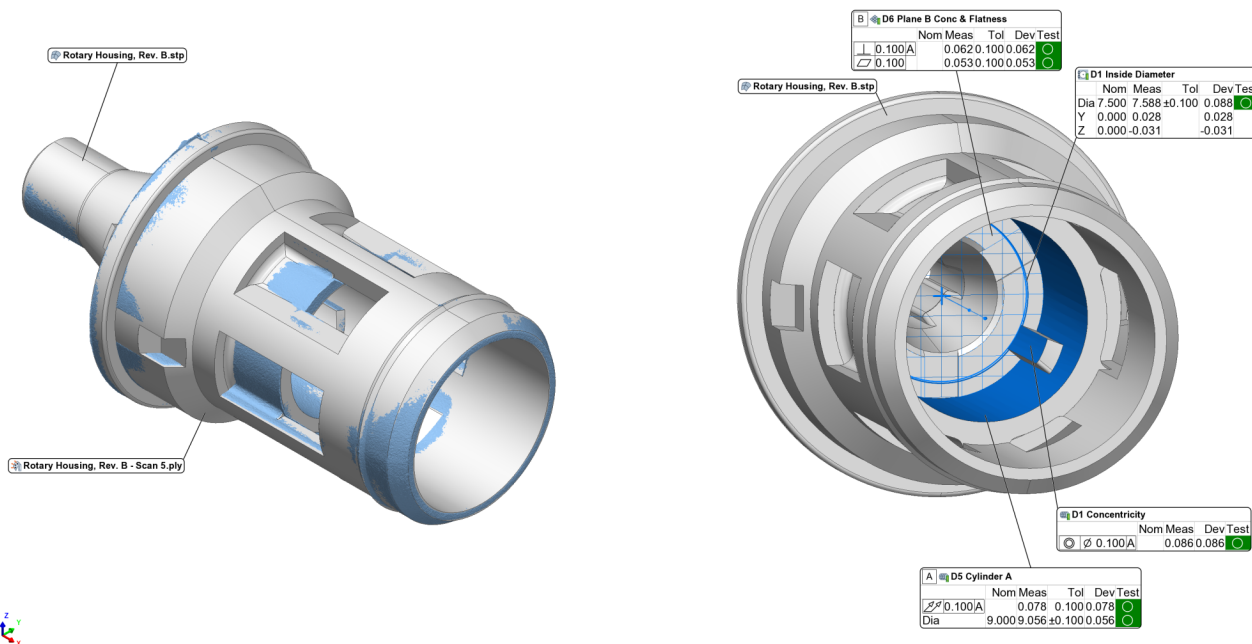


X-RAY & CT SCANNING | 3D SCANNING & METROLOGY | REVERSE ENGINEERING | DYE PENETRANT | MAGNETIC PARTICLE | NDT CONSULTING

Sample Report - Plastic Rotary Housing - Repeatability

Project Summary: This project evaluates the repeatability of IIC industrial computed tomography scanner IIC-015 for dimensional inspection. A single rotary housing component was scanned five times under identical conditions to assess the system's consistency in capturing dimensional measurements.



Cp (Process Capability) is a statistical measure that indicates how well a process can produce outputs within specified limits, specifically focusing on the potential capability of the process. It assesses whether the inherent variability of the process is narrow enough to consistently meet customer specifications.

Cp < 1: The process is not capable of meeting specifications, meaning the process variation is too wide relative to the specification limits.

Cp ≥ 1: The process is capable of meeting specifications, with the process variation being narrower than the specification limits. A higher Cp value indicates a more capable process.

Cp 1.33: A highly capable process, meaning the process variation is significantly narrower than the specification limits.

Object	Control	Nominal	Tolerance	Scan 1	Scan 2	Scan 3	Scan 4	Scan 5	Mean Meas	Range	%Within Tol	Cp	Cpk
D1 Concentricity	Concentricity A		0.100	0.083	0.085	0.086	0.086	0.086	0.085	0.003	100.000		7.420
D1 Inside Diameter	Diameter	7.500	±0.100	7.587	7.587	7.588	7.587	7.588	7.587	0.001	100.000	50.133	6.317
D3 Slide Rib TSC Width 1	3D Distance	1.173	±0.025	1.161	1.160	1.160	1.161	1.161	1.161	0.001	100.000	18.800	9.475
D3 Slide Rib TSC Width 2	3D Distance	1.173	±0.025	1.155	1.156	1.156	1.155	1.155	1.155	0.001	100.000	18.800	5.565
D3 Slide Rib TSC Width 3	3D Distance	1.173	±0.025	1.160	1.160	1.160	1.159	1.160	1.160	0.001	100.000	18.800	8.874
D5 Cylinder A	Total Runout A		0.100	0.078	0.078	0.080	0.078	0.078	0.078	0.002	100.000		8.122
D5 Cylinder A	Diameter	9.000	±0.100	9.054	9.055	9.055	9.055	9.056	9.055	0.002	100.000	75.200	33.840
D6 Plane B Conc & Flatness	Perpendicularity A		0.100	0.062	0.062	0.063	0.062	0.062	0.062	0.001	100.000		28.426
D6 Plane B Conc & Flatness	Flatness		0.100	0.053	0.053	0.053	0.053	0.053	0.053	0.000	100.000		
D4 Rotary Step Profile 1	Surface Distance		±0.050	-0.026	-0.024	-0.023	-0.024	-0.023	-0.024	0.003	100.000	15.040	7.821
D4 Rotary Step Profile 2	Surface Distance		±0.050	-0.020	-0.017	-0.020	-0.017	-0.020	-0.019	0.003	100.000	6.267	3.910
D4 Rotary Step Profile 3	Surface Distance		±0.050	-0.025	-0.026	-0.027	-0.030	-0.026	-0.027	0.005	100.000	8.356	3.877
D2 Step Depth 1	Length	0.200	±0.050	0.173	0.174	0.175	0.175	0.174	0.174	0.002	100.000	25.067	12.132
D2 Step Depth 2	Length	0.200	±0.050	0.172	0.172	0.171	0.171	0.170	0.171	0.002	100.000	37.600	15.942
D2 Step Depth 3	Length	0.200	±0.050	0.173	0.170	0.173	0.173	0.174	0.173	0.004	100.000	10.743	4.856

Project Number:

Part Name: Rotary Housing

Date Received: 6/24/2025

Date Completed: 6/25/2025

Part Number:

Client:

Rev & CAD Model: Rotary Housing, Rev. B.stp

Client Contact:

Piece & Condition: Pc.1 for Report, Pcs. 1-5

Client Address:

Cavity:

IIC Technician: BK

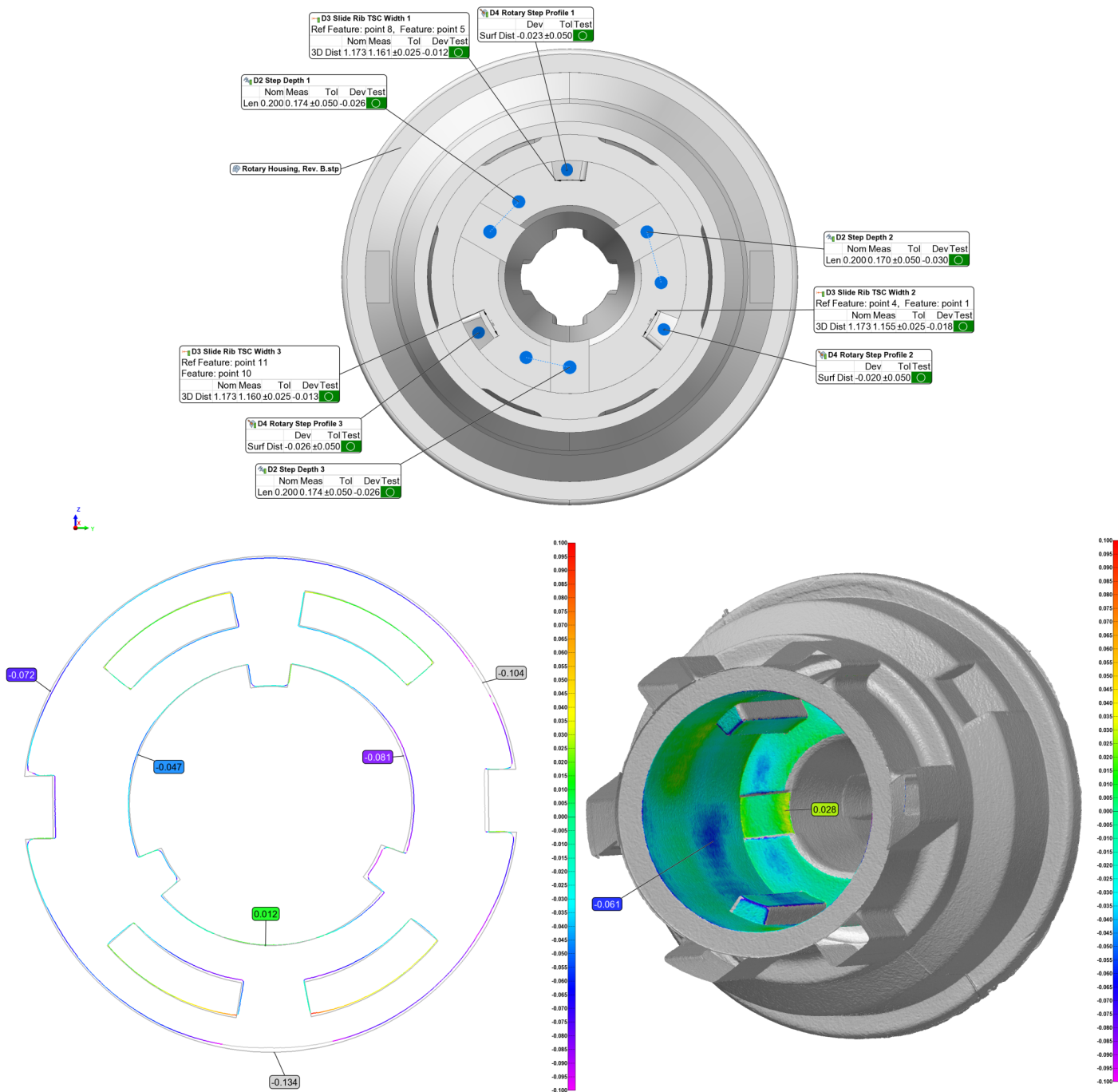
IIC Manager Review: KI

Equipment & Units: IIC-015, mm

Sample Report - Plastic Rotary Housing - Repeatability

Page notes:

Color map profiles and GD&T tools were used to further evaluate the dimensional consistency of the CT scans. The color map profile visually compares the scanned rotary housing to its nominal CAD model. By displaying deviations in color, it quickly highlights areas of variation across the five scans.



Project Number:

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IIC Technician: BK

IIC Manager Review: KI

Part Name: Rotary Housing

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Rev & CAD Model: Rotary Housing, Rev. B.stp

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Cavity:

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