F.No. IV.17015/01/2007-Prov-I 226
Bharat Sarkar/Government of India
Griha Mantralaya/Ministry of Home Affairs
PM Division

26, Man Singh Road, Jaisalmer House
New Delhi, Dated 27th January, 2015

To,

DsG: AR (through LOAR), BSF, CISF, CRPF, ITBP, SSB, NSG & BPR&D.

Subject: QRs and Trial Directive for Multi Zone Door Frame Metal Detector.

The QRs and Trial Directives in respect of Multi Zone Door Frame Metal Detector earlier approved vide this Ministry letter dated 07.11.2007 have been revised and accepted by the Competent Authority in MHA, as per Annexure.

2. The CAPFs concerned will be accountable for correctness of the QRs/Trial Directives.

3. Henceforth, all the CAPFs should procure the above item required by them strictly as per the laid down Technical Specifications/QRs.

Yours faithfully,

Encl: As above

27/1/15
(M.K. Chahar)
Under Secretary to the Govt of India
Tel: 23381278

Copy forwarded for necessary action to :-

1. The Section Officer (IT), MHA: It is requested to host the QRs and Trial Directives (soft copy attached) on the MHA website (under the page of Organizational Set up- Police Modernization Division- Qualitative Requirement under Equipments list.

(R.K. Soni)
Section Officer (Prov-I)

Copy to: DDG (Procurement), MHA.

(119) ~~270~~ (73)

TRIAL DIRECTIVE FOR MULTI ZONE DOOR FRAME METAL DETECTOR (MZDFMD)

	SPECIFICATION	Procedure suggested for trial for Board of Officers	Result expected / desired	Complied / Not Complied
1	**Detection** : (i) The system should be capable of detecting ferrous, non-ferrous and alloy metals concealed on the body of a person when passed through the archway. (ii) Uniform detection from top to bottom is required. (iii) Should be able to detect multiple metal objects of various weight, size and shape in all the zones simultaneously from head to toe.	To be physically checked by the BOO by passing ferrous/non ferrous and alloy metals concealed in the body of a person, through the archway of DFMD and simultaneously checking all the points with reference QRs Para1 (i)- (iii)	In all three parameters equipment should be able to detect ferrous/non ferrous metal accordingly.	
2	**Passage Dimension** :- Height - Min 200 cm Breadth - Min 72 cm Width - Min 57 cm	To be physically checked by the BOO by measuring instrument.	Result should be as per the Dimension given in Para - 2	
3	**Speed of Passage :-** Performance of the DFMD should be independent of the speed of person passing through. This is particularly important as a person's foot may swing through the archway without touching the ground, or may come to rest on the ground between the archway pillars.	To be physically checked by the BOO by making a person cross the archway at varying speed.	A person with the metallic object when passing through the DFMD archway, equipment must generate acoustic and visual alarm.	

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4	**Weight** :- 80 Kg maximum	To be physically checked by the BOO with the help of standard weighing machine.	Result should be as per Para -4	
5	**Power supply** :- 100 - 260 VAC, 50 -60Hz, 12-24 VDC, should be provided with internal battery backup for 6 hours minimum in operational condition.	Apply variable input of AC mains supply from 100 to 260 volt to the equipment and check the performance of the DFMD. Check the DFMD for the operation on battery and power backup in operational condition. Note down the continuous back up time from battery.	The equipment must work on 100 to 260 volt AC mains supply and have battery back up of 6 hours in operational mode.	
6	**Alarm indication** :- (i) There should be Acoustic and Optical alarm with alphanumeric display, height on person bar display (Metal locator) and low battery indication. (ii) There should be a provision for suitable setting for adjustment of volume of the audible alarm to over come the ambient noise present in the vicinity.	To be physically checked by the BOOs.	To be verified by the BOOs.	
7	**Sensitivity** :- DFMD should have multi-zone capability with uniform sensitivity in all zones.	To be physically checked by the BOO by concealing a metal object on different parts of the body of a person and passing through archway. The firm should submit assurance certificate in respect of QRs Para 7	BOO should physically check multi zone capability and the certificate provided by the firm.	
8	**Zones**:- Not less than eight real horizontal detection zones, covering full height of the equipment.	To be physically checked by the BOO after passing a metallic item in all the zones independently and every zone should have proper	The equipment must comply with the QRs para 8.	

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		indication (acoustic and visual) of the metal concealed in the body of a person.		
9	<u>Calibration</u>:- DFMD shall have inbuilt feature of both manual and automatic calibration.	To be physically checked by the BOO by passing various size of metals through the archway and the DFMD should be capable to detect small and big size metals independent of their mass. While checking the calibration of DFMD its sensitivity adjustment should not be required repeatedly.	BOO should physically check.	
10	<u>Security:-</u> (i) There should be a provision to secure the access to the control unit by a password protected alpha numeric keypad. (ii) DFMD should reset itself within 3 Sec after alarm condition. (iii) Unit should have traffic and alarm counter. The equipment should work in bidirectional mode.	To be physically checked by the BOO with reference to parameters (i) to (iii).	Result expected as per QRs para 10 (i) to (iii).	
11	<u>Other features :-</u> (i) High discrimination between small masses and personal metallic objects. (ii) Automatic synchronization for DFMDs located close to each other up to a distance of one feet side by side.	To be physically checked by the BOO with reference to parameters (i) to (iii).	Result expected as per QRs para 11 (i) to (ii).	
12	<u>Static Metal Compensation:-</u> DFMD installed closed to fixed sheet or pieces of metal, which form part of the building or its fittings. 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.	To be checked by the BOO.	Result expected as per QRs para 12.	

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13	**Health and Safety** :- (i) Magnetic field should be harmless to magnetic media, electronic devices and should be film safe, (Supplier shall submit test certificates from national/international accredited lab). (ii) 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 (Supplier shall submit test certificates from national/international accredited lab). (iii) DFMD should be harmless to pacemaker and pregnant woman (Supplier shall submit test certificates from national/international accredited lab as per ICNIRP guidelines).	BOO will obtain a certificate from the supplier as specified at QRs parameters 13 (i) to (iii).	National / International accredited lab certificate must confirm the same as mentioned at QRs Para13 (i) to (iii). In case of doubt, the veracity of the certificate may be verified from the concerned lab.	
14	**Interference rejection**:- (i) 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 one mtr from the archway without causing spurious alarms. (ii) Moving metal beyond one mtr from DFMD should not affect performance of the DFMD. It should be possible to move metallic items like trolleys metallic gate opening/closing one mtr away from the DFMD without the generation of false alarm.	To be physically checked by the BOO as specified at QRs 14 parameters from (i) to (ii).	Result expected as per QRs para 14 (i) & (ii).	
15	**Operating Temperature** :- DFMD shall work satisfactorily without any deterioration in performance within the temperature range of -20 to +55 °C, RH up to 90% non-condensing.	The firm should submit National/International accredited lab certificate in respect of Operating temperature and RH.	National / International accredited lab certificate must confirm the same. In case of doubt, the veracity of the certificate may be verified from the concerned lab.	

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16	**Accessories to provide** :- (i) Operating manual for the user. (ii) Standard Test Piece (STP) for testing of equipment to be provided by the supplier with each equipment. **Optional** (i) Should have a ruggedized Polypropylene shock proof container for safe transportationof product compliant to IP-65 and Latest Mil Std. (As per requirement of the Indentor/ user).	To be physically checked by the BOO.	BOO should physically check.	

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APPROVED/ ~~NOT APPROVED~~

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(D K PATHAK) IPS
DIRECTOR GENERAL
BORDER SECURITY FORCE

Appdx-H (126)

DIRECTOR GENERAL BORDER SECURITY FORCE
(PROVISIONING DIRECTORATE (ORD SECTION)

The Sub-group of Technical Experts on Surveillance Equipments constituted by MHA vide their letter No. IV-24011/12/2011-Prov-I dated 13 Jun 2012, No. IV-24011/12/2011-Prov-I dated 28 Dec 2012 & UO No. IV-24011/12/2011-Prov-I- 350 dated 27 Jun 2013 held its meeting at BSF Headquarters on 26 Feb 2014, 19th June 2014, 14th Aug 2014 & 19 Sep 2014 to finalized/ revised Qualitative Requirement of **'Multi Zone Door Frame Metal Detector'**.

After detailed deliberations the referred Sub-group has finalized the revised QRs of 'Multi Zone Door Frame Metal Detector' which are as under:-

REVISED QUALITATIVE REQUIREMENTS FOR MULTI ZONE DOOR FRAME METAL DETECTOR

S/No	Revised QRs of MZDFMD
1	**Detection** : (i) The system should be capable of detecting ferrous, non-ferrous and alloy metals concealed ~~on~~ in the body of a person when passed through the archway. (ii) Uniform detection from top to bottom is required. (iii) Should be able to detect multiple metal objects of various weight, size and shape in all the zones simultaneously from head to toe.
2	**Passage Dimension** :- Height - Min 200 cm Breadth - Min 72 cm Width - Min 57 cm
3	**Speed of Passage :-** Performance of the DFMD should be independent of the speed of person passing through. This is particularly important as a person's foot may swing through the archway without touching the ground, or may come to rest on the ground between the archway pillars.
4	**Weight** :- 80 Kg maximum
5	**Power supply** :- 100 - 260 VAC, 50 -60Hz, 12-24 VDC, should be provided with internal battery back up for 6 hours minimum in operational condition.
6	**Alarm indication** :- (i) There should be Acoustic and Optical alarm with alphanumeric display, height on person bar display (Metal locator) and low battery indication. (ii) There should be a provision for suitable setting for adjustment of volume of the audible alarm to over come the ambient noise present in the vicinity.
7	**Sensitivity** :- DFMD should have multi-zone capability with uniform sensitivity in all zones.

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S/No	Revised QRs of MZDFMD
8	**Zones**:- Not less than eight real horizontal detection zones, covering full height of the equipment
9	**Calibration**:- DFMD shall have inbuilt feature of both manual and automatic calibration.
10	**Security:-** (i) There should be a provision to secure the access to the control unit by a password protected alpha numeric keypad. (ii) DFMD should reset itself within 3 Sec after alarm condition. (iii) Unit should have traffic and alarm counter. The equipment should work in bidirectional mode.
11	**Other features :-** (i) High discrimination between small masses and personal metallic objects. (ii) Automatic synchronization for DFMDs located close to each other up to a distance of one feet side by side.
12	**Static Metal Compensation:-** DFMD installed closed to fixed sheet or pieces of metal, which form part of the building or its fittings. 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.
13	**Health and Safety :-** (i) Magnetic field should be harmless to magnetic media, electronic devices and should be film safe, (Supplier shall submit test certificates from national/international accredited lab). (ii) 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 (Supplier shall submit test certificates from national/international accredited lab). (iii) DFMD should be harmless to pacemaker and pregnant woman (Supplier shall submit test certificates from national/international accredited lab as per ICNIRP guidelines).
14	**Interference rejection**:- (i) 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 one mtr from the archway without causing spurious alarms. (ii) Moving metal beyond one mtr from DFMD should not affect performance of the DFMD. It should be possible to move metallic items like trolleys, metallic gate opening /closing one mtr away from the DFMD without the generation of false alarm.
15	**Operating Temperature :-** DFMD shall work satisfactorily without any deterioration in performance within the temperature range of -20 to +55 °C , RH up to 90% non condensing.

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S/No	Revised QRs of MZDFMD
16	**Accessories to provide** :- (i) Operating manual for the user. (ii) Standard Test Piece (STP) for testing of equipment to be provided by the supplier with each equipment. **Optional** (i) Should have a ruggedized Polypropylene shock proof container for safe transportation of product compliant to IP-65 and Latest Mil Std. (As per requirement of the Indentor/ user).

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(A K Singh Addl DG)

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APPROVED/ ~~NOT APPROVED~~

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