AMS-71/73 - Mobile Blade Array Scanner
– Fast, easy and safe automated ultrasonic inspection of rotor blades

The AMS-71/73 gives you speedy, efficient and safe quality assurance of the blade structural integrity. The scanner will increase your production speed and decrease your production costs.

**Better quality, faster production and lower costs**
We know that blade quality is a key issue for the ultimate long-term rotor blade performance. The AMS-71/73 will make your quality assurance of blade structural integrity a whole lot easier and much more efficient.

The system is designed to be used on vertically oriented blades. And the unique full size multi-channel probe array with 24 high-performance ultrasonic probes gives you a linear inspection speed of 5-7 meters per minute.

Furthermore, this innovative automated ultrasonic blade inspection system only requires one operator.

**Advantages**
- efficient single man operation
- unbeaten high inspection speed
- unique full size multi-channel probe array
- high resolution data capture
- thorough inspection of vertically oriented blades
- autonomous operation, self-powered
- integrated coupling media recirculation.
Application
The AMS-71/73 is an automated scanner device for ultrasound inspection of Spar Cap Girder structure of fibre reinforced rotor blades for wind turbines. It is designed for inspection of 200/400 mm wide Spar Caps.

The inspection is performed with a forklift mounted scanner while the Spar Cap Girder structure of the rotor blade is placed vertically. The inspection performs 24 line scans along the length of the blade.

During inspection the forklift is driven by the operator along the rotor blade. The operator positions the scanner unit at the correct position (height) with help from a video camera. The scanner unit is mounted on a motorized arm that forces the probes against the blade surface and compensates for the changing distance.

Design
The AMS-71/73 includes a scanner unit that through gimbal joints is connected to a motorized telescopic arm system. The arm is mounted on the crane of the forklift tower. The tower is used to elevate the scanner unit to the desired height.

The auxiliary equipment needed for operating the system is placed in a cabinet mounted on the front of the forklift. The forklift provides electrical power to the inspection system so no external power supply is needed during scanning operation.

Scanner unit
The scanner unit consists of a gimbal suspended array containing the 24 line scan probe units. The gimbal frame is connected to the base frame through two horizontal joints. The base frame is connected to the telescopic arm through a vertical joint.

The two set of joints and the three contact wheels on the gimbal frame make sure that the scanner unit is aligned with the blade surface when it is moved against the blade surface.

The scanner unit is equipped with 3x8 probe units. They are placed so the probes have a vertical distance of 12.5 mm to cover the required scanning width of 300 mm. Hence, the vertical resolution is pre-defined to 12.5 mm.

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>AMS-71</th>
<th>AMS-73</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height x width x length (min.)</td>
<td>2.6 x 1.3 x 2.8 m</td>
<td>2.6 x 1.3 x 2.8 m</td>
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<tr>
<td>Weight</td>
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<td>3 ton</td>
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<tr>
<td>Inspection height (centre line)</td>
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<tr>
<td>Noise emission</td>
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Further information
E-mail: sales@p-scan.com

FORCE Technology • Headquarters • Park Allé 345 • DK-2605 Brøndby • Tel. +45 43 25 00 00 • info@forcetechnology.com • forcetechnology.com

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