

Factors to Consider Before Buying a **Tool Inspection System**



Choosing measurement system by ease of use

| Measurement | Profile Projector | Vision Meas. System | Tool Inspector |
|---------------------------------|-------------------|---------------------|----------------|
| END MILL | | | |
| Radial | | | |
| Rake angle | ☹️ | ☹️* | 😊 |
| Primary clearance angle | ☹️ | ☹️* | 😊 |
| Secondary clearance angle | ☹️ | ☹️* | 😊 |
| Core diameter | ☹️ | 😊 | 😊 |
| Primary land width | ☹️ | ☹️* | 😊 |
| Margin Width | ☹️ | ☹️* | 😊 |
| Cutting Diameter | ☹️ | 😊 | 😊 |
| AXIAL | | | |
| Shank/Shaft Diameter | 😊 | 😊 | 😊 |
| OD (Cutting diameter) | 😊* | 😊* | 😊 |
| Helix Angle | ☹️ | ☹️* | 😊 |
| Length of cut | ☹️ | ☹️ | 😊 |
| Flute length | ☹️ | ☹️ | 😊 |
| Overall length | ☹️ | ☹️ | 😊 |
| Gash Angle | ☹️ | ☹️* | 😊 |
| Dish Angle | ☹️* | ☹️* | 😊 |
| Axial rake angle | ☹️ | ☹️* | 😊 |
| Axial primary relief angle | ☹️ | ☹️* | 😊 |
| Axial secondary clearance angle | ☹️ | ☹️* | 😊 |
| Chamfer Angle | ☹️* | ☹️* | 😊 |
| DRILL | | | |
| Radial | | | |
| Chisel edge angle | ☹️ | 😊 | 😊 |
| Flute width | ☹️ | ☹️ | 😊 |
| Web or core dia | ☹️ | 😊 | 😊 |
| Body Clearance diameter | ☹️* | ☹️* | 😊 |
| Wedge angle | ☹️* | ☹️* | 😊 |
| S value | ☹️* | ☹️* | 😊 |
| Rake Angle | ☹️* | ☹️* | 😊 |
| AXIAL | | | |
| Cylindrical margin | ☹️* | ☹️* | 😊 |
| Height of point | 😊* | 😊* | 😊 |
| Point angle | ☹️* | ☹️* | 😊 |
| OD | 😊* | 😊* | 😊 |
| Helix Angle | ☹️ | ☹️* | 😊 |
| Neck length | ☹️ | ☹️ | 😊 |
| Shank length | ☹️ | ☹️ | 😊 |
| Overall length | ☹️ | ☹️ | 😊 |
| Flute length | ☹️ | ☹️ | 😊 |
| Lip clearance angle | ☹️* | ☹️* | 😊 |
| Lip height | 😊* | 😊* | 😊 |



Profile Projector



Vision Meas. System



Tool Inspector

☹️ Not Possible

☹️ Requires expertise

😊 Possible

* Require fixture & alignment plate

Factors to consider

before purchasing Tool Measurement System

1. **Maximum tool length**
X-axis in mm
2. **Maximum tool diameter to be measured**
Y-axis in mm
3. **Minimum tool diameter to be measured**
Magnification(0.7X-4.5X)
4. **Maximum radial dimensions to be measured in one shot**
F.O.V (Area seen in one time)
5. **Minimum Tolerance in tools (ex. Reamer dia)**
Accuracy(3+L/200) & Repeatability $\pm 2\mu\text{m}$
6. **Profile tools with drawing measurement**
CAD overlapping
7. **For measuring darker areas like Gashing, chamfers**
Flexible spot illumination
8. **Ball nose radius check with repeatable results**
Edge Auto combine (while rotation)
9. **Save /Transfer high resolution images**
Camera based measuring system (CBPP/VMM/TOOLINSPECTOR)
10. **For Visual inspections like chip offs**
Max magnification from 18X-90X
11. **Chisel edge/wedge angle**
Ultra high or max mag at 90X
12. **Helix/Clearance /Axial rake (Axial angles)**
Perfect parallel alignment of tool
(click at 0° and 90° for parallel alignment)
13. **Core dia/ flute width/rake angle (Radial Surface)**
Surface Illumination
14. **OD/Point angle/Shank dia (Outer Axial)**
Back Illumination
15. **OD/Axial rake/chamfer angle/dish angle**
Tool concentricity fixture (Highpoint matching)
16. **OD/Axial rake/chamfer angle/dish angle**
Lock system with rotary fixture provides non offset rotation
17. **Axial primary/secondary clearance/helix angle**
Can match at tool centre in first radial position and then in axial position
in one shot with tool rotary system with 0 to 360 degree movement

12 Reasons to choose Tool Inspector

1. Measure axial and radial dimensions in matter of seconds
2. Advance video edge detection for speed and accuracy
3. High magnification (Upto 110X) for micro geometry and surface details
4. Before and after regrinding comparison by saving images
5. Easy alignment and positioning
6. High resolution lenses for sharp display of cutting edges in incident lighting
7. Bellows coverings for dust proof measurement and long life of machine
8. Mechanical fixed measuring angle of 0° & 90° are available on the rotary stage
9. 100 measurement parameters can be easily measured for tools including drills, endmill, reamers ,etc.
10. Every employee can measure any standard tool without requiring any specialized training
11. High accuracy encoder is embedded in the rotary table, offers precise angle location for users.
12. Multiple section programmable LED ring light for surface illumination, also including contour lighting and free angle auxiliary light for standard features.

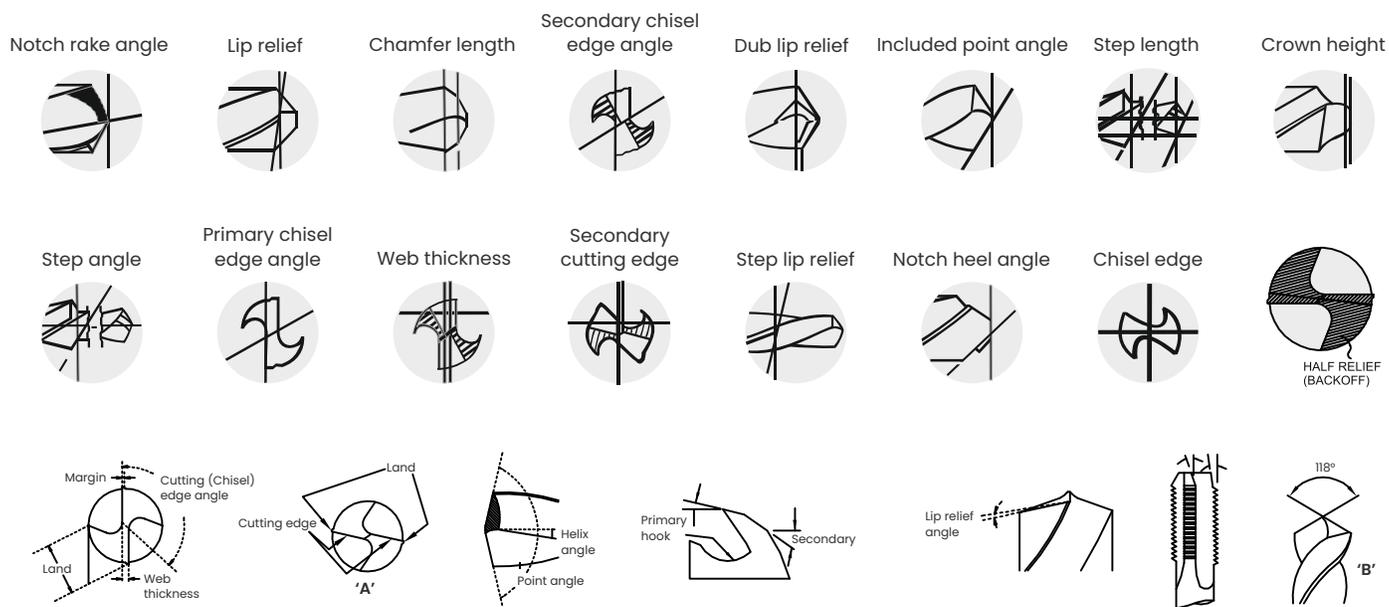


Tool Inspector

SVI-TI-3D



Fast & Accurate Measurement



Installation, Training & Online Support

Installation and Training is for all customers and usually takes place within 3 to 4 days of the delivery of the system at customer premises. Calibration is done free of cost after installation. Subsequent calibrations are required after every one year and are chargeable at per calibration.

We offer two type of support:

ONLINE & OFFLINE

Online support is free of cost throughout the life of the system and resolves 90% of the issues arising in system.

