

Engr. Spec. #	Importance	Source	Specification (description)	Unit of Measure	Marginal Value	Ideal Value	Specification Met (Y/N)	Notes:
			System specs					
ES1	3	CN4	Weight	lbs	40	10	Y	Weight of system is between 35 - 40 lbs
ES2	3	CN4	Footprint size	sq ft	4	2	Y	Footprint size is: 28.5 x 20
ES3	3	CN3, 7	Cost	\$	\$10,000	\$7,000	Y	Total Cost: \$9,369.92
ES4	1	CN8	# of rivets tested simultaneously	parts	1	>1	Y	1 Rivet can be tested at a time
ES5	1	CN9	# of models compatible	models	56	All models	Y	Program is designed to test both types of Rivets (Universal and Flush head) as well as the various ranges of sizes with the input of the proper spec file
			Measurement specs					
ES6	1	CN10	Cycle time per rivet	seconds	60	10	N	Cycle time to Scan a rivet is 2 minutes and 7 seconds. This time can easily be decreased through, the provided recommendation of larger stepper motors, and precision stages
ES7	3	CN13, 15, 16, 19, 20, 22, 25, 30	Total longitudinal travel	in	2.5	3	Y	Total length of travel is between 6 - 7 in
ES8	3	CN 14, 17, 18, 21, 23, 24, 26	Total rotation	deg	360	inf	Y	Rotational travel completes a full 360°
ES9	9	CN13, 15, 16, 19, 20, 22, 25, 30	Longitudinal scan resolution	scans/mil	10	20	N	Changed to 2 scans/mil to improve scan speed. Accepted by customer during weekly meeting, week 6.
ES10	9	CN 14, 17, 18, 21, 23, 24, 26	Rotational scan resolution	scans/full rotation	180	360	Y	Records 200 scans per rotation (every 1.8 deg)
			Data processing specs					
ES11	9	CN31, 32	Precision of vertical measurements (diameters)	mil	1	0.1	Y	±0.00001
ES12	9	CN31, 32	Precision of horizontal measurements (lengths)	mil	1	0.1	Y	±0.00001
ES13	9	CN31, 32	Precision of angular measurements	deg	1	1	Y	Reports angular measurements (flush head angle) to 2 decimals
ES14	1	CN33, 34	Local data storage	# of lots	1	>1	Y	Generated report file for each scan is only 2 KB.
ES15	3	CN36, 37	Outputs compatible with SQL	boolean	y	y	Y	Data from Labview program is output into a .csv file for easy compatibility into other programs
ES16	9	CN35	SPC tracking of data	boolean	y	y	N	Data output provided can be easily set up in another program to obtain statistical analysis. It is not completed fully in the LabVIEW program. Program provides a pass/fail for the operator