- Developed Model of HLN-11A
- Automatic identification of Impact devices
- On-Board memory holds 48-350 groups of data
- Software to connect with PC
- Upper and lower limit and sound alarm
- Large LCD with backlight, showing all functions and parameters
- Press HELP key can obtain operating tips in any displaying interface
- Direct display of hardness scales HRB, HRC, HV, HB, HS,HL
- Conversion to tensile strength (U.T.S)
- For all metallic materials
- Test at any angle, even upside down
- Removable printer included
- Wide measuring range (see next page)
- Six Impact Devices are available for special application
- Battery low indication and sound alarm



## Technical specifications

| Hardness scale | HL, HRC, HRB, HRA, HV, HB, HS |
| :---: | :---: |
| Memory | 48-350 group (Impact times:32-1) |
| Measuring range | See next page |
| Tensile strength U.T.S. range | 374~2652 MPa |
| Accuracy | $\pm 6 \mathrm{HLD}(760 \pm 30 \mathrm{HLD})$ error of displayed value |
|  | $6 \mathrm{HLD}(760 \pm 30 \mathrm{HLD})$ repeatability of displayed value |
| Standard Impact Device | D |
| Optional Impact Devices | DC/D+15/G/C/DL (see page 8) |
| Max. Workpiece Hardness | 996HV(For Impact Devices D/DC/DL/D+15/C) |
|  | 646HB(For Impact Device G) |
| Min. Radius of Workpiece (convex/concave) | Rmin $=50 \mathrm{~mm}$ (with special support ring Rmin $=10 \mathrm{~mm}$ ) |
| Min. Workpiece weight | $2 \sim 5 \mathrm{~kg}$ on stable support |
|  | $0.05 \sim 2 \mathrm{~kg}$ with compact coupling |
| Min. Workpiece thickness | 5mm (Impact Devices D/DC/DL/D+15) |
|  | 1 mm (Impact Device C) |
|  | 10mm (Impact Device G) |
| Min. thickness of hardened layers | 0.8 mm |
| Power | Rechargeable NiMH Battery, $5 \times 1.2 \mathrm{~V} 600 \mathrm{mAh}$ |
| Continuous Working time | About 50h, (without printing and backlight) |
| Charging time | $2 \sim 3.5$ hours |
| Operating temperature | $0 \sim 40^{\circ} \mathrm{C}$ |
| Relative humidity | $\pm 90 \%$ |
| Overall dimensions | $268 \times 86 \times 50 \mathrm{~mm}$ |
| Weight | 530 g (including Impact Device and printer) |

Measuring range

| Material | Hardness Scale | $\begin{gathered} \text { D/DC } \\ \text { LD: } \mathbf{1 7 0 - 9 0 0} \end{gathered}$ | $\begin{gathered} D+15 \\ \text { LD+15: } \\ \mathbf{3 3 0 - 9 0 0} \end{gathered}$ | $\begin{gathered} \text { C } \\ \text { LC: 350-960 } \end{gathered}$ | $\begin{gathered} \text { DL } \\ \text { LDL: } \\ \mathbf{5 6 0 - 9 5 0} \end{gathered}$ | $\begin{gathered} G \\ \text { LG: 200-750 } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Steel \& | HRC | 20-68.4 | 19.3-67.9 | 20-69.5 | 20.6-68.2 |  |
| cast steel | HRB | 59.6-99.5 |  |  | 37-99.9 | 47.7-99.9 |
|  | HRA | 59.1-858.8 |  |  |  |  |
|  | HB | 127-651 | 80-638 | 80-683 | 81-646 | 90-646 |
|  | HV | 81-955 | 80-937 | 80-996 | 80-950 |  |
|  | HS | 32.5-99.5 | 33.3-99.3 | 31.8-102.1 | 30.6-96.8 |  |
| Stainless | HRB | 46.5-101.7 |  |  |  |  |
|  | HB | 85-655 |  |  |  |  |
|  | HV | 85-802 |  |  |  |  |
| CWT/St | HRC | 20.4-67.1 | 19.8-68.2 | 20.7-68.2 |  |  |
|  | HV | 80-898 | 80-935 | 100-941 |  |  |
| GC.Iron | HRC |  |  |  |  |  |
|  | HB | 93-334 |  |  |  | 92-326 |
|  | HV |  |  |  |  |  |
| NC.Iron | HRC |  |  |  |  |  |
|  | HB | 131-387 |  |  |  | 127-364 |
|  | HV |  |  |  |  |  |
| C.Alum | HB | 19-164 |  | 23-210 |  | 32-168 |
|  | HRB | 23.8-84.6 |  | 22.7-85.0 |  | 23.8-85.5 |
| Brass | HB | 40-173 |  |  |  |  |
|  | HRB | 13.5-95.3 |  |  |  |  |
| Bronze | HB | 60-290 |  |  |  |  |
| Copper | HB | 45-315 |  |  |  |  |



Dataview for TH140

## Standard delivery

- Main unit with removable printer
- Impact Device type D
- Test block with HLD value
- Charger
- Cleaning brush
- Table support for main unit
- TIME certificate
- Instruction manual
- Warranty card
- Carrying case


## Optional accessories

- Printing paper
- Special Impact Devices
- Support rings
- Dataview and cable

