



LSR roboscanner for the evaluation of butt and filletwelds of test plates.



The LSR scanner is designed for non-contact measurement and digitization of the weld surface of butt and corner test plates, for subsequent assessment using 3DLD technology of the practical skills of welders in fusion welding.

The LSR scanner consists of an LS2D laser sensor (1) for scanning the surface of a weld, installed on a Dobot Magician robot (2) and PC (3).

LS2D (1) represent modern 2D triangular laser sensors that digitalize surface up to 1000 sections per second and in each section receive coordinates 1024 points.

The Dobot Magician (2) robot provides a longitudinal movement of the LS2D laser sensor to a predetermined length and is a mass-produced Dobot product link to <https://www.dobot.cc/dobot-magician/product-overview.html>.

PC (3) contains 3DLD technology software that manage LSR scanner, evaluates received data, calculates Welding Qualification Index (WQI) and forms certificate of welding skills. Connection of Dobot(2) and LS2D(1) scanner is provided by RJ-45 and USB connection.

Technical characteristics of the LSR roboscanner.

Scanned objects	Corner welds of Test plates
Width of scanning of a weld no more (mm)	70
Measurement range on the leg of the weld (mm)	0,5 ... + 12
Length of Test plates (mm), Less than	180
Speed of measurements (sections / s)	1000
Scan speed (mm/s)	12
Absolute measurement error along the height of the seam is not worse (mm)	0,05
Absolute measurement error along the seam width is not worse (mm)	0,4
Range of working temperatures (° C)	-5 + 50
Relative humidity at 25 ° C (%)	20 - 80
AC supply voltage (V)	220 - 230
Overall dimensions in the initial position W x H x L (mm)	224 x 330 x260
Weight, less than (kg)	5