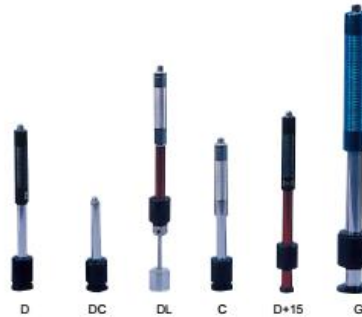


Impact Devices for Portable Hardness Tester



Measuring range of TIME Leeb hardness tester

Material	Hardness scale	Impact device					
		D/DC	D+15	C	G	E (imported)	DL
Steel and cast steel	HRC	17.9~68.5	19.3~67.9	20.0~69.5		22.4~70.7	20.6~68.2
	HRB	59.6~99.6			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
Steel	HB	143~650					
CWT. 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					
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					

Tolerance and repeatability

No.	Impact device	Hardness value of Leeb standard hardness block	Accuracy of displayed value	Repeatability of displayed value
1	D	790±40HLD 530±40HLD	±6 HLD ±10 HLD	6 HLD 10 HLD
2	DC	790±30HLDC 530±40HLDC	±6 HLDC ±10 HLDC	6 HLDC 10 HLDC
3	DL	894±40HLDL 736±40HLDL	±12 HLDL	12 HLDL
4	D+15	795±40HLD+15 544±40HLD+15	±12 HLD+15	12 HLD+15
5	G	590±40HLG 500±40HLG	±12 HLG	12 HLG
6	E	755±40HLE 508±40HLE	±12 HLE	12 HLE
7	C	851±40HLC 590±40HLC	±12 HLC	12 HLC

Technical specification

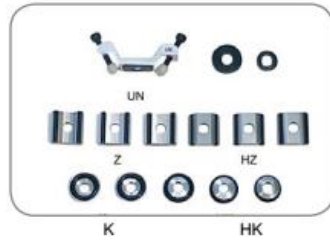
Types of impact device	DC(D)/DL	D+15	C	G	E(imported)
Impact energy	11mJ	11mJ	2.7mJ	90mJ	11mJ
Mass of impact body	5.5g/7.2g	7.8g	3.0g	20.0g	5.5g
Test tip hardness	1600HV	1600HV	1600HV	1600HV	5000HV
Diameter of test tip	3mm	3mm	3mm	5mm	3mm
Material of test tip	Tungsten carbide	Tungsten carbide	Tungsten carbide	Tungsten carbide	Diamond
Impact device diameter	20mm	20mm	20mm	30mm	20mm
Impact device length	86(147)/75mm	162mm	141mm	254mm	155mm
Impact device weight	50g	80g	75g	250g	80g
Max. hardness of sample	940HV	940HV	1000HV	650HB	1200HV
Roughness of sample surface:	1.6µm	1.6µm	0.4µm	6.3µm	1.6µm
Minimum 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. depth of layer thickness for surface	5mm ≥0.8mm	5mm ≥0.8mm	1mm ≥0.2mm	10mm ≥1.2mm	5mm ≥0.8mm

Size of tip indentation

Hardness 300HV	Indentation diameter	0.54mm	0.54mm	0.38mm	1.03mm	0.54mm
	Depth of indentation	24µm	24µm	12µm	53µm	24µm
Hardness 600HV	Indentation diameter	0.54mm	0.54mm	0.32mm	0.90mm	0.54mm
	Depth of indentation	17µm	17µm	8µm	41µm	17µm
Hardness 800HV	Indentation diameter	0.35mm	0.35mm	0.35mm	—	0.35mm
	Depth of indentation	10µm	10µm	7µm	—	10µm
		D: General test. DC: Testing hole or inner of cylinder. DL: Test slender narrow groove or hole.	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 cast steel.	E: Test super high hardness Material.

Optional Support Rings

Function: they are used for tested surface whose curvature radius is less than 30mm (D, DC, D+15, C,E Impact devices) or less than 50mm (G impact device) .



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~∞