

UZM 1000

ULTRASONIC IMMERSION SCANNING SYSTEM FOR TURBINE DISCS



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

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



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

