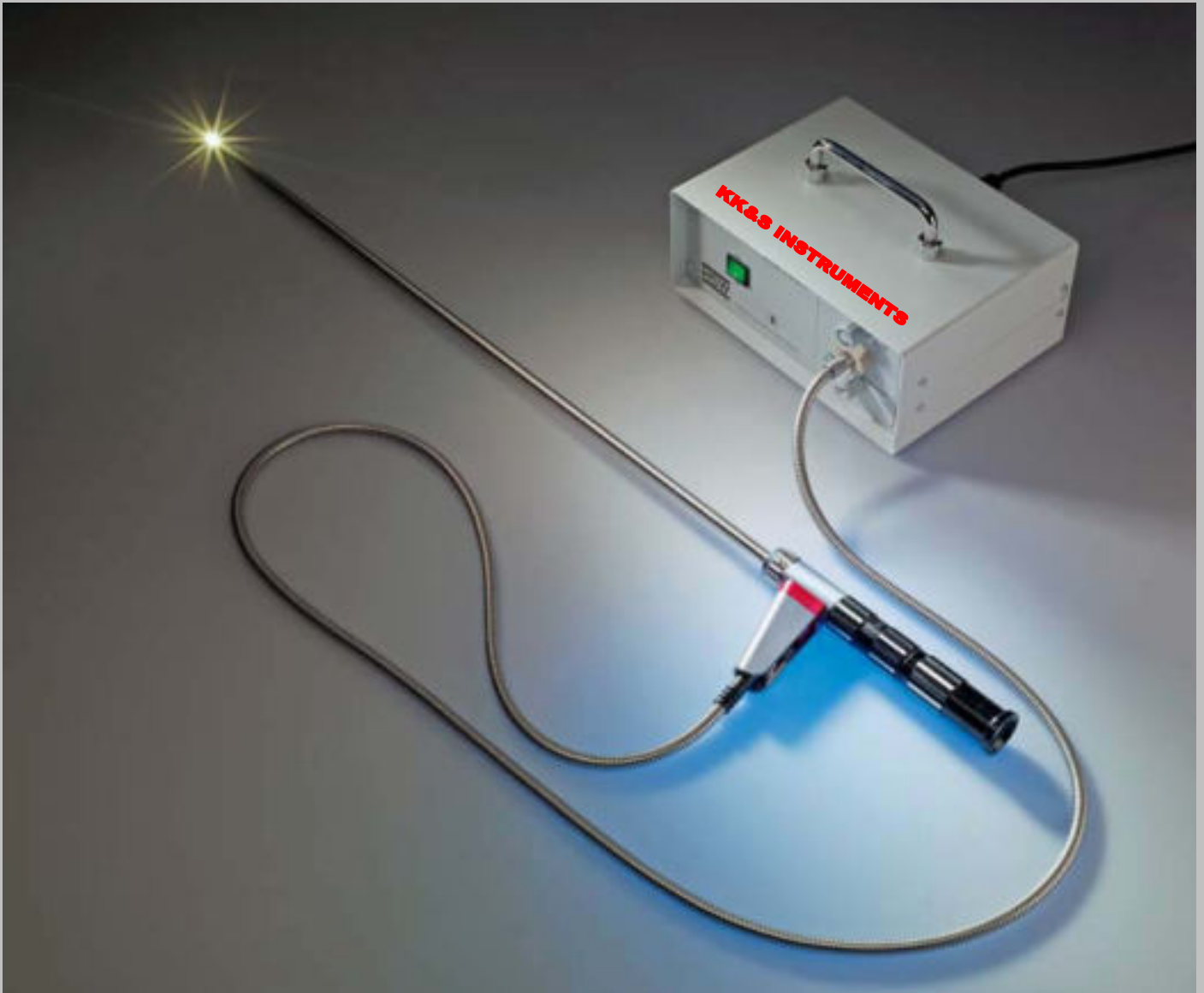


Issue 11

The Probe

KK&S INSTRUMENTS - July / September 2013 Issue



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HENKE SASS WOLF

German made Borescopes & VideoScopes



Endoscopy is a state-of-the-art, cost-effective method of non-destructive material inspection used in many branches of industry, manufacturing and building trade.

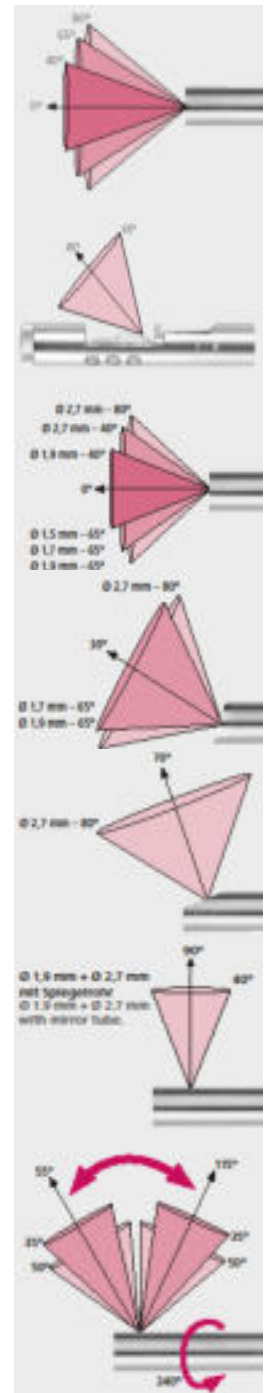
HSW Borescopes do an excellent job for the visual inspection of components or hard to access cavities, rendering time-consuming and costly dismantling work unnecessary.

HSW offer a large variety of Borescopes, whether ridged, flexible, articulated, miniature or video they cover many different applications ranging from classic turbine inspections to the examination of inaccessible building cavities to archaeological projects.



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News – What's NEW!

Karl Deutsch our manufacturer now has 12 videos on their YouTube site, “NDT Channel”

Take a look next time your on the web

<http://www.youtube.com/user/NDTChannel>

“NEW” Coating Thickness Probe – Measure coatings up to 100mm Thick – INCLUDING FIBERGLASS



HELMUT FISCHER has developed the FA100 probe, which fully covers the thickness range of up to 100mm. The FA100 Probe can be connected to the handheld instruments ISOSCOPE® or DUALSCOPE® of the FMP family, allowing mobile use wherever needed. The handy FMP gauges are available with either touch screen or even more robust conventional button control models.

Unlike ultrasonic probes the FA 100 doesn't require any couplant medium. Also, wrapped multi-layer coating material will not influence the FA 100-measurement as can be the case with ultrasonic methods.

The metallic pipe core can be either ferromagnetic steel, stainless steel and also aluminium or copper, as the basic principle for the probe FA 100 is eddy current.

The ability to measure coatings up to 100 mm accurately and precisely to 1mm is outstanding with FA100 and DUALSCOPE® FMP100. This will enable monitoring of processes more closely and ensure that the pipelines are not over-coated whilst still meeting tolerances and thus will save costs on this process.

Have any questions or like a price, contact us on -
Ph 02 88503755 - contact@kks.com.au - www.kks.com.au

Application – Sprayed TSA Coatings on Stainless

Determining the thickness of thermally sprayed aluminium (TSA) coatings on stainless steel

Ensuring the long-term protection of parts exposed to the extremely harsh conditions found in offshore environments requires specialised anti-corrosion coatings. For example, thermally sprayed aluminium (TSA) – used to protect stainless steel against corrosion even at high temperatures – can withstand marine influences for decades. However, to achieve such longevity, the TSA must have a pre determined coating thickness, making quality inspections mandatory.



Thermal spraying techniques are very effective for applying thick layers over large areas, as the hot coating materials are literally squirted onto the surface. Compared to other coating processes, such as electroplating or chemical vapour deposition, the rates of deposition are high: the aluminium is fed in wire form, molten and accelerated as micrometre-sized particles towards the substrate, forming a tough, protective casing.

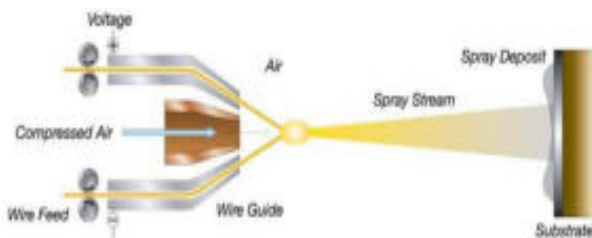


Fig.2: Schematic diagram of an electric arc wire process

The TSA coatings used in the oil and gas industry are typically between 250 and 500 μm ; layers this thick can only be measured using the phase sensitive eddy current method. Controls are usually performed either right after the coating process or during maintenance to monitor the progress of corrosion and to determine whether parts should be re-coated.

FISCHER's handheld PHASCOPE® PMP10 instrument, together with the probe ESD20Zn, is used for measuring TSA coatings in situ. Calibrating the probe is easily done, as the user is guided step-by-step through the instrument's software: first measurements are taken in air and of the base material (e.g. stainless steel), then of the saturation-thick TSA coating (material depending, but >1 mm, on the same steel base); and finally, measurements are taken on real samples at the higher and lower ends of the expected range.



Fig.3: The portable Phascope PMP10 uses the phase-sensitive eddy current measurement principle to determine accurately the thickness of TSA coatings.

Have any questions or like further details, contact us now !

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