



KNEO AUTOMATION PRESENTS

MAPP Zen Quality 4.0

Smart, system-driven quality aligned to AIAG-VDA and Industry 4.0.

AIAG-VDA

Industry 4.0

Web-based

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THE CHALLENGE

Why quality is still hard today

Today's challenges



Complex quality workflows



Manual & repetitive documentation



Disconnected core quality tools

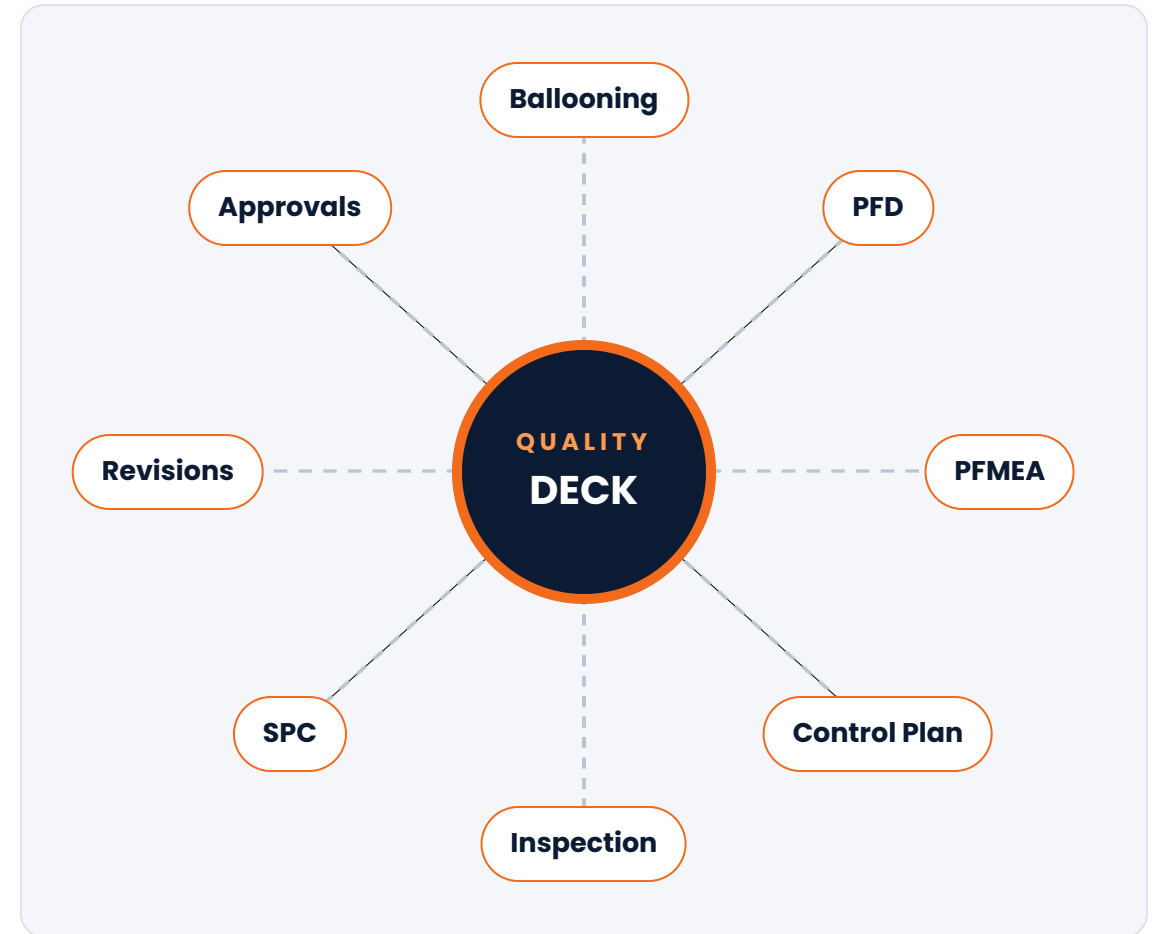


High audit & compliance risk

ADVANTAGES OF MAPP ZEN

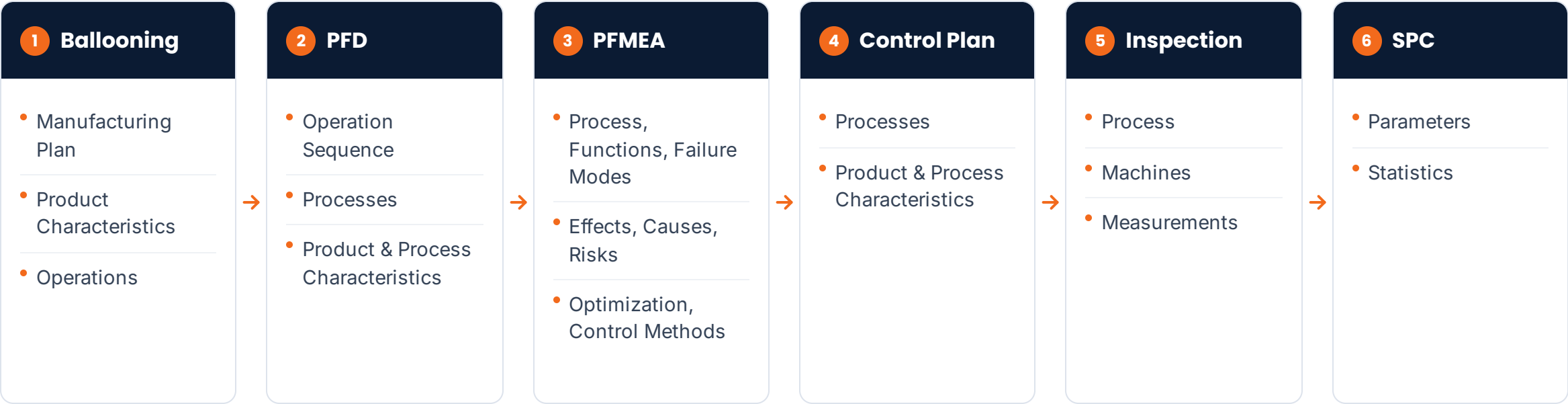
- ✓ Up to 40% reduction in effort
- ✓ Improved compliance and accuracy
- ✓ Improved reliability of information

One Quality Deck — every tool connected



Quality digital backbone

Data is created once, reused everywhere, and stays traceable from intent to outcome.



SINGLE SOURCE OF TRUTH

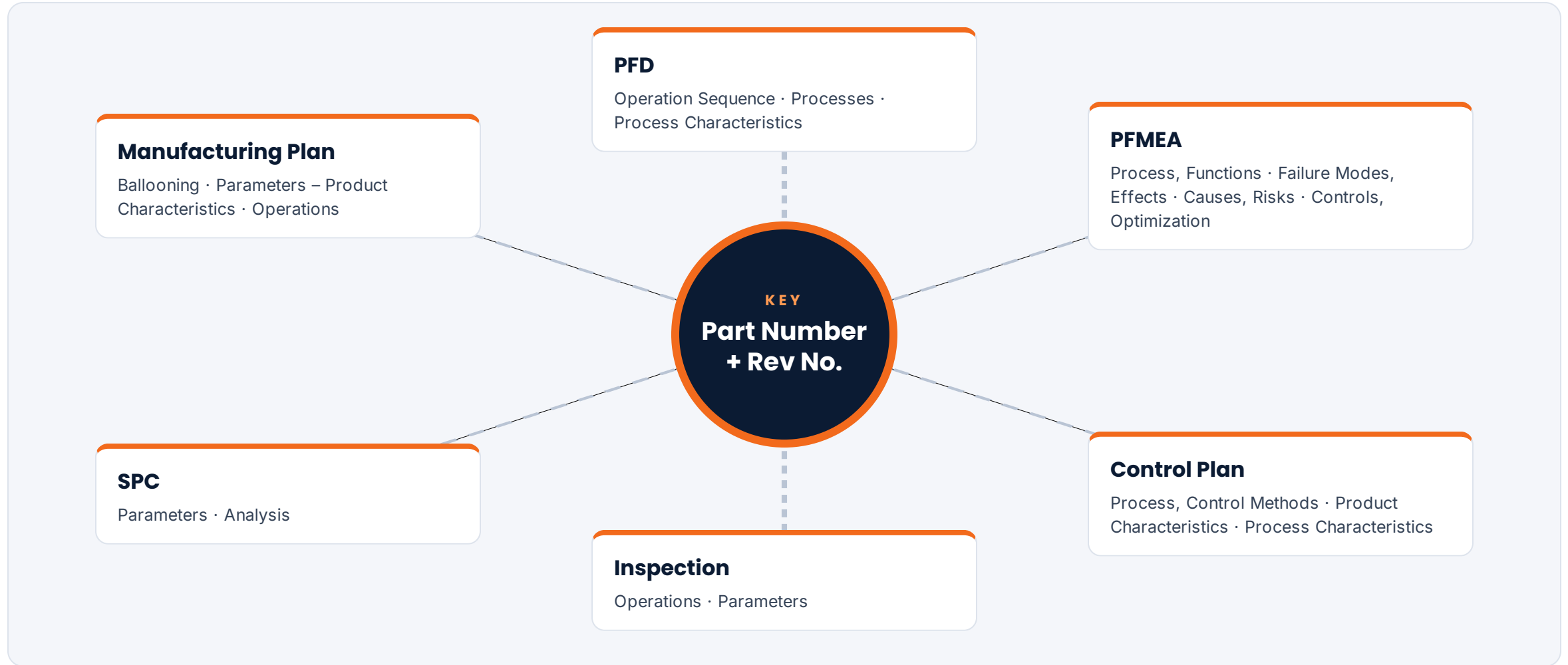
QUALITY DECK

Revisions

Approvals

Full traceability

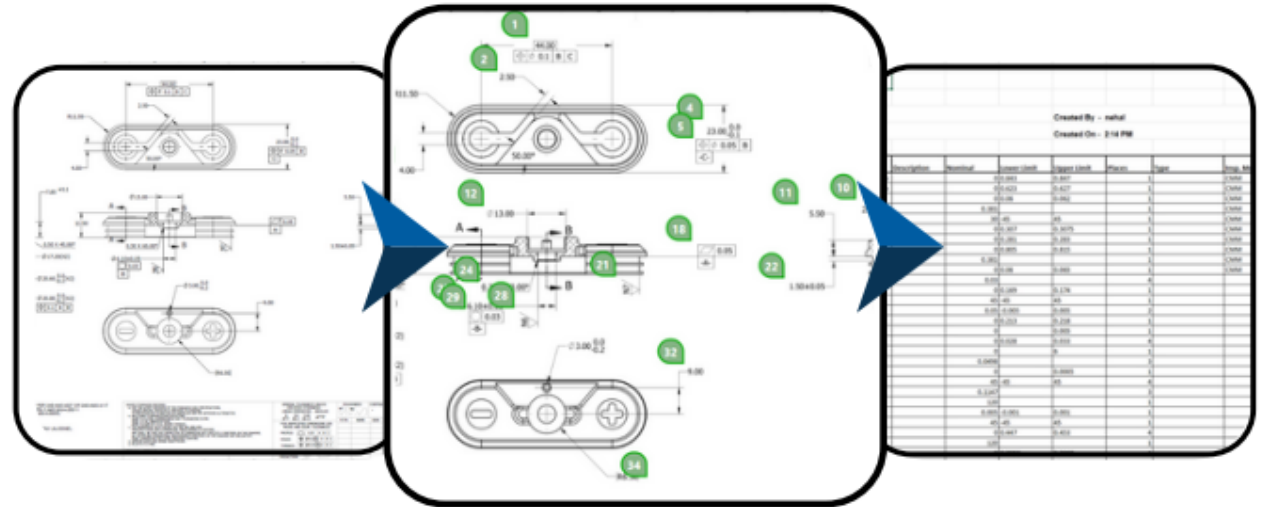
Every module linked by part number and revision



Auto Ballooning — structured drawing intelligence

Reduced time and effort — saved cost, increased productivity.

- ✓ Web-based — convenient access anytime, anywhere
- ✓ Instant and precise balloon creation
- ✓ Captures Nominal, $\pm$ Tol, Min/Max, GD&T, Notes, Sheet & Zone
- ✓ Characteristic linkages (Drawing → PFD → PFMEA → Control Plan)
- ✓ Customizable balloon numbering and formatting
- ✓ Configurable customer-defined tolerances
- ✓ Auto-generate detailed inspection plans
- ✓ Suitable for in-process and final inspections



Plan / Drawing → Auto-Ballooned Drawing → Manufacturing Plan

PFD — Process Flow Diagram

Configurable process definitions, as per AIAG-VDA standard.

- ✓ Configurable process definitions
- ✓ Define incoming sources of variation
- ✓ Define product and process characteristics
- ✓ Direct linkage from Manufacturing Plan
- ✓ Process master templates for instant process detail creation
- ✓ Preview exports in standard Excel formats
- ✓ As per AIAG-VDA standard

Create New Process Flow

Please provide all the required information below to continue with the process flow creation or update.

Part Number

SR_3763

Revision Number

1

Product

Synchronizer Ring

Higher Level Name

Manufacturing

Core Team

AK Khan, Sita K

Process Responsibility

Seema Rai

Process Identification

Sarita Mane

Key Date

24-12-2025

Submit

Create process flow

Synchronizer Ring - SR_3763 [123]

Search operations...

+ Add Operation

Preview

Export

OP-10
Raw Material Receipt

OP-20
MOLD

Operation Details

Operation Name
OP-20

Process Name
MOLD

Incoming Source Of Variations

Incoming Sources of Variation

Characteristics

Search all...

Columns

+ Add Characteristic

ID No.	Product Characteristic	Process Characteristic	Special Characteristic	Actions
1	MD_PRI			...
2		MD_PCI		...

1 to 2 of 2Page 1 of 1

Operation details

Part Number: SR_3763

Process Responsibility: PR

Process Identification: PI

Product: Synchronizer Ring

Prepared By:

Core Team: TEST

Key Date: 12/23/2025 00:00:00

Date [Original]: 12/23/2025 14:24:07

Date [New]:

Step No.	Step Description	Incoming Sources of Variation	Process Flow Diagram	ID No.	Product Characteristics	Process Characteristics	Special Characteristics
OP-10	Raw Material Receipt	Quota (Q) with pickup		1	PRI		
				2		PCI	
OP-20	MOLD	Incoming Sources of Variation		1	MD_PRI		
				2		MD_PCI	

PFD export preview

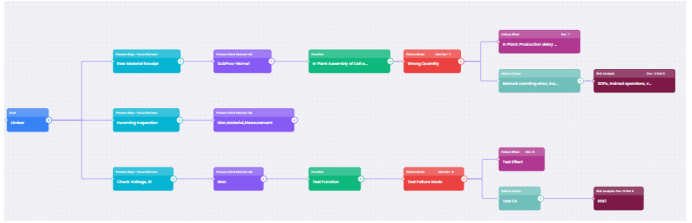
PFMEA — visualize, prioritize, control

AIAG & VDA seven-step approach with mind maps and heat maps.

- ✓ Linkages to PFD and Manufacturing Plan
- ✓ Processes imported directly from PFD
- ✓ Mind map for function, failure and risk analysis
- ✓ Add, modify, delete nodes seamlessly
- ✓ Colour-coded nodes for visual data
- ✓ Optimization using heat maps
- ✓ Process master templates
- ✓ Preview exports in standard Excel formats



AIAG-VDA seven-step approach



Mind map analysis



Risk heat maps

Control Plan — from planning to controlled execution

Characteristics and control methods flow in from upstream modules.

- ✓ Linkages to PFD, Manufacturing Plan and PFMEA
- ✓ Processes imported directly from PFD
- ✓ Product & process characteristics imported automatically
- ✓ Control methods imported from PFMEA
- ✓ Machines, tools and jigs at process level
- ✓ Fully editable characteristics list
- ✓ Standard revision and approval controls
- ✓ Excel export preview · as per AIAG-VDA

Placeholder for the 'Edit Control Plan Details' form, showing fields for CP Type, CP Number, CP Revision Number, Part, Process Flow Diagram, Manufacturing Plan, Key Contact, Supplier Plant, Supplier Code, and Core Team Members.

Control plan details

Placeholder for the 'Choose Import Methods For OP-80' form, showing options to 'Import from PFD' and 'Import from Manufacturing Plan', with a 'Continue with 2 Sources' button.

Import methods

Placeholder for the 'Process list' table, showing a list of processes with columns for Process ID, Process Name, and Action.

Process list

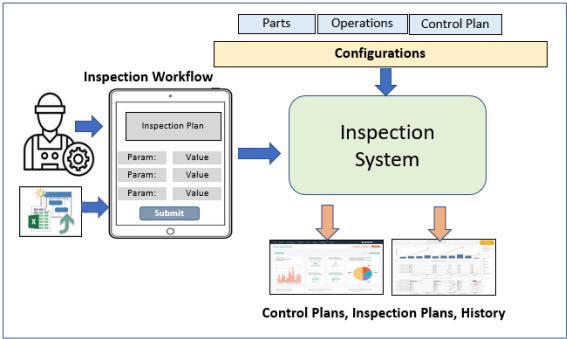
Placeholder for the 'Characteristics' table, showing a list of characteristics with columns for Sr. No., Product Char., Process Char., Special Characteristics, Specification Tolerances, Evaluation Measurement Techniques, Sample Size, Sample Frequency, Prevention / Error Proofing, Detection, Responsibility, and Actions.

Characteristics

Inspection — from Control Plan to shop-floor evidence

Digital inspection plans with supervisor approval and real-time reports.

- ✓ Plans created per machine / shift / operation
- ✓ Imported directly from Control Plan
- ✓ Product & process characteristics with tolerances
- ✓ Integrated inspection types
- ✓ Automatic submission at end of shift
- ✓ Supervisor approval or rejection
- ✓ Digital form data entry
- ✓ Reports based on real-time data



Inspection workflow

KK29727 #KK29727 | # OP-20 |

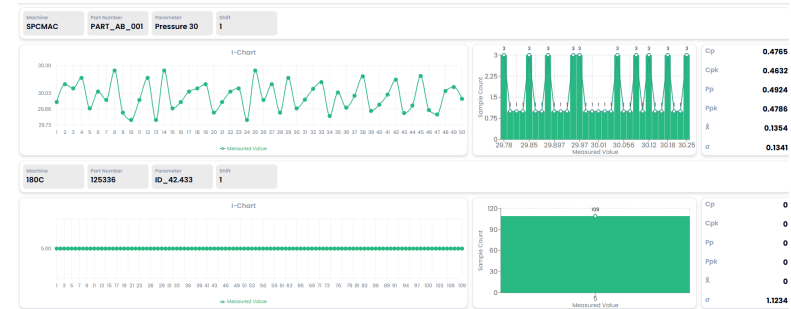
[Export](#) [Attachments](#) [Expand](#)

PRODUCT CHAR	PROCESS CHAR	SPECIFICATION	METHOD	FREQUENCY	CRITICAL	SETUP		IN-PROCESS		REMARKS
						Supervisor	QA Engineer	Operator	Operator	
Total Length	--	850 + 0.5	Vernier cali...	Per Half Hr.	----	12.3	First Piece	Type	In Process In: Type	Test
Face Perpendicularity	--	1 Max. W.R.T 'B'	Surface Plat...	Per Hour Hr.	----	5.4			11.4 11.6	
Dent & Damages	--	Free From Dent & Da...	Visual	100%	----	4.5			4.1 4.4	
Speed	--	100-130 in mtr/Min.	Speed meter	Per Setting	----	8.5			7.3 6.9	
Feed	--	5 - 6 Rev / Min	visual feed ...	Per Setting	----	4.23			5.5 5.3	
Cutter Resharpener/ cu...	--	Approx 10000 Nos Qty	Visual coun...	Every Resharpe...	----				2.56 1.78	

Inspection data entry

Live statistical process control from gauge data.

- ✓ Statistical analysis from collected parameter data
- ✓ Online gauge data collection and live SPC
- ✓ Cp, Cpk, Pp, Ppk capability indices
- ✓ SPC inspection



Live SPC charts

Live Inspections

History Inspections

Search all...

Columns

Connect

Fetch Data

ID	Port No. [Rev.]	Type	Operation	Lot Size	Created By	Created On	Status	Actions
5593	Ao [10]	SQC Inspection		0		November 5, 2025 2:47 PM	SAVED	---
5587	Ao [10]	SQC Inspection		0		November 5, 2025 9:52 AM	SAVED	---
5586	Ao [10]	SQC Inspection		0		November 4, 2025 6:50 PM	SAVED	---
5585	Ao [10]	SQC Inspection		0		November 1, 2025 4:29 PM	SAVED	---
5581	NWPRTO30926 [10]	SQC Inspection		0		September 4, 2025 4:31 PM	SAVED	---
5582	PART_AB_003 [10]	SQC Inspection		0		September 4, 2025 3:01 PM	SAVED	---
6579	- [10]	SQC Inspection		0		September 3, 2025 4:31 PM	SAVED	---
5580	NWPRTO30926 [10]	SQC Inspection		0		September 3, 2025 4:31 PM	SAVED	---

1 to 8 of 760

Page:

1

of 95

SPC inspection

Lot Inspection — prevent defects while producing

Fast, traceable lot inspection with automatic judgement.

- ✓ Manual & Bluetooth measurement capture
- ✓ Automatic OK / NOT OK judgement
- ✓ Digital inspection records & traceability
- ✓ Exports in standard Excel formats

Inspection ID - 6606									
Serial Number	PO Number	Plan Type	Part Number	Version	Lot Size	Inspection Type	Department	Status	Created By
Test 01		Manufacturing	Aa	VI	7	Final Inspection	IT	SAVED	Nehal
Serial Number	2	23.0 0.00 -0.1	3	2.5 ± 0.1	4	1.5 ± 0.1	6	1.5 ± 0.05	
	VAR	NONE	1 IN 4	VAR	NONE	1 IN 4	VAR	NONE	1 IN 4
1	23	✓	2.6	✓	1.5	✓	1.5	✓	
2	23	✓	2.5	✓	1.5	✓	1.5	✓	
3	23	✓	2.3	✗	1.5	✓	1.5	✓	
4	23.01	✗	2.4	✓	1.5	✓	1.5	✓	
5	23	✓	2.5	✓	1.5	✓	1.45	✓	
6	22.09	✗	2.5	✓	1.5	✓	1.55	✓	
7	23	✓	2.5	✓	1.5	✓	1.43	✗	

Lot inspection entry

Accurate Gauging and Instruments Pvt. Ltd.										
Part Number	Aa	Status	SAVED							
Part Description										
Drawing Number/Rev	Test 012345	Batch No	Test 01							
GRN No	Machine No (Input Parameter)									
Invoice No	13/02/2028									
PO No	Inspected By Nehal									
Department	IT	Lot size / Batch	7							
GRN Date	Plan Type Manufacturing									
Invoice Date	Inspection Type Final Inspection									
Inspection Details										
Balloon Number	Sheet & Zone	Description	Specification / Characteristic	UoM	Nominal	Lower Limit	Upper Limit	Type	Balloon Class	Method[Gage/Cal]
5			1= 23.0 0.00 -0.1 MM	MM	23	22.9	23	Nom ± Tol Length	Vernier Caliper.Digital Micro	
5			1= 23.0 0.00 -0.1 MM	MM	23	22.9	23	Nom ± Tol Length	Vernier Caliper.Digital Micro	
5	1:11C		1= 2.5 ± 0.1 MM	MM	2.5	2.4	2.6	Nom ± Tol Length	Vernier Caliper.Digital Micro	
5	1:11C		1= 2.5 ± 0.1 MM	MM	2.5	2.4	2.6	Nom ± Tol Length	Vernier Caliper.Digital Micro	
4	1:10C		1= 1.5 ± 0.1 MM	MM	1.5	1.4	1.6	Nom ± Tol Length	Vernier Caliper.Digital Micro	
4	1:10C		1= 1.5 ± 0.1 MM	MM	1.5	1.4	1.6	Nom ± Tol Length	Vernier Caliper.Digital Micro	
4	1:10D		1= 1.5 ± 0.05 MM	MM	1.5	1.45	1.55	Nom ± Tol Length	Vernier Caliper.Digital Micro	
6	1:10D		1= 1.5 ± 0.05 MM	MM	1.5	1.45	1.55	Nom ± Tol Length	Vernier Caliper.Digital Micro	
7	1:1E		1= 9.0 ± 0.3 MM	MM	9	8.7	9.3	Nom ± Tol Length	Vernier Caliper.Digital Micro	
7	1:1E		1= 9.0 ± 0.3 MM	MM	9	8.7	9.3	Nom ± Tol Length	Vernier Caliper.Digital Micro	

Sample 1

Sample 2

Sample 3

Sample 4

+

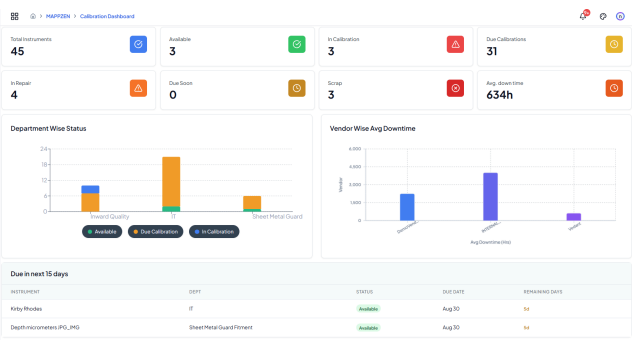
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Excel export

Calibra — calibration & instrument management

Complete calibration lifecycle in one place.

- ✓ Centralized instrument / equipment master database
- ✓ Unique ID / code for every instrument
- ✓ Complete calibration lifecycle management
- ✓ Calibration dashboard & KPIs
- ✓ Calibration due-date tracking
- ✓ Upcoming calibration alerts
- ✓ Calibration records for audit / reference
- ✓ Calibration history & traceability



Calibration dashboard

The Instrument register displays a detailed list of all instruments in the system. It includes a search bar and a filter dropdown. The table columns are: CODE, NAME, TYPE, MAKE, IP ADDRESS, PORT, STATUS, OPERATION, and CHANGE BY. The status column uses color-coded indicators: green for 'AVAILABLE', orange for 'IN CALIBRATION', and red for 'CALIBRATION DUE'. The 'OPERATION' column shows the last operation performed on each instrument.

CODE	NAME	TYPE	MAKE	IP ADDRESS	PORT	STATUS	OPERATION	CHANGE BY
Depth_Copy	Depth Micrometers (PQ_IMG)	Micrometer	IT team	192.168.1.2	20	AVAILABLE	U	NA
Depth_Copy	Depth Micrometers (PQ_IMG)	Micrometer	IT team	192.168.1.2	20	IN CALIBRATION	U	NA
ZZTEST-CAL-AV-03	ZZTEST Digital Micrometer	Digital Micrometer				CALIBRATION DUE	U	NA
ZZTEST-CAL-CH-03	ZZTEST Ring Gauge REG 2	Digital Micrometer				CALIBRATION DUE	U	NA
ZZTEST-CAL-AV-02	ZZTEST Vernier Caliper B	Vernier Caliper				CALIBRATION DUE	U	NA
ZZTEST-CAL-CH-01	ZZTEST Ring Gauge REG 1	Vernier Caliper				CALIBRATION DUE	U	NA
ZZTEST-CAL-AV-01	ZZTEST Vernier Caliper A	Vernier Caliper				CALIBRATION DUE	U	NA
ZZTEST-CAL-AV-02	ZZTEST Vernier Caliper B	Vernier Caliper				CALIBRATION DUE	U	NA
ZZTEST-CAL-AV-01	ZZTEST Vernier Caliper A	Vernier Caliper				CALIBRATION DUE	U	NA
ZZTEST-CAL-AV-03	ZZTEST Digital Micrometer	Digital Micrometer				CALIBRATION DUE	U	NA

Instrument register



LET'S TALK QUALITY

Thank You

See MAPP Zen live on your own parts, drawings and processes.

**One Platform.
Zero Quality Gaps.**

MAPP ZEN · QUALITY 4.0 PLATFORM

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