

# Pendulum Impact Testing Machine

FTM

## Digital Charpy - Izod Impact Testing Machine



Model  
FIT-300-EN  
FIT-300-D

### Features :

- Capacity : Charpy : 300 Joule, Izod : 170 Joule.
- It conforms to BS EN ISO 148, IS 3766-1977, IS 1598-1977, IS 1757-1988, IS 1499-1977 (for Charpy) & BS 131 Part I, II, III, IV (for Izod) current standard.
- Indirect verification with the help of ERM samples can be carried out.
- Direct indication of impact energy absorbed by the specimen on digital display unit. (Analogue dial is optional.)
- New modified Brake drum unit is provided to stop the pendulum swing instantly after test..
- Safety guard is provided for operator safety.

### Standard Accessories :

- Charpy Striker R 2 mm - 1 No.
- Izod Strike R 0.75 mm - 1 No.
- Charpy - Izod support Block - 1 No.
- Specimen setting Gauges for Charpy & Izod - 1 Each.
- Allen key Set - 1 set.
- Instruction Manual - 1No.

### Model :

- Analogue - FIT-300-EN & Digital - FIT-300-D

## Analogue Impact Testing Machine

### Features:-

- Capacity : Charpy : 300 Joule, Izod : 170 Joule.
- This is low cost Impact testing machine & it is specially designed for engineering colleges.
- This Machine conforms to IS 3766-1977, IS 1598-1977, IS 1757-1988, IS 1499-1977 and BS 131 Part I, II, III, IV. standard.
- This is simple & maintenance free machine.

### Standard Accessories :

- Charpy Striker R2 mm - 1No.
- Izod Strike R0.75 mm - 1No.
- Charpy - Izod support Block - 1No.
- Specimen setting Gauges for Charpy & Izod - 1Each.
- Allen key Set - 1set.
- Instruction Manual - 1No.

Model : FIT-300-N



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## Combine Impact Testing Machine :

### Features :

- Capacity : Charpy : 300 Joule, Izod : 170 Joule.
- Main feature of this machine is, it conform to all respective standards. (i.e.Charpy / Izod ASTM E-23, BS 131 & BSEN ISO-148 & IS 3766-1977, IS 1598-1977, IS 1757-1988, IS 1499- standard). User need not to buy a separate machine for each standard.
- For Indirect verification NIST/ ERM Charpy samples can be arranged.
- According to test, user can select Charpy strikers(Radius R 2 mm or R8 mm) or Izod strikers (Radius R 0.75 mm).
- To prevent accident from pendulum swing, safety guards are provided to either side of machine.
- Latch Lock is provided for pendulum latch mechanism for safety.
- New modified Brake drum unit is provided to stop the pendulum swing instantly after test.
- Optional Digital display unit can also be supplied.
- Total Maintenance free machine.

### Standard Accessories :

- Charpy Striker radius R 2 mm, R 8 mm each - 1 No.
- Izod Strike R 0.75 mm - 1 No.
- Charpy - Izod support Block - 1 No.
- Specimen setting Gauges for Charpy & Izod - 1 Each.
- Allen key Set - 1 set.
- Instruction Manual - 1 No.
- Foundation bracket - 1 No.



Model : FIT-300-EN-ASTM

## Digital ASTM Charpy Impact Testing Machine :



Model : FIT-300-ASTM-D

### Features :

- Capacity : Charpy : 300 / 400 Joule.
- Suitable only for Charpy tests on various material.
- Machine conforms to ASTM-E-23- current standard.
- Optional R2mm striker can be provided as per BS EN ISO148 standard.
- Pendulum release lever with safety lock for operator safety.
- New modified Brake drum unit is provided to stop the pendulum swing instantly after test.
- Large safety guards are provided either side of machine.
- Approval of Impact machine with Charpy test samples from NIST. USA. (optional ERM samples) can be arranged.
- Digital display unit or Analogue large dial for indication of absorbed energy.
- Total Maintenance free machine.
- Optional Motorized with higher capacity impact machine is also available.

### Standard Accessories :

- Charpy Striker R8 mm - 1 No.
- Charpy support Block - 1 set.
- Specimen setting Gauge (for Charpy) - 1 No.
- Allen keys - 1 set.
- Foundation Bracket & with tightening bolts - 1 No.
- Instruction Manual - 1 No.

### Model :

- Analogue - FIT-300/400-ASTM &  
Digital - FIT-300/400-ASTM-D

## Motorised Impact Testing Machine :



**Model : FIT-300/400-MA/MD**

### Features :

- Capacity : Charpy : 300 / 400 Joule.
- Lifting operation of pendulum Hammer is motorized. Hence there is no strain & fatigue to operator while lifting the pendulum hammer frequently.
- Only one operator can operate the machine easily & rapidly.
- To stop the pendulum swing solenoid Magnetic Brake is provided.
- To prevent accident large safety guard with open able doors & with interlocking system is provided for complete safety.
- Transparent acrylic glass sheet is fitted to safety guard.
- Machine conforms to ASTM-E 23, BSEN ISO 148 & IS standards (for IZOD & CHarpy scales).
- Total Maintenance free Impact Machine.
- Note : Higher capacity 600,750 Joules impact machine are also available.
- \*\* MA = Motorised Analogue Dial, \*\* MD = Motorized Digital display.

### Standard Accessories :

- Charpy Striker R2 mm - 1 No.
- Izod Strike R0.75 mm - 1 No.
- Charpy Striker R8 mm - 1 No(Optional)
- Charpy - Izod support Block - 1 No.
- Specimen setting Gauges for Charpy & Izod - 1 Each.
- Allen key Set & tools - 1 set.
- Foundation Bracket - 1No.
- Instruction Manual - 1No.

## Optional Accessories :

- Self centering tong for Charpy test as per ASTM- E-23 standard. (Useful particularly for carrying out tests at sub zero temp.)
- Gauge for checking distance of specimen notch from both ends for Charpy and Izod test specimen (One gauge for Charpy and one gauge for Izod).
- Specimen clamp for Izod specimen.
- Gauge for checking std. 'U' notch on specimen.
- Gauge for checking std. 'V' notch on specimen.
- Gauge for checking Depth below the std. 'U' notch on specimen.
- Gauge for checking Depth below the std. 'V' notch on specimen.
- GO-NO GO, Gauges for specimens confirming following parameters within specified limits.
  - a. Centre line of notch from both ends.
  - b. Angle line of notch from both ends.
  - c. Depth below standard V notch.
- Template for checking cross section of 10 x 10 mm for Izod / Charpy square test specimen.
- 'U' notch milling cutter.
- 'V' notch milling cutter.
- Motorized Broaching Machine.
- Sub zero Temperature bath .(with digital calibrated temperature indicator & self centering tong).
- Dry ice making unit by using Co2 gas.
- Lateral expansion gauge as per ASTM E-23 .
- Profile projector with templates suitable for checking root radius of 'V' & 'U' Notch of Charpy / Izod test samples.
- 'U' notch Broaching cutter.
- 'V' notch Broaching cutter.

## Motorised Broaching Machine



**Model : FMB-12**

## Optional Accessories :

Sub zero Temperature bath



Lateral expansion gauge



Dry ice making unit



## Technical Specifications of Impact Testing Machine

DESCRIPTION	MODEL		
	FIT-300-N, FIT-300-EN/D, FIT-300- EN- ASTM/D		FIT-300/400-ASTM/D
	CHARPY	IZOD	CHARPY
Pendulum Drop Angle (Degree)	140°	90°	140°
Pendulum effective weight (Kg.)	21.300	21.300	22.350 / 29.8
Striking velocity of Pendulum (m/Sec)	5.308	3.994	5.18
Pendulum Impact Energy (Joules)	300	170	300 / 400
Min. Scale Graduation (Joules)	1	1	1
L.C. of digital display (Joules)	0.1	0.1	0.1
Distance between axis of Pendulum to centre of strike (length of pendulum in mm)	813.5	813.5	775
Max. total friction & windage losses	0.5% of Max. Impact energy	0.5% of Max. Impact energy	0.75% of Max. Impact energy
<b>Striking edge</b>			
a. Angle (Degree)	30	70	30
b. Radius of curvature (mm)	2	0.7	8
c. width at tip (mm)	18	--	4
d. Horizontal relief (Degree)	--	10	--
e. Vertical relief (Degree)	--	5	--
<b>Specimen Anvils and supports</b>			
a. Suitable for max. specimen cross section (mm)	10x10	10x10	10x10
b. Distance between specimen Anvils (mm)	40	--	40
c. Included angle of Anvil tip (Degree)	79	--	80
d. Radius of curvature at Anvil tip (mm)	1	--	1
<b>Shape of Pendulum Hammer</b>	'U' shape	'U' shape	'C' shape
Overall size (mm) (approx)	760 (L) x 440 (W) x 1925 (H)		735(L)x430(W)x2050(H)
Net Weight (kg) (approx)	For Model FIT-300-N : 300 For Model FIT-300-EN : 450 For Model FIT-300-D : 450		400 / 450

Note : FTM Reserves the rights of change in the above specification due to constant improvements in design.

**We also undertake calibration of any make & various types of Testing Machine with NABL certification.**



**Manufactured By : Fine Testing Machines**



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