



Microhardness Tester

FM-100/FM-300/FM-700

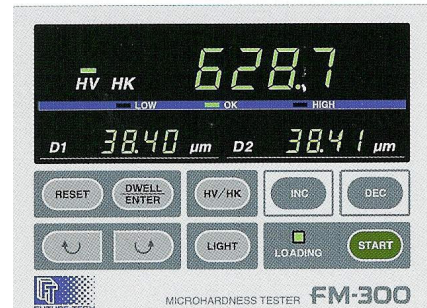
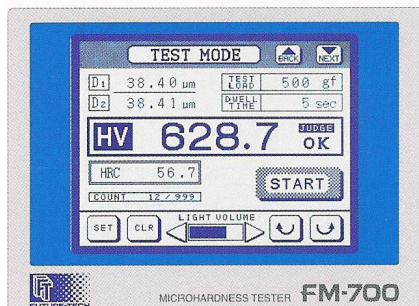


IGS-Kontakt Kft. H-1147 Budapest, Huszt u.13.
Telefon: +36 -1- 221 - 8573
Fax.: +36 -1- 422 - 0486
Bankszámla: MKB 10300002-20140005-00003285
IBAN HU78 1030 0002 2014 0005 0000 3285

Bányász Sándor +36-30-209-3491; banyasz.igs@axclero.hu
Heggyvári Jánosné +36-30-463-0540; hegyvari.igs@axclero.hu
Pálfi Géza +36-30-922-3623; palfi.igs@axclero.hu
Adószám: 12772520-2-42
VAT Reg.No.: HU12772520



Digital Microhardness Tester



Auto turret

Auto turret allows one-touch operation for troublesome lens-indenter-lens changeover required in the measurement.

Liquid crystal display touch panel

Large LCD touch panel with a clear display and back light can perform various data processing and other functions

Reputed loading mechanism

loading mechanism with no fluctuation. "capable to hit aimed portion", is highly evaluated.

HK knoop hardness

Knoop hardness calculating functions can be changed over with a one touch panel operation

Correspondence of automation

Communication command allows a link to a personal computer or host and automation correspondence.

Applicable to CE

Safety design applicable to EU low voltage command, EMC command and machine command

STANDARD ACCESSORIES

ITEM / MODEL		<i>FM100</i>	<i>FM300</i>	<i>FM700</i>
Manual X-Y stage (Built in)		X	X	X
Precision vice		X	X	X
Standard test block (HMV700)		X	X	X
Diamond indenter for HV (Built in)		X	X	X
Measuring microscope (With x10 Eyepiece)	Electronic type	-	X	X
	Mechanical type	X	-	-
Object lens (Built in)	x10	X	X	X
	X50	X	X	X
Level adjusting leg		X	X	X
Light source bulb (12V 18W)		X	X	X
Fuse	100-120 V 3 A	X	X	X
	200-240 V 2A	X	X	X
Power cord 2.5 m		X	X	X
Auxiliary tools		1 set	1set	1set
Instruction manual		1	1	1
Accessories box		1	1	1



Digital Microhardness Tester

MODEL		FM-100e	FM-100	FM-300e	FM-300	FM-700e	FM-700		
TEST LOAD	TYPE A	mN : 98.07 gf : 10	245.2 25	490.3 50	980.7 100	1,961 200	2,942 300	4,903 500	9,807 1,000
	TYPE B	mN : 49.03 gf : 5	98.07 10	245.2 25	490.3 50	980.7 100	1,961 200	2,942 300	4,903 500
	TYPE C	mN : 245.2 gf : 25	490.3 50	980.7 100	1,961 200	2,942 300	4,903 500	9,807 1,000	19,614 2,000
	TYPE D	mN : 9.807 gf : 1	49.03 5	98.07 10	490.3 50	980.7 100	2,942 300	4,903 500	9,807 / 19,614 1,000 / 2,000
LOADING MECHANISM		Automatic Load and Release Method							
LOAD APPLYING SPEED		50 μm / sec							
DWELL TIME		5 ~ 40 sec			5 ~ 99 sec				
TURRET MECHANISM		Manual	Automatic	Manual	Automatic	Manual	Automatic		
DIAMOND INDENTER	Standard	Vickers Indenter (HV)							
	Option	—					Knoop Indenter (HK) / Two indenters (HV + HK) are available on the special Dual Indenter Turret simultaneously		
OBJECT LENS	Standard	2 Lenses (X 50 & X 10)							
	Option	Max. 3 Lenses (X 50 & X 10 plus 1 Lenses)			Max. 4 Lenses (X 50 & X 10 plus 2 Lenses)				
EYEPIECE		X 10							
MEASURING MICROSCOPE	Type	Mechanical			Electronic				
	Max. measurement length	In case of X 100 : 850 μm / In case of X 500 : 170 μm							
	Min. graduation	Micrometer : 0.5 μm			Digital : 0.01 μm (In case of X 500)				
	Min. measurement unit	Eye judgement : 0.1 μm			Digital : 0.01 μm (In case of X 500)				
X - Y STAGE	Type	Manual							
	Dimensions	100 x 100 mm							
	Max. movement	(X) 25 x (Y) 25 mm							
	Min. micro graduation	1 / 100 mm							
PRECISION VISE	Max. opening	50 mm							
MAX. HEIGHT OF SPECIMEN		95 mm							
MAX. DEPTH OF SPECIMEN		115 mm							
AVAILABLE TEST PARAMETER		HV / HK					HV / HK / HBS / HBW / Kc		
FRACTURE TOUGHNESS TEST (Kc)		—					Conform to JIS R1807/IF Method		
HARDNESS CONVERSION		—					Conform to SAE (J-417b) & ASTM (E-140)		
OPERATION PANEL (SHEET SW for FM-100 / 300 Series & TOUCH PANEL SW for FM-700 Series)		START / LIGHT UP-DOWN / TURRET ROTATION (For Auto-Turret Type)			START / RESET / DWELL TIME / LIGHT UP-DOWN / TURRET ROTATION (For Auto-Turret Type)		START / RESET / DWELL TIME / LIGHT UP-DOWN / TEST LOAD / CONVERSION SCALE / TURRET ROTATION (For Auto-Turret Type) / CLEAR		
DATA DISPLAY (LED for FM-100 / 300 Series & LCD for FM-700 Series)		POWER / LOADING (Pilot Lamp)			D1 / D2 / HV-HK / HARDNESS VALUE / LOADING / OK-NG CRITERIA		D1 / D2 / HV-HK / HARDNESS VALUE / CONVERSION DATA / OK-NG CRITERIA / START (Blinking for Loading) / TEST TIMES / etc.		
DATA OUTPUT & PRINT OUT		—			RS232C (HV-HK / HARDNESS VALUE / OK-NG) CENTRONICS (D1 / D2 / HV-HK / HARDNESS VALUE / TEST LOAD / OK-NG)		RS232C / CENTRONICS (D1 / D2 / HV-HK / HARDNESS VALUE / TEST LOAD / OK-NG / CONVERSION SCALE / CONVERSION DATA / STATISTIC DATA / etc.)		
OK / NG CRITERIA		—			Limit setting and HI / OK / LO display				
SELF DIAGNOSIS		Display troubles with motors and switches							
LIGHT SOURCE		6V / 18W (Auto-iris mechanism)							
OPTICAL FUNCTION		Aperture diaphragm / Field aperture / Color filter : Replaceable							
ACCURACY		Conform to JIS B-7734/B-7725, ASTM E-384, and ISO/DIS 6507-2							
PHOTOGRAPHIC DEVICE		Capable to mount at anytime on top of the machine (Camera / Attachment : Option)							
DIMENSIONS		(W) 186 x (D) 450 x (H) 504 mm							
WEIGHT		Approx. 40 kg (Including Standard Accessories)							
POWER SUPPLY		Japan : Single phase AC 100V 50 / 60Hz Overseas : Single phase AC 100 ~ 240V 50 / 60Hz (Should be specified before shipment)							



Digital Microhardness Tester

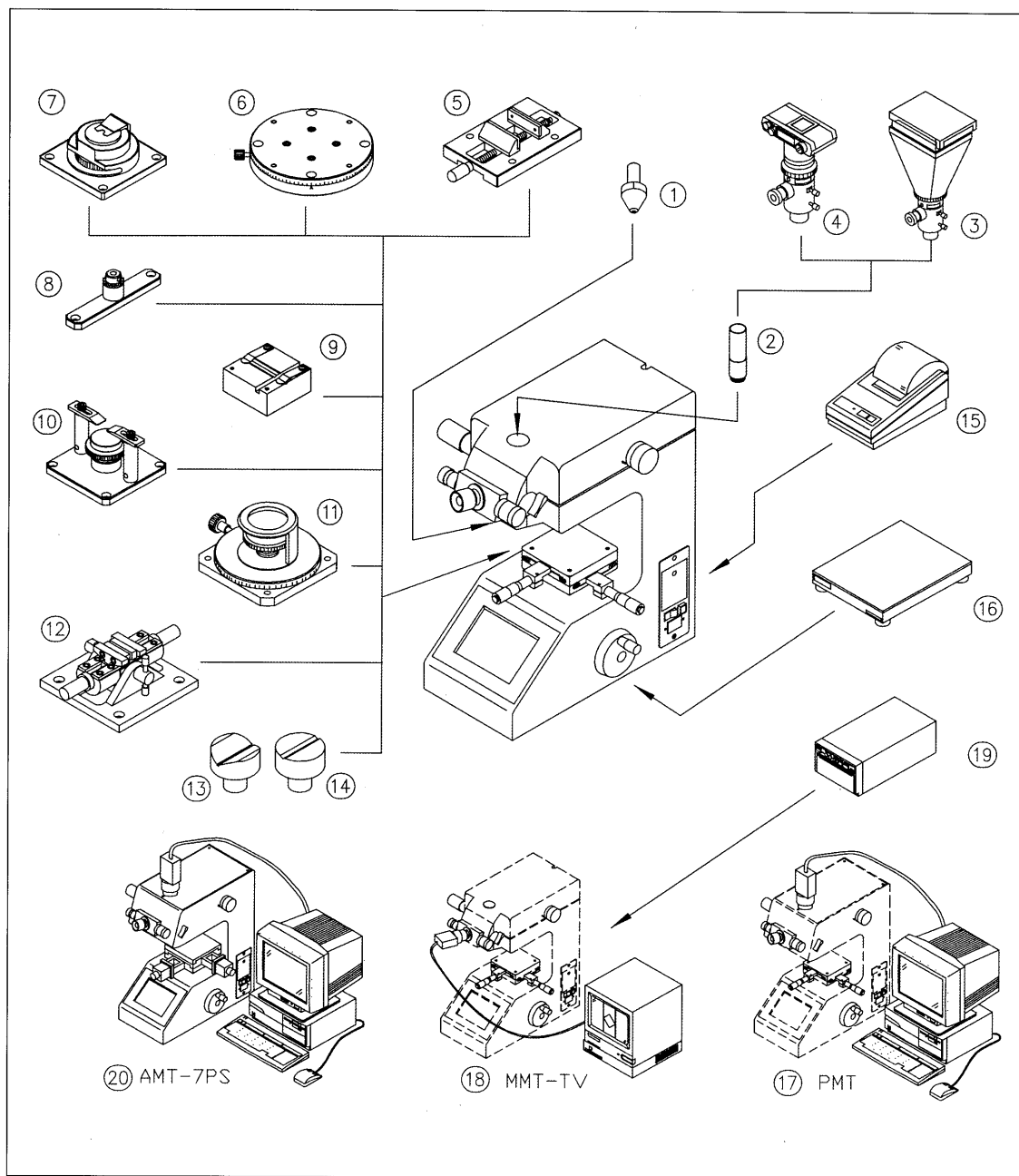
OPTIONAL SPECIFICATIONS AND ACCESSORIES

ITEM		CONTENS
HK knoop indenter		Effectively measures thin material.
Camera sleeve		Adapter for a camera
Photographic device		Polaroid camera : P-III-P 35mm camera P-III-FM10
Precision vice		Max. opening : 100mm
Rotary table		This table is usually used on the micro test table with the precision vice.
Thin specimen measuring device		Specimen thickness : 0.05-5mm
Fine specimen measuring device(Vertical)		Specimen diameter : 0.1-4mm
Fine specimen measuring device(Horizontal)		Specimen diameter : 0.5-4mm
Specimen inclining device type II		Vice is not used and a specimen is directly clamped. The measuring surface always shows a horizontal level and causes an extremely efficient measuring operation. Specimen height : 5-21mm
Rotary incling device		Incling device{rotary table(Special use for mounted specimen) Sample diameter : 25,31.5,37.5mm(When ordering, please specify the above sise)
Universal incling vise		Incling device vise When the specimen`s surface is inclined or curved, this device is very effective to get the correct level.
V-shape anvil	Large	For measuring the cylindrical surface together with the vice.
	small	
Printer iDP3110		Form Hardness tester adding up results to data output.
Laser printer		Two functions, printing and making chart, are available.
Video graphic printer		High-resolution pictures of all information on TV moniter with excellent contrastare printed out.
Vibration insulated stand		Loading capacity : 50kg Dimensions : W400xL500xH53mm Weight : 13kg
TV measuring device		A CCD camera may be mounted on the ocular. Enlarged indents are measured on the TV moniter and metal structures are observed easily.
Automatic X-Y stage		Measuring range : X & Y axis each 25mm Min. movement : 1/1000mm These devices are very effective when we indent continuously. PC controls all operations.





Digital Microhardness Tester



IGS-Kontakt Kft. H-1147 Budapest, Huszt u.13.
 Telefon: +36 -1- 221 - 8573
 Fax.: +36 -1- 422 - 0486
 Bankszámla: MKB 10300002-20140005-00003285
 IBAN HU78 1030 0002 2014 0005 0000 3285

Bányász Sándor +36-30-209-3491; banyasz.igs@axelero.hu
 Hegyvári Jánosné +36-30-463-0540; hegyvari.igs@axelero.hu
 Pálfi Géza +36-30-922-3623; palfi.igs@axekero.hu
 Adószám: 12772520-2-42
 VAT Reg.No.: HU12772520