

# UZM 1000

## ULTRASONIC IMMERSION SCANNING SYSTEM FOR TURBINE DISCS

UT



### DESCRIPTION

- 6 axis high precision UT immersion for inspection critical parts in aerospace
- Comply with Rolls-Royce specification RPS 705 and others
- CE marking / EMC compatibility
- Used for testing parts of GE Aerospace, Rolls-Royce, Pratt & Whitney ...

### BASIC SPECIFICATION

<b>DIMENSION OF WORKPLACE</b>	outer size 4 x 3 x 2 m	<b>WATER SYSTEM</b>	filters for water cleaning / bubbles removing thermostatic control
<b>INNER TANK SIZE</b>	150 x 1250 x 1250 mm	<b>CONTROLS</b>	automated scanning process of 100% volume / surface
<b>POWER SUPPLY</b>	3 x 400V, 50 Hz, 12 kW	<b>MANIPULATION UPLOAD / UNLOAD</b>	upload / unload manual – rail hoist system
<b>INSPEKCTION TECHNIQUE</b>	immersion UT scanning / echo start	<b>STRUCTURE</b>	stainless steel construction with viewing window and UT calibration reflector structure optimized for noise suppression to allow inspection at high UT instruments gains
<b>TESTED PARTS</b>	forgings – aerospace turbine – high temperature alloys up to 100 diam. x 600 mm up to 750 kg		

Place of installation: PCC, s.r.o, Pilsen, Czech Republic  
Year of installation: 2002  
Contact to the users plant: Mrs. Saskova, Mr. Petrmichla, Plant Manager

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## MAIN PARTS OF THE SCANNER

- software immersion tank with support frame
- motorized X, Y, Z scanning bridge (rectangular coordinates)
- motorized turntable W inserted to tank
- motorized dual gimbal transducers holder (A, B)
- set of probes / transducers holders
- water system with cleaning and air bubbles removers
- PC based motion control system for motion control (Windows)



## MOTION AND CONTROL FEATURES

- selectable automated / manual motion control
- operator console based on industrial PC for complete system control and parameter setting, pushbutton panel for manual motion control
- on-line software based screen display of motion parameter
- closed loop servo motion control hardware with Windows NT / 2000 OS
- encoder feedback on each motion axis available, including B, W (turntable), X, Y, Z
- inspection along surfaces of arbitrary contour shape in the index direction
- scanning velocity up to 1m/s
- turntable table speed up 45 turn/min continuously adjustable
- typical angular resolution 0,02°
- typical angular accuracy +/- 0,1°
- typical positioning resolution 0,04 mm
- typical positioning accuracy +/- 0,1 mm

