



MACHINING CENTER TEST REPORT

MACHINE 220H PM

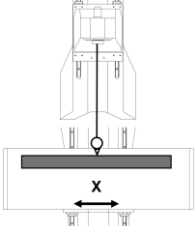
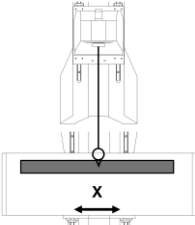
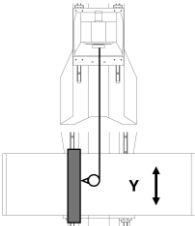
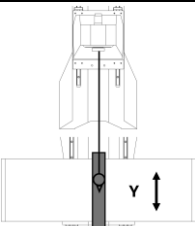
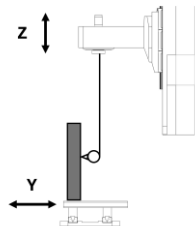
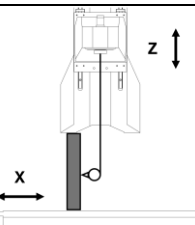
SERIAL No. PROTOTYPE 001

DATE 31/03/2026

APPROVED BY

MADE IN GREAT BRITAIN

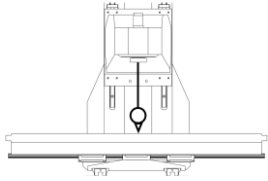
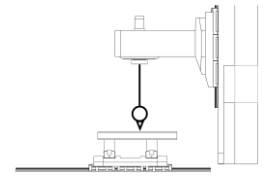
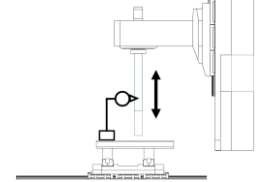
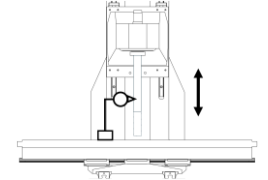
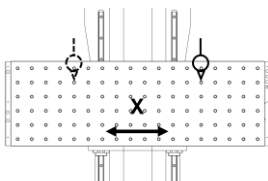
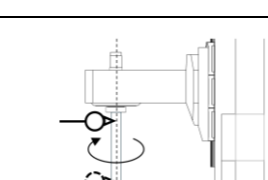
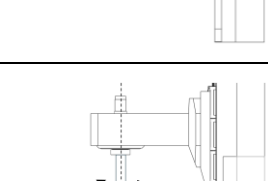


| GEOMETRICAL TEST | | | | | | |
|------------------|--|-------------|---|-----------|------------------|--------------|
| Straightness | | | | | | Unit : mm |
| No. | Item | | Diagram | Tolerance | | Result |
| | | | | ISO | SAMURAI MT | |
| 1 | Checking straightness of the X-axis motion | a) XY Plane |  | 0.010/500 | 0.003/250 | 0.001 |
| | | b) ZX Plane |  | 0.010/500 | 0.003/250 | 0.001 |
| 2 | Checking straightness of the Y-axis motion | a) XY Plane |  | 0.010/500 | 0.003/250 | 0.001 |
| | | b) YZ Plane |  | 0.010/500 | 0.003/250 | 0.001 |
| 3 | Checking straightness of the Z-axis motion | a) YZ Plane |  | 0.010/500 | 0.003/250 | 0.001 |
| | | b) ZX Plane |  | 0.010/500 | 0.003/250 | 0.001 |

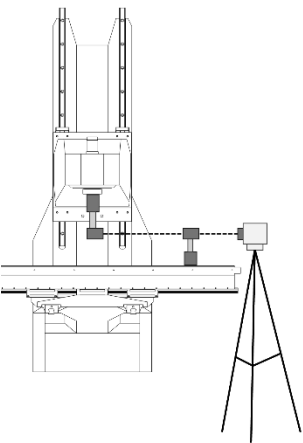


| GEOMETRICAL TEST | | | | | | |
|------------------|---|----------|-----------|------------------|------------------|--------------|
| Squareness | | | | | | Unit : mm |
| No. | Item | Diagram | Tolerance | | Result | |
| | | | ISO | SAMURAI MT | | |
| 4 | Checking squareness between the X-axis motion and Y-axis motion | | 0.020/500 | 0.004/250 | 0.002 | |
| 5 | Checking squareness between the Y-axis motion and Z-axis motion | | 0.020/500 | 0.004/250 | 0.001 | |
| 6 | Checking squareness between the Z-axis motion and X-axis motion | | 0.020/500 | 0.004/250 | 0.002 | |
| 7 | Checking squareness between the spindle center line and X/Y axis motion | ZX Plane | | 0.020/300 | 0.004/250 | 0.001 |
| | | YZ Plane | | 0.020/300 | 0.004/250 | 0.002 |

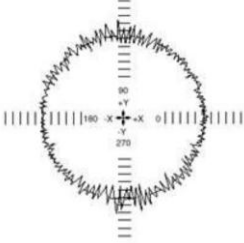


| GEOMETRICAL TEST | | | | | | |
|-----------------------|---|--------------------|---|-----------------|--------------------------|--------------|
| Parallelism & Run out | | | | | | Unit : mm |
| No. | Item | | Diagram | Tolerance | | Result |
| | | | | ISO | SAMURAI MT | |
| 8 | Checking parallelism of axial movement to the table surface | X-direction |  | X<500: 0.020 | 0.004 | 0.001 |
| | | Y-direction |  | Y<500: 0.020 | 0.004 | 0.010 |
| 9 | Checking parallelism of Z-axis movement to the spindle axis | XZ Plane |  | 0.015/300 | 0.005/250 | 0.003 |
| | | YZ Plane |  | 0.015/300 | 0.005/250 | 0.002 |
| 10 | Checking parallelism of X-axis to the reference dowel pin | - |  | - | 0.005/Full Travel | 0.003 |
| 11 | Checking run out of spindle taper | a) at spindle nose |  | 0.010 | 0.002 | 0.000 |
| | | b) at 200 distance | | 0.020 | 0.005 | 0.004 |
| 12 | Checking spindle axial movement | - |  | 0.010 | 0.002 | 0.000 |



| POSITIONING TEST | | | | | | |
|---|--|-----------|---|-----------|--------------------------|-----------|
| Accuracy & repeatability of positioning | | | | | | Unit : mm |
| No. | Item | | Diagram | Tolerance | | Result |
| | | | | ISO | SAMURAI MT | |
| 13 | Bidirectional accuracy of positioning | a) X-axis | Samurai 220H Axis travel X/Y/Z : 400/220/360 ISO230-2 Standard | 0.022 | 0.005 (with comp) | |
| | | b) Y-axis | Travel (T) T<500 Positioning Accuracy (A) : 0.022 Repeatability of Positioning (R) : 0.012 | 0.022 | 0.005 (with comp) | |
| | | c) Z-axis | | 0.022 | 0.005 (with comp) | |
| 14 | Bidirectional repeatability of positioning | a) X-axis |  Linear Positioning | 0.012 | 0.003 | |
| | | b) Y-axis | | 0.012 | 0.003 | |
| | | c) Z-axis | | 0.012 | 0.003 | |



| CIRCULAR TEST | | | | | | | |
|--------------------|--|--|--|---------------------------------|--------------|--------------|--|
| Circular deviation | | | | | | Unit : mm | |
| No. | Item | | Diagram | Tolerance | | Result | |
| | | | | ISO | SAMURAI MT | | |
| 15 | Checking circular deviation (G) of the path generated by circular interpolation of two linear axis over 360° according to ISO230-4 | | Diameter of nominal path : 200mm Contouring feed : 1000mm/min Measuring range : 360°  | 0.050 | 0.006 | | |
| | | | | a) Circular deviation Gxy (CCW) | 0.050 | 0.006 | |
| | | | | b) Circular deviation Gxy (CW) | 0.050 | 0.006 | |
| | c) Bi-directional circular deviation Gxy | | | 0.050 | 0.006 | | |

INSPECTED BY :

APPROVED BY :
