

Detailed Technical Specification required for Door Frame Metal Detectors:

- 1) Multi zones: 8-Zones
- 2) Technology: Advanced Microcontroller based technology.
- 3) Sensitivity:
 - a. DFMD should have uniform sensitivity across the aperture. Metal object exceeding threshold mass should produce identical alarm when passed through any portion within frame.
 - b. The DFMD shall have 8-zone capability with uniform sensitivity in all zones.
 - c. The system should be capable of detecting ferrous/ nonferrous & metallic alloys / metals of various types of threat objects when passed through the archway concealed on the body of the person irrespective of the orientations, weight, size and shape of the object.
 - d. Should be able to detect multiple metal objects of various sizes in all the zones simultaneously.
 - e. Sensitivity and threshold 0-255 or more.
 - f. There should be an alarm raised if any metal more than 30 grams is being carried.
 - g. LED Display of density levels.
- 4) Aperture Size:
 - a. The aperture of the DFMD should be 02 mtrs high and 0.75 mtrs to 0.85 mtrs wide.
- 5) Persons per minute: Minimum 50 persons per minute shall pass through the DFMD.
- 6) Speed of passage:
 - a. The performance of the DFMD should be independent of the speed of the person passing through. DFMD shall detect even in cases where a person's foot swing through the archway without touching the ground or it comes to rest on the ground between the archway pillars.
- 7) Interference Rejection:
 - a. Interference, which is 'mains-borne' or radiated by an external source, should not cause the DFMD to raise the alarm spuriously. It should be possible to use equipment such as radio, portable telephone, walkie-talkie sets X-Ray monitors etc. at a distance of 1 mtr from the archway without causing spurious alarms.
 - b. Moving metal beyond 1 mtr from DFMD should not affect performance of the DFMD. It should be possible to move metallic items like trolleys 1 mtr away from the DFMD without the generation of false alarm.
- 8) ALARM INDICATION:
 - a. There should be both visual and audible alarm. It should be possible to adjust volume of the audible alarm. At its loudest setting the volume should be adequate to overcome ambient noise present at airport search facilities.

- b. Detection circuit shall be continuously active for detection of metals and alloys. The equipment shall have comprehensive self-diagnostic that shall be able to pin point the defects by constantly monitoring the circuitry external connections and environment.
- c. The unit shall be able to work without any manual adjustments for power variations over voltage range from 230ACV+- 10%, 50 HZ. If the power fluctuates less or more then, there should be Internal Protection System to protect over/ under fluctuation in voltage/current.
- d. The unit shall conform to international and national standards for electrical safety.

9) PROTECTION:

- a. Conform to relevant electric safety standard (supported by test certificate from NABL (India) or other accredited labs from the country of origin of the equipment.

10) STABILITY:

- a. The design of the DFMD should be such that its level of performance is constant over long period.
- b. ISO Certification required for quality and electricity.

11) SECURITY:

- a. Adjustable control should be activated only on the insertions of a removable key.
- b. DFMD resets itself within three sec after an alarm condition.
- c. The unit should have traffic and alarm counter. The system should also be functional bi-directional.

12) HEALTH AND SAFETY:

- a. Programming protected by password.
- b. Magnetic field should be harmless to magnetic media, electronic devices (supported by test certificates from NABL (India) or other accredited labs from the country of origin of the equipment, wearer of heart pacemakers and pregnant women (By a government recognized medical institute).
- c. Should not be affected by heavily reinforced floors.
- d. Should not be affected by external RF transmission and EMI.
- e. DFMD shall be cardiac pacemaker, safe for pregnant women, magnetic tapes & film safe. supplier shall submit certification to this effect with supporting documents.
- f. Operation of DFMD shall not be affected by infrared, ultraviolet, electromagnetic or RF radiation. Offered equipment shall comply with CE or equivalent safety / immunity standard.

13) COMMISSIONING & TESTING:

- a. DEMD should be tested by using a standard test piece and as per method prescribed by the BCAS manufacture should supply one test piece along with each piece of DFMD.
- b. Feature for Auto testing of the device shall also be available.

c. AFTER SALE SUPPORT:

- d. DFMD should be under warranty for minimum 3 years. The manufacturer /supplier should provide spares and annual maintenance service for minimum of 7 years after the expiry of warranty period at reasonable market rates.

14) STATIC METAL COMPENSATION:

- a. It is necessary to install DFMD close to fixed sheets or pieces of metal, which form part of the building or its fitting. The DFMD should compensate for the presence of such metal and its performance should not be degraded by the presence of metal as stated above.

15) OPERATING TEMPERATURE:

- a. DFMD shall work satisfactorily without any deterioration in performance within the temperature range of 10 to +50 degrees C or higher with RH up to 95% non-condensing.

16) CALIBRATION:

- a. DFMD shall have in built feature of auto calibration.

17) WEIGHT: 90kg Maximum

18) WEATHER PROOF:

- a. The DFMD should be weather proof. It shall not deteriorate with exposure to sun light, moist etc.

19) ISO CERTIFICATION AND OTHER CERTIFICATIONS REQUIRED:

- a. Shall have valid ISO 9001 certification.
- b. Standards issued by International Electrotechnical Commission (IEC) and that are applicable to manufacture of DFMD's.
- c. Test certificates from NABL (India) for health and safety.