

Hardness tester MH180



- Compact plastic case , suitable for use under poor working conditions. Test at any angle, even upside down.
- Wide measuring range. It can measure the hardness of all metallic materials. Direct display of hardness scales HRB, HRC, HV, HB, HS, HL
- Large screen (segment LCD), showing all functions and parameters. With EL background light.
- Large capacity memory could store 100 groups information.
- Datapro Software to connect with PC via RS232 port. Micro printer support

Configuration:

	No.	Item	Quantity	Remarks
Standard Configuration	1	Main unit	1	
	2	D type impact device	1	With cable
	3	Standard test block	1	
	4	Cleaning brush (I)	1	
	5	Small support ring	1	
	6	Alkaline battery	2	AA size
	7	Manual	1	
	8	Instrument package case	1	
Optional Configuration	9	Cleaning brush (II)	1	For use with G type impact device
	10	Other type of impact devices and support rings		Refer to Table 3 and Table 4 in the appendix.
	11	DataPro software	1	
	12	Communication cable	1	
	13	Micro Printer	1	
	14	Print cable	1	

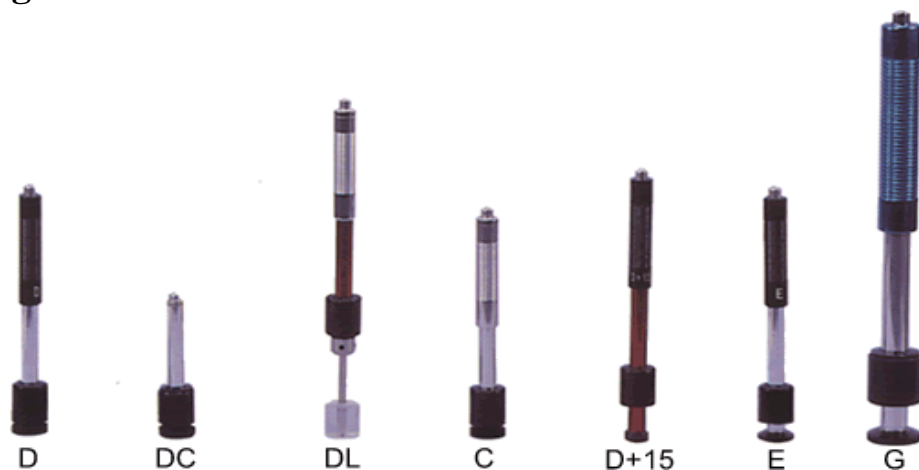
Technical Specifications:

- Measuring range :
(170-960)HLD,(17-68.5)HRC,(19-651)HB,(80-976)HV,(30-100)HS,(59-85)HRA,(13-100)HRB
- Measuring direction : 360° (↓↖ ↗↘↙↚↛↜↞↠)
- Hardness Scale : HL、HB、HRB、HRC、HRA、HV、HS
- Display : segment LCD
- Data memory : max. 100 groups (relative to impact times 32 ~ 1)
- Working voltage : 3V (2 AA size alkaline battery)
- Continuous working period : about 100 hours (With backlight off)
- Communication interface : RS232

Main Application

- Die cavity of molds
- Bearings and other parts
- Failure analysis of pressure vessel, steam generator and other equipment
- Heavy work piece
- The installed machinery and permanently assembled parts.
- Testing surface of a small hollow space
- Material identification in the warehouse of metallic materials
- Rapid testing in large range and multi-measuring areas for large-scale work piece

Testing range:



Other type of impact devices

Material	Method	Impact device					
		D/DC	D+15	C	G	E	DL
Steel and cast steel	HRC	20 ~ 68.5	19.3 ~ 67.9	20.0 ~ 69.5		22.4 ~ 70.7	20.6 ~ 68.2
	HRB	38.4 ~ 99.6			47.7 ~ 99.9		37.0 ~ 99.9
	HRA	59.1 ~ 85.8				61.7 ~ 88.0	
	HB	127 ~ 651	80 ~ 638	80 ~ 683	90 ~ 646	83 ~ 663	81 ~ 646
	HV	83 ~ 976	80 ~ 937	80 ~ 996		84 ~ 1042	80 ~ 950
	HS	32.2 ~ 99.5	33.3 ~ 99.3	31.8 ~ 102.1		35.8 ~ 102.6	30.6 ~ 96.8
Cold work tool steel	HRC	20.4 ~ 67.1	19.8 ~ 68.2	20.7 ~ 68.2		22.6 ~ 70.2	
	HV	80 ~ 898	80 ~ 935	100 ~ 941		82 ~ 1009	
Stainless steel	HRB	46.5 ~ 101.7					
	HB	85 ~ 655					
	HV	85 ~ 802					
Grey cast iron	HRC						
	HB	93 ~ 334			92 ~ 326		
	HV						
Nodular cast iron	HRC						
	HB	131 ~ 387			127 ~ 364		
	HV						
Cast aluminium alloys	HB	19 ~ 164		23 ~ 210	32 ~ 168		
	HRB	23.8 ~ 84.6		22.7 ~ 85.0	23.8 ~ 85.5		
BRASS(copper-zinc alloys)	HB	40 ~ 173					
	HRB	13.5 ~ 95.3					
BRONZE(copper-aluminium/tin alloys)	HB	60 ~ 290					
Wrought copper alloys	HB	45 ~ 315					
Available type of impact device		DC: Test hole or hollow cylindrical	D+15: Test groove or reentrant surface	C: Test small, light, thin parts and surface of hardened layer	G: Test large, thick, heavy and rough surface steel	E: Test super high hardness material	DL: Test slender narrow groove or hole

Testing conditions:

Type of impact device	DC(D)/DL	D+15	C	G	E	
Impacting energy Mass of impact body	11mJ 5.5g/7.2g	11mJ 7.8g	2.7mJ 3.0g	90mJ 20.0g	11mJ 5.5g	
Test tip hardness: Dia. Test tip: Material of test tip:	1600HV 3mm Tungsten carbide	1600HV 3mm Tungsten carbide	1600HV 3mm Tungsten carbide	1600HV 5mm Tungsten carbide	5000HV 3mm synthetic diamond	
Impact device diameter: Impact device length: Impact device weight:	20mm 86(147)/ 75mm 50g	20mm 162mm 80g	20mm 141mm 75g	30mm 254mm 250g	20mm 155mm 80g	
Max. hardness of sample	940HV	940HV	1000HV	650HB	1200HV	
Mean roughness value of sample surface Ra:	1.6 μ m	1.6 μ m	0.4 μ m	6.3 μ m	1.6 μ m	
Min. weight of sample: Measure directly Need support firmly Need coupling tightly	>5kg 2 ~ 5kg 0.05 ~ 2kg	>5kg 2 ~ 5kg 0.05 ~ 2kg	>1.5kg 0.5 ~ 1.5kg 0.02 ~ 0.5kg	>15kg 5 ~ 15kg 0.5 ~ 5kg	>5kg 2 ~ 5kg 0.05 ~ 2kg	
Min. thickness of sample Coupling tightly Min. layer thickness for surface hardening	5mm \geq 0.8mm	5mm \geq 0.8mm	1mm \geq 0.2mm	10mm \geq 1.2mm	5mm \geq 0.8mm	
Size of tip indentation						
Hardness 300HV	Indentation diameter Depth of indentation	0.54mm 24 μ m	0.54mm 24 μ m	0.38mm 12 μ m	1.03mm 53 μ m	0.54mm 24 μ m
Hardness 600HV	Indentation diameter Depth of indentation	0.54mm 17 μ m	0.54mm 17 μ m	0.32mm 8 μ m	0.90mm 41 μ m	0.54mm 17 μ m
Hardness 800HV	Indentation diameter Depth of indentation	0.35mm 10 μ m	0.35mm 10 μ m	0.35mm 7 μ m	-- --	0.35mm 10 μ m

Support rings for Shaped Materials:



Other type of support rings

No.	Type	Sketch of non-conventional Supporting ring	Remarks
1	Z10-15		For testing cylindrical outside surface R10 ~ R15
2	Z14.5-30		For testing cylindrical outside surface R14.5 ~ R30
3	Z25-50		For testing cylindrical outside surface R25 ~ R50
4	HZ11-13		For testing cylindrical inside surface R11 ~ R13
5	HZ12.5-17		For testing cylindrical inside surface R12.5 ~ R17
6	HZ16.5-30		For testing cylindrical inside surface R16.5 ~ R30
7	K10-15		For testing spherical outside surface SR10 ~ SR15
8	K14.5-30		For testing spherical outside surface SR14.5 ~ SR30
9	HK11-13		For testing spherical inside surface SR11 ~ SR13
10	HK12.5-17		For testing spherical inside surface SR12.5 ~ SR17
11	HK16.5-30		For testing spherical inside surface SR16.5 ~ SR30
12	UN		For testing cylindrical outside surface, radius adjustable R10 ~ ∞