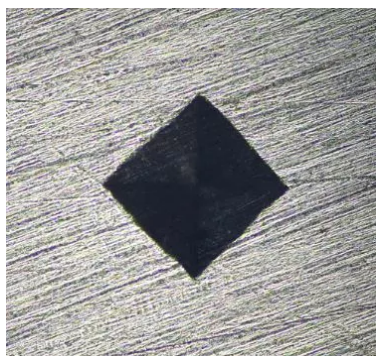
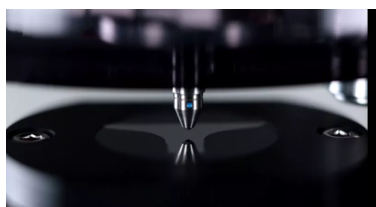
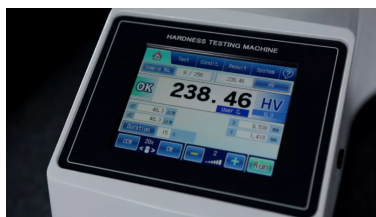




## HM-220 A-Type set

Item number: 810-406-13-ASET1

### Images



### Specification

#### Applicable standards:

**Applicable standards Vickers :** ISO 6507-2, ASTM E92, ASTM E384, JIS B 7725

**Applicable standards Knoop :** ISO 4545-2, ASTM E92, ASTM E384, JIS B 7734

**Applicable standards KC fracture toughness :**

based on IF method (JIS R1697)

**Applicable test methods:****Applicable Vickers scales :**

HV0,00005\*; HV0,0001\*; HV0,0002\*;  
 HV0,0003\*; HV0,0005\*; HV0,001; HV0,002;  
 HV0,003; HV0,005; HV0,01; HV0,02;  
 HV0,03; HV0,05; HV0,1; HV0,2; HV0,3;  
 HV0,5; HV1; HV2

**Applicable Knoop scales :**

HK0,01; HK0,02; HK0,03; HK0,05; HK0,1;  
 HK0,2; HK0,3; HK0,5; HK1; HK2

**Machine Control:****Control method :**

5,7" touch screen display control

**Software functions Touch screen :**

3 display formats (standard screen, list screen with average hardness, simplified screen), Turret control, test force control, GO/NG judgment, test set-up, test condition guide, curve and user correction, hardness conversion, statistics calculation

**Software functions AVPAK :**

Turret and stage control, contrast level indicator for easy focus, autofocus (D-Types), automatic illumination, auto reading function, ISO 18203 conform hardening depth evaluation presets, CHD, NHD, SHD; Jominy Test; guide Function for single test/pattern test/standard test, curved surface compensation, hardness conversion, overview image creation (C- and -D-Types), part programming, incl. edge detection, coordinate alignment, pattern creation and application, report creation, external data output, StatusMonitor compatibility

**Language support :**

Japanese, English, German, French, Italian, Spanish, Korean, Traditional Chinese, Simplified Chinese, Turkish, Portuguese

**Resolution :**

0,01 HV units (settable)

**Data output:****MeasurLink capability :**

yes

**Data output :**

RS-232C, SPC Digimatic D-type connection, USB

**Test force:****Test Force Range :**

0.4903-19610mN (0,0005-2kgf)

**Test force generation :**

Electromagnetic (Voice coil)

**Test force switching :**

Touch panel

**Duration time :**

5-999s. 1 s. increments

**Indenter approach speed :**

60 µm, below HV0,03 selectable in 1µm/s.  
 increments

**Optical system:**

|                                         |                      |
|-----------------------------------------|----------------------|
| <b>Optical system :</b>                 | Infinitely corrected |
| <b>Standard objective lenses :</b>      | MH Plan 10x and 50x  |
| <b>Light source illumination unit :</b> | White LED            |
| <b>Aperture diaphragm :</b>             | variable             |
| <b>Measuring microscope :</b>           | standard             |
| <b>Focus method :</b>                   | manual               |

**XYZ axis:**

|                   |                       |
|-------------------|-----------------------|
| <b>XY stage :</b> | 810-420               |
| <b>Z-axis :</b>   | manual elevation unit |
| <b>Range XY :</b> | 25x25 mm              |

**Turret:**

|                                         |                |
|-----------------------------------------|----------------|
| <b>Turret drive method :</b>            | Motor/Manual   |
| <b>Turret control method :</b>          | Touch panel    |
| <b>Number of objective lens ports :</b> | 4 (2 equipped) |
| <b>Number of indenter ports :</b>       | 2 (1 equipped) |

**Functional dimensions:**

|                                  |        |
|----------------------------------|--------|
| <b>Stage/Anvil adaption :</b>    | Ø19 mm |
| <b>Max. specimen height :</b>    | 133 mm |
| <b>Throat depth :</b>            | 160 mm |
| <b>Maximum specimen weight :</b> | 3 kg   |

**Main unit data:**

|                                    |                                   |
|------------------------------------|-----------------------------------|
| <b>External dimensions WxDxH :</b> | 341x670x581 mm                    |
| <b>Mass main unit :</b>            | 41 kg                             |
| <b>Power supply :</b>              | AC100 -240V Auto-selection        |
| <b>Power consumption W :</b>       | 44                                |
| <b>Operation temperature °C :</b>  | 5-40                              |
| <b>Relative humidity RH :</b>      | 80% or lower without condensation |
| <b>Vibration Frequency :</b>       | 5Hz or lower                      |

**Standard accessories:**

|                                 |                       |
|---------------------------------|-----------------------|
| <b>Diamond indenter :</b>       | included              |
| <b>Reference material :</b>     | 700 HV0,3 Ø25mm x 6mm |
| <b>Water level :</b>            | mounted on main unit  |
| <b>Inspection certificate :</b> | included              |

**Power cord :**

not included